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Datasheet for the decision of 18 November 2024

Case Number: T 2314/22 - 3.4.01

Application Number: 13179815.9

Publication Number: 2835863

IPC: H01Q1/27, H01Q1/38, H04R25/00

Language of the proceedings: EN

Title of invention:
Hearing device with RF antenna

Patent Proprietor:
Oticon A/S

Opponent:
GN Hearing A/S

Headword:
Hearing aid with RF antenna / Oticon

Relevant legal provisions:
EPC Art. 123(2), 84
RPBA 2020 Art. 12(2), 12(6) sentence 1, 13(1), 13(2)

Keyword:
Amendments - main request - added subject-matter (yes) - auxiliary request 6 - added subject-matter (yes) - auxiliary requests 7 and 8 - added subject-matter (yes)
Amendment to case - auxiliary requests 1 to 5 - admissibly raised and maintained (no)
Late-filed request - auxiliary requests 7 and 8 - error in use of discretion at first instance (yes)
Late-filed auxiliary requests - auxiliary requests 9 and 10 - admitted (no)

Decisions cited:
R 0012/22

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Case Number: T 2314/22 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 18 November 2024

Appellant: (Patent Proprietor)	Oticon A/S Kongebakken 9 2765 Smørum (DK)
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Respondent: (Opponent)	GN Hearing A/S Lautrupbjerg 7 2750 Ballerup (DK)
Representative:	Zacco Denmark A/S Arne Jacobsens Allé 15 2300 Copenhagen S (DK)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 8 August 2022 revoking European patent No. 2835863 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair	P. Scriven
Members:	T. Zinke
	B. Müller

Summary of Facts and Submissions

I. The opposition was based on Article 100(a) in connection with Articles 54 and 56, Article (b) and (c) EPC.

II. The Opposition Division revoked the patent. It held that the patent as granted (proprietor's main request) included added subject-matter (Article 100(c) EPC), that auxiliary requests 1 to 4, and 11 also contained added subject-matter (Article 123(2) EPC). Auxiliary requests 5 to 10 were not admitted. During oral proceedings, the Opposition Division declined the proprietor's request for an opportunity to file further requests.

III. The proprietor appealed that decision.

IV. With the statement setting out the grounds of appeal, the proprietor requested that the decision be set aside and amended such that the patent be maintained as amended with a main request, that was identical to auxiliary request 5 in opposition proceedings. In the alternative, the proprietor requested that the patent be maintained according to one of auxiliary requests 1 to 8. Auxiliary requests 1 to 6 were identical to auxiliary requests 6 to 11, as dealt with in the appealed decision. Auxiliary requests 7 and 8 were new on appeal.

V. In reply, the opponent requested that the appeal be dismissed, i.e. that the revocation stand.

VI. The parties further requested, inter alia, that the matter be remitted to the Opposition Division, if the Board of Appeal set aside the revocation based on objections under Article 123(2) EPC.

VII. The proprietor also requested that the matter be remitted for discussion of, at least, auxiliary requests 7 and 8, for reasons of a violation of its right to be heard.

VIII. With a summons to attend oral proceedings, the Board provided its preliminary opinion, in a communication under Article 15(1) RPBA. It held, provisionally, that the main request should be admitted into appeal proceedings, but that it included added subject-matter (Article 123(2) EPC); that auxiliary requests 1 to 6 should not be admitted; and that auxiliary requests 7 and 8 should be admitted, but that they also included added-subject matter (Article 123(2) EPC).

IX. In a first reply to the Board's preliminary opinion, dated 27 September 2024, but received on 12 November 2024, the proprietor submitted a new auxiliary request 9 and provided arguments with regard to its admissibility and allowability.

X. In a second reply to the Board's preliminary opinion, dated 15 November 2024, the proprietor submitted a

further auxiliary request 10 and referred to the first reply for issues of its admissibility, original disclosure, and patentability.

XI. Claim 1 of the main request reads (amendments to claim 1 as granted emphasized by the Board, feature labelling corresponding to the labelling in section 3.1 of the appealed decision for the then pending main request, i.e. the patent as granted):

[A] A hearing aid (20) having

[A1] a housing (21) comprising:

[A1.1] an input circuit (51) adapted to provide one or more input audio signals;

[A1.2] a signal processing circuit (23) adapted to process at least one of the one or more input audio signals; wherein the signal processing circuit (23) comprises an RF transmitter and/or an RF receiver and an electronic circuit (40),

[A1.3] an output means (24) adapted and arranged to provide an audible signal to a user in dependence on at least one processed input audio signal;

[A1.4] an RF antenna (1) adapted to receive and/or transmit electromagnetic RF signals within a first frequency range enclosing a first frequency of resonance of the RF antenna (1) corresponding to a first wavelength, the RF antenna (1) comprising:

[A1.4.1] an electrically conductive antenna element (5) having a feed (8) for electrically connecting to the RF transmitter and/or RF receiver (44);

[A1.4.2] an electronic component (9) adapted to receive and/or provide one or more electric signals from/to the electronic circuit (40) within a second frequency range not overlapping the first frequency range; and

[A1.4.3] one or more electric leads (11) electrically connected to lead the one or more electric signals between the electronic component (9) and the electronic circuit (40),

[A1.4.4] each of the one or more electric leads (11) being electrically connected to the electronic circuit (40) through a respective inductor (14, 16) adapted to reflect and/or attenuate signals within the first frequency range and pass signals within the second frequency range,

characterized in that

[A2] the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in ~~or on a~~ the substrate,

[A3] the coupling between the antenna element (5) and the one or more electric leads (11) is mainly capacitive, and,

[A4] the RF antenna (1) extends partly through a portion (30) of the housing (21) which is adapted to be arranged on the top of the ridge between the pinna and the head of the user when the hearing device (20) is in its operating position.

XII. Claim 1 of auxiliary request 1 includes an amended feature [A2], which reads (amendments as compared to the main request emphasized):

...
the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, the substrate being constituted by a rigid, a semi-flexible or a flexible printed circuit board,
...

XIII. Claim 1 of auxiliary request 2 includes an amended feature [A2], which reads (amendments as compared to the main request emphasized):

...
the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, the substrate being constituted by printed circuit board, and wherein the antenna

element and the one or more leads comprise respective patterns in one or more electrically conductive layers of the printed circuit board,
...

XIV. Claim 1 of auxiliary request 3 includes an amended feature [A2], which reads (amendments as compared to the main request emphasized):

...
the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, wherein the substrate separates the antenna element (5) and the one or more electric leads (11) as an insulating layer therebetween,
...

XV. Claim 1 of auxiliary request 4 includes an amended feature [A2], which reads (amendments as compared to the main request emphasized):

...
the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, wherein the substrate separates the antenna element (5) and the one or more electric leads (11) as an insulating layer therebetween, wherein the electronic component (9) is mounted on the substrate,
...

XVI. Claim 1 of auxiliary request 5 includes an amended feature [A1], which reads (amendments as compared to the main request emphasized):

> ...
> *a housing (21), the housing (21) comprising*
> ...

XVII. Claim 1 of auxiliary request 6 includes an amended feature [A1.2], which reads (amendments as compared to the main request emphasized):

> ...
> *a signal processing circuit (23) adapted to process at least one of the one or more input audio signals; wherein the signal processing circuit (23) comprises an RF transmitter and/or an RF receiver and an electronic circuit (40), the electronic circuit comprising at least one of a preamplifier (40), a power amplifier (43), a user-interface controller and a transceiver for communication using near-field magnetic induction signals,*
> ...

XVIII. Claim 1 of auxiliary request 7 includes an amended feature [A2] as compared to claim 1 of auxiliary request 6 (amendments emphasized):

> ...
> *the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate,*

wherein the antenna element (5) comprises two or more electrically conductive layers electrically connected to each other, and wherein the one or more leads (11) are arranged between the two or more electrically conductive layers,
...

XIX. Claim 1 of auxiliary request 8 includes an amended feature [A2] as compared to claim 1 of auxiliary request 7 (amendments emphasized):

...
the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, wherein the antenna element (5) comprises two ~~or more~~ electrically conductive layers electrically connected to each other, one of the two electrically conductive layers occupying essentially the entire surface of a top side (3) of the substrate (2) and the other one of the two electrically conductive layers occupying essentially the entire surface of the bottom side (4) of the substrate (2), and wherein the one or more leads (11) are arranged between the two or more electrically conductive layers,
...

XX. Claim 1 of auxiliary request 9 includes amendments to features [A1.2], [A1.4.2] and [A2] as compared to auxiliary request 8, which read (amendments emphasized):

[A1.2] amended:

...

a signal processing circuit (23) adapted to process at least one of the one or more input audio signals; wherein the signal processing circuit (23) comprises an RF transmitter and/or an RF receiver ~~and an electronic circuit (40)~~, ~~the electronic circuit comprising at least one of a preamplifier (40), a power amplifier (43), a user-interface controller and a transceiver for communication using near-field magnetic induction signals~~,, preamplifiers (40), digitisers (41), a digital signal processor (42), a pulse-width modulator (43), an RF transceiver (44) and a voltage regulator (50),

...

[A1.4.2] amended

...

an electronic component (9) adapted to receive and/or provide one or more electric signals from/to ~~the~~ an electronic circuit (40) of the signal processing circuit within a second frequency range not overlapping the first frequency range, the electronic circuit comprising at least one of the preamplifiers (40), the pulse-width modulator (43), a user-interface controller and a transceiver for communication using near-field magnetic induction signals; and

...

[A2] amended

...

the antenna element (5) is formed on a substrate and the one or more electric leads (11) are formed in the substrate, wherein the antenna element (5) comprises two electrically conductive layers electrically connected to each other <u>through several vias (19) distributed at least along the rim of the substrate (2) and together constituting the electrically conductive antenna element (5),</u> one of the two electrically conductive layers occupying essentially the entire surface of a top side (3) of the substrate (2) and the other one of the two electrically conductive layers occupying essentially the entire surface of the bottom side (4) of the substrate (2), and wherein the one or more leads (11) are arranged between the two or more electrically conductive layers, ...

XXI. Claim 1 of auxiliary request 10 includes an amended feature [A1.4.2] as compared to auxiliary request 9, which reads (amendments emphasized):

...
an electronic component (9) adapted to receive and/or provide one or more electric signals from/to the an electronic circuit (40) of the signal processing circuit within a second frequency range not overlapping the first frequency range, the electronic circuit comprising at least one of the preamplifiers (40)<u>,</u> <u>and</u> the pulse-width modulator (43)~~, a user-interface controller and a transceiver~~

~~for communication using near-field magnetic induction signals~~; and

...

XXII. The parties' arguments and submissions, insofar as they are relevant to the decision, are discussed in the Reasons, below.

Reasons for the Decision

Main request - Consideration

1. The main request is admitted and considered in appeal proceedings (Article 12(6) RPBA).

2. The main request is identical to auxiliary request 5 before the Opposition Division. This request was not admitted into the opposition proceedings (decision, II., sections 8.1 to 8.3), because it was late-filed and did not address one of the two objections under added subject-matter to the then pending main request, i.e. the objection to feature A1.2.

3. Article 12(6), first sentence, RPBA states:

> *The Board shall not admit requests, facts, objections or evidence which were not admitted in the proceedings leading to the decision under appeal, unless the decision not to admit them suffered from an error in the use of discretion or unless the*

circumstances of the appeal case justify their admittance.

4. No error of discretion of the Opposition Division is evident, and the proprietor did not suggest there was one.

5. The circumstances of the appeal case, however, justify admission of the main request. Before the Opposition Division, objections under Article 100(c) EPC were raised against two features of claim 1 of the patent. One was to a feature that was identical to feature A1.2, the other was to a different formulation of feature A2, which then read:

...
the antenna element (5) and the one or more electric leads (11) are formed in or on a substrate
...

6. With the main request in appeal, the proprietor apparently intends to address the objection to feature A2. Since, unlike in proceedings before the Opposition Division, no decision regarding feature A1.2 has been taken so far, it is appropriate to admit the proprietor's request, which seeks to resolve one of the two issues by amendment, and to consider arguments with regard to the second. In addition, the issues of feature A1.2 with regard to added subject-matter, on which the decision under appeal was based, are the same for the main request as for auxiliary request 6 on appeal (identical to auxiliary request 11 before the Opposition Division), which was admitted into the opposition proceedings. Hence, these issues have to be

decided on appeal, consideration of the main request is not prejudicial to procedural economy.

Main request - Added subject-matter (Article 123(2) EPC)

7. The Opposition Division considered features A1.2 and A2 of claim 1 of the patent to have been amended in ways that extended beyond the content of the application as filed (decision, II., sections 6.3.2 and 6.3.3, on pages 12 and 13), they read:

> [A1.2] of the patent:
> ...
> *a signal processing circuit (23) adapted to process at least one of the one or more input audio signals; wherein the signal processing circuit (23) comprises an RF transmitter and/or an RF receiver and an electronic circuit (40)*
> ...
>
> [A2] of the patent:
> ...
> *the antenna element (5) and the one or more electric leads (11) are formed in or on a substrate*
> ...

8. With regard to feature A1.2, the Opposition Division held that there was no basis for a signal processing circuit comprising a generic electronic circuit. In particular, neither at page 13, lines 20 to 25, nor Fig. 3, nor page 17, lines 9 to 12 provided a basis (decision, II., section 6.3.2, last paragraph on page 12 to first paragraph on page 13).

9. With regard to feature A2, the Opposition Division held that there was no basis for generically defining the option that the antenna element was on the substrate and the leads were in the substrate. Only more detailed embodiments were disclosed in Fig.1; and at page 7, lines 9 to 15. These included inter alia *an antenna element of elongated shape made of two electrical conductive layers disposed on opposite surfaces of a substrate and being connected to each other through vias distributed along the rim of the substrate* (decision, II., section 6.3.3, first paragraph). Only some generalisation of the shape of the substrate and the antenna element (page 10, line 26; page 16, lines 10 to 12) and of the material of the layers (page 14, lines 15 to 16) was supported. The Opposition Division concluded that this generic option, that the antenna element was on the substrate while the leads were in it was an unallowable intermediate generalisation and that the option of the antenna element and the leads were both in the substrate was not disclosed originally at all (decision, II., section 6.3.3, last paragraph).

10. In the main request on appeal, amendments have been made to feature A2 of the patent, while feature A1.2 has not been amended.

11. As held by the Opposition Division, feature A1.2 has no basis in the application as originally filed.

12. In the statement of grounds (section 3.3.1.1), the appellant relies on the statement on page 13, lines 20 to 25 of the original application:

> *...*
> *Generally, the leads 11 may be used to lead one or more electric or electronic signals*

> *between one or more electronic components 9 and one or more electronic circuits electrically connected to the RF antenna 1 via the inductors 14, 16, such as e.g. a preamplifier 40, a power amplifier 43 (see FIG. 3), a user-interface controller and/or a transceiver for communication using near-field magnetic induction signals.*
> *...*

in combination with Fig.3

> *... clearly conveys that the ... preamplifiers 40 and the power amplifier 43 explicitly forming part of the ... signal processing circuit 23 can be replaced with or form part of one (or more) generically labelled electronic circuit which then, apparently, also form part of the signal processing circuit 23 as it is defined in feature A1.2.*

(statement of grounds, page 7, first paragraph).

13. The passage on page 13 of the application, however, does not disclose that a (generic) electronic circuit is part of a signal processing circuit, and Figure 3 only discloses a signal processing circuit with particular parts (cf. original document, page 17, lines 7 to 12:

> *... whereas the preamplifiers 40, the digitisers 41, the digital signal processor 42, the pulse-width modulator 43, the RF transceiver 44 and the voltage regulator 50*

together constitute the signal processing circuit 23.

Whereas the parts of the signal processing circuit will surely be realised as electronic circuits, there is no disclosure at all that the signal processing circuit includes - besides the RF transceiver - a general purpose electronic circuit (i.e. without the functions realised in the signal processing circuit of Figure 3).

14. During oral proceedings, the appellant also referred to claim 1 of the application as originally filed, which reads:

An RF antenna (1) adapted to receive and/or transmit electromagnetic RF signals within a first frequency range enclosing a first frequency of resonance of the RF antenna (1) corresponding to a first wavelength, the RF antenna (1) comprising: an electrically conductive antenna element (5) having a feed (8) for electrically connecting to an RF transmitter and/or an RF receiver (44); an electronic component (9) adapted to receive and/or provide one or more electric signals from/to an electronic circuit (40) within a second frequency range not overlapping the first frequency range; and one or more electric leads (11) electrically connected to lead the one or more electric signals between the electronic component (9) and the electronic circuit (40), each of the one or more electric leads (11) being electrically connected to the electronic circuit (40) through a respective inductor (14, 16)

adapted to reflect and/or attenuate signals within the first frequency range and pass signals 15 within the second frequency range, characterised in that the coupling between the antenna element (5) and the one or more electric leads (11) is mainly capacitive.

15. The appellant argued that the skilled person, reading claim 1 as originally filed, would try to understand where the electronic circuit of claim 1 is located. They would identify, as the sole possibility, that it was part of the signal processing circuit 23 depicted in Fig.3 and would understand that not only the components depicted therein, i.e. the preamplifiers 40, the digitisers 41, the RF transceiver 44, the pulse-width modulator 43, and the voltage regulator 50, but also another electronic circuit might be part of the signal processing circuit and be in connection to the electronic component 9. The skilled person would understand that the application defined as signal processing circuit, everything that was located between the electronic component 9 and the output means 24, and, hence, the electronic circuit defined in claim 1 of the application as filed had also to be a part of it.

16. This is not persuasive. First, the skilled person, reading the whole application, could also interpret the term *electronic circuit,* in claim 1 of the application as filed, as a term used to describe the particular parts of the embodiment of the signal processing circuit in Figure 3, and not as some other, generic electronic circuit. And second, the electronic circuit in claim 1 of the application as filed could also be a circuit separate from the signal processing circuit,

which - as defined - includes the RF transmitter or RF receiver.

17. Feature A2, also, is not originally disclosed (Article 123(2) EPC). As indicated by the Opposition Division (decision, section 11.2.2, last two paragraphs, with regard to then pending auxiliary request 11, which included this same feature) it amounts to an unallowable intermediate generalisation.

18. The proprietor is correct in stating that, in Figure 1 and the corresponding parts of the description (page 7, lines 9 to 15), the antenna element is on the substrate and the leads are in it; but this is not the point of the objection. What is not disclosed, originally, in Figure 3 and the corresponding description (nor in original claim 9, which was provided by the appellant as a further basis for this feature) is an RF antenna with an antenna element on the substrate but without layers on both sides of the substrate that are electrically connected. The omission of these two layers and their connection is not originally disclosed.

19. There is no evidence for the proprietor's assertion, in the statement of grounds (page 9, second paragraph) and during oral proceedings, that the skilled person would understand from the use of the term *mainly capacitively coupled* that a structure with only one layer on a substrate was encompassed by the original disclosure. Whereas *capacitively coupled* might be interpreted as *not inductively coupled*, as argued by the proprietor, the use of the term *mainly* leaves so much room for interpretation that no structural definition of the antenna element can be derived from *mainly capacitively coupled*.

Auxiliary requests 1 to 5

20. Auxiliary requests 1 to 5 are identical to auxiliary requests 6 to 10 before the Opposition Division. These were not admitted into the opposition proceedings (decision, II., sections 8.1 to 8.3).

21. As with the main request, Article 12(6) RPBA applies. Again, no error in the exercise of discretion is evident; but for auxiliary requests 1 to 5 there are no circumstances of the appeal case that could justify their consideration. Feature A1.2 of the main request is also present in these auxiliary requests, so that they are not suitable to overcome the objection to it.

22. Hence, auxiliary requests 1 to 5 are not admitted (Article 12(6) RPBA).

Auxiliary request 6 - Added subject-matter (Article 123(2) EPC)

23. Auxiliary request 6 (identical to auxiliary request 11 before the Opposition Division) was admitted into opposition proceedings (decision, II., sections 9.2 and 9.3) and, for that reason, is considered in appeal proceedings (Article 12(2) RPBA).

24. However, claim 1 of auxiliary request 6 includes the same feature A2 as the main request, which includes added subject-matter (see above), so that auxiliary request 6 is not allowable, at least for that reason.

25. In addition, amended feature A1.2 is also not originally disclosed, as also held by the Opposition Division (decision, II., section 11.2.1). There is no basis for a signal processing circuit including a user-

interface controller or a transceiver for communication using near-field magnetic induction signals.

26. During oral proceedings, when discussing the same amended feature A1.2 with regard to auxiliary request 7, the proprietor sought to provide a basis for this feature (application as filed, page 13, lines 20 to 25). They argued that the skilled person would understand that the term *signal processing circuit* in the original disclosure would encompass everything between the electronic component 9 (e.g. a microphone) and a loudspeaker 24, i.e. also a user-interface controller or a transceiver for communication using near-field magnetic induction signals, because no other electronic circuit of the hearing device was disclosed.

27. This is not persuasive. As already quoted above (in point 12), this passage (application as filed, page 13, lines 20 to 25) reads:

> *Generally, the leads 11 may be used to lead one or more electric or electronic signals between one or more electronic components 9 and one or more electronic circuits electrically connected to the RF antenna 1 via the inductors 14, 16, such as e.g. a preamplifier 40, a power amplifier 43 (see FIG.3), a user-interface controller and/or a transceiver for communication using near-field magnetic induction signals.*

No signal processing circuit is mentioned in this passage, and the reference to Figure 3 only encompasses the preamplifier 40 and the power amplifier 43 (which are indeed depicted as being a part of the signal processing circuit 23), but neither the user-interface

controller nor the transceiver for communication using near-field magnetic induction signals. Hence, it is not unambiguously and directly derivable, whether these are part of the signal processing circuit or might be embodied as separate electronic circuits.

Auxiliary requests 7 and 8 - Consideration

28. According to the minutes of the oral proceedings before the Opposition Division (see page 5, under the time stamp 12:31 to the end of page 6) the proprietor asked for an opportunity to file an *additional Auxiliary Request*, which was denied by the Opposition Division. The discussion evolved generally around such an opportunity, but no particular additional request was ever filed.

29. Auxiliary requests 7 and 8 are admitted into the appeal proceedings, since an error of discretion was made by the Opposition Division (Article 12(6), first sentence, RPBA).

30. In their reasoning for not admitting any further auxiliary requests, the Opposition Division mainly argued that any further auxiliary request, filed only during oral proceedings and, thus, late, would be against the principle of equal treatment of the parties, and economy of the procedure (decision, reasons, section 12.3) and stressed that *Filing a new request would therefore put once again the opponent in a situation of disadvantage, as he will be faced with the undue burden to have to analyse the new request within the limited amount of time available during an oral proceedings.* (decision, reasons, section 12.3, page 19, penultimate paragraph).

31. In this case, the Opposition Division should have exercised their discretion differently, and not denied the proprietor any opportunity of filing additional requests during oral proceedings. Since oral presentations are generally different from written presentations, and discussions among the parties and with the division might clarify misunderstandings, there should be possibilities for the parties to react, even during oral proceedings. It is within the Opposition Division's discretion to admit such reactions, as expressed by new requests, facts or arguments, but in order to do so - if time allows, as it did here - they should at least have a look at them and then decide whether they and the other party would be able to deal with them during the oral proceedings or not. It is accepted that repetitively filing new requests during oral proceedings might amount to a procedural abuse, which would give the Opposition division discretion to prevent further filings. But this was not the case here, since the proprietor had not filed any further request during oral proceedings. As a consequence, the Board agrees that, given that non-admittance of any further auxiliary requests was incorrect, the Opposition Division violated the appellant's right to be heard (cf. R 12/22, point 3.2.4 of the Reasons).

32. Due to the error of discretion of the Opposition Division, the proprietor could only file auxiliary requests 7 and 8 together with the statement of grounds. Therefore, auxiliary requests 7 and 8 are admitted into the appeal proceedings (Article 12(6), first sentence, RPBA).

Auxiliary request 7 - Added subject-matter (Article 123(2) EPC)

33. In auxiliary request 7, as compared to auxiliary request 6, feature A2 has been further amended (see above).

34. Amended feature A2, however, (as is also pointed out by the opponent in their reply, point 4.7) still omits that the two electrically conductive layers are arranged on either side of the substrate and that the layers of the antenna element are connected to each other through several vias distributed along the rim of the substrate and together constitute an electrically conductive antenna element.

35. The originally filed application, however, (cf. original page 7, lines 9 to 15) provides no basis for this omission.

36. During oral proceedings, the proprietor argued that the skilled person would understand that the radiating part of the antenna element was embodied by the large surfaces of the electrically conductive layers and not by the vias which, therefore, could be omitted. Further, it was argued that the term *mainly capacitively coupled* should be interpreted as meaning that the two (or more) electrically conductive layers arranged on the substrate comprised large surfaces on either side of the substrate, so that no further definition was needed.

37. This is not persuasive. First, in the application as filed it is explicitly noted that (page 7, lines 12 to 15):

The metallic layers are electrically connected to each other through several vias 19 distributed at least along the rim of the substrate 2 and together constitute an electrically conductive antenna element 5 having an elongate shape.

Hence, the vias 19 are disclosed as *constituting* the antenna element. There is no disclosure of any antenna element without such vias.

38. Second, the wording of amended feature A2 also covers an antenna element with electrically conductive layers on the same (top or bottom) side of the substrate, which might then be capacitively coupled with one or more leads in the substrate. However, there is no original disclosure for such an antenna element.

39. Feature A1.2 is identical to this feature in auxiliary request 6, so that the above-discussed objection applies equally.

40. Hence, the amendments still extend over the content of the application as originally filed and, therefore, auxiliary request 7 is not allowable.

Auxiliary request 8 - Added subject-matter (Article 123(2) EPC)

41. In auxiliary request 8, feature A2 was further amended as compared to auxiliary request 7 (see above).

42. This amended feature A2, however, (as is also pointed out by the opponent in their reply, point 4.8) still omits that the layers of the antenna element are connected to each other through several vias

distributed along the rim of the substrate and together constitute an electrically conductive antenna element.

43. As stated above with regard to auxiliary request 7, the originally filed application (cf. original page 7, lines 9 to 15) provides no basis for this omission.

44. Feature A1.2 is identical to this feature in auxiliary request 6, so that the above-discussed objection applies equally.

45. Hence, the amendments still extend beyond the content of the application as originally filed and, therefore, auxiliary request 8 is not allowable.

Auxiliary requests 9 and 10 - Consideration

46. Auxiliary request 9 was filed in response to the summons to oral proceedings, including the preliminary opinion of the Board. Features A1.2, A1.4.2, and A2 were amended, as compared to auxiliary request 8.

47. Auxiliary request 10 was also filed in response to the summons, but later than auxiliary request 9. Feature A1.4.2 was further amended as compared to auxiliary request 9.

48. According to Article 13(2) RPBA:

> *Any amendment to a party's appeal case ... after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.*

49. In their submission sent together with auxiliary request 9, as well as during oral proceedings with regard to auxiliary request 10, the proprietor argued that with the preliminary opinion of the Board they - for the first time - saw detailed reasoning concerning auxiliary requests 7 and 8 (first reply to summons, section I). Second, the amendments clearly resolved the outstanding issues identified in the preliminary opinion, so that exceptional circumstances were given.

50. This is not persuasive.

51. The objections with regard to added-subject matter of features A1.2 and A2 (of claim 1 of the patent as granted) were already raised with the notice of opposition (notice of opposition, section 7, in particular page 7, 4th complete paragraph to page 8, fifth complete paragraph).

52. With their reply to the statement of grounds, the opponent already raised substantial objections to auxiliary requests 7 and 8, in particular, with regard to Article 123(2) EPC (reply, sections 4.7 and 4.8). Hence, the proprietor was aware of these objections before notification of the summons. That these objections were, preliminarily, confirmed by the Board cannot establish exceptional circumstances, but is a normal development, which the parties should expect.

53. Further, the amendments prima facie do not overcome the objections with regard to Article 123(2) EPC, raised by the opponent in their reply to the appeal, and taken up by the Board in the preliminary opinion to auxiliary requests 7 and 8; and they also give rise to new objections (Article 13(1) RPBA).

54. In particular, the wording of amended feature A1.4.2 of auxiliary request 9 defines an electronic circuit, which might be realised as a user-interface controller or a transceiver for communication using near-field magnetic induction signals, the electronic circuit being part of the signal processing circuit. As discussed above with regard to auxiliary request 6, there is no original disclosure for a user-interface controller or a transceiver for communication using near-field magnetic induction signals that are part of the signal processing controller.

55. With regard to both auxiliary requests 9 and 10, amended feature A1.2 now includes a signal processing circuit comprising

> *... an RF transmitter and/or an RF receiver, ..., an RF_transceiver (44) ...*

56. An original disclosure of a signal processing circuit including an RF transmitter and an RF transceiver (or an RF receiver and an RF transceiver) is lacking. To the contrary, it is disclosed (original application, page 18, lines 20 to 21):

> *In some embodiments, the RF transceiver 44 may be replaced by an RF receiver or an RF transmitter or by both.*

57. It is also not prima facie evident that the signal processing circuit defined in amended features A1.2 and A1.4.2 is originally disclosed. These features imply that only some components of the list of components are comprised by the signal processing circuit. There seems to be no disclosure for each of the possible

combinations of components that are defined in amended claim 1.

58. Further, from the amended wording prima facie lack of clarity objections (Article 84 EPC) are present, inter alia:

(a) Feature A2 includes two or more electrically conducting layers, but only the location of two of them is defined (i.e. on both sides of the substrate). It is unclear where the possible other layers would be located.

(b) The antenna element is located on the substrate, but it is also constituted by vias through the substrate, which are, consequently, not on the substrate.

59. Since no exceptional circumstances are present and the amendments prima facie do not overcome the issues raised by the opponent or by the Board and they give rise to new objections, auxiliary requests 9 and 10 are not admitted (Article 13(1),(2) RPBA).

Remittal

60. With the statement of grounds, the proprietor requested:

should none of the above requests be found admissible, for reasons of violation of the Patentee's right to be heard, the Decision be at least set aside and the case be remitted to the first instance for discussion of at least Auxiliary Request 7 and 8. (statement of grounds, section 5, last paragraph).

61. Since the main request and auxiliary requests 6, 7, and 8, are admitted, the condition for the request for remittal is not met.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

D. Meyfarth P. Scriven

Decision electronically authenticated