



Chuangxin Online Test Center Laboratory

Add: F/r 401 Building A, Ying Da Feng industrial No,393,Jihua Rd.LongGang
Dis. Shenzhen China
Tel: 0755-83765367 Email: engineer@iclab-cn.com



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Project Inspection Report

Company : NA
Address : N/A
Sample Name : EPM2210F256C5N
Manufacture : ALTERA
Date Code : 2125
Package Type : BGA-256
Sample Number : 1 PCS
Check Number : 1 PCS
Date of Received : 08/30/2021
Date of Tested : 09:00/08/30/2021 ~ 14:20/30/26/2021

WE HEREBY CERTIFY THAT:

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

Inspected by Engineer
Sua da xiu

Reviewed by Project Manager
Lucy

Note:

1. This report will be invalid if reproduced in whole or in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid if used separately.
3. This report is only valid with the examination seal and signature of this institute.
4. The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant.
5. This report is only responsible for the samples tested.



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Items test

- External visual inspection
- Pin Correlation Test
- Programming test
- Solder ability Analysis
- Radiography (X-ray)
- ROHS test
- Key Functional Testing (KFT)
- Baking
- Tape and Reel
- Internal visual inspection
- Top permanency test

Methods & Equipment

1.1 Applicable Standard

- MIL-STD-883L-2019 2009.14
- MIL-STD-883L-2019 2010.14

1.2 Optical Microscope

- Equipment Spec:
Top view: FINIAL Hi-scope System SEZ-260: X7 ~ X45
FJ-3A: X50 ~ X500

1.3 Digital Caliper

- Equipment Spec:
MASTERPROOF : Standard Digital Caliper 0-150mm

1.4 Testing Environment

- Ambient Temperature: 25±5°C
- Relative Humidity: 45%-65% RH

1.5 Testing Base

- [ALTERA EPM2210F256C5N]

<https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/packaging/04r00227-01.pdf>



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Analysis Summary

External Visual Inspection:

Applicable Standard: MIL-STD-883L 2019 2009.14

External Visual Inspection on 1 PCS sample marked with D/C 2125. No secondary coating, sanding marks, crack or chips were observed on all inspected. BGA were in acceptable condition. Devices package and dimension matched to manufacturer's specification. All devices passed the external visual inspection.

Specification dimension:

D: 17.00 BSC MM

E: 17.00 BSC MM

A: 1.60-1.90 MM

Measurement dimension:

D: 17.00 MM

E: 17.00 MM

A: 1.80 MM

Internal Visual Inspection:

Applicable Standard: MIL-STD-883L-2019 2010.14

Internal Visual Inspection on 1PCS sample marked with D/C 2125. Manufacturer ALTERA marking were found with 2004 copyright year. Die marking Z1384 were found on the die surface. Device confirmed to be a ALTERA device.



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External Visual Inspection Result:

External Visual Criteria	Yes/No	Result
Mix-up	No	Pass
Top Scratches	No	Pass
Leads ,Heat Sink Scratches	Yes	Pass
Residues	No	Pass
Indentation	No	Pass
Contamination	No	Pass
Cracks	No	Pass
Copper defect	No	Pass
Oxidization	No	Pass
Coplanarity	Yes	Pass
Sanding Marks	No	Pass
Secondary Coating	No	Pass
Top permanency Test	N/A	N/A



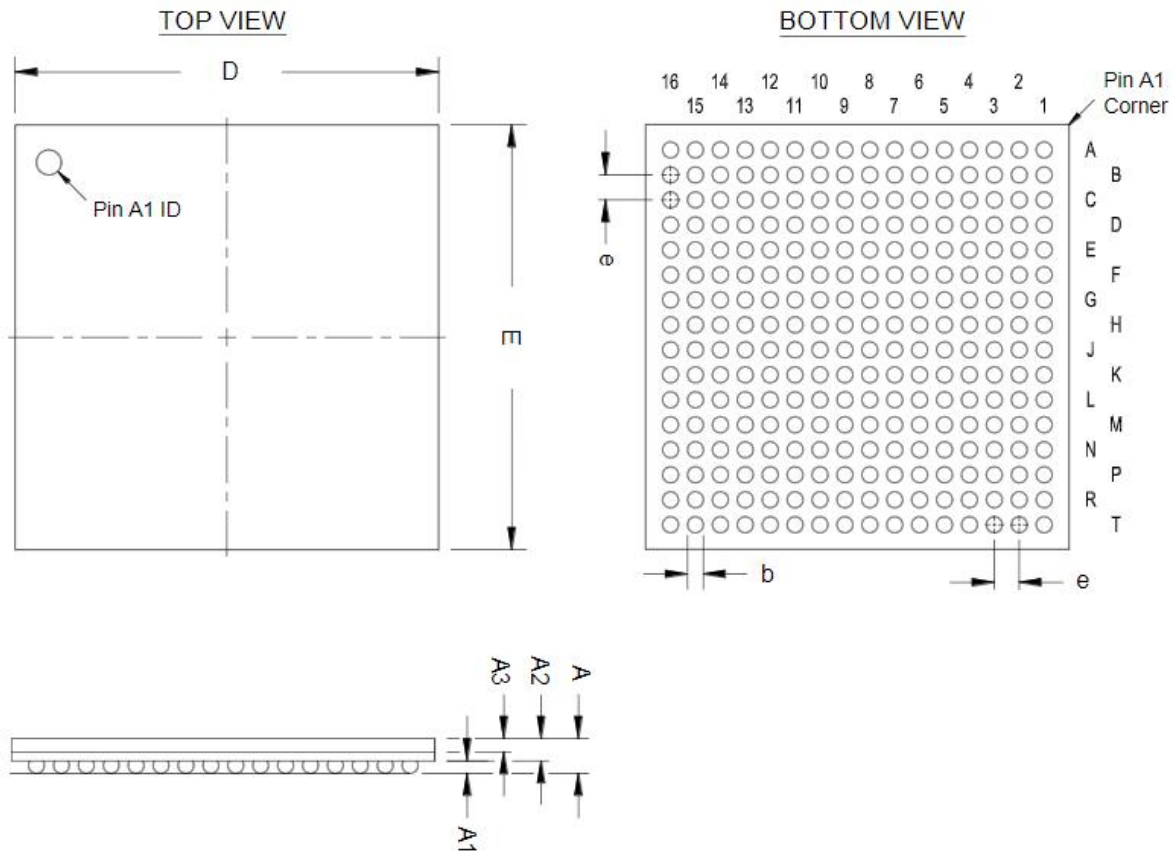
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1. Device Description:

This section provides designers with the data sheet specifications for MAX® II devices. The chapters contain feature definitions of the internal architecture, Joint Test Action Group (JTAG) and in-system programmability (ISP) information, DC operating conditions, AC timing parameters, and ordering information for MAX II devices.

2. Package Dimensions:

Package Outline



Package Outline Dimension Table			
Symbol	Millimeters		
	Min.	Nom.	Max.
A	1.60	1.75	1.90
A1	0.40	0.50	0.60
A2	1.00	1.25	1.50
A3	0.65	0.70	0.75
D	17.00 BSC		
E	17.00 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		



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3. Receiving Inspection:

Gross Weight	4g	Parts Total	1 PCS
Number Of Boxes	N/A	Full Label	Non Present
Package type	Bulk	Moisture protection	Non Present
MSL	N/A	ESD protection	Acceptable

Received View





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4. External Visual Inspection:

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Specification dimension:

D: 17.00 BSC MM

E: 17.00 BSC MM

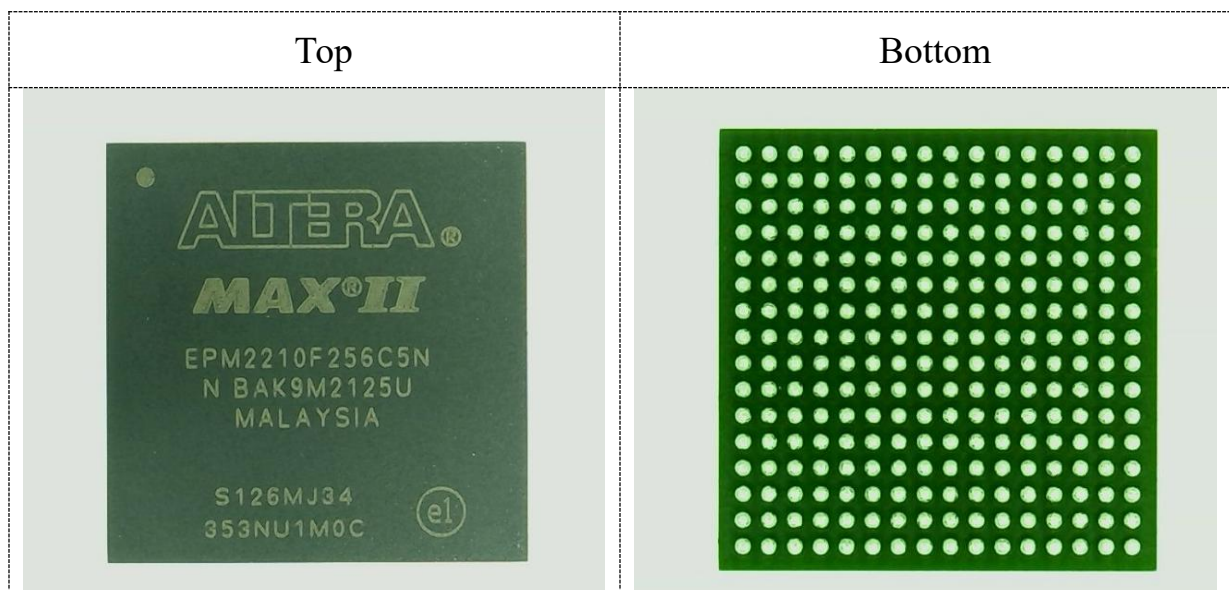
A: 1.60-1.90 MM

Measurement dimension:

D: 17.00 MM

E: 17.00 MM

A: 1.80 MM





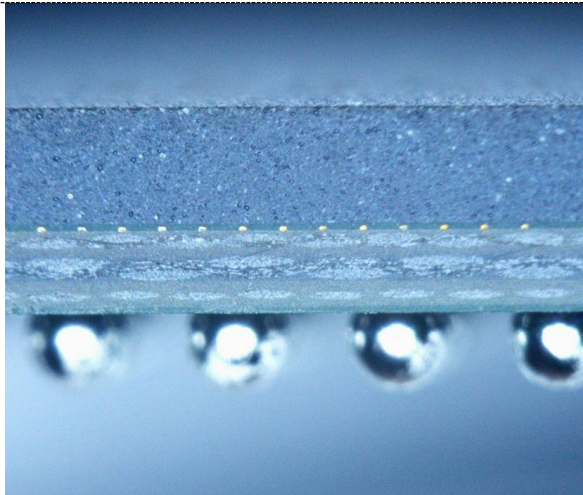
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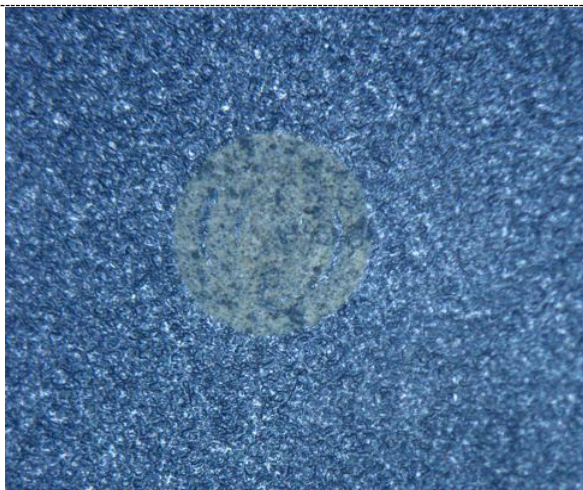
Side



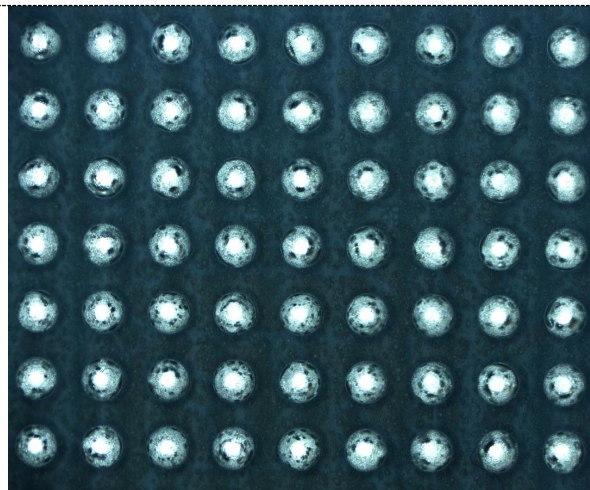
Laser Marking



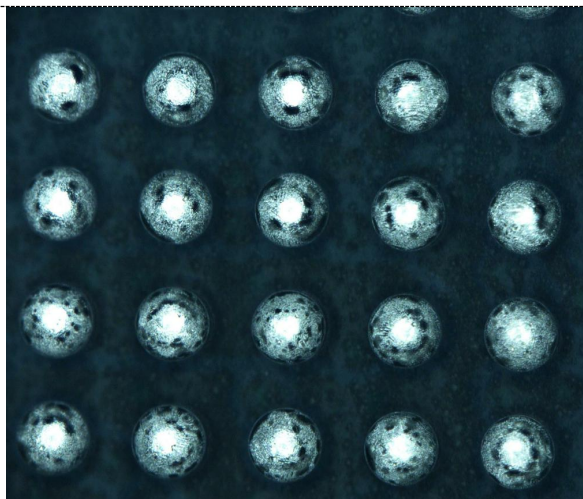
Top Pin



BGA-1



BGA-2



D = 17.00 MM





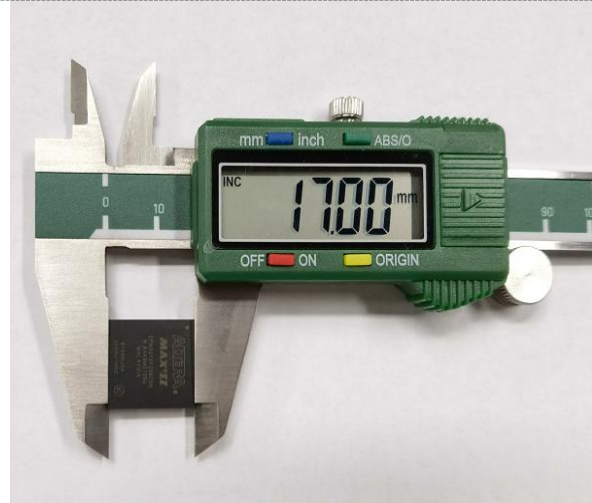
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E = 17.00 MM



A = 1.80 MM





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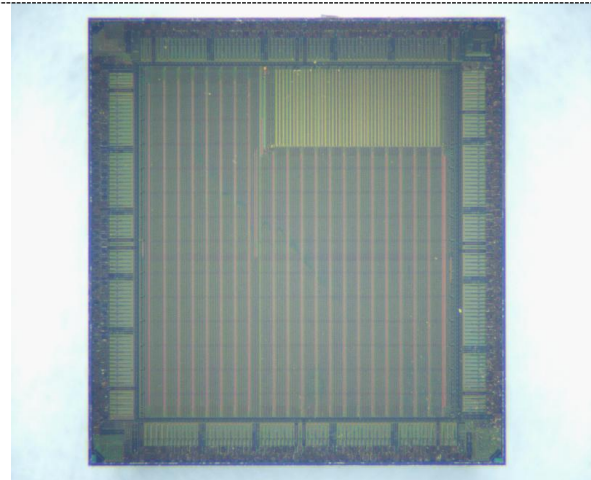
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5.Internal Visual Inspection:

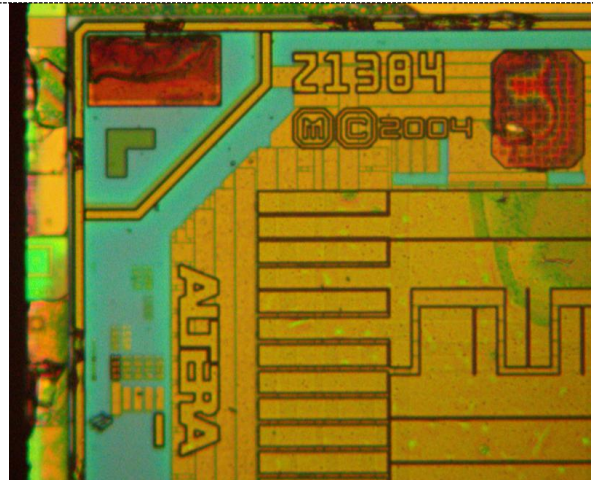
Applicable Standard: MIL-STD-883L-2019 2010.14

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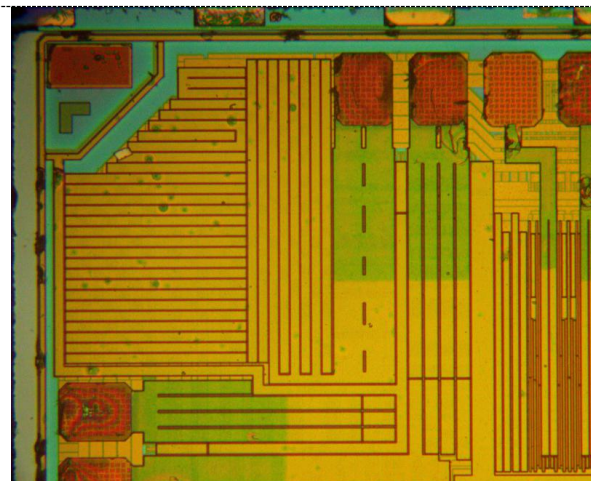
Die Topography



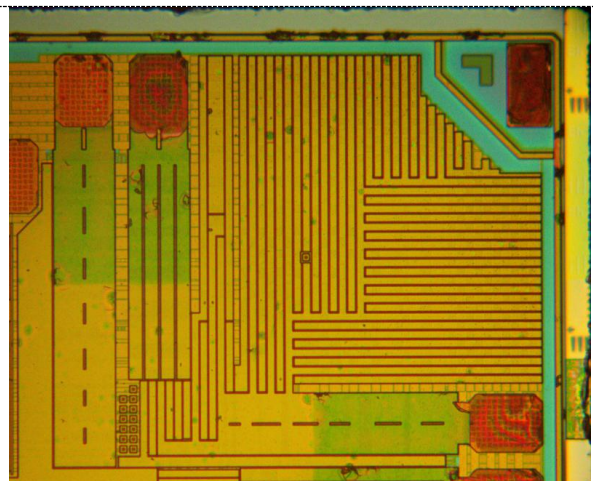
Die Logo



Die Corner-1



Die Corner-2





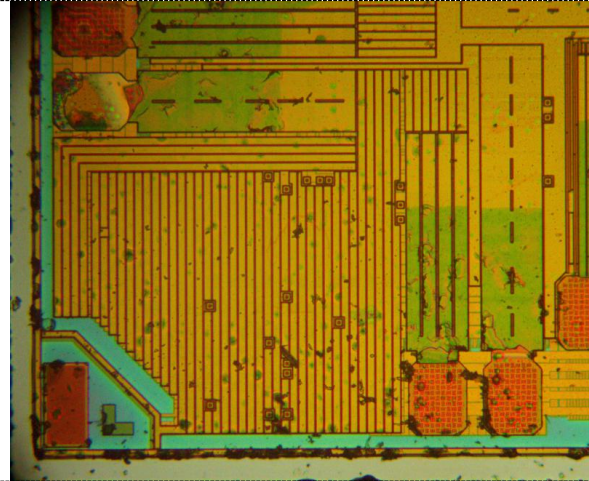
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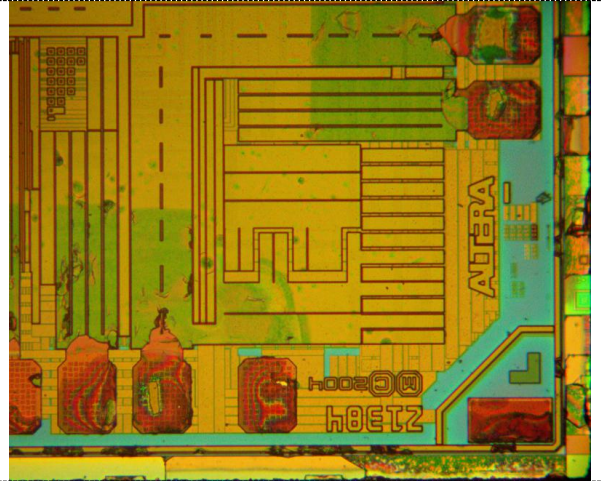


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Die Corner-3



Die Corner-4



End

For more information, please visit: <http://www.iclabcn.com>

CXO Lab WeChat official account

