

NGCL1206UW2R442G1TRF

2.4 GHz WiFi/Bluetooth Chip Antenna



Features

- Stable and reliable performance
- Supports 2.4 GHz Band
- Low Profile, Compact Size
- RoHs Complaint

Applications

- Bluetooth Earphone Systems
- Zigbee/BLE application
- Hand-held devices when WiFi / Bluetooth functions are needed, e.g., Smart phones
- IEEE802.11 b/g/n
- Wireless PCMCIA cards or USB dongles



Specifications

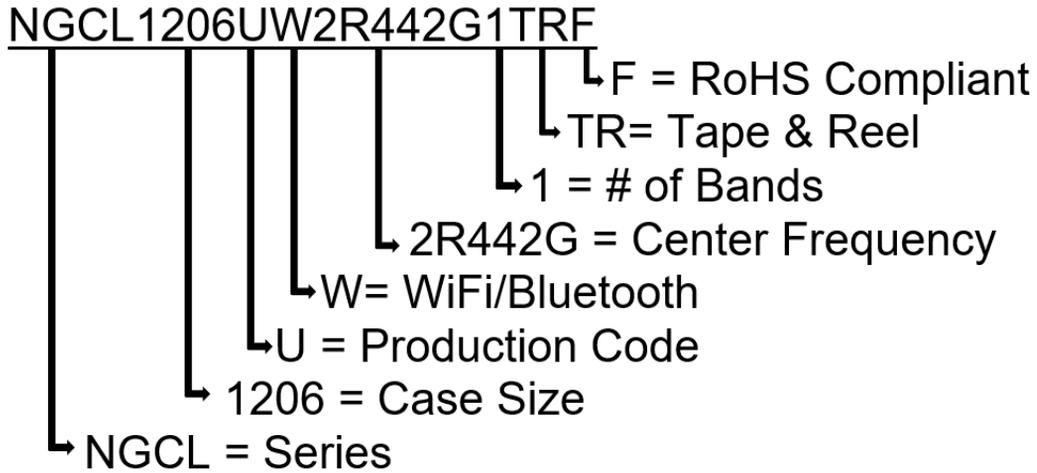
Electrical	
Frequency Range	2400 ~ 2500 MHz
Return Loss	< - 10 dB
Peak Gain	1.8 dBi
Average Gain	-1.2 dB
Efficiency	76.3%
Maximum Input Power	3 W
Polarization	Linear
Impedance	50Ω
Environmental	
Operating Temperature	-40°C~+125°C
Storage Temperature	-5°C~+40°C -40°C~+85°C : After mounting on PCB
Relative 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



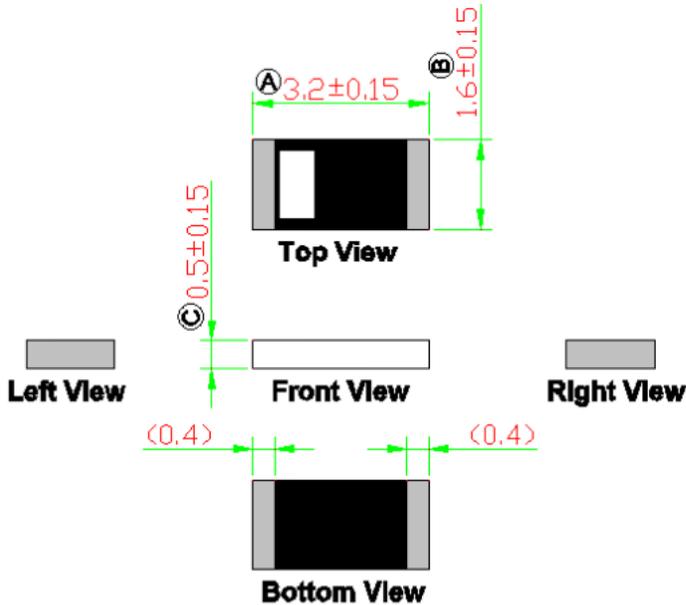
Pin Definition



Unit: mm

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.

Unit: mm

Dimensions (mm) & Mechanical

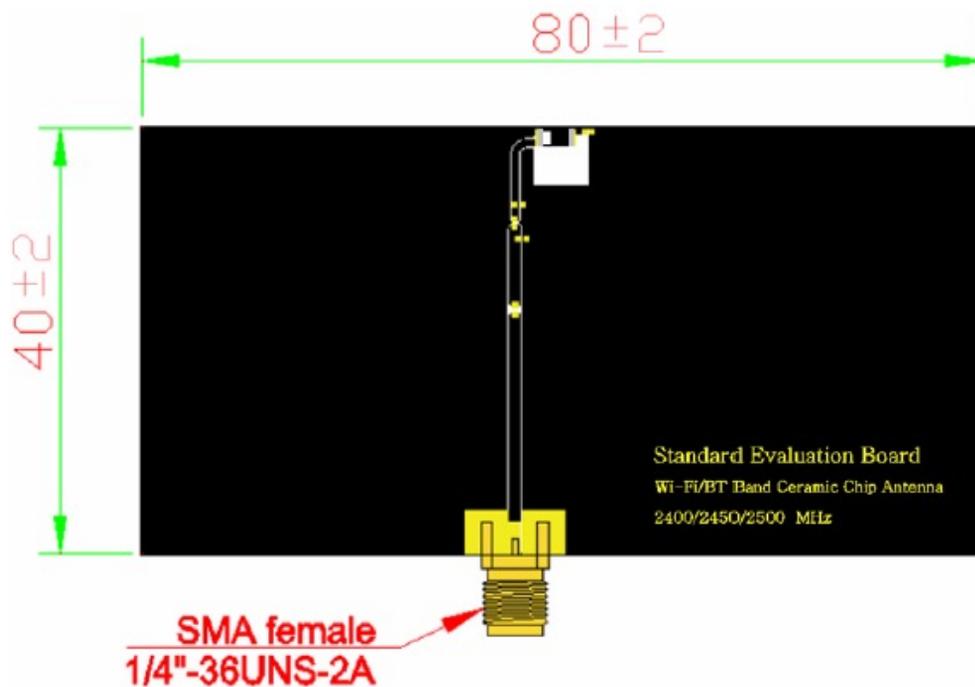
Body Length (A)	3.2 ± 0.15
Width (B)	1.6 ± 0.15
Thickness (C)	0.5 ± 0.15
Connection Type	SMT
Ground Plane	80 mm x 40 mm
Material	Ceramic

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Evaluation Board



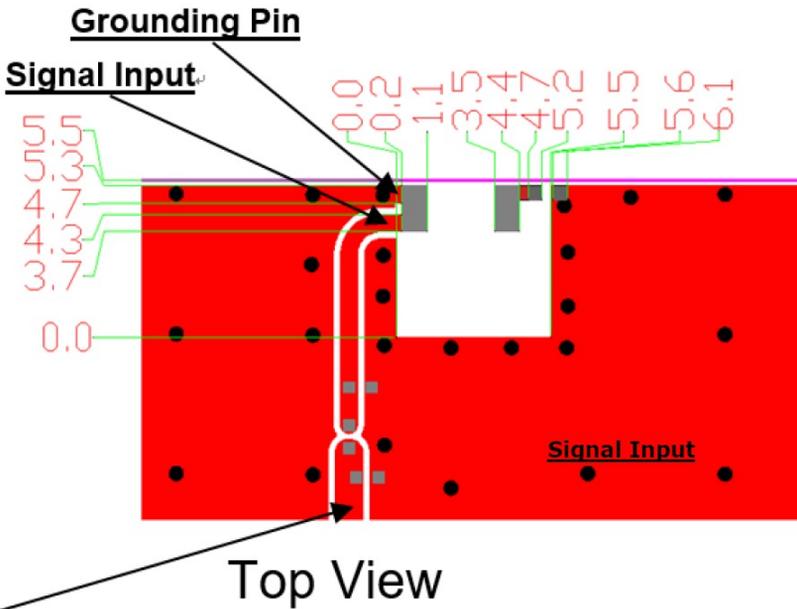
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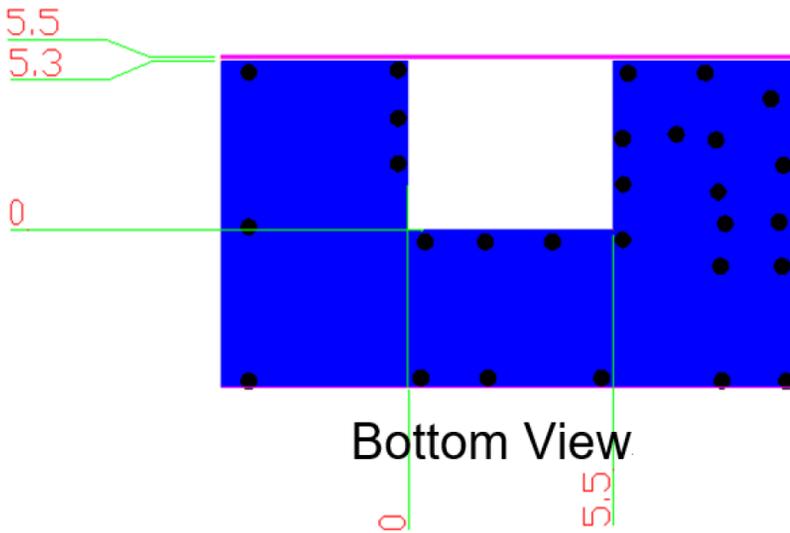


Solder Land Pattern

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



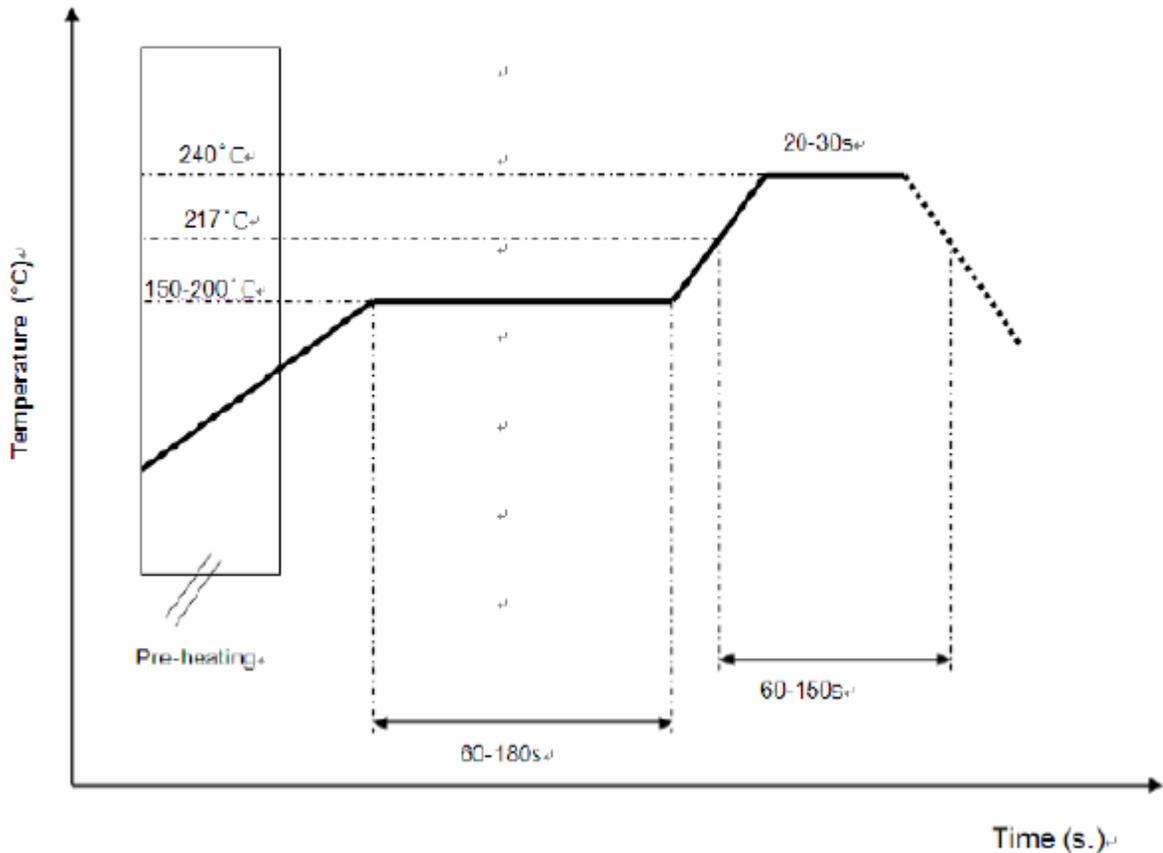
Transmission Line with 50Ω Impedance Characteristic



Unit: mm

Soldering Conditions

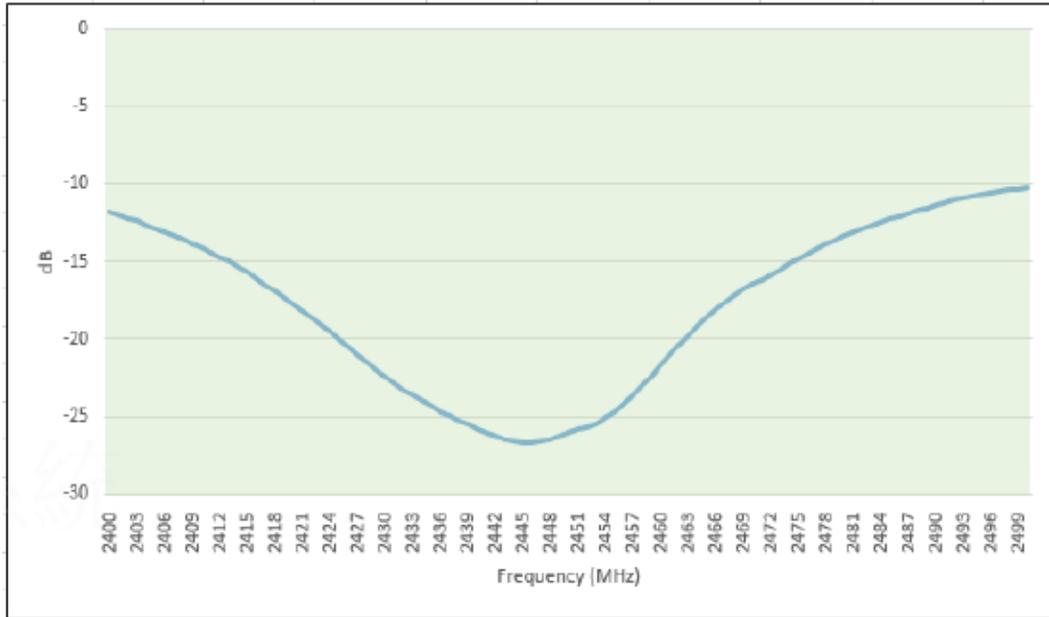
Typical Soldering Profile for Lead-free Process



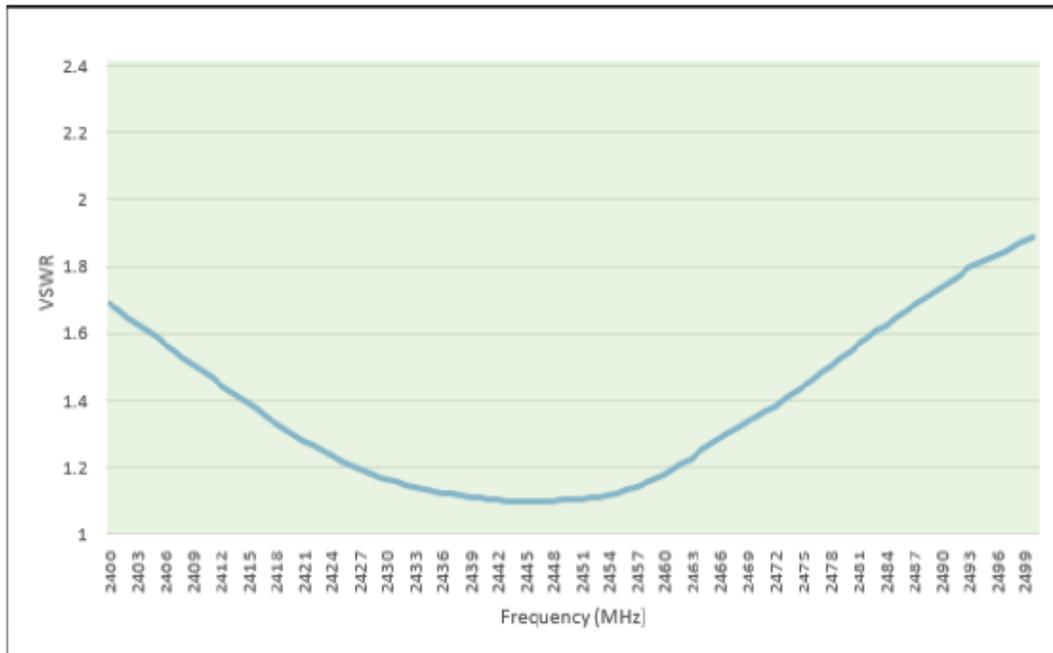
***Recommended solder paste alloy: SAC305 (Sn96.5 /Ag3 /Cu0.5) Lead Free solder paste**



Return loss (dB)

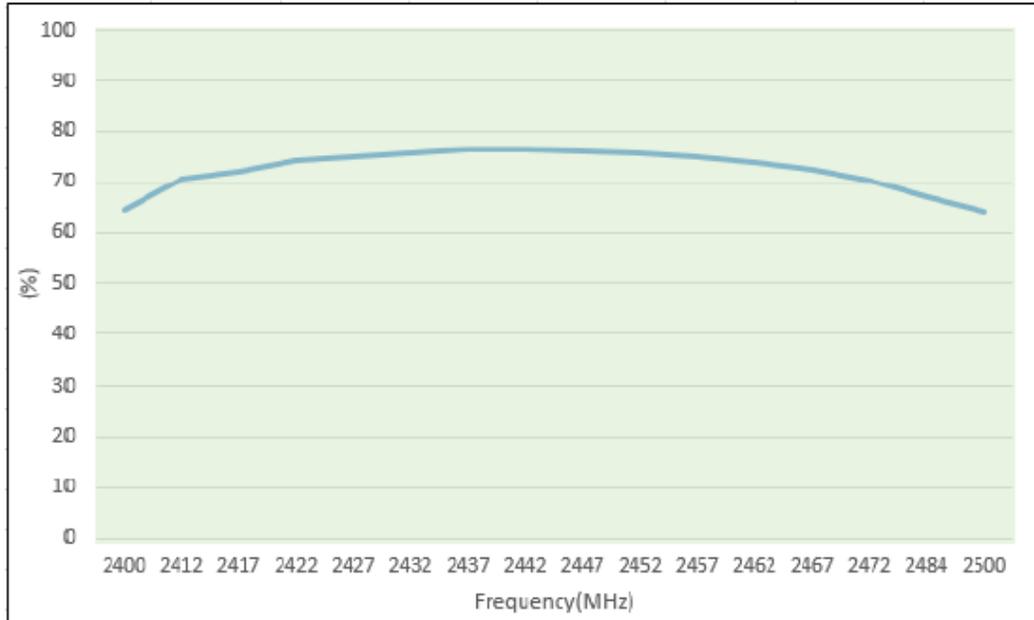


V.S.W.R

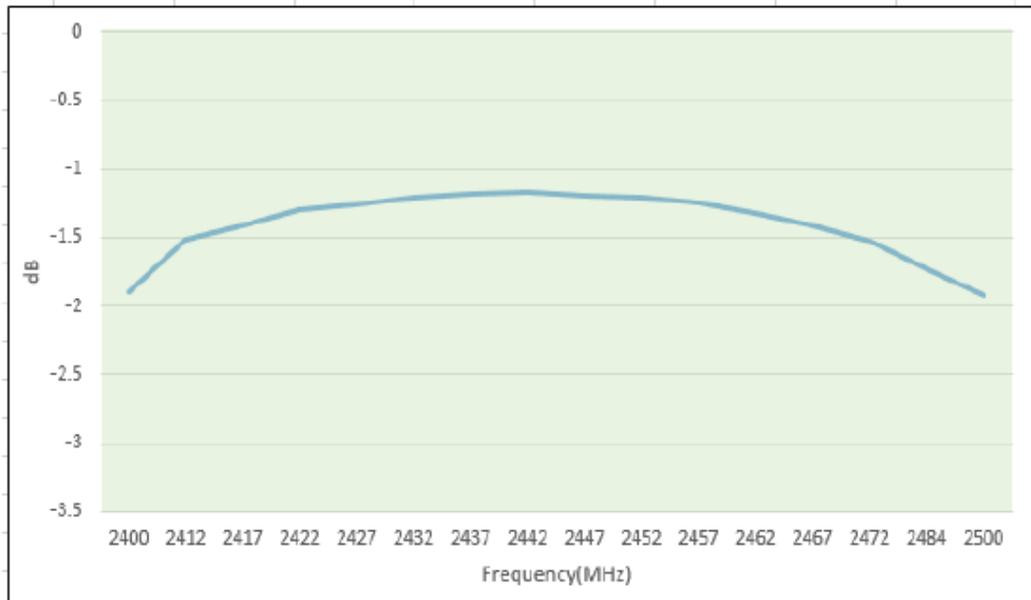




Efficiency (%)



Average Gain (dB)

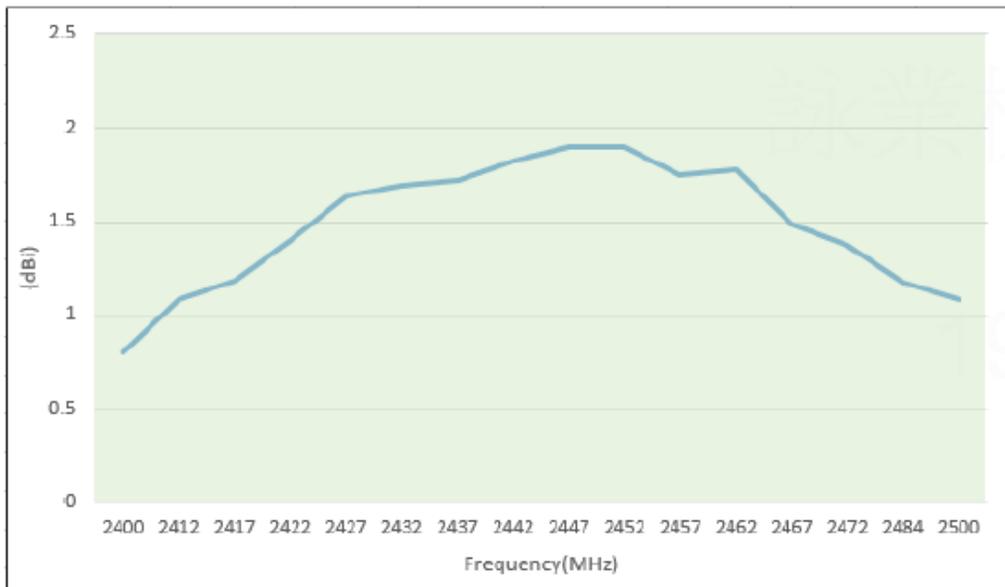


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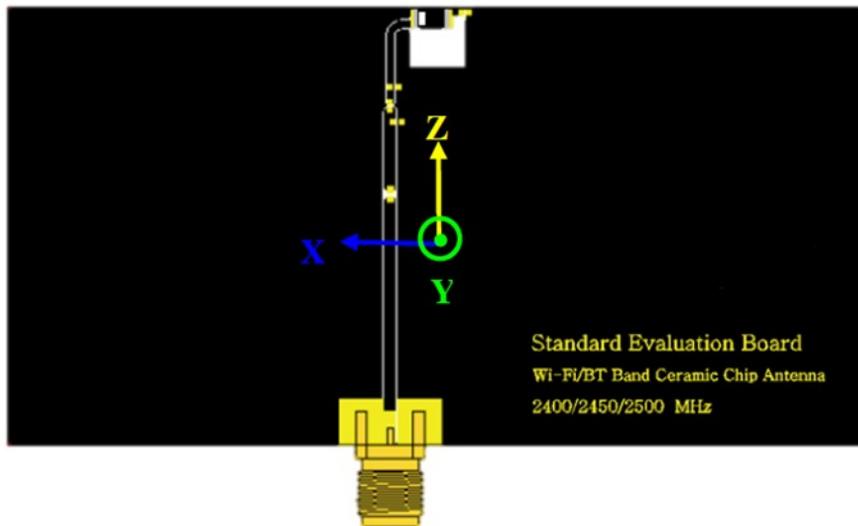
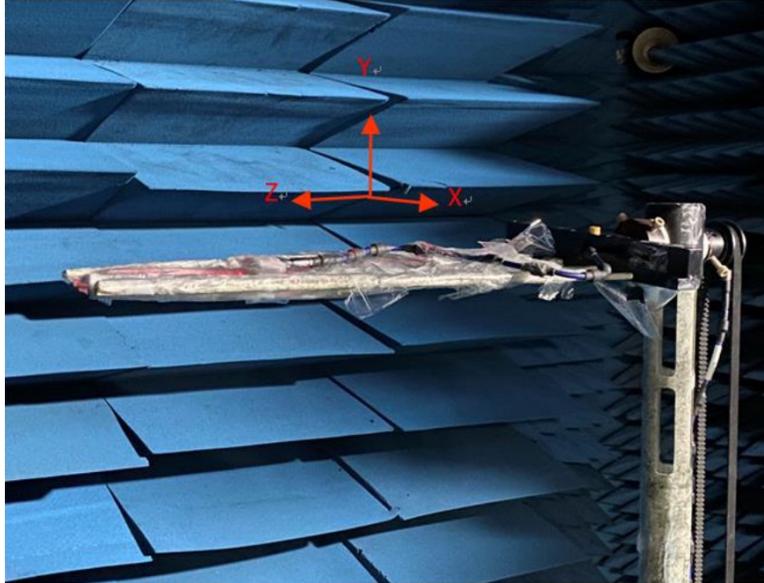


Peak Gain (dBi)



Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in a 3D Anechoic Chamber. The measurement setup is as show below.

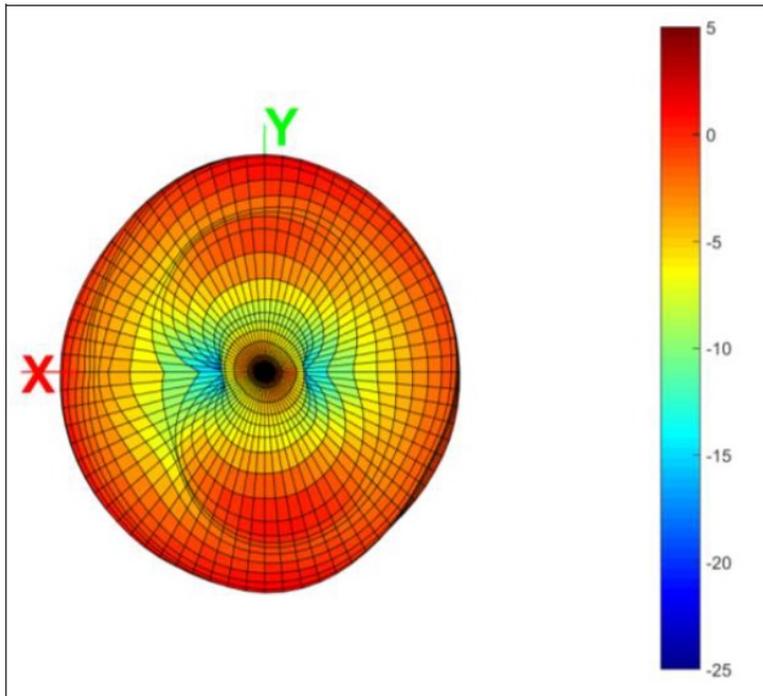
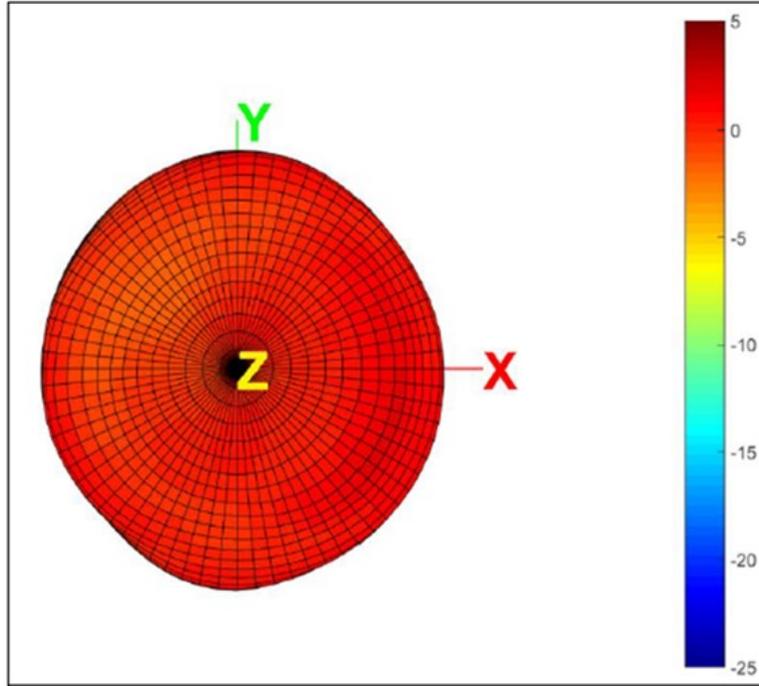


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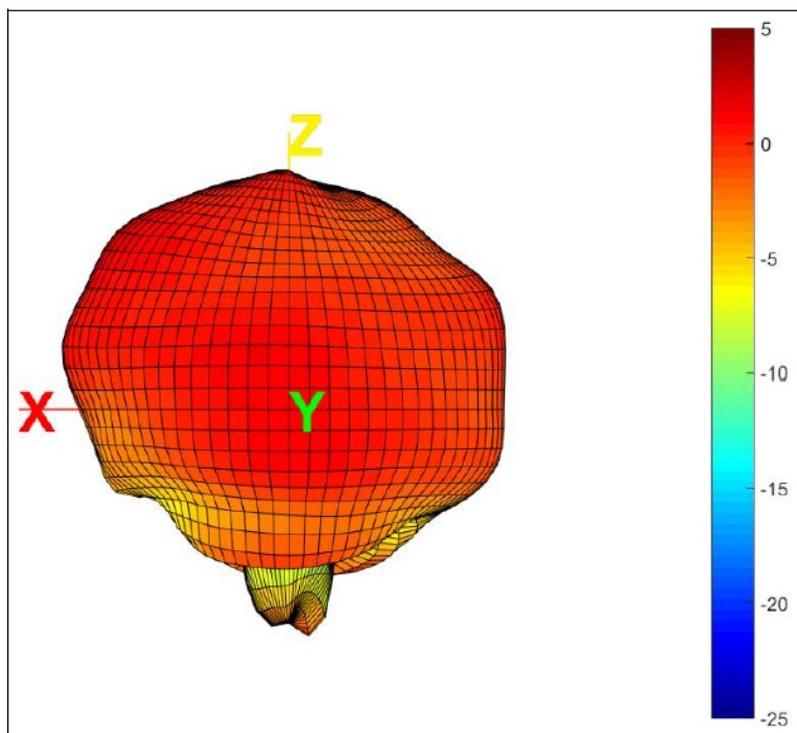


3D Gain Radiation @ 2442 MHz

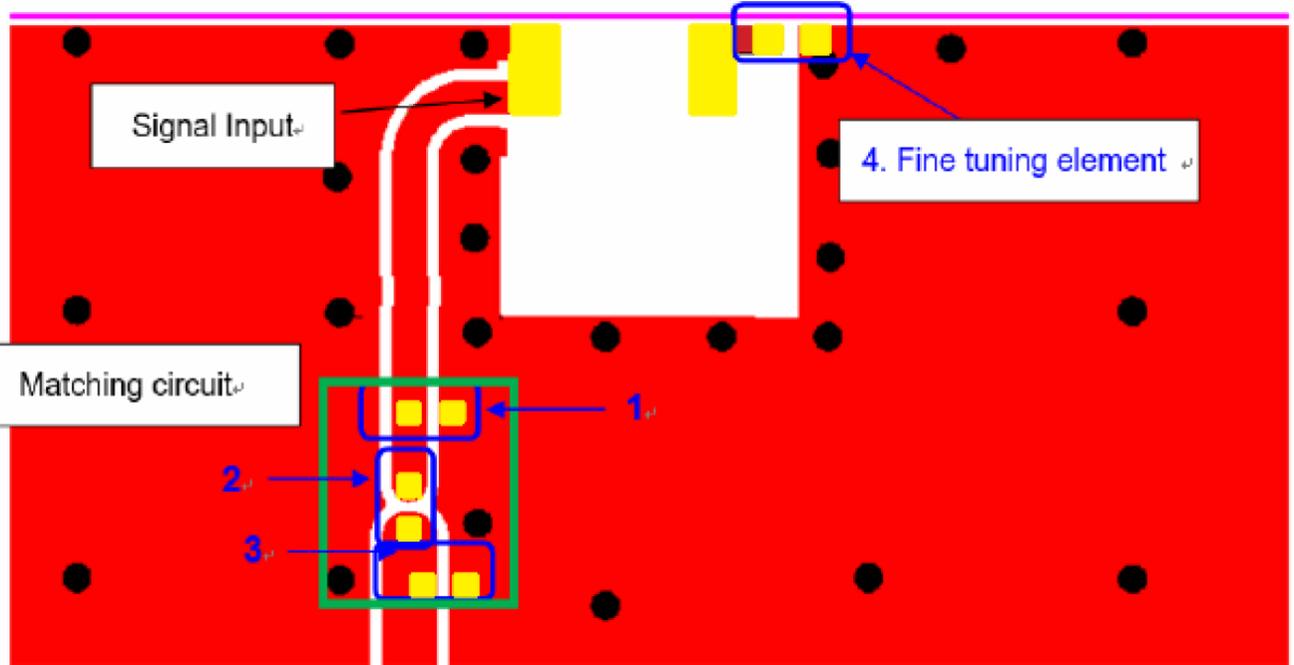


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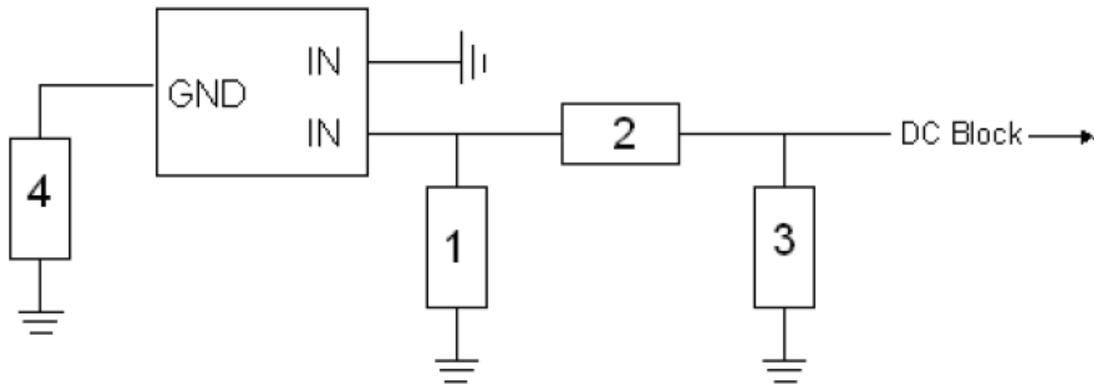
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Frequency Tuning



Matching Circuit



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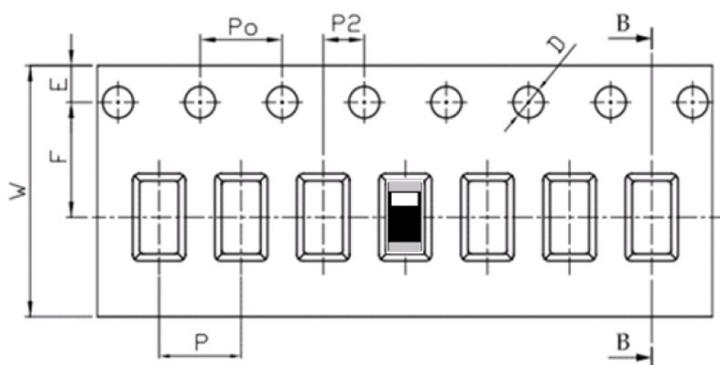
System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	1.2pF, (0402)	$\pm 0.05\text{pF}$	NMC-Q0402NPO1R2A50TRPF
2	3.3nH, (0402)	$\pm 0.1\text{nH}$	NMLQ04B3N3TRF
3	N/A	-	-
4 Fine Tuning Element	1.2pF, (0402)	$\pm 0.05\text{pF}$	NMC-Q0402NPO1R2A50TRPF

Packing

- (1) Quantity/Reel: 900 pcs /Reel
- (2) Unit Weight: 0.056 ± 0.005 g / pcs
- (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
P2	2.00	± 0.10
D	1.50	+0.10 -0.00
Po	40.0	± 0.10
10Po	40.00	± 0.20

c. Reel Drawing

