

2JE28

CELLULAR / LTE Surface Mount

Key Features

CELLULAR / LTE

- 698-960 MHz
- 1710-2170 MHz
- 2500-2700 MHz

Surface Mount

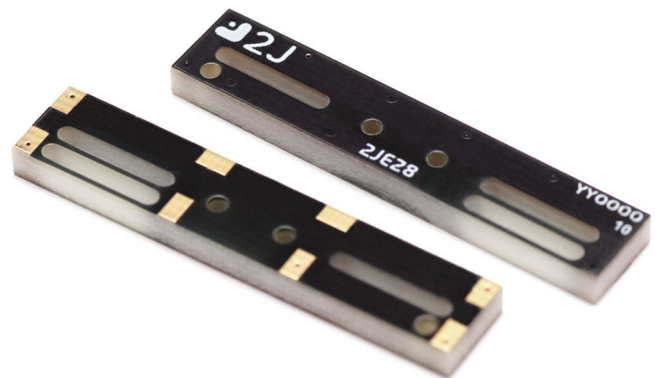
Left Feed

High Performance

Fiberglass Material

Ground Plane Dependent

Dimensions 40 × 8 × 3 mm



1. Antenna and electrical specifications

| Parameters | CELLULAR / LTE Antenna | | |
|-----------------------------|------------------------|---------------------|-----------|
| Standards | 2G,3G and 4G | | |
| Band (MHz) | 700/850/900 | 1700/1800/1900/2100 | 2600 |
| Frequency (MHz) | 698-960 | 1710-2170 | 2500-2700 |
| Return Loss (dB) | ~-7.6 | ~-11.2 | ~-14.9 |
| VSWR | ~2.6:1 | ~1.8:1 | ~1.5:1 |
| Efficiency (%) | ~58 | ~70 | ~65 |
| Peak Gain (dBi) | ~2.5 | ~3.1 | ~3.5 |
| Average Gain (dB) | ~-2.6 | ~-1.7 | ~-2.1 |
| Impedance (Ohm) | 50 | | |
| Polarisation | Linear | | |
| Radiation Pattern | Omni-Directional | | |
| Max. Input Power (W) | 25 | | |

Antenna Measurement Conditions:

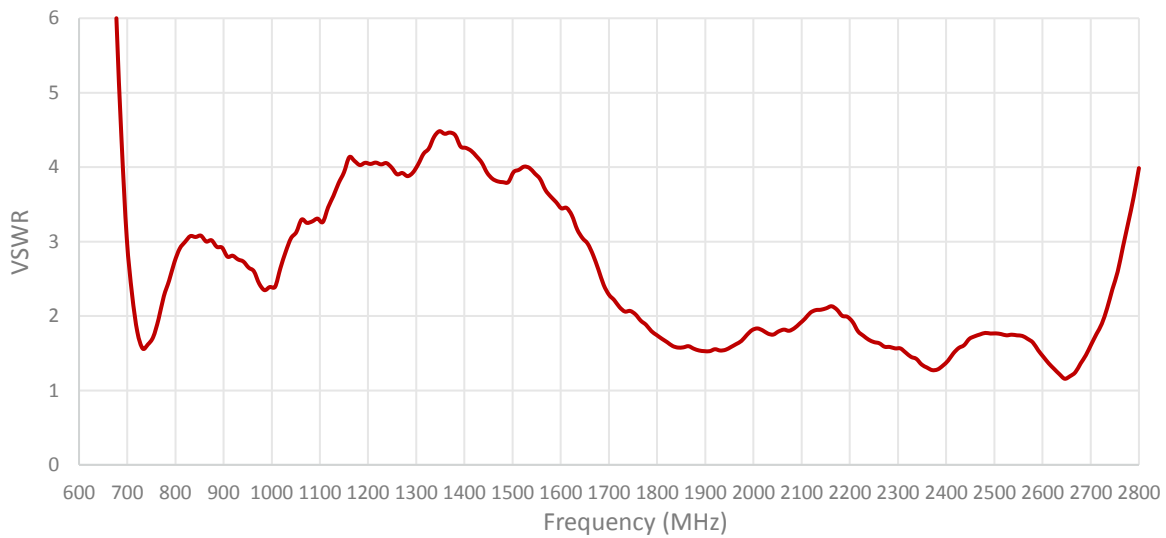
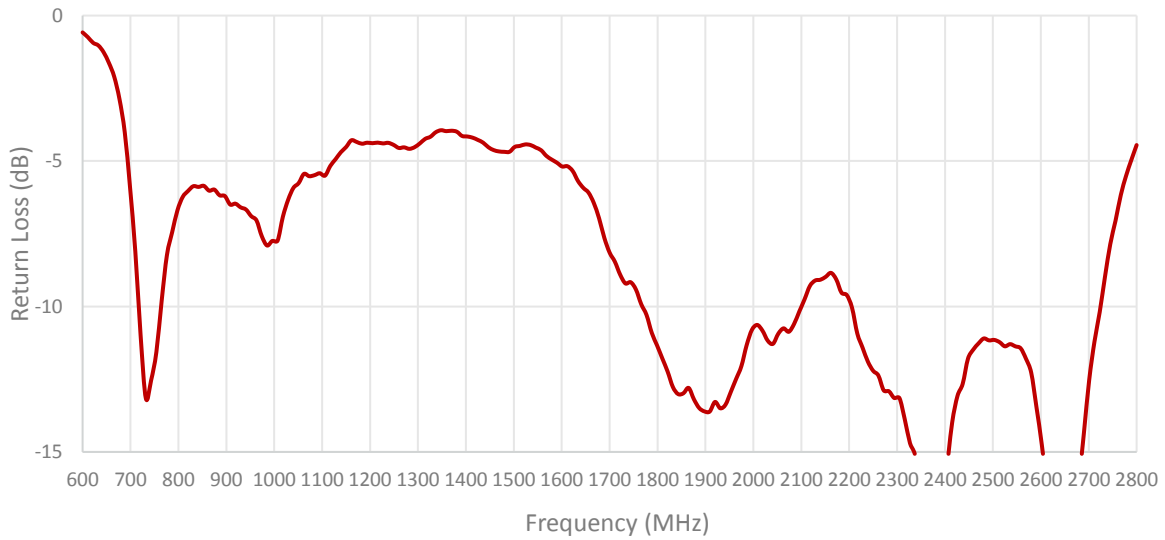
Mounted on ground plane of 110 x 40 mm

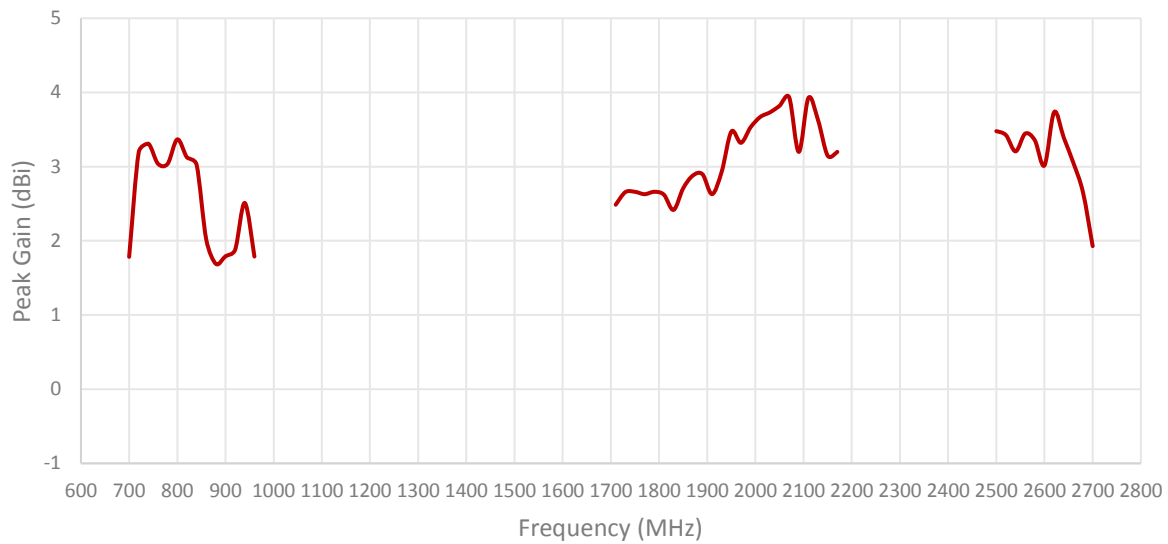
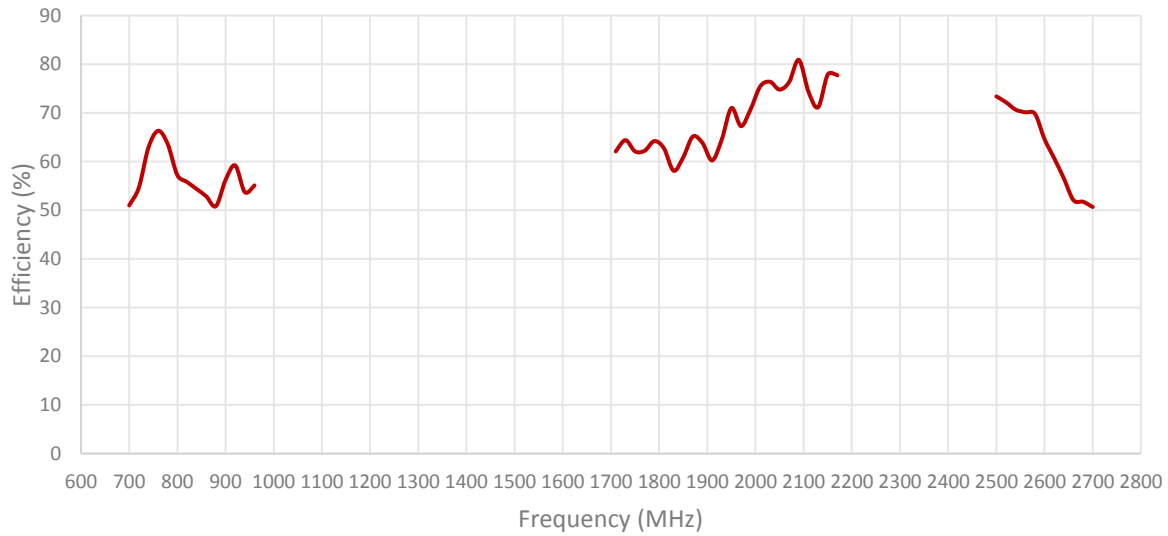
Measured in Certified CTIA 3D Anechoic Chamber

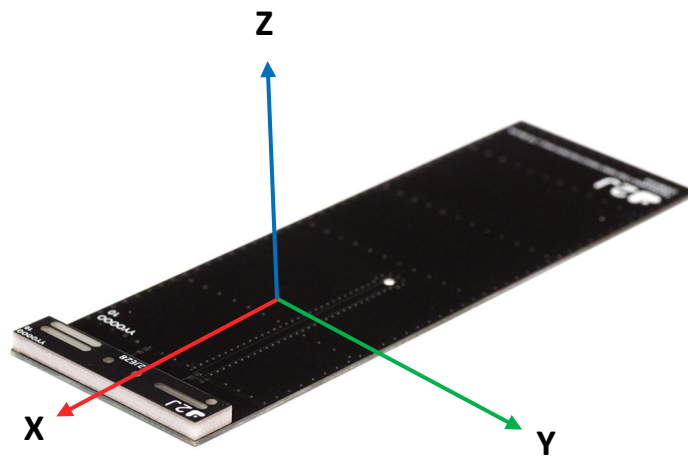
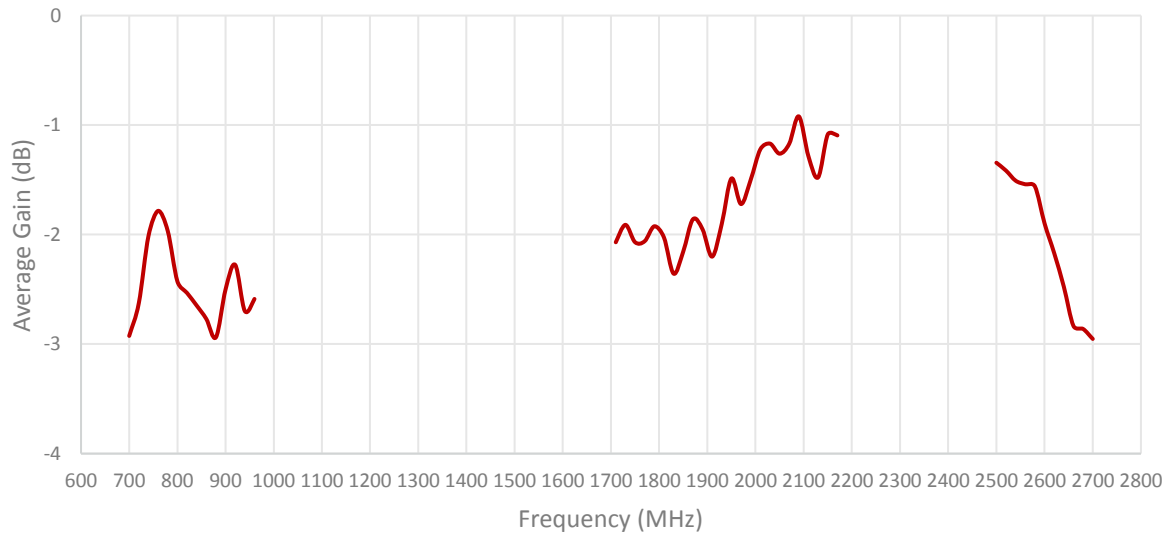
2. Mechanical and environmental specifications

| Specifications | 2JE28 |
|--------------------------------------|---------------------------------------|
| Mounting Type | Surface Mount |
| Dimensions (mm) | 40 × 8 × 3 |
| Material | Fiberglass |
| Operating Temperature (C) | -40 to +105 |
| Storage Temperature (C) | -40 to +85 |
| Storage Relative Humidity (%) | Up to 93 at 30 C |
| Substance Compliance | RoHS |
| Typical Shear Force Test | 50 kgf according to IEC62137-1-2:2007 |

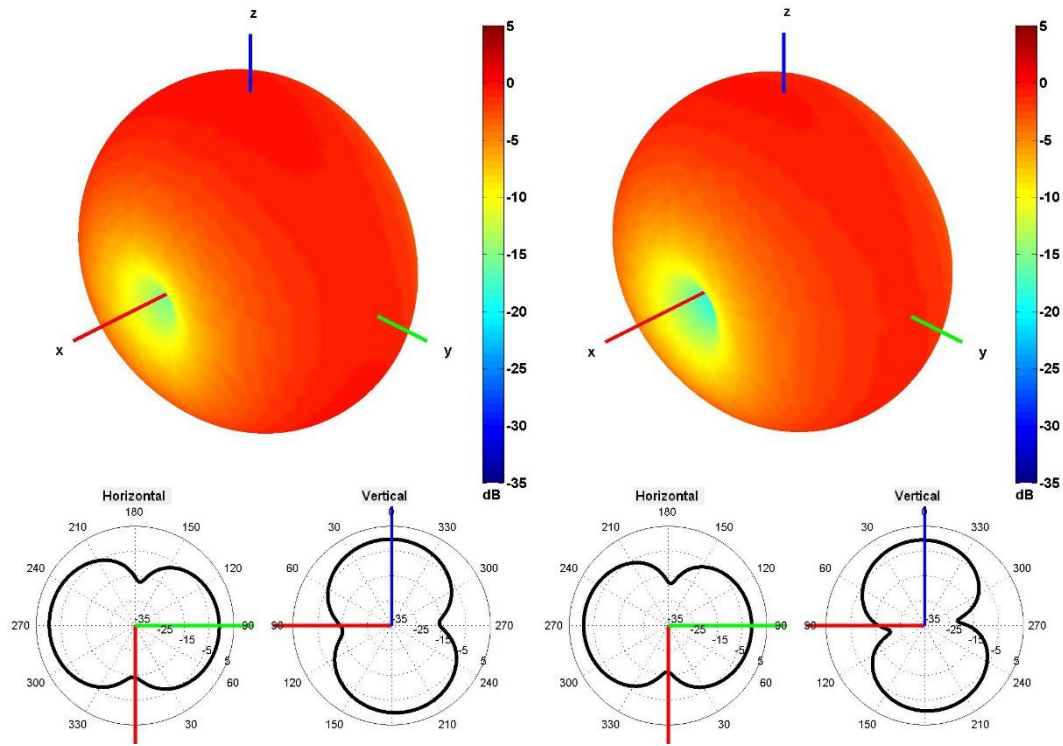
3. Antenna parameters



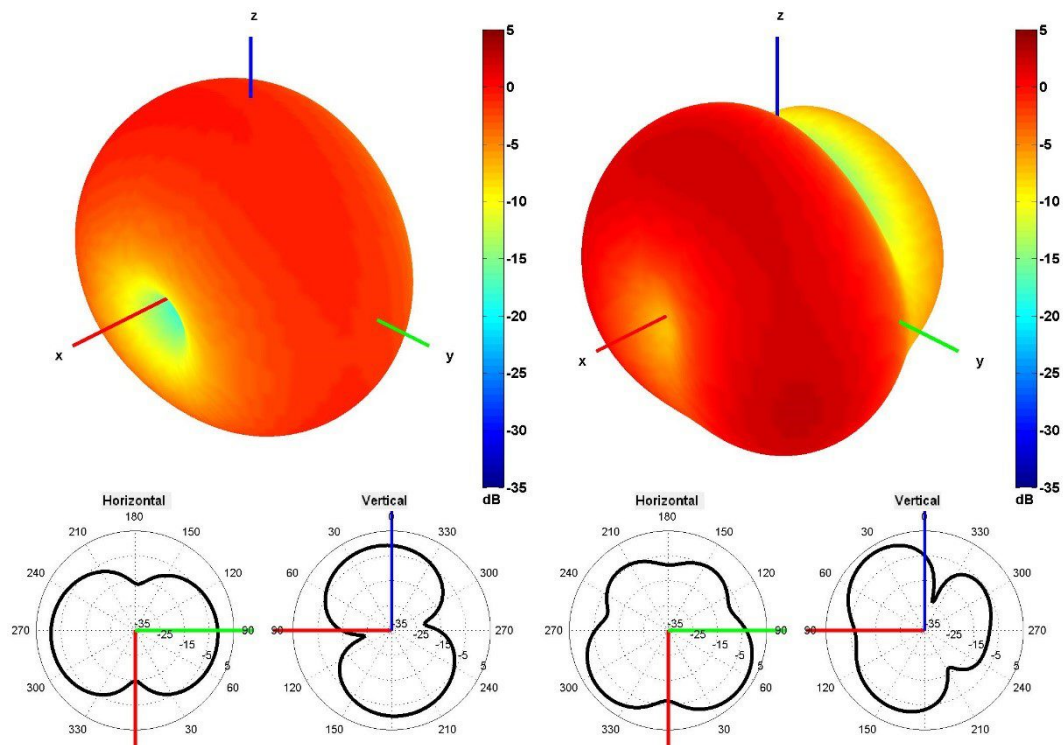




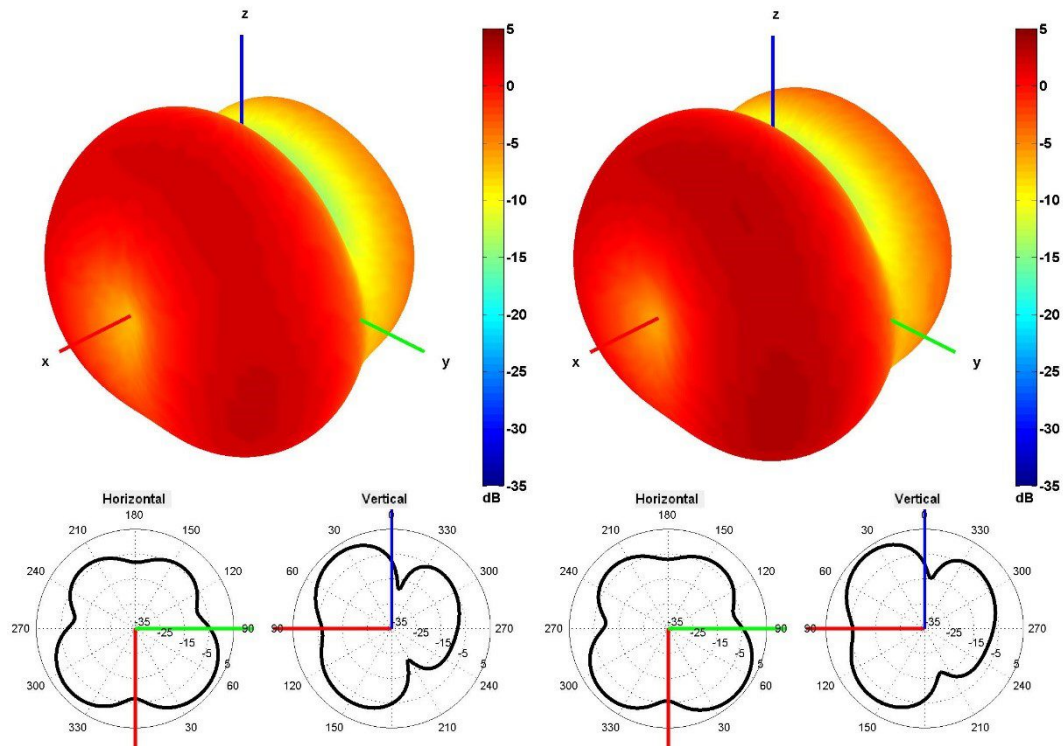
Radiation pattern reference



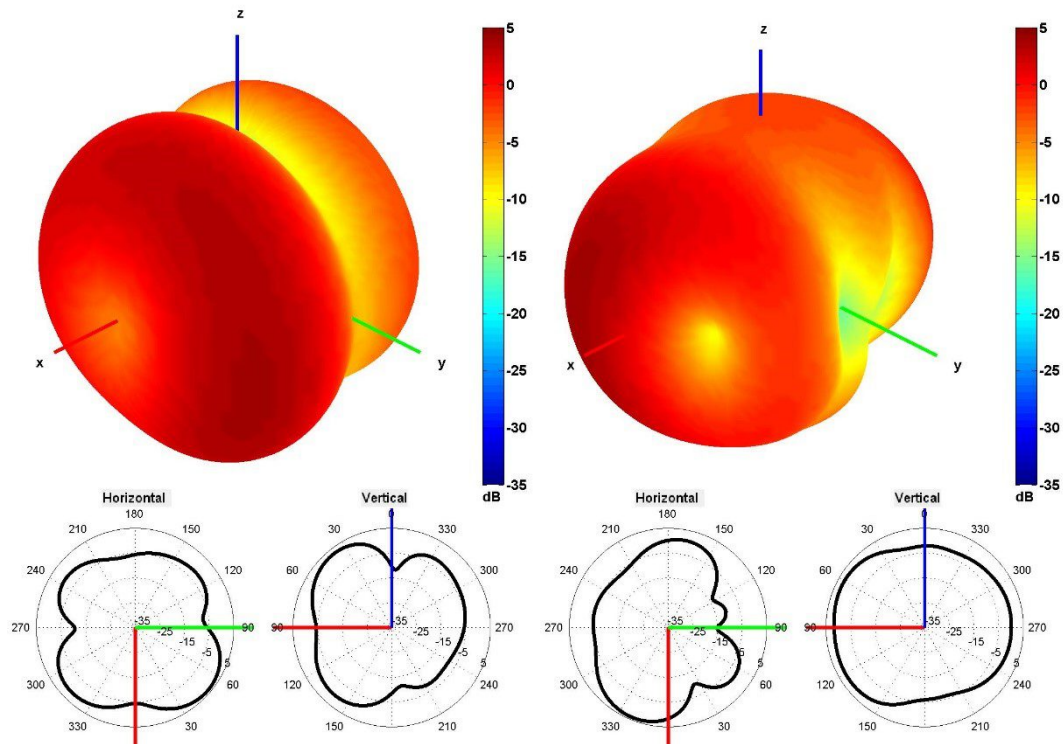
740 and 840 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

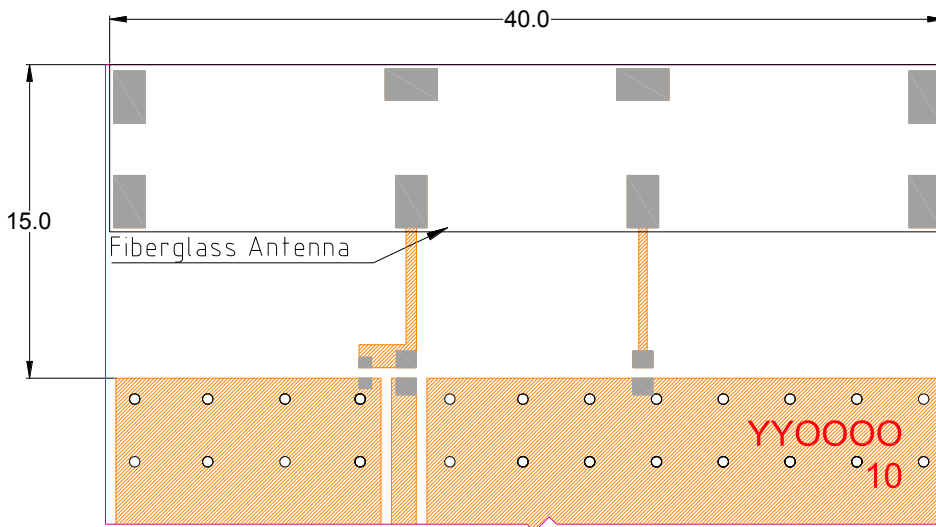


1850 and 1950 MHz Radiation pattern



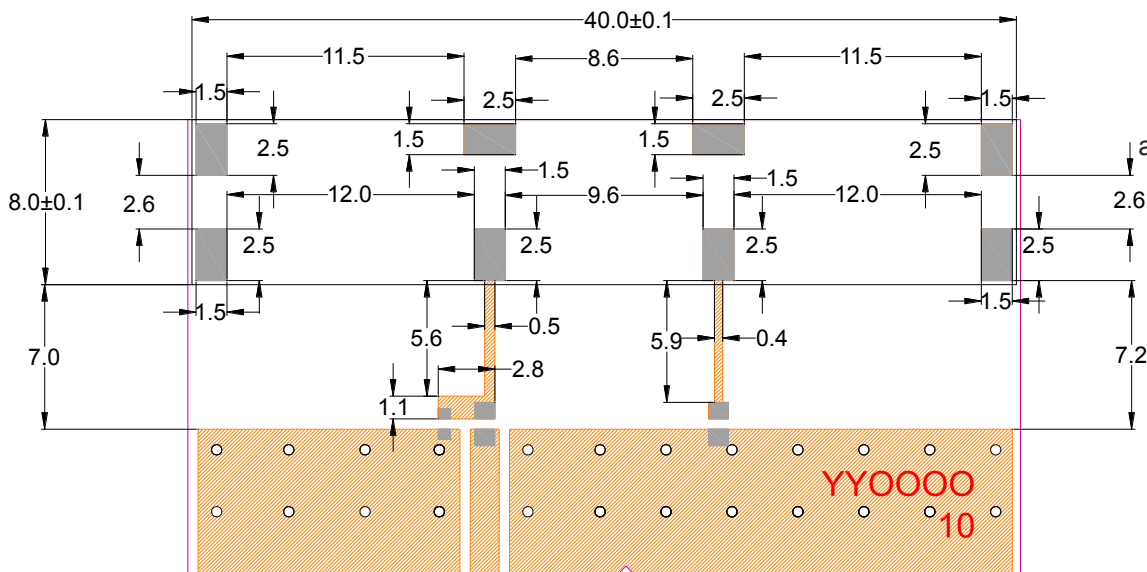
2100 and 2600 MHz Radiation pattern

4. PCB Layout



Minimum area required for antenna integration (40mm × 15mm)

- Solder Region
- Copper Region
- Copper-Free Region



Layout dimensions for antenna integration (mm)

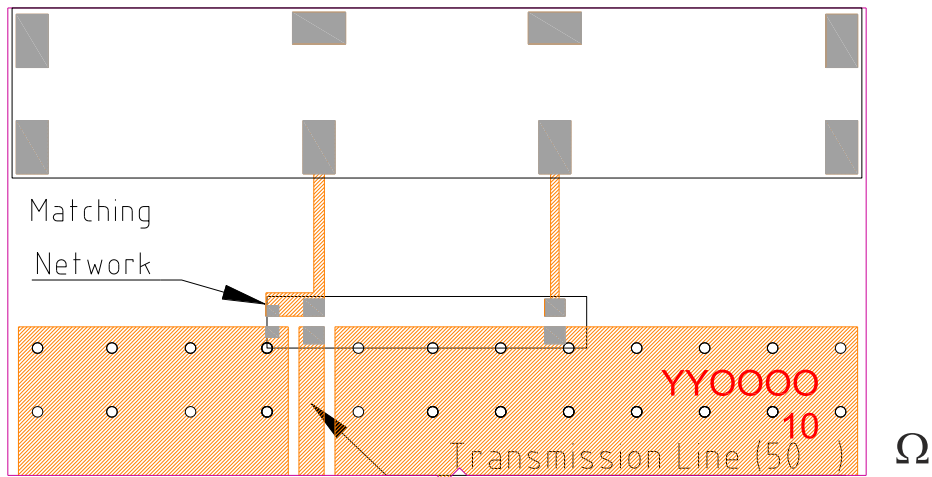
Tolerance of Linear Dimensions (unless otherwise indicated):

| Dimension (mm) | Tolerance |
|----------------|-----------|
| 0.5-6 | +/-0.05 |
| 6-30 | +/-0.07 |
| 30-50 | +/-0.1 |

Layout dimensions for antenna integration (mm)

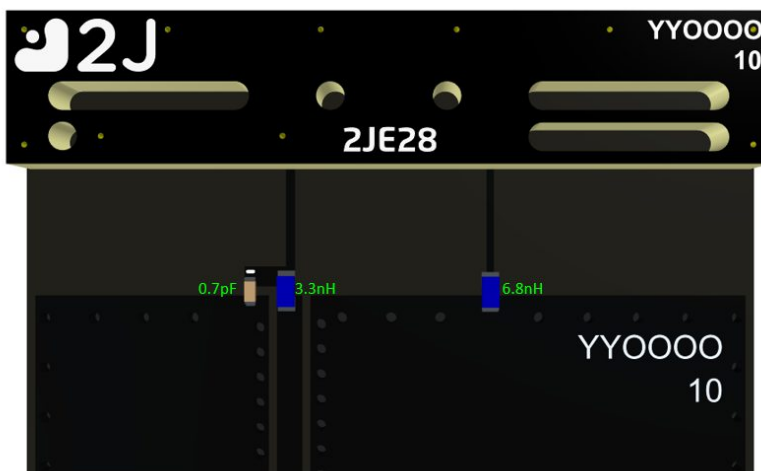
- Solder Region
- Copper Region
- Copper-Free Region

5. Matching Network

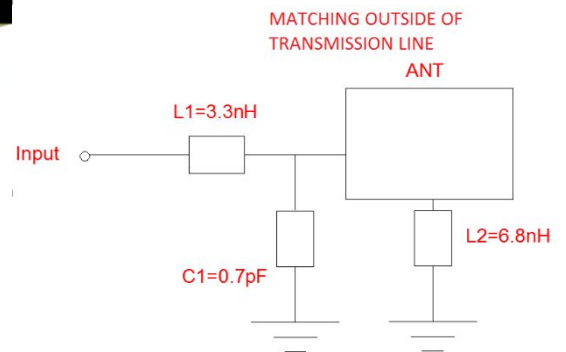


- Solder Region
- Copper Region
- Copper-Free Region

Matching network drawing

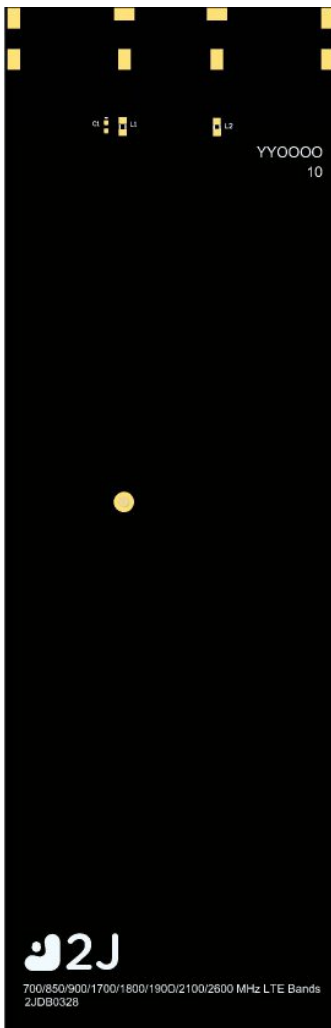


3D View of matching components and recommended values



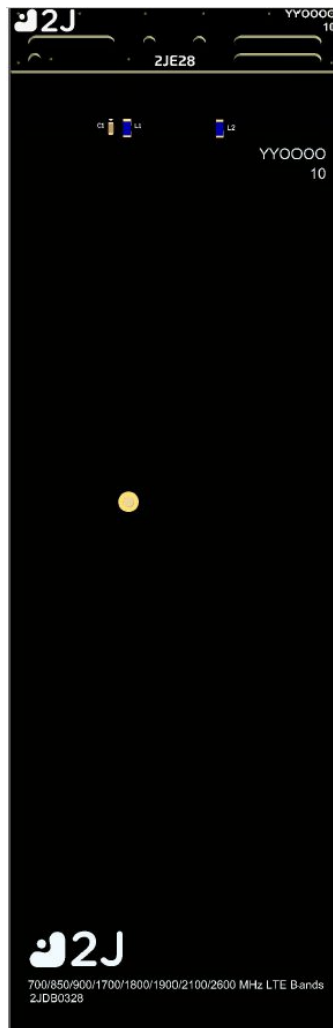
6. Evaluation Board

125mm x 40.4mm



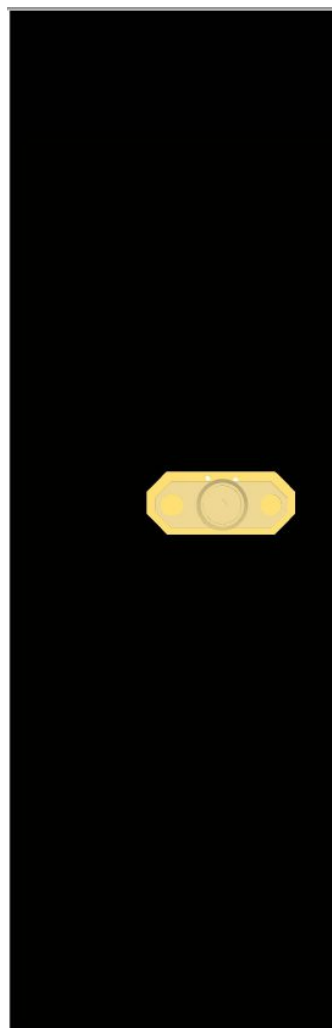
Front View without Antenna

125mm x 40.4mm



Front View with Antenna

125mm x 40.4mm



Back View

125mm x 40.4mm
(PCB: 1.0mm, Antenna: 3mm,
Connector: 9.5mm)



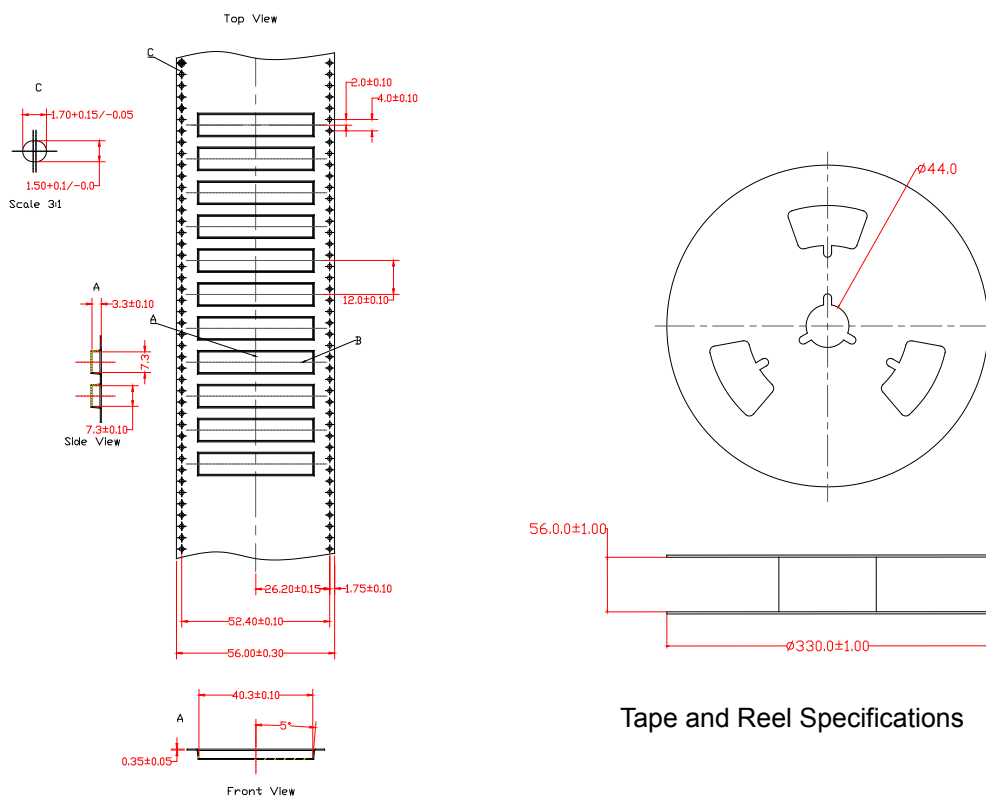
Side View

7. Packaging

PACKAGING SPECIFICATION

| | |
|--|------------------|
| Antenna | 2JE28 |
| REEL | |
| Max Quantity per Reel | 1000 |
| REEL CARTON | |
| Reels per Carton | 2 |
| Max Quantity per Carton | 2000 |
| Reel Carton Dimensions (cm) | 36.5 x 36.5 x 16 |
| Reel Carton Weight (Kg) | 5,6 |
| PALLET | |
| Max Cartons per Pallet | 42 |
| Cartons per Layer | 6 |
| Number of Layers | 7 |
| Max Quantities per Pallet | 84,000 |
| Total Cartons Dimensions (cm) | 109.5 x 73 x 112 |
| Total Cartons Weight (Kg) | 235,2 |
| Pallet size and weight not included above | |
| Typical Pallet Size (cm) | 120 x 100 x 14.4 |
| Typical Pallet Weight (Kg) | 5-25 |

8. Tape and Reel Information

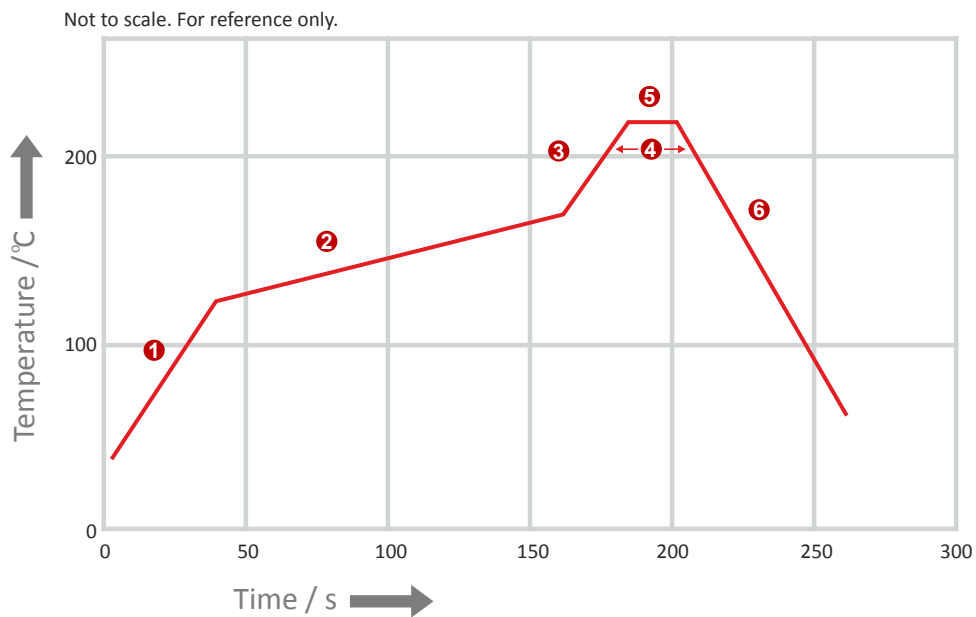


Tape and Reel Specifications

REFLOW TEMPERATURE PROFILE

Minimum Recommended Reflow Profile

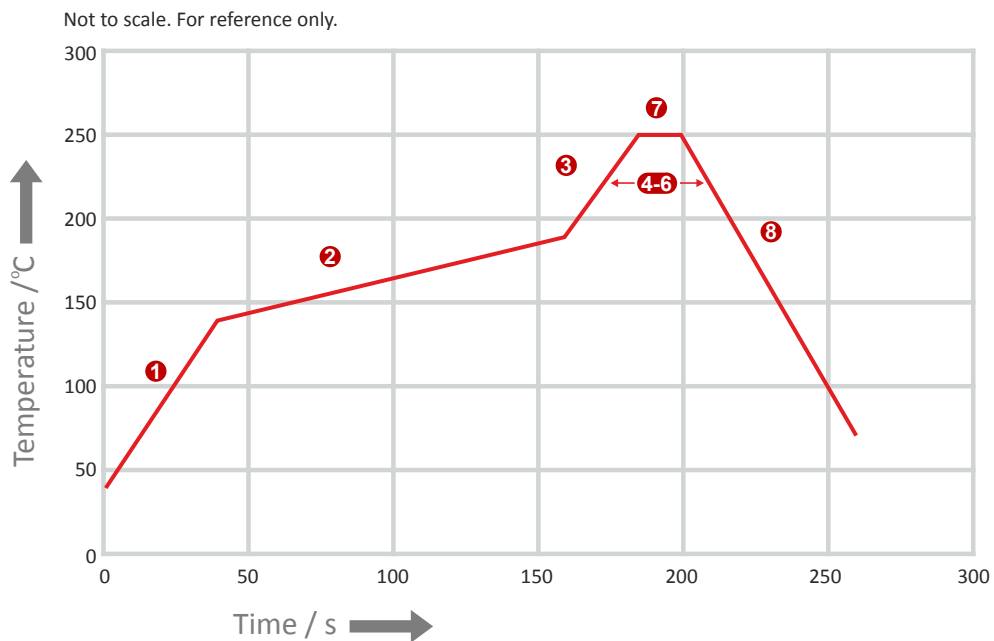
| | Method of heat transfer | Controlled hot air convection |
|---|--|-------------------------------|
| 1 | Average temperature gradient in preheating | 2.5 °C/s |
| 2 | Soak time | 2-3 minutes |
| 3 | Max temperature gradient in reflow | 3 °C/s |
| 4 | Time above 217 °C | Max 30 sec |
| 5 | Peak temperature in reflow | 230 °C for 10 seconds |
| 6 | Temperature gradient in cooling | Max -5 °C/s |



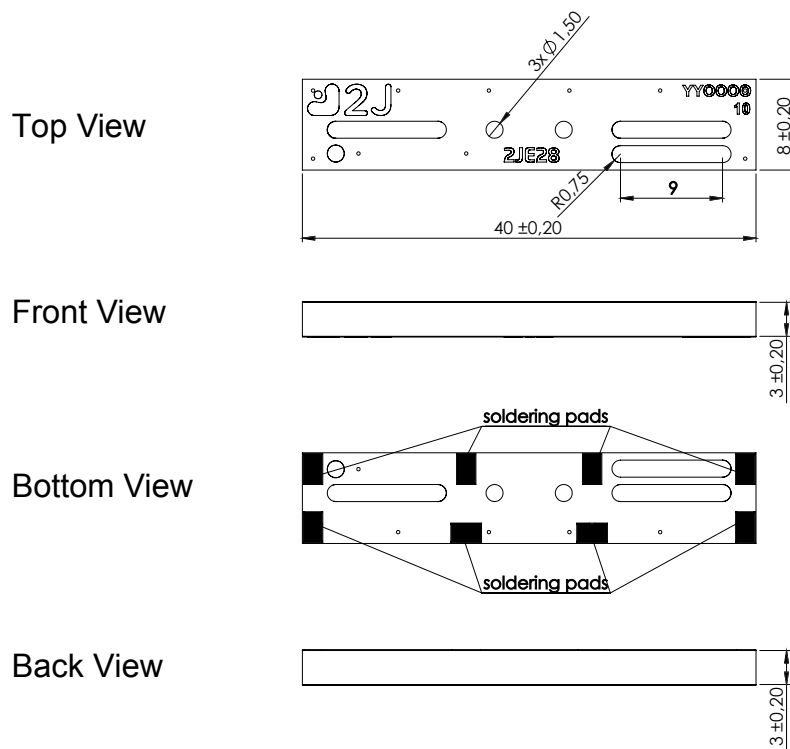
REFLOW TEMPERATURE PROFILE

Maximum Recommended Reflow Profile

| | Method of heat transfer | Controlled hot air convection |
|---|--|-------------------------------|
| 1 | Average temperature gradient in preheating | 2.5 °C/s |
| 2 | Soak time | 2-3 minutes |
| 3 | Max temperature gradient in reflow | 3 °C/s |
| 4 | Time above 217 °C | Max 60 sec |
| 5 | Time above 230 °C | Max 50 sec |
| 6 | Time above 250 °C | Max 10 sec |
| 7 | Peak temperature in reflow | 260 °C for 5 seconds |
| 8 | Temperature gradient in cooling | Max -5 °C/s |

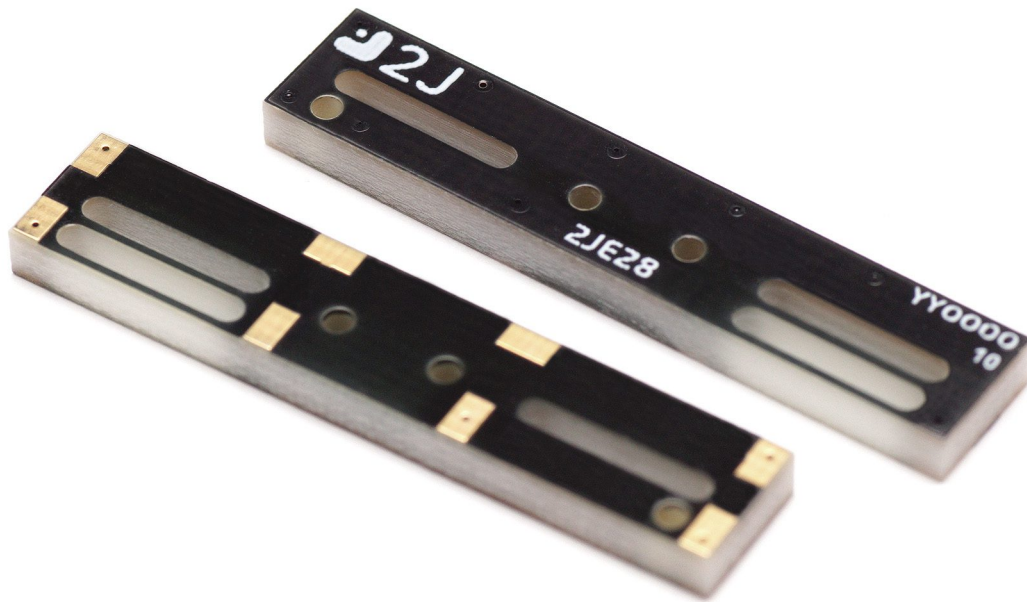


9. Antenna drawings



Dimensions for fiberglass antenna $40 \times 8 \times 3$ mm $\pm 0,2$ mm

10. Antenna Images



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