GLOBAL ETS
NEXT GENERATION COMPONENT TESTING & AUTHENTICATION

Laboratory Analysis Report

Report Number:	[redacted]
Date:	**2025-09-26 Rev:4**
Customer:	[redacted]
Customer Address:	[redacted]
Customer PO Number:	**20250925**
Customer Internal P/N:	**NOT AVAILABLE**
Manufacturer:	**BROADCOM INC**
Manufacturer Part Number:	**BCM3390ZKFSBG**
Quantity:	**120**
Date Code:	**2215+**
Lot Code:	**Not Applicable**
Country Of Origin:	**N/A**
Part Description:	**DOCSIS 3.1 MODEM/GATEWAY CHIP**

ilac-MRA

ANAB ACCREDITED
ISO/IEC 17025
TESTING LABORATORY
AT-2603

Global ETS China

86-0755-829-11501

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GLOBAL ETS

Analysis Report [redacted]

Customer Name:	[redacted]	**Purchase Order:**	[redacted]
Part Number:	BCM3390ZKFSBG	**Customer P/N:**	NOT AVAILABLE
Manufacturer:	BROADCOM INC	**Devices Received:**	120
Date Code:	2215+	**Lot Code:**	Not Applicable

1.0.0 Summary Of Inspection Results

	Test-Process Operation	Quantity Inspected	Pass	Fail	N/A	Comments / Observations
1.1.0	GR1 Documentation and Packaging Inspection (SAE AS6081, 4.2.6.4.1) (Non-destructive) Test Temperature 23˚C + /- 3˚C					
1.1.1	Condition Observed	120	**120**	0		Total 120pcs was received in tray format.
1.2.0	GV1 External Visual Inspection Detailed (SAE AS6081, 4.2.6.4.2.2)(Non-destructive) Test Temperature 23˚C + /- 3˚C					
1.2.1	Condition Observed	10	**10**	0		10 devices were visually inspected under 40x microscopy. No secondary coating was observed. Markings are acceptable. BGAS are in acceptable condition. Devices passed external visual inspection.
1.3.0	GV1 Mechanical Inspection (SAE AS6081)(Non-destructive) Test Temperature 23˚C + /- 3˚C					
1.3.1	Dimensions	1	**1**	0		DOCSIS 3.1 Modem/Gateway Chip
1.4.0	GD1 Re-Surfacing Testing / Heat Solvent (Dynasolve 750) (SAE AS6081 4.2.6.4.3 A / 4.2.6.4.3 B) Test Temperature 23˚C + /- 3˚C					
1.4.1	Solvent Test for Re-Surfacing - Heat Solvent (Dynasolve 750)	1	**1**	0		Heated Solvent Testing was performed on 1 device using Dynosolve 750 solution. No secondary coating was removed during this process. The device passed Heated Solvent testing.
1.5.0	GD1 Delid/Decapsulation Internal Analysis (AS6081 4.2.6.4.6)(Destructive) Test Temperature 23˚C +/- 3˚C					
1.5.1	Die Verification	1	**1**	0		During the Delid/Decapsulation Internal Analysis, one sample was successfully decapsulated. The die logo identified was BROADCOM with a 2016 copyright, and the die marking BCM3390 was observed.Die marking was match devices part number.
1.6.0	GX1 X-Ray Inspection (SAE AS6081 4.2.6.4.4)(Non-destructive) Test Temperature 23˚C + /- 3˚C					
1.6.1	Internal Construction	10	**10**	0		10 samples were X-ray. Die construction and size are all the same. No anomalies were found.

Prepared by:

Wendyw
(WENDY W)

Approved by:

(PETER YAN)

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Generated On:

Sep 26, 2025 09:22:27

Analysis Report [redacted]

Customer Name:	[redacted]	**Purchase Order:**	[redacted]
Part Number:	BCM3390ZKFSBG	**Customer P/N:**	NOT AVAILABLE
Manufacturer:	BROADCOM INC	**Devices Received:**	120
Date Code:	2215+	**Lot Code:**	Not Applicable

2.0.0 Documentation and Packaging Inspection (SAE AS6081, 4.2.6.4.1) (Non-destructive)

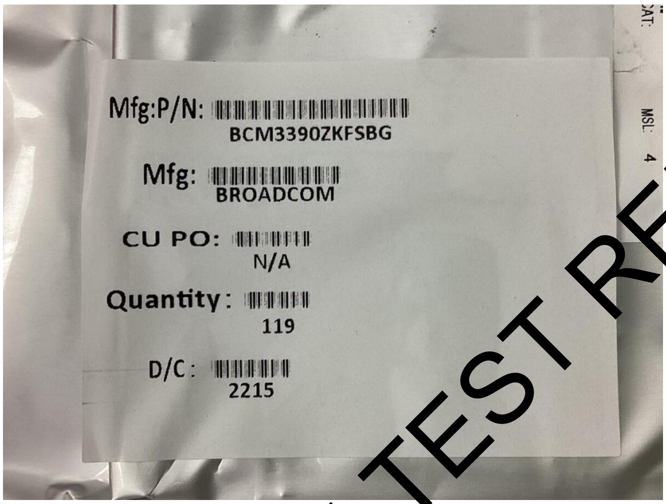
Results Summary
Total 120pcs was received in tray format.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
2.1.0	Incoming Conditions					
2.1.1	ESD Protection	X				
2.1.2	Poor Syntax or Alterations				X	
2.1.3	Correct MSL Packaging	X				Moisture Sensitivity Level (MSL) 4 (72 Hours)
2.1.4	Quantity Match Document	X				120pcs
2.1.5	Box Damaged				X	
2.1.6	Type of Package	X				Tray format

Images For Documentation and Packaging Inspection.

Figure 1. RECEIVED

Figure 2. LABEL



Mfg:P/N: BCM3390ZKFSBG

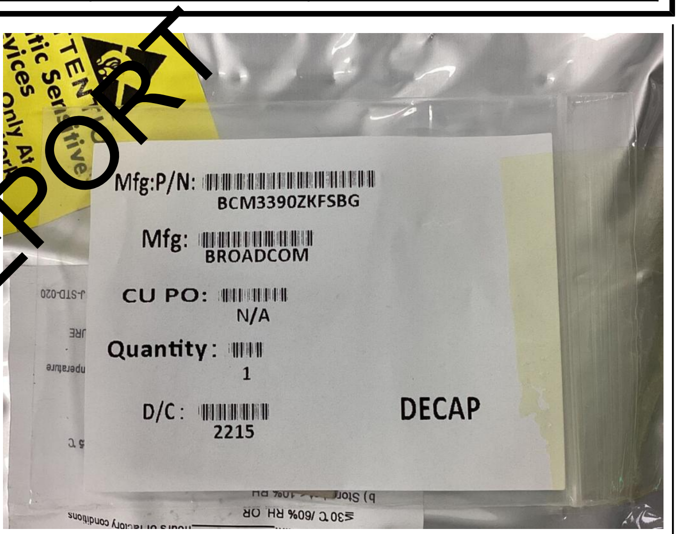
Mfg: BROADCOM

CU PO: N/A

Quantity: 119

D/C: 2215

Figure 3. LABEL (119PCS)



Mfg:P/N: BCM3390ZKFSBG

Mfg: BROADCOM

CU PO: N/A

Quantity: 1

D/C: 2215

DECAP

Figure 4. LABEL (1PCS)

Figure 5. RECEIVED 1

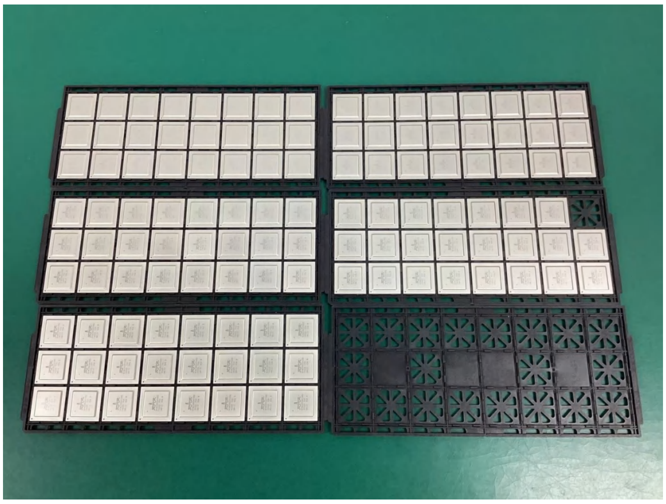


Figure 6. RECEIVED 2

Figure 7: RECEIVED 3

3.0.0 External Visual Inspection (SAE AS6081, 4.2.6.4.2.2) (Non-destructive)

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
3.1.0	External Conditions					
3.1.1	Markings - Top	X				
3.1.2	Pin 1 - Top	X				
3.1.3	Construction Quality	X				Devices are in new condition
3.2.0	Lead / BGA Conditions					
3.2.1	BGA Solder Mask Damage	X				Acceptable
3.2.2	BGA Oxidation	X				Acceptable
3.2.3	BGA Scratches In The Mask	X				Acceptable
3.2.4	BGA Debris or Residue Between Solder Spheres	X				Acceptable
3.2.5	BGA Missing	X				None were observed
3.2.6	BGA Damage	X				Acceptable

Images For External Visual Inspection.

Figure 8. TOP

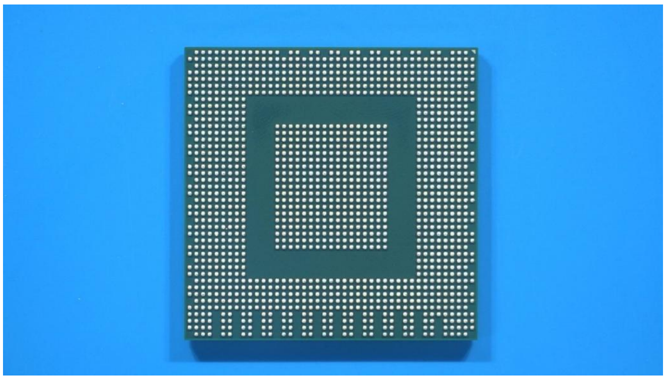


Figure 9. BOTTOM

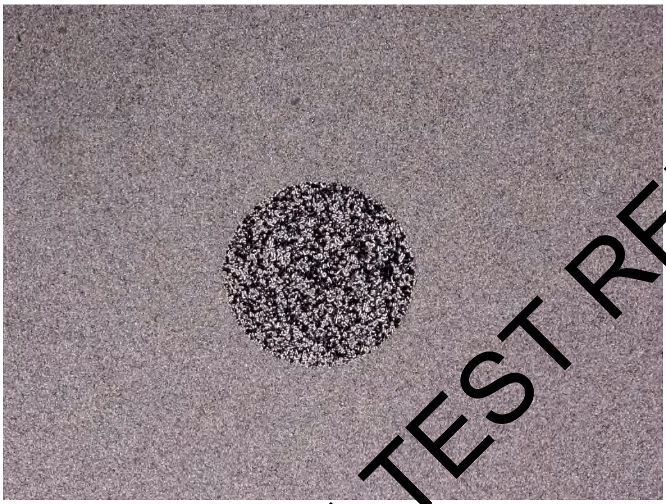


Figure 10. TOP PIN

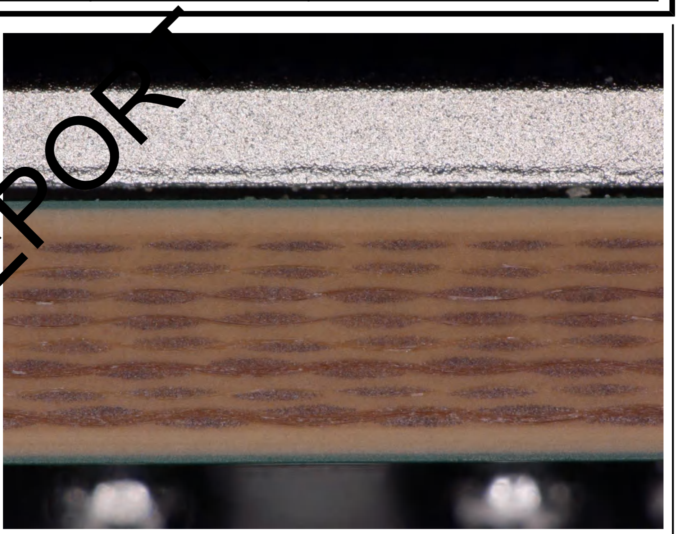


Figure 11. SIDE

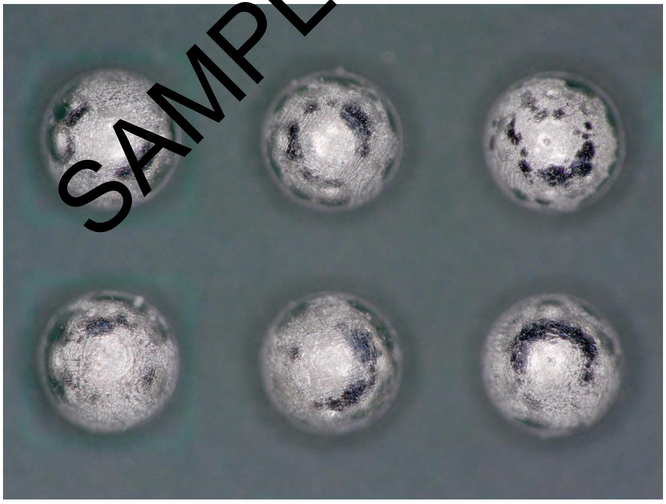


Figure 12. BGA

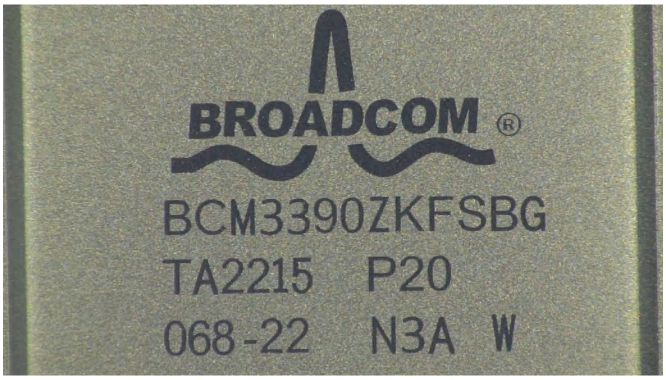


Figure 13. MARKING

4.0.0 Mechanical Inspection

Results Summary
Length =35.08 mm - Pass
Width =35.07 mm - Pass
Thickness =2.92 mm - Pass

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
4.1.0	Package Dimensions					
4.1.1	Dimensions	X				No package drawing was found

Images For Mechanical Inspection.

Figure 14. LENGTH

Figure 15. WIDTH

Figure 16. THICKNESS

5.0.0 Remarking and Resurfacing (SAE AS6081 4.2.6.4.3 A / 4.2.6.4.3 B)

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
5.1.0	Re-Surfacing / Re-Marking Testing (SAE AS6081)					
5.1.1	Solvent Test for Re-Surfacing - Heat Solvent (Destructive) Dynasolve 750	X				Heated Solvent Testing was performed on 1 device using Dynosolve 750 solution. No secondary coating was removed during this process. The device passed Heated Solvent testing.

Images For Remarking and Resurfacing.

Figure 17. HCT

GLOBAL ETS

Analysis Report - [redacted]

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Date Code:	2215+	**Lot Code:**	Not Applicable

6.0.0 Delid/Decapsulation Internal Analysis (AS6081 4.2.6.4.6) (Destructive)

Results Summary
During the Delid/Decapsulation Internal Analysis, one sample was successfully decapsulated. The die logo identified was BROADCOM with a 2016 copyright, and the die marking BCM3390 was observed.Die marking was match devices part number.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
6.1.0	Internal Visual Inspection					
6.1.1	Die Topography	X				
6.1.2	Die Markings	X				

Images For Delid/Decapsulation Internal Analysis.

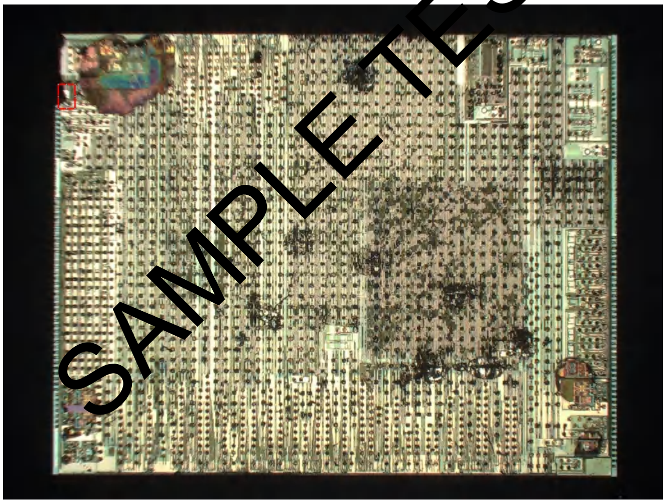

Figure 18. BCM3390ZKFSBG DIE

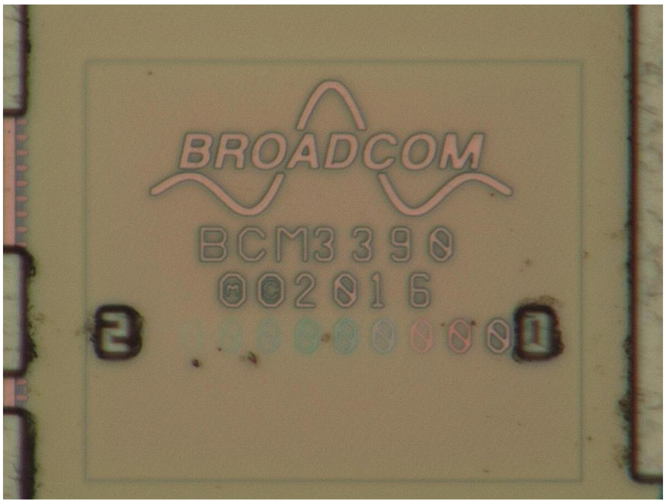

Figure 19. BCM3390ZKFSBG DIE MARKING

Analysis Report - [redacted]

Customer Name:	[redacted]	**Purchase Order:**	[redacted]
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Date Code:	2215+	**Lot Code:**	Not Applicable

7.0.0 X-Ray Analysis (SAE AS6081 4.2.6.4.4)(Non-destructive)

Results Summary
10 samples were X-ray. Die construction and size are all the same. No anomalies were found.

	Criteria	Acceptable	Suspect	Not Acceptable	Not Available	Comments / Observations
7.1.0	X-Ray Analysis					
7.1.1	Die Construction	X				
7.1.2	Wire Bond Layout/Quality	X				
7.1.3	Lead Frame Construction	X				

Images For X-Ray Analysis.

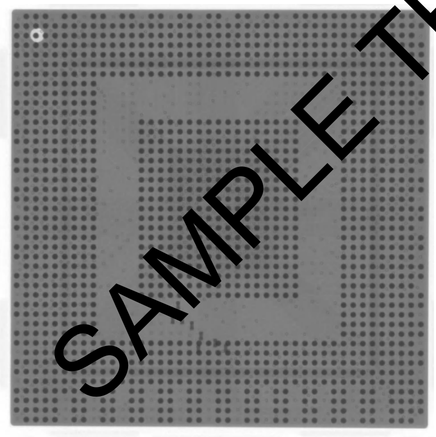

Figure 20. XRAY VIEW 1

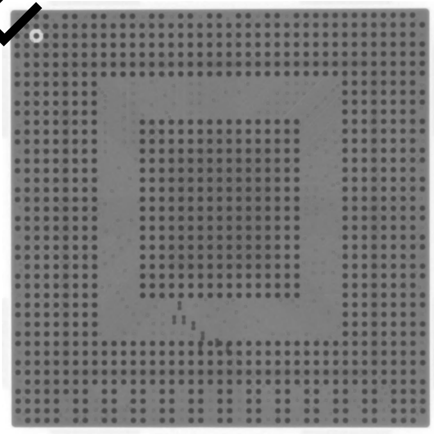

Figure 21. XRAY VIEW 2

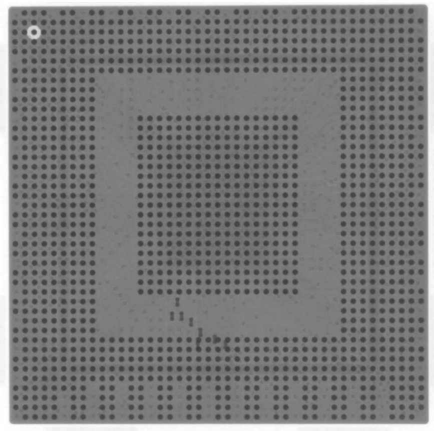

Figure 22. XRAY VIEW 3

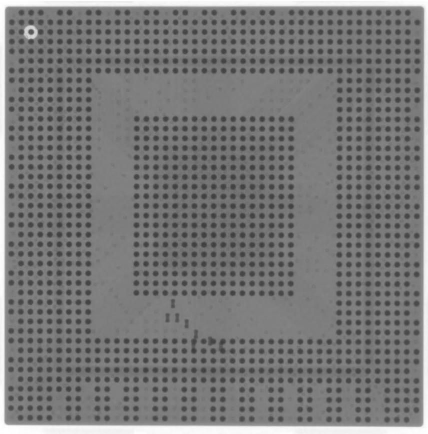

Figure 23. XRAY VIEW 4

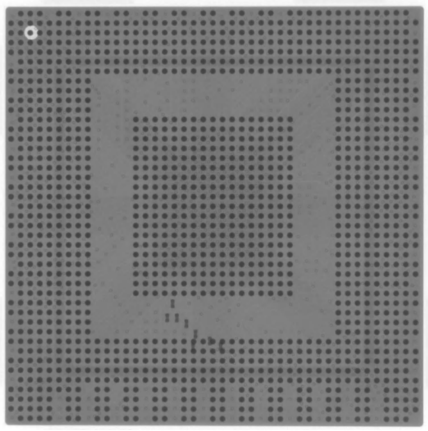

Figure 24. XRAY VIEW 5

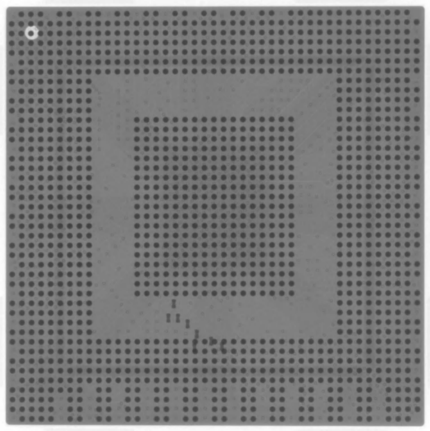

Figure 25. XRAY VIEW 6

Prepared by:
Wendyw
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Approved by:
Peter Yan
(PETER YAN)

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Analysis Report - [redacted]

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Manufacturer:	BROADCOM INC	**Devices Received:**	120
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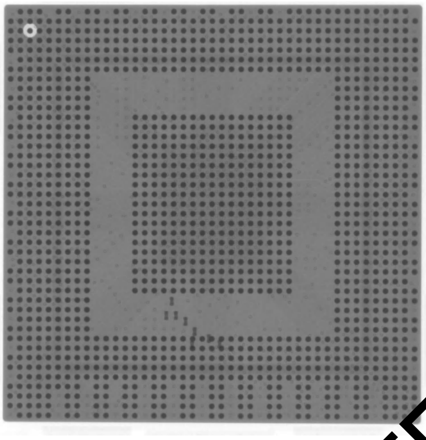


Figure 26. XRAY VIEW 7

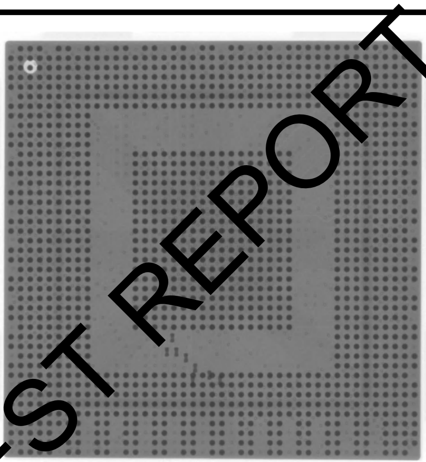


Figure 27. XRAY VIEW 8

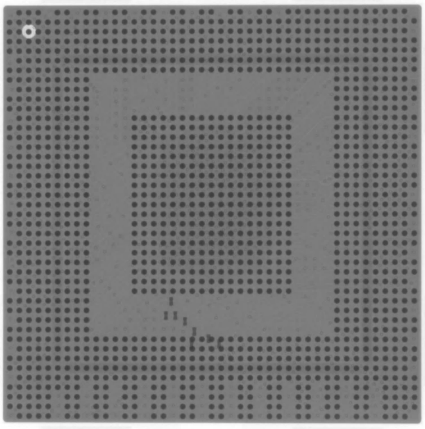


Figure 28. XRAY VIEW 9

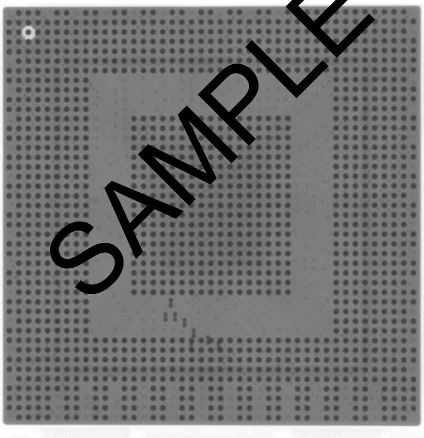
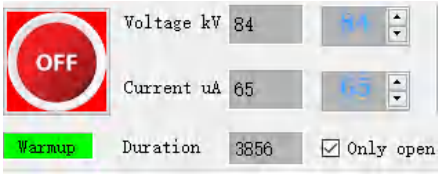


Figure 29. XRAY VIEW 10

Figure 30. X-RAY ORIENTATION



Voltage kV 84

Current uA 65

Duration 3856

☑ Only open

Figure 31. X-RAY SETTINGS

The Decision Rule for statement(s) of conformity is based on Binary Statement for Simple Acceptance Rule as stated in Decision Rules Clause 4.2.1 - ILAC-G8:09/2019