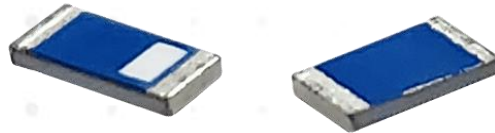




SPECIFICATION

Dual Wi-Fi—2.4/5 GHz Chip Antenna



Model No. : UTCDW03



1. General Description

1.1 Electrical Properties

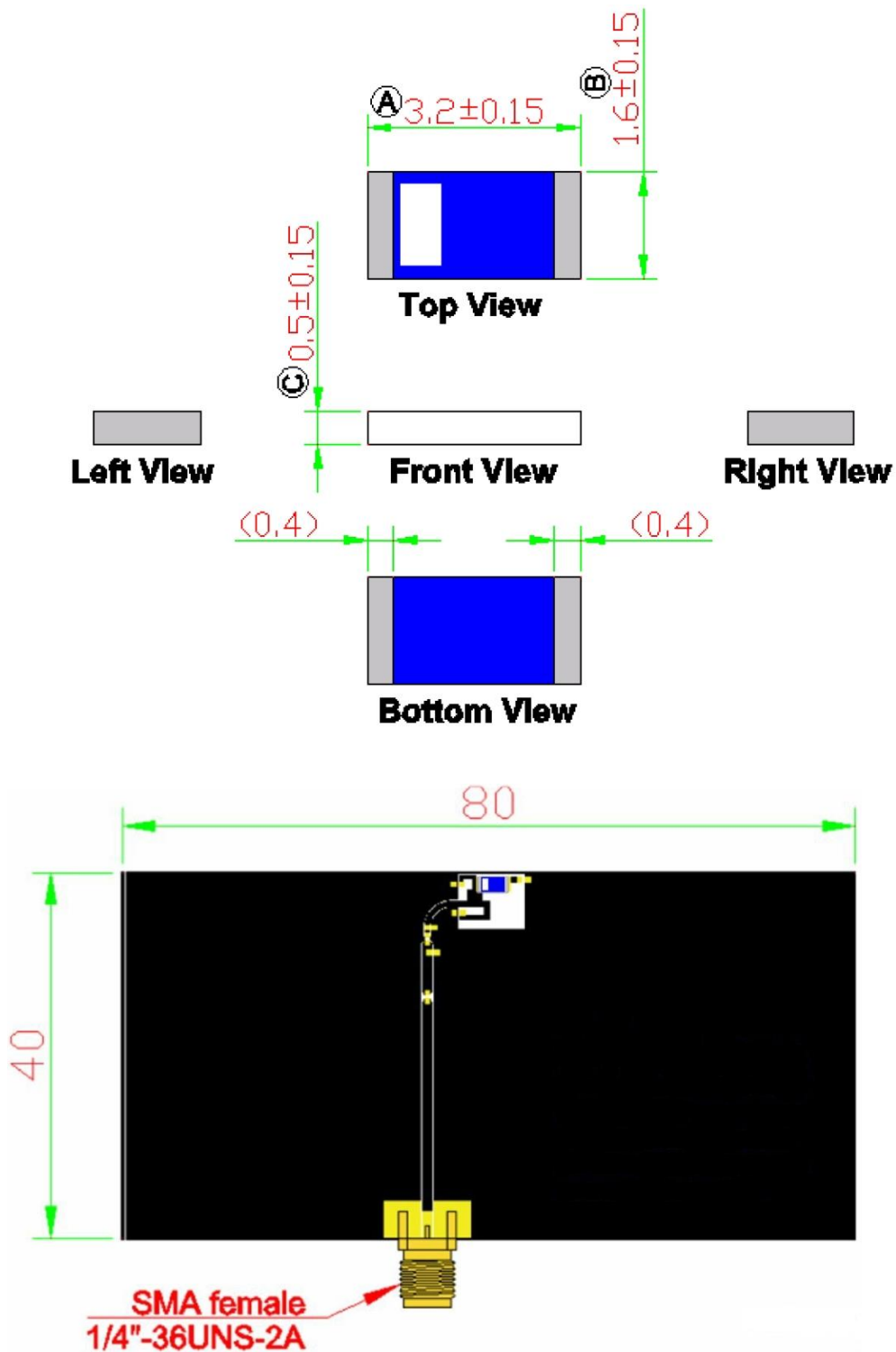
Parameter	Description	
Frequency Band	2400~2500 MHz	5150~5850 MHz
Nominal Impedance	50 Ω	
Polarization	Linear	
V.S.W.R.	<2:1	
Efficiency	76 %	67 %
Peak Gain	1.4 dBi	2.3 dBi
※With 80 x 40 mm Evaluation Board		

1.2 Mechanical Properties

Parameter	Description
Dimensions	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

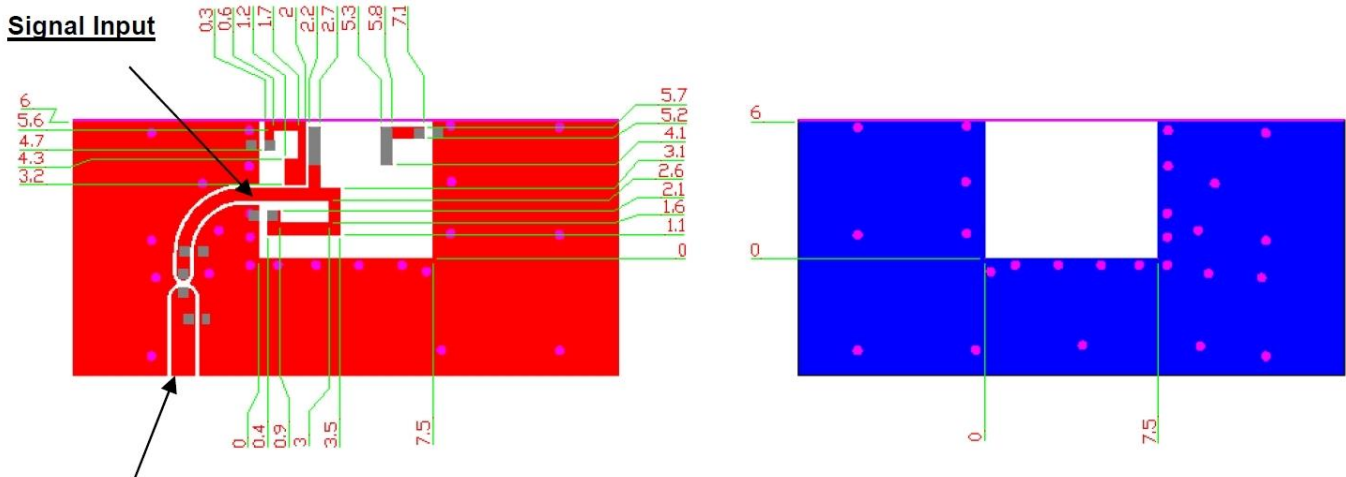


Item	PIN 1	PIN 2
Terminal	Signal Input	Tuning / Signal Output

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

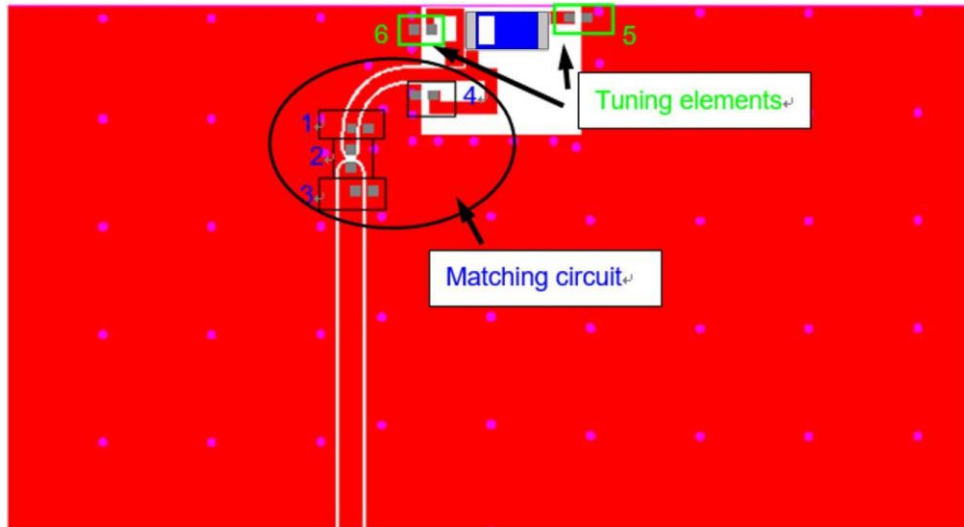


Transmission Line with 50Ω Impedance Characteristic

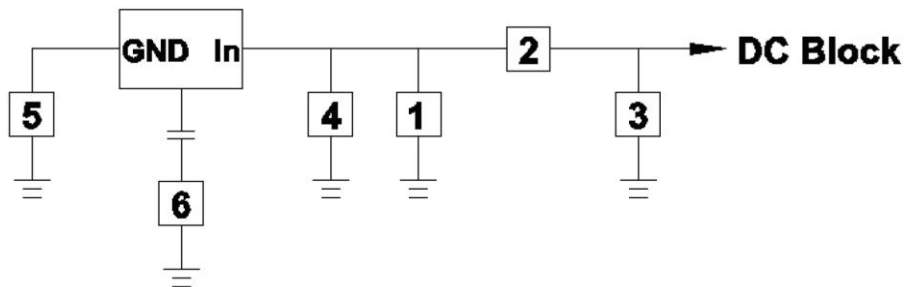
Top View

Bottom View

4. Frequency Tuning And Matching Circuit



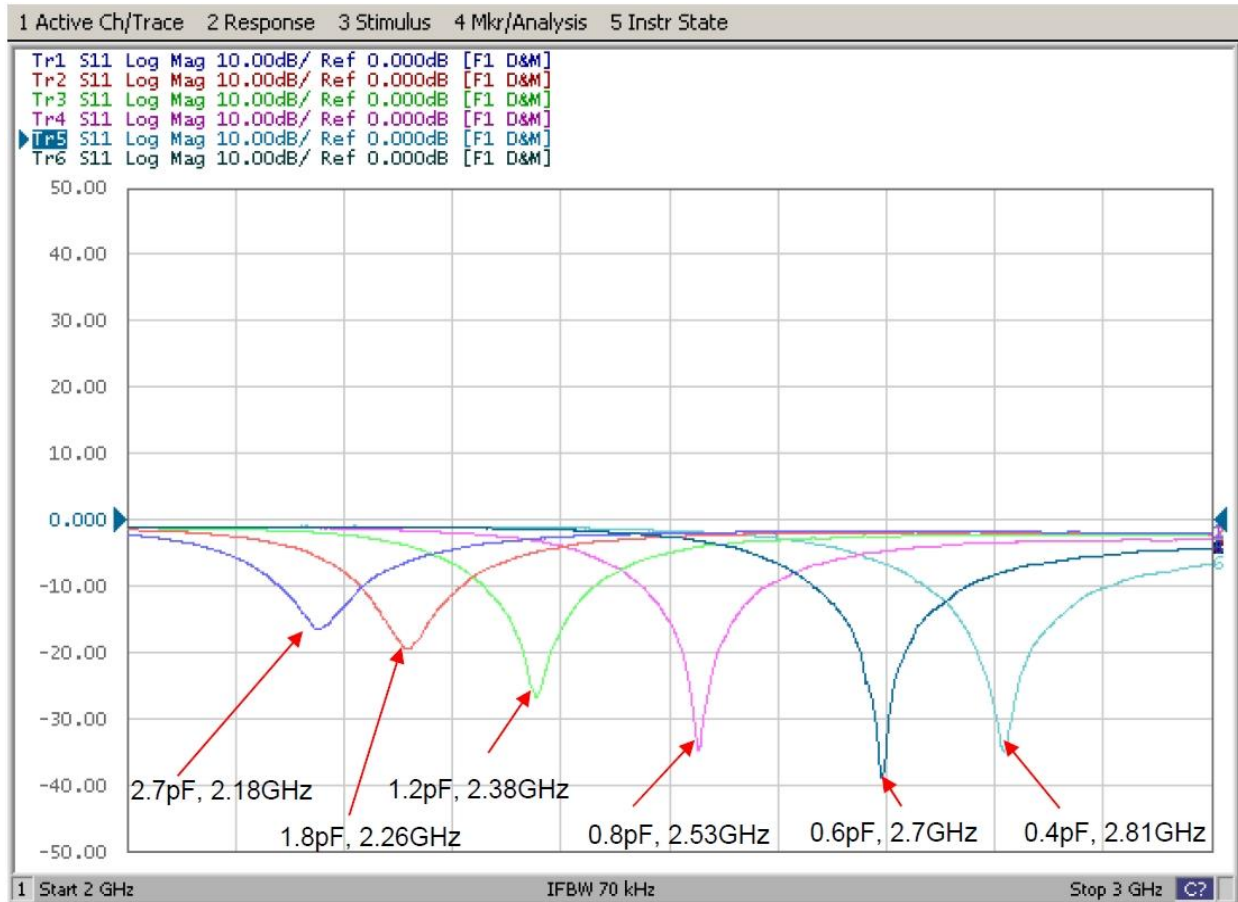
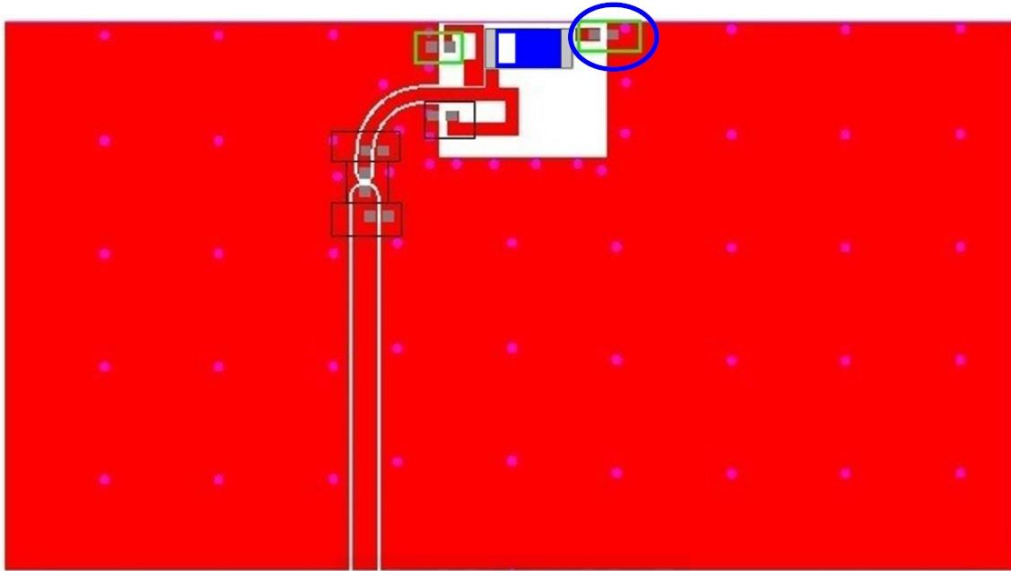
With the following recommended values of matching and tuning components, the center frequency will be about 2442 MHz for lower band & 5500 MHz for higher band at our standard 80x40 mm evaluation board.



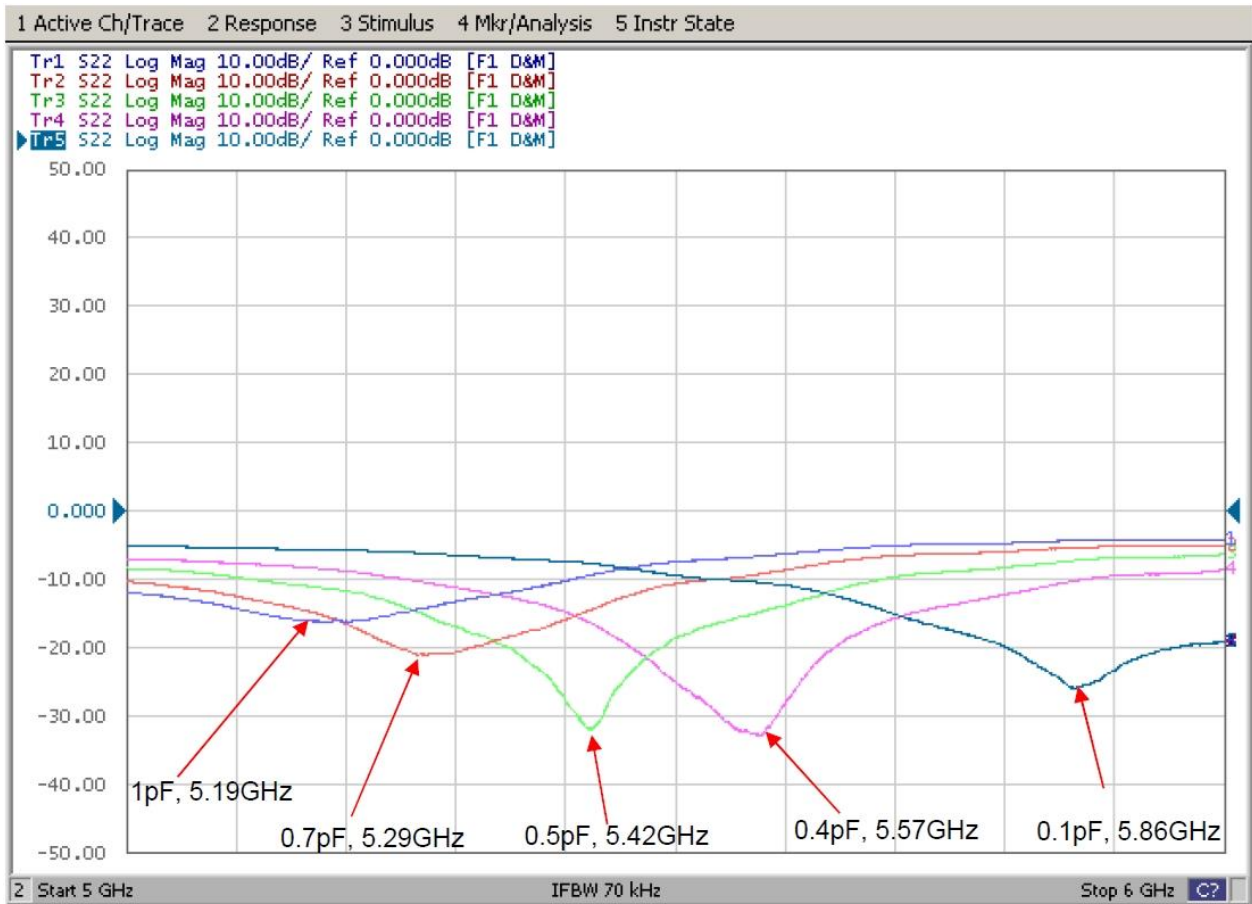
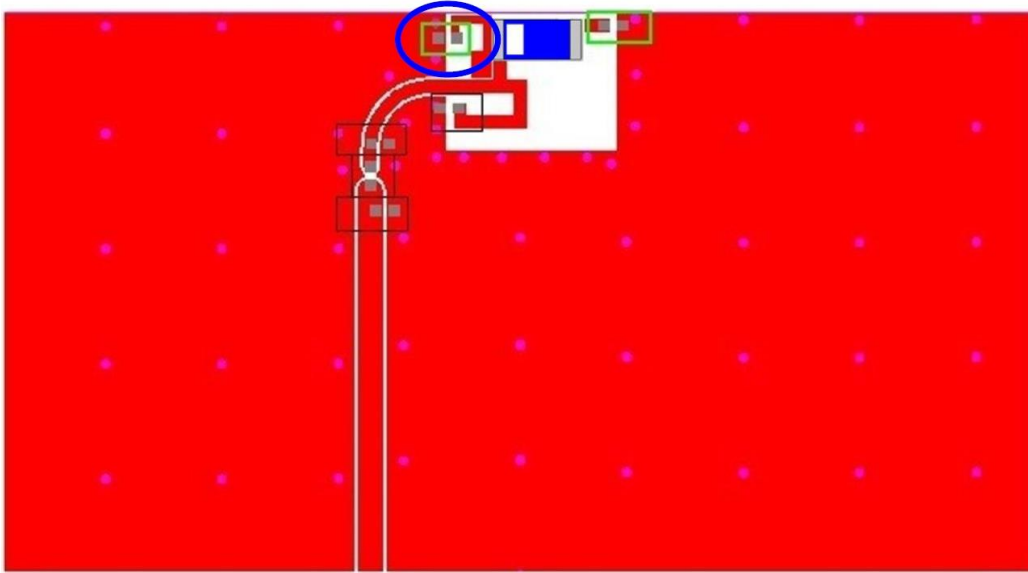
System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	N/A		
2	1nH, (0402)	MURATA	±0.1 nH
3	0.2 pF, (0402)	MURATA	±0.05 pF
4	22 pF, (0402)	MURATA	±0.05 pF
5 Fine tuning element	1 pF, (0402)	MURATA	±0.05 pF
6 Fine tuning element	0.2 pF, (0402)	MURATA	±0.05 pF

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

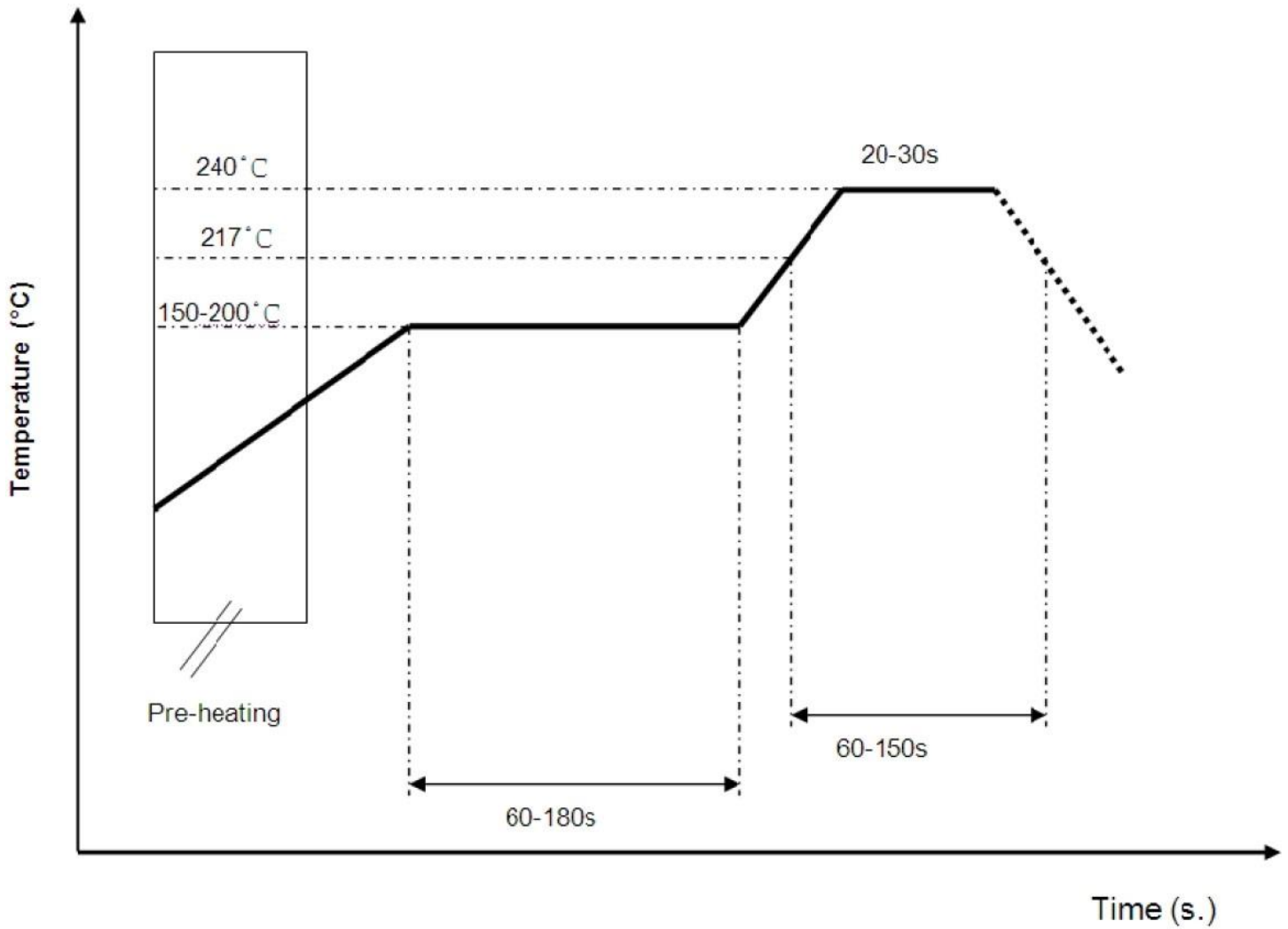
Reference For Frequency Tuning Element (2400~2500 MHz)



Reference For Frequency Tuning Element (5150~5850 MHz)



5. Soldering Conditions

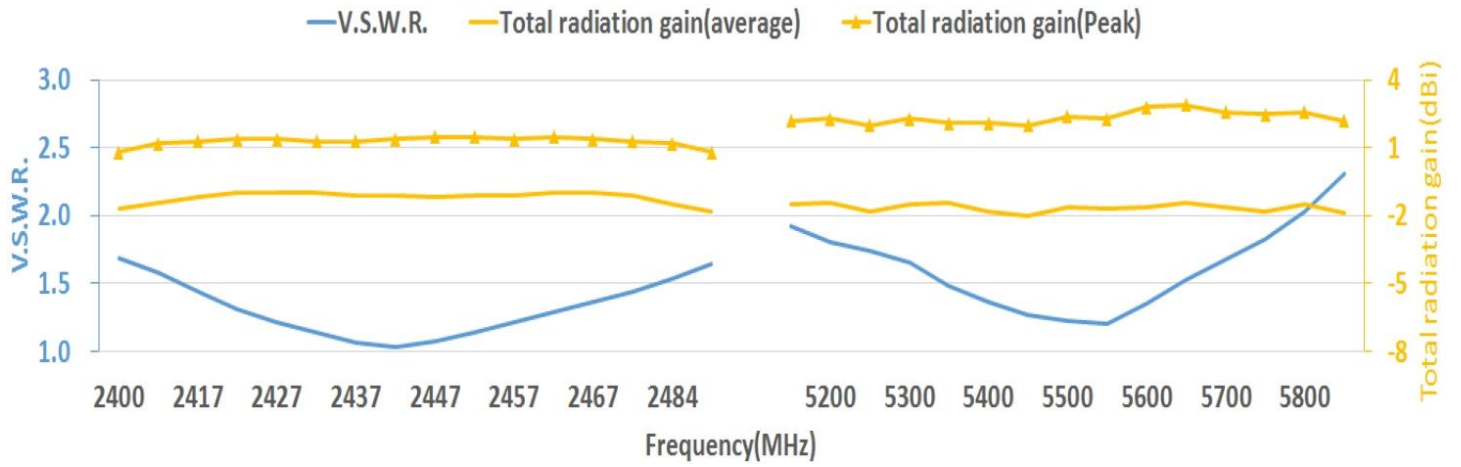


※Recommended solder paste alloy : SAC305(Sn96.5/Ag3/Cu0.5) Lead free solder paste.



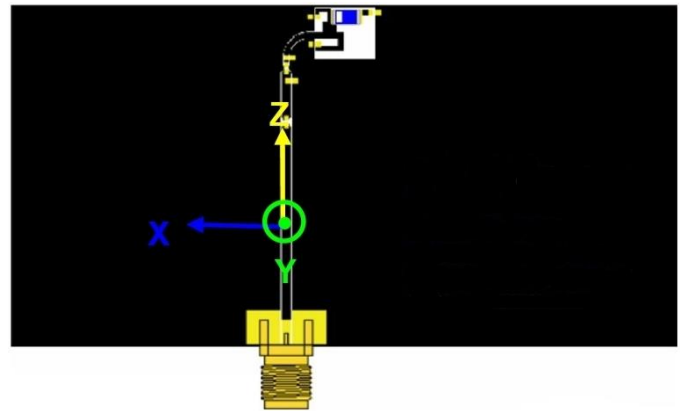
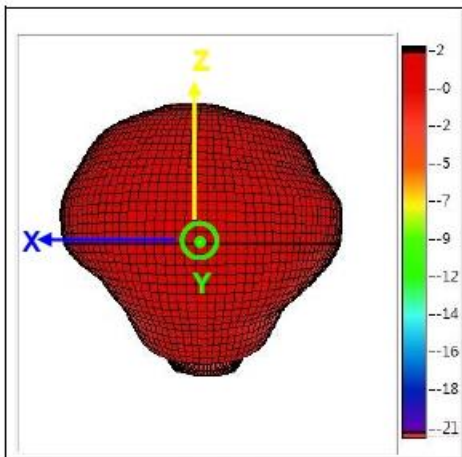
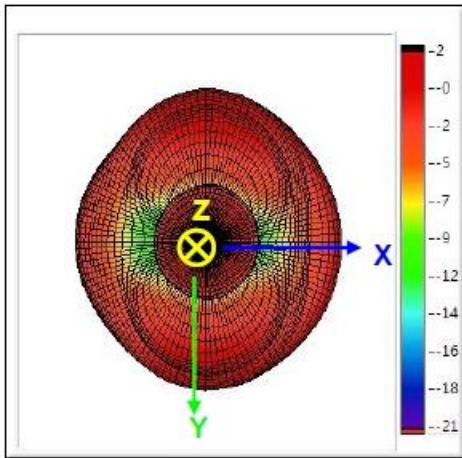
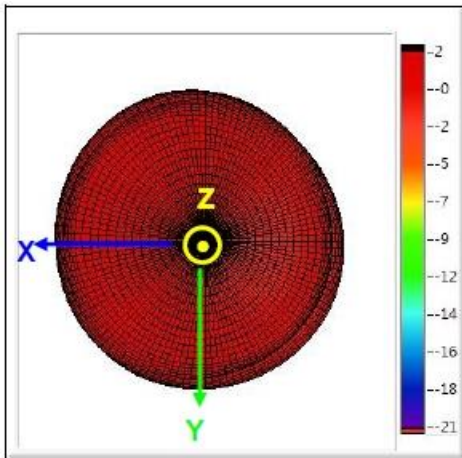
6. Performance

6.1 V.S.W.R. , Average Gain , Peak Gain

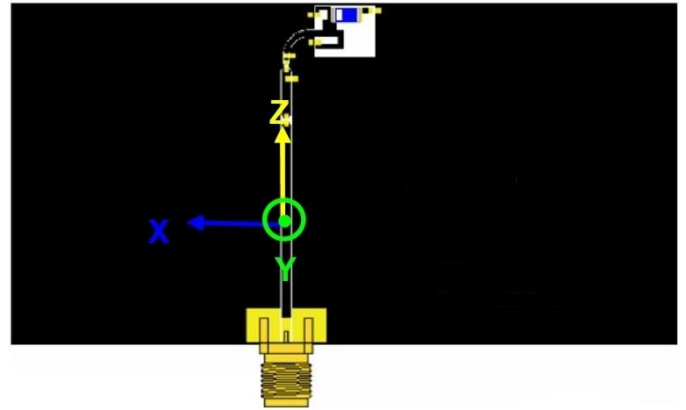
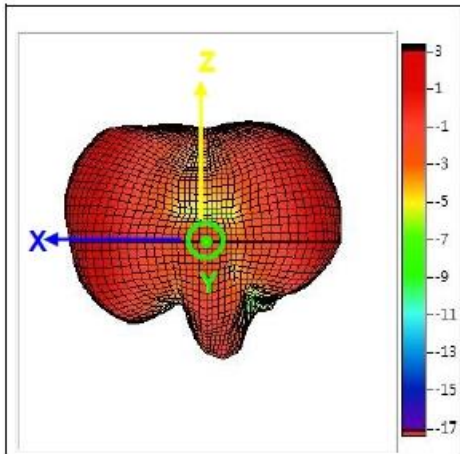
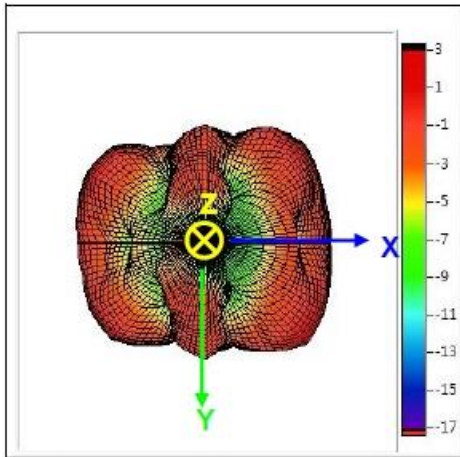
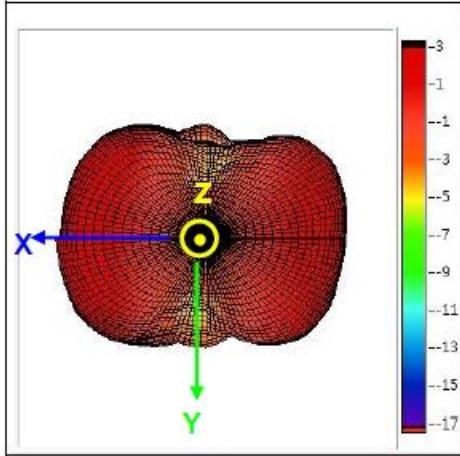


6.2 3D Radiation Pattern

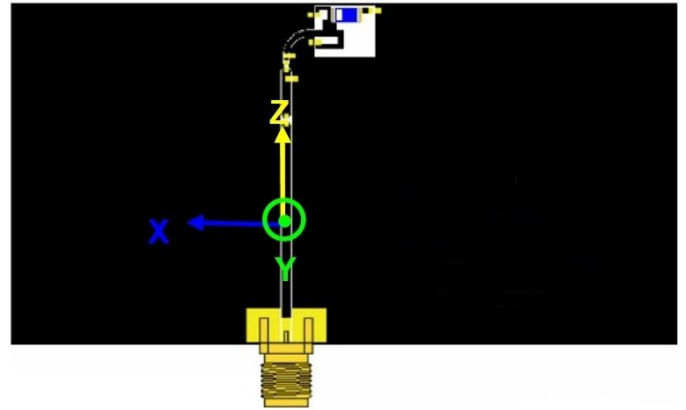
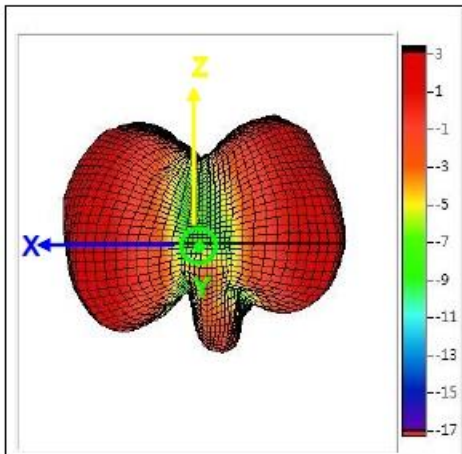
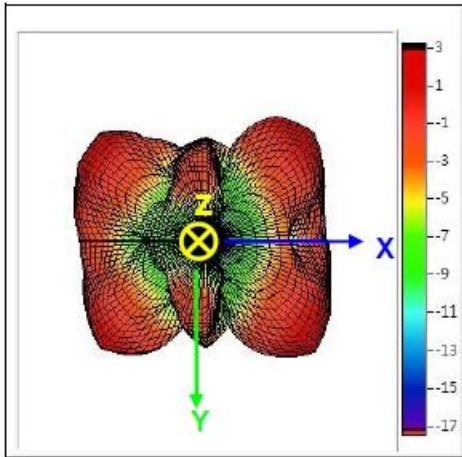
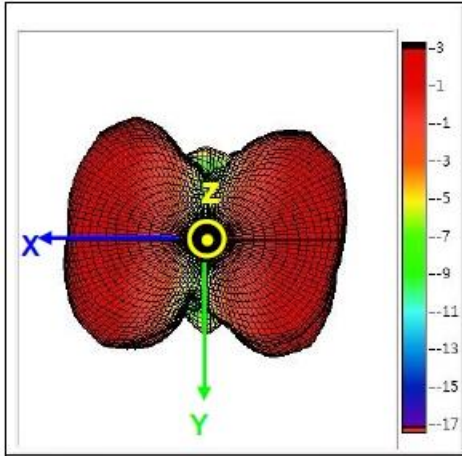
3D Gain Pattern @ 2442 MHz (Unit : dBi)



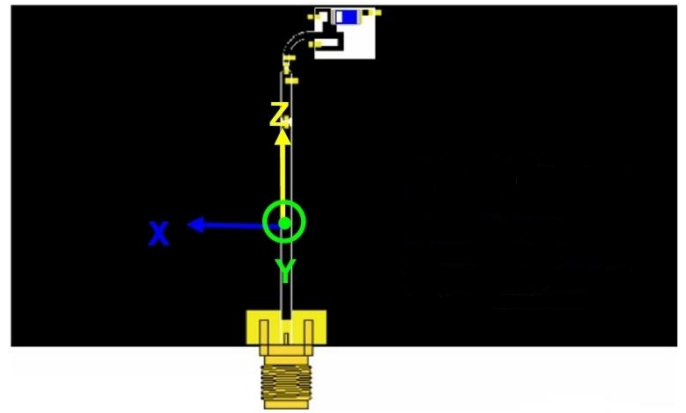
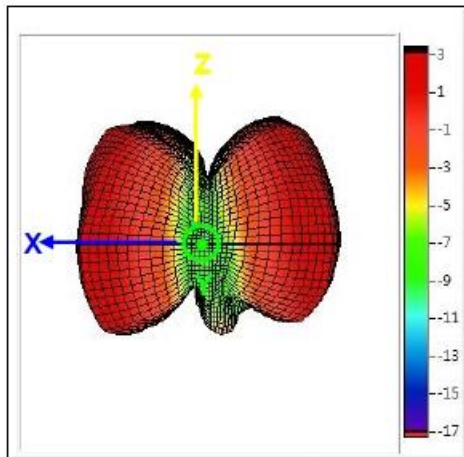
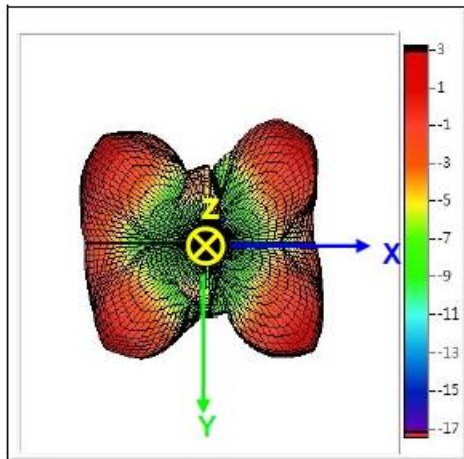
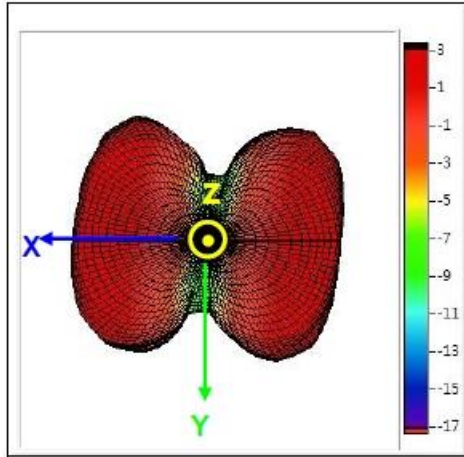
3D Gain Pattern @ 5150 MHz (Unit : dBi)



3D Gain Pattern @ 5500 MHz (Unit : dBi)

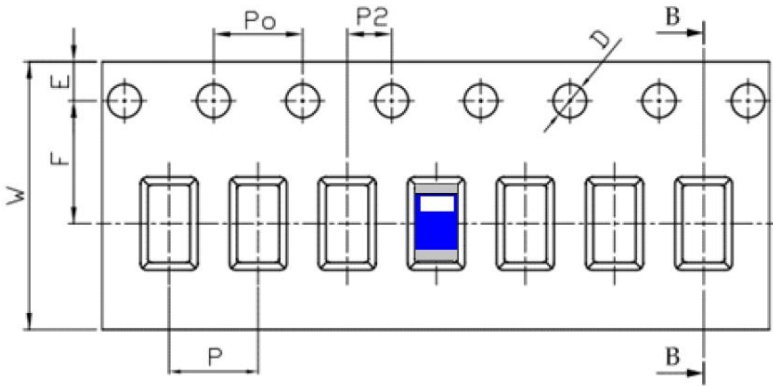


3D Gain Pattern @ 5850 MHz (Unit : dBi)



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
P ₂	2.00	±0.10
D	1.50	+0.10 -0.00
P ₀	4.00	±0.10
10P ₀	40.00	±0.20

- Reel : 5,000 pcs

