UNITED STATES PATENT AND TRADEMARK OFFICE

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14/483,260	09/11/2014	Umberto Siciliani	P63927	1085

120376 7590 02/05/2020	EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte UMBERTO SICILIANI, GUIDO LUCIANO RIZZO, and
MARCO CARMINATI

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Appeal 2019-001728
Application 14/483,260
Technology Center 2100

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Before DENISE M. POTHIER, BETH Z. SHAW, and
JASON M. REPKO, *Administrative Patent Judges.*

SHAW, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision to reject claims 1–5 and 11–15. *See* Final Act. 1. We
have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] 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 Intel Corporation.
Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to a memory array with two or more volumes, the volumes comprising two or more dice. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A memory array comprising:
>   two or more volumes, the volumes comprising two or more dice, respectively;
>   wherein the volumes are connected in a daisy chain configuration such that an output of a first volume is coupled to an input of a next volume; and
>   wherein the dice included in a volume are connected in a daisy chain configuration such that an output of a first die is coupled to an input of a next die within the volume.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Xiao	US 2010/0327420 A1	Dec. 30, 2010
Grunzke	US 2012/0233433 A1	Sept. 13, 2012

REJECTION

Claims 1–5 and 11–15 are rejected under 35 U.S.C. § 103 as being unpatentable over Grunzke and Xiao. Final Act. 3–9.

OPINION

Appellant argues Grunzke fails to teach the following limitations of claim 1:

> two or more volumes, the volumes comprising two or more dice, respectively;
> wherein the volumes are connected in a daisy chain configuration such that an output of a first volume is coupled to an input of a next volume.

Appeal Br. 7. In particular, Appellant argues that Grunzke's "volumes" only exist in a single memory device. *Id.* at 8. Appellant also argues that Grunzke's memory devices are not equivalent to the "volumes" recited in claim 1. *Id.*

We have reviewed Appellant's arguments in the Briefs and the Examiner's Answer. We are not persuaded by Appellant's arguments for the following reasons.

As an initial matter, during examination of a patent application, a claim is given its broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Consistent with the broadest reasonable construction standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Appellant does not provide us with an ordinary meaning of a "volume." Appeal Br. 7–9. When we consider an ordinary meaning of "volume," we find that the term includes: "a disk or storage device."[2] Claim 1 recites "two or more volumes, the volumes comprising two or more dice, respectively." As such, a "volume" can be a storage device that comprises two or more dice.

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[2] DICTIONARY OF COMPUTING (6th ed. 2010), *available at*: https://search.credoreference.com/content/title/acbcomp?tab=entry_view&heading=volume&sequence=0.

The Examiner maps Grunzke's "memory devices" to the claimed "volumes" "because they are both storage units connected to [a] memory controller and they comprise[] a number of dice." Ans. 4. In particular, the Examiner finds "[e]ach memory device[of Grunzke] represents a storage volume." *Id.* at 3. We agree with the Examiner's findings that Grunzke's "memory devices" teach storage devices that include a number of dies. *Id.*; Grunzke ¶ 21 ("the memory devices 230-1, . . . , 230-N can comprise a number of dies and/or chips . . . .")

Although, as Appellant mentions (Reply Br. 3), Grunzke also uses the words "storage volume" or "volumes" intermittently (e.g., Grunzke ¶¶ 21– 22), the Examiner explains that the volumes mentioned in Grunzke are not what is mapped to the recited "volumes" of claim 1. Rather, Grunzke's memory devices teach the claimed volumes because they are both storage devices that comprise a number of dies. Ans. 3–4; *see also* Grunzke, Abstract ("A unique volume address can be assigned to each of the memory devices."). Thus, we are not persuaded that Grunzke's multiple memory devices only teach a single storage volume, as argued by Appellant. Reply Br. 3.

Additionally, the Examiner finds, and we agree, that Grunzke's memory devices 330-1 through 330-N are arranged in a daisy chain configuration. Ans. 5. Appellant argues, however, that the volumes of Grunzke are only coupled "via a single chip enable signal path" in Figures 3 and 4. Appeal Br. 9 (underlining and bolding omitted); Reply Br. 3. Yet, as the Examiner explains, Grunzke's volumes 313-1, 313-2, 313-3, and 313-P alone are not what are used to teach the recited "volumes." Ans. 5. Rather, Grunzke's memory devices, which are arranged in a daisy chain configuration, teach the "volumes are connected in a daisy chain

configuration such that an output of a first volume is coupled to an input of a next volume," as recited in claim 1. Grunzke, ¶¶ 21, 26, Figs. 3–4.

Accordingly, we are not persuaded of error in the rejection of claim 1, and we therefore sustain the rejection of claim 1 under 35 U.S.C. § 103. For the same reasons, we sustain the rejection of claims 2–5 and 11–15, for which Appellant presents no additional arguments. *See* Appeal Br. 7–9.

CONCLUSION

The Examiner's rejection of claims 1–5 and 11–15 under 35 U.S.C. § 103 is affirmed.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–5, 11–15	103	Grunzke, Xiao	1–5, 11–15	

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