RF Antenna Technology
享 元 科 技

SPECIFICATION

2G／3G／4G LTE Chip Antenna

Model No.：UCCL01

1. General Description

1.1 Electrical Properties

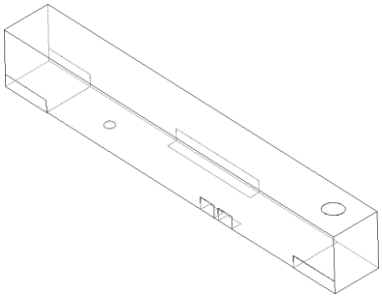
Parameter	Description				
Frequency Band	698~960/1710~2700 MHz				
Nominal Impedance	50 Ω				
Polarization	Linear				
V.S.W.R	<3.5:1				
(MHz)	698~798	824~960	1710~2170	2300~2400	2490~2690
Efficiency	65 %	57 %	69 %	67 %	62 %
Peak Gain	1.4 dBi	0.7 dBi	3.2 dBi	3.8 dBi	4.2 dBi
※With 45x 120 mm Evaluation Board & 45 x 13 mm Clearance Area					

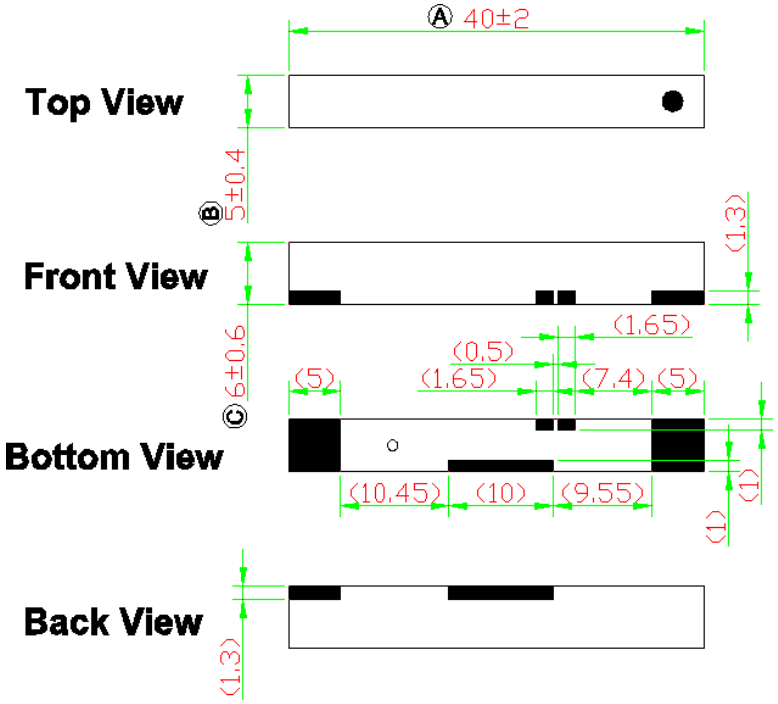
1.2 Mechanical Properties

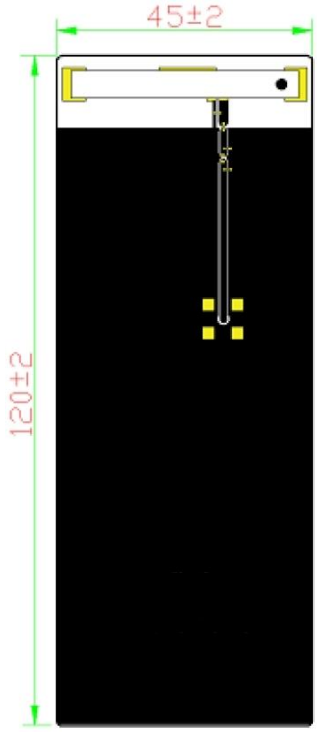
Parameter	Description
Dimension	40×5×6 mm
Operating Temperature	-40˚C~85˚C
Storage Temperature (With Packing Sealed)	-5˚C~40˚C

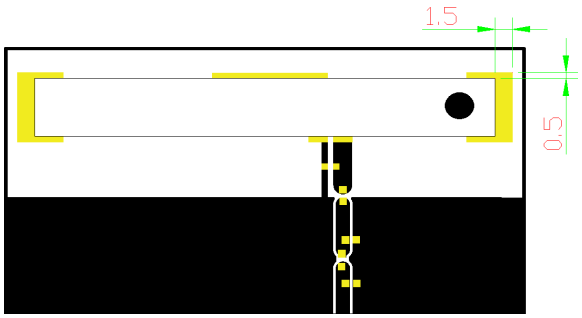
2. Appearance

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

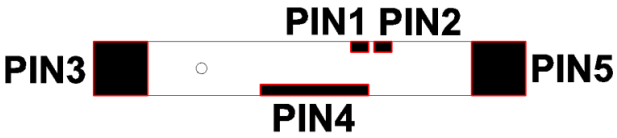








2.2 PIN Definitions



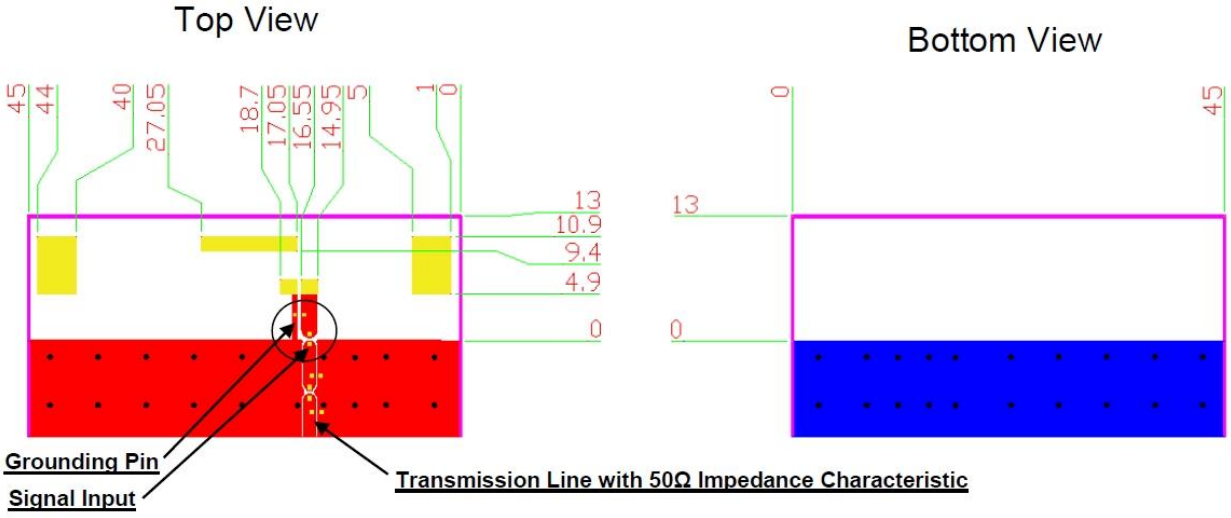
Bottom View

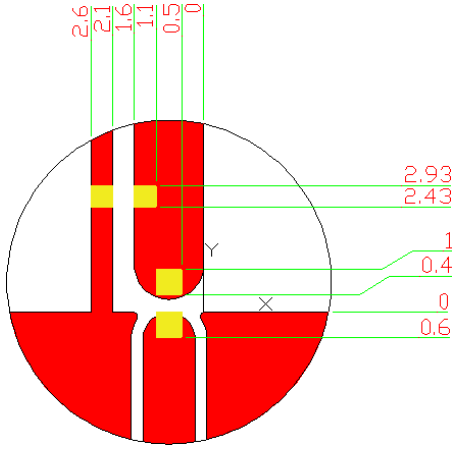
Item	PIN 1	PIN 2	PIN 3~5
Soldering Pad	Tuning / Ground	Signal	N/C

3. Layout Guide (Unit：mm)

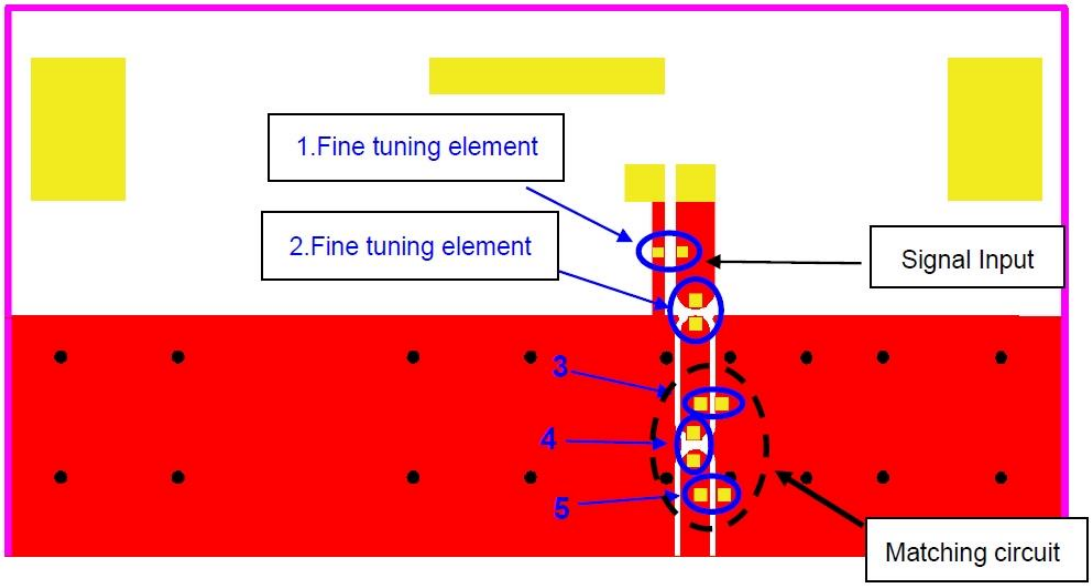
The solder land pattern (yellow marking areas) is shown as below.
Recommendation on matching circuit will be provided according to customer's installation conditions.

With 45 x 120 mm Evaluation Board

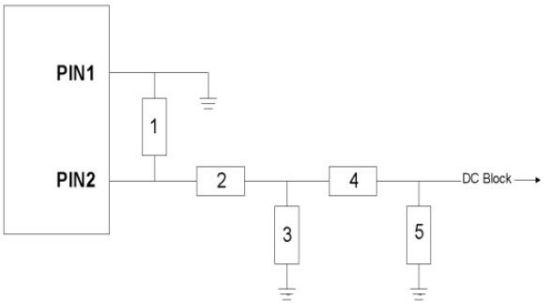




4. Frequency Tuning And Matching Circuit



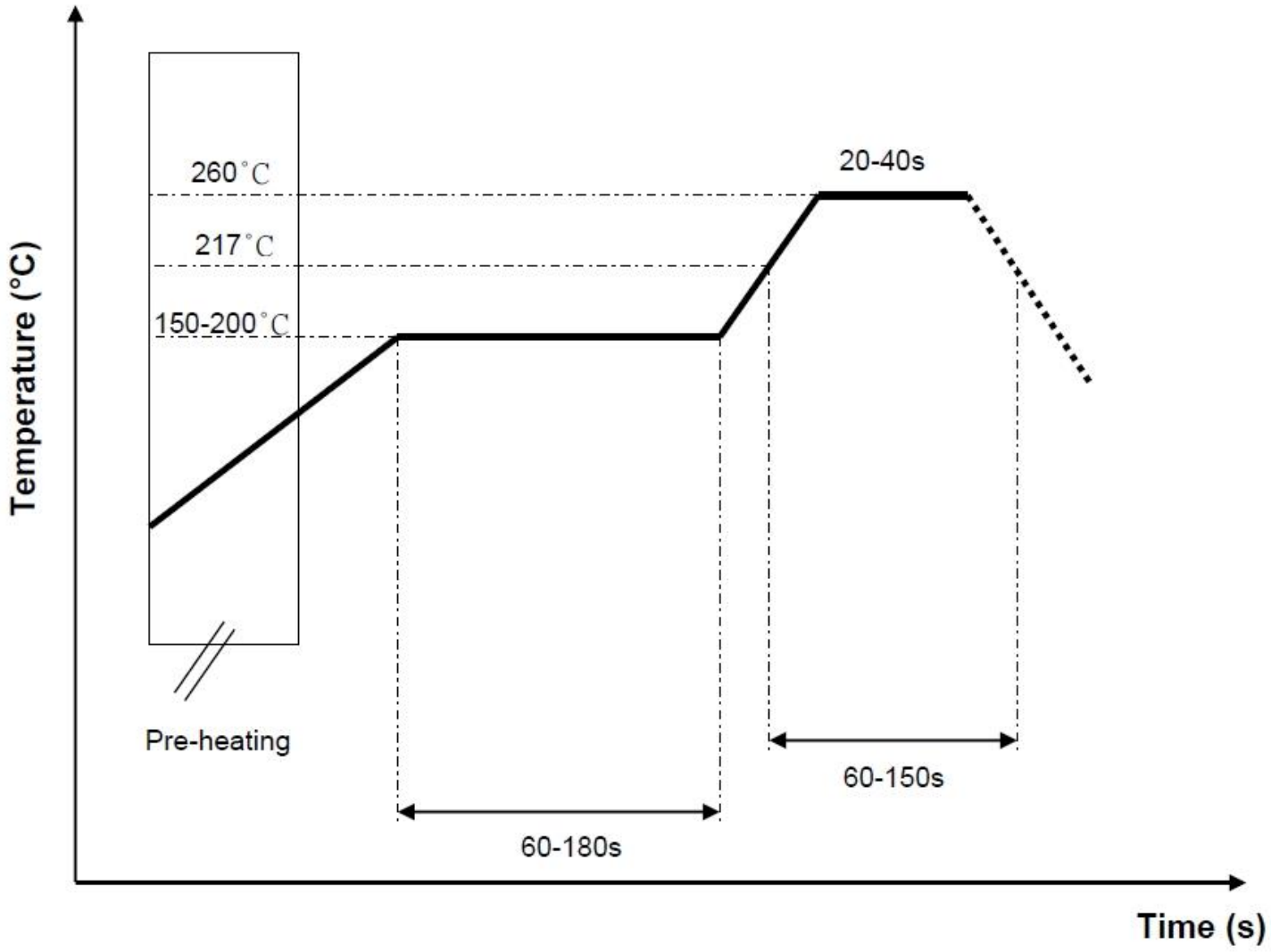
With the following recommended values of matching and tuning components, the covering frequency bands will be about 698~960 & 1710~2700 MHz at our standard 45x120 mm evaluation board.



System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1 Fine tuning element	5.6 nH (0402)	MURATA	±0.1 nH
2 Fine tuning element	3.6 pF (0402)	MURATA	±0.05 pF
3	N/C	-	-
4	0Ω (0402)	-	-
5	N/C	-	-

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

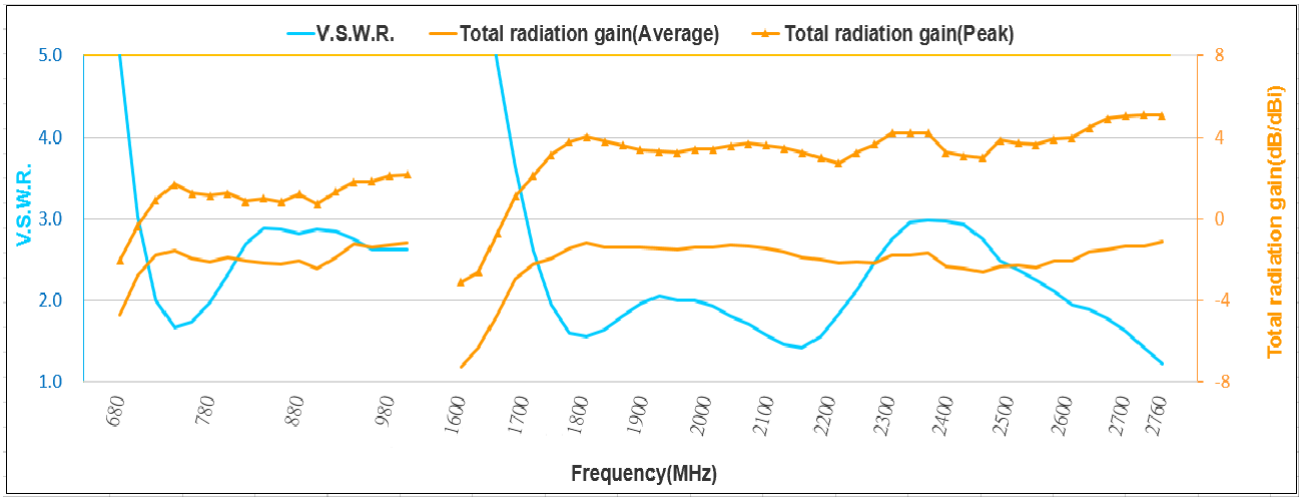
5. Soldering Conditions



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

6. Performance

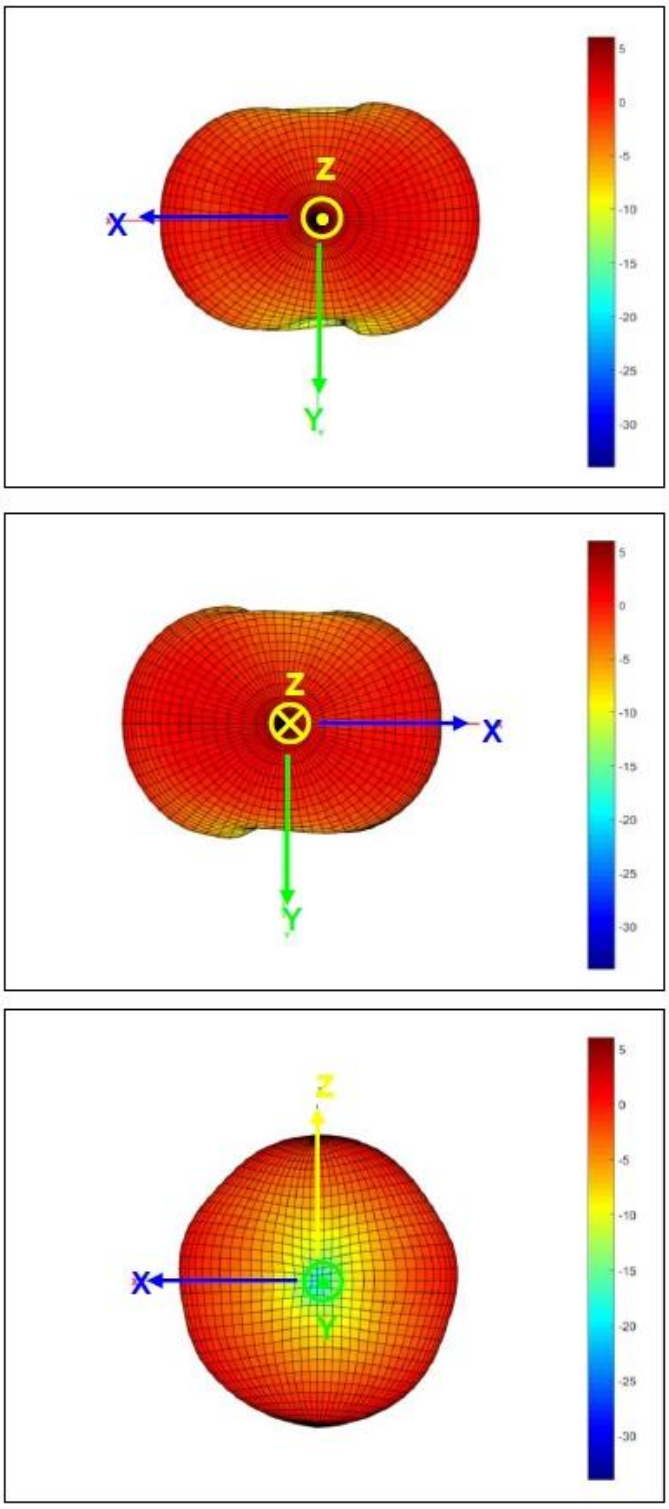
6.1 V.S.W.R. , Average Gain , Peak Gain

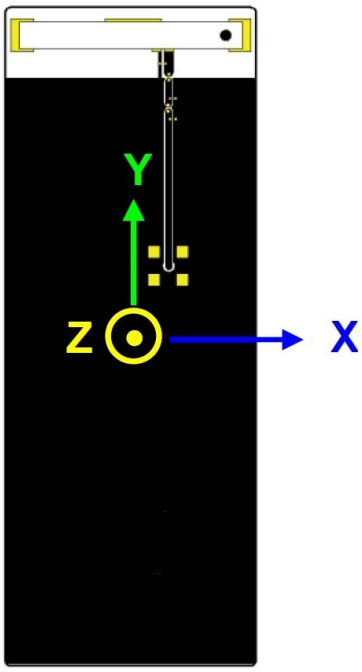


6.2 3D Radiation Pattern

698~798 MHz

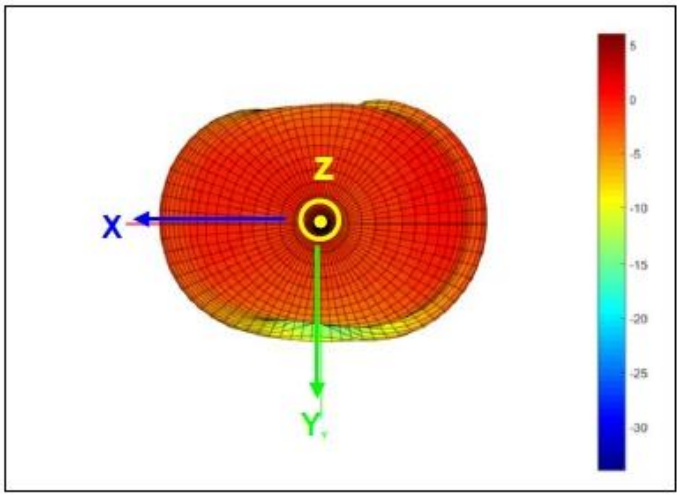
3D Gain Pattern @ 748 MHz (Unit : dBi)

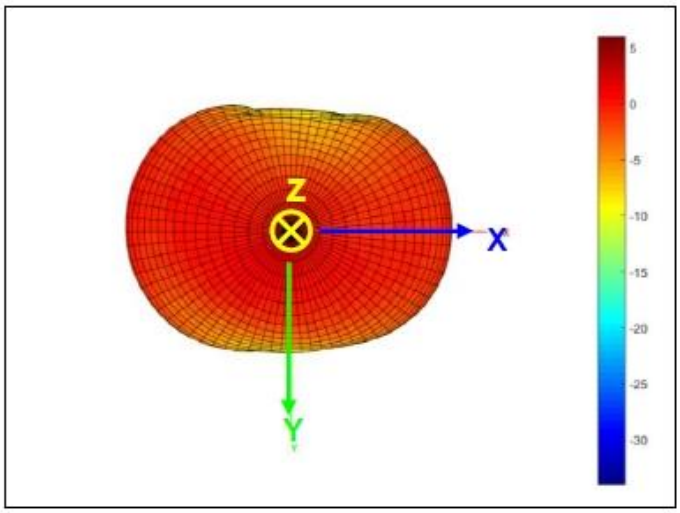


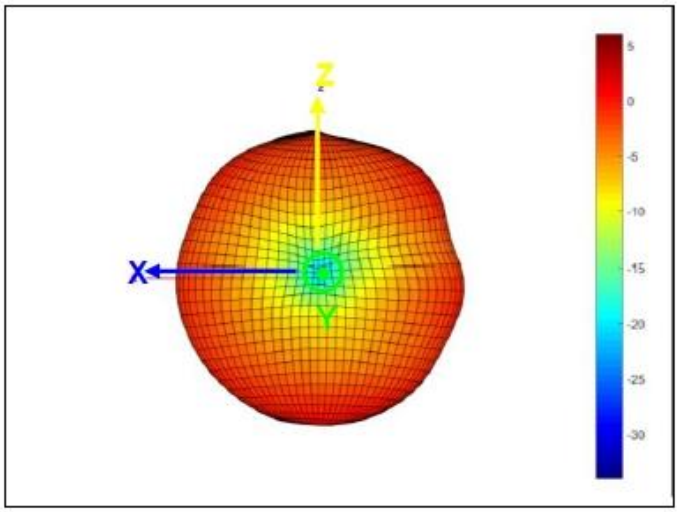


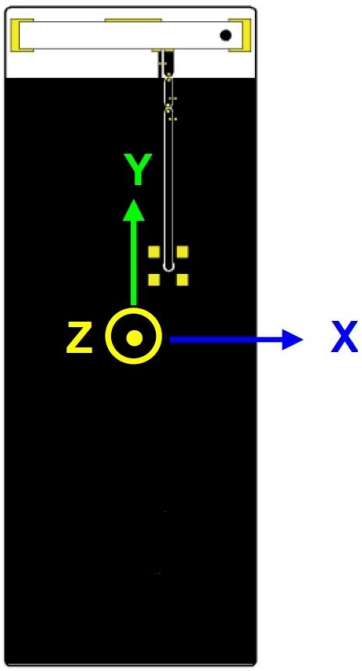
824~960 MHz

3D Gain Pattern @ 900 MHz (Unit : dBi)



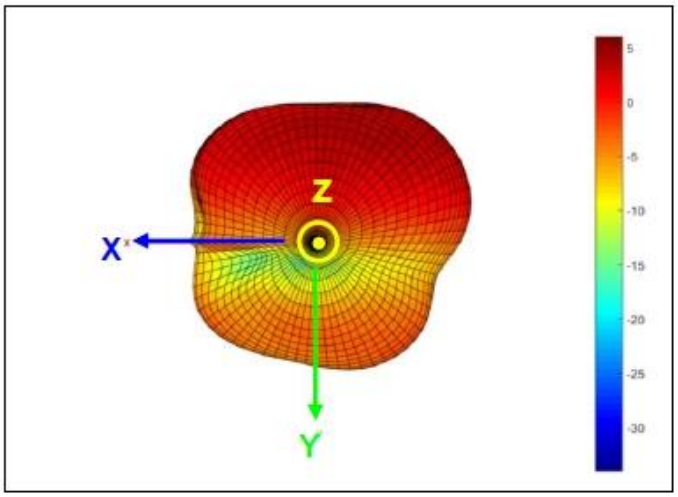


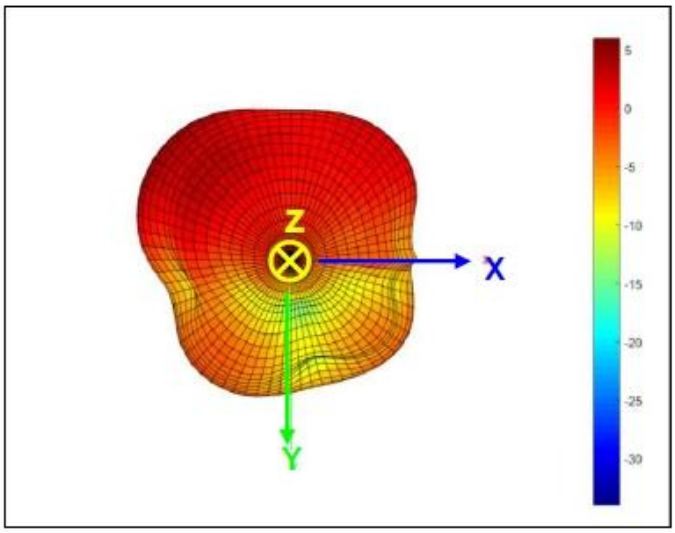


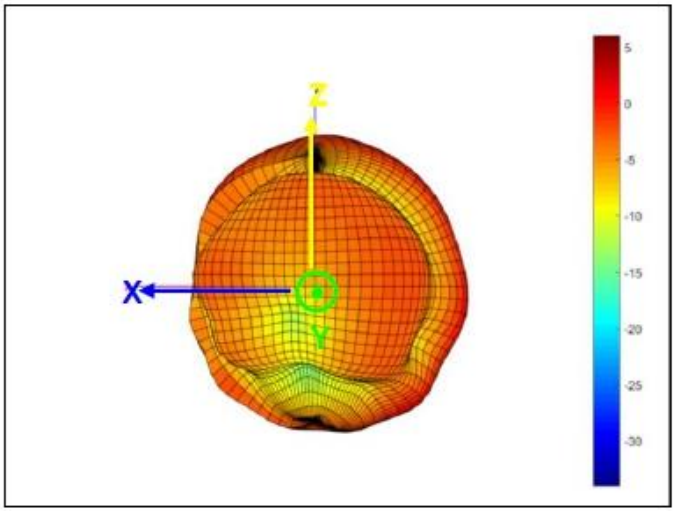


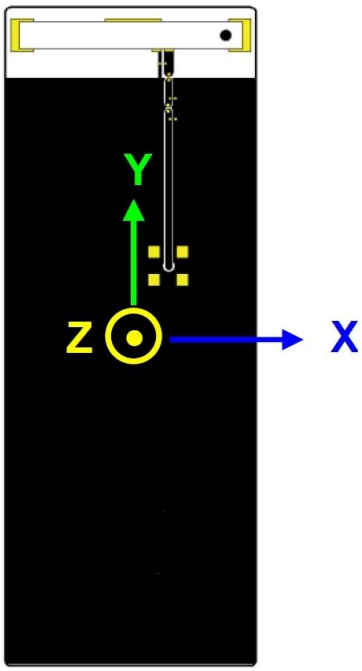
1710~2170 MHz

3D Gain Pattern @ 1950 MHz (Unit : dBi)



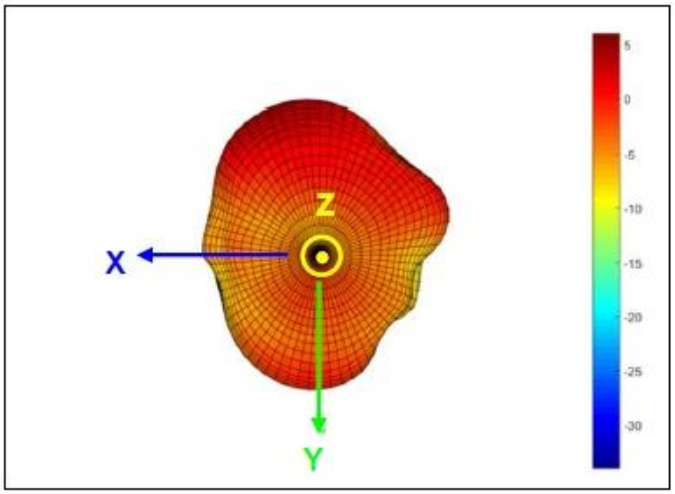


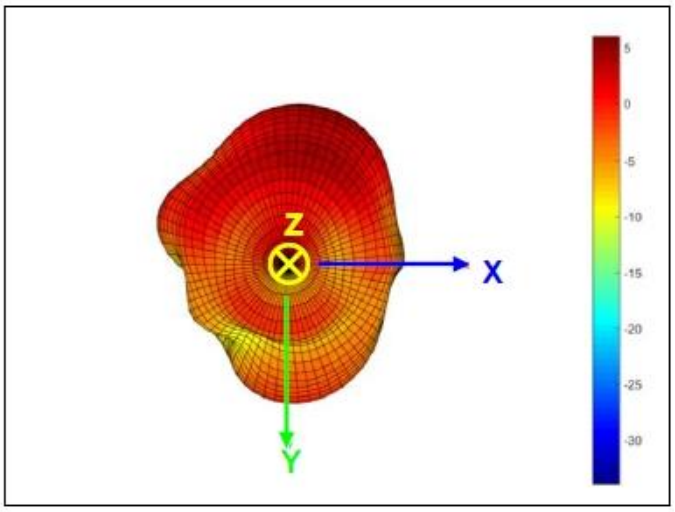


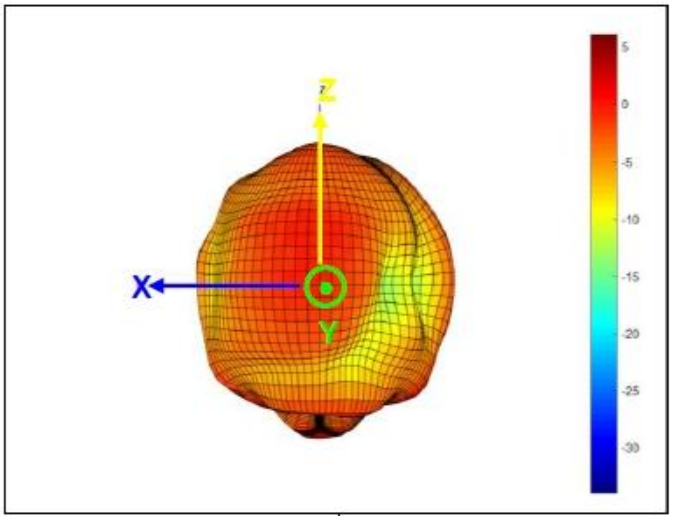


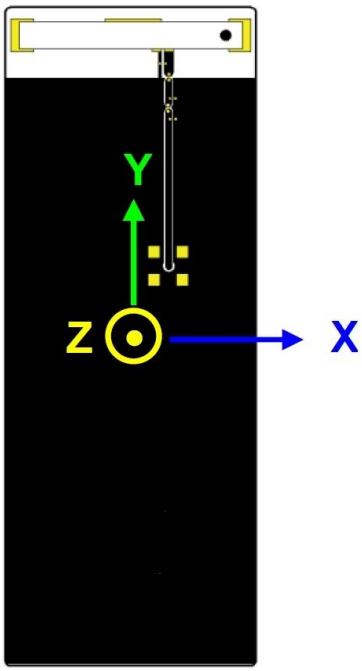
2300~2400 MHz

3D Gain Pattern @ 2350 MHz (Unit : dBi)



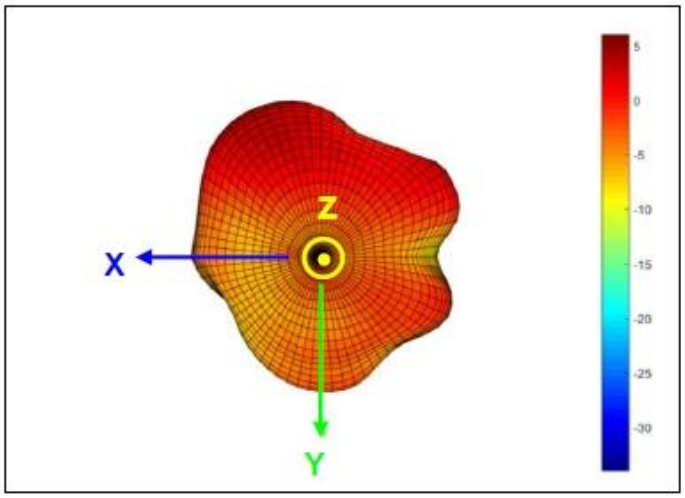


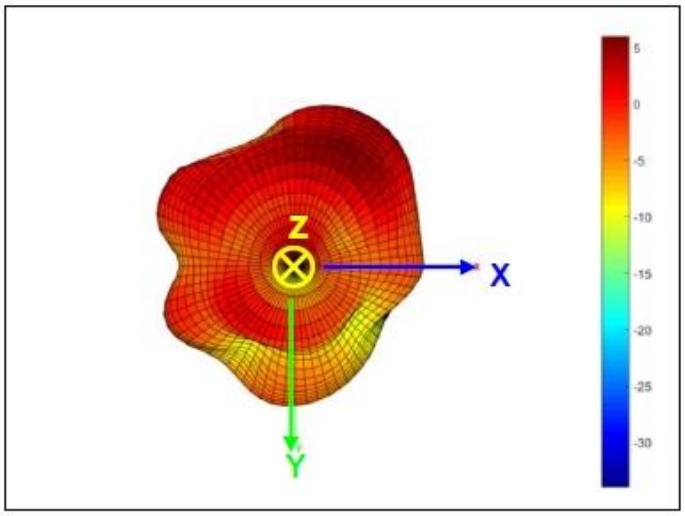


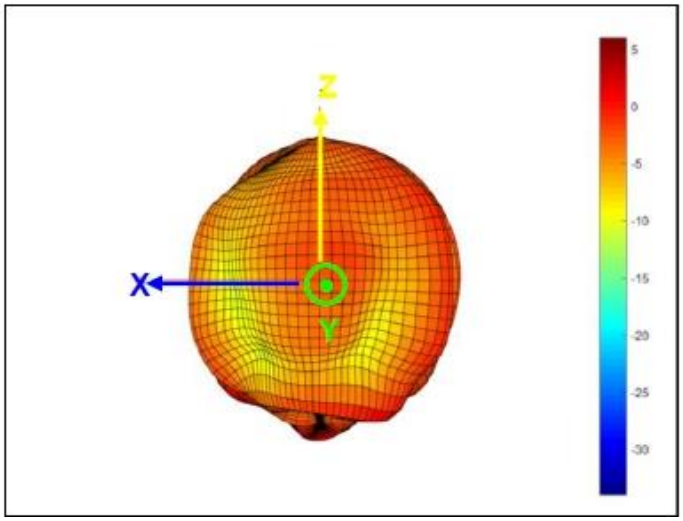


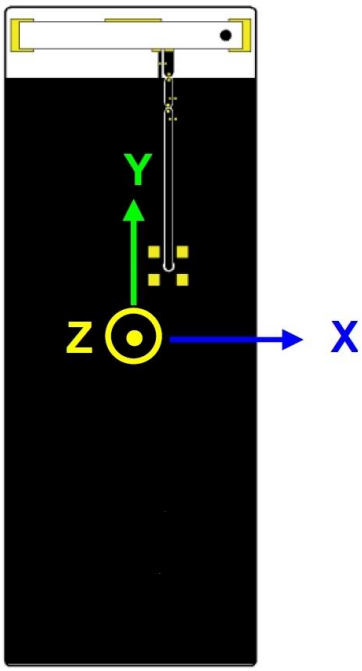
2490~2690 MHz

3D Gain Pattern @ 2590 MHz (Unit : dBi)



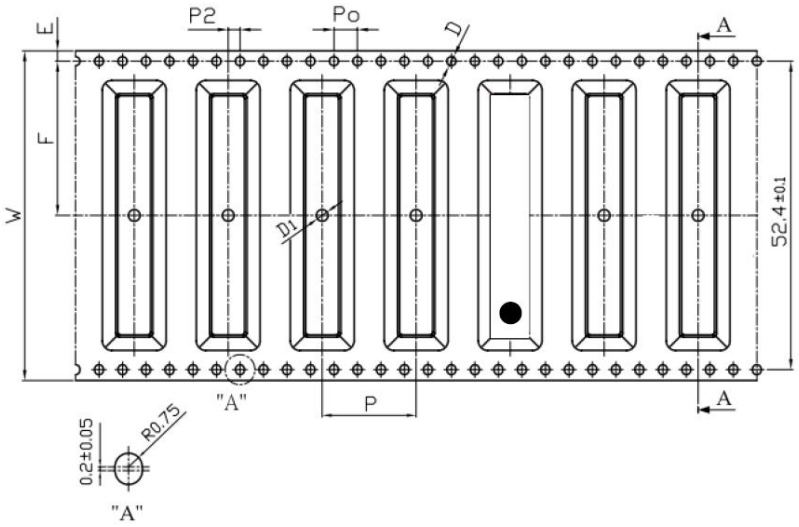






7. Packing

- Tape：



Feature	Specifications	Tolerances
W	56.00	±0.30
P	16.00	±0.10
E	1.75	±0.10
F	26.20	±0.15
P2	2.00	±0.15
D	1.50	+0.10 -0.00
D1	2.00	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20

- Reel：600 pcs