



FEDERAL SUPREME COURT
IN THE NAME OF THE PEOPLE
JUDGMENT

X ZR 14/20

Pronounced on:
January 18, 2022
Anderer
Judicial Employee
as Clerk of the
Court Registry

in the patent invalidity case

Reference book: yes
BGHZ: no
BGHR: yes

CQI Report

EPC Art. 54, par. 2

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BGH, Judgment of January 18, 2022 - X ZR 14/20 - Federal Patent Court

ECLI:DE:BGH:2022:180122UXZR14.20.0

In response to the oral proceedings of January 18, 2022 the X. Civil Senate of the Federal Supreme Court by Presiding Judge Dr. Bacher, Judges Hoffmann and Dr. Deichfuß, Judge Dr. Marx and Judge Dr. Crummenerl

has ruled:

On appeal by the defendant, the judgment of the 2nd Senate (Nullity Senate) of the Federal Patent Court of September 19, 2019, is amended.

The action is dismissed.

The appeal of the plaintiffs re 1 and re 2 is dismissed.

Of the costs of the proceedings at first instance, the plaintiffs re 1) and re 2) shall each bear half. Of the court costs of the appeal, the plaintiffs re 1) to 3) and the intervener shall each bear one quarter. The plaintiffs re 1) and re 2) and the intervener shall each bear a quarter of the defendant's out-of-court costs incurred in the appeal proceedings.

By law

Facts of the Case:

1 The defendant is the owner of European patent 2 294 737 (patent in suit), which was granted with effect for the Federal Republic of Germany, and which was filed on April 2, 2009, claiming the priority of a European patent application dated May 6, 2008, and relates to a method for receiving a control channel signal from a base station and to a mobile terminal for carrying out this method. Claim 1, to which seven further claims are referred back, reads in the language of the method:

A method comprising the following steps performed by a mobile terminal:
receiving a control channel signal from a base station, wherein the control channel signal comprises a Modulation and Coding Scheme, MCS, Index, information on resource blocks used for the transmission from the mobile terminal to the base station, and a channel quality information trigger for triggering a transmission of an aperiodic channel quality information report to the base station,
characterized in that the method further comprises
determining whether the channel quality information trigger is set and whether the control channel signal indicates a predetermined value of the MCS Index and indicates a number of resource blocks that is smaller than or equal to a predetermined resource block number, and
transmitting the aperiodic channel quality information report to the base station without multiplexing the aperiodic channel quality information report with Uplink Shared Channel data, in case the determining step yields a positive result.

2 Claim 9, to which six further claims are referred back, relates to a mobile terminal with components that are adapted for carrying out the method.

3 The plaintiffs re 1) and re 2) claimed that the subject matter of the patent in suit went beyond the content of the originally filed application and was not patentable. The defendant defended the patent in suit as granted and, in the alternative, in six amended versions.

4 The Patent Court declared the patent in suit invalid insofar as its subject matter extends beyond the version defended by auxiliary request 3, and dismissed the further action. The appeals of the defendant and the plaintiffs re 1) and re 2)

are directed against this. The plaintiffs continue to pursue their requests of first instance. The defendant defends the patent as granted and now in seven amended versions. The intervener of the plaintiffs re 1) and re 2) joined the legal dispute on appeal. The plaintiff re 3) declared its intervention in the appeal proceedings and announced that it would file the same requests as the plaintiffs re 1) and re 2). However, it then withdrew its intervention.

Reasons for Decision:

5 The appeals of both sides are admissible. Only the appeal of the defendant
is well-founded; it leads to the dismissal of the action.

6 I. The intervener's intervention is admissible.

7 The intervener has a legal interest in the invalidation of the patent in suit,
because legal action is taken against it on the basis of this patent.

8 II. The patent in suit relates to signalling of control signals in a mobile radio
system.

9 In such a method, user data and control signals are exchanged between
the mobile terminal and the base station via an air-interface. By means of the
control signals, the mobile station can request the allocation of resources and the
base station can allocate such resources. As the patent in suit describes, at least
some of the resources are dynamically allocated to the various terminals (para. 2).

10 The quality and speed of the transmission depend, among other things, on
the coding rate and modulation. The base station informs the mobile station which
coding and which modulation is to be selected in each case by informing it of a

modulation and coding scheme (MCS) via a control signal. An MCS index can be used for this purpose, the values of which each stand for a specific combination of modulation and coding. An example of this is shown in Table 6 of the patent in suit (para. 41).

11 The channel quality is important for the selection of the modulation coding scheme. If this is high, the coding rate requirements can be reduced and the degree of modulation increased. The terminal informs the base station of the channel quality it has determined in the form of a channel quality indication report (CQI report). A CQI report can be transmitted via the Physical Uplink Shared Channel (PUSCH), for example. This report may be periodic or aperiodic. The patent in suit deals with the aperiodic CQI report.

12 The base station can request an aperiodic CQI report by sending a corresponding control signal (CQI trigger) via the Physical Downlink Command Channel (PDCCH). This is to be done with as little effort as possible (para. 44). As the patent in suit states, the aperiodic CQI report is normally transmitted together with user data (para. 41), unless the data buffer of the mobile terminal is empty. Multiplexing increases the risk of a transmission error.

13 2. With this in mind, the technical problem is to enable the request for an aperiodic CQI report with low signalling overhead and to reduce the risk of an error in the transmission of such a report.

14 3. To solve this task, claim 1 provides a method with the following features:

15

1	A method comprising the following steps, performed by a mobile terminal:	Verfahren, umfassend die nachfolgenden Schritte, die von einem mobilen Endgerät durchgeführt werden:
1.1	receiving a control channel signal from a base station, wherein the control channel signal comprises	Empfangen eines Steuerkanalsignals von einer Basisstation, das umfasst:
1.1.1	a Modulation and Coding Scheme Index,	einen Modulations- und Codierschema-Index,
1.1.2	information on resource blocks used for the transmission from the mobile terminal to the base station,	Information über Ressourcenblöcke, die zur Übertragung von dem mobilen Endgerät an die Basisstation verwendet werden,
1.1.3	a channel quality information trigger for triggering a transmission of an aperiodic channel quality information report to the base station,	einen Kanal Güteinformationsauslöser zum Auslösen einer Übertragung eines aperiodischen Kanal Güteinformationsberichts an die Basisstation;
1.2	determining	Bestimmen,
1.2.1	whether the channel quality information trigger is set and	ob der Kanal Güteinformationsauslöser gesetzt ist und
1.2.1a	whether the control channel signal indicates	ob das Steuerkanalsignal anzeigt:
1.2.2	a predetermined value of the MCS-Index and	einen vorbestimmten Wert des MCS-Index und
1.2.3	a number of resource blocks that is smaller or equal to a predetermined resource block number, and	eine Anzahl von Ressourcenblöcken, die kleiner oder gleich einer vorbestimmten Anzahl ist;
1.3	transmitting the aperiodic channel quality information report to the base station without multiplexing the aperiodic channel quality information report with Uplink Shared Channel data, in case the determining step yields a positive result.	Übertragen des aperiodischen Kanal Güteinformationsberichts an die Basisstation ohne Multiplexen mit Uplink-Shared-Channel-Daten, falls der Bestimmungsschritt ein positives Ergebnis zeitigt.

16 4. Some features require further discussion:

17 a) The protected method takes place in a mobile terminal according to
feature 1. However, it requires that the base station transmits a control channel
signal that the mobile terminal receives in the first step of the protected method
according to feature 1.1.

18 The control channel signal shall comprise three components according to
feature group 1.1, namely an MCS index, information about the resource blocks
used for transmission of data from the mobile terminal to the base station, and a
CQI trigger.

19 A resource block in the sense of feature 1.1.2 is, according to the description
(para. 4), the smallest unit of resources available for transmission of data via the
air-interface. The base station allocates a certain number of such blocks to the
mobile terminals depending on the available capacities and the prevailing
conditions.

20 b) In the second step, the mobile terminal checks whether the control
channel signal contains a CQI trigger and a specific value for the MCS index, and
whether the notified number of resource blocks is less than or equal to a
predetermined comparison value.

21 This predetermined comparison value corresponds to a plurality, i.e. at least
two resource blocks, according to the requirements.

22 This is supported by the use of the plural in feature 1.2.3 and the fact that two
different standards of comparison (less than or equal to) can lead to a positive
result.

23 This understanding is confirmed by the description of the sole embodiment
corresponding to the granted version of claim 1. For this, the comparison

value is 10 (para. 67 et seq. with Table 8). In addition, it is explained that transmission in CQI-only mode only makes sense if the number of allocated resource blocks is small (para. 68 et seq.). This also assumes that the possible number of resource blocks can be greater than 1.

24 Against this background, the generalized reference in the description, according to which any other value may be selected instead of 10 (para. 70), merely indicates that a smaller or larger comparative value may also be considered, but not that it may have the value 1.

25 c) If this check yields a positive result, the terminal understands this as an instruction to transmit an aperiodic CQI report to the base station without mixing it with Uplink Shared Channel Data, regardless of whether the mobile terminal's data buffer is empty. In the description, this form of transmission is referred to as CQI-only mode (para. 56, para. 60 et seq.).

26 d) The Patent Court assumed that it was not clear from the granted version of claim 1 whether a positive result within the meaning of feature 1.3 only existed if the three conditions according to feature group 1.2 were cumulatively present. It was also possible to understand that it was sufficient if one of the three conditions was fulfilled.

27 The Senate cannot agree with this.

28 aa) The very wording of the claim, which connects the three conditions with the conjunction "and", suggests that the result of the test will only be interpreted as positive if all three conditions are met.

29 bb) In the same direction, the description of the only output of the leadership example in which all three components provided for in feature group 2 are - transferred (para. 67 et seq.).

30 As can be seen from Table 8, transmission in CQI-only mode in this example only takes place if the MCS index has the value 29, the CQI trigger is set and the number of resource blocks is not greater than 10. If the first two conditions are met, but the number of resource blocks is greater than 10, a CQI report is also transmitted, but together with existing user data if necessary (para. 71).

31 cc) Contrary to the opinion of the plaintiffs, the wording of feature 1.3 does not give rise to a different assessment.

32 The interpretation of the indefinite article "a" as a numeral may also be grammatically possible in the language of the procedure. However, the requirement formulated in feature 1.3 that there must be a positive result does not refer to the individual examination steps according to features 1.2.1, 1.2.2 and 1.2.3, but to the determination step according to feature group 1.2 in its entirety. As the plaintiff re 2) rightly asserts, this consists of several substeps. However, these are linked precisely by the conjunction "and".

33 e) The Patent Court correctly ruled that claim 1 does not per se preclude the mobile terminal from also sending an aperiodic CQI report without multiplexing with Uplink Shared Channel Data in certain other operating situations.

34 aa) As the Patent Court correctly pointed out in connection with auxiliary request 3, this comes into consideration in particular when the base station requests an aperiodic CQI report without specifying the CQI-only mode and no data is available at the relevant moment that can be sent together with the CQI report.

35 That the patent in suit assumes this possibility is clear from the introductory note that it is desirable to be able to trigger transmission of the aperiodic CQI report without multiplexing with Uplink Shared Channel Data even if the data buffer is not

empty (para. 43). The patent in suit does not aim to exclude such transmission processes. Rather, it aims to make it possible to initiate a transmission in this CQI-only mode in a simple manner in other situations as well.

36 Contrary to the opinion of the plaintiffs, nothing to the contrary can be derived from paragraphs 68 and 69 of the description. It can only be inferred from these that in the embodiment example described there - unlike in the example discussed immediately before - it is not sufficient for the triggering of a CQI report without multiplexing if the conditions according to features 1.2.1 and 1.2.2 are present, but it is additionally necessary that the control channel signal indicates a number of resource blocks that is less than or equal to a predetermined number.

37 This presentation does not lead to any compelling conclusions on the question of whether and under what conditions transmission in CQI-only mode can also be considered in other operating situations.

38 The comments on the notified number of resource blocks are in the context of the previous example, in which the transmission of a specific value for the MCS index and a CQI trigger already leads to transmission in CQI-only mode. Against this background, the statement relating to the second example that transmission in this mode only takes place if the number of resource blocks communicated does not exceed a certain value merely indicates that the first two criteria mentioned are not sufficient, but that transmission in the initial situation described only takes place if all three conditions are met. No conclusions can be drawn from this for situations in which one of the first two criteria is not met, but the selection of the CQI-only mode is considered for other reasons.

39 bb) However, as the defendant rightly asserts and the Patent Court correctly saw, it follows from feature 1.3 as a minimum requirement that there is a causal relationship between the criterion mentioned therein - a positive result of the determination step defined in feature group 1.2 - and the transmission of a CQI report without multiplexing with Uplink Shared Channel Data, namely in such a way that a positive result is interpreted as a command which has a decisive effect on the further course of the procedure.

40 Contrary to the opinion of the plaintiffs, this excludes in particular arrangements in which the further course of the procedure is independent of whether the result is positive or negative. In the case of a positive result, the execution of the command, i.e. a transmission in CQI-only mode, may at most be dispensed with if additional circumstances arise. In the case of a negative result, such a transmission may at most be carried out if other requirements are fulfilled which, in addition to the criteria provided for in feature group 1.2, have also been defined as a reason for transmission in CQI-only mode.

41 cc) It follows from this causality requirement, as the defendant also rightly asserts, that the predetermined number within the meaning of feature 1.2.3 must be smaller than the maximum number of resource blocks that can be allocated with the control signal. Otherwise, the comparison between the notified value and the predetermined value would have no meaning: it would always give the same result because every possible value is less than or equal to the maximum value. According to feature 1.2.3, however, the comparison has the function of enabling a distinction between two different operating states.

42 5. Claim 9 relates to a mobile terminal comprising a receiver, a processor
and a transmitter, each of which is adapted to perform one of the three process
steps set forth in claim 1.

43 Contrary to the opinion of the Patent Court, protection is thus not claimed
for any mobile terminal that has a receiver, a processor and a transmitter.

44 It is true that statements of purpose and function in a material claim do not
regularly limit its subject matter to the stated purpose or function. According to the
case law of the Senate, such indications are nevertheless not meaningless. Rather,
they regularly define the subject matter protected by the patent as, in addition to
fulfilling the other spatial and physical features, also being designed in such a way
that it can be used for the purpose stated in the claim or can fulfill the stated
function, i.e. that it is objectively suitable for fulfilling the stated purpose or the
stated function (BGH, judgment of April 24, 2018 - X ZR 50/16, GRUR 2018, 1128
marginal no. 12 - Gurtstraffer).

45 For the patent in suit it follows from the intended purpose of the receiver, the
processor and the transmitter provided for in claim 9 that these must be capable
of carrying out the three process steps according to features 1.1, 1.2 and 1.3 on
the basis of suitable circuitry or programming. A mobile terminal that could be
programmed accordingly but is not yet equipped with the required software does
not exhibit this suitability.

46 According to this, the subject matter of claim 9 is not to be judged differently
from that of claim 1, because the features of both claims are identical in all
essential points.

47 III. The Patent Court gave the following main reasons for its decision:

48 The subject matter of claim 1 as granted goes beyond the content of the
original application documents (NK2).

49 The application describes the method as interpreting the control channel
signal as a command to transmit an aperiodic CQI report without user data only
if the CQI trigger is set and the MCS index has a certain value. In contrast, the
wording of patent claim 1 also allows the interpretation that it is sufficient if one of
these two conditions is met.

50 The application further provided that the transmission of the aperiodic CQI
report without user data would only take place if the number of resource blocks
did not exceed a predetermined value. Claim 1, on the other hand, leaves open
what should happen if this condition is not met.

51 Since claim 1 remains unchanged in the version according to auxiliary
request 1, nothing else applies to the latter.

52 In the version according to auxiliary request 2, the inadmissible extension
was only remedied insofar as it was made clear that the three conditions had to
be cumulative. Even according to this version, however, it remains open what
happens if this criterion is not met.

53 In contrast, the subject matter of claim 1 in the version according to auxiliary
request 3 does not go beyond the content of the original application documents.
In this version, the claims were also clearly formulated.

54 The subject matter thus determined is new. The patent in suit rightly claimed
the priority of the European application of May 6, 2008.

55 The European patent application 2 242 302 (NK19), since it rightly claims the priority of a US application (HE-NKHA1), constitutes prior art relevant for the examination of novelty. NK19 did not disclose features 1.1.2 and 1.2.3 and thus there was no anticipation of feature 1.2.4.

56 The proposal submitted by Texas Instruments to the 3GPP (3rd Generation Partnership Project) consortium Technical Specification Group Radio Access Network (TSG-RAN) working group (CQI-Reporting on PUSCH, 3GPP TSG-RAN WG1 Meeting #52bis, Shenzhen, China, March 31 to April 4, 2008, R1-081383, NK20) also does not fully anticipate the subject matter of claim 1 as amended under auxiliary request 3. Contrary to what is required by feature 1.2.4, the resource block count there does not enter into the decision whether the CQI report is transmitted together with other data or in CQI-only mode. Contrary to the plaintiffs' view, it was also not obvious for the expert, who assumed NK20, to also take the resource block number into account for this decision.

57 Also, a synopsis of the proposal from NTT DoCoMo (On CQI Reporting in E-UTRA, 3GPP TSG-RAN WG1 Meeting #51, Jeju, Korea, 5 to 9 November 2007, R1-074819, NK23) and the contribution of Motorola (TBS and MCS Signalling and Tables, 3GPP TSG-RAN WG1 Meeting #52bis, Shenzhen, China, March 31 to April 4, 2008, R1-081638, NK24) did not suggest the subject matter of claim 1 as amended. There was no indication from these documents to make the transfer of the CQI report in any way dependent on the number of resource blocks.

58 To the extent that the plaintiffs relied on Panasonic's proposal (PDCCH contents and formats, 3GPP TSG-RAN WG1 Meeting #53, Kansas City, USA, May 5 to 9, 2009, NK17), it was not shown that it was already available to the public prior to the priority date. In addition, this document does not indicate that

the result of the second step is influenced by the number of displayed resource blocks.

59 For Motorola's contribution (TBS=0 Signalling, 3GPP TSG-RAN WG1 Meeting #53, Kansas City, USA, May 5-9, 2008, R1-082083, NK33), it was also not proven that it had already been available to the public before the priority date. It was true that NK33 did not completely anticipate the subject matter of patent claim 1 because it lacked the setting of a channel quality information trigger. However, based on the proposal by Ericsson et al. (Refinements on Signalling of CQI/Precoding Information on PDCCH, 3GPP TSG-RAN WG1 #52bis, Shenzhen, China, March 31 to April 4, 2008, R1-081682, NK32), it had been obvious to the skilled person to set this trigger whenever a channel quality information report was requested.

60 The e-mail correspondence of Dr. T. M. and G. J. dated January 7, 2008 (NK37) was admittedly to be taken into account as prior art, since the messages in question had been sent to a large number of recipients and had therefore been publicly accessible. However, there was again no indication that the transmission of the CQI report was in any way dependent on the number of resource blocks; rather, NK37 provided that the CQI report was transmitted without multiplexing if the amount of user data to be transmitted was small.

61 A mobile terminal according to claim 9 was also neither completely anticipated nor suggested by the prior art.

62 The U.S. patent application 2007/0149132 (NK10) discloses a mobile terminal with receiver, processor and transmitter, but it cannot be inferred from NK10 that the apparatus described therein is designed as a whole to perform the method according to claim 1.

63 IV. This assessment does not withstand review in all respects on appeal.

64 1. Contrary to the opinion of the Patent Court, the subject matter of claim
1 as granted does not go beyond the content of the original application documents
(NK2).

65 a) According to the understanding of the Senate, the contrary view of the
Patent Court is based on its deviating interpretation of claim 1 as granted.

66 For the version of claim 1 in the version according to auxiliary request 3, the
Patent Court denied an inadmissible extension with appropriate considerations.
For the reasons explained above, the feature 1.2.4 provided there, if correctly
understood, only contains a clarification of what the granted version already
provides. Therefore, the version granted does not go beyond the subject matter of
the documents originally submitted.

67 b) Contrary to plaintiffs' view, the notification does not categorically
exclude transmission in CQI-only mode in other operational situations.

68 The application describes - as does the patent in suit (para. 64 et seq.) - first
an example of an embodiment in which the transmission of a certain value for the
MCS index and a CQI trigger lead to a transmission in CQI-only mode (p. 22 at
top with Table 7). In this context it is stated - also identical in wording to the
description of the patent in suit (para. 66) - that other parameters could be used
as criteria in addition to MCS index and CQI trigger (p. 22 para. 3).

69 Subsequently, again in accordance with the patent in suit (paras. 67 to 72), as
a further embodiment, an example is described in which the transmission is only
triggered in CQI-only mode, if the reported number of resource blocks does not

exceed a certain value (p. 22 para. 4 to p. 23). In this example, the number of resource blocks is used as an additional criterion besides the MCS index and the CQI trigger (p. 23 para. 2 with Table 8).

70 Contrary to plaintiffs' view, this description does not lead to any compelling conclusions on the question of whether and under which conditions transmission in CQI-only mode is also possible in other operating situations. Against this background, it can only be inferred from the statement relating to the second embodiment that transmission in this mode only takes place if the communicated number of resource blocks does not exceed a certain value that the transmission of a certain value for the MCS index and of a CQI trigger is not sufficient, but that transmission in CQI-only mode only takes place in the constellation mentioned if all three prerequisites are fulfilled.

71 This understanding is confirmed by the statements in the introductory passages - also consistent with the description of the patent in suit (para. 43) - according to which it is desirable to be able to trigger transmission of the aperiodic CQI report without multiplexing with uplink shared channel data even if the data buffer is not empty (p. 13 at bottom).

72 c) Contrary to the intervener's view, the two embodiments mentioned do not concern alternative embodiments.

73 In the description of the second embodiment, the focus is on the number of resource blocks and their significance for the transmission ratios. However, it can be seen from the presentation in Table 8 and the explanations thereto that the notified number of resource blocks is only used as an additional criterion to the two criteria from the first embodiment example. Thus, it is not an alternative but a special embodiment.

74 2. As the Patent Court correctly pointed out in connection with auxiliary
request 3, the subject matter of claim 1 as granted is not anticipated by the prior
art.

75 a) The subject matter of claim 1 is not fully anticipated by U.S. application
61/025808 (HE-NKHA1, original language Korean, English translation in HE-
NKHA1a), the priority of which is claimed by post-published European application
2 242 302 (NK19).

76 (aa) HE-NKHA1 addresses methods for requesting aperiodic channel
quality indication (CQI).

77 According to HE-NKHA1, in order to cause the transmission of an aperiodic
CQI report, corresponding control information must be transmitted to the mobile
terminal. If uplink data were available at the time in question, the CQI report would
be sent with them in multiplex via the Physical Uplink Shared Channel. The value
of the MCS index would also be transmitted to the terminal. This value is taken into
account in the transmission of the CQI report.

78 bb) The method thus described anticipates features 1 to 1.1.1, 1.1.3, 1.2,
1.2.1 and 1.2.2, as the Patent Court correctly pointed out.

79 cc) Feature 1.3 is not disclosed.

80 HE-NKHA1 contains no indication that signalling is used to trigger
transmission of the aperiodic CQI without application data if certain conditions
exist. Whether multiplexing with other data takes place depends solely on
whether such data is available at the time of transmission (p. 1 last para.).

81 The fact that the CQI report is transmitted without multiplexing when no other
data is available is not sufficient to disclose feature 1.3, contrary to plaintiffs' view.

82 dd) Also not disclosed is the combination of features 1.1.2 and 1.2.3.

83 It can be left open whether the parameter "information amount" (p. 2)
specified in HE-NKHA1 as part of the control signal represents the number of
resource blocks in the sense of feature 1.1.2. In any case, HE-NKHA1 does not
indicate that the control signal compares this value with a predetermined
maximum value and takes the result of this comparison into account when
deciding whether to send the CQI report without additional data.

84 b) The Texas Instruments contribution (CQI-Reporting on PUSCH, 3GPP
TSG-RAN WG1 Meeting #52bis in Shenzhen, China, March 31 to April 4, 2008, R1-
081383, NK20) also does not fully anticipate the subject matter of claim 1.

85 aa) NK20 states that as part of the standardization effort, it was decided
that aperiodic CQI reporting would be triggered by a 1-bit trigger field in 0 DCI
format sent by the base station to the mobile terminal (p. 2 para. 1).

86 The content of a control channel signal of the 0 DCI format resulted at the
priority time from the 3GPP TS 36.212 Technical Specification (V8.2.0, March
2008, NK21). According to this, this format is used to transmit, among other
things, the modulation and coding scheme and information about the resource
blocks. Furthermore, a bit is provided for requesting a CQI report (NK21 Section
5.3.3.1.1).

87 NK20 states that it was also decided that it should be possible to trigger an aperiodic CQI report even without allocating capacity for the transmission of user data in the uplink (UL data grant). This would mean that the CQI report could be transmitted without accompanying data transmission. Among other things, this raises the question of how a distinction can be made between a transmission of the CQI report with or without data when using the 0 DCI format (p. 2 para. 1, with the third bullet point).

88 Contrary to the first impression, another bit is not required for this because the status of the UL buffer is known to both the base station and the mobile terminal. Accordingly, no change in the 0 DCI format was required to ensure that the CQI report was transmitted even if the UL buffer was empty (p. 2 Par. 1, subitem for the third bullet point).

89 bb) The Patent Court rightly decided that features 1 to 1.2.2 are thus anticipated.

90 cc) Contrary to the assumption of the Patent Court, feature 1.2.3 is not directly and unambiguously disclosed.

91 However, it can be seen from NK21 that the 0 DCI format named in NK20 includes information on the number of resource blocks. However, it is not immediately and unambiguously clear from this that the mobile terminal compares this value with a predetermined upper limit.

92 dd) Furthermore, there is a lack of disclosure of feature 1.3.

93 As the Patent Court correctly pointed out, under the approach proposed in NK20, the decision whether to transmit a requested CQI report along with user data or separately depends solely on whether the UL buffer is full or empty.

94 ee) Whether the mobile terminal is only allocated a small number of
resource blocks when the UL buffer is empty, as the plaintiffs claim, can be left
open.

95 Even if this question were to be answered in the affirmative, a low number
of resource blocks would, as the Patent Court correctly pointed out, only be a side
effect of the circumstance relevant for transmission in CQI-only mode, but not a
decisive criterion for the selection of this mode. Something else could apply at
most if both conditions (empty UL buffer and low number of resource blocks)
always occurred together, so that checking one criterion would at the same time
provide clear information about the existence of the other criterion. The latter is
neither asserted nor otherwise evident.

96 ff) A different assessment is also not justified because following the
procedure suggested in NC20 may result in certain cases - for example, when the
predetermined resource block number is set at the maximum or minimum value -
that the condition under feature 1.2.3 is present.

97 As already explained above, the predetermined number of resource blocks
must not coincide with the maximum value, because then it is not possible to
distinguish between two transmission types.

98 Even if the minimum value were set (RB=1), feature 1.2.3 would not be
preempted, as has already been explained, because the predetermined number
of resource blocks must be at least two. NK20 and NK21 do not provide any
indications for a corresponding determination.

99 c) The contribution of Ericsson et al (Refinements on Signalling of CQI/
Precoding Information on PDCCH, 3GPP TSG-RAN WG1 #52bis, Shenzhen,
China, March 31 to April 4, 2008, R1-081682, NK32) also does not fully anticipate
the subject matter of claim 1.

100 aa) NK32 proposes refinements to the signalling of a channel quality
information for different use cases.

101 The common starting point is the proposal to provide an entry for the value 0
in the transport block size (TBS) table (Section 2). In this regard, reference is made
to two proposals from Panasonic (PDCCH transport block signalling, 3GPP TSG-
RAN WG1 #52bis, Shenzhen, China, March 31 to April 4, 2008, R1-081195, NK40)
and LG Electronics (Efficient support of retransmission using codeword DTX and
signalling, 3GPP TSG-RAN WG1 #51bis, Seville, Spain, January 14 to 18, 2008,
R1-080263, NK41).

102 In the case of a control channel signal in 0 DCI format, it is proposed to
request an aperiodic CQI report by setting the CQI bit to 1. By additionally
specifying the value 0 for the transport block size, a transmission of the CQI report
in CQI-only mode could be requested (Section 2.1).

103 bb) This anticipates features 1 to 1.2.2.

104 cc) In contrast, features 1.2.3 and 1.3 are not directly and unambiguously
disclosed.

105 Like the patent in suit, NK32 proposes to trigger the transmission in CQI-only
mode by a signal for the transmission of which an already defined format can be
used without additional fields. However, the format 0 DCI referred to does not
provide a field for the transport block size according to the latest definition

in NK21. This does leave open the possibility of transmitting the information "TBS=0" using other fields. However, NK32 does not reveal a concrete way in which this could be done.

106 From a Motorola proposal prepared for the same meeting (TBS and MCS Signalling and Tables, 3GPP TSG-RAN Meeting #52bis, Shenzhen, China, March 31 to April 4, 2008, R1-081638, NK24), it is evident that - contrary to the defendant's argument - an agreement had already been reached at that time not to signal the transport size as separate information, but to derive it from the values for the MCS index and the resource blocks (NK24 para. 1). However, it also does not follow from this that the information "TBS=0" is indicated by the fact that the transmitted number of resource blocks does not exceed a certain value.

107 d) Finally, the proposal of Texas Instruments (CQI-Reporting on PUSCH, 3GPP TSG-RAN WG1 #53, Kansas City, USA, May 5 to 9, 2008, R1-081995, NK29) does not affect the subject matter of claim 1 in a way that is detrimental to novelty. Therefore, it can remain undecided whether this proposal was already transmitted by e-mail to all participants of the 3GPP meeting in Kansas City (USA) on April 29, 2008, as the plaintiffs claimed.

108 The revelatory content of NK29 does not extend beyond that of NK32.

109 Also in NK29, it is proposed to trigger an aperiodic CQI report without multiplexing with user data by sending a control channel signal in 0 DCI format and also setting the transport block size value to 0 (p. 2 on top, enumeration 2, subparagraph 3).

110 As in NK32, however, it is not specified here how the information "TBS=0" is to be signalled.

111 3) Without success, the plaintiffs argue that the subject matter of claim 1
as granted was suggested by the prior art at the time of priority.

112 a) The subject matter of claim 1 was not suggested by NK20.

113 This already follows from the fact that NK20 does not address the question
of how to ensure that an aperiodic CQI report is transmitted in CQI-only mode
even if user data is available in the data buffer of the mobile terminal for
transmission in the uplink. As explained above, NK20 is more concerned with how
to ensure that the report is transmitted even if no user data is available and
multiplexing of the report with such data is therefore ruled out.

114 Irrespective of this, NK20 provides for achieving the objective discussed
there without an additional signal. This did not result in any suggestion for the
expert to base the selection of the transmission mode of the CQI report on which
resource block number is signalled.

115 The plaintiffs also fail to show why, given the multitude of possibilities for
signalling starting from NK20 at the priority time, it should have been obvious to
base the decision on the mode of transmission of the aperiodic CQI report on
whether the number of signalled resource blocks is less than or equal to a
predetermined resource block number.

116 b) Also based on the proposal of NTT DoCoMo (On CQI Reporting in E-
UTRA, 3GPP TSG-RAN WG1 Meeting #51 in Jeju, Korea, November 5 to 9, 2007,
R1-074819, NK23), the subject matter of claim 1 was not obvious.

117 In the event that an aperiodic CQI report is to be transmitted but no user data is available in the terminal for transmission in the uplink, NK23 provides for the base station to transmit a special allocation of transmission capacity in the uplink (uplink grant) to the terminal. Bandwidth and transport format could be limited to the transmission of the CQI report, which is why the uplink grant could be smaller than usual (p. 3).

118 Like NK20, NK23 then deals with the situation where no user data is available for transmission in the uplink and multiplexing with such data is therefore ruled out from the outset. This did not result in any suggestion to use the allocation of a specific (low) transmission capacity as a criterion for selecting the CQI-only mode, regardless of the status of the data buffer.

119 c) No further suggestion arose from the e-mail correspondence between Dr. T. M. and G. J. (NK37 = ZP19).

120 NK37 gives no indication of making the transmission of a CQI report without multiplexing with user data dependent on whether the number of resource blocks transmitted with the control channel signal is less than or equal to a predetermined resource block count.

121 d) Without success, the plaintiffs rely on the fact that the subject matter of claim 1 was suggested by NK33.

122 aa) The Patent Court found that the plaintiffs did not provide the evidence incumbent upon them of a publication of this document prior to the priority date. According to the case law of the Federal Supreme Court, a finding by the court of first instance that a certain factual assertion is not true is also an established fact within the meaning of Sec. 529 (1) No. 1 ZPO (Federal Supreme Court, judgment of November 30, 2004 - X ZR 133/03, NJW 2005, 422, 423).

123 The Senate is bound by this finding pursuant to Sec. 99 Patent Act in conjunction with Sec. 529 (1) No. 1 ZPO. The plaintiff re 1) does not provide any concrete evidence that would cast doubt on the correctness of this finding. Contrary to its view, there is no prima facie evidence that proposals for meetings of the 3GPP were submitted and transmitted to the participants within the time limit specified by the organizers for this purpose and thus already before the start of the meeting.

124 bb) Without success, the plaintiffs rely on the fact that a proposal corresponding to the content of NK33 had already been expressed on May 5, 2008, and thus one day before the priority date of the patent in suit, in a conversation among four participants of the meeting of Radio Access Network Working Group 1 (RAN WG1) No. 53 in Kansas City, Missouri, USA, and had already become accessible to the public as a result, but at least by means of an e-mail in which one of the participants reported this conversation to its colleagues.

125 (1) According to Art. 54(1) Patent Act, prior art includes all knowledge which has been made available to the public before the date relevant for the priority of the application.

126 According to the case law of the Senate, a written document is public if it is intended for dissemination to the public and has become accessible to the general public, i.e. to a group of persons which is not restricted per se and not only to individual persons (BGH, decision of February 9, 1993 - X ZB 7/92, GRUR 1993, 466, 468 - Fotovoltaisches Halbleiterbauelement). In this respect, it is not a matter of proving that the document has actually become known to third parties. It is necessary and sufficient that an unspecified group of persons was able to take cognizance of the content of the document prior to the priority date. These principles apply accordingly to oral statements.

127 (2) According to these standards, the plaintiffs have not conclusively shown that a statement corresponding to the content of the NK33 was made in the

conversation held on May 5, 2008 between Mr. L. (M.), Mr. W. (P.), Mr. C. (E.) and Mr. Li. (N.) was made available to the public.

128 Contrary to plaintiffs' view, not every statement made in the context of a meeting of a working group of the European Telecommunications Standards Institute (ETSI) is public in this sense.

129 (a) However, under the relevant ETSI regulations, documents and information presented to participants in a formal meeting are generally made available to the public.

130 According to these rules, as laid down in the ETSI Delegate's Guide (NK50) and the ETSI Chair's Guide (NK51), the work to be done is carried out by Technical Bodies (Industry Specification Groups), which in turn may establish Working Groups (NK50, para. 1.2).

131 Admission to the meetings of these bodies and working groups is regulated in more detail in the above-mentioned guidelines (NK50, para. 1.2, NK51 para. 2.1), as is their external procedure. According to these guidelines, all ETSI members are entitled to participate through delegates. In addition, guests may be admitted under certain conditions. For a plenary meeting, it is foreseen that the chair of the meeting ensures that minutes are kept and prepared (NK51, para. 3.2 and 3.3). For other meetings (non-plenary meetings), such as meetings of a working group or ad hoc meetings, the guideline also provides that a meeting chair welcomes the participants, draws their attention to the rules of competition law and asks them to indicate any relevant property rights, that it presents an agenda, records attendance and then prepares a report (NK51, para. 3.5, 3.6).

132 Documents and information provided in such a formal meeting are not to be considered confidential unless they are expressly marked as confidential in accordance with certain forms (NK50 para. 1.2, NK51 para. 4.5). This provision takes into account the fact that such meetings regularly discuss proposals for solving technical problems arising in the development of new technical standards and are attended by numerous representatives of competing companies.

133 (b) In contrast, statements made outside formal meetings to a limited number of persons are generally not open to the public.

134 If a participant in a meeting of a working group comments on technical matters outside a meeting in discussion with other participants, he must not normally expect that this information will become accessible to a non-restricted circle of persons. Even if the statement in question is made to representatives of a competitor, he may expect that it will be treated confidentially by them and at most discussed with employees of the company they represent.

135 (c) According to these principles, the plaintiffs have not conclusively shown that a proposal corresponding to the content of NK33 was already made available to the public on May 5, 2008. Therefore, it was not appropriate to hear the witness named by them.

136 It cannot be inferred from the plaintiffs' account that the conversation of the aforementioned four persons on May 5, 2008 was a formal meeting of the working group; rather, it is said to have taken place after the end of the morning meeting. However, if the discussion was then informal and took place in a small circle, the parties involved only had to expect that the discussion partners would discuss a

proposal made there among themselves or with colleagues of the company they represent, but not that it would be accessible to a basically unlimited circle of persons and thus become public.

137 (d) Moreover, it cannot be inferred with sufficient substance from the plaintiffs' submission that one of the participants in the discussion already considered one of the possibilities addressed to be sufficiently elaborated and thought through at that time to submit it to the expert public. This is consistent with the plaintiffs' own account, according to which a participant in the discussion did not develop the standardization proposal available as NK33 from one of the previously discussed proposals until the following night and forwarded it to the standardization committee the next day. The e-mail submitted as Annex K42 also only mentions that Mr. W. liked this approach.

138 e) Finally, the subject matter of claim 1 was not obvious even starting from NK32 in combination with NK21 and NK24.

139 aa) As already explained above, NK32 contains the proposal to signal a transmission in CQI-only mode by combining the CQI bit with the information "TBS=0". In the absence of more detailed information on how information on the text block size can be transmitted, there was reason to refer to the relevant specifications in this regard.

140 bb) One of the relevant citations thereafter is NK24.

141 Contrary to defendant's assertion, at the time NK32 was published, it was not open as to the manner in which transport block size information would be sent. It is true that there were originally different proposals in this regard, including the proposal in NK40 cited in NK32 to send a transport block size index instead of an MCS index (NK40 Section 3). However, contribution NK24, submitted to the same meeting and on the same agenda item as NK32, states by way of introduction that agreement had been reached on this at a previous meeting, derive the transport

block size from the MCS and the resource block allocation (NK24 Section 1). Appendix B of NK24 gives an example of a table in which each combination of values for the modulation scheme (MS) communicated with the MCS index and for the resource block number is assigned a specific transport block size, which can take values between 16 and 16480.

142 cc) Against this background, starting from NK32, the suggestion arose to also communicate the information "TBS=0" proposed there by a certain combination of a value for the modulation scheme and a resource block number, but not the suggestion to use several pairs of values for this purpose and to determine them by combining a certain value for the MCS index with a group of resource block numbers that do not exceed a certain comparison value.

143 The table in Appendix B to NK24 does provide for different text block sizes to be signalled with several different value pairs. However, neither in NK32 nor in NK24 is there any suggestion to make use of this possibility also for the signalling of "TBS=0". The fact that a value pair used for the signalling of "TBS=0" can no longer be used for the signalling purpose intended in NK24 even tended to argue against the use of several value pairs, as provided for in the patent in suit.

144 V. The decision on costs is based on Sec. 121 (2) Patent Law and Sec. 91 (1), Sec. 97 (1), Sec. 100 (1) and Sec. 101 Code of Civil Procedure.

145 The extrajudicial costs incurred by the defendant in the appeal proceedings can only be imposed on the plaintiffs re 1) and re 2). A decision on costs in this respect at the expense of the plaintiff re 3) is not possible pursuant to Section 269 (3) of the Code of Civil Procedure because the defendant has not filed an application for costs. This part of the costs shall therefore remain with the defendant.

Bacher

Hoffmann

Deichfuß

Marx

Crummenerl

Lower court:

Federal Patent Court, decision of September 19, 2019 - 2 Ni 14/17 (EP) -