

NGCL1206UG1R575G1TRF

1575.42 MHz GNSS Chip Antenna

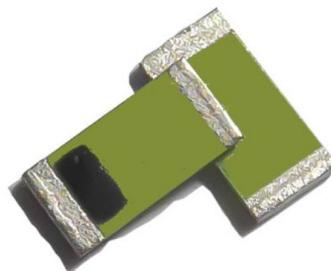


Features

- Stable and reliable performance
- Low Profile, Compact Size
- RoHs Complaint

Applications

- GNSS (Global Navigation Satellite System)
- Hand-held devices when GPS & BDS & GLONASS & GALILEO functions are needed, e.g, PDA, Smart Phone, PND



Specifications

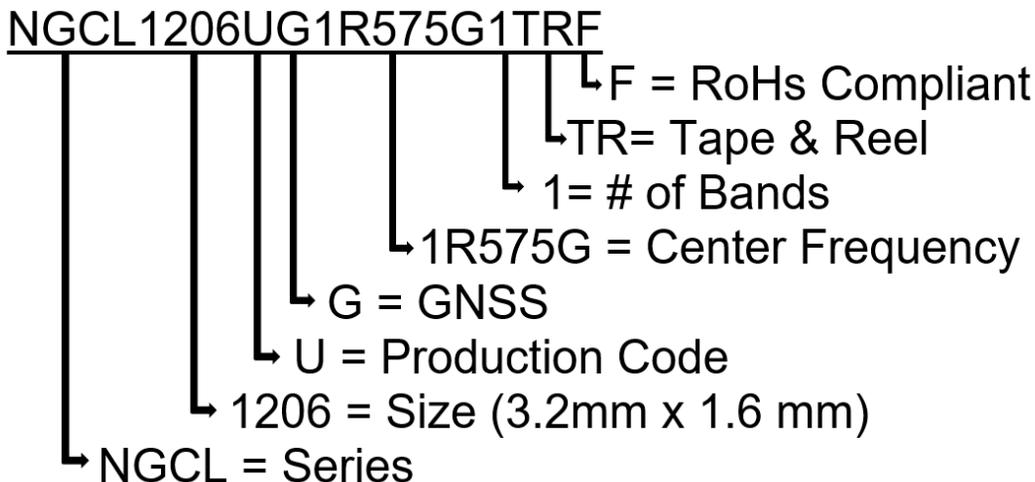
Electrical	
Frequency Range	1560 ~ 1606 MHz
Peak Gain (typ.)	1.8 dBi
Efficiency (typ.)	77 %
V.S.W.R.	2 Max.
Maximum Input Power	2 W
Polarization	Linear
Impedance	50Ω
Environmental	
Operating Temperature	-40°C~+85°C
Storage Temperature	-5°C~+40°C -40°C~+85°C - After mounting on PCB
Relative Humidity	10% to 70% - Operating & Storage after mounting on PCB 20% to 70% - Storage
Shelf Life	1 year
RoHs Compliant	Yes

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Part Number Breakdown

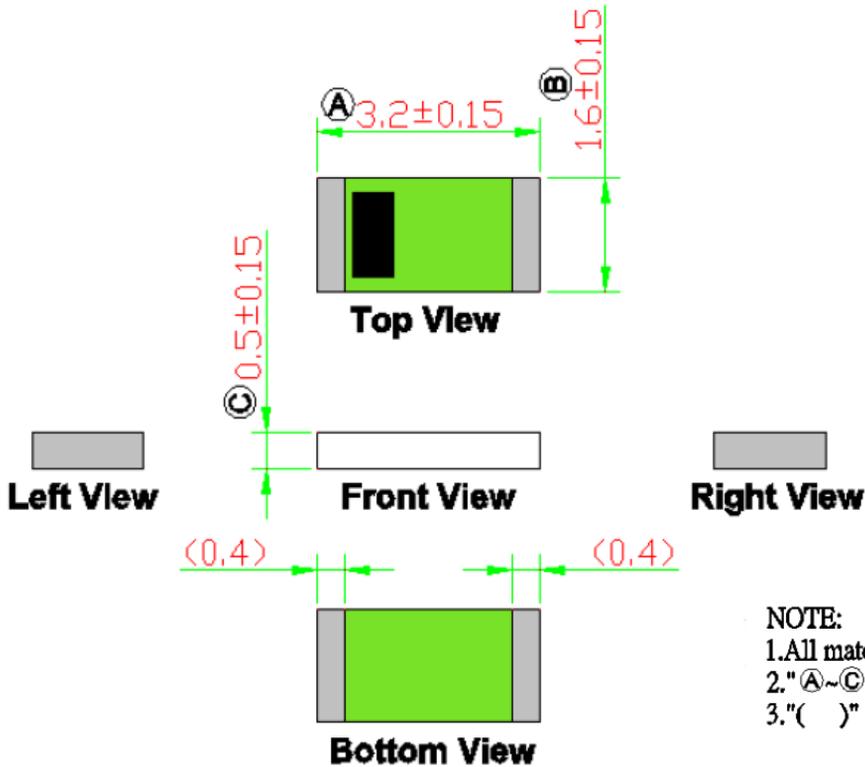


Pin Definition



PIN	1	2
Soldering PAD	Signal	Tuning / Ground

Dimension Drawing



NOTE:
 1. All materials are RoHS 2.0 compliant.
 2. "A~C" Critical Dimensions.
 3. "()" Reference Dimensions.

Dimensions (mm) & Mechanical

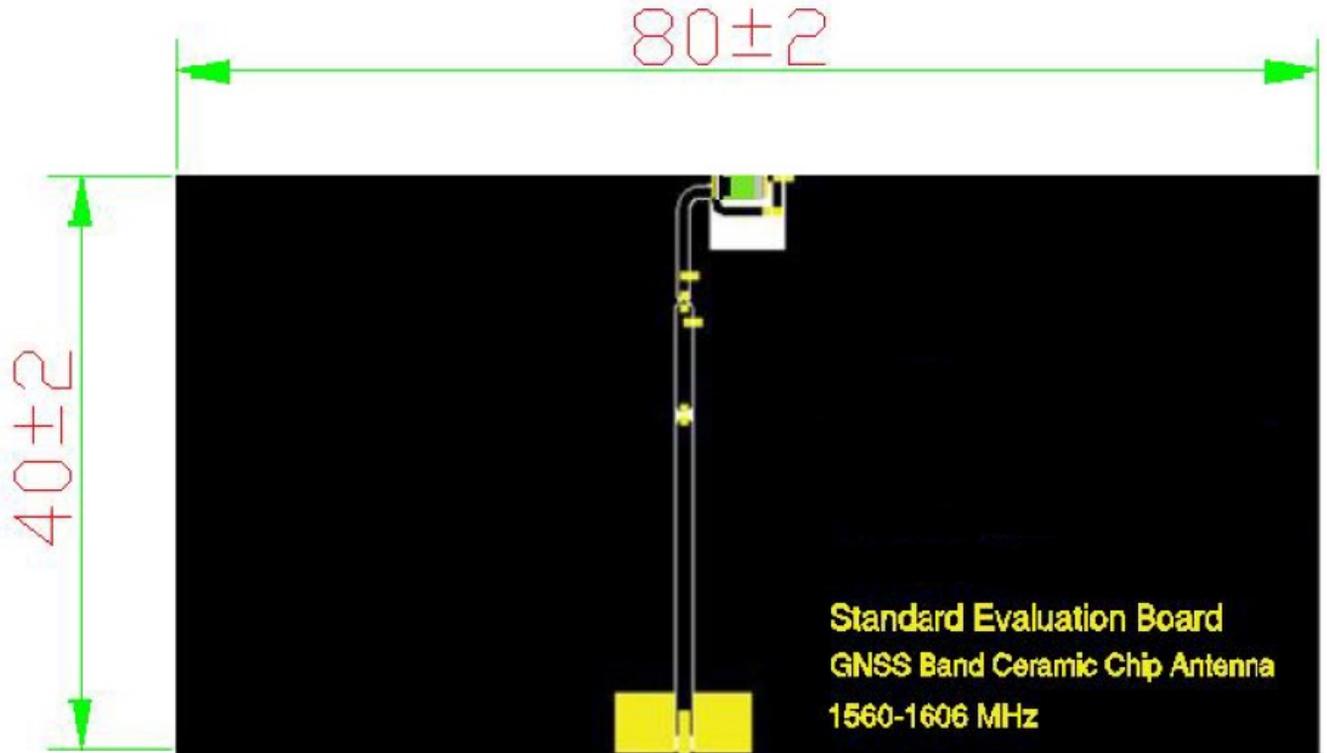
Body Length (A)	3.2 ± 0.15
Width (B)	1.6 ± 0.15
Thickness (C)	0.5 ± 0.15
Connection Type	SMT
Ground Plane	49.5 mm x 20 mm
Material	Ceramic

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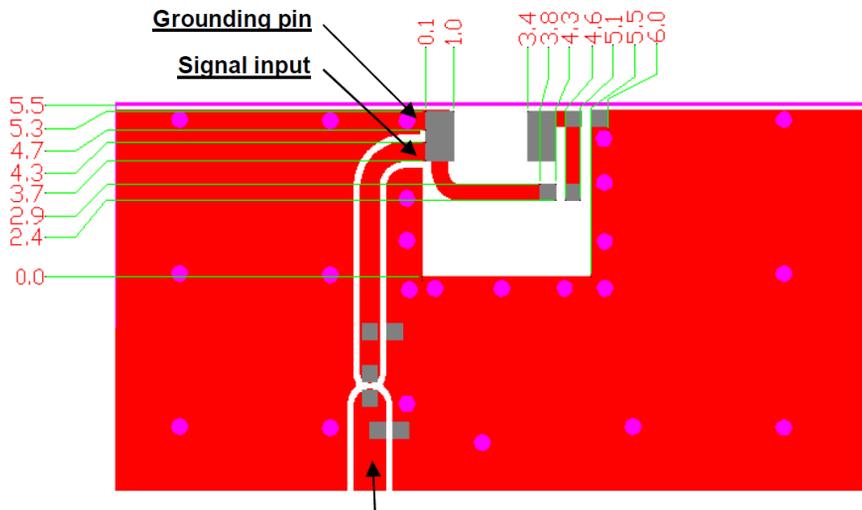
Evaluation Board



Unit: mm

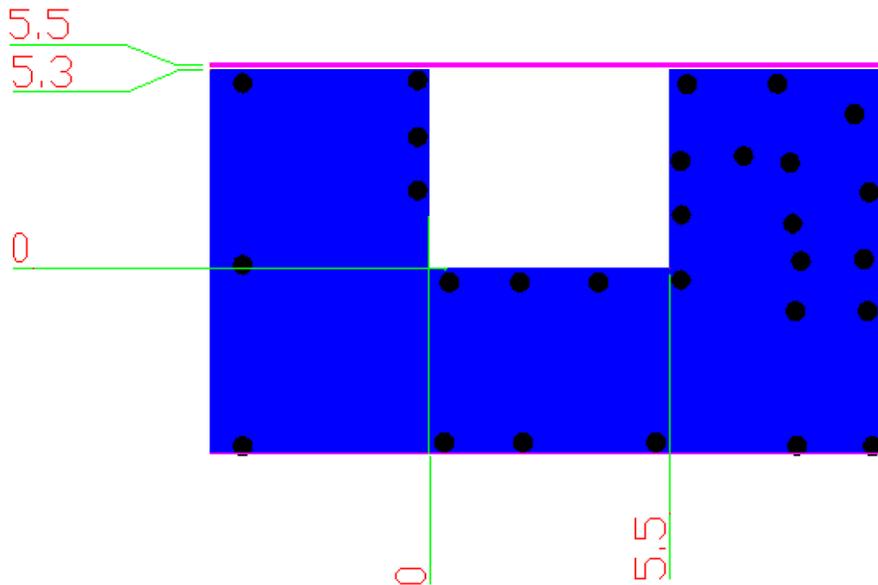
Solder Land Pattern

The gray areas represent the solder land pattern. Any recommendations on the matching circuit will be provided according to the customer's installation conditions.



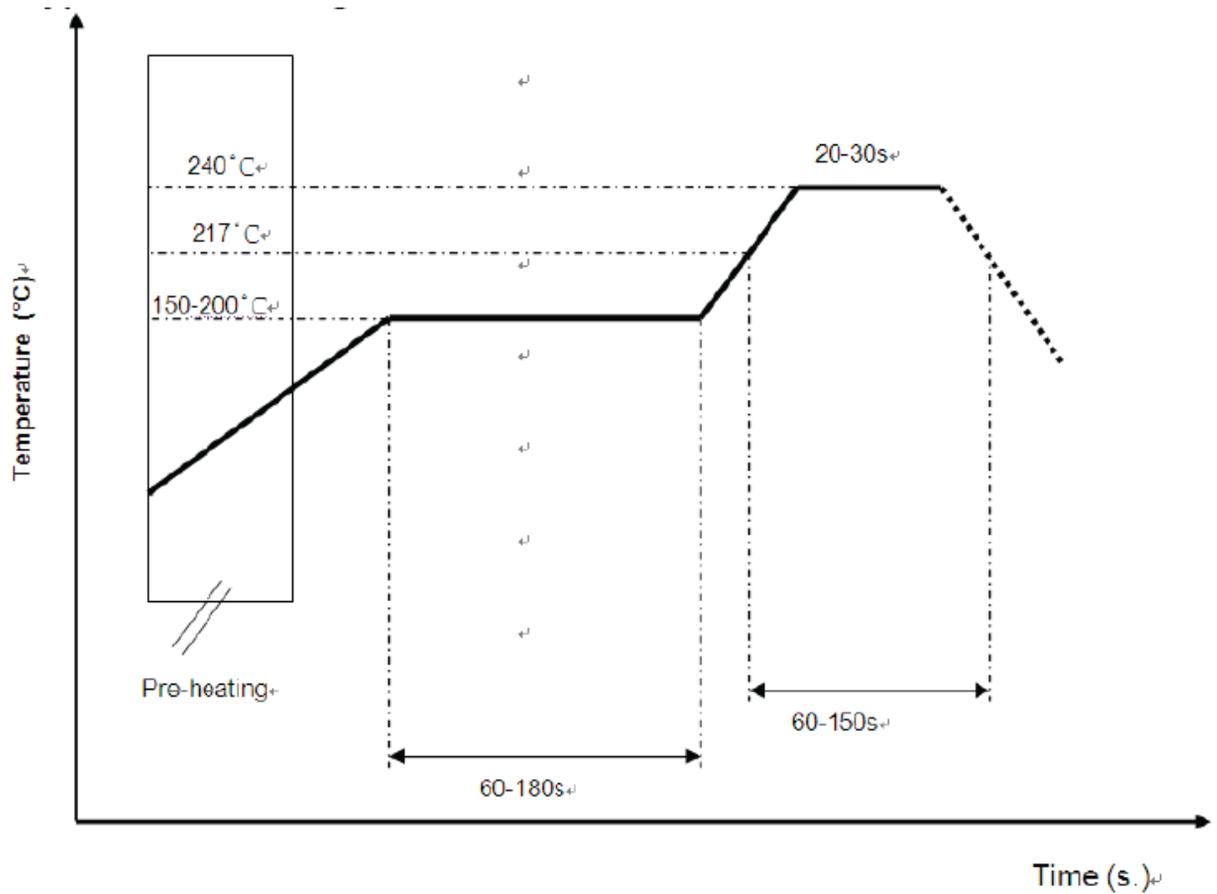
Transmission Line with 50Ω Impedance Characteristic

Top View



Bottom View

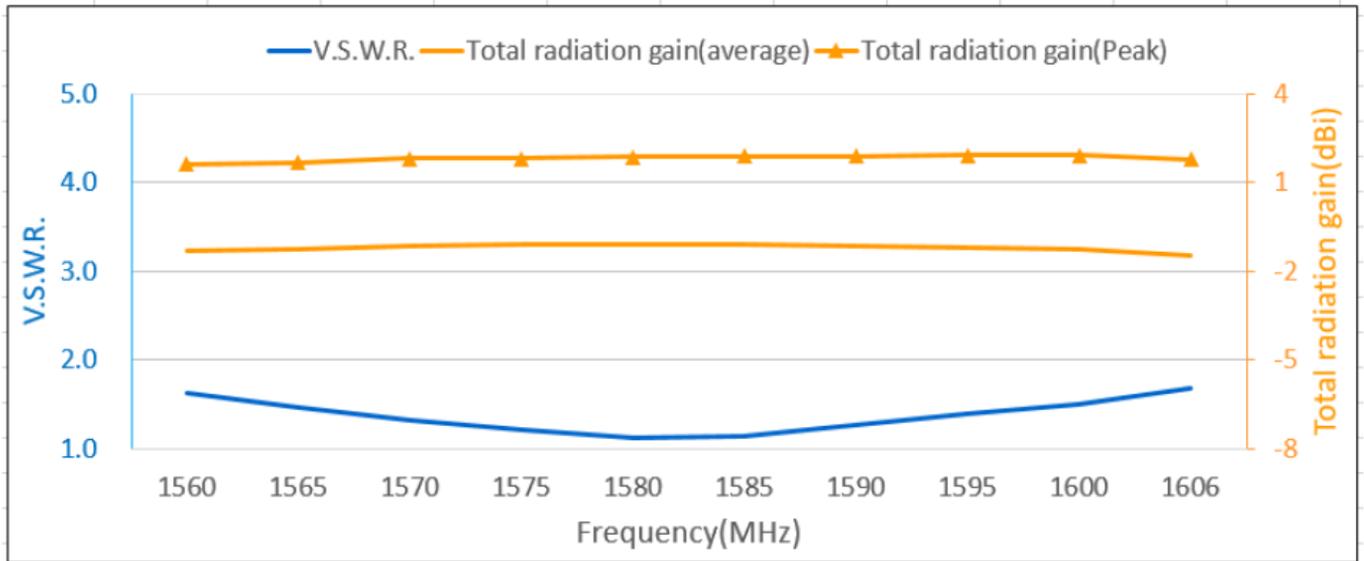
Soldering Conditions



*Recommended solder paste alloy: SAC305 (Sn96.5 /Ag3 /Cu0.5) Lead Free solder paste.

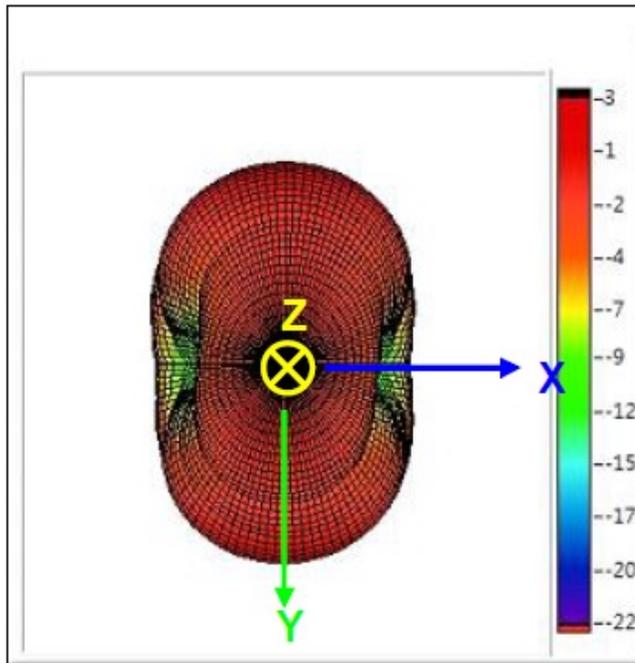
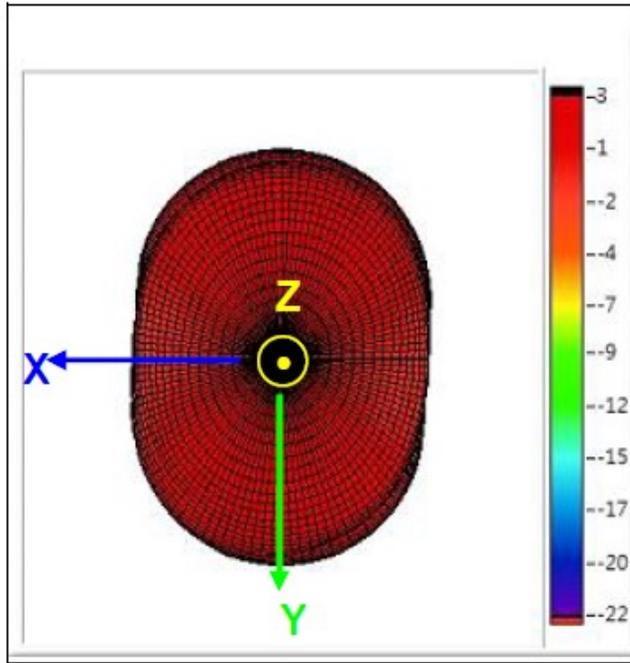


Frequency vs. V.S.W.R. and Total Radiation Gain



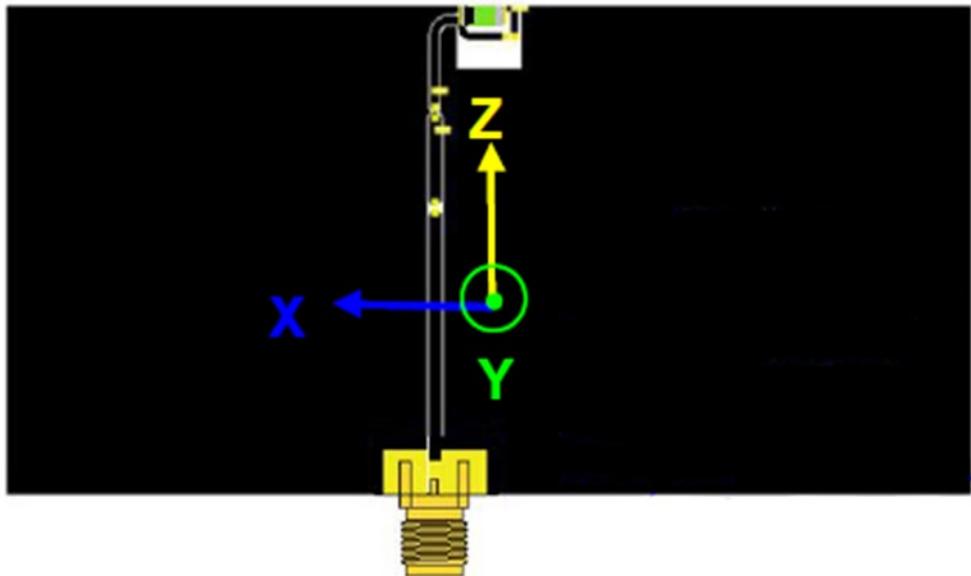
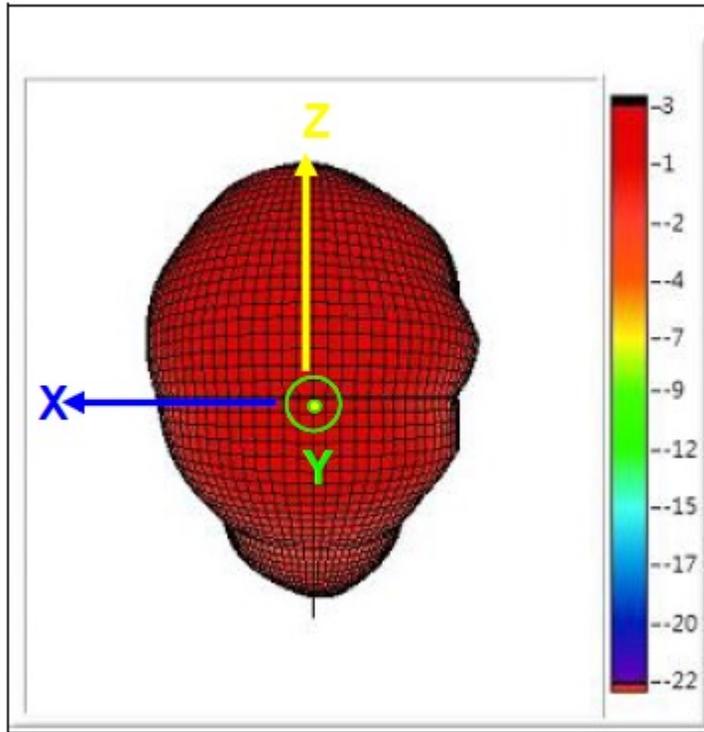
Radiation Patterns

3D Radiation Gain Pattern @ 1561 MHz



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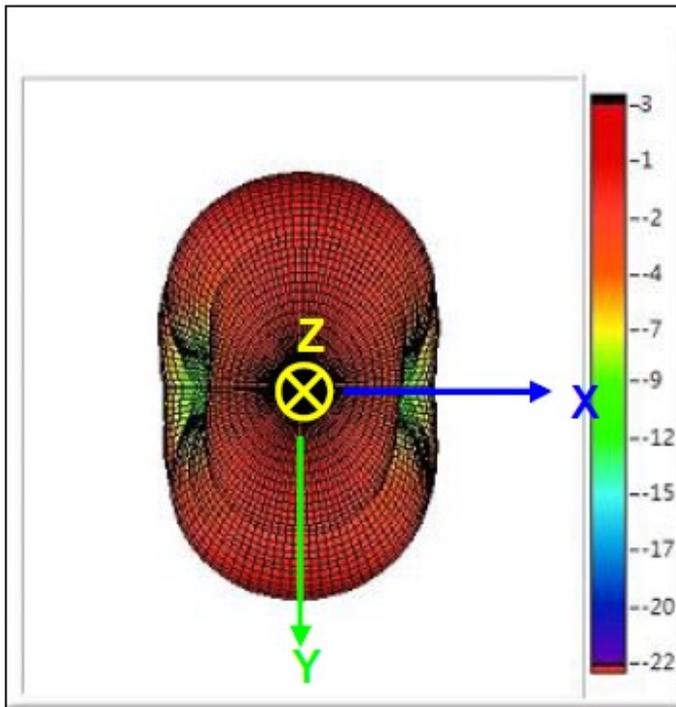
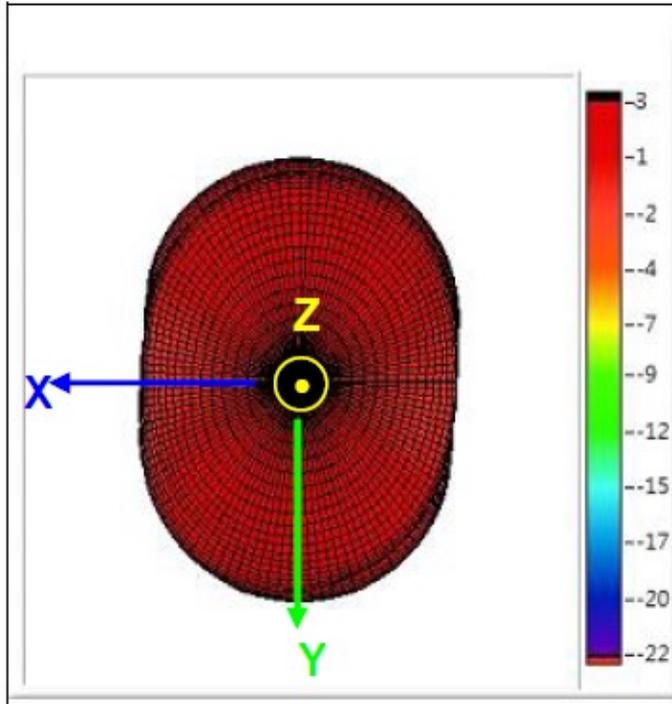


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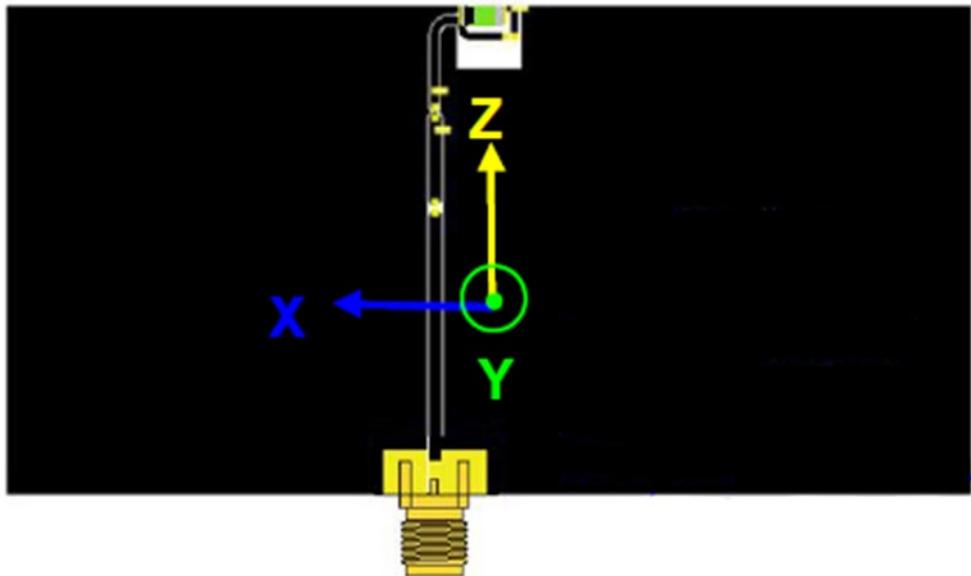
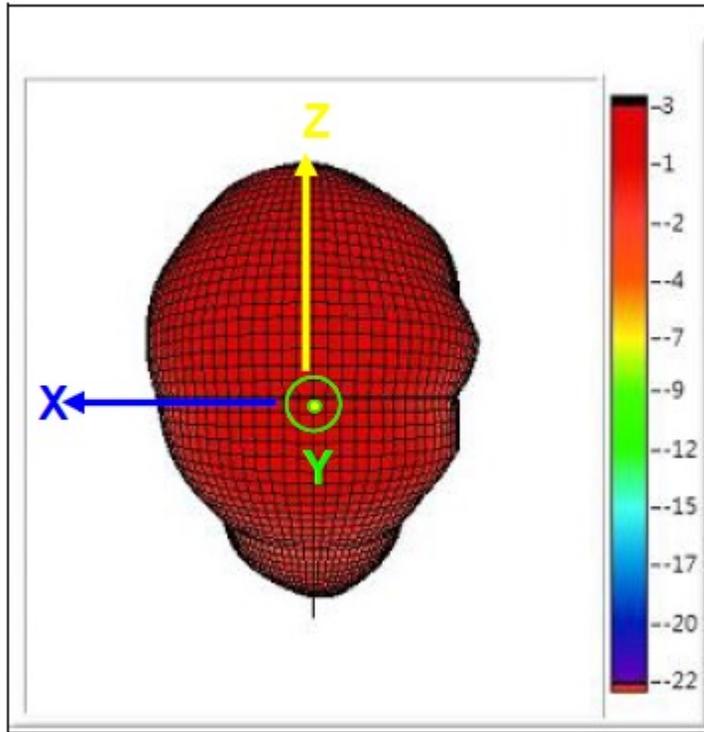


3D Radiation Gain Pattern @ 1575.42 MHz

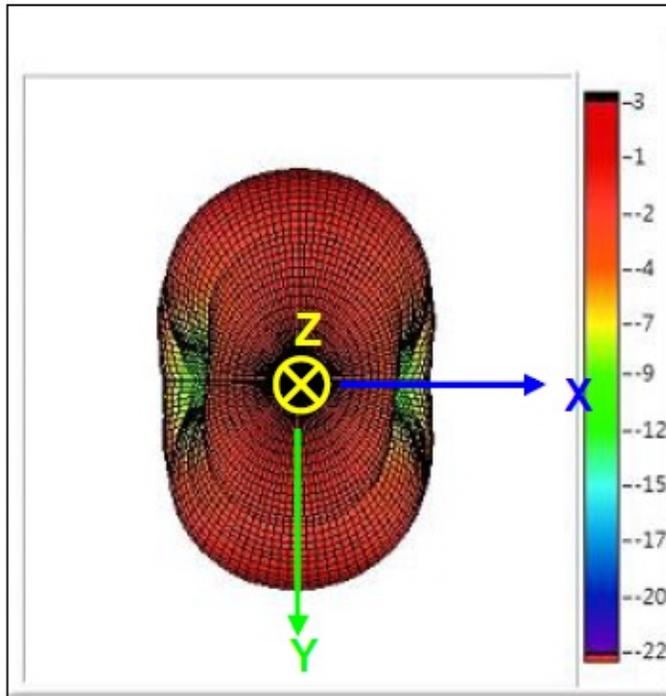
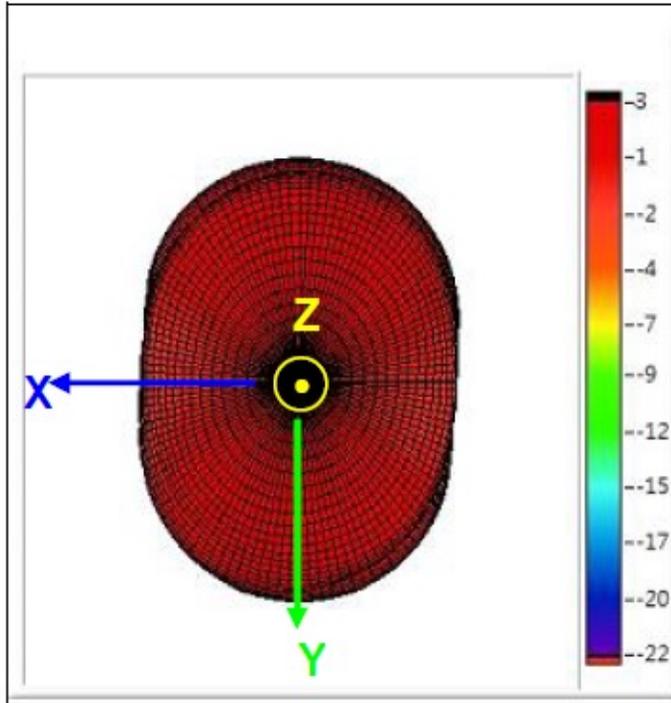


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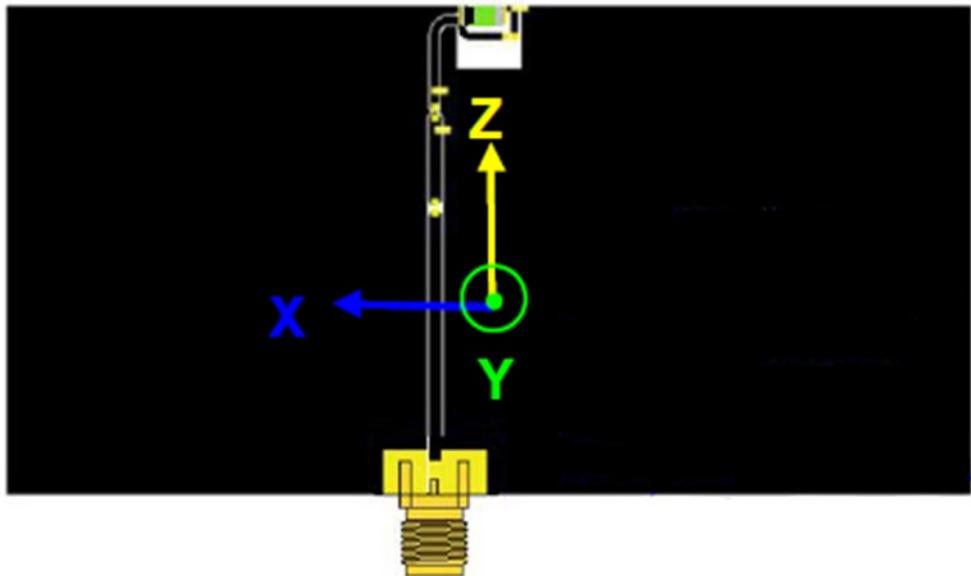
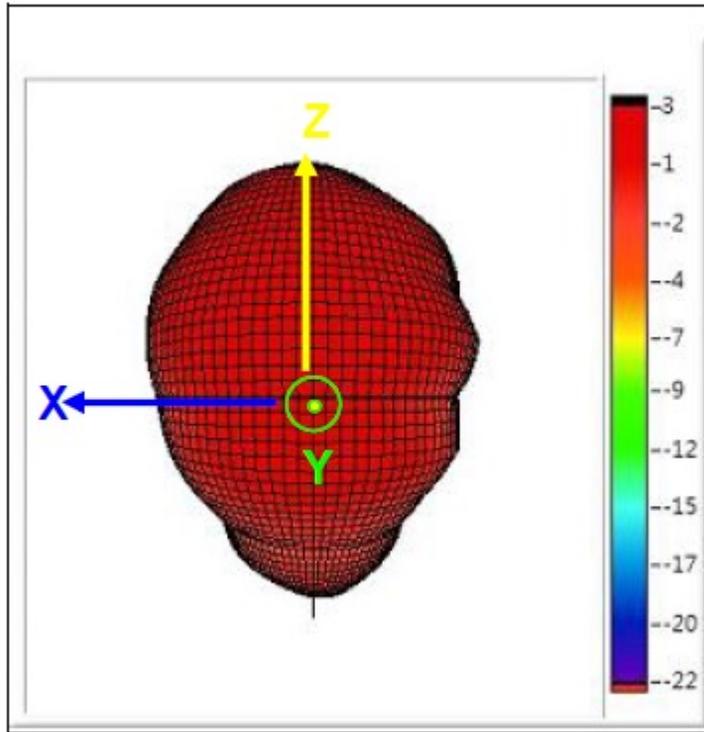


3D Radiation Gain Pattern @ 1590 MHz

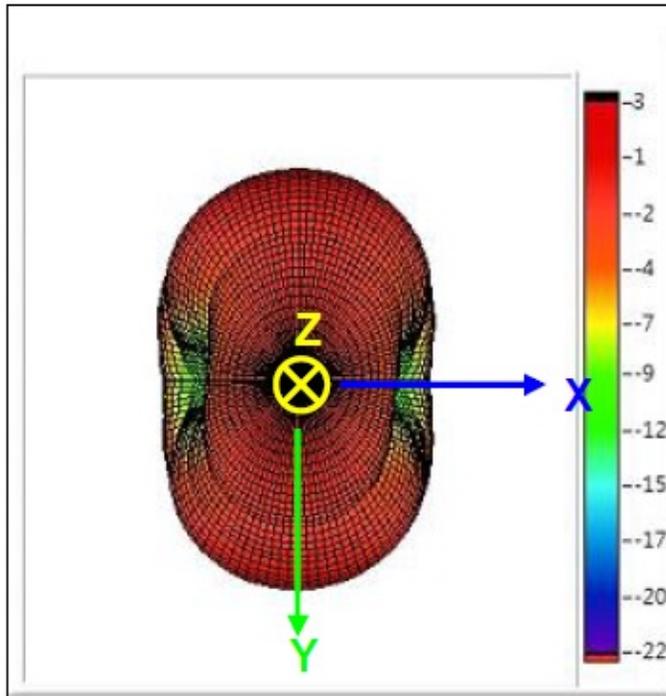
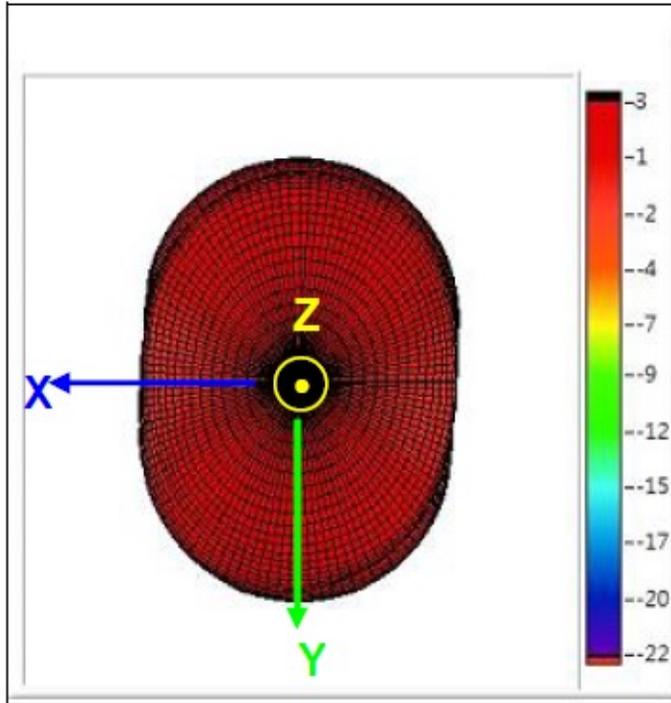


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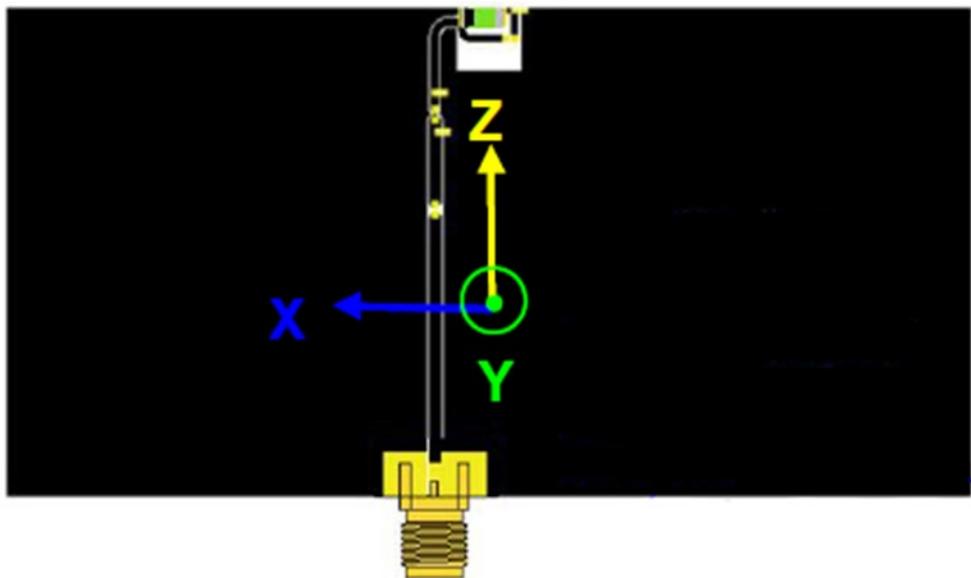
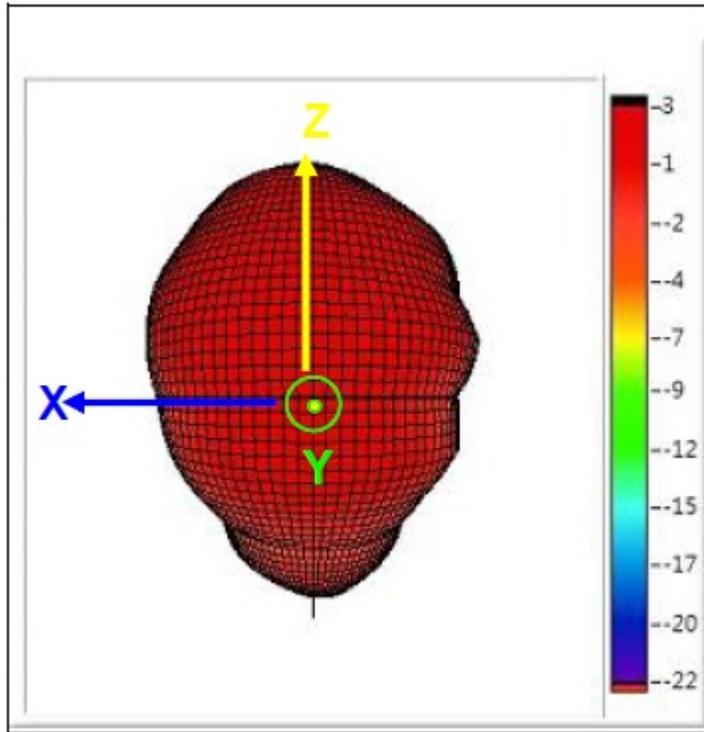


3D Radiation Gain Pattern @ 1602 MHz

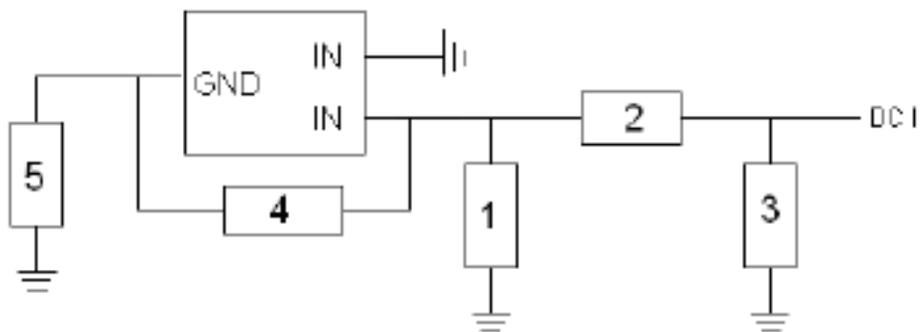
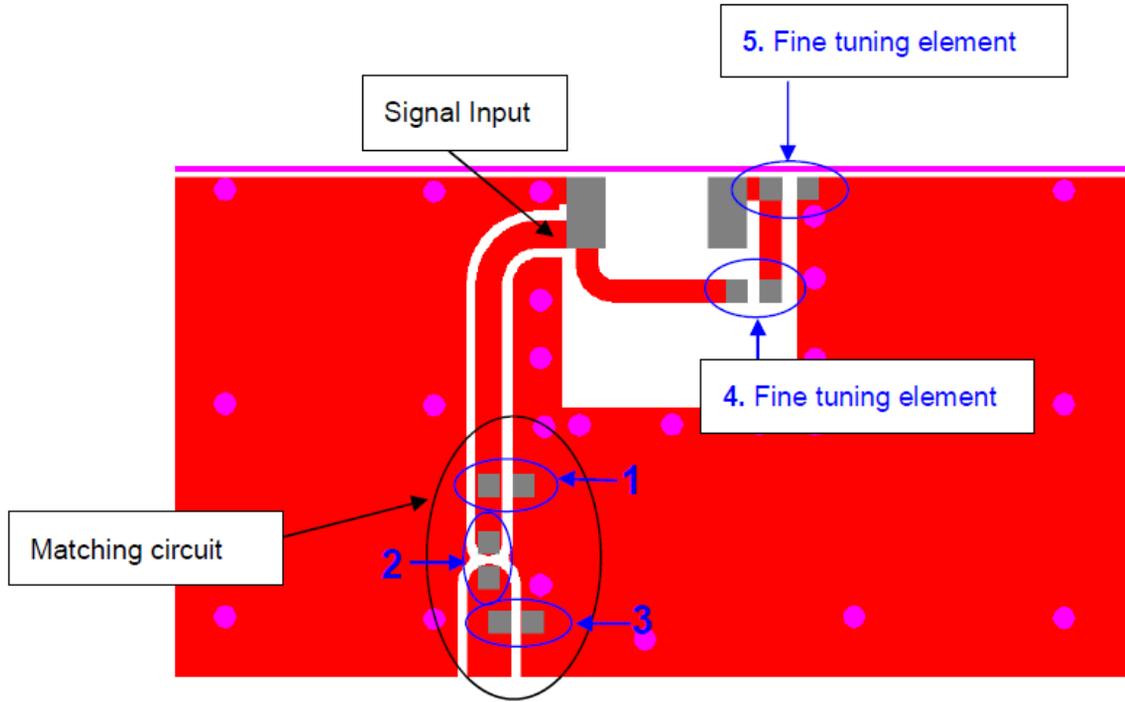


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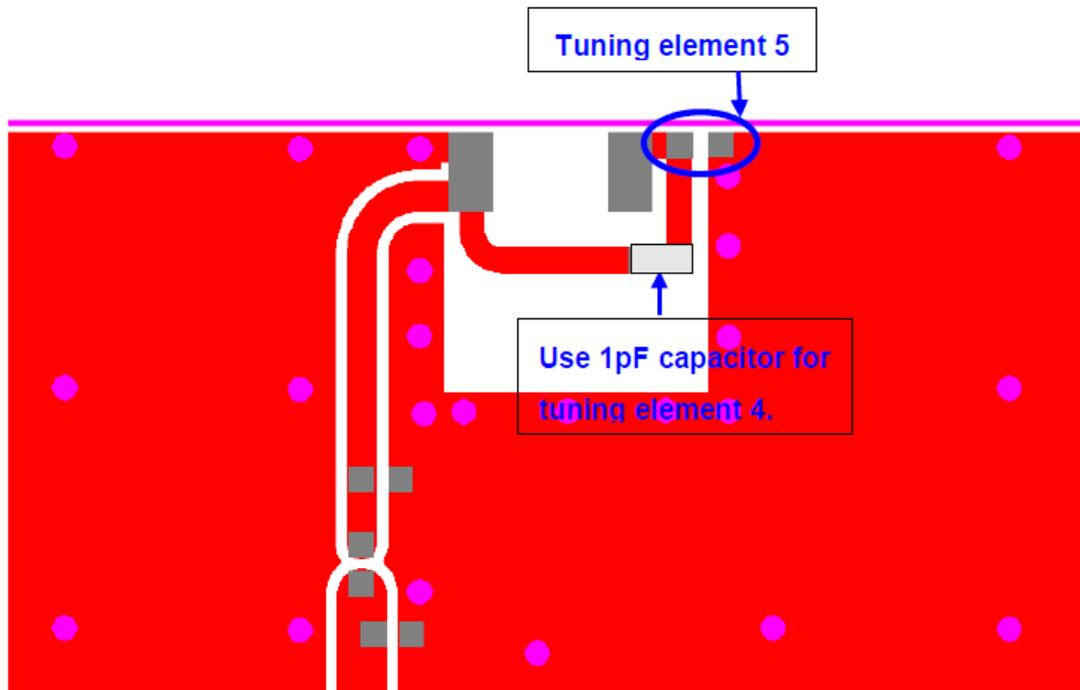
Frequency Tuning & Matching Circuit



System Matching Circuit Component

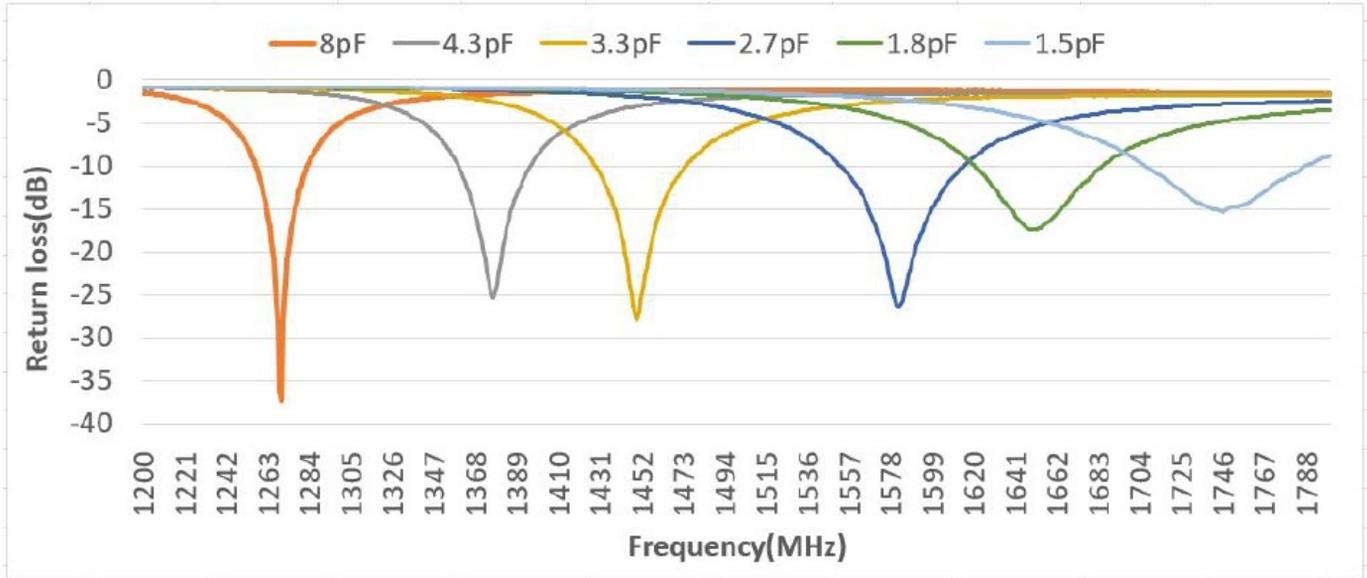
Location	Description	Tolerance	NIC Part Number
1	1.5pF, (0402)	±0.05pF	NMC-Q0402NPO1R5A50TRPF
2	0Ω, (0402)	-	NRC04Z0TRF
3	3.3pF, (0402)	±0.05pF	NMC-Q0402NPO3R3A50TRPF
4 Fine Tuning Element	1.0pF, (0402)	±0.05pF	NMC-Q0402NPO1R0A50TRPF
5 Fine Tuning Element	2.7pF, (0402)	±0.05pF	NMC-Q0402NPO2R7A50TRPF

Frequency Tuning Element 5





Frequencies vs. Capacitance of Tuning Element 5



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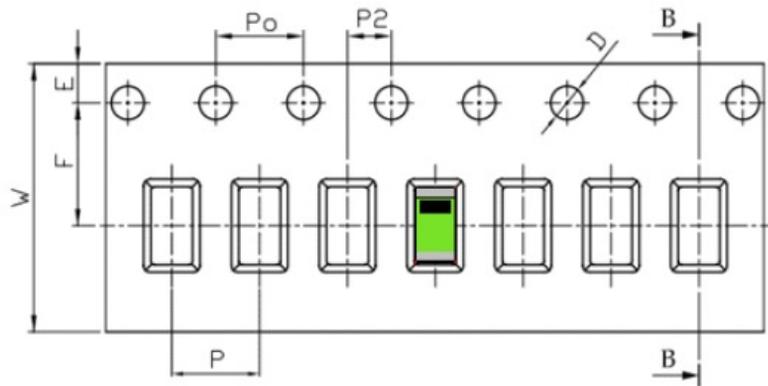
2.4 GHz WiFi / Bluetooth Chip Antenna



Packing

- (1) Unit Weight: 0.042±0.005(g)/pcs
- (2) Quantity/Reel: 3000 pcs/Reel
- (3) Plastic tape: Black Conductive Polystyrene.

a. Tape Drawing



b. Tape Dimensions (unit: mm)

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

c. Reel Drawing

