



SPECIFICATION FOR APPROVAL

CUSTOMER: _____

CUSTOMER NO: _____

PART NAME: WIFI/BT 8070 SMD Antenna -Bipolar L

SUPPLIER NO: SY-8070-SY87L

Date: 2026.06.01

Q' TY: PCS

CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
Sypon	Jerry	Patrick



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1.Frequency

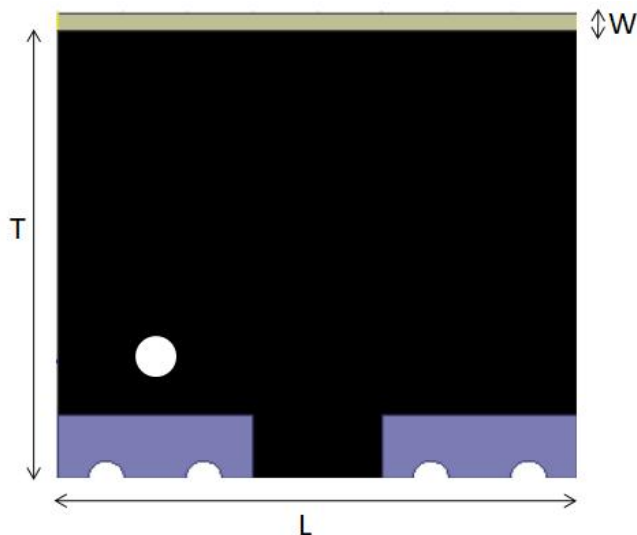
2.4GHz / 5GHz

2.Applications

For Miniaturized BT / Wi-Fi System

3.Dimensions (Unit : mm)

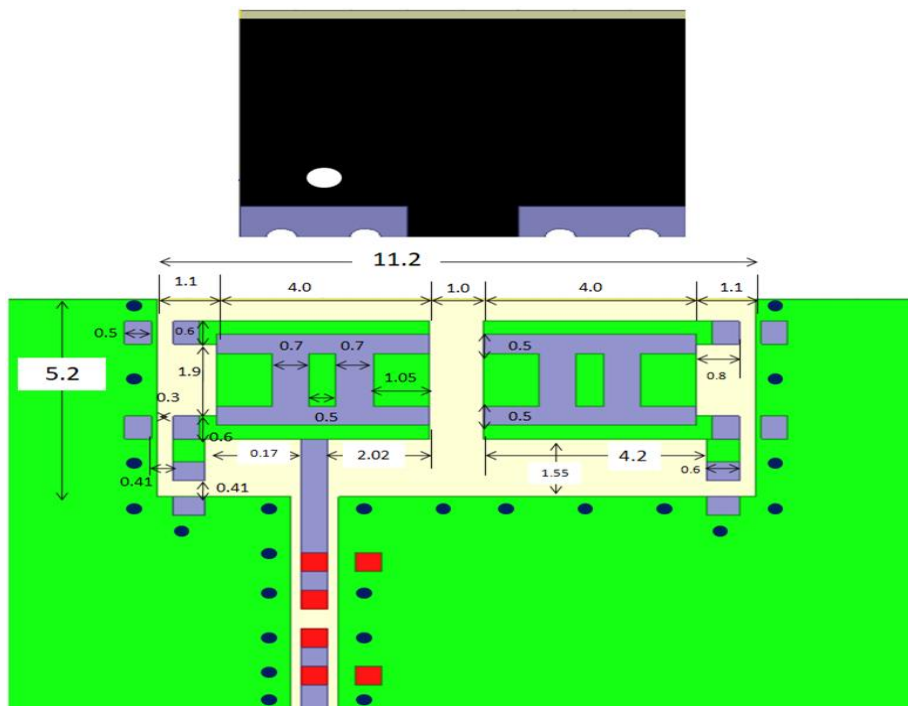
1). Over View :



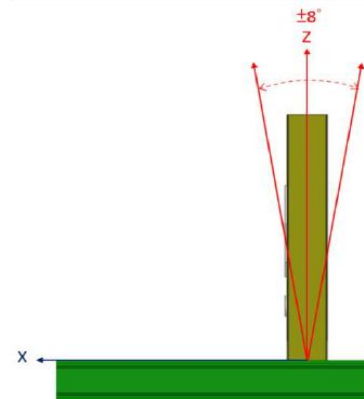
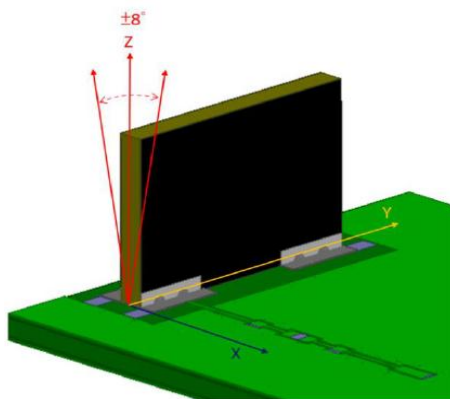
	Dimension (mm)
L	8.00 ± 0.2
W	1.65 ± 0.2
T	7.00 ± 0.2



2). PCB Layout (Unit : mm) :

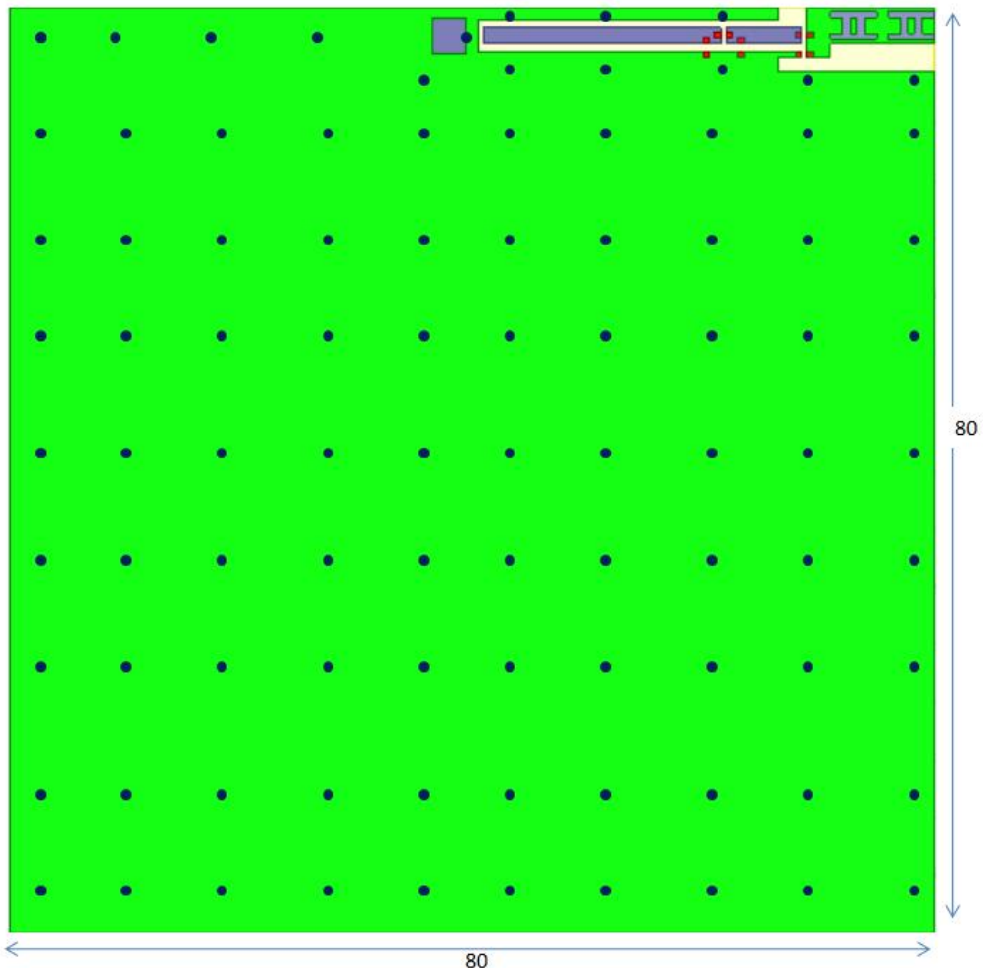
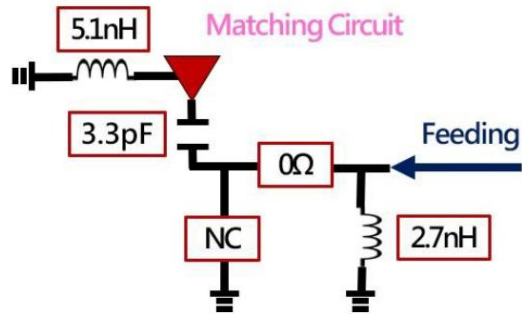


Antenna SMT Angle Tolerance





4.Evaluation Board Size and Matching Circuits

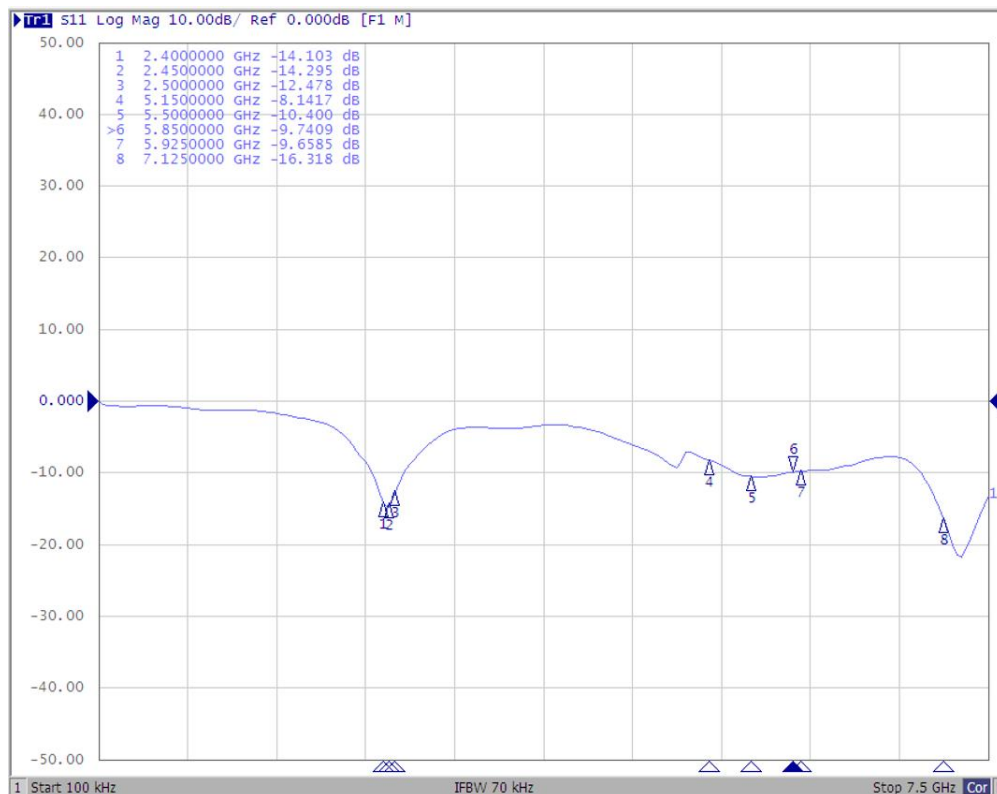




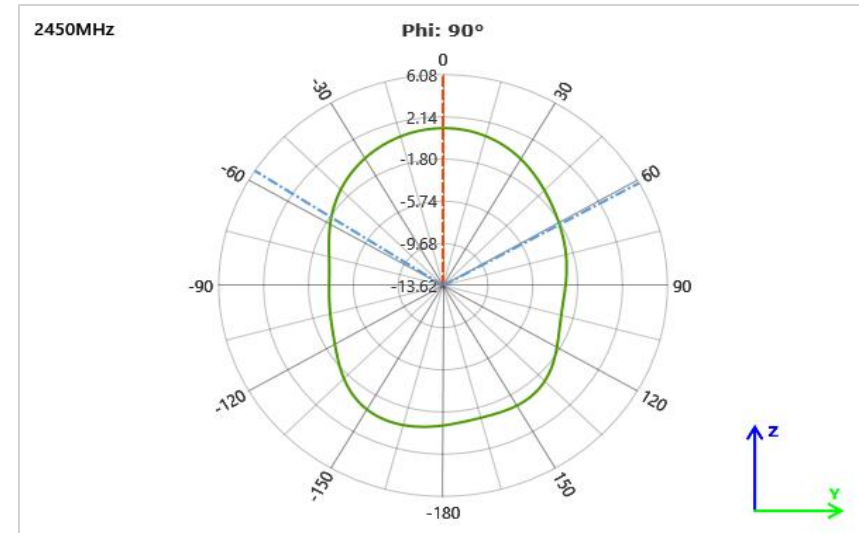
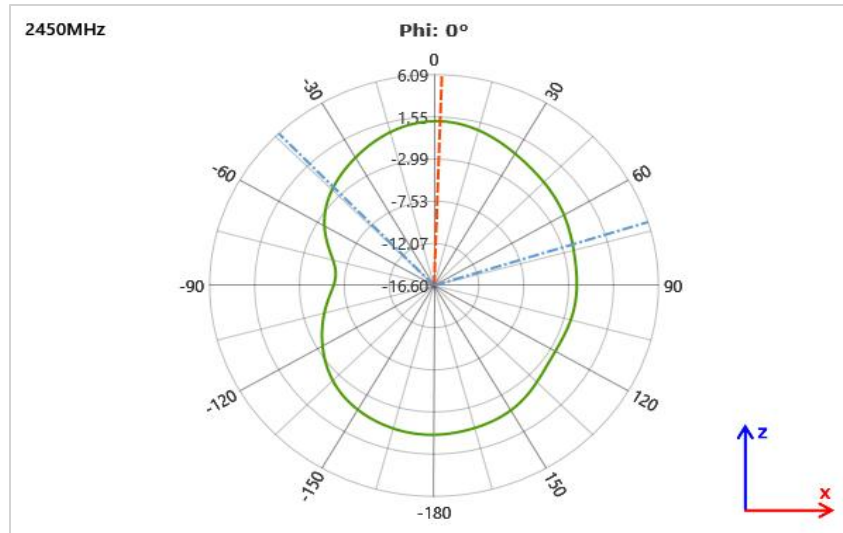
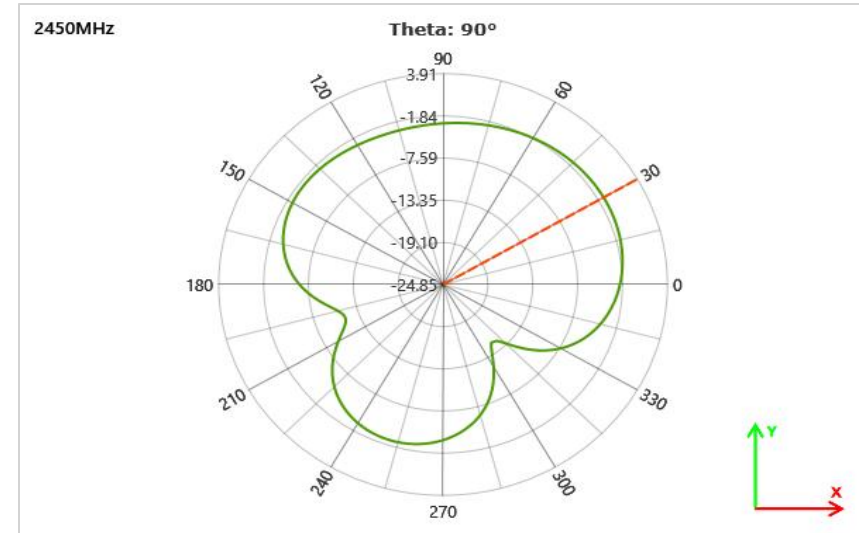
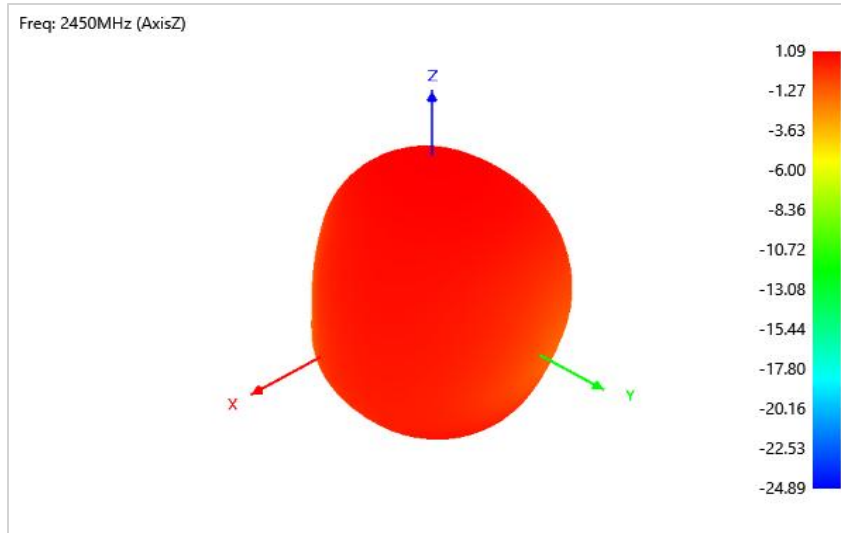
5. Electrical Characteristics

Specification		
Part Number	SY-8070-SY87L	
Central Frequency	2450 / 5500	MHz
Bandwidth	120 / 700 (Min.)	MHz
Return Loss	-7 (Max)	dB
Peak Gain	1.09 / 4.13	dBi
Impedance	50	Ohm
Operating Temperature	-40~+110	°C
Maximum Power	4	W
Resistance to Soldering Heats	10 (@ 260°C)	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional	
Termination	Cu / Sn (Leadless)	

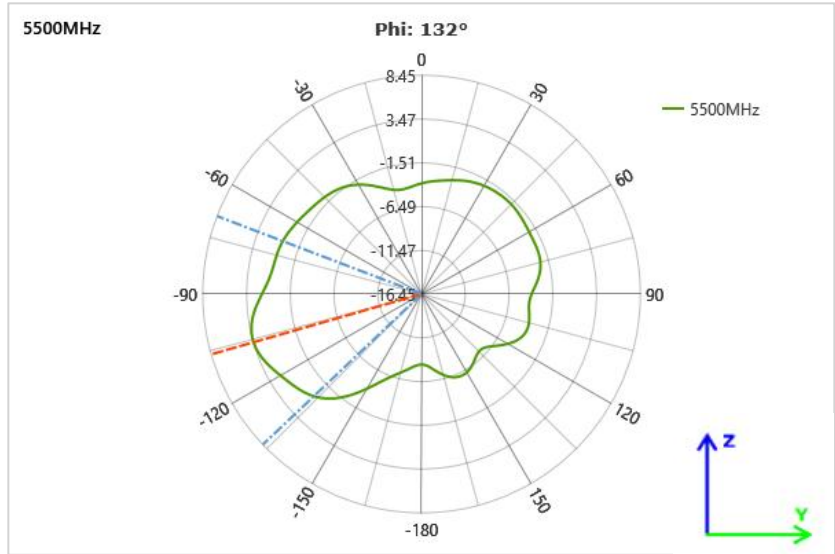
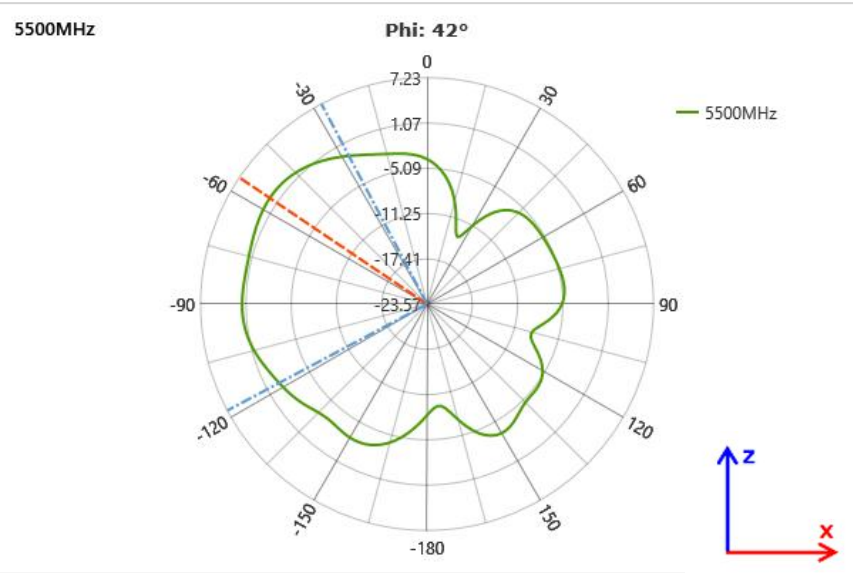
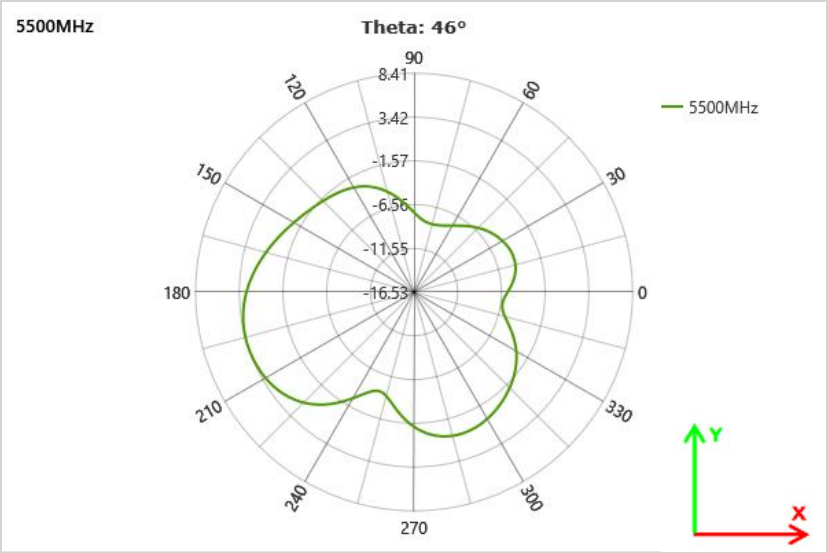
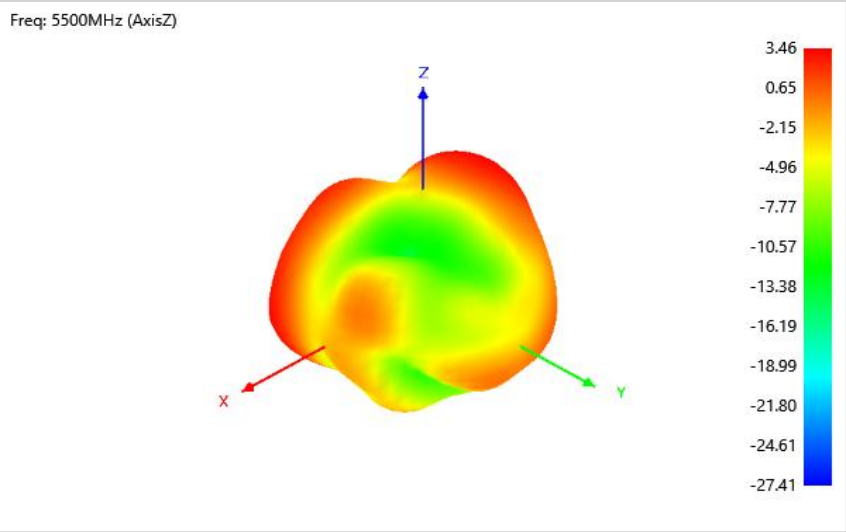
6. Return Loss (S11)



Radiation Pattern 2D & 3D



Radiation Pattern 2D & 3D

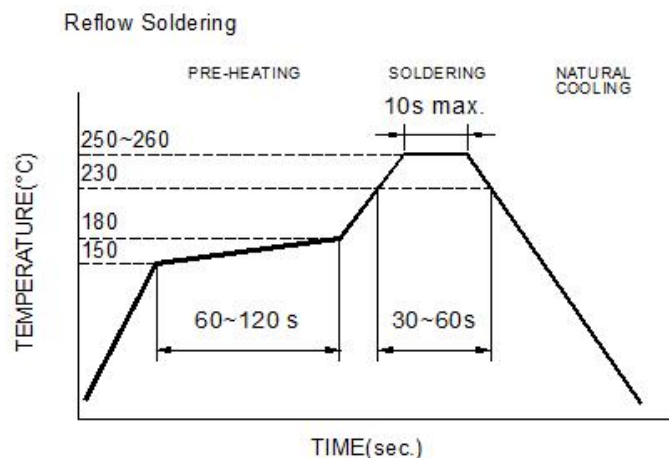


Gain /Efficiency

Frequency	Efficiency (%)	Gain (dBi)
2. 4GHz	57.39	0.54
2. 42GHz	63.07	0.67
2. 44GHz	65.02	1.06
2. 45GHz	63.63	1.09
2. 46GHz	62.16	1.03
2. 48GHz	59.89	1
2. 5GHz	57.28	0.85
5. 15GHz	67.43	3.99
5. 2GHz	60.66	3.42
5. 25GHz	62.57	3.7
5. 3GHz	69.97	3.85
5. 35GHz	61.32	3.15
5. 4GHz	63.2	3.3
5. 45GHz	70.42	4.13
5. 5GHz	62.5	3.46
5. 55GHz	63.7	4.03
5. 6GHz	67.96	4.12
5. 65GHz	57.95	3.4
5. 7GHz	58.87	3.54
5. 75GHz	60.03	3.7
5. 8GHz	56.03	2.94
5. 85GHz	52.82	3.15

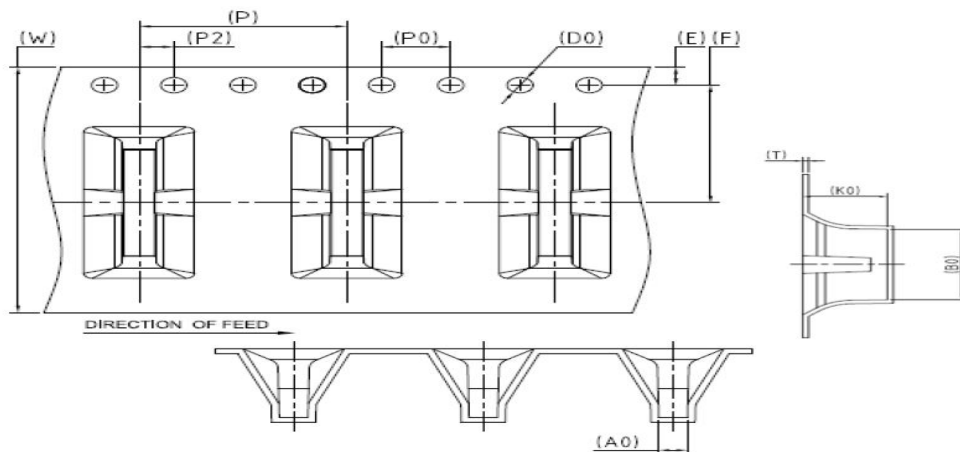


8.Reflow Soldering Standard Condition



9.Packaging and Dimensions

●Tape Specification

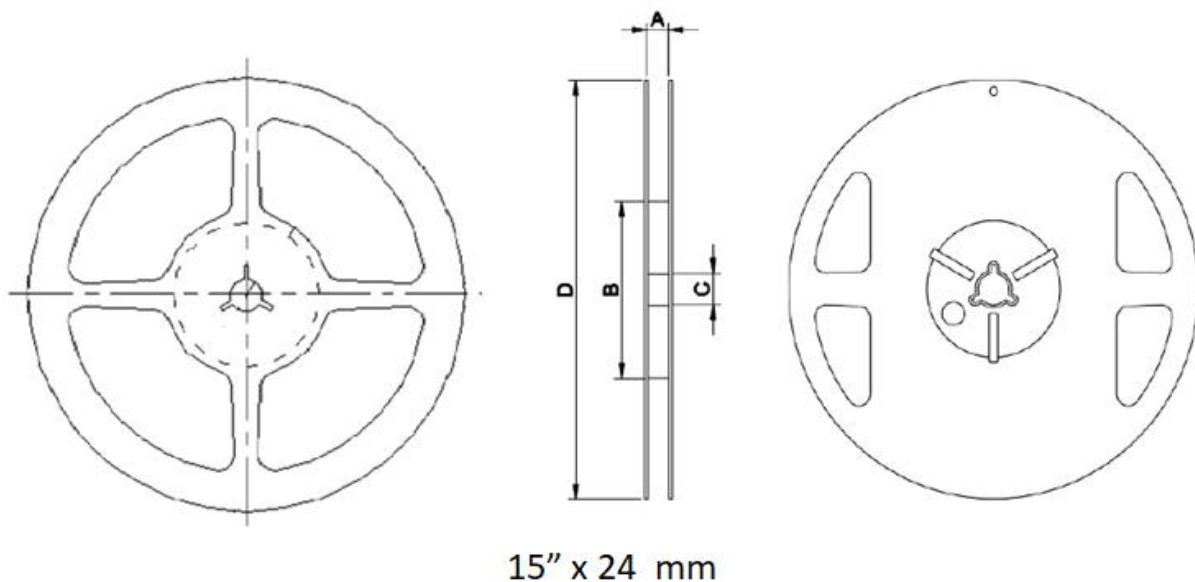


W	Ao	Bo	Ko	F	E	Do	Po	P	P2	t
24	1.8	8.4	7.4	11.5	1.75	1.5	4	12	2	0.5
±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05

● Remarks for Package

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

● Reel (1000 pcs/Reel)



Tape Width(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Chip/Reel(pcs)
24	24.0±0.5	99.5±1.0	13.5±0.5	380 ±1.0	1000



● Storage Period

a.Oxidizable Material, 12 months in vacuum sealed bag, please repack within 168 hours by re-seal the package treatment after using.

b.Storage Temperature Range : <30 degree C, Humidity : <60%RH

10.Dependability Test

Test item	Test condition / Test method	Specification
Solderability IEC 60068-2-58 GB/T2423.28	*Solder bath temperature : $240\pm5^{\circ}\text{C}$ *Immersion time : 2 ± 0.5 sec Solder : Sn96.5Ag3.0Gu0.5 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) JIS C5101	*Solder bath temperature : $260\pm5^{\circ}\text{C}$ *Leaching immersion time : 10 ± 1 sec Solder : Sn96.5 Ag3.0 Gu0.5 for lead-free.	Loss of metallization on the edges of each electrode shall not exceed 25%.
Resistance to soldering heat IEC 60068-2-58 GB/T2423.28	*Preheating temperature : $120\sim150^{\circ}\text{C}$, 1 minute. *Solder temperature : $260\pm5^{\circ}\text{C}$ *Immersion time : 10 ± 1 sec Solder : Sn96.5Ag3.0Gu0.5 for lead-free Measurement to be made after keeping at room temperature for 24 ± 2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. Loss of metallization on the edges of each electrode shall not exceed 25%.
Drop Test IEC 60068-2-32 GB/T2423.8 Customer' s specification.	*Height : 50 cm *Test Surface: Rigid surface of concrete or steel. *Times : 6 surfaces for each units ; 2 times for each side.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Vibration IEC 60068-2-6 GB/T 2423.10	*Frequency : 10Hz~55Hz~10Hz(1min) *Total amplitude : 1.5mm *Test times : 6hrs.(Two hrs each in three mutually perpendicular directions)	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.



Adhesive Strength of Termination IEC60068-2-21 GB/T 2423.6	*Pressurizing force : 5N($\leq$ 0603) ; 10N(>0603) *Test time:10 $\pm$ 1 sec	No remarkable damage or removal of the termination.
Bending test IEC 60068-2-21 GB/T 2423.29	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 2mm and then pressure shall be maintained for 10 $\pm$ 1 sec. Measurement to be made after keeping at room temperature for 24 $\pm$ 2 hours.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Temperature cycle IEC60068-2-14 GB/T 2423.22	30 minutes at -40 $\pm$ 2 $^{\circ}$ C. 10~15 minutes at room temperature. 30minutes at +85 $\pm$ 2 $^{\circ}$ C. 10~15 minutes at room temperature. Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24 $\pm$ 2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
High temperature IEC 60068-2-2 GB/T2423.2	*Temperature : 85 $\pm$ 2 $^{\circ}$ C. *Test duration : 500+24/-0 hours. Measurement to be made after keeping at room temperature for 24 $\pm$ 2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics.
Humidity (steady conditions) IEC60068-2-3 GB/T 2423.3	*Humidity : 85 $\pm$ 5%R.H. *Temperature : 85 $\pm$ 2 $^{\circ}$ C. *Time : 500+24/-0 hrs. Measurement to be made after keeping at room temperature for 24 $\pm$ 2 hrs ※ 200hrs measuring the first data then 300hrs data.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Low temperature IEC 60068-2-1 GB/T2423.1	*Temperature : -40 $\pm$ 2 $^{\circ}$ C. *Test duration : 500+24/-0 hours Measurement to be made after keeping at room temperature for 24 $\pm$ 2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.