NGCM7020US0R915G1TRF

915 MHz ISM Chip Antenna

9001:2015 CERTIFIED

ROHS/REACH COMPLIANT HALOGEN FREE

NIC Components Corp.

Features

- Stable and reliable performance
- Supports ISM 915 MHz Band
- Low Profile, Compact Size
- RoHs Complaint

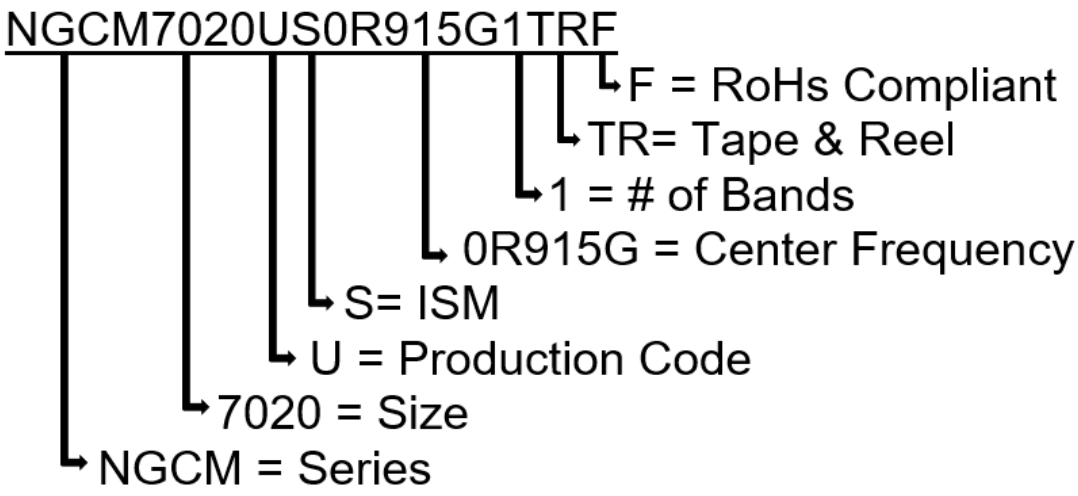
Applications

- ISM Band System

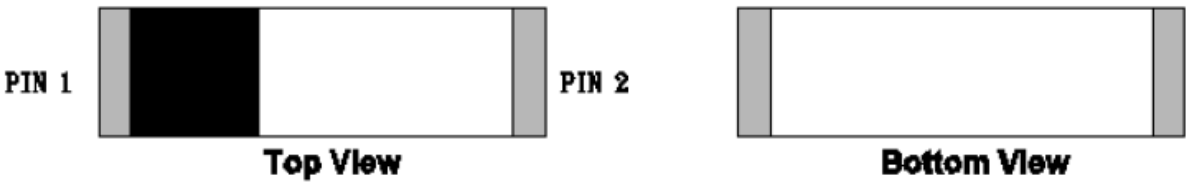
Specifications

Electrical	
Frequency Range	915 MHz
Return Loss	< -10 dB Typ.
Average Gain	-5.2 dB Typ.
Peak Gain	0.2 dBi Typ.
Efficiency	30 %
Maximum Input Power	2 W
Polarization	Linear
Impedance	50Ω
Environmental	
Operating Temperature	-40℃~+85℃
Storage Temperature	-5℃~+40℃ -40℃~+85℃ - 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

Part Number Breakdown

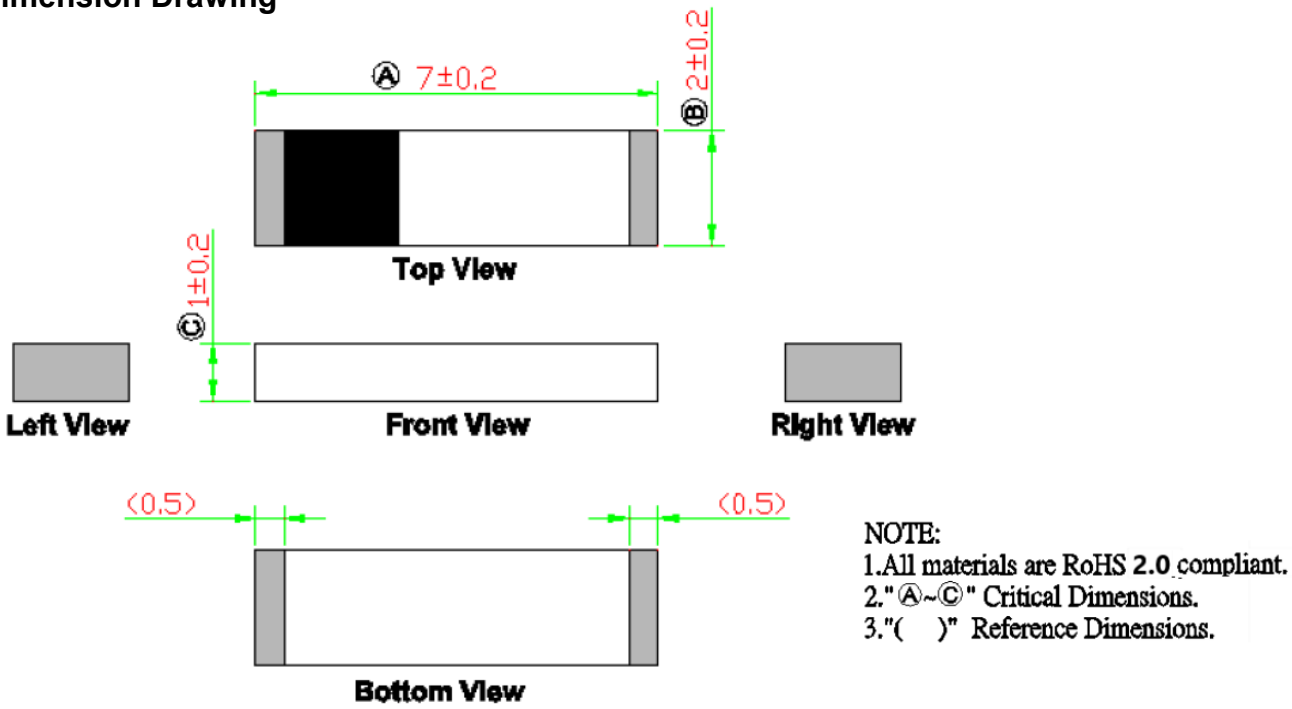


Pin Definition



PIN	1	2
Soldering PAD	Signal	N/C

Dimension Drawing

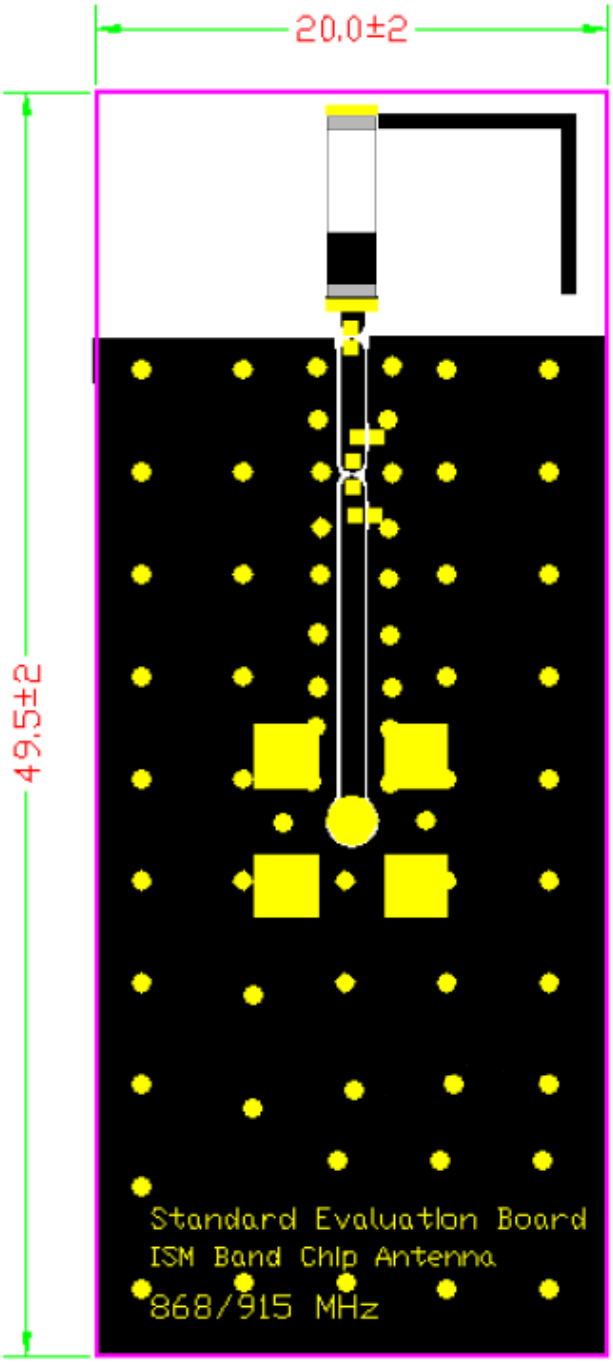


NOTE:
1.All materials are RoHS 2.0 compliant.
2."Ⓐ~Ⓒ" Critical Dimensions.
3."( )" Reference Dimensions.

Dimensions (mm) & Mechanical

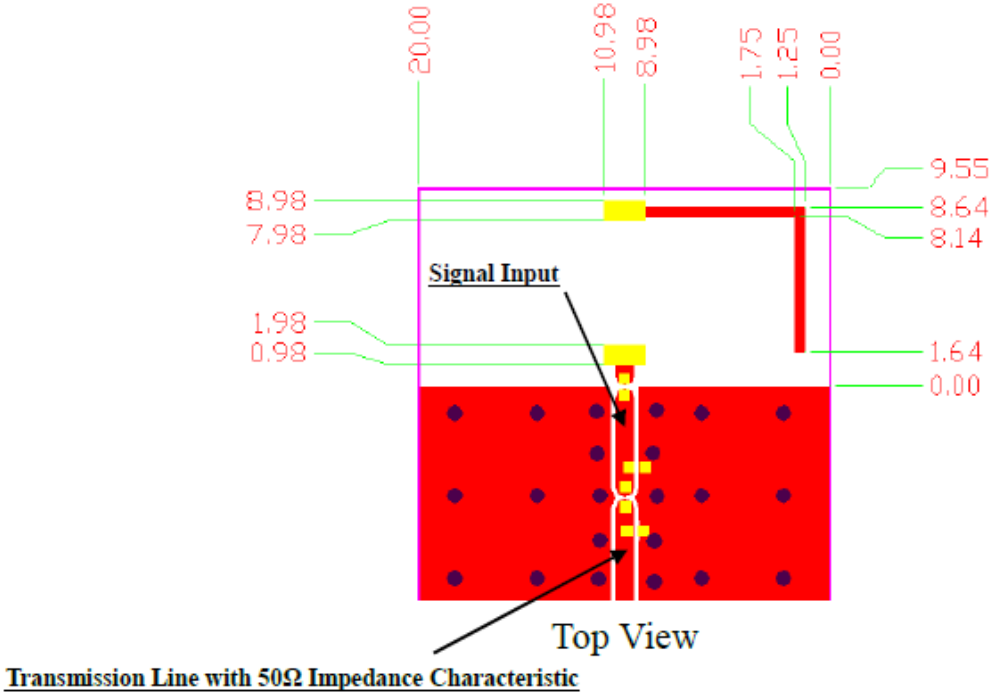
Body Length (A)	7 ± 0.2
Width (B)	2 ± 0.2
Thickness (C)	1 ± 0.2
Connection Type	SMT
Ground Plane	49.5 mm x 20 mm
Material	Ceramic

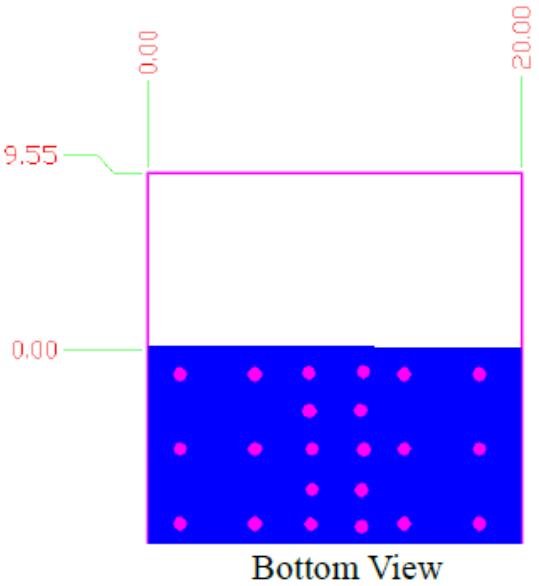
Evaluation Board



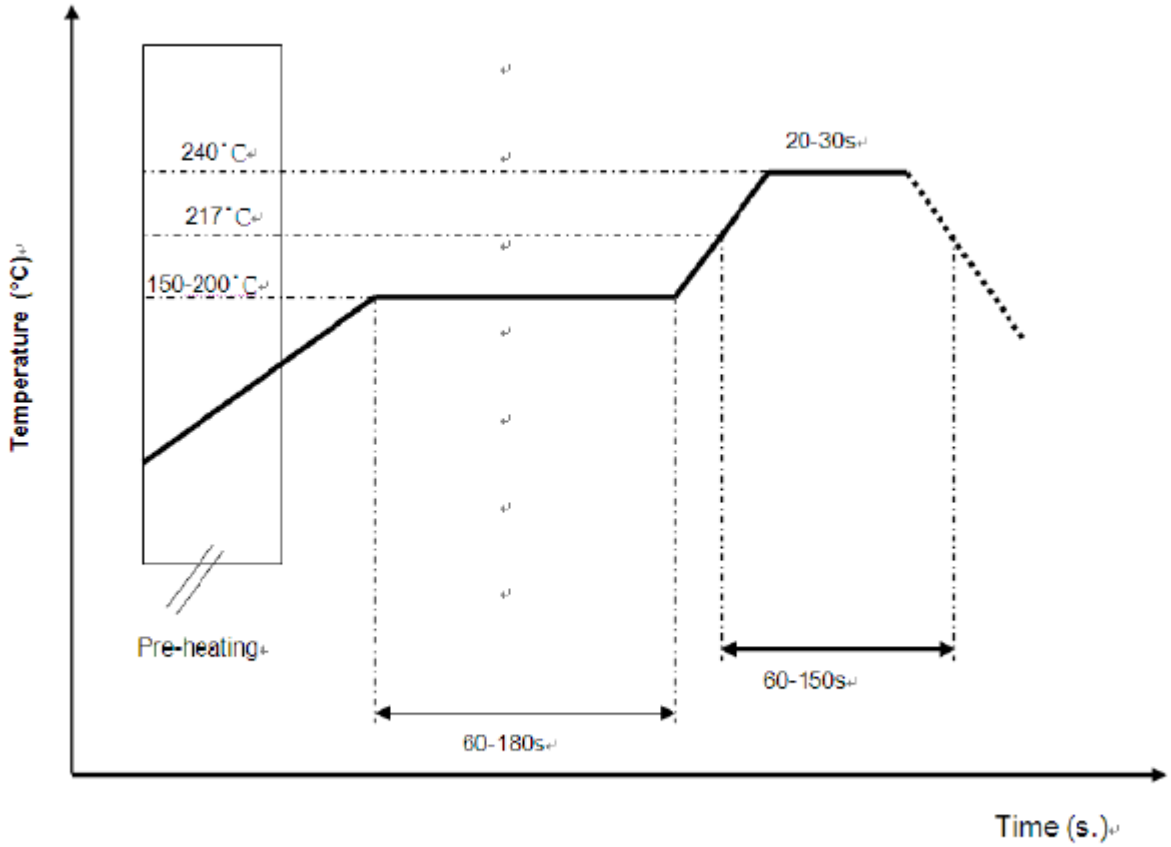
Solder Land Pattern

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



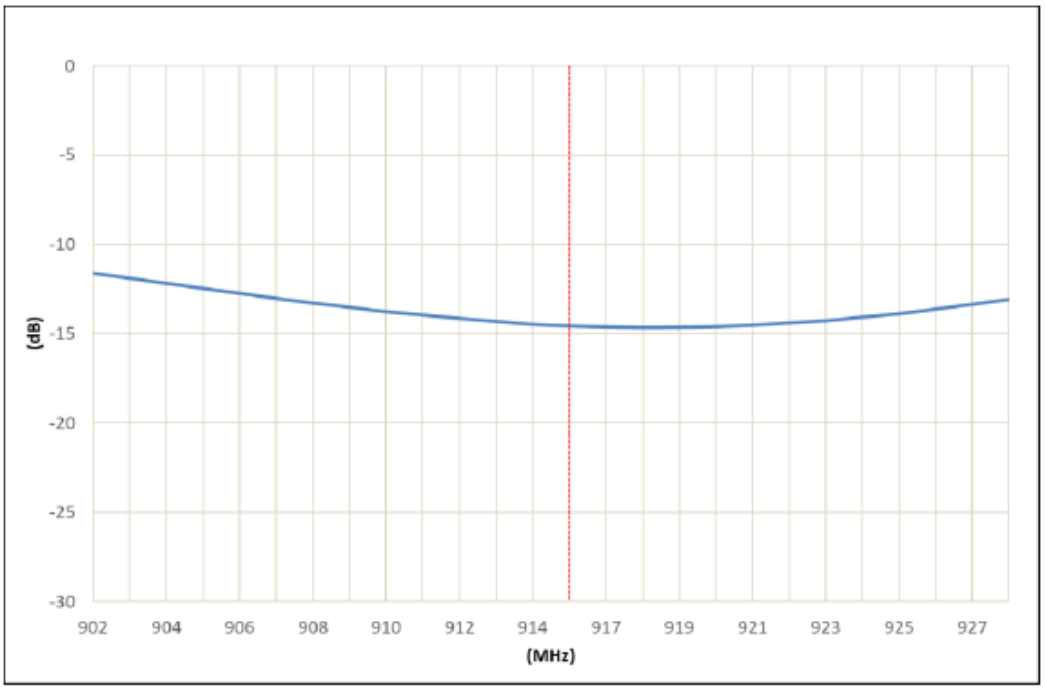


Soldering Conditions

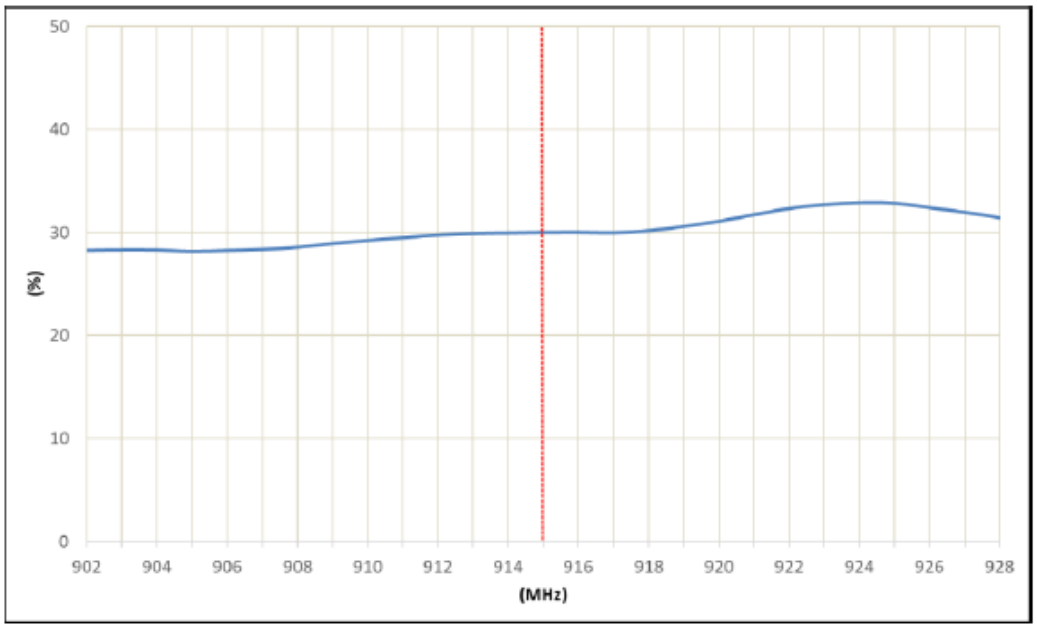


*Recommended solder paste alloy: SAC305 (Sn96.5 /Ag3 /Cu0.5) Lead Free solder paste

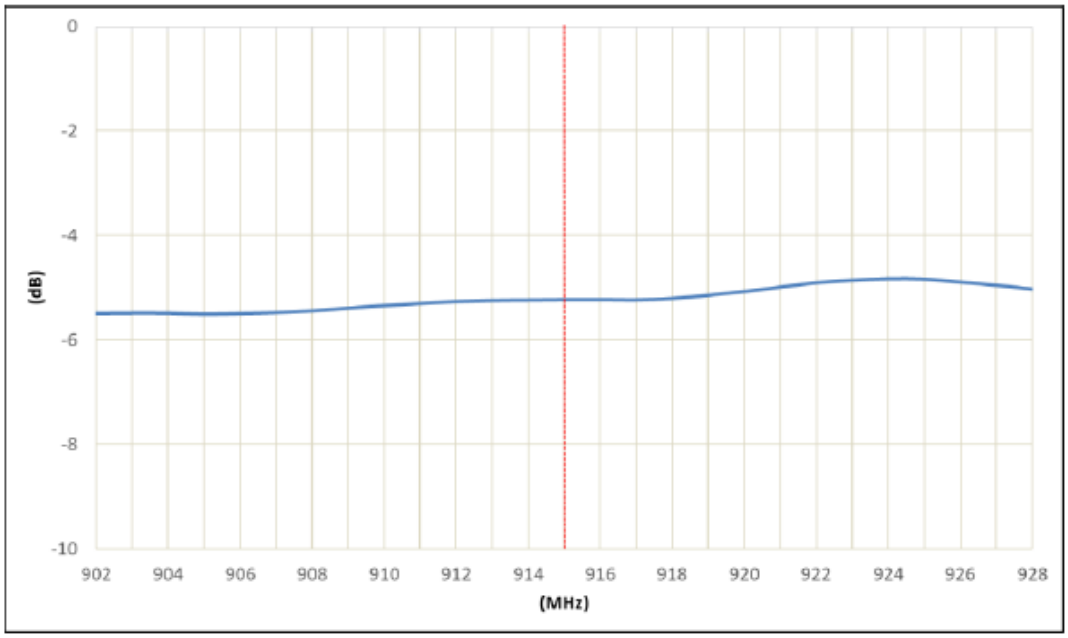
Return loss (dB)



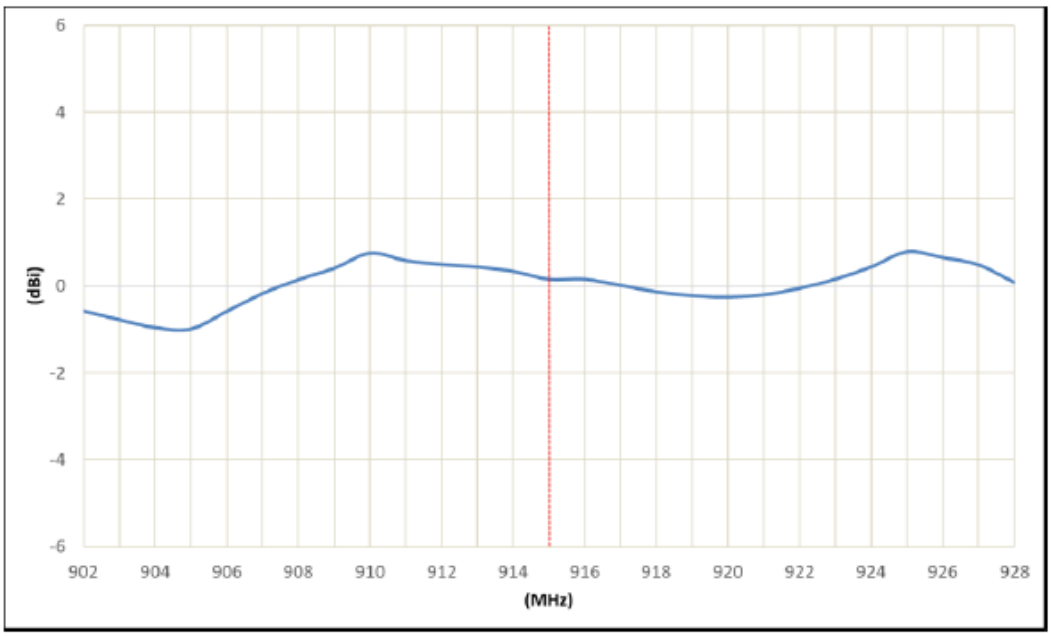
Efficiency (%)



Average Gain (dB)

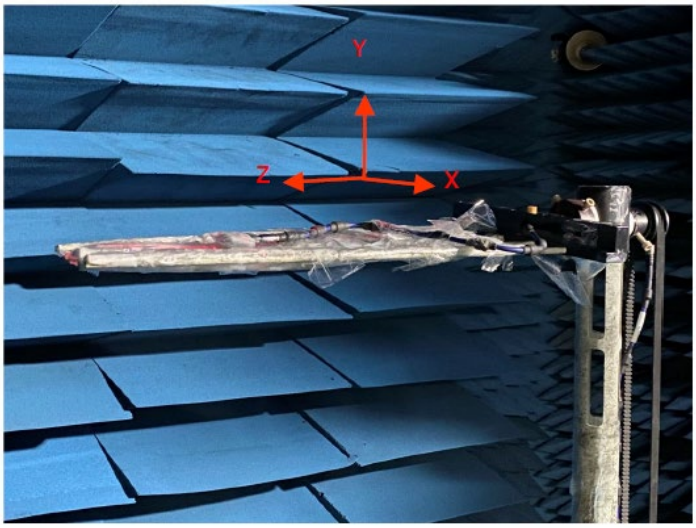


Peak Gain (dBi)

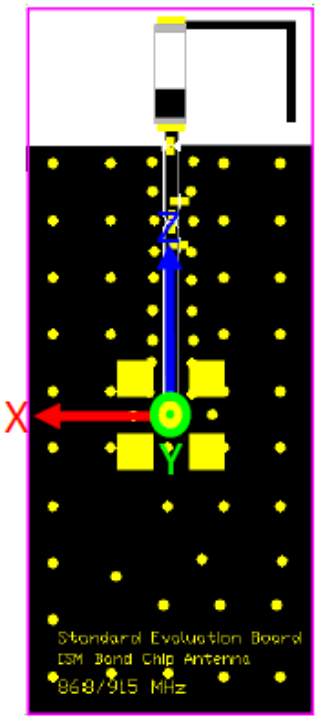


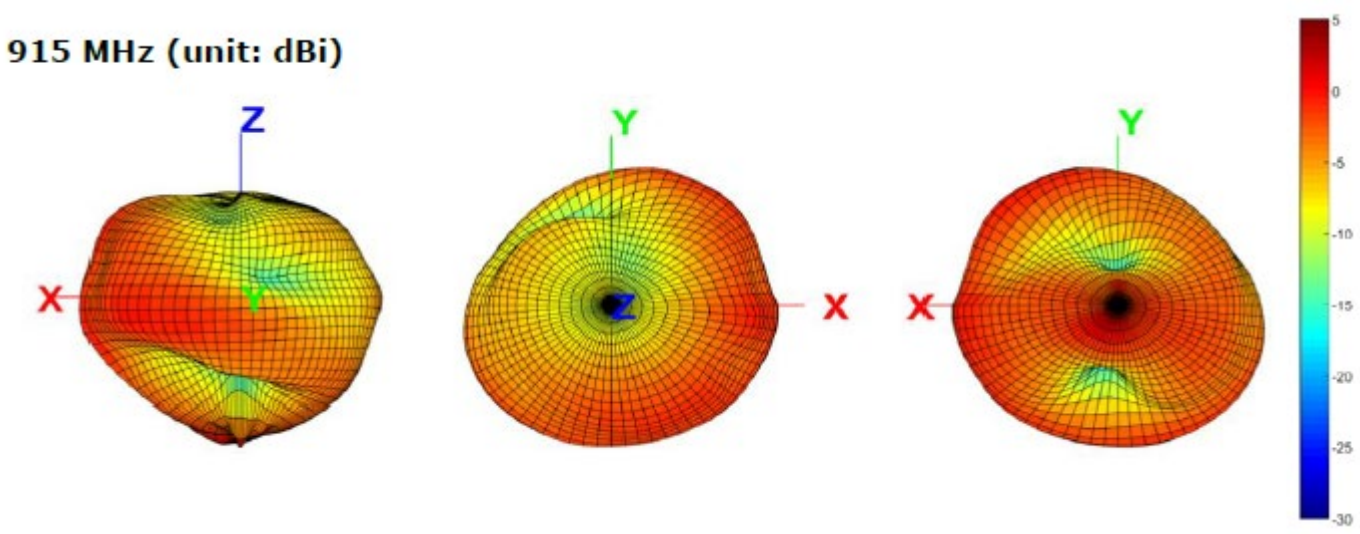
Antenna Radiation Pattern Measurement:

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

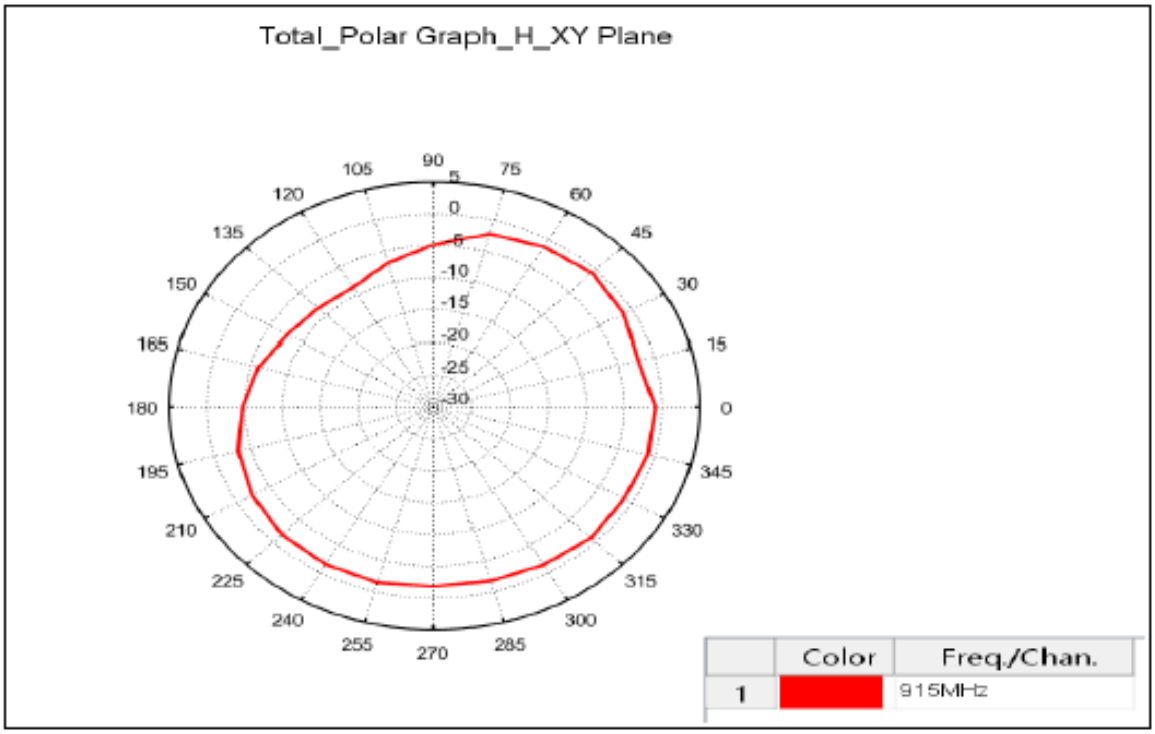


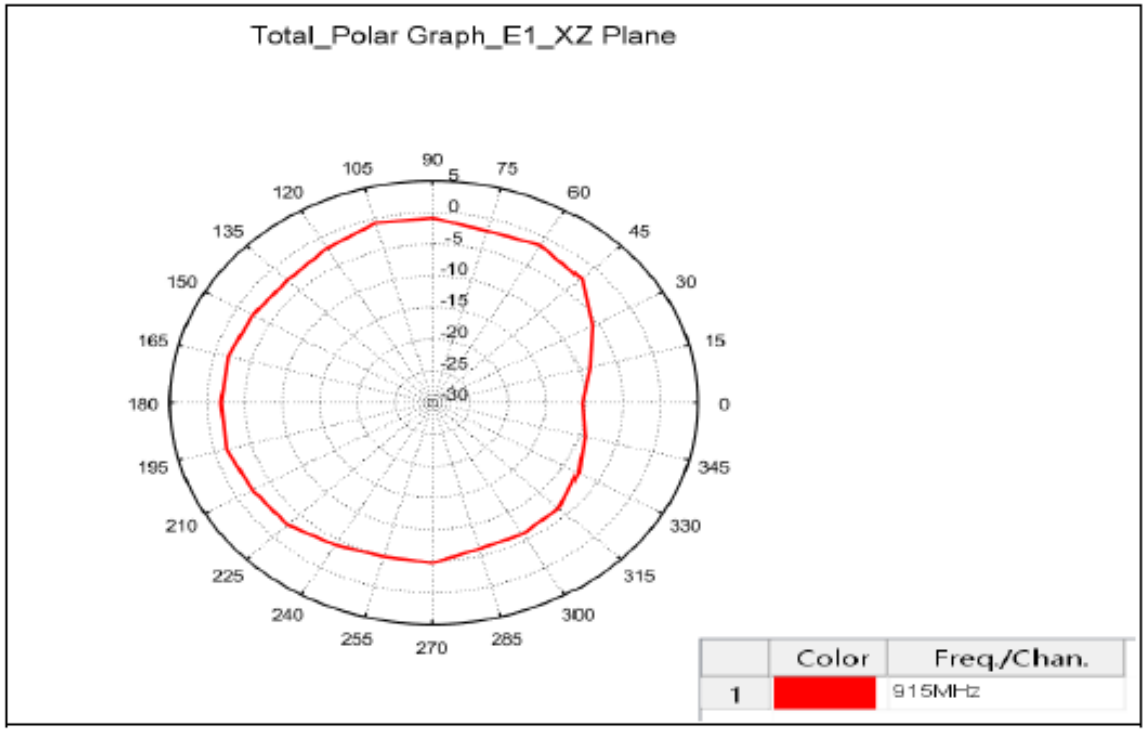
3D Radiation Gain Pattern

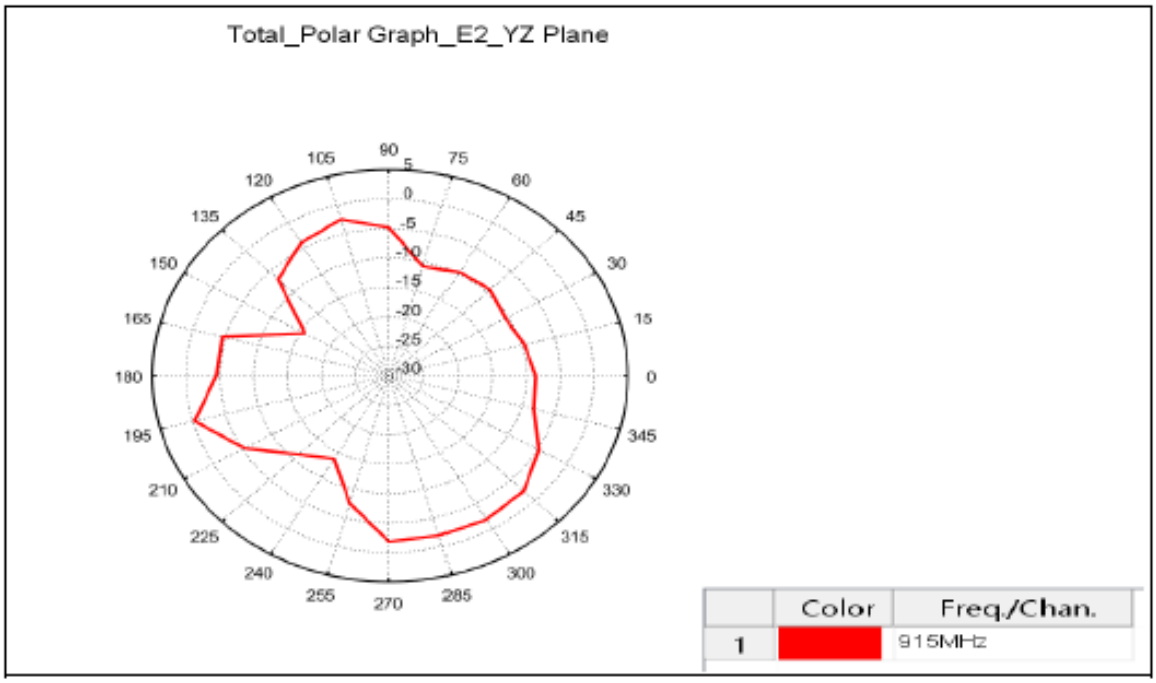




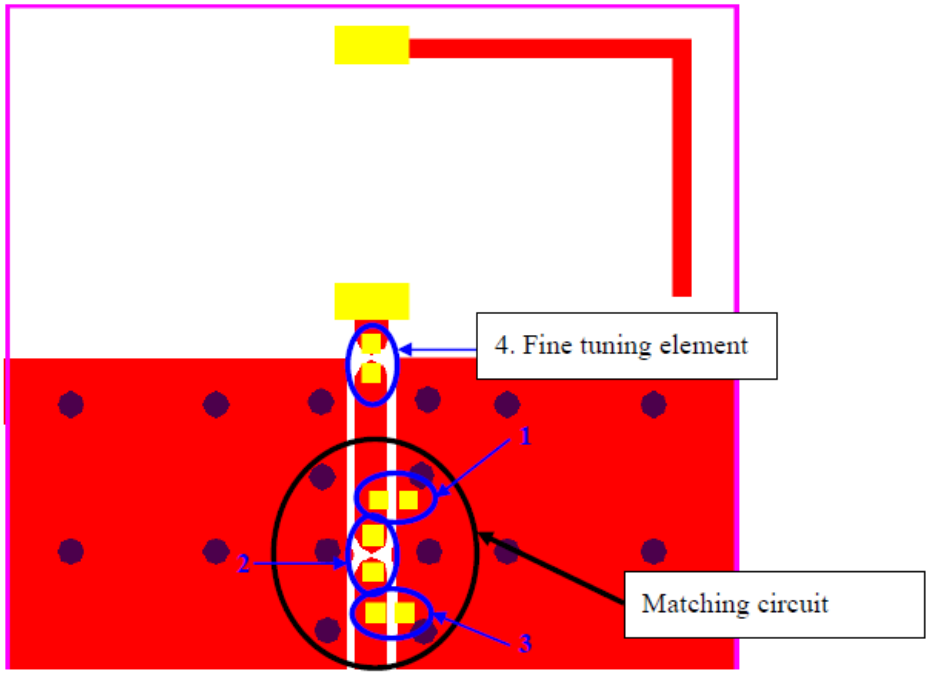
2D Radiation Gain Pattern

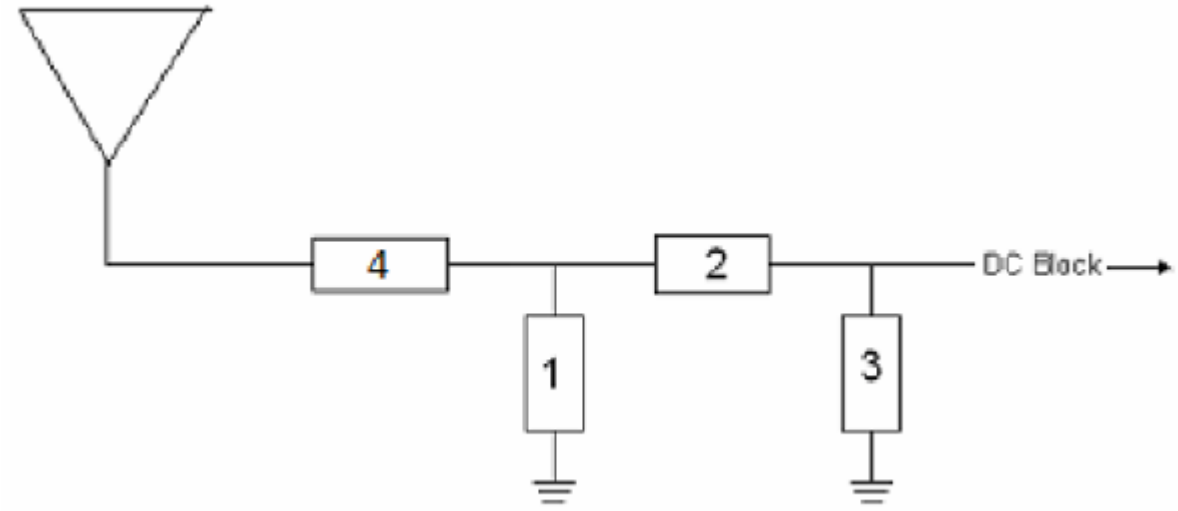



Total_Polar Graph_E1_XZ Plane
90
75
60
45
30
15
0
345
330
315
300
285
270
255
240
225
210
195
180
165
150
135
120
105
5
0
-5
-10
-15
-20
-25
-30
Color
Freq./Chan.
1
915MHz


Total_Polar Graph_E2_YZ Plane
90
75
60
45
30
15
0
345
330
315
300
285
270
255
240
225
210
195
180
165
150
135
120
105
5
0
-5
-10
-15
-20
-25
-30
Color
Freq./Chan.
1
915MHz

Frequency Tuning & Matching Circuit





System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1&3	N/A	-	-
2	0Ω, (0402)	-	NRC04Z0TRF
4 Fine Tuning Elements	18nH, (0402)	±5%	NML04J18NTRF

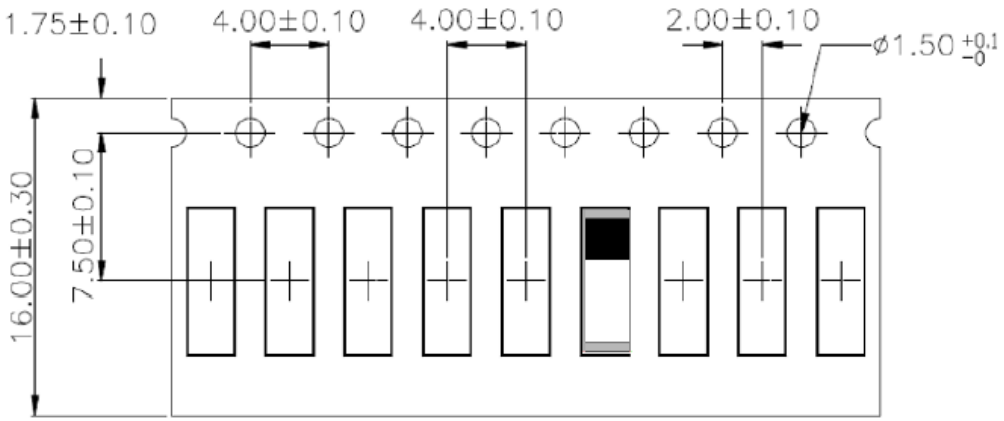
Packing

(1) Unit Weight: 0.042±0.005(g)/pcs

(2) Quantity/Reel: 3000 pcs/Reel

(3) Plastic tape: Black Conductive Polystyrene.

a. Tape Drawing (unit: mm)



b. Reel Drawing (unit: mm)