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

**Case Number:** T 1805/18 - 3.5.03

**Application Number:** 09005422.2

**Publication Number:** 2124499

**IPC:** H04W72/12

**Language of the proceedings:** EN

**Title of invention:**

Method and apparatus for performing buffer status reporting  
(BSR)

**Patent Proprietor:**

Innovative Sonic Limited

**Opponent:**

Telefonaktiebolaget L M Ericsson (publ)

**Headword:**

Padding BSR procedure/INNOVATIVE

**Relevant legal provisions:**

EPC Art. 54

EPC R. 103(4) (a)

**Keyword:**

Novelty - (no): "indicating" to be interpreted broadly  
Partial reimbursement of the appeal fee at 25% - patent  
proprietor (yes): withdrawal of appeal before announcement of  
decision

**Decisions cited:**

T 0786/00



**Beschwerdekammern**

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**Case Number: T 1805/18 - 3.5.03**

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.03**  
**of 15 September 2022**

**Appellant:** Telefonaktiebolaget L M Ericsson (publ)  
(Opponent) 164 83 Stockholm (SE)

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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
2 May 2018 concerning maintenance of the  
European Patent No. 2124499 in amended form.**

**Composition of the Board:**

**Chair** K. Bengi-Akyürek  
**Members:** J. Eraso Helguera  
C. Almberg  
K. Schenkel  
R. Winkelhofer

## Summary of Facts and Submissions

- I. This appeal lies from the decision of the opposition division to maintain the opposed patent in amended form on the basis of the claims of a "second auxiliary request". Both the proprietor and the opponent filed an appeal against this decision.
- II. The appealed decision made reference *inter alia* to the following prior-art documents:
- E2:** Nokia Corporation, Nokia Siemens Networks:  
"Criteria for Short and Long BSR", 3GPP TSG-RAN WG2 Meeting #60bis, Sevilla, Spain, 14-18 January 2008, R2-080015;
- E30:** LG Electronics: "Issue with MAC Padding", 3GPP TSG-RAN WG2 #61bis, 31th March - 4th April 2008, Shenzhen, China, R2-081593.
- III. Oral proceedings before the board were held on 15 September 2022. During the oral proceedings, the proprietor withdrew the appeal (entailing a partial reimbursement of the appeal fee under Rule 103(4) (a) EPC).
- The opponent (appellant) requested that the appealed decision be set aside and that the patent be revoked.
  - The proprietor (respondent) requested that the appeal be dismissed, i.e. maintenance of the patent as amended and maintained by the opposition division according to the second auxiliary request.

At the end of the oral proceedings, the board's decision was announced.

IV. Claim 1 of the **second auxiliary request** (as maintained by the opposition division) reads as follows:

"A method for performing buffer status reporting, named BSR hereinafter, in a user equipment, named UE hereinafter, of a wireless communication system, the method comprising:

forming a Medium Access Control, named MAC hereinafter, Packet Data Unit, named PDU hereinafter, the MAC PDU comprising padding bits with a bit number larger than the size of a BSR MAC control element (402);

triggering a padding BSR procedure (404);

reporting a short BSR MAC control element when the padding bits of the MAC PDU cannot accommodate a long BSR MAC control element (406); and

**characterized by** indicating that the short BSR MAC control element is triggered by the padding BSR procedure through a sub-header corresponding to the BSR MAC control element in the MAC PDU (408)."

## **Reasons for the Decision**

1. *Second auxiliary request: claim 1 - novelty (Article 54 EPC) in view of E2*

1.1 As to the interpretation of the characterising part of present claim 1, i.e. the "indication step", the board agrees with the opponent that its wording merely

requires the indication that the short BSR MAC control element (CE) is triggered by a "padding BSR procedure" through, i.e. by means of, a "sub-header" corresponding to the BSR MAC CE in the MAC PDU. The claimed indication is however silent as to whether this indication is executed on the basis of e.g. the *content* or the *position* of the respective sub-header.

1.2 Using the wording of present claim 1 (outline used in the decision under appeal), document **E2** discloses:

- (1) A method for performing BSR (*cf. section 5.4.5: "Buffer Status Reporting"*) in a UE of a wireless communication system, the method comprising:
- (2) forming a MAC PDU, the MAC PDU comprising padding bits with a bit number larger than the size of a BSR MAC CE (*cf. section 5.4.5: " - If the number of padding bits is equal to or larger than the size of the Short BSR ..."*);
- (3) triggering a padding BSR procedure (*cf. section 5.4.5: "For padding BSR:"*);
- (4) reporting a short BSR MAC CE when the padding bits of the MAC PDU cannot accommodate a long BSR MAC CE (*cf. section 5.4.5: " ... but smaller than the Long BSR one report Short BSR of the highest priority LCG; ..."*);
- (5') indicating that the short BSR MAC CE is triggered by the padding BSR procedure through a sub-header corresponding to the BSR MAC CE in the MAC PDU (*cf. section 6.1.2, penultimate paragraph: "MAC Control elements with the exception of Padding BSR are always placed before any MAC SDU. Padding BSR and padding occurs at the end of the MAC PDU." and section 6.2.1, 1st bullet point: "... There is one LCID field for each MAC SDU, MAC Control element or*

*padding included in the MAC PDU ... The MAC header and sub-headers are octet aligned."*

Hence, the subject-matter of claim 1 is not new in view of prior-art document E2.

1.3 According to E2, a short BSR MAC CE may be used in two different situations, namely (i) to signal that only one logical channel group (LCG) has buffered data and (ii) when BSR replaces padding and the number of padding bits is equal or larger than the size of the short BSR MAC CE but smaller than the long BSR MAC CE. This twofold use does not allow the eNB to rely on the presence of a short BSR MAC CE to know that other LCGs than the one reported do not have any data buffered. To retain this aspect, the eNB must be able to distinguish a "regular and periodic BSR procedure" from a "*padding BSR procedure*". This can be achieved by using e.g. the order in which a MAC PDU is built, so that a regular BSR MAC CE is always sent *first* and a padding BSR MAC CE is always sent *last*, just before "padding" if there is any left.

1.4 The opposition division (cf. Reasons III.B.5a of the appealed decision) and the respondent argued that this indication that the short BSR MAC CE was triggered by the "padding BSR procedure" was given by the *position of the short BSR MAC CE itself*. There was no disclosure of an LCID field for the padding BSR procedure.

1.5 The board agrees. In a MAC PDU such as the one depicted in Fig. 6.1.2-3 of E2, i.e. containing at least one MAC SDU, a short BSR MAC CE being placed right before the "padding" field instead of being placed before any MAC SDU would indeed indicate a *padding BSR procedure*. However, E2 also discloses in section 6.1.2 that "MAC

PDU sub-headers have the **same order** as the corresponding MAC SDUs, MAC Control elements and padding" and in section 6.2.1 that "[t]here is one LCID field for **each** MAC SDU, MAC Control element or padding included in the MAC PDU" (board's emphasis) and that "[t]he MAC header and sub-headers are octet aligned". This inevitably leads to the conclusion that, according to E2, a MAC PDU sub-header containing an LCID field corresponding to a short BSR MAC CE, be it a "regular/periodic BSR procedure" or a "padding BSR procedure", **must** be placed in the MAC header in the same order as the corresponding MAC CE is placed in the MAC payload.

It follows that, if present in the MAC header, the position of the MAC PDU sub-header corresponding to a short BSR MAC CE must also indicate whether the short BSR MAC CE has been triggered by a "padding BSR procedure" or rather by a "regular/periodic BSR procedure". In other words, the skilled reader would understand that, in the same way as a short BSR MAC CE triggered by a padding BSR procedure is to be placed immediately before the "padding" field, if there is any left, in a MAC PDU also containing at least one MAC SDU (cf. Fig. 6.1.2-3 of E2), a MAC PDU sub-header with LCID="11101" (i.e. "Short BSR", see Table 6.2.1-2 as reproduced below) placed immediately before a MAC PDU sub-header with LCID="11111" (i.e. "Padding", see again Table 6.2.1-2) will necessarily indicate that the corresponding short BSR MAC CE has actually been triggered by the "padding BSR procedure".



**Table 6.2.1-2 Values of LCID for UL-SCH;**

Index	LCID values
00000-yyyyy	Identity of the logical channel
yyyyy-11100	reserved
11101	<del>Short Buffer Status Report</del> BSR
11110	<del>Long Buffer Status Report</del> BSR
11111	Padding

In summary, there is no disclosure in E2 of an LCID field specific to the *padding BSR procedure*. Rather, the known LCIDs for short and long BSR MAC CEs are used. But the wording "through a sub-header" in **feature (5')** does not necessarily require such a specific LCID. Rather, this formulation also encompasses the possibility that the indication is given by the position of the MAC PDU sub-header corresponding to the BSR MAC CE, as explained in point 1.1 above. According to E2, "padding BSR" has to be reported as either "Short BSR" or "Long BSR". There is no teaching or suggestion in E2 that the LCID foreseen in a MAC PDU sub-header for this purpose could be omitted from the respective MAC header.

1.6 The respondent challenged the assumption that the skilled reader would obtain from E2 that the newly proposed "padding BSR" would have had a corresponding MAC PDU sub-header. Document E2 in section 6.1.2 did not teach the skilled reader that each MAC CE had a corresponding MAC PDU sub-header, but only that each sub-header in a MAC PDU header had a corresponding MAC SDU, MAC CE or padding. E2 did not teach that each MAC CE discussed in E2 had a sub-header, and specifically not that the newly introduced "padding BSR" had a corresponding MAC PDU sub-header. The proposal of a MAC CE according to the actual content of E2 did not mean

that there was also a proposal for a corresponding MAC PDU sub-header. In Reasons III.B.5a of the appealed decision, the opposition division concluded that this interpretation was in line with the teachings of **E30**. Document E30 implicitly referred to E2 as "(a) implementation 1" and explained that "either short BSR or long BSR is included without having a related Sub Header".

1.7 This is not convincing, for the following reasons:

1.7.1 First, the board agrees with the appellant that, as a matter of principle, for the assessment of novelty the disclosure of a document, in this case E2, cannot be interpreted in the light of a different document published later, like document E30 (see e.g. T 786/00, Reasons 3.7.1).

1.7.2 Second, the board is not convinced that E30 should specifically refer to the proposal made in E2, as contended by the respondent. The excerpts of TS 36.321 cited in E30 do not match the actual wording proposed in E2. For instance, E30 cites:

"MAC control elements, except Padding BSR, are always placed before any MAC SDU. Padding BSR occurs at the end of the MAC PDU.",

whereas E2 proposes the following wording (original emphasis):

"MAC Control elements, with the exception of Padding BSR are always placed before any MAC SDU. Padding BSR and padding occurs at the end of the MAC PDU."

- 1.8 The respondent also argued that, even if it was accepted *arguendo* that E2 disclosed a MAC PDU sub-header corresponding to a "padding BSR procedure" placed before a MAC PDU sub-header corresponding to "padding", the mere ordering of the MAC PDU sub-headers would not ensure the presence of a padding BSR procedure. For instance, the same ordering could arise in a MAC PDU containing a BSR MAC CE and "padding" but MAC SDUs at all. In such a case, the MAC PDU sub-header corresponding to the BSR MAC CE would still be immediately before the MAC PDU sub-header corresponding to padding even if it is not "padding BSR".
- 1.9 The board does not dispute that the teachings of E2 could encompass specific MAC PDU configurations without MAC SDUs which would not correspond to the subject-matter of claim 1. Nevertheless, this does not change the fact that E2 does indeed disclose a MAC PDU containing MAC SDUs, BSR MAC CEs and padding.
- 1.10 Finally, the appellant objected that a mechanism that by chance would allow, at purely the eNB level, to obtain a distinction between a short BSR MAC CE triggered by a "regular/periodic BSR procedure" and by a "padding BSR procedure" would not disclose features (1) and (5'). A mere "side-product" that would arguably allow to obtain such an "origin" of the short BSR MAC CE did not show a step of "indicating" as claimed.
- 1.11 This is not persuasive either. Claim 1 concerns a method carried out in a UE. It is immaterial whether or not the eNB of E2 would check the order of the MAC PDU sub-headers to ascertain the type of BSR. For the assessment of novelty, it is also irrelevant whether or not the UE actually "means to" indicate the type of BSR

using the order of the MAC PDU sub-headers. What counts is whether the **UE** performs the respective "indication". In view of the above, this is also the case in the system of E2.

1.12 If follows that the **second auxiliary request** is not allowable under Article 54 EPC.

2. Since there is no allowable claim request on file, the opposed patent must be revoked.

## 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:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated