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**Datasheet for the decision
of 28 November 2024**

Case Number: T 0951/22 - 3.4.01

Application Number: 14827303.0

Publication Number: 3066715

IPC: H01P1/06, H01Q9/28

Language of the proceedings: EN

Title of invention:

HIGH-SPEED DATA LINK WITH PLANAR NEAR-FIELD PROBE

Patent Proprietor:

Moog Inc.

Opponent:

Schleifring GmbH

Headword:

Non-contacting rotary joint for high-rate transmission / Moog Inc.

Relevant legal provisions:

RPBA 2020 Art. 12, 12(4), 12(6), 13, 13(2)

EPC Art. 83

Keyword:

Amendment after notification of Art. 15(1) RPBA communication
- exceptional circumstances (no)

Decisions cited:

T 2486/16, T 1906/19, T 0246/22

Catchword:

As the proprietor had demonstrated that the "carry-over requests" were admissibly raised and maintained in the opposition proceedings within the meaning of Article 12(4), first sentence, RPBA, they were not amendments, and the Board had to consider them (Reasons, 24-31).



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Case Number: T 0951/22 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 28 November 2024

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
16 February 2022 concerning maintenance of the
European Patent No. 3066715 in amended form.**

Composition of the Board:

Chairman P. Scriven
Members: P. Fontenay
C. Almberg

Summary of Facts and Submissions

- I. The appeals, by the proprietor and by the opponent, are of the Opposition Division's interlocutory decision, finding the European patent allowable in an amended form.

- II. The opposition relied on grounds under Article 100(a) EPC (lack of novelty, Article 54 EPC; lack of an inventive step, Article 56 EPC), Article 100(b) EPC (insufficiency of disclosure), and Article 100(c) EPC (added subject-matter).

- III. In the course of the opposition proceedings, the proprietor requested that the opposition be rejected (main request) or, in the alternative, that the patent be upheld as amended on the basis of one of auxiliary request 1, 1A, and 2 to 29 (see appealed decision, summary of facts and submissions, points 9.1 to 9.4).

- IV. The Opposition Division held that the ground for opposition under Article 100(b) EPC did not prejudice maintenance of the patent. However, they also held that the claimed subject-matter defined an unallowable intermediate generalisation, contrary to Article 100(c).

- V. The Opposition Division admitted the first auxiliary request. In substance, they decided that the reference, in amended claim 1, to first and second regions of the

capture area having first and second surge impedances was not sufficient to establish that said surge impedances were different. For reasons similar, in essence, to those developed with regard to claim 1 of the main request, the Opposition Division held that claim 1 of auxiliary request 1 was prohibited by Article 123(2) EPC.

- VI. Auxiliary request 1A, filed during oral proceedings before the Opposition Division, was admitted into the opposition proceedings. Claim 1 of auxiliary request 1A comprises an amendment specifying that the surge impedance of the probe changed at the transition from the first region to the second. They considered the request allowable; and, in particular, that claim 1 was not prohibited by Article 123(2) EPC.
- VII. With the patent found allowable as amended according to the higher-ranking auxiliary request 1A, the Opposition Division did not decide on the admission or merits of auxiliary requests 2 to 29.
- VIII. On appeal, the proprietor sought maintenance of the patent, either as granted, or as amended based on one of 35 auxiliary requests, of which five were new on appeal.
- IX. The opponent pursued revocation of the patent.
- X. The parties were summoned to oral proceedings.

XI. In a communication setting out its preliminary opinion under Articles 15(1) and 17(2) RPBA 2020, the Board indicated that it shared the views of the Opposition Division regarding the non-allowable intermediate generalisation in claim 1 according to the main request and auxiliary request 1; and also agreed with the assessment that claim 1 of auxiliary request 1A did comply with Article 123(2) EPC.

XII. However, in contrast to the Opposition Division, the Board was of the view that the subject-matter of claim 4 of the main request was not sufficiently disclosed. This referred to the feature of high-speed data transmission rates for the rotary joint, in excess of 10 Gbps. The mention of ways of increasing transmission rates, compared to those commonly used in the prior art (and not defined in the patent in suit), were not sufficiently concrete to allow reproduction of the claimed subject-matter. The embodiments of the invention did not provide any quantitative information which could contribute to such a high transmission rate. Concretely, the patent specification was silent as to what contributed to such rates. The skilled person was, for example, at a loss to identify a suitable geometry required for that effect. This objection regarding claim 4 applied to all pending requests.

XIII. In reaction to the Board's communication, the proprietor filed a new main request and 35 new auxiliary requests, identical to the auxiliary requests previously on file, with the exception that previous dependent claim 4 had been deleted.

- XIV. In favour of the Board's consideration of these new requests, and since they were merely subject of the deletion of a dependent claim, the proprietor argued that they were not to be regarded as amendments within the meaning of Article 12(4), first sentence, RPBA. In the alternative, the criteria under Article 13(1) and (2) RPBA were met, and they should be admitted.
- XV. In support of their argument that the requests were not amendments, the proprietor invoked a number of decisions in which the deletion of claims was held not to amount to an amendment of the case; and to section V.A.4.2.2.d of the Case Law of the Boards of Appeal, 10th ed. 2022 ("CLBA"), showing that there was an established body of jurisprudence suggesting that such a deletion fell outside the scope of Article 13 RPBA. In particular, the proprietor pointed to supporting jurisprudence and argued that the current deletion did not change the factual situation, but merely eliminated one point of dispute, comparable to when an opponent withdrew an individual objection, or line of attack.
- XVI. In support of their alternative assertion that the requests met the criteria under Article 13(1) RPBA, the proprietor argued that they *prima facie* overcame the objection of insufficient disclosure, without giving rise to any new objections. Furthermore, that they were convergent, reduced complexity, and were not detrimental to procedural economy.
- XVII. Lastly, in support of their assertion that the requests also met the criteria under Article 13(2) RPBA, the proprietor argued that their filing was a prompt

response to the Board's preliminary opinion - which was the first communication from the EPO in which any negative opinion on the sufficiency of disclosure in respect of claim 4 had been provided.

- XVIII. The opponent did not respond, in writing, to the proprietor's filing of these new requests.
- XIX. Both parties were represented at oral proceedings.
- XX. The proprietor's final requests were that the patent be maintained based on the claims of one of
- the new auxiliary requests 1A, 2-5, 5A, 6-9, 9A, 10-13, 13A, 14-21, 21A, 22-26, 26A, and 27-29, all first filed with the letter dated 31 August 2024 (together "the new series"),
 - auxiliary request 1A, subject of the appealed decision,
 - auxiliary requests 2-5, 6-9, 10-13, 14-21, 22-26, and 27-29, all refiled with the statement of grounds of appeal (together "auxiliary requests 2-29"), and
 - auxiliary requests 5A, 9A, 13A, 21A, and 26A, all first filed with the statement of grounds of appeal (together "the A series").
- XXI. In conjunction with all these claim requests, the proprietor requested the setting aside of the appealed decision, with the exception of auxiliary request 1A, which was upheld in the decision.

XXII. With regard to the objection of lack of a sufficient disclosure regarding the invention according to claim 4 of the requests in the A series, the proprietor emphasised that the disclosure was complete and that the invention relied on a change in the impedance in the probe, that was obtained by discontinuous geometry. The proprietor further submitted that common knowledge was sufficient for the skilled person to achieve the recited transmission rates with sufficient quality and referred to the eye diagram of Figure 11B, for a transmission rate of 7 Gigabits per second.

XXIII. The opponent's final request was that the appealed decision be set aside and the patent revoked.

XXIV. On the consideration of the requests in the new series, the opponent argued that the case's complexity was imposed by the proprietor and their choice to file another batch of 35 auxiliary requests. The opponent stressed that simply checking all these requests had taken much time.

XXV. Claims 1 and 4 of auxiliary request 1A that was considered allowable by the Opposition Division reads:

1. A non-contacting rotary joint for transmission of electrical signals across an interface defined between two relatively-movable members, comprising: a signal source (A) operatively arranged to provide a high-speed digital data output signal;

a controlled-impedance differential transmission line (C) having a source gap (D) and a termination gap (E);
a power divider (B) operatively arranged to receive said high-speed digital data output signal from said signal source, and to supply it to said source gap of said controlled-impedance differential transmission line;
a near-field probe (G) arranged in spaced relation to said transmission line for receiving a signal transmitted across said interface;
said near-field probe having a signal capture area (A, B, C) for receiving said signal transmitted across said interface;
said signal capture area having a first region (A, B) and a second region (C), said first and second regions having dissimilar geometries, such that said signal capture area has a discontinuous geometry and such that a surge impedance of the probe changes at a transition from the first region to the second region; and
receiving electronics (H) operatively arranged to receive the signal received by said probe.

4. *A non-contacting rotary joint as set forth in claim 1 wherein said high speed data transmission rates are in excess of 10 Gbps.*

XXVI. New auxiliary request 1A is the proprietor's highest-ranking request. It differs from auxiliary request 1A

in that dependent claim 4 has been deleted and the subsequent claims renumbered accordingly.

Reasons for the Decision

New auxiliary request 1A - Admission

1. New auxiliary request 1A was first filed with the letter dated 31 August 2024, i.e. after notification of the Board's communication under Article 15(1), paragraph 1, RPBA.
2. Already because new auxiliary request 1A differs from auxiliary request 1A, subject of the appealed decision and refiled with the statement of grounds of appeal, it is "an amendment to a party's appeal case" within the meaning of Article 13 RPBA. The particular difference in the present case is that claim 4 has been deleted.
3. In this respect, the Board recalls that the section of the CLBA invoked by the proprietor (V.A.4.2.2.d) shows an equally established body of jurisprudence suggesting that even a limited change, such as the deletion of a claim, constitutes an amendment under Article 13 RPBA.
4. The present Board adheres to this second direction of the jurisprudence, which appears better to preserve legal certainty, and which still offers a certain moderation in the criteria set under Article 13 RPBA for the following exercise of discretion (cf. T 1906/19, Catchword, Reasons 2-10).

5. Even if the Board were to consider the effects of the deletion as advocated for by the proprietor, it would still see more than the elimination of a point of dispute; in particular it would align with the opponent, noting all the work required simply to go through 35 new claim sets.
6. As an amendment, the admission of new auxiliary request 1A is at the Board's discretion, under all relevant parts of Article 12 and 13 RPBA, in particular Article 13(2) RPBA.
7. The objection which this amendment addresses (and overcomes), that the application insufficiently discloses the invention in respect of claim 4, was raised at the outset of opposition proceedings, and repeatedly discussed during them, see:
 - notice of opposition, paragraph bridging pages 10 and 11;
 - letter of the opponent dated 20 July 2021, page 3, second complete paragraph;
 - minutes of the oral proceedings before the opposition division, point 5;
 - appealed decision, page 5.
8. The fact that the Board's preliminary opinion represented the first communication from the EPO in which any negative opinion on the sufficiency of disclosure of claim 4 was provided is not an exceptional circumstance justified by cogent reasons (cf. T 2486/16, Reasons 6.5.6). On the contrary, the risk that a deciding body of the EPO might take a negative view was always one with which the parties had to reckon, and the risk that a Board might disagree with the opposition division is inherently part of its review (cf. Articles 12(2) and 13(2) RPBA).

9. The objection in question was always present, and the remedy of deleting claim 4 was always easy and foreseeable. The amendment should thus have been submitted during the opposition proceedings, and there are no circumstances justifying its submission only during appeal proceedings (Articles 12(6), second sentence, RPBA).
10. Consequently, and regardless of the proprietor's further arguments, there is no leeway for consideration of new auxiliary 1A in these proceedings.
11. As a result, new auxiliary request 1A is not taken into account (Articles 13(2) and 12(6) RPBA).

Remaining requests in the new series - Admission

12. Similarly to new auxiliary request 1A, each of the remaining requests of the A series differs from the corresponding predecessor in that dependent claim 4 has been deleted. The analysis in respect of new auxiliary request 1A, above, equally applies to these further requests. The proprietor did not dispute this at oral proceedings before the Board.
13. As a result, the new auxiliary requests 2-5, 5A, 6-9, 9A, 10-13, 13A, 14-21, 21A, 22-26, 26A, and 27-29 are also not taken into account (Articles 13(2) and 12(6) RPBA).

Auxiliary request 1A, claim 4 - Sufficiency of disclosure

14. The Opposition Division based their decision on the finding that the patent application as a whole

indicated several ways of increasing the transmission rate of the rotary joint. Combined with the technologies that were implemented in the context of the invention (section 3.1 of the impugned decision), they considered the disclosure sufficient for the invention to be carried out by a person skilled in the art, who could have arrived at the subject-matter of claim 4 without undue burden.

15. By contrast, the Board holds that the mere mention of ways of increasing transmission rates, compared to those commonly used in the prior art (and not specified in the patent in suit), is not sufficiently concrete to allow reproduction of the claimed subject-matter. The passages in question do no more than indicate the aim of allowing the transmission of ultra-wideband signals. The Board does not doubt that the technologies recited in paragraph [0045] of the patent (wire-bonding, flip-chip, glop-top, ...) can contribute to extending this bandwidth, but their implementation in the context of the invention is not sufficient for the effect underlying the claimed invention.

16. The invention relies on the necessity of creating (deliberate) reflections within the near-field probe, to solve the problem of nulls in the transmission signal when the transmitter source gap is positioned directly under the near-field probe. This addresses a problem encountered in the prior art, in which such situations lead to low energy responses of the probe that are erroneously interpreted as nulls in the transmitted signal. Concretely, the reflections that are deliberately generated according to the invention are obtained by a configuration of the probe in which changes in the surge impedance take place. These changes are achieved by appropriately selecting the

discontinuous geometry of the near-field probe (paragraph [0051] of the published application).

17. According to preferred embodiments, the discontinuous geometry is obtained in varying degrees by application of a solder mask, a change in cross-section by plating or solder coating, or by introducing a geometry change between regions of the probe (paragraph [0052]).
18. The patent description does not provide any further information. In particular, it provides no detail as to the quantitative information which contributes to an effective transmission rate in excess of 10 Gbps. It is silent as to the concrete measures, in terms of geometry, that contribute to achieving the required level of reflection, and merely reiterates that the probe should increase the bandwidth and that the reflection should be proximate to the signal output (paragraph [0040]) to produce minimal temporal distortion.
19. The teaching of the application is that sufficient energy must be reflected by the various probe sections so that transmitted bits are reliably recognised at the centre of the probe. That also implies that the reflected signals are minimally distorted and delayed. The difficulties faced by the skilled person are exacerbated by the necessity for the near-field probe to cope with the requirements inherent to the application in question. This is acknowledged in paragraph [0045] of the patent application where it is underlined, with regard to Figure 4 of the application, that the "actual shape of the probe elements can take many forms that are dependent upon the physical and electrical requirements of the specific application".

20. In the Board's judgment, the main difficulty faced by the skilled person consists in defining impedance changes that are effective over the spectrum of the transmitted signal. This is particularly true for ultra-wide bandwidths. The Board does not doubt that the skilled person is well aware of the principles regarding the relationship between changes in geometry of the probe and their consequences on the impedance changes, as underlined by the proprietor. However, the invention requires more than just this knowledge. It requires a clear teaching regarding the relationship between the required impedance changes (or geometry changes) and their effects on the frequencies of the transmitted signal, so that a sufficient amount of energy can be reflected. Concretely, that implies that the selected geometry must be adapted to reflect a large spectrum of frequencies up to 40 GHz or even 60 GHz (see published application paragraphs [0013], [0022], [0045], [0049], claim 1). Since the impedance resulting from a given geometry depends on the frequency considered, the selection of a suitable geometry for a large transmission spectrum is not straightforward and extends beyond mere trial and error.
21. Common knowledge in the field of probes is not sufficient to compensate for the missing information.
22. The proprietor made reference to the embodiment of Figure 11B, which shows a received eye diagram at a transmission rate of 7 gigabits per second. While this diagram confirms that a satisfactory quality of transmission was obtained at this transmission rate, it does not provide any additional information as to the concrete geometry that was needed or as to how it was determined.

23. In the absence of this information in the patent specification, and since it has not been established that the missing information belongs to common general knowledge, the Board holds that the invention according to dependent claim 4 of auxiliary request 1A is not sufficiently disclosed (Articles 83 and 100(c) EPC).

Auxiliary requests 2-29 - Auxiliary requests 5A, 9A, 13A, 21A, and 26A (the A series) - Consideration

24. The opponent argued, in the written proceedings, that auxiliary requests 2-29 should not be admitted, invoking criteria for admission mentioned under Article 12 RPBA (see letter dated 8 November 2022).
25. The consideration of these requests is governed by Article 12(4), first sentence, RPBA. In its interpretation and application of this provision, the Board follows the approach proposed in the decision in T 246/22 (see Headnotes, Reasons 4.2 to 4.17).
26. Auxiliary requests 2-29 were first filed on 20 January 2021 (with letter dated 20 December 2020), in due time, in response to the Opposition Division's communication under Rule 79(1) EPC. This is clearly indicated in the proprietor's statement of grounds of appeal (points 10 and 69).
27. These auxiliary requests were also among the initial and final requests made by the proprietor at the oral proceedings before the Opposition Division. This is reflected in the minutes (points 3 and 12).
28. Since a higher-ranking request was found allowable, auxiliary requests 2-29 were not addressed in the

appealed decision. Therefore, they are "carry-over requests", which are not part of the basis of the appealed decision within the meaning of Article 12(2) RPBA. The statement to the contrary, at points 9 and 9.4 in the facts and submissions of the appealed decision, cannot change this fact.

29. In the statement of grounds (point 70), the proprietor maintained the original arguments in favour of these requests by reference to an annexed letter - the one filed on 20 January 2021. In that letter (pages 10 to 20), the proprietor detailed the purposes for which these requests were submitted.
30. Thus, the proprietor has demonstrated that these requests were admissibly raised and maintained in the opposition proceedings within the meaning of Article 12(4), first sentence, RPBA. They are, therefore, not to be regarded as amendments, and the Board sees no provision under which they could be left unconsidered. Consequently, the opponent's argumentation against the admission of these requests, which presumes that there is discretionary power, must fail.
31. As a result, Auxiliary requests 2-29 are part of the appeal proceedings.
32. The A series, on the other hand, was first filed with the proprietor's statement of grounds of appeal.
33. The opponent argued, in the written proceedings, that the A series were not to be admitted, invoking criteria for admission mentioned under Article 12 RPBA (see letter dated 8 November 2022).

Sufficiency

34. However, the substantive reasoning in respect of claim 4 of auxiliary request 1A, above, applies to claim 4 of each of auxiliary requests 2-29 and each request in the A series.
35. It follows that the invention according to claim 4 of each of these requests, in respect of the A series regardless of the question of admission, is also not sufficiently disclosed (Article 83 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



D. Meyfarth

P. Scriven

Decision electronically authenticated