

SMD Antenna Specifications

2.4G/5G WIFI band antenna

Model: **AB-W01**

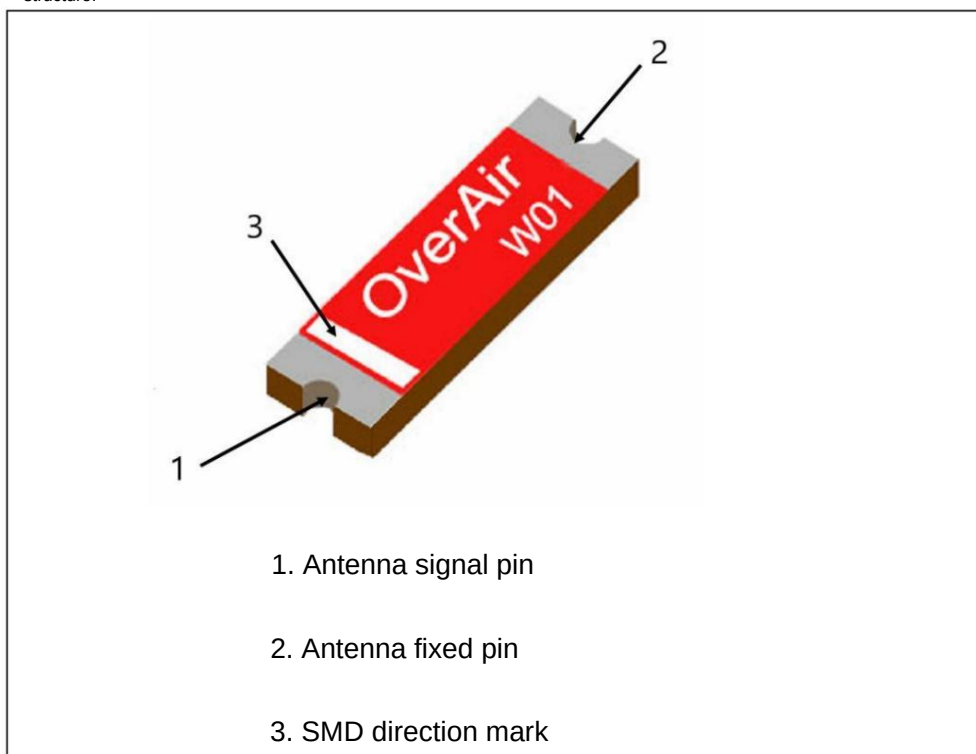
Features:

1. Dimensions: 8.0 X 3.0 X 1.0mm.
2. Low energy loss, high efficiency antenna.
3. It has high stability under the condition of temperature and humidity changes.

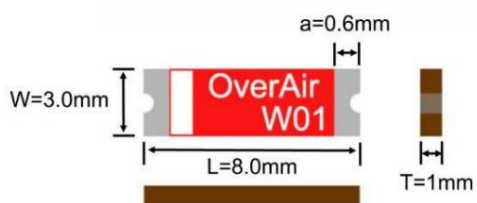
application:

1. Product application in 2.4G/5G WIFI frequency band.
2. Other wireless applications working in the 2.4G or 5G frequency band.

structure:



size

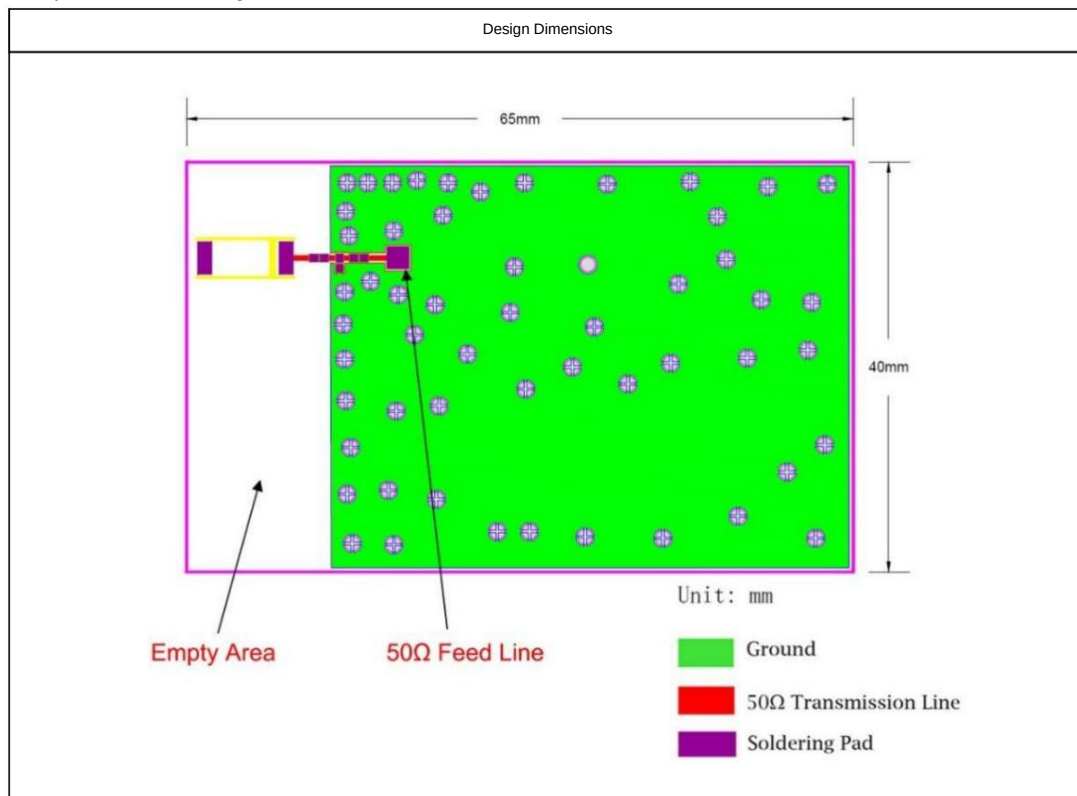
Three View	symbol	Dimensions (mm)
	L	8.0±0.1
	w	3.0±0.1
	T	1.0±0.1
	a	0.6±0.1

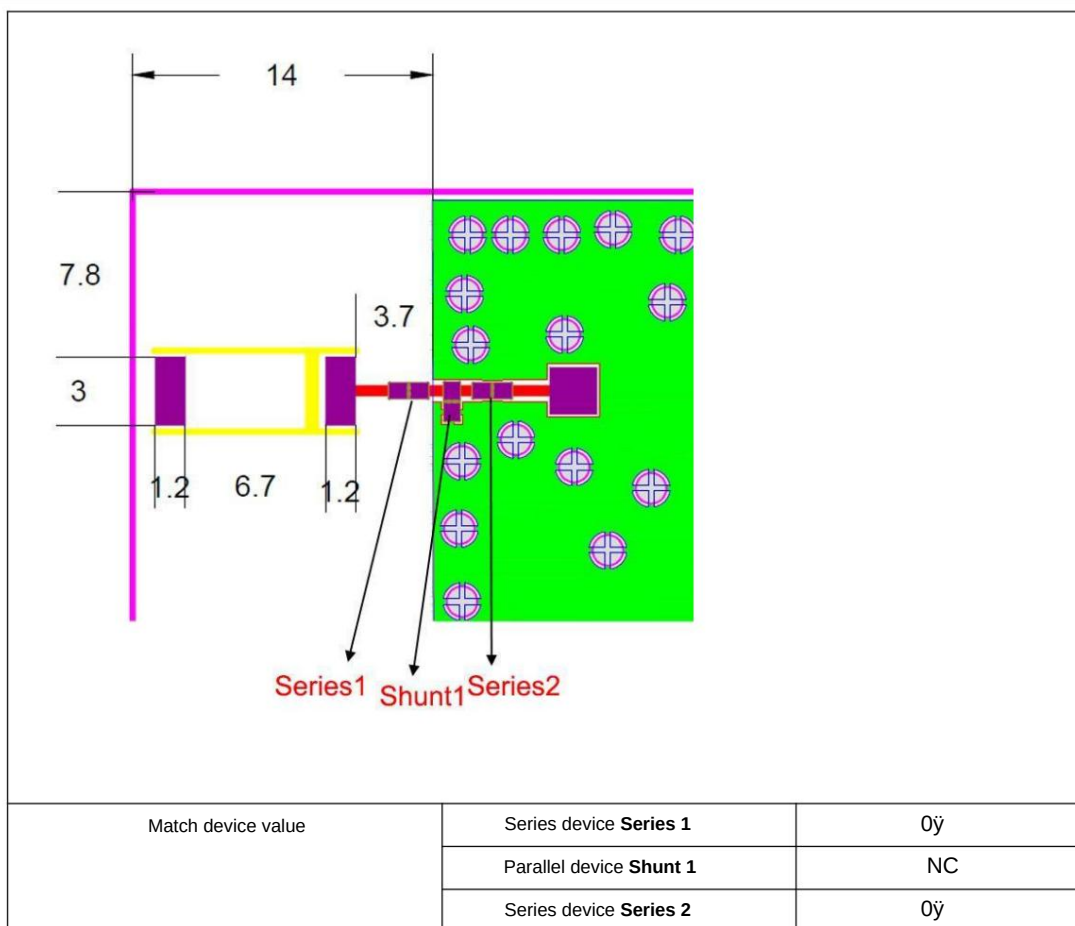
Electrical Characteristics:

AB-W01	Specification
Working Frequency	2400-2500MHz, 5150-6000MHz
Impedance	50 Ω
Gain(dBi)	5.5dBi (2.45GHz), 3.5dBi (5.5Ghz)
Standing Wave	<2
Ratio VSWR Operating Temperature Operation	-40°C ~+85°C
Temperature Bearable Power Power Capacity	3W

The operating frequency of the antenna needs to be realized by debugging the impedance matching device.

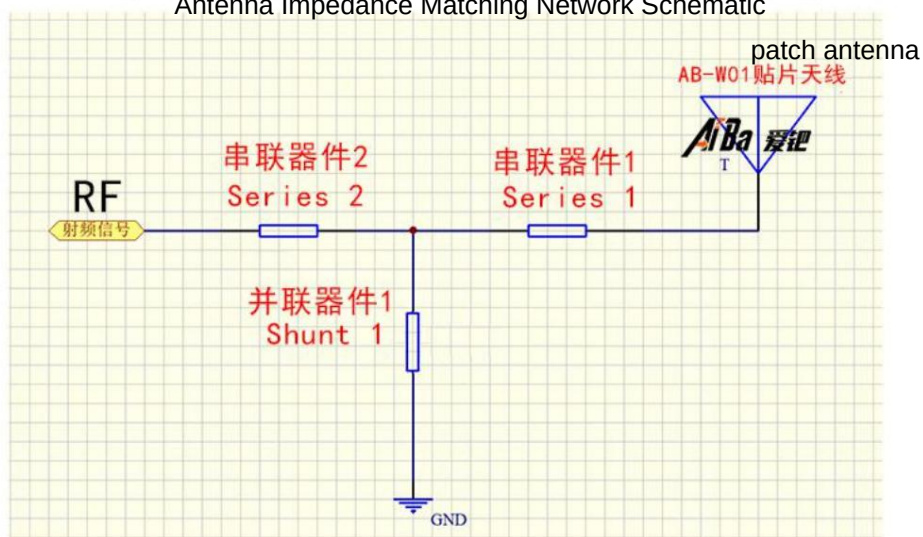
Antenna pad and trace design:





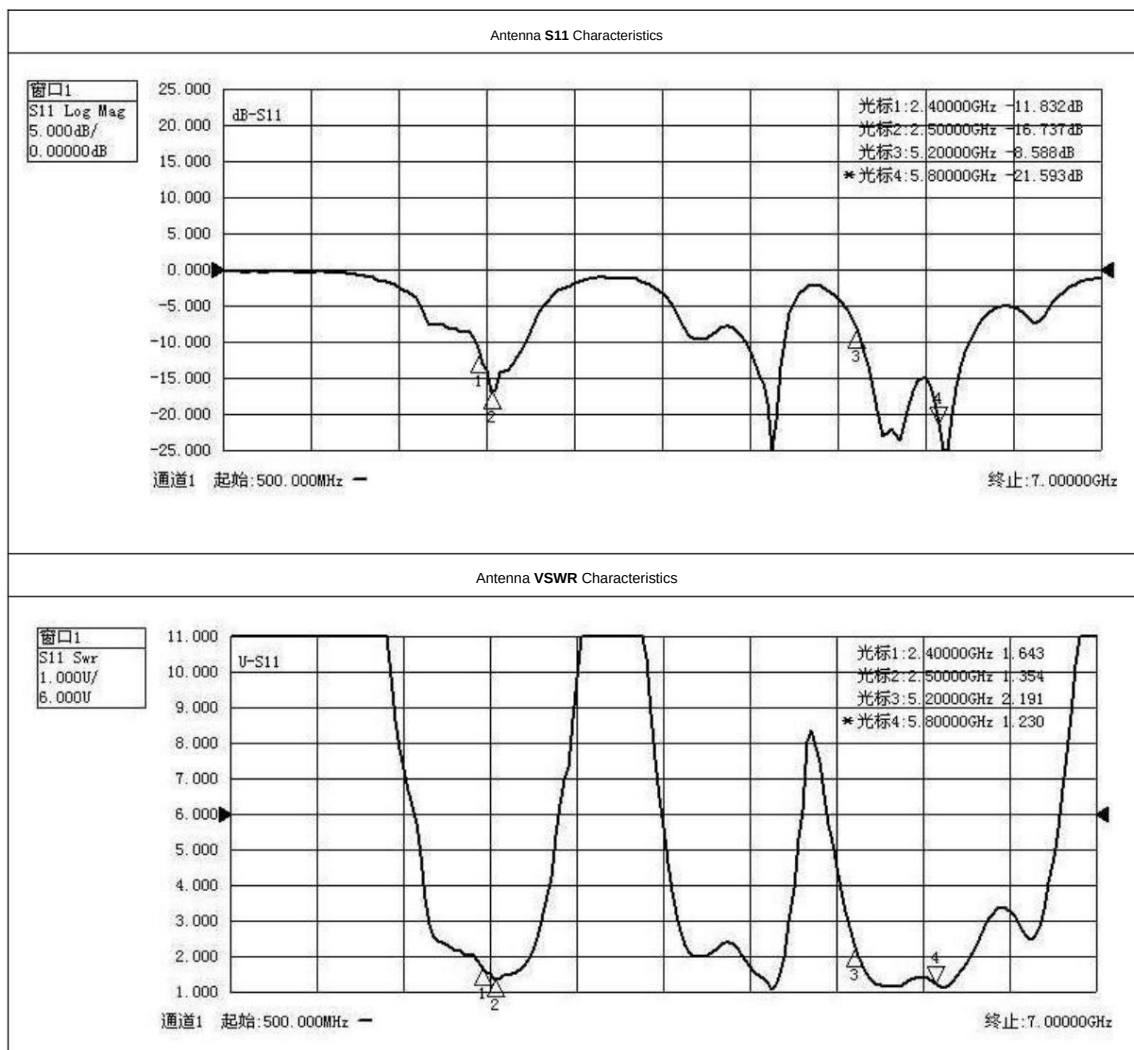
天线阻抗匹配网络原理图

Antenna Impedance Matching Network Schematic



注意：射频芯片参考设计要求的外围器件值请按照芯片厂家参考设计使用，
以上天线匹配器件相互独立不可互相替换

Note: The peripheral device values required by the RF chip reference design should be used according to the chip manufacturer's reference design. The above antenna matching devices are independent of each other and cannot be replaced with each other.

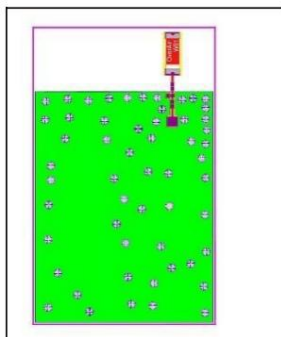


Efficiency and radiation pattern (DEMO board PCB thickness 1.0mm):

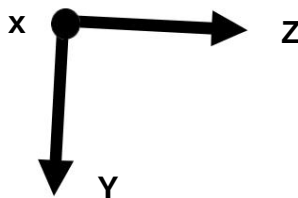
Efficiency, radiation pattern, gain and other properties are based on the test board design.

The specification and characteristic test data of AB-W01 antenna is obtained based on the test PCB board size and the test direction shown in the figure below.

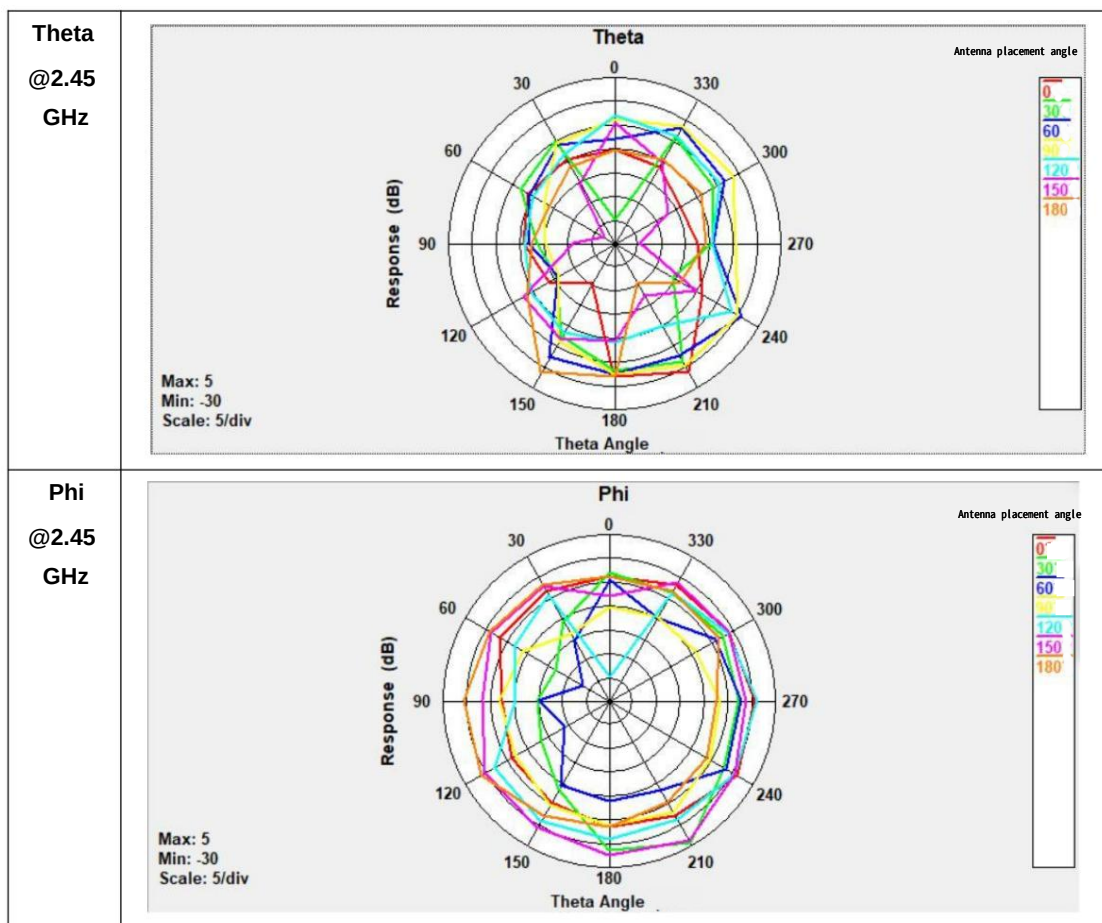
The following data are tested in ETS 3D microwave anechoic chamber.

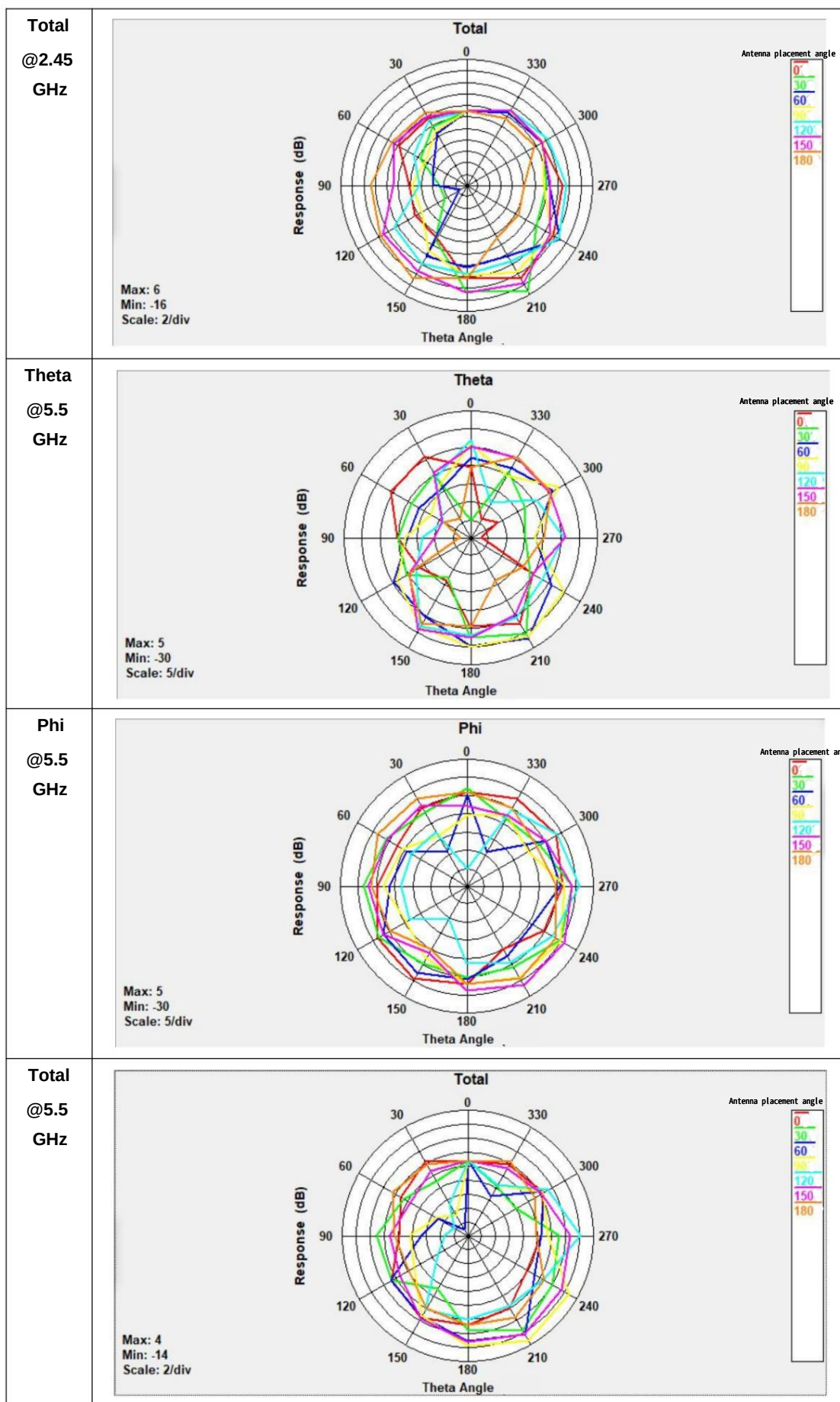


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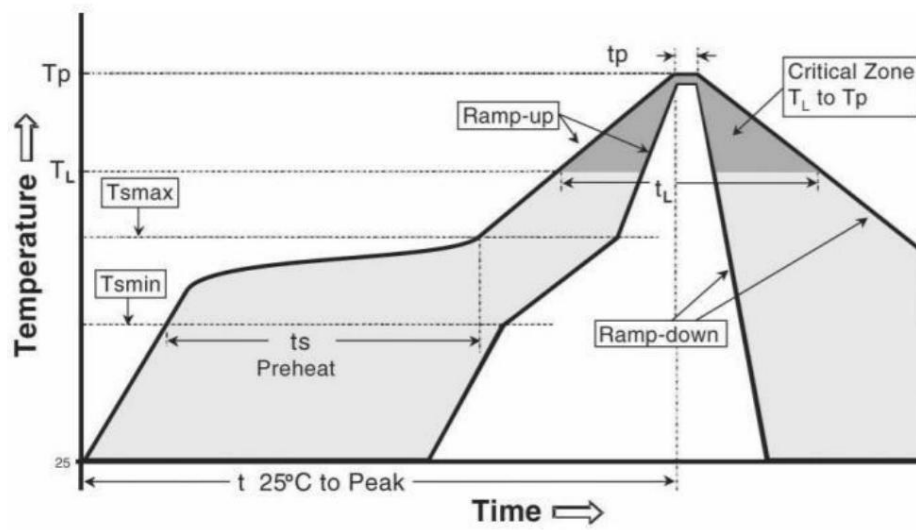
Gain and	Bandwidth 2.4G-2.5GHz	Bandwidth 5.15G-5.8GHz
Efficiency Peak Gain Band	6.1dBi	3.67dBi
Average Gain	5.7dBi	2.63dBi
Average Gain across the band		
In-band gain range	5.5dBi~6.1dBi	1.33dBi~3.67dBi
Gain Range across the band		
Peak efficiency Peak Efficiency in-	82.5%	62.4%
band average efficiency	79%	51%
Average Efficiency across the band		
In-band efficiency range	74.8%~82.5%	30.77%~62.4%
Efficiency Range across the band		





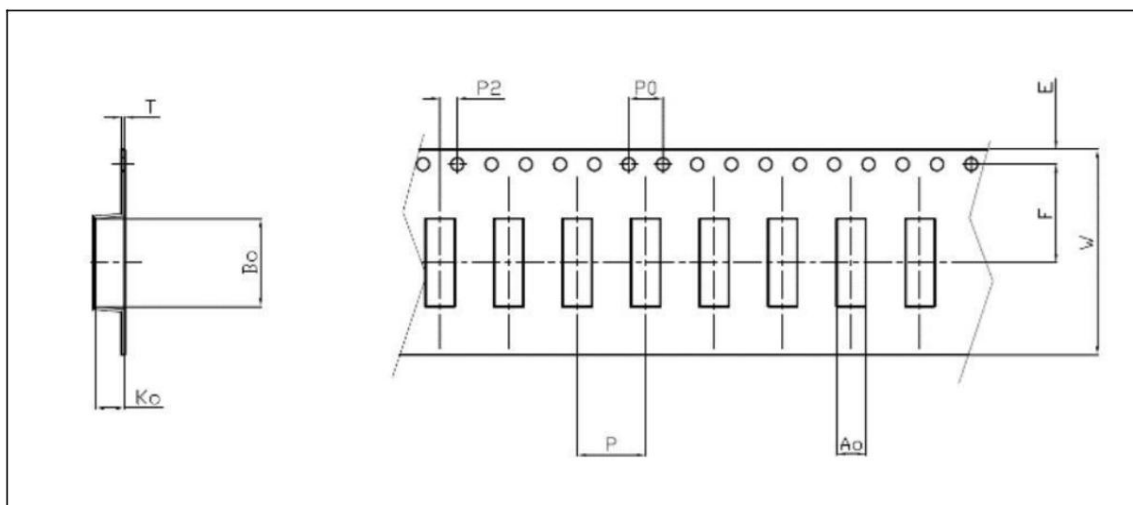
Welding conditions:

reliable and non-destructive typical welding specifications are shown in the figure below:



Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (Tsmmax to Tp)	3 °C / second (max.)
PREHEAT	- Temperature Min (Tsmmin) - Temperature Max (Tsmmax) - Time (tsmin to tsmax)	150 °C 200 °C 60-180 seconds
REFLOW	- Temperature (Tl) - Total Time above Tl (tL)	217 °C 60-150 seconds
PEAK	- Temperature (Tp) - Time (tp)	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max

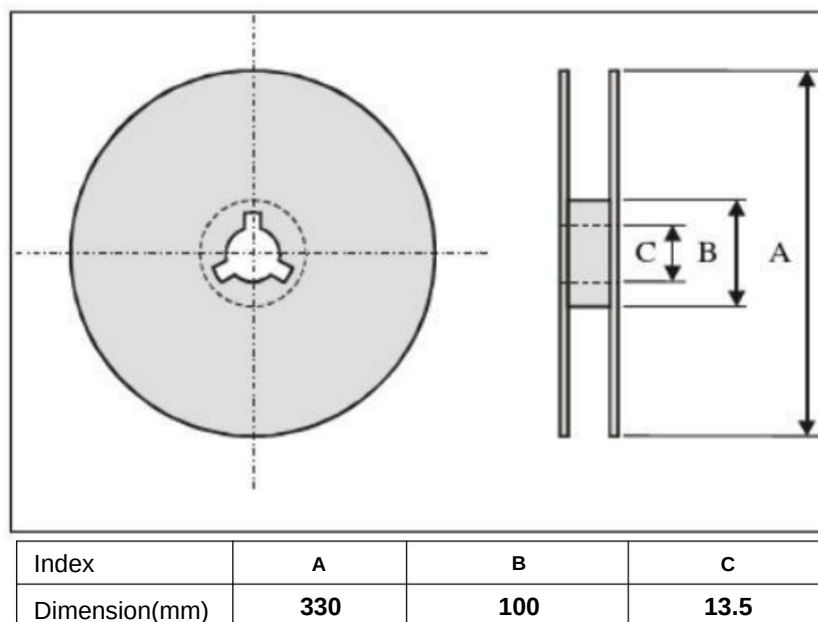
Package:



Specifications of plastic carrier tape (unit: mm)

Index	Ao	Bo	Ko	T	W
Dimension (mm)	3.3±0.1	8.4±0.1	1.3±0.1	0.3±0.05	16.0±0.3
Index	E.	f	P	P0	P2
Dimension (mm)	1.75±0.1	7.0±0.1	8.0±0.1	4.0±0.1	2.0±0.1

Reel size:



Standard quantity: 2000 PCS/disk.

Storage environment:

The following conditions should be met when the product is stored: Tray storage temperature: $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$ (non-antenna working temperature) Tray storage humidity: 30% to 70% relative humidity (non-antenna working humidity) where the product is placed The location should not be exposed to corrosive gases such as sulfur, chlorine or acids. The product should be placed in a tool box and protected from moisture and dust. Products should be stored in warehouses away from heat, vibration, and direct sunlight. The product should be stored under airtight conditions.