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**Datasheet for the decision
of 16 May 2013**

Case Number: T 1667/08 - 3.4.01

Application Number: 06076899.1

Publication Number: 1764862

IPC: H01Q 1/24, H01Q 9/04,
H01Q 21/30

Language of the proceedings: EN

Title of invention:
Dual-band antenna for a wireless local area network device

Applicant:
Agere Systems, Inc.

Headword:
-

Relevant legal provisions:
EPC Art. 111(1)

Relevant legal provisions (EPC 1973):
EPC Art. 84, 56

Keyword:
"Clarity (no): description not adapted"
"Inventive step (no): no identifiable technical effect "
"Requests devoid of valid object"

Decisions cited:
-

Catchword:
-



Case Number: T 1667/08 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 16 May 2013

Appellant: Agere Systems, Inc.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 31 March 2008
refusing European patent application
No. 06076899.1 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: G. Assi
Members: P. Fontenay
A. Pignatelli

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 06 076 899.1. The decision was notified by registered letter on 31 March 2008.

The decision referred to the sole request on file which included two independent claims directed, respectively, to a dual-band antenna (claim 1) and a method of manufacturing a dual-band antenna (claim 7). Claims 2 to 6 depended on claim 1.

The decision of the examining division was based on the finding that the subject-matter of independent claims 1 and 7 and dependent claims 2 and 3 was not new (Article 54(1), (2) EPC 1973) with regard to document US-A-6 091 366 (D1) and that the subject-matter of dependent claims 4 and 6 lacked inventive step (Article 56 EPC). In the examining division's judgement the additional features recited in claims 4 and 6 were merely a matter of normal design in the field of microstrip antennas as, for example, illustrated in document EP-A-0 986 130 (D3). The decision did not include any objection or comment regarding the merits of dependent claim 5.

- II. The appellant (applicant) filed an appeal against the above decision by notice of appeal received on 06 June 2008. The prescribed appeal fee was paid on the same day. The written statement setting out the grounds of appeal was received on 31 July 2008. It included a modified set of claims 1 to 6 in which independent claims 1 and 6 had been amended with regard to the

corresponding independent claims underlying the decision in suit by including the limitations of former dependent claim 5.

- III. The appellant requested that the decision under appeal be set aside and the application be returned to the examining division with an order to grant a patent on the basis of the amended set of claims.

As an auxiliary request, the applicant requested that the Board of appeal returned the application to the examining division with an order for the amended claims to be further examined.

As a precautionary measure, oral proceedings were requested in the case that the Board intended to take any adverse decision.

- IV. On 6 February 2013, the Board issued a summons to attend oral proceedings scheduled to take place on 16 May 2013.

In a communication pursuant to Article 15(1) Rules of Procedure of the Boards of Appeal (RPBA) dated 12 February 2013, the Board expressed its provisional opinion with regard to the appellant's amended set of claims.

The Board specified that it intended to deal with the present case according to Article 111(1) EPC, second sentence, first alternative, i.e. to exercise any power within the competence of the department which was responsible for the decision appealed.

Concerning the merits of the request on file, the Board acknowledged that independent claims 1 and 6 defined new subject-matter. However, it further observed that no advantage or effect with regard to a configuration wherein the footprint of the inverted F-antenna lies between footprints of the first and second traces of the monopole antenna could actually be derived from the description. In the absence of any disclosed or clearly identifiable technical effect, the claimed antenna configuration only appeared to constitute one possible design among a number of equally likely alternatives for which the presence of an inventive step had to be denied.

The Board further stressed that, in the absence of description documents adapted in accordance with the current request on file, said request did not meet the requirements of Article 84 EPC 1973 together with Rule 27(1) EPC 1973 from which follows that description and claims should be in agreement.

- V. With letter dated 16 April 2013, the appellant filed a modified request in which the structure of the dependent claims had been amended. Page 4 of the description had also been amended as a consequence of the renumbering of the claims.

The view of the Board with regard to the absence of a technical effect associated with the claimed relative arrangement between the footprint of the inverted F-antenna and the footprints of the first and second traces of the monopole antenna was contested by the appellant. Reference was made, in this respect, to

various passages of the description where various effects were explicitly acknowledged.

The appellant thus requested:

- *"As a Main Request, that the application be returned to the Examining Division with an order to grant a patent on the basis of the application as it now stands";*
- *"As a First Auxiliary Request, that the application be returned to the Examining Division on the basis that the current claims are novel and inventive, and for further matters to be examined", and*
- *"As a Second Auxiliary Request, that the application be returned to the Examining Division on the basis that the claims as they currently stand are novel, and for further matters of compliance with European patent practice to be examined by the Examining Division".*

VI. On 10 May 2013, the Board was informed that the appellant would neither attend nor be represented at the scheduled oral proceedings. The appellant requested that the Board decides on the case at the oral proceedings taking into account the written submissions filed with the letter of 16 April 2013.

VII. Oral proceedings before the Board were held on 16 May 2013. As had previously been announced, the appellant did not attend and was also not represented at the oral proceedings.

VIII. Independent claim 1 reads as follows:

"1. A dual-band antenna (100) including:
an inverted F antenna printed circuit (130)
supported by a substrate and tuned to resonate in a
first frequency band, said inverted F antenna having a
ground plane (120) and a radiator (135) located on one
plane of said substrate (110), and
a monopole antenna printed circuit (170) supported
by said substrate and located on a different plane than
said ground plane (120), said monopole antenna printed
circuit (170) tuned to resonate in a second frequency
band, said dual band antenna (100)
CHARACTERIZED IN THAT
said monopole antenna printed circuit (170)
comprises a first trace (171) and a second trace (172)
tuned to differing resonance in said second frequency
band and a footprint of said radiator lies between
footprints of said first and second traces (171, 172)."

Independent claim 6 refers to a method of manufacturing
a dual-band antenna. It reads:

"6. A method of manufacturing a dual-band antenna
including:
forming an inverted F antenna printed circuit
(130) on a substrate (110), said inverted F antenna
printed circuit (130) tuned to resonate in a first
frequency band and having a ground plane (120) and a
radiator (135) located on one plane of said substrate
(120), and
forming a monopole antenna printed circuit (170)
on said substrate (110) and on a different plane than
said ground plane (120), said monopole antenna printed

circuit (170) tuned to resonate in a second frequency band, said method

CHARACTERIZED IN THAT:

said monopole antenna printed circuit comprises a first trace (171) and a second trace (172) tuned to differing resonance in said second frequency band and a footprint of said radiator lies between footprints of said first and second traces (171, 172)."

Claims 2 to 5 and 7 to 10 depend, respectively, on independent claims 1 and 6.

Reasons for the Decision

1. Applicable law

This decision is issued after the entry into force of the EPC 2000 on 13 December 2007 whereas the application was filed before this date. Reference is thus made to the relevant transitional provisions for the amended and new provisions of the EPC, from which it may be derived which Articles and Rules of the EPC 1973 are still applicable to the present application and which Articles and Rules of the EPC 2000 are to apply. When Articles or Rules of the former version of the EPC are cited, their citations are followed by the indication "1973" (cf. EPC, Citation practice).

2. Admissibility of the appeal

The notice of appeal and the corresponding statement of grounds comply with the requirements of Articles 106 to

108 EPC and Rule 99 EPC. The appeal is, thus, admissible.

3. *Main request: Clarity - Article 84 EPC 1973*

3.1 The application documents underlying the main request consist of:

Description pages:

2, 6-11, 13 and 14 as filed on 19 October 2006 (filing date of the present divisional application);

1, 3, 5, 12 and 15 as filed on 4 March 2008;

4 as filed on 16 April 2013;

Claims 1 -10 as filed on 16 April 2013; and

Drawing sheets 1/4 - 4/4 as filed on 19 October 2006.

3.2 In the Board's judgement, the present request does not meet the requirements of Article 84 EPC 1973 as to clarity of the claims together with Rule 27(1) EPC 1973 as to the content of the description.

As underlined under point 5 of the communication of the Board dated 12 February 2013, it follows from the combined requirements of Article 84 EPC 1973 and Rule 27(1) EPC 1973 that description and claims shall be in agreement. This condition is not fulfilled under the present circumstances.

3.3 The amendments which have been carried out in the claims in the course of the examination and ensuing appeal procedures are not reflected by corresponding amendments in the description. In particular, the

additional limitations recited in the characterising portion of independent claims 1 and 6 on file seem to reflect the intention of the appellant to obtain protection for a dual-band antenna as embodied in Figure 2 and for a corresponding method of manufacturing such an antenna. The description, on the contrary, still mentions that the antennas, the card and board, as illustrated in Figures 1 and 3 to 5, constitute embodiments of the invention (cf. page 6, lines 3-22; page 7, lines 3-6, lines 29, 30; page 10, line 10-13; page 11, lines 3-5, lines 16-22; page 12, lines 19-27).

- 3.4 The current version of the description further contradicts the definition of the claimed subject-matter since it explicitly suggests that the features recited in the characterising portion of independent claims 1 and 6 regarding the first and second traces of the monopole antenna tuned to differing resonance and the disposition of the footprint of the inverted F-antenna relative to the footprints of the first and second traces are optional (cf. page 14, lines 13-20).

4. *Main request: Inventive step - Article 56 EPC 1973*

For the sake of completeness, the Board adjudicates also on the question of the inventive merits of the claimed invention.

- 4.1 While it is acknowledged that the subject-matter of claim 1 distinguishes from the prior art as disclosed in document D1 by the characterising features of the claim, the Board, firstly, concurs with the examining division in its finding that it is a matter of normal

design in the field of microstrip antennas to provide the radiating element with traces of various lengths, i.e. with traces resonating at various frequencies. In this respect, reference may be made to document D3 (cf. paragraphs [0002], [0009], Figures 5, 6). This sole feature is therefore not sufficient to justify the existence of an inventive step.

4.2 Secondly, the description is silent as to the advantages conferred by a configuration wherein the footprint of the inverted F-antenna lies between footprints of the first and second traces of the monopole antenna. The effects which might be achieved by such a configuration are also not straightforward. It is thus considered that the claimed configuration merely constitutes, in the absence of any clearly identifiable technical effect, one possible design among a number of equally likely alternatives.

4.3 In its reply to the Board's communication filed on 16 April 2013, the appellant contested the analysis made by the Board. Reference was made in this respect to various passages of the description which, in its view, provided ample evidence of effects achieved by the configuration wherein the footprint of the radiating element lies between the footprint of the first and second traces of the monopole antenna.

The arguments presented by the appellant do, however, not convince the Board. It is firstly observed that the effects referred to on page 3, lines 3 to 17 as to compactness, ability to bear 802.11 bandwidth requirements, efficient attainment of a desired frequency range and inexpensive implementation referred

all to the invention as originally claimed, i.e. without the feature in question. Concerning the possibility of obtaining a higher bandwidth addressed on page 10, lines 24 to 26, the Board observes that it is associated with the fact that the first and second traces of the monopole antenna cooperate and not to their relative disposition with regard to the inverted F-antenna. The view that the feature in question is not particularly relevant for the definition of the bandwidth is further confirmed by the fact that the passage cited by the appellant is immediately followed by the evocation of both Figures 2 and 3, which correspond, respectively, to the footprint of the inverted F-antenna lying between footprints of the first and second traces of the monopole antenna, as claimed, or, on the contrary, outside said traces.

4.4 In conclusion, the Board does not identify any inventive contribution in the claimed dual-band antenna as defined in independent claim 1. The same finding applies *mutatis mutandis* to independent claim 6.

5. *Auxiliary requests 1 and 2*

These requests seek remittal of the case to the examining division on the basis of application documents for which a final decision has already been reached for the reasons mentioned above. In fact, in order to decide on the main request, the Board exercised the power within the competence of the examining division according to Article 111(1) EPC, second sentence, first alternative and accepted to carry out a full examination of the present application documents in order to decide on their allowability,

i.e. their compatibility with the requirements of the EPC. In case of a remittal, the negative finding reached above would be binding for the examining division according to Article 111(2) EPC. Thus the examining division could not review this finding.

For these reasons, auxiliary requests 1 and 2 are devoid of any valid object and are therefore rejected.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

R. Schumacher

G Assi