

Features

- Stable and reliable performance
- Supports ISM 868 MHz Band
- Low Profile, Compact Size
- Low Temperature coefficient of frequency
- RoHs Complaint

Applications

- Short Range Devices (SRD)
- IoT Applications
- Alarm System



Specifications

Electrical	
Frequency Range	863 ~ 870 MHz
Center Frequency	868 MHz
VSWR	2 Max.
Peak Gain	0 dBi Typ.
Efficiency	47 %
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

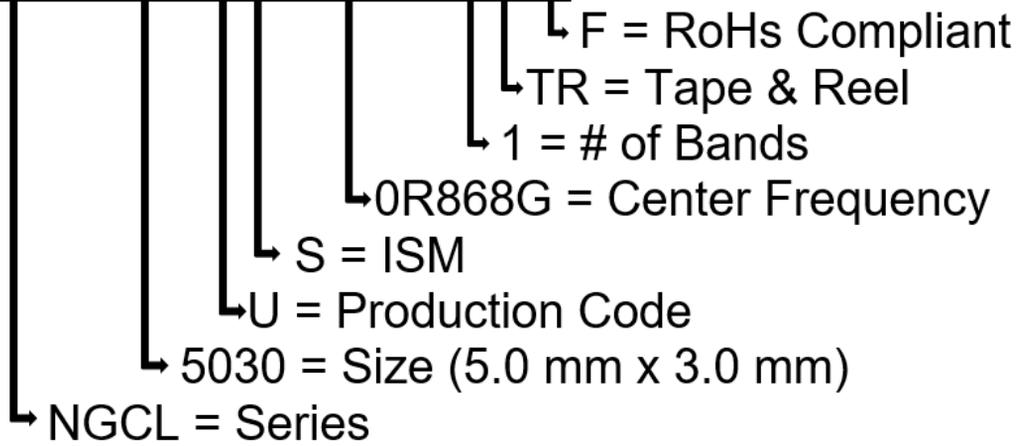
NGCL5030US0R868G1TRF

868 MHz ISM Chip Antenna

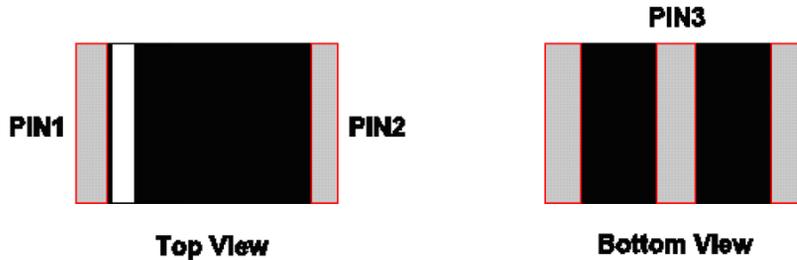


Part Number Breakdown

NGCL5030US0R868G1TRF

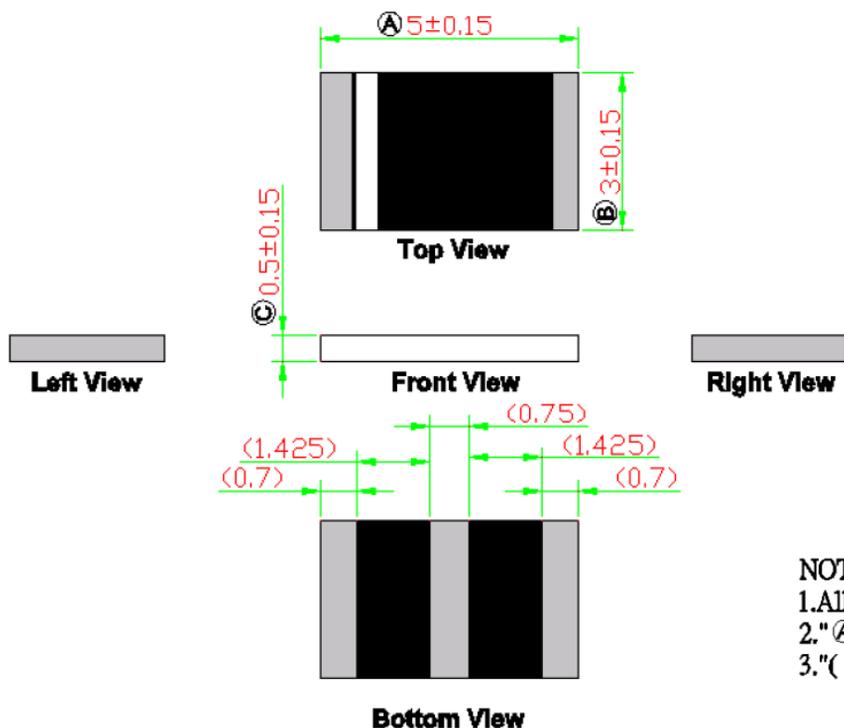


Pin Definition



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

Dimension Drawing



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

Dimensions (mm) & Mechanical

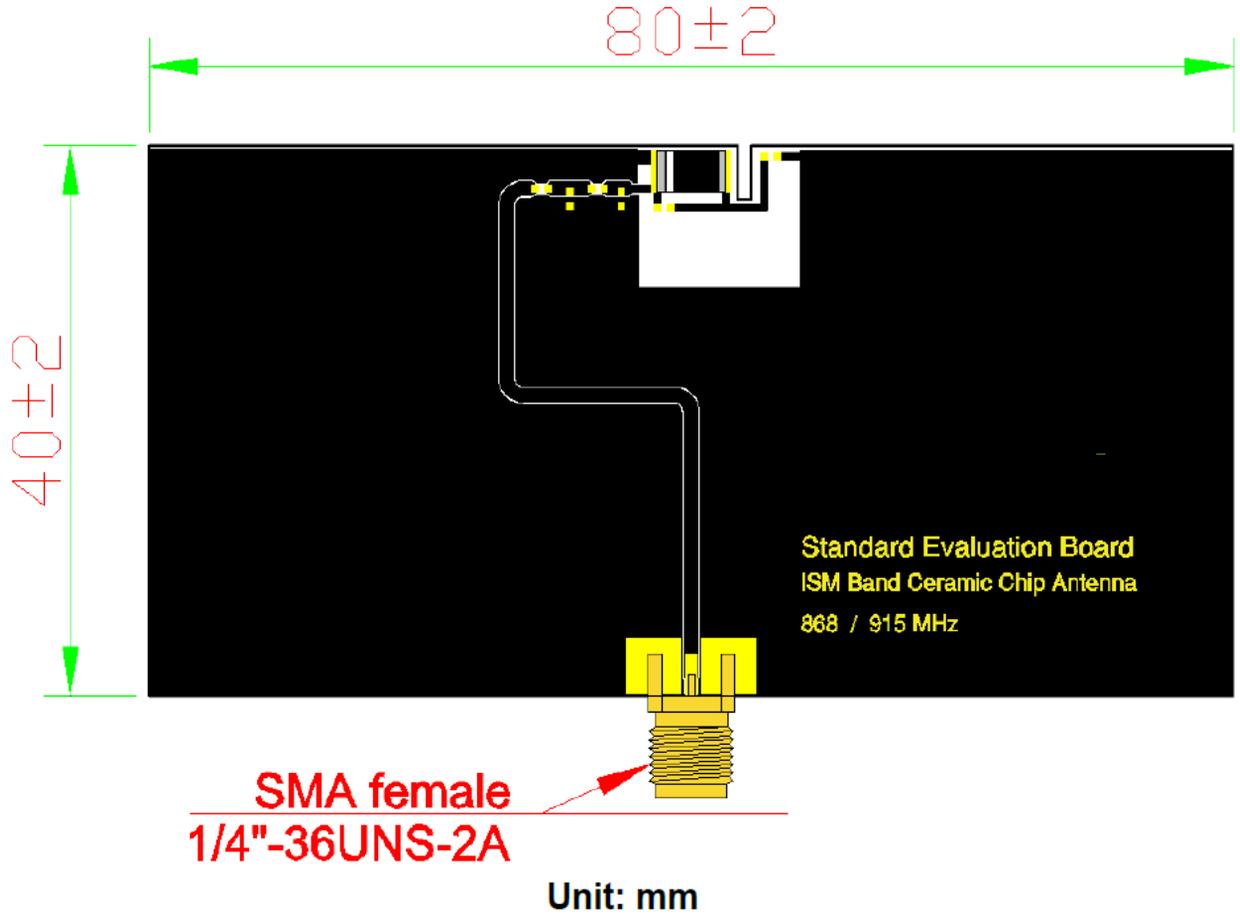
Body Length (A)	5.0 ± 0.15
Width (B)	3.0 ± 0.15
Thickness (C)	0.5 ± 0.15
Connection Type	SMT
Ground Plane	80 mm x 40 mm
Material	Ceramic

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868 MHz ISM Chip Antenna

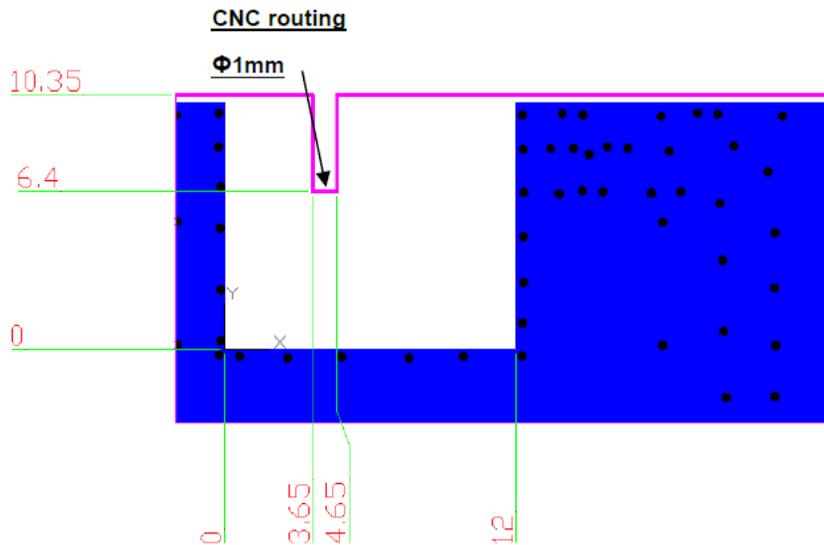
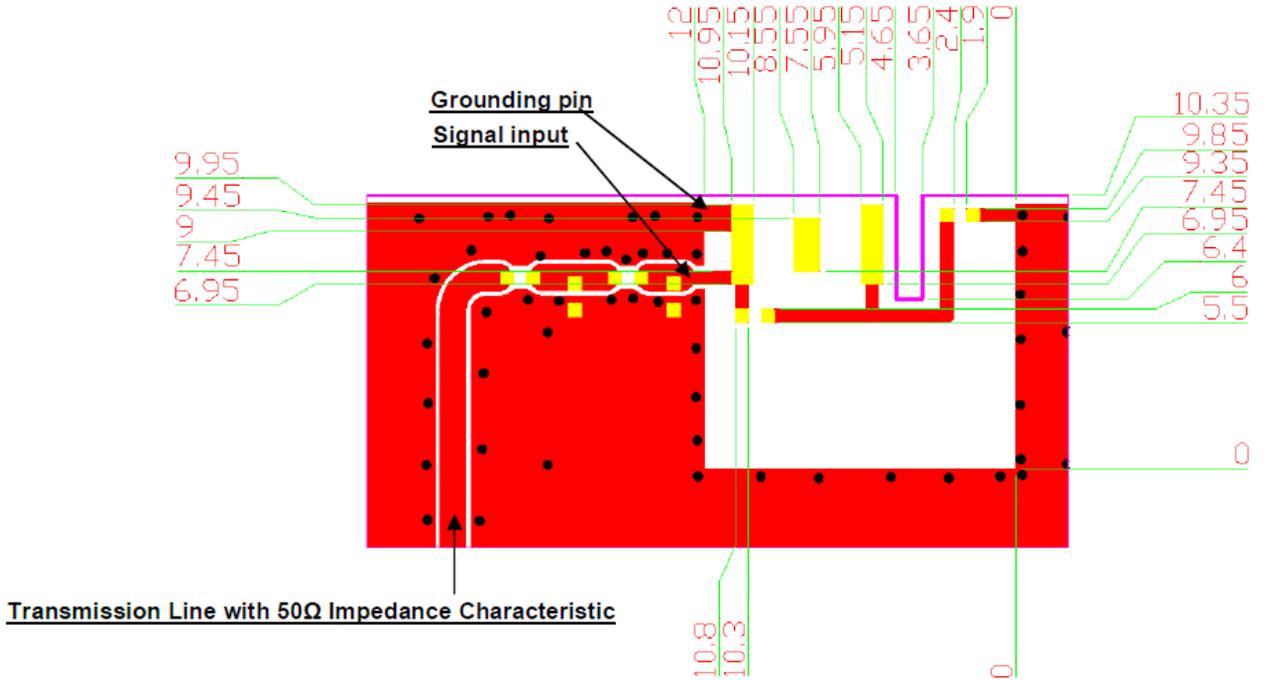


Evaluation Board



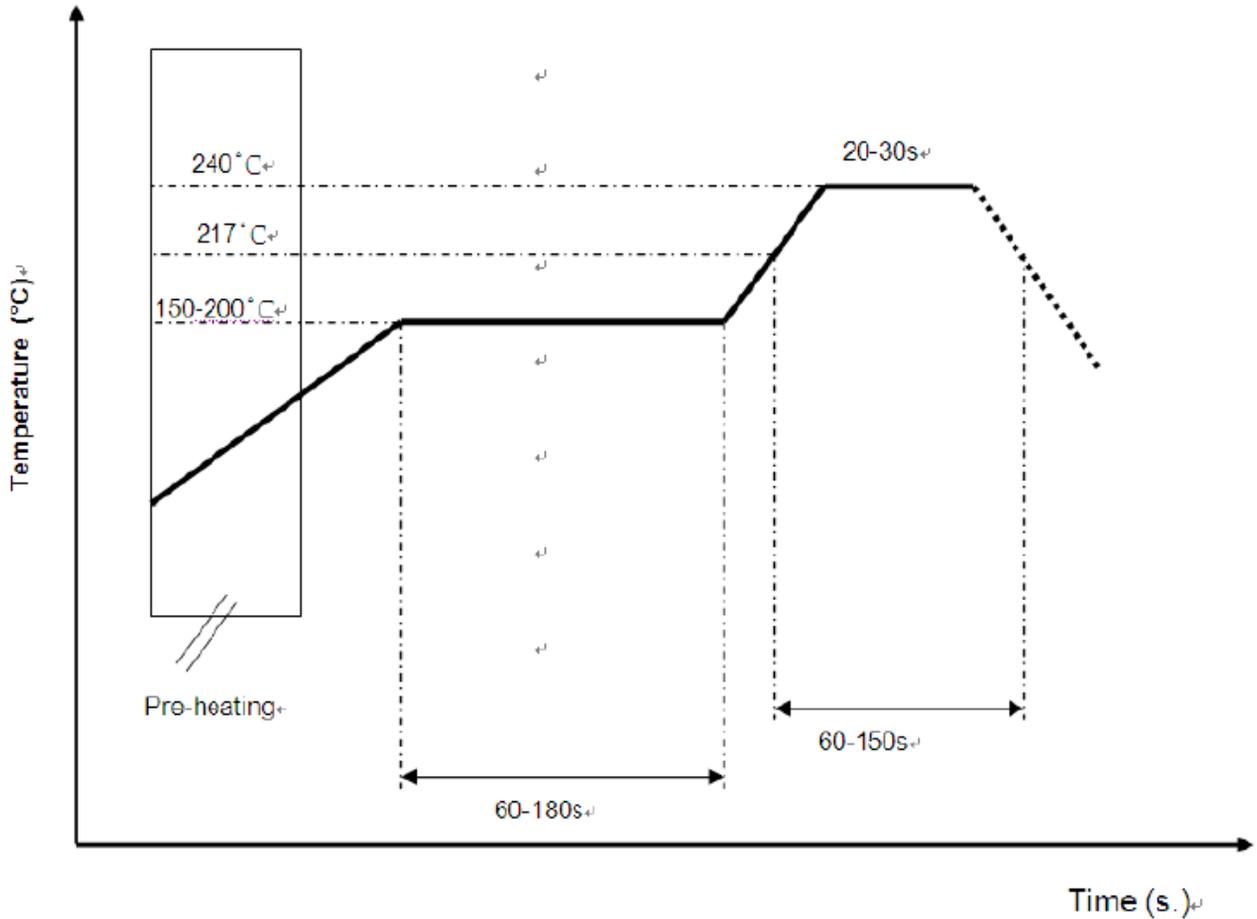
Solder Land Pattern

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



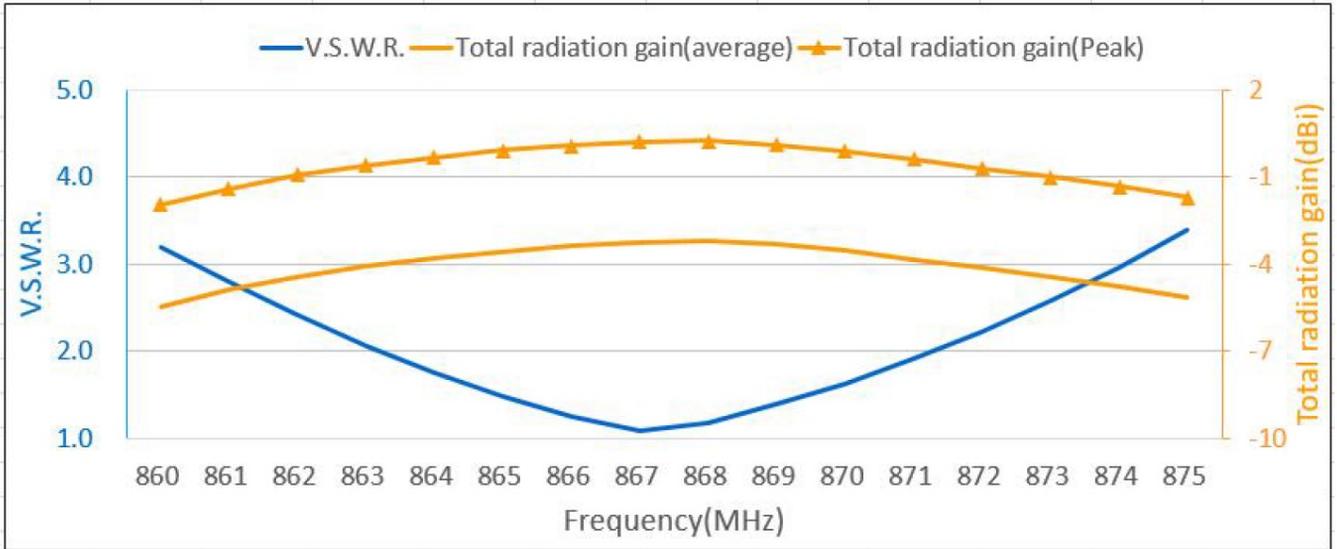
Bottom View

Typical Soldering Conditions



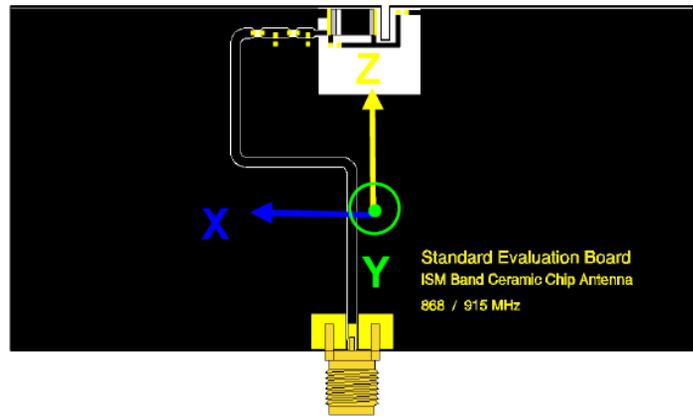
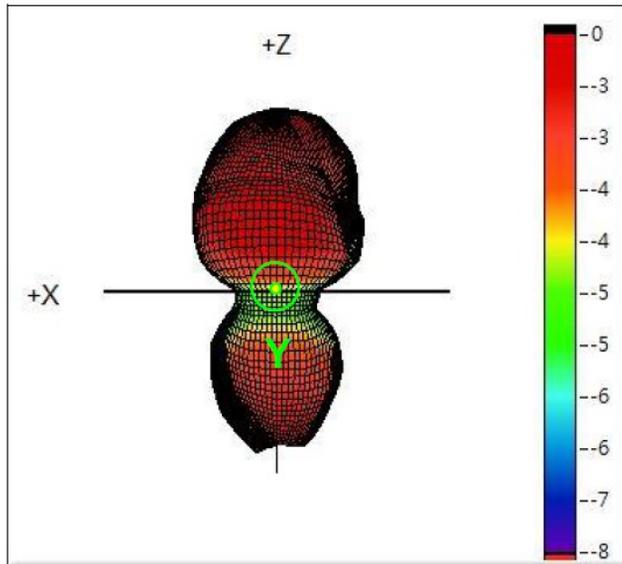
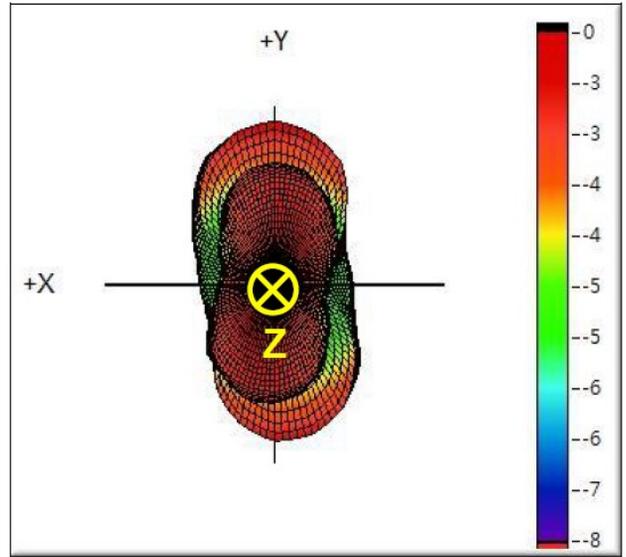
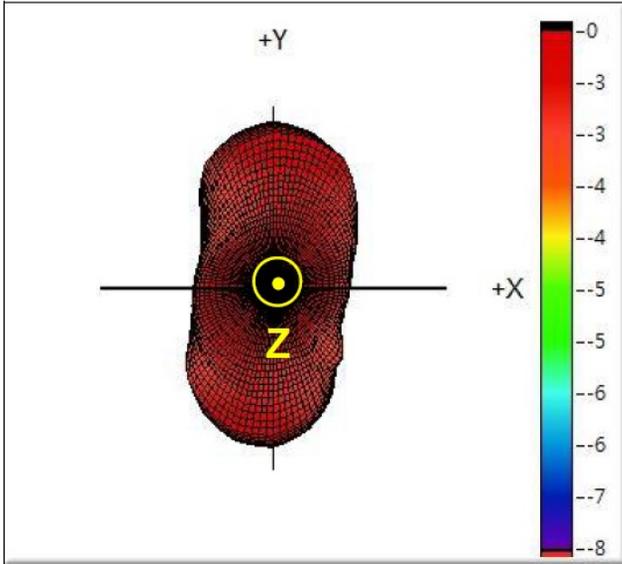


Frequency vs VSWR and Total Radiation Gain

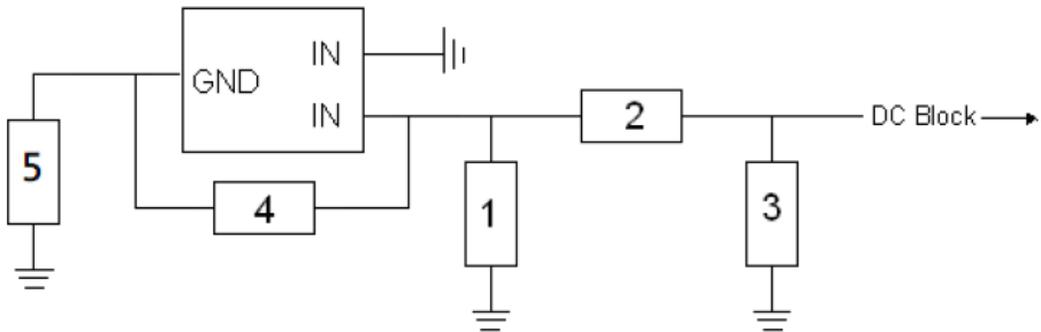
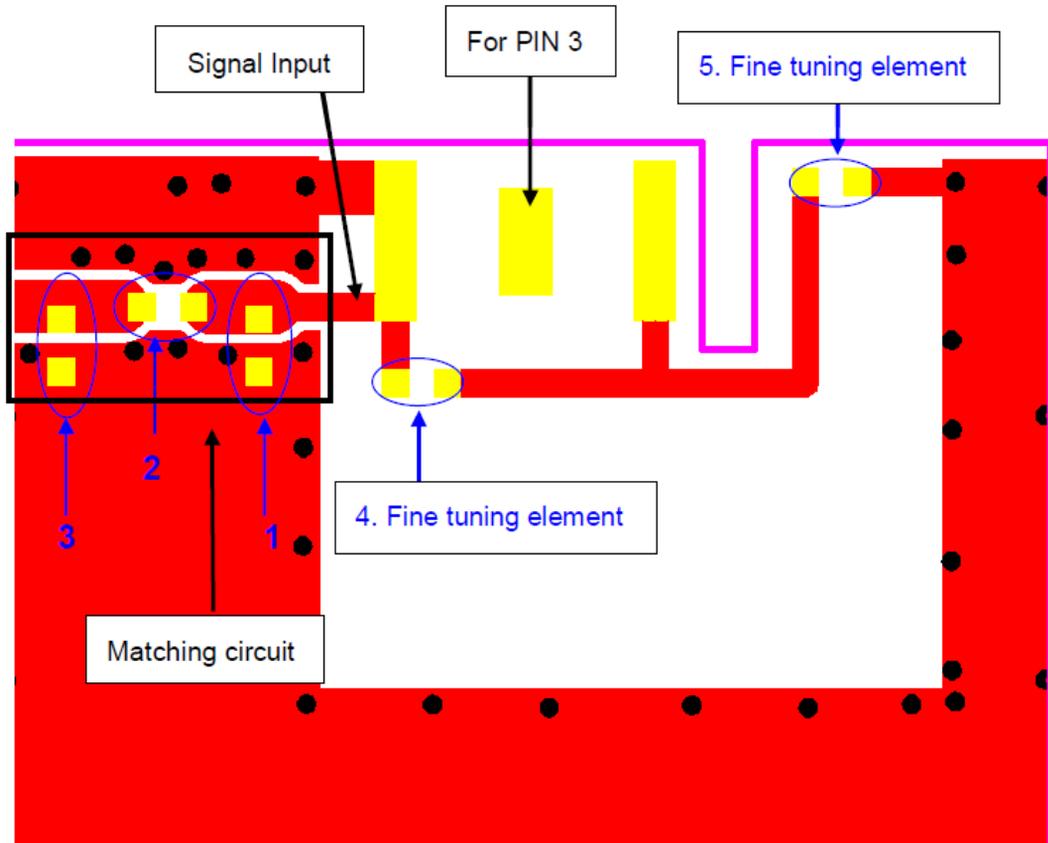


Antenna Radiation Pattern

3D Gain Radiation @ 868 MHz



Frequency Tuning & Matching Circuit

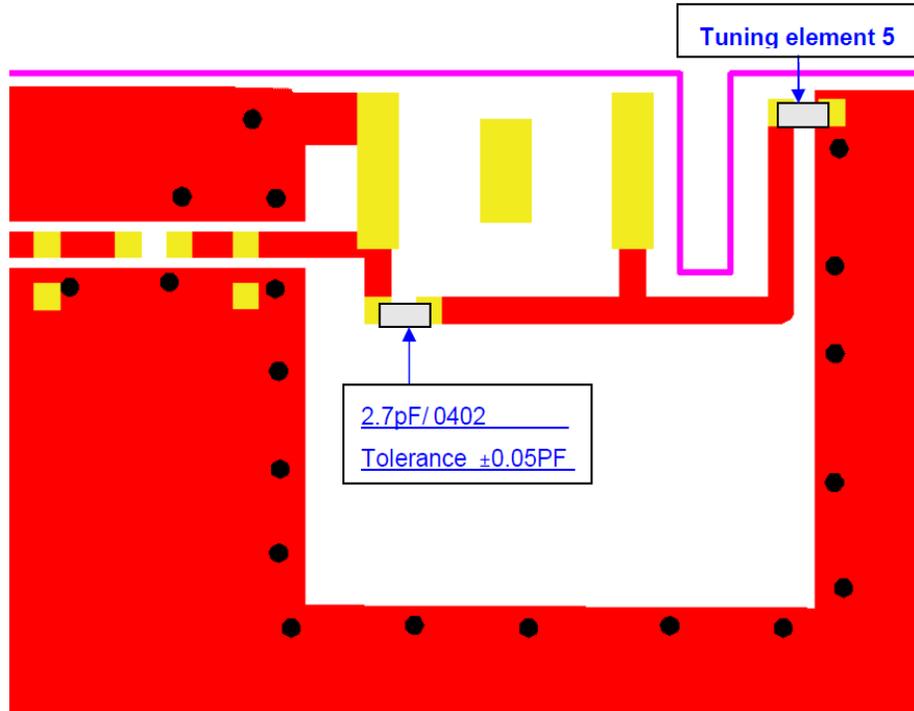




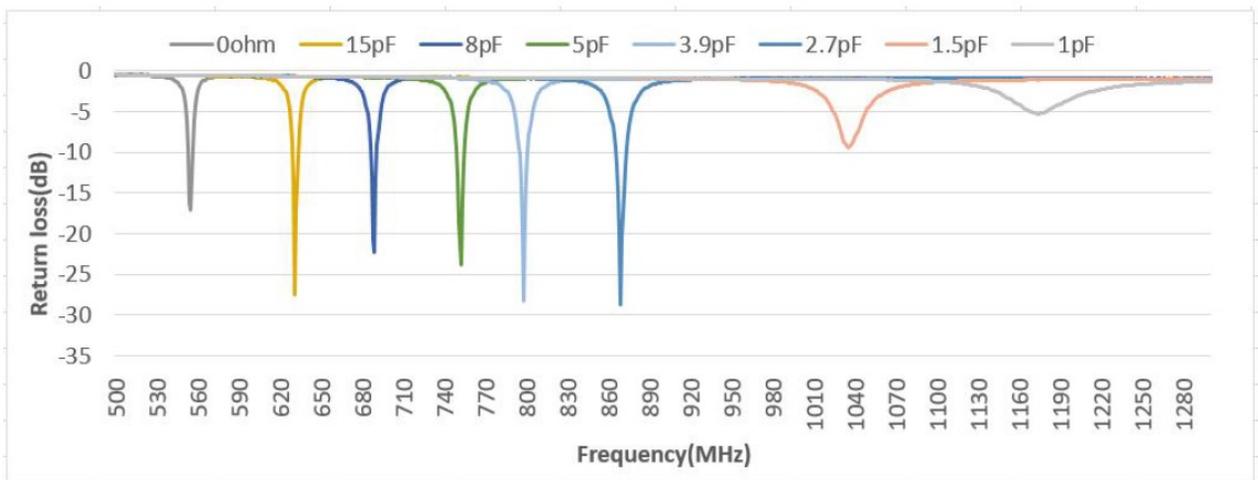
System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	N/A	-	-
2	0Ω, (0402)	-	NRC04Z0TRF
3	12nH, (0402)	±5%	NML04J12NTRF
4 Fine Tuning Element	2.7pF, (0402)	±0.05pF	NMC-Q0402NPO2R7A50TRPF
5 Fine Tuning Element	2.7pF, (0402)	±0.05pF	NMC-Q0402NPO2R7A50TRPF

Reference for the Use of Frequency Tuning Element:



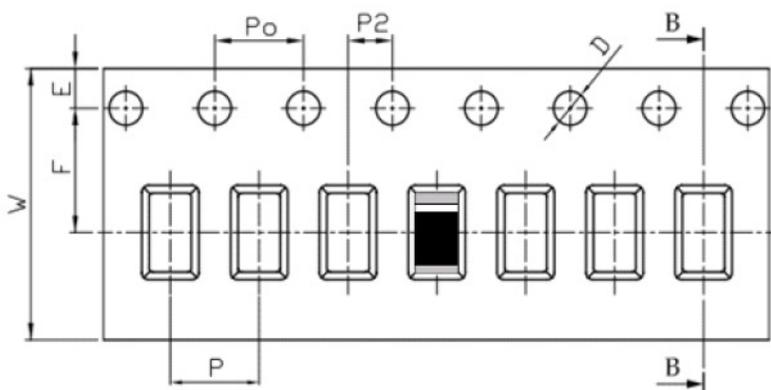
Frequency vs Capacitance of Tuning Element 5



Packing

- (1) Quantity/Reel: 6000 pcs/Reel
- (2) Plastic tape:

a. Tape Drawing



b. Tape Dimensions (unit: mm)

Feature	Specifications	Tolerances
W	12.00	±0.30
P	8.00	±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