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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/472,112	08/28/2014	Juergen Nowotnick	81537088US03	1459
65913	7590	12/23/2019	EXAMINER	
Intellectual Property and Licensing NXP B.V. 411 East Plumeria Drive, MS41 SAN JOSE, CA 95134			CADEAU, WEDNEL	
			ART UNIT	PAPER NUMBER
			2632	
			NOTIFICATION DATE	DELIVERY MODE
			12/23/2019	ELECTRONIC

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JUERGEN NOWOTTNICK and JUERGEN LEMKE

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Appeal 2019-000070  
Application 14/472,112  
Technology Center 2600

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Before MAHSHID D. SAADAT, ALLEN R. MacDONALD, and  
NABEEL U. KHAN, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–21. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as NXP, B.V. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Appellant describes the invention as relating to “a device and to a method for data-reception using amplitude modulation, in particular to a base station adapted for RF-communication with a transponder.” Spec. 1:7–9.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. Device for data-reception using amplitude modulation, comprising:

a coil having a coil terminal and being adapted to receive an amplitude modulated electromagnetic wave, whereupon an amplitude modulated signal is induced in the coil and provided at the coil terminal, the amplitude modulated signal comprising a positive voltage portion and a negative voltage portion, with at least the positive voltage portion sometimes being induced without amplitude-based signal encoding and at other times being induced with amplitude-based signal encoding; and

an adjustment circuit including a divider circuit electrically coupled via an input terminal to the coil terminal, wherein the adjustment circuit is adapted:

to adjust the amplitude modulated signal by reducing a voltage amplitude of the amplitude modulated signal by a constant amount when the positive voltage portion is being induced without amplitude-based signal encoding but not when the positive voltage portion is being induced with amplitude-based signal encoding, while preserving a relative entropy of amplitude modulation therein, and

to provide the adjusted amplitude modulated signal at an output terminal of the adjustment circuit.

## REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Takiguchi	US 2006/0049918 A1	Mar. 9, 2006
Meltzer	US 2008/0305760 A1	Dec. 11, 2008
Tsukamoto	US 2012/0134444 A1	May 31, 2012

## REJECTIONS

1. Claims 1–21 stand rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. Final Act. 5–7.
2. Claims 1 and 15 stand rejected under 35 U.S.C. § 103 as unpatentable over Takiguchi and Tsukamoto. Final Act. 8–10.
3. Claims 2–14 and 16–21 stand rejected under 35 U.S.C. § 103 as unpatentable over Takiguchi, Tsukamoto, and Meltzer. Final Act. 10–24.

## OPINION

### *Written Description Rejection*

The Examiner rejects claims 1–21 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. *See* Final Act. 6. In the rejection of these claims, the Examiner finds that Appellant’s Specification merely discloses alternate embodiments of an adjustment circuit (as illustrated in Figures 3 and 4) that adjusts an amplitude modulated signal by reducing a voltage amplitude of the amplitude modulated signal by a constant amount. *See id.*; *see also* Ans. 3–4. The Examiner further finds that nothing in Appellant’s Specification discloses that the adjustment is performed by reducing the voltage amplitude of the amplitude modulated signal, “when the positive voltage portion is being induced without amplitude-based signal encoding but not when the positive voltage portion is

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being induced with amplitude-based signal encoding,” as recited in claim 1. *See* Final Act. 6; *see also* Ans. 4. The Examiner further indicates that claims 15 and 16 contain similar limitations and are therefore rejected on the same grounds as claim 1. *See* Final Act. 6. As also indicated by the Examiner, claims 2–14 and 17–21 depend at least in part on one of claims 1, 15, or 16 and are therefore rejected on the same grounds as claims 1, 15, and 16. *See id.*

Appellant argues the Specification provides adequate and detailed support for the aforementioned limitation of claim 1. *See* Appeal Br. 6–7; *see also* Reply Br. 3–6. More specifically, Appellant argues, *inter alia*, that the following portion of the Specification provides sufficient written description support:

An advantage to reduce the positive voltage portion by a constant amount in contrast to applying a divider circuitry may in particular be observed ***if the received amplitude modulated signal is composed of a relatively large carrier portion (having a constant amplitude) and a relatively small signal portion (having a varying amplitude encoding the intended data), i.e. having a small modulation index. In this case, according to the embodiment of the present invention, only the relatively large carrier portion of the received amplitude modulated signal is reduced but not the signal related portion,*** so that after adjustment a modulation index may even be increased so that demodulation may be more reliable and simpler. Furthermore, thereby, a higher sensitivity of the data-reception may be achieved and thereby, a wider distance range of data-reception may be achieved.

Spec. 4:1–10 (emphasis added). However, the aforementioned portion of Appellant’s Specification merely describes an advantage associated with the claimed adjustment circuit reducing a positive voltage by a constant amount. We agree with the Examiner’s finding that Appellant’s Specification does

not adequately disclose how the claimed adjustment circuit (described in conjunction with the illustrated embodiments of Figures 3 and 4) selectively reduces the voltage amplitude only when the positive voltage portion is being induced without amplitude-based signal encoding. *See* Ans. 3–4.

In its Reply Brief, Appellant further cites the following portion of the Specification as also providing sufficient written description support:

As an insert 318 on the left-hand side of Fig. 3, a trace 319 of an exemplary input amplitude modulated signal is indicated, ***wherein a modulation or change of the amplitude of the signal 319 is not visible*** due to the low modulation index ***so that the amplitude of the input amplitude modulated signal 319 appears to stay at a constant level. However, this is not the case but the amplitude of the amplitude modulated signal 319 in fact varies with time.***

Spec. 13:32–14:3 (emphasis added). As argued by Appellant, the input amplitude modulated signal of trace 319 is an example of positive voltage portion being induced without amplitude-based signal encoding.<sup>2</sup> *See* Reply Br. 4–6. We do not agree with Appellant’s premise that the input amplitude modulated signal of trace 319 is an example of positive voltage portion being induced without amplitude-based signal encoding. The Specification clearly states that although “the amplitude of the input amplitude modulated signal 319 appears to stay at a constant level. . . . [T]his is not the case” as “the amplitude of the amplitude modulated signal 319 in fact varies with time.” Spec. 13:33–14:3 (emphasis added). As Appellant’s Specification indicates that a received amplitude modulated signal having a varying

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<sup>2</sup> Appellant quotes the Specification as “this is not the case [when] ~~but~~ the amplitude of the amplitude modulated signal 319 in fact varies with time.” Reply Br. 4. However, the edits in Appellant’s Reply Brief are Appellant’s edits and do not appear in the original disclosure. *See* Spec. 14:2–3.

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amplitude represents an amplitude modulated signal being induced with amplitude-based signal encoding (*see, e.g.*, Spec. 4:1–5), the input amplitude modulated signal of trace 319 is an example of a positive voltage portion being induced with amplitude-based signal encoding, as opposed to being induced without amplitude-based signal encoding. Thus, we are not persuaded the Examiner erred, and we sustain the Examiner’s rejection of claim 1 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

The Examiner further finds that claim 3 separately fails to comply with the written description requirement because claim 3 recites, in part, “a second adjustment including a divider circuit configured and arranged between the first adjustment circuit and the coil terminal,” and Appellant’s Specification also does not disclose adequate support for this limitation. *See* Final Act. 6–7; *see also* Ans. 4–5. Appellant separately disputes the Examiner’s finding regarding claim 3. *See* Appeal Br. 7–8; *see also* Reply Br. 6–7. We are persuaded of error with respect to the Examiner’s finding regarding claim 3 for the reasons provided by Appellant. However, because we are not persuaded of error with respect to the Examiner’s finding regarding claim 1, for reasons discussed above, we sustain the Examiner’s rejection of claim 3 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement, based on its dependence upon claim 1.

Accordingly, we sustain the Examiner’s rejection of claims 1–21 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

*Obviousness Rejection over Combination of Takiguchi and Tsukamoto and Combination of Takiguchi, Tsukamoto, and Meltzer*

The Examiner further rejects claims 1–21 under 35 U.S.C. § 103 as unpatentable over either the combination of Takiguchi and Tsukamoto or the combination of Takiguchi, Tsukamoto, and Meltzer. *See* Final Act. 8, 10. In rejecting these claims, the Examiner finds Takiguchi discloses, *inter alia*, a waveform shaping circuit configured to allow a positive half of an input response wave to pass through its diode series circuit and to allow a voltage level (i.e., amplitude) of the response wave to be reduced by a predetermined amount (i.e., “ $V_F + V_Z$ ” where  $V_F$  represents a forward voltage and where  $V_Z$  represents a zener voltage). *See* Final Act. 9 (citing Takiguchi ¶¶ 59–62, 66, 72); *see also* Takiguchi ¶ 63.

Appellant argues that the Examiner has failed to establish that Takiguchi’s waveform circuit is configured to reduce a voltage amplitude of the amplitude modulated signal, “when the positive voltage portion is being induced without amplitude-based signal encoding but not when the positive voltage portion is being induced with amplitude-based signal encoding,” as recited in claim 1. *See* Appeal Br. 9; *see also* Reply Br. 8. As further argued by Appellant, Tsukamoto does not cure Takiguchi’s deficiencies. *See* Appeal Br. 9; *see also* Reply Br. 8.<sup>3</sup>

We are persuaded by Appellant’s arguments. More specifically, similar to our conclusion that Appellant has not shown the aforementioned limitation is adequately disclosed in Appellant’s Specification, we conclude

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<sup>3</sup> As Appellant’s argument regarding claim 1 is sufficient to persuade us that the Examiner erred in rejecting claims 1–21 under 35 U.S.C. § 103, we do not reach Appellant’s separate argument respectively addressing the rejection of claims 3, 4, and 8 (*see* Appeal Br. 10) and the Examiner’s rationale for combining the cited references (*see* Appeal Br. 10–11).

the Examiner has not adequately shown that Takiguchi's disclosure of a waveform circuit configured to reduce a positive voltage of an input response wave by a constant amount, combined with the disclosure of Tsukamoto, teaches or suggests the aforementioned limitation.

Accordingly, we do not sustain the Examiner's rejection of independent claim 1. The Examiner rejects independent claim 15 on the same basis as claim 1, and therefore we also do not sustain the Examiner's rejection of claim 15. *See* Final Act. 8–10. As Meltzer does not cure the identified deficiencies of Takiguchi and Tsukamoto, we also do not sustain the rejection of independent claim 16, or the rejection of the pending dependent claims, which depend from one of claims 1, 15, or 16.

### CONCLUSION

We sustain the Examiner's rejection of claims 1–21 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

We do not sustain the Examiner's rejection of claims 1–21 under 35 U.S.C. § 103.

### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–21	112(a)	Written Description	1–21	
1, 15	103	Takiguchi, Tsukamoto		1, 15
2–14, 16–21	103	Takiguchi, Tsukamoto, Meltzer		2–14, 16–21
<b>Overall Outcome</b>			1–21	

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**TIME PERIOD FOR RESPONSE**

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

**AFFIRMED**