

NGCM8010UW2R450G1TRF

2450 MHz WIFI / Bluetooth Chip Antenna



Features

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



Applications

- ISM 2.4 GHz applications
- ZigBee/BLE applications
- Bluetooth earphone systems
- 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

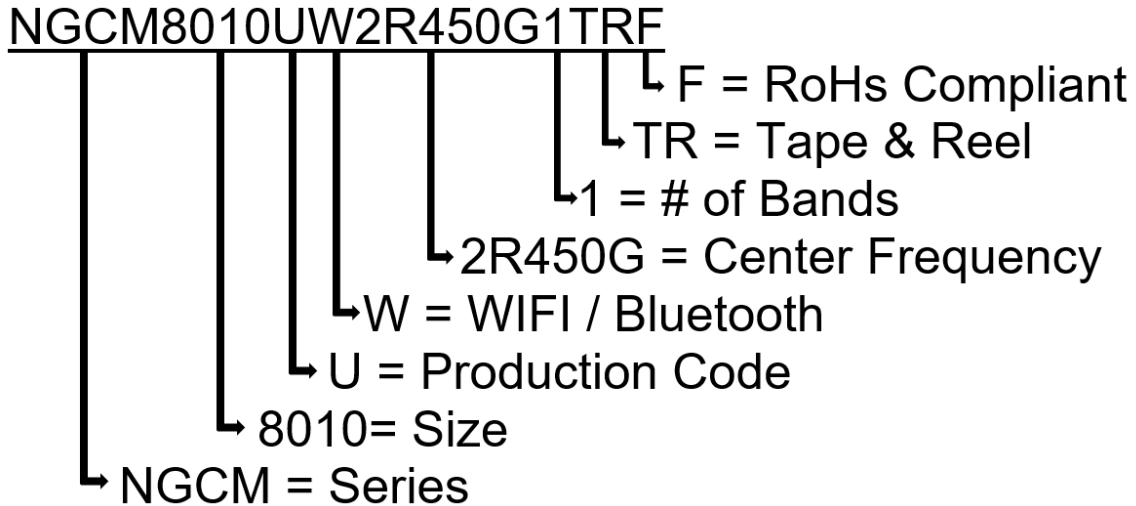
Electrical			
Frequency Range	2400~2500MHz		
Center Frequency	2450 MHz		
Clearance Area	10 x 5 mm	10 x 4 mm	10 x 3 mm
Average Gain	-1.7 dB typ.	-1.7 dB typ.	-2.0 dB typ.
Peak Gain	0.8 dBi typ.	0.5 dBi typ.	0.9 dBi typ.
Efficiency	68% typ.	67% typ.	63% typ.
Return Loss	<-10 dB typ.	<-10 dB typ.	<-10 dB typ.
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



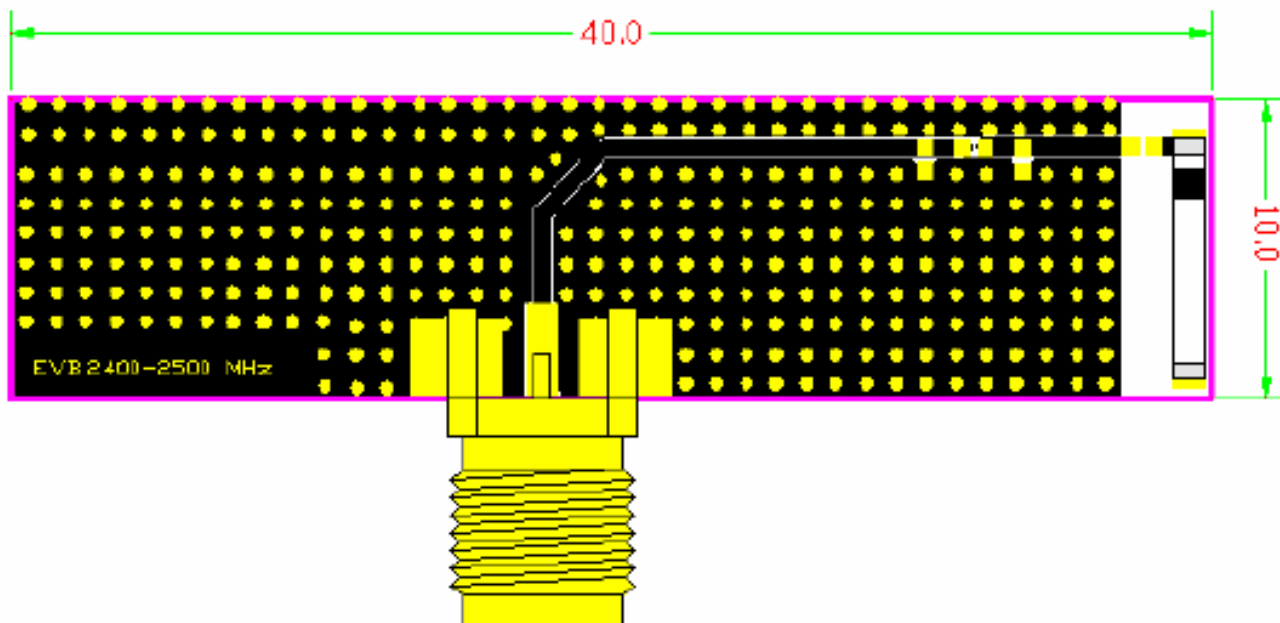
PIN	1	2
Soldering Pad	Signal Input	NC

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Evaluation Board



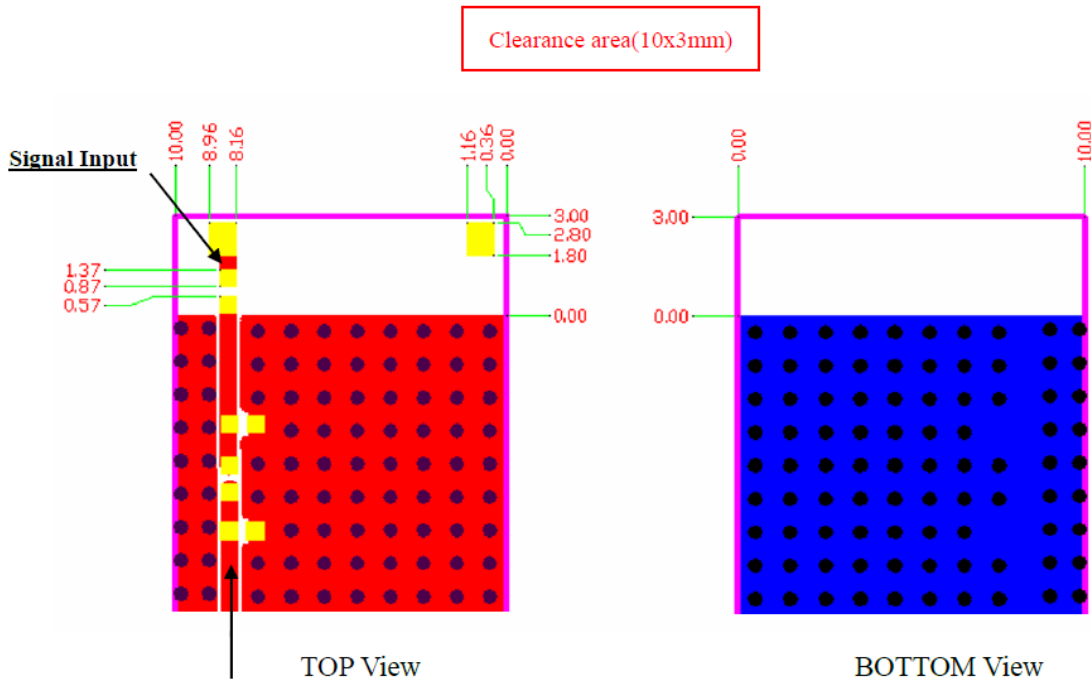
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Solder Land Pattern

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



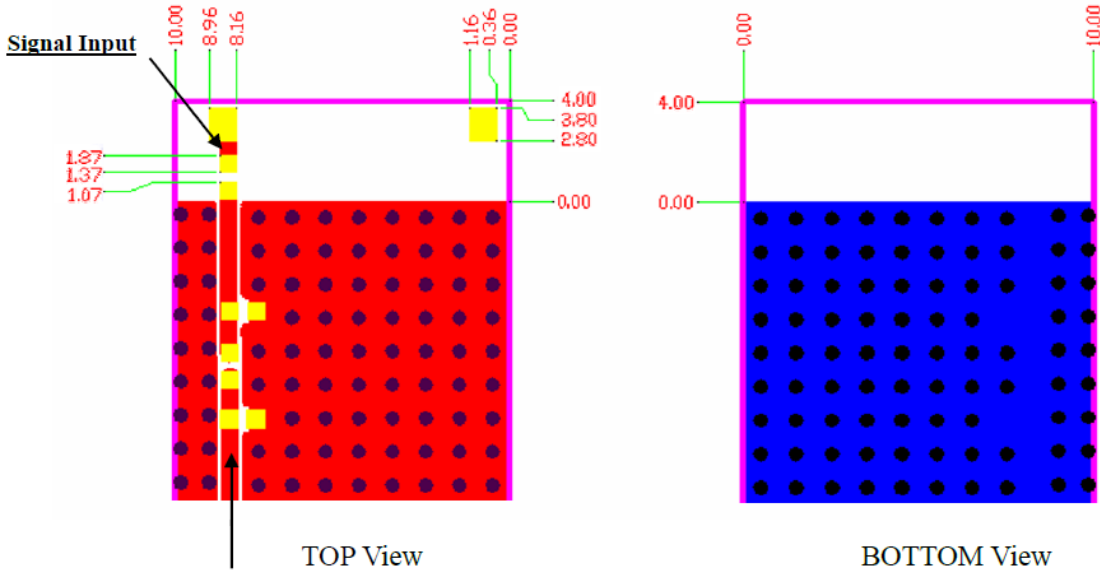
Transmission Line with 50Ω Impedance Characteristic

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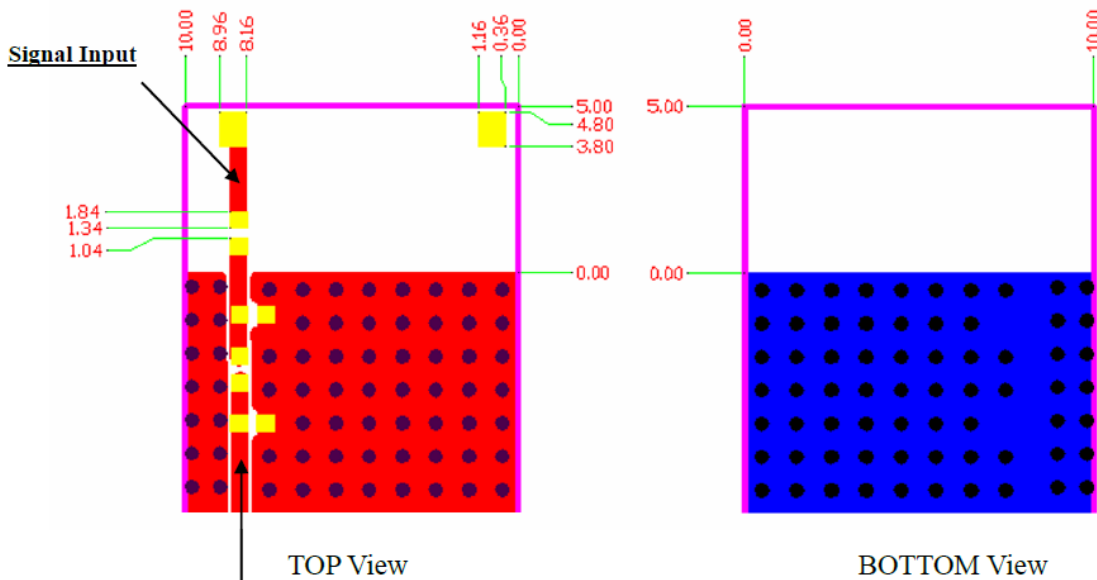


Clearance area(10x4mm)



Transmission Line with 50Ω Impedance Characteristic

Clearance area(10x5mm)



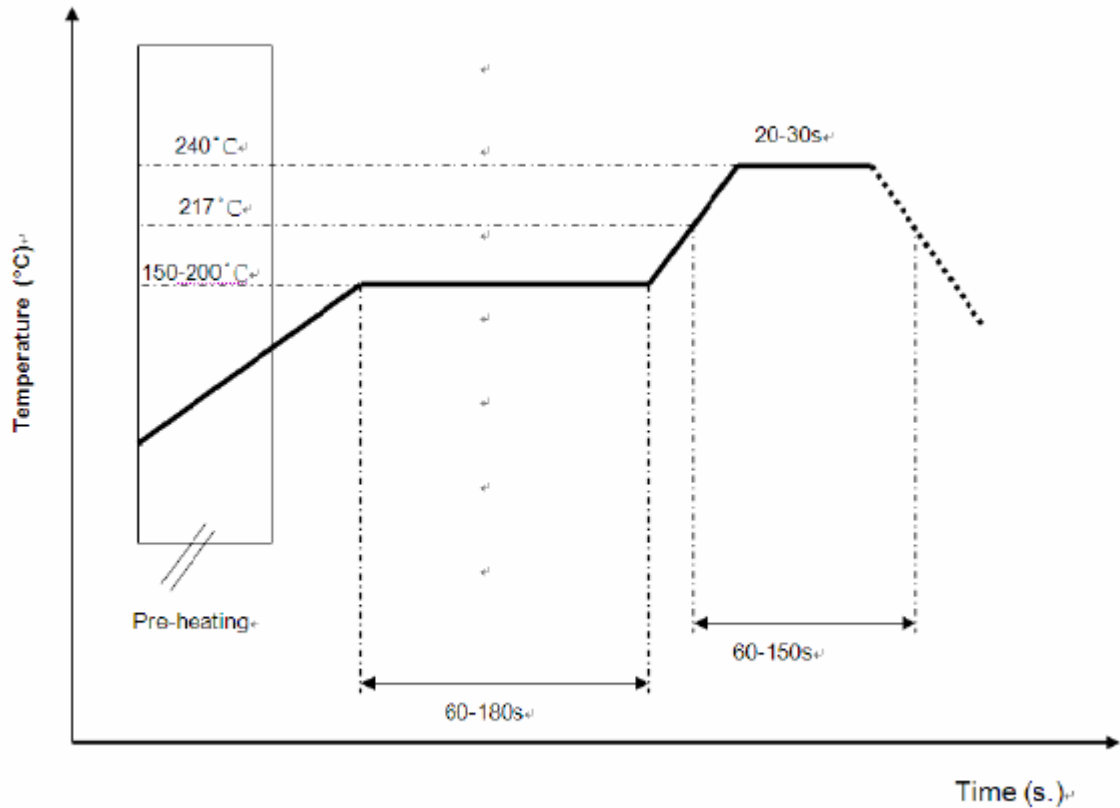
Transmission Line with 50Ω Impedance Characteristic

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Soldering Conditions



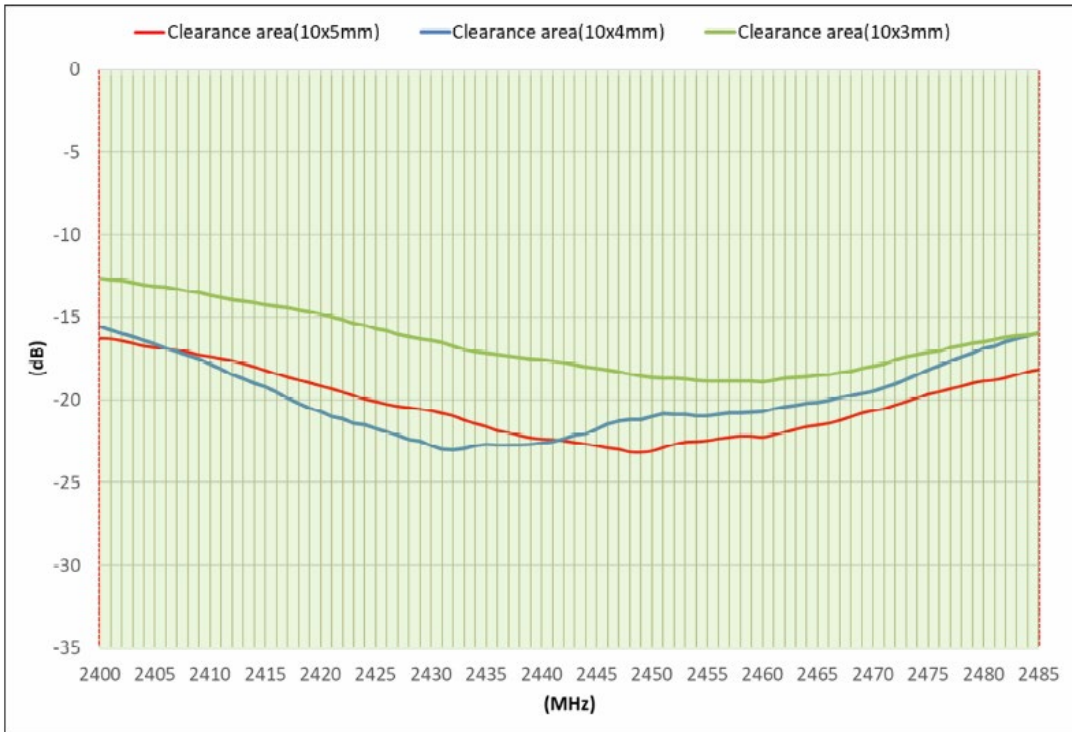
*Recommended solder paste alloy: SAC305 (Sn96.5 /Ag3 /Cu0.5) Lead Free solder paste.

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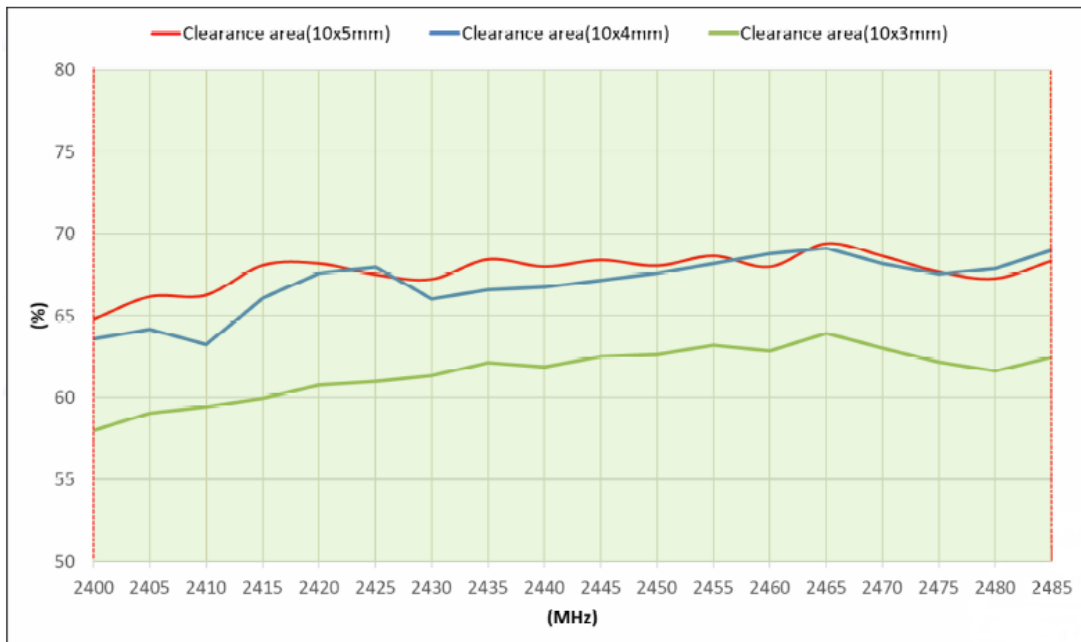
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Return loss (dB)

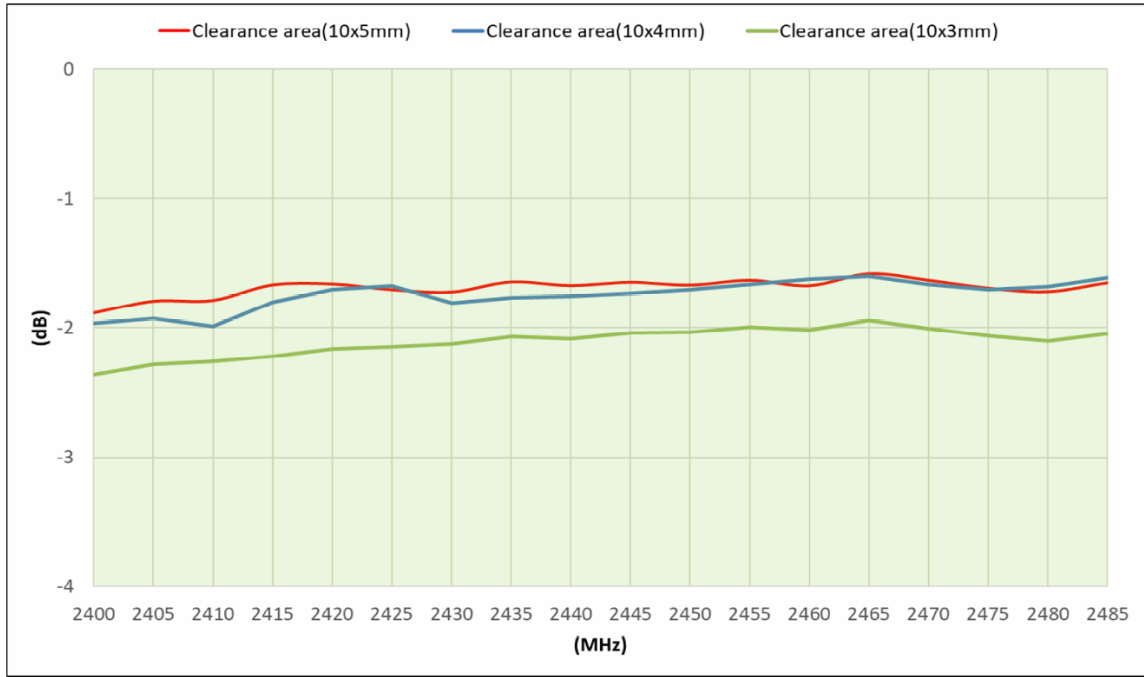


Efficiency (%)

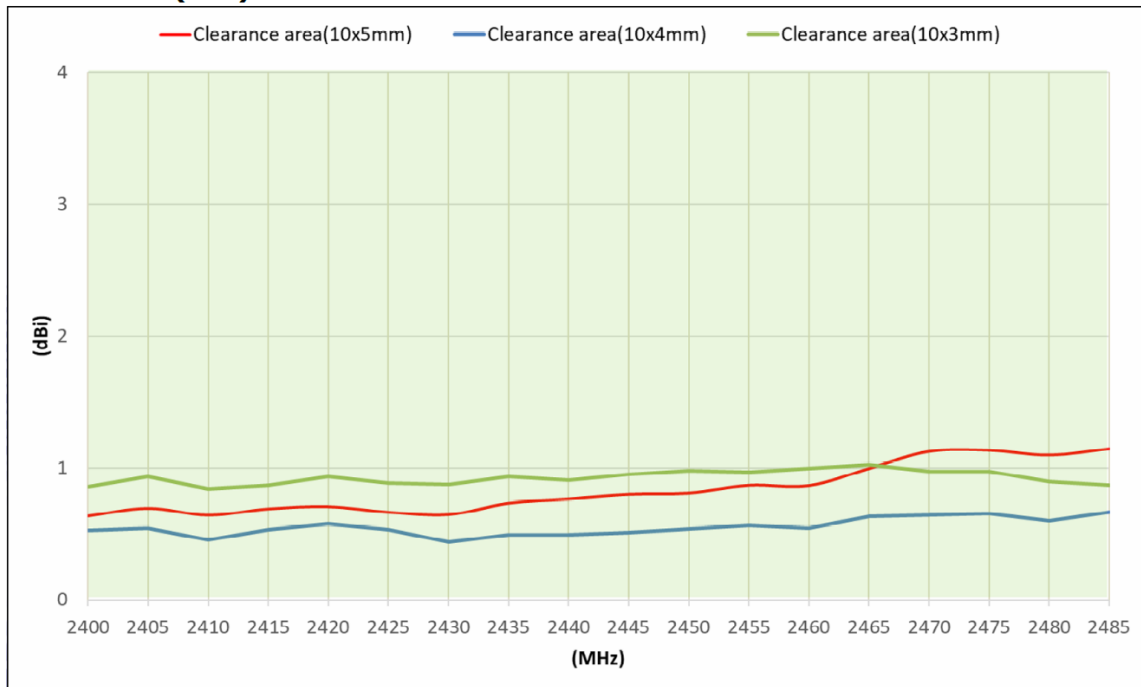




Average Gain (dB)



Peak Gain (dBi)



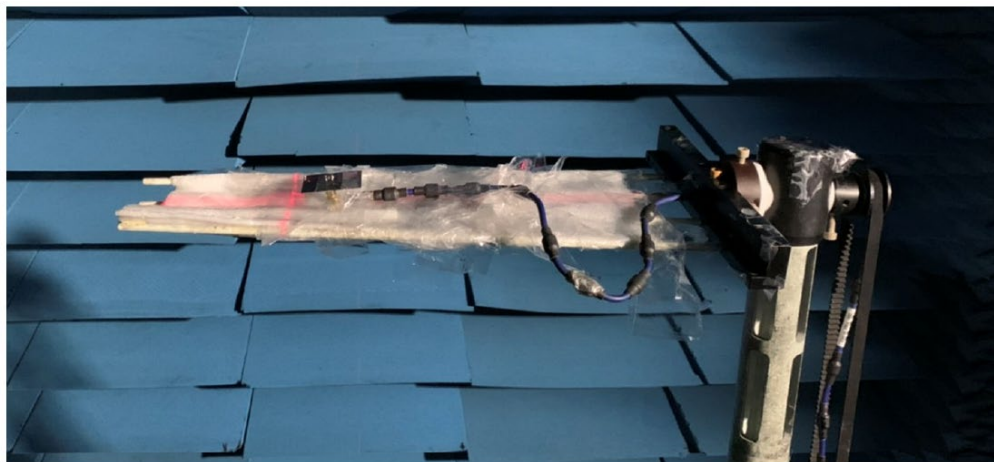
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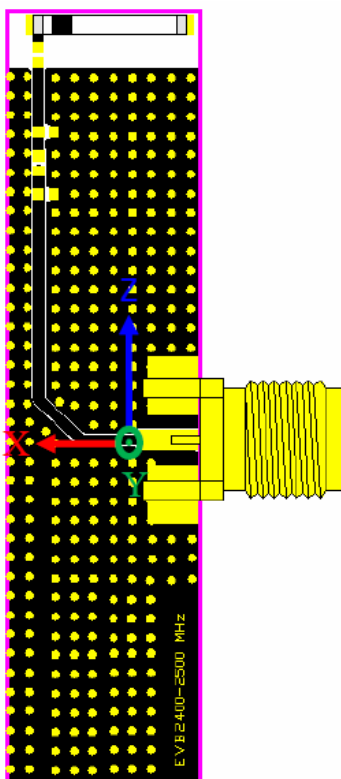


Antenna Radiation Pattern Measurement:

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



3D Radiation Gain Pattern



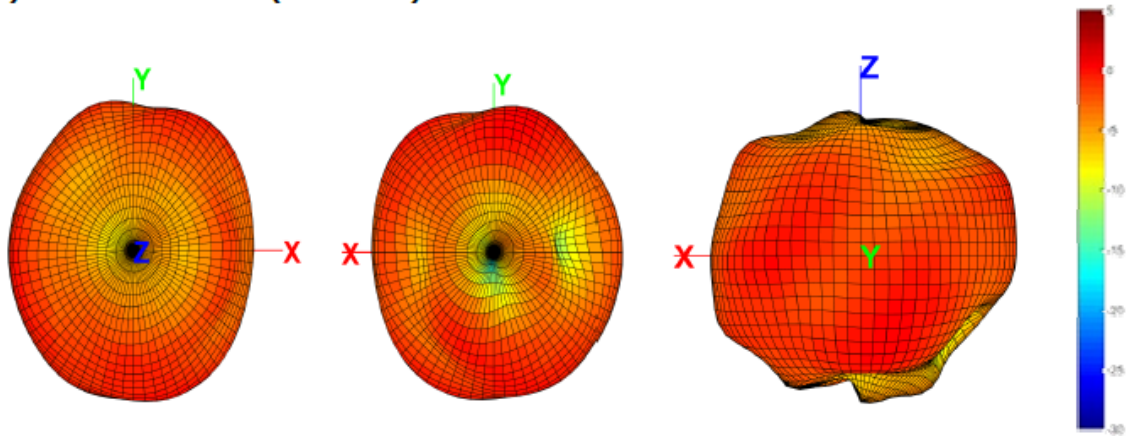
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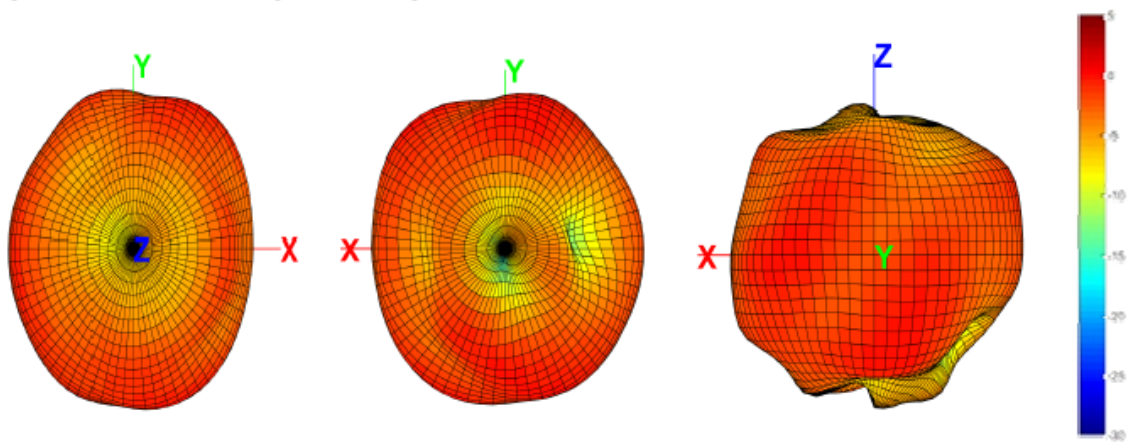


2445 MHz (unit: dBi)

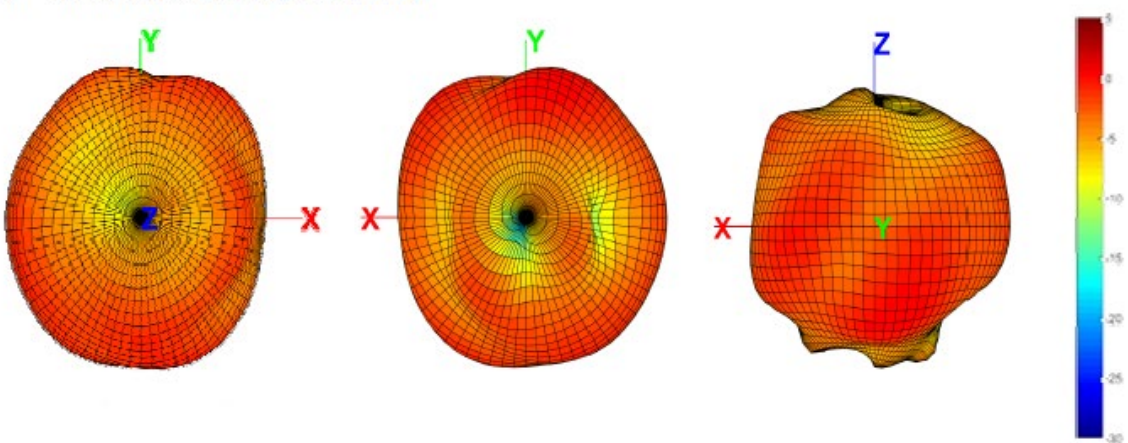
a) Clearance area(10x5mm)



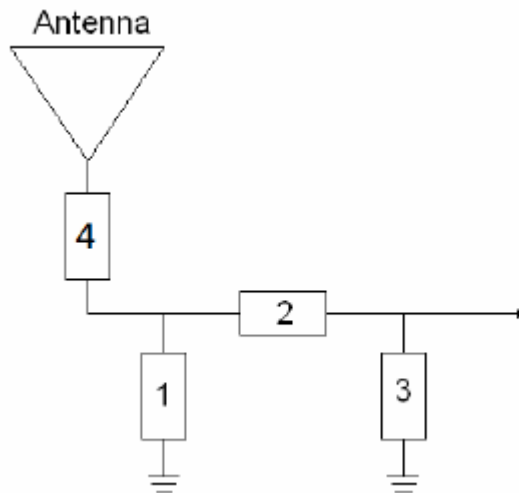
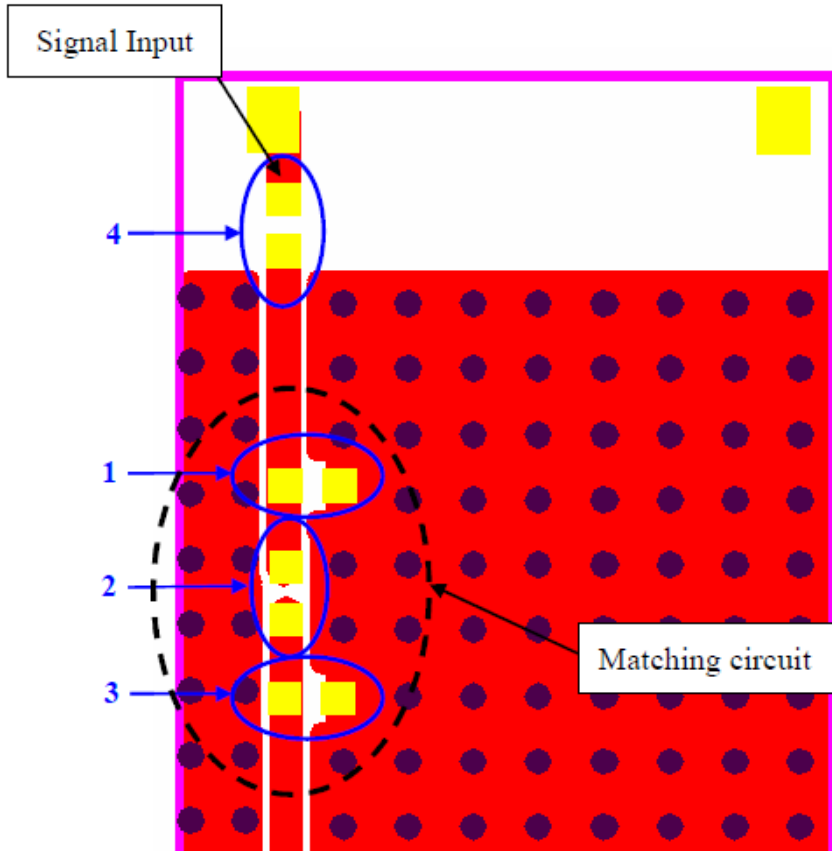
b) Clearance area(10x4mm)



c) Clearance area(10x3mm)



Frequency Tuning & Matching Circuit





System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	-	-	-
2	0Ω, (0402)	5%	NRC04ZOTRF
3	0.4pF, (0402)	±0.1pF	NMC-Q0402NPO0R4B25TRPF
4 Fine Tuning Element	6.8nH, (0402)	±2%	NMLQ04G6N8TRF

System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	2.7nH (0402)	±0.1nH	NMLQ04B2N7TRF
2	1nH (0402)	±0.1nH	NMLQ04B1N0TRF
3	-	-	-
4 Fine Tuning Element	3.9nH, (0402)	±0.1nH	NMLQ04B3N9TRF

System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	-	-	-
2	0Ω, (0402)	5%	NRC04ZOTRF
3	0.9pF, (0402)	±0.1pF	NMC-Q0402NPO0R9B25TRPF
4 Fine Tuning Element	5.6nH, (0402)	±0.1nH	NMLQ04B5N6TRF

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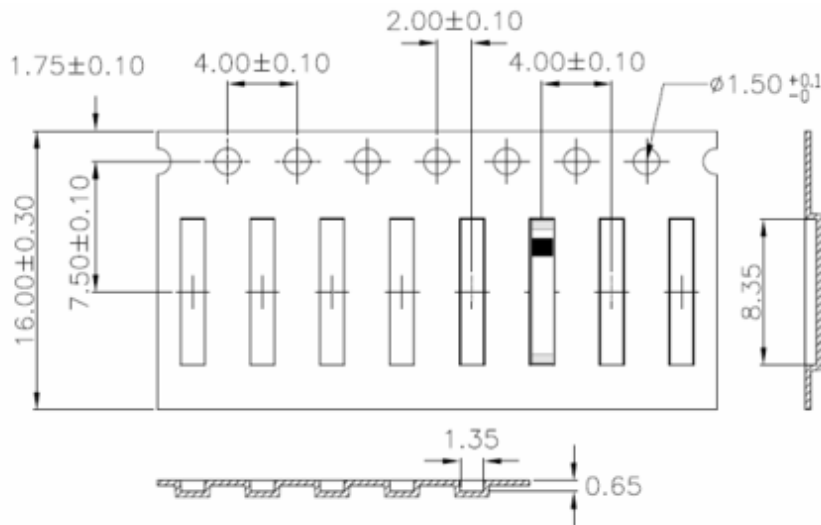
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Packing

- (1) Unit Weight: 0.03 ± 0.005 (g)/pcs
- (2) Quantity/Reel: 5000 pcs/Reel
- (3) Plastic tape: Black Conductive Polystyrene.

a. Tape Drawing



b. Tape Dimensions (unit: mm)

