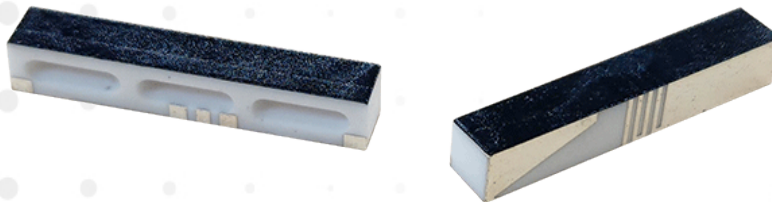


SPECIFICATION

**ISM band – 824~960 MHz / 2.4 GHz
Chip Antenna**



Model No. : CCCLW-89B01



1. General Description

1.1 Electrical Properties

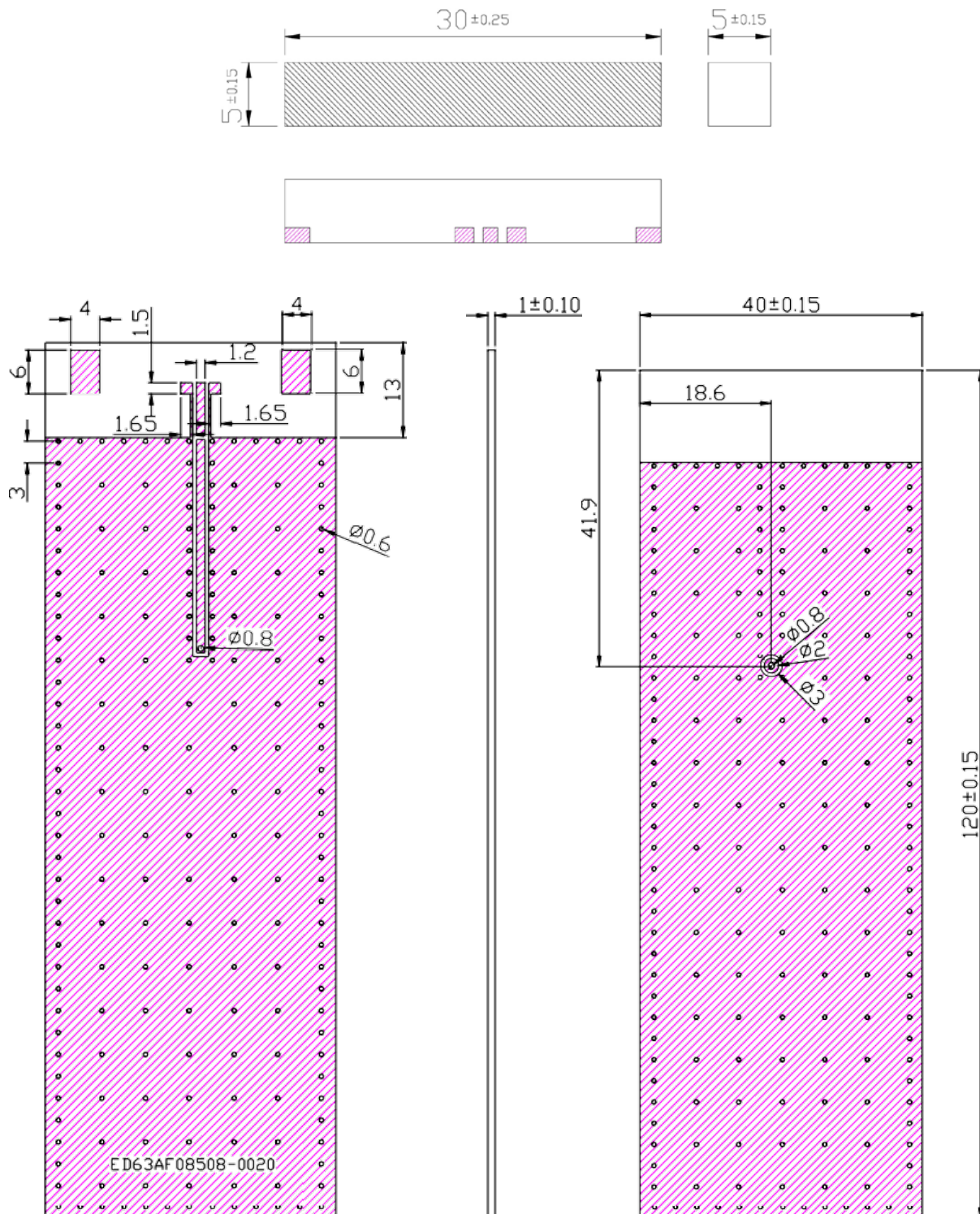
| Parameter | Description | | | | |
|--|-----------------------|---------|----------|----------|----------|
| Frequency Band | 824~960/2400~2500 MHz | | | | |
| Nominal Impedance | 50 Ω | | | | |
| Polarization | Linear | | | | |
| V.S.W.R | <3.5:1 | | | | |
| | 824 MHz | 960 MHz | 2400 MHz | 2450 MHz | 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

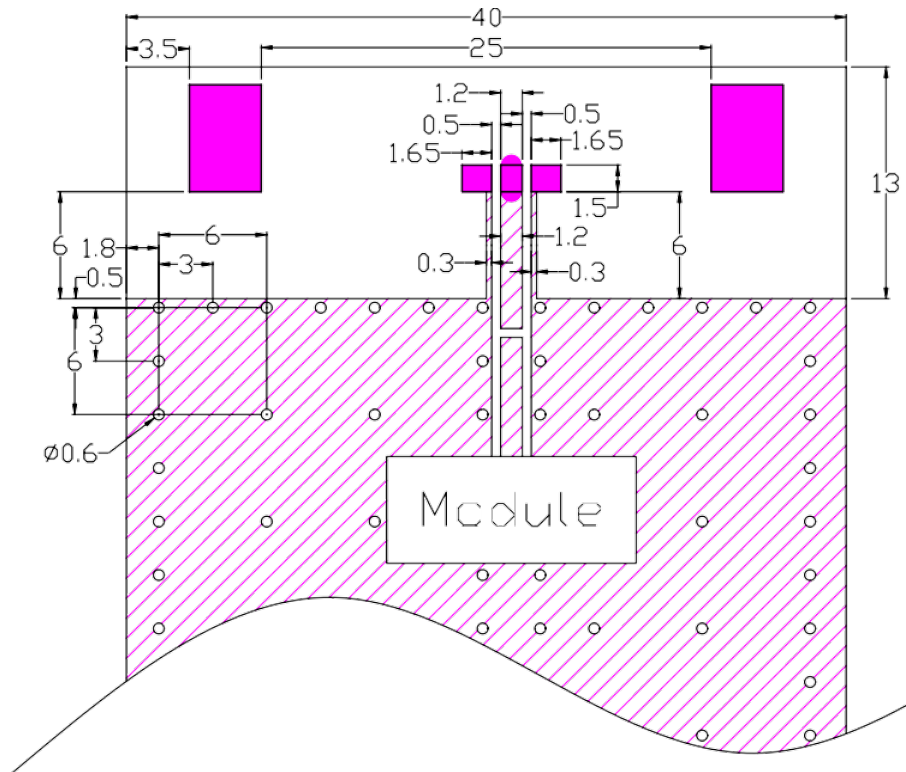
| Parameter | Description |
|--|-------------|
| Dimension | 30×5×5 mm |
| Operating Temperature | -40°C~85°C |
| Storage Temperature (With Packing Sealed) | -40°C~85°C |

2. Appearance

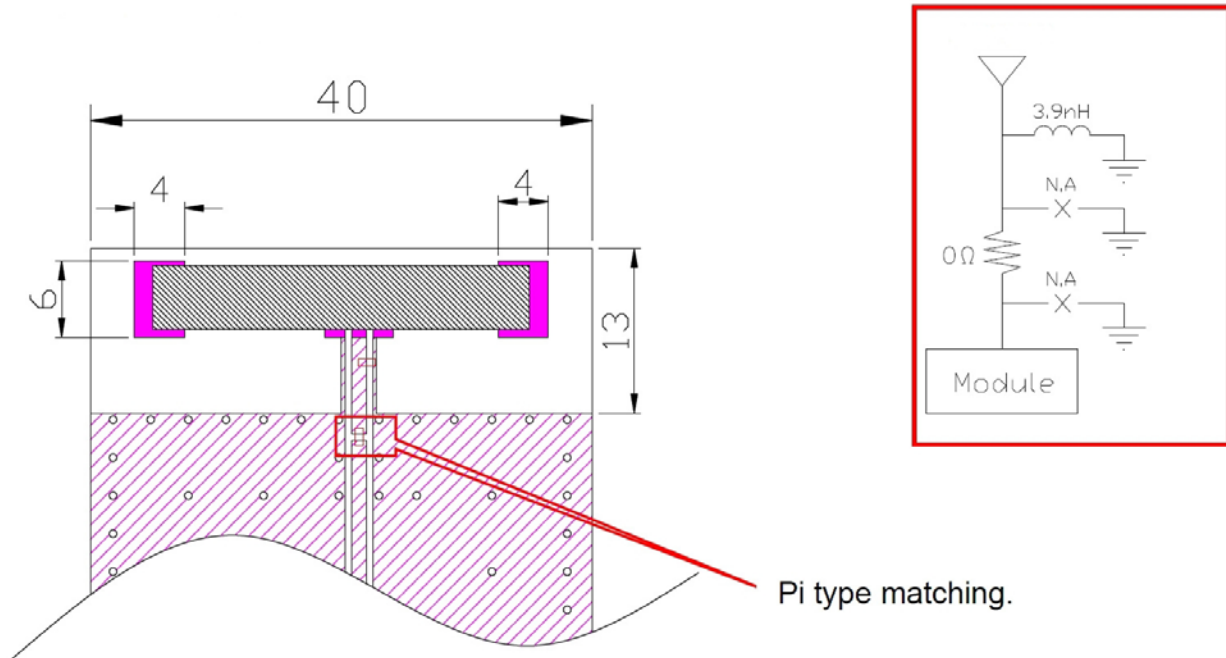
Dimensions Of Antenna And Evaluation Board (Unit : mm)



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

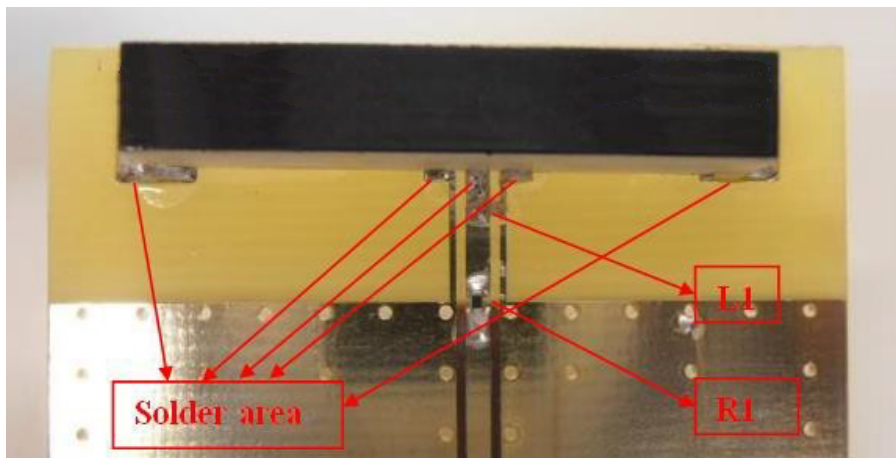


4. Matching Circuit



Pi type matching.

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



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



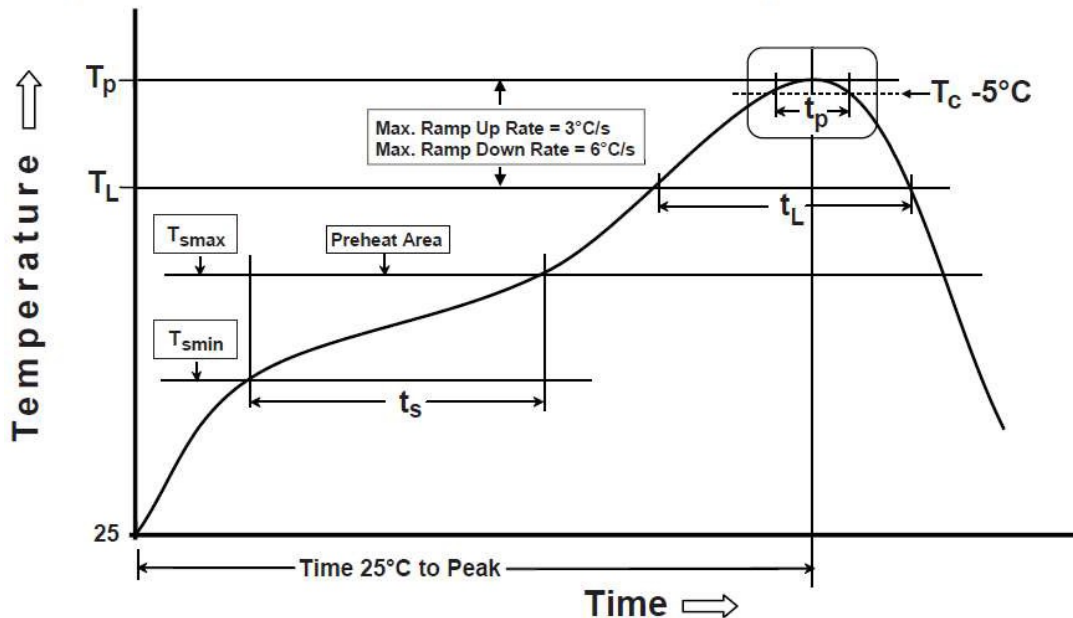
5. Soldering Conditions

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(T_{smin}) -Temperature Max(T_{smax}) -Time(t_s) form (T_{smin} to T_{smax}) | 150°C 200°C 60~120 seconds |
| RAMP-UP | Avg. Ramp-up Rate (T_{smax} to TP) | 3°C/second max. |
| REFLOW | -Temperature(T_L) -Total Time above T_L (t_L) | 217°C 30~100 seconds |
| PEAK | -Temperature(T_P) -Time(t_p) | 260°C 10 seconds |
| RAMP-DOWN | Rate | 6°C/second max. |
| Time from 25°C 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 °C.

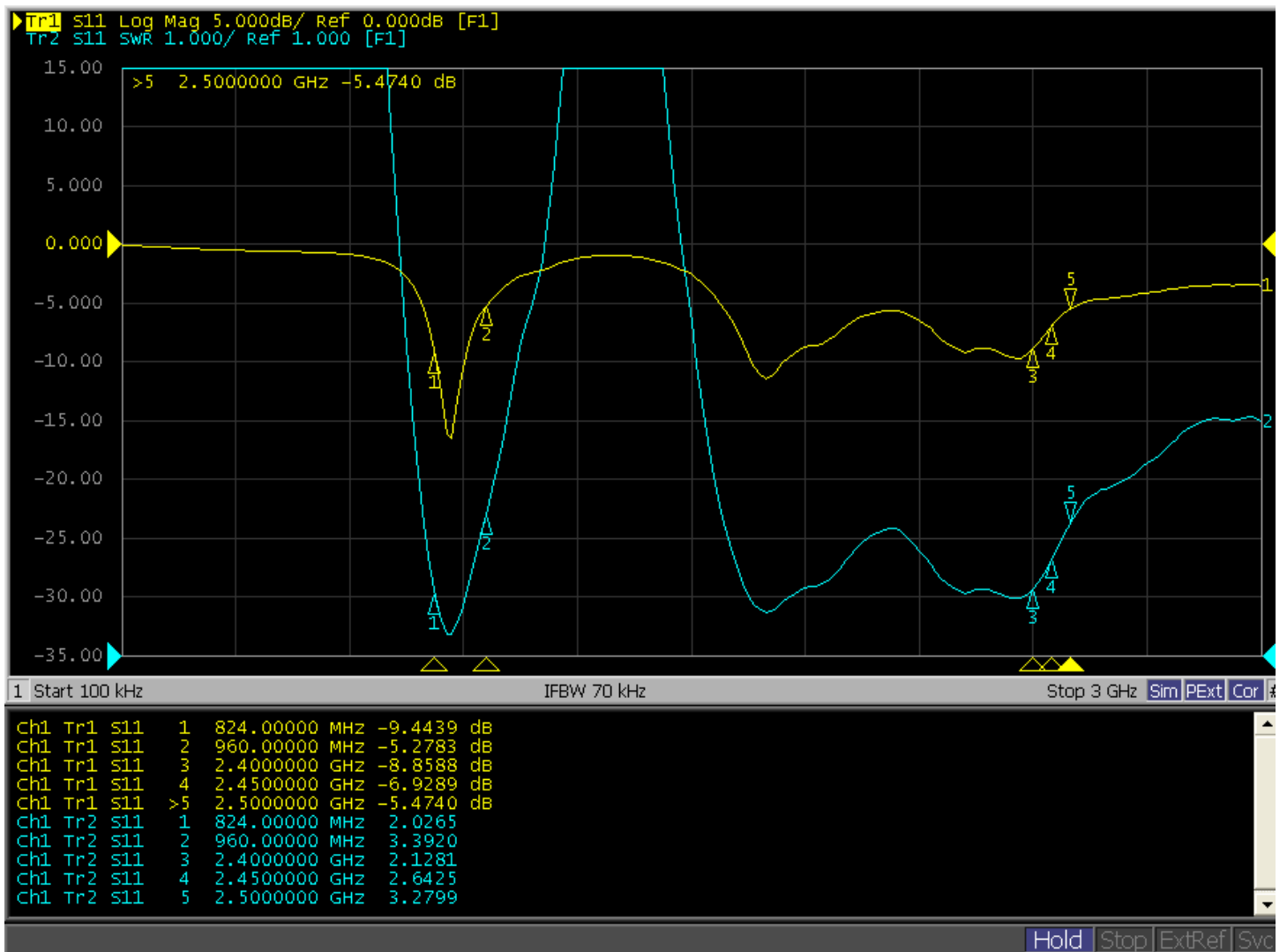
Apply preheating at 120°C for 2-3 minutes.

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

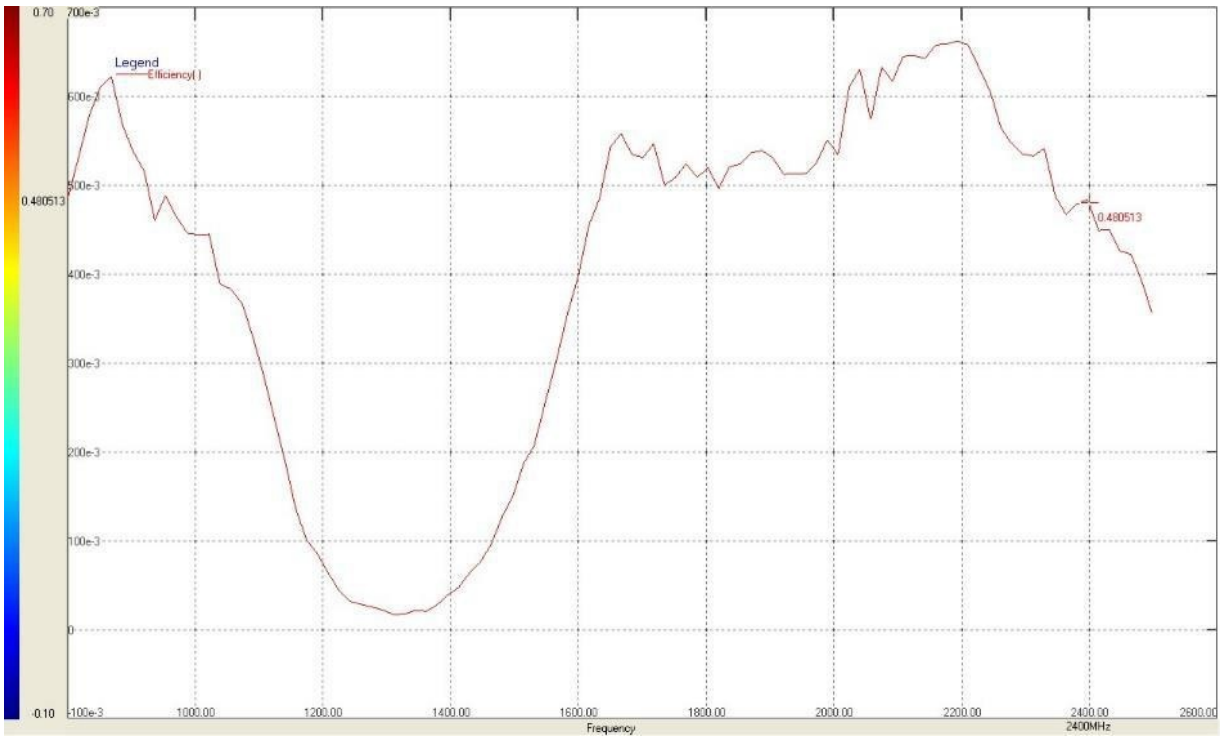
Soldering iron can not leakage of electricity.

6. Performance

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



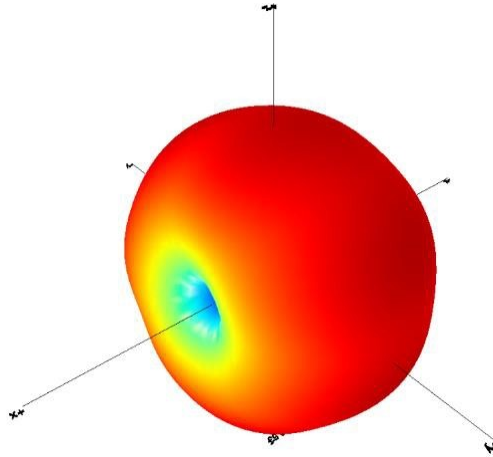
6.2 Efficiency



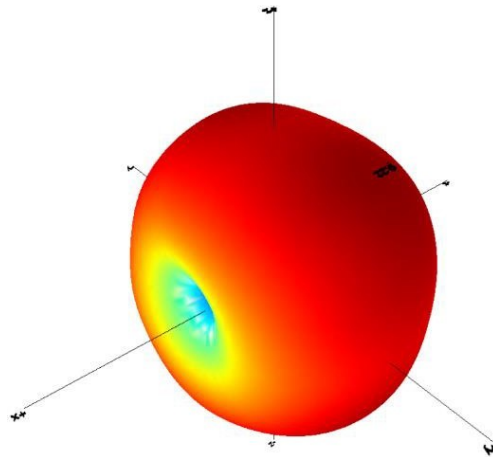
6.3 3D Radiation Pattern



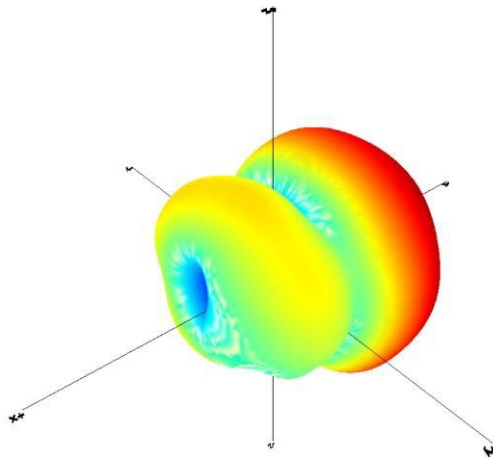
824 MHz



960 MHz

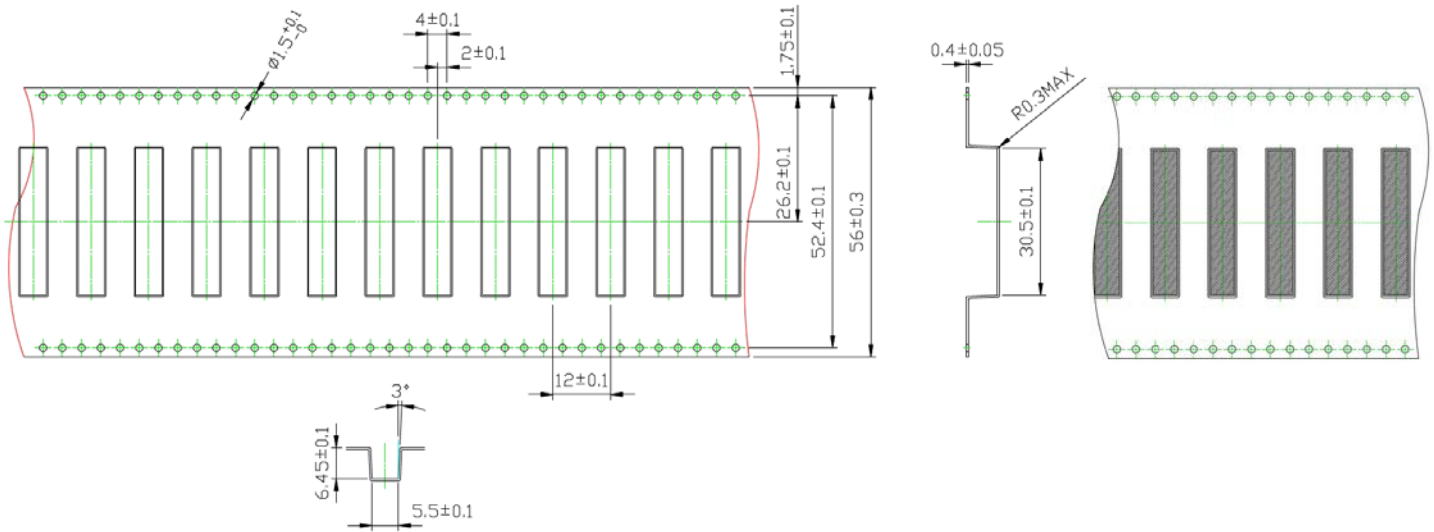


2450 MHz



7. Packing

- Tape :



- Reel : 450 pcs

