

品名 P/N : ACE-3505-P1-PF-S


1.Explanation of part number :

AC	E	-	3505	-	P1	-	PF	-	S
Product Type	Center Frequency/Band Code		Product Code (Unit: mm)		Design Revision Code		Antenna Type		Special Code
Chip Antenna	A: 2.4GHz E: Cellular G:868MHz H:915MHz L:5GHz M3:2G+5GHz N:NFC		Per 2 digits of length, width e.g.: 3505 35*5 (Length * Width)		P1:Rev.1		CC: Coupling Ceramic GF: On Ground, FR4 LC: Loop ceramic MC: Monopole Ceramic MF: Monopole FR4 PF: PIFA FR4		S: RoHS Compliant

2.Electrical Specification :

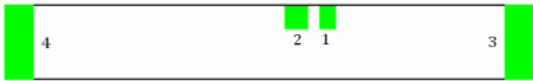
	Specification
Working Frequency Range	698 ~ 960 MHz / 1710 ~ 2690 MHz
Gain	2.17 dBi / 3.63 dBi
VSWR	3.0 max.
Polarization	Linear
Feed Impedance	50Ω
Operating Temperature	-40 ~ +85 °C

Ant.			Ant.		
Frequency (MHz)	Efficiency (%)	Peak gain (dBi)	Frequency (MHz)	Efficiency (%)	Peak gain (dBi)
690	37.49	-1.64	2170	72.29	2.81
820	40.96	-1.19	2300	57.55	2.20
960	40.37	-0.95	2500	54.66	2.73
1710	50.42	0.39	2690	56.25	2.24
1940	72.24	2.82			




UNLESS OTHER SPECIFIED TOLERANCES ON : X=N/A X.X=N/A X.XX=N/A ANGLES=N/A HOLEDIA=N/A			INPAQ TECHNOLOGY CO., LTD.	
SCALE : N/A	UNIT : mm			
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DESIGNED BY : 黃瑞郎	APPROVED BY : 陳振榮			
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3. Antenna Drawing :

CONSTRUCTION

Figure	PIN	Connection
 <p>BOTTOM View</p>	1	Feeding
	2	Soldering Pad
	3	Soldering Pad
	4	Soldering Pad

DIMENSION

Figure	Symbol	Dimension (mm)
 <p>TOP View</p>	L	35.0 ± 0.20
 <p>SIDE View</p>	W	5.0 ± 0.20
 <p>BOTTOM View</p>	T	3.0 ± 0.20

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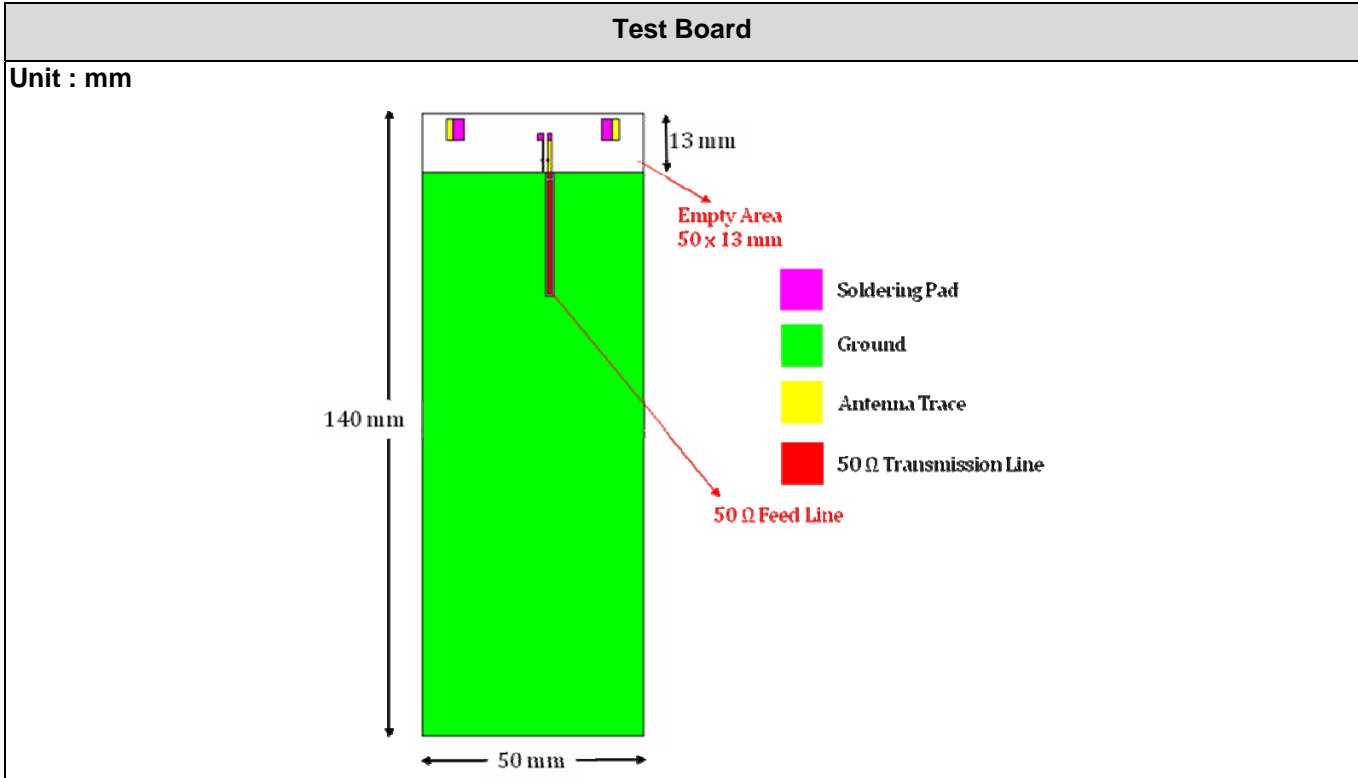
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DOCUMENT NO.

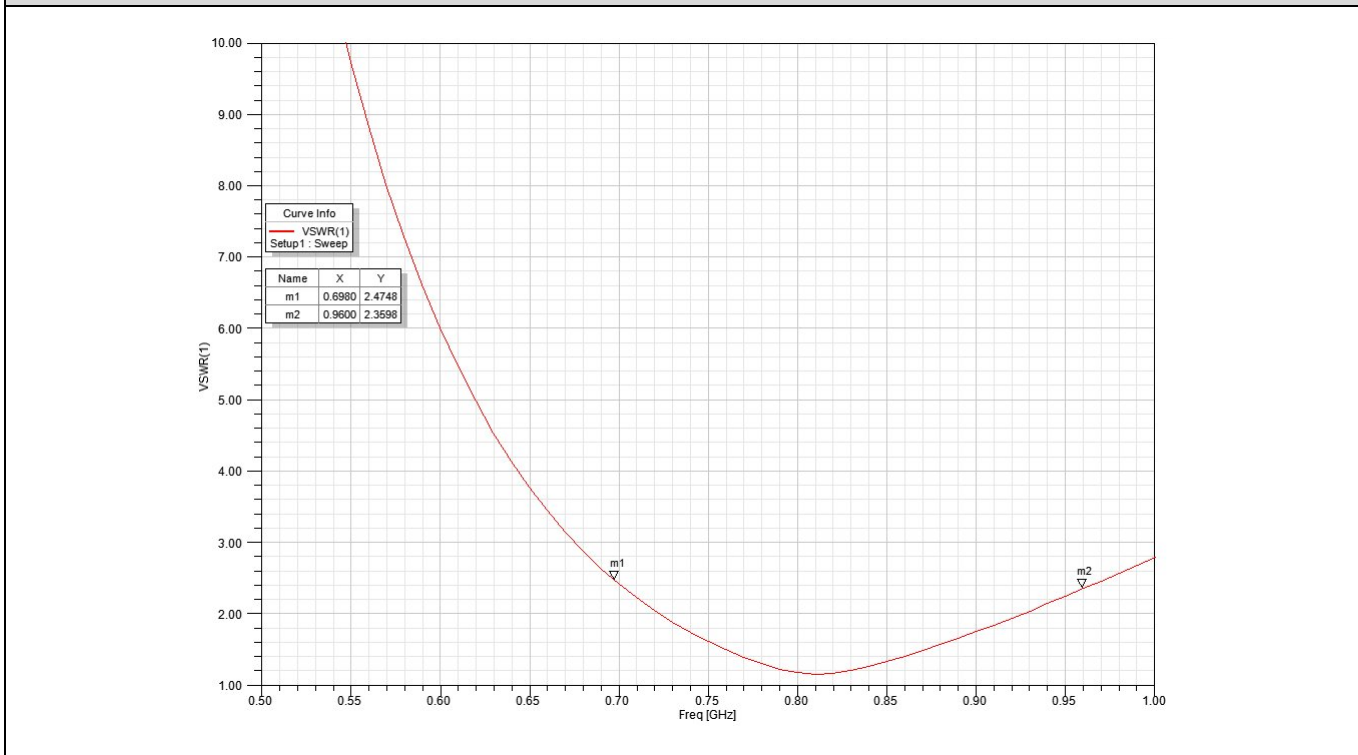
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4. Performance Report :

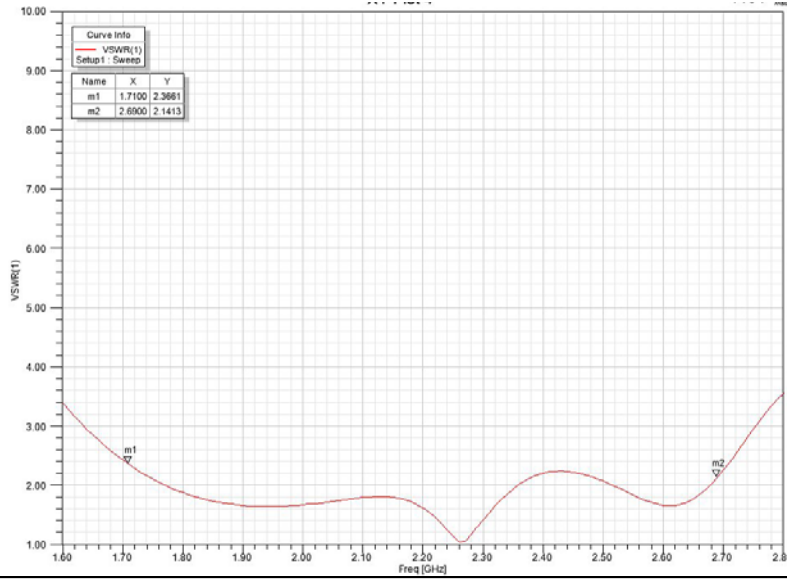


Antenna VSWR on Test Board

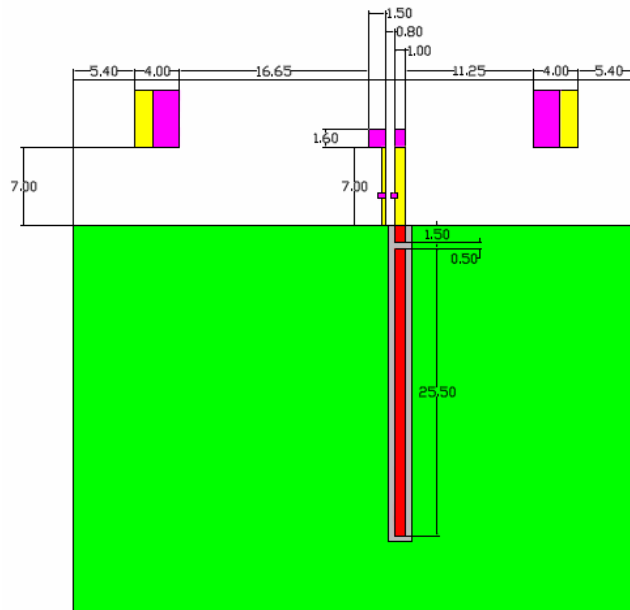


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Antenna VSWR on Test Board



SOLDER LAND PATTERN DESIGN



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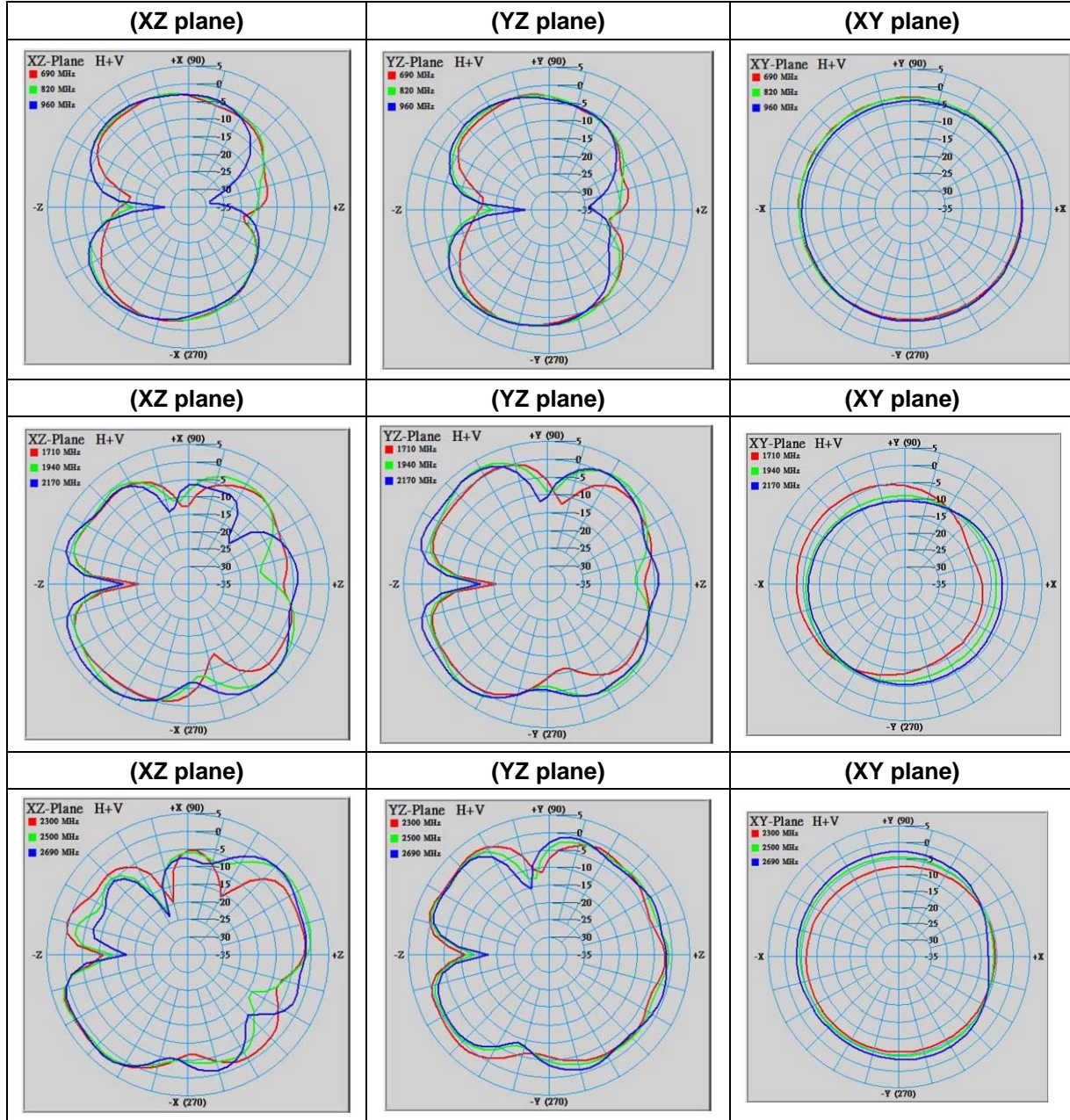
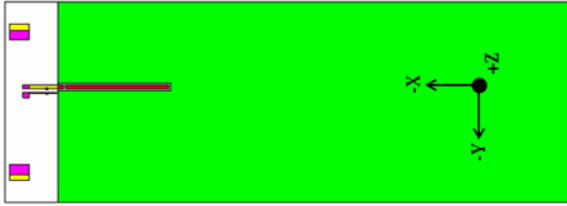
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RADIATION PATTERN



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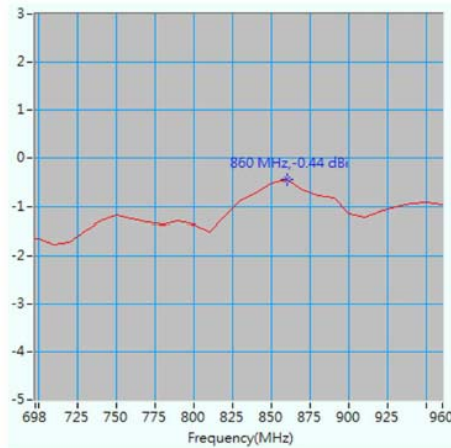
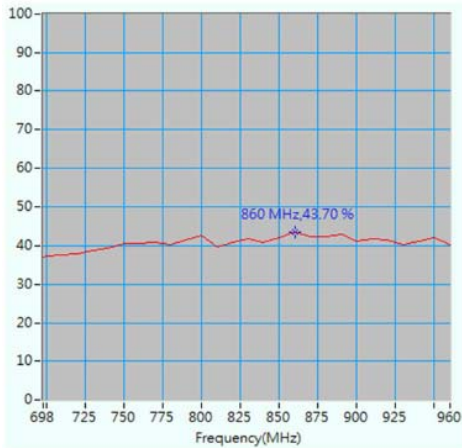
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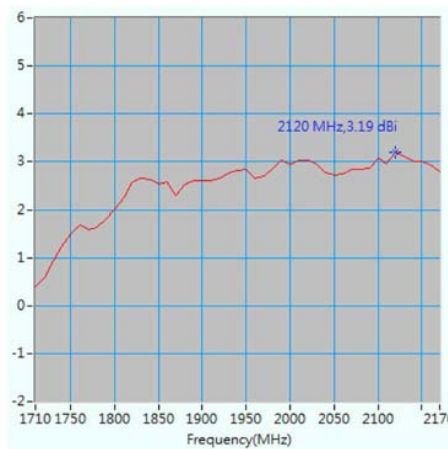
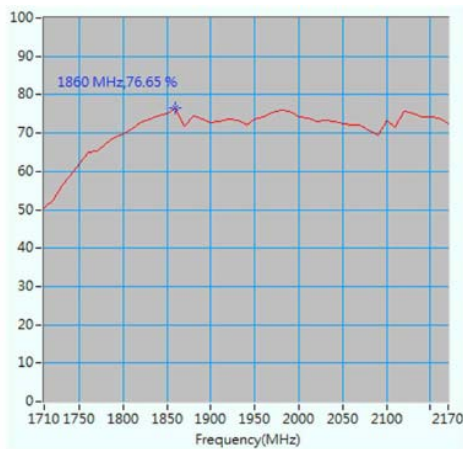
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Antenna Efficiency and Peak Gain



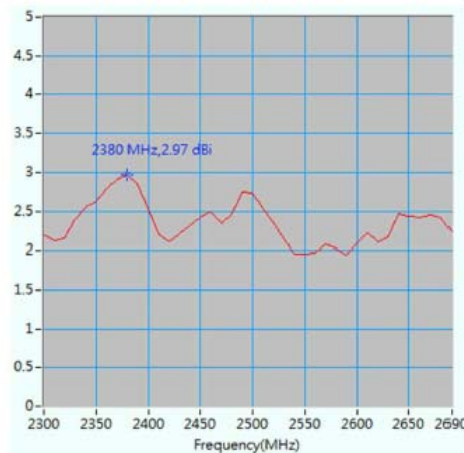
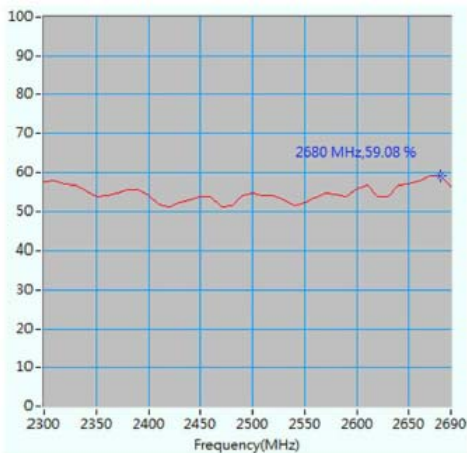
Maximum Efficiency at 860 MHz : 43.7 %

Maximum Peak Gain at 860 MHz : -0.44 dBi




Maximum Efficiency at 1860 MHz : 76.65%

Maximum Peak Gain at 2120 MHz : 3.19 dBi



Maximum Efficiency at 2680 MHz : 59.08 %

Maximum Peak Gain at 2380 MHz : 2.97 dBi

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3. 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°C, 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.

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

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