

NGRM5010UW2R442G1TRF

2.4 GHz WIFI / Bluetooth Chip Antenna

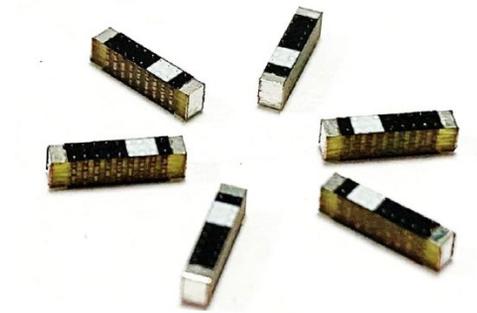


Features

- Stable and reliable performance
- FR4 Material: Monopole
- 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

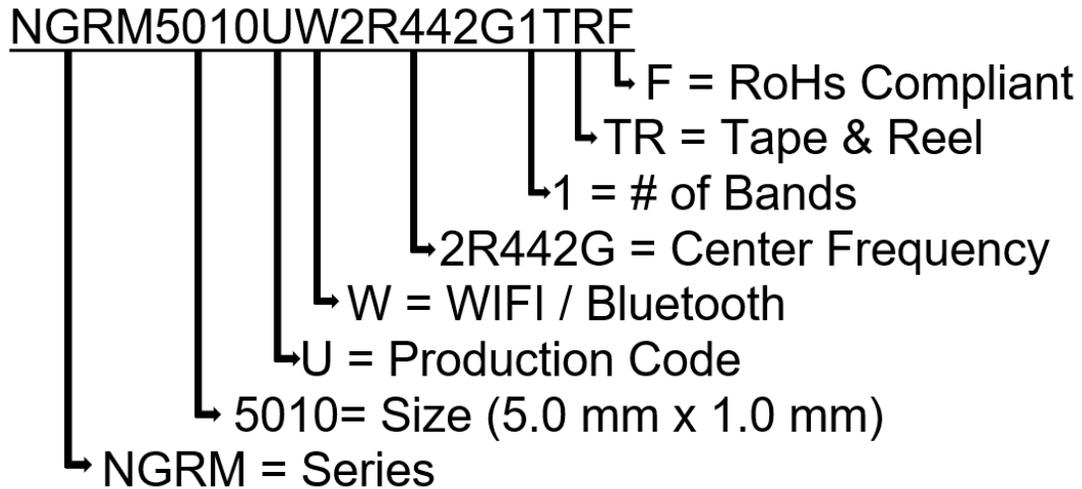
Electrical	
Frequency Range	2400 ~ 2500 MHz
Efficiency	2442 MHz
Peak Gain	1.9 dBi Typ.
Efficiency	52.1 % Typ.
VSWR	2 Max.
Maximum Input Power	2 W
Polarization	Linear
Impedance	50Ω
Environmental	
Operating Temperature	-40°C~+85°C
Storage Temperature	-5°C~+40°C -40°C~+85°C - After mounting on PCB
Relative 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

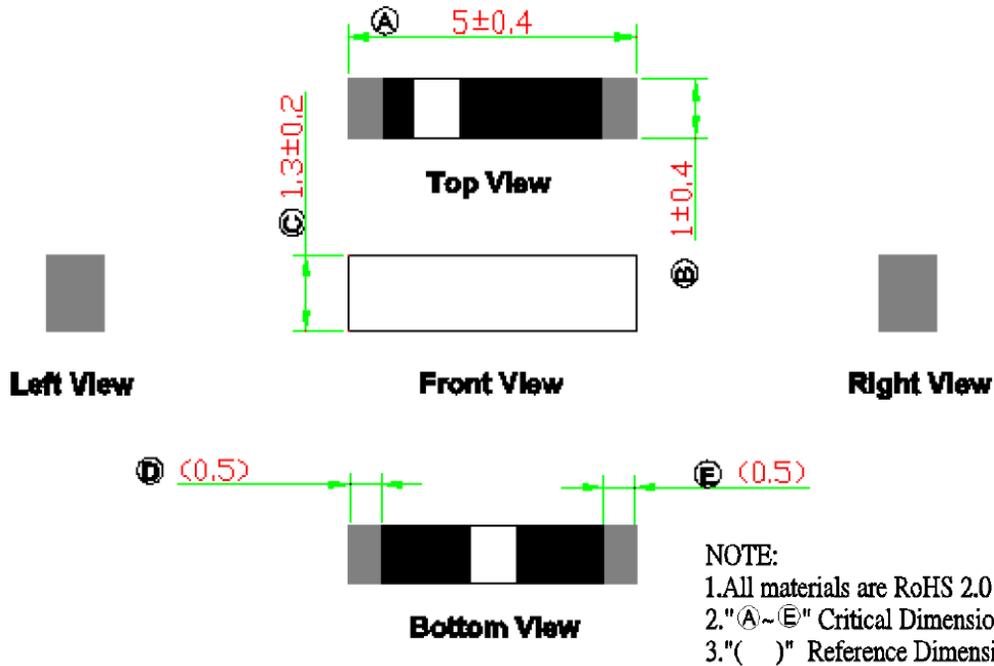


Top View

Bottom View

PIN	1	2
Soldering PAD	Signal	N/C

Dimension Drawing



NOTE:

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

Dimensions (mm) & Mechanical

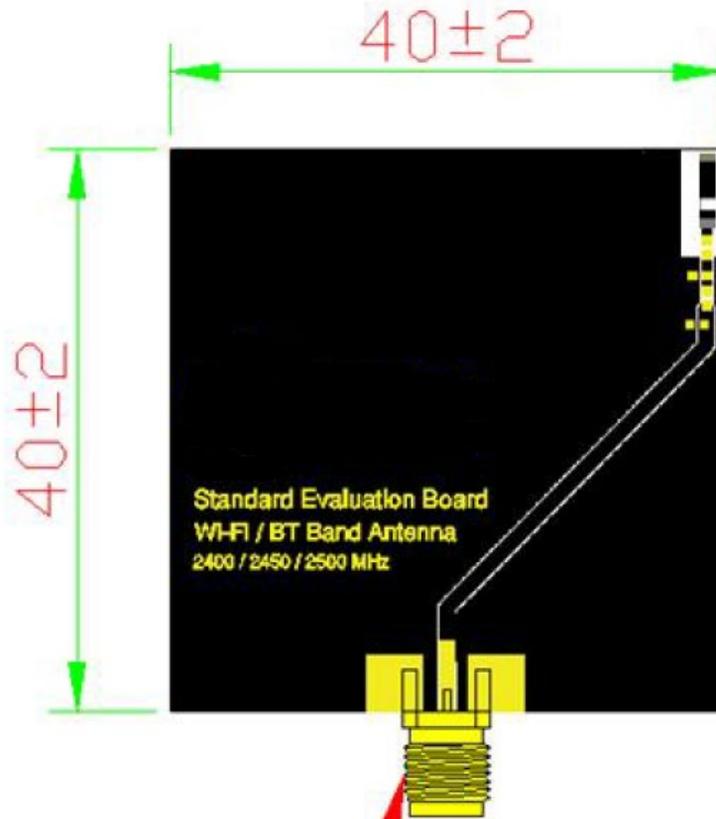
Body Length (A)	5 ± 0.4
Width (B)	1 ± 0.4
Thickness (C)	1.3 ± 0.2
Connection Type	SMT
Material	FR4
Ground Plane	40 mm x 40 mm

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Evaluation Board



1/4"-36UNS-2A

Unit: mm

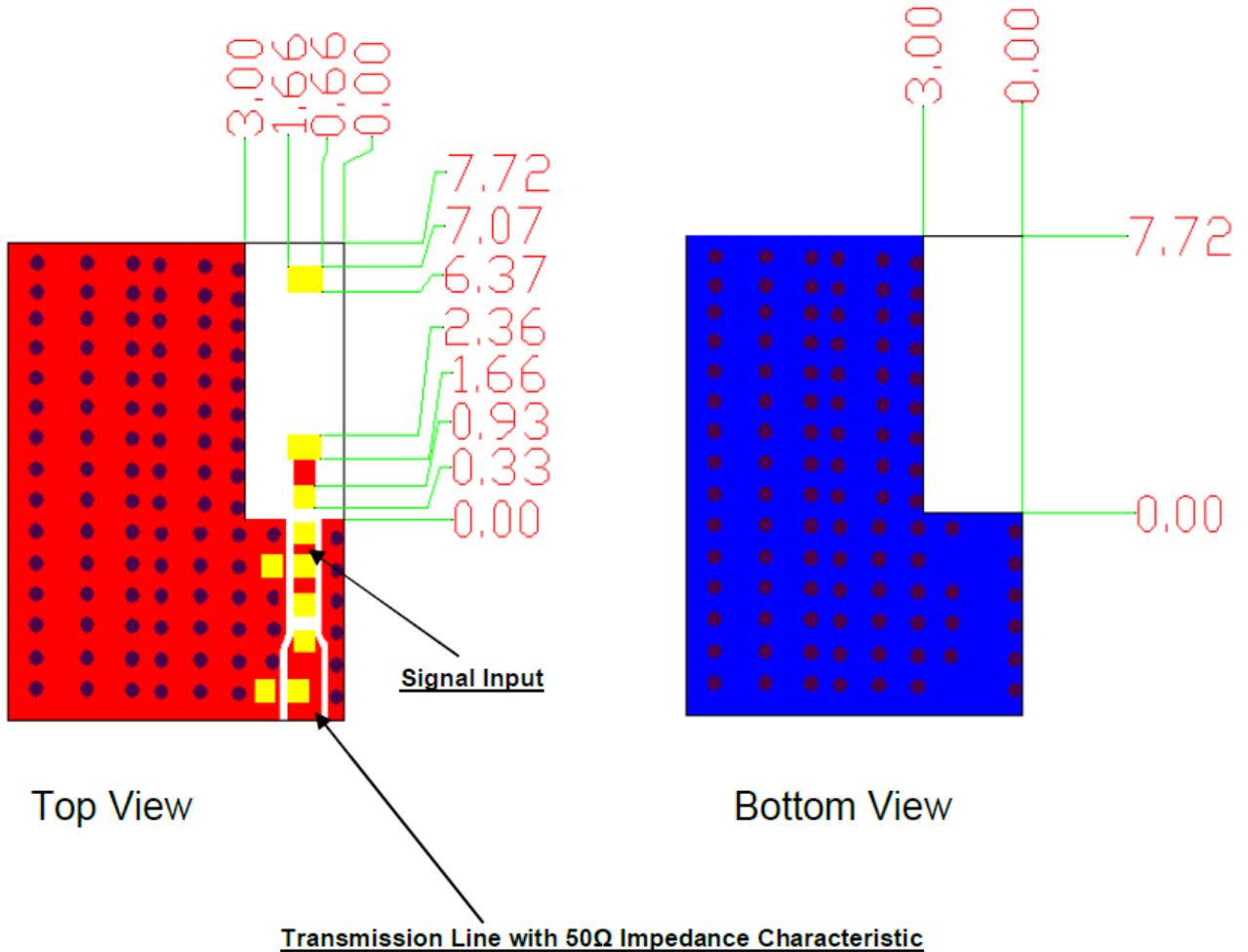
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Solder Land Pattern

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

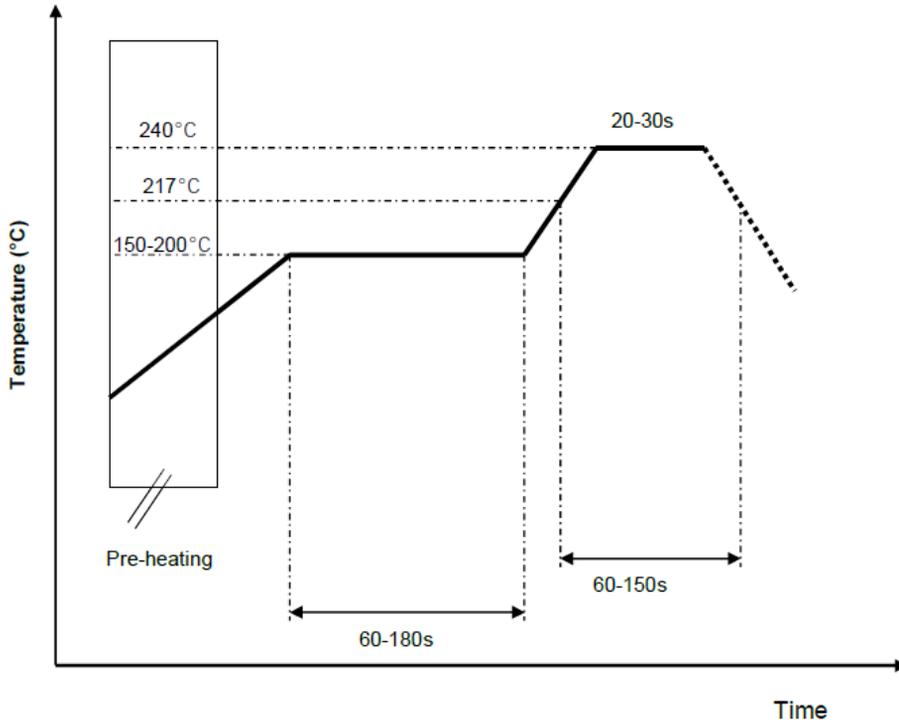


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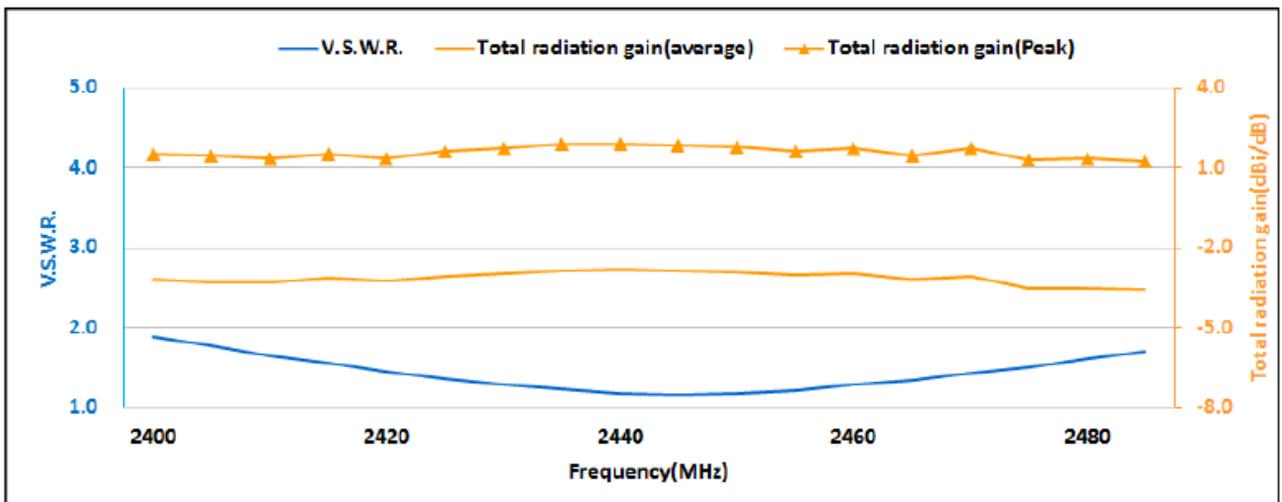


Soldering Conditions



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

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



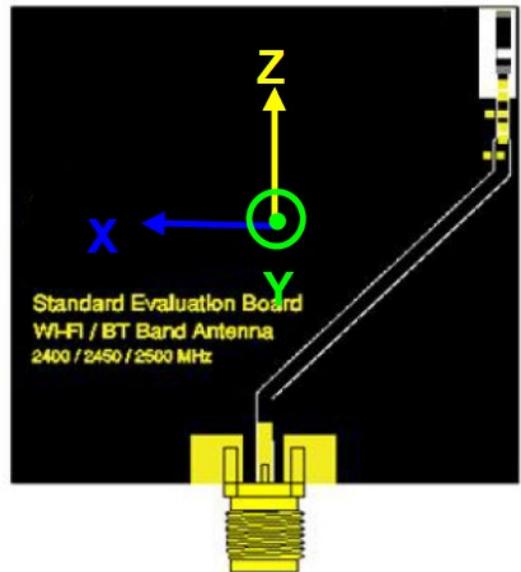
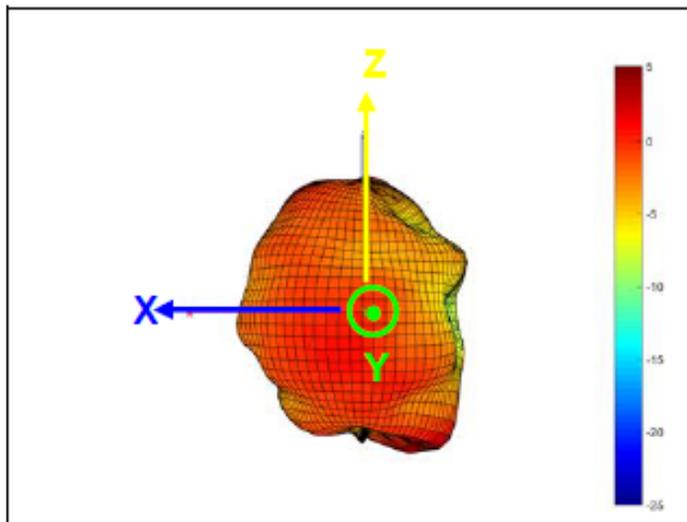
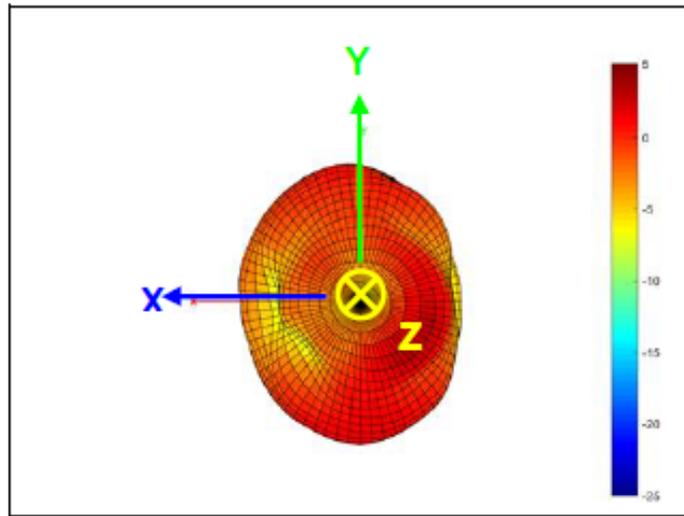
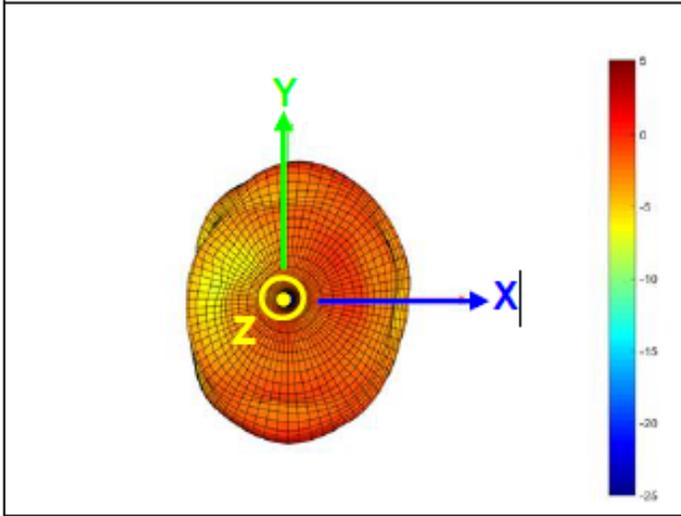
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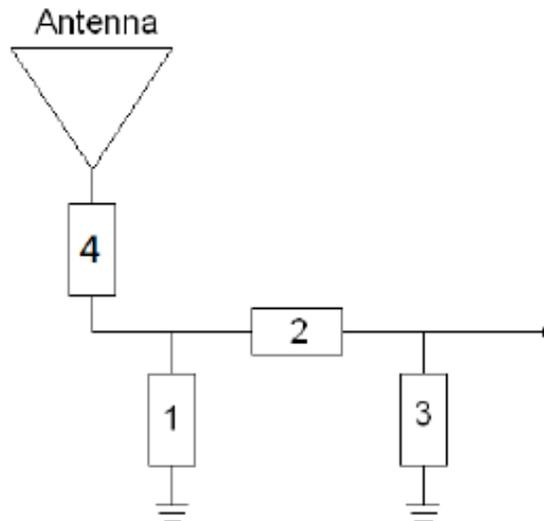
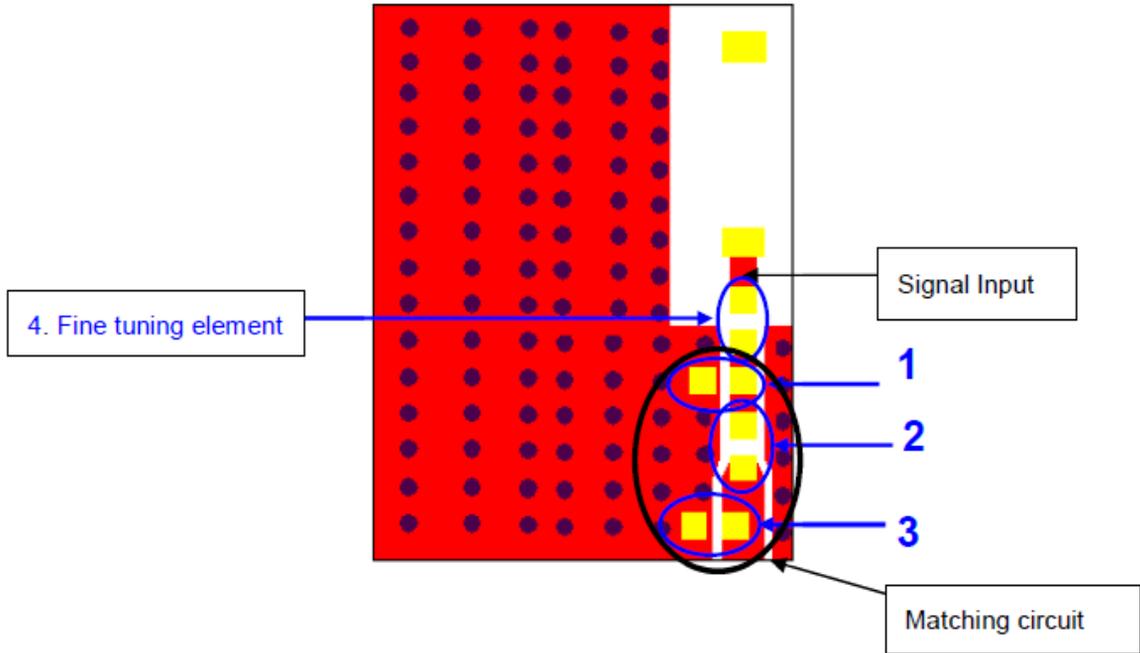


Radiation Pattern:

2400 ~ 2500 @ 2442 MHz (unit: dBi)



Frequency Tuning & Matching Circuit





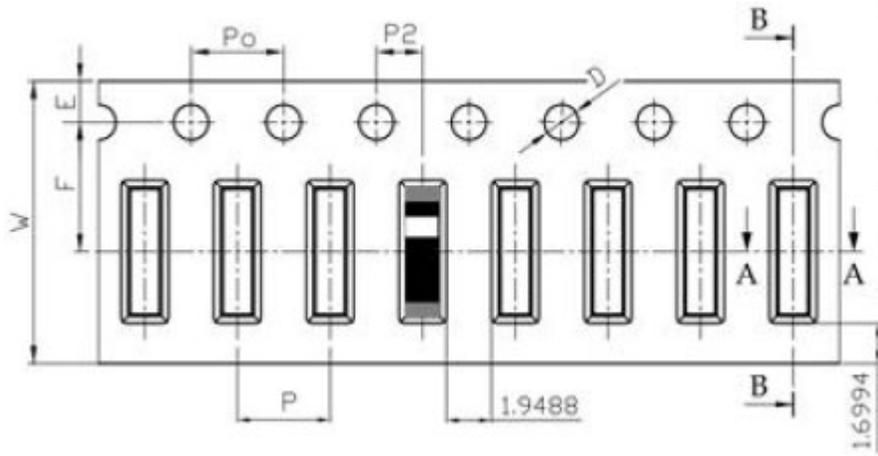
System Matching Circuit Component

Location	Description	Tolerance	NIC Part Number
1	N/A	-	-
2	1.2nH, (0402)	±0.1nH	NML04B1N2TRF
3	1.2pF, (0402)	±0.05pF	NMC-Q0402NPO1R2A50TRPF
4 Fine Tuning Element	3.9nH, (0402)	±0.1 nH	NML04B3N9TRF

Packing

- (1) Quantity/Reel: 2500 pcs/Reel
- (2) 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