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**Datasheet for the decision
of 27 May 2009**

Case Number: T 1903/06 - 3.4.01

Application Number: 99308922.6

Publication Number: 1004885

IPC: G01R 33/341

Language of the proceedings: EN

Title of invention:

Quadrature RF surface coil for magnetic resonance imaging

Applicant:

Koninklijke Philips Electronics N.V.

Headword:

-

Relevant legal provisions (EPC 1973):

EPC Art. 84

Keyword:

-

Decisions cited:

G 0004/92, T 1000/03

Catchword:

-



Case Number: T 1903/06 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 27 May 2009

Appellant: Koninklijke Philips Electronics N.V.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 08 June 2006
refusing European patent application
No. 99308922.6 pursuant to
Article 97(1) EPC 1973.

Composition of the Board:

Chairman: B. Schachenmann
Members: G. Assi
P. Fontenay

Summary of Facts and Submissions

- I. The appellant (applicant) lodged an appeal against the decision of the examining division refusing European patent application No. 99308922.6 (publication number 1004885).
- II. On 10 March 2009 the appellant was summoned to oral proceedings scheduled to take place on 27 May 2009. On 24 March 2009 the Board issued a communication.
- III. On 26 May 2009 the appellant's representative informed the Board that he did not intend to attend the oral proceedings.
- IV. The oral proceedings took place in his absence.
- V. The appellant requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of a set of claims 1 to 7 filed with a letter of 28 April 2006 as main request or, alternatively, on the basis of a set of claims 1 to 6 filed with the same letter as auxiliary request.
- VI. The wording of claim 1 of the main request reads as follows:

"A quadrature RF surface coil for magnetic resonance imaging, comprising a central leg (34) having at least one central leg capacitive element (C_V), the quadrature RF surface coil comprising:

- a plurality of legs (30, 32, 36, 38) without capacitive elements, disposed parallel to and

symmetrically on each side of the central leg (34), thereby forming a planar coil; and

- two side elements (40, 42), interconnecting the legs (30, 32, 36, 38), and being interrupted by a plurality of side capacitive elements (C_A), each one electrically connected between the adjacent ends of each pair of adjacent legs, thereby forming a highpass ladder structure,*

characterized in that

- the central leg and side capacitive elements (C_V , C_A) are selected such that the capacitance is symmetric about a central point (44) of the coil along a direction (S_V) parallel to the legs and is symmetric about the central point (44) in a direction (S_H) parallel to the side elements (40, 42), and*
- the legs (30, 32, 36, 38) are irregularly spaced from each other and symmetrically spaced relative to the central leg (34)."*

Claims 2 to 4 of the main request depend on claim 1.

The wording of claim 5 of the main request reads as follows:

"A phased array RF surface coil arrangement, comprising at least a first and a second quadrature RF surface coil as claimed in any one of claims 1 to 4, which are positioned overlapping so as to minimize the mutual inductance between the coils."

The wording of claim 6 of the main request reads as follows:

"In a method of a magnetic resonance imaging in which a temporally constant uniform magnetic field is generated through an examination region, radio frequency signals are transmitted into the examination region to induce magnetic resonance of resonating nuclei of a desired object, characterized in that the induced magnetic resonance is received by a quadrature RF surface coil (D) according to claim 1 and processed into an image representation, wherein the coil (D) supports two resonant modes, and the method comprising: matching the two resonant modes to occur at a common frequency and passing received signals at and above the common frequency to a receiver."

Claim 7 of the main request concerns *"A method as claimed in claim 7 [sic], wherein ..."*.

VII. Claim 1 of the auxiliary request differs from claim 1 of the main request by the addition of the following feature at the end of the claim:

"- the legs (30, 32, 36, 38) also have different lengths but are symmetric about a midpoint of the central leg (34)".

Claims 2 and 3 of the auxiliary request depend on claim 1.

Claim 4 of the auxiliary request corresponds to claim 5 of the main request with the difference that the mentioned quadrature RF surface coils are *"as claimed in any one of claims 1 to 3"*.

Claims 5 and 6 of the auxiliary request correspond to claims 6 and 7 of the main request.

VIII. The revised version of the European Patent Convention or EPC 2000 entered into force on 13 December 2007. In the present decision, reference is made to "EPC 1973" or "EPC" for EPC 2000 (EPC, Citation practice, pages 4-6) depending on the version to be applied according to Article 7(1) of the Revision Act dated 29 November 2000 (Special Edition No. 1 OJ EPO 2007, 196) and the decisions of the Administrative Council dated 28 June 2001 (Special Edition No. 1 OJ EPO 2007, 197) and 7 December 2006 (Special Edition No. 1 OJ EPO 2007, 89).

Reasons for the Decision

1. The appeal is admissible.
2. Main request

As stated in Article 84 EPC 1973 the claims shall be clear and be supported by the description. Clarity of formulation entails that self-contradictory claims are not admissible. The requirement of support entails that the claims and the description should be consistent with each other. Thus, examples in the description which do not fall within the scope of the claims must be deleted (Rule 34(1)(c) EPC 1973), or the claims must provide a fair generalisation of what is illustrated in the examples, but under the condition that no new subject-matter is introduced (Article 123(2) EPC).

Keeping this in mind, the main request is not allowable for the following reasons.

- 2.1 Claim 1 of the main request refers to a quadrature RF surface coil comprising inter alia "*a plurality of legs ... disposed parallel to and symmetrically on each side of the central leg*", whereby "*the legs ... are irregularly spaced from each other and symmetrically spaced relative to the central leg*".

The appellant submitted in a letter of 23 May 2006 that these features defined the geometric arrangement of the legs relative to the central one with the restriction that the spacing between adjacent legs might be irregular as long as the spacing of the legs on one side of the central one was mirrored on the other side. The Board takes this understanding as a basis for the following argumentation.

- 2.1.1 The expression "*plurality of legs*" in claim 1 of the main request should be understood in the light of the originally filed description (page 6, line 1) according to which the coil with its central leg includes "*N legs, where N is an odd integer*". Thus, the claim covers a quadrature RF surface coil with a total of three legs, in which case the feature of irregular spacing is in contradiction with the requirement of symmetry. It results that claim 1 of the main request is self-contradictory and thus unclear.
- 2.1.2 Figure 2 of the originally filed description depicts an embodiment of the quadrature RF surface coil of the present invention comprising legs regularly spaced from each other and symmetrically arranged on each side of a

central leg. This embodiment is not consistent with claim 1 of the main request.

2.1.3 With regard to originally filed description, the question should also be considered whether claim 1 of the main request may be supported by Figure 3 and the corresponding paragraph on page 7, lines 13-21. Figure 3, however, depicts an embodiment of the quadrature RF surface coil of the present invention comprising legs "*spaced by varying amounts from each other and having differing lengths*" (page 7, lines 13-15; underline added). In this respect, it is noted that the expressions "*the non-uniform spacing and/or length of conductors*" on page 7, lines 18-19 (underline added) and "*the spacing and/or lengths*" on page 7, lines 19-21 (underline added) should be read in the light of the preceding disclosure on page 7, lines 13-18 and thus could not support an interpretation that the paragraph on page 7, lines 13-21 also discloses a quadrature RF surface coil comprising legs spaced by varying amounts from each other or having differing lengths. Rather, the cited sentences on page 7, lines 18-21 hint at the effects that can be achieved by varying the spacing and/or the length of the legs, i.e. either alone or in combination, but anyway within the frame of Figure 3. Therefore, the embodiment of Figure 3 is not consistent with claim 1 of the main request which covers a quadrature RF surface coil comprising a plurality of legs having the same length.

2.1.4 The originally filed claim 3 refers to a quadrature coil as claimed in the originally filed claim 2, wherein "*the legs are irregularly spaced from each other but are symmetric relative to the central leg*". This feature corresponds to the last one recited by claim 1 of the main request. However, the original claim 3 could provide a suitable support only in combination with the original claims 1 and 2. As claim 1 of the main request fails to recite the subject-matter of the original claim 2, it is not supported by the original claims.

2.1.5 In summary, claim 1 of the main request does not meet the requirements of Article 84 EPC 1973 concerning clarity and support by the description.

2.2 Claim 6 of the main request has the wording "*In a method of a magnetic resonance imaging ..., characterized in that ..., wherein the coil ..., and the method comprising ...*". This formulation is inadequate and renders the claim unclear.

2.3 Claim 7 of the main request is deficient in that it refers to "*claim 7*".

3. Auxiliary request

The auxiliary request is not allowable too.

The considerations mentioned above in points 2.1.1, 2.1.2 and 2.2 also apply mutatis mutandis to claims 1, 5 and 6 of the auxiliary request.

4. Procedural matters

According to Rule 115(2) EPC, if a party duly summoned to oral proceedings does not appear as summoned, the proceedings may continue without that party.

Article 15(6) RPBA prescribes that a case should normally be ready for decision at the conclusion of oral proceedings. Furthermore, according to Article 113(2) EPC 1973, the Board shall decide upon the patent application only in the text submitted to it, or agreed, by the applicant.

- 4.1 In the present case, the appellant requested oral proceedings, as an auxiliary request, with the notice of appeal. On 10 March 2009 the appellant was duly summoned to oral proceedings scheduled to take place on 27 May 2009. A communication dated 24 March 2009 was issued in preparation for the oral proceedings. As mentioned in paragraph V of this communication, any written submission should have been filed at the latest one month before the oral proceedings. The appellant's representative, however, did not make any further submission apart from informing the Board on 26 May 2009 that he would not attend the oral proceedings. The oral proceedings thus took place in his absence. In such a case, according to Article 15(3) RPBA the appellant may then be treated as relying only on its written submissions.

Under these circumstances, the Board took a decision at the end of the oral proceedings on the basis of the appellant's main and auxiliary requests on file. The decision is based on the ground under Article 84 EPC 1973.

4.2 In G 4/92 (OJ EPO 1994, 149) the Enlarged Board of Appeal held that *"As regards new arguments, the requirements of Article 113(1) EPC have been satisfied even if a party who has chosen not to appear consequently did not have the opportunity to comment on them during oral proceedings, insofar as such new arguments do not change the grounds on which the decision is based. In principle, new arguments do not constitute new grounds or evidence, but are reasons based on the facts and evidence which have already been put forward."* (Reasons for the Opinion, point 10).

In the present case, issues under Article 84 EPC 1973 in relation to the main and auxiliary requests on file were addressed in the Board's communication of 24 March 2009 as well as in the decision under appeal by way of referral to an examining division's brief communication of 17 May 2006. Thus, the appellant had an opportunity to present its comments on this ground (Article 113(1) EPC 1973). New arguments mentioned in the present decision do not offend the right to be heard in agreement with G 4/92, insofar as they do not change the ground for the refusal of the application.

4.3 The Board is aware of the fact that the objections mentioned against the main and auxiliary requests on file could have been met by suitable amendments, if the appellant's representative would have been present at the oral proceedings. However, the Board has to decide upon the application only in the text submitted to it by the appellant (Article 113(2) EPC 1973). In this respect, the Board agrees with the following conclusions in decision T 1000/03 (unpublished; Reasons,

point 2.5): *"Die ordnungsgemäß geladene Beschwerdeführerin hätte den obigen und weitere kleine Mängel der Beschreibung in der mündlichen Verhandlung mühelos beseitigen können. Eine Aufschiebung der Entscheidung zu ihrer Beseitigung war nicht geboten (vgl. Artikel 11 (3) VOBK). Die Kammer hat sich gemäß Artikel 113 (2) EPÜ an die von der Beschwerde führenden Anmelderin vorgelegte Fassung zu halten. Die Beschwerdeführerin hat mit ihrem Nichterscheinen bei der mündlichen Verhandlung das Risiko einer Zurückweisung der Anmeldung auch bei einfach behebbaren Mängeln in Kauf genommen."* Thus, the appellant has to bear the consequences of the failure to appear at the oral proceedings before the Board.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar

The Chairman:

R. Schumacher

B. Schachenmann