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**Datasheet for the decision  
of 11 May 2017**

**Case Number:** T 0597/14 - 3.4.02

**Application Number:** 02018986.6

**Publication Number:** 1288653

**IPC:** G01N27/327, C12Q1/00

**Language of the proceedings:** EN

**Title of invention:**

Biosensor with a bar code

**Patent Proprietor:**

Roche Diagnostics GmbH  
F. Hoffmann-La Roche AG

**Opponent:**

Abbott Diabetes Care Inc.

**Headword:**

**Relevant legal provisions:**

EPC Art. 123(2)  
EPC 1973 Art. 84, 56

**Keyword:**

Inventive step - (yes) - after amendment

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 0597/14 - 3.4.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.02**  
**of 11 May 2017**

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**Representative:** Roche Diagnostics GmbH  
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**Representative:** Kazi, Ilya  
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**Decision under appeal:** **Interlocutory decision of the Opposition**  
**Division of the European Patent Office posted on**  
**15 January 2014 concerning maintenance of the**  
**European Patent No. 1288653 in amended form.**

**Composition of the Board:**

**Chairman**            R. Bekkering  
**Members:**            A. Hornung  
                              B. Müller

## **Summary of Facts and Submissions**

- I. Both the opponent and the patentees appealed against the interlocutory decision of the opposition division maintaining European patent No. 1288653 in amended form.

Opposition had been filed against the patent as a whole and based on the grounds of Article 100(a) EPC, together with Articles 54(1) and 56 EPC, Article 100(b) EPC and Article 100(c) EPC.

The opposition division had found that the patent as amended according to a second auxiliary request then on file and the invention to which it related met the requirements of the EPC.

- II. Oral proceedings before the board were held on 11 May 2017.

At the beginning of the oral proceedings, the patentees confirmed their request that the decision under appeal be set aside and that the patent be maintained on the basis of claims according to a main request and six auxiliary requests.

After a debate had taken place concerning all pending requests, the patentee filed a new main request and withdrew all previously pending requests.

The opponent did not attend the oral proceedings, as announced in its letter of 11 April 2017, but maintained its request that the decision of the opposition division be set aside and that the patent be revoked.

- III. Claim 1 according to the patentees' new and sole main request reads as follows:

"A method of forming a biosensor (10, 110, 210), the method comprising the steps of:

providing a support substrate (12) coated with an electrically conductive material (13) on the first surface (22) of the support substrate,

laser ablating the electrically conductive material to form

- electrodes (14, 16) that are isolated from the rest of the electrically conductive coating on the substrate by a gap, and

- an optically or electrically discernible code pattern (40, 140, 240) that is isolated from the electrodes and the rest of the electrically conductive coating on the substrate by gaps (42),

wherein there is sufficient contrast between the electrically conductive coating and the substrate such that the code pattern is discernible, and wherein said laser ablating is used in forming the code pattern while generating the electrodes, and

applying a reagent (62) to at least one of the electrodes."

IV. The following documents will be referred to in the present decision:

D1: WO 01/25775

D2: EP 1024358

## **Reasons for the Decision**

1. Amendments

1.1 The board is satisfied that present claim 1 complies with the requirements of Article 123(2) EPC.

Present claim 1 is generally based on the independent method claim 18 as originally filed. Further basis for the amendments can be found in the following passages of the application as filed:

- "electrodes that are isolated from the rest of the electrically conductive coating on the substrate by a gap": see page 4, lines 9 to 11;
- "code pattern that is isolated from the electrodes and the rest of the electrically conductive coating on the substrate by gaps": see page 5, lines 20 to 21;
- "laser ablating is used in forming the code pattern while generating the electrodes": see page 2, lines 24 to 25.

1.2 The opponent raised various objections under Article 123(2) EPC.

Some of these objections, such as those raised in the opponent's letter of 23 May 2014, points 1.1.1 and 1.1.3, or in the letter of 10 October 2014, point 2.2.2, have been overcome by adequate amendments or are not relevant for the subject-matter of present claim 1.

The remaining objections are not found convincing by the board. In particular, the expression "on the first surface" is merely a label for one of the substrate's surface without any technically limiting effect and, therefore, cannot represent an "intermediate generalisation" as contended by the opponent (see its letter of 23 May 2014, point 1.1.2). Furthermore, the opponent's objection that there was no basis for "electrodes that are isolated from the rest of the

electrically conductive coating on the substrate by a gap" without specifying that the gaps are required to have a width of about 25 to 500 microns is not persuasive since there is neither an indication in the application as filed, nor any technical reason that this range for the width of the gaps was an essential feature.

1.3 It follows that claim 1 has a sufficient basis in the application as originally filed.

2. Clarity

The board sees no reason for objecting to the clarity of present claim 1 (Article 84 EPC 1973).

The opponent objected to the phrase "there is sufficient contrast between the conductive surface and the substrate such that the code pattern is discernible" because it was "vague and does not clearly define how much contrast is sufficient" (see letter of 10 October 2014, point 2.3.1). While noting that the wording in present claim 1 is slightly different, the board acknowledges that the expression "sufficient contrast" leaves room for a broad range of contrast values which, however, does not imply that the technical meaning of the feature is unclear.

3. Novelty

The subject-matter of claim 1 is novel in view of the available prior art (Article 54(1) EPC 1973).

Indeed, D2 discloses a method of forming a biosensor which at least does not include the feature "laser ablating is used in forming the code pattern while generating the electrodes".



D1 discloses another method of forming a biosensor using laser ablation. However, D1 does not disclose a code pattern that is isolated from the electrodes.

The remaining prior art documents are less relevant. The opponent raised no objection of lack of novelty against present claim 1.

4. Inventive step

The subject-matter of claim 1 comprises an inventive step in view of the available prior art (Article 56 EPC 1973).

4.1 Starting from D2 as closest prior art, the subject-matter of claim 1 differs from the method of forming a biosensor of D2 inter alia in that both the electrodes and the code pattern are formed by laser ablating and that this laser ablating is used in forming the code pattern while generating the electrodes.

The technical effect of this differing feature is that the electrodes and the code pattern are formed by the same method step, thereby solving the objective technical problem of providing a simplified manufacturing process of a biosensor comprising electrodes and a code pattern.

D2, paragraphs [0148] to [0156], discloses two methods for forming a biosensor comprising electrodes and a code pattern being isolated from one another and from the rest of the electrically conductive coating on the substrate.

During oral proceedings the patentee explained convincingly that the first manufacturing process described in paragraphs [0148] to [0151] of D2, in combination with figures 25 to 28, is not a promising starting point because the electrodes and the code pattern are formed by screen printing or the

like. In support of its contention, the patentee referred to the description of the background art in column 1, lines 27 to 36, in combination with the biosensor shown in figure 33, and to the manufacturing process described in column 38, lines 43 to 56.

According to the second manufacturing process, "cutting or the like process" is used to form the code pattern in a last process step (see [0153] of D2). The patentee, however, explained convincingly during oral proceedings that cutting and ablating are different physical processes. Cutting means dividing or separating two parts while maintaining the amount of material of the parts. Ablating means removing or evaporating material, with material being scattered to form debris.

There is no obvious reason to replace any of the manufacturing techniques taught in D2, i.e. screen printing or cutting, by laser ablating. On the contrary, due to the fact that ablating generates debris, which generally causes contamination of the surroundings, the skilled person would refrain from ablating conductive material to form electrodes or a code pattern. This is true especially in view of the fact that D2 teaches to deposit the reagent, which must remain uncontaminated, on the electrodes before manufacturing the code pattern (see D2, paragraph [0149] and figures 25 to 28; paragraph [0153] and figures 29 to 32).

In any case, the electrodes in D2 are not formed while generating the code pattern. In D2, it is an intrinsic property of the two types of manufacturing processes that the code pattern is formed once the "production error of the reaction agent" is confirmed by using the electrodes (see D2, [0148]), i.e. the code pattern is formed separate from the electrodes.

It follows that the subject-matter of claim 1 involves an inventive step in view of D2 (Article 56 EPC 1973).

4.2 The remaining prior art documents are not more relevant than D2.

In particular, present claim 1 has a more limited scope than the claim on the basis of which the opposition division decided to maintain the patent. D1, which was considered to constitute the closest prior art by the patentee and by the opposition division (see point 21.2 of the appealed decision), does also not render obvious the subject-matter of present claim 1, because D1 does not disclose, or render obvious, a manufacturing method for forming a biosensor comprising electrodes and, in addition, a code pattern.

4.3 Present claim 1, further limited with respect to claim 1 as maintained by the opposition division in that it specifies that "laser ablating is used in forming the code pattern while generating the electrodes", is based on claim 1 as filed in response to the summons to oral proceedings with letter of 11 April 2017 according to the new auxiliary requests 3a and 7. The opponent did not file any argument of lack of inventive step against claim 1 of these new requests, but instead informed the board that it would not attend the oral proceedings. Indeed, during first- and second-instance proceedings, the opponent argued essentially that, contrary to the opposition division's view, claim 1 as maintained by the opposition division did neither recite nor imply that the code pattern was formed at the same time from the same material as the electrodes. The board notes that the corresponding feature, which the opponent found to be missing in claim 1, is now present in claim 1.

5. It follows that claim 1 of the present request meets the requirement of the EPC and that a patent can be granted on the basis thereof.

## **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 with the order to grant a patent on the basis of the following documents:
  - Claim 1 of the main request as filed during the oral proceedings of 11 May 2017,
  - Description pages 2, 2a and 3-8 as filed during the oral proceedings of 11 May 2017,
  - Figures 1 to 6 of the patent as granted.

The Registrar:

The Chairman:



M. Kiehl

R. Bekkering

Decision electronically authenticated