FEATURES

- Stable and reliable in performances
- Low profile, compact size
- ROHS compliance
- SMT processes compatible

RoHS Compliant
includes all homogeneous materials
(see part numbering system for details)

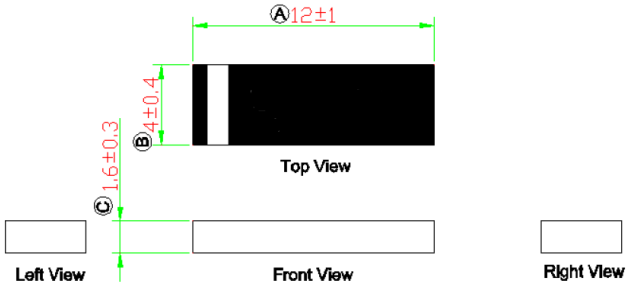
APPLICATIONS

- ISM 915 MHz Band application
- IoT applications
- IEEE 802.11ah/ Wi-Fi Certified HaLow technology

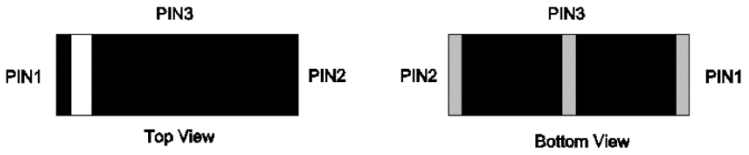
SPECIFICATIONS

Electrical	
Frequency Range	902~928MHz
Center Frequency	915 MHz
Polarization	Linear
Gain	-0.98dBi
Efficiency	32.9%
V.S.W.R	2.0 Max
Impedance	50Ω
Dimensions (mm):	
Body Length (A)	12.0 ± 1
Width (B)	4.0 ± 0.40
Thickness (C)	1.6 ± 0.3
Connection Type	SMT
Ground Plane	64 x 40 mm

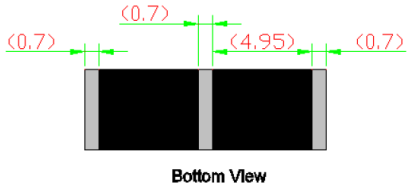
NAN-C S 1B 1204 A F
- F = RoHS compliant
- A = Revision code (See page 6)
- 1204= Size (12 mm x 4 mm)
- 1B = One Frequency Band
- S =ISM
- NAN-C = Series



PIN Definition



PIN	PIN 1	PIN 2	PIN 3
Soldering PAD	Signal	N/C	N/C

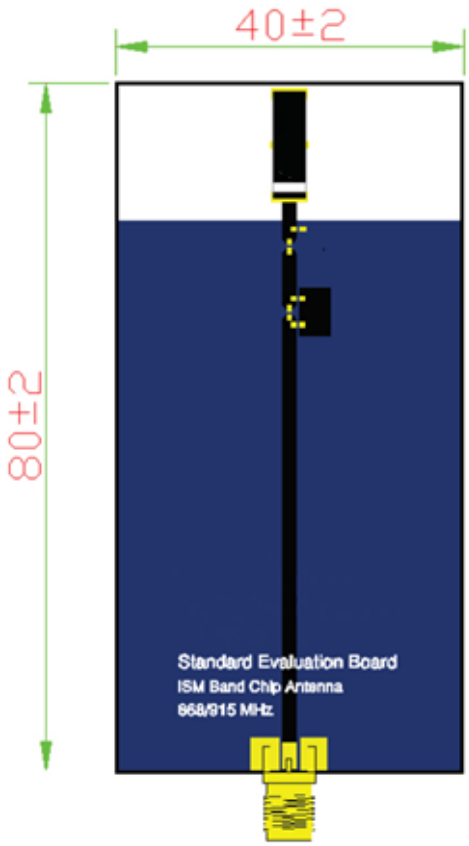


NOTE:
1.All materials are RoHS compliant.
2."Ⓐ~Ⓒ" Critical Dimensions.
3."( )" Reference Dimensions.

Operating & Storage Conditions

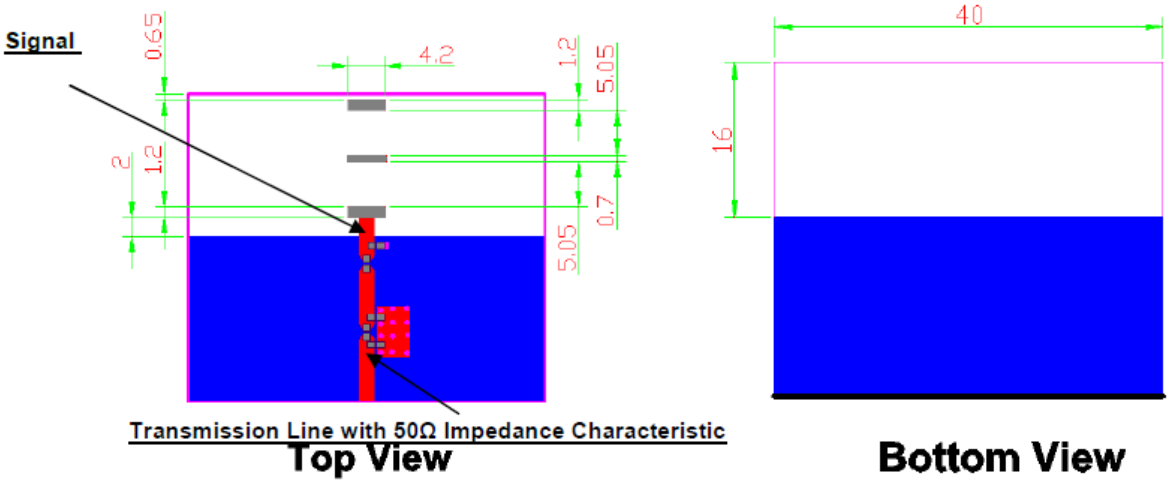
Operating	
Maximum Input Power	2W
Operating Temperature	-40°C to 85°C
Relative Humidity	10% to 70%
Storage (Sealed)	
Storage Temperature	-5°C to 40°C
Relative Humidity	20% to 70%
Shelf Life	1 Year
Storage (Unsealed)	
Meets Criteria	J-STD-033 MSL2a
Storage (After mounted on customer's PCB with SMT process)	
Storage Temperature:	-40°C to 85°C
Relative Humidity	10% to 70%

Evaluation Board



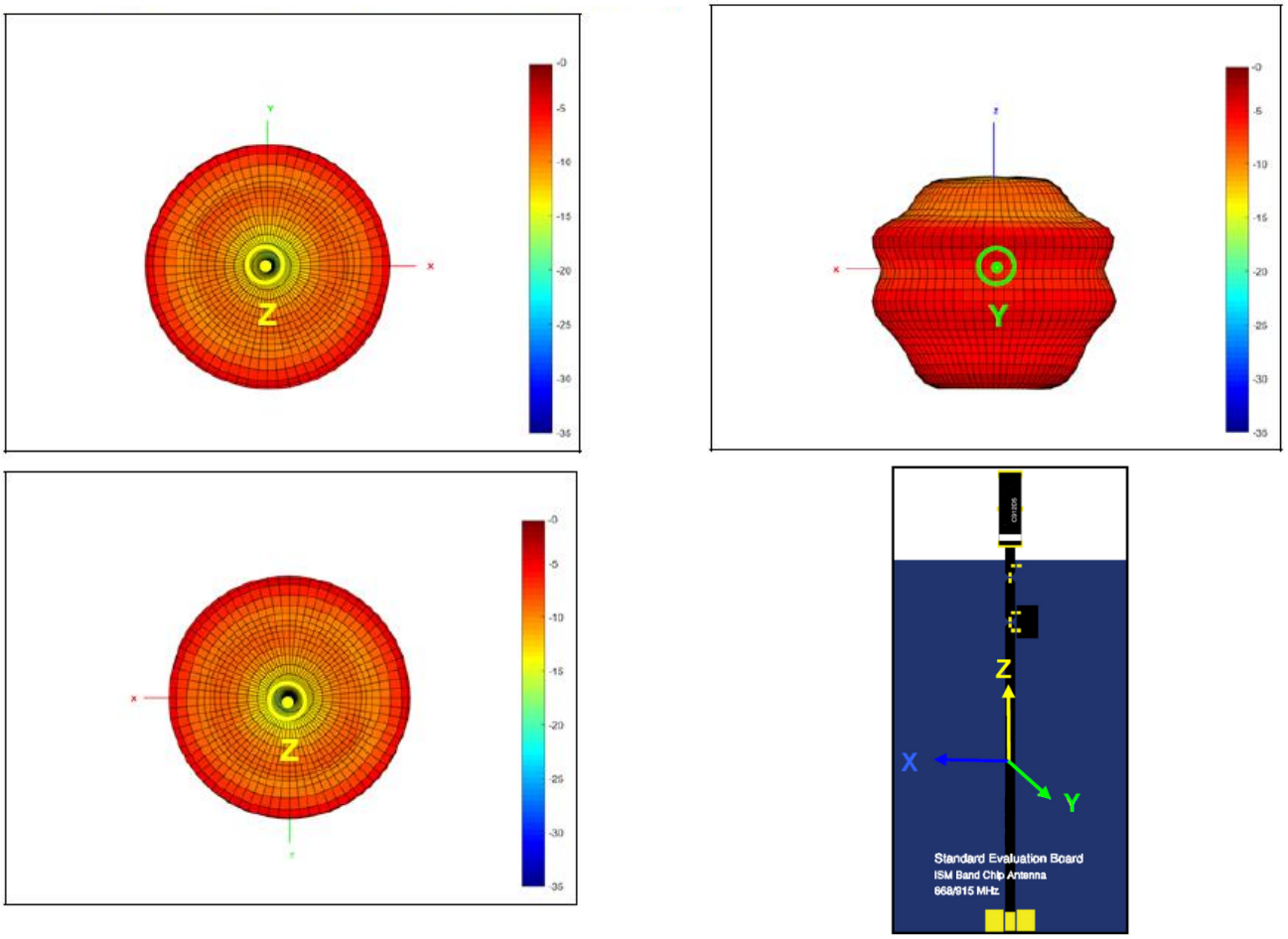
Solder Ground Pattern

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

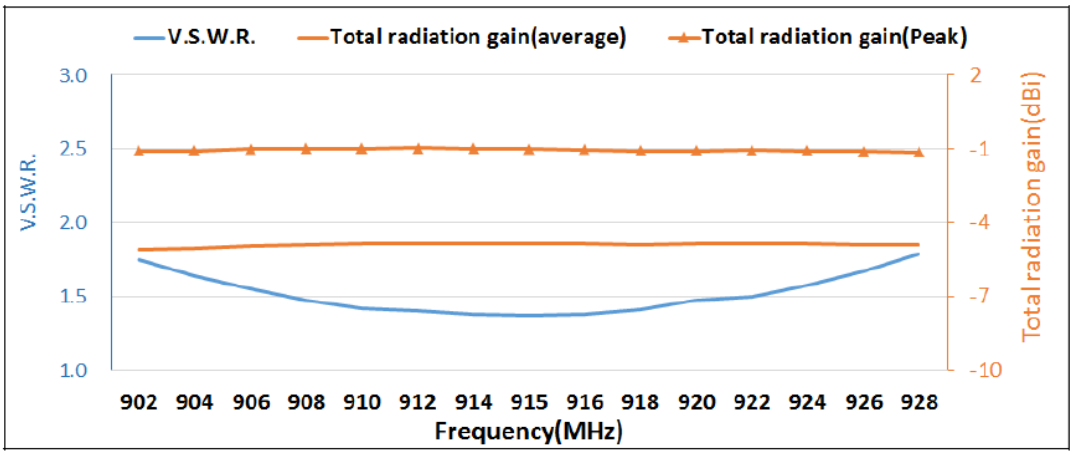


3D Radiation Gain Pattern (with 40 x 40 mm Evaluation Board)

3D Radiation Gain Pattern @ 915 MHz (unit: dBi)

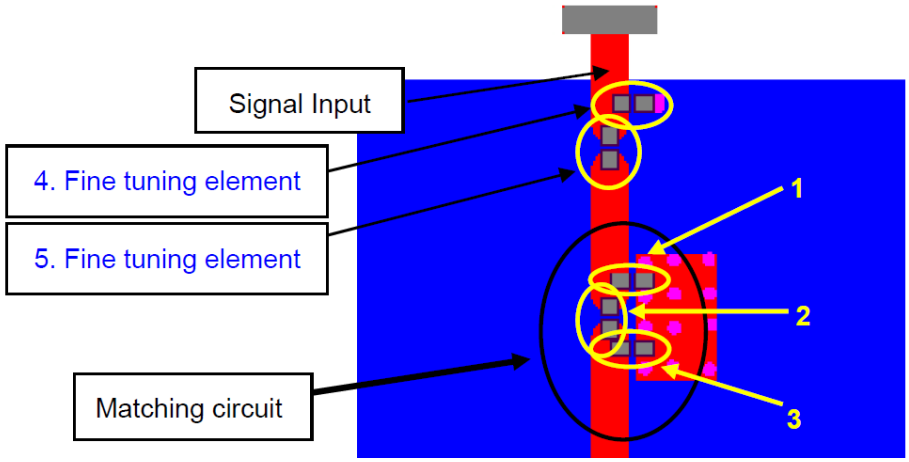


Efficiency Table



Frequency Tuning and Matching Circuit

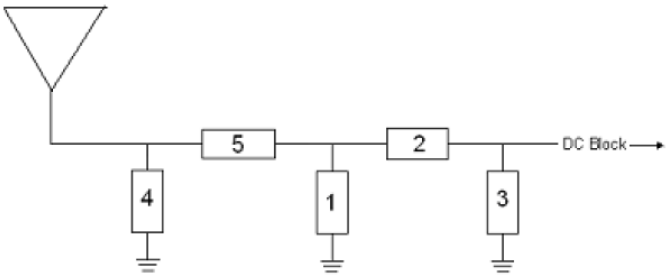
Chip antenna tuning scenario：



Matching circuit：

The center frequencies will be about 915MHz at the standard 80 x 40 mm evaluation board, with the following recommended values of matching and tuning components. *

* = These are typical reference values

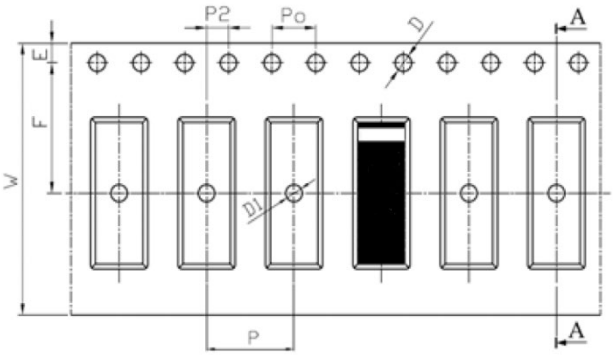


System Matching Circuit Components				
Location	Description	Tolerance	Vendor	Part # (pdf link)
1	6.8nH, 0402	±3%	NIC	NIN-SK6N8HTR1450F
2	1.5nH, 0402	±0.1nH	NIC	NIN-SK1N5BTR2100F
3	N/A	N/A	N/A	N/A
4 Fine Tuning Element	0.4pF, 0402	±0.1pF	NIC	NMC-Q0402NPO0R4A50TRPF
5 Fine Tuning Element	10nH, 0402	±5%	NIC	NIN-SK10NJTR1400F

Packing

(1) Quantity/Reel: 3500 pcs/Reel
(2) Plastic tape: Black conductive polystyrene.

a. Tape Drawing



b. Tape Dimensions (unit: mm)

Feature	Specifications	Tolerances
W	24.00	±0.30
P	8.00	±0.10
E	1.75	±0.10
F	11.50	±0.10
P2	2.00	±0.10
D	1.50	+0.10 -0.00
D1	1.50	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20

Revision History and Status

Revision	Date Issued	Details	Status
A	11 Dec 2020	Initial Release	Supported

- NIC Technical Support: tpmg@niccomp.com
- Compliance Support: rohs@niccomp.com