Features

- Compatible with LTE full-band/3G/2G
- Stable and reliable in performances
- Compact size
- SMT processes compatible
- RoHS Compliant

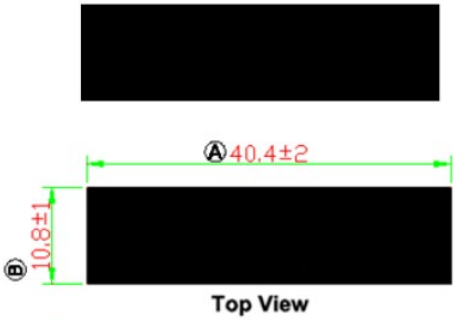
Applications

- LTE full-band/3G/2G
- LTE/ GSM/ CDMA/ DCS/ PCS/ WCDMA/ UMTS /HSDPA/ GPRS/ EDGE/ IMT

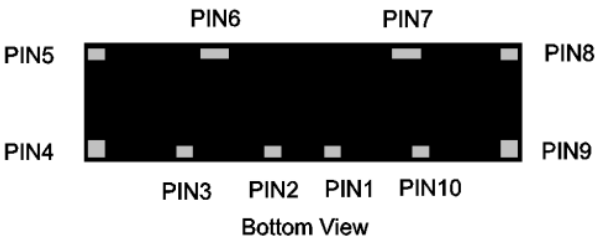
Specifications

PN: NAN-CL5B4010AF					
Electrical					
Frequency Range	698 ~798	824~960	1710~2170	2300~2400	2490 ~2690
Gain (typ.)	1.0	0.4	4.0	4.4	4.5
Efficiency (typ.)	45%	41%	76%	78%	76%
V.S.W.R	<3.5 : 1				
Polarization	Linear				
Impedance	50Ω				
Dimensions (mm):					
Body Length (A)	40.4 ± 2.0				
Width (B)	10.8 ± 1.0				
Thickness (C)	3.2 ± 0.7				
Connection Type	SMT				
Ground Plane	112 mm x 41 mm				

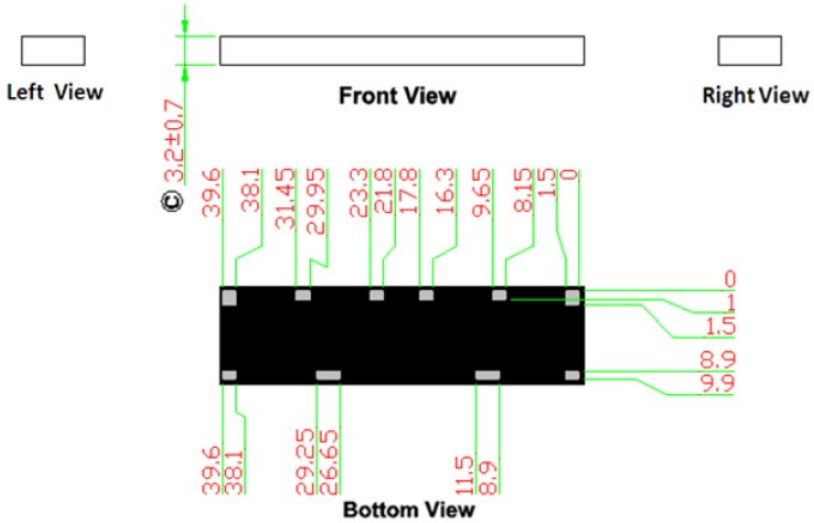
NAN-C L 5B 4010 A F
- F = RoHS compliant
- A = Version Code (See page 11)
- 4010 = Size (40.4 mm x 10.8 mm)
- 5B = Five Frequency Bands
- L= LTE
- NAN-C = Series



PIN Definition



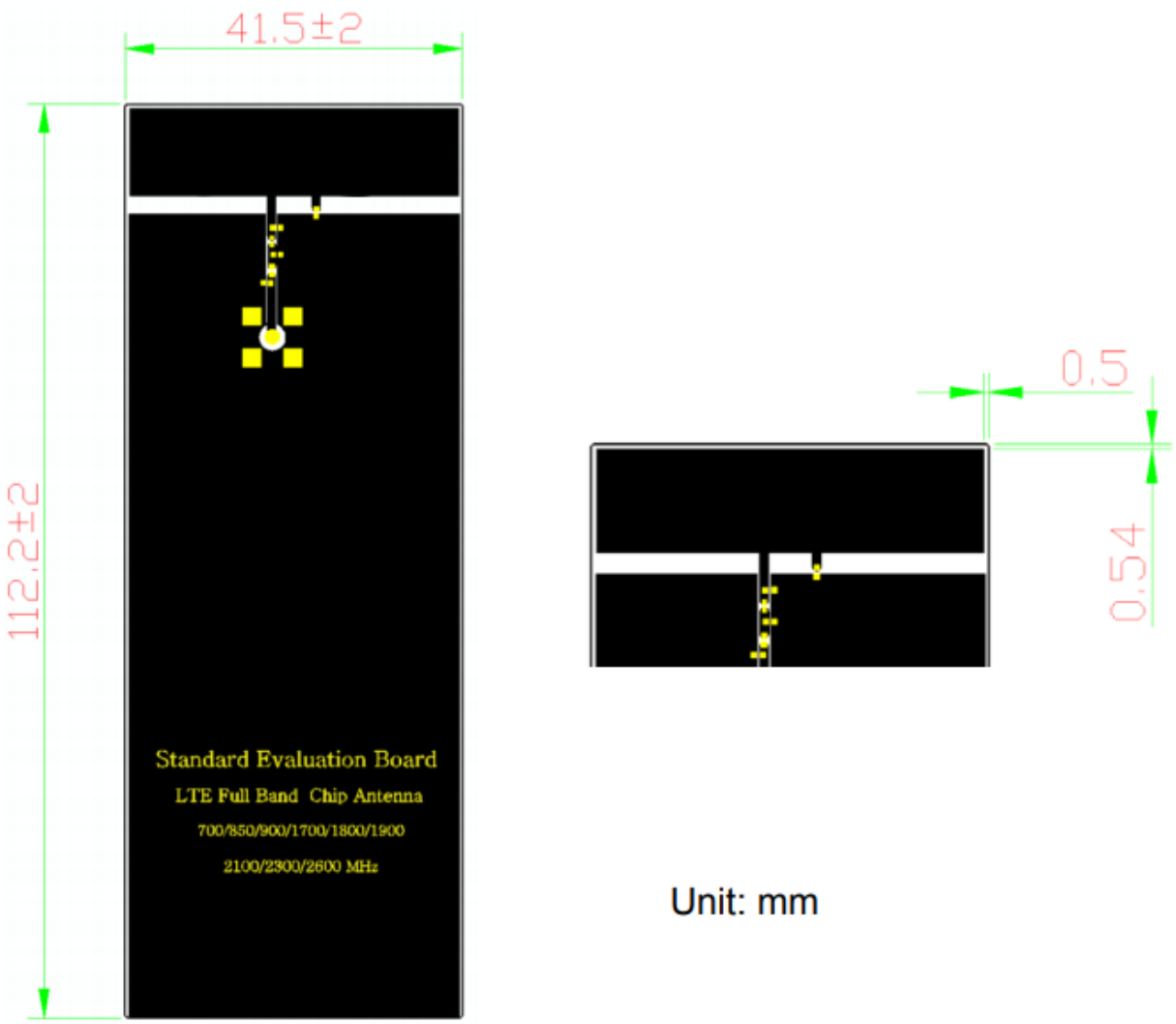
PIN	1	2	3~10
Soldering Pad	Signal	Tuning/Ground	N/C



Operating & Storage Conditions

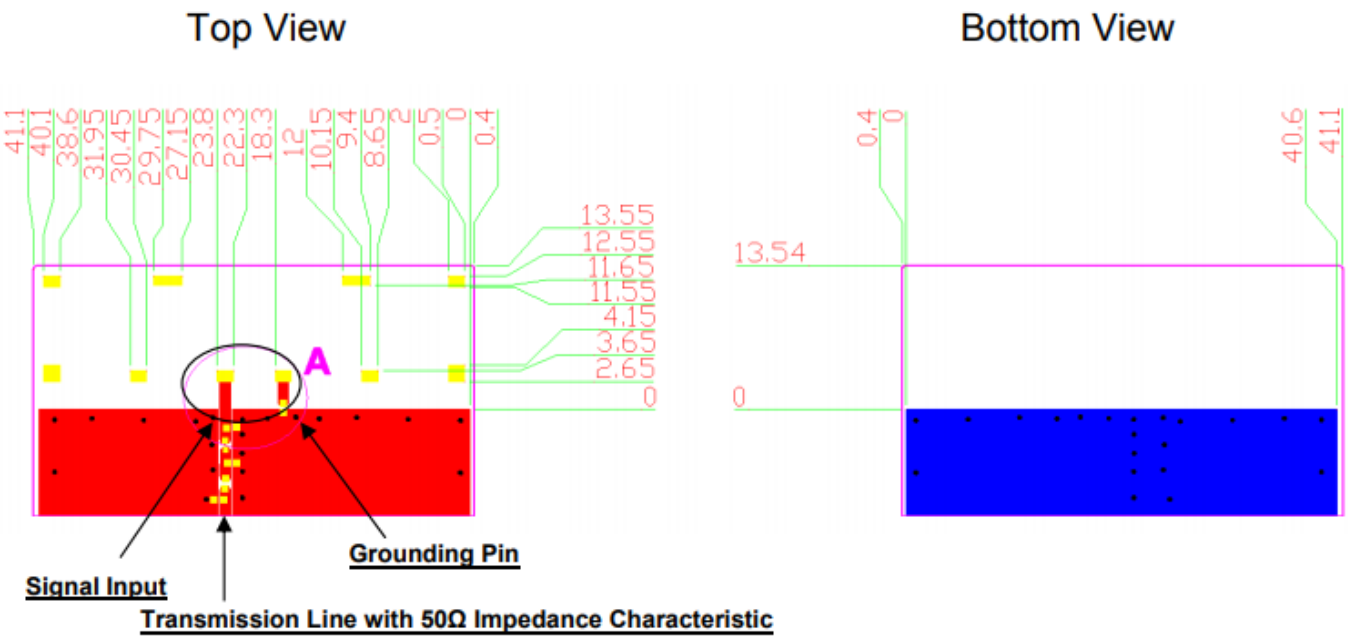
Operating	
Maximum Input Power	2W
Operating Temperature	-40°C to 85°C
Relative Humidity	10% to 70%
Storage (sealed)	
Storage Temperature	-5°C to 40°C
Relative Humidity	20% to 70%
Shelf Life	1 Year
Storage (Unsealed) : Meets Criteria of J-STD-033 MSL2a	
Storage(After mounting on customer's PCB with SMT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

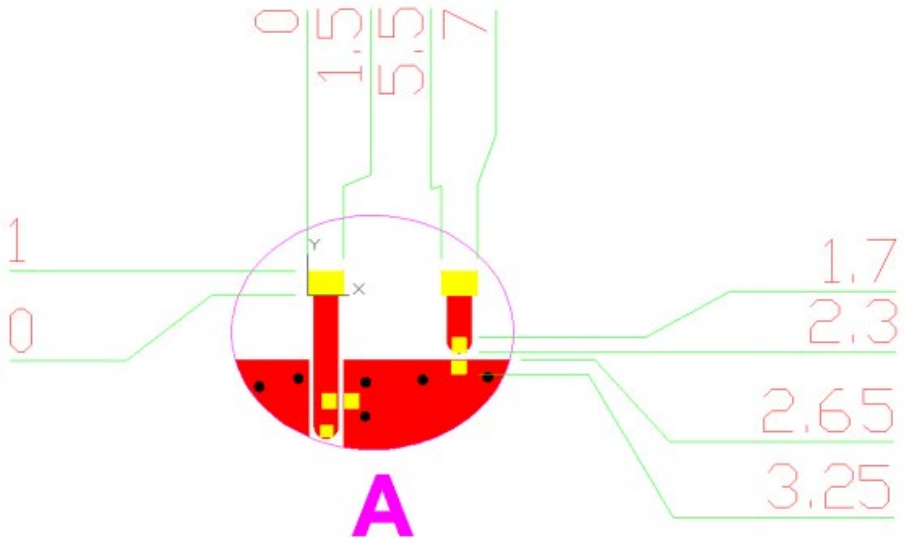
Evaluation Board



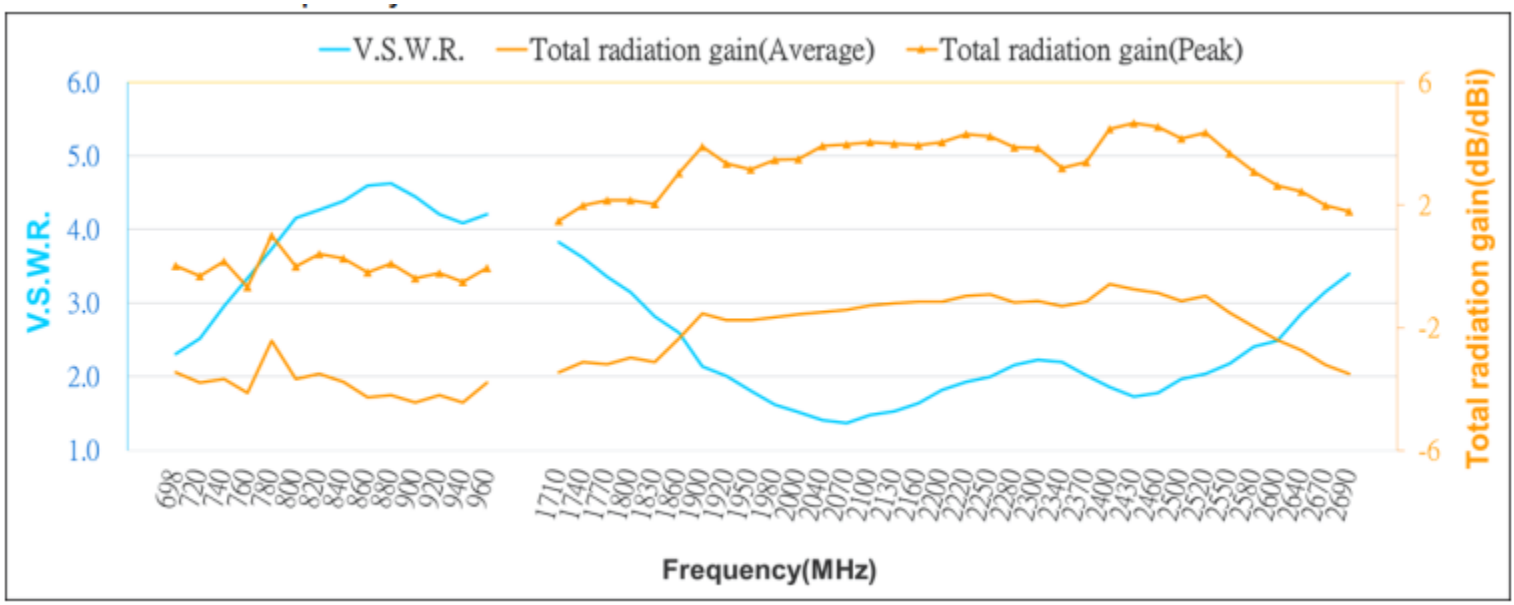
Solder Ground Pattern

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



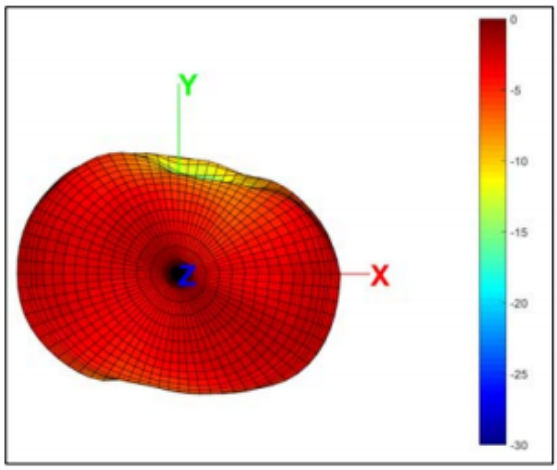


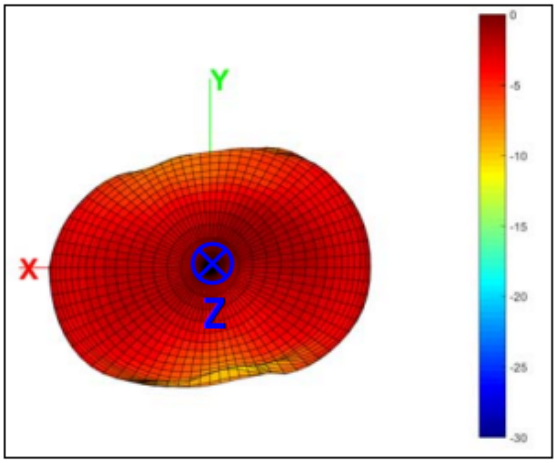
Frequency vs. V.S.W.R. and Total Radiation Gain

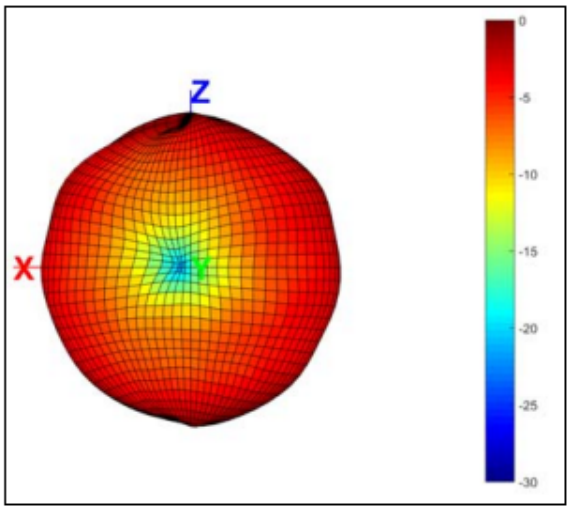


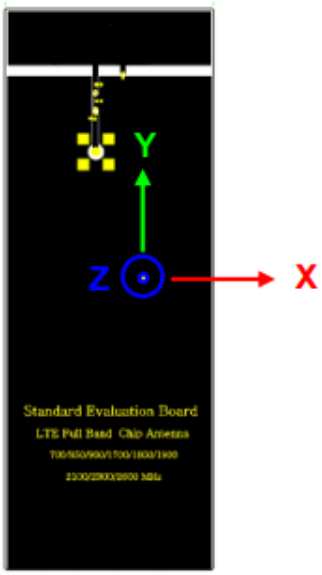
Radiation Patterns

3D Radiation Gain Patterns (with 112 x 41 mm Evaluation Board)
698~798 MHz Band @ 1176.45 MHz (unit: dBi)

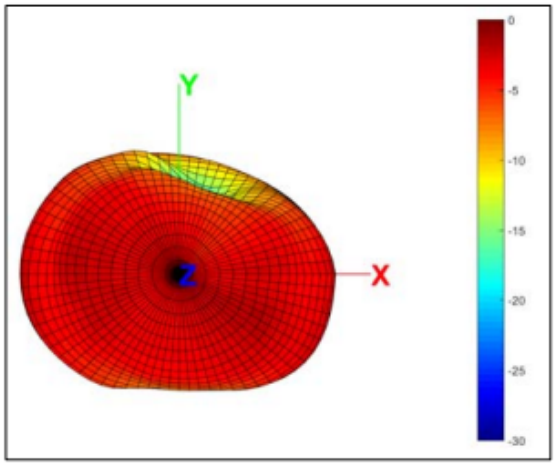


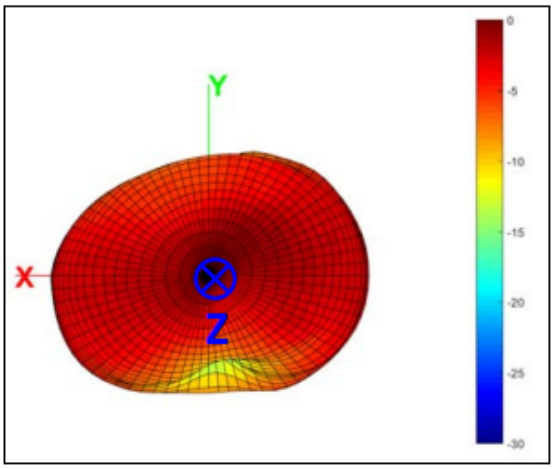


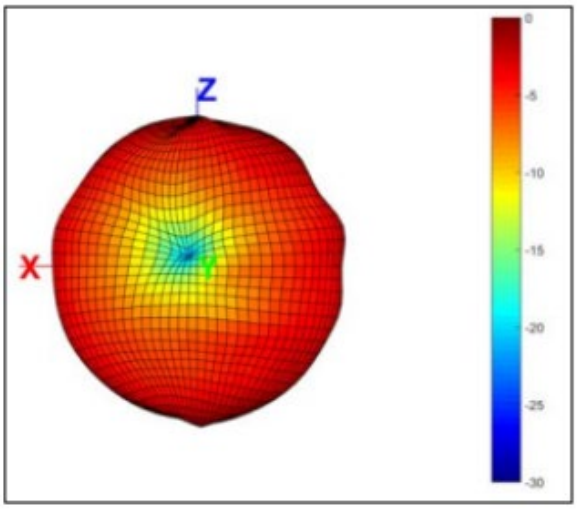




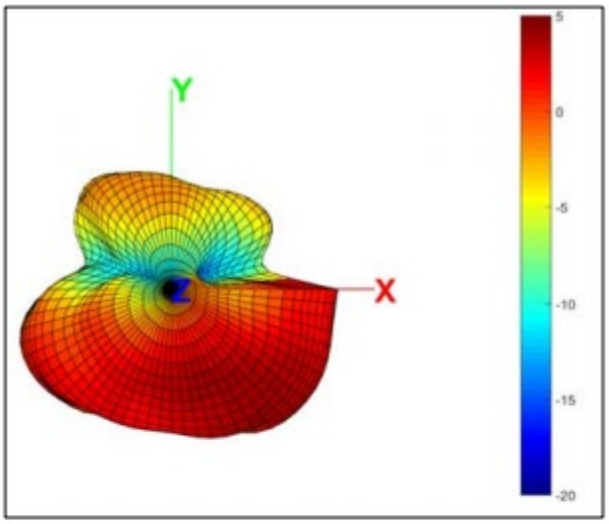
824~960MHz Band
3D Patterns @ 1227.6 MHz (unit: dBi)

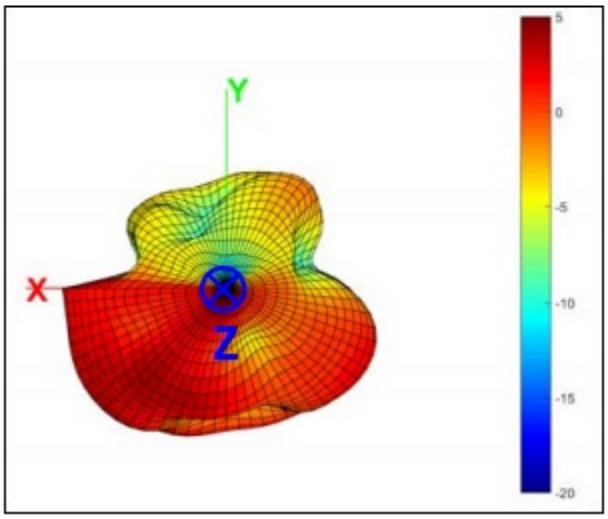


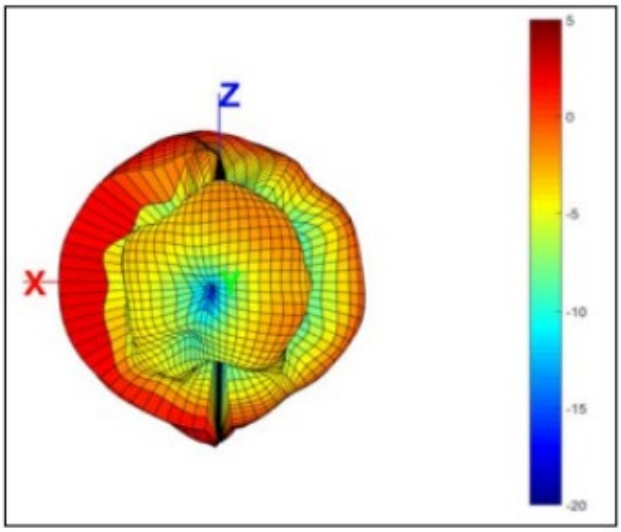


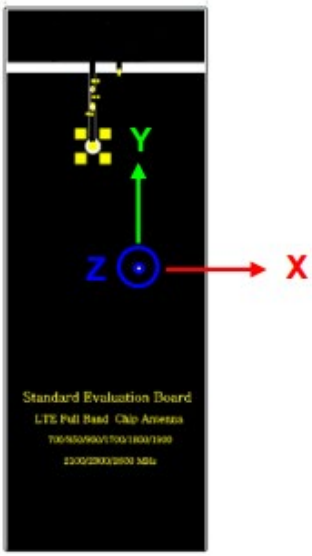


1710~2170 MHz Band
3D Patterns @ 1950 MHz (unit: dBi)

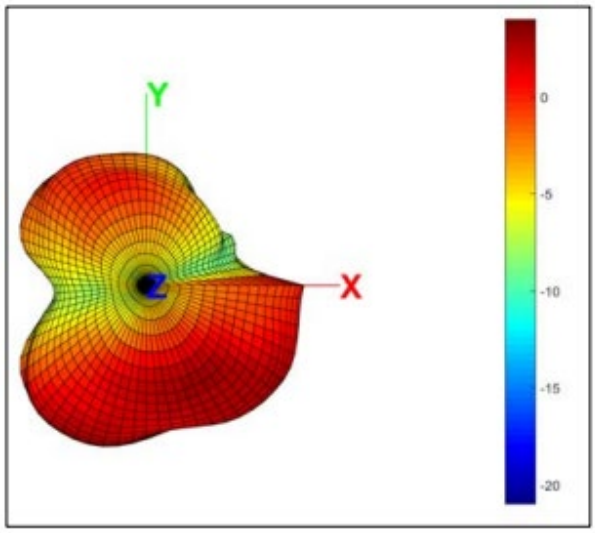


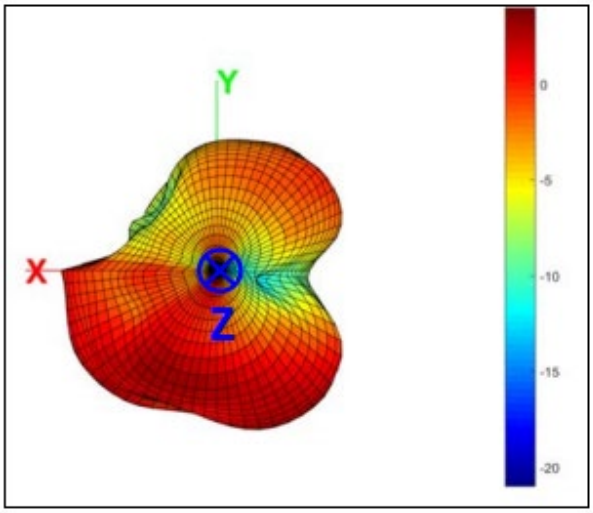


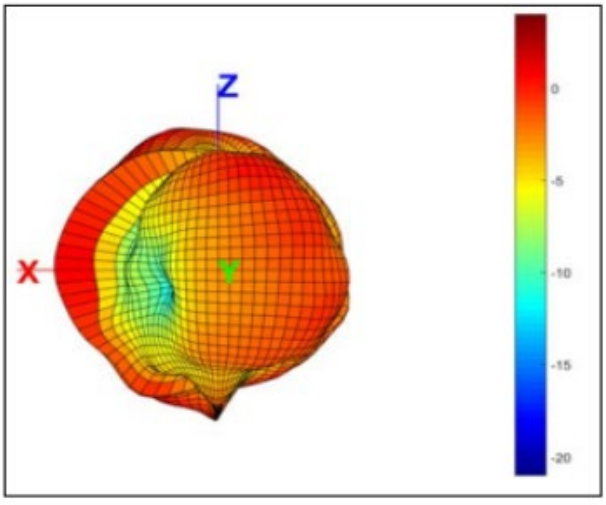


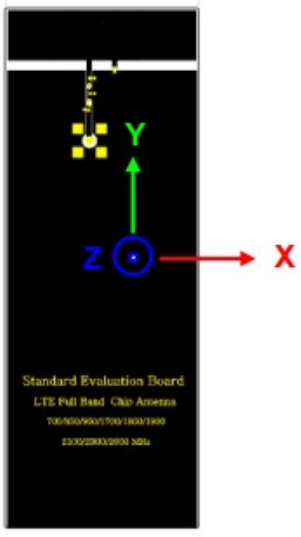


2300~2400 MHz Band
3D Patterns @ 2350 MHz (unit: dBi)

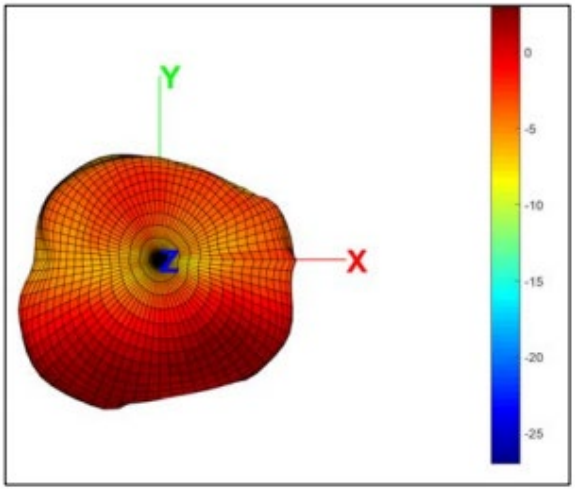


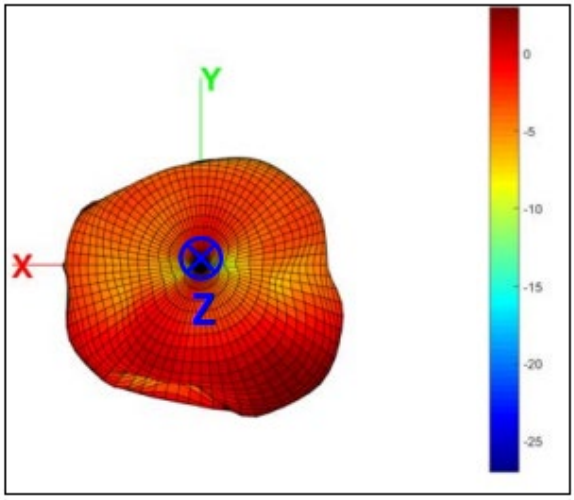


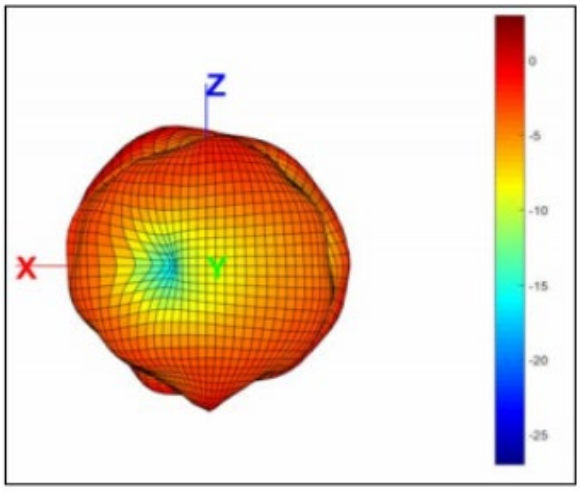


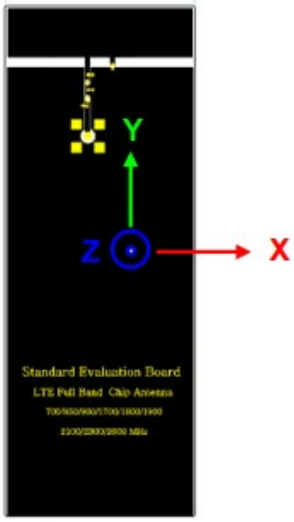


2490~2690 MHz Band
3D Patterns @ 2590 MHz (unit: dBi)



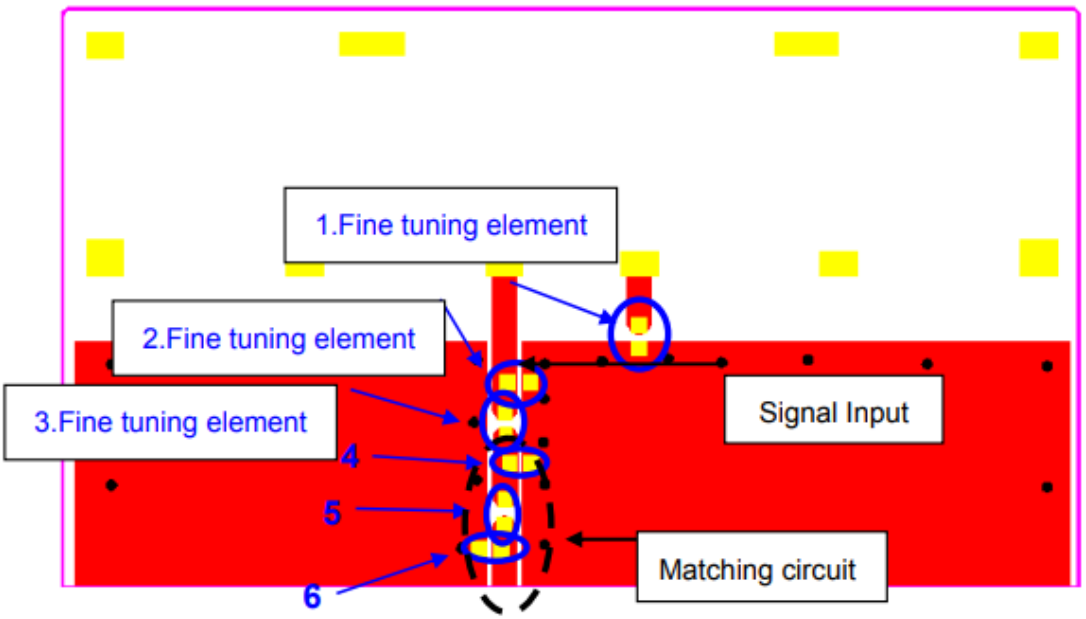






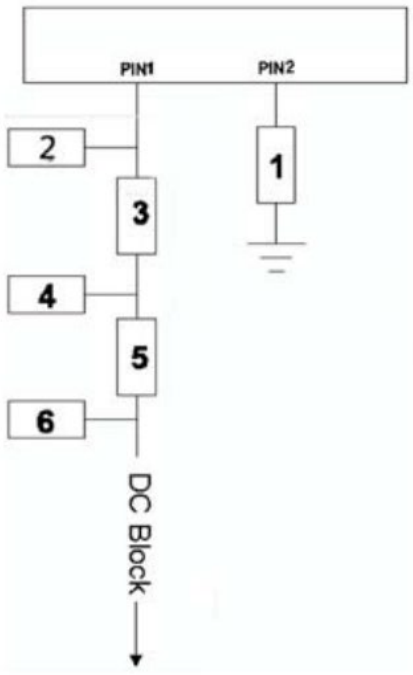
Frequency Tuning and Matching Circuit

Chip Antenna tuning scenario:



Matching circuit：

The center frequencies will be about 698~960 and 1710 ~2690 MHz at our standard 112 x 41 mm evaluation board, with the following recommended values of matching and tuning components. * * = These are typical reference values

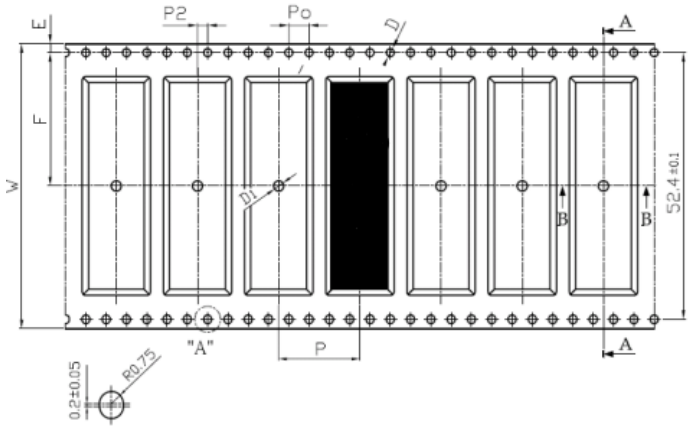


System Matching Circuit Component			
Location	Description	Tolerance	NIC Part Number
1 Fine tuning Element	3.9 nH, (0402)	±0.1 nH	NMLQ04B3N9TRF
2 Fine tuning Element	6.8 nH, (0402)	±0.1 nH	NMLQ04G6N8TRF
3 Fine tuning Element	3.6 pF, (0402)	±0.05pF	NMC-Q0402NPO0R7A25TRPF
4 & 6	N/C	-	-
5	0Ω, (0402)	-	NRC04Z0TRF

Packing

1. Quantity/Reel: 1000 pcs/Reel
2. Plastic Tape: Black Conductive Polystyrene

a. Tape Drawing



b. Tape Dimensions (unit: mm)

Feature	Specifications	Tolerances
W	56.00	±0.30
P	16.00	±0.10
E	1.75	±0.10
F	26.20	±0.15
P2	2.00	±0.15
D	1.50	+0.10 -0.00
D1	2.00	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20

Version History and Status

Version	Date Issued	Details	Status
A	March 1st , 2021	**Initial Release**	Supported

Please reach out to NIC for any customization requests and other inquiries:

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