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**Datasheet for the decision
of 15 July 2022**

Case Number: T 0120/20 - 3.5.05

Application Number: 13177225.3

Publication Number: 2658159

IPC: H04L1/00

Language of the proceedings: EN

Title of invention:

Link adaptation in a wireless telecommunications system

Patent Proprietor:

Unwired Planet International Limited

Opponent:

Purschke, Frank

Headword:

Link adaptation in wireless telecommunications / Unwired Planet

Relevant legal provisions:

EPC Art. 100(c), 76(1), 83, 84
RPBA 2020 Art. 13(1)

Keyword:

Divisional application - subject-matter extends beyond content of earlier application (yes)

Amendments - deletion of features (yes)

Sufficiency of disclosure - auxiliary request (no)

Amendment to appeal case - amendment gives rise to new objections (yes)



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Case Number: T 0120/20 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 15 July 2022

Appellant: Purschke, Frank
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Representative: Purschke, Frank
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 6 November 2019
rejecting the opposition filed against European
patent No. 2658159 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chair A. Ritzka
Members: N. H. Uhlmann
F. Blumer

Summary of Facts and Submissions

- I. The appellant-opponent appealed against the opposition division's decision to reject the opposition against European patent No. 2 658 159.
- II. The decision under appeal made reference, *inter alia*, to the following documents:

A5 WO 2008/077433 (earliest application as filed, corresponding to European application EP 06 829 876)

A6 US 2006/203891

A8a Technical Specification Group Radio Access Network: Physical channels and mapping of transport channels onto physical channels (FDD) (Release 7), 3GPP TS 25.211, V7.0.0, 1 March 2006
- III. In its statement setting out the grounds of appeal, the appellant requested that the decision be set aside, the patent be revoked and the appeal fee be reimbursed.
- IV. The respondent-proprietor filed a reply to the appeal and requested that the appeal be dismissed. Failing that, it requested that the patent be maintained in accordance with one of auxiliary requests 1 to 4 filed by letter dated 24 April 2019.
- V. In a letter dated 28 October 2020 the appellant submitted further arguments.
- VI. The board summoned the parties to oral proceedings and set out its provisional view on the case in a communication under Article 15(1) RPBA 2020.
- VII. By letters dated 21 June 2022 and 8 July 2022 the appellant submitted further arguments.

VIII. In a letter dated 24 June 2022 the respondent submitted claims in accordance with a further auxiliary request 2.A and amended pages of the description.

IX. The oral proceedings took place by videoconference.

X. Final requests of the parties

The appellant requested that the decision under appeal be set aside and that European patent No. 2 658 159 be revoked.

The request for reimbursement of the appeal fee was withdrawn during the oral proceedings.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained as granted (main request), or alternatively that the patent be maintained on the basis of one of the following auxiliary requests:

- auxiliary request 1 as filed by letter dated 24 April 2019;
- auxiliary request 2 as filed by letter dated 24 April 2019;
- auxiliary request 2', comprising claims 1 to 10 filed as auxiliary request 2 by letter dated 24 April 2019 and amended description pages 2 and 3 as filed by letter dated 24 June 2022;
- auxiliary request 2.A, comprising claims 1 to 10 filed as auxiliary request 2.A by letter dated 24 June 2022 and amended description pages 2 and 3 as filed by letter dated 24 June 2022;
- auxiliary request 3 as filed by letter dated 24 April 2019;
- auxiliary request 4 as filed by letter dated 24 April 2019.

XI. Claim 1 of the respondent's main request (patent as granted) reads as follows:

"A mobile terminal (20) for use in a wireless telecommunications system, the mobile terminal comprising:

a receiver (209) operable to receive a selection message from a base station (10),

the selection message including pre-allocation information relating to channel resources that are pre-allocated by the base station, the selection message also including information concerning a required type of feedback information, the received selection message having been transmitted from the base station using transmit weights determined for the mobile terminal;

a feedback generation unit (203) operable to utilise received pre-allocation information to generate the required type of feedback information;

and

a transmitter (207) operable to transmit the required type of feedback information to the base station in response to reception of the selection message from the base station,

the receiver also being operable to receive data via the pre-allocated channel resources."

XII. Claim 1 of auxiliary request 1 is based on claim 1 of the main request. The wording "the required type of feedback information" has been replaced by "feedback information of the required type of feedback".

XIII. Claim 1 of auxiliary requests 2 and 2' is based on claim 1 of the main request. The wording "using transmit weights" has been replaced by "in the form of a dedicated pilot signal using transmit weights", and

the wording "to generate" has been replaced by "and dedicated pilot channel information to generate".

- XIV. Claim 1 of auxiliary request 2.A is based on claim 1 of the main request. The wording "wherein the pre-allocation information is transmitted using a dedicated pilot signal" has been added to claim 1.
- XV. Claim 1 of auxiliary request 3 is based on claim 1 of the main request. The wording "wherein the feedback generation unit (203) is operable to estimate channel interference using the selection message" has been added at the end of claim 1.
- XVI. Claim 1 of auxiliary request 4 is based on claim 1 of the main request. The wording "wherein the required type of feedback information is block level feedback information" has been added at the end of claim 1.

Reasons for the Decision

1. The patent in suit pertains to a mobile terminal and a method in a wireless telecommunications system. The terminal receives a selection message from a base station and transmits feedback information (e.g. channel quality indicator information) in accordance with the selection message to the base station.

Main request of the respondent: patent as granted

2. Article 100(c) EPC

The board disagrees with the decision under appeal and holds that the patent in suit does not meet the requirements of Article 76(1) EPC.

- 2.1 No basis is apparent in the earliest application as filed (Document A5) for stating in claims 1 and 6 that the selection message is transmitted from the base

station **without** specifying that the transmission takes place **in form of a dedicated pilot signal**.

Independent claims 1, 12, 15 and 29 and the corresponding parts in the description's section "Summary of the present invention" of the earliest application as filed consistently disclose this form of transmission.

Claim 30 confirms that a pilot signal is used.

The section of the detailed description from page 9, line 19 to page 10, line 6 of the earliest application as filed teaches that the pre-allocation information (which forms part of the selection message) is transmitted "using respective dedicated pilot signals". Furthermore, the passage on page 10, lines 2 to 4 is clearly to be read in combination with page 9, lines 22 to 26.

Finally, in view of the passage of the description on page 9 relating to step 4C, Figure 4 discloses transmit weights and a dedicated pilot signal in combination.

2.2 The arguments submitted by the respondent did not convince the board that the requirements of Article 76(1) EPC were complied with.

2.2.1 The respondent argued that many passages of the description mentioned transmission of the selection message without also mentioning the pilot signal.

This argument is not convincing. The passages the respondent referred to (page 9, lines 19 to 21, 28 and 31; page 10, line 29) do not describe **in what form/how** the selection message is transmitted.

2.2.2 The respondent stated that the pre-allocation information did not necessarily form part of the selection message.

The board disagrees. The passage on page 9, lines 21 to 25 of the description does not mention the selection message, but does not teach that the pre-allocation information might be independent from it. Furthermore, all the independent claims of the earliest application and of the patent in suit state that the pre-allocation information forms part of the selection message.

- 2.2.3 The respondent explained that the passage on page 9, lines 21 to 25 started with "In embodiments ...", thus this passage did not necessarily limit the teaching in lines 19 to 21 on page 9.

Even if arguably not limiting lines 19 to 21, this passage describes a pilot signal together with the pre-allocation information, which is a component of the selection message. What is more, lines 19 to 21 do not describe **in what form** the selection message is transmitted. Finally, "in embodiments" does not implicitly disclose further, different embodiments.

- 2.2.4 The respondent stated that the passage on page 9, lines 21 to 25 referred to the pre-allocation information, not to the selection message.

This is correct. However, these lines clearly disclose that at least the pre-allocation information is transmitted using pilot signals. The present claim 1 does not mention pilot signals at all.

- 2.2.5 The respondent explained that the passage on page 10, lines 2 to 4 was not limited to a pilot signal.

The board agrees. However, it is apparent that these lines and lines 22 to 25 on page 9 are to be read together, because they both refer to step 4C in Figure 4, to transmitting the pre-allocation information and to "power allocations and/or transmit weights".

2.2.6 The respondent argued that the feature "in the form of a dedicated pilot signal" in claim 1 of the earliest application as filed was not essential and hence its omission did not amount to added matter.

This is not convincing, for the following reasons.

The board agrees with the appellant that the earliest application refers to a combination of two problems:

- (a) reducing the amount of feedback information signalling required for scheduling and transmission mode adaptation (page 3, lines 6 to 8)
- (b) providing a technique whereby high-quality feedback information can be supplied in advance of link adaptation (page 3, lines 1 and 2).

The passage on page 12, lines 14 to 17 of the description of A5 confirms that its invention addresses both problems in combination:

The techniques described above enable a wideband wireless telecommunications system to reduce the amount of bandwidth required in the uplink for transmission of feedback information from the mobile terminals to the basestation, whilst maintaining desirably high quality of timely feedback information.

The board agrees with the appellant that the transmission of the selection message in the form of a pilot signal contributes towards solving problem (b). Hence this feature is essential.

2.2.7 The respondent argued that according to the uplink-directed embodiment on page 12 of A5 the selection message was not transmitted in the form of a dedicated pilot signal.

The board notes that the present claim 1 pertains to the downlink-directed embodiments in A5. Furthermore, in the uplink-directed embodiment the base station generates the channel information (which is equivalent to the feedback information as claimed) and thus must receive the pilot signal, unlike the situation in the downlink-directed embodiments.

- 2.2.8 According to the respondent, if it were to be assumed hypothetically that the feature "transmission takes place **in form of a dedicated pilot signal**" was not sufficiently disclosed (Article 83 EPC), then the skilled reader would be presented with unclear and contradictory teaching in the earliest application. The skilled person would be of the opinion that it was not possible to transmit the pre-allocation information (as part of the selected message) using dedicated pilot signals. The skilled person would then disregard this contradictory teaching (referring to case T 609/95) and consider that the transmission did not necessarily need to occur "using respective dedicated pilot signals". Furthermore, in view of the contradictory teaching, the skilled person would consider that the omitted feature was not essential to the invention.

The board is not convinced. Case T 609/95 relates to an evident drafting defect in one sentence of the description. In the case at hand, the feature "in the form of a dedicated pilot signal" is not a drafting defect in a single passage of the earliest application, but is mentioned throughout the claims and the summary section and addresses a problem mentioned in the description. Additionally, the board notes that, as decided for auxiliary request 2, the feature "in the form of a dedicated pilot signal" is not sufficiently disclosed. This does not imply that it is not possible

to transmit the pre-allocation information using a dedicated pilot signal.

- 2.2.9 The respondent further argued that the feature "in the form of a dedicated pilot signal" was not consistently disclosed in the earliest application. In particular, the detailed description differed from the claims.

The board agrees that there are differences between the detailed description and the claims. However, the detailed description also teaches that the pre-allocation information is transmitted using respective dedicated pilot signals.

- 2.3 Overall, there is no teaching in the earliest application that the selection message may be transmitted not in the form of a pilot signal but in another form.

3. In view of the above observations, the board decided that the ground for opposition under Article 100(c) EPC prejudices maintenance of the patent in suit.

Auxiliary requests 1, 3 and 4 of the respondent

4. Article 76(1) EPC

The board holds that the objection set out in point 2. above applies similarly to the claims of auxiliary requests 1, 3 and 4.

For these reasons, the claims of auxiliary requests 1, 3 and 4 do not meet the requirements of Article 76(1) EPC.

Auxiliary request 2 of the respondent

5. Article 83 EPC

5.1 The appellant argued that transmitting a message in the form of a dedicated pilot signal was contradictory in itself. In particular, a dedicated pilot signal was a predetermined known signal, which was known to the base station and the mobile device in advance. However, if the pilot signal carried information (i.e. the selection message), this led to variations in the signal, contrary to the need for the pilot signal to be predetermined. The appellant pointed to section 5.3.2, Figure 9 and Tables 11 and 12 of A8a and stated that the predetermined pilot patterns described in Table 12 could not be used for transmitting messages.

5.2 The board agrees with the arguments presented by the appellant.

5.2.1 On the other hand, the respondent's explanations are not convincing. It referred to document A6, paragraph 51 as an illustration of the common knowledge of the skilled person. This paragraph discloses that coded data may be multiplexed with pilot data using OFDM techniques. However, patent publications in general do not document the common knowledge of the skilled person. Furthermore, paragraph 51 of A6 does not teach that the result of the multiplexing would be "in the form of a dedicated pilot signal".

5.2.2 The respondent argued that a predetermined known part of the pilot signal could e.g. be associated with particular information. This suggests that components, or only a part, of the selection message would be associated with the pilot signal.

However, claim 1 reads: "the received selection message having been transmitted from the base station in the

form of a dedicated pilot signal". There is no room to interpret this wording as transmitting only a part of the selection message in the form of a dedicated pilot signal.

- 5.2.3 The respondent pointed to Figures 1 and 5 and sections 5.2.1.1 and 5.2.2.1.3 in document A8a and explained that these passages disclosed the transmission of data bits and pilot bits in one slot.

The board is not convinced. According to section 5.2.2.1.3, Figure 5 and Table 8, the 8 pilot bits are known. The TFCI bits, which are transmitted in the same slot, do not form part of the pilot. Section 5.2.1.1 comprises similar teaching.

- 5.2.4 The respondent explained that the selection message and the pilot signal could be transmitted in a multiplexed manner using any one of the known multiplexing techniques, e.g. OFDM, CDMA or MIMO.

However, as correctly pointed out by the appellant, multiplexing the pilot signal with the selection message results in a signal with a different frequency, code or spatial sub-channel from a dedicated pilot signal. Thus the selection message would not be transmitted in the form of a dedicated pilot signal.

- 5.2.5 The respondent argued that the wording in claim 1

the selection message including pre-allocation information relating to channel resources that are pre-allocated by the base station, the selection message also including information concerning a required type of feedback information

was to be interpreted broadly, i.e. that the term "including" did not necessarily require that the pre-allocation information and the required type of feedback be included in the selection message "in the

sense of separate pieces of information". Rather, the term "include" was to be interpreted as covering also "convey", "specify" and "inform". In summary, the subject-matter of claim 1 required that the selection message include the pre-allocation information and the required type of feedback in the sense of informing the mobile terminal about them.

The board is not convinced. As correctly explained by the appellant, the wording "a message including an information item", in the context of data transmission, is normally understood in the sense that the information item is comprised in the message. That the description of the patent in suit does not set out any details regarding message fields or number of bits does not impose any different meaning on the term "including". The passages in the description on pages 10 and 11 mentioned by the respondent refer to the same term "including". That the required type of feedback information specifies either block level or frame level feedback does not impart a different meaning to the term "including".

5.2.6 Even if, for the sake of argument, it were agreed that the selection message does not explicitly and separately include these two pieces of information, the patent in suit does not sufficiently disclose transmitting the selection message in the form of a dedicated pilot signal.

First, the board agrees with the appellant that the skilled person would not find any hint or disclosure in the patent in suit with regard to the possible implementations mentioned on pages 20 to 24 of the respondent's letter dated 24 June 2022.

Second, the standardised channels pointed at by the respondent (S-CPICH and P-CPICH according to document

A8a) might, at least arguably, be seen as forming part of the general knowledge of the skilled person. However, using these channels for specifically transmitting pre-allocation information relating to channel resources that are pre-allocated by the base station and information concerning a required type of feedback information to the mobile terminal does not form part of this general knowledge.

- 5.2.7 The respondent argued in the oral proceedings that the description of the patent in suit read: "the pre-allocation information is transmitted to the mobile terminals in the selected subset using respective dedicated pilot signals" (column 6, lines 7 to 10 of the B1 publication). The formulation "using" meant that the pre-allocation information was implicitly signalled using a pilot signal. The time slot of the pilot signal could inform the mobile terminal about the pre-allocation.

This argument is not convincing. Claim 1 includes different wording, i.e. the selection message is transmitted in the form of a dedicated pilot signal. Furthermore, using the time slot of the pilot signal to inform the mobile terminal about the pre-allocation is not disclosed in the patent in suit and does not belong to the general knowledge of the skilled person.

6. For these reasons, the claims of auxiliary request 2 do not meet the requirements of Article 83 EPC.

Auxiliary request 2' of the respondent

7. Article 83 EPC

Auxiliary request 2' comprises the same claim 1 as auxiliary request 2. The same objection under Article 83 EPC hence applies to auxiliary request 2'.

Auxiliary request 2.A of the respondent

8. Admission

8.1 This auxiliary request was submitted after the summons to oral proceedings had been issued. Hence its admission is governed by the provisions of Article 13(1) and (2) RPBA.

8.2 Claims 1 and 6 of auxiliary request 2.A was amended by incorporating the following feature from the description:

"wherein the pre-allocation information is transmitted using a dedicated pilot signal".

8.3 At the oral proceedings, the appellant argued that claim 1 as amended was not clear. In particular, it pointed out that the pre-allocation information and the information concerning a required type of feedback were included in the selection message. It was not clear how the selection message as such could be transmitted using transmit weights and one component of the selection message (i.e. the pre-allocation information) could be transmitted using a dedicated pilot signal.

8.4 The respondent argued at the oral proceedings that the selection message was not limited as to its form and that a part of the selection message was transmitted using a pilot signal.

8.5 The appellant's arguments are persuasive. Claim 1 specifies a form of transmission "using transmit weights" for the selection message and another form of transmission "using a dedicated pilot signal" for one of the two components included in the selection message. It is not clear how the two components included in one selection message could be transmitted using different forms of transmission.

The board agrees with the respondent that claim 1 does not limit the form of the selection message. However, claim 1 explicitly states that the selection message includes two components and specifies two forms of transmission.

8.6 Hence claim 1 does not meet the requirements of Article 84 EPC.

8.7 For these reasons, the board decided that auxiliary request 2.A, by giving rise to a new objection, does not meet the criteria set out in Article 13(1) RPBA. Thus auxiliary request 2.A was not admitted into the proceedings.

Consequently, it was not necessary to examine and decide on compliance with the provisions of Article 13(2) RPBA.

9. Conclusion

None of the respondent's admissible requests is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated