APPROVAL SHEET

MULTILAYER CERAMIC ANTENNA

RFANT Pb free Series – RoHS Compliance

2.4 GHz ISM Band Working Frequency

P/N: RFANT5220110A0T

Customer: Panasonic Taiwan Co., Ltd.

*Contents in this sheet are subject to change without prior notice.

FEATURES

- Surface Mounted Devices with a small dimension of 5.2 x 2.0 x 1.1 mm^3 meet future miniaturization trend.
- Embedded and LTCC (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
- High Stability in Temperature / Humidity Change

APPLICATIONS

- Bluetooth
- Wireless LAN
- HormRF
- ISM band 2.4GHz wireless applications

DESCRIPTION

Walsin Technology Corporation develops a new ceramic embedded antenna specified for 2.4 GHz ISM Band application, as shown in below "CONSTRUCTION". Both of Wireless LAN IEEE 802.11b and Bluetooth™ typically located on this unlicensed frequency band which range covers from 2.4GHz to 2.4835GHz. To fulfil the friendly usage for antenna, this antenna has been designed to a typical 150MHz bandwidth through Walsin's advanced LTCC (Low Temperature Co-fired Ceramic) technology and superior product design via 3D EM Simulation Skill.

This antenna has a rectangular ceramic body with a tiny dimension of 5.2x 2.0 x 1.1 mm^3 meet the future SMT automation and miniaturization requirements on modern portable devices.

CONSTRUCTION

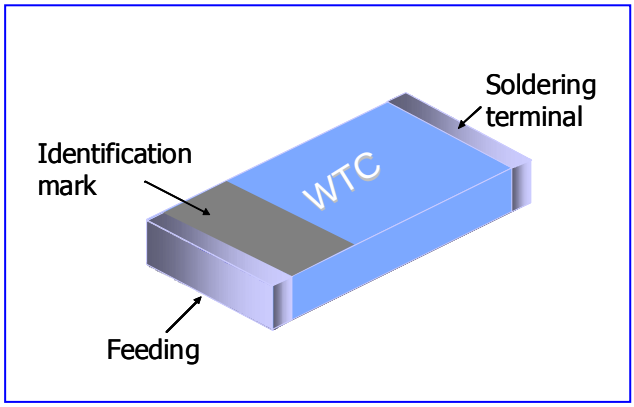


Fig 1. Outline of 2.4GHz Antenna – RFANT5220110A0T

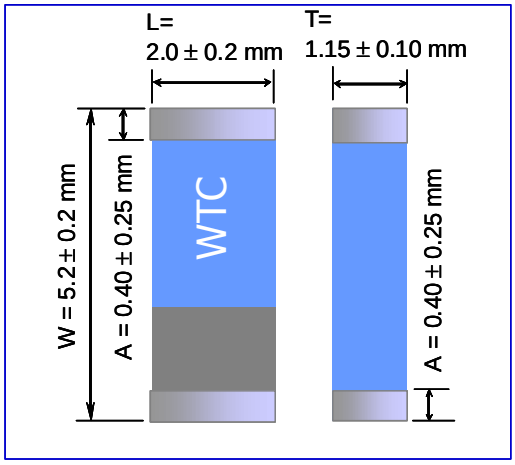
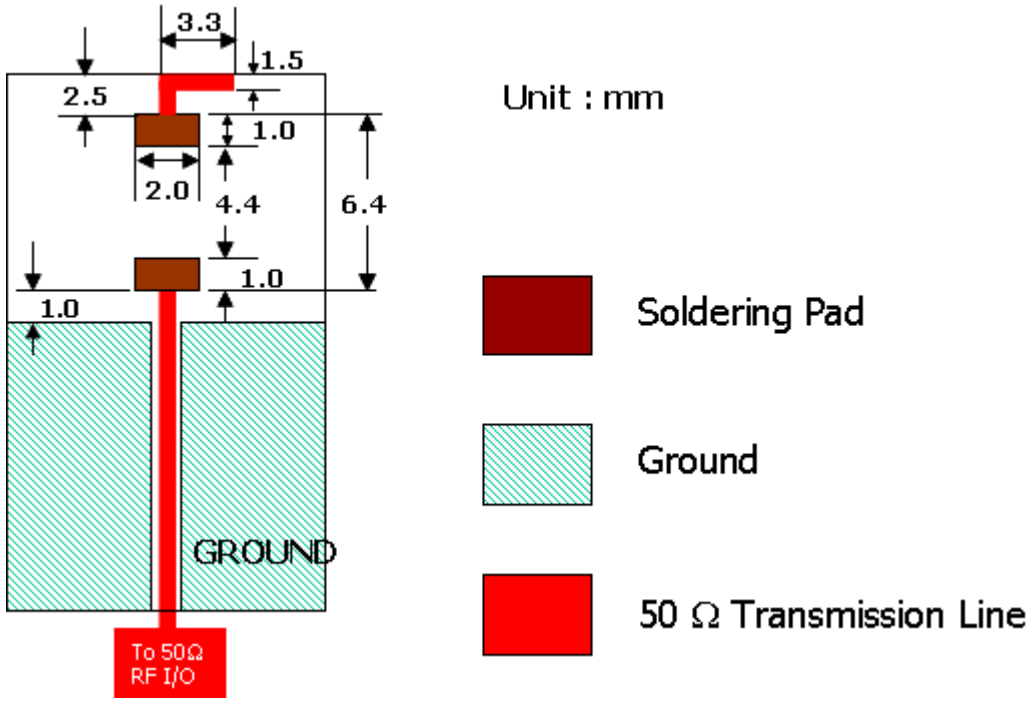


Fig 2. Dimension

SOLDER LAND PATTERN DESIGN

Figure

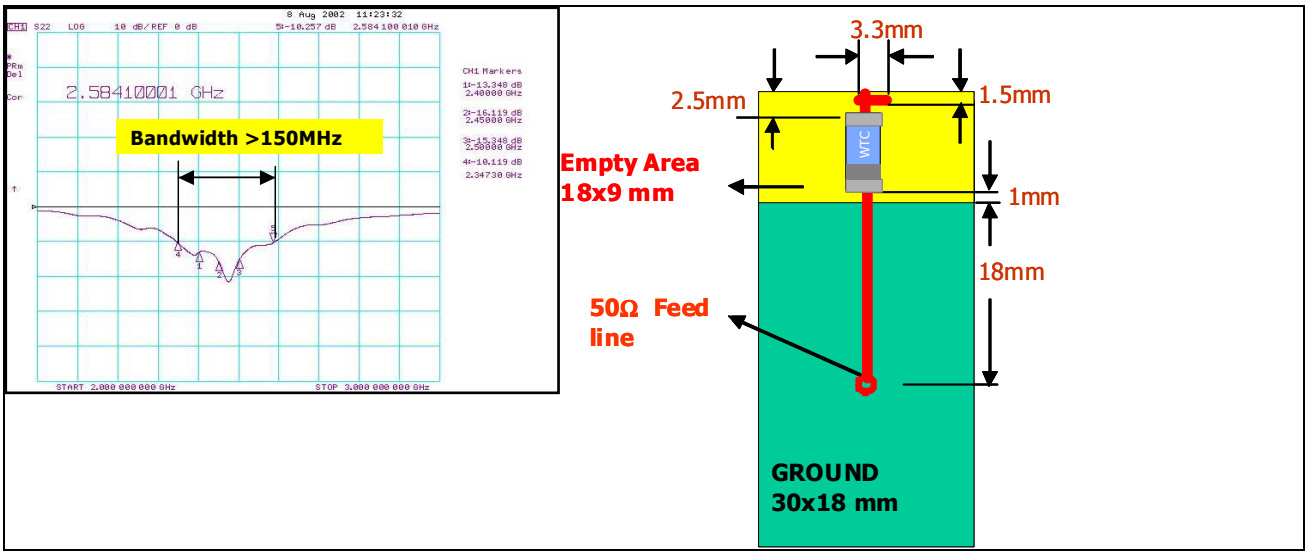


ELECTRICAL CHARACTERISTICS

RFANT5220110A0T	Specification
Working Frequency Range	2.4 GHz ～ 2.5GHz
Gain	2 dBi (Typical)
VSWR	2 max.
Polarization	Linear
Azimuth Bandwidth	Omni-directional
Impedance	50Ω
Rated Power (max.)	3 Watts
Maximum Input Power	5 Watts for 5 minutes
Operation Temperature	-40˚C ~ +85˚C

Remark: The specification is defined based on the test board dimension as in below

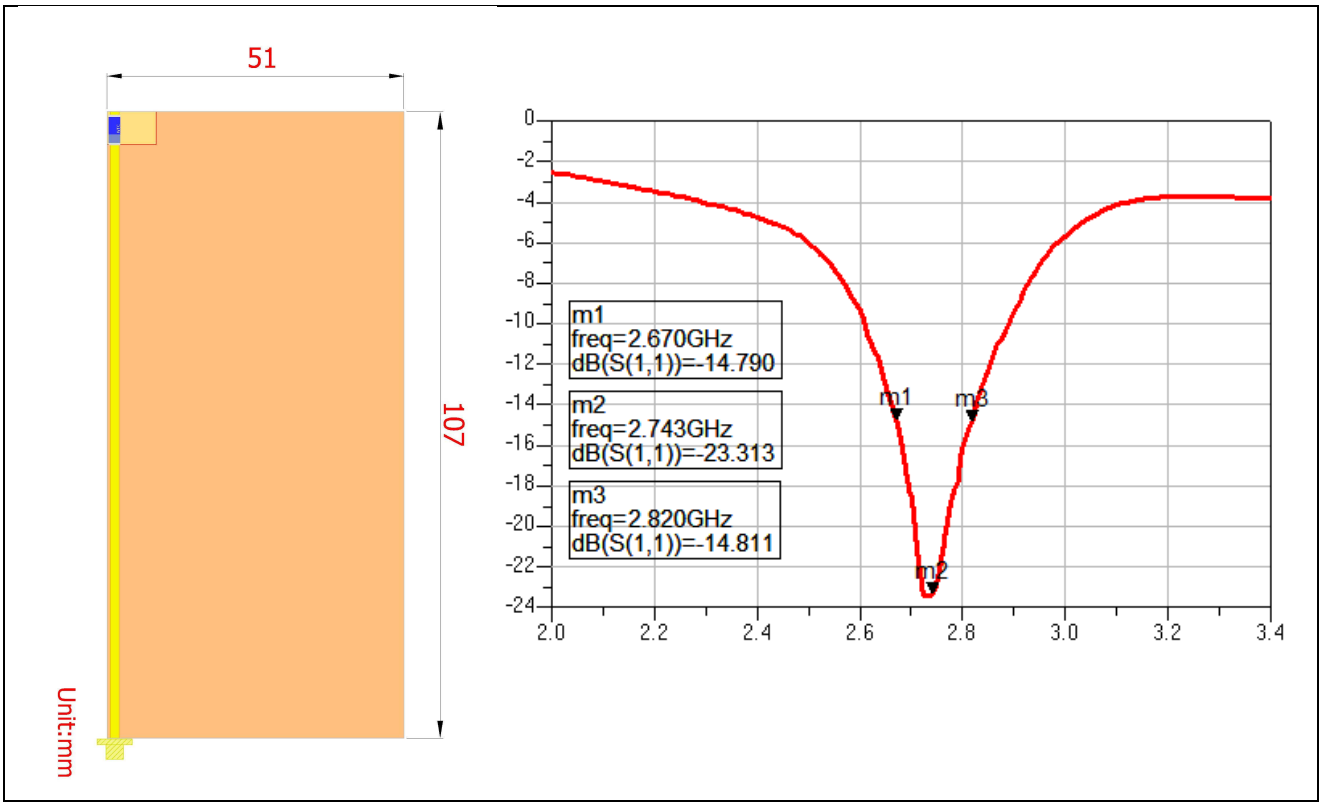
Antenna on Test Board (FR4 Thickness 0.8mm)



Antenna S11 on Measured Board:

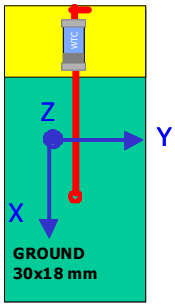
Measured Frequency (GHz)	**2.67**	**2.7425**	**2.82**
Return Loss(S11)(dBmax.)	**<-10**	**<-10**	**<-10**

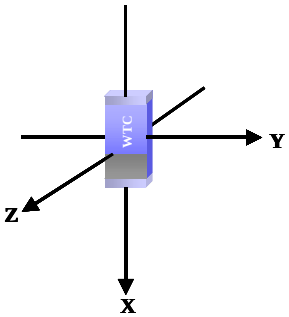
Measured Board + S11:

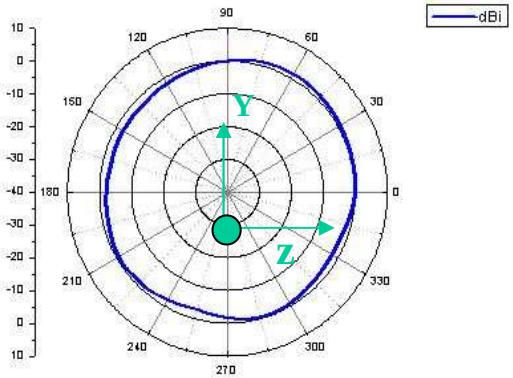
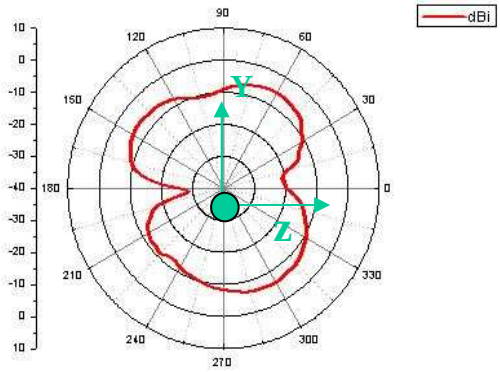
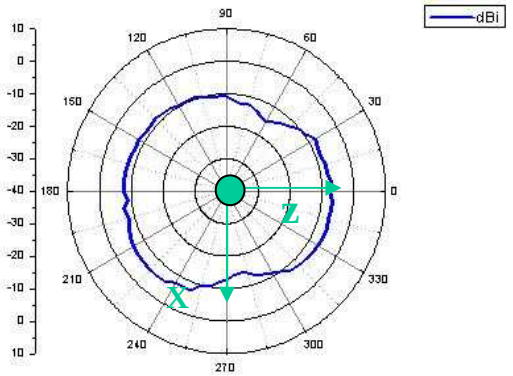
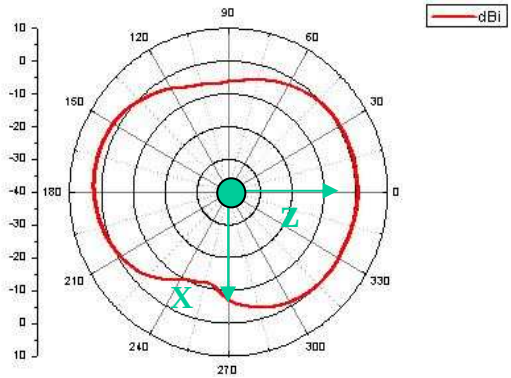
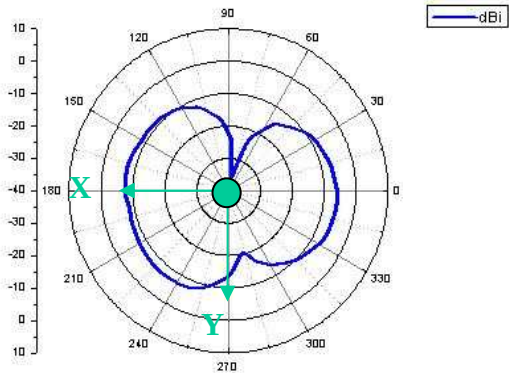
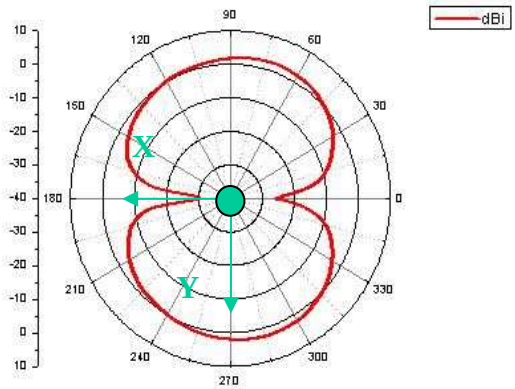


RADIATION PATTERN

Radiation Pattern and Gain were dependent on measurement board design. The specification of RFANT5220110A0T antenna was measured based on the PCB size and installation position as shown in the below figure Test Board





	Vertical	Horizontal
Y - Z Plane Average Gain= -0.82 dBi	 Peak Gain = 1.69 dBi Average Gain =-3.22 dBi	 Peak Gain= -5.42 dBi Average Gain=-8.98 dBi
X - Z Plane Average Gain=-0.91 dBi	 Peak Gain= -5.97 dBi Average Gain=-3.24dBi	 Peak Gain= 2.66 dBi Average Gain= -8.61 dBi
X - Y Plane Average Gain= -0.68 dBi	 Peak Gain= -5.97 dBi Average Gain=-3.12 dBi	 Peak Gain= 2.59 dBi Average Gain= -9.24 dBi

RELIABILITY TEST

Test item	Test condition / Test method	Specification
Solderability JIS C 0050-4.6 JESD22-B102D	*Solder bath temperature：235 ± 5°C *Immersion time：2 ± 0.5 sec *Solder：Sn3Ag0.5Cu for lead-free	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) IEC 60068-2-58	*Solder bath temperature：260 ± 5°C *Leaching immersion time：30 ± 0.5 sec *Solder : SN63A	Loss of metallization on the edges of each electrode shall not exceed 25%.
Resistance to soldering heat JIS C 0050-5.4	*Preheating temperature：120~150℃, 1 minute. *Solder temperature：270±5°C *Immersion time：10±1 sec *Solder：Sn3Ag0.5Cu for lead-free Measurement to be made after keeping at room temperature for 24±2 hrs	No mechanical damage. Samples shall satisfy electrical specification after test. Loss of metallization on the edges of each electrode shall not exceed 25%.
Drop Test JIS C 0044	*Height：75 cm *Test Surface：Rigid surface of concrete or steel. *Times：6 surfaces for each units；2 times for each side.	No mechanical damage. Samples shall satisfy electrical specification after test.
Adhesive Strength of Termination JIS C 0051- 7.4.3	*Pressurizing force： 5N(≦0603)；10N(>0603) *Test time：10±1 sec	No remarkable damage or removal of the termination.
Bending test JIS C 0051- 7.4.1	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 1mm/s and then pressure shall be maintained for 5±1 sec. Measurement to be made after keeping at room temperature for 24±2 hours	No mechanical damage. Samples shall satisfy electrical specification after test.

Temperature cycle JIS C 0025	1. 30±3 minutes at -40°C±3°C, 2. 10~15 minutes at room temperature, 3. 30±3 minutes at +85°C±3°C, 4. 10~15 minutes at room temperature, Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24±2 hrs	No mechanical damage. Samples shall satisfy electrical specification after test.
Vibration JIS C 0040	*Frequency：10Hz~55Hz~10Hz(1min) *Total amplitude：1.5mm *Test times：6hrs.(Two hrs each in three mutually perpendicular directions)	No mechanical damage. Samples shall satisfy electrical specification after test.
High temperature JIS C 0021	*Temperature：85°C±2°C *Test duration：1000+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hrs	No mechanical damage. Samples shall satisfy electrical specification after test.
Humidity (steady conditions) JIS C 0022	*Humidity：90% to 95% R.H. *Temperature：40±2°C *Time：1000+24/-0 hrs. Measurement to be made after keeping at room temperature for 24±2 hrs ※ 500hrs measuring the first data then 1000hrs data	No mechanical damage. Samples shall satisfy electrical specification after test.
Low temperature JIS C 0020	*Temperature：-40°C±2°C *Test duration：1000+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hrs	No mechanical damage. Samples shall satisfy electrical specification after test.

SOLDERING CONDITION

Typical examples of soldering processes that provide reliable joints without any damage are given in Fig 2

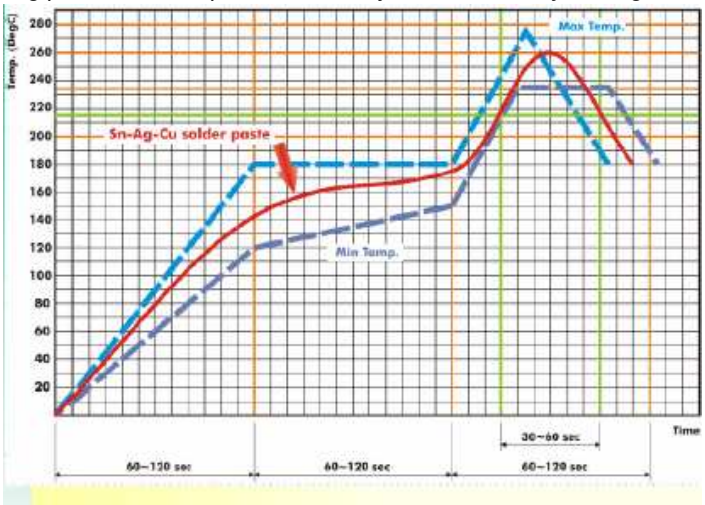


Fig 2. Infrared soldering profile

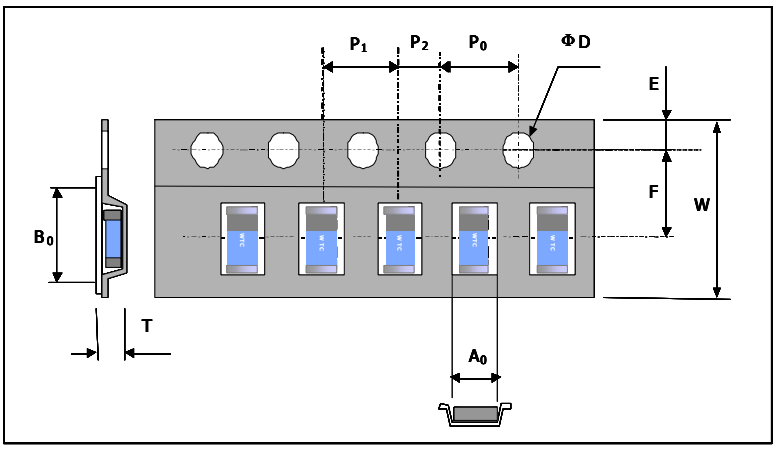
ORDERING CODE

RF	ANT	522011	0	A	0	T
Walsin RF device	**Product code** ANT : Antenna	**Dimension code** Per 2 digits of Length, Width, Thickness : e.g. : 522011 = Length 52, Width 20, Thickness 11	**Unit of dimension** 0 : 0.1 mm 1 : 1.0 mm	**Application** A : 2.4GHZ ISM Band	**Specification** Design Code	**Packing** T : 7" Reeled

Minimum Ordering Quantity: 2000 pcs per reel.

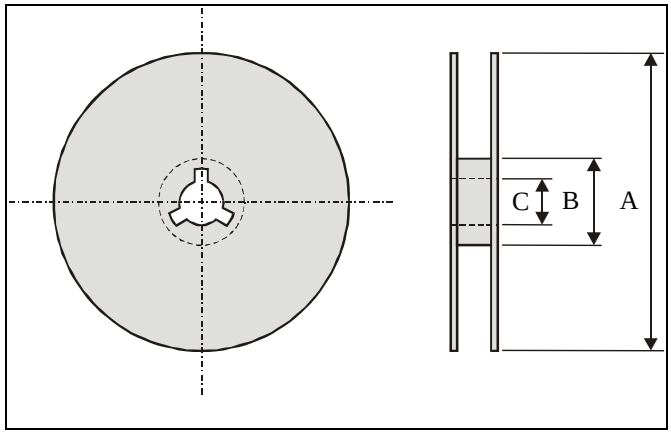
PACKAGING

Plastic Tape specifications (unit :mm)



Index	Ao	Bo	ΦD	T	W
Dimension (mm)	2.40 ± 0.10	5.50 ± 0.10	1.55 ± 0.05	1.20 ± 0.10	12.0 ± 0.10
Index	E	F	Po	P1	P2
Dimension (mm)	1.75 ± 0.10	5.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10

Reel dimensions



Index	A	B	C
Dimension (mm)	Φ178	Φ60.0	Φ13.5

Typing Quantity: 2000 pieces per 7” reel

CAUTION OF HANDLING

Limitation of Applications

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects, which might directly cause damage to the third party’s life, body or property.

(1) Aircraft equipment
(2) Aerospace equipment
(3) Undersea equipment
(4) Medical equipment
(5) Disaster prevention / crime prevention equipment
(6) Traffic signal equipment
(7) Transportation equipment (vehicles, trains, ships, etc.)
(8) Applications of similar complexity and /or reliability requirements to the applications listed in the above.

Storage condition

(1) Products should be used in 6 months from the day of WALSIN outgoing inspection, which can be confirmed.
(2) Storage environment condition.

- Products should be storage in the warehouse on the following conditions.
- Temperature : -10 to +40°C
- Humidity : 30 to 70% relative humidity
- Don’t keep products in corrosive gases such as sulfur. Chlorine gas or acid or it may cause oxidization of electrode, resulting in poor solderability.
- Products should be storage on the palette for the prevention of the influence from humidity, dust and son on.
- Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.
- Products should be storage under the airtight packaged condition.

RELIABILITY TEST REPORT

(Irregularity)

NO.27-T-009B

Original filed : QL	Title : RFANT5220110A0 (AEC-Q200) Reliability Test Report	Section : QL	Date :2009/6/30
Page : 1/22		Reporter :	Michelle Lee

Judgement	Pass	Approved	Hank	Refer :Engineering	Verified	Rainii Lu	Checker	Michelle Lee

No.	Part No.	Lot No.	Test Item	Test Condition	RE/Total Q'ty	Result	Remark
1	RFANT5220110A0	8A17000955	High Temperature	125±2℃*1000 +48/-0 hours	0/77	Acc.	—
2			Temperature cycling	-55 to 125 * 1000 cycles / 10min dwell	0/77	Acc.	—
3			Moisture resistance	65℃ / 80~100%RH,24hrs / cycle,total 10Cycles	0/77	Acc.	—
4			External Visual	—	0/30	Acc.	—
5			Dimension	—	0/30	Acc.	—
6			Mechanical Shock	1/2 Sine Pulse / 1500g peak / Velocity: 15.4 ft/sec	0/30	Acc.	—
7			Vibration	5g's for 20min.,12 cycles each 3 orientations / test	0/30	Acc.	—
8			Resistance to Solder Heat (R.S.H)	260 ±5℃*10 ±1sec dipping	0/30	Acc.	—
9			Thermal Shock	-55 to 125℃ / dwell time 15min / Max transfer time 20 sec / 300cycles	0/30	Acc.	—
10			Solderability (a)	155℃ / 4hrs dry then solder dip / 235℃ / 5sec.	0/15	Acc.	—
11			Solderability (b)	Steam 1 hrs then 215℃ / 5sec solder dipping.	0/15	Acc.	—
12			Solderability (c)	Steam 1 hrs then 260℃ / 7sec solder dipping.	0/15	Acc.	—
13			Electrical Characteristic	—	0/30	Acc.	—
14			Board Flex	Chip mounted on PCB bending for 0～2mm	0/30	Acc.	—
15			Terminal strength	Force: 1.8kg for 60 sec	0/30	Acc.	—

WALSIN TECHNOLOGY CORPORATION

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/20 Type : RFANT5220110A0 Report No. : AEC-Q200
Test Item : High Temperatue Lot No. : 8A17000955

High Temperatue (125℃±3℃／1000+48/-0 hours)														
PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Acc/Rej	SMP
1	-15.52	-23.24	-15.24			**1**	-13.74	-22.14	-13.92			**1**	Acc.	
2	-15.20	-24.22	-15.63			**2**	-14.98	-24.16	-15.39			**2**	Acc.	
3	-17.21	-21.02	-13.73			**3**	-16.43	-23.39	-13.88			**3**	Acc.	
4	-17.75	-22.23	-14.31			**4**	-16.81	-19.14	-13.43			**4**	Acc.	
5	-15.73	-22.24	-14.65			**5**	-15.22	-22.73	-14.62			**5**	Acc.	
6	-16.34	-21.56	-14.65			**6**	-15.08	-21.00	-14.11			**6**	Acc.	
7	-15.72	-22.01	-14.80			**7**	-16.70	-20.86	-13.49			**7**	Acc.	
8	-16.00	-22.52	-14.59			**8**	-17.19	-22.59	-13.00			**8**	Acc.	
9	-16.10	-22.25	-14.19			**9**	-17.60	-21.06	-14.27			**9**	Acc.	
10	-16.14	-22.25	-14.35			**10**	-16.95	-22.76	-14.92			**10**	Acc.	
11	-17.91	-18.78	-13.25			**11**	-16.39	-18.79	-15.12			**11**	Acc.	
12	-17.66	-18.36	-13.11			**12**	-16.55	-20.72	-13.42			**12**	Acc.	
13	-17.50	-20.04	-13.67			**13**	-18.35	-18.66	-12.17			**13**	Acc.	
14	-15.54	-22.00	-14.40			**14**	-15.91	-20.46	-13.47			**14**	Acc.	
15	-16.28	-22.96	-14.47			**15**	-15.28	-21.34	-14.06			**15**	Acc.	
16	-15.43	-24.08	-15.28			**16**	-15.08	-20.54	-14.02			**16**	Acc.	
17	-15.21	-24.08	-15.10			**17**	-14.99	-22.23	-14.38			**17**	Acc.	
18	-17.31	-18.34	-12.73			**18**	-18.38	-16.69	-11.84			**18**	Acc.	
19	-13.97	-23.56	-14.88			**19**	-14.21	-24.20	-15.02			**19**	Acc.	
20	-16.12	-21.18	-14.28			**20**	-15.52	-22.74	-14.31			**20**	Acc.	
21	-14.32	-29.69	-15.47			**21**	-13.98	-27.55	-15.37			**21**	Acc.	
22	-18.33	-20.67	-13.96			**22**	-16.05	-22.41	-13.96			**22**	Acc.	
23	-14.80	-26.01	-14.94			**23**	-14.46	-22.36	-15.04			**23**	Acc.	
24	-13.84	-31.39	-17.42			**24**	-12.60	-29.36	-17.21			**24**	Acc.	
25	-17.27	-21.62	-14.28			**25**	-18.84	-21.45	-11.83			**25**	Acc.	
26	-15.24	-25.16	-14.95			**26**	-13.80	-23.85	-14.86			**26**	Acc.	
27	-16.29	-19.99	-14.08			**27**	-15.48	-23.17	-14.01			**27**	Acc.	
28	-17.95	-21.40	-14.19			**28**	-17.83	-21.08	-11.32			**28**	Acc.	
29	-14.57	-25.21	-15.47			**29**	-14.04	-23.62	-15.35			**29**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/20 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : High Temperatue Lot No. : 8A17000955

High Temperatue (125℃±3℃／1000+48/-0 hours)														
PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Acc/Rej	SMP
30	-13.35	-37.91	-16.74			**30**	-15.47	-37.74	-14.63			**30**	Acc.	
31	-17.51	-21.89	-13.34			**31**	-15.90	-18.04	-12.37			**31**	Acc.	
32	-12.43	-28.53	-18.92			**32**	-12.73	-28.99	-16.13			**32**	Acc.	
33	-16.23	-24.25	-14.46			**33**	-15.67	-24.06	-13.01			**33**	Acc.	
34	-15.35	-28.91	-14.83			**34**	-15.89	-29.60	-12.99			**34**	Acc.	
35	-14.00	-28.68	-15.99			**35**	-13.05	-28.74	-14.60			**35**	Acc.	
36	-12.20	-29.35	-16.80			**36**	-13.75	-29.52	-14.54			**36**	Acc.	
37	-12.52	-35.91	-16.90			**37**	-13.51	-35.35	-14.20			**37**	Acc.	
38	-15.25	-24.35	-14.89			**38**	-12.59	-22.62	-12.36			**38**	Acc.	
39	-15.08	-22.19	-13.96			**39**	-15.08	-20.56	-13.41			**39**	Acc.	
40	-15.97	-21.78	-13.55			**40**	-16.30	-18.99	-13.00			**40**	Acc.	
41	-14.80	-23.74	-14.24			**41**	-15.49	-22.26	-14.20			**41**	Acc.	
42	-16.00	-23.47	-13.89			**42**	-17.32	-23.90	-11.97			**42**	Acc.	
43	-14.08	-39.06	-16.40			**43**	-15.52	-39.11	-13.28			**43**	Acc.	
44	-15.29	-24.77	-14.74			**44**	-15.31	-24.41	-13.76			**44**	Acc.	
45	-12.89	-28.87	-16.42			**45**	-15.06	-28.68	-14.27			**45**	Acc.	
46	-16.63	-20.54	-14.06			**46**	-15.19	-20.23	-13.32			**46**	Acc.	
47	-14.88	-26.83	-15.52			**47**	-14.64	-26.25	-13.47			**47**	Acc.	
48	-15.84	-23.52	-14.67			**48**	-12.90	-24.13	-14.23			**48**	Acc.	
49	-15.37	-23.88	-13.75			**49**	-16.49	-23.52	-12.74			**49**	Acc.	
50	-13.94	-27.28	-16.57			**50**	-13.32	-24.44	-14.82			**50**	Acc.	
51	-16.81	-19.90	-13.25			**51**	-16.10	-19.40	-13.25			**51**	Acc.	
52	-14.39	-25.39	-14.81			**52**	-14.84	-22.45	-14.46			**52**	Acc.	
53	-14.90	-21.63	-13.96			**53**	-13.82	-24.15	-14.45			**53**	Acc.	
54	-14.39	-23.03	-14.03			**54**	-15.54	-23.39	-12.69			**54**	Acc.	
55	-14.48	-26.83	-15.06			**55**	-17.64	-27.46	-12.30			**55**	Acc.	
56	-13.13	-36.12	-16.14			**56**	-13.89	-36.21	-14.74			**56**	Acc.	
57	-13.42	-28.71	-15.72			**57**	-13.71	-28.28	-15.66			**57**	Acc.	
58	-15.11	-22.79	-14.12			**58**	-15.36	-19.87	-13.73			**58**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/20 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : High Temperatue Lot No. : 8A17000955

High Temperatue

(125℃±3℃／1000+48/-0 hours)

PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Acc/Rej	SMP
59	-13.87	-37.84	-16.74			**59**	-14.50	-37.30	-13.67			**59**	Acc.	
60	-12.53	-31.46	-16.99			**60**	-13.16	-31.49	-16.17			**60**	Acc.	
61	-14.93	-29.15	-14.51			**61**	-15.43	-29.97	-13.86			**61**	Acc.	
62	-12.53	-32.67	-15.57			**62**	-13.01	-32.71	-16.29			**62**	Acc.	
63	-17.76	-17.62	-11.41			**63**	-16.72	-17.23	-11.70			**63**	Acc.	
64	-15.54	-24.22	-15.37			**64**	-15.95	-24.08	-13.32			**64**	Acc.	
65	-16.81	-20.06	-12.28			**65**	-16.47	-21.39	-12.80			**65**	Acc.	
66	-13.32	-28.20	-14.09			**66**	-15.38	-29.87	-12.88			**66**	Acc.	
67	-13.35	-39.11	-16.04			**67**	-13.98	-39.53	-15.31			**67**	Acc.	
68	-14.13	-28.34	-16.45			**68**	-12.68	-29.25	-17.04			**68**	Acc.	
69	-14.82	-25.39	-14.77			**69**	-15.42	-25.45	-13.00			**69**	Acc.	
70	-14.25	-20.81	-13.15			**70**	-14.59	-23.74	-14.65			**70**	Acc.	
71	-12.95	-36.30	-17.05			**71**	-13.59	-36.52	-14.70			**71**	Acc.	
72	-18.90	-16.99	-12.06			**72**	-15.17	-16.85	-13.93			**72**	Acc.	
73	-14.32	-24.67	-15.14			**73**	-13.82	-22.53	-14.70			**73**	Acc.	
74	-15.43	-22.25	-13.68			**74**	-15.92	-22.35	-12.55			**74**	Acc.	
75	-14.75	-20.02	-13.33			**75**	-15.01	-21.40	-13.74			**75**	Acc.	
76	-15.18	-21.88	-13.64			**76**	-15.58	-19.83	-12.94			**76**	Acc.	
77	-15.32	-24.29	-14.73			**77**	-14.35	-22.44	-13.78			**77**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**	**<-10dB**	**<-10dB**	**<-10dB**					
MAX	**-12.20**	**-16.99**	**-11.41**			**MAX**	**-12.59**	**-16.69**	**-11.32**					
MIN	**-18.90**	**-39.11**	**-18.92**			**MIN**	**-18.84**	**-39.53**	**-17.21**					
AVG	**-15.25**	**-25.06**	**-14.76**			**AVG**	**-15.21**	**-24.64**	**-13.94**					
SD	**1.54**	**5.18**	**1.31**			**SD**	**1.45**	**5.36**	**1.20**					

Remark : No mechanical damage

Verified : Rainii Lu

Checked : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/15 Type : RFANT5220110A0 Report No. : AEC-Q200
Test Item : Temperature Cycling Lot No. : 8A17000955

Temperature Cycling (-55℃ to 125℃／1000 cycles)														
PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
1	-13.22	-25.01	-15.13			**1**	-12.68	-27.99	-16.31			**1**	Acc.	
2	-15.53	-22.82	-14.28			**2**	-12.74	-22.62	-16.98			**2**	Acc.	
3	-13.97	-21.59	-13.84			**3**	-13.81	-21.14	-14.84			**3**	Acc.	
4	-13.13	-23.99	-15.23			**4**	-13.58	-23.83	-15.22			**4**	Acc.	
5	-14.32	-21.69	-14.39			**5**	-13.50	-22.60	-16.72			**5**	Acc.	
6	-13.65	-21.85	-14.69			**6**	-14.65	-21.80	-15.64			**6**	Acc.	
7	-15.51	-18.76	-13.34			**7**	-15.24	-18.88	-13.83			**7**	Acc.	
8	-14.21	-20.93	-14.26			**8**	-14.76	-22.16	-13.74			**8**	Acc.	
9	-15.52	-19.92	-13.16			**9**	-14.09	-19.34	-14.67			**9**	Acc.	
10	-15.00	-20.25	-14.35			**10**	-14.45	-20.64	-14.68			**10**	Acc.	
11	-13.90	-23.38	-14.43			**11**	-12.78	-23.78	-14.06			**11**	Acc.	
12	-13.90	-21.91	-14.61			**12**	-13.77	-23.57	-13.82			**12**	Acc.	
13	-15.23	-21.64	-13.93			**13**	-13.93	-22.47	-13.55			**13**	Acc.	
14	-13.93	-24.14	-14.95			**14**	-14.15	-21.47	-13.61			**14**	Acc.	
15	-15.74	-21.15	-13.17			**15**	-16.27	-19.22	-12.52			**15**	Acc.	
16	-15.07	-19.16	-12.94			**16**	-14.96	-21.00	-13.19			**16**	Acc.	
17	-14.69	-20.38	-13.65			**17**	-16.73	-22.91	-14.24			**17**	Acc.	
18	-14.60	-19.37	-13.45			**18**	-15.41	-19.42	-15.49			**18**	Acc.	
19	-14.35	-21.56	-14.47			**19**	-14.36	-23.41	-13.56			**19**	Acc.	
20	-14.20	-21.89	-14.58			**20**	-15.23	-21.82	-15.09			**20**	Acc.	
21	-15.43	-20.62	-14.57			**21**	-16.94	-19.11	-12.61			**21**	Acc.	
22	-15.97	-18.55	-12.59			**22**	-17.42	-20.43	-13.04			**22**	Acc.	
23	-17.36	-19.36	-12.98			**23**	-13.92	-19.69	-15.23			**23**	Acc.	
24	-14.81	-23.49	-14.48			**24**	-14.65	-19.68	-12.62			**24**	Acc.	
25	-13.76	-25.28	-15.43			**25**	-14.58	-28.16	-15.41			**25**	Acc.	
26	-14.77	-19.57	-13.32			**26**	-14.04	-19.59	-13.78			**26**	Acc.	
27	-16.02	-20.37	-13.55			**27**	-16.92	-20.11	-13.19			**27**	Acc.	
28	-15.79	-24.81	-15.42			**28**	-14.36	-24.22	-12.97			**28**	Acc.	
29	-16.08	-21.97	-14.36			**29**	-14.31	-21.48	-13.17			**29**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/15 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Temperature Cycling Lot No. : 8A17000955

Temperature Cycling (-55℃ to 125℃／1000 cycles)														
PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
30	-14.78	-22.94	-14.78			**30**	-15.52	-21.08	-13.72			**30**	Acc.	
31	-13.40	-27.75	-17.36			**31**	-14.20	-24.66	-14.61			**31**	Acc.	
32	-13.92	-23.67	-15.88			**32**	-13.96	-24.45	-14.88			**32**	Acc.	
33	-14.78	-22.61	-14.97			**33**	-14.83	-22.39	-14.25			**33**	Acc.	
34	-16.05	-24.45	-15.06			**34**	-15.15	-22.04	-13.85			**34**	Acc.	
35	-17.41	-21.62	-14.11			**35**	-16.43	-18.97	-12.23			**35**	Acc.	
36	-16.02	-26.68	-15.33			**36**	-14.93	-24.15	-13.69			**36**	Acc.	
37	-13.99	-30.24	-17.36			**37**	-13.68	-30.53	-15.48			**37**	Acc.	
38	-18.40	-19.83	-13.67			**38**	-15.66	-19.93	-13.21			**38**	Acc.	
39	-18.77	-21.46	-14.13			**39**	-15.60	-20.65	-12.65			**39**	Acc.	
40	-14.29	-27.30	-16.20			**40**	-14.19	-26.00	-14.58			**40**	Acc.	
41	-15.61	-24.33	-14.43			**41**	-14.11	-24.29	-14.58			**41**	Acc.	
42	-13.58	-30.11	-16.55			**42**	-15.37	-30.11	-13.99			**42**	Acc.	
43	-17.15	-19.60	-13.15			**43**	-17.42	-17.11	-12.29			**43**	Acc.	
44	-14.99	-19.66	-14.33			**44**	-13.25	-19.33	-14.94			**44**	Acc.	
45	-16.31	-19.62	-13.25			**45**	-17.36	-17.94	-11.96			**45**	Acc.	
46	-14.31	-23.71	-14.92			**46**	-15.17	-22.39	-15.07			**46**	Acc.	
47	-14.09	-24.47	-15.98			**47**	-15.00	-20.72	-14.41			**47**	Acc.	
48	-14.74	-28.03	-16.44			**48**	-14.28	-28.76	-14.32			**48**	Acc.	
49	-14.29	-25.65	-16.91			**49**	-14.41	-25.64	-14.74			**49**	Acc.	
50	-17.46	-19.64	-12.61			**50**	-17.47	-18.22	-12.24			**50**	Acc.	
51	-13.69	-26.64	-16.30			**51**	-16.77	-26.71	-12.60			**51**	Acc.	
52	-18.93	-18.58	-13.01			**52**	-15.41	-20.61	-12.26			**52**	Acc.	
53	-12.82	-24.06	-16.37			**53**	-14.17	-24.49	-15.35			**53**	Acc.	
54	-13.30	-22.68	-15.58			**54**	-14.50	-23.23	-14.61			**54**	Acc.	
55	-14.32	-19.82	-13.64			**55**	-16.14	-22.12	-13.44			**55**	Acc.	
56	-15.85	-19.80	-12.87			**56**	-15.84	-20.09	-12.10			**56**	Acc.	
57	-14.09	-24.07	-15.01			**57**	-14.69	-25.82	-14.34			**57**	Acc.	
58	-15.59	-20.75	-13.63			**58**	-14.92	-20.06	-12.66			**58**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/15 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Temperature Cycling Lot No. : 8A17000955

Temperature Cycling

(-55℃ to 125℃／1000 cycles)

PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
59	-13.49	-21.91	-14.91			**59**	-15.05	-21.31	-13.18			**59**	Acc.	
60	-16.10	-23.61	-14.65			**60**	-18.19	-20.66	-13.86			**60**	Acc.	
61	-13.73	-21.05	-15.14			**61**	-13.89	-21.00	-15.35			**61**	Acc.	
62	-14.21	-25.82	-15.78			**62**	-15.54	-25.57	-13.13			**62**	Acc.	
63	-14.90	-19.88	-13.93			**63**	-16.17	-22.89	-14.13			**63**	Acc.	
64	-12.52	-26.65	-16.84			**64**	-14.79	-26.95	-13.03			**64**	Acc.	
65	-17.82	-17.69	-12.52			**65**	-17.15	-18.65	-12.29			**65**	Acc.	
66	-14.08	-23.13	-14.89			**66**	-15.96	-20.73	-13.74			**66**	Acc.	
67	-14.32	-21.18	-14.81			**67**	-16.31	-22.30	-13.54			**67**	Acc.	
68	-15.06	-24.66	-15.19			**68**	-16.56	-20.97	-12.93			**68**	Acc.	
69	-14.30	-28.58	-16.18			**69**	-14.65	-28.48	-13.96			**69**	Acc.	
70	-14.71	-22.56	-14.62			**70**	-15.87	-21.55	-13.70			**70**	Acc.	
71	-14.69	-21.32	-13.90			**71**	-18.30	-21.63	-10.55			**71**	Acc.	
72	-13.19	-23.93	-15.80			**72**	-14.69	-23.38	-12.75			**72**	Acc.	
73	-16.01	-20.32	-13.54			**73**	-15.87	-17.53	-11.90			**73**	Acc.	
74	-14.38	-20.86	-14.90			**74**	-14.54	-20.48	-14.40			**74**	Acc.	
75	-16.86	-17.60	-12.40			**75**	-16.03	-21.11	-12.50			**75**	Acc.	
76	-14.75	-21.46	-13.89			**76**	-15.00	-23.64	-13.79			**76**	Acc.	
77	-16.58	-20.61	-13.71			**77**	-16.19	-16.81	-12.41			**77**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**	**<-10dB**	**<-10dB**	**<-10dB**					
MAX	**-12.52**	**-17.60**	**-12.40**			**MAX**	**-12.68**	**-16.81**	**-10.55**					
MIN	**-18.93**	**-30.24**	**-17.36**			**MIN**	**-18.30**	**-30.53**	**-16.98**					
AVG	**-14.99**	**-22.44**	**-14.56**			**AVG**	**-15.14**	**-22.22**	**-13.82**					
SD	**1.37**	**2.83**	**1.18**			**SD**	**1.26**	**2.98**	**1.20**					

Remark : No mechanical damage

Verified : Rainii Lu

Checked : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/8 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Moisture resistance Lot No. : 8A17000955

Moisture resistance

65℃ / 80~100%RH,24hrs / cycle,total 10Cycles

PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
1	-13.52	-23.33	-14.82			**1**	-14.42	-25.87	-16.66			**1**	Acc.	
2	-13.49	-28.65	-15.19			**2**	-15.83	-28.83	-13.66			**2**	Acc.	
3	-14.22	-21.13	-13.70			**3**	-14.36	-22.53	-15.25			**3**	Acc.	
4	-13.25	-26.34	-15.99			**4**	-13.80	-24.17	-15.77			**4**	Acc.	
5	-13.59	-21.58	-14.08			**5**	-16.04	-23.97	-14.88			**5**	Acc.	
6	-15.17	-22.30	-14.62			**6**	-16.41	-19.45	-13.27			**6**	Acc.	
7	-14.20	-24.29	-14.64			**7**	-15.17	-23.04	-14.37			**7**	Acc.	
8	-14.91	-19.17	-13.32			**8**	-15.61	-20.15	-13.19			**8**	Acc.	
9	-13.46	-25.17	-16.33			**9**	-13.17	-24.80	-17.38			**9**	Acc.	
10	-15.12	-22.08	-13.69			**10**	-15.99	-21.06	-13.36			**10**	Acc.	
11	-13.57	-25.20	-16.47			**11**	-13.77	-26.44	-16.10			**11**	Acc.	
12	-12.68	-24.01	-16.09			**12**	-13.47	-25.05	-17.32			**12**	Acc.	
13	-13.59	-24.70	-15.57			**13**	-14.67	-23.28	-15.20			**13**	Acc.	
14	-11.73	-26.09	-18.47			**14**	-13.82	-27.56	-17.52			**14**	Acc.	
15	-15.56	-20.88	-13.32			**15**	-16.86	-18.26	-12.50			**15**	Acc.	
16	-13.29	-26.31	-15.32			**16**	-16.06	-26.46	-15.35			**16**	Acc.	
17	-12.40	-27.00	-16.36			**17**	-14.92	-27.49	-16.21			**17**	Acc.	
18	-13.01	-26.58	-16.12			**18**	-15.36	-28.79	-15.84			**18**	Acc.	
19	-13.22	-24.02	-15.07			**19**	-15.35	-27.40	-15.86			**19**	Acc.	
20	-12.28	-26.90	-17.60			**20**	-13.94	-28.74	-16.60			**20**	Acc.	
21	-16.03	-18.65	-12.11			**21**	-16.91	-20.17	-12.95			**21**	Acc.	
22	-14.93	-22.95	-13.88			**22**	-16.61	-23.47	-14.24			**22**	Acc.	
23	-14.04	-20.65	-14.44			**23**	-14.47	-24.08	-14.45			**23**	Acc.	
24	-13.27	-26.40	-14.38			**24**	-16.24	-26.31	-14.46			**24**	Acc.	
25	-13.83	-21.31	-13.99			**25**	-14.75	-23.93	-15.75			**25**	Acc.	
26	-13.97	-21.28	-13.97			**26**	-16.25	-22.81	-13.87			**26**	Acc.	
27	-13.11	-23.55	-14.90			**27**	-14.32	-22.73	-15.32			**27**	Acc.	
28	-15.10	-18.44	-12.78			**28**	-16.33	-21.22	-14.71			**28**	Acc.	
29	-14.47	-18.78	-13.81			**29**	-13.17	-18.80	-15.42			**29**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/8 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Moisture resistance Lot No. : 8A17000955

Moisture resistance 65℃ / 80~100%RH,24hrs / cycle,total 10Cycles														
PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
30	-14.85	-20.22	-13.21			**30**	-15.14	-23.45	-14.70			**30**	Acc.	
31	-15.10	-19.38	-13.41			**31**	-15.98	-21.91	-13.13			**31**	Acc.	
32	-15.29	-19.16	-13.04			**32**	-17.17	-19.57	-14.13			**32**	Acc.	
33	-14.91	-19.28	-12.85			**33**	-16.24	-19.97	-14.51			**33**	Acc.	
34	-14.99	-19.69	-13.06			**34**	-15.33	-20.20	-14.48			**34**	Acc.	
35	-16.05	-17.69	-12.07			**35**	-18.69	-17.99	-12.43			**35**	Acc.	
36	-14.04	-23.80	-13.78			**36**	-17.17	-20.51	-13.07			**36**	Acc.	
37	-13.48	-23.71	-15.02			**37**	-12.97	-24.54	-16.96			**37**	Acc.	
38	-12.90	-22.72	-14.72			**38**	-14.81	-24.79	-15.23			**38**	Acc.	
39	-12.61	-26.80	-15.91			**39**	-13.82	-25.74	-16.31			**39**	Acc.	
40	-12.50	-23.33	-16.31			**40**	-13.07	-24.25	-17.78			**40**	Acc.	
41	-12.68	-28.67	-16.82			**41**	-13.82	-29.16	-16.92			**41**	Acc.	
42	-15.34	-19.31	-12.96			**42**	-15.06	-20.09	-14.11			**42**	Acc.	
43	-15.67	-21.67	-14.04			**43**	-16.16	-22.08	-14.44			**43**	Acc.	
44	-13.29	-23.80	-14.71			**44**	-15.77	-24.44	-15.43			**44**	Acc.	
45	-14.04	-20.91	-14.40			**45**	-14.73	-21.98	-16.00			**45**	Acc.	
46	-13.42	-24.82	-14.80			**46**	-13.19	-25.07	-16.42			**46**	Acc.	
47	-13.13	-22.88	-14.62			**47**	-15.21	-25.24	-14.62			**47**	Acc.	
48	-13.37	-24.77	-15.33			**48**	-14.69	-26.07	-15.50			**48**	Acc.	
49	-14.14	-21.11	-14.32			**49**	-14.32	-22.45	-15.86			**49**	Acc.	
50	-14.62	-23.00	-14.15			**50**	-15.32	-22.66	-13.70			**50**	Acc.	
51	-15.16	-21.20	-13.40			**51**	-16.47	-20.48	-13.60			**51**	Acc.	
52	-13.37	-22.36	-15.14			**52**	-14.33	-23.26	-16.60			**52**	Acc.	
53	-15.74	-16.36	-11.86			**53**	-16.44	-17.75	-14.68			**53**	Acc.	
54	-13.91	-24.97	-15.02			**54**	-15.24	-27.68	-15.43			**54**	Acc.	
55	-13.31	-26.39	-15.32			**55**	-14.75	-26.28	-16.55			**55**	Acc.	
56	-14.74	-20.99	-13.79			**56**	-16.20	-23.72	-14.69			**56**	Acc.	
57	-13.09	-25.01	-15.12			**57**	-14.66	-23.79	-15.48			**57**	Acc.	
58	-13.78	-21.66	-14.34			**58**	-14.99	-22.03	-15.78			**58**	Acc.	

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/8 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Moisture resistance Lot No. : 8A17000955

Moisture resistance

65℃ / 80~100%RH,24hrs / cycle,total 10Cycles

PreTest						PosTest						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Accc/Rej	SMP
59	-13.44	-27.19	-14.96			**59**	-14.09	-28.18	-15.16			**59**	Acc.	
60	-15.68	-18.88	-12.70			**60**	-17.33	-19.85	-13.06			**60**	Acc.	
61	-13.68	-23.63	-14.65			**61**	-14.45	-24.37	-16.27			**61**	Acc.	
62	-13.47	-23.66	-14.45			**62**	-14.84	-24.78	-15.32			**62**	Acc.	
63	-13.60	-23.66	-14.23			**63**	-15.95	-23.46	-14.52			**63**	Acc.	
64	-15.33	-23.19	-13.69			**64**	-16.10	-22.63	-13.70			**64**	Acc.	
65	-14.15	-21.72	-14.07			**65**	-14.78	-22.60	-15.20			**65**	Acc.	
66	-16.61	-18.27	-12.04			**66**	-18.42	-21.56	-13.22			**66**	Acc.	
67	-12.69	-24.42	-16.73			**67**	-11.87	-25.54	-17.06			**67**	Acc.	
68	-14.47	-22.95	-15.05			**68**	-14.64	-23.65	-15.97			**68**	Acc.	
69	-15.32	-22.08	-14.06			**69**	-14.14	-25.35	-15.55			**69**	Acc.	
70	-13.88	-21.68	-14.32			**70**	-15.57	-21.71	-16.58			**70**	Acc.	
71	-13.18	-24.62	-14.45			**71**	-15.38	-22.85	-14.66			**71**	Acc.	
72	-13.40	-22.72	-14.92			**72**	-14.72	-23.67	-16.43			**72**	Acc.	
73	-18.24	-14.79	-10.58			**73**	-19.43	-15.42	-13.16			**73**	Acc.	
74	-14.62	-23.39	-14.49			**74**	-15.30	-25.57	-15.02			**74**	Acc.	
75	-15.35	-19.57	-13.94			**75**	-15.41	-20.07	-15.79			**75**	Acc.	
76	-13.87	-23.86	-14.97			**76**	-15.67	-24.17	-15.93			**76**	Acc.	
77	-13.38	-24.08	-16.01			**77**	-13.66	-26.64	-16.54			**77**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**	**<-10dB**	**<-10dB**	**<-10dB**					
MAX	**-11.73**	**-14.79**	**-10.58**			**MAX**	**-11.87**	**-15.42**	**-12.43**					
MIN	**-18.24**	**-28.67**	**-18.47**			**MIN**	**-19.43**	**-29.16**	**-17.78**					
AVG	**-14.09**	**-22.70**	**-14.48**			**AVG**	**-15.22**	**-23.46**	**-15.13**					
SD	**1.13**	**2.84**	**1.34**			**SD**	**1.34**	**2.89**	**1.29**					

Remark : No mechanical damage

Verified : Rainii Lu

Checked : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

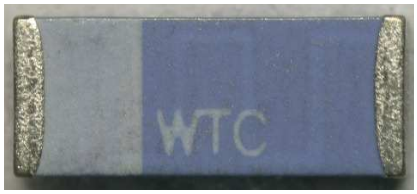
Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/6/24 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : External Visual Lot No. : 8A17000955

External Visual

No.	Photo	Result
1		**Acc.**
2		**Acc.**
3		**Acc.**
4		**Acc.**
5		**Acc.**

Specification :

No remarkable defect

Verified :	Checked :
Rainii Lu	Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/26 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Dimension Lot No. : 8A17000955

Dimension					
No.	Length (mm)	Width(mm)	**Thickness(mm)**	Result	
1	5.18	2.048	**1.098**	Acc.	
2	5.187	2.058	**1.107**	Acc.	
3	5.186	2.062	**1.112**	Acc.	
4	5.175	2.05	**1.108**	Acc.	
5	5.189	2.044	**1.106**	Acc.	
6	5.201	2.062	**1.107**	Acc.	
7	5.174	2.053	**1.103**	Acc.	
8	5.194	2.056	**1.112**	Acc.	
9	5.178	2.056	**1.112**	Acc.	
10	5.171	2.071	**1.107**	Acc.	
11	5.184	2.055	**1.111**	Acc.	
12	5.184	2.057	**1.103**	Acc.	
13	5.176	2.064	**1.101**	Acc.	
14	5.173	2.049	**1.105**	Acc.	
15	5.212	2.059	**1.114**	Acc.	
16	5.184	2.041	**1.105**	Acc.	
17	5.181	2.061	**1.111**	Acc.	
18	5.183	2.047	**1.106**	Acc.	
19	5.207	2.066	**1.112**	Acc.	
20	5.17	2.042	**1.111**	Acc.	
21	5.183	2.046	**1.102**	Acc.	
22	5.183	2.049	**1.108**	Acc.	
23	5.177	2.041	**1.106**	Acc.	
24	5.17	2.051	**1.11**	Acc.	
25	5.171	2.041	**1.108**	Acc.	
26	5.205	2.056	**1.11**	Acc.	
27	5.193	2.040	**1.113**	Acc.	
28	5.172	2.062	**1.104**	Acc.	
29	5.183	2.044	**1.102**	Acc.	
30	5.18	2.049	**1.104**	Acc.	
MAX	**5.212**	**2.071**	**1.114**		
MIN	**5.170**	**2.040**	**1.098**		
AVG	**5.184**	**2.053**	**1.107**		
STD	**0.011**	**0.008**	**0.004**		

Specification :

Length (mm)	Width(mm)	Thickness(mm)
5.2±0.2	2±0.2	1.15±0.1

Remark :

Verified :	Checked :
Rainii Lu	Michelle Lee

WALSIN TECHNOLOGY CORPORATION

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/22 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Mechanical shock Lot No. : 8A17000955

Mechanical shock

1/2 Sine Pulse / 1500g peak / Velocity: 15.4 ft/sec

Pre Test						Post Test						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			No.	2.67GHz	2.7425GHz	2.82GHz			No.	Acc/Rej	SMP
1	-15.33	-19.57	-13.90			1	-14.90	-23.05	-14.00			1	Acc.	
2	-15.97	-18.54	-12.41			2	-16.45	-19.19	-13.31			2	Acc.	
3	-13.32	-19.61	-13.99			3	-14.31	-19.97	-14.30			3	Acc.	
4	-15.34	-22.03	-14.48			4	-14.68	-22.96	-13.55			4	Acc.	
5	-14.70	-26.62	-15.21			5	-16.56	-26.51	-12.16			5	Acc.	
6	-13.39	-30.04	-17.74			6	-14.96	-30.96	-17.98			6	Acc.	
7	-13.40	-24.75	-16.24			7	-12.60	-27.75	-18.24			7	Acc.	
8	-14.73	-20.90	-13.96			8	-14.08	-21.82	-15.42			8	Acc.	
9	-14.35	-24.37	-15.70			9	-14.84	-26.86	-15.06			9	Acc.	
10	-14.96	-23.87	-14.27			10	-14.85	-24.78	-14.87			10	Acc.	
11	-14.31	-27.41	-16.98			11	-14.62	-30.16	-16.54			11	Acc.	
12	-15.89	-23.19	-13.96			12	-15.24	-23.24	-14.70			12	Acc.	
13	-16.46	-26.85	-15.03			13	-15.92	-24.47	-14.03			13	Acc.	
14	-14.79	-22.20	-14.36			14	-16.58	-22.01	-13.65			14	Acc.	
15	-14.58	-27.50	-15.99			15	-17.42	-26.27	-12.13			15	Acc.	
16	-14.06	-24.97	-14.68			16	-14.84	-25.13	-14.15			16	Acc.	
17	-15.34	-23.53	-14.72			17	-15.87	-24.95	-13.89			17	Acc.	
18	-14.50	-21.99	-14.27			18	-14.20	-21.55	-16.20			18	Acc.	
19	-18.64	-16.22	-11.54			19	-18.38	-16.10	-15.11			19	Acc.	
20	-14.47	-21.56	-14.56			20	-16.24	-22.70	-13.44			20	Acc.	
21	-14.24	-29.22	-16.22			21	-14.05	-28.83	-15.87			21	Acc.	
22	-14.85	-25.30	-16.28			22	-12.69	-24.81	-15.83			22	Acc.	
23	-13.55	-25.51	-16.00			23	-16.14	-23.37	-14.23			23	Acc.	
24	-13.71	-26.95	-16.12			24	-14.68	-23.32	-14.12			24	Acc.	
25	-14.79	-26.46	-15.22			25	-13.89	-26.67	-15.85			25	Acc.	
26	-14.27	-32.95	-15.57			26	-16.52	-33.32	-13.49			26	Acc.	
27	-13.98	-23.53	-15.44			27	-12.16	-22.32	-15.34			27	Acc.	
28	-14.80	-28.42	-16.58			28	-13.88	-28.91	-16.58			28	Acc.	
29	-13.67	-24.19	-16.65			29	-15.70	-26.97	-15.22			29	Acc.	
30	-14.24	-29.72	-16.06			30	-14.64	-29.53	-16.21			30	Acc.	
SPEC.	<-10dB	<-10dB	<-10dB			SPEC.	<-10dB	<-10dB	<-10dB					
MAX	-13.32	-16.22	-11.54			MAX	-12.16	-16.10	-12.13					
MIN	-18.64	-32.95	-17.74			MIN	-18.38	-33.32	-18.24					
AVG	-14.69	-24.60	-15.14			AVG	-15.06	-24.95	-14.85					
SD	1.08	3.72	1.33			SD	1.40	3.72	1.47					

Remark : No mechanical damage & 25% max. leaching on each edge.

SMP: Defect mode: 25%(MAX) * crack #

Verified : Rainii Lu

Checked : Michelle Lee

WALSIN TECHNOLOGY CORPORATION

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/15 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Vibration Lot No. : 8A17000955

Vibration

5g's for 20min.,12 cycles each 3 orientations / test

Pre Test						Post Test						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			No.	2.67GHz	2.7425GHz	2.82GHz			No.	Acc/Rej	SMP
1	-20.63	-14.23	-10.62			1	-20.48	-15.05	-14.14			1	Acc.	
2	-16.60	-22.53	-14.40			2	-17.76	-20.77	-12.38			2	Acc.	
3	-15.71	-21.83	-14.60			3	-14.87	-24.76	-15.25			3	Acc.	
4	-14.23	-31.75	-17.15			4	-14.21	-28.86	-16.68			4	Acc.	
5	-14.29	-27.70	-16.40			5	-14.10	-27.76	-14.66			5	Acc.	
6	-15.81	-25.39	-15.37			6	-15.63	-24.39	-14.10			6	Acc.	
7	-16.46	-22.31	-14.69			7	-14.76	-19.70	-13.85			7	Acc.	
8	-16.02	-23.26	-14.92			8	-18.72	-23.92	-11.57			8	Acc.	
9	-17.17	-21.07	-14.05			9	-18.89	-21.10	-13.01			9	Acc.	
10	-15.13	-24.38	-14.55			10	-14.70	-22.67	-13.38			10	Acc.	
11	-16.12	-22.97	-15.26			11	-15.18	-23.84	-15.10			11	Acc.	
12	-19.28	-14.14	-10.93			12	-19.38	-14.24	-12.94			12	Acc.	
13	-14.39	-27.13	-15.71			13	-14.95	-28.74	-12.63			13	Acc.	
14	-16.42	-19.36	-12.68			14	-17.51	-16.54	-10.72			14	Acc.	
15	-15.23	-21.75	-15.18			15	-15.42	-20.63	-13.44			15	Acc.	
16	-12.64	-27.54	-18.84			16	-11.95	-25.31	-17.88			16	Acc.	
17	-13.28	-29.85	-16.62			17	-12.91	-29.44	-15.27			17	Acc.	
18	-16.14	-21.95	-13.98			18	-16.76	-22.14	-13.39			18	Acc.	
19	-15.80	-21.32	-14.59			19	-16.84	-21.32	-12.60			19	Acc.	
20	-17.00	-21.09	-14.37			20	-14.93	-22.36	-14.11			20	Acc.	
21	-16.74	-19.94	-13.61			21	-16.02	-18.48	-12.03			21	Acc.	
22	-16.68	-21.77	-14.43			22	-17.85	-22.07	-10.66			22	Acc.	
23	-15.89	-22.40	-13.97			23	-16.66	-22.41	-11.73			23	Acc.	
24	-19.10	-15.69	-11.73			24	-19.72	-15.98	-13.97			24	Acc.	
25	-14.36	-31.18	-16.77			25	-12.89	-31.07	-15.57			25	Acc.	
26	-13.98	-25.40	-16.04			26	-15.40	-21.99	-13.65			26	Acc.	
27	-15.96	-21.73	-14.18			27	-15.71	-19.21	-13.59			27	Acc.	
28	-14.47	-23.88	-15.43			28	-12.66	-24.53	-17.43			28	Acc.	
29	-17.02	-17.96	-12.61			29	-16.33	-20.16	-12.92			29	Acc.	
30	-16.46	-19.46	-13.25			30	-15.97	-20.26	-12.18			30	Acc.	
SPEC.	<-10dB	<-10dB	<-10dB			SPEC.	<-10dB	<-10dB	<-10dB					
MAX	-12.64	-14.14	-10.62			MAX	-11.95	-14.24	-10.66					
MIN	-20.63	-31.75	-18.84			MIN	-20.48	-31.07	-17.88					
AVG	-15.97	-22.70	-14.56			AVG	-15.97	-22.32	-13.69					
SD	1.71	4.35	1.77			SD	2.15	4.19	1.76					

Remark : No mechanical damage & 25% max. leaching on each edge.

SMP: Defect mode: 25%(MAX) * crack #

Verified : Rainii Lu

Checked : Michelle Lee

WALSIN TECHNOLOGY CORPORATION

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/22 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : R.S.H. Lot No. : 8A17000955

R.S.H.

260±5℃*10±1sec

Pre Test						Post Test						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Acc/Rej	SMP
1	-15.10	-24.37	-15.19			**1**	-14.68	-25.64	-15.93			**1**	Acc.	
2	-15.01	-23.60	-14.80			**2**	-15.67	-23.89	-14.61			**2**	Acc.	
3	-16.95	-21.22	-14.20			**3**	-16.29	-22.16	-12.80			**3**	Acc.	
4	-15.36	-23.12	-15.01			**4**	-15.89	-24.14	-15.06			**4**	Acc.	
5	-17.07	-20.36	-13.20			**5**	-17.49	-21.63	-14.12			**5**	Acc.	
6	-15.90	-22.24	-14.33			**6**	-15.55	-22.67	-14.36			**6**	Acc.	
7	-14.22	-32.75	-15.18			**7**	-15.26	-32.39	-14.59			**7**	Acc.	
8	-17.92	-20.17	-13.35			**8**	-17.13	-23.34	-13.16			**8**	Acc.	
9	-15.56	-28.19	-14.62			**9**	-15.24	-30.43	-14.97			**9**	Acc.	
10	-16.95	-19.41	-13.18			**10**	-20.19	-19.38	-11.65			**10**	Acc.	
11	-14.36	-27.65	-15.54			**11**	-14.60	-24.70	-14.78			**11**	Acc.	
12	-14.18	-25.69	-14.90			**12**	-15.55	-27.82	-15.31			**12**	Acc.	
13	-13.15	-32.91	-15.91			**13**	-15.16	-32.87	-15.35			**13**	Acc.	
14	-14.21	-26.94	-13.62			**14**	-15.01	-30.26	-14.76			**14**	Acc.	
15	-15.88	-21.70	-14.06			**15**	-15.47	-25.42	-13.90			**15**	Acc.	
16	-14.90	-20.94	-13.51			**16**	-15.98	-20.16	-14.85			**16**	Acc.	
17	-14.09	-35.19	-15.44			**17**	-15.88	-35.17	-15.75			**17**	Acc.	
18	-14.75	-21.50	-13.26			**18**	-16.98	-21.82	-13.99			**18**	Acc.	
19	-16.31	-20.86	-13.32			**19**	-17.31	-23.01	-13.32			**19**	Acc.	
20	-16.43	-19.20	-12.28			**20**	-16.69	-19.10	-13.89			**20**	Acc.	
21	-15.37	-21.13	-13.24			**21**	-17.15	-21.25	-14.42			**21**	Acc.	
22	-15.44	-23.25	-14.13			**22**	-17.45	-24.80	-13.81			**22**	Acc.	
23	-14.40	-21.18	-13.78			**23**	-15.91	-21.20	-15.18			**23**	Acc.	
24	-13.95	-30.45	-15.23			**24**	-14.64	-28.87	-16.20			**24**	Acc.	
25	-18.09	-18.04	-12.08			**25**	-19.84	-20.64	-12.82			**25**	Acc.	
26	-15.86	-24.87	-15.32			**26**	-15.78	-24.55	-15.66			**26**	Acc.	
27	-14.41	-27.91	-15.45			**27**	-13.33	-26.82	-17.94			**27**	Acc.	
28	-18.47	-18.13	-12.47			**28**	-17.72	-18.19	-13.11			**28**	Acc.	
29	-18.09	-20.20	-12.65			**29**	-17.57	-22.03	-13.63			**29**	Acc.	
30	-14.29	-23.13	-14.30			**30**	-15.31	-25.62	-14.83			**30**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**	**<-10dB**	**<-10dB**	**<-10dB**					
MAX	**-13.15**	**-18.04**	**-12.08**			**MAX**	**-13.33**	**-18.19**	**-11.65**					
MIN	**-18.47**	**-35.19**	**-15.91**			**MIN**	**-20.19**	**-35.17**	**-17.94**					
AVG	**-15.56**	**-23.88**	**-14.12**			**AVG**	**-16.22**	**-24.67**	**-14.49**					
SD	**1.42**	**4.54**	**1.08**			**SD**	**1.48**	**4.31**	**1.23**					

Remark : No mechanical damage & 25% max. leaching on each edge.

SMP: Defect mode: 25%(MAX) * crack #

Verified : Rainii Lu	Checked : Michelle Lee

WALSIN TECHNOLOGY CORPORATION

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/8 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Thermal Shock Lot No. : 8A17000955

Thermal Shock

-55 to 125℃ / dwell time 15min / Max transfer time 20 sec / 300cycles

Pre Test						Post Test						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			No.	2.67GHz	2.7425GHz	2.82GHz			No.	Acc/Rej	SMP
1	-13.66	-28.35	-15.89			1	-15.44	-28.58	-14.08			1	Acc.	
2	-15.45	-22.05	-14.66			2	-15.13	-22.47	-14.30			2	Acc.	
3	-13.62	-27.90	-16.47			3	-13.31	-30.37	-16.97			3	Acc.	
4	-15.14	-26.21	-15.47			4	-14.81	-27.26	-16.24			4	Acc.	
5	-16.47	-21.64	-14.29			5	-16.41	-22.29	-14.25			5	Acc.	
6	-15.94	-22.97	-14.04			6	-15.61	-21.45	-14.14			6	Acc.	
7	-15.76	-24.98	-14.79			7	-16.02	-22.29	-14.14			7	Acc.	
8	-18.79	-18.03	-12.33			8	-17.28	-19.96	-13.22			8	Acc.	
9	-16.29	-22.75	-13.74			9	-15.85	-19.60	-12.97			9	Acc.	
10	-16.22	-20.73	-13.58			10	-16.62	-20.50	-13.60			10	Acc.	
11	-14.62	-26.81	-15.47			11	-13.86	-26.31	-15.44			11	Acc.	
12	-19.51	-15.28	-11.44			12	-17.78	-18.46	-12.48			12	Acc.	
13	-15.79	-23.46	-14.28			13	-16.43	-21.13	-13.76			13	Acc.	
14	-17.07	-19.61	-13.51			14	-14.75	-19.34	-15.39			14	Acc.	
15	-14.28	-34.58	-16.55			15	-12.11	-35.22	-18.31			15	Acc.	
16	-18.05	-21.00	-13.71			16	-14.82	-21.98	-15.12			16	Acc.	
17	-13.32	-33.25	-17.67			17	-13.80	-33.38	-15.25			17	Acc.	
18	-15.12	-21.52	-14.05			18	-12.78	-22.95	-17.92			18	Acc.	
19	-16.88	-19.20	-13.63			19	-13.23	-19.56	-16.95			19	Acc.	
20	-14.28	-29.95	-14.57			20	-14.65	-29.54	-14.92			20	Acc.	
21	-15.78	-21.88	-14.92			21	-15.62	-22.11	-15.70			21	Acc.	
22	-15.86	-24.02	-15.17			22	-14.70	-24.83	-16.36			22	Acc.	
23	-17.00	-22.66	-14.55			23	-17.58	-20.31	-13.57			23	Acc.	
24	-16.11	-24.88	-15.27			24	-15.58	-24.70	-14.82			24	Acc.	
25	-16.14	-22.76	-14.44			25	-16.19	-20.77	-13.72			25	Acc.	
26	-16.68	-20.87	-13.91			26	-16.03	-22.16	-14.30			26	Acc.	
27	-16.97	-20.52	-13.25			27	-15.75	-21.34	-13.92			27	Acc.	
28	-16.82	-20.39	-14.02			28	-16.19	-21.50	-14.11			28	Acc.	
29	-16.73	-22.58	-14.96			29	-16.01	-23.67	-15.69			29	Acc.	
30	-16.53	-23.25	-14.27			30	-15.69	-25.03	-15.16			30	Acc.	
SPEC.	<-10dB	<-10dB	<-10dB			SPEC.	<-10dB	<-10dB	<-10dB					
MAX	-13.32	-15.28	-11.44			MAX	-12.11	-18.46	-12.48					
MIN	-19.51	-34.58	-17.67			MIN	-17.78	-35.22	-18.31					
AVG	-16.03	-23.47	-14.50			AVG	-15.33	-23.64	-14.89					
SD	1.42	4.20	1.23			SD	1.37	4.21	1.42					

Remark : No mechanical damage & 25% max. leaching on each edge.

SMP: Defect mode: 25%(MAX) * crack #

Verified : Rainii Lu

Checked : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/11 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Solderability Lot No. : 8A17000955

Solderability

(155℃ / 4hrs dry then solder dip / 235℃ / 5sec.)

No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP
1	OK	OK	Acc.											
2	OK	OK	Acc.											
3	OK	OK	Acc.											
4	OK	OK	Acc.											
5	OK	OK	Acc.											
6	OK	OK	Acc.											
7	OK	OK	Acc.											
8	OK	OK	Acc.											
9	OK	OK	Acc.											
10	OK	OK	Acc.											
11	OK	OK	Acc.											
12	OK	OK	Acc.											
13	OK	OK	Acc.											
14	OK	OK	Acc.											
15	OK	OK	Acc.											

Remark :Spec. 95% MIN. coverage of all metalized area

Verified :	Checked :
Rainii Lu	Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/11 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Solderability Lot No. : 8A17000955

Solderability

(Steam 1 hrs then 215℃ / 5sec solder dipping.)

No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP
1	OK	OK	Acc.											
2	OK	OK	Acc.											
3	OK	OK	Acc.											
4	OK	OK	Acc.											
5	OK	OK	Acc.											
6	OK	OK	Acc.											
7	OK	OK	Acc.											
8	OK	OK	Acc.											
9	OK	OK	Acc.											
10	OK	OK	Acc.											
11	OK	OK	Acc.											
12	OK	OK	Acc.											
13	OK	OK	Acc.											
14	OK	OK	Acc.											
15	OK	OK	Acc.											

Remark :Spec. 95% MIN. coverage of all metalized area

Verified :	Checked :
Rainii Lu	Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/4/11 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Solderability Lot No. : 8A17000955

Solderability

(Steam 1 hrs then 260℃ / 7sec solder dipping.)

No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP	No.	PreTest	PostTest	Acc / Rej	SMP
1	OK	OK	Acc.											
2	OK	OK	Acc.											
3	OK	OK	Acc.											
4	OK	OK	Acc.											
5	OK	OK	Acc.											
6	OK	OK	Acc.											
7	OK	OK	Acc.											
8	OK	OK	Acc.											
9	OK	OK	Acc.											
10	OK	OK	Acc.											
11	OK	OK	Acc.											
12	OK	OK	Acc.											
13	OK	OK	Acc.											
14	OK	OK	Acc.											
15	OK	OK	Acc.											

Remark :Spec. 95% MIN. coverage of all metalized area

Verified :	Checked :
Rainii Lu	Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/29 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Electrical Characteristic Lot No. : 8A17000955

Electrical Characteristic

PreTest						PreTest						Result		
	S11	S11	S11											
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**						**No.**	Acc/Rej	SMP
1	-15.21	-22.87	-15.09			**1**						**1**	Acc.	
2	-16.22	-23.03	-15.13			**2**						**2**	Acc.	
3	-14.01	-23.80	-16.77			**3**						**3**	Acc.	
4	-14.31	-27.09	-17.21			**4**						**4**	Acc.	
5	-14.97	-23.28	-16.76			**5**						**5**	Acc.	
6	-17.95	-19.54	-13.66			**6**						**6**	Acc.	
7	-15.85	-23.53	-15.21			**7**						**7**	Acc.	
8	-16.32	-18.45	-13.68			**8**						**8**	Acc.	
9	-17.42	-18.78	-13.78			**9**						**9**	Acc.	
10	-14.82	-31.34	-17.68			**10**						**10**	Acc.	
11	-14.22	-26.60	-17.38			**11**						**11**	Acc.	
12	-17.32	-18.75	-13.87			**12**						**12**	Acc.	
13	-15.92	-20.18	-14.80			**13**						**13**	Acc.	
14	-15.55	-22.20	-15.62			**14**						**14**	Acc.	
15	-15.37	-20.76	-15.37			**15**						**15**	Acc.	
16	-15.25	-25.65	-17.70			**16**						**16**	Acc.	
17	-15.58	-20.08	-15.38			**17**						**17**	Acc.	
18	-14.60	-22.70	-15.83			**18**						**18**	Acc.	
19	-15.70	-20.10	-14.79			**19**						**19**	Acc.	
20	-17.12	-17.41	-13.74			**20**						**20**	Acc.	
21	-14.62	-20.83	-15.83			**21**						**21**	Acc.	
22	-15.37	-19.33	-14.34			**22**						**22**	Acc.	
23	-14.20	-25.13	-16.98			**23**						**23**	Acc.	
24	-12.78	-26.94	-19.02			**24**						**24**	Acc.	
25	-17.58	-17.56	-13.16			**25**						**25**	Acc.	
26	-16.71	-18.63	-13.19			**26**						**26**	Acc.	
27	-14.07	-24.22	-16.17			**27**						**27**	Acc.	
28	-15.42	-21.81	-15.66			**28**						**28**	Acc.	
29	-15.95	-20.70	-15.16			**29**						**29**	Acc.	
30	-15.58	-19.52	-14.28			**30**						**30**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**								
MAX	**-12.78**	**-17.41**	**-13.16**			**MAX**								
MIN	**-17.95**	**-31.34**	**-19.02**			**MIN**								
AVG	**-15.53**	**-22.03**	**-15.44**			**AVG**								
SD	**1.20**	**3.30**	**1.50**			**SD**								

Remark : No mechanical damage

Verified : Rainii Lu

Checked : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/15 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Board Flex Lot No. : 8A17000955

Board Flex

Chip mounted on PCB bending for 0～2mm

Pre Test						Post Test						Result		
	S11	S11	S11				S11	S11	S11					
No.	2.67GHz	2.7425GHz	2.82GHz			**No.**	2.67GHz	2.7425GHz	2.82GHz			**No.**	Acc/Rej	SMP
1	-16.21	-21.96	-14.11			**1**	-14.48	-22.05	-13.35			**1**	Acc.	
2	-14.16	-30.41	-15.82			**2**	-16.08	-30.14	-15.89			**2**	Acc.	
3	-15.49	-23.79	-14.77			**3**	-15.19	-24.90	-12.05			**1**	Acc.	
4	-14.74	-25.21	-14.69			**4**	-16.56	-25.19	-12.27			**2**	Acc.	
5	-15.41	-25.31	-14.93			**5**	-17.51	-25.35	-12.89			**3**	Acc.	
6	-15.79	-25.68	-14.72			**6**	-19.50	-25.53	-12.82			**4**	Acc.	
7	-14.42	-29.02	-14.93			**7**	-13.61	-30.78	-15.54			**5**	Acc.	
8	-15.12	-21.79	-14.04			**8**	-18.26	-18.88	-12.43			**6**	Acc.	
9	-12.63	-27.40	-15.46			**9**	-15.72	-27.01	-14.50			**7**	Acc.	
10	-13.41	-24.08	-15.28			**10**	-16.57	-22.43	-14.58			**8**	Acc.	
11	-14.15	-23.98	-13.07			**11**	-16.72	-22.07	-13.22			**11**	Acc.	
12	-13.59	-27.30	-15.41			**12**	-15.11	-27.82	-13.03			**12**	Acc.	
13	-14.32	-23.46	-15.06			**13**	-15.94	-21.00	-13.23			**13**	Acc.	
14	-14.10	-33.88	-16.96			**14**	-14.96	-33.25	-14.66			**14**	Acc.	
15	-15.54	-24.54	-14.99			**15**	-16.78	-24.84	-12.26			**15**	Acc.	
16	-14.14	-21.95	-15.02			**16**	-16.44	-20.80	-12.83			**16**	Acc.	
17	-15.36	-20.67	-14.20			**17**	-17.28	-19.13	-12.74			**17**	Acc.	
18	-13.91	-25.01	-15.62			**18**	-17.55	-26.76	-11.97			**18**	Acc.	
19	-14.31	-21.89	-14.62			**19**	-16.05	-19.12	-12.32			**3**	Acc.	
20	-13.53	-21.52	-15.52			**20**	-16.31	-22.50	-14.36			**4**	Acc.	
21	-15.74	-20.10	-14.88			**21**	-15.95	-21.79	-12.96			**5**	Acc.	
22	-14.64	-22.16	-14.73			**22**	-15.09	-22.37	-11.45			**6**	Acc.	
23	-13.95	-22.07	-15.28			**23**	-13.38	-23.65	-16.79			**7**	Acc.	
24	-14.37	-22.16	-15.09			**24**	-17.23	-22.93	-11.21			**8**	Acc.	
25	-15.05	-22.20	-15.59			**25**	-15.29	-23.72	-13.83			**9**	Acc.	
26	-16.92	-21.05	-14.91			**26**	-15.65	-20.88	-13.28			**10**	Acc.	
27	-15.78	-18.73	-13.35			**27**	-18.79	-18.63	-10.08			**27**	Acc.	
28	-14.57	-20.69	-14.74			**28**	-16.99	-22.70	-11.07			**28**	Acc.	
29	-13.50	-25.96	-16.13			**29**	-16.08	-25.36	-13.20			**29**	Acc.	
30	-14.03	-24.03	-15.92			**30**	-15.23	-25.22	-12.68			**30**	Acc.	
SPEC.	**<-10dB**	**<-10dB**	**<-10dB**			**SPEC.**	**<-10dB**	**<-10dB**	**<-10dB**					
MAX	**-12.63**	**-18.73**	**-13.07**			**MAX**	**-13.38**	**-18.63**	**-10.08**					
MIN	**-16.92**	**-33.88**	**-16.96**			**MIN**	**-19.50**	**-33.25**	**-16.79**					
AVG	**-14.63**	**-23.93**	**-14.99**			**AVG**	**-16.21**	**-23.89**	**-13.12**					
SD	**0.96**	**3.26**	**0.78**			**SD**	**1.37**	**3.55**	**1.45**					

Remark : No mechanical damage

Checked :

審核 (Verified) : Rainii Lu

檢驗 (Checked) : Michelle Lee

W A L S I N T E C H N O L O G Y C O R P O R A T I O N

Yang-Mei : TEL : 886-3-475-8711 FAX : 886-3-475-5197 Kaohsiung : TEL : 886-7-821-8171 FAX : 886-7-821-0524

RL HF TEST REPORT (Irregularity)

Date : 2009/5/23 Type : RFANT5220110A0 Report No. : AEC-Q200

Test Item : Terminal strength Lot No. : 8A17000955

Terminal strength

Force: 1.8kg for 60 sec

	Test Condition	Result	Acc/Rej	Defect Mode
1	Force : 1.8Kg for 60sec	OK	Acc.	----
2	Force : 1.8Kg for 60sec	OK	Acc.	----
3	Force : 1.8Kg for 60sec	OK	Acc.	----
4	Force : 1.8Kg for 60sec	OK	Acc.	----
5	Force : 1.8Kg for 60sec	OK	Acc.	----
6	Force : 1.8Kg for 60sec	OK	Acc.	----
7	Force : 1.8Kg for 60sec	OK	Acc.	----
8	Force : 1.8Kg for 60sec	OK	Acc.	----
9	Force : 1.8Kg for 60sec	OK	Acc.	----
10	Force : 1.8Kg for 60sec	OK	Acc.	----
11	Force : 1.8Kg for 60sec	OK	Acc.	----
12	Force : 1.8Kg for 60sec	OK	Acc.	----
13	Force : 1.8Kg for 60sec	OK	Acc.	----
14	Force : 1.8Kg for 60sec	OK	Acc.	----
15	Force : 1.8Kg for 60sec	OK	Acc.	----
16	Force : 1.8Kg for 60sec	OK	Acc.	----
17	Force : 1.8Kg for 60sec	OK	Acc.	----
18	Force : 1.8Kg for 60sec	OK	Acc.	----
19	Force : 1.8Kg for 60sec	OK	Acc.	----
20	Force : 1.8Kg for 60sec	OK	Acc.	----
21	Force : 1.8Kg for 60sec	OK	Acc.	----
22	Force : 1.8Kg for 60sec	OK	Acc.	----
23	Force : 1.8Kg for 60sec	OK	Acc.	----
24	Force : 1.8Kg for 60sec	OK	Acc.	----
25	Force : 1.8Kg for 60sec	OK	Acc.	----
26	Force : 1.8Kg for 60sec	OK	Acc.	----
27	Force : 1.8Kg for 60sec	OK	Acc.	----
28	Force : 1.8Kg for 60sec	OK	Acc.	----
29	Force : 1.8Kg for 60sec	OK	Acc.	----
30	Force : 1.8Kg for 60sec	OK	Acc.	----

Specification :

No visual damage or removal of the termination

Verified :	Checked :
Rainii Lu	Michelle Lee

特定化學物質檢測報告書

編號:CX10G04.1　　NG:受入、出荷停止　監察:須再使用ICP等,高精度測定　OK:出荷可

2010年7月8日

編號	機種	品名	品番	廠商	測量點	Cd(鎘)	Pb(鉛)	Br(溴)	Hg(汞)	Cr(鉻)	Cl(氯)	判定
						樹脂:20ppm↓ 金屬:50ppm↓	樹脂:75ppm↓ 金屬:400ppm↓	100ppm↓	20ppm↓	100ppm↓	100ppm↓ 參考	
1	CQ-BT5107/5557U	B/T ANT.	N1LYYY000015	華新	MIX	7	1	1	0	0	0	OK
2	CQ-BT5107/5557U	電源IC	C0DAZYY00031	EI11	Body	0	0	8978[註]	0	1	0	OK
	CQ-BT5107/5557U	電源IC	C0DAZYY00031	EI11	Lead	0	77	0	0	23		OK
3	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑塑膠塊	0	3	4	0	0	700000	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	熱縮套管	1	9	66	1	0	0	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	線材-外被（紅/白/黑）	0	14	8	0	0	600000	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	線材-線蕊	12	18	3	0	0		OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	白接頭	0	0	1	0	0	0	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	白接頭-Terminal	0	0	0	0	0		OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-外被	8	4	1	1	0	600000	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部透明塑膠	4	0	1	1	0	0	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部白塑膠	3	12	22	0	0	0	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部塑膠管	0	4	1	0	1	0	OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部金屬端子	0	16	0	0	0		OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部金屬管	31	(銅合金)10403	0	0	0		OK
	CQ-BT5107/5557U	MIC JACK CABLE	YEAE4C01122	ET17	黑接頭-內部焊錫	0	95	23	0	0		OK

註 : SGS CE/2009/94876　PBB/PBDE ND.

基準參照：AS社特定物質受入檢查管理基準　　檢測儀器:SEA1200VX

AVC零件技術

秘 Confidential
Until: 2011.10.4.迄

2010.10.5

檢 印	擔 當
王大立	黃耀堂

【信賴性檢討報告書】

No:CE10G08

件 名 ： 藍芽天線信賴性評價							
RoHS 對應 □有□無	□ITS □SGS □ETC ■V01 □其他			檢測 No: 071202			
適 用 機 種	CQ-BT5107/5557U		協 力 廠 商	華新科技			
生 產 日 期	2010.10		品 番	N1LYYY000015			
委 託 單 位	V20	擔 當 鄭智嶸	試 驗 數	40 PCS	回 數	第 1 回	
試 驗 基 準	MAPS 基準+廠商基準			判 定	合 格		
目 的	新部品						

試料說明： 廠商品番→RFANT5220110A0T.(f=2.4GHz)	承認	技術會簽
	梅宏輝	安美智晏

特記事項： 1.經信賴性試驗特性 OK.
2.請技術做 set 實裝音樂接收確認,試驗前後比較—接收距離 12 米 OK.
3.有關電氣特性項目:Return Loss 之規格,請技術在正式承認時連絡廠商需列入承認書中.

檢討項目	試 驗 條 件	基 準	試 驗 結 果		判定
初期特性	網路分析儀ENA8751B 測定	2.67GHz→<-10dB	-12.97~-17.82dB	n=40,r=0	OK
		2.7425GHz→<-10dB	-17.09~-24.62dB		
		2.82GHz→<-10dB	-11.87~-15.59dB		
高溫放置	85℃1000Hr	2.67GHz→<-10dB	-15.58~-19.07dB	n=10,r=0	OK
		2.7425GHz→<-10dB	-20.43~-27.80dB		
		2.82GHz→<-10dB	-12.75~-14.95dB		
低溫放置	-40℃1000Hr	2.67GHz→<-10dB	-15.80~-19.44dB	n=5 ,r=0	OK
		2.7425GHz→<-10dB	-20.05~-33.23dB		
		2.82GHz→<-10dB	-12.61~-15.13dB		
高溫高濕放置	60℃,90%RH 1000Hr	2.67GHz→<-10dB	-13.56~-18.12dB	n=10,r=0	OK
		2.7425GHz→<-10dB	-20.39~-26.13dB		
		2.82GHz→<-10dB	-12.97~-18.27dB		
熱衝擊	-40℃/+85℃ 各 30 min 200 回	2.67GHz→<-10dB	-15.26~-18.78dB	n=10,r=0	OK
		2.7425GHz→<-10dB	-22.13~-39.18dB		
		2.82GHz→<-10dB	-12.91~-16.36dB		
REFLOW 耐熱	230℃ 20SEC	2.67GHz→<-10dB	-15.78~-17.93dB	n=5 ,r=0	OK
		2.7425GHz→<-10dB	-23.27~-35.53dB		
		2.82GHz→<-10dB	-13.35~-16.55dB		

分發單位 → 品 保: 技術: 購買: 檢收: AVC 零件技術

2009.04.21

Chip L.C.R新部品承認CHK LIST

專門擔當	承認	擔當
林書孝	姜智晏	鄭智嶸

品番: N1LYYY000015

專門擔當: (主/副) 林銘村 / 林書孝　　2010 年 11 月 5 日

NO	確認要求事項	確認	備註
1	此廠商是否已爲公司所承認?RoHS是否具附SGS報告?(精密DATA)	○	
2	是否爲安全部品(15W/V以上)須具付UL NO及難燃等級等要求之表示?	—	
3	此廠商是否已爲公司所承認?	○	
4	RoHS是否具附SGS報告?(精密DATA)	○	
5	承認圖面是否與實物相符 ??(尺寸大小、耐壓、誤差)	○	
6	零件部品信賴性是否檢測完成 ?? OK ??	○	
7	導入SET後實驗檢證是否OK無異常??(高、低溫、振動..相關性試驗)	○	
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