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Medtronic, Inc. (CVG) 8200 Coral Sea Street NE. MS: MVC22 MINNEAPOLIS, MN 55112			EVANISKO, GEORGE ROBERT	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* THOMAS A. ANDERSON, TODD J. SHELDON,  
MATTHEW D. BONNER, and NOELLE C. NEAFUS

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Appeal 2019-002163  
Application 14/694,910  
Technology Center 3700

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Before NINA L. MEDLOCK, PHILIP J. HOFFMANN,  
MATTHEW S. MEYERS, *Administrative Patent Judges.*

HOFFMANN, *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 rejection of claims 1, 2, 4–19, 30, and 31. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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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. Appellant identifies the real party in interest as “Medtronic, Inc. . . ., a subsidiary of Medtronic plc.” Appeal Br. 3.

According to Appellant, the “disclosure relates to . . . cardiac pacing using a leadless pacing device.” Spec. ¶ 2. Below, we reproduce independent claim 1 as representative of the appealed claims.

1. A system comprising:
  - a leadless pacing device comprising:
    - a stimulation module configured to generate pacing pulses;
    - a sensing module;
    - a processing module;
    - a housing comprising a conductive portion, wherein the housing is configured to be implanted within a chamber of a heart of a patient and encloses the stimulation module, the sensing module, and the processing module; and
    - a first electrode electrically coupled to the sensing module and the stimulation module; and
    - a sensing extension extending from the housing, a proximal-most portion of the sensing extension being curved, the sensing extension comprising:
      - a self-supporting body extending from the housing; and
      - a second electrode carried by the self-supporting body at the proximal-most portion of the sensing extension that is curved, wherein the second electrode is electrically connected to the sensing module and the stimulation module via the conductive portion of the housing,
  - wherein the processing module is configured to control the sensing module to sense electrical cardiac activity via the second electrode.

## REJECTION AND PRIOR ART

The Examiner rejects claims 1, 2, 4–19, and 30 under 35 U.S.C. § 103 as unpatentable over Dianaty et al. (US 2013/0345770 A1, pub. Dec. 26, 2013) (“Dianaty”).

## ANALYSIS

As set forth above, independent claim 1 recites, in relevant part,

1. A system comprising:

a leadless pacing device comprising . . . a housing . . . ; and

*a sensing extension extending from the housing, a proximal-most portion of the sensing extension being curved, the sensing extension comprising:*

a self-supporting body extending from the housing;

and

*a second electrode carried by the self-supporting body at the proximal-most portion of the sensing extension that is curved*, wherein the second electrode is electrically connected to the sensing module and the stimulation module via the conductive portion of the housing.

Appeal Br., Claims App. (emphases added). As shown in Dianaty’s Figure 1A, a leadless implantable medical device (LIMD) 100 includes shaped intra-cardiac (IC) device extension 103 extending from housing 102. Dianaty Fig. 1A, ¶ 24. Electrode 105 is disposed in a *center* of extension 103, in contrast to claim 1’s recitation that “a[n] . . . electrode [is] carried . . . at the *proximal-most portion of the sensing extension that is curved*”—i.e., a position proximate the end of extension 103. *Id.* ¶ 24; Appeal Br., Claims App. (Claim 1) (emphasis added).

Nonetheless, according to the Examiner,

[i]t would have been obvious . . . to have modified the system and method as taught by Dianaty, with the sensing extension having a proximal most curved sensing extension with a second electrode—such as by [1]) adding a second electrode to region 115, [2]) ending the extension before region 113, or [3]) using a new extension with proximal most curved end with electrode.

Final Action 3. Inasmuch as the Examiner does not support adequately that it would have been obvious to implement any of the three modifications to Dianaty discussed above, we do not sustain the rejection.

We begin with the Examiner’s determination that it would have been obvious to modify Dianaty to “add[] a second electrode to region 115”—i.e., to add an electrode to the end portion of extension 103. Final Action 3. As shown and described in Dianaty, Dianaty is directed to a LIMD with an electrode disposed in the right atrial appendage (RAA) of the heart. Dianaty Fig. 1A; ¶ 30. In contrast, Dianaty’s third curved segment 115 of extension 103 is disposed in the heart’s superior vena cava (SVC). *Id.* Without a compelling line of reasoning or citation of evidence by the Examiner, there is inadequate support for the Examiner’s determination that it would have been obvious either to move Dianaty’s electrode 105 to, or for Dianaty’s device to include another electrode within, the heart’s SVC.

Our determination is consistent with Appellant’s argument that to the extent that Dianaty discloses that the device may include one or more electrodes 105 located on extension 103, Dianaty is best understood as describing using additional electrodes 105 on, or moving electrode 105 along, a specific portion of extension 103 which is not at the end of the sensing extension. Appeal Br. 7. More specifically, as Appellant points out,

Dianaty describes, with respect to the body of the IC device extension 103, that “[o]ne or more electrodes 105 are located

along the second curved segment 111. Optionally, the electrode(s) may be provided in the region proximate to the junction of the second curved segment 111 and the second linear region 113. Optionally, one or more electrodes 105 may be provided along the second linear region 113.”

Reply Br. 4, citing Dianaty para. 27. As shown in Dianaty’s Figure 1A, second linear region 113 appears to be almost entirely within the heart’s RAA, and in any case away from the end portion of extension 103. Further, the Examiner does not cite any portion of Dianaty discussing using an electrode in any other area of the heart other than the RAA, let alone using an electrode in the heart’s SVC.

We now address the Examiner’s determination that it would have been obvious to modify Dianaty to “end[] the extension before region 113,” such that Dianaty’s electrode 105 would be disposed at the end portion of extension 103. Final Action 3. Dianaty describes that “extension 103 forms a stabilizing mechanism, to assist in holding the LIMD . . . in place.” Dianaty ¶ 25 (bold omitted). Extension 103’s “region 113 merges with and extends to a third segment 115,” which is disposed in the heart’s RAA. *Id.* ¶ 28 (bold omitted); Fig. 1A. “Th[is] configuration [shown] in F[igure] 1A places . . . electrode 105 in the RAA to allow for right atrial pacing and sensing. Th[is] configuration in F[igure] 1A also places the proximal portion of the third curved segment 115 against a wall of the SVC to provide overall stability to the LIMD.” *Id.* ¶ 30 (bold omitted). Based on these and other portions of Dianaty, it appears that segment 115 provides stability to the LIMD, and that such stability is important to Dianaty’s arrangement. Thus, without further reasoning or citation of evidence by the Examiner, the Examiner does not support adequately that it would have been obvious to

remove segment 115 from Dianaty's LIMD. *See* Appeal Br. 10; *see* Reply Br. 5–6.

Finally, we address the Examiner's determination that it would have been obvious to modify Dianaty to "us[e] a new extension with proximal most curved end with electrode"; i.e., such that another electrode would be disposed at the end portion of another extension. Final Action 3. To the extent that the Examiner proposes to use another extension with an electrode which extends into the heart's SVC, for reasons similar to those discussed above, without a compelling line of reasoning or citation of evidence by the Examiner, there is inadequate support for the Examiner's proposed additional extension and electrode. Alternatively, to the extent that the Examiner proposes to add another extension with an electrode which extends into the heart's RAA and not into the heart's SVC—i.e., where extension 103 and electrode 105 already extend—the Examiner does not provide reasoning or evidence adequate to support that there is any use for an additional electrode in the RAA. *See, e.g.*, Reply Br. 7.

Thus, based on the foregoing, the Examiner does not support adequately that an obvious variation of Dianaty provides "a second electrode carried by the self-supporting body at the proximal-most portion of the sensing extension that is curved," as claimed. Therefore, we do not sustain the Examiner's obviousness rejection of independent claim 1, or of claims 2 and 4–19 depending from claim 1. Inasmuch as independent claim 30 includes a similar recitation, we also do not sustain the Examiner's obviousness rejection of claim 30 or its dependent claim 31, both of which the Examiner rejects with claim 1.

CONCLUSION

We REVERSE the Examiner's rejection of claims 1, 2, 4-19, 30, and 31

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 2, 4-19, 30, 31	103	Dianaty		1, 2, 4-19, 30, 31
<b>Overall Outcome</b>				1, 2, 4-19, 30, 31

REVERSED