

GLOBAL ETS

NEXT GENERATION COMPONENT TESTING & AUTHENTICATION

Laboratory Analysis Report

Report Number: 2000-XXXXXX
Date: 202X-XX-XX
Customer:
Customer Address:
Customer PO Number:
Customer Internal P/N:
Manufacturer: MARVELL SEMICONDUCTOR
Manufacturer Part Number: 88E6321-A0-NAZ2I000
Quantity: 1,520
Date Code: 2223
Lot Code: PVG925.11JW
Part Description: ETHERNET SWITCH 7-PORT



Global ETS USA

1-727-807-7991

**2631 Success Dr
Odessa, FL. 33556
USA**

www.gets-usa.com



Analysis Report - 2000-XXXXXX

Customer Name:		Purchase Order:	
Part Number:	88E6321-A0-NAZ2I000	Customer P/N:	
Manufacturer:	MARVELL SEMICONDUCTOR	Devices Received:	1,520
Date Code:	2223	Lot Code:	PVG925.11JW

Summary Of Inspection Results

ID	Test-Process Operation	Quantity Inspected	Pass	Fail	N/A	Comments / Observations	Inspector
1.0.0	Incoming - Documentation and Packaging Inspection (AS6171/2A) (Non-Destructive)						
	Incoming Packaging Conditions	1520	1520	0		1,520 Devices were received in acceptable condition.	N/A
2.0.0	External Visual inspection - Detailed (AS6171/2A) (Non-Destructive)						
	External Visual, Detailed Criteria	10	10	0		10 devices were visually inspected under 40x microscopy. No secondary coating was observed. Markings are acceptable. Terminals are in acceptable condition. Devices passed visual inspection.	N/A
3.0.0	Mechanical Inspection - Dimensions (AS6171/2A) (Non-Destructive)						
	Part Dimensions	1	1	0		Dimensions match datasheet specification. Ethernet Switch 7-Port	N/A
4.0.0	X-Ray - Standard 2D (AS6081 (4.2.6.4.4), (AS6171/5) (Non-Destructive)						
	X-Ray Analysis	10	10	0		10 devices were X-rayed. Construction and size are the same. No anomalies were found.	N/A
5.0.0	Delid/Decapsulation - Thermomechanical (AS6171/4) (Destructive)						
	Physical (INTERNAL)	1	1	0		Internal inspection was performed on 1 device. Device revealed Marvell logo with 2013 copyright. Die marking E6320 was also found. Die marking correlates with devices family marking.	N/A

(End Of Summary. Continue Reviewing Test Report On Next Page.)

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Part Number:	88E6321-A0-NAZ2I000	Customer P/N:	
Manufacturer:	MARVELL SEMICONDUCTOR	Devices Received:	1,520
Date Code:	2223	Lot Code:	PVG925.11JW

1.0.0 Incoming - Documentation and Packaging Inspection (AS6171/2A) (Non-Destructive)

Results Summary

1,520 Devices were received in acceptable condition.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
1.1.0	Incoming Packaging Conditions (Non-Destructive)					
1.1.1	ESD Protection	X				YES
1.1.2	Quantity Match Document	X				YES
1.1.3	Box Damaged	X				No sign of water damage
1.1.4	Type of Package	X				Trays
1.1.5	Invalid or Missing Identification Indicator on the Part Packaging	X				Acceptable
1.1.6	Invalid Part Packaging Labels	X				Yes, part packaging labels match what is expected but some information has been redacted on the label prior to arriving at GETS.
1.1.7	Invalid Part Packaging	X				Acceptable
1.1.8	Missing or Non-Functional Packaging	X				Acceptable
1.1.9	Missing/Forged Paperwork	X				Acceptable
1.1.10	Multiple Date Codes Identified in Documentation	X				No, one date code identified.
1.1.11	Multiple Date Codes within a Lot	X				No, one date code identified.
1.1.12	Part Orientation within Part Packaging	X				Acceptable
1.1.13	Missing or Non-Functional Condition Indicator	X				No, one date code identified.
1.1.14	Missing or Non-Functional Part Protector	X				Acceptable
1.1.15	Invalid Identification Indicator on the Part Package	X				Manufacturer label available.
1.1.16	Multiple Identification Indicator within an Expected Homogenous Lot	X				No, one date code identified.
1.1.17	Correct MSL Packaging	X				Moisture Sensitivity Level (MSL) 3 (168 Hours).

Images For Incoming - Documentation and Packaging Inspection.



Figure 1. INCOMING 1



Figure 2. INCOMING 2



Figure 3. INCOMING 3

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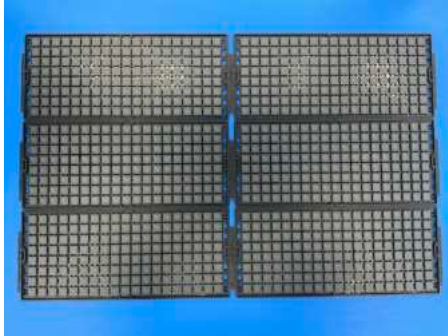


Figure 4. INCOMING 4

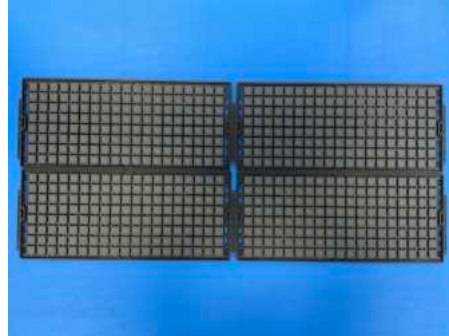


Figure 5. INCOMING 5



Figure 6. INCOMING 6

2.0.0 External Visual inspection - Detailed (AS6171/2A) (Non-Destructive)

Results Summary

10 devices were visually inspected under 40x microscopy. No secondary coating was observed. Markings are acceptable. Terminals are in acceptable condition. Devices passed visual inspection.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
2.1.0	External Visual, Detailed Criteria (Non-Destructive)					
2.1.1	External Visual, Detailed Criteria	X				10 devices were visually inspected under 40x microscopy. No secondary coating was observed. Markings are acceptable. Terminals are in acceptable condition. Devices passed visual inspection.
2.2.0	Suspect/Counterfeit Report(s) (Non-Destructive)					
2.2.1	Status					Active
2.2.2	Search of GIDEP or Anti-Counterfeiting Forum database found suspect/counterfeit report(s)					No high risk parts were found
2.2.3	Search of GETS database found suspect/counterfeit report(s)					GETS database was checked for history of the part number. No high risk parts were found
2.3.0	Overview of Part Inspection (Device specification) (Non-Destructive)					
2.3.1	Number of leads per part	X				108
2.3.2	Package Type	X				Ethernet Switch 7-Port
2.3.3	Correctly marked part number for the package (if applicable)	X				Acceptable
2.4.0	Package Body Inspection (Non-Destructive)					
2.4.1	Different marking styles for parts with the same date and lot codes	X				None were observed
2.4.2	Different country of origin for parts with the same date and lot codes	X				None were observed
2.4.3	Different body molds for parts with the same date and lot codes	X				None were observed
2.4.4	Previous marking partially visible on the surface	X				None were observed
2.4.5	Excessive, deep, or inconsistent laser marking, or laser burn marks	X				None were observed

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Part Number:	88E6321-A0-NAZ2I000	Customer P/N:	
Manufacturer:	MARVELL SEMICONDUCTOR	Devices Received:	1,520
Date Code:	2223	Lot Code:	PVG925.11JW

2.5.0 External Package Inspection (Non-Destructive)					
2.5.1	Visible package variations for parts with the same date and lot codes	X			None was observed
2.5.2	Visible scratch marks or unidirectional abrasions	X			None was observed
2.5.3	Cracks, chip-outs, or visible damage such as burn marks	X			None was observed
2.5.4	Glue, adhesive, or other residues on the surface of the package Also, signs of debris such as ink, dirt, water or other residue, uneven discoloration or shading.	X			None was observed
2.5.5	Signs of corrosion on the body of the part or exposed areas of the lead frame	X			None was observed
2.5.6	Evidence of blacktop	X			None was observed
2.5.7	Mold indents filled or blacktopped	X			None was observed
2.5.8	Solder residue on packages	X			None was observed
2.5.9	Uneven thickness of the packages	X			None were observed
2.5.10	Dimples with uneven depth	X			None were observed
2.5.11	Differences in the corner radius between the top, bottom, and side surfaces	X			None was observed
2.5.12	Texture discrepancy between the top, bottom, and sides of the part	X			None was observed
2.5.13	Evidence of color fade on the body of the part	X			None was observed
2.6.0 Leads/Terminations inspection (Non-Destructive)					
2.6.1	Nonuniform color	X			None was observed
2.6.2	Lack of tooling marks (for formed leads)	X			None was observed
2.6.3	Lack of exposed copper or other base material on the ends of the leads (typically, the base material will be visible on the ends of the leads for a new, unused component)	X			None was observed
2.6.4	Repaired leads	X			None were observed
2.6.5	Bent or noncoplanar leads	X			None were observed
2.6.6	Excessive or uneven plating	X			None was observed
2.6.7	Missing leads	X			None were observed
2.6.8	Discoloration, dirt, or residues on the leads	X			None were observed
2.6.9	Scratches (or insertion marks) on the inside and/or outside faces of the leads	X			None was observed
2.6.10	Gross oxidation	X			None was observed
2.6.11	Corrosion	X			None was observed

Images For External Visual inspection - Detailed .

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Date Code:	2223	Lot Code:	PVG925.11JW



Figure 7. TOP

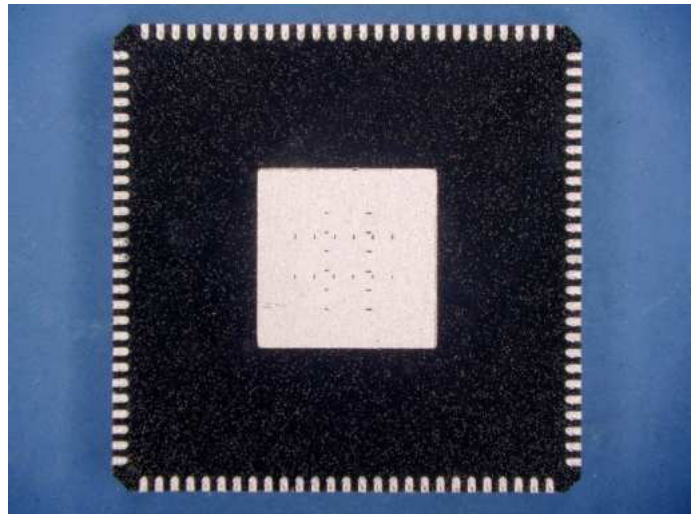


Figure 8. BOTTOM

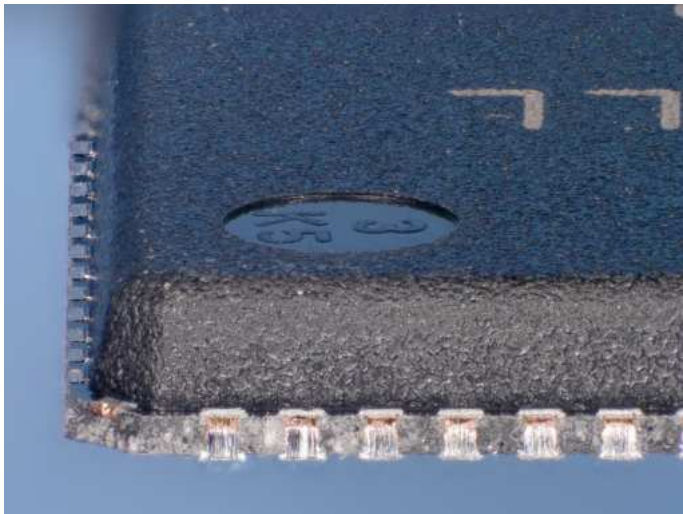


Figure 9. SIDE

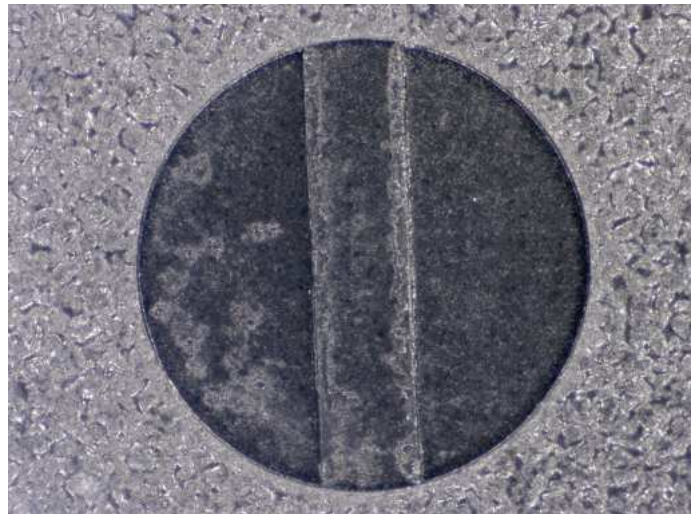


Figure 10. TOP PIN

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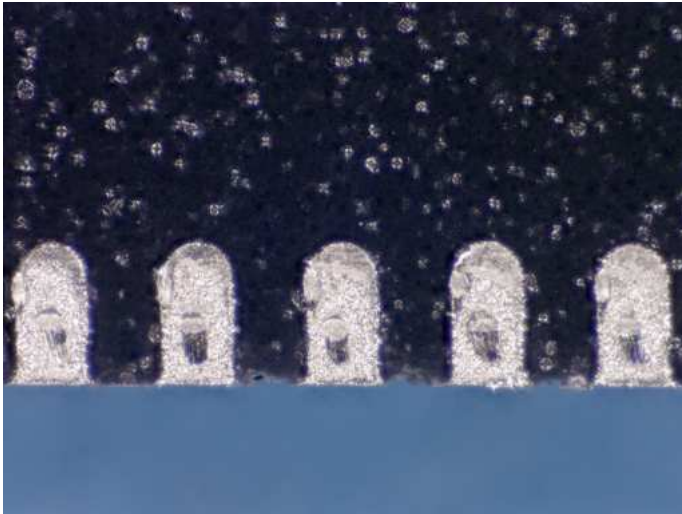


Figure 11. TERMINAL VIEW

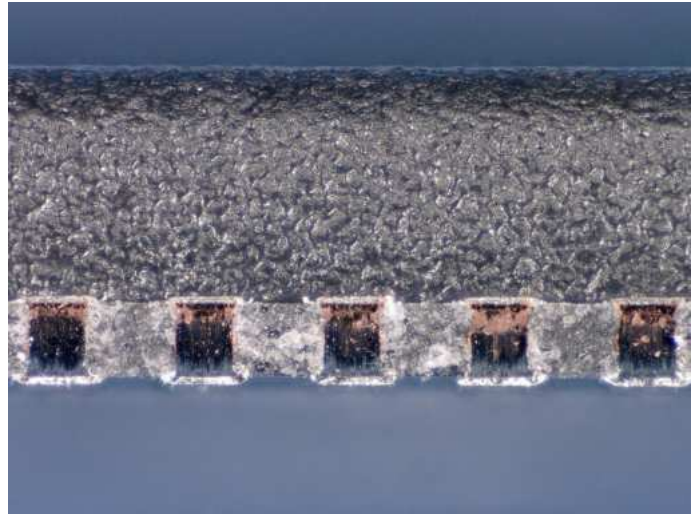
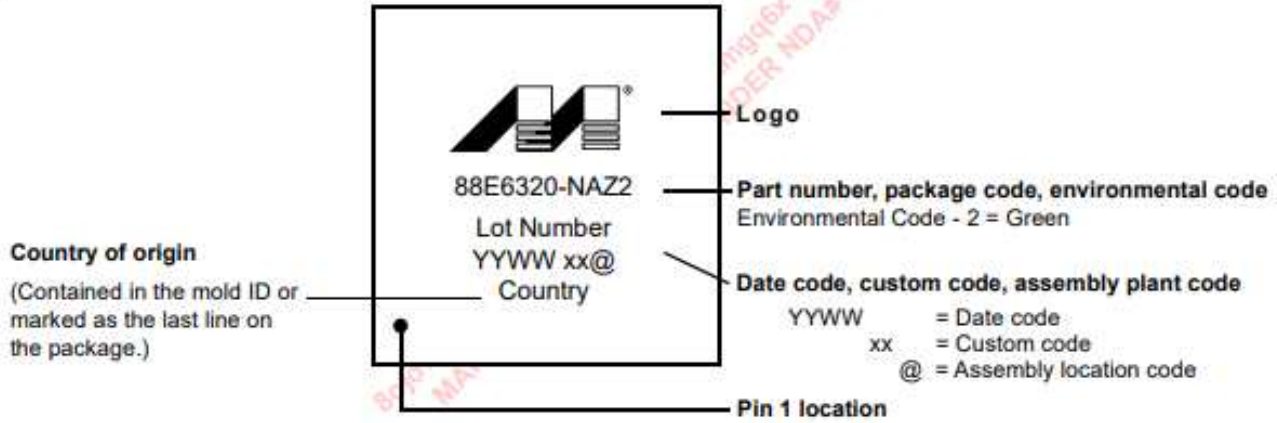


Figure 12. TERMINAL ENDS

Images For External Visual inspection - Detailed . (Continued From Previous Page)



Note: The above example is not drawn to scale. Location of markings is approximate.

Figure 13. MARKING INFORMATION

3.0.0 Mechanical Inspection - Dimensions (AS6171/2A) (Non-Destructive)

Results Summary
Dimensions match datasheet specification.
Ethernet Switch 7-Port

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Manufacturer:	MARVELL SEMICONDUCTOR	Devices Received:	1,520
Date Code:	2223	Lot Code:	PVG925.11JW

Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
3.1.0 Part Dimensions (Non-Destructive)					
3.1.1 Part Dimensions	X				
Equipment Used	CALIPER-26 Asset Tag: 221 Calibration Due Date: 2024-05-09 Cert: A5041913				

Images For Mechanical Inspection - Dimensions.

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Date Code:	2223	Lot Code:	PVG925.11JW

Results Summary

10 devices were X-rayed. Construction and size are the same. No anomalies were found.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
4.1.0	X-Ray Analysis (Non-Destructive)					
4.1.1	Inconsistent Die Construction	X				
Equipment Used		X-RAY SYSTEM				Asset Tag: 154 Calibration Due Date: 2025-01-02 Cert: C10077
4.1.2	Wire Bond Layout/Quality	X				
4.1.3	Inconsistent Lead Frame	X				
4.1.4	Missing Bond Wires	X				

Images For X-Ray - Standard 2D.

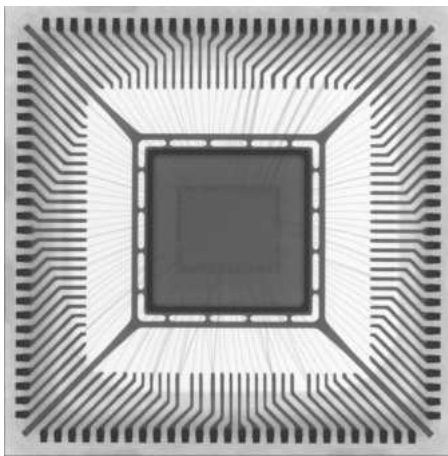


Figure 15. X-RAY-2223-PVG925.11JW-01

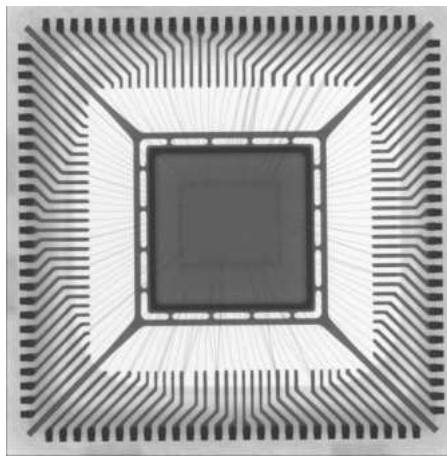


Figure 16. X-RAY-2223-PVG925.11JW-02

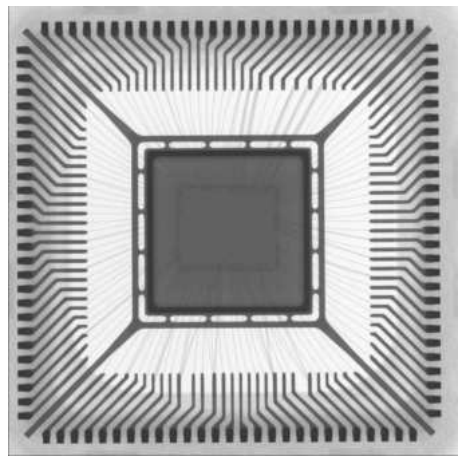


Figure 17. X-RAY-2223-PVG925.11JW-03

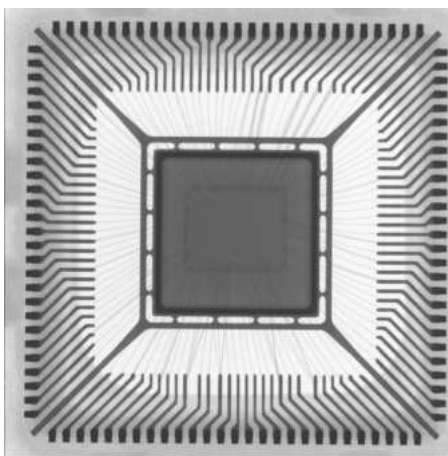


Figure 18. X-RAY-2223-PVG925.11JW-04

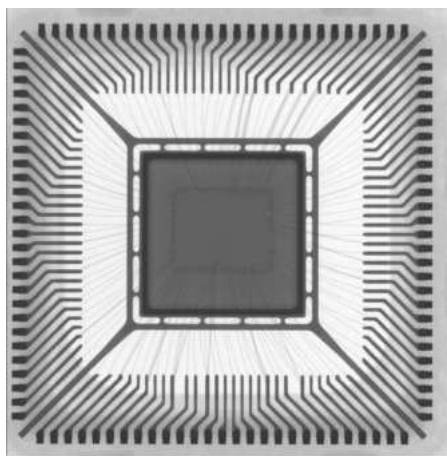


Figure 19. X-RAY-2223-PVG925.11JW-05

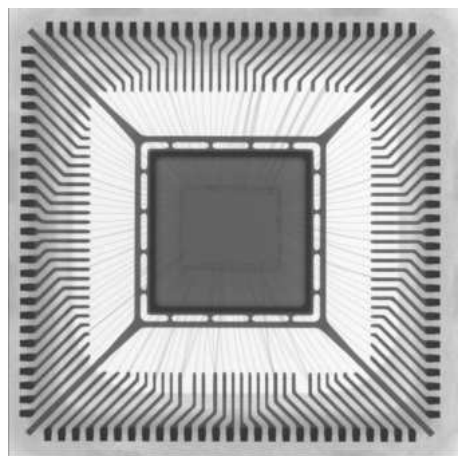


Figure 20. X-RAY-2223-PVG925.11JW-06

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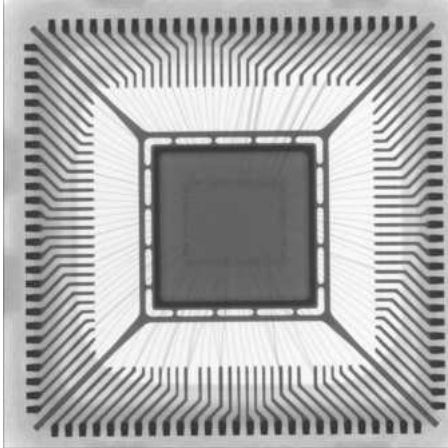


Figure 21. X-RAY-2223-PVG925.11JW-07

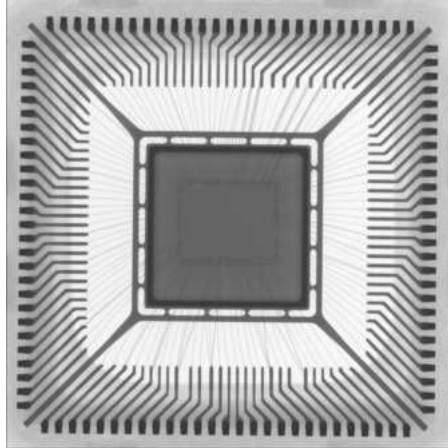


Figure 22. X-RAY-2223-PVG925.11JW-08

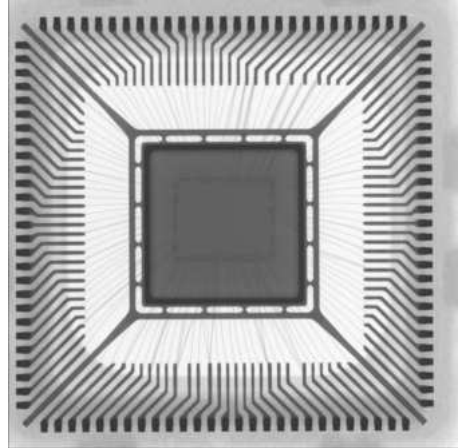


Figure 23. X-RAY-2223-PVG925.11JW-09

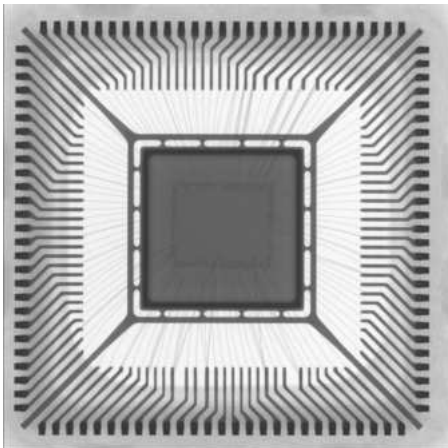


Figure 24. X-RAY-2223-PVG925.11JW-10



Figure 25. X-RAY ORIENTATION

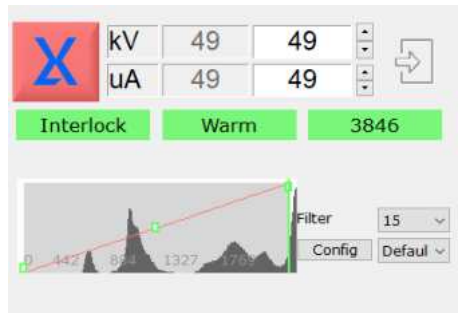


Figure 26. X-RAY SETTINGS

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5.0.0 Delid/Decapsulation - Thermomechanical (AS6171/4) (Destructive)

Results Summary

Internal inspection was performed on 1 device. Device revealed Marvell logo with 2013 copyright. Die marking E6320 was also found. Die marking correlates with devices family marking.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
5.1.0	Physical (INTERNAL) (Destructive)					
5.1.1	Die Topography	X				
Equipment Used		DECAP OVEN Asset Tag: 243 Calibration Due Date: 2024-09-15 Cert: A5219795				
5.1.2	Die Marking Verification	X				

Images For Delid/Decapsulation - Thermomechanical.

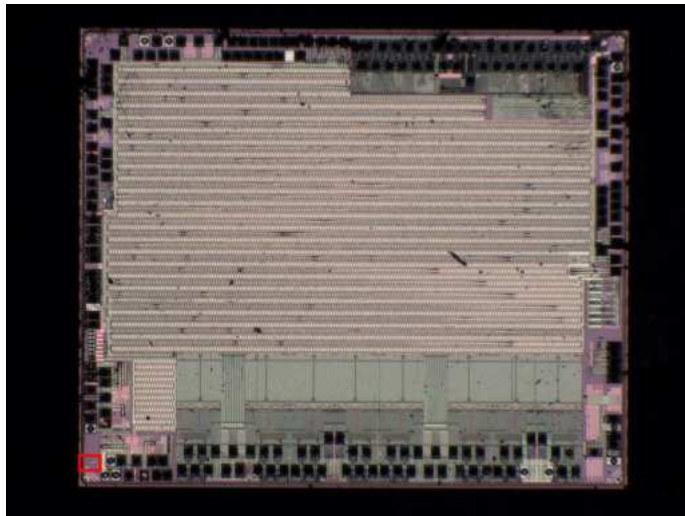


Figure 27. DIE TOPOGRAPHY

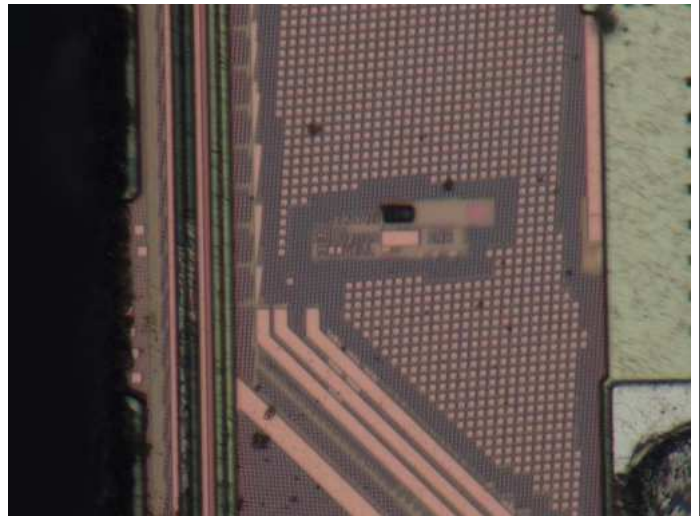


Figure 28. DIE MARKING

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