

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VIZIO, INC.,  
Petitioner

v.

NICHIA CORPORATION,  
Patent Owner

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Case No. 2018-00386  
Patent 9,490,411

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**PETITIONER'S REPLY TO PATENT OWNER'S SUR-REPLY**

## GLOSSARY OF ABBREVIATIONS

Shorthand	Description
IPR	<i>Inter Partes</i> Review
BRI	Broadest Reasonable Interpretation
PO	Patent Owner
POSA	Person of Ordinary Skill in the Art
POPR	IPR2018-00386, Paper 8, Patent Owner's Preliminary Response
POR	IPR2018-00386, Paper 20, Patent Owner's Response
R	IPR2018-00386, Paper 24, Petitioner's Reply to Patent Owner's Response
SR	IPR2018-00386, Paper 28, Patent Owner's Sur-Reply (for brief section I) IPR2018-00437, Paper 39, Patent Owner's Sur-Reply (for brief section II)
Pap.	Paper
Loh	U.S. Patent Publication No. 2008/0012036 (Ex. 1004)

Note: All emphasis herein added unless otherwise stated. All citations are to exhibits in IPR2018-00386.

**I. PO IMPROPERLY NARROWS THE TERM “...DISPOSED IN A REGION BELOW AN UPPER SURFACE OF THE METAL PART, ON FOUR OUTER LATERAL SURFACES OF THE RESIN PACKAGE”**

PO argues incorrectly that under Petitioner’s construction the claimed region is “not bounded by the upper surface of the metal part.” PO’s Sur-Reply (“SR”) 1-3. To the contrary, the claim itself expressly sets forth the bounds of the region, as reflected in Petitioner’s construction. The “region” must be “below” (*i.e.*, at a lower level than) “an upper surface of the metal part.” In addition, the “region” is “on four outer lateral surfaces of the resin package,” and is thus bounded by the resin package. Conversely, PO’s narrowed proposed bounds—which limit the region to a single metal plate—are inconsistent with the claims and unsupported by the intrinsic record. During prosecution PO amended this limitation from “at least one metal plate” to “metal part” and cannot now narrow the claimed region. Ex. 1002, 165.

PO’s only purported intrinsic support is the incorrect premise that the specification’s concavities/convexities are an upper surface (SR3-4), but the specification and admissions by PO and its expert belie this argument. The specification expressly describes “*side surfaces* corresponding to the notch parts” (Ex. 1001, 13:37-41), and PO admits “etching may result in concavities in the *side surfaces* of the notches” (POPR 7; Ex. 2011 ¶50 (quoting Ex. 1001, 13:37-41)). Indeed, Dr. Schubert admits that “as a result of etching notches in the lead frame, concavities or convexities are formed in the regions *below the upper surfaces* of the

exposed leads.” *Id.* Thus, PO’s proposal has no intrinsic support, whereas Petitioner’s construction is shown in all embodiments. R 3-7.

Contrary to PO (SR4), the different terms in the claims—“in a region below” (Cl. 1) and “in a region directly under” (Cl. 6)—connote different meaning. R 13.

PO’s assertion that Petitioner’s construction “fails to account for” differences in level (SR1-2) is incorrect. As an initial matter, neither the patent figures nor Loh (Ex. 1004) show differences in level “on an upper surface.” PO’s hypothetical illustrations and exhibits (SR2) are irrelevant extrinsic attorney arguments that do not make sense. Ex. 2021, 62:20-63:17. The first illustration depicts a single lead instead of a complete device, the second illustration depicts two leads with no resin adhering them together, and both illustrations fail to satisfy multiple other claim elements. Regardless, Petitioner’s construction is consistent with PO’s hypotheticals having differences in level. As in the claim, the hypotheticals show resin disposed in a region below “*an*” upper surface of the metal part. Thus, to the extent PO argues there are multiple upper surfaces, the claim only requires that resin be disposed in a region below (*i.e.*, at a lower level than) one of the upper surfaces of the metal part.

PO’s discussion of the “notch” limitation (SR4-5) is incorrect and irrelevant. The “notch” limitation does not refer to resin or its location. Ex. 1001, 19:49 (“a notch is formed in the metal part”), 4:13-15; Ex. 1012, 16 (“opening or indentation”). Thus, Petitioner’s construction does not render the disputed limitation superfluous.

## II. PO IMPROPERLY READS “SINGULATED” INTO THE CLAIM

PO’s assertion that it defined the term “resin package” to mean “a singulated light emitted device” formed from “multiple devices” (SR1-3; POR 31) improperly reads a process step into *apparatus claims* that recite the structure of a light emitting device. *Vanguard*, 234 F.3d at 1372-73. PO’s cite to *Nordt* is inapposite because the claim in that case explicitly contained the term “injection molded” and the patent described “clear structural differences.” 881 F.3d 1371, 1375. In contrast, here PO improperly construes a structural limitation as a process limitation and fails to identify any structural differences. Indeed, PO does not dispute that the same resin package can be formed without singulation. Contrary to PO (SR3), burrs are merely defects that can result from processes other than singulating. Ex. 1001, 4:30-34, 12:52-13:3. PO’s reliance on the Board’s statement regarding ’250 patent *method* claim 1 with a “cutting” step (SR2) is irrelevant. PO ignores the Board’s statement that the different *apparatus* claim 17 is “drawn to the light emitting device itself” and “does not recite limitations concerning assembly methods, such as... cutting the resin package.” IPR2017-01608, Pap. 72, 41. The claims here are *apparatus* claims.

Contrary to PO (SR4-5), Loh discloses a “resin package” even under PO’s incorrect construction because a “metal strip” leadframe connotes multiple devices; and the language in Loh is sufficient to incorporate the confirming references in their entirety. *Paice LLC v. Ford Motor Company*, 881 F.3d 894, 907-10 (Fed. Cir. 2018).

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