

# 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  $5.2 \times 2.0 \times 1.1 \text{ mm}^3$  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
- HornRF
- 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  $5.2 \times 2.0 \times 1.1 \text{ mm}^3$  meet the future SMT automation and miniaturization requirements on modern portable devices.

## CONSTRUCTION

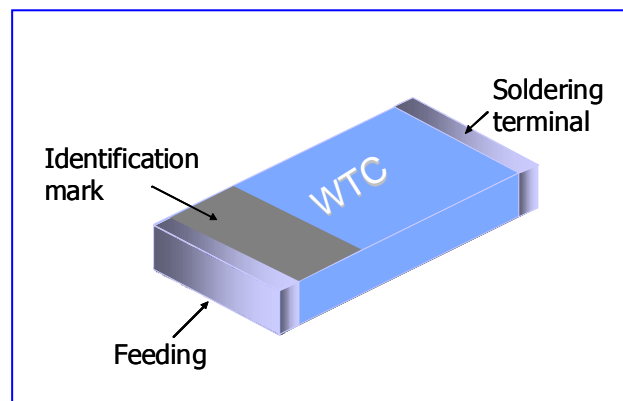


Fig 1. Outline of 2.4GHz Antenna – RFANT5220110A0T

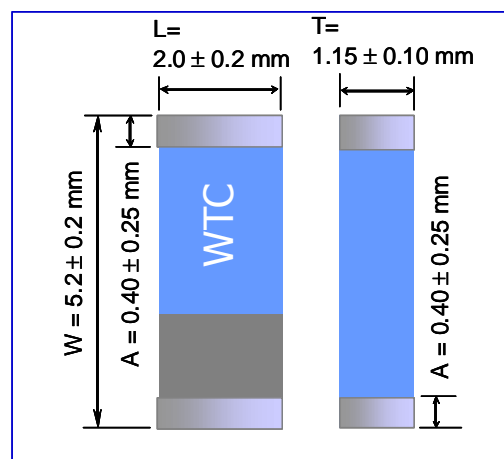
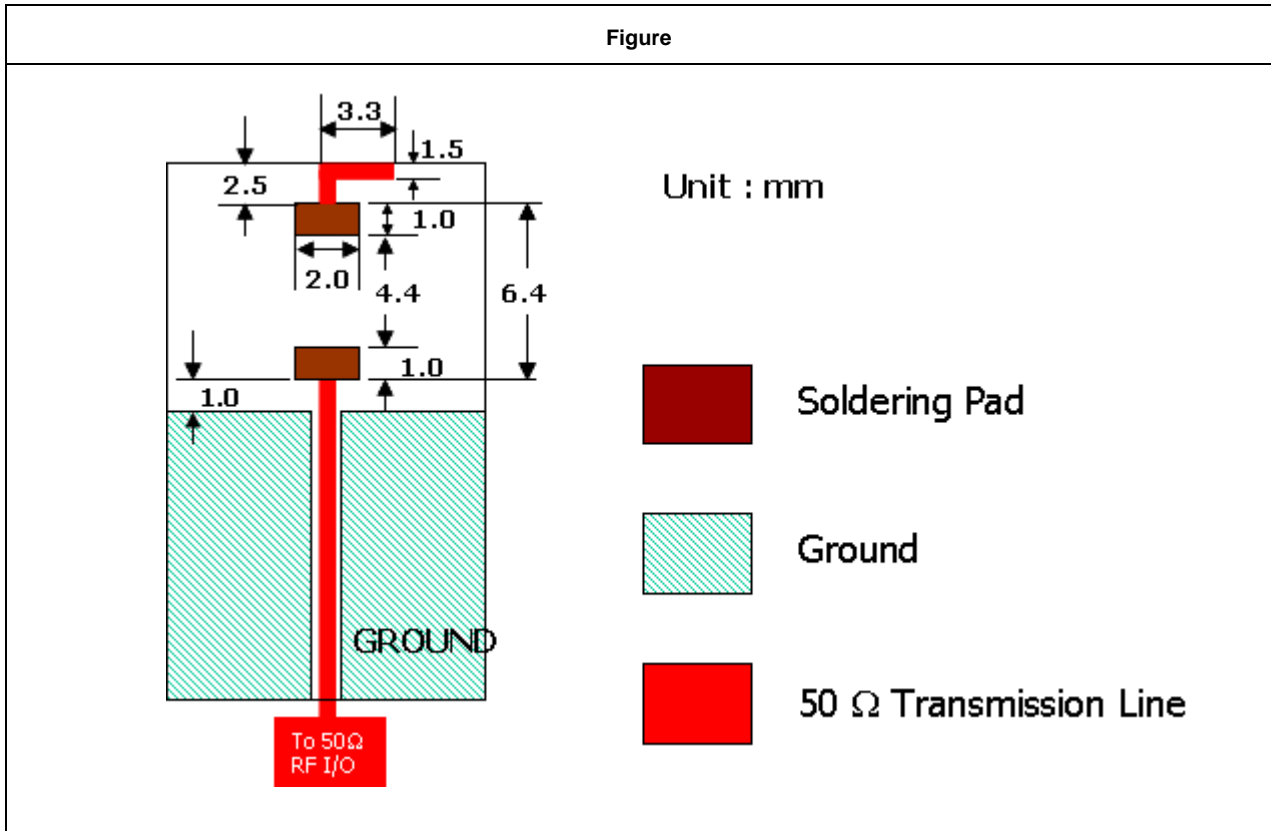


Fig 2. Dimension

**SOLDER LAND PATTERN DESIGN**

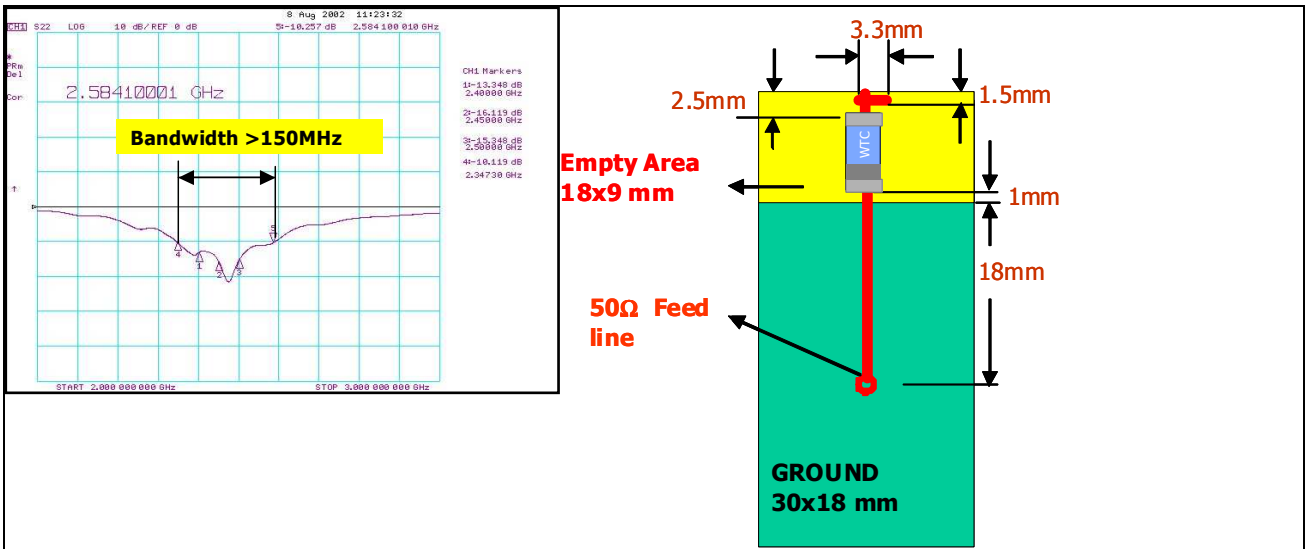


**ELECTRICAL CHARACTERISTICS**

<b>RFANT5220110A0T</b>	<b>Specification</b>
Working Frequency Range	2.4 GHz ~ 2.5GHz
Gain	2 dBi (Typical)
VSWR	2 max.
Polarization	Linear
Azimuth Bandwidth	Omni-directional
Impedance	50 $\Omega$
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**

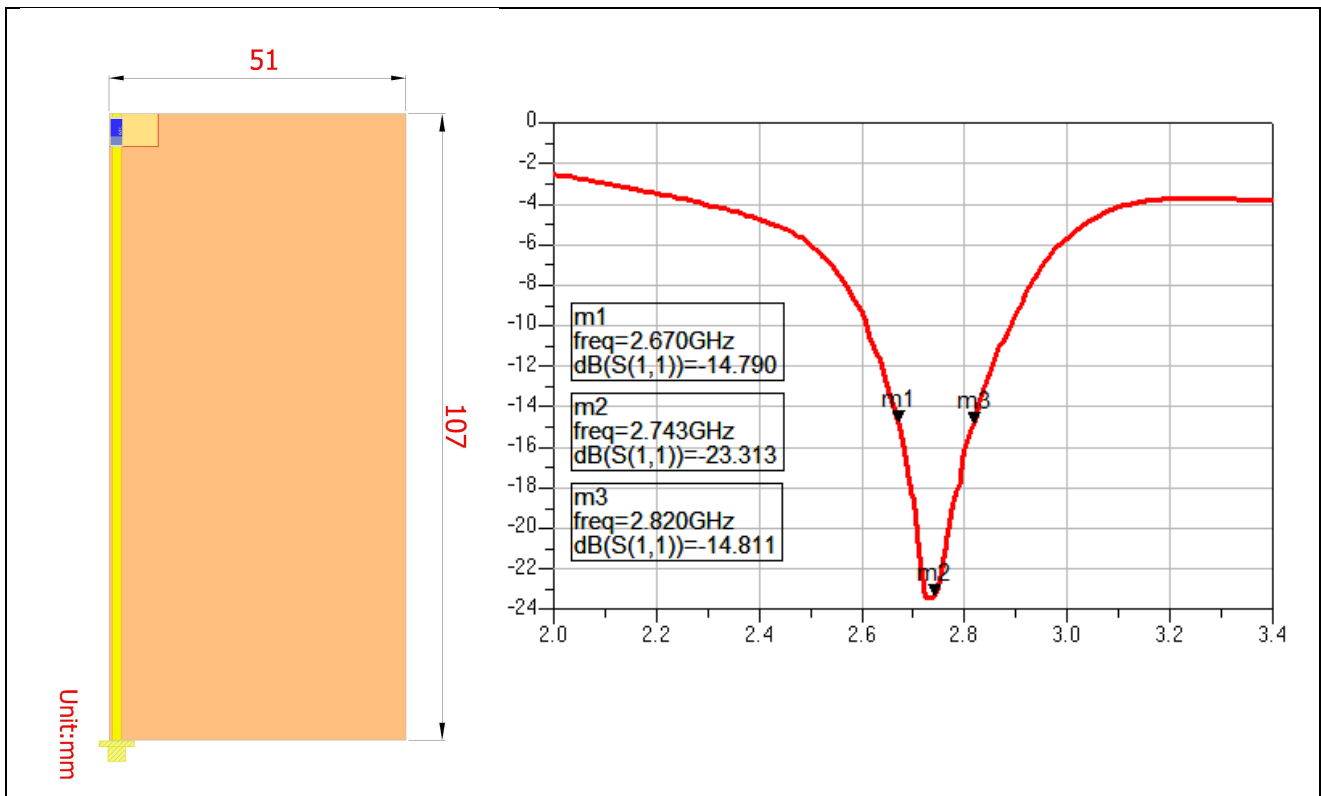
**Antenna on Test Board ( FR4 Thickness 0.8mm)**



**Antenna S11 on Measured Board:**

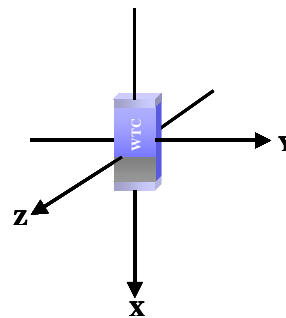
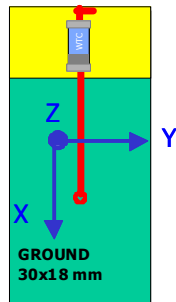
Measured Frequency (GHz)	2.67	2.7425	2.82
Return Loss( S11)( dBmax.)	<-10	<-10	<-10

**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
<b>Y - Z Plane</b> Average Gain = -0.82 dBi	<p>Peak Gain = 1.69 dBi Average Gain = -3.22 dBi</p>	<p>Peak Gain = -5.42 dBi Average Gain = -8.98 dBi</p>
<b>X - Z Plane</b> Average Gain = -0.91 dBi	<p>Peak Gain = -5.97 dBi Average Gain = -3.24 dBi</p>	<p>Peak Gain = 2.66 dBi Average Gain = -8.61 dBi</p>
<b>X - Y Plane</b> Average Gain = -0.68 dBi	<p>Peak Gain = -5.97 dBi Average Gain = -3.12 dBi</p>	<p>Peak Gain = 2.59 dBi Average Gain = -9.24 dBi</p>

## RELIABILITY TEST

Test item	Test condition / Test method	Specification
Solderability JIS C 0050-4.6 JESD22-B102D	*Solder bath temperature : $235 \pm 5^{\circ}\text{C}$ *Immersion time : $2 \pm 0.5$ 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 : $260 \pm 5^{\circ}\text{C}$ *Leaching immersion time : $30 \pm 0.5$ 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 : $120\sim 150^{\circ}\text{C}$ , 1 minute. *Solder temperature : $270\pm 5^{\circ}\text{C}$ *Immersion time : $10\pm 1$ sec *Solder : Sn3Ag0.5Cu for lead-free Measurement to be made after keeping at room temperature for $24\pm 2$ 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 : $5\text{N}(\leq 0603)$ ; $10\text{N}( >0603)$ *Test time : $10\pm 1$ 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 $5\pm 1$ sec. Measurement to be made after keeping at room temperature for $24\pm 2$ hours	No mechanical damage. Samples shall satisfy electrical specification after test.

**Approval sheet**

Temperature cycle JIS C 0025	<ol style="list-style-type: none"> <li>1. 30±3 minutes at -40°C±3°C,</li> <li>2. 10~15 minutes at room temperature,</li> <li>3. 30±3 minutes at +85°C±3°C,</li> <li>4. 10~15 minutes at room temperature,</li> </ol> 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

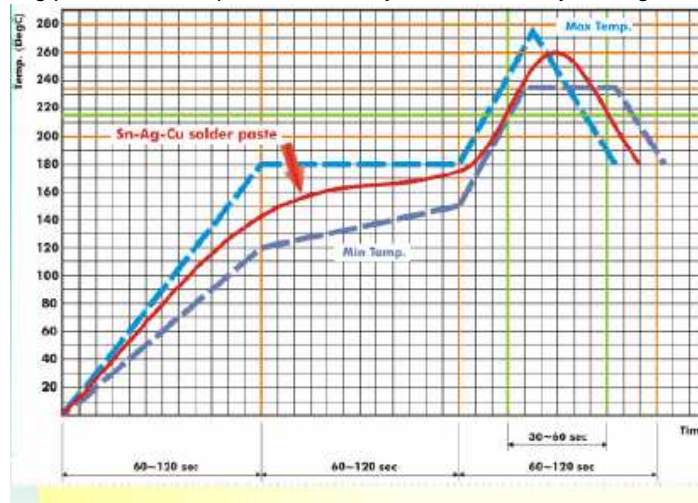


Fig 2. Infrared soldering profile

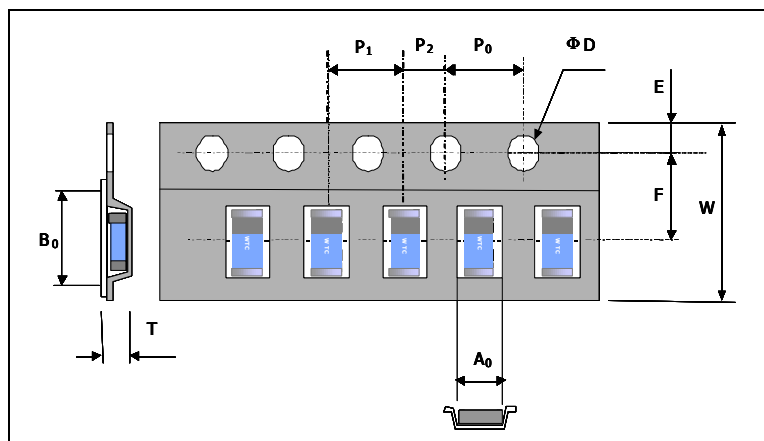
### ORDERING CODE

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

Minimum Ordering Quantity: 2000 pcs per reel.

### PACKAGING

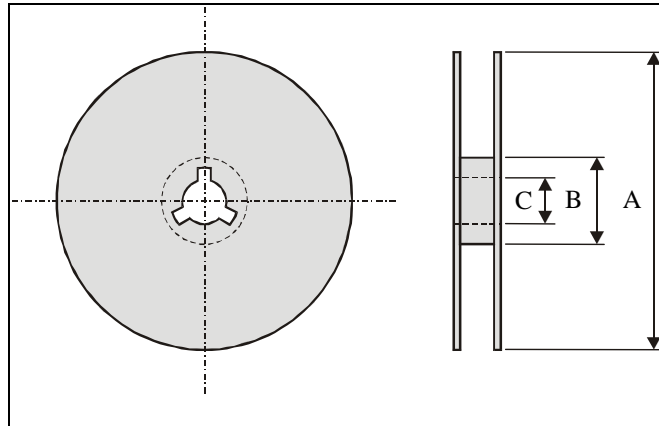
Plastic Tape specifications (unit :mm)



Index	A <sub>0</sub>	B <sub>0</sub>	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	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
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 : <b>RFANT5220110A0 (AEC-Q200)</b> <b>Reliability Test Report</b>	Section : QL	Date :2009/6/30
Page : 1/22		Reporter : Michelle Lee	

Judgement	Pass	Approved	<i>Hmk</i>	Refer :Engineering	Verified	<i>Raini Lu</i>	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°C *1000 +48/-0 hours	0/77	Acc.	—	
2			Temperature cycling	-55 to 125 * 1000 cycles / 10min dwell	0/77	Acc.	—	
3			Moisture resistance	65°C / 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°C *10 ±1sec dipping	0/30	Acc.	—	
9			Thermal Shock	-55 to 125°C / dwell time 15min / Max transfer time 20 sec / 300cycles	0/30	Acc.	—	
10			Solderability (a)	155°C / 4hrs dry then solder dip / 235°C / 5sec.	0/15	Acc.	—	
11			Solderability (b)	Steam 1 hrs then 215°C / 5sec solder dipping.	0/15	Acc.	—	
12			Solderability (c)	Steam 1 hrs then 260°C / 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

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

High Temperatue ( 125°C±3°C / 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.	

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

High Temperatue ( 125°C±3°C / 1000+48/-0 hours )														
PreTest						PosTest						Result		
No.	S11	S11	S11			No.	S11	S11	S11					
	2.67GHz	2.7425GHz	2.82GHz				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.	

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

High Temperature ( 125°C ±3°C / 1000+48/-0 hours )														
PreTest						PosTest						Result		
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.	
<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>			<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>					
<b>MAX</b>	<b>-12.20</b>	<b>-16.99</b>	<b>-11.41</b>			<b>MAX</b>	<b>-12.59</b>	<b>-16.69</b>	<b>-11.32</b>					
<b>MIN</b>	<b>-18.90</b>	<b>-39.11</b>	<b>-18.92</b>			<b>MIN</b>	<b>-18.84</b>	<b>-39.53</b>	<b>-17.21</b>					
<b>AVG</b>	<b>-15.25</b>	<b>-25.06</b>	<b>-14.76</b>			<b>AVG</b>	<b>-15.21</b>	<b>-24.64</b>	<b>-13.94</b>					
<b>SD</b>	<b>1.54</b>	<b>5.18</b>	<b>1.31</b>			<b>SD</b>	<b>1.45</b>	<b>5.36</b>	<b>1.20</b>					
Remark : No mechanical damage														
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 : Temperature Cycling Lot No. : 8A17000955

Temperature Cycling ( -55°C to 125°C / 1000 cycles )														
PreTest						PosTest						Result		
No.	S11	S11	S11			No.	S11	S11	S11					
	2.67GHz	2.7425GHz	2.82GHz				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.	

# 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 : Temperature Cycling Lot No. : 8A17000955

Temperature Cycling ( -55°C to 125°C / 1000 cycles )														
PreTest						PosTest						Result		
No.	S11	S11	S11			No.	S11	S11	S11					
	2.67GHz	2.7425GHz	2.82GHz				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.	

# 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 : Temperature Cycling      Lot No. : 8A17000955

Temperature Cycling ( -55°C to 125°C / 1000 cycles )														
PreTest						PosTest						Result		
No.	S11	S11	S11			No.	S11	S11	S11			No.	Accc/Rej	SMP
	2.67GHz	2.7425GHz	2.82GHz				2.67GHz	2.7425GHz	2.82GHz					
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.	
<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>			<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>					
MAX	<b>-12.52</b>	<b>-17.60</b>	<b>-12.40</b>			MAX	<b>-12.68</b>	<b>-16.81</b>	<b>-10.55</b>					
MIN	<b>-18.93</b>	<b>-30.24</b>	<b>-17.36</b>			MIN	<b>-18.30</b>	<b>-30.53</b>	<b>-16.98</b>					
AVG	<b>-14.99</b>	<b>-22.44</b>	<b>-14.56</b>			AVG	<b>-15.14</b>	<b>-22.22</b>	<b>-13.82</b>					
SD	<b>1.37</b>	<b>2.83</b>	<b>1.18</b>			SD	<b>1.26</b>	<b>2.98</b>	<b>1.20</b>					
Remark : No mechanical damage														
Verified : <b>Rainii Lu</b>							Checked : <b>Michelle Lee</b>							



# 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 : Moisture resistance Lot No. : 8A17000955

Moisture resistance															
65°C / 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.	

# 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 : Moisture resistance Lot No. : 8A17000955

Moisture resistance														
65°C / 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.	

# 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 : Moisture resistance      Lot No. : 8A17000955






Moisture resistance														
65°C / 80~100%RH,24hrs / cycle,total 10Cycles														
PreTest					PosTest					Result				
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							

# 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 : 2009/6/24 Type : RFANT5220110A0 Report No. : AEC-Q200  
Test Item : External Visual Lot No. : 8A17000955

External Visual		
No.	Photo	Result
1		<b>Acc.</b>
2		<b>Acc.</b>
3		<b>Acc.</b>
4		<b>Acc.</b>
5		<b>Acc.</b>
Specification : <b>No remarkable defect</b>		
Verified : <b>Rainii Lu</b>		Checked : <b>Michelle Lee</b>

# 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 : 2009/5/26      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		
No.	S11	S11	S11			No.	S11	S11	S11			No.	Acc/Rej	SMP
	2.67GHz	2.7425GHz	2.82GHz				2.67GHz	2.7425GHz	2.82GHz					
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 : <span style="font-size: 1.2em; font-weight: bold; margin-left: 50px;">Rainii Lu</span>	Checked : <span style="font-size: 1.2em; font-weight: bold; margin-left: 50px;">Michelle Lee</span>
---	---

# 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		
No.	S11	S11	S11			No.	S11	S11	S11			No.	Acc/Rej	SMP
	2.67GHz	2.7425GHz	2.82GHz				2.67GHz	2.7425GHz	2.82GHz					
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 : <span style="float: right; font-weight: bold;">Rainii Lu</span>	Checked : <span style="float: right; font-weight: bold;">Michelle Lee</span>
--	--

# 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°C *10±1sec														
Pre Test						Post Test						Result		
No.	S11	S11	S11			No.	S11	S11	S11			No.	Acc/Rej	SMP
	2.67GHz	2.7425GHz	2.82GHz				2.67GHz	2.7425GHz	2.82GHz					
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°C / dwell time 15min / Max transfer time 20 sec / 300cycles														
Pre Test						Post Test						Result		
No.	S11	S11	S11			No.	S11	S11	S11			No.	Acc/Rej	SMP
	2.67GHz	2.7425GHz	2.82GHz				2.67GHz	2.7425GHz	2.82GHz					
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 : <span style="font-size: 1.2em; font-weight: bold;">Rainii Lu</span>	Checked : <span style="font-size: 1.2em; font-weight: bold;">Michelle Lee</span>
--	--



**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 : 2009/4/11 Type : RFANT5220110A0 Report No. : AEC-Q200  
Test Item : Solderability Lot No. : 8A17000955

<b>Solderability</b>															
<b>( Steam 1 hrs then 215°C / 5sec solder dipping. )</b>															
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 : <p align="center">Rainii Lu</p>								Checked : <p align="center">Michelle Lee</p>							

# 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 : 2009/4/11                      Type : RFANT5220110A0                      Report No. : AEC-Q200  
 Test Item : Solderability                      Lot No. : 8A17000955

Solderability														
( Steam 1 hrs then 260°C / 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 : <span style="float: right; font-weight: bold;">Rainii Lu</span>	Checked : <span style="float: right; font-weight: bold;">Michelle Lee</span>
--	--

# 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 : 2009/5/29      Type : RFANT5220110A0      Report No. : AEC-Q200  
 Test Item : Electrical Characteristic      Lot No. : 8A17000955

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

# 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 : 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.	
<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>			<b>SPEC.</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>	<b>&lt;-10dB</b>					
MAX	<b>-12.63</b>	<b>-18.73</b>	<b>-13.07</b>			MAX	<b>-13.38</b>	<b>-18.63</b>	<b>-10.08</b>					
MIN	<b>-16.92</b>	<b>-33.88</b>	<b>-16.96</b>			MIN	<b>-19.50</b>	<b>-33.25</b>	<b>-16.79</b>					
AVG	<b>-14.63</b>	<b>-23.93</b>	<b>-14.99</b>			AVG	<b>-16.21</b>	<b>-23.89</b>	<b>-13.12</b>					
SD	<b>0.96</b>	<b>3.26</b>	<b>0.78</b>			SD	<b>1.37</b>	<b>3.55</b>	<b>1.45</b>					

Remark : No mechanical damage

Checked :

審核 (Verified) : Rainii Lu

檢驗 (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 : 2009/5/23      Type : RFANT5220110A0      Report No. : AEC-Q200  
 Test Item : Terminal strength      Lot No. : 8A17000955

<b>Terminal strength</b>				
<b>Force: 1.8kg for 60 sec</b>				
	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 :				
<b>No visual damage or removal of the termination</b>				
Verified :	Rainii Lu	Checked :	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TCP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.





檢印	擔當
	

# 【信賴性檢討報告書】

No:CE10G08

件名：藍芽天線信賴性評價					
RoHS 對應 <input type="checkbox"/> 有 <input type="checkbox"/> 無 <input type="checkbox"/> ITS <input type="checkbox"/> SGS <input type="checkbox"/> ETC <input checked="" type="checkbox"/> V01 <input type="checkbox"/> 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	鄭智燦	試驗數	40 PCS
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
		

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，試驗前後比較一接收距離 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°C 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°C 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°C, 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°C/+85°C 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°C 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

# Chip L.C.R新部品承認CHK LIST

2009.04.21



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	此廠商是否已為公司所承認?RoHS是否具附SGS報告?(精密DATA)	○	
2	是否為安全部品(15W/V以上)須具付UL NO及難燃等級等要求之表示?	—	
3	此廠商是否已為公司所承認?	○	
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)	○	
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			