

NGCP3505UC0R798G5TRF

LTE Full-Band Ceramic Chip Antenna



Features

- Supporting LTE full-band/3G/2G
- Stable and reliable performance
- 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

| Electrical | | | | | |
|-----------------------|--|---------|-----------|-----------|------------|
| Frequency Range (MHz) | 698 ~798 | 824~960 | 1710~2170 | 2300~2400 | 2490 ~2690 |
| Peak Gain (dBi) typ. | 1.3 dBi | 1.0 dBi | 2.6 dBi | 4.4 dBi | 4.2 dBi |
| Efficiency (%) typ. | 54% | 58% | 55% | 75% | 65% |
| VSWR | <3.5 : 1 | | | | |
| Maximum Input Power | 5 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 | | | | |

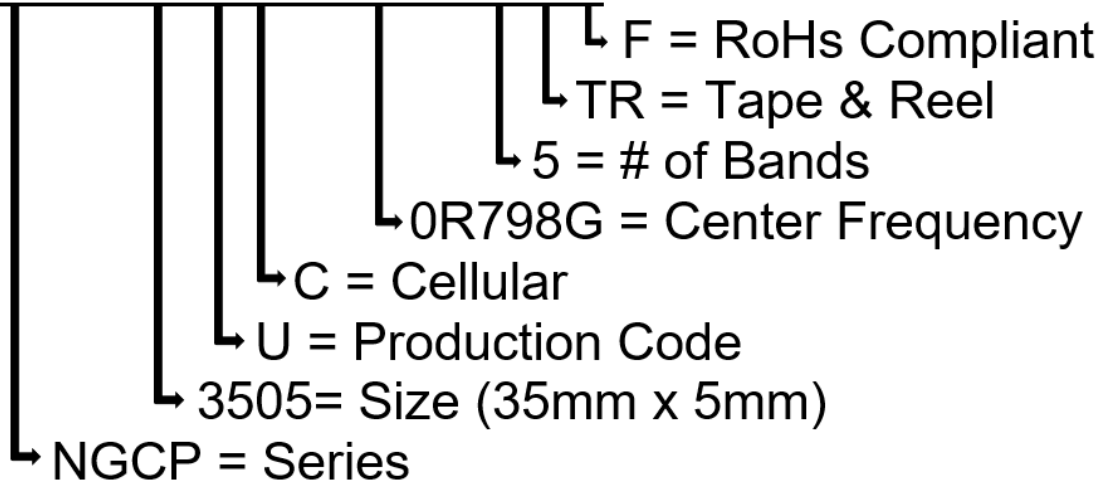
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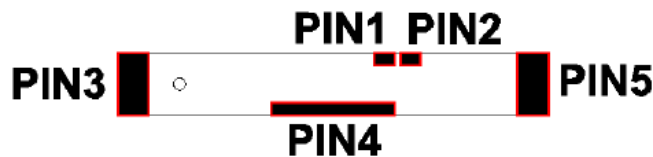


Part Number Breakdown

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Pin Definition



Bottom View

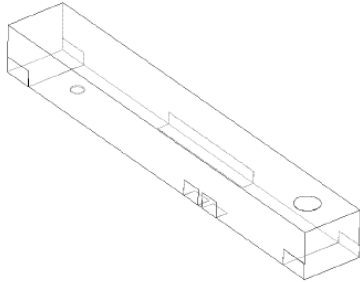
| PIN | 1 | 2 | 3~5 |
|---------------|---------------|--------|-----|
| Soldering Pad | Tuning/Ground | Signal | N/C |

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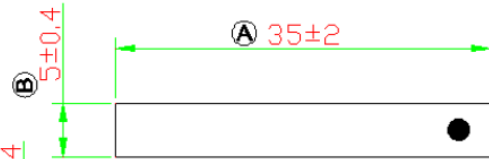
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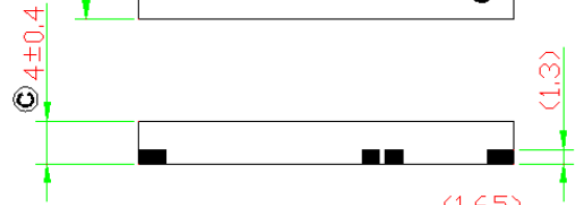
Dimension Drawing



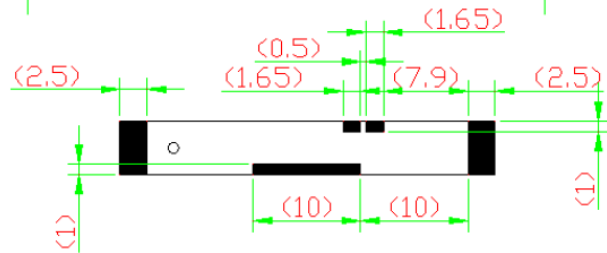
Top View



Front View



Bottom View



Back View



Dimensions (mm) & Mechanical

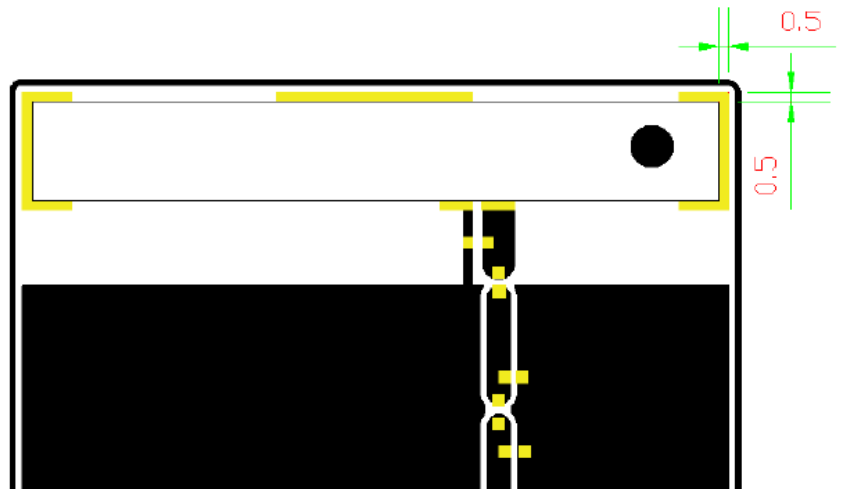
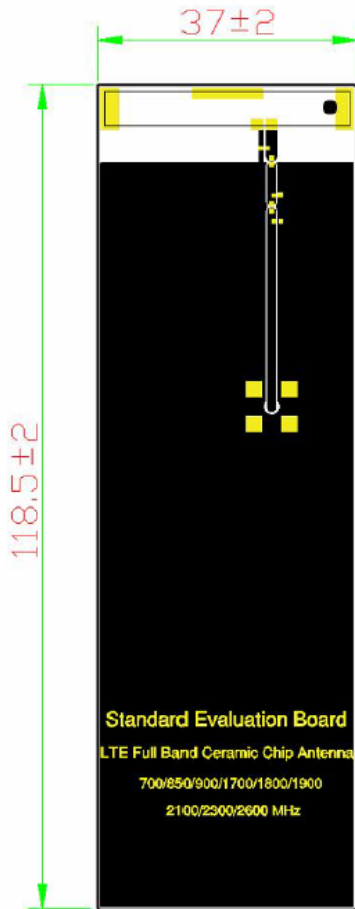
| | |
|-----------------|------------------|
| Body Length (A) | 35 ± 2 |
| Width (B) | 5 ± 0.4 |
| Thickness (C) | 4 ± 0.4 |
| Connection Type | SMT |
| Ground Plane | 118.5 mm x 37 mm |
| Material | Ceramic |

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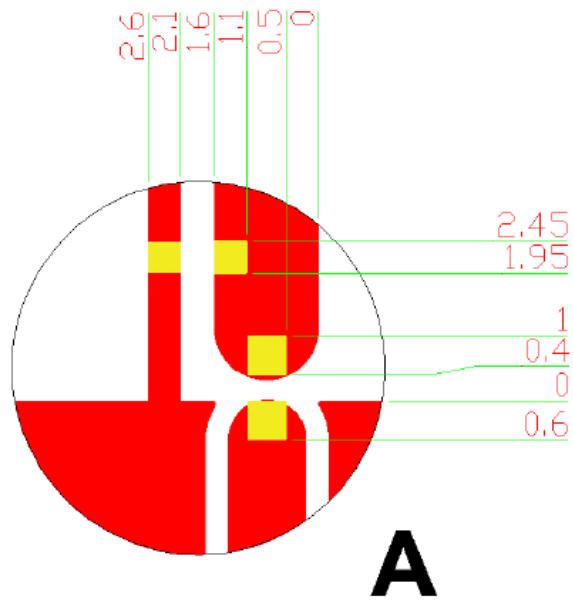
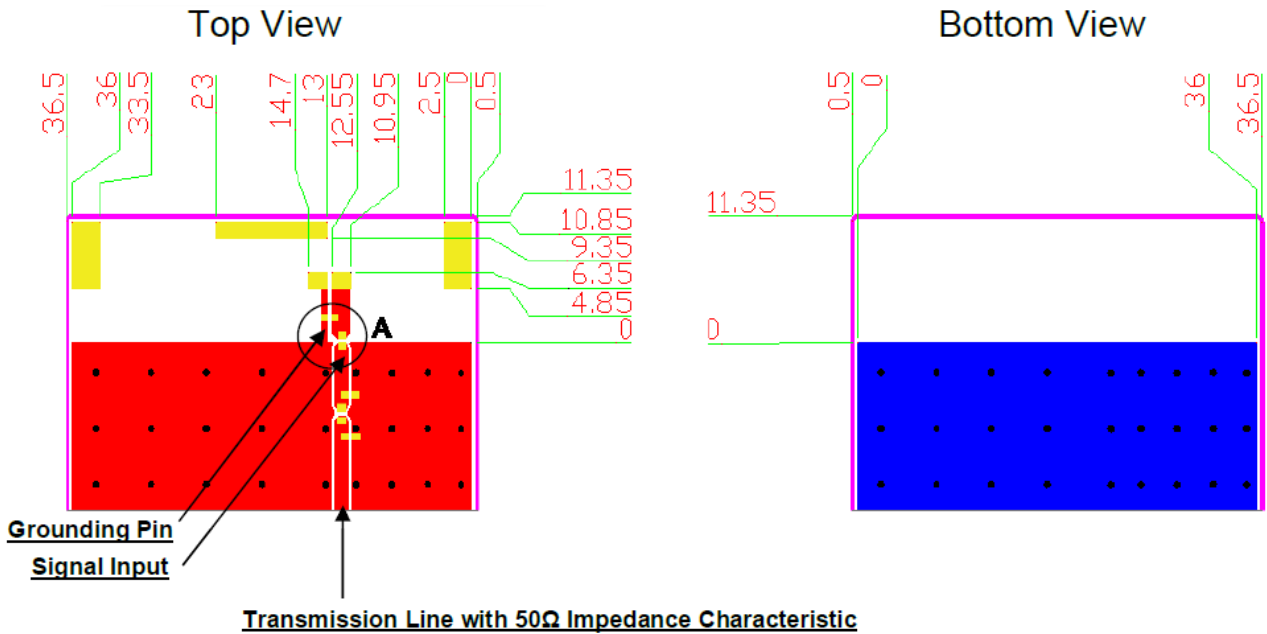
Evaluation Board



Unit: mm

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.

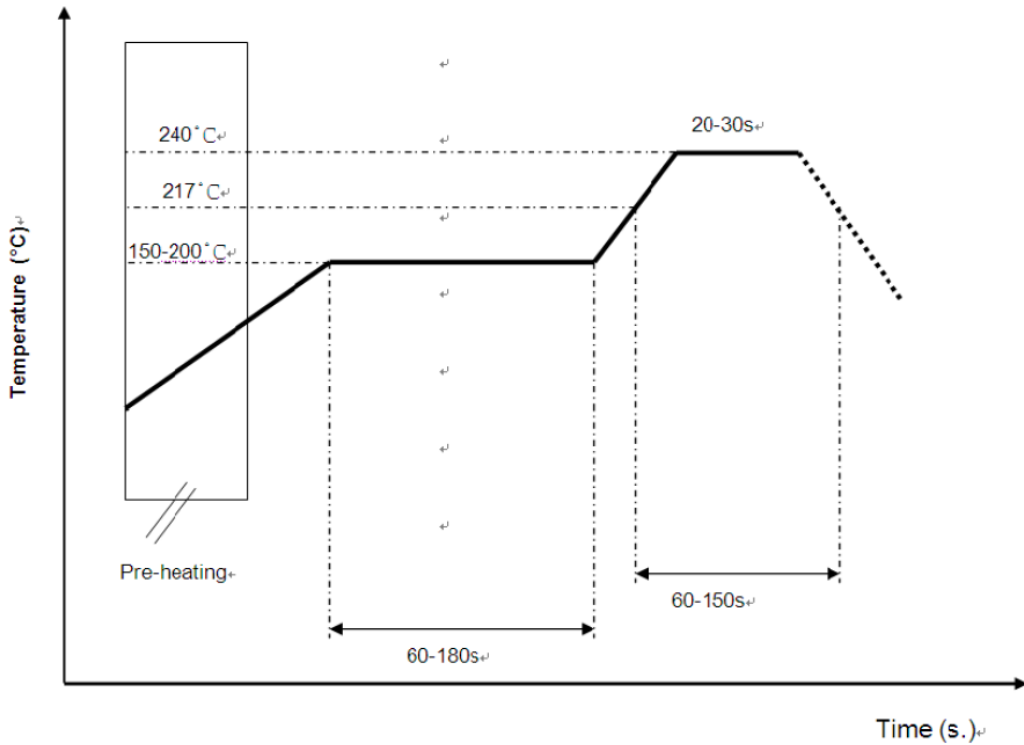


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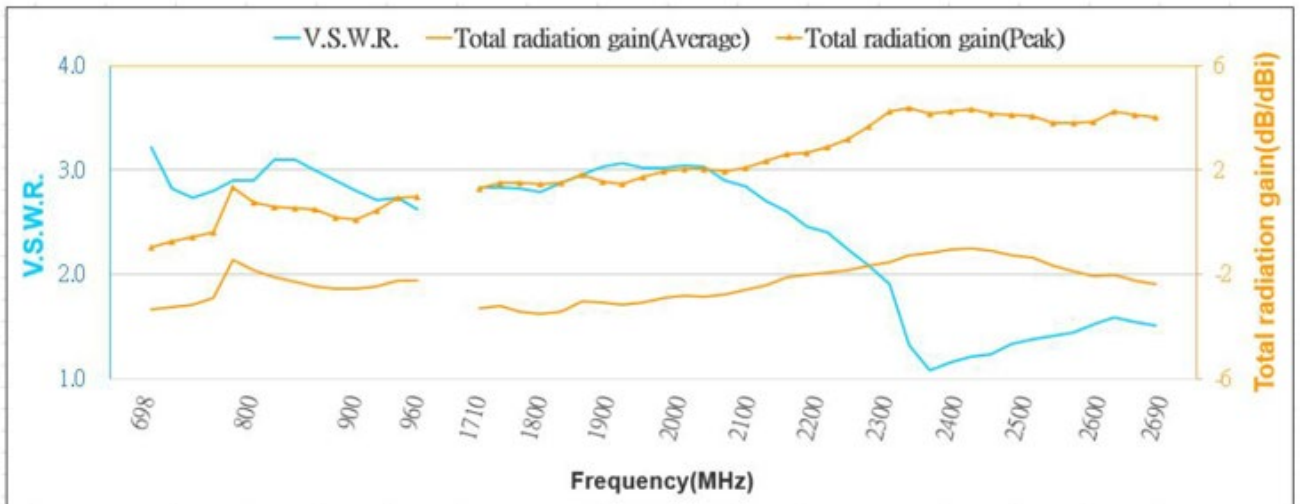


Soldering Conditions



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

Frequency vs. VSWR and Total Radiation Gain



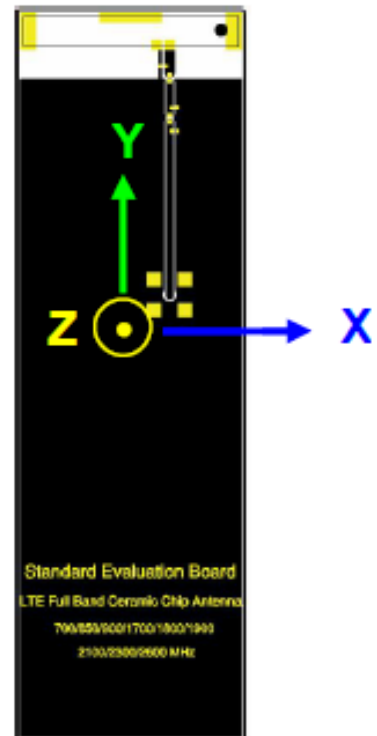
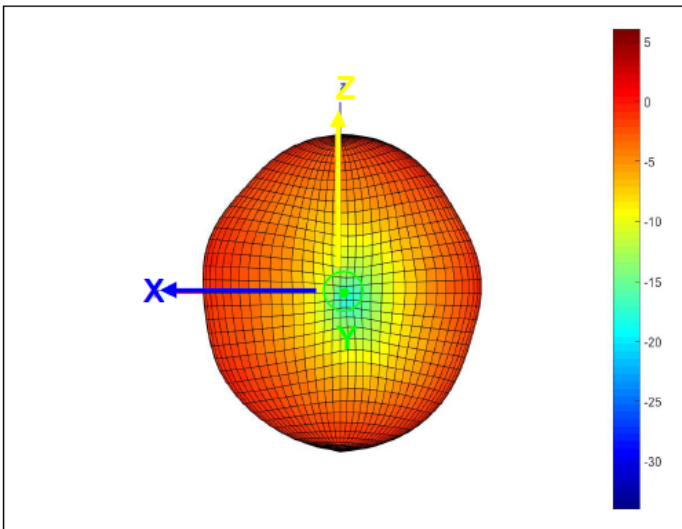
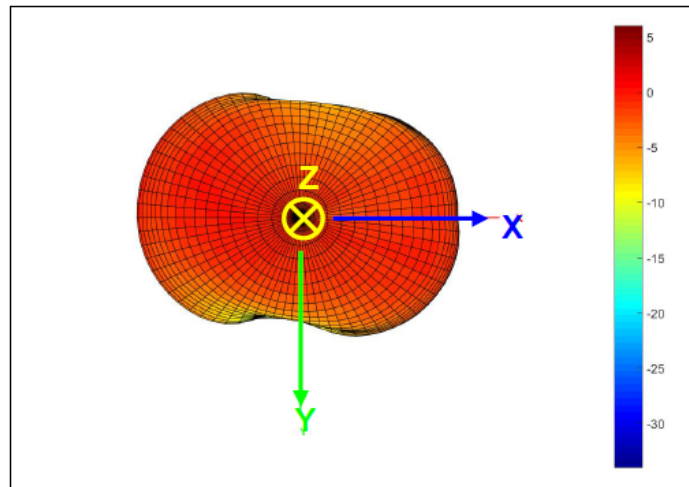
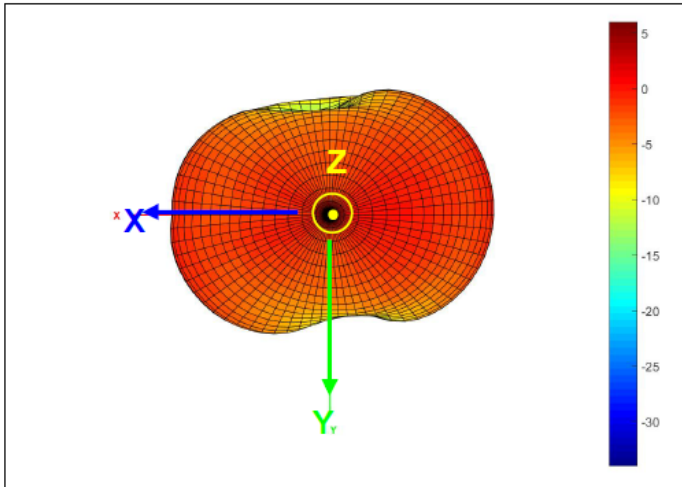
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3D Radiation Gain Pattern:

698~798 MHz Band @ 748 MHz (unit: dBi)

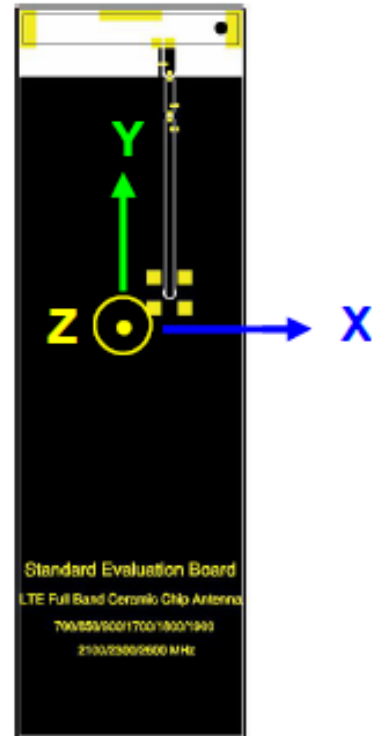
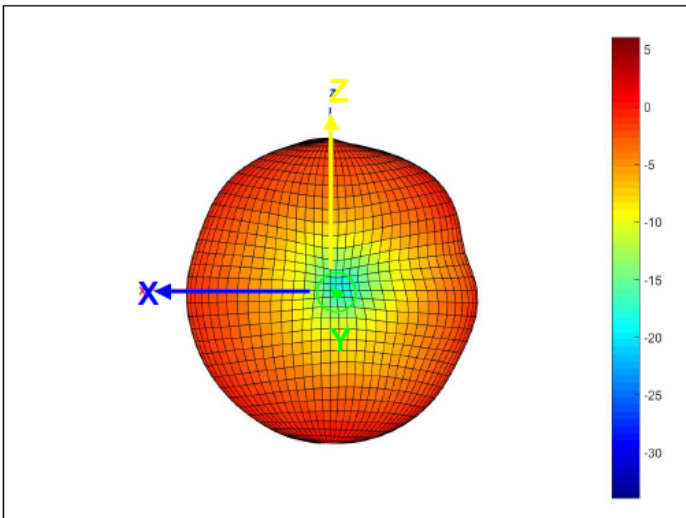
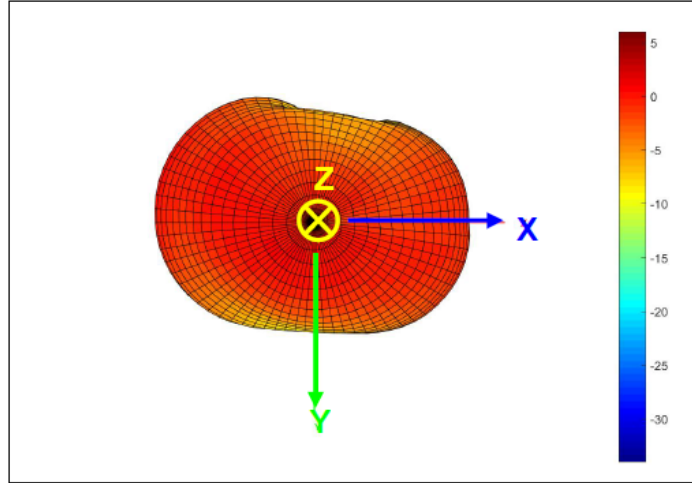
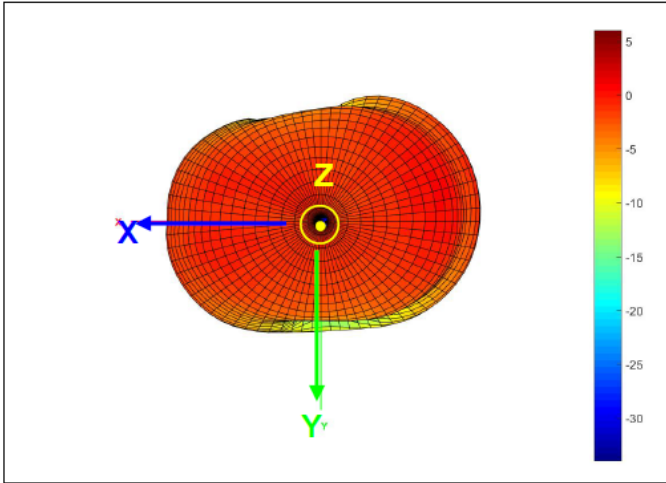


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824~960MHz Band @ 890 MHz (unit: dBi)

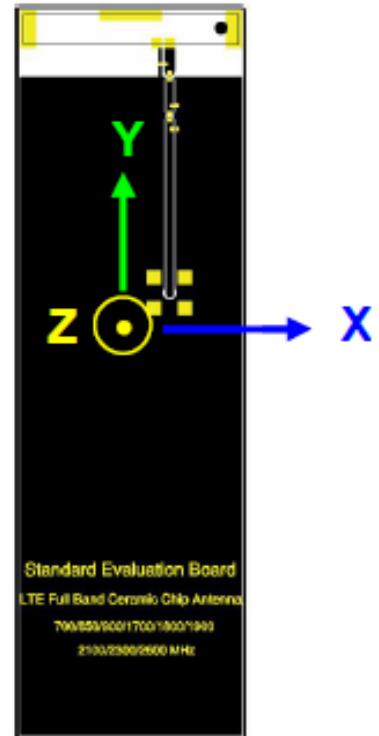
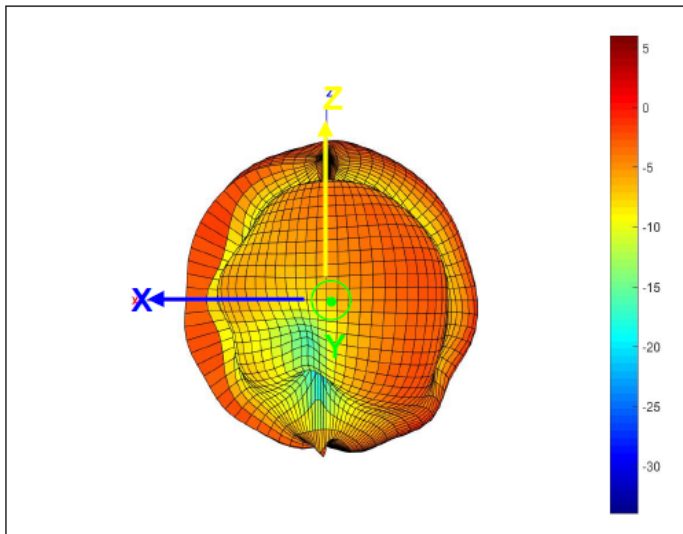
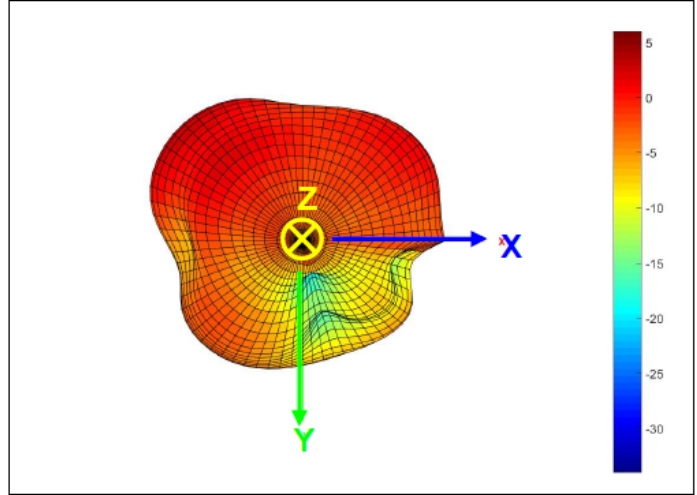
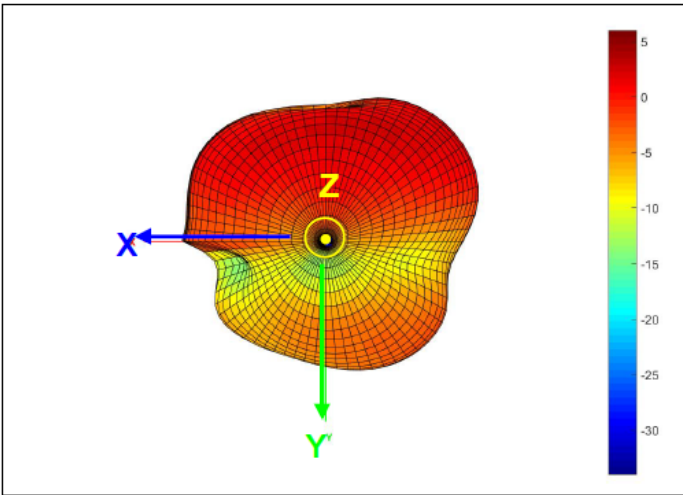


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1710 ~ 2170 MHz Band @ 1950 MHz (unit: dBi)

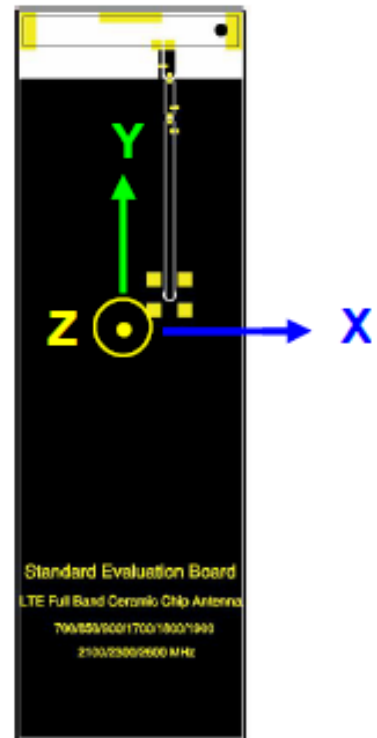
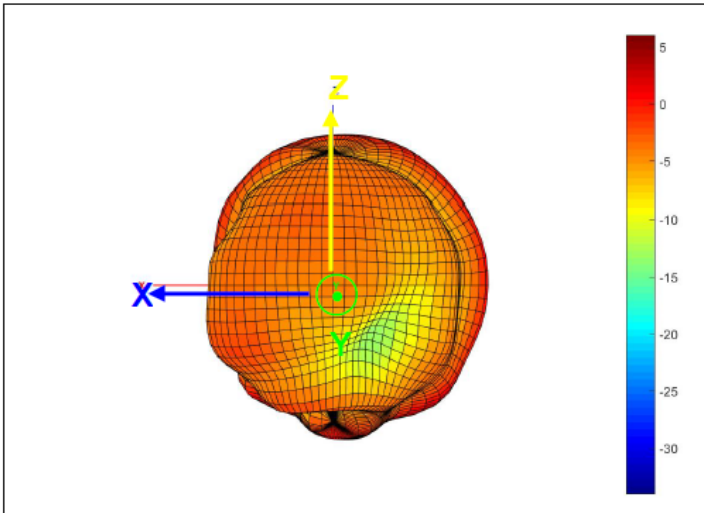
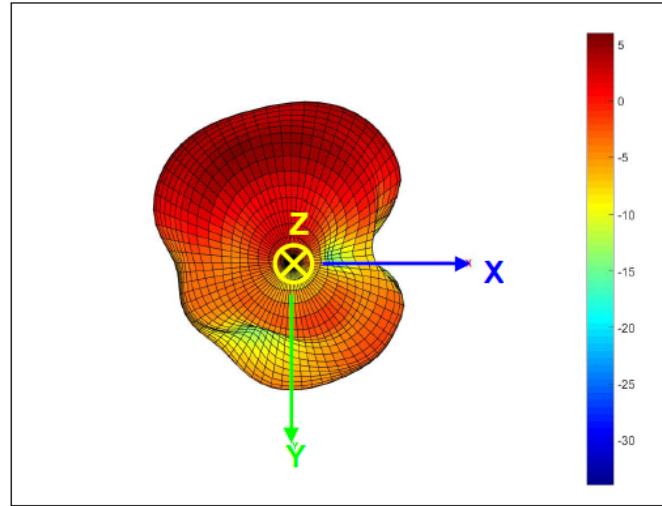
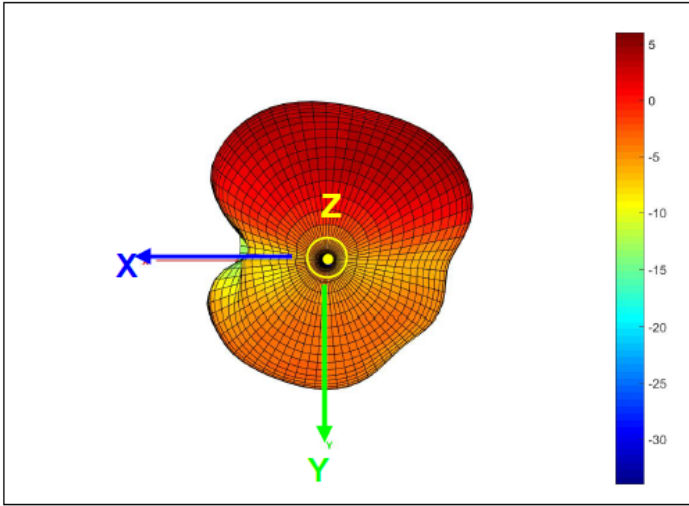


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2300 ~ 2400 MHz Band @ 2350 MHz (unit: dBi)

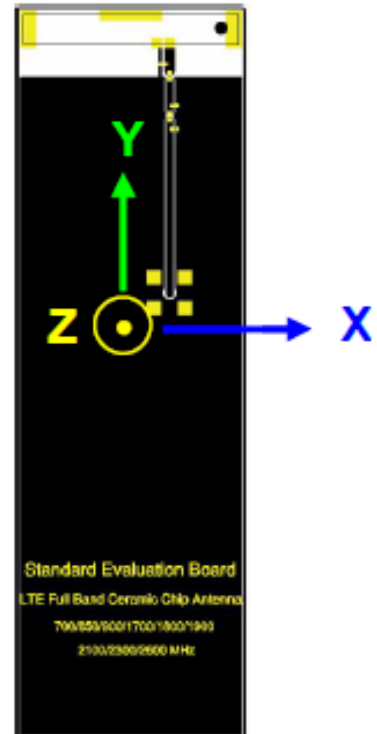
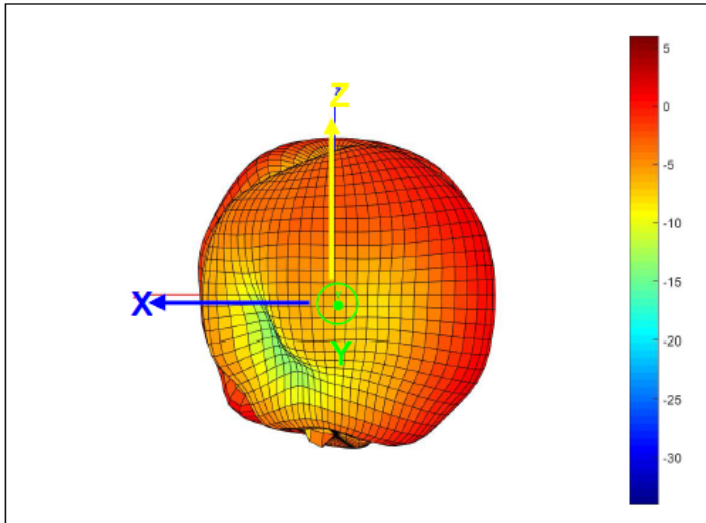
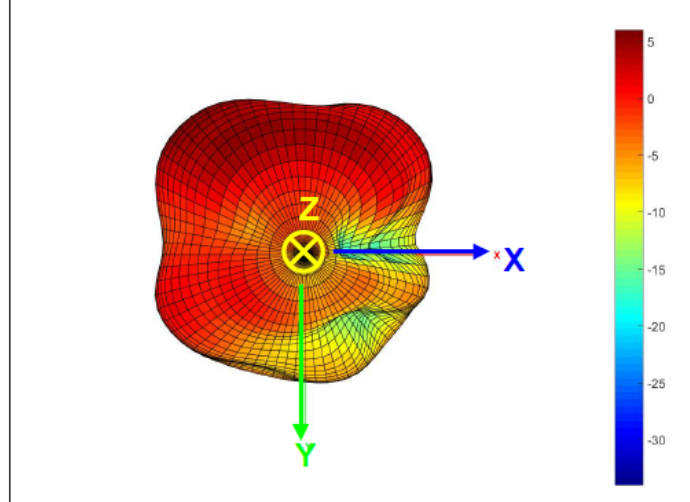
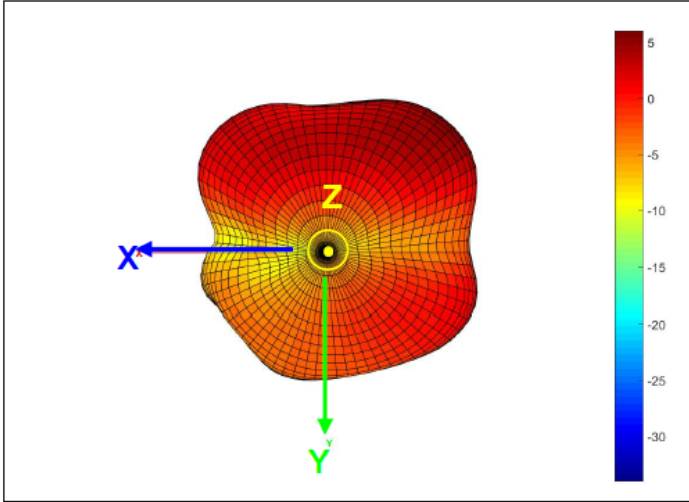


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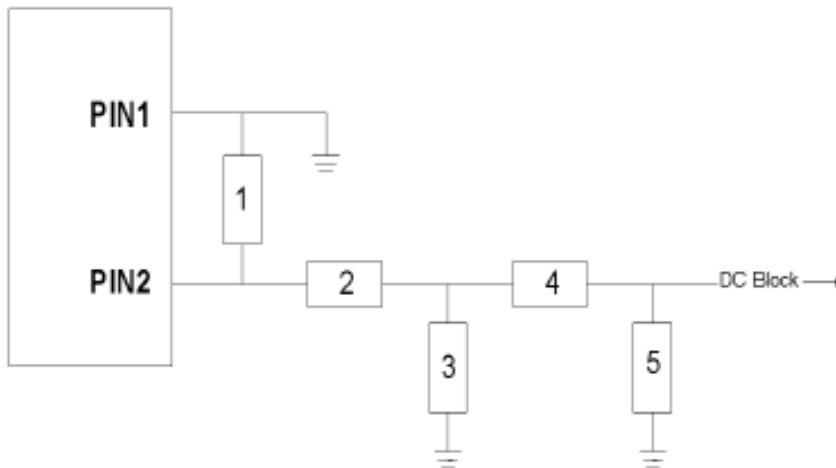
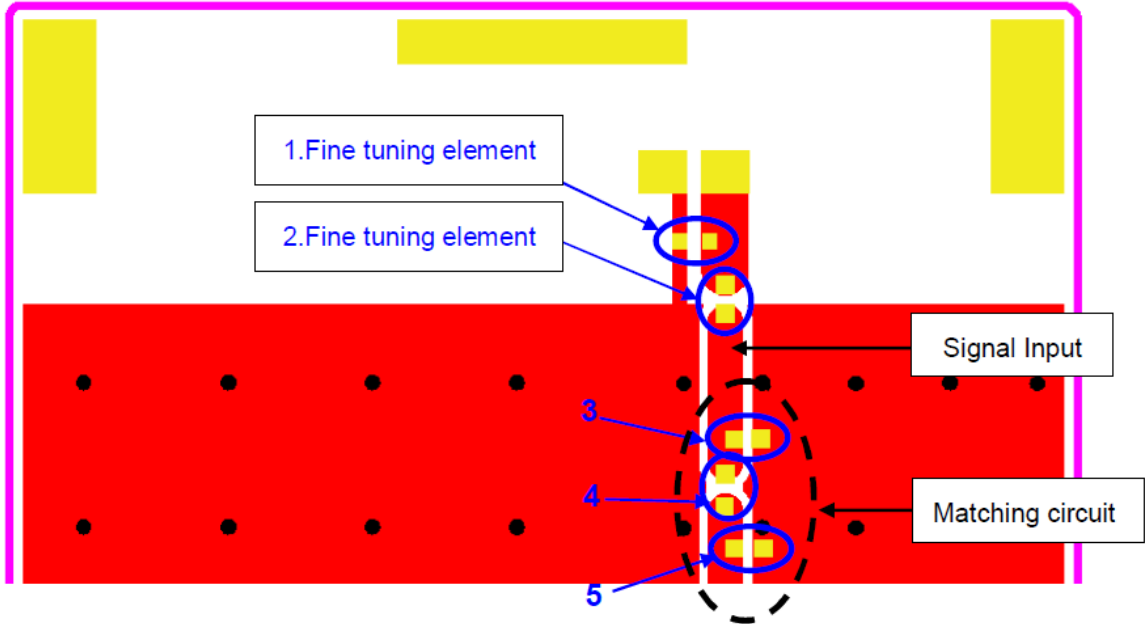
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2490 ~ 2690 MHz Band @ 2590 MHz (unit: dBi)



Frequency Tuning & Matching Circuit





System Matching Circuit Component

| Location | Description | Tolerance | NIC Part Number |
|---------------------------|---------------|-----------|--|
| 1 | 6.8 nH (0402) | ±2% | NML04G6N8TRF |
| 2 | 3.9pF, (0402) | ±0.05 | NMC-Q0402NPO3R9A50TRPF |
| 3 & 5 | - | - | - |
| 4 Fine Tuning Elements | 0 Ω, (0402) | - | NRC04Z0TRF |

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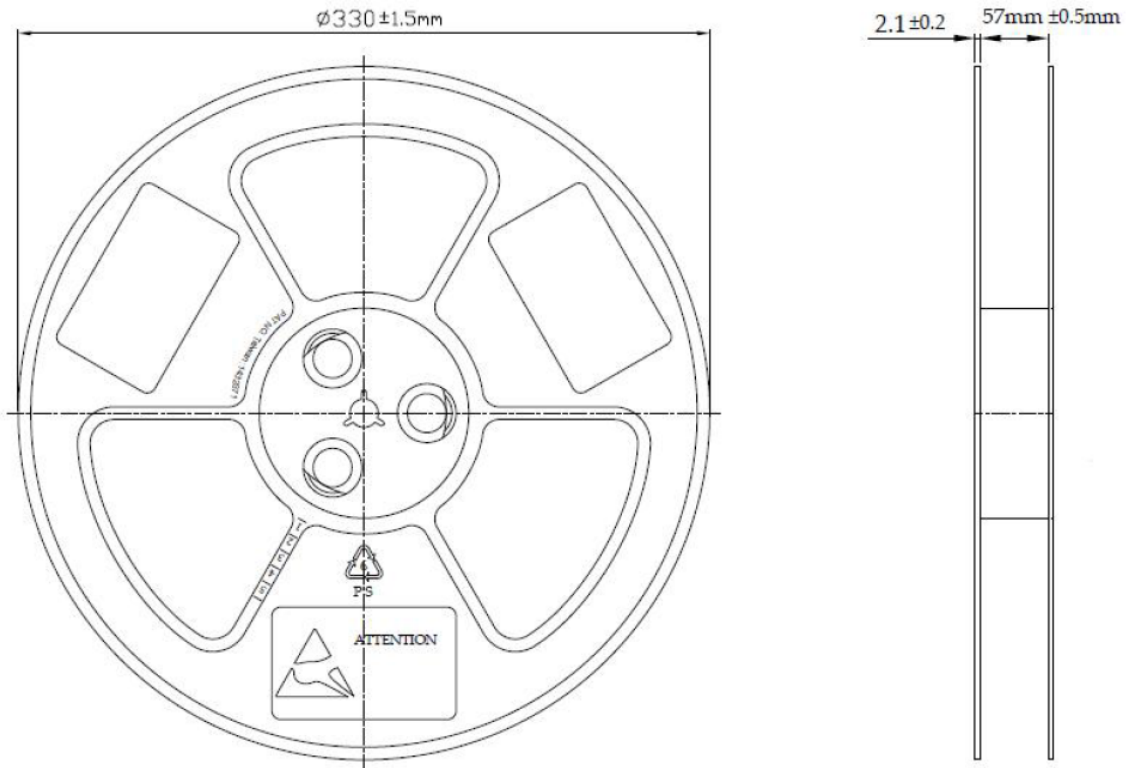
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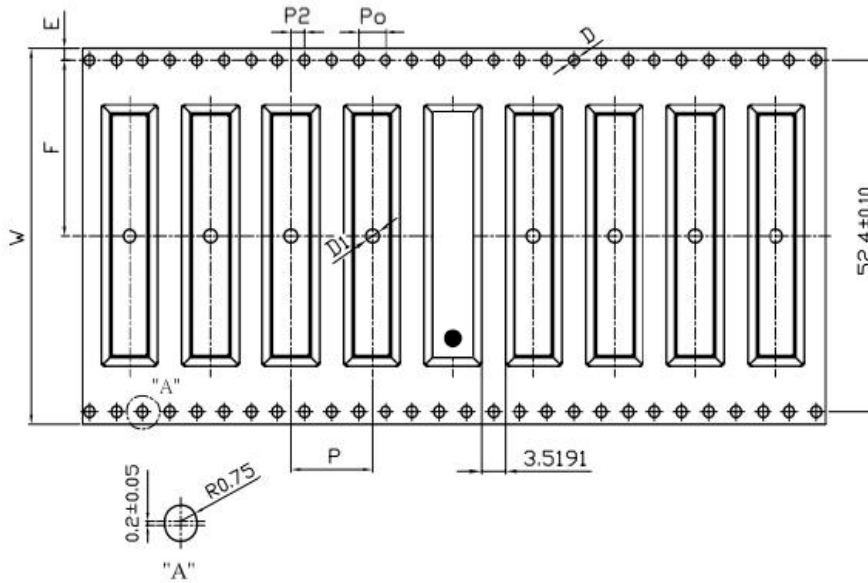
Packing

- (1) Quantity / Reel: 1000 pcs / Reel
- (2) Plastic tape: Clear Non Anti-static Polystyrene
- (3) Weight: 1 pcs = 2.3 g typ.
1 Reel = 3 Kg typ.

a. Reel Dimensions



b. Tape Drawing



c. Tape Dimensions

| Feature | Specifications | Tolerances |
|---------|----------------|----------------|
| W | 56.00 | ±0.30 |
| P | 12.00 | ±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 |