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**Datasheet for the decision  
of 18 February 2022**

**Case Number:** T 1372/19 - 3.4.02

**Application Number:** 10734803.9

**Publication Number:** 2435795

**IPC:** G01D5/353

**Language of the proceedings:** EN

**Title of invention:**

METHOD AND APPARATUS FOR OPTICAL SENSING

**Applicant:**

Silixa Ltd

**Headword:**

**Relevant legal provisions:**

EPC Art. 111(1), 123(2)  
RPBA 2020 Art. 11, 12(2)

**Keyword:**

Amendments - allowable (yes)  
Remittal - (yes)

**Decisions cited:**

**Catchword:**



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

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 1372/19 - 3.4.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.02**  
**of 18 February 2022**

**Appellant:** Silixa Ltd  
(Applicant) Silixa House 230 Centennial Park  
Elstree, London WD6 3SN (GB)

**Representative:** Wallin, Nicholas James  
Withers & Rogers LLP  
2 London Bridge  
London SE1 9RA (GB)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 7 December 2018  
refusing European patent application No.  
10734803.9 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** R. Bekkering  
**Members:** C. Kallinger  
B. Müller

## **Summary of Facts and Submissions**

- I. The appellant lodged an appeal against the decision of the examining division refusing European patent application number 10 734 803.9.
  
- II. In the statement of grounds of appeal the appellant requested that the decision of the examining division be set aside and a patent be granted on the basis of the claims according to the main request as refused in the contested decision, i.e. based on the claims filed with the letter dated 15 October 2018 (the board notes that these claims were wrongly referred to in section 11 of the decision as claims 1-8 filed in electronic form on 19 May 2017; however, sections 9 and 13 of the contested decision refer to the correct date, i.e. 15 October 2018 and the correct number of claims 1-4). In the alternative, the appellant requested that a patent be granted on the basis of the set of claims according to the auxiliary request filed with the statement of grounds of appeal.
  
- III. In a communication pursuant to Article 15(1) RPBA annexed to the summons for oral proceedings the board set out its preliminary view that claim 1 met the requirements of Article 123(2) EPC and that the board intended to remit the case to the examining division for further prosecution on the basis of the main request. The appellant was also informed that, in view of the board's preliminary opinion, a decision ordering remittal of the case for further prosecution on the basis of the main request could be issued in writing in case the request for oral proceedings was withdrawn.

IV. By letter dated 14 December 2021 the appellant withdrew the request for oral proceedings and requested to remit the case to the examining division for further prosecution on the basis of the claims filed with the letter dated 15 October 2018.

V. By a Registrar's communication dated 21 December 2021, the appellant was informed that the oral proceedings had been cancelled.

VI. Claim 1 of the main request reads:

*"An optical sensor system comprising:  
a light source (701) generating a pulsed optical signal;  
an optical sensing fibre (712) configured to receive the optical signal;  
an optical modulator (703) for generating frequency sidebands (1202, 1203, 1204, 1205) in the optical signal, wherein the modulation frequency of the optical modulator (703) is switched from a first modulation frequency (f1) to a second modulation frequency (f2) within the optical pulse modulation envelope, wherein part of the pulsed optical signal is chopped to generate two distinct portions of light pulses with different modulation sideband frequencies (1202, 1203, 1204, 1205);  
an optical filter (708) configured to controllably select a plurality of the frequency sidebands (1202, 1203, 1204, 1205), and, thereby vary the frequency of the light input to the sensing fibre, wherein the frequency sidebands (1202, 1203, 1204, 1205) selected by the optical filter (708) include at least a first first order sideband (1202) and a second first order sideband (1203), respectively generated for the first modulation frequency (f1) and for the second modulation*

*frequency (f2), wherein the modulation sidebands (1202, 1203, 1204, 1205) between the two portions of the light pulse scattered or reflected from a sensing fibre (712) beat together to generate multiple heterodyne signals at multiples of the frequency difference between the two pulses that are proportional to the order of the modulation sidebands (1202, 1203, 1204, 1205).*

## **Reasons for the Decision**

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

1.1 The examining division found that the "subject-matter of claim 1 introduces... subject-matter which extends beyond the content of the application as filed..." (see point 19 of the decision under appeal).

The examining division found in particular that the application as originally filed did not disclose "*an optical filter (708) configured to controllably select a plurality of the frequency sidebands (1202, 1203, 1204, 1205)*". The examining division argued that the description (see page 14, lines 9 to 10) only disclosed that the "*optical filter 708 selects two modulation frequency sidebands 1202/1203 and 1204/1205 generated by the optical modulator as indicated in Figure 12*" but that there was no indication that the optical filter controllably selected the modulation frequency sidebands.

With respect to the disclosure of originally filed claim 1, the examining division argued that although the claim comprised "*an optical filter configured to controllably select one or more of the modulation sidebands*", the fact that the optical filter was

controllably selecting the sidebands was not present in any of the described embodiments, in particular not in the ones related to Fig. 12A, 12B and page 14 to which amended claim 1 was directed. Therefore, the application as originally filed did not disclose the combination of "*controllably selecting the sidebands*" with the features of the "*embodiment of apparatus for point as well as distributed sensors*" described in Fig. 12A, 12B and on page 14 (see decision, point 18).

1.2 The board is not convinced by the examining division's reasoning.

Claim 1 of the main request is a combination of originally filed claims 1, 4 and 5 and features from the description (page 14, lines 5 to 7 and lines 19 to 20).

Claim 1 as filed already contained the "*controllably*" limitation. Furthermore, the combination of features of originally filed claims 1, 4 and 5 relates to the optical sensor system shown in Figure 11, the operation of which is further detailed on page 14 of the application as originally filed with further reference to Figures 12A and 12B. Claim 1 of the main request is a combination of these originally filed claims and contains further limitations taken from the description relating to this embodiment. The claim therefore even more closely relates to the optical sensor system shown in Figures 11, 12A and 12B.

In conclusion, support for the contested feature can be found in originally filed claim 1 which encompasses the now claimed embodiment shown in Figures 11, 12A and 12B and described on page 14.

The fact that the explicit recitation that the optical filter is controllable is not also literally found in the specific portion of the description relating to this embodiment (page 14) does not matter, as the claims themselves provide sufficient support.

The board is therefore of the opinion that claim 1 meets the requirements of Article 123(2) EPC. Consequently, the appeal is allowable within the meaning of Article 111(1) EPC.

2. Remittal

2.1 The appellant requested to remit the application to the examining division for further prosecution on the basis of the main request, i.e. the claims filed with the letter dated 15 October 2018

2.2 Pursuant to Article 111(1), second sentence, EPC, "[t]he Board of Appeal may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution." Under Article 11 RPBA 2020 (applicable pursuant to Articles 24 and 25(1) RPBA), a case is not to be remitted to the department whose decision was appealed unless special reasons present themselves for doing so. The board notes that this provision has to be read in conjunction with Article 12(2) RPBA 2020, which provides that it is the primary object of the appeal proceedings to review the decision under appeal in a judicial manner.

In the contested decision, the examining division examined only the requirements of Article 123(2) EPC with respect to claim 1. Therefore, the remaining requirements of the EPC, in particular clarity, novelty

and inventive step of the present claims have not been examined yet. Not remitting the case to the examining division would require the board to perform these tasks in both first- and last-instance proceedings and to effectively replace the examining division rather than review the contested decision in a judicial manner. It follows that special reasons within the meaning of Article 11 RPBA 2020 present themselves.

In the light of the foregoing, the board exercises its discretion under Article 111(1), second sentence, EPC in remitting the case to the examining division for further prosecution.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.

The Registrar:

The Chairman:



H. Jenney

R. Bekkering

Decision electronically authenticated