RFM Integrated Device, Inc.

PRODUCT SPECIFICATION

Part Number: ANT1054

Description:
ANTENNA, DIELECTRIC CHIP,
2450 MHz,
BW 100 MHz,
PEAK GAIN: 1.7 dBi

1. Scope

This specification covers the dielectric chip antenna for Bluetooth / WLAN Applications.

2. Name of the product

This product is named “Dielectric Chip Antenna”.

3. Electrical characteristics

3-1 Electrical characteristics of antenna

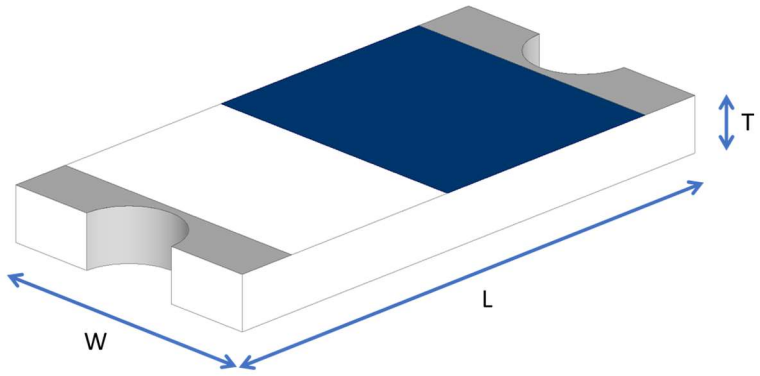
The antenna has the electrical characteristics given in Table 1 under the standard installation conditions shown in the figure of Evaluation Board.

Table 1

No	Parameter	Specification
1	Working Frequency	2400~2500 MHz
2	Return Loss	-6.5 dB (Max)
3	Peak Gain	1.7 dBi
4	Impedance	50 Ohm
5	Operating Temperature	-40℃ ~ +110℃
6	Maximum Power	4 W
7	Resistance to Soldering Heats	10 sec. (@ 260℃)
8	Polarization	Linear
9	Azimuth	Omni-directional
10	Termination	Ni / Au (Leadless)

* Actual performance will depend on customer device environment.

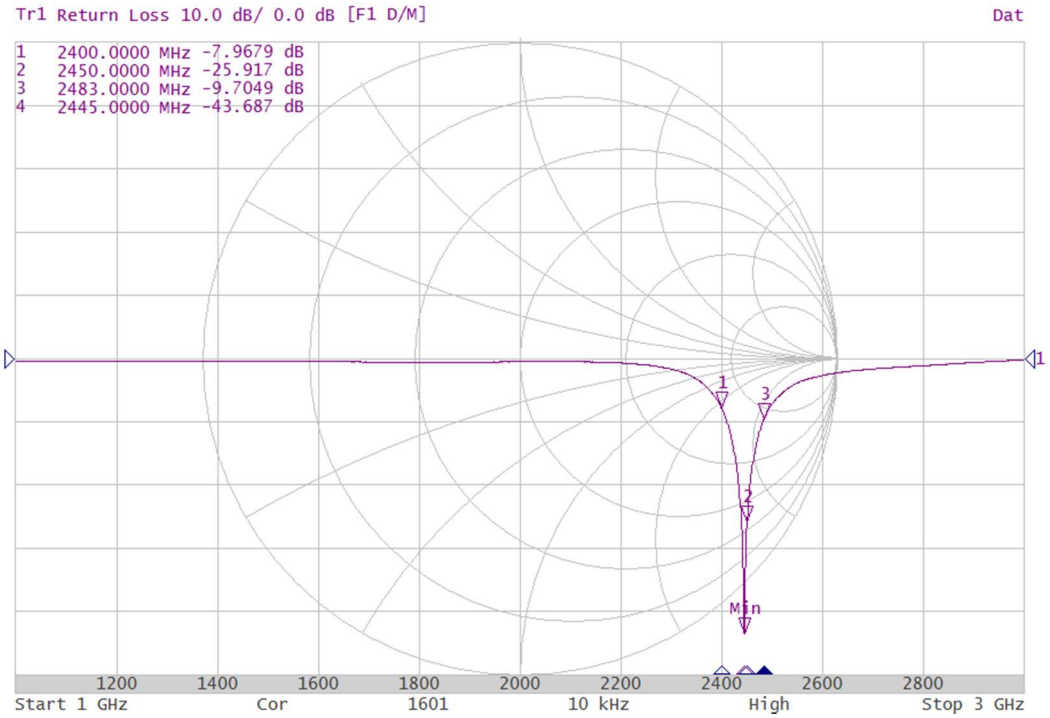
4. Antenna Dimension



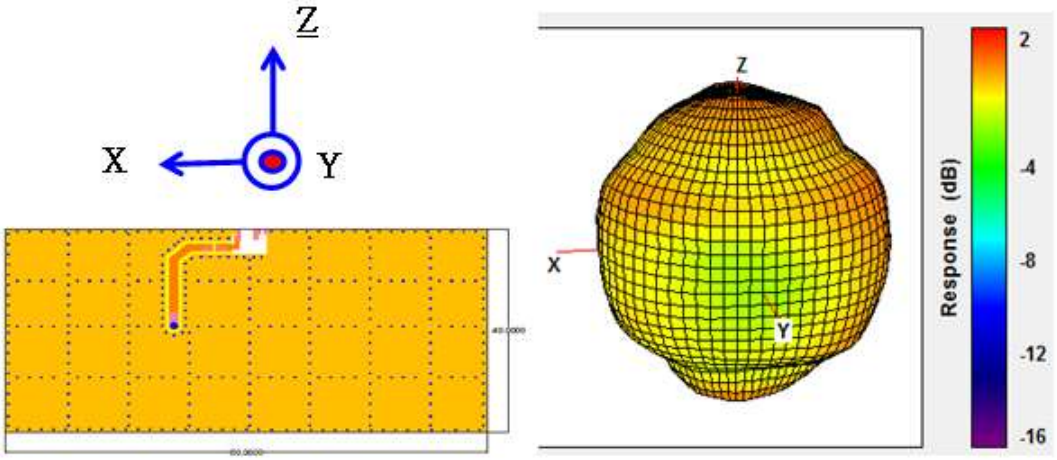
	Dimension (mm)
L	3.23 ± 0.20
W	1.66 ± 0.20
T	0.45 ± 0.20

5.Measurement Results

Return Loss



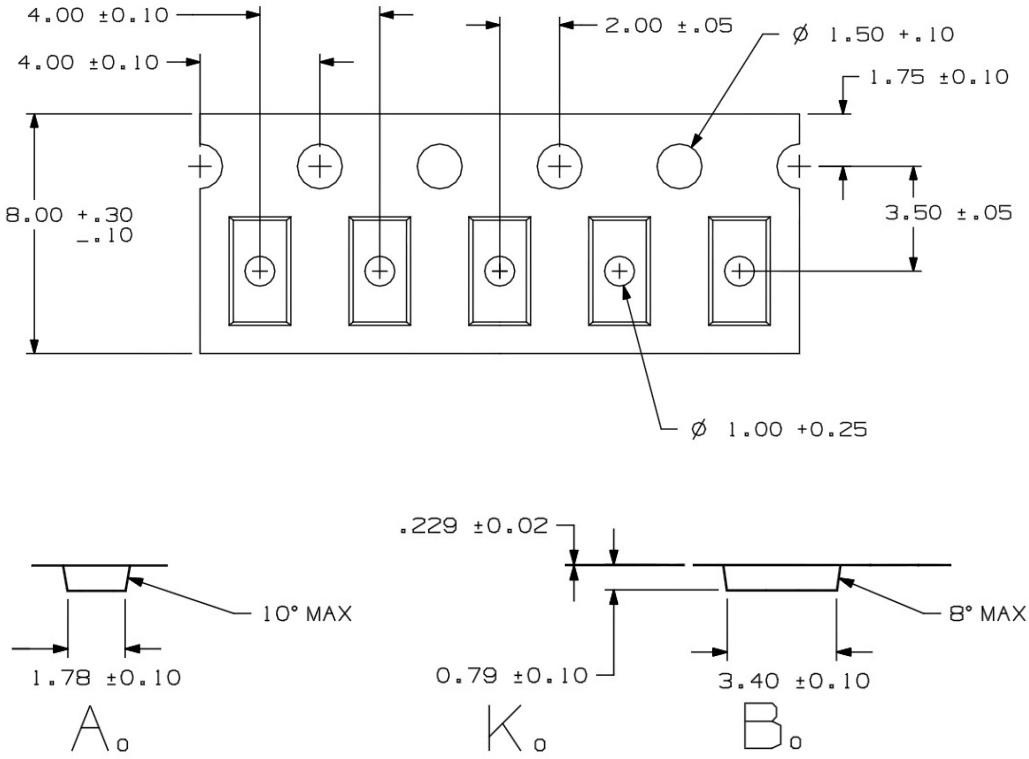
Radiation Pattern



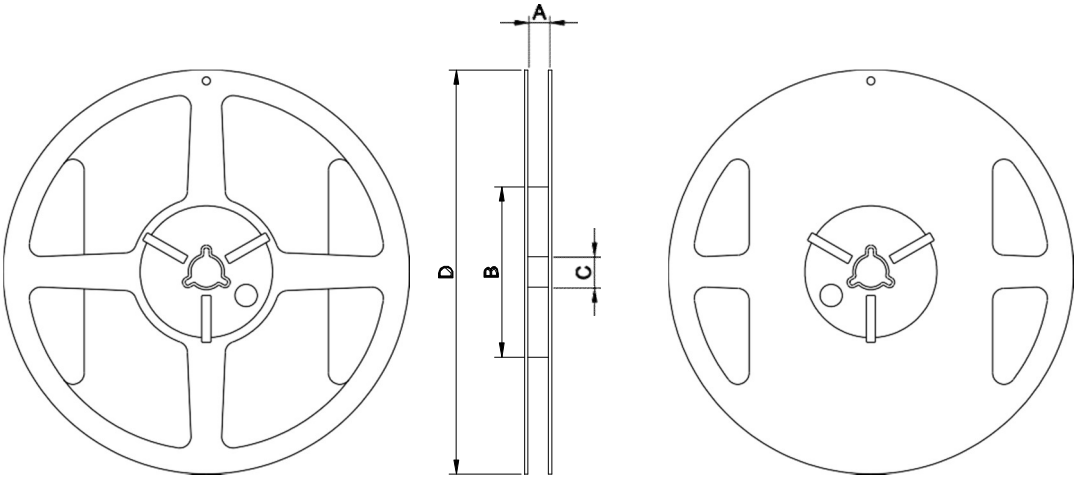
	Efficiency	Peak Gain
2400MHz	81.46%	1.67 dBi
2450MHz	84.75%	1.75 dBi
2500MHz	82.68%	1.70 dBi

6. Packaging Information

Tape Specification:



Reel Specification: (7'', Φ180 mm)



7''x 8 mm

Tape Width(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Chip/Reel(pcs)
8	9.0±0.5	60±2	13.5±0.5	178±2	3000

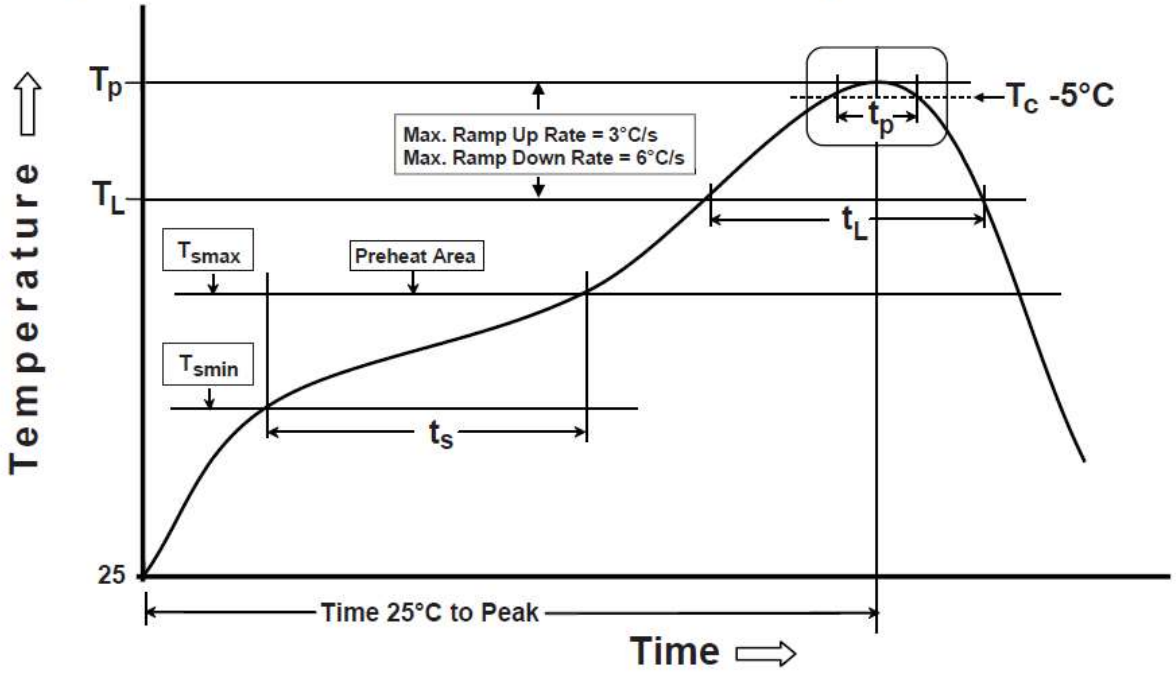
7. Recommended Reflow Temperature Profile

The products 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 second
RAMP-DOWN	Rate	6℃ / second max.
Time from 25℃ to Peak Temperature		8 minutes max.
Composition of solder paste		96.5Sn/3Ag/0.5Cu
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:

Soldering condition : Soldering 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.