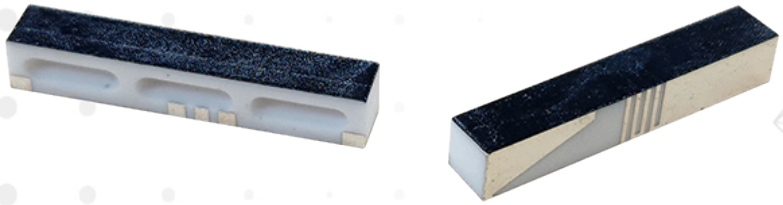
RF Antenna Technology
享 元 科 技

SPECIFICATION

ZigBee－824~960 MHz／2.4 GHz
Chip Antenna



Model No.：CCCLW-89B01

1. General Description

1.1 Electrical Properties

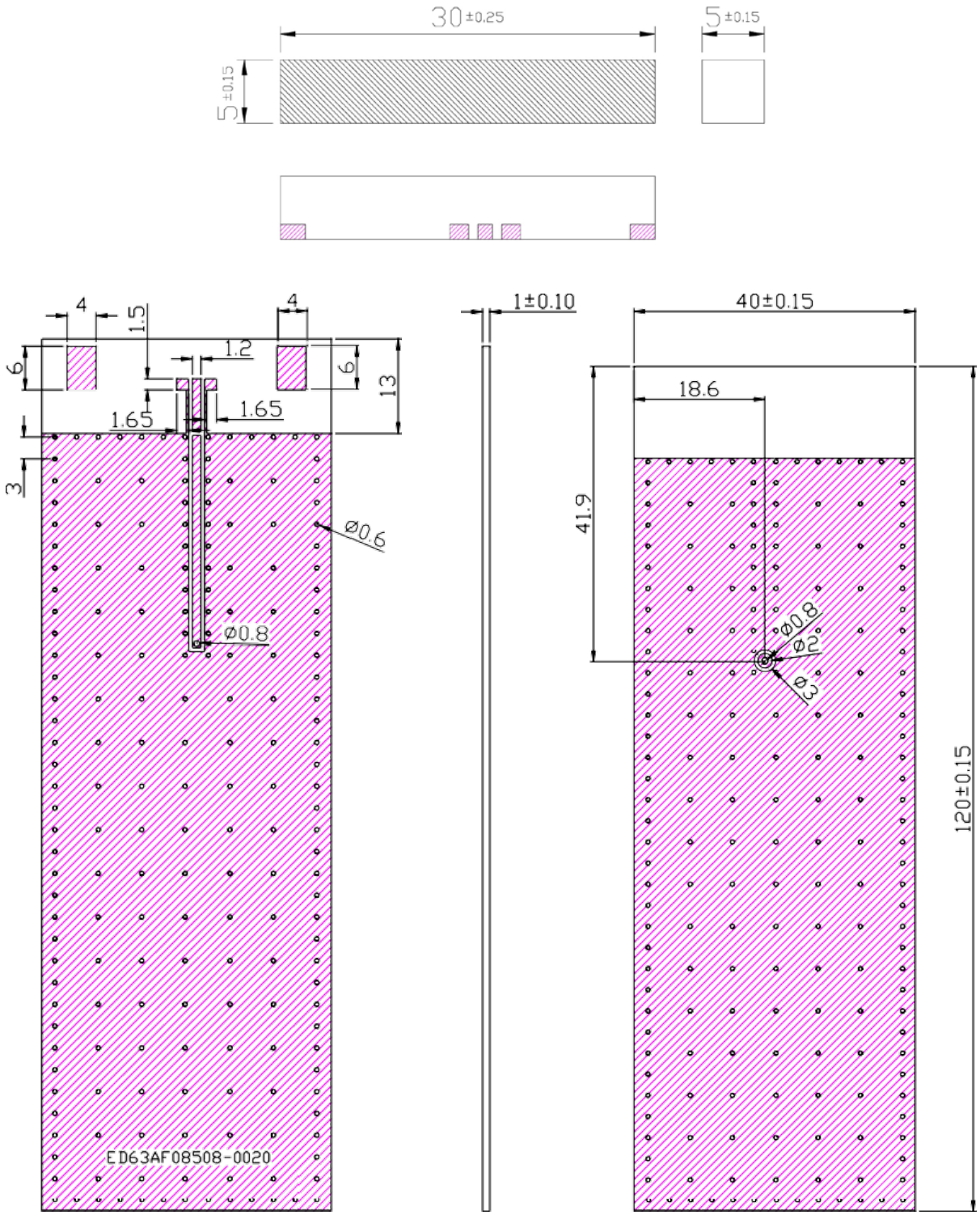
Parameter	Description				
Frequency Band	824~960 MHz 2.4 GHz				
Nominal Impedance	50 Ω				
Polarization	Linear				
V.S.W.R.	<3.5:1				
	824 MHz	960 MHz	2400 MHz	2450 MHz	2500 MHz
Efficiency	55.3 %	47.9 %	48.1 %	42.6 %	35.4 %
Peak Gain	0.8 dBi	0.1 dBi	2.6 dBi	2.2 dBi	1.2 dBi
※With 40 x 107 mm Evaluation Board & 40 x 13 mm Clearance Area					

1.2 Mechanical Properties

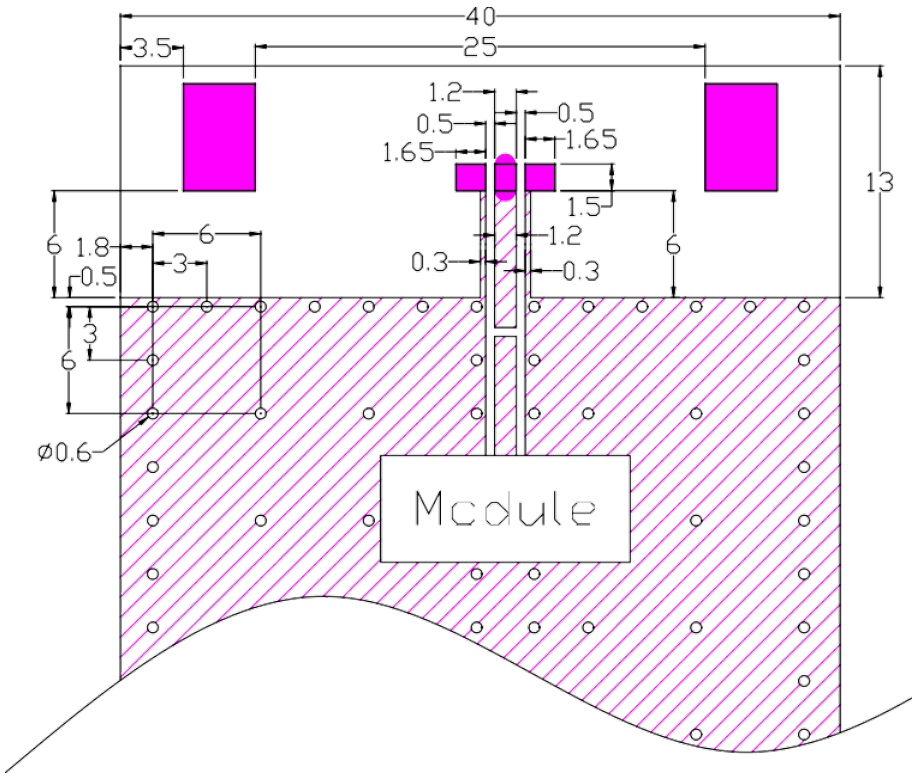
Parameter	Description
Dimensions	30*5*5 mm
Operating Temperature	-40˚C~85˚C
Storage Temperature (With Packing Sealed)	-40˚C~85˚C

2. Appearance

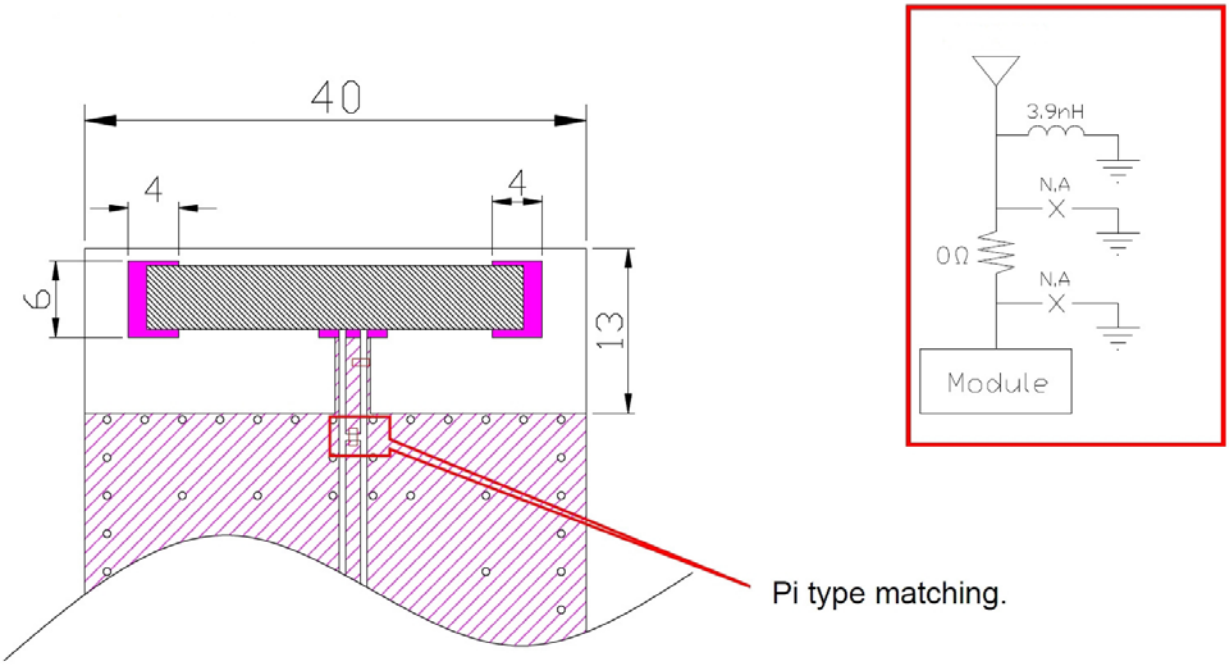
Dimensions Of Antenna And Evaluation Board (Unit：mm)



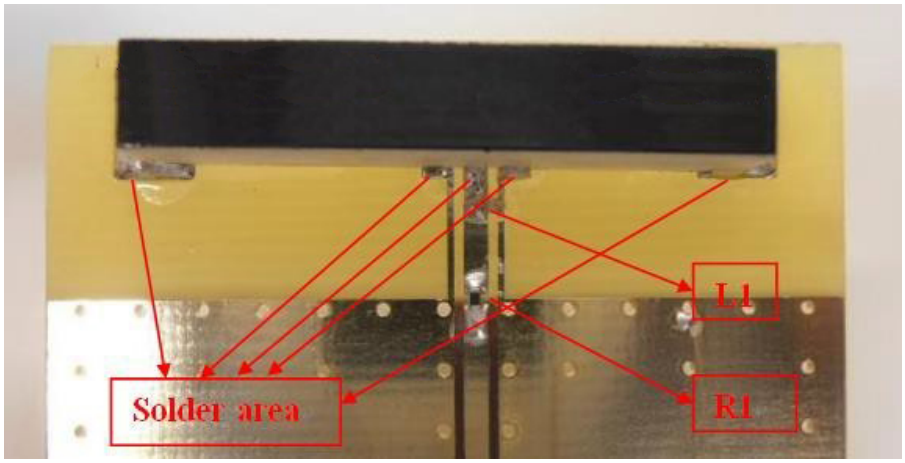
3. Customer’s Requirement Of Layout (Unit：mm)



4. Matching Circuit



※Between antenna and module need a Pi type matching circuit.



Circuit Symbol	Size	Description
L1	0402	3.9nH Inductor(MLK1005S3N9S)
R1	0402	0Ω(RM04JTNO)

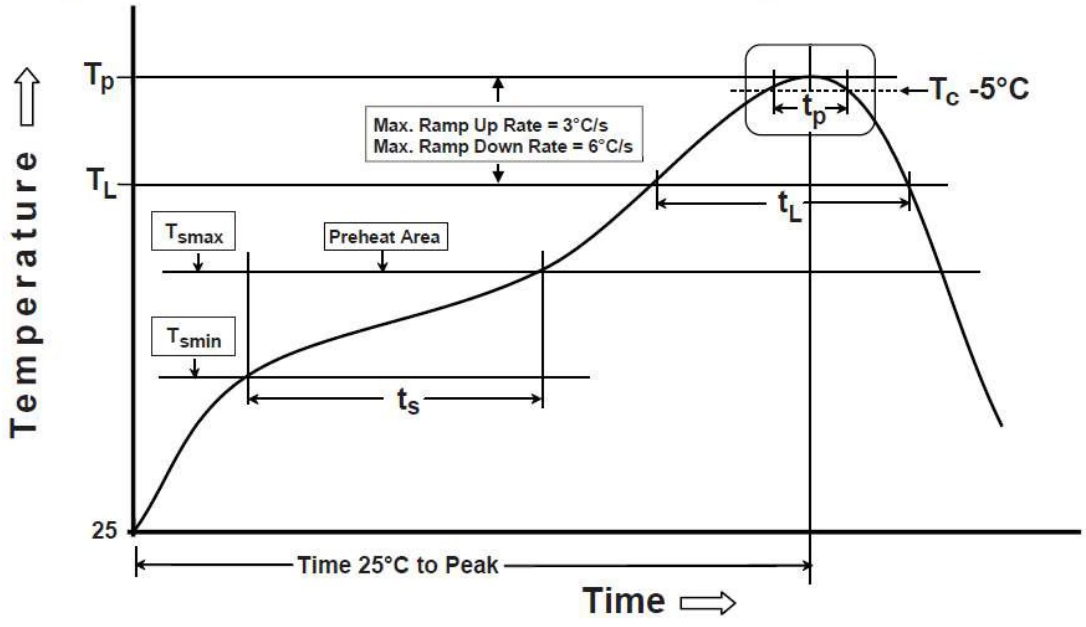
5. Soldering Conditions

The product can be assembled following Pb-free assembly. According to the Standard **IPC/JEDEC J-STD-020C**, the temperature profile suggested is as follow：

Phase	Profile features	Pb-Free Assembly (SnAgCu)
PREHEAT	-Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(ts) form (Tsmin to Tsmax)	150℃ 200℃ 60~120 seconds
RAMP-UP	Avg. Ramp-up Rate (Tsmax to TP)	3℃/second max.
REFLOW	-Temperature(TL) -Total Time above TL (t L)	217℃ 30~100 seconds
PEAK	-Temperature(TP) -Time(tp)	260℃ 10 seconds
RAMP-DOWN	Rate	6℃/second max.
Time from 25℃ to Peak Temperature		8 minutes max.
Composition of solder paste		Sn 96.5/ Ag 3/Cu 0.5
Solder Paste Model		SHENMAO PF606-P26

Note：All the temperature measure point is on top surface of the component, if temperature over recommend, it will make component surface peeling or damage.

The graphic shows temperature profile for component assembly process in reflow ovens



Soldering With Iron:

Temperature 270±10 ℃.

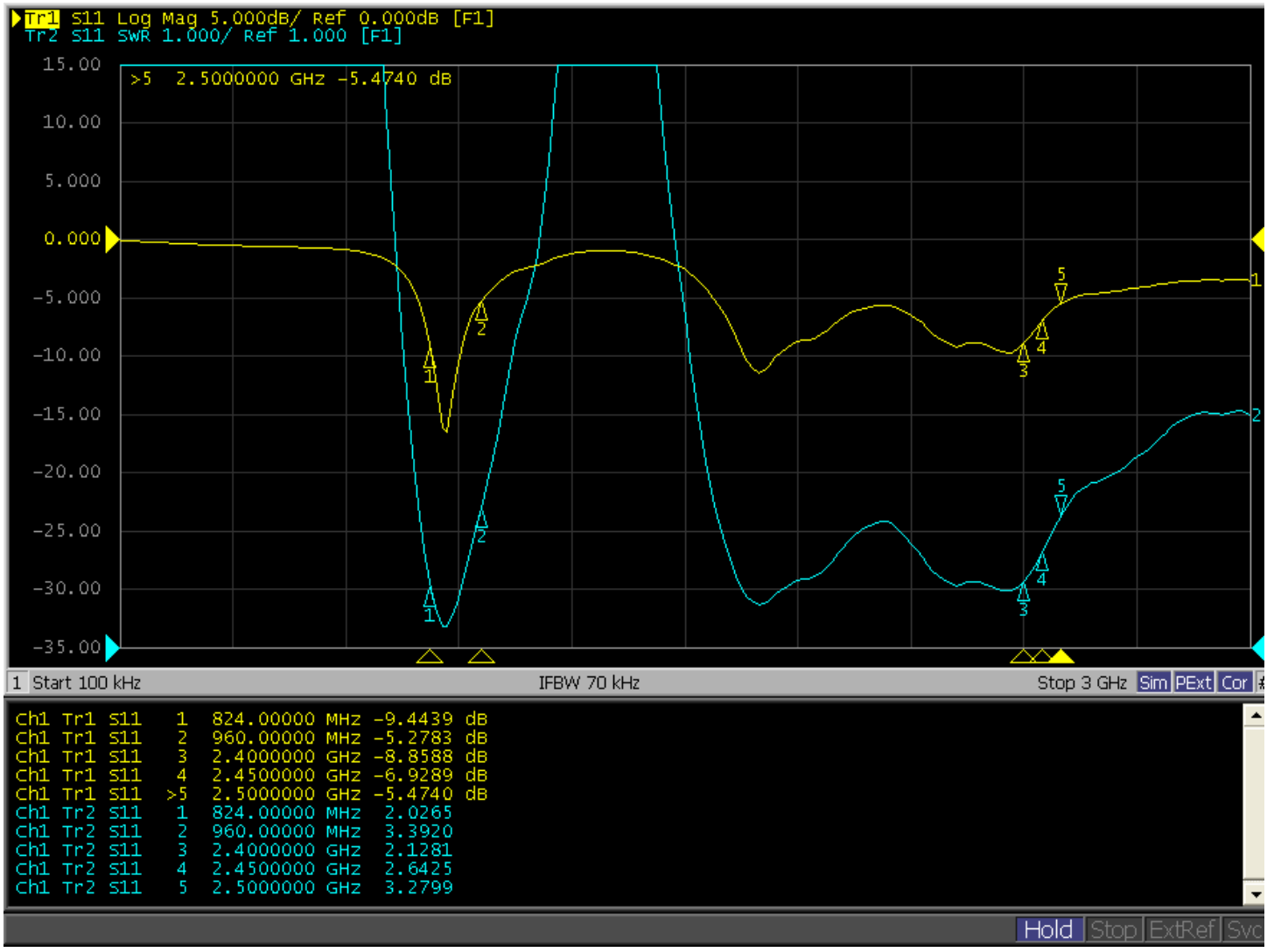
Apply preheating at 120℃ for 2-3 minutes.

Finish soldering for each terminal within 3 seconds, if soldering iron over temperature 270±10 ℃ or 3 seconds, it will make component surface peeling or damage.

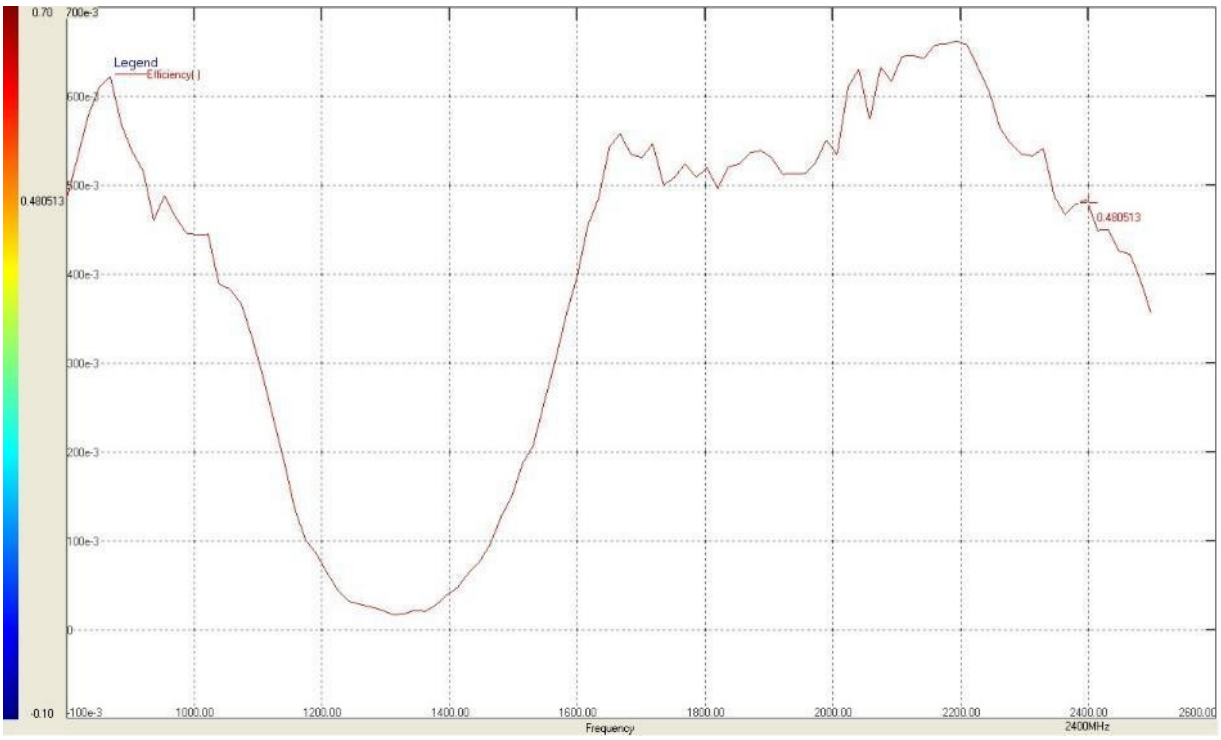
Soldering iron can not leakage of electricity.

6. Performance

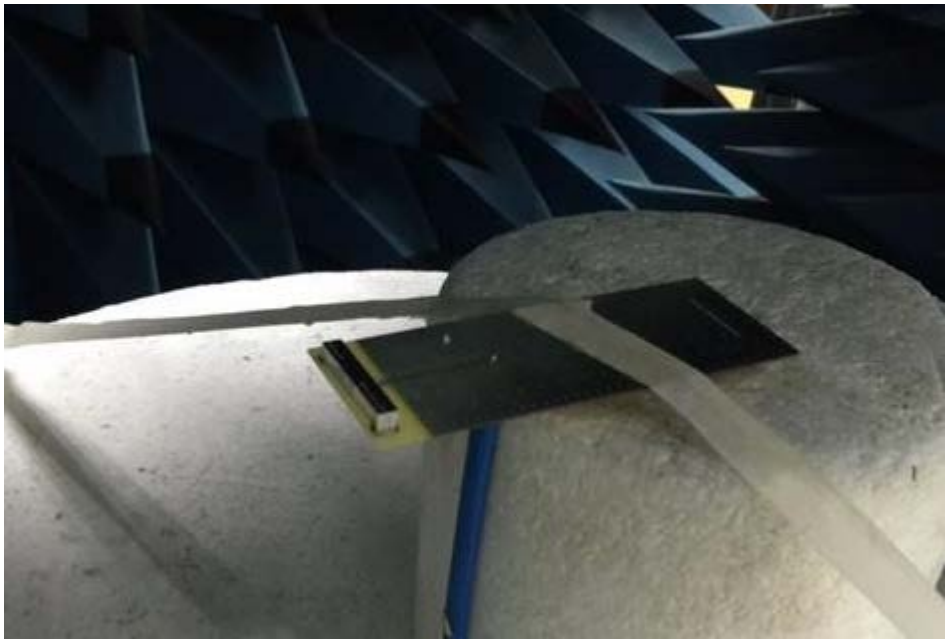
6.1 Return Loss & V.S.W.R.



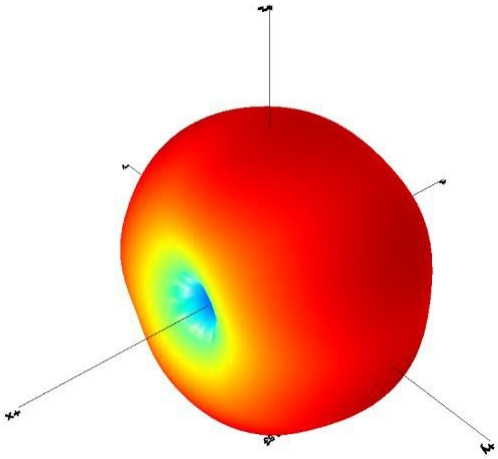
6.2 Efficiency



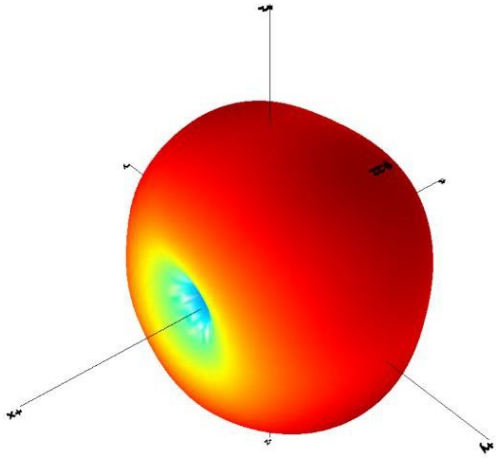
6.3 3D Radiation Pattern



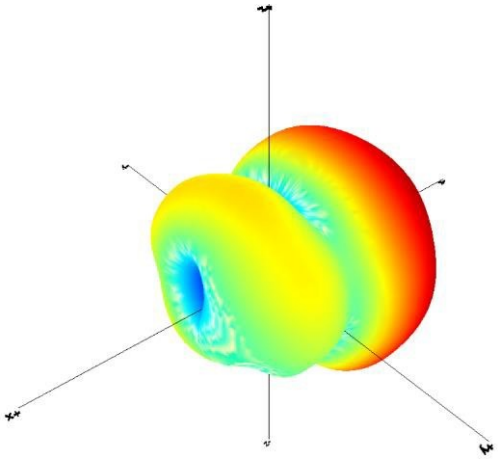
824 MHz



960 MHz

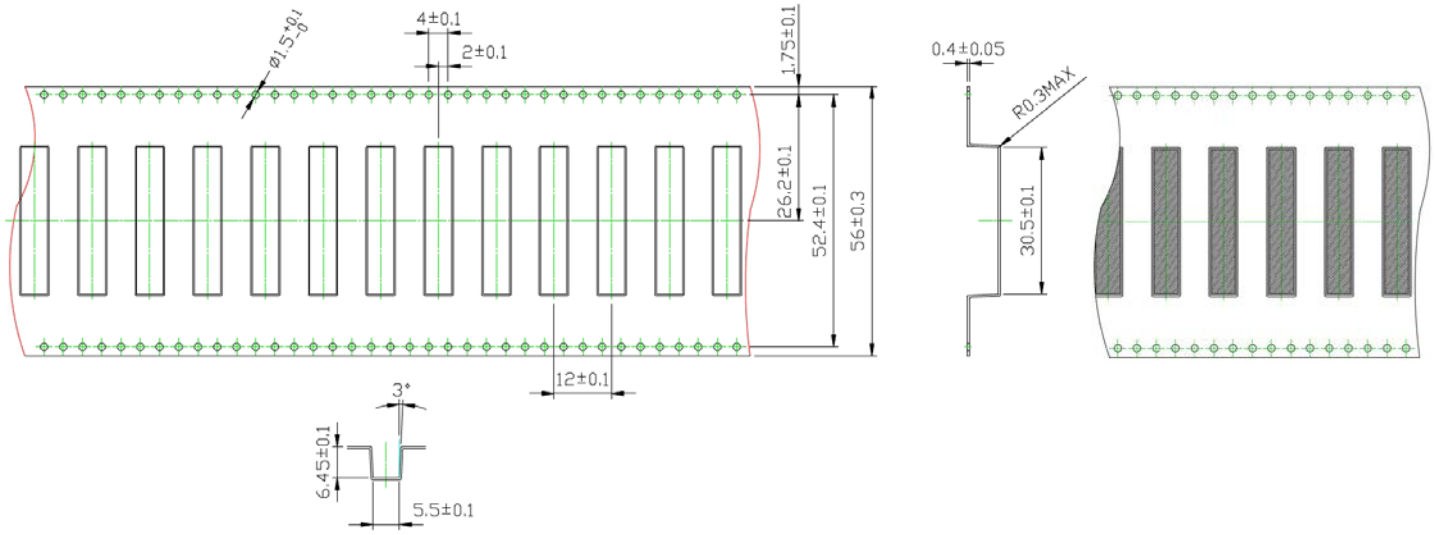


2450 MHz



7. Packing

- Tape：



- Reel：450 pcs