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**Datasheet for the decision
of 5 August 2020**

Case Number: T 1650/19 - 3.2.07

Application Number: 13151003.4

Publication Number: 2581797

IPC: B25J5/00, B25J9/00, B25J9/16,
B25J11/00, G05D1/02

Language of the proceedings: EN

Title of invention:
Beacon collision avoidance method for a mobile robot system

Applicant:
Samsung Electronics Co., Ltd.

Headword:

Relevant legal provisions:
EPC Art. 84, 54, 111(1), 113(1), 116(1)
RPBA 2020 Art. 11, 12(8), 25(1)

Keyword:
Claims - clarity - main request (yes)
Remittal to the department of first instance - (yes)

Decisions cited:
T 3247/19

Catchword:



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Case Number: T 1650/19 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 5 August 2020

Appellant: Samsung Electronics Co., Ltd.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 15 February
2019 refusing European patent application No.
13151003.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman I. Beckedorf
Members: A. Cano Palmero
S. Watson

Summary of Facts and Submissions

- I. The appellant (applicant) lodged within the prescribed time limit and in the prescribed form an appeal against the decision of the examining division refusing European patent application No. 13 151 003.4.
- II. In their decision, the examining division held that none of the main request and auxiliary requests 1 to 4 fulfilled the requirements of Article 84 EPC. Auxiliary request 5, submitted during the oral proceedings was not admitted by the examining division.
- III. The appellant initially requested
- that the decision under appeal be set aside,
and, when setting aside the decision under appeal,
that a patent be granted on the basis of the set of
claims of the main request as filed on
12 October 2018 or of auxiliary requests 1 to 4 as
filed with the statement of grounds of appeal.
- IV. In a communication dated 19 May 2020, the Board informed the appellant that the examination of the appeal by the rapporteur had led to the preliminary conclusions,
- (a) that the objection raised by the examining division in the contested decision as regards lack of clarity of the subject-matter of independent claim 1 of the main request would not seem to withstand a review of the decision under appeal, and
- (b) that contrary to the feature analysis made by the examining division within the framework of an

obiter dictum in point 5.4 of the contested decision, D1 would seem not to disclose at least the feature that the beacon is adapted to transmit a response signal to the robot to report that the signal of the robot has been received. The subject-matter of claim 1 of the main request would seem to be new over the disclosure of D1.

- V. With a letter dated 8 July 2020, the appellant withdrew their original request for oral proceedings under the condition that either a patent be granted on the basis of the main request, or the case be remitted to the examining division for further prosecution on the basis of the main request.
- VI. The lines of argument of the appellant are dealt with in detail in the reasons for the decision.
- VII. Independent claims 1 and 11 of the main request read as follows:

Claim 1: "A mobile robot system comprising a mobile robot (10) adapted to transmit a signal while traveling in a traveling region; and a beacon (20) adapted to receive the signal transmitted from the mobile robot,
characterized in that
the beacon (20) is adapted to receive the signal which is transmitted over 360 degrees from the mobile robot and to transmit a response signal to the mobile robot, wherein the beacon is adapted to transmit the response signal to the mobile robot to report that the signal of the mobile robot has been received when the mobile robot has approached an approach region of the beacon; and

wherein the mobile robot is adapted to perform avoidance navigation to prevent collision with the beacon when the mobile robot receives the response signal from the beacon."

Claim 11: "A method of controlling a mobile robot system, the method comprising:
at a mobile robot, transmitting a signal while traveling in a traveling region;
at a beacon, receiving the signal transmitted over 360 degrees from the mobile robot and determining whether the mobile robot has approached an approach region of the beacon;
at the beacon, transmitting a response signal to the mobile robot to report that the signal of the mobile robot has been received if the mobile robot has approached the approach region of the beacon; and
at the mobile robot, performing avoidance navigation to prevent collision with the beacon when the mobile robot receives the response signal of the beacon."

VIII. Since the present decision is taken on the basis of the main request, there is no need to reproduce the auxiliary requests.

Reasons for the Decision

1. *Procedural matters*

1.1 The case is ready for decision which is taken in written proceedings without holding oral proceedings in accordance with Article 12(8) RPBA 2020 and with Articles 113 and 116 EPC.

1.2 The principle of the right to be heard pursuant to Article 113(1) EPC is observed since that provision only affords the opportunity to be heard and the party's submissions are fully taken into account.

1.3 The appellant's request for oral proceedings pursuant to Article 116(1) EPC is auxiliary to its request that the decision under appeal be set aside and that either a patent be granted on the basis of the main request or that the case be remitted to the examining division for further prosecution on the basis of the main request.

1.4 Thus, since the second alternative of the appellant's aforementioned request is followed by the Board, the auxiliary request for oral proceedings remains procedurally inactive.

2. *Main request - Clarity, Article 84 EPC*

2.1 The main request corresponds to the main request in the examination proceedings. The examining division found **claim 1** not clear because the feature in claim 1

"wherein the beacon is adapted to transmit the response signal to the mobile robot to report that the signal of

the mobile robot has been received **when the mobile robot has approached an approach region of the beacon**"

is not clear.

2.2 The examining division reasoned mainly

- that the action of "approaching an approach region" is vague, and
- that the expression "when the mobile robot has approached an approach region of the beacon" is unclear because it does not unambiguously define the condition determining the transmission of a response signal by the beacon.

2.3 The Board disagrees and substantially follows the arguments of the appellant that the person skilled in the art, when reading claim 1 and the application as originally filed, understands the claimed subject-matter. Hence, claim 1 defines the subject-matter in a clear and concise manner which the skilled person interprets broadly.

2.3.1 It is true that the term (noun) "*approach region of the beacon*" might be very general, but this approach region can be understood in such a way that any region, regardless of its size and shape and as long as it includes the beacon itself, would fall within this broad meaning. The breadth of this term does not lead to a lack of clarity (see Case Law of the Boards of Appeal, 9th edition 2019, II.A.3.3).

2.3.2 As far as the term (verb) "has approached" is concerned, the Board is of the view that this term is not unclear either. "Approach" as a verb means "come nearer or closer", so that once the "approach region of

the beacon" has been established, it can be determined by the skilled person without undue burden **when** the mobile robot has approached (*i.e.* has come closer or nearer to) said approach region of the beacon, so that the condition determining the transmission of the response signal, while again being broad is considered to be clear.

2.3.3 Summarizing, the contested features by the examining division are considered to be clear, for the effects of protection sought, the broadest interpretation of the feature, in the Board's view, is the following:

- (a) the approach region of the beacon can be interpreted as **any** region in form of size containing the beacon itself; and
- (b) the condition "when the mobile robot has approached an approach region of the beacon" includes among others at least (but not only) the situation in which the mobile robot reduces the distance to the beacon.

2.4 It follows that the findings of the examining division that the subject-matter of claim 1 of the main request does not meet the requirements of Article 84 EPC **do not withstand a revision under appeal by the Board. The decision under appeal is thus to be set aside.**

3. *Main Request - Novelty, Article 54 EPC*

3.1 The main request was found by the examining division not to meet the requirements of clarity, so that for this request no other requirements for patentability such as novelty were dealt with directly in the reasons for the decision under appeal.

3.2 The Board notes however, that the examining division, in an ***obiter dictum*** gave an opinion on the lack of novelty for the subject-matter of claim 1 of auxiliary request 5, which is narrower than the subject-matter of claim 1 of the main request.

3.3 The appellant has also taken position in their statement of grounds of appeal in response to this opinion.

3.4 The Board is of the view that, for the sake of procedural efficiency, it is appropriate that the Board expresses an opinion on novelty of the subject-matter of claim 1 of the main request already at the present procedural stage.

3.5 It can be derived from the *obiter dictum* in point 5.4 of the decision, that, according to the examining division, document D1 (**US 2007/244610 A1**), discloses:

a mobile robot system (robot 100 and beacon 150) comprising :

a mobile robot (100; see claim 1) adapted to transmit a signal (radio communication wake-up and emission configuration signals as described in paragraphs [0081], [0088], [0092], [0114] and claim 26) while traveling in a traveling region (see fig. 23); and a beacon (150) adapted to receive the signal transmitted from the mobile robot (this feature is implicit from the wake-up function described in paragraph [0092] and from claim 16),

wherein

the beacon is adapted to receive the signal which is transmitted over 360 degrees (implicit feature from paragraph [0092] which recites that the robot "may send a signal to a single or multiple navigation beacons")

from the mobile robot **and to transmit a response signal (proximity emission described in paragraphs [0090] and [0107]; claim 27) to the mobile robot, wherein the beacon is adapted to transmit the response signal (proximity emission described in paragraphs [0090] and [0107]; claim 27) to the mobile robot to report that the signal of the mobile robot has been received,**

wherein the mobile robot is adapted to perform avoidance navigation (see paragraph [0090] and claim 27; fig. 31 D) when the mobile robot receives the response signal from the beacon.

3.6 The appellant argues that D1 does not disclose to (e.g. continuously) send the signal over 360 degrees *while* moving.

3.6.1 The Board disagrees. In fact, in paragraph [0092] of D1 it is disclosed that "when the robot is operating, it may send a signal to (a single or) multiple navigation beacons to turn on their respective emitters." Since the robot of D1 is a vacuum cleaner, it seems implicit that when the robot is operating it is also moving. Furthermore, by being able to send a signal to multiple navigation beacons it also seems implicit that the signal is sent over 360 degrees.

3.7 The appellant also argues that D1 does not disclose such a response signal "reporting" that the signal sent by the robot has been received.

3.7.1 The Board shares this view, for the following reasons: According to paragraphs [0090] and [0107] of D1, indicated by the examining division, the beacon seems to transmit a **proximity emission** which in the Board's view **cannot be equated to a response signal** as claimed.

This proximity emission appears to be emitted by the beacon in a continuous manner.

3.8 It follows that the Board is of the view that at least this feature of the response signal does not seem to be anticipated by D1.

4. *Remittal of the case to the examining division*

4.1 The Board is aware that, according to Article 11 RPBA 2020, which is in the present case applicable under Article 25(1) RPBA 2020, a remittal for further prosecution should only be undertaken, exceptionally, when special reasons apply.

4.2 The Board notes that since there are no substantive arguments present in the appeal proceedings relating to any patentability issues other than Article 84 and 54 EPC of claim 1 of the main request, the Board cannot come to a decision regarding further patentability requirements such as, but not limited to, **inventive step of claim 1** of the main request or to **novelty and inventive step of claim 11** of the main request on the basis of the current appeal case alone. In the case of inventive step of claim 1 of the main request, the Board notes that the arguments presented by the appellant are of a rather general nature.

4.3 Against this background, after considering all the relevant circumstances of the case at hand, the Board comes to the conclusion that the issues relevant to patentability in the present case, including but not limited to, the examination of inventive step, could not be decided upon without undue burden (cf. explanatory notes to Article 11 RPBA 2020, Supplementary publication 2 - OJ EPO 2020, 46, 54).

4.4 Consequently, in line with decision T 3247/19, taken by the same Board in different composition (points 8. to 12. of the reasons), the Board is convinced that there are special reasons within the meaning of Article 11, first sentence, RPBA 2020 that apply, and that it is appropriate to remit the present case to the examining division for further prosecution and examination of the further patentability requirements, in accordance with Article 111 (1) EPC.

5. *Rule 103(4) (c) EPC 2020*

5.1 The appellant has withdrawn their request for oral proceedings and no oral proceedings have taken place.

5.2 However, even if the Board's communication dated 19 May 2020 was considered a communication in preparation for oral proceedings, because it addressed a subject for discussion at oral proceedings which, however, had not been arranged at that stage of the proceedings (or afterwards), the withdrawal of the original request for oral proceedings was declared only on 8 July 2020 and, thus, after the period of one month from notification of the aforementioned communication had expired.

5.3 Hence, there is no basis for reimbursing any portion of the appeal fee.

Order

For these reasons it is decided that:

1. The appealed decision is set aside.
2. The case is remitted to the examining division for further prosecution on the basis of the main request filed on 12 October 2018.

The Registrar:

The Chairman:



G. Nachtigall

I. Beckedorf

Decision electronically authenticated