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Datasheet for the decision of 15 July 2008

Case Number: T 1570/06 - 3.4.01

Application Number: 00660139.7

Publication Number: 1079462

IPC: H01Q 9/04, H01Q 5/00, H01Q 1/24

Language of the proceedings: EN

Title of invention:
Planar antenna structure

Applicant:
Pulse Finland Oy

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Added subject-matter (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1570/06 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 15 July 2008

Appellant: Pulse Finland Oy
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Representative: Kupiainen, Juhani Kalervo
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 12 June 2006 refusing European application No. 00660139.7 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: B. Schachenmann
Members: H. Wolfrum
P. Fontenay

Summary of Facts and Submissions

I. European patent application 00 660 139.7 (publication No. 1 079 462) was refused by a decision of the examining division dispatched on 12 June 2006, on the ground of lack of inventive step of the subject-matter of the claims according to the request then on file.

II. The applicant lodged an appeal against the decision and paid the prescribed fee on 15 August 2006. On 18 September 2006 a statement of grounds of appeal was filed maintaining the request on which the contested decision was based.

III. On 3 April 2008 the appellant was summoned to oral proceedings to take place on 15 July 2008.

In a communication pursuant to Article 15 (1) RPBA annexed to the summons the board gave a preliminary view on the issues to be addressed during the oral proceedings. Apart from considerations regarding the matter of inventive step, the board pointed to problems of added subject-matter and raised questions concerning lack of clarity and sufficiency of disclosure.

IV. The appellant responded by a letter dated 12 June 2008 by which a new set of claims 1 to 7 replacing the former claims and an amended page 4 of the description were filed so as to address the clarity objections raised by the board.

The board's concerns as to the issues of added subject-matter, sufficiency of disclosure and inventive step were traversed.

Moreover, it was announced that the appellant would not attend the oral proceedings.

V. Oral proceedings were held on 15 July 2008 in the absence of the appellant.

VI. The appellant has requested in writing that the decision under appeal be set aside and a patent be granted on the basis of the following application documents:

claims: 1 to 7 filed by letter of 12 June 2008,
description: page 1 filed by letter of 13 October 2004,
pages 2, 3, 5 and 6 as originally translated into English,
page 2a filed by telefax on 20 September 2005,
page 4 filed by letter of 12 June 2008,
drawings: sheets 1/3 to 3/3 as originally filed.

VII. Claim 1 of the appellant's request reads as follows :

"*1. An antenna structure comprising a ground plane (220) and a radiating element (210), which has a single feed point (S) and a slot to create two separate operating frequency bands, the slot comprising a first portion (216) and a second portion (217) opening at its one end into the first portion and at its other end to an edge of the radiating element, which is substantially parallel to the first portion or is on the side of said feed point, characterized in that, to broaden a bandwidth of the antenna structure, the first*

portion (216) is substantially longitudinal and extends close to the single feed point (S), and the ratio of the width of the first portion to the width of the second portion (217) is more than one and a half, the width of the first portion being more than 1 mm and the width of the second portion being more than 1.5 mm."

Claims 2 to 6 are dependent claims and claim 7 is directed to a radio apparatus comprising an antenna according to claim 1.

Reasons for the Decision

1. In the following, reference is made to the provisions of the EPC 2000, which entered into force as of 13 December 2007, unless the former provisions of the EPC 1973 still apply to pending applications.

2. The appeal complies with the requirements of Articles 106 to 108 EPC 1973 and Rule 64 EPC 1973 and is, therefore, admissible.

3. Added subject-matter (Article 123(2) EPC)

3.1 In its communication annexed to the summons to oral proceedings the board had drawn the appellant's attention to two aspects which appeared to introduce subject-matter extending beyond the content of the application as originally filed.

One aspect concerns the fact that claim 1 then on file defined an antenna structure having a "*radiating element*", whereas the originally-filed claims,

presuming, in the absence of any argument to the contrary, that the original translation into English is in conformity with the text in the original Finnish language, refer more specifically to a "*radiating plane*", *ie* to a radiating element of a certain geometry. The board had observed that no basis of disclosure was apparent for the generalisation to a radiating element of unspecified shape.

Moreover, the board had objected that no basis of disclosure in the application documents as filed could be found for the claimed effect "*to broaden a bandwidth of the antenna structure, said first portion is substantially longitudinal and extends close to said single feed point*".

3.1.1 As regards these two aspects, no amendments were made by the appellant to claim 1 as it is presently on file.

Instead, the appellant argued that the generalisation objected to by the board seemed reasonable given the fact that the term "*radiating element*" was expressly used throughout the disclosure. Moreover, as regards the claimed effect of broadening the bandwidth, claim 1 had to be read in its entirety without detaching a detail from the context. From the preamble it appeared that the slot comprised also a second portion opening to the first portion, contrary to the structure in Figure 1. In addition, the claimed effect "*to broaden a bandwidth*" referred also and above all to the feature at the end of claim 1 "*... and the ratio of the width of the first portion to the width of the second portion (217) is more than one and a half*".

3.1.2 The board is not convinced by the appellant's arguments.

Concerning the first aspect referred to above, it is true that the originally-filed description repeatedly refers to the "*radiating element*" of the antenna structure. However, the term is used in the specific context of a PIFA (planar inverted-F-antenna) structure, *ie* of a structure the radiating element of which is a planar element arranged parallel to the ground plane (cf Figures 1 and 2 of the application as filed) :

- "*The primary object of the invention is to improve the band characteristics of a dual-band PIFA....*" (paragraph [0004] of the published application);
- "*... the invention is as follows: In the radiating element of the PIFA there is provided ...*" (paragraph [0005]);
- "*An advantage of the invention is that the bandwidths of a dual-band PIFA can be made larger than those of prior-art structures of the same size....*" (paragraph [0006]);
- "*Fig. 2 shows an example of a PIFA according to the invention;*" (column 2, lines 25 and 26, of the published description);
- "*The antenna 200 comprises a radiating element 210, ground plane 220 and a short-circuit element 202 between these two. ... the radiating plane 210 ...*" (column 2, lines 43 to 45 and 49, of the published application).

Originally-filed claims 1 and 7 defined the antenna as a structure comprising a radiating plane and ground plane.

In distinction thereto, the term "*radiating element*" used in present claim 1 without further indications as to the shape or geometry thereof encompasses antenna structures in which this element would not be planar. Thus patent protection is sought for antenna structures the radiating element of which may have an arbitrary geometry. Such subject-matter, for which it is even unclear whether the desired effects would be obtainable at all, has not been disclosed.

Concerning the second aspect referred to above, the application documents as originally filed are silent as to the link made in claim 1 under consideration between the first portion of the slot being substantially longitudinal and extending close to the single feed point and the effect of the broadening of the bandwidth.

The board does not dispute the fact that the features that the first portion of the slot is longitudinal and extends relatively close to the feed point of the antenna structure are disclosed as such (cf original claim 1 and paragraphs [0005] and [0009] of the published application). However, the application documents as filed attribute the effect of a broadening of the bandwidth only to the facts that the slot consists of two portions having different widths (cf Figures 3a and 3b with the corresponding description in paragraphs [0013] to [0016]) and that the widths of the slot portions are relatively great (cf paragraph [0011] of the published application). There is no indication that a longitudinal shape of the first slot portion or a particularly close extension of that portion to the feed point would constitute further parameters which

influence the bandwidth of the antenna. On the contrary, Figure 4f shows an example of an antenna structure according to the invention in which the first portion of the slot is more distant from the feed point than the second portion.

In view of this, it is immaterial that, in line with the content of the original disclosure, claim 1 on file also lists the relationship of the widths of the slot portions and their absolute values as further structural elements responsible for obtaining an increased bandwidth, as was argued by the appellant.

3.2 Furthermore, the amendments made to claim 1 under consideration include the feature that the second portion opens "at its one end into the first portion and at its other end to an edge of the radiating element, which is ... or is on the side of said feed point".

The only piece of information which can be found in the application documents as originally filed with respect to this feature is given by the embodiment of Figure 4(i) and the corresponding description, which states "*Subfigure (i) shows a shape in which the second portion of the slot starts from a location close to that end of the first portion which is farthest away from the feed point S of the element and curves to that edge of the element which is closest to the feed point.*" (cf column 5, lines 17 to 22 of the published application).

Manifestly, the cited amendment to claim 1 on file constitutes a generalisation of this specific context

of disclosure. In the present case, this generalisation introduces added subject-matter because it encompasses structures, such as for instance a slot having a second portion which would start from a location close to that end of the first portion which is nearest to the feed point S and, instead of being curved, would extend linearly to the edge of the radiating element which is on the side of said feed point.

The board considers itself entitled to base its decision also on this particular objection caused by the newly filed claims, although it was considered for the first time in the oral proceedings and had not been communicated to the appellant. In the board's view, the appellant waived its right to be heard, which is enshrined in Article 113(1) EPC 19973, because, after having received the board's communication, he filed a new request for consideration at the oral proceedings but chose not to attend the oral proceedings and defend the new request. Any other interpretation of the law would open the door for procedural misuse.

3.3 For the sake of completeness, the board notes that a further deficiency with respect to the provision of Article 123(2) EPC could be seen in the claimed ranges for the widths of the first and second portions according to the last feature of claim 1 on file. However, in view of the fact that in said feature the roles of the first and second portions are apparently mixed up, the board refrains from going into detail in this respect.

3.4 For the above reasons, claim 1 on file contains technical information going beyond the content of the application as originally filed and thus does not comply with the requirement of Article 123(2) EPC.

4. Consequently, the appellant's request is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar The Chairman

R. Schumacher B. Schachenmann