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**Datasheet for the decision
of 28 May 2019**

Case Number: T 0815/18 - 3.5.05

Application Number: 07301243.7

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IPC: H04L1/00, H04L12/28, H04L12/66,
H04W4/00, H04W4/26

Language of the proceedings: EN

Title of invention:

System and method for improving the use of radio spectrum in
transmission of data

Applicant:

Alcatel Lucent

Headword:

Data payload splitting/ALCATEL

Relevant legal provisions:

EPC Art. 56
RPBA Art. 13(1), 13(3)

Keyword:

Inventive step - (no)
Late-filed request - diverging versions of claims - change of
subject-matter

Decisions cited:

Catchword:



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Case Number: T 0815/18 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 28 May 2019

Appellant:
(Applicant)

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Representative:

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted on 6 October 2017
refusing European patent application No.
07301243.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
F. Blumer

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division, posted on 6 October 2017, refusing European patent application No. 07301243.7. The application was refused for lack of novelty (Article 54 EPC) over

D2: WO 99/16264.
- II. Notice of appeal was received on 30 November 2017, and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 6 February 2018. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of a main request submitted with the statement setting out the grounds of appeal. The appellant also requested oral proceedings in the event that the main request was not be allowed.
- III. A summons to oral proceedings was issued on 14 March 2019. In a communication sent on 19 March 2019, the board gave its preliminary opinion on the case, namely that the main request did not meet the requirements of Article 54 EPC in view of D2.
- IV. With a letter of response dated 26 April 2019, the appellant filed an amended main request and first to third auxiliary requests.
- V. Oral proceedings were held on 28 May 2019. During the proceedings, the appellant withdrew the main request and submitted a new main request. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request, filed during oral proceedings before the board

on 28 May 2019, or on the basis of any of the first, second and third auxiliary requests filed with letter dated 26 April 2019. The decision of the board was announced at the end of the oral proceedings.

VI. Claim 1 of the main request reads as follows:

"A method of microwave radio transmission transmitting a payload (11) of a baseband wireline (4), the method comprising the steps of:

(a) Dividing a payload of a baseband wireline interface into a plurality of data portions (11a, ..., 11d),

(b) grouping said plurality of data portions of said payload (11a, ..., 11d) so as to form a first packet (2a, 2b) and a second packet (2c, 2d),

(c) selecting a first available radio channel (3a) suitable for incorporating said first packet (2a, 2b) in said first radio channel (3a) and a second available radio channel (3b) suitable for incorporating said second packet (2c, 2d) in said second radio channel (3b),

(d) incorporating said first packet (2a, 2b) in the first selected radio channel (3a) and incorporating said second packet (2c, 2d) in the second selected radio channel (3b), and

(e) transmitting said first selected radio channel (3a) with said first packet (2a, 2b) incorporated in the first selected radio channel (3a) and transmitting said second selected radio channel (3b) with said second packet (2c, 2d) incorporated in the second selected radio channel (3b)."

Claim 1 of the first auxiliary request differs from claim 1 of the main request in that:

- the text before step (a) is replaced by "A method of radio transmission comprising the steps of:",

- step (a) is replaced by "dividing a payload (11) of a line interface (4) into a plurality of data portions (11a, ..., 11d)," and
- step (c) is replaced by "selecting a first available radio channel (3a) suitable for incorporating said first packet (2a, 2b) in said first radio channel (3a) and a second available radio channel (3b) suitable for incorporating said second packet (2c, 2d) in said second radio channel (3b) in accordance with a capacity of the first selected radio channel and the second selected radio channel respectively, to thereby optimize use of resources in the radio transmission,".

Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that the word "capacity" in step (c) is replaced by the word "size".

Claim 1 of the third auxiliary request reads as follows:

"A method of radio transmitting a payload (11) of a line interface (4), the method comprising the steps of :

- (a) dividing a first payload (11) of a first line interface (4) into a plurality of first data portions (11a, ..., 11d) and dividing a second payload (11) of a second line interface (4) into a plurality of second data portions (11a, ..., 11d), wherein the first line interface (4) and the second line interface (4) are of different types,
- (b) grouping said plurality of first data portions (11a, ..., 11d) so as to form a first packet (2a, 2b) and grouping said plurality of second data portions (11a, ..., 11d) so as to form a second packet (2c, 2d),

(c) selecting an available radio channel (3a) suitable for incorporating said first packet (2a, 2b) and suitable for incorporating said second packet (2c, 2d), (d) incorporating said first packet (2a, 2b) in the selected radio channel (3a) and incorporating said second packet (2c, 2d) in the selected radio channel (3b), and (e) transmitting said selected radio channel (3a) with said first packet (2a, 2b) and said second packet (2c, 2d) incorporated in the selected radio channel (3b)."

Each of the requests comprises further independent claims directed to a corresponding transmitter, a corresponding receiver, and a corresponding programmable device.

Reasons for the Decision

1. The appeal is admissible (see point II above).
2. Main request - Admissibility
 - 2.1 This request was filed late by the appellant at the end of the oral proceedings before the board, after the other requests had been examined, and replaced the previous main request which was thus withdrawn.
 - 2.2 In the oral proceedings, the board had previously expressed the opinion that claim 1 of the previous main request did not meet the requirements of Article 56 EPC in view of D2. During discussion of the previous main request, the board held that D2 discloses the following (the references in parentheses applying to this document), in accordance with the essential features of claim 1 of the previous main request, a method of radio

transmitting a payload (page 6, line 32 and Figure 5: "user data 140 from a radio bearer 125"), comprising:

- dividing the payload into data portions (page 7, lines 10 to 13: "segments"; Figure 5, reference signs 150),
- grouping said portions so as to form a first packet and a second packet (page 7, lines 9 to 14: "transmission block 145", "next transmission block 145"; Figure 5, reference sign 145),
- selecting a first available radio channel suitable for incorporating the first packet and a second available radio channel suitable for incorporating the second packet (see page 5, line 4: "allow a single mobile station 2 to use several physical channel in parallel"; page 5, lines 18 to 20 in combination with Figure 3: "the data stream... may be split into several physical channels...")
- incorporating the first packet in the first selected radio channel and incorporating the second packet in the second selected radio channel (see the same passages as for the previous feature),
- transmitting the first selected radio channel with the first packet incorporated and the second radio channel with the second packet incorporated (see the same passages as for the previous feature).

The board thus acknowledged that the distinguishing feature between the subject-matter of claim 1 of the previous main request and D2 was that the payload was issued from a line interface instead of coming from multiplexed radio bearers as in D2.

The appellant argued that a line interface is able to transmit a data payload at a much higher bit rate, in the Gbits/sec range, than the radio bearers of D2. The alleged invention solved this problem by dividing the

single payload of the line interface and sending the different parts on different radio channels.

The board was not convinced by this argument, however, because the teaching of D2 (see page 5, lines 3 to 4 and 17 to 22 in relation with Figure 3) in respect of splitting data incoming to a single physical channel into several parallel channels does not depend on the origin of the data but only on its data rate. Further, the data issued by the multiplexer 115 in Figure 3 may well be considered a payload in itself.

The appellant had further argued in writing that the radio channels in D2 were not selected based on the basis of their availability and their suitability for incorporating the packets. However, the board holds that, by teaching that the data stream is split when a single physical channel cannot manage the data rate, D2 implicitly discloses that the system of D2 performs an assessment of the physical channels in respect of the supported data rate, which amounts to a test for suitability as broadly defined in claim 1.

For these reasons, during oral proceedings the board concluded that the subject-matter of claim 1 of the previous main request did not involve an inventive step, in view of D2.

- 2.3 Claim 1 of the main request differs in substance from claim 1 of the previous main request in that the line interface is a baseband wireline interface and the radio transmission is a microwave radio transmission, i.e. that the radio channels operate in the microwave range.

The appellant argued that these amendments were supported by the description in page 1, line 21 and from page 1, line 24 to page 2, line 6, respectively. The board notes, however, that these passages belong to the part entitled "Background of the invention" and that the terms "microwave" and "baseband" do not appear further in the description, so the board is not convinced that the requirements of Article 123(2) EPC are fulfilled.

The appellant further argued that, because of these amendments, D2 did not represent the closest prior art anymore since it did not relate to microwave radio transmissions but to mobile communications. The board holds that, even if this technical argument were accepted, amendments to a claim aiming to change the closest prior art, considered as such during the whole examination proceedings, introduces subject-matter which has not been discussed so far and or probably even searched and could not be dealt with without the adjournment of oral proceedings.

For these reasons, during the oral proceedings the board decided not to admit the main request into the proceedings (Article 13(3) RPBA).

3. First auxiliary request - Inventive step

Claim 1 adds to the substance of claim 1 of the previous main request the feature that selecting the first and second radio channels is performed in accordance with a capacity of these channels, to optimise use of resources in the radio transmission.

In addition to the arguments presented in relation to the previous main request, the appellant further

alleged that D2 did not provide any optimisation of the radio resources. The board notes, however, that the claimed optimisation merely represents an aim to be achieved, and that the only passage of the description relating to optimisation of the resources is on page 8, lines 6 to 10 of the description, and appears to specify that the first radio channel is filled with packets before starting to fill the second radio channel. D2 discloses that the splitting of data over radio channels depends on the capacity of the available radio channels in terms of data rate (see page 5, lines 17 to 22) and that variable incoming transmission rates can be accommodated by changing the allocation of data over the different radio channels (see page 7, lines 6 to 28). Therefore, the above-mentioned additional features of claim 1 are already disclosed in D2.

For these reasons, the board holds that claim 1 does not meet the requirements of Article 56 EPC in view of D2.

4. Second auxiliary request - Inventive step

Claim 1 differs from claim 1 of the first auxiliary request only in that the word "capacity" has been replaced by the word "size".

As acknowledged by the appellant in oral proceedings, this amendment does not change the substance of the subject-matter of claim 1. The reasoning set out in point 3 above applies equally to the second auxiliary request.

Thus, claim 1 does not meet the requirements of Article 56 EPC in view of D2.

5. Third auxiliary request - Admissibility

The claims of the previous main request, the main request, and the first and second auxiliary requests are directed to a method for transmitting payload portions of a single line interface over two different radio channels. In contrast, claim 1 of the third auxiliary request is directed to a method for transmitting payload portions of two different line interfaces over a single radio channel.

Therefore, the third auxiliary request, which was filed one month before the oral proceedings, relates to a different and divergent subject-matter from the other requests on file, as also acknowledged by the appellant in oral proceedings.

Therefore, the board decided not to admit this request into the proceedings (Article 13(1) RPBA).

6. Conclusion.

The main request and the third auxiliary request are not admitted into the proceedings (Article 13 RPBA). The first and second auxiliary requests are not allowed (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated