

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 25 November 2022**

Case Number: T 0430/20 - 3.4.01

Application Number: 15161925.1

Publication Number: 2914062

IPC: H05B6/68, H05B6/70

Language of the proceedings: EN

Title of invention:
SPATIALLY CONTROLLED ENERGY DELIVERY

Patent Proprietor:
Goji Limited

Opponents:
Haas, Stefan
Whirlpool EMEA S.p.A.

Headword:
Goji Limited / Spatially controlled energy delivery

Relevant legal provisions:
EPC Art. 52(1), 54(2), 56, 100(a), 108
EPC R. 99(2)
RPBA 2020 Art. 11, 12(3), 12(5), 12(6)

Keyword:

Novelty - main request (yes)

Inventive step - main request (no) - auxiliary requests 1 - 4
(no)

Remittal - (no)

Discretion not to admit submission - requirements of Art.

12(3) RPBA 2020 met - auxiliary requests 5 - 11 (no)

Late-filed auxiliary requests 12 - 33 - admitted (no)

Decisions cited:

J 0010/11



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 0430/20 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 25 November 2022

Appellant:
(Patent Proprietor)

Goji Limited
Beacon House
43 Cedar Avenue
Hamilton HM 12 (BM)

Representative:

Korenberg, Alexander Tal
Kilburn & Strode LLP
Lacon London
84 Theobalds Road
London WC1X 8NL (GB)

Respondent:
(Opponent 1)

Haas, Stefan
Landsberger Strasse 143
80339 München (DE)

Representative:

Eisenführ Speiser
Patentanwälte Rechtsanwälte PartGmbH
Postfach 31 02 60
80102 München (DE)

Respondent:
(Opponent 2)

Whirlpool EMEA S.p.A.
Via Carlo Pisacane 1
20016 Pero (MI) (IT)

Representative:

Papa, Elisabetta
Società Italiana Brevetti S.p.A
Via Carducci 8
20123 Milano (IT)

Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 12 December
2019 revoking European patent No. 2914062
pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair	P. Fontenay
Members:	T. Petelski
	D. Rogers

Summary of Facts and Submissions

- I. The opposition against the patent was based on the grounds of lack of novelty and inventive step, insufficient disclosure, and added subject-matter (Articles 100(a), (b) and (c) EPC).
- II. In its decision, the Opposition Division revoked the patent for lack of novelty of at least the subject-matters of the independent claims of the Main Request and of Auxiliary Requests 1 - 11 over the disclosure of

D6: WO 2008/007368 A2.

Auxiliary Requests 12 - 33 were not admitted into the proceedings.

The decision also referred to the parent application of the opposed patent

E10: WO 2011/138680 A2.

- III. The proprietor appealed and requested that the decision be set aside and that the patent be maintained as granted (Main Request). Should the Board intend not to follow the Main Request, the case was to be remitted to the Opposition Division, for consideration of those grounds of opposition that were not covered by the decision. Should the Board be minded to decide otherwise, oral proceedings were requested.

As a further subsidiary measure, the proprietor re-submitted Auxiliary Requests 1 to 33 from the opposition proceedings. It was requested to admit all those requests into the appeal proceedings, despite Auxiliary Requests 12 - 33 not having been admitted into the opposition proceedings.

- IV. Auxiliary Requests 1 - 11 have been re-submitted as an attachment to the statement of grounds of appeal with a labelling that corresponds to the numbering used when these requests were first filed during opposition proceedings. However, these same requests were re-numbered during oral proceedings before the Opposition Division. It is this latest, re-numbered labelling that is referred to in the decision under appeal. In contrast to the labelling of the re-filed requests, the proprietor uses, in their reasoning, the same numbering as was used in the decision under appeal. This numbering is also used by the opponents and will be used throughout the present decision by the Board.
- V. The first respondent-opponent (Haas, Stefan, designated as O1) and the second respondent-opponent (Whirlpool EMEA S.p.A., designated as O2) requested that the appeal be dismissed. O1 and O2 conditionally requested oral proceedings. They also requested not to admit Auxiliary Requests 12 - 33 into the proceedings. In their reply to the appeal, O1 referred to documents other than E10 and D6, which, however, are not relevant for the present decision.
- VI. In its preliminary opinion, issued together with summons to oral proceedings, the Board informed the parties on its understanding of claim 1 of the Main

Request. According to this understanding, the subject-matter of claim 1 was sufficiently disclosed, did not contain added matter, but lacked an inventive step over D6. The Board was also negative on an inventive step of the Auxiliary Requests 1 - 4 and on the admission of Auxiliary Requests 5 - 31. The Board further stated the criteria it would apply concerning the admission of Auxiliary Requests 32 and 33. A remittal of the case to the first instance was considered to be unlikely.

VII. The proprietor then submitted a declaration according to which they would not attend the oral proceedings and would not make any written submissions.

VIII. Subsequently, the oral proceedings were cancelled.

IX. The proprietor did not give the Board reasons to deviate from its provisional opinion. Nor did the Board itself find any such reason upon re-examining the case. Therefore, the below reasons for the decision largely follow the Board's preliminary opinion.

X. Claim 1 of the Main Request reads (reference signs removed):

An apparatus for applying RF energy from a source of electromagnetic energy to an object in a cavity via at least one radiating element, the apparatus comprising:

a processor configured to:

acquire a characteristic σ of energy absorption associated with a region in the cavity;

calculate a weight for each of a plurality of sets of frequency and phase values of electromagnetic waves to be applied to the cavity based on the acquired characteristic; and

control the source to apply electromagnetic waves in accordance with the sets of frequency and phase values in accordance with the calculated weights to apply energy to the cavity, wherein the plurality of electromagnetic waves are applied according to a time duration in accordance with the weights, a power level in accordance with the weights, or a combination thereof.

XI. Claim 1 of Auxiliary Request 1 additionally defines, right before the definition of the processor, the apparatus as also comprising

a plurality of radiating elements; and...

XII. Claim 1 of Auxiliary Request 2 is based on claim 1 of the Main Request. It further defines the configuration of the processor to acquire a characteristic σ of energy absorption associated with a region in the cavity as

..., wherein acquiring the characteristic σ comprises acquiring characteristics σ of a plurality of regions; ...

XIII. Claim 1 of Auxiliary Request 3 is based on claim 1 of Auxiliary Request 2. It further defines, immediately following the above feature, the characteristic σ as

..., wherein each characteristic is a loss parameter the loss parameters for the plurality of regions characterize a loss profile; ...

XIV. Claim 1 of Auxiliary Request 4 is based on claim 1 of the Main Request. It further defines, between the processor's configuration to acquire a characteristic and its configuration to calculate a weight, its configuration to

...; determine a plurality of sets of frequency and phase values of electromagnetic waves to be used for controlling the source to apply electromagnetic energy; ...

XV. Claim 1 of Auxiliary Request 5 is based on claim 1 of Auxiliary Request 1. It further defines, at the end of the claim,

...; and select one or more of the radiating elements to generate each one of the plurality of electromagnetic waves.

XVI. Claim 1 of Auxiliary Request 6 is based on claim 1 of the Main Request. It further adds, at the end of the processor's configuration to acquire a characteristic, the definition

..., wherein at least a portion of the object is located in the region; ...

- XVII. Claim 1 of Auxiliary Request 7 is based on claim 1 of the Main Request. It further adds, at the end of the claim, the feature

...; wherein the apparatus comprises means for receiving from a user information regarding positions of objects in the cavity and the spatial distribution of dielectric properties of the objects.

- XVIII. Claim 1 of Auxiliary Request 8 is based on claim 1 of the Main Request. In addition, it defines that the weight is calculated not only for each of a plurality of sets of frequency and phase values, but of a plurality of frequency, "amplitude", and phase values. Accordingly, the source is controlled to apply electromagnetic waves in accordance with the sets of frequency, "amplitude", and phase values.

- XIX. Claim 1 of Auxiliary Request 9 is based on claim 1 of the Main Request. It further defines, at the end of the claim (reference signs removed)

...; wherein the apparatus comprises means for allowing a user to specify a desired amount of energy to be delivered to or absorbed in one or more regions in the cavity, wherein calculating the weights is further based on the desired amounts of energy.

XX. Claim 1 of Auxiliary Request 10 is based on claim 1 of the Main Request. It adds to the definition of the "apparatus for applying RF energy from a source of electromagnetic energy to an object in a cavity via at least one radiating element" the further definition

..., wherein the cavity has dimensions permitting resonance in a predetermined range of UHF or microwave range of frequencies, ...

XXI. Claim 1 of Auxiliary Request 11 is based on claim 1 of the Main Request. It further adds, at the end of the claim:

..., wherein the source is configured to apply electromagnetic waves which satisfy a modal condition in which electromagnetic energy is delivered at a wavelength larger than one fourth of the largest resonance wavelength in cavity.

XXII. Claim 1 of each of Auxiliary Requests 12 - 31 is based on claim 1 of the main request and adds a combination of two or more of the features that are added to claims 1 of one of Auxiliary Requests 1 - 11. The exact combinations are not relevant for the decision.

XXIII. Claim 1 of Auxiliary Request 32 is based on claim 1 of the Main Request. It differs from the latter in that it defines, in its first part, "a plurality of radiating elements" instead of "at least one radiating element". Further, the weight is calculated "for each of a plurality of phase values" only, and no longer "for

each of a plurality of frequency and phase values". Accordingly, the source is controlled only "in accordance with the phase values".

XXIV. Claim 1 of Auxiliary Request 33 is also based on claim 1 of the Main Request. Similar to claim 1 of Auxiliary Request 32, it defines, in its first part, "a plurality of radiating elements" instead of "at least one radiating element". Further, the features of calculating a weight and controlling the source read (amendments with respect to the Main Request marked):

... calculate a weight for each of a plurality of ~~sets of frequency and phase values of~~ electromagnetic waves to be applied to the cavity based on the acquired characteristic, wherein the electromagnetic waves differ only in their phase values; and

control the source to apply the electromagnetic waves ~~in accordance with the sets of frequency and phase values~~ in accordance with the calculated weights to apply energy to the cavity, wherein the plurality of electromagnetic waves are applied according to a time duration in accordance with the weights, a power level in accordance with the weights, or a combination thereof.

Reasons for the Decision

Main Request - Interpretation of claim 1

1. The parties have a diverging understanding of claim 1. Taking into account the respective arguments, the Board understands the claim as follows.
2. The only component defined to be part of the "apparatus for applying RF energy ..." is a processor. Neither the source of electromagnetic energy, nor the object, the cavity or the radiating element form part of this apparatus. This is in line with the teaching of the patent description (see paragraph [0011] of the patent publication).
3. The processor is defined as being configured to

... acquire a characteristic σ of energy absorption associated with a region in the cavity...

The characteristic may be acquired from a memory of the processor or via a data-input to the processor (see paragraphs [0160] to [0162]).

4. The characteristic of energy absorption is not further defined and encompasses every parameter that could influence an absorption taking place in the cavity - or that resulted from such an absorption. For example, the characteristic could be a property of the cavity, like its shape, material or reflection properties; it could be a property of an object in the cavity, like its material or its temperature; or it could also be a property of the electromagnetic energy, like its intensity or spatial distribution.

5. The expression "associated with" is broad and encompasses every property of the region that relates, in some way, to the absorption characteristic. For example, if the characteristic of energy absorption is a shape or a temperature of the cavity, or the material of an object in the cavity, this characteristic is associated to the region simply by being in that region. If the characteristic is a property of the electromagnetic field, it is associated with every region in the cavity that it penetrates.
6. The claim does not imply that the absorption must happen in the region. Nor does it imply that characteristics are acquired, which are associated with more than one region.
7. According to claim 1, the processor is further configured to

... calculate a weight for each of a plurality of sets of frequency and phase values of electromagnetic waves to be applied to the cavity based on the acquired characteristic; ...

The claim leaves open if each set is a set of at least one frequency and at least one phase value, or if there may be sets of only frequency values or only phase values. In the latter case, a common frequency would be implicit. Hence, each set could define a wave with a certain frequency and phase, or with two or more (simultaneous or sequential) frequencies, or with two or more phases (implicitly: at the same frequency). In the totality of sets, there must be at least one set that includes a phase value.

8. Assuming the case that each set comprises one frequency and one phase value, the claim leaves open whether different (or all) sets comprise the same frequency value and only differ by their phase, whether different sets differ only by their frequency, or whether they differ by phase and frequency.

9. The phase value of an electromagnetic wave could, in principle, refer to the instantaneous phase value at a certain time and place. However, the instantaneous phase value of an electromagnetic wave is a technically irrelevant parameter in the frame of the invention. This is why the skilled reader of the claim would understand the phase values to refer to relative, non-instantaneous phase values. Such a relative phase value could mean a phase value with respect to the phase of another wave of the same frequency (i.e., a phase difference). Here, the other wave might well be the same wave at the same place and another time, or the same wave at the same time and another place.

10. The proprietor is of the opinion that the phase values in the claim refer to instantaneous phase values, which were controlled with respect to a certain time and place. However, this stands in contrast to how the skilled person would understand the claim, and also in contrast to the description. Paragraphs [0075] and [0121] of the application as filed, to which the proprietor refers, describe a temporal phase shift or phase modulation of an electromagnetic wave. In order to have the desired influence on the field pattern (see the same paragraph [0121]), this phase-shifted wave must necessarily interact with a second wave, or else the phase shift would be meaningless. The second wave might even be the wave emitted by the same radiating element at a previous time. But that is only if the

wave is confined by a cavity with a sufficiently high quality factor, making the wave stay in the cavity long enough to interact with the phase-shifted wave. Hence, the claims must be understood to refer to relative phase values.

11. The last two features define that the processor is further configured to control the source of electromagnetic waves. Neither the source nor the various circuits associated with the at least one radiating element form part of the claimed apparatus. Therefore, this feature must be interpreted such that the processor is configured to generate output signals that contain the relevant information, that is information on the set of frequency and phase values, and information on the duration or power (or both) for each wave to be applied.
12. The above understanding of claim 1 is used as the basis in the following assessment of the case. Arguments of the parties based on a different understanding are not considered.

Main Request - Novelty in view of D6

13. D6 is about the control of radiofrequency (RF) heating of objects with an arbitrary shape. Some embodiments use the electronic heating circuit illustrated by Figure 5B for heating an object placed in a cavity. The RF energy is fed to the object through several feeds that are coupled to antennas in the cavity. In order to achieve a controlled heating of the object, in particular a uniform heating, the frequency and power of the radiation fed to the object is controlled by a controller 130 (page 41, line 7 - page 42, line 25).

14. During calibration of the heating control system, which is described in relation to Figures 6 and 7 (see page 43, line 21 - page 44, line 30), the RF frequency is swept. Power losses are determined as a proportion of the energy output from the cavity and the energy input into the cavity (see also page 41, lines 25 - 28). A major part of the losses is due to absorption by the object (page 44, lines 25 - 29). Hence, in contrast to the proprietor's allegations, the power loss is a "characteristic of energy absorption" that is "associated with a region in the cavity" in the sense of claim 1 of the patent in dispute. For example, in D6, there is an association of the absorption with the region in which the object is placed, with the region where the measuring antenna is placed, and with any other region that influences the power and thereby the absorption. The power measurements in D6 are used to determine a net power efficiency at each channel and for each frequency (page 44, lines 4 - 14).
15. The calibration results in D6 are used to select the frequencies and respective power levels used for heating (see steps 158 and 160 in Figure 6). Here, the previously calculated efficiency at each frequency acts as an inverse weight factor for the input power (page 45, line 30 - page 46, line 5; page 46, lines 25 - 27; page 48, lines 16 - 26).
16. In some embodiments, the power levels that were set based on the results from the calibration are adapted further during the heating process (D6: Figure 6, step 151). This can be done, for example, by using feedback from certain parameters that are monitored during the heating. Page 72, lines 19 - 25, and page 3, lines 14 - page 4, line 24, teach the use of temperature

measurements at various points of the cavity for providing feedback for a position-dependent adjustment of the heating profile. It is implicit from these passages that a position-dependent adjustment cannot be done by controlling the power alone. Rather, any position-dependent adjustment also requires the control over other parameters, as for example the frequencies or phases (see page 6, lines 19 - 33).

17. The proprietor is correct in that none of the components in the circuit of Figure 5B allows a phase control.
18. A phase control is only disclosed in D6 on page 6, lines 27 - 29, and on page 13, line 26 to page 14, line 2. According to the latter passage, the phase control of the input signal for a plurality of antennas can be performed either by controlling the times at which the different antennas are fed (from the same source), which means the use of fixed delays, or by a dynamic and independent phase control at each input, which implies variable delays. In contrast to the opinion of O1 and O2, there is no explicit indication to use this option in the above-described embodiment relating to Figures 5 - 7.
19. Hence the subject-matter of claim 1 is novel in view of the disclosure of D6, the only difference being that at least some of the applied electromagnetic waves have defined phase values.

Main Request - Inventive Step in view of D6

20. As was established in the previous point, the subject-matter of claim 1 differs from D6 in that at least some

of the applied electromagnetic waves have defined phase values.

21. A potential technical effect of this difference would have to apply over the entire scope of the claim in order to be considered for an inventive step, including to an apparatus with only one radiating element for applying electromagnetic waves of the same frequency but different phase values to the cavity.

22. According to the description of the patent in suit, the purpose of controlling the frequency and/or phase of the electromagnetic waves applied to the cavity in dependence on an acquired characteristic is the generation of a certain field pattern in the cavity (see paragraphs [0091] - [0097] of the patent). In particular, a change of the field pattern can be reached by (sequentially) applying waves of different frequencies (and undefined phases) through a single antenna (Figure 4A), or by simultaneously applying waves of different frequencies through multiple antennas (Figures 4B or 6A). Alternatively, the field pattern can be changed by simultaneously applying waves of the same instantaneous frequency but of different phases through more than one antenna (Figures 5 or 6B; paragraphs [0103] - [0109] of the patent).

23. In contrast to those particular embodiments, a change of the field pattern by the application of two or more waves of the same frequency but different phase values through a single antenna is not possible. This is a general fact, independent of whether the configuration of the patent in suit or the configuration of D6 is used. Changing the relative phases of two or more waves emitted by the same antenna would merely result in a change of the intensity of the field by constructive or

destructive interference, but would not have an influence on the field pattern. Since the acquired characteristic of energy absorption is also not necessarily linked with a field in the cavity, claim 1 does not hint at a change of a field pattern at all.

24. For this reason, the distinguishing feature cannot cause the technical effect of changing the field pattern over the whole width of the claimed subject-matter. Neither is there another apparent technical effect related to the difference. Therefore, the distinguishing feature cannot contribute to an inventive step of claim 1.
25. The proprietor did not respond to the Board's preliminary opinion on this point.
26. Notwithstanding the lack of a technical effect over the whole width of the claim, even if only those parts of the subject-matter of claim 1 were considered that caused a technical effect, then this subject-matter would still not involve an inventive step.
27. A part of the subject-matter of claim 1 relates to more than one radiating element being used to apply electromagnetic waves with defined frequency and phase values to the cavity. Using more than one radiating element has the consequence that a control over the frequency or phase influences the power distribution in the cavity.
28. Consequently, for that part of the subject-matter, the distinguishing feature has the technical effect of providing another way of influencing the power distribution in the cavity.

29. Accordingly, the problem is seen in providing an additional or alternative way of influencing the power distribution.

30. In the embodiment relating to Figure 5B of D6, the power distribution is controlled by the frequencies and their respective powers. The circuit in Figure 5B does not show means to enable a phase control. However, the passage on page 13, line 26 to page 14, line 2, in the general part of the description, explicitly discloses an incentive to solve the above problem, and also a solution: "In addition, a possibility to control the phases off each input dynamically (and independently) provides an additional degree of freedom in controlling the RF (EM) modes". Having more options to control the power distribution would have allowed the desired temperature distribution in the object to be achieved in additional or alternative ways. The skilled person would, therefore, have had the motive to apply a phase control to the circuit of Figure 5B. This would have been realized by a simple workshop modification, for example by introducing variable delay lines. The phase control would also have introduced the possibility to better mitigate undesired coupling (and interference) effects (page 11, lines 1 - 5). The solution of using orthogonal polarization (page 13, lines 16 - 21) is not perfect when using more than two inputs simultaneously.

31. Hence, the subject-matter of claim 1 lacks an inventive step over D6 even for those parts for which the distinguishing feature has a technical effect.

32. It follows that the Main Request is not allowable, because the subject-matter of claim 1 does not involve an inventive step (Articles 100(a), 52(1) and 56 EPC).

Auxiliary Request 1

33. The embodiment according to Figure 5B of D6 uses multiple feeds and radiating elements. Hence, D6 discloses the feature in which claim 1 of Auxiliary Request 1 differs from claim 1 of the Main Request.
34. The proprietor merely referred to the arguments submitted in respect of the Main Request.
35. It follows that Auxiliary Request 1 is not allowable, because the subject-matter of claim 1 does not involve an inventive step for the same reasons as the subject-matter of claim 1 of the Main Request (Articles 52(1) and 56 EPC).

Auxiliary Requests 2 and 3

36. According to D6, the output power at each feed, and, thereby, in a plurality of regions, is measured and fed to the controller (page 41, lines 20 - 28). The output power is a direct indication of the absorption loss (page 44, lines 25 - 30), and the entirety of measured output powers represents a loss profile (which is related to the energy efficiency curve in Figure 11B). Hence, D6 discloses the features in which claims 1 of Auxiliary Requests 2 and 3 (labelled as Auxiliary Requests 4 and 5, respectively - cf. IV above) differ from claim 1 of the Main Request.
37. The proprietor merely stated that D6 did not disclose the acquisition of characteristics in a plurality of regions. In response to the Opposition Division's finding, the proprietor denied that the temperature of

an object was a characteristic of energy absorption. Further, the temperatures mentioned in D6 were target temperatures, not measured temperatures.

38. This argument is not persuasive. D6 not only discloses a measurement of output powers, as explained above under point 36. It also discloses, on page 3, lines 21 - 29, on page 4, lines 1 - 6 and 12 - 24, and on page 72, lines 19 - 21, the measurement of temperatures at various regions of the cavity. The measurements are used to provide position-dependent feedback for the heating. This implies a determination of the sets of frequency values to be used. According to the interpretation of claim 1 of the Main Request that was given further above, temperature is a characteristic of energy absorption (see paragraph [0059] of the patent publication). The higher the absorption, the higher the temperature change. The higher also the energy loss of the radiation. Hence, in view of the lack of a different definition in claim 1, also the measured temperature in D6 is a loss parameter in the sense of claim 1. The measured temperatures at various regions of the cavity represent the energy loss across these regions. Hence, they form a loss profile. Therefore, also this embodiment of D6 discloses the features in which claims 1 of Auxiliary Requests 2 and 3 differ from claim 1 of the Main Request.

39. Just as with the Main Request, a phase control would have served no technical purpose (see points 21. to 24.). For those parts of claim 1 relating to a plurality of radiation elements, the skilled person would have started from the particular embodiment of D6, in which the same frequency is fed to two or more antennas. Again, just as with the Main Request (points 26. to 31.), it would have been obvious to employ a

phase control in order to control the position-dependent heating or to mitigate undesired interference or coupling effects.

40. It follows that Auxiliary Requests 2 and 3 are not allowable, because the subject-matter of their respective claims 1 does not involve an inventive step for the same reasons as the subject-matter of claim 1 of the Main Request (Articles 52(1) and 56 EPC).

Auxiliary Request 4

41. Claim 1 of Auxiliary Request 4 (labelled as Auxiliary Request 11) adds, to claim 1 of the Main Request, the determination of a plurality of sets of frequency and phase values. This feature, however, is already implicitly disclosed in claim 1 of the Main Request (see above points 7. to 9. and 18.), because the use of the frequency and phase values implies their prior determination. Just as the control of the phase has no technical effect, its prior determination also has no technical effect. Therefore, this feature has no influence on the Board's finding on inventive step of the Main Request.
42. The proprietor's arguments only relate to novelty, which, however, has already been acknowledged by the Board.
43. Hence, the Board's negative finding on inventive step of the Main Request applies similarly to Auxiliary Request 4 (Articles 52(1) and 56 EPC).

Auxiliary Requests 5 to 11

44. The statement of grounds of appeal must address all reasons on which the decision under appeal is based (Article 12 (3) RPBA 2020, together with Article 108 and Rule 99(2) EPC). Only then is the Board able to understand immediately, why the decision is alleged to be incorrect, without having to make investigations of its own (Case Law of the Boards of Appeal, 10th Edition, V.A.2.6.3 a) and c) with reference to J 10/11). As a consequence, unsubstantiated auxiliary requests are normally not admitted into appeal proceedings (Article 12(5) RPBA 2020 and Case Law, 10th edition, V.A.4.3.5)
45. As O1 correctly points out, the proprietor has not submitted any reasons as to why the decision was wrong in finding that the features added to the independent claims of Auxiliary Requests 5 - 11 (labelled as, in this sequence, Auxiliary Requests 2, 3, 4, 7, 8, 9 and 10) were disclosed by D6.
46. The Board, therefore, has no reason to doubt that the Opposition Division was correct in their finding, which means that the Auxiliary Requests 5 - 11 would fail for the same reason as the Main request.
47. For this reason, the Board uses its discretion not to admit Auxiliary Requests 5 - 11 into the appeal proceedings (Articles 12(5) and (3) RPBA 2020).

Auxiliary Requests 12 to 31

48. Auxiliary Requests 12 - 31 were not admitted into the opposition proceedings. The Opposition Division found

them to be incomplete. Their content was, therefore, not determined. Further, the same objections applied to Auxiliary Requests 12 - 31 as to Auxiliary Requests 1 - 11. That was so, because the independent claims of Auxiliary Requests 12 - 31 were combinations of the claims of Auxiliary Requests 1 - 11. Hence, the Auxiliary Requests 12 - 31 were, *prima facie*, not allowable.

49. According to Article 12(6) RPBA 2020, the Board shall not admit requests which were not admitted into the first instance proceeding, unless the decision not to admit suffered from an error in the exercise of the first instance's discretion, or unless the circumstances of the appeal case justify their admission.
50. The Opposition Division appears to have relied on the right principles and applied them in a reasonable way. The Board cannot thus find fault in the way in which the Opposition Division exercised its discretion. The letter accompanying the Auxiliary Requests 12 - 31, dated 6 September 2019, stated on page 7, that "the full claim sets including the corresponding method claims will be provided during oral proceedings should the need arise". Hence, the content of the complete requests was not in evidence.
51. The circumstances have changed, however, in that the proprietor has declared the same, re-submitted Auxiliary Requests 12 - 31 to be complete (point 8 of their statement of grounds of appeal). Thereby, one part of the Opposition Division's reasoning regarding admission is obsolete.

52. Yet the proprietor has not addressed the other part of the Opposition Division's reasoning, which is that those requests were, *prima facie*, not allowable. Auxiliary Requests 12 - 31 are combinations of Auxiliary Requests 1 - 11. In the absence of an argument of why these requests overcame the objections raised against Auxiliary Requests 1 - 11, the Board has no reason to doubt the Opposition Division's finding that these requests also failed, *prima facie*, to overcome these objections, for the same reasons as the Main Request failed to overcome them. Hence, despite the circumstances having changed, they have not changed in a way that would justify the admission of Auxiliary Requests 12 - 31.
53. Since there is no reason to overrule the Opposition Division's decision, Auxiliary Requests 12 - 31 are not admitted into the appeal proceedings (Article 12(6) RPBA 2020).

Auxiliary Requests 32 and 33

54. The Opposition Division did not admit the Auxiliary Requests 32 and 33 into the proceedings. They should have been submitted earlier than during the oral proceedings, because all reasons for not allowing the higher-ranking requests had been put forward earlier in the opposition proceedings. Further, the amendments in Auxiliary Requests 32 and 33 introduced subject-matter that was not foreseeable by the opponents.
55. The admission into the appeal proceedings is governed by Article 12(6) RPBA 2020.

56. The Board agrees with the Opposition Division in that the requests should and could have been filed earlier. However, the proprietor rightly asserts that the Opposition Division should also have considered the criterion of "clear allowability" in their decision. All the more since this topic has apparently been discussed during the oral proceedings. Unfortunately, the content of this discussion is not apparent from the minutes.
57. O1 and O2 argued, in their replies to the statement of grounds, that the independent claims of Auxiliary Requests 32 and 33 were, *prima facie*, clearly not allowable. They failed for the same reasons as the Main Request. They also gave rise to new objections of unallowable amendments (Articles 123(2) and (3) EPC).
58. The Board agrees with the opponents at least in that Auxiliary Requests 32 and 33 are, *prima facie*, not allowable.
59. Claim 1 of each of Auxiliary Request 32 differs from claim 1 of the Main Request in that it defines the electromagnetic waves to be applied to the cavity via a plurality of radiating elements. The waves have a plurality of phase values. It is implicit that they must have a common frequency at each moment in time, or else the definition of the plurality of phase values would be meaningless. Claim 1 of Auxiliary Request 33 additionally defines explicitly that the waves differ only in their phase values.
60. The disclosure of D6 is summarized in the above assessment of novelty and inventive step of the Main Request. D6 discloses embodiments in which the momentary frequency of each port is the same, although

there are also embodiments in which every port is fed with a different frequency. The phase control as disclosed on page 13, line 26 - page 14, line 2 only makes sense in the former embodiments. Considering this disclosure, the difference between claim 1 of each of Auxiliary Requests 32 and 33 and D6 is the same as for claim 1 of the Main Request.

61. Since claims 1 of Auxiliary Requests 32 and 33 define a plurality of radiating elements, the distinguishing feature has the technical effect of influencing the field pattern in the cavity, and the reasoning regarding lack of inventive step under points 27. to 31. applies similarly here.
62. It follows that Auxiliary Requests 32 and 33 are, *prima facie*, not allowable for the same reason as the Main Request. Consequently, the circumstances do not justify the overturning of the Opposition Division's decision, and Auxiliary Requests 32 and 33 are not admitted into the appeal proceedings (Article 12(6) RPBA).

Remittal

63. The Board shall not remit a case to the department whose decision was appealed for further prosecution, unless special reasons present themselves for doing so (Article 11 RPBA 2020).
64. The proprietor requests remittal if the Board was minded to take a decision on grounds not covered by the decision under appeal, for example on Article 100(a) in conjunction with Article 56 EPC (inventive step).

65. However, in this case, the Board's finding on inventive step is not considered a special reason that would justify a remittal. Inventive step is one of the validly raised grounds of opposition (see, for example, point VI.2 of O1's notice of opposition). The reasoning on inventive step remains within the same factual framework as the Opposition Division's novelty objection, relying on similar passages of the same document D6. Hence, all relevant facts have already been presented during opposition proceedings and the Board finds itself in a position to decide on the case without undue burden (cf. Case Law of the Boards of Appeal, 10th edition, V.A.9.3.2 c) and V.A.9.6.1).
66. As a consequence, the Board decides on the case without a remittal to the Opposition Division (Article 11 RPBA 2020).

Conclusions

67. The Main Request is not allowable, because the subject-matter of claim 1 does not involve an inventive step over the disclosure of D6 (Articles 100(a) and 56 EPC).
68. Auxiliary Requests 1 - 4 are not allowable, because their respective claim 1 does not involve an inventive step over the disclosure of D6 (Article 56 EPC).
69. Auxiliary Requests 5 - 11 are not admitted into the proceedings, because the proprietor did not present any reasons why the decision under appeal shall be reversed (Articles 12(3) and 12(5) RPBA 2020).
70. Auxiliary Requests 12 - 31 are not admitted into the proceedings, because the Opposition Division has

exercised properly its discretion in not admitting them, and there is no reason to overturn this decision (Article 12(6) RPBA 2020).

71. Auxiliary Requests 32 and 33 are not admitted into the proceedings, because they have not been admitted in opposition proceedings, and the circumstances, in particular their *prima facie* lack of inventive step, do not justify their admission (Article 12(6) RPBA 2020).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



D. Meyfarth

P. Fontenay

Decision electronically authenticated