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**Datasheet for the decision  
of 28 April 2009**

**Case Number:** T 1507/07 - 3.2.02

**Application Number:** 02010270.3

**Publication Number:** 1260176

**IPC:** A61B 5/07

**Language of the proceedings:** EN

**Title of invention:**

Array system and method for locating an in vivo signal source

**Applicant:**

Given Imaging Ltd.

**Headword:**

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**Relevant legal provisions:**

EPC Art. 52(1), 56

**Relevant legal provisions (EPC 1973):**

-

**Keyword:**

"Inventive step (yes)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 1507/07 - 3.2.02

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.02  
of 28 April 2009

**Appellant:** Given Imaging Ltd.  
2 Hacarmel Street  
New Industrial Park  
20692 Yoqneam (IL)

**Representative:** HOFFMANN EITLE  
Patent- und Rechtsanwälte  
Arabellastraße 4  
D-81925 München (DE)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 22 March 2007  
refusing European application No. 02010270.3  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** M. Noël  
**Members:** S. Chowdhury  
M. J. Vogel

## Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division dated 22 March 2007 to refuse European patent application No. 02 010 270.3.

The application was refused on the ground that the subject-matter of claim 1 then on file lacked an inventive step having regard to D1 (EP-A-0 667 115).

- II. On 1 June 2007 the appellant lodged an appeal against the decision and paid the prescribed fee on the same day. On 1 August 2007 a statement of grounds of appeal was filed.

The appellant requests that the decision be set aside and a patent be granted in the following version:

Claims 1 to 10 filed on 1 August 2007

Description pages 1 to 7 filed during the oral proceedings

Figures 1 to 7 as originally filed.

- III. Independent claim 1 reads as follows:

"A method for estimating a location of an ingestible in-vivo capsule signal source with a wearable antenna (10) array, said method comprising the steps of positioning

- a first antenna element on the intersection of the right 7<sup>th</sup> intercostal space and right mid clavicular line,

- a second antenna element on the xiphoid process,
- a third antenna element on the intersection of the left 7<sup>th</sup> intercostal space and left mid clavicular line,
- a fourth antenna element on the right lumbar region at umbilical level,
- a fifth antenna element above the navel,
- a sixth antenna element on the left lumbar region at umbilical level,
- a seventh antenna element on the right mid-linguinal region,
- an eighth antenna element on the left mid-linguinal region,

receiving a signal at two or more of said antenna elements (10a-10z) within the array (10); measuring the received signal strength; and estimating the location of the capsule signal source based on the signal strength measurements."

IV. Claims 2 to 10 are dependent claims.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Inventive step

Document D1 is the closest prior art document and it discloses a method for estimating the location of an ingestible in-vivo capsule signal source (10, Figures 1 and 2) inside the body by using a wearable antenna array (40, Figures 4 and 6), by positioning antenna elements (44) on the body, measuring the received signal strength, and estimating the location of the

capsule signal source based on the signal strength measurements.

The method of present claim 1, therefore, differs from the method of D1 in that eight antenna elements are provided and are positioned on the body on locations defined in the claim.

- 2.1 The prior art does not disclose or suggest such an array of antenna elements positioned at the points of the body specified in claim 1.
- 2.2 The decision to refuse defined the problem to be solved by the claimed method as finding the appropriate positions of the antenna elements disclosed in D1 for determining the location of the capsule. However, there is no objective basis for defining such a problem.

The decision goes on to state that the skilled person would find the positions recited in claim 1 by mere routine experimentation involving no more than trial-and-error experimentation without employing skills beyond common general knowledge, so that the subject-matter of claim 1 lacked an inventive step.

The Board disagrees with each of these findings.

- 2.3 The particular configuration of the eight antenna elements defined in claim 1 defines an approximate circle of antenna elements about the abdomen, with one antenna element near the centre (above the navel). This configuration enables the accurate tracking of an ingestible capsule. The intestine has a serpentine path but, regardless of the position of the capsule in the

intestine, the antenna elements will capture its signal effectively since the defined configuration of antenna elements covers all the regions of interest of the abdomen. This facilitates accurate tracking of the capsule.

Although this effect is not disclosed in the application, for the skilled person it is implicit and clearly plausible.

The technical problem, then, is to effectively capture the capsule signal regardless of its position in the intestine. This is derivable from the specific configuration of the antenna elements as claimed and from paragraph [0015] of the application.

2.4 The proposed solution, placing the antenna elements in an array as defined in claim 1, is not obvious. The person skilled in the art seeking to locate antenna elements on the body would select obvious and visible landmarks, such as the navel, nipples, pubis, etc. By contrast, all the locations defined in claim 1, except the one above the navel, are not immediately visible and would not suggest themselves as obvious locations for the antenna elements. There is also no hint in the prior art of locating the antenna elements roughly on a circle.

2.5 For the foregoing reasons the method of claim 1 involves an inventive step.

**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 the first instance with the order to grant a patent on the basis of the following application documents:
  - Claims 1 to 10 filed on 1 August 2007
  
  - Description pages 1 to 7 filed during the oral proceedings
  
  - Figures 1 to 7 as originally filed.

The Registrar

The Chairman

D. Sauter

M. Noël