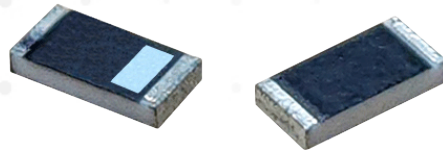




SPECIFICATION

Wi-Fi / Bluetooth / Zigbee - 2.4 GHz Chip Antenna



Model No. : UTCB03



1. General Description

1.1 Electrical Properties

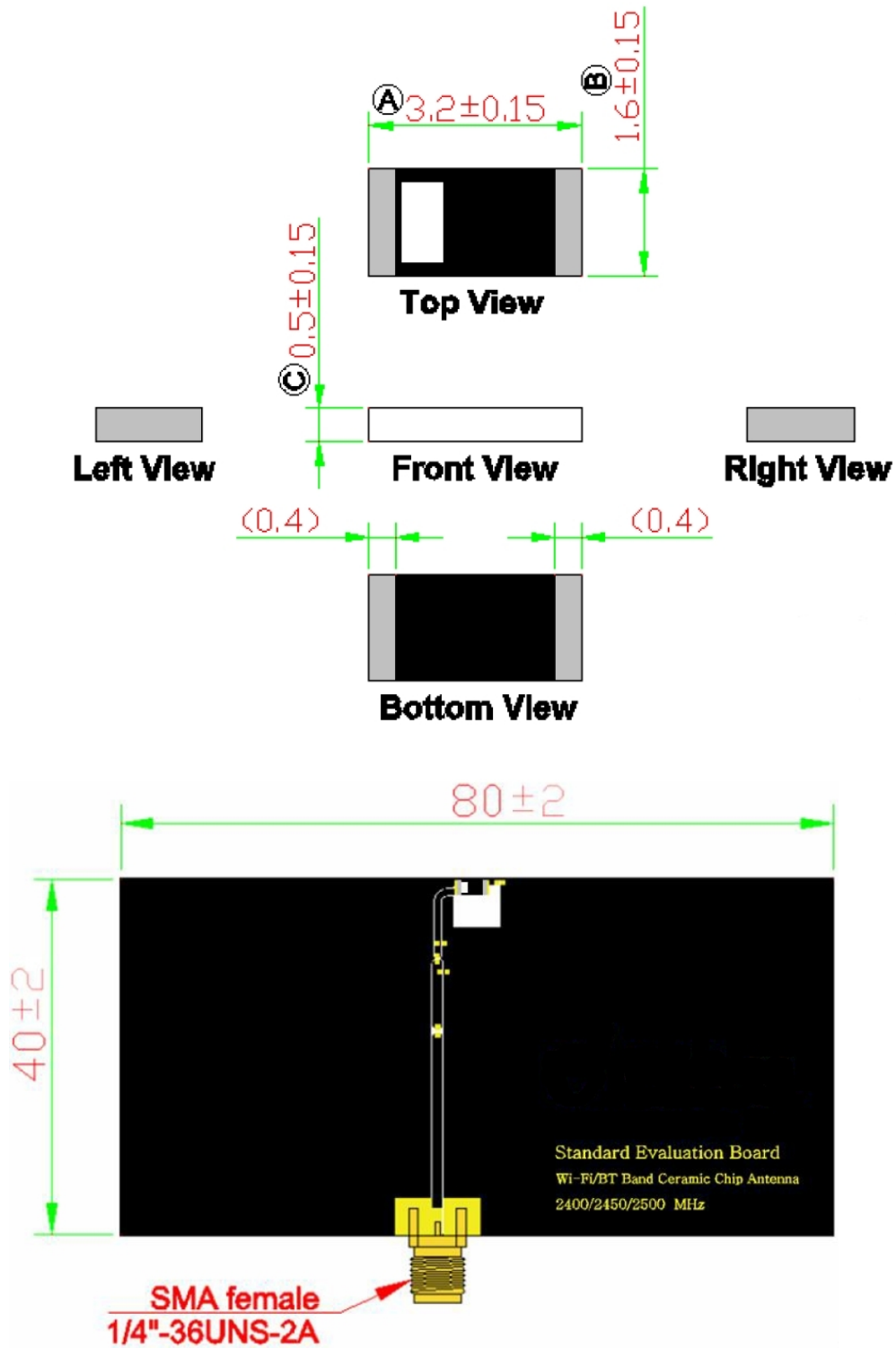
Parameter		Description
Frequency Band		2400~2500 MHz
Nominal Impedance		50 Ω
Polarization		Linear
V.S.W.R.		<2:1
Efficiency	@ 2442 MHz	84 %
Peak Gain		2.5 dBi
※With 80 x 40 mm Evaluation Board		

1.2 Mechanical Properties

Parameter	Description
Dimension	3.2×1.6×0.5 mm
Operating Temperature	-40°C~85°C
Storage Temperature (With Packing Sealed)	-5°C~40°C

2. Appearance

2.1 Dimensions Of Antenna And Evaluation Board (Unit : mm)



2.2 PIN Definitions

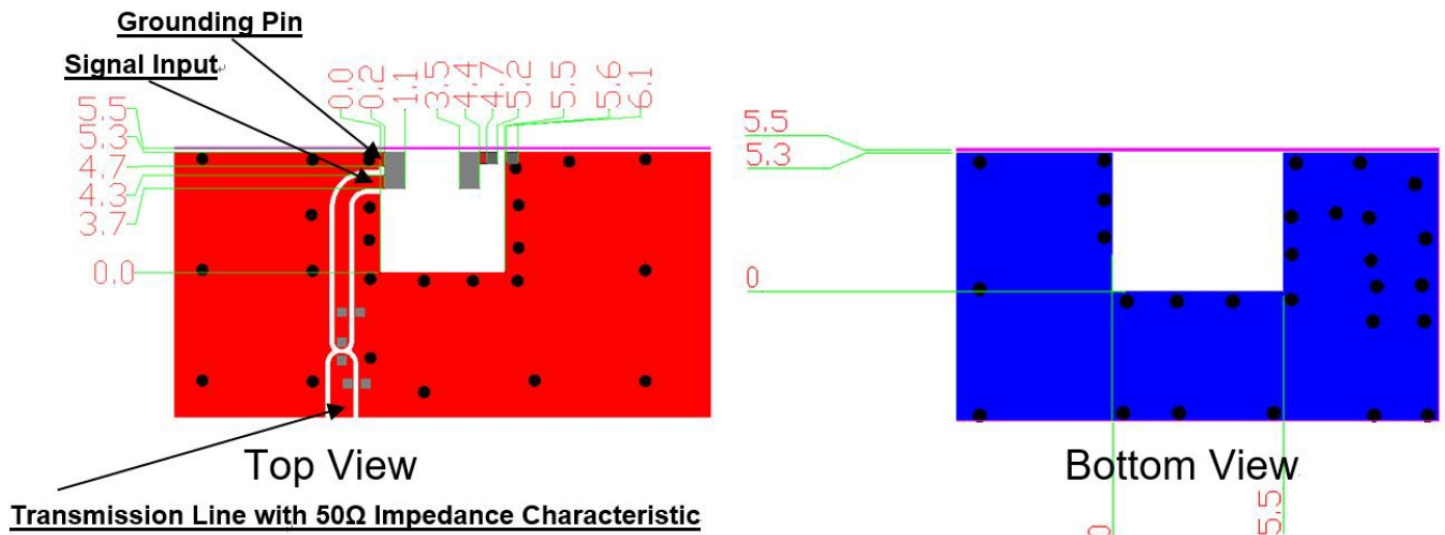


Item	PIN 1	PIN 2
Terminal	Signal Input	Tuning / Signal Output

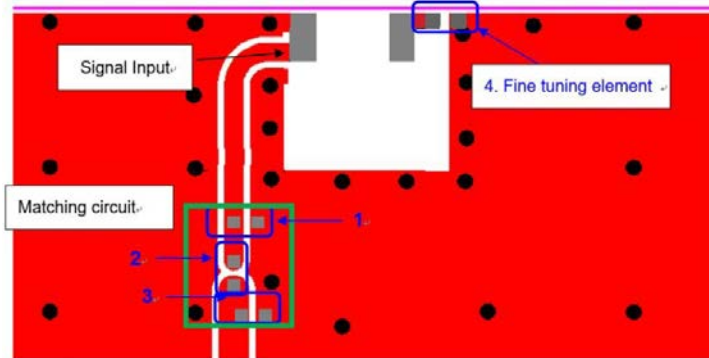
3. Layout Guide (Unit : mm)

The solder land pattern (gray marking areas) is shown as below.
 Recommendation on matching circuit will be provided according to customer's installation conditions.

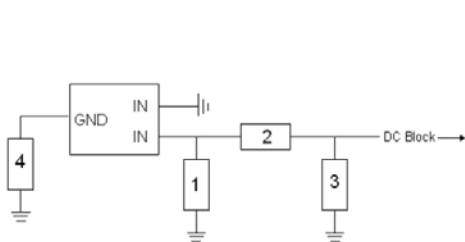
With 80 x 40 mm Evaluation Board



4. Frequency Tuning And Matching Circuit



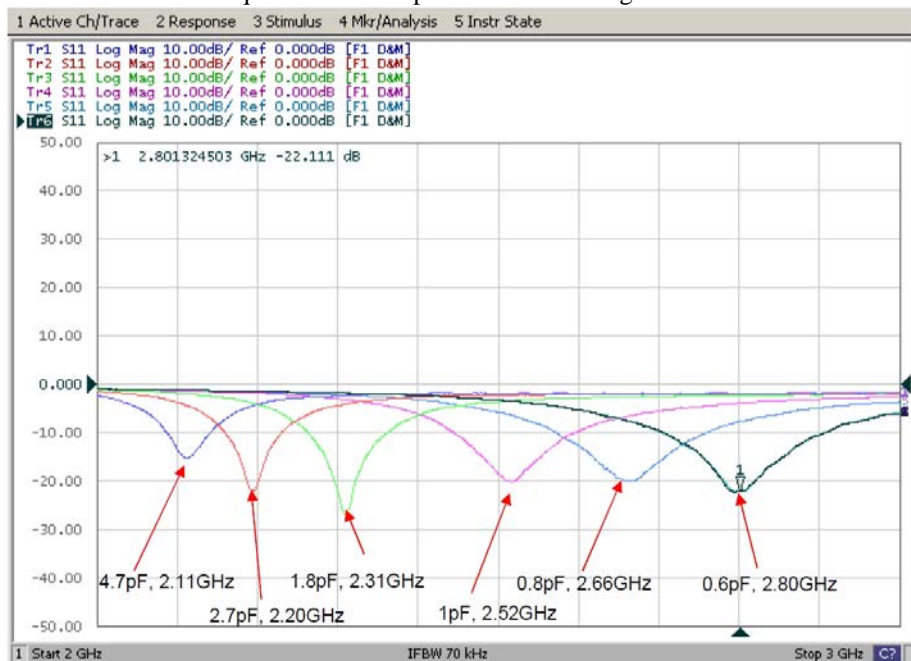
With the following recommended values of matching and tuning components, the center frequency will be about 2442 MHz at our standard 80x40 mm evaluation board.



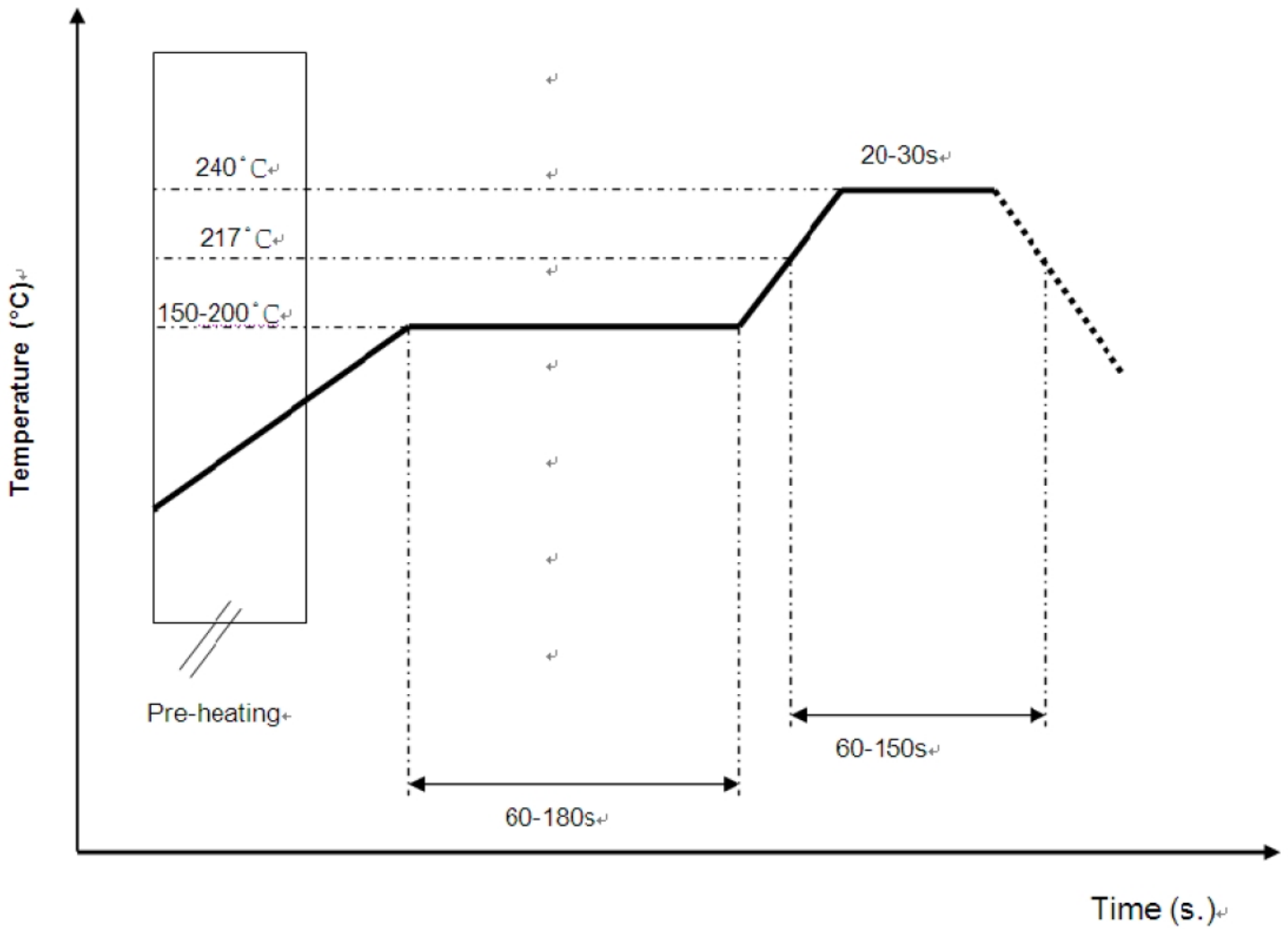
System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	1.2pF, (0402)	DARFON	±0.1 pF
2	3.3nH, (0402)	DARFON	±0.1 nH
3	N/A	-	-
4	Fine tuning element	DARFON	±0.1 pF

※These are typical reference values which may need to be changed when circuit boards or part vendors are different.

Frequencies VS. Capacitance Of Tuning Element



5. Soldering Conditions

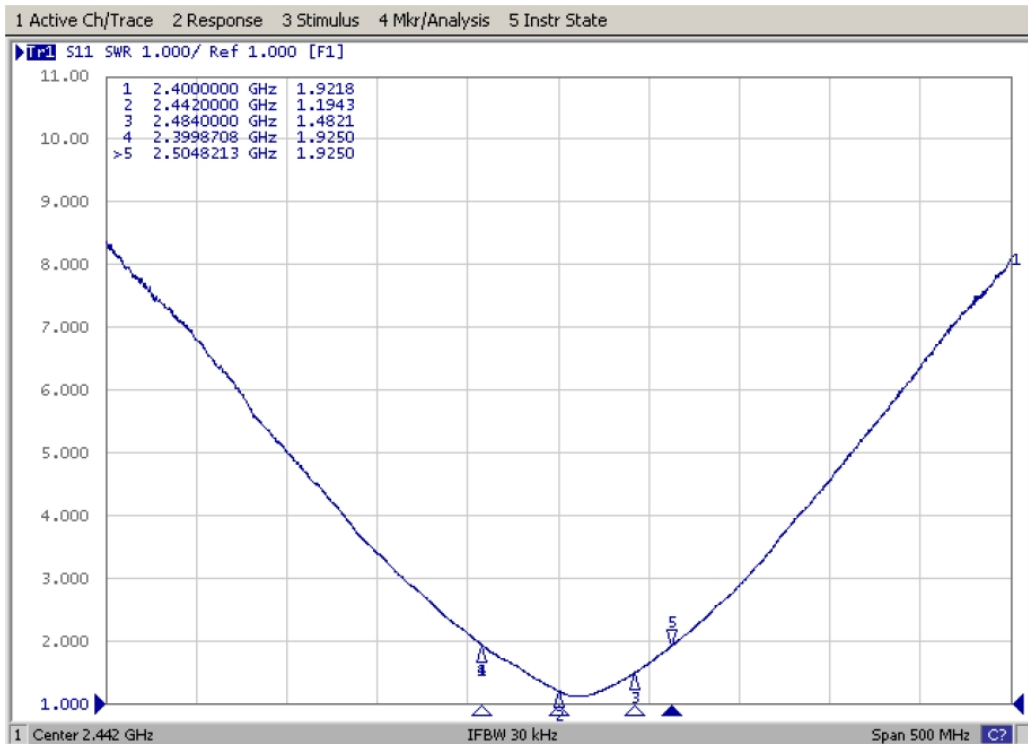
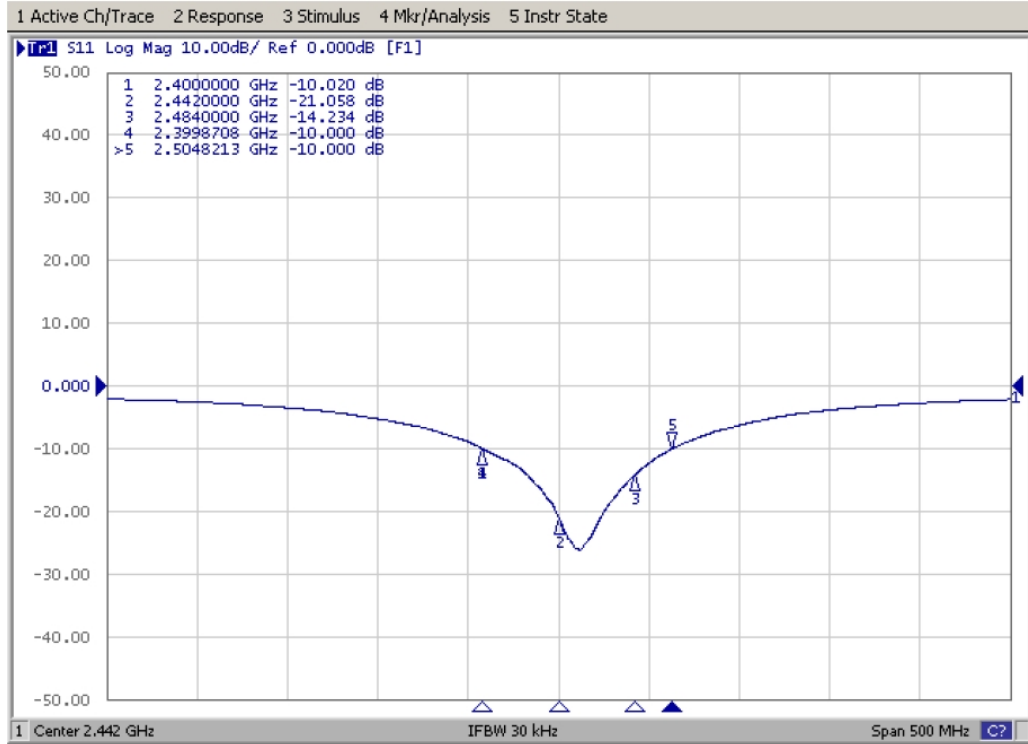


※Recommended solder paste alloy : SAC305(Sn96.5/Ag3/Cu0.5) Lead free solder paste.



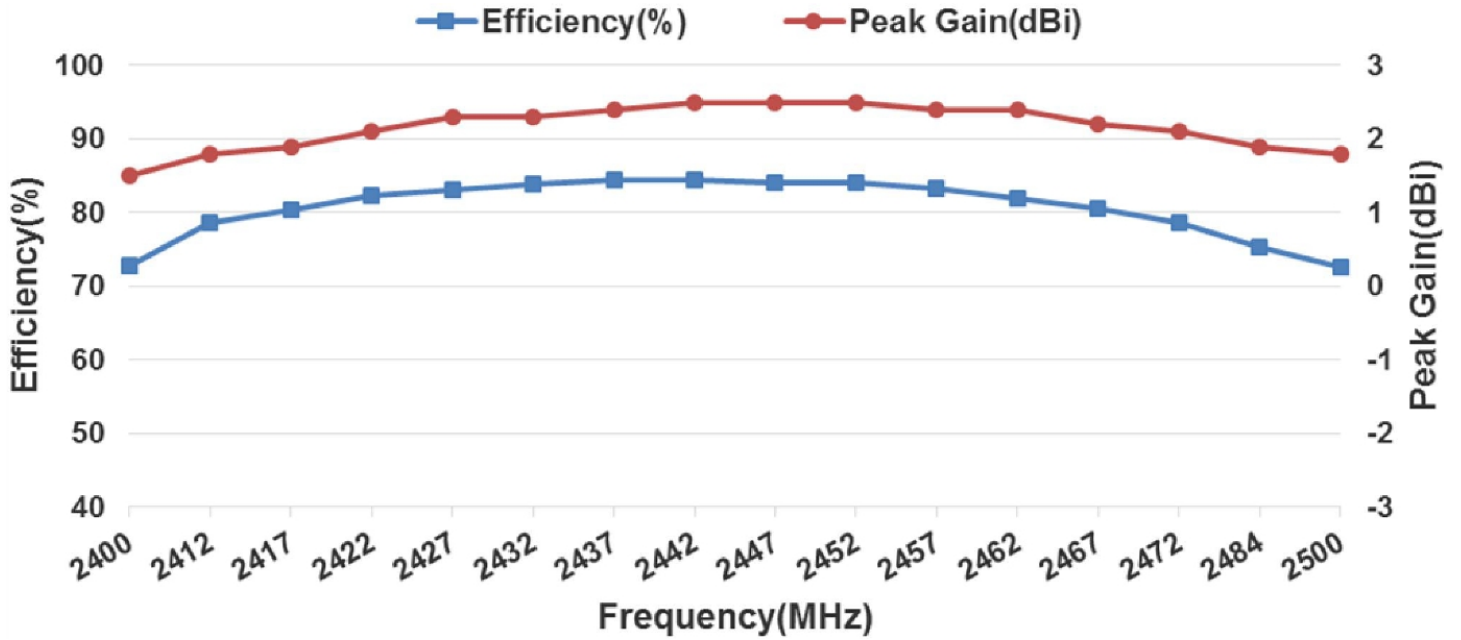
6. Performance

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





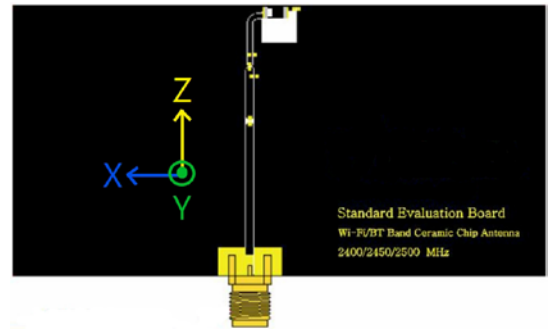
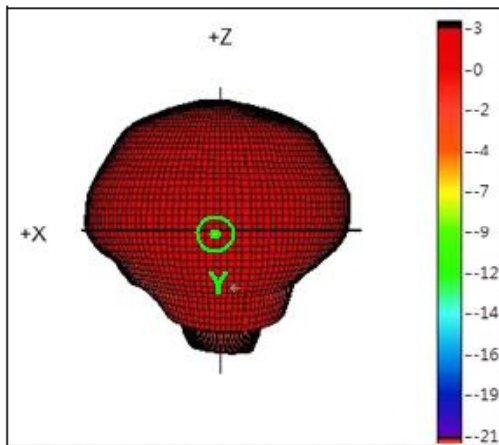
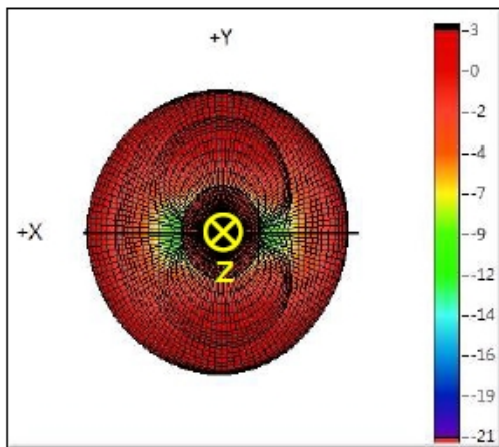
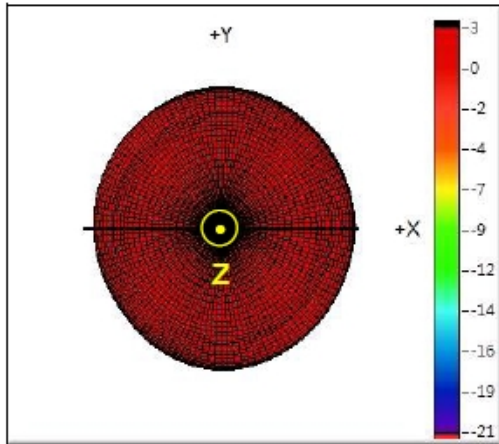
6.2 Efficiency & Peak Gain



Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484	2500
Efficiency (dB)	-1.4	-1	-0.9	-0.8	-0.8	-0.8	-0.7	-0.7	-0.8	-0.8	-0.8	-0.9	-0.9	-1	-1.2	-1.4
Efficiency (%)	72.8	78.7	80.4	82.3	83	83.9	84.4	84.5	84.1	84	83.2	82	80.5	78.6	75.4	72.5
Peak Gain (dBi)	1.5	1.8	1.9	2.1	2.3	2.3	2.4	2.5	2.5	2.5	2.4	2.4	2.2	2.1	1.9	1.8

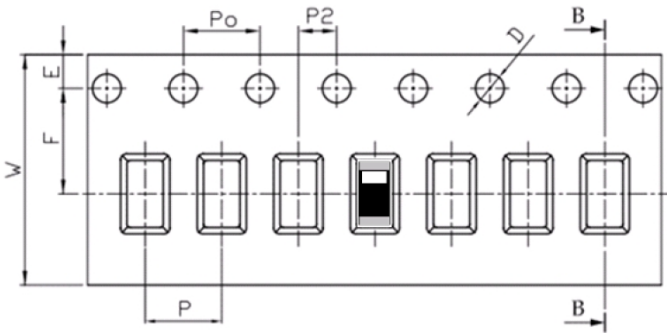
6.3 3D Radiation Pattern

3D Gain Pattern @ 2442 MHz (Unit : dBi)



7. Packing

- Tape :



Feature	Specifications	Tolerances
W	12.00	±0.30
P	4.00	±0.10
E	1.75	±0.10
F	5.50	±0.10
P2	2.00	±0.10
D	1.50	+0.10 -0.00
P0	4.00	±0.10
10P0	40.00	±0.20

- Reel : 5,000 pcs

