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**Datasheet for the decision
of 23 March 2010**

Case Number: T 0171/07 - 3.5.05

Application Number: 99304956.8

Publication Number: 0967760

IPC: H04L 25/02

Language of the proceedings: EN

Title of invention:

Radio receiver for different data rates

Applicant:

NEC CORPORATION

Headword:

Radio receiver with reduced data rate/NEC

Relevant legal provisions:

RPBA Art. 15(2)(3)

Relevant legal provisions (EPC 1973):

EPC Art. 54(1)(2), 84, 106, 107, 108

Keyword:

"Lack of clarity and support by the description (yes)"
"Lack of novelty (yes)"

Decisions cited:

J 0010/07

Catchword:

-



Case Number: T 0171/07 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 23 March 2010

Appellant:

NEC CORPORATION
7-1, Shiba 5-chome
Minato-ku
Tokyo (JP)

Representative:

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55 Drury Lane
London WC2B 5SQ (GB)

Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 25 July 2006
refusing European application No. 99304956.8
pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman: A. Ritzka
Members: M. Höhn
P. Schmitz

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division dispatched on 25 July 2006, refusing European patent application No. 99304956.8 for lack of clarity (Article 84 EPC 1973). In a further section entitled "Additional Remarks" the examining division noted that the application was also not considered novel (Article 54(1) and (2) EPC 1973) over prior art document:

D1: EP 0 632 577 A1.

II. The notice of appeal was received on 22 September 2006. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 24 November 2006 with attached set of claims 1 to 5. It was requested that "the present appeal should be upheld on the basis of the amendments and submissions enclosed". It was further requested that oral proceedings be arranged in the event that the request was not to be allowed.

III. A summons to oral proceedings to be held on 8 February 2010 was issued on 5 November 2009. In an annex accompanying the summons the board informed the appellant that its request that "the present appeal should be upheld on the basis of the amendments and submissions enclosed" with the statement setting out the grounds of appeal was interpreted to mean that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 5 enclosed with the statement setting out the grounds of appeal. The board also stated that the further text on which the request

for grant was based was presumed to be description pages 3-16 and drawings 1/5-5/5 as originally filed and description page 1 filed with letter dated 1 December 2004 and description page 2 filed with the statement setting out the grounds of appeal with letter dated 24 November 2006. *Inter alia*, document

D5: WO 86/05936 A1

was introduced into the proceedings by the board of its own motion according to Article 114(1) EPC.

The board expressed the preliminary opinion that the subject-matter of independent claims 1 and 4, *inter alia*, did not appear to fulfil the requirements of Article 84 EPC 1973 and of Article 54(1) and (2) EPC 1973, having regard to the disclosure of D1 or D5. The board presented arguments on which its objections were based and commented on the appellant's submissions, which were not considered to be convincing.

- IV. By letter dated 24 December 2009 the appellant requested that the oral proceedings be postponed.
- V. The appellant was informed by communication dated 8 January 2010 that the date for oral proceedings was postponed to 23 March 2010.
- VI. By facsimile received on 22 March 2010 the appellant informed the board that nobody would be attending the oral proceedings.

VII. Independent claim 4 according to the sole request reads as follows:

"4. A power consumption reducing method in a radio receiver, comprising the steps of receiving a frequency band signal including a plurality of different channel frequencies; A/D-converting the received signal comprising the plurality of different channel frequencies at a sampling frequency; performing, by means of a digital signal processing means, digital signal processing on the A/D converted signal and which has a data rate determined by the said sampling frequency; and reducing the said data rate of the received signal comprising the plurality of channel frequencies in the digital signal processing means after quadrature demodulation of the signal."

Claim 1 is directed to a corresponding radio receiver.

VIII. Since the appellant did not object to the board's interpretation of the appellant's request, the board proceeded on the basis that the appellant was considered to have requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 5 submitted with the statement setting out the grounds of appeal.

IX. Oral proceedings were held on 23 March 2010 in the absence of the appellant. After due deliberation on the basis of the written submissions in the statement setting out the grounds of appeal and the request, the board announced its decision.

Reasons for the Decision

1. Admissibility

The appeal complies with the provisions of Articles 106 to 108 EPC 1973, which are applicable according to decision J 10/07, point 1 (see Facts and Submissions, point II above). Therefore the appeal is admissible.

2. Postponement of oral proceedings

The request for postponement of the oral proceedings was based *inter alia* on the reason that, due to a temporary inaccessibility of the inventor, the appellant needed more time for consultation with him concerning the relevance of D5. As D5 was introduced into the proceedings by the board in the annex accompanying the summons and as the board considers D5 to be highly relevant (see point 6 below), the board, considering the specific circumstances in this case, made use of its discretion according to Article 15(2) RPBA and postponed the date of the oral proceedings.

3. Non-attendance at oral proceedings

In its letter of 22 March 2010 the appellant announced that it would not be represented at the oral proceedings. The appellant further stated that in its understanding the oral proceedings would "continue and on the basis of the statement of Grounds of Appeal previously filed and in the Representatives absence". The board considered it expedient to maintain the date set for oral proceedings. Nobody attended the hearing on behalf of the appellant.

Article 15(3) RPBA stipulates that the board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case.

Thus, the board was in a position to take a decision at the end of the hearing.

Clarity and support by the description (Article 84 EPC 1973)

4. The board notes that the independent method and system claims 1 and 4 lack clarity because it is unclear whether in the wording "after quadrature demodulation" the "after" refers to
 - (a) the step of reducing the said data rate (claim 4) and of reduction in said data rate (claim 1),
 - or to
 - (b) the received signal in that this signal even after quadrature demodulation still comprises the plurality of channel frequencies f/F_n .

This results in a lack of clarity objection against the wording of claims 1 and 4. The matter for which protection is sought is therefore unclear.

5. In the board's judgement, interpretation (b) is not supported by the description. According to paragraph [0022] of the published application for quadrature demodulation of the received frequency band B, digital oscillator 109 of the quadrature demodulation section

has to be set to "the channel frequency f/F_n " with n being an arbitrary number. According to paragraph [0023] the data rate changing operation takes place afterwards on the basis of the information "of the received channel f/F_n ". This indicates that a specific channel frequency has to be set for carrying out the quadrature demodulation and the following data rate reduction, in contrast to the appellant's argumentation in sections 11 and 12 of the statement setting out the grounds of appeal, in which the appellant also referred to paragraphs [0022] to [0026] of the published application.

In addition, figures 2C and 2F show that for quadrature demodulation a specific channel frequency f/F_1 or f/F_2 has to be set for reduction to the baseband. At least a second data rate reduction shown in figure 2D for channel frequency f/F_1 and in figure 2G for channel frequency f/F_2 then takes place after digital filtering 111. Therefore at least for the second data rate reduction the signal no longer comprises a plurality of channel frequencies (see also paragraphs [0031] and [0033] of the published application). A similar objection applies to the embodiments disclosed with reference to figures 2G, 3D and 5D.

Moreover, as all of the embodiments disclosed with reference to the drawings comprise two separate data rate changing sections in which two consecutive steps of data rate reduction are performed, claim 1 is not supported by the description, contravening Article 84 EPC 1973.

Novelty (Articles 52(1) and 54(2) EPC)

6. Interpreting claims 1 and 4 according to alternative (a), the board considers D5 to be highly relevant because D5 addresses the same problems of reducing power consumption as well as cost and hardware space savings in a digital radio receiver (see e.g. abstract). D5 discloses a solution involving digital quadrature demodulation and decimation to reduce the data rate (see in particular figure 16 and page 26 of D5).

With respect to the features of claim 4, D5 discloses a power consumption reducing method in a radio receiver (see e.g. abstract and page 26, lines 29 to 32), comprising the steps of

- receiving a frequency band signal including a plurality of different channel frequencies (page 26, lines 5-9, describing a band-limited signal from preselector 76);
- A/D-converting the received signal comprising the plurality of different channel frequencies at a sampling frequency (page 26, lines 7-15);
- performing, by means of a digital signal processing means (page 27, lines 2 to 5, describing the use of a digital signal processor), digital signal processing on the A/D converted signal (page 26, lines 16-28) and which has a data rate determined by the said sampling frequency (page 26, lines 16-21; the sampling frequency is determined by the operating speed of the sample and hold circuit 78 in figure 16); and
- reducing the said data rate of the received signal (page 26, line 29-32, describing sampling rate reducers 80a and 80b) comprising the plurality of channel frequencies (following interpretation (a) according to

section 3 above) in the digital signal processing means after quadrature demodulation of the signal (page 26, lines 25 to 28).

D5 also discloses a corresponding radio receiver (see e.g. figure 16) according to independent claim 1.

Thus, the subject-matter of claims 1 and 4 lacks novelty over the disclosure of D5.

7. Since the appellant did not react to the objections raised in the annex to the summons issued on 5 November 2009 by submitting arguments or by amending the claims, these objections still apply.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chair

K. Götz

A. Ritzka