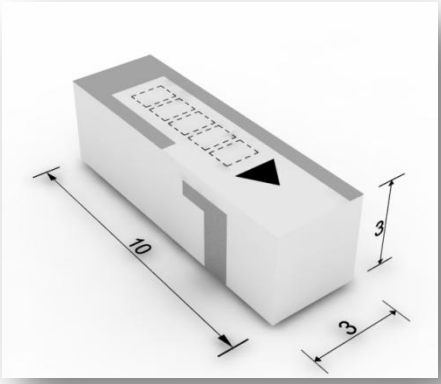
DATASHEET 2JE07d



Application

WLAN Dual-band(2.4GHz/5GHz)

Features

PIFA structure
Size (10*3*3mm^3)
Performance optimizing
with tuning the conductive pattern on the ceramic body
SMT available under Pb-free condition
RoHS compliant

2J s.r.o.
Štefánikova 61
085 01 Bardejov
Slovak Republic

IČO /reg. No./ 36 504 700
IČ DPH /VAT/ SK2021991961
Obchodný register Prešov,vložka č. 16449/P

tel.: +421 54 4880130
fax : +421 54 4882971
info@2j-antennae.com
http://www.2j-antennae.com

Revision History

Rev. No	Date	Title	Contents	Page
0	'08.10.20		New Published	
1	'09.09.03	Format	Changed document format	
2	'11.05.18		Changed PCB Design Guide	4
3	2011.06. 23		Changed Typical Measurement Result	5

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1. Specifications

1.1 Electrical Specifications

No	Item	Spec.		Remark
1	Frequency Range [GHz]	2.400 ~2.485 / 5.150~5.875		
2	VSWR	Max 3.0:1		
3	Avg. Gain [dBi]	2.45GHz	typ. -0.1	
		5.50Ghz	typ. -1.6	
4	Efficiency [%]	2.45GHz	typ. 90	
		5.50Ghz	typ. 68	
5	Polarization	Linear		
6	Impedance [Ω]	Nominal 50		

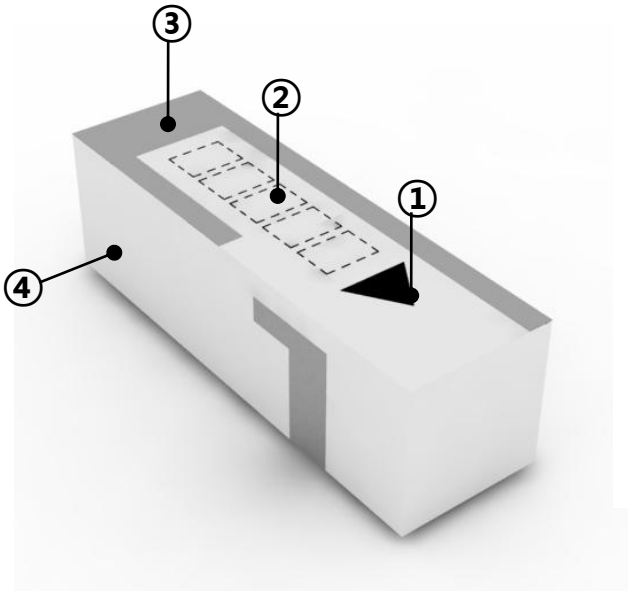
✓ The results are measured on the 100x50mm^2 evaluation board(EVB).
✓ See Page 6. for more detail gain parameter

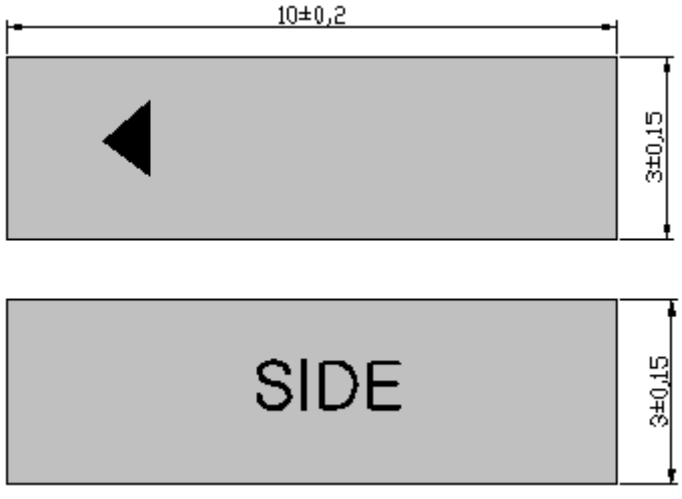
1.2 Mechanical Specifications

No	Item	Spec.	Remark
1	Dimensions (LxWxH)	10.0x3.0x3.0 mm^3	
2	Unit Weight	typ. 0.3g	
3	Operating Temperature	-35 ~ +85 ℃	

1.3 Appearance & Material

No	Item	Function	Material
①	Marking	Feeding Index	Ink
②	Marking	Week number	Ink
③	Electrode	Radiation Element	Ag
④	Ceramic Body	-	Ceramic





[unit : mm]

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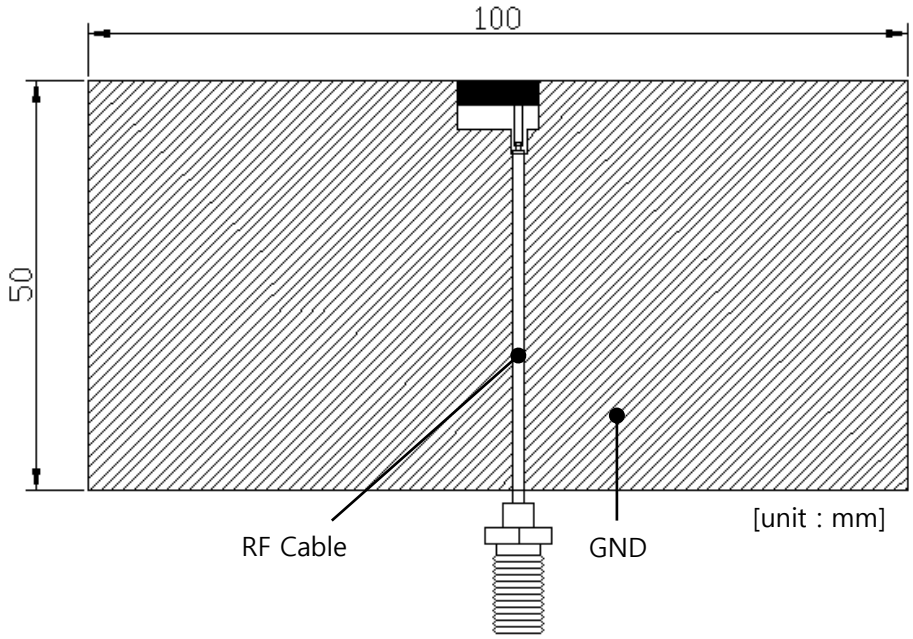
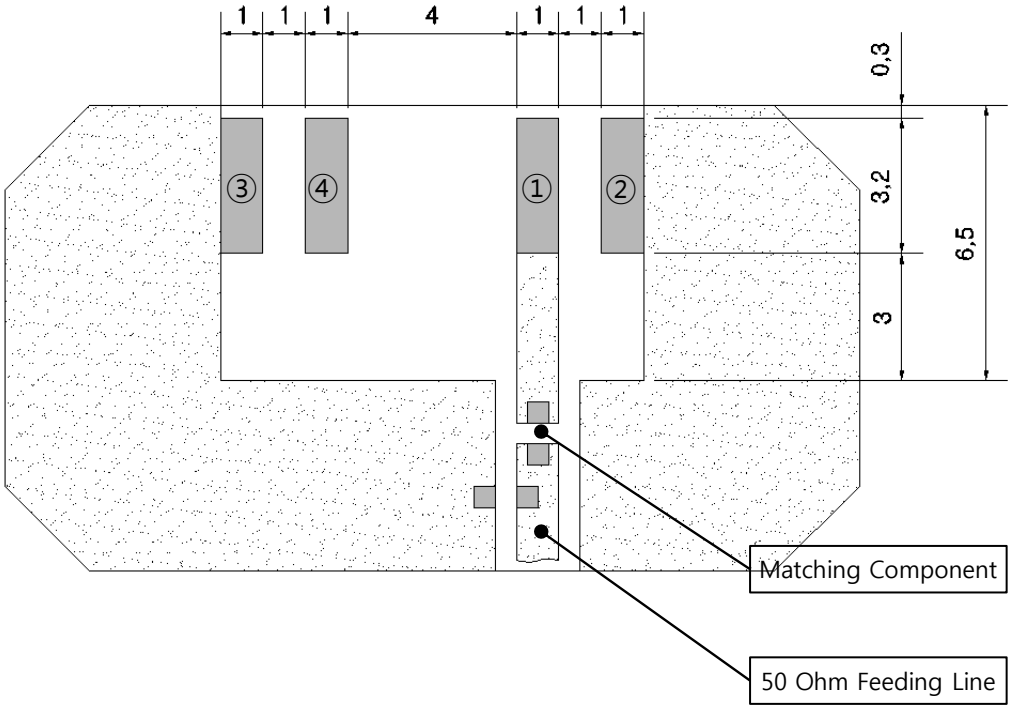
2. PCB Design for Test

2.1 Evaluation Board Dimension



✓ Evaluation board size ~ 100x50
✓ Fill Cut Area (GND Clearance) ~ 10.0x6.5

2.2 PCB Design Guide

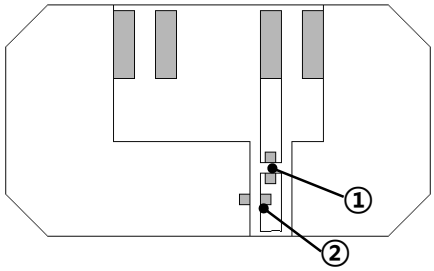


No	Pin Assignment
①	Feeding
②	GND
③	GND
④	N/C

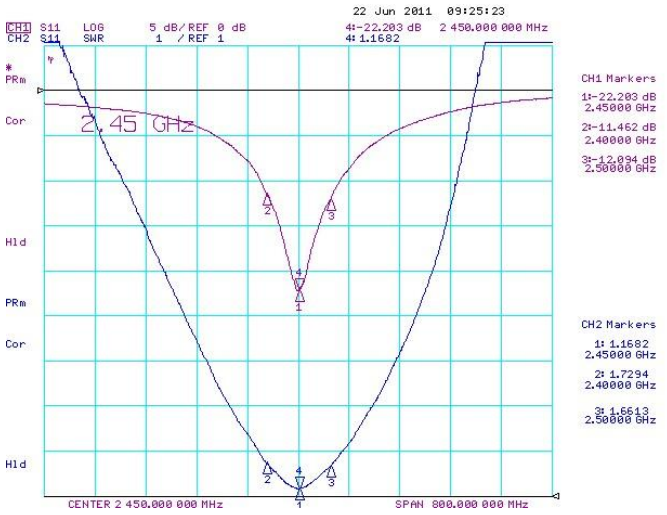
[unit : mm]

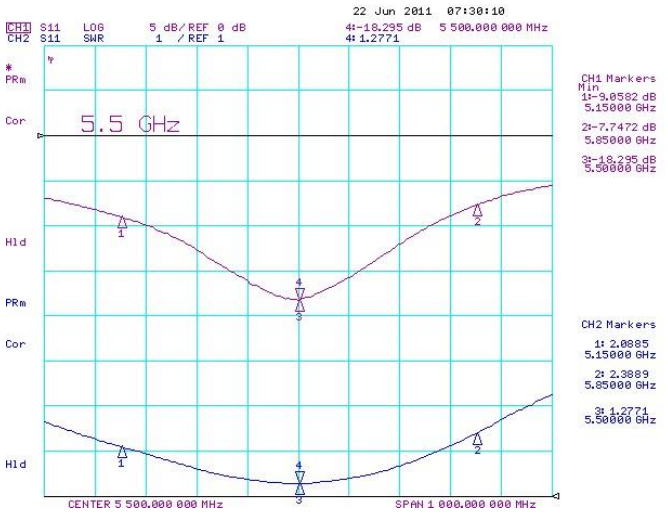
3. Measurement Result

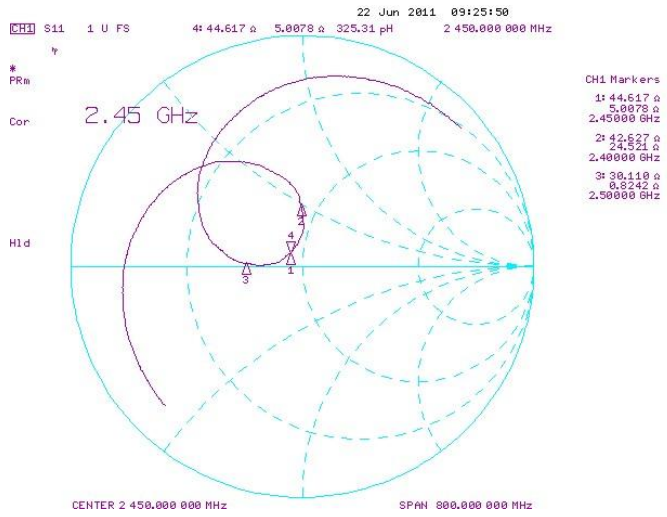
3.1 Typical Measurement Result (VSWR/RL, Smithchart)

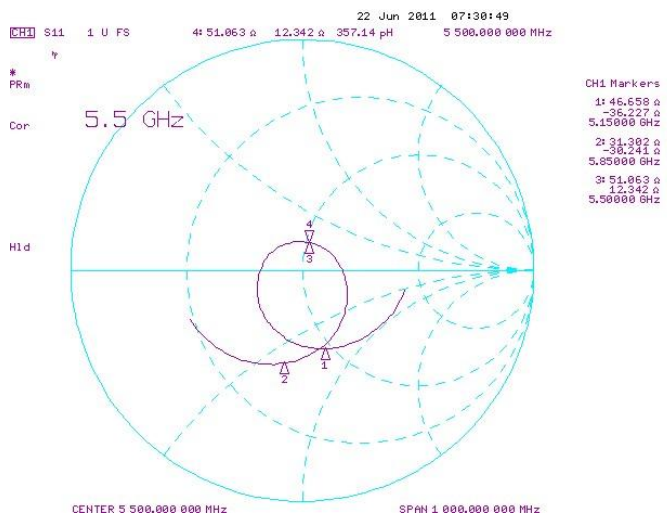


No	Matching Value
①	100 pF
②	N.C





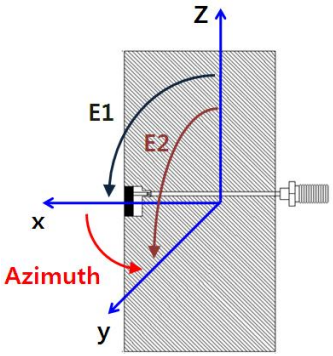


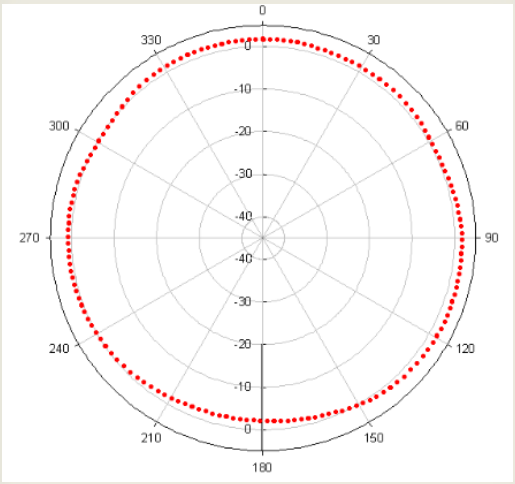


✓ The results are measured on the 100x50mm^2 evaluation board(EVB).

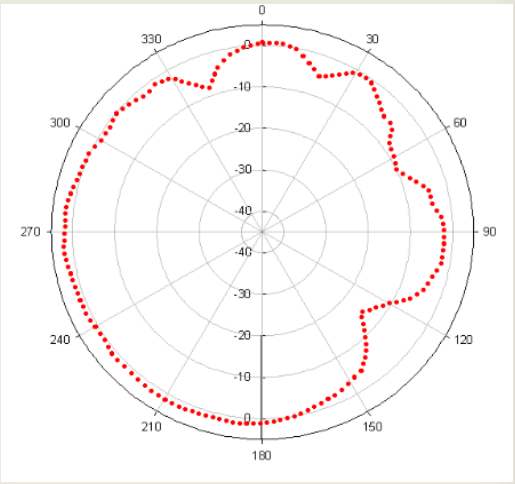
3.2 Typical Measurement Result (Gain, Radiation Pattern)

	Peak Gain (dBi)	Avg. Gain (dBi)	Efficiency(%)
Azimuth	2.06	0.76	98
Elevation 1	2.45	-1.10	
Elevation 2	3.49	0.72	

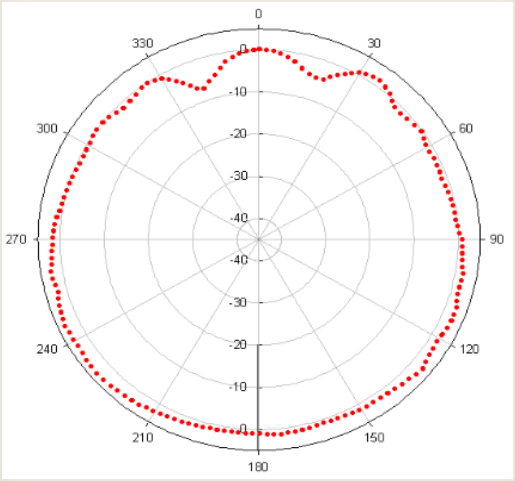




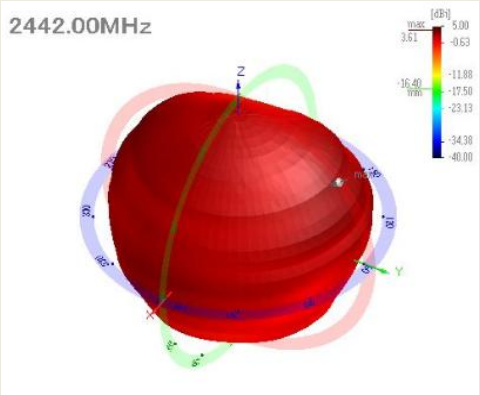
[Azimuth plane @2.45GHz]



[Elevation1 plane @2.45GHz]



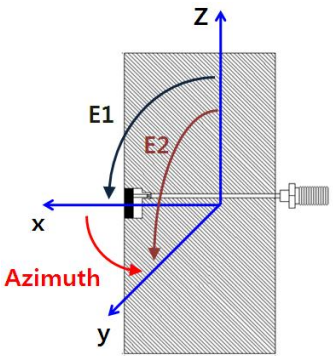
[Elevation2 plane @2.45GHz]

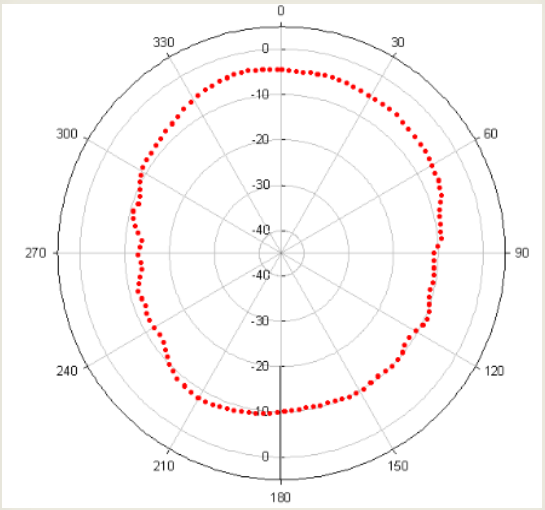


[3D Radiation Pattern]

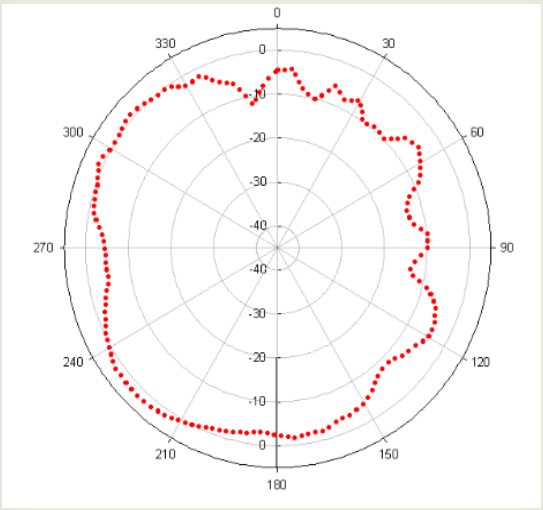
3.2 Typical Measurement Result (Gain, Radiation Pattern)

	Peak Gain (dBi)	Avg. Gain (dBi)	Efficiency(%)
Azimuth	-4.05	-7.85	67
Elevation 1	2.22	-2.69	
Elevation 2	2.64	-1.23	

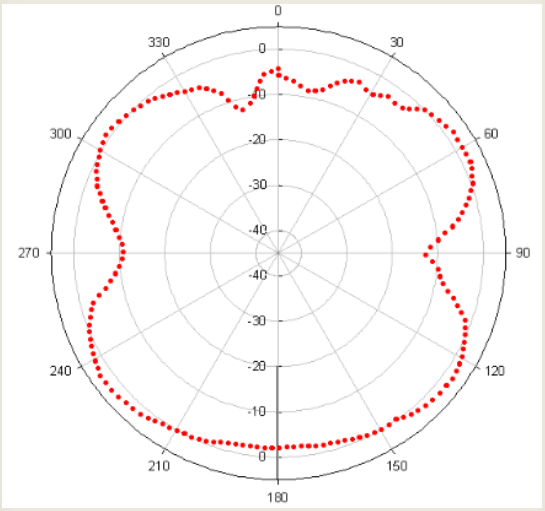




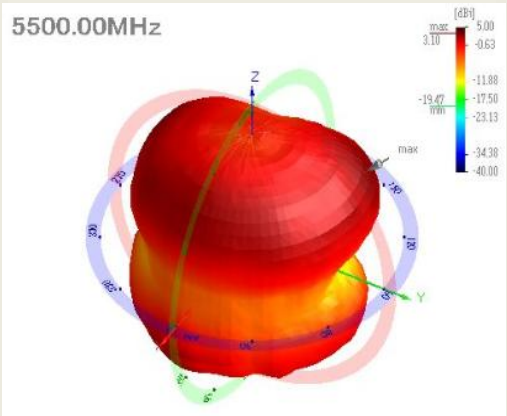
[Azimuth plane @5.5GHz]



[Elevation1 plane @5.5GHz]



[Elevation2 plane @5.5GHz]



[3D Radiation Pattern]

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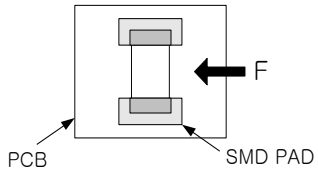
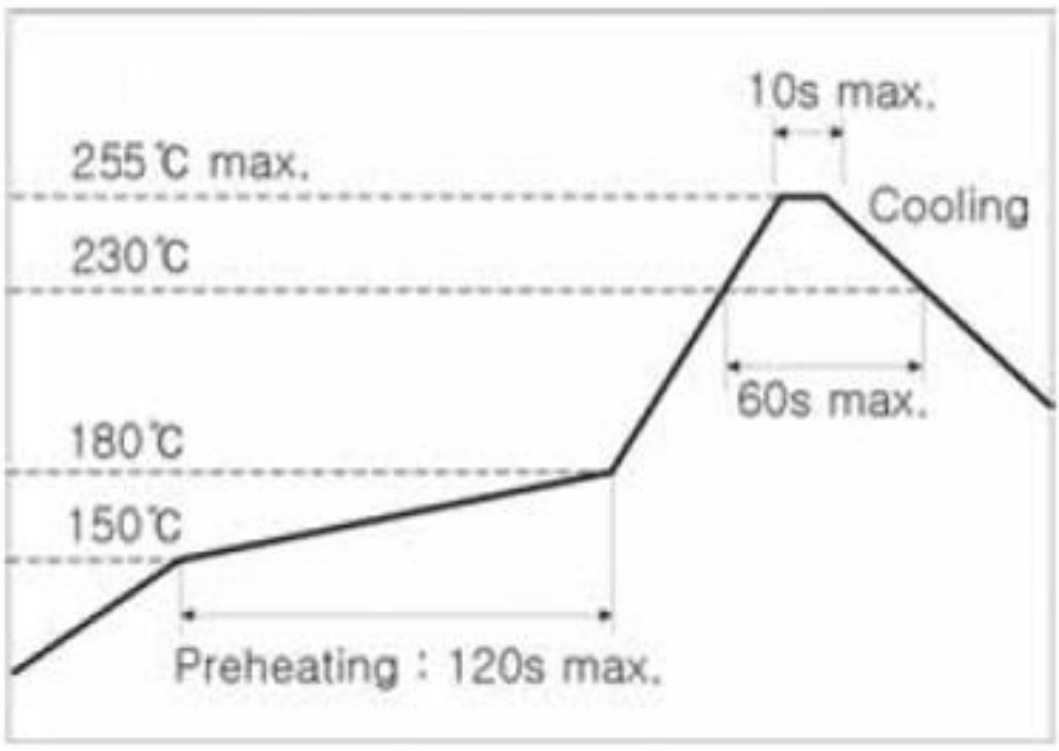
4. Reliability

No	Item	Test Condition	Test Requirements
1	Adhesive Strength of Termination	1. Applied force on SMT chip till detached point from PCB. 	1. No mechanical damage by applied force 2. Strength (F) > 5 kgf
2	Thermal Shock (Cycle)	1. Step 1 : -40 ± 3℃, 30 min Step 2 : +125 ± 3℃, 30 min 2. Number of cycle : 30	1. No visual damage 2. Within electric spec (VSWR)
3	High Temperature Resistance	1. Temperature : +125 ± 5℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
4	Low Temperature Resistance	1. Temperature : -40 ± 5℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
5	Humidity	1. Humidity : 85 % RH Temperature : +85 ± 3℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)

5. Soldering Reflow Profile



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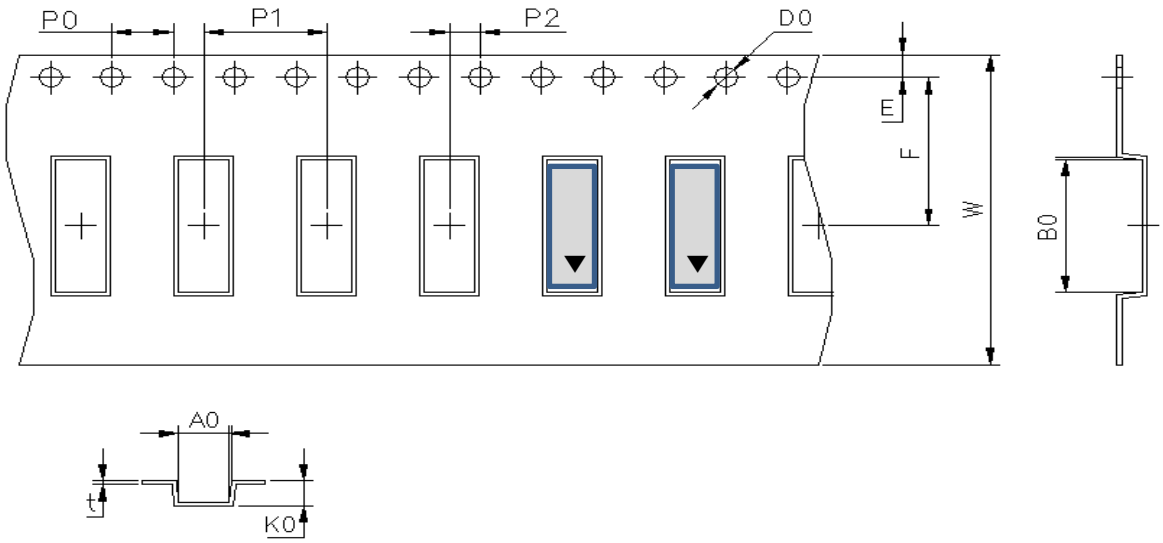
6. Packaging

6.1 Carrier Tape Dimension



Item	Spec.	Item	Spec.	Item	Spec.
A0	3.30 ±0.10	P0	4.00 ±0.10	E	1.75 ±0.10
B0	10.30 ±0.10	P1	8.00 ±0.10	F	11.50 ±0.10
K0	3.25 ±0.10	P2	2.00 ±0.10	W	24.00 ±0.30
D0	1.55 ±0.05	-	-	t	0.30 ±0.05

6.2 Packaging Quantity

Item	Quantity	Dimension
Reel	2,000 ea	Φ13" * 24mm
Inner	4,000 ea (2 Reel)	350 * 350 * 90 (mm3)
Outer Box	12,000 ea (3 Inner Box)	390 * 390 * 280 (mm3)

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