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Datasheet for the decision of 5 March 2024

Case Number: T 2067/21 - 3.5.03

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Title of invention:
Wireless access control apparatus, mobile station and method

Applicant:
NTT DOCOMO, INC.

Headword:
Paging signal/NTT

Relevant legal provisions:
EPC Art. 54

Keyword:
Novelty - all requests (no)

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Case Number: T 2067/21 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 5 March 2024

Appellant: (Applicant)	NTT DOCOMO, INC. Sanno Park Tower 2-11-1 Nagata-cho Chiyoda-ku Tokyo (JP)
Representative:	Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 8 July 2021 refusing European patent application No. 06782025.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	J. Eraso Helguera
	F. Bostedt

Summary of Facts and Submissions

I. The appellant lodged an appeal against the decision of the examining division to refuse the present European patent application for:

- lack of clarity (Article 84 EPC), novelty (Article 54) and inventive step (Article 56 EPC) with respect to a main request,
- lack of clarity (Article 84 EPC) and inventive step (Article 56 EPC) with respect to each of five auxiliary requests,
- added subject-matter (Article 123(2) EPC) with respect to the second auxiliary request.

II. The decision under appeal referred, *inter alia*, to the following prior-art document:

D5: WO 94/08432 A1.

III. Oral proceedings before the board were held on 5 March 2024.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of any of the following claim requests:

- the claim requests on which the decision under appeal was based, i.e. **main request** and **first to fifth auxiliary requests**, re-submitted with the statement of grounds of appeal, and

- a **sixth auxiliary request**, filed with the statement of grounds of appeal.

At the end of those oral proceedings, the board announced its decision.

IV. Claim 1 of the **main request** reads as follows:

"A mobile station (100) adapted to communicate with a radio access network in which scheduling of a plurality of downlink shared data channels is performed, comprising:

a data reception unit configured to discontinuously receive a signal in a standby state; and

a determination unit configured to determine whether a signal that is received discontinuously includes a paging signal addressed to the mobile station (100),

wherein the discontinuous signal reception is performed using one of said scheduled shared data channels specified by a notification signal from the radio access network."

Claim 1 of the **first auxiliary request** is identical to claim 1 of the main request except for the following addition at the very end:

", and wherein reception of traffic data addressed to the mobile station is performed using one of said scheduled shared data channels."

Claim 1 of the **second auxiliary request** is identical to claim 1 of the first auxiliary request except for the following addition at the very end:

"which is not a paging channel."

Claim 1 of the **third auxiliary request** is identical to claim 1 of the first auxiliary request except for the following insertion right before ", comprising":

> "so that channel conflict among mobile stations in a standby state does not occur".

Claim 1 of the **fourth auxiliary request** is identical to claim 1 of the main request except for the following addition at the very end:

> ", and wherein the mobile data station is adapted to receive traffic data addressed to the mobile station using one of said scheduled shared data channels".

Claim 1 of the **fifth auxiliary request** is identical to claim 1 of the fourth request except for the following addition at the very end:

> "which is not a transport channel PCH that is mapped to a physical channel SCCPCH".

Claim 1 of the **sixth auxiliary request** is identical to claim 1 of the fourth request except for the replacement of "the discontinuous signal reception is performed" by:

> "the mobile station (100) is configured to perform discontinuous signal reception".

Reasons for the Decision

1. MAIN REQUEST

1.1 Claim 1 - novelty in view of D5

Using the wording of claim 1, document **D5** discloses (outline used in the decision under appeal):

(z1) A mobile station, MS ("mobile stations M1-M10") adapted to communicate with a Radio Access Network, RAN ("base stations B1-B10")
(z2) in which scheduling of a plurality of downlink shared data channels, SDCHs ("DCC slots") is performed, comprising:
(m) a data reception unit configured to discontinuously receive a signal in a standby state (p. 36, l. 11-14: "*When in idle mode, each mobile station in a particular paging group 'wakes up' during one slot of each superframe (locks onto and reads the DCC slot assigned to its paging group)[...]*");
(n) a determination unit configured to determine whether a signal that is received discontinuously includes a paging signal, PS, addressed to the MS (p. 36, l. 14-16: "*[...]then looks for a paging message addressed to it (determines whether it has received a paging message which includes its MIN)[...]*"),
(o) wherein the discontinuous signal reception is performed using one of said scheduled SDCHs (p. 36, l. 13 and 14: "*[...]reads the DCC slot assigned to its paging group[...]*")
(p) specified by a notification signal ("overhead information") from the RAN (p. 40, l. 8-11:

"*[...]The overhead information may include, for example, an indication of (i) the paging slot to which a mobile station is assigned,[...]*").

1.1.1 The appellant submitted that the "digital control channel" (DCC) of **D5** would not be regarded by the skilled person as falling within the scope of feature (z2), i.e. (i) being scheduled, (ii) carrying data, (iii) carrying a paging signal. Document D5 did not disclose at least features (o) and (p) of claim 1 of the main request, either. The base station (BS) of D5 did not specify the DCC that the mobile station should use. Rather, the MS of D5 itself selected the DCC - and thus the carrier frequency to use - based on the received signal strength. Even if *arguendo* indicating a paging slot in the overhead information was considered to be an indication of a particular logical "paging channel" to be used, this would not anticipate the above feature because a "paging slot" was not a "shared data channel" within the meaning of claim 1. The claimed "shared data channel" could not correspond to, e.g., PCH1 or PCH2 shown in Figure 9 of D5, because D5 did not disclose that these slots carried data other than "paging signals". Both the wording of the claim and the content of the application as a whole required the claimed "shared data channel" to carry a wider variety of data than a "paging channel", which only carried paging signals.

1.1.2 These arguments fail to convince the board.

(a) Firstly, the claim imposes no limitation with respect to the kind of data that the "shared data channel" is supposed to carry. Even if it was the case, the way "paging data" is scheduled and which type of data is actually carried within the

"downlink scheduled data channel" has apparently no limiting effect to the scope of claim 1, since this evidently represents a task that is carried out at the BS, whereas claim 1 concerns a MS which - at most - determines "whether a signal that is received discontinuously includes a paging signal", without any further indication as to how the "received signal" is to be processed.

(b) Secondly, page 40, lines 1 to 4 of D5 explicitly states the following:

> "the last five DCC slots of the superframe may be used for packet data. The overhead, paging, and data messages are but one example of the different kinds of information which may be sent on the DCC."

which is also confirmed at page 51, lines 13 to 18 of D5:

> "... In FIG. 9, the DCC slots shown in the superframe of FIG. 7 have been allocated to a set of logical channels. On the forward DCC, this set includes a broadcast control channel (BCCH), at least one paging channel (PCH), a single cell control channel (SCCH) and at least one user packet channel (UPCH)."

and at page 52, lines 12 to 21:

> "... Each PCH is a unidirectional channel which carries paging messages specifically directed to an individual mobile station or a group of mobile stations, e.g., a fleet of trucks ... The UPCH is not a control channel in the strict sense of the

term but is actually a traffic channel which may be used for transmission of packetized (asynchronous) data to individual users."

In summary, the "DCC slots" of D5 can indeed be used to carry a "paging signal" when allocated to a logical PCH or they can carry "traffic data", which is not control data, when allocated to a logical UPCH.

(c) Thirdly, as contended by the appellant, the DCC according to D5 comprises indeed information about the location of DCCs (frequency, time slot, time offset of superframe) of neighbouring base stations. Such a neighbouring base station may then be selected by the mobile terminal if the DCC signal received from this base station is too weak or for some other reason, e.g., the signal from another base station is stronger than the signal from this base station (D5, page 40, lines 19 to 25). But this is not relevant to the present discussion. As far as features (o) and (p) are concerned, the "overhead information" actually constitutes a *notification signal from the RAN* and specifies *the scheduled SDCH used to perform discontinuous reception*, i.e. the "paging slot" to which a mobile station is assigned.

(d) Fourthly, the key issue is, as recognised by the appellant, whether or not a "paging slot" of D5 is a "shared data channel" within the meaning of claim 1. The appellant's interpretation of "SDCH" apparently requires *one and the same* channel to receive *paging data* and *other data* **simultaneously**, in line with the disclosure of paragraph [0013] of the application. Such limitation is however not

literally present in the claim. Nor is there a reason, technical or linguistic, to imply it from the wording of the claim, even when considering the "preferred embodiments" in the description. Thus, even if the assignment of logical channels to the DCC slots was fixed, i.e., the PCH *always* being a "paging slot", the teaching of D5 would still anticipate the claimed subject-matter, which merely requires the "use of one of said scheduled SDCHs". For, in D5, the PCHs are one type of a "DCC slot" and need to be scheduled. Nonetheless, in the system of D5, "PCH slots" are assigned to individual mobile stations or groups of mobile stations. The number and location of the PCH slots needs to be explicitly signalled and can be changed (cf. page 56, line 21 to 25 or page 25, lines 16 to 19: "It is a further object of the present invention to provide the ability to adjust DCC capacity in each cell to meet the usage requirements in that cell, i.e., the expected number of pages and accesses per second.").

1.2 Thus, the subject-matter of claim 1 is anticipated by document D5 and the main request is therefore not allowable under Article 54 EPC.

2. AUXILIARY REQUESTS

Claim 1 of each of the auxiliary requests comprises all the features of claim 1 of the main request with the following additions and modifications (board's emphasis):

(q) reception of traffic data addressed to the mobile station is performed using one of said scheduled

SDCHs [**first, second and third auxiliary requests**].

(r) which is not a PCH [**second auxiliary request**].

(z5) so that channel conflict among mobile stations in a standby state does not occur [**third auxiliary request**].

(q') the MS is adapted to receive traffic data addressed to the MS using one of said scheduled SDCHs [**fourth, fifth and sixth auxiliary requests**].

(r') which is not a PCH that is mapped to a physical channel SCCPCH [**fifth auxiliary request**].

(o') the MS is configured to perform discontinuous signal reception using one of said scheduled SDCHs [**sixth auxiliary request**].

2.1 Claim 1 - novelty in view of D5

2.1.1 Irrespective of the fact that features (q), (r), (q') and (r') relate merely to the details of the "downlink shared data channels", i.e. the type of data that is transmitted via those channels, typically configured by the base station and not the mobile station (cf. point 1.1.2(a) above), document **D5** also discloses:

(a) **features (q) and (q')** at page 52, lines 18 to 21:

> "... The UPCH is not a control channel in the strict sense of the term but is actually a traffic channel which may be used for transmission of packetized (asynchronous) data to individual users."

(b) **features (r) and (r')** at page 52, lines 18 to 21, since the UPCH uses a DCC slot *different* from those used as PCH.

(c) **feature (z5)** at page 52, lines 10 to 15:

> "... each superframe will contain several paging channels which are assigned to different paging groups. Each PCH is a unidirectional channel which carries paging messages specifically directed to an individual mobile station or a group of mobile stations, e.g., a fleet of trucks.".

(d) **feature (o')** at page 36, lines 13 and 14:

> "... [each mobile station] reads the DCC slot assigned to its paging group ...".

2.1.2 The appellant submitted that:

(a) **features (q) and (q')** explicitly limited the claimed "shared data channels" to channels that can also be used to transmit "traffic data" and defined that the mobile station performed traffic data reception using one of these shared data channels.

(b) concerning **features (r) and (r')**, it was implicit from the term "scheduling of a plurality of downlink shared data channels", as well as the content of the application as a whole, that the plurality of "downlink shared data channels" are intended to be a same type of channel, i.e. having the same function or purpose and configuration.

(c) **feature (z5)** was a reaction to the clarity objections raised by the examining division, whereas **feature (o')** constituted an attempt to anticipate clarity objections that the board might have raised in appeal proceedings.

2.1.3 These arguments do not sway the board either:

(a) **features (q) and (q')** fail to convey the purported limitation. The "scheduled SDCH" carrying the "traffic data" of features (q) and (q') need not be related to the "paging signal" of feature (m). Nor is it required that the reception according to features (m) and (q) be performed contemporarily. In fact, in the system of D5, one and the same MS can be assigned to a PCH or it can be operating on the UPCH (cf. D5, page 64, lines 6 to 9).

(b) **features (r) and (r')** are negative features indicating that MS receives traffic data using one of said scheduled SDCHs "which is not a transport channel PCH [that is mapped to a physical channel SCCPCH"]. A "UPCH slot" in D5 cannot be simultaneously a "PCH slot". And D5 does not disclose a "physical channel SCCPCH". The board cannot infer any further limitation, certainly not the one suggested by the appellant, i.e. that the plurality of downlink shared data channels should correspond to the same type of channel, i.e., having the same function or purpose and configuration.

(c) **features (z5) and (o')** are indeed "clarifications" rather than further limitations.

2.2 It follows that the subject-matter of claim 1 of each of the auxiliary requests is not new in view of document D5, and none of the auxiliary requests is thus allowable under Article 54 EPC.

3. Since there is no allowable claim request on file, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated