

Judgment rendered on May 16, 2014

2013 (Ne) 10043, Appeal case seeking declaratory judgment of absence of obligations

(Judgment in prior instance: Tokyo District Court 2011 (Wa) 38969)

Date of conclusion of oral argument: March 31, 2014

Judgment

Appellant: Samsung Electronics Co., Ltd.

Counsel attorneys: OHNO Seiji

Same as above: MIMURA Ryoichi

Same as above: TANAKA Masato

Same as above: ICHIHASHI Tomomine

Same as above: INOUE Yoshitaka

Same as above: KOBAYASHI Hideaki

Same as above: IIZUKA Akio

Same as above: INOUE Soh

Same as above: TSUJIMOTO Kensuke

Same as above: OKADA Hiroaki

Counsel patent attorney: SUZUKI Mamoru

Patent attorney as assistant in court:

OTANI Kan

Appellee: Apple Japan Godo Kaisha

(Successor in litigant's status from Apple Japan
Kabushiki Kaisha)

Counsel attorneys: NAGASAWA Yukio

Same as above: YAKURA Chie

Same as above: NAGAI Hideto

Same as above: INASE Yuichi

Same as above: ISHIHARA Naoko

Same as above: KANEKO Shinsuke

Same as above: KURAHARA Shinichiro

Same as above: KATAYAMA Eiji

Same as above: KITAHARA Junichi

Same as above: OKAMOTO Naomi

Same as above: IWAMA Chitaka
Same as above: KAJINAMI Shoichiro
Counsel patent attorneys: OTSUKA Yasunori
Same as above: KATO Shimako
Patent attorneys as assistant in court: OTSUKA Yasuhiro
Same as above: SAKATA Yasuhiro

Main text

1. The judgment in prior instance shall be modified as follows.
2. The court confirms that the appellant does not have a right to seek damages from the appellee on the ground of the infringement of Patent No. 4642898, with regard to the appellee's production, assignment, lease, import, or offering for the assignment or lease (including displaying for the purpose of assignment or lease) of each product specified in 1 and 3 of the List of Products attached hereto.
3. The court confirms that the appellant's right to seek damages from the appellee on the ground of the infringement of Patent No. 4642898, with regard to the appellee's production, assignment, lease, import, or offering for the assignment or lease (including displaying for the purpose of assignment or lease) of each product specified in 2 and 4 of the List of Products attached hereto, does not exceed JPY 9,955,854 plus the amount of interest accrued thereon at the rate of 5% per annum from September 28, 2013 until the full payment thereof.
4. The court dismisses the appellee's claims other than the above.
5. The aggregate court costs for the first instance and the second instance shall be equally divided into three, of which two-thirds shall be borne by the appellant, and one-third by the appellee.
6. The additional period for the appellant to file a final appeal and a petition for acceptance of final appeal against this judgment shall be thirty (30) days.

1. The judgment in prior instance shall be revoked.
2. The claims of the appellee shall be dismissed.
3. The court costs for the first instance and the second instance shall be borne by the appellee.

No. 2 Background

1. Summary of case

This is a court case wherein the appellee (the plaintiff in the first instance) alleges that its production, assignment, import or other acts in relation to the products specified in the List of Products attached hereto (hereinafter collectively referred to as the "Products"; the product stated in No. 1 of said list shall be referred to as "Product 1" and the product stated in No. 2 of said list as "Product 2," etc.) does not constitute an act of infringement of the patent right of the appellant (the defendant in the first instance) under Patent No. 4642898 for the invention titled "method and apparatus for transmitting/receiving packet data using a pre-defined length indicator in a mobile communication system" (this patent is hereinafter referred to as the "Patent"; the patent right as the "Patent Right"), and seeks a declaratory judgment to confirm that the appellant is not entitled to seek damages due to the appellee's tort of infringing the Patent Right in relation to the appellee's acts as mentioned above.

In the judgment in prior instance, the court of first instance upheld all of the appellee's claims, holding that Products 1 and 3 do not fall within the technical scope of the inventions for the Patent, and that the appellant's exercise of the right to seek damages based on the Patent Right for Products 2 and 4 constituted the abuse of right in spite of these products falling within the technical scope of the Patent. The appellant filed this appeal against said judgment.

2. Undisputed facts, etc. (the facts without any indication of the evidence are the well-known or undisputed facts, or the facts found from the entire import of oral arguments)

(1) Parties

A. The appellee is a limited liability company ("*godo kaisha*" under the laws of Japan) whose business objectives are sale, etc. of personal computers, hardware and software for computer-related devices, and ancillary devices for computers. The appellee implemented an absorption-type merger of Apple Japan K.K., a subsidiary company of Apple Incorporated, a U.S. corporation, (hereinafter referred to as "Apple Inc.") on October 30, 2011, and succeeded to the status of

Apple Japan K.K. in this action (hereinafter the term "appellee" includes Apple Japan K.K. before the abovementioned absorption-type merger).

- B. The appellant is a South Korean corporation whose business objectives are manufacturing, sale, etc. of electric machine devices, communication and related machine devices, and their component parts.

(2) Patent Right

- A. The appellant (the name as it appears on the patent registry is "Samsung Electronics Company Limited") filed an international application for the Patent (the PCT international application number is PCT/KR2006/001699, its priority date is May 4, 2005, its priority country is South Korea, and the Japanese application number is Patent Application No. 2008-507565; hereinafter referred to as the "Patent Application") on May 4, 2006, and obtained the registration of establishment of the Patent Right on December 10, 2010 (Exhibits Ko No. 1-1 and No. 1-2).

- B. The claims of the Patent comprise Claims 1 to 14. Claims 1 and 8 read as follows (the invention of Claim 8 is hereinafter referred to as "Invention 1" and the invention of Claim 1 as "Invention 2," and these Inventions 1 and 2 shall be hereinafter collectively referred to as the "Inventions").

"[Claim 1] A method of transmitting data in a mobile communication system, comprising: a stage of receiving a service data unit (SDU) from a higher layer and determining whether the SDU is included in one protocol data unit (PDU); if the SDU is included in one PDU, a stage of configuring the PDU including a header and a data field, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding; if the SDU is not included in one PDU, a stage of segmenting the SDU into a plurality of segments according to the transmittable PDU size, and the data field of each PDU configuring a plurality of PDUs comprising one of said plurality of segments, wherein headers of the PDUs include an SN field, a one-bit field indicating the presence of at least one length indicator (LI) field and said at least one LI field; if the data field of the PDU includes an intermediate segment of the SDU, a stage, wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor last segment of the SDU, and the PDU is sent to a receiver.

"[Claim 8] An apparatus for transmitting data in a mobile communication system, comprising: a transmission buffer for receiving a service data unit

(SDU) from a higher layer, determining whether the SDU is included in one protocol data unit (PDU), and reconfiguring the SDU to at least one segment according to the transmittable PDU size; a header inserter for configuring at least one PDU including a serial number (SN) field and a one-bit field in a header, and said at least one segment in a data field; a one-bit field setter for setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU; an LI inserter for inserting and setting an LI field after the one-bit field in said at least one PDU if the SDU is not included in one PDU, wherein if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor last segment of the SDU; and a transmitter for sending at least one PDU received from the LI inserter to a receiver."

C. The constituent features of each of the Inventions are as follows (each of the constituent features shall be hereinafter referred to as "Constituent Feature A," "Constituent Feature B," etc.)

(A) Invention 1 (Claim 8)

[A] An apparatus for transmitting data in a mobile communication system, comprising:

[B] a transmission buffer for receiving a service data unit (SDU) from a higher layer, determining whether the SDU is included in one protocol data unit (PDU), and reconfiguring the SDU to at least one segment according to the transmittable PDU size;

[C] a header inserter for constructing at least one PDU including a serial number (SN) field and a one-bit field in a header, and said at least one segment in a data field;

[D] a one-bit field setter for setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU;

[E] an LI inserter for inserting and setting an LI field after the one-bit

field in said at least one PDU if the SDU is not included in one PDU,

[F] wherein if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU;

[G] and a transmitter for sending at least one PDU received from the LI inserter to a receiver.

[H] an apparatus for transmitting data which comprises the features [B] to [G] above.

(B) Invention 2 (Claim 1)

[I] A method of transmitting data in a mobile communication system, comprising:

[J] a stage of receiving a service data unit (SDU) from a higher layer and determining whether the SDU is included in one protocol data unit (PDU);

[K] a stage of constructing the PDU including a header and data field, if the SDU is included in one PDU, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding;

[L] if the SDU is not included in one PDU, a stage of segmenting the SDU into a plurality of segments according to the transmittable PDU size, and the data field of each PDU constructing a plurality of PDUs comprising one of the plurality of segments, wherein headers of the PDUs include a SN field, at least a one-bit field indicating the presence of a length indicator (LI) field and said at least one LI field;

[M] if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU;

[N] and the PDU is sent to a receiver.

[O] a method of transmitting data which comprises the features [J] to [N] above.

(3) Appellee's acts, etc.

- A. The appellee is engaged in import and sale of the Products manufactured by Apple Inc.
- B. (A) The Products satisfy Constituent Features A and H of Invention 1.
(B) The method of data transmission incorporated into the Products satisfies Constituent Features I and O of Invention 2.
- C. The Products conform to the UMTS (Universal Mobile Telecommunications System) standard, which is the telecommunications standard developed by 3GPP (Third Generation Partnership Project). 3GPP is a private organization established for the purposes of the dissemination of the third-generation mobile telecommunication system or mobile telephone system (3G), as well as the international standardization of the related specifications (Exhibits Otsu No. 1 to No. 5; the telecommunications standard developed by 3GPP may be hereinafter referred to as "3GPP Standards").

The UMTS standard, comprising of a large number of technical specifications, collectively refers to the third-generation mobile telecommunication system developed by 3GPP. The UMTS standard covers various wireless communication systems, such as the W-CDMA method (Wideband Code Division Multiple Access; Generally, the term "W-CDMA" is sometimes used to mean the UMTS standard; however, the term "W-CDMA" in this judgment refers to the method specified in the 25 Series of 3GPP technical specification (hereinafter, technical specification is sometimes referred to as "TS")) and the LTE method (Long Term Evolution, as specified in the 36 Series of 3GPP TS).

(4) FRAND declaration for the Patent

- A. ETSI (European Telecommunications Standards Institute), one of the standard organizations which established 3GPP, provides the "Intellectual Property Rights Policy" as the guidelines for the treatment of intellectual property rights (IPRs).

The IPR Policy of ETSI (effective as of April 8, 2009) contains the following Clauses (Exhibit Ko No. 12 and No. 160, the original text is English):

"3. Policy Objectives

3.1 It is ETSI's objective to create STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet the technical objectives of the European telecommunications sector, as defined by the General Assembly. In order to further this objective the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI

STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable. In achieving this objective, the ETSI IPR POLICY seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

3.2 IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS.

4. Disclosure of IPRs

4.1 each MEMBER shall use its reasonable endeavours, in particular during the development of a STANDARD or TECHNICAL SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely manner. In particular, a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted.

4.3 The obligations pursuant to Clause 4.1 above are deemed to be fulfilled in respect of all existing and future members of a PATENT FAMILY if ETSI has been informed of a member of this PATENT FAMILY in a timely manner.

6. Availability of Licenses

6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licenses on fair, reasonable and non-discriminatory ("FRAND") conditions under such IPR to at least the following extent:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED;
- repair, use, or operate EQUIPMENT; and
- use METHODS.

The above undertaking may be made subject to the condition that those who seek licenses agree to reciprocate.

6.2 An undertaking pursuant to Clause 6.1 with regard to a specified member

of a PATENT FAMILY shall apply to all existing and future ESSENTIAL IPRs of that PATENT FAMILY unless there is an explicit written exclusion of specified IPRs at the time the undertaking is made. The extent of any such exclusion shall be limited to those explicitly specified IPRs.

6.3 As long as the requested undertaking of the IPR owner is not granted, the COMMITTEE Chairmen should, if appropriate, in consultation with the ETSI Secretariat use their judgment as to whether or not the COMMITTEE should suspend work on the relevant parts of the STANDARD or TECHNICAL SPECIFICATION until the matter has been resolved and/or submit for approval any relevant STANDARD or TECHNICAL SPECIFICATION.

12. The POLICY shall be governed by the laws of France.

15. Definitions (Note: In this judgment, the terms "essential," "IPR," "member" and "patent family" shall be used with the same meaning as ascribed in the following definitions.)

6. "ESSENTIAL" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR. For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL.

7. "IPR" shall mean any intellectual property right conferred by statute law including applications therefor other than trademarks. For the avoidance of doubt rights relating to get-up, confidential information, trade secrets or the like are excluded from the definition of IPR. ...

9. "MEMBER" shall mean a member or associate member of ETSI. References to a MEMBER shall wherever the context permits be interpreted as references to that MEMBER and its AFFILIATES. ...

13. "PATENT FAMILY" shall mean all the documents having at least one priority in common, including the priority document(s) themselves. For the avoidance of doubt, "documents" refers to patents, utility models, and applications therefor.

B. (A) On December 14, 1998, the appellant made an undertaking (declaration) to ETSI that it was prepared to license its essential IPR relating to

W-CDMA technology supported by ETSI as the UMTS standard on "fair, reasonable and non-discriminatory terms and conditions" (hereinafter referred to as the "FRAND Terms") in accordance with ETSI IPR Policy Clause 6.1 (Exhibit Ko No. 5).

(B) On August 7, 2007, the appellant, in accordance with ETSI IPR Policy Clause 4.1, notified ETSI of the number of the South Korean patent application which served as the basis for the priority claim for the Patent Application and the international application number of the Patent Application (PCT/KR2006/001699), and declared that the IPRs relating to these applications are or highly likely will be an essential IPR for the UMTS standard (such as TS 25.322), with a declaration that it was prepared to grant an irrevocable license in accordance with the licensing terms and conditions complying with ETSI IPR Policy Clause 6.1 (i.e. the FRAND Terms; and this declaration shall be hereinafter referred to as the "FRAND Declaration")(Exhibit Ko No.13). The FRAND Declaration contained the provision that the validity, etc. thereof shall be governed by the laws of France, and the provision to make such undertaking subject to the condition that prospective licensees agree to reciprocate.

(5) Background history of this action

A. On April 21, 2011, the appellant, alleging that the appellee's acts of production, assignment, import, etc. of the Products constitutes direct or indirect infringement of the Patent Right in relation to the Inventions (Article 101, item (iv) and (v) of the Patent Act), filed a petition for a provisional disposition order to seek an injunction against the appellee's production, assignment, import, etc. of the Products. The right sought to be preserved by this provisional disposition was the right to seek an injunction under Article 102 of the Patent Act (Tokyo District Court, 2011 (Yo) 22027; hereinafter referred to as the "Petition for Provisional Disposition").

B. The appellee filed this action on September 16, 2011.

On December 6, 2011, the appellant filed a similar petition for a provisional disposition for the product named "iPhone 4S" (Tokyo District Court 2011 (Yo) 22098; hereinafter referred to as the "Additional Petition for Provisional Disposition").

Thereafter, on September 24, 2012, the appellant partially withdrew the Petition for Provisional Disposition in relation to Products 1 and 3.

C. On February 28, 2013, the Tokyo District Court rendered the judgment in prior

instance. On the same day, the Tokyo District Court rendered the decisions to dismiss the Petition for Provisional Disposition and the Additional Petition for Provisional Disposition respectively, holding that the appellant's exercise of the Patent Right constitutes the abuse of right.

3. Issues

The issues disputed in this action are as follows: [i] whether the Products fall within the technical scope of Invention 1 (Issue 1); [ii] whether the Patent Right for Invention 2 has been indirectly infringed upon (Article 101, items (iv) and (v) of the Patent Act) (Issue 2); [iii] whether restrictions pursuant to Article 104-3, paragraph (1) of the Patent Act may be imposed on the exercise of the Patent Right for the Inventions (Issue 3); [iv] whether the Patent Right for the Products has been exhausted (Issue 4); [v] whether a license agreement in relation to the Patent Right has been formed based on the appellant's FRAND Declaration (Issue 5); [vi] whether the appellant's exercise of the right to seek damages based on the Patent Right constitutes an abuse of right (Issue 6); and [vii] the amount of damages (Issue 7).

No. 3 Parties' allegations on disputed issues

1. Issue 1 (whether the Products fall within the technical scope of Invention 1)

(1) Appellant's allegations

A. Structure of the Products

- (A) The Products conform to the UMTS standard (W-CDMA method), which is one of the standards developed by 3GPP. It has the structures set forth in "3GPP TS 25.322 V6.9.0," the technical specification of 3GPP standards developed by 3GPP in September 2006 (Exhibit Ko No. 1-3 and Exhibit Otsu No. 6; hereinafter referred to as the "Technical Specification V6.9.0"). In addition, according to the subclauses "4.2.1.2 Unacknowledged mode (UM) RLC entities," "4.2.1.2.1 Transmitting UM RLC entity," "9.2.1.3 UMD PDU," "9.2.2.5 Extension bit (E)" and "9.2.2.8 Length Indicator (LI)" of Technical Specification V6.9.0 (these subclauses shall be hereinafter referred to as "Subclause 4.2.1.2," "Subclause 4.2.1.2.1," etc.), all of the Products have the following structures (each of the structures shall be hereinafter referred to as "Structure (a)," "Structure (b)," etc.)
- a. The Products are devices for transmitting data in a mobile communication system.
 - b. The Products have transmission buffers for receiving a service data unit (SDU) from a higher layer, and segmenting the SDU to a size

appropriate to the protocol data unit (PDU) if the SDU is larger than the available space of one PDU (See Subclauses 4.2.1.2 and 4.2.1.2.1 referred to in Sections 1 and 2 of 3GPP TS25.322 V6.9.0 (Summary) attached hereto (hereinafter referred to as the "Attachment TS")).

- c. The Products have header inserters, which add to the data a UMD header containing a sequence number (SN) and an E-bit field and an RLC header containing a length indicator (LI) (See Subclause 9.2.1.3 referred to in Section 3 of Attachment TS).
 - d. If the SDU contained in the PDU is a complete one without segmentation/concatenation/padding, the header inserter is set to '0,' which shows that the PDU contains a complete SDU. If the SDU contained in the PDU is not a complete one, the header inserter is set to '1,' which shows the presence of a length indicator in the E-bit (See Subclause 9.2.2.5 referred to in Section 4 of Attachment TS).
 - e. If the SDU is not included in one PDU, the header inserter inserts an LI field after the E-bit field in at least one PDU (See Subclause 9.2.2.8 referred to in Section 5(1) of Attachment TS).
 - f. If the PDU data field contains a segment which is neither the first nor the last segment of the SDU, the header inserter sets the pre-defined value of an LI field ('111 1110' or '111 1111 1111 1110'), indicating that the PDU contains a segment which is neither the first nor the last segment of the SDU (See Subclause 9.2.2.8 referred to in Section 5(2) of Attachment TS).
 - g. The Products have transmitters for sending at least one PDU received from the header inserter to the receiving entity.
 - h. The Products are devices for the transmission of data.
- (B) a. According to the report on the demonstration test by Chipworks Inc., a Canadian corporation (hereinafter referred to as the "Demonstration Test"; Exhibit Otsu No. 13), Products 2 and 4 implement the functions based on the "alternative E-bit interpretation" as specified in Technical Specification V6.9.0 (Subclauses 9.2.2.5 and 9.2.2.8). This finding is also evidenced by an expert opinion prepared by Professor A of the University of Electro-Communications (Exhibit Otsu No. 14).
- (a) In the Demonstration Test, a radio tester named "CM W500 universal radio communication tester" (hereinafter referred to as "CMW500") manufactured by Rohde & Schwarz, a German

corporation, was used as the "base station emulator." CMW500 is a device supporting the W-CDMA method and is capable of creating a communication environment which is exactly the same as the real network environment (Exhibit Otsu No. 14, Page 10 and Exhibit Otsu No. 41).

CMW500 has been certified by several international bodies, such as GCF (Global Certification Forum) and PTCRB (PCS Type Certification Review Board).

Test 1 (PDU Size: 488-bit, SDU size: 480-bit) was the test for the combination of the data size for the "case in which the PDU contains a complete SDU without segmentation/concatenation/padding." The reason for the value of the SDU size being larger than the PDU by eight bits was due to taking into account the addition of an 8-bit PDU header (7 serial number (SN) bit + 1 E-bit) when the SDU is converted to a PDU (Exhibit Otsu No. 14, Page 10).

Test 2 (PDU Size: 80-bit, SDU size: 480-bit) was the test for the combination of data size in which a PDU which is neither the first nor last one (e.g. the second PDU) is an "intermediate segment." This test aims to monitor the PDU as the intermediate segment (Exhibit Otsu No. 14, Page 11).

- (b) The findings of the Demonstration Tests were as follows:
 - (i) If the PDU includes the whole of SDU (Test 1), the E-bit following the sequence number (SN) is '0,' and a PDU without a length indicator (LI) is output (Exhibit Otsu No. 13, Figures 12 and 14).
 - (ii) If the PDU contains an intermediate segment of an SDU (Test 2), the E-bit following the sequence number (SN) is '1,' and a PDU containing a pre-defined value '1111110' as an LI is output (Exhibit Otsu No. 13, Figures 13 and 15).
- (c) Subclause 9.2.2.5 provides that, when interpreting the alternative E-bit, the E-bit is configured as '0' if the "next field is a complete SDU, which is not segmented, concatenated or padded," or '1' if the "next field is a Length Indicator and E-bit." Subclause 9.2.2.8 provides that in the case where the "alternative E-bit interpretation" is configured and a PDU contains an intermediate segment of an

SDU, and if a 7-bit length indicator is used, the length indicator with value '111 1110' shall be used.

The values of the E-bit and length indicator (see (b) above) obtained as a result of the Demonstration Test agree with the function based on the alternative E-bit interpretation as referred to in Technical Specification V6.9.0. This indicates that Products 2 and 4 implement the aforementioned functions.

- b. In this regard, the appellee alleges that the Demonstration Test uses the "normal E-bit interpretation" as specified in Subclause 9.2.2.5 of Technical Specification V6.9.0 (See Section 4 of Attachment TS), instead of the alternative E-bit interpretation, because the "Interpretation" section of the Demonstration Test findings reads "next octet: data" and does not mention "a complete SDU without segmentation/concatenation/padding." However, for the configuration of the alternative E-bit interpretation as well, if the E-bit is set to '0,' the following bit sequence is "data" (which is the "data" of a "complete SDU"). Accordingly, there is no discrepancy between the statement of "next octet: data" in the "Interpretation" section and the use of the alternative E-bit interpretation in the Demonstration Test.

In addition, when the appellant confirmed the results of the comparative test based on the normal E-bit interpretation (i.e. the case where the checkbox of "altE_bitinterpretation" of the options window of CMW500 (Exhibit Otsu No. 13, Figure 11) is not ticked), the configurations of PDU headers were different depending on whether the checkbox was ticked, and, the PDU header according to the normal E-bit interpretation was output if the checkbox was not ticked (Exhibit Otsu No. 55, Pages 35 to 38). These comparative test results obviously show that the alternative E-bit interpretation was used in the Demonstration Test, not the normal E-bit interpretation.

On the basis of the foregoing, the appellee's allegations as mentioned above are groundless.

B. Satisfaction of Constituent Features B and D

- (A) As explained below, the alternative E-bit interpretation referred to in Subclause 9.2.2.5 of Technical Specification V6.9.0 discloses Constituent Features B and D of Invention 1.

Invention 1 has the following structures: "determining whether the SDU is

included in one protocol data unit (PDU)" (Constituent Feature B); and "setting the one-bit field to indicate that the PDU fully contains the SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" (Constituent Feature D).

According to the wording of Constituent Feature D, as well as Paragraph [0022] and Figure 5A of the description of the Patent (Exhibit Ko No. 1-2; the description and the drawings shall be hereinafter collectively referred to as the "Patent Description"), the case in which the "SDU is included in one PDU" means the case in which the "PDU contains the whole of SDU without segmentation/concatenation/padding in the data field," namely, the case in which the "SDU size completely matches the size of the PDU payload." The case where the SDU is contained in the PDU after concatenation or padding is excluded.

Furthermore, Subclause 9.2.2.5 indicates that, in relation to the "alternative E-bit interpretation," if the "next field is a complete SDU, which is not segmented, concatenated or padded," namely, if the SDU is completely contained in (completely matches) the PDU, the E-bit is set to '0,' or otherwise as '1' (See Section 4 of Attachment TS). This statement of Subclause 9.2.2.5 can be understood as requiring the determination as to whether the SDU is completely contained in (completely matches) the PDU and the configuration of E-bit as above in accordance with the result of such determination. Therefore, such statement discloses the structure of Constituent Feature B for "determining whether the SDU is included in one protocol data unit (PDU)," and the structure of Constituent Feature D for "setting the one-bit field to indicate that the PDU fully contains the SDU." Meanwhile, with regard to the relationship between Subclauses 4.2.1.2.1 (See Section 2 of Attachment TS) and 9.2.2.5, it can be reasonably understood that Subclause 4.2.1.2.1 merely provides a general statement for the determination of whether the SDU is larger than the PDU without regard to the type of E-bit, and that the specific method for comparison in the case of use of the alternative E-bit interpretation is specified in Subclause 9.2.2.5.

- (B) On the premises of the foregoing, Structures (b) and (d) of the Products satisfy Constituent Features B and D, respectively.
- C. Satisfaction of Constituent Features C, E, F and G
Structure (c) of the Products satisfies Constituent Feature C, Structure (e)

satisfies Constituent Feature E, Structure (f) satisfies Constituent Feature F, and Structure (g) satisfies Constituent Feature G, respectively.

D. Summary

(A) As mentioned above, the Products satisfy Constituent Features B to G of Invention 1, and also Constituent Features A and H as already mentioned in (3)B. of the section of "Undisputed facts, etc."

Therefore, the Products fall within the technical scope of Invention 1 as they satisfy all of the Constituent Features of Invention 1.

(B) Contrary to this, the appellee alleges that the Products do not fall within the technical scope of Invention 1. The appellee's reasoning for this allegation is that, for the Products to be considered to fall within the technical scope of Invention 1, it is necessary to prove that the Products implement all functions stated in the Constituent Features of Invention 1 on the real network; however, the alternative E-bit interpretation is only optional to the normal E-bit interpretation, and there is no evidence that the telecommunication service providers' networks are configured to use the alternative E-bit interpretation.

However, as long as the Products satisfy all of the Constituent Features of Invention 1 and have a structure to implement the alternative E-bit interpretation, they can be considered as falling within the technical scope of Invention 1, and the question of whether the telecommunication service providers' actual networks are configured to use the alternative E-bit interpretation is irrelevant to the question of whether the Products fall within the technical scope of Invention 1.

Therefore, the abovementioned allegation of the appellee is groundless.

(2) The appellee's allegations

A. Structure of the Products

(A) The processing tasks relating to the UMTS standard are implemented by the baseband chip installed in the Products (the baseband chip installed in the Products shall be hereinafter referred to as the "Baseband Chip"). The Baseband Chip is the product of Intel Corporation, and Apple Inc. purchases it through Intel Americas, Inc., which is Intel Corporation's wholly-owned subsidiary company, and installs it in the Products.

Products 1 and 3 install Intel's baseband chip "PMB8878." This baseband chip "PMB8878" conforms to 3GPP standards called "Release 5" publicized before the priority date of the Patent Application, and this

version does not reflect the alternative E-bit interpretation. Therefore, the appellee refutes the appellant's allegation that Products 1 and 3 satisfy Structures (b) to (g).

In addition, the appellee has no knowledge as to whether Products 2 and 4 satisfy Structures (b) to (g) as alleged by the appellant.

- (B) a. The Demonstration Test report relied upon by the appellant (Exhibit Otsu No. 13) does not support that Products 2 and 4 implement the functions based on the alternative E-bit interpretation.

In this Demonstration Test, the test mobile device was connected to the emulator, which plays the role of base station, and the data transmitted from such mobile device to the emulator was only tested by the data analysis software. Thus, as such test was performed merely under the testing environment, instead of on the real networks, the result of the test cannot be the evidence of the Products' capability to implement the functions based on the alternative E-bit interpretation on the real network.

- b. In addition, as the Demonstration Test report (Exhibit Otsu No. 13) contains the following deficiencies or problems, such report cannot be the evidence that Products 2 and 4 implement the functions based on the alternative E-bit interpretation.

- (a) In the test log (Test 1) referred to in Exhibit Otsu No. 13, Figures 12 and 14, the E-bit is set to '0' in the second line of "68" of the "Byte" section, and the statement "next octet: data" appears in the "Interpretation" section. Considering the statement which reads that "next field" is "data," it is logically understood that the Demonstration Test uses the normal E-bit interpretation (i.e. the case of bit '0' for the "normal E-bit interpretation" referred to in Subclause 9.2.2.5 of Technical Specification V6.9.0), instead of the alternative E-bit interpretation.

In addition, as the bit sequence indicated in the test log of Exhibit Otsu No. 13, Figures 12 and 14, is merely a portion of data output from the tested product, it is not clear whether the PDU contained a complete SDU without segmentation/concatenation/padding or other object. Accordingly, it is impossible to conclude that the tested product used the alternative E-bit interpretation, on the basis of the test log referred to in Figures 12 and 14.

Meanwhile, ticking of the checkbox of "altE_bitinterpretation" in Exhibit Otsu No. 13, Figures 11 is irrelevant to the question of whether the tested product actually used the alternative E-bit interpretation.

- (b) There is no evidence supporting that the length indicator set to '1111110,' as in the test log (Test 2) referred to in Exhibit Otsu No. 13, Figures 13 and 15, is set only for the length indicator containing an intermediate segment. Therefore, it is impossible to conclude that the abovementioned value indicate the presence of a PDU containing an intermediate segment.

Further, as is the case with Exhibit Otsu No. 13, Figures 12 and 14, Figures 13 and 15 only show the SDU indication output by the tested product, and the condition of other segments of the SDU is not clear.

Therefore, Figures 13 and 15 cannot be regarded as the evidence supporting that the tested product implements the alternative E-bit interpretation.

B. Non-satisfaction of Constituent Features B and D

As explained below, the structures of Constituent Features B and D of Invention 1 differ from those referred to in Technical Specification V6.9.0. So, even supposing that, as alleged by the appellant, the Products have structures complying with Technical Specification V6.9.0, it cannot be said that they satisfy Constituent Features B and D.

(A) Constituent Feature B

Considering the statement of Constituent Feature B which reads "determining whether the SDU is included in one protocol data unit (PDU)" and the statement of Constituent Feature D which reads "to indicate that the PDU fully contains the SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" in their totality, the statement of Constituent Feature B which reads "the SDU is included in one protocol data unit (PDU)" should be interpreted to mean the case where "the whole of SDU is contained in (completely matches) one PDU."

Thus, Invention 1 adopts in its Constituent Feature B the method to determine whether the whole of SDU is contained in (completely matches) one PDU.

Meanwhile, considering Subclause 4.2.1.2.1 of Technical Specification V6.9.0 which reads "segments the RLC SDU into UMD PDUs of appropriate size, if the RLC SDU is larger than the length of available space in the UMD PDU," the determination method referred to in Subclause 4.2.1.2.1 is the method aimed at determining the necessity of segmentation of the SDU, in other words, whether the size of the SDU is larger than the available space of the PDU (the relationship between the SDU and the PDU in terms of size) is determined. It is different from the method to determine whether the whole of SDU is contained in (completely matches) one PDU.

In addition, the statement of Subclause 9.2.2.5 of Technical Specification V6.9.0 relied upon by the appellant merely provides instructions on the interpretation of the value '0' or '1' for the E-bit, and does not mention anything about the method of determination.

Therefore, even though the Products have Structure (b) complying with Technical Specification V6.9.0, it does not mean that the Products satisfy Constituent Feature B.

(B) Constituent Feature D

The case where "the SDU is included in one PDU" mentioned in Constituent Feature D refers to all of the following situations: [i] a case where the SDU is padded (i.e. the SDU is incorporated into the PDU with padding); [ii] a case where the SDU is concatenated (i.e. the SDU is incorporated into the PDU after concatenation with one or more other SDUs); and [iii] a case where the SDU is not segmented, concatenated or padded (i.e. the size of the SDU completely matches the size of PDU payload). So, in order to satisfy Constituent Feature D, it is necessary that "the one-bit field is set to indicate that the PDU fully contains the SDU without segmentation/concatenation/padding" even for the case referred to in [i] and [ii] above.

Meanwhile, in the alternative E-bit interpretation referred to in Technical Specification V6.9.0, the one-bit field is set to indicate that the PDU fully contains the SDU only for the abovementioned case [iii]. Accordingly, Constituent Feature D and Structure (d) complying with Technical Specification V6.9.0 differ in terms of the conditions for setting the one-bit field to indicate that the PDU fully contains the SDU without segmentation/concatenation/padding, and also in terms of the method of

configuration of the one-bit field in the case where the PDU contains a concatenated or padded SDU.

Therefore, even though the Products have Structure (d) complying with Technical Specification V6.9.0, it does not mean that the Products satisfy Constituent Feature D.

C. Lack of proof of the Products' capability to perform all functions contained in the Constituent Features of Invention 1

In order for the Products to be regarded to fall within the technical scope of Invention 1, it is necessary to prove that the Products are capable of performing all functions contained in the Constituent Features of Invention 1. To this end, it is necessary to show that the communication service providers' networks are configured to allow the use of the alternative E-bit interpretation.

The alternative E-bit interpretation cannot be implemented by the Products alone, and all mobile devices implement the "normal E-bit interpretation" which is the default setting for the data transmission to a base station, unless the network requires the use of the alternative E-bit interpretation. If the "normal E-bit interpretation" is implemented, an E-bit or length indicator is not configured according to Constituent Features D and F of Invention 1. So, in order for the Products to be considered as being capable of implementing all functions contained in the Constituent Features of Invention 1, it is necessary that the communication service providers' networks are configured to allow the use of the alternative E-bit interpretation.

Nevertheless, in this action, no evidence is found which indicates that the communication service providers' networks are configured to allow the use of the alternative E-bit interpretation, and thus it cannot be said that the Products are capable of implementing all functions contained in the Constituent Feature of Invention 1. Therefore, the Products do not fall within the technical scope of Invention 1.

D. Summary

As mentioned above, the Products do not satisfy the Constituent Features of Invention 1, and cannot be considered as being capable of implementing all functions contained in the Constituent Features of Invention 1. Therefore, the Products do not fall within the technical scope of Invention 1.

2. Issue 2 (whether the Patent Right for Invention 2 has been indirectly infringed upon (Article 101, items (iv) and (v) of the Patent Act))

(1) Appellant's allegations

A. Structure of data transmission method of the Products

According to the structure of the Products as explained in 1(1)A. above, the data transmission method of the Products (hereinafter referred to as the "Method") have the following structures (each of the structures shall be hereinafter referred to as "Structure (i)," "Structure (j)," etc.)

- i. The Method is the method for transmitting data in a mobile communication system.
- j. The Method receives a service data unit (SDU) from a higher layer and determines whether the SDU is included in one protocol data unit (PDU).
- k. If the SDU is included in one PDU, a PDU containing a header and data is configured. Here, the header includes a sequence number (SN) field, and an E-bit field set to '0' indicating that the PDU includes a complete SDU without segmentation/concatenation/padding.
- l. If the SDU is larger than the space available in one PDU, the SDU is segmented into SDUs of appropriate size. Here, the header contains a sequence number field, an E-bit field set to '1' indicating the presence of a length indicator if the PDU does not contain a complete SDU, and a length indicator.
- m. If the PDU data field contains a segment which is neither the first nor the last segment of the SDU, the pre-defined value is set for the LI field, indicating that the PDU contains a segment which is neither the first nor the last segment of the SDU ('111 1110' or '111 1111 1111 1110').
- n. The Method transmits a PDU to the receiving entity.
- o. The Method is for data transmission.

B. The Method falls within the technical scope of Invention 2.

(A) Structures (j) to (n) of the Method satisfy Constituent Features J to N of Invention 2, respectively.

In this regard, the appellee alleges that the Method does not satisfy Constituent Features J and L of Invention 2, for the reason that the structures of Constituent Features J and L differ from those specified in Technical Specification V6.9.0. However, for the same reason as mentioned in 1(1)B. above in relation to Constituent Features B and D, Constituent Features J and L disclose the contents of the alternative E-bit interpretation as specified in Technical Specification V6.9.0. Therefore, the appellee's allegation as mentioned above is groundless.

(B) Based on the above, the Method satisfies Constituent Features J to N of

Invention 2, and also Constituent Features I and O as already mentioned in (3)B.(B) of "Undisputed facts, etc." of this judgment.

Therefore, the Method falls within the technical scope of Invention 2 as it satisfies all of the Constituent Features of Invention 2.

C. Establishment of indirect infringement

(A) Indirect infringement under Article 101, item (iv) of the Patent Act

Even where a product for the use of the process pertaining to the patented invention can also be used by a mode not involving the working of the patented invention, the acts of manufacturing, sale, etc of such product can still be considered to involve high probability of resulting in infringement, except for the case where the product has an economic, commercial or practical mode of use in a way using only the functions not involving the working of the patented invention, and not using any functions involving the working of the patented invention at all. Therefore, it is reasonable to consider that such product still falls under the "product to be used exclusively for the use of the said process" (Article 101, item (iv) of the Patent Act) (See judgment dated June 23, 2011, of the Intellectual Property High Court).

In relation to the Products, an economic, commercial or practical mode of use without using functions involving the working of Invention 2 cannot be anticipated at all. Therefore, the Products are considered to fall under the "product to be used exclusively for the use of the said process" in relation to Invention 2.

Based on the foregoing, the appellee's acts of import and sale of the Products are considered to constitute indirect infringement of the Patent Right for Invention 2 (Article 101, item (iv) of the Patent Act).

(B) Indirect infringement under Article 101, item (v) of the Patent Act

The problem to be solved by Invention 2 is as follows: "the RLC framing based on VoIP in traditional technology leads to inefficient use of limited radio resources in VoIP due to the use of unnecessary LI fields" (Paragraph [0012] of the Patent Description). The purpose of Invention 2 is as follows: "The invention relates generally to a mobile communication system supporting packet service. More particularly, the invention relates to a method and apparatus which efficiently use radio resources by reducing the header size of a protocol data unit (RLC PDU) to be transmitted on a radio link." (Paragraph [0013] of the Patent Description).

In addition, the effect of Invention 2 is "efficient use of limited radio resources" (Paragraph [0018] of the Patent Description). Thus, the Products are for the use of Invention 2, and are essential for the solution of the problem of Invention 2 as mentioned above.

In addition, by the appellant's Petition for Provisional Disposition, the appellee must have come to know of the fact that Invention 2 is a patented invention and the Products are used for the working of Invention 2.

Accordingly, the appellee's acts of import and sale of the Products constitute indirect infringement of the Patent Right for Invention 2 (Article 101, item (v) of the Patent Act).

D. Summary

As explained above, the appellee's acts of import and sale of the Products constitute indirect infringement of the Patent Right for Invention 2 (Article 101, items (iv) and (v) of the Patent Act).

(2) Appellee's allegations

A. The Method does not fall within the technical scope of Invention 2.

(A) For the same reason as mentioned in 1(2)A. above, none of the Products can be considered as the implementations of the functions based on the alternative E-bit interpretation, and therefore the Method does not satisfy Structures (j) to (n) as alleged by the appellant.

In addition, for the same reason as mentioned in 1(2)B. above, the structure of Constituent Features J and L of Invention 2 differ from those referred to in Technical Specification V6.9.0. Therefore, the Method is not considered to satisfy Constituent Features J and L.

As the Method does not satisfy Constituent Features J to N, the Method does not fall within the technical scope of Invention 2.

(B) In addition, as mentioned in 1(2)C. above, no evidence can be found which supports that the communication service providers' networks are configured to allow the use of the alternative E-bit interpretation, and the actual use of the alternative E-bit interpretation in the Products is not evidenced. Therefore, the Method does not fall within the technical scope of Invention 2.

B. Non-existence of indirect infringement

(A) In order to establish indirect infringement under Article 101, item (iv) or (v) of the Patent Act, it is necessary to establish, at least, the fact of direct working of the invention by a third party. On the contrary, the appellant has

not made any allegation or produced evidence of direct working of Invention 2 by a third party.

(B) No evidence has been produced which supports the actual use of the alternative E-bit interpretation for the Products. Moreover, the Products can also be used by an economic, commercial or practical mode which only involves the use of functions without working Invention 2. Therefore, the Products do not fall under the "product to be used exclusively for the use of said process" in relation to Invention 2 (Article 101, item (iv) of the Patent Act).

(C) For actual telecommunication complying with 3GPP standards, the percentage by which the SDU size coincides with the PDU size is extremely low, and the situation where Invention 2 achieves its effects is significantly limited. Therefore, the Products are not "indispensable for the resolution of the problem" (Article 101, item (v) of the Patent Act).

C. Summary

As mentioned above, the appellant's allegation that the appellee's acts of import and sale of the Products constitute indirect infringement of the Patent Right for Invention 2 is groundless.

3. Issue 3 (whether restrictions pursuant to Article 104-3, paragraph (1) of the Patent Act may be imposed on the exercise of the Patent Right for the Inventions)

(1) Appellee's allegations

As the Patent for the Inventions contains the following grounds for invalidation and therefore should be invalidated by a trial for patent invalidation, the appellant is restricted from exercising the Patent Right against the appellee in accordance with Article 104-3, paragraph (1) of the Patent Act.

A. Ground for invalidation 1 (lack of novelty due to Exhibit Ko No. 3)

As explained below, the Inventions are substantially identical to the invention specified in Exhibit Ko No. 3 (Publication of Unexamined Patent Application No. 2004-179917), which is a publication distributed before the priority date of the Patent Application. Therefore, the Patent for the Inventions has a ground for invalidation as it violates Article 29, paragraph (1), item (iii) of the Patent Act (Article 123, paragraph (1), item (ii) of the Patent Act).

(A) Contents of Exhibit Ko No. 3

Considering Paragraphs [0001], [0003], [0004], [0008], [0009], [0013], [0025], [0026], [0028], [0029] and [0031], and Figures 2, 3, 8, and 9 of Exhibit Ko No. 3, this Exhibit discloses all of the Constituent Features of

the Inventions.

(B) Response to appellant's allegations

The appellant alleges that Exhibit Ko No. 3 does not disclose Constituent Features D(K) and F(M). However, such allegation is groundless due to the following reasons:

a. Constituent Feature D(K)

(a) Paragraph [0008] of Exhibit Ko No. 3 states that, in relation to PDU50 of Figure 3: "if only one SDU fulfills data domain 58 of PDU50, the bit 55a is set to '0,' indicating that no LI is present." This "bit 55a" means the "extension bit" (Paragraph [0008]), which is binary data of one bit ('0' or '1') (Figure 3).

Thus, in order to make it possible to set the extension bit (E-bit) to '0,' Exhibit Ko No. 3 can be considered to disclose the presence of the setter referred to in Constituent Features D(K) for setting "the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU."

(b) As SDUs vary in size, it is unavoidable that one SDU can be segmented into three or more segments. In such case, PDUs containing an intermediate segment (i.e. a segment which is neither the first nor the last segment) are inevitably generated. Therefore, it is clearly understandable for a person ordinarily skilled in the art who reads Exhibit Ko No. 3 that said Exhibit discloses a PDU containing an intermediate segment. Moreover, as the PDU containing an intermediate segment does not fall under the case where "only one SDU fulfills data domain 58 of PDU50" and where the E-bit is set to '0' (Paragraph [0008]), the value of the E-bit containing an intermediate segment is necessarily set to '1.'" In addition, the "padding PDU," which is one of the examples of "alternative PDUs" referred to in Exhibit Ko No. 3 (Paragraphs [0026] and [0031], Figures 8 and 9) corresponds to "PDUs containing an intermediate segment," as it plays the role to combine PDUs before and after the padding PDU.

It follows from the above that Exhibit Ko No. 3 discloses the presence of a "setter for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field

of the PDU includes an intermediate segment of the SDU" as specified in Constituent Feature D(K).

b. Constituent Feature F(M)

Exhibit Ko No. 3 discloses that, in relation to a "padding PDU" which correspond to a PDU including an intermediate segment, the LI field "creates special codes, all of which are '1'... the remaining PDU...only fulfills the undefined parts, while keeping ignorable information" (Paragraph [0026]). In addition, this Exhibit discloses, as the value for the padding PDU containing a special LI, LI 156a set to the defined value '111111111111111' (15 digits) in Figure 8, and LI 156b set to the defined value '111111' (7 digits) in Figure 9.

Therefore, Exhibit Ko No. 3 can be considered to disclose the structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as referred to in Constituent Feature F(M).

(C) Summary

Based on the above, the Inventions are identical to the invention described in Exhibit Ko No. 3 and therefore lack novelty.

B. Ground for invalidation 2 (lack of inventive step (1) based on Exhibit Ko No. 3 as primarily cited reference)

As explained below, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combination of the invention disclosed in Exhibit Ko No. 3, which is a publication distributed before the priority date of the Patent Application, and common general technical knowledge. Therefore, the Patent for the Inventions has a ground for invalidation as it violates Article 29, paragraph (2) of the Patent Act (Article 123, paragraph (1), item (ii) of the Patent Act).

(A) Common features and difference between the Inventions and the invention disclosed in Exhibit Ko No. 3

The Inventions differ from the invention disclosed in Exhibit Ko No. 3 in that it is not clear whether the latter invention has a structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the

PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as referred to in Constituent Feature F(M), but they are identical in respect of all other structures.

- (B) Whether the difference could have been easily conceived of by a person ordinarily skilled in the art

The structure of the Inventions which constitutes the difference referred to in (A) above could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibit Ko No. 3 and common general technical knowledge, on the basis of reasons including the following: [i] Exhibit Ko No. 3 discloses a technical idea to "set the pre-defined value for the length indicator so as to distinguish two types of PDUs completely incorporating data of the same length comprising one type of data" (Paragraphs [0008] and [0026], Figures 8 and 9, etc.); and [ii] judging from the technical point of view as well, setting the length indicator to a pre-defined value so as to distinguish two types of PDUs is the most realistic and simple way which would be adopted by a person ordinarily skilled in the art as a matter of course (Exhibit Ko No. 39, Paragraph [0007], etc.).

- (C) Summary

Based on the above, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combination of the invention disclosed in Exhibit Ko No. 3 and common general technical knowledge and therefore lack inventive step.

- C. Ground for invalidation 3 (lack of inventive step (2) based on Exhibit Ko No. 3 as primarily cited reference)

As explained below, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the inventions disclosed in Exhibits Ko No. 3 and No. 4 (the minutes of the 3GPP Working Group "L2 Optimization for VoIP (R2-050969)"), which are the publications distributed before the priority date of the Patent Application. Therefore, the Patent for the Inventions has a ground for invalidation as it violates Article 29, paragraph (2) of the Patent Act (Article 123, paragraph (1), item (ii) of the Patent Act).

- (A) Whether the difference could have been easily conceived of by a person ordinarily skilled in the art

The common features and difference between the Inventions and the invention disclosed in Exhibit Ko No. 3 are as explained in B(A) above.

The structure of the Inventions which constitutes the difference referred to above could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibits Ko No. 3 and No. 4, on the basis of reasons including the following: [i] Exhibit Ko No. 4 indicates the problem of inability to distinguish two types of PDUs (PDUs of the same length and containing data which constitute one type in total), in other words, the problem of inability to distinguish a PDU containing the whole of SDU and a PDU containing an intermediate segment; and [ii] Exhibit Ko No. 4 discloses a technical idea to solve the abovementioned problem by setting a pre-defined specific value for the length indicator (Figures 2 and 3, etc.).

(B) Summary

Based on the above, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the inventions disclosed in Exhibits Ko No. 3 and No. 4, and therefore lack inventive step.

D. Ground for invalidation 4 (lack of inventive step (3) based on Exhibit Ko No. 3 as primarily cited reference)

As explained below, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combinations of Exhibits Ko No. 3 and No. 39 (Japanese National Publication of PCT Application No. 2002-527945), which are the publications distributed before the priority date of the Patent Application. Therefore, the Patent for the Inventions has a ground for invalidation as it violates Article 29, paragraph (2) of the Patent Act (Article 123, paragraph (1), item (ii) of the Patent Act).

(A) Common features and difference between the Inventions and the invention disclosed in Exhibit Ko No. 3

The Inventions differ from the invention disclosed in Exhibit Ko No. 3 in the following points: [i] it is not clear whether the latter invention has a structure wherein "a one-bit field setter for setting the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" as referred to in Constituent Feature D(K) (hereinafter referred to as "Difference 1"); and [ii] it is not clear whether the latter invention has a structure wherein "if

the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as referred to in Constituent Feature F(M)(hereinafter referred to as "Difference 2"). But these inventions are identical in respect of all other structures.

(B) Description of Exhibit Ko No. 39

Exhibit Ko No. 39 discloses the following features: [i] the use of a length indicator is needed in the receiver to correctly assemble the segmented data ([Summary]); and [ii] a length indicator is inserted into a PDU containing an intermediate segment of the SDU so as to distinguish whether the SDU contained in the PDU ends in the current PDU or continues to the next PDU, and the pre-defined value is set for said length indicator ([Summary], Paragraphs [0006], [0010] and [0019]).

In addition, the notice of reasons for refusal dated March 30, 2010, issued during the examination process of the Patent Application (Exhibit Ko No. 44) indicates that it is mentioned in Exhibit Ko No. 39 that "specific information" on the SDU is shown by setting a pre-defined value for the length indicator and that "the specific information instructs which one or more payload unit contains the segment length information in the header of the lower PDU" (this statement corresponds to the statement in the Patent Application which reads: "set to the value indicating the presence of an intermediate segment"). As the appellant did not, in its written opinion dated October 6, 2010, raise any objection to the matters specified in the abovementioned notice of reasons for refusal, the appellant is considered to have admitted that Exhibit Ko No. 39 discloses the feature whereby the intermediate segment is indicated by the use of the length indicator.

(C) Whether the difference could have been easily conceived of by a person ordinarily skilled in the art

a. Difference 1

Considering the following two facts, it can be said that it was easy for a person ordinarily skilled in the art to conceive of an idea to set the one-bit field to indicate whether the whole of SDU is included in one PDU or PDU includes an intermediate segment of the SDU and a length indicator is present (the structure of the Inventions which

constitutes Difference 1), based on the combination of Exhibit Ko No. 3 and Exhibit Ko No. 39. [i] Before the priority date of the Patent Application, a person ordinarily skilled in the art sufficiently recognized the necessity to distinguish a PDU containing the whole of SDU and a PDU containing an intermediate segment. [ii] Exhibit Ko No. 39 discloses the structure wherein the length indicator is inserted into the PDU containing an intermediate segment of the SDU and the E-bit of said PDU is set to indicate the presence of the length indicator ((B) above).

b. Difference 2

As explained in (B) above, Exhibit Ko No. 39 discloses the structure of the Inventions which constitutes Difference 2.

Accordingly, it can be said that it was easy for a person ordinarily skilled in the art to conceive of the structure of the Inventions which constitutes Difference 2, based on the combination of Exhibit Ko No. 3 and Exhibit Ko No. 39.

(D) Summary

Based on the above, it can be said that the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibit Ko No. 3 and Exhibit Ko No. 39.

E. Ground for invalidation 5 (lack of inventive step based on Exhibit Ko No. 1-4 as primarily cited reference)

As explained below, the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the invention disclosed in Exhibit Ko No. 1-4 (3GPP technical specification "3GPP TS 25.322 V.6.3.0"; hereinafter referred to as "Technical Specification V.6.3.0"), which is a publication distributed before the priority date of the Patent Application, and common general technical knowledge. Therefore, the Patent for the Inventions has a ground for invalidation as it violates Article 29, paragraph (2) of the Patent Act (Article 123, paragraph (1), item (ii) of the Patent Act).

(A) Common features and difference of the Inventions and the invention disclosed in Exhibit Ko No. 1-4

Exhibit Ko No. 1-4 discloses the "normal E-bit interpretation," as specified in Technical Specification V.6.3.0.

The Inventions differ from the invention disclosed in Exhibit Ko No. 1-4 in the following points: [i] based on the "normal E-bit interpretation" as

referred to in Exhibit Ko No. 1-4, the length indicator is not present if the PDU contains an SDU without segmentation/concatenation/padding (hereinafter referred to as "Difference 1"); and [ii] based on the "normal E-bit interpretation" as referred to in Exhibit Ko No. 1-4, if the PDU contains an intermediate segment of the SDU, a length indicator is inserted, and a special value indicating the presence of the intermediate segment is configured for said length indicator (hereinafter referred to as "Difference 2"). These inventions are identical in respect of all other structures.

(B) Common general technical knowledge before the priority date of the Patent Application

The following matters had already become a part of common general technical knowledge before the priority date of the Patent Application.

- a. SDUs of the same size are frequently generated by a VoIP application which uses a sound codec with a fixed bit rate (Exhibits Ko No. 1-2, No. 42 and No. 92).
- b. If the received data completely fills the data field of a data packet (i.e. if one SDU completely fills the PDU's data field), the header size can be reduced (Exhibit Ko No. 3, Paragraph [0008] which reads "if only one SDU fulfills data domain 58 of PDU50, the bit 55a is set to '0,' indicating that no LI is present;" Exhibit Ko No. 40).
- c. In a PDU's data field, the presence of an intermediate segment is indicated by the use of a length indicator (Exhibit Ko No. 39, Paragraph [0019]; Exhibit Ko No. 43)

(C) Whether the difference could have been easily conceived of by a person ordinarily skilled in the art

- a. It has been common knowledge of a person ordinarily skilled in the art that the data volume of the PDU header can be reduced by setting its first E-bit to '0' and omitting the length indicator, and also that only four types of PDUs are thus capable of reducing the data volume of the PDU header (i.e. [i] a PDU containing the first segment of the SDU; [ii] a PDU containing an intermediate segment of the SDU; [iii] a PDU containing the last segment of the SDU, whose size coincides with the size of the PDU data field; and [iv] a PDU containing one SDU, whose size coincides with the size of the PDU data field). According to the "normal E-bit interpretation" referred to in Exhibit

Ko No. 1-4, in relation to the two types of PDU [ii] and [iii] above, the E-bit is set to '0' and the length indicator is omitted.

With regard to the "normal E-bit interpretation" referred to in Exhibit Ko No. 1-4, the reason for omitting the length indicator for PDUs containing an intermediate segment of the SDU (as mentioned in [ii] above) is as follows. In many applications, SDUs whose size is larger than the size of the PDU data field are frequently generated, and consequently PDUs containing intermediate segments of the SDU are often generated, and reduction of the header size of such PDU can reduce the overhead in total and thereby enhance the efficiency of data transmission. This strongly suggests that 3GPP had recognized the possibility of reducing more data volume by omitting the length indicator of the PDU containing an intermediate segment, rather than by omitting the length indicator of the PDU containing an SDU which completely matches the PDU data field. In addition, considering that the types of PDUs capable of omitting the length indicator are limited as above, this also suggests that 3GPP had recognized the possibility of reducing the data transmission overhead by omitting the length indicator for the PDU including the SDU which completely matches the PDU data field, if the frequency of generation of such SDU is high.

Meanwhile, the statement of Constituent Feature D(K) which reads "setting the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" (hereinafter referred to as "Constituent Feature D(a)) represents the selection of the type [iv] as referred to above for the PDU for omitting the length indicator. The reason behind this is that, before the priority date of the Patent Application, it was widely recognized by a person ordinarily skilled in the art that a VoIP application which uses a sound codec with a fixed bit rate frequently generates SDUs of the same size ((B)a. above).

Thus, the "normal E-bit interpretation" as referred to in Exhibit Ko No. 1-4 and Constituent Feature D(a) share the common technical idea to reduce the data transmission overhead by omitting the length indicator of the PDU containing an SDU which occurs frequently, thereby to enhance the efficiency of data transmission.

- b. (a) The adoption of the structure of Constituent Feature D(a) is automatically and inevitably connected to the structure of Constituent Feature D(K) which reads "setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" (hereinafter referred to as "Constituent Feature D(b)").

In other words, as the value of the E-bit is either '0' or '1,' given that the structure of Constituent Feature D(a) is adopted and the PDU contains an SDU without segmentation/concatenation/padding, setting the value of the first E-bit of the PDU to '0' inevitably means that the first E-bit of the PDU containing any other type of data is always set to '1.' Accordingly, if the PDU contains an intermediate segment of the SDU, the first E-bit of the PDU is always set to '1,' indicating "the presence of at least one length indicator (LI) field."

- (b) In addition, the adoption of the structure of Constituent Feature D(a) automatically and inevitably leads to Constituent Feature D(b), as well as the structure of Constituent Feature F(M) which reads "the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU, if the data field of the PDU includes an intermediate segment of the SDU."

In other words, for the PDU containing the whole of SDU, if the first E-bit is set to '0' and the length indicator is omitted, it is necessary to always set the first E-bit of the PDU containing an intermediate segment to '1' and insert the length indicator. The length indicator is set to the value showing where in the PDU the SDU ends or the pre-defined value showing the type of data stored into the PDU data field. As it is impossible for the SDU to end in an intermediate segment, there is no choice but to adopt the structure of Constituent Feature F(M) wherein the length indicator of a PDU containing an intermediate segment is set to the pre-defined value showing the type of data stored in the PDU data field (i.e. intermediate segment).

- c. Before the priority date of the Patent Application, it had been common general technical knowledge that SDUs of the same size are frequently

generated by a VoIP application using a sound codec with a fixed bit rate, that the header size can be reduced if one SDU completely fills the PDU's data field, and that the presence of an intermediate segment is indicated by the use of a length indicator in a PDU's data field ((B) above). Based on this common general technical knowledge, in relation to a specific VoIP application whereby one SDU frequently fills the PDU data field, it was easy for a person ordinarily skilled in the art to apply the aforementioned common general technical knowledge to the "normal E-bit interpretation" as referred to in Exhibit Ko No. 1-4 and to modify the design to omit the length indicator from the header of the PDU containing the whole of SDU, instead of a PDU containing an intermediate segment. In addition, such design modification automatically and inevitably involves the insertion into the PDU containing an intermediate segment a length indicator with a pre-defined value. It follows that a person ordinarily skilled in the art could have easily conceived of the structures of the Inventions which constitute Difference 1 (Constituent Feature D(a)) and Difference 2 (Constituent Feature D(b) and Constituent Feature F(M)), based on the combination of the "normal E-bit interpretation" referred to in Exhibit Ko No. 1-4 and common general technical knowledge.

- d. On the contrary, the appellant alleges the existence of a factor which would obstruct a person ordinarily skilled in the art from applying the structure of Constituent Feature F(M) to the "normal E-bit interpretation" referred to in Exhibit Ko No. 1-4, for the reason that the addition of a length indicator to a PDU containing an intermediate segment would result in an increase in overhead.

However, even supposing that the overhead increases in the case of PDUs containing an intermediate segment, the header size still can be reduced for the PDUs containing the whole of SDU, and the overhead decreases in the case where a certain VoIP application is used. Therefore, there is no obstructing factor for the application of the structure of Constituent Feature F(M) to the "normal E-bit interpretation" referred to in Exhibit Ko No. 1-4.

Based on the foregoing, the appellant's allegations as mentioned above are groundless.

(D) Summary

Based on the foregoing, it can be said that the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combination of the invention disclosed in Exhibit Ko No. 1-4 and common general technical knowledge.

(2) Appellant's allegations

A. Ground for invalidation 1

(A) The invention disclosed in Exhibit Ko No. 3 and the Inventions are different in that the former does not disclose Constituent Feature D(K) and Constituent Feature F(M) of the Inventions.

a. The appellee refers to the explanation of Figure 3 in Exhibit Ko No. 3 which reads: "if only one SDU fulfills data domain 58 of PDU50, the bit 55a is set to '0,' indicating that no LI is present" (Paragraph [0008]). As stated in Paragraph [0006] which reads "Figure 3 is the simplified drawing of AM data PDU 50 and is published in 3GPP TS25.322 V3.8.0," such explanation of Figure 3 is an explanation about "3GPP TS25.322 V3.8.0", which is the old technical specification of 3GPP standards before the adoption of the alternative E-bit interpretation (Exhibit Otsu No. 7, hereinafter referred to as the "Technical Specification V3.8.0"). This explanation refers to what is called "the normal E-bit interpretation" in the current 3GPP standards. On the contrary, the normal E-bit interpretation makes no reference to the case where "the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field."

In addition, even the aforementioned statement of Paragraph [0008] is literally interpreted; the wording which goes "only one SDU fulfills data domain 58 of PDU50" also encompasses the case where the size of SDU is larger than that of PDU and the PDU is filled with the first segment or intermediate segment, in addition to the case where the sizes of SDU and PDU are the same. Thus, this statement does not necessarily only mean the case where "the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field" as stated in Constituent Feature D(K).

Therefore, Exhibit Ko No. 3 does not disclose Constituent Feature D(K).

b. As explained in a. above, in Exhibit Ko No. 3, the case where the

intermediate segment completely fills PDU also satisfies the case where "the bit 55a is set to '0,' indicating that no LI is present." Therefore, this Exhibit is irrelevant to the structure of Constituent Feature F(M) which reads "the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU, if the data field of the PDU includes the intermediate segment of the SDU."

In addition, according to Exhibit Ko No. 3, the "padding PDU does not have actual SDU data and is to be used only in the case where the SDU data is destroyed due to an unexpected interruption of data transmission" and is not filled with the SDU (Paragraph [0026] of Exhibit Ko No. 3). Therefore, this padding PDU is irrelevant to the SDU, and it is impossible to anticipate the relationship between such PDU and SDU or an intermediate segment from this "padding PDU." Therefore, this statement of Exhibit Ko No. 3 is irrelevant to PDUs containing intermediate segments. In addition, in the case of "padding PDU," the "extension bit 155a" is always set to '1,' without regard to whether such PDU is an intermediate segment or not. Therefore, the "padding PDU" is not the technology to distinguish a PDU containing a complete SDU and a PDU containing an intermediate segment.

Therefore, Exhibit Ko No. 3 does not disclose Constituent Feature F(M).

- (B) Based on the foregoing, the ground for invalidation 1 as alleged by the appellee is groundless.
- B. Ground for invalidation 2
- (A) As mentioned in A.(A)a. above, as Exhibit Ko No. 3 does not disclose Constituent Feature D(K), the Inventions and the invention disclosed in Exhibit Ko No. 3 are also different in that the latter does not have the structure of Constituent Feature D(K) of the Invention.
 - (B) The prior art referred to in Exhibit Ko No. 3 is the contents of Technical Specification V3.8.0 and had been established as the standard by itself. Therefore, there is no problem of inability of distinguishing the PDU containing a complete SDU and the PDU containing an intermediate segment.

In addition, from the technical standpoint, it was not an inevitable choice to set the length indicator to the pre-defined value so as to distinguish the

two types of PDUs.

Therefore, it cannot be said that the structure of Constituent Feature F(M) could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibit Ko No. 3 and common general technical knowledge.

(C) Based on the foregoing, the ground for invalidation 2 as alleged by the appellee is groundless.

C. Ground for invalidation 3

(A) As mentioned in B.(A) and (B) above, the Inventions and the invention disclosed in Exhibit Ko No. 3 are also different in that the latter does not have the structure of Constituent Feature D(K). In addition, in the prior art referred to in Exhibit Ko No. 3, no problem can be found pointing to the inability to distinguish the PDU containing a complete SDU and the PDU containing an intermediate segment.

(B) The invention referred to in Exhibit Ko No. 4 is the method for solving the problem that "if the previous RLC PDU is lost, it will not be possible to know if the entire SDU was received or not" (the last line of the translation, Page 3), rather than the problem of the inability to distinguish PDUs. Thus, said problem is different from the one to be solved by the invention disclosed in Exhibit Ko No. 3.

In addition, Exhibit Ko No. 4 states: "Use one of the LI's reserved values: In this case, an additional LI would have to be incorporated in the RLC PDU in which the first RLC SDU is entirely included. This would result in an overhead of 3% of 12.2kbps payload" (Lines 1 to 3 of the translation, Page 5). This indicates a technology completely opposite to Invention 1, wherein the LI's reserved value is used if the SDU is completely included in the PDU. Further, Exhibit Ko No. 4 does not refer to the use of the LI's reserved values for the intermediate segment.

Therefore, it cannot be said that the structure of Constituent Feature F(M) could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibits Ko No. 3 and No. 4.

(C) Based on the foregoing, the ground for invalidation 3 as alleged by the appellee is groundless.

D. Ground for invalidation 4

(A) Exhibit Ko No. 39 discloses neither Constituent Feature D(K) nor Constituent Feature F(M) of the Inventions.

- a. Exhibit Ko No. 39 contains a statement which reads: "Alternatively, the first PDU in the PDU may be provided with a length indicator having a pre-defined value which indicates that the SDU in this PDU continues to the next RLC PDU" (Paragraph [0019]). However, this statement indicates that the SDU continues to the next PDU (i.e. the SDU is not the last segment), but not that such SDU is not the first segment. Therefore, this statement does not lead to a conclusion that Exhibit Ko No. 39 discloses Constituent Feature F, as it makes no reference to an intermediate segment which is neither the first nor the last segment.

In this regard, the appellee alleges that the appellant had admitted that Exhibit Ko No. 39 refers to the indication of an intermediate segment by the use of the length indicator, on the ground that, in the course of examination process, the appellant did not raise any objection in its written opinion dated October 6, 2010, about the matters relating to Exhibit Ko No. 39 as specified in the notice of reasons for refusal dated March 30, 2010 (Exhibit Ko No. 44).

However, as mentioned above, Exhibit Ko No. 39 does not disclose intermediate segments. In addition, it is not unreasonable at all for the examiner to strive to grant the patent as early as possible based on the "Elements of Claim 2" (Exhibit Ko No. 44), for which the examiner did not find any reason for refusal. Therefore, the fact that the appellant did not expressly raise an objection by submitting a written opinion in the examination process does not necessarily mean that the appellant had admitted that the structure wherein intermediate segments are indicated by the use of the length indicator is disclosed in Exhibit Ko No. 39.

Based on the above, the appellee's allegations as mentioned above are groundless.

- b. In addition, Paragraph [0019] of Exhibit Ko No. 39 contains a statement which reads: "If the SDU ends at the end of the current PDU, this is indicated by a length indicator value which points exactly to the end of the PDU." So, Exhibit Ko No. 39 clearly discloses the use of the length indicator if the PDU contains a complete SDU, and thus contains a disclosure which is opposite to Constituent Feature D(K).
- (B) As mentioned above, Exhibit Ko No. 39 discloses neither Constituent

Feature D(K) nor Constituent Feature F(M) of the Inventions, and no factor exists which would motivate a person ordinarily skilled in the art to combine Exhibits Ko No. 3 and No. 39. Therefore, it cannot be said that the Inventions could have been easily conceived of by a person ordinarily skilled in the art based on the combination of Exhibits Ko No. 3 and No. 39.

Based on the above, the ground for invalidation 4 as alleged by the appellee is groundless.

E. Ground for invalidation 5

- (A) a. Before the priority date of the Patent Application, a high percentage of the SDU size completely matching the PDU size in the real communication environment was not recognized among persons ordinarily skilled in the art (Exhibit Ko No. 42, etc. do not support the appellee's allegations). Therefore, no factor is found which could have motivated any person ordinarily skilled in the art of that time to attempt to reduce the header information of the PDU containing a complete SDU.

In addition, for the purpose of the normal E-bit interpretation as mentioned in Exhibit Ko No. 1-4, the length indicator contained in the header is set to a pre-defined value, if the last octet of the SDU coincides with the last octet of the PDU (the table shown in Page 9 of the translation indicates that the bit sequence '0000000' should be used for the length indicator if "the previous RLC PDU was exactly filled with the last segment of the RLC SDU and there is no 'Length Indicator' that indicates the end of the RLC SDU in the preceding RLC PDU"), and such length indicator was thus necessary. Accordingly, the idea to omit a length indicator did not exist even in the case of the SDU size completely matching the PDU size. A person ordinarily skilled in the art would not be able to conceive of the idea to omit a length indicator by changing the technical specification already released, if it were not for the circumstance where the SDU size frequently matches the PDU size in the real communication environment, and unless this circumstance was recognized by a person ordinarily skilled in the art.

- b. The length indicator for the normal E-bit interpretation as referred to in Exhibit Ko No. 1-4 is defined as the one that "indicates the last octet

of each RLC SDU ending within the PDU" (9.2.2.8 of the translation, Page 4) because it is necessary to demarcate the scope of one SDU when the SDU is concatenated or padded. This Exhibit only suggests that no LI is present in the intermediate segment wherein the last octet of the SDU does not exist, and cannot serve as evidence of the existence of a technical idea to omit an LI for the PDU containing an intermediate segment which frequently occurred in relation to the normal E-bit interpretation.

c. The appellee alleges that the adoption of the structure of Constituent Feature D(a) is automatically and inevitably connected to the structure of Constituent Feature D(b) and Constituent Feature F(M). This allegation is groundless for the following reasons:

(a) In Exhibit Ko No. 1-4, the one-bit field after the sequence number has a meaning as an indicator of whether "the next field is a Length Indicator and E-bit" (9.2.2.5 of the translation, Page 4), and such one-bit field is called "E-bit" in this connection. Contrary to this, according to the appellee's allegation, this one-bit field means an indicator of whether the SDU size completely matches the PDU size (Constituent Feature D(a)), and is called "E-bit" in this connection. Here, the meaning of the term "E-bit" is completely different from that in Exhibit Ko No. 1-4.

The appellee alleges that, if the structure of Constituent Feature D(a) is adopted and when the PDU contains an SDU without segmentation/concatenation/padding (i.e. the SDU size completely matches the PDU size), setting the value of the first E-bit of the PDU to '0' inevitably means that the first E-bit of a PDU containing any other type of data, including the case where the PDU is an intermediate segment of the SDU, is set to '1.' In other words, the appellee alleges that the adoption of the structure of Constituent Feature D(a) inevitably boils down to Constituent Feature D(b), and further to the structure of Constituent Feature F(M) wherein the length indicator of the PDU containing an intermediate segment is set to a pre-defined value showing the presence of an intermediate segment.

However, the value '1' for the E-bit of the PDU containing an intermediate segment always means the value '0' for the E-bit of

the PDU containing a complete SDU. Thus, the purpose of distinguishing these PDUs has already been attained. In addition, the appellee, in alleging that the adoption of the structure of Constituent Feature D(a) inevitably boils down to Constituent Feature D(b), presupposes that the one-bit field after the sequence number is an "E-bit" with a different meaning as an indicator of whether the SDU size completely matches the PDU size. However, in alleging that the adoption of the structure of Constituent Feature D(b) inevitably boils down to Constituent Feature D(M), the appellee presupposes that the one-bit field after the sequence number is an "E-bit" that has the traditional meaning as referred to in Exhibit Ko No. 1-4. Therefore, the appellee's allegation is inappropriate in this respect.

Furthermore, even supposing that the length indicator is omitted from a PDU containing a complete SDU, the one-bit field after the sequence number can be used to indicate the presence of a complete SDU ("E-bit"), and that the presence of the complete SDU can be indicated by use of the value '0,' it only follows that the one-bit field after the sequence number is set to '1,' because the intermediate segment does not contain a complete SDU. Therefore, even such presumptions would not lead to the structure wherein a length indicator is inserted into an intermediate segment.

Thus, the adoption of the structure of Constituent Feature D(a) is not inevitably and automatically connected to the adoption of Constituent Feature D(b) or Constituent Feature F(M).

- (b) In addition, supposing that, as alleged by the appellee, the adoption of the structure of Constituent Feature D(a) is inevitably and automatically connected to the adoption of Constituent Feature D(b) and Constituent Feature F(M), it would be necessary to consider the structures adopting Constituent Feature D(b) and Constituent Feature F(M) (i.e. alternative E-bit interpretation) as well when adopting Constituent Feature D(a). Considering the fact that the "alternative E-bit interpretation results in an increase in the total overhead" (Exhibit Ko No. 124), as well as the appellee's allegation that the alternative E-bit interpretation is inefficient and is highly unlikely to be implemented, a factor can be found which

would obstruct a person ordinarily skilled in the art from adopting Constituent Feature D(a).

(B) Based on the above, a person ordinarily skilled in the art could not have easily conceived of the structure of the Inventions which constitute Difference 1 and Difference 2 based on the combination of the normal E-bit interpretation referred to in Exhibit Ko No. 1-4 and common general technical knowledge.

Therefore, the ground for invalidation 5 as alleged by the appellee is groundless.

4. Issue 4 (whether the Patent Right for the Products has been exhausted)

(1) Appellee's allegations

A. Appellant's licensing to Intel Corporation

(A) For the Products, the processing tasks relating to the UMTS standard are implemented by the Baseband Chip installed therein.

Supposing that the Products involve the working of the Inventions, it necessarily means that the essential processes of the Inventions are implemented by the Baseband Chip, which is one of the component parts of the Products, and the Baseband Chip would constitute indirect infringement of the Patent Right for Invention 1.

The Baseband Chip is a product manufactured by Intel Corporation. Apple Inc. purchased this product in the U.S. through Intel Americas, Inc., which is Intel Corporation's wholly-owned subsidiary company, and installed it in the Products.

In this regard, the appellant alleges that the sale of Intel's Baseband Chip to Apple Inc. is handled by IMC (Intel Mobile Communications GMBH; former Infineon); however, such allegation is not true.

(B) Intel Corporation and the appellant entered into a patent cross-license agreement effective from January 1, 1993 (Exhibits Ko No. 20-1 and No. 162; hereinafter referred to as the "Appellant-Intel License Agreement").

Under the Appellant-Intel License Agreement, the appellant granted to Intel Corporation a worldwide license for all of the appellant's patent rights (including the Patent Rights) whose dates of first priority precede the expiration date of such agreement (i.e. December 31, 2009). The purpose of this license was the manufacturing and sale (including indirect sales through other companies including its subsidiaries) of the "Intel Licensed Products" (including products made of semiconductor material,

semiconductor chip or integrated circuit).

The scope of the right licensed under the Appellant-Intel License Agreement included Intel Corporation's right to sell the chipsets, directly, or indirectly through other companies including its subsidiaries, and Intel Corporation's right to extend the effect of the license to its subsidiary companies also (Exhibit Ko No. 20-1, Paragraphs 3.1 and 3.3). In addition, this agreement had a survival clause (Exhibit Ko No. 20-1, Paragraph 6.4), under which Intel Corporation and its subsidiary companies were entitled to retain the license for any patent forming the part of the licensed patents thereunder until the expiration of such patent, without regard to the expiration of the agreement.

Therefore, Intel Corporation's sale of the Baseband Chip to Apple Inc. through Intel Americas, Inc. falls within the scope of the license under the Appellant-Intel License Agreement.

B. Exhaustion of the Patent Right for the Inventions

In the judgment of the Supreme Court of July 1, 1997 (See *Minshu* Vol. 51, No. 6, at 2299; hereinafter referred to as the "BBS Case Supreme Court Judgment"), the Supreme Court held as follows: "it is reasonable to understand that, in the case where the Japanese patentee or a person deemed equivalent to the patentee assigns a patented product outside of Japan, the patentee is restricted from exercising in Japan its patent right for the product against a third party who acquires the patented product from the assignee of the product and the subsequent assignees."

There is no reason to exclude licensees from the scope of "a person deemed equivalent to the patentee" as referred to in the BBS Case Supreme Court Judgment, and therefore licensees, such as Intel Corporation, should also be deemed "a person deemed equivalent to the patentee."

In addition, Invention 1 is the technology for the data transmission between the RLC layers of a transmitter and those of a receiver, and is capable of being implemented by the Baseband Chip alone. Therefore, the Baseband Chip should be considered to constitute the "patented product" in relation to the Patent Right within the same meaning as that given in the BBS Case Supreme Court Judgment.

Even supposing that an "apparatus for transmitting data" in Invention 1 (Constituent Feature H) is considered not as the Baseband Chip itself but as one of the Products, which is the final product mounting the Baseband Chip,

the Baseband Chip constitutes a product indirectly infringing the Patent Right for Invention 1. Even in the case of assignment of a component part, if such component part indirectly infringes the patent right for the product invention of the final product, the assignor of such product can be considered to have anticipated that the assignee and subsequent assignees of such component part can work the patent right for the invention for the final products by the use thereof. Accordingly, such component part should be understood to constitute the "patented product" within the meaning as that given in the BBS Case Supreme Court Judgment. Therefore, the Baseband Chip constitutes the "patented product" as that given in the BBS Case Supreme Court Judgment.

In addition, in relation to the patent right for the process invention having substantially identical technical elements as a product invention, it should also be understood that the patentee is restricted from exercising his/her patent right for such process invention, as long as the patentee was guaranteed the "opportunity to obtain reward for public disclosure of the patented invention" for such process invention.

The Baseband Chip falls under the "patented product" in the context of direct or indirect infringement. Moreover, the appellant was guaranteed the "opportunity to obtain reward for public disclosure of the patented invention" at the time when it granted Intel Corporation the distribution license for the Baseband Chip. Based on these premises, the appellant is restricted from exercising the Patent Right for Invention 1 against Intel Corporation's customers in the lower stream of the distribution channel. Further, Invention 2 is the process invention having substantially identical technical elements to Invention 1. So, as the appellant is restricted from exercising the Patent Right for Invention 1, exercising of the Patent Right for Invention 2 should also be prohibited.

Therefore, when Intel Corporation, the appellant's Patent licensee, sold the Baseband Chip to Apple Inc. in the U.S. through Intel Americas, Inc., the Patent Right for the Inventions have been exhausted in relation to the Baseband Chip.

C. Summary

Based on the above, the appellant is prohibited from exercising, against the appellee, the Patent Right for the Products mounting the Baseband Chip.

(2) Appellant's allegations

The appellee alleges the exhaustion of the Patent Right for the Inventions in relation

to the Baseband Chip; however, such allegation is groundless due to the following reasons.

A. Termination of the Appellant-Intel License Agreement

The Appellant-Intel License Agreement expired on June 30, 2009. This agreement has no survival clause for the license after the expiry. As Intel Corporation no longer has authority for the Patent Right, the Patent Right for the Inventions cannot be exhausted by virtue of the assignment of the Baseband Chip from Intel Corporation to Apple Inc..

B. The Products are not the licensed products under the License Agreement.

The Appellant-Intel License Agreement (Exhibits Ko No. 20-1, No. 20-3, No. 162 and No. 163) provides that the license shall not cover any Intel product manufactured for a third party, if the product design is provided by such third party (Article 3.2), and that a right to consign manufacturing is allowed only in limited circumstances (Article 3.7). Considering these provisions, the "Intel Licensed Products" to be licensed under the same license agreement should be understood to mean the products manufactured by Intel Corporation itself, or products consigned from Intel Corporation to a third party with the design drawings and other specifications.

The Baseband Chip is a product developed and manufactured not by Intel Corporation but by IMC (formerly Infineon) (more precisely, a product manufactured based on the consignment from IMC to a third party manufacturer). Therefore, the Baseband Chip is out of the scope of the Intel Licensed Products under the license agreement.

C. Non-satisfaction of requirements of international exhaustion

The BBS Case Supreme Court Judgment is understood to require, as a prerequisite for international exhaustion, the assignor's rights in the assigned patented product to include the right of importation into Japan (as well as the right to use and assign the product in Japan). Therefore, it is obvious that "a person deemed equivalent to the patentee" as mentioned in the BBS Case Supreme Court Judgment means a person who has the right to import the patented product into Japan (as well as the right to use and assign the product in Japan).

Nevertheless, Intel Corporation has no right to import the patented products (i.e. mobile phones and tablet computers) into Japan (as well as the right to use and assign the products in Japan). Therefore, Intel Corporation does not fall under "a person deemed equivalent to the patentee."

In addition, the Baseband Chip assigned from Intel Corporation to Apple Inc. is neither the "data transmission device" nor "data transmission method" pertaining to the Inventions. As such, the Baseband Chip is not the "patented product" as mentioned in the BBS Case Supreme Court Judgment.

Further, as Intel Corporation entered into the license agreement (Appellant-Intel License Agreement) which excludes the license for any final product, including mobile phones and tablet computers, the appellant still would not be able to obtain reward for the public disclosure of the Inventions pertaining to the "data transmission device" or "data transmission method" from Intel Corporation, even supposing that the appellant expected the Baseband Chip to be incorporated into the devices such as mobile phones. So, it is obvious that the appellant cannot be considered to have been guaranteed the opportunity to obtain such reward. In addition, as the unit price of the Baseband Chip represents only a very small percentage of the total price of the Products, such limited opportunity for reward cannot be considered as the entire opportunity for gain.

D. Summary

As mentioned above, the Patent Right for the Inventions is not exhausted only by virtue of Apple Inc. purchasing from Intel Corporation the Baseband Chip, which is a component part of the Products. Therefore, the appellee's allegation that the appellant is prohibited from exercising the Patent Right for the Products is groundless, as it lacks the conditions precedent.

5. Issue 5 (whether a license agreement in relation to the Patent Right has been formed based on the FRAND Declaration)

(1) Appellee's allegations

A. Laws governing the FRAND Declaration

(A) On December 14, 1998, the appellant made an undertaking (declaration) to ETSI that it was prepared to license its essential patent for the UMTS standard on the FRAND Terms (fair, reasonable and non-discriminatory terms and conditions in accordance with ETSI IPR Policy Clause 6.1). Further, on August 7, 2007, the appellant made a declaration to ETSI that it was prepared to grant an irrevocable license for its essential patent for the UMTS standard on the FRAND Terms, notifying the number of the South Korean patent application, which served as the basis for the priority claim for the Patent Application, as well as the international application number of the Patent Application (FRAND Declaration).

The licensing declaration of the standards essential patent on the FRAND Terms is applied to ETSI members, as well as all other parties including non-members (Exhibits Ko No. 16 and No. 161, "ETSI Guide on Intellectual Property Rights (IPRs)"). Accordingly, both Apple Inc. and the appellee are eligible to obtain license under the FRAND Declaration.

(B) The governing laws for the FRAND Declaration and IPR Policy are the laws of France (Exhibit Ko No. 13, IPR Policy Clause 12). As such, the issues such as the effect of the FRAND Declaration and the requirement for the formation of a license agreement thereunder are governed by the laws of France.

B. Formation of License Agreement between the appellant and the appellee

(A) The FRAND Declaration, which the appellant made to ETSI, satisfies all elements of the legally binding offer (or "offer permanente") under the laws of France (i.e. the licensed patent, the details of the rights to be licensed, etc.), and therefore constitute the "actual licensing offer, acceptance of which is implied by the implementation of the specification by a certain party." Under the laws of France, the acceptance is made by way of performance of certain acts or agreement. As for this case, the appellee impliedly accepted the appellant's licensing offer by commencing the import and sale of the Products. By doing so, the license agreement in relation to the Patent Right can be regarded to have been formed between the appellee and the appellant.

(B) a. Although the fixed royalty rate is not provided in the appellant's FRAND Declaration, this does not affect the formation of a license agreement.

Under the French laws, in order for the sale and purchase contract to be validly formed, a specific purchase price must be provided. However, a license agreement is characterized as a special contract different from a sale and purchase contract, and agreement on the royalty rate is not a condition essential for the formation of a contract between the parties. In addition, under the French laws, the courts have authority to determine the royalty rate on the FRAND Terms.

b. Under the French laws, the act of licensing is invalid unless it is in the form of writing (Intellectual Property Code, Article L613-8, paragraph (5)). On the other hand, the document is deemed legally binding if it is signed by a party to be bound by such document.

In this regard, the appellant's FRAND Declaration has been made in writing signed by the appellant, and therefore satisfies the requirement of written form. The lack of signature of the appellee has nothing to do with this written form requirement. In addition, under the French laws, the purpose of this formality requirement in the license agreement is the "protection of specific interests of licensees." As such, only the party to be protected against the lack of written form (i.e. licensee) should be eligible to challenge the validity of the contract on the ground of lack of written form. In this court case, the appellant is not eligible to assert the invalidity of the contract.

(C) Further, it may also be possible to interpret the FRAND Declaration as a "contract for the benefit of a third party" (*stipulation pour autrui*) between the appellant and ETSI. Under the laws of France, it is understood that the parties can enter into an agreement to make a promise to assume certain obligation for the benefit of a third party. In such case, the appellee, who is the beneficiary, is understood to immediately acquire a direct right against the promisor (appellant), without a need to make any consent to such promise to give effect to such contract.

(D) Even supposing that the appellant's FRAND Declaration does not constitute an offer to be accepted by the implementation of the standard, at least the FRAND Declaration should be considered as an undertaking to enter into a binding contract. As explained thus far, under the laws of France, the appellant has an obligation to grant a license to the appellee and therefore it is not permissible for the appellant to claim the damages from the appellee.

C. Consequence of interpreting the governing laws as the laws of Japan

Even supposing that the FRAND Declaration is governed by the laws of Japan, the license agreement is considered to have been formed under the laws of Japan, as the FRAND Declaration is understood as an appellant's offer for a non-exclusive license agreement, the acceptance of which is made by the appellee's implementation of the UMTS standard.

D. Summary

As explained above, the FRAND Declaration made by the appellant to ETSI constitutes the offer for a FRAND license agreement in relation to the Patent Right, and the appellee's commencement of the import and sale of the Products constitutes the implicit acceptance for such offer. Accordingly, the FRAND license agreement in relation to the Patent Right has been formed between the

appellant and the appellee, and therefore the appellant is not entitled to exercise the Patent Right against the appellee.

(2) Appellant's allegations

A. Non-existence of offer for contract

Upon the formation of a contract, the parties are bound by the legal obligation to perform the contract. Therefore, an offer for the contract should be concrete enough such that the contract can be immediately formed upon the acceptance thereof.

However, the appellant's FRAND Declaration contains no important particulars which are the elements of a contract, such as the consideration (royalty rate), terms and territories, and provides no specific obligations for the parties. Therefore, such declaration in no way constitutes an offer for a license agreement.

Under the French laws as well, it has been generally understood that, in order for a license agreement to be formed, an offer expressly providing important particulars of a contract (such as consideration, the licensed patent, territories, terms, etc.), as well as the corresponding acceptance are required. As such offer does not exist in this case, no license agreement was formed. Meanwhile, there has been no precedent of the Supreme Court of France (Court de cassation) dealing with the issue of whether the royalty rate is the essential element for the formation of a license agreement.

B. Non-existence of acceptance

(A) As mentioned in A. above, as there has been no offer from the appellant for the conclusion of a license agreement in relation to the Patent Right, acceptance of such offer by the appellee cannot exist.

(B) In this regard, the appellee alleges that the appellee has made an implicit acceptance of the offer by commencing the import and sale of the Products.

However, the appellee does not provide the reason why the implementation of the standards constitutes consensus between the parties. In addition, given that the appellee's allegation is affirmed, the patented technology users would be able to use such technology by merely implementing the standards, without manifestation of their intention of acceptance to the right holder or even without paying any consideration. Such consequence is obviously unreasonable.

Therefore, the appellee's allegations above are groundless.

C. Dissatisfaction of requirement of written form

(A) For the issue of whether a license agreement was formed, even granting the appellee's allegations under the laws of France, the French laws still require that the patent license agreement be made in the form of writing. As there is no written document relating to the license agreement between the appellant and the appellee, the license agreement as alleged by the appellee has not been formed.

(B) In this regard, the appellee alleges satisfaction of the requirement of written form necessary for the formation of a patent license agreement, as the appellant's FRAND Declaration contains the signature of the appellant, which is to be bound by the contract.

However, the license agreement as alleged by the appellee to have been formed between the appellant and Apple Inc. does not satisfy the requirement of written form, based on the following reasons. [i] The FRAND Declaration has no provisions necessary for explaining the particulars of a contract, such as the purpose, consideration, terms and territories of the license agreement. [ii] As the FRAND Declaration does not contain the appellee's signature, it is not clear whether the parties reached a consensus. [iii] As the FRAND Declaration contemplates a cross-licensing arrangement between the parties, the licensee, which is the other party, is also bound by the licensing obligation, and therefore the signature of the appellee should not be omitted.

Therefore, the appellee's allegations as above are groundless.

D. Summary

As explained above, the appellee's allegation that a license agreement in relation to the Patent Right was formed between the appellant and the appellee by the FRAND Declaration is groundless.

6. Issue 6 (whether the appellant's exercise of the right to seek damages based on the Patent Right constitutes an abuse of right)

(1) Appellee's allegations

Considering the various circumstances as explained below, it is an abuse of right (Article 1, paragraph (3) of the Civil Code) for the appellant to exercise the right to seek damages based on the Patent Right against the appellee, and such exercise is not allowed.

A. Breach of obligation to disclose the Patent in a timely manner

ETSI IPR Policy Clause 4.1 requires the ETSI members to disclose to ETSI in

a timely manner the intellectual property rights which might be essential for the standards already developed or under development. If any participant in the development of standards conceals any patent which makes up the standards, the standardization working group would miss the opportunity to consider alternative technologies for the standards or to decide to exclude such patent from the standards, and in addition, the users of the standards and standardization bodies might also miss the opportunity to adopt alternative technologies. Based on these reasons, the ETSI members are required to timely disclose their IPRs which might be essential for the standards.

In May 2005 (the month in which the date of priority of the Patent Application falls), the appellant prepared and submitted to the 3GPP Working Group the application for change of technologies, including the ones for which the appellant sought to obtain patent. It was not until August 2007, two years after the adoption of the standards incorporating the Patent, that the appellant informed ETSI of the existence of the Patent.

Thus, the appellant intentionally breached its obligation to timely disclose the patent under IPR Policy Clause 4.1.

- B. The appellant's Petition for Provisional Disposition was a retaliatory countermeasure.

In April 2011, Apple Inc. filed a U.S. action against the appellant seeking an injunction against the infringing acts, alleging that the appellant infringed the patent rights owned by Apple Inc. which was not related to the standards.

In the same month, the appellant took retaliatory countermeasures against the appellee for the court action by Apple Inc., including the Petition for Provisional Disposition seeking an injunction against sale, etc. of the Products based on the Patent Right, which the appellant declared as essential for the UMTS standard (the patent which is the subject of this declaration is hereinafter referred to as the "Standards Essential Patent").

- C. Breach of obligation to enter into a license agreement and good-faith negotiation obligation under the FRAND Declaration

- (A) "ETSI Guide on Intellectual Property Rights (IPRs)" Clause 1.4 (Exhibits Ko No. 16 and No. 161) provides that a third party, in the capacity of the user of the ETSI standards, is entitled to receive a FRAND license for the standards in accordance with ETSI IPR Policy Clause 6.

As both Apple Inc. and the appellee are entitled to receive license for the Standards Essential Patent based on the appellant's FRAND Declaration,

the appellant is considered to be bound by an obligation to enter into a license agreement for the Patent Right, which is the Standards Essential Patent (obligation to enter into a license agreement). And, at least, the appellant is considered to have an obligation to negotiate the license for the Standards Essential Patent in good faith (good-faith negotiation obligation).

Nevertheless, as explained below, the appellant breached both the obligation to enter into a license agreement and good-faith negotiation obligation.

- (B) a. As explained in B. above, by filing the Petition for Provisional Disposition as a retaliatory countermeasure for the court action by Apple Inc., the appellant has breached the obligation to enter into a license agreement for the Standards Essential Patent.

The appellant did not have an intention to grant the license under the FRAND Declaration to the appellee and Apple Inc. The intent behind the appellant's Petition for Provisional Disposition was merely to threaten the appellee and Apple Inc. by exercising the right to seek an injunction based on the Patent Right declared as essential, to discourage Apple Inc. from proceeding with its court action, and to achieve results favorable to the appellant.

- b. Apple Inc., in its letter dated April 29, 2011 (Exhibit Ko No. 6-1), inquired of the appellant the FRAND royalty or lump-sum payment for the individual patents pertaining to the Standards Essential Patent as alleged by the appellant, as well as for the entire portfolio of the Standards Essential Patent (the term "patent portfolio" hereinafter refers to the group of patent rights owned by an owner). In spite of repeated requests from Apple Inc., the appellant did not present a specific royalty proposal until July 25, 2011.

In the letter dated July 25, 2011 (Exhibit Ko No. 29), the appellant proposed to Apple Inc. a specific royalty rate. The proposed royalty rate was almost the same as the price of the Baseband Chip, assuming the average sales price of the Products and the Baseband Chip to be USD 600 and USD 15 respectively. Supposing that Apple Inc. pays the same royalty to the owners of other UMTS Standards Essential Patents, Apple Inc. would be required to pay the royalty of about 18 times the average sales price of the Baseband Chip so as to obtain licenses for

the entirety of the UMTS Standards Essential Patents. Considering the above circumstances, the royalty suggested by the appellant is not consistent with the FRAND Terms.

In response to this, in the letter dated August 18, 2011 (Exhibit Ko No. 34-4), Apple Inc. presented to the appellant the framework for the calculation of the royalty rate for the Standards Essential Patent. However, the appellant rejected the framework suggested by Apple Inc. without making any specific counterproposal.

The appellant did not make any new counterproposal until one and a half years later in December 2012. The appellant, in its letter to Apple Inc. dated December 3, 2012 (Exhibit Otsu No. 64), suggested a royalty rate that was less than half the prior proposal, but without a explanation for the details of the calculation basis. In addition, in the course of the settlement negotiation between the appellant and Apple Inc. in December 2012, the appellant proposed the cross-licensing scheme for their respective UMTS standard-essential patent portfolio, subject to the condition that Apple Inc. makes a lump-sum payment to the appellant. However, this proposal was subject to the condition precedent that the appellant agrees to settle the worldwide disputes only after Apple Inc. holds the appellant harmless against the liability arising from the infringement of IPRs of Apple Inc. not related to the standard. Such proposals made by the appellant in December 2012 can in no way be considered as being consistent with the FRAND Terms.

The appellant has not made any licensing proposal consistent with the FRAND Terms, and has failed provide any information supporting the idea that the licensing proposal to Apple Inc. is not discriminatory compared with the licensing terms for other licensees.

- c. Further, the appellant still has not responded to the request of Apple Inc. for a license for each patent in the Standards Essential Patent alleged by the appellant.

ETSI IPR Policy 6.1, which provides "When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI," makes clear that a FRAND license shall be for each patent in principle. Allowing a Standards Essential Patent owner to force a prospective licensee to accept the licensing terms on the entire portfolio basis may have the

detrimental consequence of such owner being able to easily circumvent its obligation to grant a license on the FRAND Terms.

- (C) In addition, the appellant has not provided any information necessary for the evaluation of the Standards Essential Patent portfolio and the cross-licensing offer, which was requested from the appellee in the letter dated May 16, 2013 (Exhibit Otsu No. 66). Further, the appellant has refused to provide any information to enable Apple Inc. to determine whether the appellant's licensing offer is consistent with the FRAND Terms (including the information on the Standards Essential Patent license agreements between the appellant and other licensees). Thus, the appellant has breached the good-faith negotiation obligation as well.
- (D) As mentioned above, Apple Inc. has repeatedly made a firm offer to receive a license to the appellant, with detailed explanation of the calculation basis of the royalty. Yet, the appellant has persisted on the prior offer without explaining the calculation basis of the proposed royalty or making any counterproposal to Apple Inc. Further, the appellant maintains the Petition for Provisional Disposition seeking an injunction based on the Patent Right, which is the Standards Essential Patent, putting pressure on Apple Inc. by the threatened provisional injunction order based on the Standards Essential Patent.

The patented invention technology incorporated into the standards can become a powerful tool which far exceeds its inherent value, that is, such technology has a risk of enabling the patentee to obtain an unreasonably high royalty or non-essential IPR cross-licenses from the users of the standards. The series of the abovementioned acts of the appellant would create the so-called "patent hold-up" (meaning the situation where the prospective users of the standards are prohibited from using the technologies incorporated in the standards, because of the enforcement of the right for such technologies).

Based on the above, the appellant is considered to have breached its obligation to enter into a license agreement and good-faith negotiation obligation for the Patent Right, which is the Standards Essential Patent.

- (E) In this regard, the appellant alleges that it has no good-faith negotiation obligation as Apple Inc. has not made a "firm offer to receive a license" on the FRAND Terms.

However, in the ETSI IPR Policy, the appellant's FRAND Declaration or

the laws of France which govern such declaration, there is no provision which requires the prospective users of the UMTS standard to make a "firm offer to receive a license," as a precondition for the patentee of the Standards Essential Patent to have a good-faith negotiation obligation. A "firm offer to receive a license" is not required for the formation of a license agreement or the patentee's good-faith negotiation obligation.

Under the Japanese laws as well, there is no ground for requiring a "firm offer to receive a license." Even supposing that a Japanese law requires of Apple Inc. or the appellee a "firm offer to receive a license" as the prerequisite for the appellant's good-faith negotiation obligation, Apple Inc., has made a "firm offer to receive a license" to the appellant by manifesting its intention not to challenge the validity of the Patent Right or to raise the question of whether the products of Apple Inc. conflict with the Patent, to the extent of the purpose of executing the FRAND license agreement.

In addition, supposing that the prospective licensees are required to waive their right to challenge the validity of the patent or to raise the question of whether their products conflict with the licensed patent, as a requirement for the offer to receive a FRAND license, the holder of the Standards Essential Patent may be able to protect itself from any licensee's claims even if the patent turns out to be non-essential, invalid or not in conflict with the licensee's product. This would induce patent holders to make declarations for non-essential patents as essential ones so as to gain the benefit of being protected against the claim relating to the validity of the patent or conflict with the licensee's own technologies. Such consequence is not deemed appropriate.

Therefore, the appellant's allegations as mentioned above are groundless.

D. Violation of the Antimonopoly Act

The series of the appellant's acts constitute the creation of "patent hold-up" (C.(D) above). These acts run counter to the purpose of 3GPP, which aims to widely disseminate the standards. Further, such acts are highly likely to fall under one of the provisions related to the unfair trade practices as set out in the Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (hereinafter referred to as the "Antimonopoly Act") (Article 2, paragraph (9), item (ii) of the Antimonopoly Act, Paragraphs 2 to 4 and Paragraph 14 of the Public Notice No. 15 of the Fair Trade Commission titled "Unfair Trade

Practices") and therefore involve violation of the Antimonopoly Act. In addition, if the appellant refuses an individual patent-based license for the essential patent disputed in litigation, or requires a prospective licensee to accept a portfolio-based license for its entire essential patent portfolio, such acts also constitute unfair trade practices (Paragraph 10 or 12 of the Public Notice No. 15 of the Fair Trade Commission titled "Unfair Trade Practices").

E. Violation of the TRIPS Agreement

Article 31 of the TRIPS Agreement is a provision setting forth the matters to be considered where the domestic law of a member state allows for use of a patent without the authorization of the patentee, including the compulsory license. Thus, this provision is not intended to be applied to a case of a claim for damages, and does not mean that a court must always grant the claim for damages if an infringement is found. Therefore, this provision does not prohibit the appellant's claim for damages from being considered as the abuse of right.

F. Summary

As explained above, taking into consideration the various circumstances, including that the appellant intentionally breached the obligation to timely disclose the Patent to ETSI, that the appellant's Petition for Provisional Disposition was a retaliatory countermeasure, that the appellant breached its obligation to enter into a license agreement and good-faith negotiation obligation for the Patent Right, which is the Standards Essential Patent, under the FRAND Declaration and thereby created the situation of "patent hold-up," and that the series of the appellant's acts may constitute violation of the Antimonopoly Act, the appellant is prohibited from exercising the right to seek damages against the appellee based on the Patent Right, as such exercise of right constitutes an abuse of right.

(2) Appellant's allegations

The appellee pointed out the various circumstances to support its allegation that the appellant's exercise of the right to seek damages against the appellee based on the Patent Right constitutes an abuse of right. However, as explained below, these circumstances lack the facts to be premised upon, or can in no way be relied upon as the grounds for the abuse of right.

A. Allegation of the breach of the obligation to timely disclose the Patent under the IPR Policy

(A) ETSI IPR Policy Clause 4.1 (Exhibit Ko No. 12), which the appellee relies upon for the allegation of the appellant's breach of the obligation to timely

disclose the Patent, requires the members to exercise reasonable endeavors to disclose patents and other IPRs. However, this provision governs the relationship between ETSI and its members, not the relationship between ETSI members and third parties. As such, the penalty for the breach of obligation against third parties is not contemplated in the IPR Policy.

In addition, the breach of procedural obligation to ETSI does not necessarily lead to the conclusion that the exercise of the Patent Right constitutes the abuse of right.

- (B) The appellee relies upon the fact that the appellant disclosed the Patent to ETSI only after about two years from the priority date of the Patent Application to allege that the appellant breached the obligation to disclose IPRs in a timely manner.

However, for making the declaration of an essential patent, a company needs to follow an appropriate internal process such as the selection of patents and examination of whether they are essential for the standards. This process requires a significant amount of work and time, and, of course, the corporate decision and action. Therefore, it generally takes one or two years for an ETSI member to disclose the patent.

Thus, although the appellant disclosed the Patent to ETSI only after about two years from the priority date of the Patent Application, such length of time is within the range of normal practice. The appellant is not considered to have failed to exercise reasonable endeavors to disclose the patent in a timely manner, and therefore is not in breach of the obligation to disclose IPRs in a timely manner.

Therefore, the appellee's allegation as mentioned above is groundless.

- B. Allegation that the appellant's Petition for Provisional Disposition was a retaliatory countermeasure

The appellee alleges that the appellant's Petition for Provisional Disposition was a retaliatory countermeasure with the purpose of putting pressure on Apple Inc. for the court action and thereby to achieve favorable results, relying on the fact that the appellant filed the Petition for Provisional Disposition after Apple Inc. had filed for an injunction against the appellant in the U.S.

However, the U.S. injunction relief case filed by Apple Inc. against the appellant is completely independent of this court case. In addition, the law contemplates that the appellee may be subject to the injunction claim for the infringement of the Patent Rights, as a matter of consequence that the appellant

is entitled to seek an injunctive relief against the infringement of the Patent Rights. Accordingly, although the appellant began exercising its right only after the enforcement by Apple Inc., there is no reason that the appellant should be accused of having taken a "retaliatory countermeasure" or "putting pressure on Apple Inc. for the court action." In the ETSI IPR Policy as well, the exercise of the right to seek an injunction is not expressly prohibited. In addition, Apple Inc. is an unwilling licensee who has no intention of paying the royalty unless the outcome of the litigation becomes final. Such acts of Apple Inc. creates a situation of "reverse hold-up," namely, the use of a patent without paying any royalty, pretending to seek license with no faithful intention to obtain the license. Based on the above, it is not unreasonable for the appellant to file the Petition for Provisional Disposition.

Therefore, the appellee's allegation as mentioned above is groundless.

C. Allegation that the appellant breached its obligation to enter into a license agreement and good-faith negotiation obligation under the FRAND Declaration

(A) Non-existence of obligation to enter into a license agreement

By making a FRAND Declaration to ETSI, the patentee only has an obligation to discuss and negotiate in good faith with prospective licensees, upon the request from such prospective licensees and in accordance with the basic principle of licensing on the FRAND Terms as set out in IPR Policy Clause 6.1 (good-faith negotiation obligation). By making a FRAND declaration, the appellant is not necessarily bound by an obligation to enter into a license agreement (obligation to enter into a license agreement).

The appellee alleges that a party who made a FRAND declaration has an obligation to enter into a license agreement. However, the ETSI Guide on IPRs (Exhibits Ko No. 16 and No. 161), which the appellee relies upon for the aforementioned allegation, provides that "Specific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI" (Clause 4.1). Therefore, such allegation is inconsistent with ETSI's policy not to intervene in individual licensing negotiations.

Therefore, the appellee's allegation that the appellant breached its obligation to enter into a license agreement under the FRAND Declaration is groundless.

(B) Non-existence of good-faith negotiation obligation

- a. The specific content of the obligations of the party which made a FRAND Declaration is an issue directly connected to the public policies of each country, which can be determined solely from the standpoint of the laws of Japan. From the standpoint of the Japanese laws, it should be understood that, as the precondition for the good-faith negotiation obligation, a prospective licensee needs to make a "firm offer to receive a license," which indicates such prospective licensee's faithful intent to obtain a license without challenging the validity of the licensed patent.

The appellee alleges that Apple Inc. made a "firm offer to receive a license" on the FRAND Terms to the appellant on March 4, September 1 and 7 of 2012. However, this allegation is groundless.

- (a) The offer dated March 4, 2012, alleged by the appellee cannot be regarded as a "firm offer to receive a license," as the appellee challenged the validity of the appellant's patent and raised the question of whether its products conflict with the Patent.

In addition, in the abovementioned offer, an unreasonably low royalty rate was proposed. This shows that the appellee did not have a faithful intention to obtain a license and only made a perfunctory offer, anticipating that the negotiation would fail. Therefore, such offer in no way constitutes a "firm offer to receive a license."

- (b) In addition, the offers dated September 1 and 7 of 2012 as alleged by the appellee (Exhibits Ko No. 109 and No. 110) suggested the declarant's verification as to whether the patent in question is essential for the standard, while pointing out that such patent is invalid or not in conflicts with the appellee's products (Translation, Page 3). By doing so, the appellee is considered to have reserved its right to question whether the appellant's patent conflicts with its own products or to challenge the validity of the appellant's patent. Therefore, these offers are also not considered as a "firm offer to receive a license.". In addition, Apple Inc. has alleged that the product for which the patent right has allegedly been exhausted should be royalty-free (i.e. such patent shall be excluded from the basis of calculation of royalty) (Translation, Page 4). In light of the nature of an allegation of exhaustion of patent right as a defense

against the alleged patent infringement, Apple Inc. can be virtually considered as raising a question as to whether the patent conflicts with its own products. In conclusion, these offers do not constitute a "firm offer to receive a license."

- (c) As mentioned above, the offers by Apple Inc. as alleged by the appellee are not considered as firm offers which indicate the faithful intention to obtain a license. Therefore, the appellant is not bound by any good-faith negotiation obligation from the outset.
- b. In this regard, the appellee raises an allegation to accuse the appellant of non-disclosure of licensing conditions for other licensees, although it is possible to disclose such information to Apple Inc. within a scope not breaching the confidentiality obligation.

However, the only obligation which the appellant owes as a result of making the FRAND Declaration is the obligation to discuss and negotiate in good faith with a prospective licensee who makes a firm offer, and does not include the obligation to disclose the licensing terms and conditions applicable to other licensees. Furthermore, Apple Inc. has not made a firm offer to receive a license and therefore the appellant has no obligation to the appellee at all. Therefore, the appellee's allegation as mentioned above is groundless.

Further, considering the nature of information, the information on license agreements between the appellant and other licensees is incapable of being disclosed as the appellant is bound by the confidentiality obligation.

(C) Non-existence of breach of good-faith negotiation obligation

- a. The appellant has not breached its good-faith negotiation obligation as it has continuously requested Apple Inc. to enter into negotiations in a faithful manner.

The appellant, in its Response Letter dated April 18, 2012 (Exhibit Otsu No. 42), notified Apple Inc. of its intention to grant a FRAND license, and invited Apple Inc. to make a good-faith proposal. In addition, the appellant, in its letter dated September 7, 2012 (Exhibit Ko No. 111), proposed to Apple Inc. to restart the negotiation and to have a meeting no later than September 25, 2012. Further, the appellant, on December 18, 2012, made a new proposal to make a large lump-sum payment as the consideration for a ten-year

cross-licensing arrangement for the UMTS essential patent portfolio, etc. At the meeting held on February 7, 2013, the appellant and Apple Inc. prepared a draft memorandum stating the details on [Omitted]. Thus, the appellant has continuously invited Apple Inc. to have mutual negotiations in a faithful manner. The royalty rate suggested by the appellant in the letter dated July 25, 2011 (Exhibit Ko No. 25) was a so-called "headline" initial offer without the need to comply with the FRAND Terms. Thereafter, the negotiation continued and the appellant made a counteroffer. Considering the progress of negotiation, the FRAND Terms should not be treated as an important consideration.

- b. In addition, the appellee alleges that the appellant refused to grant a FRAND license to Apple Inc. and the appellee by not making a FRAND licensing offer to Apple Inc. and seeking an injunction against the appellee without making counterproposals.

However, as mentioned above, Apple Inc. did not make a "firm offer to receive a license" at all. Therefore, the appellee's allegation that the appellant's act constitutes refusal of licensing on the FRAND Terms lacks the precondition and is therefore groundless.

- c. Rather, it is Apple Inc. which has not responded to the appellant's attitude towards faithful negotiations. The point at issue in this court case is a so-called "reverse hold-up," namely, the use of the Standards Essential Patent without paying any royalty, pretending to seek a license with no faithful intention to obtain a license. The parties had entered the stage of the preparation of the memorandum (draft) at the meeting held on February 7, 2013; however, Apple Inc. [Omitted]. Further, Apple Inc., in its letter dated May 16, 2013 (Exhibit Otsu No. 66), expressly notified that the Patent Right was out of scope of the licensing negotiation. Considering this attitude toward negotiation, Apple Inc. is to be considered as an "unwilling licensee" who has no faithful intention to obtain a license.
- d. As explained above, the appellee's allegation that the appellant breached the good-faith negotiation obligation is groundless.

(E) Claim for the amount of royalty under the FRAND Terms

A FRAND declaration does not grant the free use of a patent right. As such, there is no reason that the patentee should be restricted from

claiming the amount of FRAND royalty merely on the ground of having made the FRAND declaration. Whether a FRAND declaration creates any restriction is an issue discussed in the context of a right to seek an injunction, not in the context of the right to seek damages.

E. Allegation of violation of the Antimonopoly Act

The appellee alleges that the series of the appellant's acts fall under the unfair trade practices as prescribed in the Antimonopoly Act and therefore violates the same Act.

The appellee's abovementioned allegation is grounded on the appellant's breach of the obligation of timely disclosure of patents and filing of the Petition for Provisional Disposition as a retaliatory countermeasure. Such allegation is groundless as it contains an error in its premises.

F. Allegation of violation of the TRIPS Agreement

Japan has ratified the TRIPS Agreement. Article 31 of the TRIPS Agreement provides that a member state shall ensure that the patentee shall be given monetary compensation if said member state allows for use of a patent without the authorization of the patentee, and that the amount of such compensation shall be determined by the court. As for this court case, the appellant who is the patentee should be entitled to monetary compensation, and there is no reason that the appellant shall be restricted from exercising the right to seek damages.

G. Summary

As mentioned above, the appellee's allegation that the appellant's exercise of the right to seek damages against the appellee based on the Patent Right constitutes an abuse of right is groundless, as there exists no fact which serves as the basis of these alleged circumstances, or, these circumstances in no way support the alleged abuse of right. In addition, it is a violation of the TRIPS Agreement to prohibit the exercise of the right to seek damages by the appellant.

7. Issue 7 (amount of damages)

(1) The appellant's allegations

The amount of the appellee's obligation to pay a reasonable royalty for the Patent Right shall be calculated in accordance with the following formula.

In principle, it is generally understood that the reasonable royalty rate for the Patent Right is 5.7% of the sales turnover, which is in line with the royalty rate for communication devices for the technical field to which the Patent Right relates, and

the estimate for such royalty would be at least 1%. However, in the judgment in prior instance, the court determined the Patent Right to be an essential IPR within the meaning as ascribed in the ETSI IPR Policy, and the appellee's allegation also predicates on this finding. Accordingly, the reasonable royalty rate needs to be amended to reflect such circumstances.

The appellee alleges the aggregate royalty rate cap for the patent right that is an essential IPR to be 5% of the product sales turnover. From the standpoint of a speed-up of the judicial decision, the appellant raises no objection to this point.

In addition, according to the additional declaration B submitted by the appellee (Exhibit Ko No. 134), among the patent family declared as essential for the UMTS standard, the ones which are actually essential are 529 families. The appellant also accepts this.

Consequently, the royalty rate for the Patent Right should be calculated in accordance with the following formula.

$$\text{(Formula)} \quad 5\% \times 1/529 = \text{about } 0.0095\%$$

Multiplying the amount obtained by the above-mentioned formula by the sales turnover of Products 2 and 4 for the period from their release for sale to September 28, 2013, the following amount of reasonable royalty is obtained.

(Formula)

$$\text{Product 2} \quad \text{JPY [Omitted]} \times 5\% \times 1/529 \doteq \text{JPY [Omitted]}$$

$$\text{Product 4} \quad \text{JPY [Omitted]} \times 5\% \times 1/529 \doteq \text{JPY [Omitted]}$$

(2) The appellee's allegations

In order to evaluate the patent subject to a FRAND declaration in an appropriate way, the basis of such evaluation shall be the initial value of the invention before it is adopted as the standard.

The royalty rate for the patent right subject to a FRAND declaration should be determined based on the product component parts which relate to the standardized technology. In addition, for the determination of the royalty rate, consideration shall be paid such that the amount of royalty for the entirety of the Standard Essential Patent would not be excessively high.

A. The amount of damages alleged by the appellant contains an error in that it pays no attention to the initial value of the patent before it is adopted as the standard. The alternative E-bit interpretation is not in practical use, and there is no evidence indicating the necessity or preference for the use of the alternative E-bit interpretation. Taking into consideration these circumstances, although the Patent forms a part of the standard, it is reasonable to understand that the

value thereof before it was adopted as the standard was zero. Given the low technical value of the Patent, there would have been no party willing to pay the royalty if the licensing negotiation took place before its adoption as the standard. As such, the royalty rate for the Patent should be calculated to reflect the zero or nearly equal to zero value of the technology before its adoption as the standard, and cannot be as high as the amount alleged by the appellant.

B. The appellant uses the sales price of the Products as the basis of calculation of the royalty; however, this would result in an excessively high royalty, as such base also includes the portion irrelevant to the contribution by the Inventions. In addition, the royalty for the Patent needs to be non-discriminatory; however, using the sales price of the Products as the basis of the royalty calculation would result in the unfavorable treatment of the companies dealing with more expensive smart phones. In this court case, in order to avoid the unreasonable consequences, the royalty shall be calculated based on the price of the baseband chip, which is the minimum unit of contribution by the Inventions. Even if the sales price of the Products is used as a base, the calculation shall be based on the amount multiplied by the contribution ratio. As the Patent only contributes to the baseband chip, the contribution shall be calculated according to the price of the baseband chip. Even if this is not the case, such contribution would not exceed the price of a mobile phone with only basic functions including a communication function (conservatively estimated to be about JPY 6,000).

C. The royalty for the Patent shall be determined by reflecting the percentage accounted for by the Patent among the entire UMTS standards. In addition, the amount of the aggregate royalty due on the UMTS Standard Essential Patent should be 5%. This 5% represents the aggregate royalty rates for the entirety of the UMTS Standard Essential Patent (1889 patent families, according to the report of "Fairfield Resources International" (Exhibit Ko No. 135)). Accordingly, the royalty for the Patent alone should be calculated in accordance with the following formula.

(Formula) $5\% \times 1/1889 = \text{about } 0.00265\%$

The appellant uses as the parameter the number of patents determined to be essential in the Fairfield report, from among the number of essential declared patents. Although the burden of proof for the number of essential patent families lies with the appellant, the appellant only refers to the Fairfield report and has not met the burden of proof.

D. Based on the above, the reasonable royalty for the Patent shall be as follows.

(A) Calculation based on the baseband chip price

The reasonable amount of the Patent royalty calculated on the basis of the baseband chip price is as follows.

(Formula)

JPY 1,250 [the cost of the baseband chip]
× about 0.00265% [royalty rate for the Patent]
× [(omitted)] number of product units [total number of Products 2 and 4 sold]
= about JPY [(the amount omitted)]

In addition, the following formula will be applied, based on the approach to distribute the royalty to the patent determined to be essential for the standard.

JPY 1,250 [the cost of the baseband chip]
× 0.0095% [the royalty rate alleged by the appellant]
× [(omitted)] number of product units [total number of Products 2 and 4 sold]
= about JPY [(the amount omitted)]

(B) Calculation based on the sales price of the Products

The amount derived by multiplying the sales price of the Products by the contribution ratio shall be the same as the price of the baseband chip. Accordingly, the amount thus derived is the same as the amount in (A) above.

In addition, it is not appropriate to calculate the amount of reasonable royalty for the Patent based on the amount higher than the price of a mobile phone with only basic telephone functions (JPY 6,000). Accordingly, the amount of the reasonable royalty would not exceed the amount derived in accordance with the following formula.

JPY 6,000 [the maximum of the amount derived by multiplying the sales price of the Products by the contribution ratio of the Patent]
× about 0.00265% [royalty rate for the Patent]
× [(omitted)] number of product units [total number of Products 2 and 4 sold]
= about JPY [(the amount omitted)]

1. Issue 1 (whether the Products fall within the technical scope of Invention 1)

The court determines that Products 2 and 4 fall within the technical scope of Invention 1; whereas Products 1 and 3 do not fall within said scope. The reasons for this finding are as follows.

(1) Structure of the Products

The appellant alleges that Invention 1 is the implementation of the "alternative E-bit interpretation" as referred to in Technical Specification V6.9.0 of the 3GPP standards, and also that the Products complying with this technical specification fall within the technical scope of Invention 1.

First of all, the court would like to determine whether the Products can be considered as the products complying with Technical Specification V6.9.0.

A. Products 1 and 3

There is no controversy as to the fact that Products 1 and 3 are products complying with the UMTS standard, which is the standard communication specification developed by 3GPP (3GPP standards).

There are multiple versions for the standards released as the UMTS standard, and the alternative E-bit interpretation as alleged by the appellant was adopted in the technical specification in the versions after "3GPP TS 25.322 V6.4.0" (hereinafter referred to as the "Technical Specification V6.4.0"), the publication released after the priority date of the Patent Application (Exhibits Ko No. 2 and No. 87, and the entire import of oral arguments).

Nevertheless, even considering the totality of the submitted evidence, Products 1 and 3 are not to found to implement the functions based on the alternative E-bit interpretation. Rather, the evidence indicates that the Baseband Chip incorporated into Products 1 and 3 for the processing of tasks relating to the UMTS standard is Intel's "PMB8878" baseband chip, and that this baseband chip complies with 3GPP standard version "Release 5" publicized before the priority date of the Patent Application and does not have a function based upon the alternative E-bit interpretation (Exhibits Ko No. 82 to No. 85).

Therefore, the appellant's allegation that Products 1 and 3 comply with Technical Specification V6.9.0 is groundless.

Consequently, without the need to determine the other issues, the court finds the appellant's allegation that Products 1 and 3 fall within the technical scope of Invention 1 is groundless.

B. Products 2 and 4

(A) Alternative E-bit interpretation

Subclauses 9.2.2.5 and 9.2.2.8 of Technical Specification V6.9.0 (see Attachment TS) contain the following descriptions. [i] For the E-bit (extension bit) in the first octet of the PDU (UMD PDU) whose transmission mode is unacknowledged mode, either the "normal E-bit interpretation" or the "alternative E-bit interpretation" is applied depending on the higher layer configuration. [ii] Under the "alternative E-bit interpretation," the E-bit '0' contained in the first octet means that "the next field is a complete SDU, which is not segmented, concatenated or padded," whereas the E-bit '1' means that "the next field is a length indicator and an E-bit." [iii] The "length indicator" is used to indicate the last octet of each SDU (RLC SDU) ending within the PDU, unless the E-bit contained in the first octet indicates a "complete SDU not segmented, concatenated or padded." [iv] In the case where the "alternative E-bit interpretation" is configured, and a PDU (RLC PDU) contains a segment of an SDU but neither the first octet nor the last octet of this SDU, the 7-bit "length indicator" with value '111 1110' or the 15-bit "length indicator" with value '111 1111 1111 1110' shall be used.

(B) Demonstration Test

- a. Considering the evidence (Exhibits Otsu No. 13, No. 14 and No. 41), as well as the entire import of oral arguments, the court finds the following facts:
 - (a) Chipworks Inc., a Canadian corporation, tested Products 2 and 4 using CMW500 as the "base station emulator" (Demonstration Test).
 - (b) Test 1 of the Demonstration Test was for the "case in which the PDU contains a complete SDU without segmentation/concatenation/padding," and performed under the conditions of "PDU Size: 488-bit, SDU size: 480-bit." Test 2 was the test to monitor the PDU as an "intermediate segment" excluding the first and last PDUs (e.g. the second PDU), and performed under the conditions of "PDU Size: 80-bit, SDU size: 480-bit."
 - (c) The results of the Demonstration Tests were as follows:

- [i] In Test 1, the E-bit following the sequence number (SN) was '0,' and a PDU without a length indicator (LI) was output (Exhibit Otsu No. 13, Figures 12 and 14).
 - [ii] In Test 2, the E-bit following the sequence number (SN) was '1,' and a PDU containing a pre-defined value '111110' as the length indicator was output (Exhibit Otsu No. 13, Figures 13 and 15).
 - b. The values of the E-bits and length indicator as indicated by the results of the Demonstration Test in a. above agree with the values obtained for the alternative E-bit interpretation as referred to in (A) above (Test 1 corresponds to (A)[ii] and [iii] above, and Test 2 corresponds to (A)[ii] and [iv] above, respectively). Therefore, the court finds Products 2 and 4 to be the implementation of the functions based on the alternative E-bit interpretation.
 - c. In this regard, the appellee raises allegations that the "Interpretation" section of the Demonstration Test results reads "next octet: data" and does not mention "a complete SDU without segmentation/concatenation/padding," and that therefore the Demonstration Test used the normal E-bit interpretation instead of the alternative E-bit interpretation.

However, for the alternative E-bit interpretation, if the E-bit is set to '0,' the bit sequence of the next field shows "data" of the SDU which comprise a "complete SDU without segmentation/concatenation/padding." Accordingly, the indication of "next octet: data" in the "Interpretation" section does not contradict the use of the alternative E-bit interpretation in the Demonstration Test.

Therefore, the appellee's allegations as mentioned above are groundless.

C. Summary

Based on the above, the court finds Products 2 and 4 to comply with Technical Specification V6.9.0 and have the structure implementing the functions based on the alternative E-bit interpretation.

(2) Technical significance of Invention 1

A. Matters disclosed by the Patent Description

(A) The detailed explanation of the invention of the Patent Description

(Exhibit Ko No. 1-2) contains the following statements (for the drawings referred to in the following statement, see the Patent Description Figures attached hereto).

- a. "[Field of Invention] The invention relates to a mobile communication system supporting packet service. More specifically, the invention relates to a method and apparatus which efficiently use radio resources by reducing the header size of a Protocol Data Unit (PDU) to be transmitted on a radio link." (Paragraph [0001])
- b. "[Background of Invention] The UMTS (Universal Mobile Telecommunication Service) system is a third-generation mobile communication system which uses Code Division Multiple Access (hereinafter referred to as "CDMA") based on the European telecommunication systems called GSM (Global System for Mobile Communications) and GPRS (General Packet Radio Services). This UMTS system provides services enabling mobile phone subscribers and computer users to transmit packed-based text, digitalized sound, video and multimedia data at a high speed of more than 2Mbps in all parts of the world. This UMTS system has introduced the concept of a packet switched access system using a packet protocol like the Internet Protocol (hereinafter referred to as "IP"). 3GPP (3rd Generation Partnership Project), which is the standardization body for the abovementioned UMTS communication system, has been discussing a voice communication service called VoIP (Voice over IP) which assists the voice packets using IP. VoIP is communication technology to transmit a voice frame generating from a voice codec in the form of an IP/UDP (User Datagram Protocol)/RTP (Real-time Transport Protocol) packet. This VoIP facilitates the provision of voice communication service through the packet network." (Paragraph [0002]) "Figure 1 shows the composition of the usual mobile communication system which supports VoIP." (Paragraph [0003]) "In general, an RLC layer is divided into UM (Unacknowledged Mode), AM (Acknowledged Mode) and TM (Transparent Mode) depending on the operation mode. VoIP operates in the RLC UM. In the transmitter, an RLC UM layer segments, concatenates or

pads the RLC Service Data Unit (hereinafter referred to as "RLC SDU") received from the higher layer into a size appropriate for transmission through a radio channel. In the RLC UM layer, segmentation/concatenation/padding information and a sequence number (SN) are inserted in the abovementioned result value, and an RLC PDU fit for transmission through a radio channel is configured. Then, this LCP PDU (Note: a typographical error of "RLC PDU") is transmitted to the lower layer. ... The operation for the processing of the RLC SDU received from the higher layer into a size appropriate for the transmission through a radio channel is called 'RLC framing.' (Paragraph [0004])

"Figure 2C shows the operation for the configuration of an RLC PDU by framing the RLC SDU in the RLC layer of the transmitter based on the conventional technology. ... The RLC layer of the transmitter receives from the higher layer any given size of RLC SDU, for example, RLC SDU225 which is 100-byte IP packet. If the size of the data transmittable through a radio channel is 40 bytes, the RLC layer divides the RLC SDU225 into three, namely, RLC PDU230, 235 and 240. In this case, the size of each of these RLC PDUs is 40 bytes. In addition, each of these RLC PDUs includes RLC header 245. This RLC header 245 is composed of at least two pairs of the sequence number (hereinafter referred to as "SN") 250, E-field 255, Length Indicator (hereinafter referred to as "LI") field 260 and E-field 265. LI field 260 is contained as a result of the segmentation. The SN field 250 shows a 7-bit SN which increases in monotone for each RLC PDU. This SN shows an order of RLC PDU230, 235 and 240. E-field 255 shows whether the following field is a data field, or the pair set of an LI field and E-field, and its size is 1 bit. LI field 260 has a size of 7 bits or 15 bits based on the framing of the RLC. The segment of RLC SDU225 contained in the RLC PDU shows that it is placed at data field 270 of the RLC PDU. That is, LI field 260 is data field 270 of the RLC PDU, and shows the start and the end of RLC SDU225. LI field 260 is capable of indicating whether the padding was made. The value shown by LI field 260 is configured by byte, and means the number of bytes from the RLC header to the point

- at which the RLC SDU ends." (Paragraph [0007])
- c. "As mentioned above, the conventional method to indicate the position of the last byte of the RLC SDU using an LI field is efficient, when dividing one RLC SDU into two or more RLC PDUs or connecting two or more RLC SDUs to make up one RLC PDU. However, the VoIP packet has a general feature wherein one complete RLC SDU corresponds to only one RLC PDU, and RLC SDUs without segmentation/concatenation/padding are frequently generated. ...Thus, if the size of the RLC PDU is defined according to the size of the RLC SDU most frequently generated, the majority of RLC SDUs are framed in the RLC PDU without segmentation/concatenation/padding. In such case, the conventional framing method is inefficient." (Paragraph [0011])
- "...In other words, for the VoIP communication system, the majority of RLC SDUs are not segmented or concatenated, and one RLC PDU is comprised of one RLC SDU. In spite of this, as for the existing RLC framing operation mode, at least two LI fields, i.e., the LI field which shows the start of the RLC SDU, and the LI field which shows the end of the RLC SDU, are always required for the RLC PDU. The LI field which shows whether the data field can be padded is also inserted if necessary. Therefore, when using an RLC framing method based on the conventional VoIP communication system, there was a problem of inefficient use of limited radio resources due to the use of unnecessary LI field." (Paragraph [0012])
- d. "[Problem to be solved by the invention] Therefore, in order to solve the problem with the conventional technology as mentioned above, this invention aims to provide the method and apparatus for the mobile communication system which supports packet service, decreasing the header size of a radio link control layer's Protocol Data Unit (RLC PDU) and using radio resources efficiently." (Paragraph [0013])
- e. "[Means for solving problem] In order to achieve the purpose of the invention as mentioned above, the invention features a method of transmitting data in a mobile communication system by the use of a pre-defined length indicator (LI), comprising: a stage of

receiving a service data unit (SDU) from a higher layer and determining whether the SDU is included in one protocol data unit (PDU); a stage of segmenting the SDU into a plurality of segments according to the transmittable PDU size, if the SDU is not included in one PDU; a stage of configuring multiple PDUs wherein headers of the PDUs include a sequence number (SN) field, at least a one-bit field indicating the presence of a length indicator (LI) field and said one LI field and wherein the data field of each PDU includes the aforementioned segments; and a stage in which the LI field of the PDU containing an intermediate segment of the SDU in the data field is set to the pre-defined value indicating the presence of the aforementioned intermediate segment and the PDUs are sent to a receiver." (Paragraph [0014])

In addition, "the invention features an apparatus for transmitting data in a mobile communication system by the use of a pre-defined length indicator (LI), comprising: a transmission buffer for receiving a service data unit (SDU) from a higher layer, determining whether the SDU is included in one protocol data unit (PDU), and reconfiguring the SDU to at least one segment according to the transmittable PDU size; a header inserter for constructing at least one PDU containing a serial number (SN) field and a one-bit field in a header, and said at least one segment in a data field; a one-bit field setter for setting said at least one one-bit field of the PDU to indicate the presence of at least one subsequent LI field; an LI inserter for inserting the LI field after the one-bit field of said at least PDU and setting the LI field of the PDU containing an intermediate segment of the SDU to the value indicating the presence of the intermediate segment, if the SDU is not included in one PDU; and a transmitter for sending at least one PDU received from the LI inserter to a receiver." (Paragraph [0016])

- f. "[Effect of Invention] The invention has an effect of enabling the efficient use of limited radio resources by the use of the 1-bit information showing the presence of a complete RLC SDU in the data field of the RLC PDU, thereby eliminating the need to insert the additional information for a start/end/padding of such RLC

SDU. In addition, the invention has the effect of enabling the segmentation of the RLC SDU by including the LI field set to the pre-defined new LI value in the RLC PDU containing only an intermediate segment of the RLC SDU as mentioned above." (Paragraph [0018])

g. "...The RLC layer uses two framing systems based on the preferable embodiment of the invention. In the first system, the RLC SDU which has the size most frequently used carries out the framing of the RLC PDU without the use of an LI field. The second system frames the different sizes of RLC SDUs by the use of an LI field. ...The first E-field is called "F-field" in order to distinguish it from other E-fields." (Paragraph [0020])

h. "Figure 4 shows the structure of the RLC PDU according to the preferable embodiment of the invention." (Paragraph [0021])

"Figure 5A shows the configuration of the RLC PDU, when the RLC SDU corresponds to the RLC PDU without segmentation/concatenation/padding according to the preferable embodiment of the invention. In Figure 5A, a transmitter (namely, the RLC layer of a transmitter) sets the value of the F-field to '0' and inserts a complete RLC SDU into the RLC PDU data field, when it is possible to frame one complete RLC SDU into one RLC PDU without segmentation/concatenation/padding." (Paragraph [0022])

"Figure 5B shows the configuration of the RLC PDU, when the RLC is framed in the RLC PDU after segmentation/concatenation/padding according to the preferable embodiment of the invention. In Figure 5B, when the segmentation/concatenation/padding is necessary for the framing of the RLC, a transmitter sets the F-field to '1' and configures the RLC PDU comprised of the LI field necessary for the segmentation/concatenation/padding and the padding. ...The following problems should be solved in order to use the existing first E-field as the F-field. Usually, if the RLC PDU was the segment of the RLC SDU, and when neither the start nor the end of the RLC SDU was included in the RLC PDU, an LI field did not exist in the RLC PDU. In Figure 5A, when the RLC SDU is

framed into one RLC PDU without segmentation/concatenation/padding, an LI field is not used. It is necessary to show that the RLC PDU does not contain one complete RLC SDU, nor does it contain either the start or the end of the RLC SDU." (Paragraph [0023])

- i. "Figure 6A shows the situation where one RLC SDU is segmented into two or more RLC PDUs based on the conventional RLC framing technology. ...If an LI field is not inserted into RLC PDU615, which does not include the start or the end of the RLC SDU, a receiver cannot determine whether the segment contained in the data field of RLC PDU615 constitutes one complete RLC SDU, or one RLC SDU after the combination with the prior or following segment of the RLC PDU. Therefore, in the preferable embodiment of the invention mentioned later, a pre-defined new LI value is determined so as to show the presence of an RLC PDU which includes neither the start nor the end of the RLC SDU (hereinafter referred to as an "intermediate PDU"). For example, '1111 110' is defined as a pre-defined new LI value. The RLC PDU in which the pre-defined new LI value is inserted is recognized as an intermediate RLC PDU." (Paragraph [0024])

"Figure 6B shows the situation where one RLC SDU is segmented into two or more RLC PDUs using the pre-defined LI, according to the preferable embodiment of the invention. In Figure 6B, one RLC SDU625 is segmented into three, namely, PDU 630, 635, 640 that are SN 'x', 'x+1', and 'x+2'. Then, the F-field of the first RLC PDU630 is set to '1,' the pre-defined LI value of '1111 100' is inserted into the first RLC PDU630, showing that the first byte of this first RLC PDU630 data field corresponds to the first byte of RLC SDU625. Since the second RLC PDU635 includes only the intermediate portion without including the start or the end of RLC SDU625, the F-field is set as '0', and the pre-defined LI value '1111 110' is inserted into the second RLC PDU635, showing that the aforementioned RLC PDU635 is an intermediate RLC PDU. In the third RLC SDU640, LI value '0100 011' is contained, which shows that it is the end of RLC SDU625, for example, the 35th byte of a data field, is shown." (Paragraph [0025])

(B) Taking into consideration the wording of the scope of the claim of Invention 1 (Claim 8) and the statement of the "detailed explanation of the invention" of the Patent Description as referred to in (A) above (including each drawing), the court finds that the Patent Description discloses the following. [i] In relation to the mobile communication system supporting packet service (wireless data packet communication system), in order to provide VoIP service, which is a communication technology for transmitting voice frames generated from a voice codec in the form of voice packets using the Internet Protocol, there was a problem of unnecessary LI fields being inserted, which caused inefficient use of limited wireless resources, when using the RLC framing method in the VoIP communication system based on the conventional technology (operation for processing the RLC SDU received from the higher layer into a size appropriate for transmission through wireless channel) and when the size of an RLC PDU is defined according to the size of an RLC SDU most frequently generated. Namely, although the majority of RLC SDUs are not segmented or concatenated and one RLC SDU is comprised of one RLC PDU, if the conventional RLC framing operation is applied, at least the length indicator (LI) field indicating the starting point and the LI field indicating the end point of the SDU are always required. [ii] The purpose of Invention 1 is to provide a device for using radio resources efficiently by reducing the header size of the RLC PDU (protocol data unit of radio link control layer), so as to solve the abovementioned problem of the conventional technology. [iii] Invention 1, as a means to achieve the abovementioned purpose, adopts the structure wherein the RLC PDU data field shows one-bit information that "one complete RLC SDU can be framed into one RLC PDU without segmentation/concatenation/padding" (i.e. the structure of Constituent Feature D which reads "setting the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU"), and by doing so, eliminates the need to insert additional information showing segmentation/concatenation/padding of the RLC SDU (i.e. use of the "LI field"). Further, to this end, Invention 1 adopts the structure wherein the LI field set to the pre-defined new LI value indicates that the RLC PDU includes "only an intermediate segment of the RLC SDU which does not include the start or the end of the RLC

SDU" (i.e. the structure of Constituent Feature D which reads "a one-bit field setter for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" and the structure of Constituent Feature F which reads "the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU"). By adopting these structures, Invention 1 enables the segmentation of the RLC SDU to reduce the header size, and thereby achieves the effect to enhance efficiency for the use of radio resources.

B. Relationship between Invention 1 and alternative E-bit interpretation

- (A) The structure and effect of Constituent Feature D of Invention 1 which reads "setting the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" (A.(B)[iii] above) defines that, under the alternative E-bit interpretation, if the E-bit contained in the first octet is '0,' it shows that the "next field is a complete SDU, which is not segmented, concatenated or padded" and that the LI is not used ((1)B.(A)[ii] and [iii] above). In addition, the structure of Constituent Feature D which reads "a one-bit field setter for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" and the structure of Constituent Feature F which reads "the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" define that, under the alternative E-bit interpretation, if the PDU (RLC PDU) contains a segment of the SDU but does not contain either the first or the last octet of the SDU, the 7-bit "length indicator" with value '111 1110' or the 15-bit "length indicator" with value '111 1111 1111 1110' shall be used ((1)B.(A)[iv] above).

On the basis of these findings, the court finds Invention 1 to be the implementation of the alternative E-bit interpretation.

- (B) a. In contrast, the appellee relies upon the following arguments to allege that Technical Specification V6.9.0 contains no disclosure of Constituent Feature B: Constituent Feature B of Invention 1 which reads "to determine whether the whole of SDU is contained in one

PDU" has a meaning "to determine whether the whole of SDU is contained in (completely matches) one PDU;" whereas, the statement of Subclause 4.2.1.2.1 of Technical Specification V6.9.0 which reads "segments the RLC SDU into UMD PDUs of appropriate size, if the RLC SDU is larger than the length of available space in the UMD PDU" means that the method as referred to therein aims at determination of the necessity of segmentation of the SDU and whether the size of the SDU is larger than the available space of the PDU (i.e. the size relation between the SDU and the PDU) and it is therefore different from the method to determine whether the whole of SDU is contained in (completely matches) one PDU.

In spite of such allegation by the appellee, Subclause 9.2.2.5 of Technical Specification V6.9.0 indicates that, under the "alternative E-bit interpretation," the E-bit '0' contained in the first octet means that "the next field is a complete SDU, which is not segmented, concatenated or padded," whereas the E-bit '1' means that "the next field is a length indicator and an E-bit" (1.(1)B.(A)[ii] above)). These statements can be considered as defining the configuration of the E-bit as mentioned above, depending on the results of determination as to whether the whole of SDU is contained in (completely matches) the PDU (i.e. whether the SDU is a complete SDU, which is not segmented, concatenated or padded) as a precondition for such configuration. Therefore, these statements can be considered as disclosing the structure of Constituent Feature B to "determine whether the whole of SDU is contained in one protocol data unit (PDU)."

Based on the above, the court finds the abovementioned allegations of the appellee to be groundless.

- b. In addition, the appellee alleges that the structure of Constituent Feature D differs from the alternative E-bit interpretation as set out in Technical Specification V6.9.0, based on the following reasons: "the case where the SDU is included in one PDU" as referred to in Constituent Feature D includes all of the situations [i] where the SDU is padded, [ii] where the SDU is concatenated, and [iii] where the SDU is not segmented, concatenated or padded, and, accordingly, in order to satisfy Constituent Feature D, it is necessary that "the one-bit

field is set to indicate that the PDU fully contains the SDU without segmentation/concatenation/padding" even in the case [i] or [ii] above; whereas, according to the alternative E-bit interpretation as set out in Technical Specification V6.9.0, the one-bit field is configured to indicate that the PDU contains a complete SDU only in the case [iii] above.

However, considering the wording of Constituent Feature D which reads "setting the one-bit field to indicate that the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU," as well as the statement of Paragraph [0022] and Figure 5A of the Patent Description, it is understood that the case where "the SDU is included in one PDU" as referred to in Constituent Feature D only means the case where "the PDU contains the whole of SDU without segmentation/concatenation/padding in the data field" (i.e. case [iii] above), and not the case where the concatenated SDU is contained in the PDU or the case where the SDU is incorporated into PDU with padding. Therefore, the appellee's allegation is unacceptable as it fails to satisfy the conditions precedent.

(3) Whether Products 2 and 4 fall within the technical scope of Invention 1

- A. As already mentioned in (3)B. of "Undisputed facts, etc.," Products 2 and 4 satisfy Constituent Features A and H of Invention 1.

Further, based on the findings that Products 2 and 4 comply with Technical Specification V6.9.0 and have a structure to implement the functions based on the alternative E-bit interpretation ((1)C. above), and that Invention 1 is the implementation of the alternative E-bit interpretation ((2)B.(A) above), the court finds Products 2 and 4 to satisfy Constituent Features B to G of Invention 1.

Based on the above, the court finds Products 2 and 4 to fall within the technical scope of Invention 1, as they satisfy all of the Constituent Features of Invention 1.

- B. (A) On the other hand, the appellee alleges that Products 2 and 4 do not satisfy Constituent Features B and D, because Constituent Features B and D are not disclosed in Technical Specification V6.9.0.

However, as already mentioned in (2)B.(B) above, the appellee's allegation is groundless as it fails to satisfy the conditions precedent.

(B) In addition, the appellee alleges that, for Products 2 and 4 to be considered to fall within the technical scope of Invention 1, it is necessary to evidence that these Products implement all functions stated in the Constituent Features of Invention 1 on the real network; however, the alternative E-bit interpretation is only optional to the normal E-bit interpretation, and no evidence has been submitted which supports that the telecommunication service providers' networks are configured to allow the use of the alternative E-bit interpretation, and therefore that the Products do not fall within the technical scope of Invention 1.

However, as Products 2 and 4 satisfy all of the Constituent Features of Invention 1 and have the structure to implement the alternative E-bit interpretation, they are found to fall within the technical scope of Invention 1, and whether the telecommunication service providers' networks are actually configured to allow the use of the alternative E-bit interpretation is irrelevant to the issue of whether the Products fall within the technical scope of Invention 1.

(4) Summary

As mentioned above, Products 1 and 3 do not fall within the technical scope of Invention 1; whereas Products 2 and 4 fall within such technical scope.

Therefore, the appellee's acts of import, sale, etc. of Products 1 and 3 do not constitute infringement of the Patent Right.

2. Issue 2 (whether the Patent Right for Invention 2 has been indirectly infringed upon (Article 101, items (iv) and (v) of the Patent Act))

Considering the facts that Invention 2 is the invention for the method of data transmission for the device of Invention 1, and as these Inventions have a common structure (the fact not disputed by the parties), the structure of data transmission method of Products 1 and 3 does not fall within the technical scope of Invention 2, but the structure of data transmission method of Products 2 and 4 falls within the technical scope of Invention 2.

The structure of the data transmission method for Products 1 and 3 does not fall within the technical scope of Invention 2. Therefore, the appellee's acts of import and sale of Products 1 and 3 do not constitute indirect infringement (Article 101, items (iv) and (v) of the Patent Act) of the Patent Right for Invention 2.

The structure of the data transmission method for Products 2 and 4 is found to fall within the technical scope of Invention 2; however, the court refrains from making

determination on the issue of indirect infringement of the Patent Right for Invention 2, as allegations on Issue 2 is alternative to those on Issue 1 and the decision on Issues 3 to 7 are common to that on Issue 1.

3. Issue 3 (whether restrictions pursuant to Article 104-3, paragraph (1) of the Patent Act may be imposed on the exercise of the Patent Right for the Inventions)

The court determines that the Patent does not contain any ground for invalidation as alleged by the appellee, and that the appellant is not restricted from exercising the right in accordance with Article 104-3, paragraph (1) of the Patent Act. The reasons are as follows.

(1) Contents of technical literature

The cited references provides as follows (For the drawings referred to in these documents, see the drawings of the cited references as attached hereto).

A. Contents of Exhibit Ko No. 3 (Publication of Unexamined Patent Application No. 2004-179917)

(A) "The invention relates to the method of the processing of unexpected schedule interruptions occurring during wireless communication data transmission, in particular, for the processing of schedule interruptions between the radio link control (RLC) layer and the media access control (MAC) layer." (Paragraph [0001])

(B) "[Description of the Prior Art] ... Figure 1 shows the three-layered communication protocol. ... Application 13 on the first station generates message 11, sends this message 11 to third layer interface 12, and further transmits it to second station 20. ... Third layer interface 12 transmits message 11 or third signal message 12a to second layer interface 16, in the form of service data unit (SDU) 14 of the second layer. (Paragraph [0002]) "SDU14 of the second layer holds different sizes of data to be transmitted from third layer interface 12 to second station 20. Such data is signal message 12a or message 11. Second layer interface 16 assembles the received SDU14 into one or more second layer protocol data units (PDU) 18. The length of each of the second layer PDU18s is constant, and PDU 18s are transmitted to first layer interface 19. First layer interface 19 is a physical layer, and transmits data to second station 20." (Paragraph [0003])

(C) "Figure 2 shows the process of data transmission in the second layer. Second layer interface 32 of transmitter 30, which is the base station

or mobile unit, receives a series of SDU34s from third layer interface 33. In this figure, the series of SDU34s is lined from 1 to 5, and shown in different lengths on the presumption that their sizes are different. Second layer interface 32 configures a series of SDU34s into a series of PDU36s. The series of second layer PDU36s is lined from 1 to 4, and each of them has the same length. The series of PDU36s is sent to first layer interface 31, and waits for transmission." (Paragraph [0004])

- (D) "Reference is made to Figure 3 and Figure 1. Figure 3 is a simplified drawing of AM data PDU50, which is specified in 3GPP TS25.322 V3.8.0. specification." (Paragraph [0006])
- (E) "PDU50 in Figure 3 is a data PDU and is divided into various fields according to the second layer protocol." "First field 51 is a single bit showing whether PDU50 is a data PDU or control PDU. PDU50 is a data PDU when the value of the bit is '1.' Second field 52 is a sequence number (SN) field, and the length is 12 bit at the time of AM transmission. The subsequent PDUs 18 and 28 have large sequence numbers, make transmitter (second station) 20 precisely assemble the received second layer PDU28 and form second layer SDU24." "A single polling bit 53 follows sequence number field 52."
- (F) "When polling bit 53 is '1,' the receiver (second station 20) needs to respond by providing an acknowledged mode PDU." "Bit 54 is reserved and it is set to '0.' The following bit 55a is an extension bit, and it indicates the immediate connection to the length indicator (LI) if it is set to '1.' LI is 7-bit or 15-bit, and used to indicate the location at which the second layer SDU ends in second layer PDU50. If only one SDU completely fulfills data domain 58 of PDU50, bit 55a is set to '0,' indicating that no LI is present." (Paragraphs [0007] and [0008])
- (G) "In the example of Figure 3, two second layers SDU57a and 57b end in second layer PDU50. Therefore, the ends of second layers SDU57a and 57b are shown by the two length indicators, respectively. Then, the PDU following PDU50 (which is distinguished by sequence number 52) indicates the end of SDU57c by a certain LI. The extension bit 55b after the LI is set to '1,' indicating that it is followed by additional LIs (i.e. LIs on the upper

part of Figure 3). The extension bit 55c after the LI is set to '0,' showing that it is not followed by any additional LIs. Data domain 58 starts following this extension bit 55c. Data domain 58 is used for storing actual SDU data." (Paragraph [0009])

- (H) "Reference is made to Figure 6 and Figure 4. Figure 6 is the diagram for the TFC selection timing, which is a prior art. ... In TTI81, RLC layer 62 needs to transmit RLC entity information to MAC layer 64. RLC state information 84 informs MAC layer 64 of the number of pieces of SDU information 65a waiting for the transmission by RLC layer 62. MAC layer 64 responds to RLC state information 84, and provides TFC data request 86. TFC data request 86 instructs RLC layer 62 of the size and quantity of PDU65bs to be transmitted to MAC layer 64. ... Then, such PDU65bs are transmitted to MAC layer 64 in the form of block 88." "However, once MAC layer 64 has responded to TFC data request 86, RLC layer 62 needs to transmit PDUs of the size and quantity which comply with TFC data request 86. If this is not implemented in accordance with the instruction, a problem in radio device software may occur. This problem has been also recognized in the prior art, and is significantly important in terms of scheduling of data transmission." (Paragraphs [0013] and [0014])
- (I) "However, in addition to the situation as described above, other types of unexpected data interruption may occur which cannot be handled by the prior art either. Considering Figure 1, Figure 4 and Figure 6 again, the majority of such unexpected data interruption events are caused by the command primitives transmitted from third layer interface 12 to second layer interface 16. ... When third layer interface 12 determines to change the base station, third layer interface 12 activates the stop command of second layer interface 16. The stop command requires second layer interface 12 to immediately stop the transmission of SDU information 65a. Therefore, even if TFC data request 86 has already been received, the mode of PDU65b is changed from the mode to be transmitted to MAC layer 64 to the transmission hold mode." (Paragraph [0015])
- (J) "[Problem to be solved by the invention] The purpose of this invention is to provide the method and system for the processing of unexpected

interruptions of data transmission in wireless communication systems, which occur between the RLC layer and the MAC layer." "[Means for solving the problem] The invention discloses the method and system for the processing of unexpected interruptions of data transmission in wireless communication devices, which occur during the data transmission schedule between the RLC layer and the MAC layer. According to the invention, the RLC layer provides the MAC layer with RLC entity information. RLC entity information shows that the RLC layer has SDU data waiting for transmission. After this RLC entity information is provided, the RLC layer receives an unexpected data interruption, and requires the RLC layer to destroy the SDU. After receiving an unexpected data interruption, the MAC layer transmits the MAC request and instructs the RLC layer to provide at least one PDU. According to this MAC request, the RLC layer transmits at least one PDU to the MAC layer, and substitutes it for the destroyed SDU." (Paragraphs [0019] and [0020])

(K) "In the following descriptions, the transmitter or the receiver is a mobile phone, PDA, personal computer or other device using wireless communication protocols. As mentioned above, the invention is applied to wireless communication systems or other wireless systems. It may be easily understood by a person ordinarily skilled in the art that the difference between this invention and the prior art, which is the element of the invention, is the result of the appropriate improvement of the prior art." (Paragraph [0023])

(L) Figure 7 shows wireless communication device 100 of the invention." "Second layer interface 132 is divided into RLC layer 142 and MAC layer 144. RLC layer 142 communicates with third interface 133, receives the third layer data in the form of SDU, and stores it in buffer 143. RLC layer 142 receives command instructions, such as suspension, stop or reconfiguration, from third layer interface 133. RLC layer 142 generates PDU145 by SDU141, and then sends PDU145 to MAC layer 144. The size and quantity of PDU145 transmitted to MAC layer 144 are specified by the TFC (transport format combination) data request sent from MAC layer 144 to RLC layer 142. After the indication of the presence in RLC layer 142 of SDU data 141 to be transmitted, MAC layer 144 sends the TFC data

request to RLC layer 142 in the form of RLC entity information."
(Paragraphs [0024] and [0025])

- (M) In the first embodiment, the method of the invention makes RLC layer 142 provide at least one padding PDU150, so as to fulfill the TFC data request from MAC layer 144. Padding PDU150 does not have actual SDU data 141, and is only used when SDU data 141 is destroyed due to the occurrence of an unexpected data interruption. Figure 8 shows padding PDU150. Since padding PDU150a is a standard AM data PDU, PDU field 151a is set to '1.' Sequence number field 152a is a standard sequence number, and polling bit 153a is '0' or '1' (defined according to the polling state from second layer interface 132). Bit 154a is reserved and its value is '0.' The subsequent extension bit 155a is always set to '1,' indicating that it is followed by one LI156a. However, in LI156a, special codes which are set to '1' are created. The lengths of these special codes are much longer than the length of data domain 158a. The length of the actual LI156a in the RLC entity according to the definition of the length of LI is 7-bit or 15-bit. In Figure 8, the LI length is 15-bit. This special LI156a shows that the remaining PDU150as only have information for filling the undefined parts and such information can be disregarded. However, the subsequent bit 157a to this LI156a must be '0,' indicating that SDU data domain 158a starts thereafter. The contents of SDU data domain 158a are not defined, and such domain is only for the purpose of filling. It should be noted that UM data PDUs can be used for the purpose of filling under the UM transmission. Figure 9 shows UM data padding PDU150b. UM data padding PDU150b has a very simple structure, and has 7-bit sequence number field 152b, the subsequent extension bit 155b (set to '1'), 7-bit LI156bs all set to '1' (indicating that the subsequent data is the padding field), and last extension bit 157b set to '0.' The actual bit of LI156b is determined by the size of the maximum UMD PDU in the UM RLC entity defined by upper layer 133, and is 7-bit or 15-bit. In Figure 9, the LI is 7-bit. As mentioned above, as the whole PDU150b is a padding PDU, data domain 158b is undefined, or can be any given value." (Paragraph [0026])

(N) "In any situation where SDU data 141 in RLC layer 142 does not satisfy the data volume according to TFC data request 166 due to an unexpected data interruption, RLC layer 142 provides a padding PDU of appropriate quantity and accurate size, and fulfills the demand of TFC data request 166." "As mentioned above, insufficiency of SDU data is supplemented by the use of a padding PDU as an alternative PDU." (Paragraphs [0029] and [0031])

B. Contents of Exhibit Ko No. 1-4 (3GPP technical specification "3GPP TS 25.322 V.6.3.0"; hereinafter referred to as "Technical Specification V.6.3.0")

"4.2.1.2.1 Transmitting UM RLC entity

The transmitting UM-RLC entity receives RLC SDUs from upper layers through the UM-SAP.

The transmitting UM RLC entity segments the RLC SDU into UMD PDUs of appropriate size, if the RLC SDU is larger than the length of available space in the UMD PDU. The UMD PDU may contain segmented and/or concatenated RLC SDUs. UMD PDU may also contain padding to ensure that it is of a valid length. Length Indicators are used to define boundaries between RLC SDUs within UMD PDUs. Length Indicators are also used to define whether Padding is included in the UMD PDU.

The transmitting UM RLC entity submits UMD PDUs to the lower layer through either a CCCH, SHCCH, DCCH, CTCH, DTCH, MCCH, MSCH or an MTCH logical channel."

"9.2.1.3 UMD PDU

The UMD PDU is used to transfer user data when RLC is operating in unacknowledged mode. The length of the data part shall be a multiple of 8 bits. The UMD PDU header consists of the first octet, which contains the "Sequence Number." The RLC header consists of the first octet and all the octets that contain "Length Indicators."

"9.2.2.5 Extension bit (E)

Length: 1bit.

This bit indicates if the next octet will be a "Length Indicator" and E bit.

Bit	Description
0	The next field is data, piggybacked

	STATUS PDU or padding
1	The next field is Length Indicator and E bit

"9.2.2.8 Length Indicator (LI)

A "Length Indicator" is used to indicate the last octet of each RLC SDU ending within the PDU.

Except for the predefined values reserved for special purposes and listed in the tables below, the "Length Indicator" shall:

- be set to the number of octets between the end of the RLC header and up to and including the last octet of an RLC SDU segment;
- be included in the PDUs that they refer to.

The size of the "Length Indicator" may be either 7 bits or 15 bits.

- C. Contents of Exhibit Ko No. 4 (the minutes of the 3GPP Working Group "L2 Optimization for VoIP (R2-050969)")

"The current RLC Length Indicator scheme only indicates the end of an RLC SDU. Therefore if the previous RLC PDU is lost it will not be possible to know if the entire SDU was received or not.

In Figure 2, it is visible that if the second RLC PDU is lost, the RLC receiver will not be able to distinguish between scenarios A and B and thus both RLC SDUs 2 and 3 [the court understand that this is the typographic error and should be corrected as "RLC SDUs 3 and 4"] would have to be discarded. In the following subsection we propose a solution to address this limitation."

"In order to address the issue described above, we propose to signal in-band whether the first SDU is entirely included in the current PDU. This is illustrated in Figure 3:

It is visible from the illustration that the RLC receiver would now be able to distinguish between both scenarios and as a result would not discard the fourth RLC SDU in scenario A.

Several options for signalling this additional information are listed here:

- Use one of LI's reserved values: In this case, an additional LI would have to be incorporated in the RLC PDU for which the first RLC SDU is entirely included in the RLC PDU. This would result in an overhead of 3% of the 12.2kbps payload. Note that this additional LI value would be present at the most once per RLC PDU."

- D. Contents of Exhibit Ko No. 39 (Japanese National Publication of PCT Application No. 2002-527945)

- (A) "In a telecommunications system a larger higher layer data unit (SDU) is segmented into smaller segments on the lower layer (RLC). Segmentation length information is used to indicate the lengths of the segments in a lower layer protocol data unit (PDU). Specific values of segmentation length information are employed to indicate, when necessary, special information about the upper layer data unit (SDU), such as whether the upper layer data unit ends in the current data segment in the lower layer PDU or continues to the next lower layer PDU. This information is needed in the receiver to correctly assemble the segmented data." ([Abstract])
- (B) "The RLC is capable of segmenting the higher layer PDUs. The segmenting allows a larger higher layer (e.g. L3, LAC) data unit to be split into smaller units (segments) on the lower layer (RLC). When segmenting is used, the transmitting end should indicate to the receiving end whether the same higher layer unit will continue in the next lower layer unit or a new higher level unit one will be started in the next lower layer unit. This information is needed in the receiver (either the mobile station (MS) or the network (NW)) to correctly assemble the segmented data." (Paragraph [0006])
- (C) "In a prior art approach, a separate indicator has been used in each lower layer data segment to specify, whether the higher layer unit starts, ends or continues in the present data segment. Possible values may be the following, for example: 11 start & end; 10 start & continue; 00 continue; and 01 continues to end. The disadvantage of the prior art approach is that this extra field uses extra space in the protocol signaling and thereby causes extra overhead." (Paragraph [0007])
- (D) In the present invention specific values of segmentation length information are employed to indicate, when necessary, special information about the upper layer data unit, such as whether the upper layer data unit ends in the current data segment in the lower layer PDU or continues to the next lower layer PDU. Thus, a separate indicator field used in the prior art is avoided." (Paragraph [0010])
- (E) "Fig. 5 illustrates a PU format with N length indicators in the first PU. The total number of segments is O, each being M octets in length. The flag E in the length indicator indicates whether there is another

length indicator in the following octet (flag E = 1) or not (flag E = 0). In the most simple case, where the PU contains data only from one SDU, and no segmentation information is needed in the PU. In other words, a PU without any segmentation information means that the PU is contiguous, comes from one SDU and the same SDU continues until the next PU which contains segmentation information. No separate indicator for indicating whether the SDU continues or not is needed. If all PUs in the RLC PDU contains data from the same SDU, no segmentation information is needed in the PDU. Alternatively, the first PU in the PDU may be provided with a length indicator having a predefined value which indicates that the SDU in this PDU continues in the next RLC PDU. Such a value may be 111110, for example. If the SDU ends at end of the current PDU, this indicated by a length indicator value which points exactly to the end of the PDU." (Paragraph [0019])

- E. Contents of Exhibit Ko No. 42 (3GPP Working Group minutes "L2 considerations for VoIP support (R2-041645))
 - (A) "AMR data frames are generated every 20ms. The RFC allows the transmission of one or several voice frames in a single packet. However, for the purpose of VoIP, only the single voice frame per packet case would be able to deliver the desired delay characteristics." (Page 1)
 - (B) "RLC-UM provides all the necessary functionality to support arbitrary SDU sizes: segmentation, concatenation and padding. However, the use of segmentation and concatenation is a mixed blessing. Indeed, if a higher layer SDU is segmented into two frames, the probability that it would be lost is equal to the probability that either of the PDUs would be lost. ...Therefore, when handling SDUs that have equivalent sizes to the payload that can be transmitted in one TTI, it would be preferable to align the two so as to reduce the resulting SDU error rate." (Page 3)
- F. Contents of Exhibit Ko No. 92 (Change Request (R2-051681))

"CR0280 for 25.322 proposes an optimization for the RLC UM header structure to reduce the RLC UM overhead in case of services for which the UTRAN can tune the RLC-PDU sizes to the expected RLC-SDU sizes. This change request introduces the necessary support in 25.331" (Page 1)

G. Contents of Exhibit Ko No. 40 (US Patent No. 6819658)

In operation, as seen in Figure 11A, an incoming cell or packet is examined in step 11A-1 and in step 11A-2, a determination is made as to whether the size is equal to the minimum size, e.g., an ATM cell size. If the incoming packet or cell is only the minimum size, a decision is made at step 11A-3 that segmentation is not needed and in step 11A-4, the SAR1 header is generated.

The SAR1 header comprises only one byte, as shown in Figure 8. In step 11A-7, the header is applied to the data in the packet or cell and is forwarded to the modem at a selected terminal at a site for addressing to a destination terminal and transmission to that terminal in a predetermined burst. Where it is determined in step 11A-2 that the incoming cell or packet is greater than a minimum size, there is a need to have the cell or packet segmented for transmission. Thus, in step 11A-5, the cell or packet is divided into predetermined size segments, followed by the generation of a SAR2 header in step 11A-6. As noted above, and as seen in Figures 7A and 7B, the SAR2 header is a three byte header that changes for each segment and contains information sufficient to identify each segment in each packet by its terminal. (Page 14)

H. Contents of Exhibit Ko No. 43 (PCT International Publication 02/43332)

"The second mode of the invention resembles the first mode in that, when a user data packet payload is spread or segmented over plural AAL2 packets, the sequence number-related values for the AAL2 packets (which carry the segmented user data packets) are stored in the length indicator (LI) field of the plural AAL2 packets utilized by the segmented user data packet. To facilitate this second mode, two ranges of values are reserved for the length indicator (LI) field. In one illustrated implementation, the first range of reserved or predetermined values extends between 48 and 55, inclusive of both 48 and 55, while the second range of reserved or predetermined values extends between 56 and 63, inclusive of both 56 and 63. When the length indicator (LI) field of a received AAL2 packet belongs to the first range, the received AAL2 packet is recognized as being for a first of the plural AAL2 packets containing the user data of the user data frame. When the length indicator (LI) field of a received AAL2 packet belongs to the second range, the received AAL2 packet is recognized as being other than the first of the plural AAL2 packets (e.g., a

second, third, fourth AAL2 packet, etc.)." (Page 7 of the Translation)

(2) Ground for invalidation 1 (lack of novelty due to Exhibit Ko No. 3)

A. From the contents of Exhibit Ko No. 3 as referred to in (1)A. above, the court finds that such Exhibit discloses the following invention (hereinafter referred to as "Exhibit Ko No. 3 Invention").

"An apparatus for transmitting data (method for transmitting data) in a mobile communication system, comprising:

a transmission buffer for receiving a service data unit (SDU) from a higher layer, determining whether the SDU is included in one protocol data unit (PDU), and reconfiguring the SDU to at least one segment according to the transmittable PDU size;

a header inserter for configuring at least one PDU including a serial number (SN) field and a one-bit field in a header, and said at least one segment in a data field;

an LI inserter for inserting and setting an LI field after the one-bit field in said at least one PDU if the SDU is not included in one PDU; and

a transmitter for sending at least one PDU received from the LI inserter to a receiver."

B. In relation to the court's findings as mentioned above, the appellee alleges that Exhibit Ko No. 3 discloses a setter for "setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" as referred to in Constituent Feature D(K), relying on the description of said Exhibit which reads "if only one SDU fulfills data domain 58 of PDU50, the bit 55a is set to '0,' indicating that no LI is present." (Paragraph [0008])

However, the court's findings in this respect are as follows. [i] Exhibit Ko No. 3 provides that "Figure 3 is a simplified drawing of AM data PDU50, which is specified in 3GPP TS25.322 V3.8.0. specification" (Paragraph [0006]). Considering the fact that this "3GPP TS25.322 V3.8.0" is one of the 3GPP technical specifications before the alternative E-bit interpretation was introduced into 3GPP standard, the statement relied upon by the appellee can be understood as being connected with the normal E-bit interpretation. However, the normal E-bit interpretation does not relate to the case where "the PDU includes the whole SDU without segmentation/concatenation/padding in the data field." [ii] It is naturally understood that the wording of "only one SDU completely fulfills data domain 58 of PDU50" as referred to in Exhibit Ko No.

3 also encompasses the case where the size of SDU is larger than that of PDU and the PDU is filled with the first segment or intermediate segment. Considering these circumstances, the statement of Exhibit Ko No. 3 which reads "if only one SDU completely fulfills ...indicating that no LI is present" relied upon by the appellee cannot be considered to disclose the technology of Constituent Feature D(K) which reads "setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU."

In addition, the appellee also alleges that a "padding PDU," which is one of the examples of an "alternative PDU" referred to in Exhibit Ko No. 3, corresponds to "a PDU containing an intermediate segment," because it performs a function of concatenation of the PDUs before and after the padding PDU. However, Exhibit Ko No. 3 mentions the "padding PDU" as the one "does not have actual SDU data 141, and is only used when SDU data 141 is destroyed due to the occurrence of an unexpected data." (Paragraph [0026]) Considering this wording, the "padding PDU," as referred to in Exhibit Ko No. 3 does not mean a PDU segmented SDU or a PDU to be filled, and is irrelevant to an SDU. Therefore, as it is impossible to associate such "padding PDU" with an SDU or an intermediate segment, such "padding PDU" cannot be considered to correspond to a PDU containing an intermediate segment of the SDU as referred to in Invention 1.

Thus, although Exhibit Ko No. 3 mentions the configuration of a special code on the LI field in relation to a "padding PDU," this statement is not considered to be equivalent to the statement of Constituent Feature D of Invention 1 that "if the data field of the PDU includes an intermediate segment of the SDU" and "setting the one-bit field to indicate the presence of at least one length indicator (LI) field," or the statement of Constituent Feature F of Invention 1 that "the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU."

Therefore, the appellee's allegation is unacceptable.

- C. Comparing Exhibit Ko No. 3 Invention found in A. above against Invention 1, these inventions are found to be different in the following respects (but identical in all other respects).

- (A) Difference 1

- Invention 1 has "a one-bit field setter for setting the one-bit field to

indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" (Constituent Feature D); whereas Exhibit Ko No. 3 Invention does not have such structure.

(B) Difference 2

Invention 1 has a structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor last segment of the SDU" (Constituent Feature F); whereas Exhibit Ko No. 3 Invention does not have such structure.

D. Comparing Exhibit Ko No. 3 Invention as referred to in A. above against Invention 2, these inventions are found to be different in the following respects (but identical in all other respects).

(A) Difference 3

Invention 2 has a structure wherein "if the SDU is included in one PDU, a stage of configuring the PDU including a header and a data field, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding" (Constituent Feature K); whereas Exhibit Ko No. 3 Invention does not have such structure.

(B) Difference 4

Invention 2 has a structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature M); whereas Exhibit Ko No. 3 Invention does not have such structure.

E. As mentioned above, Exhibit Ko No. 3 Invention is different from Inventions 1 and 2 in respect of Differences 1 to 4. Therefore, the appellee's allegation that Exhibit Ko No. 3 Invention is identical to Inventions 1 and 2 (ground for invalidation 1) is unacceptable.

(3) Ground for invalidation 2 (lack of inventive step (1) based on Exhibit Ko No. 3 as the primarily cited reference)

- A. The court finds that Invention 1 attains the solution of the problem of inefficient use of limited radio resources due to the use of an unnecessary LI field by "setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU" (Constituent Feature D), and, also provides an ability to distinguish between a PDU completely containing an SDU in the data field without segmentation/concatenation/padding and a PDU which includes neither the start nor the end of an SDU (i.e. a PDU containing an intermediate segment of an SDU), by adopting the structure of "setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" (Constituent Feature D) and the structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature F).
- B. The court finds that Invention 2 attains the solution of the problem of inefficient use of limited radio resources due to the use of an unnecessary LI field by adopting "a stage of constructing the PDU including a header and data field, if the SDU is included in one PDU, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding" (Constituent Feature K), and, also provides an ability to distinguish between a PDU completely containing an SDU in the data field without segmentation/concatenation/padding and a PDU which includes neither the start nor the end of an SDU, by adopting the structures wherein "if the SDU is not included in one PDU ... wherein headers of the PDUs include a SN field, at least a one-bit field indicating the presence of a length indicator (LI) field and said at least one LI field" (Constituent Feature L) and wherein "if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature M).
- C. Meanwhile, the purpose of Exhibit Ko No. 3 Invention is to address an unexpected interruption of data transmission which occurs between an RLC layer and a MAC layer. This Invention has a structure wherein an RLC layer provides a padding PDU of appropriate quantity and size, and this padding

PDU is used as an alternative PDU to supplement the deficiency in SDU data and to respond to the TFC data request, if the SDU data in an RLC layer becomes insufficient to provide the data volume as instructed by the TFC data request from the MAC layer due to an unexpected interruption of the data transmission.

- D. As discussed in relation to ground for invalidation 1, Exhibit Ko No. 3 Invention cannot be regarded as having the structure for "setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU." Further, Exhibit Ko No. 3 neither indicates nor implies the problem of "inefficient use of limited radio resources due to the use of unnecessary LI field" or the problem of enabling "distinction between a PDU containing the whole of SDU in the data field without segmentation/concatenation/padding and a PDU which includes neither the start nor end of an SDU."

Likewise, Exhibit Ko No. 39 does not indicate any of these problems.

Therefore, in relation to Exhibit Ko No. 3 Invention, it was not easy for a person ordinarily skilled in the art to conceive of an idea of the structure containing "a one-bit field setter for setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" (Constituent Feature D) and the structure "wherein if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature F) as mentioned in Invention 1, based on the contents of Exhibit Ko No. 3 or common general technical knowledge indicated in Exhibit Ko No. 39.

- E. Likewise, in relation to Exhibit Ko No. 3 Invention, it was not easy for a person ordinarily skilled in the art to conceive of an idea of the structure containing "a stage of constructing the PDU including a header and data field, if the SDU is included in one PDU, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding" and the structure wherein "if the data field of the PDU includes an intermediate

segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as mentioned in Invention 2, based on the contents of Exhibit Ko No. 3 or common general technical knowledge indicated in Exhibit Ko No. 39.

- (4) Ground for invalidation 3 (lack of inventive step (2) based on Exhibit Ko No. 3 as the primarily cited reference)

The problems, means to solve the problems, and function and effect of each of the Inventions are as discussed in the section of ground for invalidation 2 ((3) above). The purpose of Exhibit Ko No. 3 Invention is also as discussed in the section of ground for invalidation 2. As discussed in the section of ground for invalidation 2, the Inventions and Exhibit Ko No. 3 Invention are different in terms of the problems to be solved, and Exhibit Ko No. 3 neither indicates nor implies the problems to be solved by the Inventions.

Moreover, the invention referred to in Exhibit Ko No. 4 adopts a structure "to signal in-band whether the first SDU is entirely included in the current PDU," so as to solve the problem that "if the previous RLC PDU is lost, it will not be possible to know if the entire SDU was received or not." Exhibit Ko No. 4 indicates that, as an example of "signaling," if a reserved value of LI is used, "an additional LI would have to be incorporated in the RLC PDU for which the first RLC SDU is entirely included in the RLC PDU." This is different from the structure of the Inventions to use a reserved value for an LI field in a case where an intermediate segment is included. Accordingly, Exhibit Ko No. 4 cannot be considered to indicate or imply the structure "wherein if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature F) as mentioned in Invention 1, or the structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature M) as mentioned in Invention 2, so as to enable the distinction between a PDU containing the whole of SDU in the data field without segmentation/concatenation/padding and a PDU which includes neither the start nor the end of an SDU.

Thus, the structure which constitutes the difference between the Inventions and Exhibit Ko No. 3 Invention cannot be considered to be one which could have been

easily conceived of by a person ordinarily skilled in the art based on Exhibit Ko No. 3 Invention and the contents of Exhibit Ko No. 4.

- (5) Ground for invalidation 4 (lack of inventive step (3) based on Exhibit Ko No. 3 as the primarily cited reference)

The problems, means to solve the problems, and function and effect of Inventions 1 and 2 are as discussed in the section of ground for invalidation 2. The purpose of Exhibit Ko No. 3 Invention is also as discussed in the section of ground for invalidation 2. As discussed in the section of ground for invalidation 2, Inventions 1 and 2 and Exhibit Ko No. 3 Invention are different in terms of the problems to be solved, and Exhibit Ko No. 3 neither indicates nor implies the problems to be solved by the Inventions.

In addition, the court finds that Exhibit Ko No. 39 discloses the following. [i] Specific values of segmentation length information are employed to indicate, when necessary, special information about the upper layer data unit (SDU), such as whether the upper layer data unit ends in the current data segment in the lower layer PDU or continues to the next lower layer PDU. For example, a length indicator with a predefined value indicating that the SDU in this PDU continues in the next RLC PDU (e.g. "1111110") is given to a first payload unit of the PDU. [ii] The use of such specific values of segmentation length information is needed in the receiver to correctly assemble the segmented data, and a separate indicator field can be avoided by the use of such information (Paragraph [0007], Exhibit Ko No. 39).

In addition, it is reasonable to understand the statement of Exhibit Ko No. 39 which reads "the SDU in this PDU continues in the next RLC PDU" (Paragraph [0019]) to mean that "the SDU in the PDU is not the last segment." Therefore, such statement is considered to also indicate the possibility that "the SDU in the PDU is the first segment," in addition to that "the SDU in the PDU is an intermediate segment."

Based on the above, Exhibit Ko No. 39 cannot be considered to indicate or imply the structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as mentioned in Invention 1, or the structure wherein "if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" as mentioned in Invention 2, so as to enable the distinction between a PDU containing the whole of SDU in the data field without segmentation/concatenation/padding and a PDU

which includes neither the start nor the end of an SDU.

Thus, the structure which constitutes the difference between the Inventions and Exhibit Ko No. 3 Invention cannot be considered to be one which could have been easily conceived of by a person ordinarily skilled in the art based on Exhibit Ko No. 3 Invention and the contents of Exhibit Ko No. 39.

(6) Ground for invalidation 5 (lack of inventive step based on Exhibit Ko No. 1-4 as primarily cited reference)

A. According to the statements of Exhibit Ko No. 1-4, this Exhibit is found to disclose the following invention (hereinafter referred to as "Exhibit Ko No. 1-4 Invention").

"An apparatus for transmitting data (method for transmitting data) in a mobile communication system, comprising:

a transmission buffer for receiving a service data unit (SDU) from a higher layer, determining whether the SDU is included in one protocol data unit (PDU), and reconfiguring the SDU to at least one segment according to the transmittable PDU size;

a header inserter for configuring at least one PDU including a serial number (SN) field and a one-bit field in a header, and said at least one segment in a data field;

an LI inserter for inserting and setting an LI field after the one-bit field in said at least one PDU if the SDU is not included in one PDU; and

a transmitter for sending at least one PDU received from the LI inserter to a receiver."

B. Comparing Exhibit Ko No. 1-4 Invention referred to in A. above against Invention 1, these inventions are found to be different in the following respects (but identical in all other respects).

(A) Difference 5

Invention 1 has "a one-bit field setter for setting the one-bit field to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, if the SDU is included in one PDU, and for setting the one-bit field to indicate the presence of at least one length indicator (LI) field, if the data field of the PDU includes an intermediate segment of the SDU" (Constituent Feature D); whereas Exhibit Ko No. 1-4 Invention does not have such structure.

(B) Difference 6

Invention 1 has a structure wherein "if the data field of the PDU includes

an intermediate segment of the SDU, the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature F); whereas Exhibit Ko No. 1-4 Invention does not have such structure.

C. Comparing Exhibit Ko No. 1-4 Invention referred to in A. above against Invention 2, these inventions are found to be different in the following respects (but identical in all other respects).

(A) Difference 7

Invention 2 has a structure wherein "if the SDU is included in one PDU, a stage of configuring the PDU including a header and a data field, wherein the header includes a sequence number (SN) field, and a one-bit field indicating that the PDU includes the whole SDU in the data field without segmentation/concatenation/padding" (Constituent Feature K); whereas Exhibit Ko No. 1-4 Invention does not have such structure.

(B) Difference 8

Invention 2 has a structure which reads "if the SDU is not included in one PDU" and "wherein headers of the PDUs include a SN field, at least a one-bit field indicating the presence of a length indicator (LI) field and said at least one LI field" (Constituent Feature L), and a structure which reads "if the data field of the PDU includes an intermediate segment of the SDU, a stage wherein the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU" (Constituent Feature M); whereas Exhibit Ko No. 1-4 Invention does not have such structures.

D. In the following, the discussion is made as to Differences 5 to 8.

The problems, means to solve the problems, and function and effect of each of the Inventions are as discussed in the section of ground for invalidation 2 ((3) above).

Meanwhile, Exhibit Ko No. 1-4 Invention differs from Invention 1 in that it does not have structures which constitute Differences 5 and 6, and also differs from Invention 2 in that it does not have structures which constitute Differences 7 and 8. Therefore, Exhibit Ko No. 1-4 Invention is not considered as an invention to solve the same problem as that of the Inventions, namely, the inefficient use of limited radio resources due to the use of unnecessary LI field, or the problem of enabling distinction between a PDU containing the whole SDU in the data field

without segmentation/concatenation/padding and a PDU which includes neither the start nor the end of an SDU, in the case where the "one-bit field" is set "to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field."

Exhibits Ko No. 1-2, No. 42, No. 91 and No. 92 submitted by the appellee are found to disclose that SDUs of the same size are frequently generated by a VoIP application which uses a sound codec with a fixed bit rate. In addition, Exhibits Ko No. 3 and No. 40 are found to disclose that the header size can be reduced if one SDU completely fills the PDU's data field or if the received data completely fills the data field of a data packet. These matters are found to have been already known in the relevant field of technology before the priority date of the Patent.

However, as discussed in the section of ground for invalidation 4 ((5) above), the statement of Exhibit Ko No. 39 which reads "the SDU in this PDU continues in the next PDU" is considered to also indicate the possibility that "the SDU in the PDU is the first segment," in addition to that "the SDU in the PDU is an intermediate segment." Likewise, the statement of Exhibit Ko No. 43 which reads "When the length indicator (LI) field of a received AAL2 packet belongs to the second range, the received AAL2 packet is recognized as being other than the first of the plural AAL2 packets (e.g., a second, third, fourth AAL2 packet, etc.)" is considered to also indicate the possibility that the "packet other than the first of the plural AAL2 packets" may be the "last AAL2 packet" as well as an "intermediate AAL2 packet." Therefore, neither Exhibit Ko No. 39 nor No. 43 is found to disclose the use of a length indicator in a PDU data field to indicate an intermediate segment, or this point cannot be regarded as having been general knowledge in the relevant technical field before the priority date of the Patent.

In addition, neither of these Exhibits mentions or implies the solution of the problem of inefficient use of limited radio resources due to the use of an unnecessary LI field by adopting the structure wherein the "one-bit field" is set to indicate that the PDU includes the whole SDU without segmentation/concatenation/padding in the data field, as adopted by the Inventions (Differences 5 and 7). Further, neither of these Exhibits mentions or implies a structure like that of the Inventions (Differences 5, 6, and 8), wherein, when setting the "one-bit field" as mentioned above, if the data field of the PDU includes an intermediate segment of the SDU, the one-bit field is set to indicate the presence of at least one indicator field (LI) and the LI field is set to the pre-defined value indicating the presence in the PDU of an intermediate segment,

thereby enabling to distinguish between a PDU containing the whole of SDU in the data field without segmentation/concatenation/padding and a PDU which includes neither the start nor the end of an SDU.

Thus, the Inventions and Exhibit Ko No. 1-4 Invention are also different in respect of the problems to be solved. Further, none of the abovementioned Exhibits are considered to disclose the problems of the Inventions and the means to solve such problems. Therefore, even applying the contents of the abovementioned Exhibits to Exhibit Ko No. 1-4 Invention, it cannot be considered that a person ordinarily skilled in the art could have easily conceived of the structure, which constitutes the difference between the Inventions and Exhibit Ko No. 1-4 Invention.

- E. According to the appellee, in the background of the adoption of the "normal E-bit interpretation" by 3GPP, in many applications, SDUs whose size is larger than the size of the PDU data field are frequently generated, and consequently PDUs containing intermediate segments of the SDU are often generated. The appellee alleges that 3GPP adopted the structure of Exhibit Ko No. 1-4 Invention because 3GPP recognized the possibility of reducing more header data volume by omitting the length indicator of a PDU containing an intermediate segment, rather than by omitting the length indicator of a PDU containing an SDU which completely matches the PDU data field. In addition, according to the appellee's allegation, this also suggests that 3GPP had recognized the possibility of reducing the data transmission overhead by omitting the length indicator for a PDU containing an SDU which completely matches the PDU data field, if such SDU is often generated.

However, the abovementioned allegation of the appellee is unacceptable.

Exhibit Ko No. 1-4 neither indicates nor implies the omission of a length indicator for PDUs containing intermediate segments of the SDU with a view to reduce the header size of such PDUs and the total overhead and to enhance the efficiency of data transmission, against the backdrop that in many applications, SDUs whose size is larger than the size of the PDU data field are frequently generated, and consequently PDUs containing intermediate segments of the SDU are often generated. Exhibit Ko No. 1-4 does not support that these points were recognized by 3GPP.

In addition, Exhibit Ko No. 1-4 neither indicates nor implies that, if SDUs which completely match the PDU data field are frequently generated, the overhead of data transmission can be reduced by omitting the length indicator of a PDU

containing such SDU. Even supposing that it was general knowledge for a person ordinarily skilled in the art before the priority date of the Patent Application that SDUs of the same size are frequently generated by a VoIP application using a sound codec with a fixed bit rate, Exhibit Ko No. 1-4 does not support that these points were recognized by 3GPP.

Further, according to the contents of Exhibit Ko No. 1-4, the length indicator of a PDU is defined as the one that "indicates the last octet of each RLC SDU ending within the PDU," and therefore it is reasonable to understand that the omission of a length indicator of a PDU containing an intermediate segment of an SDU is based on the definition as mentioned above.

In addition, even supposing that a person ordinarily skilled in the art could have conceived of an idea to completely match one of the SDUs of the same size, which are frequently generated by a VoIP application using a sound codec with a fixed bit rate, with a PDU data field, and to omit a length indicator for a PDU containing such SDU, Exhibit Ko No. 1-4 cannot be regarded as indicating or implying that, in relation to a PDU containing an intermediate segment, a length indicator should be set to the "pre-defined value indicating the presence in the PDU of an intermediate segment which is neither the first nor the last segment of the SDU," which is different from the initial definition. This also cannot be considered as obvious knowledge.

As mentioned above, the appellee's allegation is groundless as it contains an error in the conditions precedent.

4. Issue 4 (whether the Patent Right for the Products has been exhausted)

The court's findings are as follows. [i] The amended Appellant-Intel License Agreement expired on June 30, 2009. Or, even supposing that this agreement remains in force, the Baseband Chip (hereinafter only refers to those installed in Products 2 and 4) is not covered by this agreement. Thus, the appellee's allegation of the exhaustion of the Patent Right is groundless as it contains an error in the condition precedent. [ii] Even supposing that the license agreement remains in force and the Baseband Chip is covered by this agreement, there is no reason that the appellant shall be restricted from exercising the Patent Right in this court case. The reasoning for these findings is as explained below.

(1) Fact-finding

Considering the evidence (Exhibits Ko No. 19-1-1 to No. 19-1-4, No. 19-2, No. 20-1 to No. 20-3, No. 162, No. 163, Exhibits Otsu No. 46 and No. 52), as well as the entire import of oral arguments, the court finds the following facts in this

respect.

A. On January 1, 1993, the appellant and Intel Corporation entered into a patent cross-license agreement, under which the parties agreed to enter into a cross-licensing scheme for their respective patents (Exhibits Ko No. 20-1 and No. 162; hereinafter referred to as the "Appellant-Intel License Agreement").

The following provisions were included in the Appellant-Intel License Agreement.

"1.11 "Samsung Patent" means a patent right, utility models right and industrial design right of any categories or kinds (including, without limitation, the first application, divisional application, continuation application, continuation-in-part application and re-application) owned or controlled by, or that will be hereafter acquired by, Samsung (or its Subsidiaries) in any part of the world, and (a) whose date of the first effective application date precedes the expiration or termination of this agreement and (b) [Omitted]."

"1.14 "Intel Licensed Product" means (a) semiconductor material, (b) semiconductor device, or (c) all components of an integrated circuit (excluding Samsung Propriety Products)."

"3.1 Samsung grants Intel Corporation a world-wide, non-exclusive and non-transferrable license to manufacture, make a consignment of manufacturing, use, sell (directly or indirectly), make a consignment for development solely for Intel Corporation, lease or otherwise dispose of the Samsung Patent."

"3.3 Intel Corporation shall have a right to extend the scope of the license under Articles 3.1 and 3.2 hereof to the Intel Subsidiaries. Intel Corporation may only extend the scope of the license to the Intel Subsidiaries if such entity satisfies the requirements of the Subsidiary and only for the period in which the extended right is effectively in force for Intel Corporation."

"6.4 Except as provided in Article 6.3, the license for the Samsung Patent or Intel Patent as granted from one party to the other, as the case may be, shall survive the termination of this agreement as long as these patents continue in force."

"7.8 Any matters relating to this agreement or the performance hereof shall be governed by and construed in accordance with the U.S. federal

laws and California state laws in all respect."

- B. The Appellant-Intel License Agreement expired on December 31, 2002. On March 18, 2003, the appellant and Intel Corporation entered into an agreement for a partial amendment to the Appellant-Intel License Agreement (Exhibit Ko No. 20-2).
- C. On July 1, 2004, the appellant and Intel Corporation entered into the agreement to further amend the Appellant-Intel License Agreement as follows (Exhibits Ko No. 20-3 and No. 163; hereinafter referred to as the "Second Amendment Agreement"; and the license agreement between the appellant and Intel Corporation after the amendment under said agreement shall be hereinafter referred to as "Amended Appellant-Intel License Agreement") (the term "patent cross-license agreement" in the following provisions refers to the Appellant-Intel License Agreement in this judgment).

"(1) Notwithstanding Article 6.1 thereof, the patent cross license agreement shall be extended and remain in force for five (5) years from the date when the Second Amendment Agreement as referred to above takes effect."

"(3) Article 3.1 shall be replaced with the following provision:

3.1 Pursuant to the terms and conditions of this agreement, Samsung grants Intel Corporation a world-wide, non-exclusive, non-transferrable and royalty-free license under the Samsung Patent for the following activities, without a right of sub-license.

(a)(1) to manufacture, use, sell (directly or indirectly), offer for sale, import or otherwise dispose of all Intel Licensed Products;

(2) to manufacture, make a consignment of manufacturing (subject to the conditions set out in Article 3.7), use and/or import the devices, and to manufacture, use, import all Intel Licensed Products, and/or implement the method or process for the sale thereof; and

(3) to consign other manufacturers with the manufacturing of the Intel Licensed Products, under the license granted under Article 3.1(a)(1) above, and only for the purpose of distribution of said products to Intel Corporation for the use, import, sale, offer for sale or other disposition by Intel Corporation (subject to the condition set out in Article 3.7).

The licenses granted under (1), (2) and (3) above shall not be applicable to Samsung Proprietary Products, which are excluded from the scope of the

Intel Licensed Products."

"(4) The following provision shall be added after Article 3.3.

"3.7 Right to Consign Manufacturing

"(a) The right of Intel Corporation to have a third party manufacture the products under the license granted under Article 3.1 above shall be applicable only in the following circumstance: [i] the design drawings, specifications, implementation drawings for the third party's manufacturing of the products (hereinafter individually or collectively referred to as "Product Specifications") are provided from Intel Corporation to such third-party manufacturer, and [ii] such Product Specifications are not the ones initially provided from the third party manufacturer to Intel Corporation (excluding the case where Intel Corporation also has a proprietary right in the design without any restriction)."

"(9) The term 'California' in Article 7.8 shall be replaced with 'New York.'"

"(13) Articles 6.2, 6.3 and 6.4 shall be replaced with the following provisions."

"6.4 Survival Clause The options under Articles 3.5 and 4.5, and Articles 1, 2, 5.4, 6.3, 6.4 and 7 shall survive the termination of this Agreement without regard to the cause of termination."

- D. The term of the Amended Appellant-Intel License Agreement was until June 30, 2009.
- E. The Baseband Chip is the product [i] manufactured by a third party based on the consignment from IMC, [ii] sold by IMC to Intel Corporation outside Japan, [iii] sold by Intel Corporation to its wholly-owned subsidiary, Intel America, outside Japan, and then [iv] sold by Intel America to Apple Inc. outside Japan (Exhibits Ko No. 19-1-1 to No. 19-1-4 and No. 19-2 and Exhibit Otsu No. 46). IMC is a company formed as Infineon became the subsidiary of Intel Corporation on January 31, 2011 (Exhibit Otsu No. 52).

(2) Discussion

- A. Pursuant to Article 7 of the Act on General Rules for Application of Laws (hereinafter referred to as the "General Rules Act"), the Appellant-Intel License Agreement shall be governed by the "U.S. federal laws and California state laws," and the Amended Appellant-Intel License Agreement shall be governed by the "U.S. federal laws and New York

state laws," respectively.

- B. Article 6.4 of the Appellant-Intel License Agreement, which provides that "the license for the Samsung Patent shall survive the termination of this agreement as long as these patents continue in force," expressly indicates that the license shall survive the termination of said agreement. However, the Second Amendment Agreement provides in its Section (13) that Article 6.4 shall be amended and that only "the option under Articles 3.5 and 4.5, Articles 1, 2, 5.4, 6.3, 6.4 and 7" shall survive the termination of the agreement, to the exclusion of the provisions relating to the license such as Article 3.1.

Thus, based on the language of the Second Amendment Agreement, which deletes the survival clauses for the license contained in the original agreement, it is reasonable to understand that the license under the Amended Appellant-Intel License Agreement for the patents including the Samsung Patent had been terminated on June 30, 2009, which is the date of expiration of said Agreement.

In this regard, the appellee alleges that the license under the (Amended) Appellant-Intel License Agreement is still in force, relying on the letter from Intel Corporation to the appellant (Exhibit Ko No. 25), the e-mail correspondences between Intel Corporation and the appellant (Exhibits Ko No. 126 and 165), the remark made by the appellant's counsel in the court action in Australia (Exhibit Ko No. 127) and other evidence. However, this evidence does not affect the court's decision as mentioned above based on the express provisions of the Amended Appellant-Intel License Agreement. On the premises of the evidence submitted in this court case, it is reasonable to consider that the Amended Appellant-Intel License Agreement is terminated.

- C. In addition, even supposing that the license under the Amended Appellant-Intel License Agreement still remains in force, the Baseband Chip is considered to be out of the scope of license under said agreement. The main text of Article 3.1 of the Amended Appellant-Intel License Agreement excludes the right of sublicensing, and, Article 3.1(a)(2), Article 3.1(a)(3) and Article 3.7 thereof limits the Intel Corporation's right to have a third party manufacture the products only where they satisfy certain requirements. Considering these provisions, the terms "manufacture" and "sale (directly or indirectly)" as set out in Article

3.1(a)(1) are understood to mean the manufacturing of the products by Intel Corporation itself and the direct and indirect sale thereof, and therefore the products consigned to a third party manufacturer are out of scope of "sale" under Article 3.1(a)(1). If the term "sale" under Article 3.1(a)(1) is understood without any limitation, and the sale of the products purchased from an unrelated third party manufacturers, etc. is also considered as "sale" within the meaning of said Article, the licensee would be able to easily circumvent the provisions of Article 3.1(a)(2), Article 3.1(a)(3) and Article 3.7 that impose a condition for the consignment to a third party manufacturer, namely, the condition that the Product Specifications shall be the ones provided from Intel Corporation to the third party manufacturer, and not the ones initially provided from the third party to Intel Corporation. Thus, such interpretation is unreasonable because it may result in an inconsistent interpretation in the entirety of the agreement.

The Baseband Chip is manufactured by IMC Corporation ((1)E. above). In order to justify this under Article 3.1, the conditions under Article 3.1(a)(2) or Article 3.1(a)(3) must be met (i.e. Intel Corporation needs to have had IMC manufacture the products by delivering the drawings, etc. specified in Article 3.7), or the extension of the license under Article 3.3 is required. Nevertheless, the entire evidence submitted before the court is not sufficient to prove the fulfillment of any of these facts.

- D. As discussed above, the court finds that the license under the Amended Appellant-Intel License Agreement has been terminated, and that the Baseband Chip is not covered by the license thereunder even supposing that the license is still in force.
- E. For the avoidance of doubt, the court finds that the exercise of the Patent Right is not restricted, even supposing that the Amended Appellant-Intel License Agreement is in force and the Baseband Chip is covered by this agreement. The reasons are as follows.

(A) When a patentee or an exclusive licensee (hereinafter simply referred to as a "patentee" in this paragraph) assigns a product to be used exclusively for the production of a patented product (which means a product falling under Article 101, item (i) of the Patent Act if produced, assigned or otherwise handled by a third party; hereinafter referred to as "Item (i) Product") in Japan, the patent right is considered to have

been exhausted for said Item (i) Product as it has attained the purposes of the patent right. In this case, it is understood that the effect of the patent right no longer extends to the use, assignment, etc. (meaning the use, assignment, export or import, or offer for assignment, etc. as provided in Article 2, paragraph (3), item (i) of the Patent Act; the same shall apply hereinafter) of said Item (i) Product and therefore the patentee is prohibited from exercising the patent right for said Item (i) Product, as long as said Item (i) Product maintains the status quo. However, it is appropriate to understand that, when a third party later produces a patented product by the use of said Item (i) Product, the patentee is not restricted from exercising the patent right in relation to such acts of production of the patented product or use, assignment, etc. thereof, because such third party has created a new product which falls within the technical scope of a patented invention by the use of a product which is out of the technical scope of such patented invention (BBS Case Supreme Court Judgment of July 1, 1997, *Minshu* Vol. 51, No. 6, at 2299; the Supreme Court judgment of November 8, 2007, *Minshu* Vol. 61, No. 8, at 2989).

Meanwhile, even in such cases, it is appropriate to understand that, if the patentee can be considered to have impliedly consented to the production of a patented product by the use of said Item (i) Product, the effect of the patent right does not extend to the production of the patented product by the use of said Item (i) Product or the use, assignment, etc. of such patented product.

This rationale is understood to also apply to the case where a Japanese patentee (including parties deemed equivalent to a patentee, such as its affiliated companies) assigned Item (i) Product outside Japan (BBS Case Supreme Court judgment of July 1, 1997, *Minshu* Vol. 51, No. 6, at 2299).

(B) Next, discussion is made as to the case where the assignor of Item (i) Product is a non-exclusive licensee who had received a license from the patentee (including a party who only has a license for the assignment of Item (i) Product).

In the case where the assignor of Item (i) Product is a non-exclusive licensee, it is understood that, as is the case with that mentioned in (A) above, the effect of a patent right still does not extend to the use,

assignment, etc. of said Item (i) Product; whereas the patentee is not restricted from exercising the patent right in relation to the production of a patented product by the use of said Item (i) Product or use, assignment, etc. of such product. Further, even in the case where the assignor of Item (i) Product is a non-exclusive licensee, if the patentee can be considered to have impliedly consented to the production of the patented product by the use of said Item (i) Product, the effect of the patent right still does not extend to the production of the patented product by the use of said Item (i) Product or the use, assignment, etc. of such patented product, as is the case with that mentioned in (A) above.

The issue of existence of such implied consent should be determined in relation to a patentee; however, it would be necessary to separately determine this issue in relation to an exclusive licensee as well, if a non-exclusive licensee who assigned Item (i) Product had been authorized by the patentee to permit a third party to produce a patented product by using said Item (i) Product.

This rationale is understood to also apply to the case where a non-exclusive licensee who had received a license from a Japanese patentee (including parties deemed equivalent to a patentee, such as its affiliated companies) assigned an Item (i) Product outside Japan.

(C) Next, the abovementioned rationales are applied to this court case.

a. It is presumed that Intel Corporation has been granted a license for manufacturing, sale, etc. of the Baseband Chip under the Amended Appellant-Intel License Agreement. Therefore, Intel Corporation falls under a non-exclusive licensee who had received a license from the patentee within the meaning as discussed in (B) above. Meanwhile, the products which correspond to an "apparatus for transmitting data" (Constituent Feature A) and "apparatus for transmitting data" (Constituent Feature H) are Products 2 and 4 incorporating the Baseband Chip. In light of common sense, the Baseband Chip has no economic, commercial or practical mode of use other than for producing a product falling within the technical scope of Invention 1, and therefore the Baseband Chip is a product which falls under Article 101, item (i) of the Patent Act ("Item (i) Product"). Apple Inc. combines various necessary component parts

with the Baseband Chip manufactured by Intel Corporation, and newly produces Products 2 and 4, which fall within the technical scope of Invention 1, and then these products are imported and sold by the appellee. Therefore, as mentioned in (A) and (B) above, the appellant is not automatically restricted from exercising the Patent Right.

- b. First, the court discusses the issue of whether the appellant can be considered to have given an implied consent on the production of the patented products.

In this regard, on the presumption that the Amended Appellant-Intel License Agreement remains in force and the Baseband Chip is covered by this agreement, such agreement is a portfolio-based cross-license agreement covering various present and future patent rights of the appellant. Such agreement cannot be considered as an agreement based on the due consideration of an individual nature and value of each of the patent rights, including the Patent Right. In addition, this agreement is for "Intel Licensed Products," namely, "(a) semiconductor material, (b) semiconductor device or (c) all components of an integrated circuit." As such, the "Intel Licensed Products" may cover various products of different technical and economic values from those of the appellant's patent rights. Accordingly, it is difficult to consider that the appellant had given an implied consent for all of such various products that can be potentially produced by the use of "Intel Licensed Products" under the portfolio-based cross-license agreement. Further, considering the following facts in their totality, the court cannot find that the appellant had given an implied consent for the manufacturing of Products 2 and 4. [i] For the manufacturing of "apparatus for transmitting data" and "data transmitter" by the use of the Baseband Chip assigned by Intel Corporation, additional component parts, including RF chip, power management chip, antenna, battery, etc., are necessary, and these component parts also have significant technical and economic values. [ii] The prices of Products 2 and 4 are several ten times the price of the Baseband Chip (Exhibits Otsu No. 31 and No. 32). [iii] Products 2 and 4, namely a smart phone and tablet device, are out of the scope of the

"Intel Licensed Products."

Even based on the above-mentioned interpretation, as long as the Baseband Chip is distributed on the market in the original condition, the patentee is restricted from exercising the Patent Right. As such, even understanding that the person is required to obtain a license from the patentee for the manufacturing of Products 2 and 4 by the use of the Baseband Chip, such requirement would not immediately cause a detrimental effect to the marketing of the Baseband Chip. Further, in light of the fact that the royalty under the Amended Appellant-Intel License Agreement does not reflect the value of the respective patent rights covered by such agreement, the above interpretation would not result in the appellant's double income opportunity.

- c. Next, the court discusses whether Intel Corporation had the authority to give an implied consent of the production of the patented products. In this regard, on the presumption that the Amended Appellant-Intel License Agreement remains in force and the Baseband Chip is covered by this agreement, such agreement merely grants Intel Corporation a license to work the patent right for the "Intel Licensed Products," including Item (i) Product, and does not contain any provision supporting the idea that Intel Corporation was granted any additional authority to give consent to the production of the patented products by using Item (i) Product. In addition, in light of the background leading to the execution of the Appellant-Intel License Agreement and the Second Amendment Agreement, the court cannot find any circumstance that leads to the conclusion that Intel Corporation had given an implied consent to the production of the patented products or that the appellant is restricted from exercising the Patent Right.

(D) Based on the above, in this court case, it is not sufficiently proved that the appellant had impliedly consented to the production of the patented product, nor had Intel Corporation been authorized to do so. Therefore, the court finds that the exercise of the Patent Right should not be restricted in relation to the acts of import or sale of the patented products produced by the use of the Baseband Chip (Products 2 and

4).

(3) Summary

As mentioned above, the appellee's allegation concerning the exhaustion of patent right is premised on the alleged fact that the Baseband Chip had been manufactured and sold under the Appellant-Intel License Agreement and the Amended Appellant-Intel License Agreement. As such fact is not proved, the court cannot accept such allegation as it lacks the condition precedent. Even the event that this is not the case, the appellant is not restricted from exercising the Patent Right in relation to Products 2 and 4, which are the patented products. Therefore, the court cannot accept the appellee's allegation in this respect in any case.

5. Issue 5 (whether the license agreement for the Patent Right was formed by the FRAND Declaration)

The court finds that the FRAND Declaration cannot be considered as an offer for a license agreement, and consequently that no license agreement for the Patent Right was formed as a result of the FRAND Declaration. The reasons are as follows.

(1) Governing laws

The appellee alleges that a license agreement has been formed between the parties, as the FRAND Declaration constitutes an offer for a license agreement, and the commencement of import and sale of the Products by the appellee constitutes the implied acceptance of such offer.

As a precondition for the decision as to whether a license agreement for the Patent Right was formed as a result of the FRAND Declaration, the court first decides on the issue of the governing laws.

It is reasonable to understand that the governing laws of the issue of whether the license agreement was formed as a result of the FRAND Declaration is determined in accordance with Article 7 of the General Rules Act, as the nature of the legal relationship between the parties relates to the issue of formation and validity of a juridical act.

As the ETSI IPR Policy provides that the Policy shall be governed by the laws of France (No. 2, 2.(4)A. above), and the FRAND Declaration also contains a provision that the validity thereof shall be determined in accordance with the laws of France (No. 2, 2.(4)B.(B) above), the "the law of the place chosen by the parties at the time of the act" (Article 7 of the General Rules Act) is understood as the laws of France (For the issue of whether a license agreement for the Patent Right was formed as a result of the FRAND Declaration, the

appellant made allegations on the presumption that the laws of France shall govern, and the appellee also alleges, as a part of its primary claim, that the laws of France shall govern. Thus, there has been no dispute between the parties that the governing laws shall be the French laws.)

(2) Discussion of the issue of whether a license agreement was formed

The court discussed whether the FRAND Declaration constitutes an offer for a license agreement under the laws of France.

Under the laws of France, in order for a license agreement to be formed, at least the offer for the license agreement and the acceptance thereof is required. Nevertheless, the FRAND Declaration cannot be considered as an offer for a license agreement under the laws of France due to the following reasons. [i] The FRAND Declaration only uses the expression "prepared to grant irrevocable licenses." When compared with other possible wordings such as "hereby do license" or "commit to license," this expression is not definitive and contemplates further actions by the declarant. Therefore, the FRAND Declaration is not literally deemed a firm license grant. [ii] Even supposing that the laws of France do not require the specifically agreed compensation for formation of a license agreement, the FRAND Declaration provides no guidance for the scope of the binding effect of the contract to be formed upon the acceptance, as it has no specific terms and conditions such as a royalty rate as the consideration of the license agreement, territory or period of the license. Thus, the FRAND Declaration does not contain any terms and conditions that should be normally included in a license agreement. If the FRAND Declaration is regarded as an offer for a license agreement, it is impossible to provide the terms and conditions of the license agreement to be formed. [iii] In making the FRAND Declaration, the appellee opted for a reciprocity clause in accordance with the ETSI IPR Policy and the FRAND Declaration contains a provision setting forth that the license shall be subject to the condition that the parties agree to reciprocate in relation to the standards (No. 2, 2.(4)B.(B)). If this FRAND Declaration is understood as an offer for a license agreement, this may result in a situation where a license agreement can be formed only in relation to the patent subject to a FRAND declaration without satisfying such reciprocity condition, if there is any party who owns an essential patent for which no FRAND declaration has been made. [iv] The FRAND Declaration was made in accordance with the ETSI IPR Policy. The "ETSI Guide on Intellectual Property Rights (IPRs)" (Exhibits Ko No. 16 and No. 161), which supplements

this IPR Policy, contains some expressions contemplating that the license is left to the negotiation between the parties, such as "potential licensor" or "potential licensee," and the provision that "ETSI expects its Members (as well as non-ETSI Members) to engage in an impartial and honest Essential IPR licensing negotiation process for FRAND terms and conditions" (Clause 4.4). In addition, the ETSI Guide on IPRs also contains the provisions clarifying that ETSI is not involved in the licensing negotiation, such as the provision that "Specific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI" (Clause 4.1). Further, "ETSI IPR Policy FAQs" (Exhibit Ko No. 159) also states that "It is necessary to obtain permission to use patents declared as essential to ETSI's standards. To this end, each standard user should seek directly a license from a patent holder" (Answer 6). Thus, ETSI is also considered to contemplate that any FRAND declaration made in accordance with the ETSI IPR Policy, including the FRAND Declaration, does not immediately give rise to a license agreement. [v] In the background history for the adoption of the present ETSI IPR Policy, some participants attempted to introduce a provision enabling the "automatic license" for users; however, this attempt failed because of strong opposition (Exhibit Otsu No. 37 and Exhibit Ko No. 69). Understanding the FRAND Declaration as an offer for a license has virtually the same effect as the "automatic license," which was abandoned in the process of adoption of the ETSI IPR Policy. Such consequence is not deemed appropriate as it contradicts with the background history of adoption of the present ETSI IPR Policy.

Based on the above, the FRAND Declaration cannot be interpreted as an offer for a license agreement.

(3) The appellee's allegations

A. In the abovementioned respects, the appellee alleges that, under the laws of France, the absence of the specific royalty rate in the FRAND Declaration does not hinder a license agreement from being formed.

However, the court cannot accept such allegation of the appellee. Even supposing that the laws of France do not require any specific royalty rate as the precondition for the formation of a license agreement, the FRAND Declaration still lacks elements of a license agreement such as the territories and terms of the license. Therefore, the FRAND Declaration cannot be regarded as an offer for a license agreement.

B. Meanwhile, the appellee also alleges that it is possible to consider the

FRAND Declaration as a contract for the benefit of a third party (stipulation pour autrui) between the appellant and ETSI, and that the appellee obtained a license by virtue of such contract.

However, the court also cannot accept such allegation of the appellee.

In this regard, under the laws of France, in order for a license agreement to be formed between the appellant and the appellee based on the theory of a contract for the benefit of a third party (stipulation pour autrui) or a contract for a contract for the benefit of a third party (stipulation de contrat pour autrui), it is at least necessary that the appellant and ETSI had agreed that the license agreement shall be formed between the appellant and the beneficiary of such contract (Exhibits Ko No. 15 and No. 51-1, and Exhibits Otsu No. 9 and No. 38). As for this court case, considering the following facts, the court cannot find that the appellant and ETSI had agreed that the license agreement shall be formed between the appellant and the beneficiary of such contract, including the appellee: [i] the provisions of the FRAND Declaration are not definitive; [ii] no important particulars of a license agreement are fixed; [iii] there is a risk of circumvention of the reciprocity clause; [iv] ETSI also provides that the FRAND Declaration does not give rise to a license agreement; and [v] assuming the formation of a license agreement is contrary to the historical background for the adoption of the ETSI IPR Policy. Therefore, this allegation of the appellee is unacceptable.

- C. The appellee further alleges that, even granting that the FRAND Declaration does not constitute an offer for a license agreement, the appellant is still restricted from exercising the right to seek damages on the ground of the infringement of the Patent Right, because the FRAND Declaration still constitutes an undertaking to enter into a binding contract. However, the appellee's allegation in this respect is unacceptable as well. Under the laws of France, as a result of such undertaking, the appellant may have an obligation to enter into a binding contract with the appellee, and the appellant may be liable to compensate the damage separately if and to the extent of which the appellant breaches such obligation. However, in this court case, as mentioned above, as the FRAND Declaration neither constitutes an offer for a license agreement nor gives rise to a contract to the benefit of a third party, the exercise of the right to seek damages cannot be restricted as a consequence of the FRAND Declaration.

In light of the remedies for the default available under the laws of Japan and France, the allegations of the appellee should be discussed in the context of determination of whether the appellant's exercise of the right to seek damages constitutes the abuse of right (Issue 6 as mentioned below).

(4) Summary

Based on the above, the appellee's allegation that a license agreement was formed between the appellant and the appellee as a result of the FRAND Declaration is groundless.

6. Issue 6 (Issue of whether the appellant's exercise of the right to seek damages based on the Patent Right constitutes an abuse of right)

The court determines that the appellant's exercise of the right to seek damages for Products 2 and 4 based on the Patent Right constitutes the abuse of right to the extent exceeding the amount of the FRAND royalty, but not to the extent of the amount of the FRAND royalty. The reasons of this finding are as follows.

(1) Governing laws

The appellee alleges that the appellant's claim for damages based on the Patent Right constitutes the abuse of right.

It is understood that the nature of the legal relationship for the right to seek damages on the ground of infringement of the Patent Right is a tort. Therefore, the governing law is decided in accordance with Article 17 of the General Rules Act (Note that the releases of Products 2 and 4 are facts which occurred after the enforcement of this Act).

As for this court case, considering the fact that Products 2 and 4 were imported and sold in Japan, and that the dispute relates to damage caused by infringement of the Patent Right protected under the Patent Act of Japan, it should be understood that the Japanese laws are "the laws of the place where the result of the wrongful act occurred" (Article 17 of the General Rules Act). Accordingly, the laws of Japan apply to this court case.

Based on the presumption as mentioned above, the court decides on the issue of whether the appellant's exercise of the right to seek damages based on the Patent Right constitutes the abuse of right.

(2) Claim for damages in a case where a FRAND declaration is made

A. Facts on which the decision is premised

Considering the totality of the non-disputed facts, evidence (Exhibits Ko No. 5, No. 12, No. 13, No. 16, No. 27, No. 28-1 and No. 28-2, No. 85 to No. 87, No. 160 and No. 161), and the entire import of oral arguments, the court

finds the following facts.

(A) ETSI IPR Policy

- a. Outside Europe, the second-generation mobile telecommunication system (2G) specifications were inconsistent depending on the country. Even in the same country, different specifications were used and such specifications were not universally interoperable. The U.S., Japan and Europe respectively used different systems based on the non-interoperable standards. Against this backdrop, in 1998, international standards bodies, such as ETSI (European Telecommunications Standards Institute), gathered to organize a standard body called 3GPP. The objectives of this 3GPP were the dissemination of the third-generation mobile telecommunication system (3G) for providing data communication service and multimedia service, in addition to conventional voice communication services, as well as the standardization of the related specifications.

- b. ETSI provides the IPR Policy as the guidelines for the treatment of IPR (intellectual property rights).

The standardization of technology is expected to have various effects, such as ensuring product interoperability, reduction in production and procurement costs, enhanced efficiency in research and development, and more opportunities for partnership with other companies. In addition, for end-users as well, standardization would have significance, such as more convenient products/services at cheaper product prices and service fees. On the other hand, the potential users of the essential patents for the standard seeking commercialization of a product may be exposed to various risks, such as the demand for an unreasonably high royalty by essential patent owners, or the loss of the investment for development of the standard-compliant products if the license turns out to be unavailable.

The ETSI IPR Policy aims to avoid such risks, promote the standardization and strike a balance between the needs of standardization for public use/such expectations and the protection of rights of IPR owners in the field of telecommunications (See "Policy Objectives" in Clause 3.1).

- c. The ETSI IPR Policy provides as follows:

- (a) IPR Policy Clause 4.1 provides that each MEMBER shall use its

reasonable endeavors, in particular during the development of a STANDARD or TECHNICAL SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely manner, and that, in particular, a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted. Clause 4.3 provides that the obligations pursuant to Clause 4.1 above are deemed to be fulfilled in respect of all existing and future members of a PATENT FAMILY if ETSI has been informed of a member of this PATENT FAMILY in a timely manner.

- (b) IPR Policy Clause 6.1 provides that, when an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licenses on fair, reasonable and non-discriminatory (“FRAND”) terms and conditions under such IPR to at least the following extent: [i] MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE, [ii] sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED, [iii] repair, use, or operate EQUIPMENT, and [ii] use METHODS. Clause 6.1 also provides that the above undertaking may be made subject to the condition that those who seek licenses agree to reciprocate. Clause 6.2 provides that an undertaking pursuant to Clause 6.1 with regard to a specified member of a PATENT FAMILY shall apply to all existing and future ESSENTIAL IPRs of that PATENT FAMILY unless there is an explicit written exclusion of specified IPRs at the time the undertaking is made. Clause 6.3 provides that, as long as the requested undertaking of the IPR owner is not granted, the COMMITTEE Chairmen should, if appropriate, in consultation with the ETSI Secretariat use their judgment as to whether or not the COMMITTEE should suspend work on the

relevant parts of the STANDARD or TECHNICAL SPECIFICATION until the matter has been resolved and/or submit for approval any relevant STANDARD or TECHNICAL SPECIFICATION.

- (c) IPR Policy Clause 15, paragraph 6 provides as follows:
"ESSENTIAL" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR.
 - (d) IPR Policy Clause 12 provides that the POLICY shall be governed by the laws of France.
- d. ETSI Guide on Intellectual Property Rights (IPRs) (Exhibits Ko No. 16 and 161 dated November 27, 2008), which supplements the IPR Policy, provides as follows:
- (a) ETSI Guide on IPRs Clause 1.1 provides that the main characteristics of the Policy can be simplified as follows:
 - Members are fully entitled to hold and benefit from any IPRs which they may own, including the right to refuse the granting of licenses.
 - It is ETSI's objective to create Standards and Technical Specifications that are based on solutions which best meet the technical objectives of ETSI.
 - In achieving this objective, the ETSI IPR Policy seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.
 - The IPR Policy seeks to reduce the risk that investment in the preparation, adoption and application of the standards could be wasted as a result of an Essential IPR for a standard or technical specification being unavailable."
 - Therefore, the knowledge of the existence of Essential IPRs is required as early as possible within the standards making process, especially in the case where licenses are not available under fair, reasonable and non-discriminatory (FRAND) terms and

conditions."

- (b) ETSI Guide on IPRs Clause 1.4 provides that the ETSI IPR POLICY defines rights and obligations for ETSI as an Institute, for its Members and for the Secretariat. Non-Members of ETSI also have certain rights under the Policy but do not have legal obligations. The "table" as referred to in this clause provides as follows:

"Rights of members"

"• to refuse the inclusion of own IPRs in the standards (*Clauses 8.1 and 8.2*).

• to be granted licenses on fair, reasonable and non-discriminatory terms and conditions in respect of a standard (*Clause 6.1*)"

"Obligations of Members"

"• to inform ETSI about their own, and other people's Essential IPRs (*Clause 4.1*).

• owners of Essential IPRs are requested to undertake to grant licenses on fair, reasonable and non-discriminatory terms and conditions (*Clause 6.1*)"

"Rights of Third Parties"

"• Third parties have certain RIGHTS under the ETSI IPR Policy either as owners of Essential IPRs or as users of ETSI standards or documentation:

• To be granted licenses on fair, reasonable and non-discriminatory terms and conditions in respect of a standard at least to manufacture, sell, lease, repair, use and operate, (*Clause 6.1*)"

(B) Background of the FRAND Declaration

- a. On December 14, 1998, the appellant made a declaration to ETSI that it was prepared to license its essential IPR relating to the W-CDMA technology, supported by ETSI as the UMTS standard, on "fair, reasonable and non-discriminatory terms and conditions" in accordance with ETSI IPR Policy Clause 6.1 (FRAND Terms) (Exhibit Ko No. 5).
- b. On May 4, 2005, the appellant filed a South Korean patent application, which is the base of the priority claim of the Patent Application

(Priority Claim No.: 10-2005-0037774). From May 9 to 13 of 2005, the appellant submitted to the 3GPP Working Group a change request form (Exhibit Ko No. 85). Thereafter, the abovementioned change request was accepted. In Technical Specification V6.4.0 of 3GPP standards released in June of 2005 (Exhibit Ko No. 87), the alternative E-bit interpretation was adopted as one of the standards. The appellant filed the Patent Application on May 4, 2006, and obtained the registration of establishment of the Patent Right on December 10, 2010.

- c. On August 7, 2007, the appellant, in accordance with ETSI IPR Policy Clause 4.1, submitted to ETSI the document titled "Statement on IPR Information and Licensing Declaration" (Exhibit Ko No. 13), notifying that the IPRs relating to the South Korean patent application number, which served as the basis of the priority claim for the Patent Application, and the international application number of the Patent Application (PCT/KR2006/001699) are or highly likely will be essential IPRs for the UMTS standard (such as TS 25.322). In this document, the appellant made an undertaking that it was prepared to grant an irrevocable license on the conditions complying with IPR Policy Clause 6.1 (FRAND Terms), to the extent to which such IPRs continue to be essential for the standards (FRAND Declaration).
- d. The Patent is an essential patent unavoidable for manufacturing and selling of, and using methods in relation to, the products complying with the "alternative E-bit interpretation" as set out in Technical Specification V6.9.0 of the UMTS standard.
- e. It is a general practice of various types of standardization bodies to stipulate criteria for the treatment of IPRs, such as the ETSI IPR Policy, and require the members thereof to disclose their patent rights and other IPRs (hereinafter, the term "IPRs" refers to a patent right only) which would be essential for the standards developed respectively by such bodies. Further, such bodies usually require the members thereof to make a declaration to license the patent right under FRAND or RAND (reasonable and non-discriminatory) terms (the licensing declaration under the FRAND or RAND terms shall be hereinafter referred to as "FRAND declaration").

B. Permissible scope of claim for damages

As discussed in 1. to 5. above, the appellee's manufacturing, sale, etc. of Products 2 and 4 falls within the technical scope of Invention 1; the Patent Right has no ground for invalidation; the Patent Right has not been exhausted; and no license agreement between the parties has been formed. Therefore, the appellant should be entitled to make a claim for damages from the appellee.

Next, the court discusses the scope in which a patentee who made a FRAND declaration is allowed to seek damages based on the patent right.

(A) In the case of a claim for damages based on the essential patent for which a FRAND declaration is made (the patent for which a FRAND declaration is made is collectively referred to as the "Standard Essential Patent"), allowing a claim for damages exceeding the amount of the FRAND royalty may run counter to the reliance on use of the prospective users of the standard, and may also result in the excessive protection of a patented invention. Allowing the patentee such claim is unreasonable as it has various detrimental effects, for example, discouraging the general public from using the technologies of the patented invention, and may hinder the "development of industry," which is the purpose of the Patent Act (Article 1 of the Patent Act).

Any party intending to manufacture or sell a standard-compliant product would first look to the IPR guidelines of the relevant standardization body and confirm the availability of a FRAND license for the essential patent, such as the members' obligation of a FRAND declaration for an essential patent, before it makes an investment or commences the manufacturing and sale of such products. If the patentee is later allowed to claim for damages exceeding the FRAND royalty for the Standard Essential Patent, it would be detrimental to the reasonable reliance on use of a party who made an investment for the manufacture or sales of the standard-compliant product in anticipation of availability of a FRAND license. Considering that a Standard Essential Patent owner voluntarily makes a FRAND licensing declaration on the premises that such patent would be made available to the standard users, and that the patent forming a part of the standard makes it possible for the owner to attract a wide range of potential licensees, allowing the owner a claim for damages exceeding the amount of the FRAND royalty would result in the excessive protection of such owner, discouraging the dissemination of the technologies of the patented invention, and consequently hinder the

"development of industry," which is the purpose of the Patent Act (Article 1 of the Patent Act).

- (B) Meanwhile, as long as a claim for damages based on a Standard Essential Patent is within the scope of the amount of the FRAND royalty, a restriction of its exercise would be unreasonable as such restriction would discourage inventors, have a negative impact on the promotion of standardization of technologies, and have a risk of hindering the "development of industry," which is the purpose of the Patent Act (Article 1 of the Patent Act). As a party intending to manufacture or sell a standard-compliant product is presumed to anticipate the payment of the amount of the FRAND royalty, the payment of the damages claimed by the patentee within the scope of the amount of the FRAND royalty is not an unexpected consequence for such party.

In addition, in light of the purpose and intention of the FRAND declaration, a patentee who made the declaration should be restricted from exercising the right to seek an injunction against the party willing to enter into a FRAND license agreement. (In connection with the two petitions for provisional disposition for an injunction, this court rendered the decisions to uphold the decisions in prior instances dismissing the petitions of the appellant (the appeal against the decision case for the Petition for Provisional Disposition and the Additional Petition for Provisional Disposition; Intellectual Property High Court, 2013 (Ra) 10007 and 10008). In the prior instances, the appellant filed petitions for provisional disposition for an injunction against the appellee's sale, etc. of Products 2 and 4 and "iPhone 4S," and the right sought to be preserved under these provisional disposition cases was the right to seek an injunction based on the Patent Right.) Considering the abovementioned restriction on the patentee who made a FRAND declaration for the exercise of the right to seek an injunction, allowing the patentee to claim for the damages not exceeding the amount of the FRAND royalty has a material significance as the reward for public disclosure of the invention. Therefore, a careful consideration shall be given to the restriction of such right to seek damages.

- (C) Next, the court discusses the above in more detail, in accordance with the facts of this court case, dividing it into two situations, namely, a "claim for damages exceeding the FRAND royalty" and "claim for damages within

the FRAND royalty."

a. Claim for damages exceeding the FRAND royalty

A party intending to engage in the manufacturing, sale, etc. of a UMTS standard-compliant product would recognize that, among the patent rights essential for the manufacturing, sale, etc. of such product, at least those owned by ETSI members require the timely disclosure in accordance with ETSI IPR Policy Clause 4.1 and the FRAND licensing declaration under ETSI IPR Policy Clause 6.1. Such party would rely on the availability of a FRAND license through an appropriate negotiation with the patentee. Such reliance is worth protecting. Accordingly, in connection with the Patent subject to the FRAND Declaration, allowing the exercise of the right to seek damages exceeding the amount of the FRAND royalty would be detrimental to the reliance of parties who manufacture or sell the UMTS standard-compliant product on the availability of such license. Owing to such reliance of the UMTS standard users, the patent rights (including the Patent Right) incorporated into the UMTS standard can be widely disseminated among a large number of business enterprises in all parts of the world. As a result, an owner of a Standard Essential Patent can benefit from royalty income, which would be unavailable if the patent was not adopted as part of the UMTS standard. In addition, a party which makes a FRAND declaration as required by the ETSI IPR Policy, including the FRAND Declaration, declares on a voluntary basis that it is prepared to grant an irrevocable license under the FRAND Terms. Considering these circumstances, it is not so necessary to allow such owner the right to seek damages exceeding the FRAND royalty.

Hence, if a patentee who made a FRAND declaration claims damages exceeding the FRAND royalty based on such patent right, the counterparty to such claim should be entitled to refuse the payment to the extent exceeding the amount of royalty, as long as such counterparty successfully alleges and proves the fact of the patentee's FRAND declaration.

Meanwhile, if a patentee successfully alleges and proves the fact of the existence of special circumstances, such as that the prospective licensee has no intention of receiving a FRAND license, the patentee

should be allowed to claim damages exceeding the amount of the FRAND royalty. As such prospective licensee has no intention of benefiting from the FRAND declaration from the outset, no reason can be found to restrict the patentee's right to seek damages up to the amount of the FRAND royalty. Nevertheless, considering the potential detrimental consequences as mentioned above, before allowing the patentee to claim damages exceeding the amount of the FRAND royalty, scrutiny shall be made to determine the existence of special circumstances in which the prospective licensee has no intention of receiving a FRAND license.

b. Claim for damages not exceeding the amount of the FRAND royalty

As for the claim for damages not exceeding the amount of the FRAND royalty, the patentee should not be restricted from exercising such claim even where the patent is a Standard Essential Patent.

A party intending to engage in the manufacturing, sale, etc. of a UMTS standard-compliant product is presumed to have started its business understanding the necessity of paying the amount of the FRAND royalty in the future. In addition, as one of the purposes of the ETSI IPR Policy, Clause 3.2 thereof provides "IPR holders ... should be adequately and fairly rewarded for the use of their IPRs." So, in this context as well, it is necessary to ensure that the patentee is adequately rewarded.

However, if the prospective licensee successfully alleges and proves the existence of special circumstances, such as that, after discussing various circumstances in the process of the FRAND declaration and licensing negotiation, it is considered extremely unfair to permit the patentee to claim for damages not exceeding the amount of royalty, even considering the significance of the right to seek damages as a compensation for the public disclosure of an invention, the possibility cannot be precluded that such patentee's claim is restricted as an abuse of right.

c. Summary

Considering the totality of the above circumstances, the following shall be applied to a claim for damages by a party that made a FRAND declaration, including the appellant who made the FRAND Declaration. [i] A claim for damages exceeding the amount of the

FRAND royalty should not be allowed, unless special circumstances as explained in a. above exist. [ii] The claim for damages not exceeding the amount of the FRAND royalty shall not be restricted even in the case of a Standard Essential Patent, unless special circumstances as explained in b. above exist.

(3) Discussion of whether special circumstances/any special circumstance can be found

In this court case, the appellant makes a claim for damages exceeding the amount of the FRAND royalty as explained in 7. below. Therefore, the court discusses the following issues: [i] for the portion of the claimed damages considered not to exceed the amount of FRAND royalty, whether any special circumstances exists, such as a circumstance that would render the appellant's claim for damages extremely unfair; and [ii] for the portion of the claimed damages exceeding the amount of the FRAND royalty, whether any special circumstances exist, such as that the appellee has no intention of obtaining a license under the FRAND Terms.

A. Facts on which the decision is premised

Considering the totality of the non-disputed facts, evidence (Exhibits Ko No. 5, No. 6, No. 12, No. 13, No. 16, No. 27 to No. 29, No. 32 to No. 37, No. 65, No. 85 to No. 87, No. 109 to No. 111, No. 133, No. 160, No. 161, Exhibits Otsu No. 36, No. 42, No. 53 and No. 59 (branch number is omitted)), and the entire import of oral arguments, the court finds the following facts.

[i] In the letter dated July 25, 2011, the appellant proposed to Apple Inc. a specific royalty rate as the condition for license of its Standard Essential Patent portfolio. [ii] Apple Inc., in its letter dated August 18, 2011, proposed the royalty rate cap. Apple Inc., in its letter dated March 4, 2012, made an offer for a license agreement, proposing to pay the royalty at a rate less than the prior proposal by several decimal fractions. Apple Inc., in its letter dated September 7, 2012, made a specific licensing proposal, including a proposal for a cross-license agreement. [iii] In response, the appellant only requested Apple Inc. to make a specific counterproposal if dissatisfied with the appellant's proposal. [iv] The appellant, in its letter dated September 14, 2012, made a proposal of reduction of the cap rate, which is the basis of calculation of the royalty. [v] The appellant, in its letter dated December 3, 2012, made a proposal to discount the initially

proposed royalty rate by less than half. [vi] Apple Inc. and the appellant held conferences on December 12, 17 and 18 of 2012, when the appellant made some proposals, including a large lump-sum payment by Apple Inc., and Apple Inc. proposed a cross-license agreement for the UMTS standard essential patent portfolio. [vii] Apple Inc. and the appellant met on January 14, 2013, when Apple Inc. made a proposal of a royalty-free cross-license agreement. [viii] When Apple Inc. and the appellant held a conference on February 7, 2013, a draft agreement was prepared [.....] [ix] Even after these conferences, the appellant and Apple Inc. have had negotiations from time to time for various issues, including the conditions for the settlement of the dispute through an arbitration.

- B. Claim for damages not exceeding the amount of the FRAND royalty
(A) Good-faith negotiation obligation

In light of the fact that the appellant has made the FRAND Declaration, the court finds that the appellant at least has an obligation to have a good-faith negotiation with the appellee for the execution of a FRAND license agreement, based on the principle of good faith under the Civil Code of Japan.

As mentioned in A. above, the court finds that, although the appellant made a licensing proposal on July 25, 2011, it did not present a specific counterproposal until December 3, 2012 in spite of receiving the specific proposal by Apple Inc., and, in addition, the appellant's licensing offer was the entire patent portfolio-basis only, and did not make any proposal for the patent-based royalty rate until the commencement of this litigation nor did provide a sufficient explanation to support consistency of the proposed licensing terms with the FRAND Terms. Therefore, the court finds the appellant's attempt toward negotiation did not facilitate the execution of a license agreement with Apple Inc.

Nevertheless, the following facts should be taken into account. [i] Although the appellant did not quickly present the counterproposal to Apple Inc., it has held several conferences with Apple Inc. after December, 2012. At such conferences, the appellant presented a counterproposal, showing a continuous effort toward the conclusion of an agreement. [ii] Among the manufacturers involved in the production of mobile communication devices in which the appellant

and the appellee are included, it is common practice to enter into a portfolio-based cross-license agreement (Exhibit Otsu No. 57, etc.). Therefore, making only a portfolio-based licensing offer does not immediately result in the breach of the good-faith principle. [iii] The terms and conditions of license agreements between the appellant and other licensees are subject to the confidentiality obligation and therefore disclosure thereof is impermissible by the nature of the information (Exhibit Otsu No. 57, etc). Such terms and conditions reflect the relative strength and weakness of licensees' patent portfolios, and disclosure of such information would not always be helpful for the determination of terms and conditions of the agreement between the appellant and the appellee, as backgrounds are different from cases of agreements with other licensees. [iv] Further, the terms and conditions of a license agreement may include the license of a patent right or business terms not related to the standards.

Considering the above facts, although it was necessary for the appellant to explain that the proposed licensing conditions were consistent with the FRAND Terms, the appellant cannot be immediately accused of non-disclosure of the terms and conditions of license agreements with other licensees. In addition, the appellant's attitude in the course of the licensing negotiation cannot be proof that the appellant's claim for damages within the FRAND royalty is extremely unfair.

(B) Obligation to disclose IPRs in a timely manner

The IPR Policy provides that each member shall use its reasonable endeavors, in particular during the development of a standard or technical specification where it participates, to inform ETSI of essential IPRs in a timely manner ((2)A. above). Therefore, the appellant is also considered to be bound by such obligation.

In this regard, as mentioned in (2)A. above, on May 4, 2005, the appellant filed a South Korean patent application, which is the base of the priority claim of the Patent. A few days later, the appellant submitted to the 3GPP Working Group held between May 9 and 13, 2005 the change request, which resulted in the adoption of the alternative E-bit interpretation. However, the appellant did not inform ETSI of the Patent Right until it made the FRAND Declaration on

August 7, 2007. Thus, the appellant failed to inform ETSI of the Patent Right for about two years after the Patent Right came to its attention.

However, notwithstanding the above background facts, considering [i] that the appellant finally made the FRAND Declaration, [ii] whether ETSI had the knowledge of the appellant's Patent Right cannot be considered to have had any impact on the adoption of the alternative E-bit interpretation in the UMTS standard, and [iii] the over two-year period required for the disclosure to ETSI cannot be considered extremely long when compared with other companies (Exhibit Otsu No. 8), it is not sufficiently proved that the appellant's claim for damages within the FRAND royalty is extremely unfair.

(C) The Petition for Provisional Disposition and the Additional Petition for Provisional Disposition

As mentioned above, the owner of an essential patent who made a FRAND declaration is restricted from exercising the right to seek an injunction based on such standard essential patent against the party willing to conclude a license agreement under the FRAND Terms, as such exercise constitutes an abuse of right. Although the appellant had filed the Petition for Provisional Disposition and the Additional Petition for Provisional Disposition to seek an injunction of assignment, etc. of Products 2 and 4, as well as "iPhone 4S," the fact of the appellant having filed these petitions would not lead to the conclusion that the appellant should be prohibited from exercising the right to seek damages within the FRAND royalty.

(D) The Antimonopoly Act

In connection with the above, the appellee also alleges that the series of the appellant's acts constitutes a violation of the Antimonopoly Act. However, in light of the fact that the amount of the damages claimed by the appellant does not exceed the FRAND royalty as alleged by itself (3. above and 7.), and that the claim for damages exceeding the FRAND royalty is generally prohibited as an abuse of right, the entire evidence submitted before the court is not sufficient to prove that the claim for damages not exceeding the FRAND royalty constitutes a breach of the Antimonopoly Act.

(E) Summary

Even considering the totality of all circumstances of this court case, no circumstances can be found which renders the appellant's claim for damages not exceeding the amount of the FRAND royalty extremely unfair. Moreover, no evidence has been submitted which sufficiently proves the existence of special circumstances as mentioned above.

C. Claim for damages exceeding the FRAND royalty

In light of the background of licensing negotiation between Apple Inc. and the appellant as explained in A. above, Apple Inc. can be considered to have had continuous negotiations with a view to enter into a license agreement with the appellant, as Apple Inc. made several specific royalty rate proposals showing their calculation basis, including the proposal of the royalty rate cap in its letter dated August 18, 2011, and held several conferences with the appellant for focused licensing negotiation. There has been a material discrepancy in opinions between the appellant and Apple Inc. as to the appropriate royalty rate for a long time. Even so, the proposals made by Apple Inc. can be considered fairly reasonable, considering the fact that the parties are by nature in a conflict-of-interest situation as the prospective licensor and licensee, and that the royalty to be considered appropriate may vary depending on the different assessment of the essential nature or significance of an individual patent in terms of the UMTS standard, as there is no definite criteria for determining the FRAND royalty. In addition, as mentioned in B.(A) above, considering that the appellant's attempt toward negotiation did not facilitate the execution of a license agreement with Apple Inc., it cannot be immediately determined that such persistent and material discrepancy in the opinions between the parties indicates the lack of the parties' willingness to enter into a FRAND license agreement. Accordingly, in this court case, the court finds no such special circumstance, such as the lack of the appellee's intention to receive a FRAND license.

In this regard, the appellant alleges that the appellee has no faithful intention to receive a license, as Apple Inc. entered into the stage of preparation of a memorandum (draft) at the meeting held in February, 2013 but [Omitted]. However, in light of the purpose and significance of the development of the standards, scrutiny shall be made before determining that the prospective licensee has no intention to enter into a license agreement. As for this court case, the circumstances as alleged by the

appellant cannot be the evidence for finding that the appellee or Apple Inc. had no intention to enter into a FRAND license agreement. In addition, the court cannot accept the appellant's allegation that it is a breach of the TRIPS Agreement to restrict the right to seek damages.

(4) Summary

Therefore, the appellee's allegation that the appellant's claim for damages constitutes an abuse of right is acceptable to the extent that the amount of damages alleged by the appellant exceeds the amount of the FRAND royalty as mentioned in 7. below; however, this allegation is unacceptable in respect of the amount of damages not exceeding the FRAND royalty.

7. Issue 7 (amount of damages)

Based on the foregoing, the court discusses the amount of the FRAND royalty in relation to the infringement of the Patent Right by Products 2 and 4. The court determines the amount of such royalty to be as described in (3)C. below.

(1) Facts on which the decision is premised

Considering the totality of the evidence (Exhibits Ko No. 10, No. 11, No. 30-1, No. 108, No. 134, No. 135, No. 164, No. 172, No. 193-1 and No. 193-2, No. 197, No. 205, No. 206, Exhibit Otsu No. 2, No. 4, No. 94-1 and No. 94-2) and the entire import of oral arguments, the court finds the following facts.

A. The total sales turnover of Products 2 and 4 for the period from the release date to September 28, 2013 is as specified in the relevant column of (3)C. below.

B. Product 2 supports the W-CDMA, GSM and EDGE mobile communication systems (it seems that "iPhone 4" also has a model supporting CDMA 2000 developed by 3GPP2 (Third Generation Partnership Project 2), but this model is not on sale in Japan), and also has functions of wireless communications based on Wi-Fi 802.11b/g/n and Bluetooth 2.1+EDR. Other features of Product 2 include the high-definition "Retina Display" and "5 mega pixel iSight camera."

Product 2 has various models depending on the installed memory size. The suggested retail price of the 32GB model was JPY 57,600 and the 16GB model JPY 46,080 (lump-sum payment) (Exhibit Ko No. 193-1 and Exhibit Otsu No. 4).

C. Product 4 supports the W-CDMA, GSM and EDGE mobile communication systems (it seems that "iPad 2 Wi-Fi+3G" also has a

model supporting CDMA 2000, but the evidence submitted before the court only indicates the above three systems), and also has functions of wireless communications based on Wi-Fi 802.11a/b/g/n and Bluetooth 2.1+EDR. The features of Product 4 include "Apple A5" processor, and various sensors such as acceleration sensor, digital compass and Assisted GPS.

Product 4 also has various models depending on the installed memory size. A model of Product 4 without mobile communication function ("iPad 2 Wi-Fi") has been separately released. The suggested retail prices of the model without mobile communication function ("iPad 2 Wi-Fi") were JPY 44,800 for the 16GB model, JPY 52,800 for the 32GB model and JPY 60,800 for the 64GB model. The suggested retail prices of the model with mobile communication function (Product 4) were JPY 56,640 for the 16GB model, JPY 64,800 for the 32GB model and 72,720 for the 64GB model (Exhibit Ko No. 193-2).

- D. In May 2002, Nokia, the owner of a large number of the UMTS standard essential patents, advocated that the industry-wide aggregate royalty rates for the IPRs for the WCDMA should not exceed 5%.

The appellant's counsel made a remark in the hearing of the U.S. International Trade Commission that all the participant companies of the UMTS standard agreed that the aggregate royalty rates for the patent licenses should be around 5%.

In 2002, NTT Docomo, Ericsson, Nokia and Siemens reached an agreement that the royalty for the respective UMTS standard patent owners should be determined according to the percentage of essential patents owned. Other essential patent owners in Japan manifested their intention to cooperate with this agreement. This agreement was expected to assist the dissemination of the UMTS standard by limiting the aggregate royalty to not more than 5%.

The W-CDMA patent platform, which is a patent pool created by the UMTS standard essential patent owners, stipulates the standard license agreement. This standard agreement sets a standard royalty rate of 0.1% of the ex-factory price for each of the essential patents, and a maximum aggregate royalty rate of 5% for the essential patents. If this aggregate royalty rate exceeds 5%, the standard royalty rate is recalculated so that the aggregate royalty does not exceed 5%.

The distribution of royalty to licensors in the patent pool is generally calculated by dividing the amount of royalty by the number of patents, without regard to the technical value of an individual patent.

- E. In relation to the development of the standards, the participants tend to make essential patent declarations more than necessary, with a view to strengthening their patent portfolio and to gain a dominant position over the licensing negotiation. As such, essential declared patents include a large number of patents which are not practically essential.

An analysis was made by Fairfield Resources International, Inc. on the UMTS standard patents declared as essential by members of 3GPP, including ETSI, the Association of Radio Industries and Businesses (ARIB) of Japan and Telecommunications Technology Association (TTA) of South Korea before December of 2008 (Fairfield Report, Exhibit Ko No. 135; Although the Fairfield Report is titled "Review of Patents Declared as Essential to WCDMA," according to the definition in this judgment, this "WCDMA" is understood to mean the UMTS standard effective as of December of 2008. At that time, the LTE method was not adopted in the UMTS standard.)

According to the results of the review, out of 1889 patent families declared as essential for the UMTS standard, there were 529 that are or are likely to be essential.

- F. Some so-called feature phones, i.e. mobile phones focused on communication function, are sold at several thousand yen to several ten thousand yen. In addition, some dongles (USB connection modem) connected to a computer for communication under the UMTS standard and wireless communication routers are sold at several thousand yen.

- (2) Method of calculation of the amount of the FRAND royalty in this court case

The ETSI IPR Policy and the ETSI Guide on IPRs do not provide any guidance on the calculation of the royalty for FRAND license, and such calculation is left to the negotiation of the parties. Considering the totality of various circumstances, including the purpose of adoption of the ETSI IPR Policy and the nature of Products 2 and 4, the court finds it reasonable to calculate the amount of the FRAND royalty in accordance with the following calculation method.

First, among the total sales turnover of Products 2 and 4, the percentage of

the contribution of the compliance with the UMTS standard should be calculated ((3)A. below). Next, among the contribution ratio of the compliance with the UMTS standard, the contribution ratio of the Patent should be calculated ((3)B. below). For the purpose of the calculation of the contribution of the Patent among the contribution of the compliance with the UMTS standard, in order to prevent an excessively high royalty in aggregate, the calculation method should be such that the amount of royalty for the entire essential patent pool does not exceed a certain ratio ((3)B.(A) below). In this court case, as the specific details of other essential patents are unknown, the amount of FRAND royalty should be based on the division by the number of UMTS standard essential patents ((3)B.(B) below).

(3) Specific calculation

A. Portion which the compliance with the UMTS standard has contributed to the sales turnover

Of the total sales turnover as mentioned above, the contribution ratio of the compliance with the UMTS standard should be [omitted] percent of the total sales turnover for Products 2, and [omitted] percent of the total sales turnover for Products 4, and the calculation of the amount of the FRAND royalty should be based on the amount multiplied by these percentages.

As mentioned in the above findings, Products 2 and 4 also have mobile communication functions supporting methods in addition to the W-CDMA, such as GSM, and also have wireless communication function such as Wi-Fi communication. Many other features and functions, such as designs, user interfaces, available software, CPU, camera, audio function, display, GPS function, and various sensors such as three-axis gyro sensor and acceleration sensor also contribute to the total sales turnover of Products 2 and 4. Further, the brand strength of Apple Inc. and the appellee in the smart phone market and tablet device market, as well as their marketing efforts to maintain and enhance such brand strength also make a significant contribution to the sales turnover. In addition, in light of the difference in the prices between the models of Products 2 and 4 depending on the memory sizes, the size of memory is presumed to have significantly contributed to the sales turnover. Thus, although the compliance with the UMTS

standard contributes to the sales turnover of Products 2 and 4, such contribution is limited, and other portions of the sales turnover were achieved without regard to the compliance with the UMTS standard. Accordingly, for determining the amount of FRAND royalty for the Patent, only the portion which the compliance with the UMTS standard may have contributed to the sales turnover of Products 2 and 4 should be taken into account as the basis of calculation.

The court determines the specific ratio to be as follows. Although Product 2 is a so-called smart phone with various functions in addition to mobile communication, as compared to Products 4, it is reasonable to understand that the basic function as socially accepted is a mobile communication function. Meanwhile, in the case of Product 4, considering the circumstances that [i] this product is a so-called tablet device and the use thereof does not always require the mobile communication function, [ii] one of the models of Product 4 without the mobile communication function ("iPad 2 Wi-Fi") is on sale, [iii] the sales price of the model without mobile communication function ("iPad 2 Wi-Fi") is cheaper than the model with mobile communication function ("iPad 2 Wi-Fi +3G model"; Product 4) by around twelve thousand yen, it is reasonable to understand that the contribution ratio of the mobile communication to the sales turnover is less than that for Product 2. In addition to the above circumstances, taking into account various circumstances including the price of the Baseband Chip and the sales price of feature phones, dongles and wireless communication routers, the contribution ratio of the compliance with the UMTS standard to the total sales turnover of Products 2 and 4 should be [omitted] percent of the total sales turnover for Products 2, and [omitted] percent of the total sales turnover for Products 4.

B. Contribution ratio of the Patent

Further, the amount of the FRAND royalty of the Patent should be the rate specified in the formula shown in (D) below, calculated from the contribution ratio of the compliance with the UMTS standard to the sales turnover of Products 2 and 4.

(A) Maximum of aggregate royalty

The ETSI IPR Policy aims to "reduce the risk to ETSI,

MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable" (Clause 3.1). In order to achieve this goal, it is reasonable to understand that, not only the amount of royalty for each of the individual essential patents, but also the aggregate of such royalty (aggregate royalty) should be limited within the economically reasonable range. The implementation of a technical standard, including the UMTS standard, often requires the implementation of a large number of essential patents. In such cases, even if the absolute value of the royalty rate for the individual patent right is low, the aggregate amount of such royalty can be unreasonably high inasmuch as that it becomes economically unfeasible for the users to comply with the standard. In addition, when a new standard is developed in the same business sector, the existing standard technologies are often incorporated into such new standard so as to ensure the interoperability (so-called "chain of standards"). Therefore, there is a tendency that the newer the standard is, the more essential patents such standard contains. If the aggregate royalty becomes unreasonably high, it would be practically impossible for users to put the essential patent licenses into practice even if they obtain such licenses. Such situations would result in the inability to achieve the goal of the ETSI IPR Policy to "reduce the risk ... that investment ... could be wasted as a result of an ESSENTIAL IPR for a STANDARD ... being unavailable." Therefore, the FRAND Declaration made in accordance with the ETSI IPR Policy is understood to contain, as a part of the FRAND Terms, the restriction that the aggregate royalty shall not exceed the reasonable range. Consequently, it is reasonable to understand that the determination of the amount of the FRAND royalty also entails such restriction.

Next, the court determines the reasonable cap for the aggregate royalty in the context of this court case. In this court case, both the appellant and the appellee have submitted their respective

allegations on the premise of the aggregate royalty cap of 5%. In addition, as explained in (1)D. above, many owners of the UMTS standard essential patents support the 5% aggregate royalty cap with a view to prevent the aggregate royalty from being excessively high. Considering this, it is reasonable, for determination of the amount of the FRAND royalty for the Patent, to apply a formula whereby the aggregate royalty rates for the entire UMTS standard will not exceed 5% of the contribution ratio of the compliance with the UMTS standard to the sales turnover of Products 2 and 4 ([omitted] percent for Products 2, and [omitted] percent for Products 4).

(B) Relationship with other UMTS standard essential patents

Next, the court discusses the relationship between the Patent and other patent rights essential for the UMTS standard. The UMTS standard includes a large number of essential patents in addition to the Patent, and the UMTS standard cannot be implemented by the Patent alone. Therefore, it would be necessary to consider the degree of contribution of the Patent to the UMTS standard, in relation to other essential patents patented in Japan.

The Inventions are focused on the feature of the VoIP communication, namely, one complete RLC SDU corresponds to only one RLC PDU, and RLC SDUs without segmentation/concatenation/padding are frequently generated (Paragraph [0011] of the Patent Description). The Inventions only achieve the efficient use of radio resources by reducing the header size of the PDU transmitted on a radio link for VoIP communication, and otherwise may result in the waste of radio resources. Thus, as the Inventions achieve their effects only in this limited circumstance, the technical contribution of the Patent to the UMTS standard is not significantly high. Also, no evidence has been submitted which proves that the contribution of the Patent to the UMTS standard is higher than other essential patents. In this court case, as no evidence showing the details of other UMTS standard essential patents has been submitted, the contribution of other essential patents to the UMTS standard is not clear. In addition, no evidence has been submitted which

proves that the contribution of other essential patents to the UMTS standard is higher than the Patent. Based on the above, it is reasonable to determine, based on the evidence submitted in this court action, that the contribution of the Patent to the UMTS standard is equivalent to other essential patents.

Accordingly, given that the contribution by the Patent and other essential patents to the UMTS standard are equivalent, the amount of the FRAND royalty for the Patent shall be calculated by dividing the amount of royalty by the number of all UMTS standard essential patents.

The distribution of royalty to licensors in the patent pool is generally calculated by dividing the amount of royalty by the number of patents, without regard to the technical value of individual patents. The "W-CDMA patent platform" for the UMTS standard has also adopted such method of dividing the royalty amount by the number of patents. Calculation of the amount of the FRAND royalty by dividing the amount of royalty by the number of the UMTS essential patents is consistent with such practice in patent pools.

(C) Number of the UMTS standard essential patents

For the purpose of calculation of the amount of FRAND royalty, the court assumes the number of the UMTS standard essential patents to be 529. The number of patent families determined by Fairfield Resources as being or highly likely to be the UMTS standard essential patents was 529 ((1)E. above). The Fairfield report analyzes the number of the UMTS standard essential patent families in all parts of the world, and does not only focus on the number of the UMTS standard essential patents in Japan, and the breakdown of the patent families determined as being or highly likely to be essential is not clear. However, no other evidence has been submitted which sufficiently proves the number of the UMTS standard essential patents granted in Japan. In addition, as both parties predicate their allegations on the Fairfield report, leaving aside the questions of whether the calculation base shall be the number of all patents declared as essential or the number of patents determined as being or highly

likely to be essential, it is reasonable to rely on the number of patent families indicated in the Fairfield report as the number of essential patents. In light of the fact that the standard participants tend to make essential patent declaration more than necessary upon the development of the standards ((1)E. above), the number of the UMTS standard essential patents should be 529 as indicated in the Fairfield report as being or highly likely to be essential, instead of 1889 which is the total number of patents declared as essential.

(D) Summary

Based on the above, the contribution ratio of the Patent to the total sales turnover of Products 2 and 4 should be calculated by multiplying the aggregate royalty cap ratio ((A) above) by the contribution ratio of the compliance with the UMTS standard to the total sales turnover (A. above), and then dividing the derived figure by the number of patents considered as essential ((C) above). Therefore, the calculation formula shall be as follows:

(Formula)

$$\text{Product 2} \quad [\text{Omitted}] \% \times 5 \% \times 1/529 \doteq [\text{Omitted}] \%$$

$$\text{Product 4} \quad [\text{Omitted}] \% \times 5 \% \times 1/529 \doteq [\text{Omitted}] \%$$

C. The amount of the FRAND royalty

Based on the above, the amount of the FRAND royalty shall be calculated by the following formula. As for the delinquency charge, as the precise release dates of Products 2 and 4 are unknown, it is reasonable to consider that such delinquency charge accrued from September 28, 2013, which is the last day of the sales period in question.

(Formula)

$$\text{Product 2} \quad \text{JPY } [\text{Omitted}] \times [\text{Omitted}] \% \doteq \text{JPY } 9,239,308$$

$$\text{Product 4} \quad \text{JPY } [\text{Omitted}] \times [\text{Omitted}] \% \doteq \text{JPY } 716,546$$

$$\text{Total: JPY } 9,239,308 + \text{JPY } 716,546 = \text{JPY } 9,955,854$$

8. Conclusion

Based on the above, the appellee's claim has a ground and should be upheld to the extent of seeking a court's confirmation that [i] the appellant does not have a right to seek damages from the appellee on the ground of infringement of the Patent, with regard to the appellee's production, assignment, lease, import or

offering for assignment or lease (including displaying for the purpose of assignment or lease) of Products 1 and 3, and that [ii] the appellant's right to seek damages from the appellee on the ground of infringement of the Patent, with regard to the appellee's production, assignment, lease, import or offering for assignment or lease (including displaying for the purpose of assignment or lease) of Products 2 and 4 does not exceed JPY 9,955,854 plus the interest thereon at the rate of 5% per annum as provided in the Civil Code for the period between September 28, 2013 and the full payment thereof. The other claims of the appellee should be dismissed since they are groundless. As the judgment in prior instance, which is different from these determinations, should be modified, the court renders the judgment as given in the main text.

9. Opinions from public consultation

(1) In this court case, the Petition for Provisional Disposition and the Additional Petition for Provisional Disposition, the major issue was the effect of a FRAND declaration for a standard essential patent. This topic is a key issue which requires a discussion in the domestic and international context. Further, the judicial decision of this court has a material implication on the framework for technological development and utilization, as well as on corporate activities and citizens' lives. From these standpoints, this court decided to seek domestic and foreign public opinions within the framework of existing laws, with the cooperation of the litigation parties.

In the public consultation, the court asked "whether an owner of a patent essential for a standard developed by a standardization body, for which a (F)RAND declaration (a declaration to grant a license under (fair), reasonable and non-discriminatory conditions) is made, should be restricted from exercising the right to seek an injunction or the right to seek damages."

(2) In response to the public consultation, the court received many opinions from individuals, companies and organizations from Japan and abroad.

The following is the summary of these opinions.

A. Whether the owner of an essential patent for which a FRAND declaration is made should be restricted from exercising the right to seek an injunction

Briefly speaking, the majority of the opinions were divided into the following three types.

- [i] Opinions that it is not appropriate to impose any restriction, as such restriction would have a negative impact on voluntary efforts of the licensor and licensee for the execution of a license agreement, and also may be detrimental to the technological innovation and standardization efforts.
 - [ii] Opinions pointing to the issues such as "patent hold-up," and asserting that a patentee should be subject to certain restrictions once it has made the FRAND declaration.
 - [iii] Opinions that a patentee should in no event be permitted to exercise the right to seek an injunction based on the patent right for which a FRAND declaration was made.
- B. Possible legal theories for restriction of a right to seek an injunction, where such restriction is possible
- [i] Opinions that a FRAND declaration gives rise to a contract for the benefit of a third party, and opinions denying the formation of such contract. The court received a large number of both of these opinions.
 - [ii] Opinions that the injunction should be restricted, relying on the principle of good faith or theory of abuse of right. The court received a large number of this opinion.
 - [iii] Opinions that the Antimonopoly Act shall be applied. Such opinions were quite few.
- C. Criteria for the restriction of a right to seek an injunction, where such restriction is possible
- A comparatively large number of respondents commented that the licensees should be categorized into those who have intentions to enter into a license agreement ("willing licensee") and those who do not ("unwilling licensee"), and that the exercise of the right to seek an injunction is possible for an unwilling licensee, but not for a willing licensee. However, these comments varied as to the specific criteria for determining an unwilling licensee.
- D. Whether the owner of an essential patent for which a FRAND declaration is made should be restricted from exercising the right to seek damages
- The majority of the respondents who expressed opinions on the right to seek damages answered that no restriction should be imposed on

this right. However, some commented that the permissible amount of damages should be limited to the amount of the FRAND royalty. In addition, there were also some who commented on the method of determination of the amount of the FRAND royalty.

E. Other issues

The majority of the respondents commented that an essential patent owner should have an obligation of a good-faith negotiation. However, the reasoning for imposing such obligation varied. In addition, some respondents commented that the licensees of the essential patent should also have an obligation of a good-faith negotiation. In addition, as to the opinion that the appellant has an obligation to disclose to the appellee information on the essential patent license agreement with other licensees (e.g. the court's finding in the judgment in prior instance), many respondents answered that this is not appropriate.

- (3) Some respondents presented an analysis of situations in foreign countries, a discussion for preferable solutions based on the detailed analysis from the standpoint of economic science, an analysis of key legal issues necessary for the conclusion, and an analysis which provided a new perspective that had been rarely discussed before.

These opinions are valuable and useful references that helped the court make an appropriate judgment from a broad perspective, and we hereby express our profound gratitude to all the parties who kindly made great efforts to submit their opinions.

Intellectual Property High Court, Special Division

Presiding Judge:	Toshiaki Imura
Judge:	Ryuichi Shitara
Judge:	Yoshinori Tomita
Judge:	Misao Shimizu
Judge:	Shinji Oda

(Attachment)

List of Products

1. "iPhone 3GS"
2. "iPhone 4"
3. "iPad Wi-Fi+3G model"
4. "iPad 2 Wi-Fi+3G model"

(Attachment 1)

3GPP TS25.322 V6.9.0(Summary)

1 「4.2.1.2 Unacknowledged mode (UM) RLC entities

Figure 4.3 below shows the model of two unacknowledged mode peer RLC entities when duplicate avoidance and reordering is not configured.]

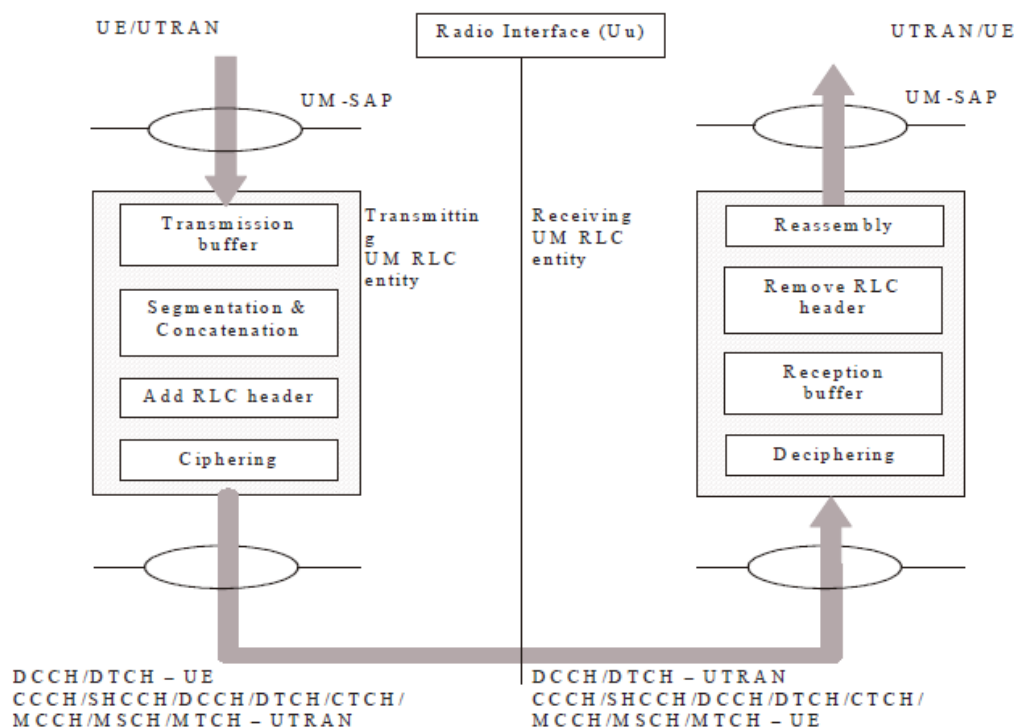


Figure 4.3a: Model of two unacknowledged mode peer entities configured for use with duplicate avoidance and reordering]

2 「4.2.1.2.1 Transmitting UM RLC entity

The transmitting UM-RLC entity receives RLC SDUs from upper layers through the UM-SAP. The transmitting UM RLC entity segments the RLC SDU into UMD PDUs of appropriate size, if the RLC SDU is larger than the length of available space in the UMD PDU.]

3 「9.2.1.3 UMD PDU

The UMD PDU is used to transfer user data when RLC is operating in unacknowledged mode. The length of the data part shall be a multiple of 8 bits. The UMD PDU header consists of the first octet, which contains the "Sequence Number". The RLC header consists of the first octet and all the octets that contain "Length Indicators".]

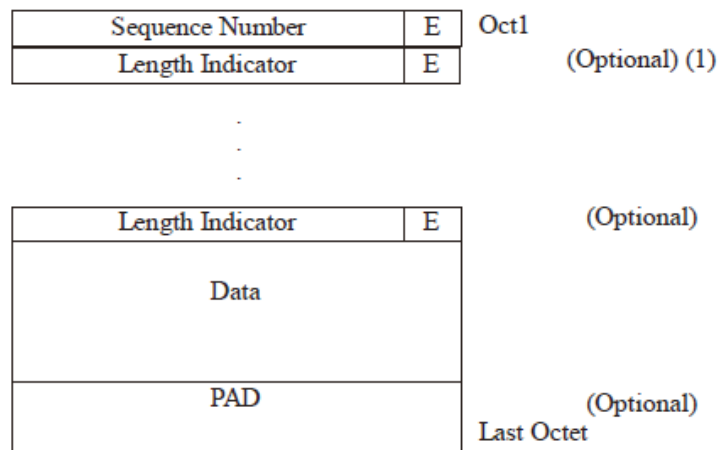


Figure 9.2: UMD PDU

4 「9.2.2.5 Extension bit(E)

Length:1bit.

The interpretation of this bit depends on RLC mode and higher layer configuration:

- In the UMD PDU, the "Extension bit" in the first octet has either the normal E-bit interpretation or the alternative E-bit interpretation depending on higher layer configuration. The "Extension bit" in all the other octets always has the normal E-bit interpretation.
- In the AMD PDU, the "Extension bit" always has the normal E-bit interpretation.

Normal E-bit interpretation:

Bit	Description
0	The next field is data, piggybacked STATUS PDU or padding
1	The next field is Length Indicator and E bit

Alternative E-bit interpretation:

Bit	Description
0	The next field is a complete SDU, which is not segmented, concatenated or padded.
1	The next field is Length Indicator and E bit

5 (1) [9.2.2.8 Length Indicator (LI)

Unless the "Extension bit" indicates that a UMD PDU contains a complete SDU which is not segmented, concatenated or padded, a "Length Indicator" is used to indicate the last octet of each RLC SDU ending within the PDU.]

(2) 「In the case where the "alternative E-bit interpretation" is configured for UM RLC and an RLC PDU contains a segment of an SDU but neither the first octet nor the last octet of this SDU:

-if a 7-bit "Length Indicator" is used:

-the "Length Indicator" with value "111 1110" shall be used.

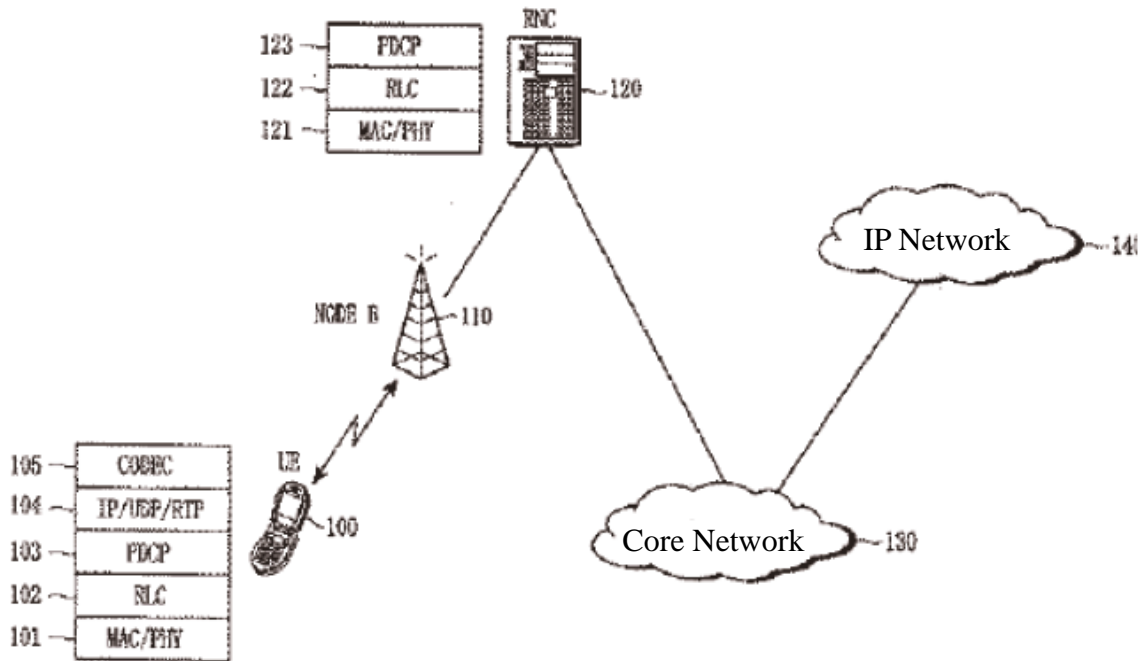
-if a 15-bit "Length Indicator" is used:

- the "Length Indicator" with value "111 1111 1111 1110" shall be used.」

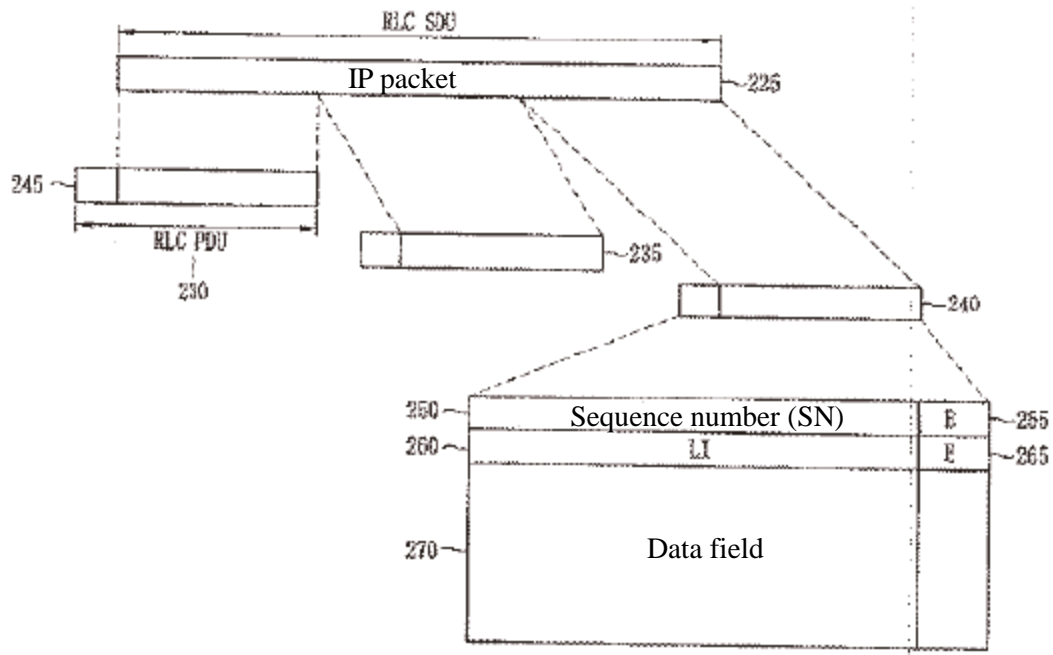
(Attachment)

Figures Attached to the Patent Description

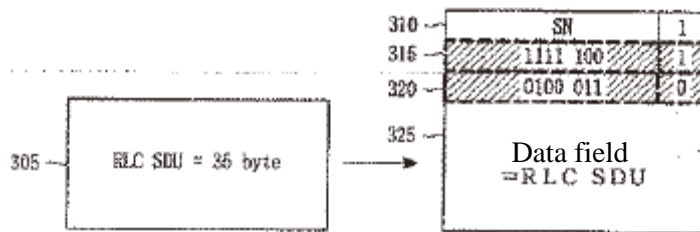
[Figure 1]



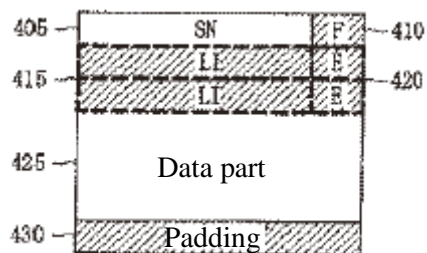
[Figure 2C]



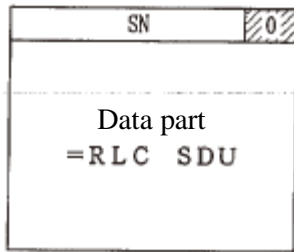
[Figure 3]



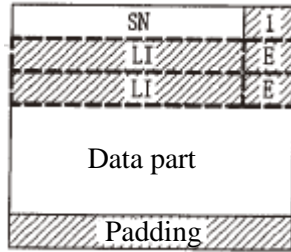
[Figure 4]



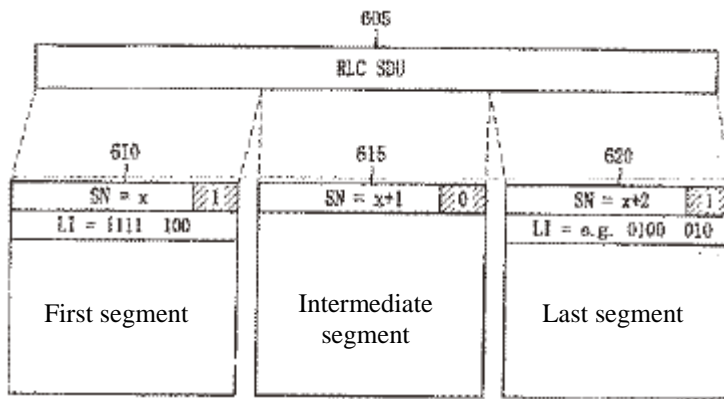
[Figure 5A]



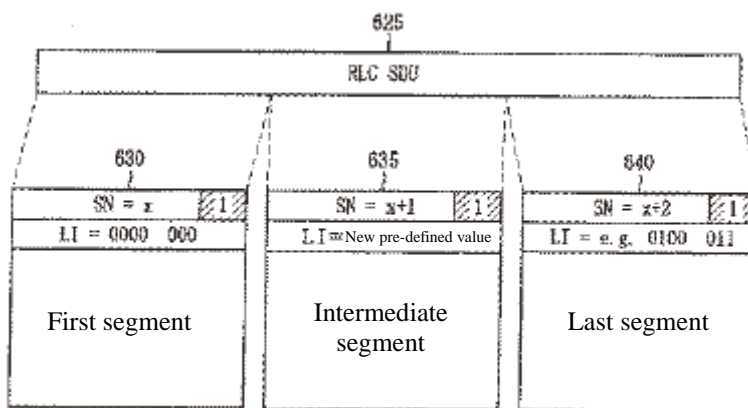
[Figure 5B]



[Figure 6A]



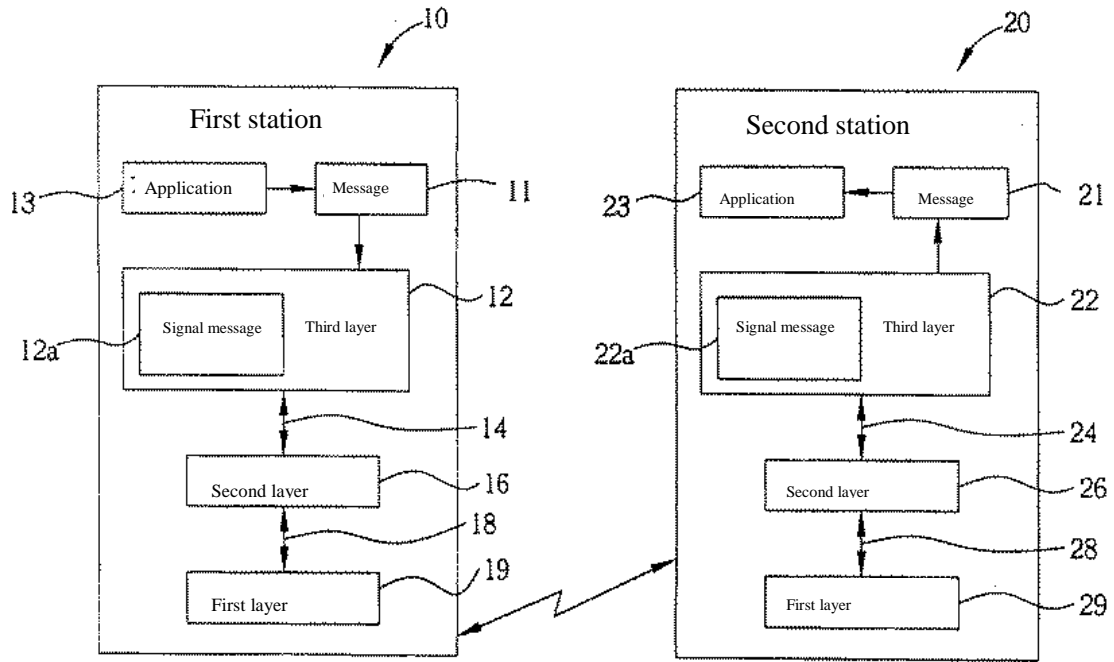
[Figure 6B]



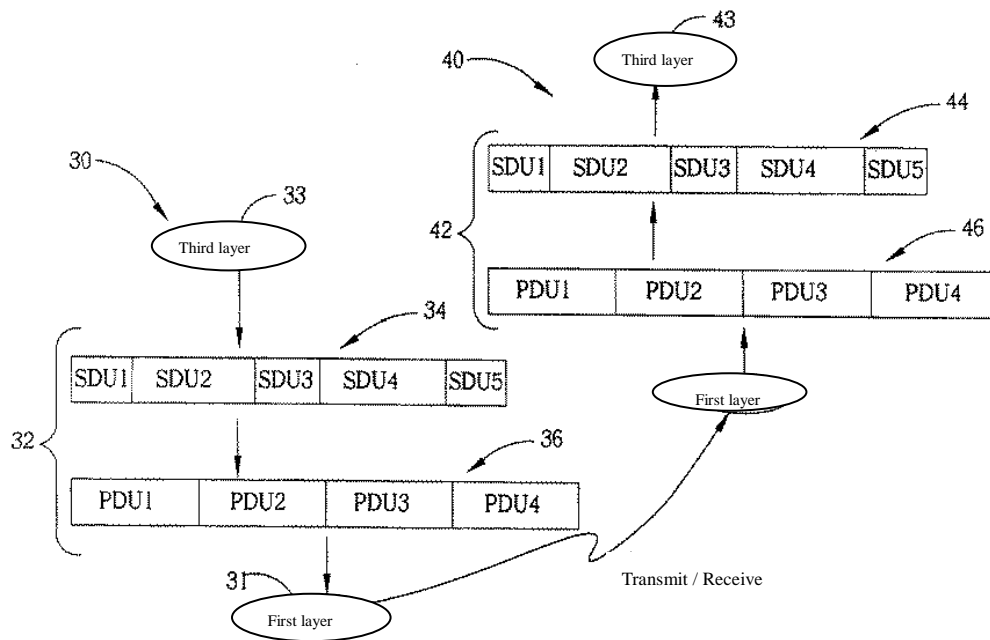
(Attachment)

Drawings of the Cited References

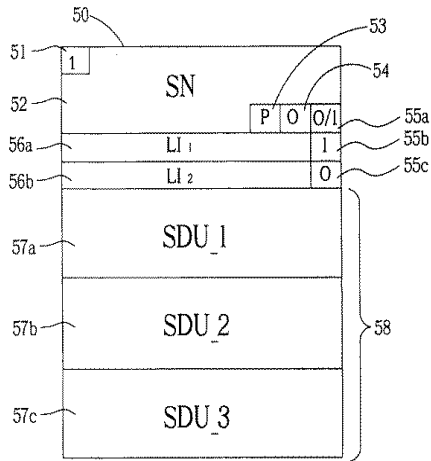
[Figure 1] of Exhibit Ko No. 3



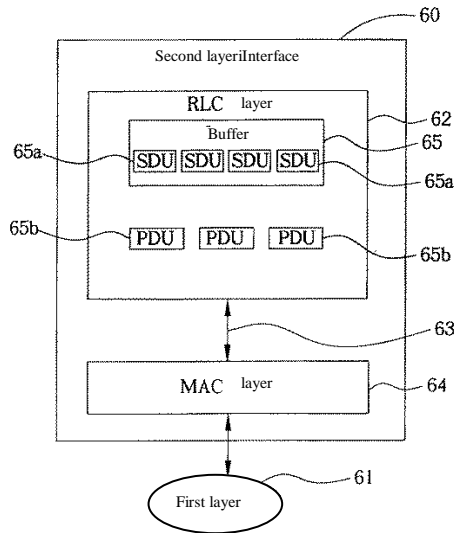
[Figure 2] of Exhibit Ko No. 3



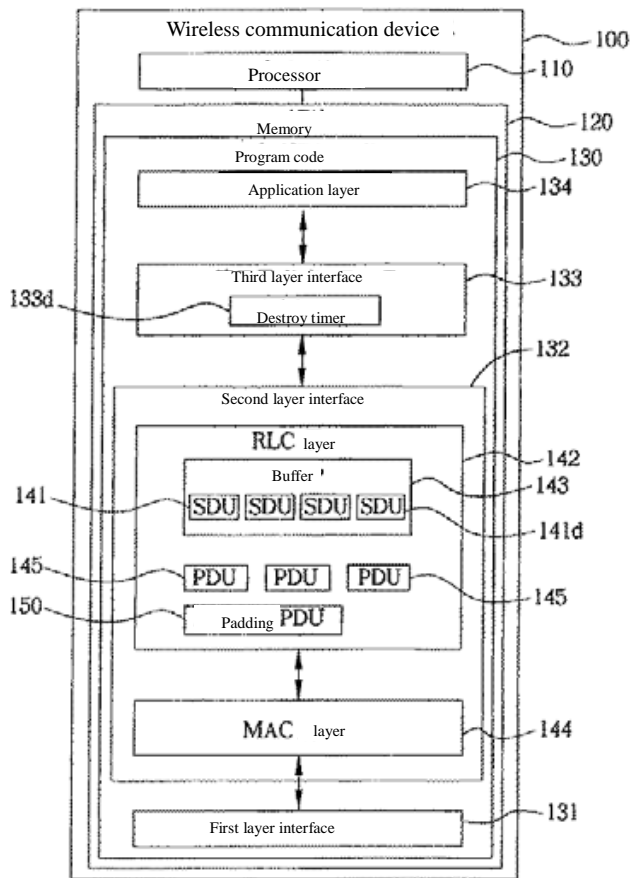
[Figure 3] of Exhibit Ko No. 3



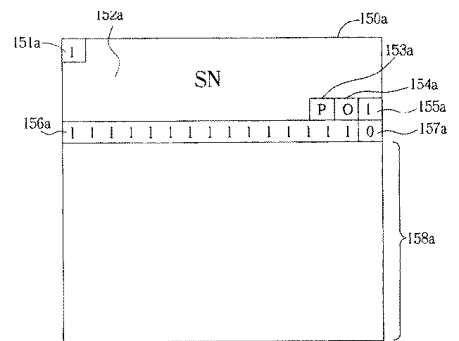
[Figure 4] of Exhibit Ko No.3



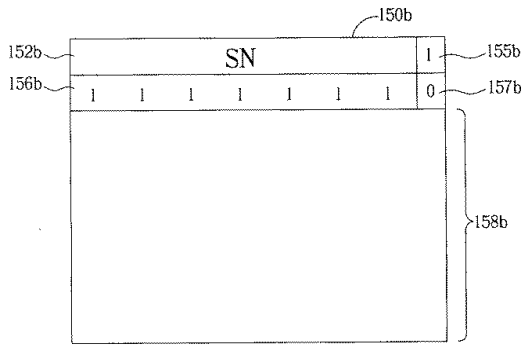
[Figure 7] of Exhibit Ko No. 3



[Figure 8] Exhibit Ko No. 3



[Figure 9] of Exhibit Ko No.3



[Figure 5] of Exhibit Ko No. 39

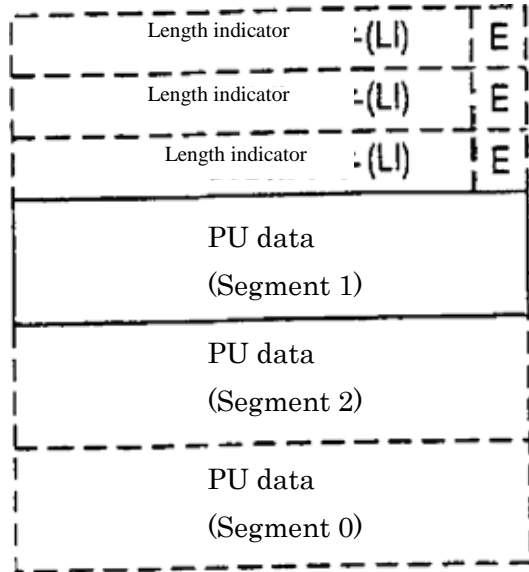


Figure 2 of Exhibit Ko No.4

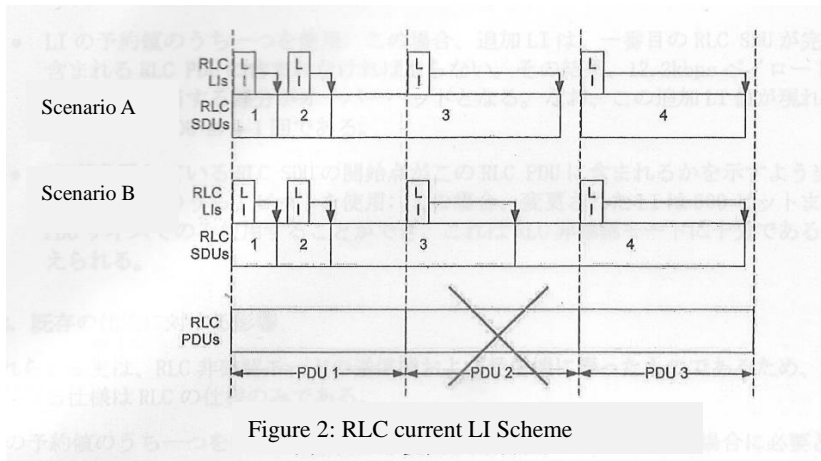


Figure 2: RLC current LI Scheme

Figure 3 of Exhibit Ko No. 4

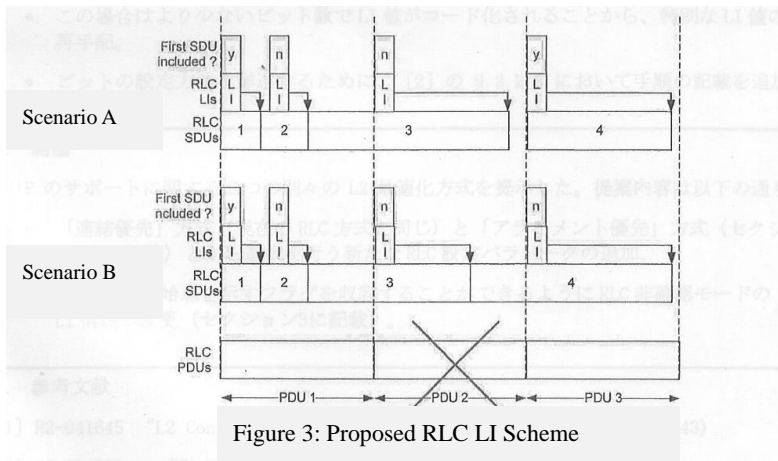


Figure 3: Proposed RLC LI Scheme