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**Datasheet for the decision
of 25 February 2008**

Case Number: W 0009/07 - 3.5.03

Application Number: PCT/EP2006/067271

Publication Number: -

IPC: H04B 1/707

Language of the proceedings: EN

Title of invention:

Method and arrangement for interference mitigation

Applicant:

Telefonaktiebolaget LM Ericsson (publ)

Opponent:

-

Headword:

Interference mitigation/ERICSSON

Relevant legal provisions:

-

Relevant legal provisions (1973):

EPC Art. 155(3)

PCT R. 13.1, 13.2, 13.3

EPC R. 40.1, 40.2

Keyword:

-

Decisions cited:

W 0020/06, W 0003/93, W 0011/93

Catchword:

-



Case Number: W 0009/07 - 3.5.03

International Application No. PCT/EP2006/067271

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 25 February 2008

Applicant: Telefonaktiebolaget LM Ericsson (publ)
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Representative: Stenborg, Anders
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Decision under appeal: Protest according to Rule 40.2(c) of the Patent
Cooperation Treaty made by the applicants
against the invitation (payment of additional
fees) of the European Patent Office
(International Searching Authority) dated
22 December 2006.

Composition of the Board:

Chairman: A. S. Clelland
Members: A. Madenach
T. Bokor

Summary of Facts and Submissions

- I. On 11 October 2006 the applicant filed the international patent application PCT/EP06/067271.

- II. On 22 December 2006 the European Patent Office acting as International Search Authority (ISA) issued a reasoned communication under Rule 40.1 PCT informing the applicant that it considered the international application to be in non-compliance with the requirements of unity of invention (Rule 13.1, 13.2 and 13.3 PCT) and invited the applicant to pay additional fees.

The ISA considered that the international application comprised the following three groups of inventions which were not linked by a single inventive concept, namely:

Group 1: claims 1-14, 25-29: Multiuser detection using multiple detection modules divided into subsets being mutually interconnected for redundancy and flexibility purposes;

Group 2: claims 15-18, 30, 31: Multiuser detection using multiple modules where the interconnections between the modules are realised for a selection of connections only;

Group 3: claims 19-24, 32-35: Multiuser detection using multiple detection modules with the interconnection allocated and configured according to a service selection.

The ISA argued that the subject-matter of independent claims 1 and 26 formed the common technical features of

these groups. In this connection it referred to a document D1 and concluded that the groups of claims were not linked by common or corresponding special technical features in the sense of Rule 13.2 PCT and defined three different inventions not linked by a single general inventive concept.

- III. In response to the communication under Rule 40.1 PCT, the applicant paid the additional fees under protest on 19 January 2007.

With a letter of the same date, the applicant submitted a new set of claims and provided a copy of a further letter dated 2 October 2006 to the EPO containing arguments supporting the novelty of the subject-matter of newly filed independent claims.

- IV. With a communication of 20 February 2007 a review panel of the ISA as provided for under Rule 40.2(c) PCT held that the objection of lack of unity of 22 December 2006 was justified and invited the applicant to pay a protest fee pursuant to Rule 40.2 (e)PCT. The review panel noted that the applicant's response to the invitation to pay further search fees related to a co-pending European application, that it quoted requirements of the European Patent Convention and referred to a claim not filed with the present international application. The review panel concluded that it was, however, still possible to read the reasoning of the applicant's reply in the light of the claims on file with the present international application.

V. The protest fee as provided for in Rule 40.2(e) PCT was paid on 14 March 2007.

VI. Independent method claim 1 of the international application as originally filed reads:

"A method of interference mitigation in a multi user detection capable radio base station in a communication system, said radio base station comprising a set of confined detection modules, at least one of which is capable of handling multiple user connections, characterized by:

forming a first subset (10) of detection modules from said set;

forming at least a second subset (20) of detection modules from said set, said second set comprising at least one interference mitigation capable detection module (21); and

communicating interference information concerning the respective user connections of said first subset (10) from said first subset to said second subset (20), and mitigating interference originating in said user connections of said first subset (10) from the user connections of said second subset (20); and mutually mitigating interference between the connections or a subset of connections within said at least one interference cancellation capable detection module."

Independent device claim 26 relates essentially to a corresponding radio base station.

Dependent method claim 15 of the international application as originally filed reads:

"The method according to any of claims 1 to 14, characterized by said step of communicating interference information comprises the further step of selecting a set of user connections from at least one detection module of said first subset and communicating the respective interference information to said second subset."

Dependent device claim 30 relates essentially to a corresponding radio base station.

Dependent method claim 19 of the international application as originally filed reads:

"The method according to any of claims 1 to 18, characterized by allocating user connections to the set of detection modules based on service."

Dependent device claim 32 relates essentially to a corresponding radio base station.

Reasons for the Decision

1. *Legal framework*

1.1 The international application under consideration has an international filing date of 11 October 2006. Thus, the protest is subject to the relevant provisions of the PCT as in force from 1 April 2005.

1.2 According to Article 1.6 of the Decision of the Administrative Council of the European Patent

Organisation of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the European Patent Convention of 29 November 2000 "... Articles 154(3) and 155(3) of the version of the Convention in force before that time [i.e. the time of entry into force of the revised European Patent Convention] shall continue to apply to these applications [i.e. international applications pending at the entry into force of the revised European Patent Convention]".

Since the revised European Patent Convention entered into force on 13 December 2007, Article 155(3) of the previous version of the European Convention, i.e. that of 5 October 1973, applies to the present case.

1.3 The board observes that the legal framework to be applied in deciding the present protest is the same as that applied in deciding the protest W 20/06 (not published in the OJ EPO) and follows the reasoning of that decision, namely that only the Boards of Appeal of the European Patent Office are competent to review protests as required by Rule 40.2(c) PCT (see in particular points 7 and 8 of the reasons).

1.4 Furthermore, still following the reasoning of the above decision(see points 10 to 21), the payment of the protest fee is considered to have been paid in time, thus the protest has been made (Rule 40.2(e) PCT).

2. *Substantiation of the invitation to pay additional fees*

2.1 The second and third groups of inventions identified by the ISA only contain dependent claims. By implication,

objection of lack of unity a posteriori has been raised, i.e. "after taking into consideration, for example, a lack of novelty or inventive step in a main claim, so that there is no technical relationship left over the prior art among the claimed inventions involving one or more of the same or corresponding special technical features, leaving two or more dependent claims without a single general inventive concept" (PCT Gazette S-06/1998(E), Section IV, VII-9).

- 2.2 The ISA referred in their invitation to pay additional search fees to a document D1 quoting several passages of this document. They did not, however, specify the document. The board assumes that D1 is the first document in the list of documents considered to be relevant, which forms a part of the invitation to pay, since this is the only document of this list which shows the quoted passages:

D1: Seskar I. et al.: "Software-Defined Radio Architectures for Interference Cancellation in DS-CDMA Systems", IEEE Personal Communications, IEEE Communications Society, vol. 6, no. 4, August 1999, pages 26-34

The ISA furthermore failed to indicate whether they considered the teaching of D1 to be prejudicial to the novelty of the subject-matter of claim 1 or if it would merely render the subject-matter of claim 1 obvious to the skilled person, nor did they relate any of the quoted passages to the features recited in claim 1.

- 2.3 Document D1 relates to software-defined radio architectures for interference cancellation in DS-CDMA

systems (see title). The first passage cited by the ISA (i.e. page 27, left-hand column, line 43 - right-hand column, line 18) gives details of interference mitigation algorithms to be used in the software-defined radio of D1. The second passage cited by the ISA (i.e. page 31, left-hand column, line 1 - page 32, left-hand column, line 28, and Figure 7) refers to the resource partitioning of the architecture of such a radio. Especially from the latter passage it follows that the described radio and corresponding working method relate to a radio station which is multi user detection capable. From the context and from D1 as a whole it is also clear that D1 is primarily concerned with a base station as opposed to a mobile device. The described device also apparently comprises two detectors (page 31, right-hand column, lines 6-9). Thus, it is possible without any undue effort to verify that D1 discloses the preamble of claim 1 and the claimed first and second subsets of detection modules.

- 2.4 The board does not, however, consider the skilled person could identify an interference mitigation capable detection module in one of the subsets within the software defined radio of D1 merely on the basis of the passages quoted in the invitation to pay. These passages prima facie do not identify a module or block in the disclosed device as being related to interference mitigation, nor do they explicitly disclose the claimed communication between the subsets and the subsequent claimed interference mitigation action.

If the ISA considered the subject-matter of claim 1 to lack novelty having regard to the teaching of D1, it

appears that they considered the claimed features not explicitly mentioned in the quoted passages to be implicit in the teaching of D1. In the board's view, such an implicit disclosure is in the present case by no means evident. Without at least an indication as to which features of D1 imply the claimed features, no plausible argument of lack of novelty can be made.

If on the other hand the ISA considered the subject-matter of claim 1 to lack an inventive step having regard to the teaching of D1 and the common general knowledge, no indication has been given to what claimed features the skilled person would regard as part of the common general knowledge.

In either case, the substantiation in the invitation to pay is insufficient to support the objection of lack of unity by the ISA.

2.5 Therefore, the invitation to pay additional search fees was not sufficiently substantiated in that the ISA failed to set out a logically presented, technical reasoning containing the basic considerations behind the finding of lack of unity as required by Rule 40.1 (i) PCT (see PCT Gazette S-06/1998(E), Section IV, VII-2a).

2.6 The board is aware of case law (e.g. W 3/93 of 21 October 1993, OJ EPO 1994, 931, reasons 3.1) to the effect that if the applicants are able to make a substantive response, the reasoned statement could be considered sufficient.

In the present case, the applicant's response does indeed appear to discuss the question of novelty of the subject-matter of claim 1 with respect to D1. However, the response letter addresses similar objections raised against a co-pending European Patent application and indeed predates the ISA's invitation. It moreover refers to claims not on file and quotes articles and rules of the EPC and not of the PCT. The applicant even initially included an original cover page of the response letter from the proceedings concerning the co-pending European Patent application, which page, he subsequently requested, should be ignored.

Therefore, the fact that the applicant appears to have correctly identified the main reasons for the finding of lack of unity is rather a result of the (more detailed) search opinion of the European Patent Office in the case of the co-pending European Patent application and does not prove that the invitation of the ISA was sufficiently substantiated.

- 2.7 As the invitation to pay additional search fees is considered as insufficiently substantiated it is not necessary to decide whether the protest is sufficiently substantiated or indeed refers to the correct documents.
- 2.8 The board notes that the invitation of 20 February 2007 to pay the protest fee, which takes into account the applicant's reply to the invitation to pay additional search fees, contains a more detailed assessment of document D1. In particular, it contains a more detailed explanation of which features of the radio of D1 correspond, according to the review panel's opinion, to the claimed "detection modules".

The more detailed reasoning still falls short of what can be considered to form a reasoned objection as to a lack of novelty or inventive step since it still does not specify which objection applies.

But in any case, according to the established case law (see e.g. W 11/93, points 3.2 and 3.3 of the reasons), in deciding on the protest against an invitation to pay additional search fees, the Boards of Appeal need not take into account additional reasons brought forward by the review panel of the ISA in their invitation to pay the protest fee.

Order

For these reasons it is decided that:

Reimbursement of the additional fees paid for two inventions and the protest fee is ordered.

The Registrar

The Chairman

D. Magliano

A. S. Clelland