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**Datasheet for the decision
of 24 November 2017**

Case Number: T 1097/15 - 3.5.03

Application Number: 05724117.6

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Language of the proceedings: EN

Title of invention:
REDUCTION OF NEAR FIELD E-M SCATTERING USING HIGH IMPEDANCE
COATING MATERIALS

Applicant:
Sony Ericsson Mobile Communications AB

Headword:
High-impedance layer/SONY ERICSSON

Relevant legal provisions:
EPC Art. 84

Keyword:
Claims - clarity (no)



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Case Number: T 1097/15 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 24 November 2017

Appellant: Sony Ericsson Mobile Communications AB
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 15 December
2014 refusing European patent application No.
05724117.6 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman F. van der Voort
Members: B. Noll
S. Fernández de Córdoba

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 05724117.6 (International Publication Number WO 2006/022845 A1). The application was refused on the ground that the independent claims of a main request and first and second auxiliary requests contained subject-matter which extended beyond the content of the application as filed (Article 123(2) EPC).

Further, in the decision in point IV "Further remarks" it was added, *inter alia*, that the independent claims of each request did not meet the requirements of Article 84 EPC.

II. With the statement of grounds of appeal, the appellant filed sets of claims of a main request and two auxiliary requests, replacing the requests on which the decision under appeal had been based. Oral proceedings were conditionally requested.

III. In a communication accompanying a summons to oral proceedings, the board in respect of claim 1 of each request raised objections of non-compliance with Article 84 EPC as regards clarity and Article 123(2) EPC (points 3 to 5 of the communication). It was noted in the communication that at that stage it was not appropriate to examine patentability, *i.e.* novelty and inventive step.

IV. With a letter dated 24 October 2017, the appellant filed sets of claims of a main request and a first auxiliary request. The requests filed with the statement of grounds of appeal were maintained as second to fourth auxiliary requests, respectively.

In the same letter it was further stated that the appellant's representative would not attend the scheduled oral proceedings before the board.

- V. Oral proceedings were held on 24 November 2017 in the absence of the appellant.

The board understood the appellant to be requesting in writing that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or, in the alternative, on the basis of the claims of one of the first to fourth auxiliary requests.

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

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

"A high impedance layer (160) for use with a mobile phone (100) to attenuate electro-magnetic waves caused by components within the mobile phone (100), said high impedance layer (160) comprising:
a metallic layer (162) coupled to the mobile phone (100) such that it is positioned between a source of electro-magnetic waves and a user's hearing aid, the metallic layer (162) for attenuating the electro-magnetic waves thereby reducing the effect the electro-magnetic waves have on the user's hearing aid during normal use of the mobile phone (100),
wherein the high impedance layer (160) covers a protective display cover (170) of a display (120) and a speaker (110) of the mobile phone (100),
wherein a top edge of a printed circuit board, PCB, (180) of the mobile phone (100) is in close proximity

to the speaker (110) of the mobile phone (100),
wherein the high impedance layer (160) comprises the
metallic layer (162) coupled to a resistive layer
(166),
wherein the resistive layer (166) of said high
impedance layer (160) provides sufficient attenuation
to decrease RF surface waves and minimizes electro-
magnetic scattering on the printed circuit board, PCB,
(180),
wherein both the metallic layer (120) and the resistive
layer (166) are applied as thin layers to obtain
sufficient transparency in the display area of the
display (120)."

Claim 1 of the first auxiliary request reads as
follows:

"A mobile phone (100) comprising:

- a printed circuit board (180) positioned in a top
flip portion of the mobile phone (100),
wherein a top edge of the printed circuit board (180)
is in close proximity to a speaker (110) of the mobile
phone (100),
wherein a high impedance layer (160) covers the speaker
(110) and a protective display cover (170) of a display
(120),
wherein the high impedance layer (160) is used to
attenuate electromagnetic waves caused by components
within the mobile phone (100),
wherein the high impedance layer (160) comprises a
metallic layer (162) coupled to the mobile phone (100)
such that it is positioned between a source of
electromagnetic waves and a user's hearing aid, the
metallic layer (162) used to attenuate electromagnetic
waves thereby reducing the effect the electromagnetic
waves have on the user's hearing aid during normal use

of the mobile phone (100),
wherein the high impedance layer (160) comprises a
resistive layer (160) coupled to the metallic layer
(162),
wherein the resistive layer (166) provides sufficient
attenuation to decrease RF surface waves and minimizes
electromagnetic scattering on the printed circuit
board, PCB, (180),
wherein both the metallic layer (162) and the resistive
layer (166) are applied as thin layers to obtain
sufficient transparency in the display area of the
display (120).

Claim 1 of the second auxiliary request reads as
follows:

"An impedance layer (160) for use with a mobile phone
(100), the impedance layer characterized in that

the impedance layer (160) is configured to attenuate
scattering electromagnetic fields that occur at an edge
of a metallized area (180) within the mobile phone
(100) during normal operation of the mobile phone
(100), said impedance layer (160) being translucent and
comprising a metallic layer (162) and a resistive layer
(166) coupled to one another [*sic*] located along a
surface of the mobile phone (100) and covering a
speaker (110) and a display (120) of the mobile phone
(100), wherein the speaker (110) is located [*sic*] close
proximity to the edge of the metallized area (180) in
the mobile phone (100), and wherein the speaker (110)
and the display (120) are located between the impedance
layer (160) and the metallized area (180), wherein the
impedance layer (160) is covering a display cover (170)
that covers the display (120)."

Claim 1 of the third auxiliary request is identical to claim 1 of the second auxiliary request.

Claim 1 of the fourth auxiliary request differs from claim 1 of the second auxiliary request in that it comprises the following additional feature:

"wherein the metallic layer (162) comprises aluminum, copper and/or nickel, and the resistive layer comprises carbon, indium and/or ferrites".

Reasons for the Decision

1. *Claim 1 of the main request - clarity (Article 84 EPC)*

1.1 Claim 1 seeks protection for a high-impedance layer. However, the high-impedance layer is not solely specified by physical and technical properties of the layer itself, but also by features expressing its position in relation to, and its interaction with, components of a mobile phone to which it is to be coupled and in relation to a hearing aid. More specifically:

(a) The feature that the high-impedance layer is configured to attenuate electromagnetic waves caused by components within the mobile phone during normal use of the mobile phone implies a functional interaction between the high-impedance layer and components of the mobile phone. It also implies a close positional relationship. However, neither a functional interaction nor a position of the layer in respect of components of the mobile phone characterises the layer itself.

(b) The feature that the high-impedance layer covers a protective display cover of a display and a speaker of

the mobile phone specifies a positional relation between the layer and various parts of a mobile phone. It does not, however, characterise the layer itself.

(c) The feature that the metallic layer is coupled to the mobile phone such that it is positioned between a source of electromagnetic waves and a user's hearing aid specifies a positional relation between the metallic layer and a hearing aid which is not even part of a mobile phone. This feature therefore does not characterise the layer itself.

1.2 None of the features referred to in points (a) to (c) above are suitable for characterising the high-impedance layer itself. It is therefore unclear for which subject-matter protection is sought by claim 1, e.g. solely for a high-impedance layer per se or specifically for a high-impedance layer when built into a mobile phone which is held in a particular position relative to a user wearing a hearing aid. Claim 1 therefore lacks clarity (Article 84 EPC).

1.3 The main request is therefore not allowable.

2. *Second to fourth auxiliary requests*

2.1 Claim 1 of each of second to fourth auxiliary requests seeks protection for a high-impedance layer which is "configured to attenuate scattering electromagnetic fields that occur at an edge of a metallized area (180) within the mobile phone (100) during normal operation of the mobile phone (100)". As with claim 1 of the main request, this feature does not characterise a physical or technical property of the high-impedance layer itself, but only a relation of the layer to another entity, i.e. the mobile phone. It is thus unclear for

which subject-matter protection is sought. Therefore, claim 1 of each of the second to fourth auxiliary requests lacks clarity (Article 84 EPC) for the same reasons, applied mutatis mutandis, as set out in point 1 above in respect of claim 1 of the main request.

2.2 The second to fourth auxiliary requests are therefore not allowable.

3. *Claim 1 of the first auxiliary request - clarity (Article 84 EPC)*

3.1 Claim 1 of the first auxiliary request seeks protection for a mobile phone and includes the feature that the metallic layer is coupled to the mobile phone such that it is positioned between a source of electromagnetic waves and a user's hearing aid. This feature specifies a positional relation between the metallic layer, an otherwise unspecified source of electromagnetic waves, and a hearing aid which is not part of the mobile phone. This feature therefore does not characterise the mobile phone itself or any of its components. It is therefore unclear for which subject-matter protection is sought by claim 1 of the first auxiliary request, e.g. for a mobile phone per se or for a mobile phone specifically held in a particular position relative to a user wearing a hearing aid.

Claim 1 therefore lacks clarity (Article 84 EPC) for reasons similar to those indicated for claim 1 of the main request.

3.2 The first auxiliary request is therefore not allowable.

4. There being no allowable request, it follows that the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



L. Malécot-Grob

F. van der Voort

Decision electronically authenticated