#### **FEATURES**

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

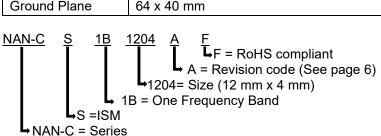
#### **APPLICATIONS**

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

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

#### **SPECIFICATIONS**

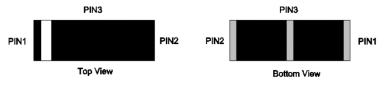
Electrical	
Frequency Range	902~928MHz
Center Frequency	915 MHz
Polarization	Linear
Gain	-0.98dBi
Efficiency	32.9%
V.S.W.R	2.0 Max
Impedance	50Ω
Dimensions (mm):	
Body Length (A)	12.0 ± 1
Width (B)	4.0 ± 0.40
Thickness (C)	1.6 ± 0.3
Connection Type	SMT
Ground Plane	64 x 40 mm



# Top View Front View (0.7) (4.95) (0.7)

**Bottom View** 

#### **PIN Definition**



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

NOTE:

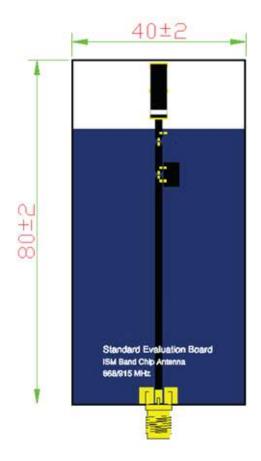
1.All materials are RoHS compliant. 2." A~ ©" Critical Dimensions. 3."( )" Reference Dimensions.



**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%		

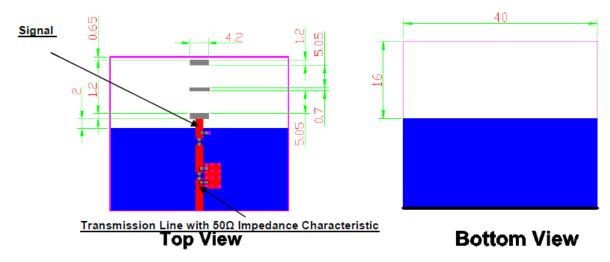
# **Evaluation Board**





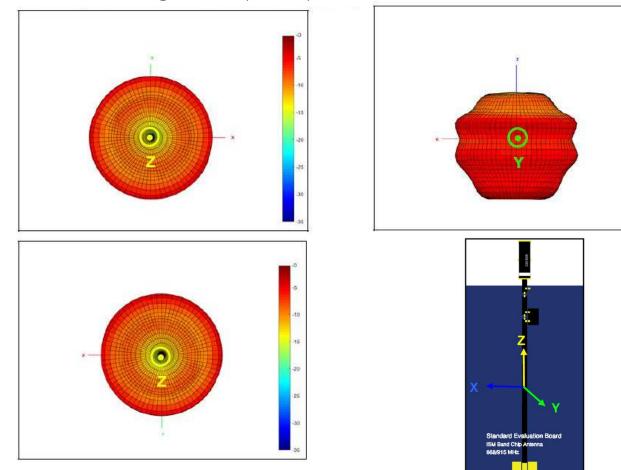
#### **Solder Ground Pattern**

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

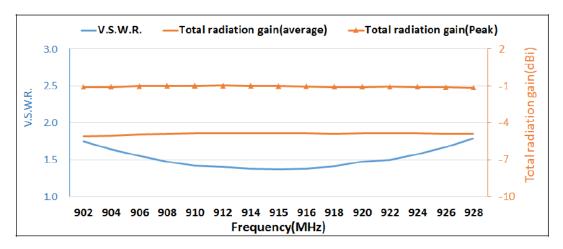


#### 3D Radiation Gain Pattern (with 40 x 40 mm Evaluation Board)

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

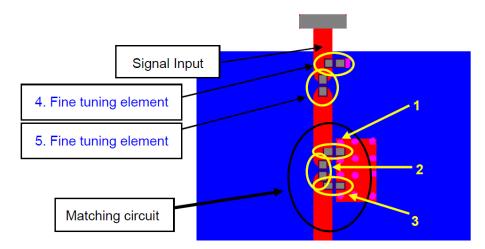


# **Efficiency Table**



# **Frequency Tuning and Matching Circuit**

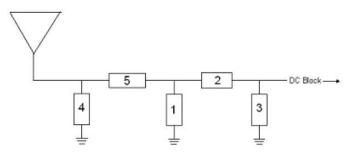
Chip antenna tuning scenario:



# 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

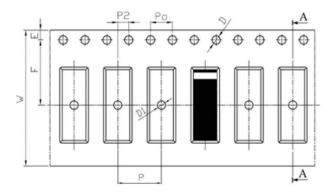


System Matching Circuit Components				
Location	Description	Tolerance	Vendor	Part # (pdf link)
1	6.8nH, 0402	±3%	NIC	NIN-SK6N8HTR1450F
2	1.5nH, 0402	±0.1nH	NIC	NIN-SK1N5BTR2100F
3	N/A	N/A	N/A	N/A
4				
Fine Tuning	0.4pF, 0402	±0.1pF	NIC	NMC-Q0402NPO0R4A50TRPF
Element				
5				
Fine Tuning	10nH, 0402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

# **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
Р	8.00	±0.10
E	1.75	±0.10
F	11.50	±0.10
P2	2.00	±0.10
D	D 1.50	
D	1.50	-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
Α	11 Dec 2020	Initial Release	Supported

NIC Technical Support: <a href="mailto:tpmg@niccomp.com">tpmg@niccomp.com</a>

■ Compliance Support: rohs@niccomp.com