

Printed Circuit Board (PCB) First Article (FA) Report

**Customer :** U03  
**Customer P/N:** 000-0005200 Rev. A2  
**Product No.:** HCGU03060C0  
**QTY:** 15PCS  
**Date Code:** 3215

S/N	Description	CHECK
1	Certificate of Compliance	✓
2	Final Product Inspection Report	✓
3	Hole Size & Outline Dimension Report	✓
4	Micro-section Report	✓
5	Solderability Test Report	✓
6	Thermal Stress Test Report	✓
7	E-Test Report	✓
8	RoHS Compliance Statement	✓
9	Ionic Contamination Report	✓
10	Impedance Test Report	✓
11	Ionic (before sm)	✗
12	Materials Certificate	✗

**Final Disposal:**  **Accept**  **Reject**

**Checked By:** Hu **Date:** 2015-8-7

**Approved By:** Guy **Date:** 2015-8-7



# Outgoing Report

## Cover and Document list

- Certification Of Compliance**
- Final Product Inspection Report**
- Hole Size and Outline Dimension**
- Micro-section Report**
- Solderability and Thermal Stress Report**
- E-Test Report**
- RoHS Compliance Statement**
- Ionic Contamination Report**
- Impedance Test Report**

Final Disposition:

Accept

Reject

Checked By: Hu

Date: 2015-8-7

Approved By: G~J

Date: 2015-8-7



# Certificate of Compliance

Customer Name:	U03		
Customer P/N:	000-0005200 Rev.A2		
PO Number:	60002432		
Product No.:	HCGU03060C0		
Shipped QTY:	15PCS		
QTY (pcs):	15	/	/
Date Code:	3215	/	/

## Certificaiton items

This certificate is to serve as proof that all requirements of customer's specification are maintained in fabrication of this including the followings.

- 1 All PCBs shipped Comply with purchasing specifications and/or drawings.
- 2 Where no spec in the drawings and/or materials supplied,IPC is available.
- 3 Laminate and prepreg used in fabrication are in compliance with IPC-4101.
- 4 All finish boards have been 100% electrically tested and passed.
- 5 Finish boards meet all requirements of UL 796 and flammability rating 94V0.

All information listed on this document is hereby certified in writing to be true.

Authorized Signature: 	Date: 2015-8-7
Printed Name: Wind	Title: Final Quality Assurance Supervisor
Quality Department Stamp	



## Final Product Inspection Report

<b>Country of Origin:</b> CHINA		<b>Cust PN:</b> 000-0005200 Rev.A2	<b>Drawing No.:</b> 000-0005200 Rev.A2		
<b>Product No.:</b> HCGU03060C0		<b>Lot Size:</b> 15PCS	<b>AQL LEVEL II 0.65</b>		
		<b>Flammability Grade:</b> 94V0	<b>Sample size:</b> 5PCS		
<b>Item</b>	<b>Description</b>	<b>Specification</b>	<b>Actual</b>	<b>Acc</b>	<b>Rej</b>
(A) Visual		<b>AQL II 0.65</b>	<b>YES</b>	✓	
(B) Material					
1	Raw Material	FR-4 SY S1000-2	<b>YES</b>	✓	
2	Board Thickness	0.115+/-0.018mm & 0.10+/-0.018mm	0.12mm&0.10mm	✓	
3	Copper Thickness (OZ)	(1/3)/H/1/1/1/1/1/H/(1/3)OZ	<b>YES</b>	✓	
(C) Marking & Circuitry					
1	Min Line Width	0.082-0.122mm	0.10mm	✓	
2	Min Spacing	0.102-0.152mm	0.13mm	✓	
3	Front & Back registration	+/- 0.076mm	<b>YES</b>	✓	
(D) Surface treatment thickness					
1	Process	Immersion Gold	<b>OK</b>	✓	
2	HAL	/	/	/	
3	lead-Free HAL	/	/	/	
4	Immersion Gold	Ni	3.81(min)	4.914um	✓
		Au	0.05um(min)	0.056um	✓
5	Immersion Silver	/	/	/	
6	Immersion Tin	/	/	/	
7	Gold Finger	Ni	/	/	/
		Au	/	/	/
8	OSP	/	/	/	
(E) Soldermask & Component Marking					
1	S/M Material & Color	LM600-2BF&BLACK	<b>YES</b>	✓	
	Applied on	C/S S/S	<b>YES</b>	✓	
2	S/M Tape Test/Solvent Test	No peeloff	<b>YES</b>	✓	
3	S/M Registration	No Misregistration	<b>YES</b>	✓	
4	C/M Material (Color)	Orange	<b>YES</b>	✓	
		C/S S/S	<b>YES</b>	✓	
5	C/M Tape Test / Solvent Test	No peeloff	<b>YES</b>	✓	
6	C/M Registration	No Misregistration	<b>YES</b>	✓	
(F) Profile					
1	overall Thickness	1.575+/-0.157mm	1.58-1.60	✓	
2	Bow & Twist (max)	max:0.75%	0.28%	✓	
(G) Functional Test					
1	Electrical Test	No Open/Short	<b>YES</b>	✓	





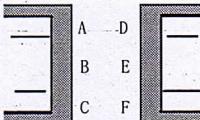
## Micro-section Report

Customer Name	U03	Customer P/N	000-0005200 Rev.A2
Product P/N	HCGU03060C0	Sample Size	1PCS
Remark			

### Hole Wall Microsection Data(Unit: $\mu\text{m}$ )

Request	Minimum: 25.4						Average: /	
No.	A	B	C	D	E	F	minimum	Average
1	44.0	38.0	40.0	42.0	38.0	42.0	38.0	40.7
2	42.0	38.0	40.0	42.0	38.0	44.0		
Result	ACC							

### HOLE-WALL COPPER THICKNESS



### Blind Hole wall copper Data(Unit: $\mu\text{m}$ )

Request	Minimum: 7-12						Average: /	
No.	A	B	C	D	E	F	minimum	Average:
1	34.0	26.0	32.0	28.0	26.0	30.0	26.0	29.0
2	30.0	26.0	28.0	30.0	26.0	32.0		
Result	/							

### Buried Hole wall copper Data(Unit: $\mu\text{m}$ )

Request	Minimum: /						Average: /	
No.	A	B	C	D	E	F	minimum	Average:
1	/						0.0	#DIV/0!
2	/							
Result	/							

### Copper Thickness Data(Unit: $\mu\text{m}$ )

Layer	Base copper	Finish Copper Requirement(From Customer or IPC)	Actual	Result
Top Side	1/3 OZ	$\geq 33.4$	60.0	ACC
L2	HOZ	min: 24.9	40.0	ACC
L3	1OZ	min: 24.9	30.0	ACC
L4	1OZ	min: 24.9	28.0	ACC
L5	1OZ	min: 24.9	28.0	ACC
L6	1OZ	min: 24.9	30.0	ACC
L7	1OZ	min: 24.9	30.0	ACC
L8	1OZ	min: 24.9	28.0	ACC
L9	1OZ	min: 24.9	26.0	ACC
L10	1OZ	min: 24.9	28.0	ACC
L11	HOZ	min: 24.9	38.0	ACC
Bottom Side	1/3 OZ	$\geq 33.4$	58.0	ACC

### Soldermask Thickness Data(Unit: $\mu\text{m}$ )

Specimen Location	Request	Actual	Result
Circuit Surface	$\geq 10$	40.0	ACC
Circuit Corner	$\geq 5$	28.0	ACC

### Dielectric Measurement Record (Unit: $\mu\text{m}$ )

Layer	Request	Actual	Result
L1-L2	75 $\pm$ 18	80	ACC
L2-L3	95 $\pm$ 18	90	ACC
L3-L4	115 $\pm$ 18	110	ACC
L4-L5	120 $\pm$ 25	110	ACC
L5-L6	100 $\pm$ 18	100	ACC
L6-L7	134 $\pm$ 25	110	ACC
L7-L8	100 $\pm$ 18	100	ACC
L8-L9	120 $\pm$ 25	110	ACC
L9-L10	115 $\pm$ 18	110	ACC
L10-L11	95 $\pm$ 18	90	ACC
L11-L12	75 $\pm$ 18	80	ACC

Disposition:

ACC

REJ



## Solderability & Thermal Stress Test Report

General Information			
Customer Name	U03	Customer P/N	000-0005200 Rev.A2
Product P/N	HCGU03060C0	Sample Size	1PCS
Remark			

Test Method: Follow IPC-TM-650 Standard

### Item 1、 Solderability test

Condition	Temperature	Time 4S±0.5S	Result		Accept/Reject ACC	Remark
	<input checked="" type="checkbox"/> 255°C ±5°C		Blow-hole	Non-Wetting		
	<input type="checkbox"/> 235°C ±5°C		NO	NO		

### Item 2、 Thermal stress test

Condition	Temperature	Time 10S,3Times	Result						Acc/Rej ACC
	288°C		Discolor	Delamination	Measling	S/M peel off	Blister	Crack	
			NO	NO	NO	NO	NO	NO	ACC

Final Conclusion:

Accept

Reject



## E-Test Report

General Information					
Customer Name	U03	Customer P/N	000-0005200 Rev.A2		
Product P/N	HCGU03060C0	Remark			
<b>Test Method:</b> <input checked="" type="checkbox"/> E-Test <input type="checkbox"/> FPT					
Test Qty	15PCS	Pass Qty	15PCS	Pass Rate	100%
<b>Test items</b>					
Open	Defect Quantity 0		Defect Rate 0	Remark	
Short	0		0		
Total	0		0		
<b>Test condition</b>					
A	Testing coverage rate			100%	
B	Voltage			250V	
C	Continuity Test			≤30Ω	
D	Insulation Test			≥100MΩ	



## RoHS Compliance Statement

General Information			
Customer Name	U03	Customer P/N	000-0005200 Rev.A2
Product P/N	HCGU03060C0	PO Number	60002432
Shipped Quantity	15PCS	Surface Treatment	Immersion Gold
Statement items			
<p>We, Shenzhen Sunshine Circuit Technology Co., Ltd., are fully aware of reducing the environmental impact of our products as mentioned above part numbers accordance with EU directive 2011/65/EC.</p>			
<p>The above mentioned part numbers can meet RoHS directive as below:</p>			
No.	Element	Control Limit	
1	Cadmium (Cd)	Under 100ppm	
2	Lead (Pb)	Under 1000ppm	
3	Mercury (Hg)	Under 1000ppm	
4	Hexavalent Chromium	Under 1000ppm	
5	PBB	Under 1000ppm	
6	PBDE	Under 1000ppm	
Signature			
Authorized Signature:		Date:	
		2015-8-7	
Printed Name:		Title:	
Wind		Final Quality Assurance Engineer	
Quality Department Stamp			



## Ionic Contamination Report

<b>General Information</b>				
<b>Customer Name</b>	U03	<b>Customer P/N</b>	000-0005200 Rev.A2	
<b>Product P/N</b>	HCGU03060C0	<b>Sample Size</b>	1PCS	
<b>PCB Description</b>	<input type="checkbox"/> HAL <input type="checkbox"/> Lead Free HAL <input checked="" type="checkbox"/> Immersion Gold <input type="checkbox"/> Immersion Silver <input type="checkbox"/> Immersion Tin <input type="checkbox"/> other			

**Test Method :** Follow IPC-TM-650 Standard

### Test content

Items	Data	Unit		Remark
<b>Request</b>	<b>≤1.0</b>	<input checked="" type="checkbox"/> ug NaCl / sq. cm	<input type="checkbox"/> ug NaCl / sq. in	N/A
<b>Actual result</b>	<b>0.318</b>	<input checked="" type="checkbox"/> ug NaCl / sq. cm	<input type="checkbox"/> ug NaCl / sq. in	N/A

**Final Conclusion:**

Accept

Reject



## Impedance Test Report

General Information			
Customer Name	U03	Customer P/N	000-0005200 Rev.A2
Product P/N	HCGU03060C0	Sample Size	5PCS
Test Date		2015-8-7	

Test Result								
NO.	Request (Ω)	Layer	Reference layer	Line width (mil)	Actual test data			Accept/Reject
					Max(Ω)	Min(Ω)	Average(Ω)	
1	50+/-5	L1	L2	4.72	52.23	48.56	50.58	ACC
2	90+/-9	L1	L2	5	91.34	89.54	90.91	ACC
3	100+/-10	L1	L2	4	101.66	99.87	100.77	ACC
4	50+/-5	L3	L4/L2	3.7	50.48	49.30	49.89	ACC
5	90+/-9	L3	L4/L2	4.5	91.38	88.72	90.05	ACC
6	100+/-10	L3	L4/L2	3.7	100.31	99.84	100.08	ACC
7	50+/-5	L5	L6/L4	3.7	51.92	49.35	50.64	ACC
8	100+/-10	L5	L6/L4	3.7	100.34	99.13	99.40	ACC
9	50+/-5	L8	L7/L9	3.7	52.69	51.87	52.28	ACC
10	50+/-5	L10	L9/L11	3.7	52.11	50.22	50.43	ACC
11	90+/-9	L10	L9/L11	4.5	92.30	91.00	91.65	ACC
12	100+/-10	L10	L9/L11	3.7	102.51	98.44	99.94	ACC
13	50+/-5	L12	L11	4.72	52.97	51.14	52.06	ACC
14	90+/-9	L12	L11	5	94.55	92.48	91.59	ACC
15	100+/-10	L12	L11	4	102.58	101.84	102.77	ACC

Final Conclusion:

 Accept Reject