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**D E C I S I O N**  
**of 28 June 2006**

**Case Number:** T 0089/03 - 3.4.01

**Application Number:** 98947669.2

**Publication Number:** 1048096

**IPC:** H01Q 7/00

**Language of the proceedings:** EN

**Title of invention:**

Electric and magnetic field generator, corresponding field detector, and sample analyser

**Applicant:**

Hex Technology Holdings Limited

**Opponent:**

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**Headword:**

Radio frequency sample analyser

**Relevant legal provisions:**

EPC Art. 123(2)

**Keyword:**

"Remittal for further prosecution of claims directed to hitherto unsearched and unexamined subject-matter"

**Decisions cited:**

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**Catchword:**

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Case Number: T 0089/03 - 3.4.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.01  
of 28 June 2006

**Appellant:** Hex Technology Holdings Limited  
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**Representative:** Cross, Rupert Edward Blount  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 30 July 2002  
refusing European application No. 98947669.2  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** B. Schachenmann  
**Members:** H. Wolfrum  
R. Bekkering

## Summary of Facts and Submissions

- I. European patent application 98 947 669.2 (publication No. 1 048 096) corresponding to published international application WO-A-99/19936 was refused by a decision of the examining division dispatched on 30 July 2002, on the ground of lack of inventive step within the meaning of Articles 52(1) and 56 EPC of a field generator as defined by independent claims 1 of a main request and a first auxiliary request then on file and of lack of clarity within the meaning of Article 84 EPC of the definitions of a treatment apparatus according to claim 1 of a second auxiliary request then on file.
- II. The applicant lodged an appeal against the decision on 27 September 2002 and paid the prescribed fee. On 9 December 2002 a statement of grounds of appeal was filed. Grant of a patent was requested on the basis of claims according to the main request underlying the appealed decision. A request for oral proceedings was made.
- III. On 3 January 2006 the appellant was summoned to oral proceedings. In a communication dated 29 March 2006 the Board gave its preliminary view as to the issues of novelty and inventive step (Articles 52(1), 54(1) and (2) and 56 EPC) and raised questions of clarity (Article 84 EPC) and sufficiency of disclosure (Article 83 EPC).
- IV. In response the appellant filed on 26 May 2006, as a main request, amended independent claims 1 to 13 directed to a treatment apparatus and, as an auxiliary

request, claims 1 to 8 directed to a sample analyser and a treatment apparatus, respectively.

V. Oral proceedings were held on 28 June 2006.

As a result of the discussion, the appellant requested that the decision under appeal be set aside and a patent be granted on the basis of a new set of claims 1 to 4 directed to a sample analyser as filed in the oral proceedings.

VI. Independent claim 1 of the appellant's request reads as follows:

*"1. A sample analyser comprising at least one first super-toroidal conductor (L3, L4, 22, 23) and means (36, L1, L5, 20, 21) to energise said first super-toroidal conductor to generate varying electric and magnetic fields,*

*characterised in that*

*said means to energise (36, L1, L5, 20, 21) is operative to generate an electromagnetic field varying with at least one frequency component at a frequency which is equal to or greater than  $2c/l$  where  $c$  is the speed of light in free space, and  $l$  is the length of wire which is wound continuously in the same hand in said first super-toroidal conductor;*

*said analyser further comprises a chamber (10) and a sample holder (28) within the chamber (10);*

*said at least one first super-toroidal conductor (L3, L4) being in the chamber (10) such that said varying electromagnetic field is generated in the region of any sample on the sample holder (28);*

*said means to energise comprises at least one second super-toroidal conductor (L1, L5) in the chamber, and*

*a high gain broad band radio frequency amplifier (36) having an input (35) connected to receive signals corresponding to electrical currents generated in said second super-toroidal conductor (L1, L5) by a varying electromagnetic field in said chamber and having an output (37) connected to energise said first super-toroidal conductor (L3, L4) to form a closed radio frequency loop, said high gain amplifier having sufficient gain that the loop gain exceeds unity and oscillation occurs at frequencies within the band width of the amplifier;*

*and said analyser further comprises means to determine a response of the generated field to the presence of a sample on the sample holder,*

*said means for determining a response including at least one third super-toroidal conductor (L2, L6) in the chamber*

*and means responsive (38, 39) to electrical currents generated in said third super-toroidal conductor by said field in said chamber to monitor said oscillation frequencies."*

Claims 2 to 4 are dependent claims.

## **Reasons for the Decision**

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

2. *Amendments (Article 123(2) EPC)*

The subject-matter of independent claim 1 is based on that of originally-filed claims 10, 12 and 13 with amendments added as to the functionality of the means to energise and the means to determine a response from the sample.

In the Board's view, these amendments are disclosed *eg* on page 10, lines 3 to 5, of the published international application.

Dependent claims 2 to 4 correspond to originally-filed claims 14, 16 and 17, respectively.

The Board is thus satisfied that the claims on file would meet the requirement of Article 123(2) EPC.

3. The Board notes that, for the first time in the course of the international and subsequent European examination procedures, the applicant has limited its claims to a radio frequency sample analyser.

It is apparent from the file that no substantive examination has yet taken place as regards the presently claimed subject-matter. Moreover, as is evident from the extent of the classification and the search fields, which were in fact limited to the field of antennas as indicated in the report of the international search performed by the EPO, not even a search has yet been performed in the relevant field of apparatuses for radio frequency analysis.

In these circumstances, the Board, in exercising the discretionary power conferred to it by Article 111(1) EPC, deems it appropriate to remit the case, in accordance with the appellant's request, to the department of first instance for further prosecution.

For the avoidance of doubt, it is noted that the *ratio decidendi* of the Board's decision does not bind in any way the further examination as to whether the application and in particular the newly claimed subject-matter complies with the requirements of the EPC.

## **Order**

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar

The Chairman

R. Schumacher

B. Schachenmacher