

2JE38

CELLULAR / LTE Surface Mount

Key Features

CELLULAR / LTE

- 698-960 MHz
 - 1710-2170 MHz
 - 2500-2700 MHz
- Surface Mount
High Performance
Fiberglass Material
Ground Plane Dependent
Dimensions 40 × 7 × 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)	~-9.0	~-15.2	~-15.7
VSWR	~2.4:1	~1.5:1	~1.5:1
Efficiency (%)	~54.4	~66.9	~65.5
Peak Gain (dBi)	~1.4	~4.0	~3.9
Average Gain (dB)	~-2.6	~-1.7	~-1.5
Impedance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		

Antenna Measurement Conditions:

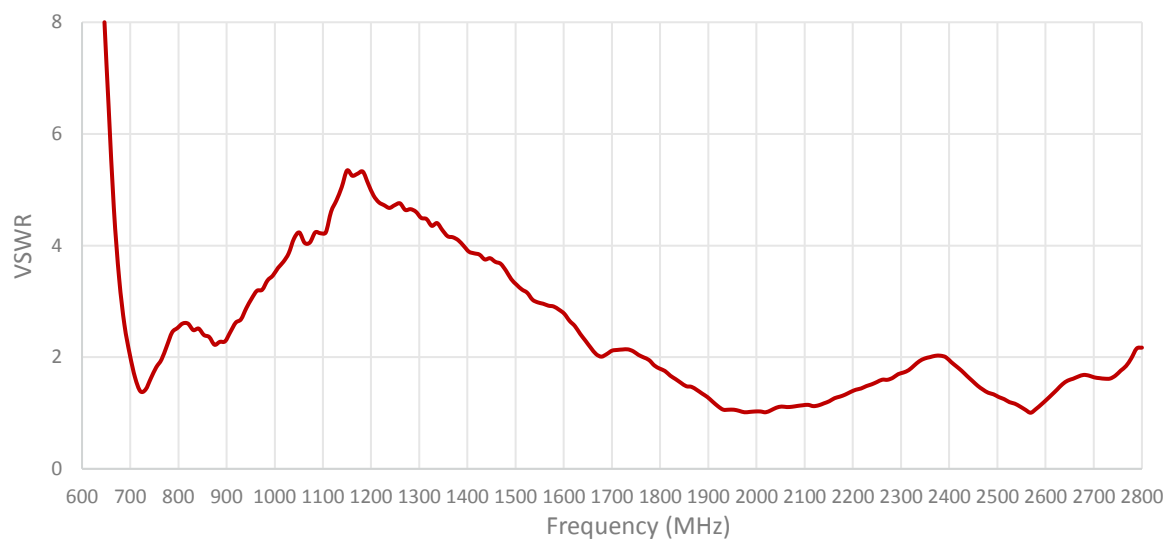
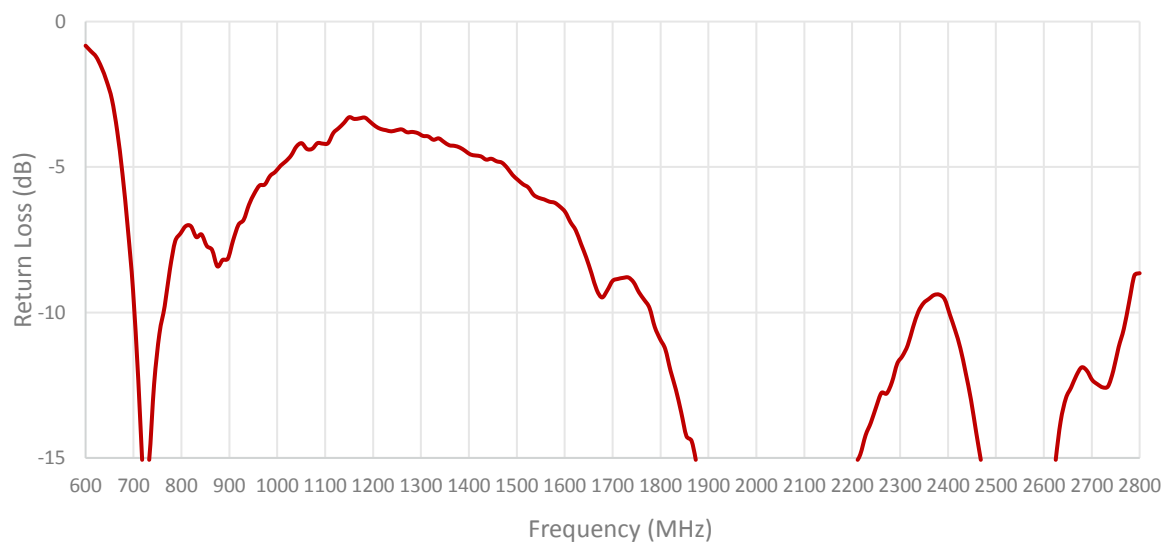
Mounted on ground plane of 120 x 40 mm

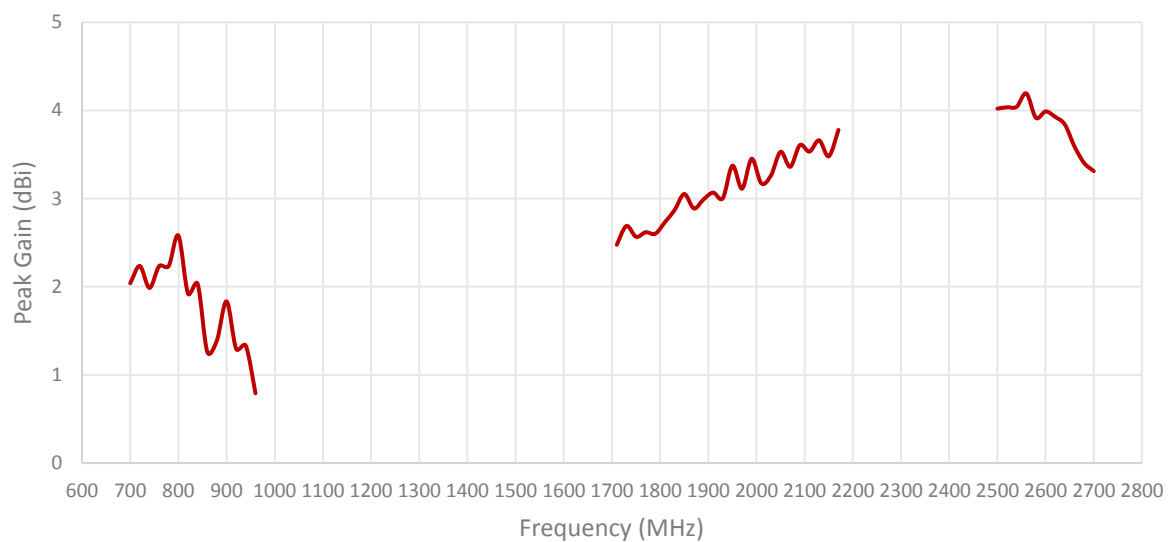
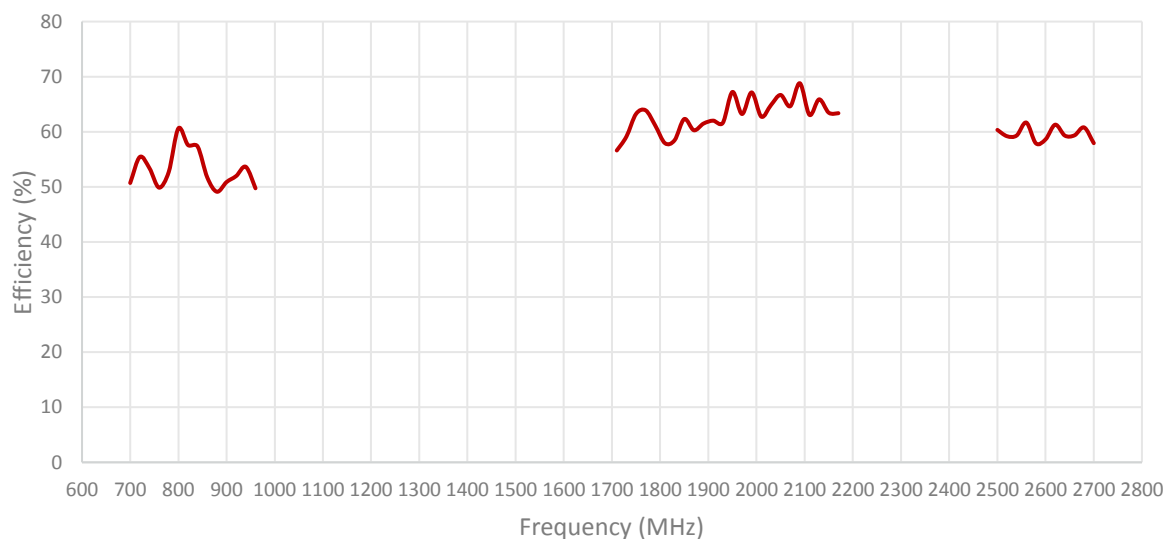
Measured in Certified CTIA 3D Anechoic Chamber

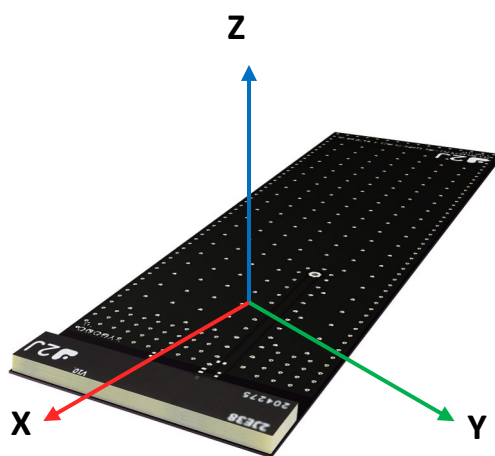
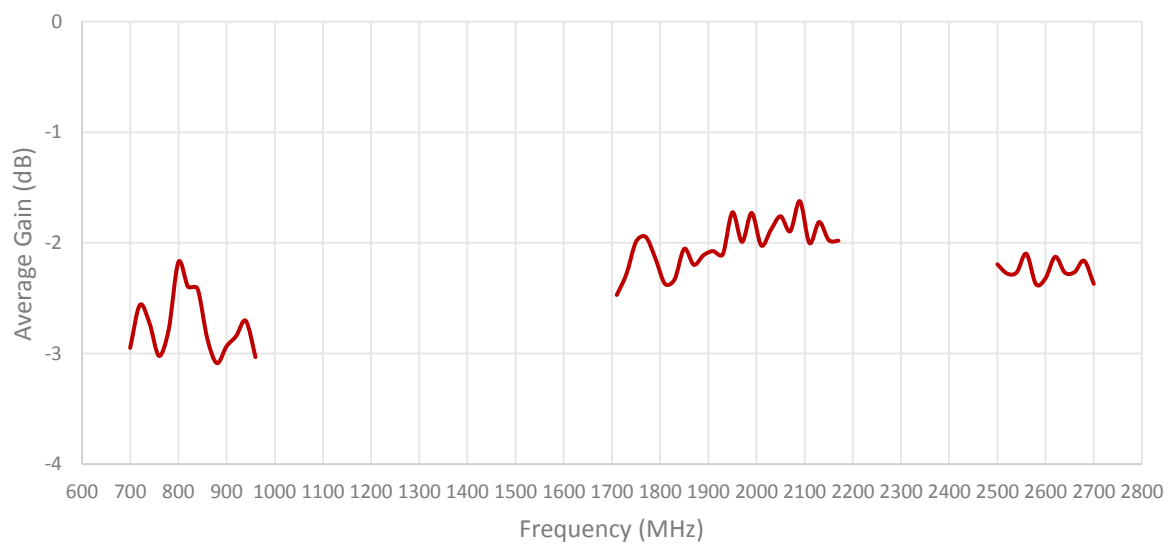
2. Mechanical and environmental specifications

Specifications	2JE38
Mounting Type	Surface Mount
Dimensions (mm)	40 × 7 × 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
Shear Force Test	Typical 25 kgf according to IEC62137-1-2 (2007)

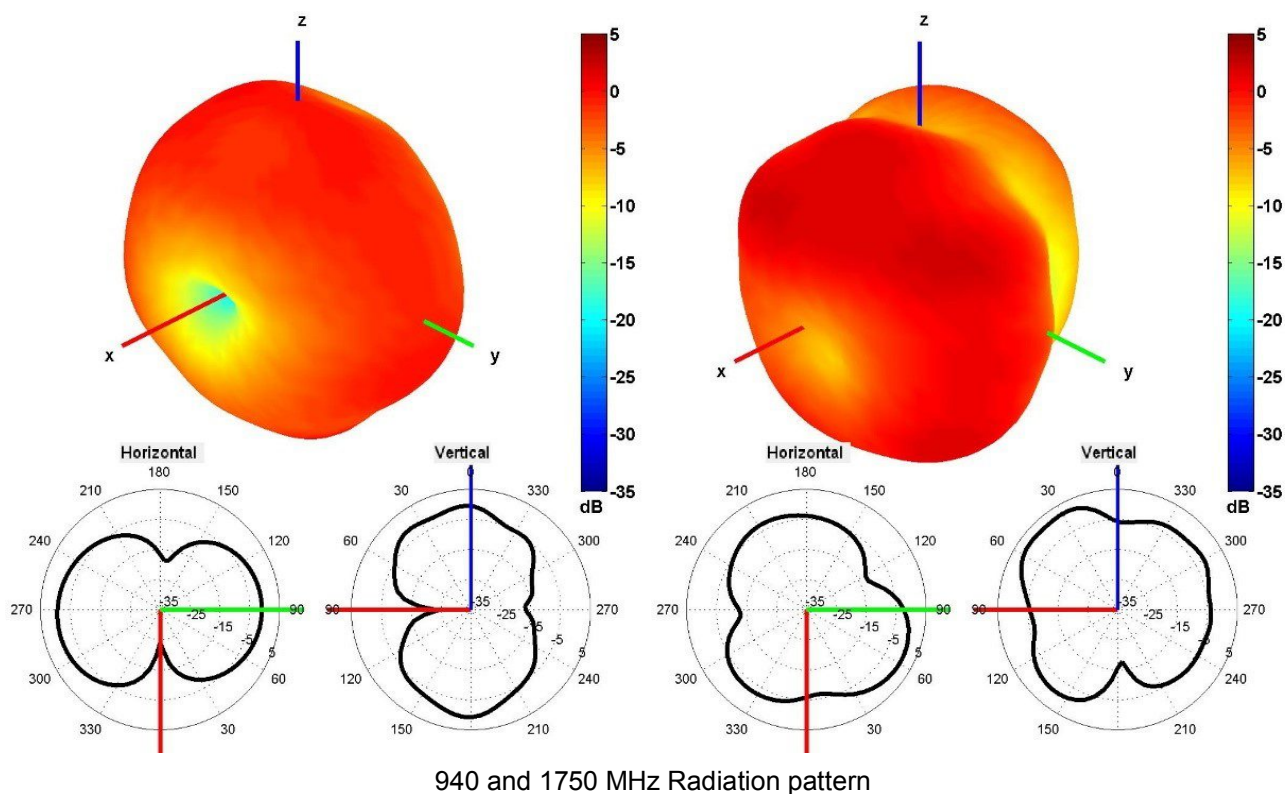
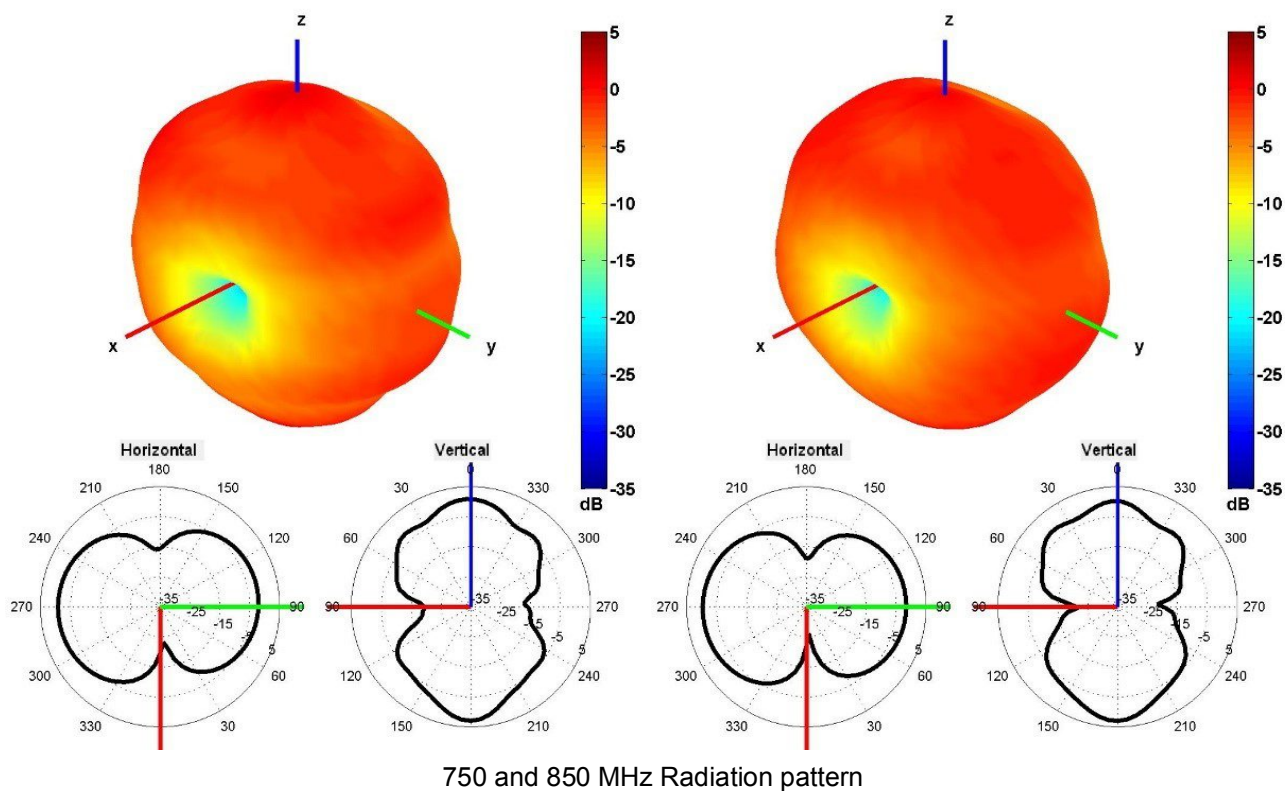
3. Antenna parameters

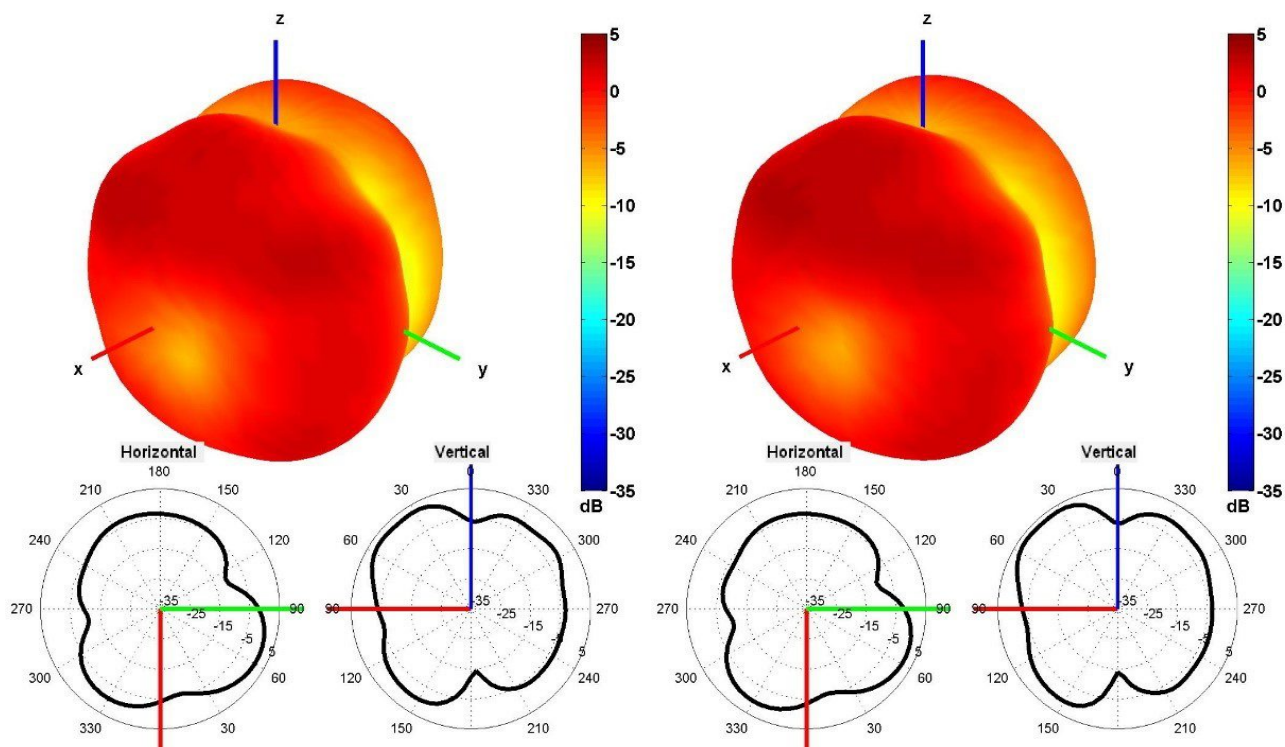




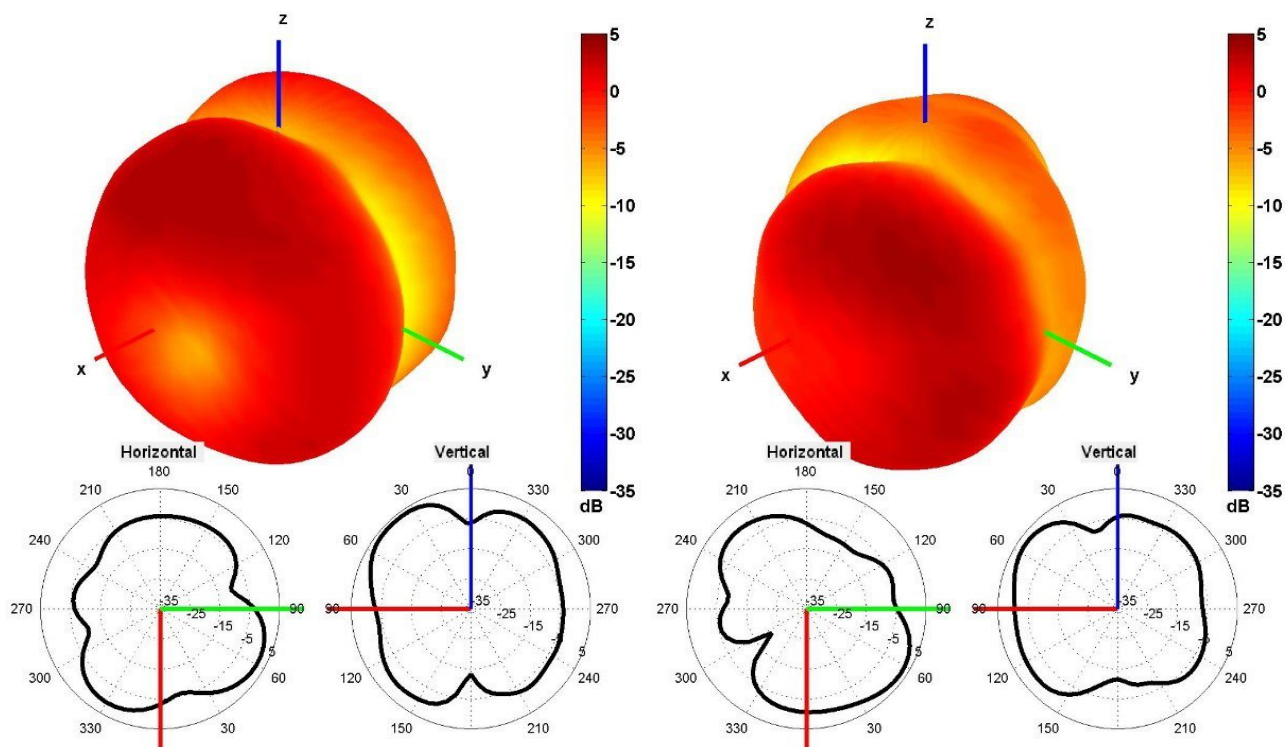


Radiation pattern reference



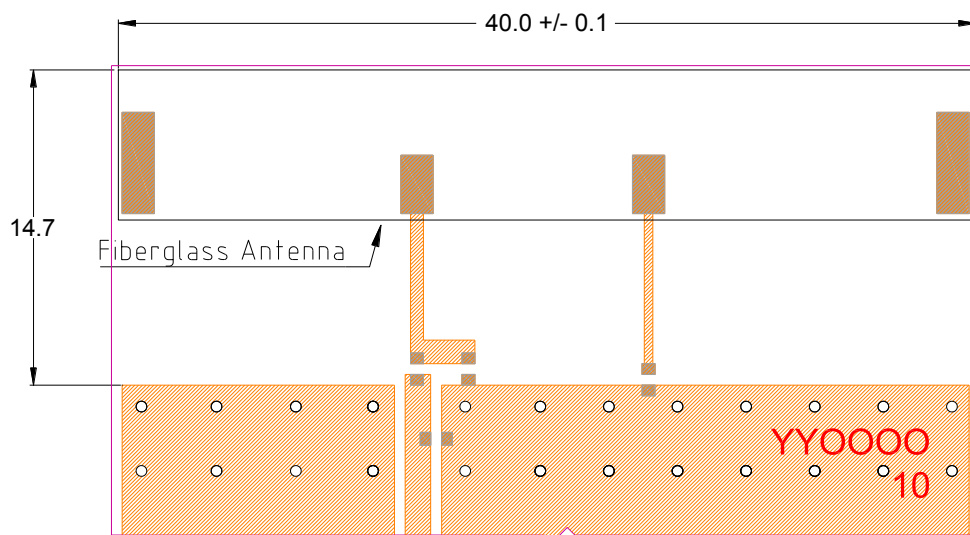


1850 and 1950 MHz Radiation pattern



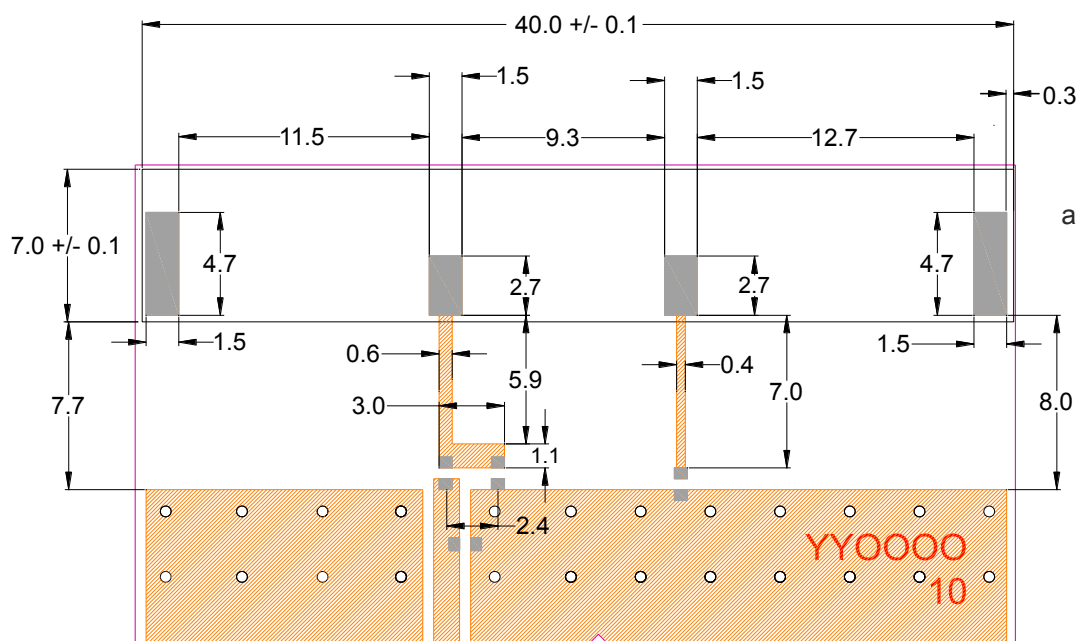
2100 and 2600 MHz Radiation pattern

4. PCB Layout



Minimum area required for antenna integration (40mm x 14.7mm)

- Solder Region
- Copper Region
- Copper-Free Region



Layout dimensions for antenna integration (mm)

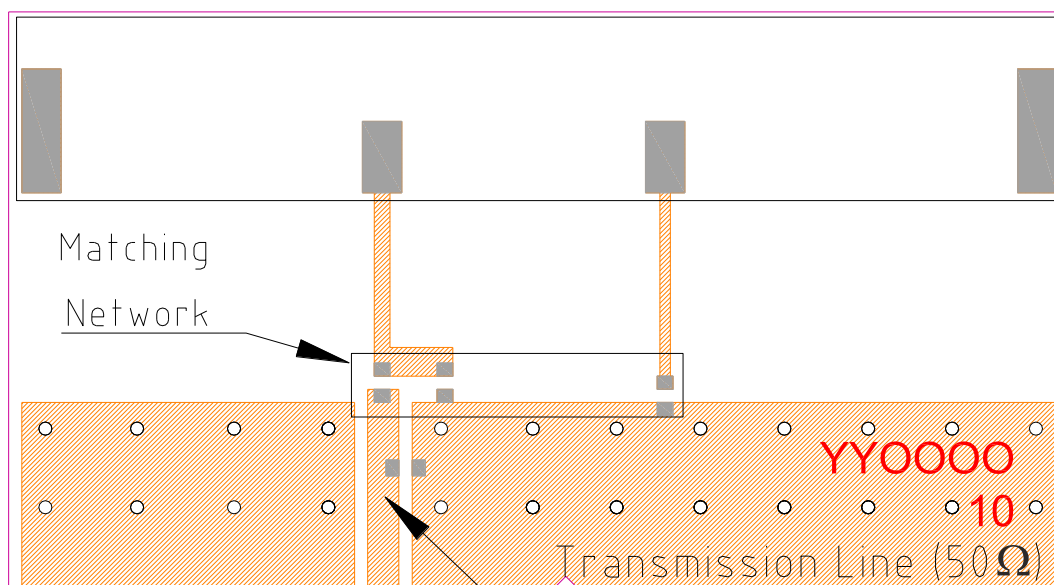
Tolerance of Linear Dimensions (unless otherwise indicated):

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

Layout dimensions for antenna integration (mm)

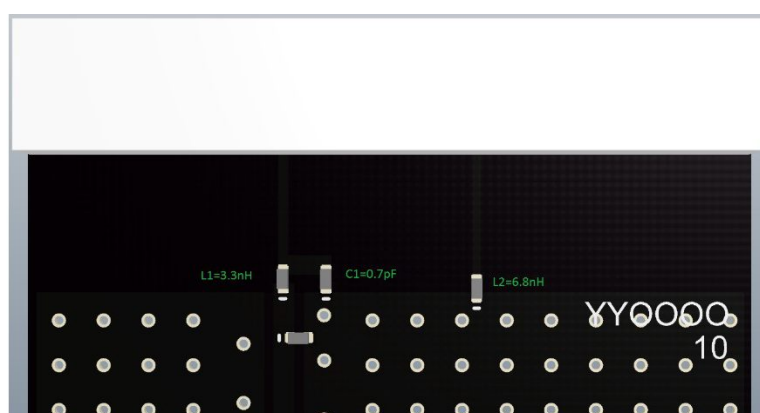
- Solder Region
- Copper Region
- Copper-Free Region

5. Matching Network

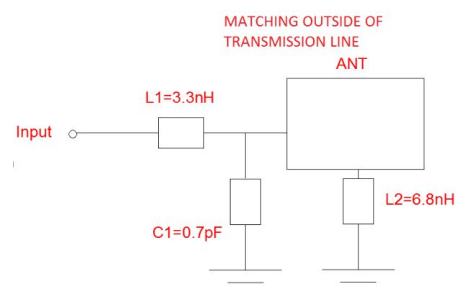


- Solder Region
- Copper Region
- Copper-Free Region

Matching network drawing

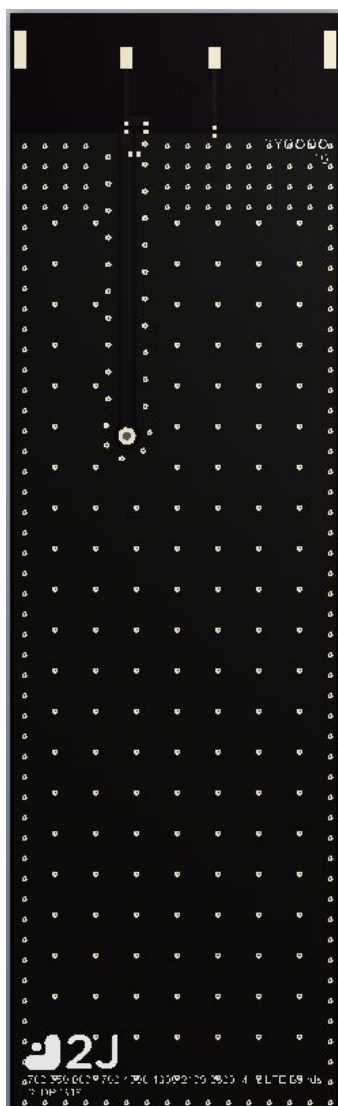


3D View of matching components and recommended values



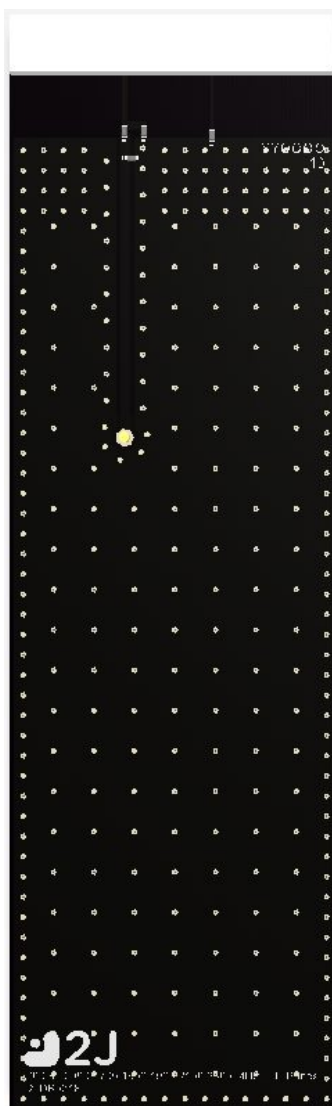
6. Evaluation Board

125mm x 40.4mm



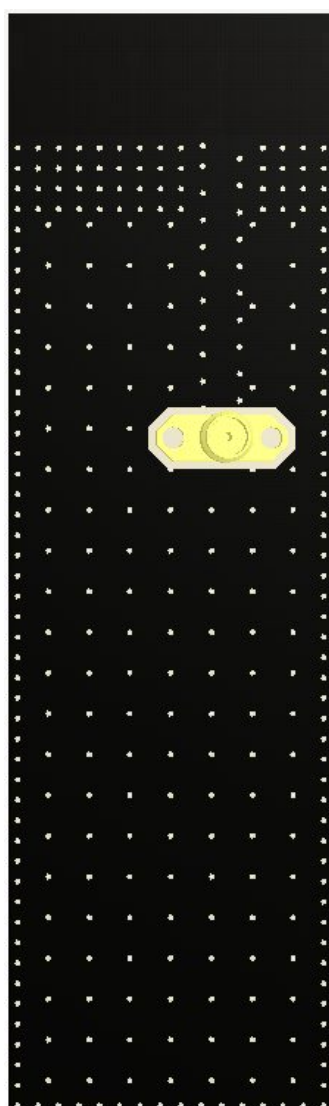
Front View without Antenna

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)



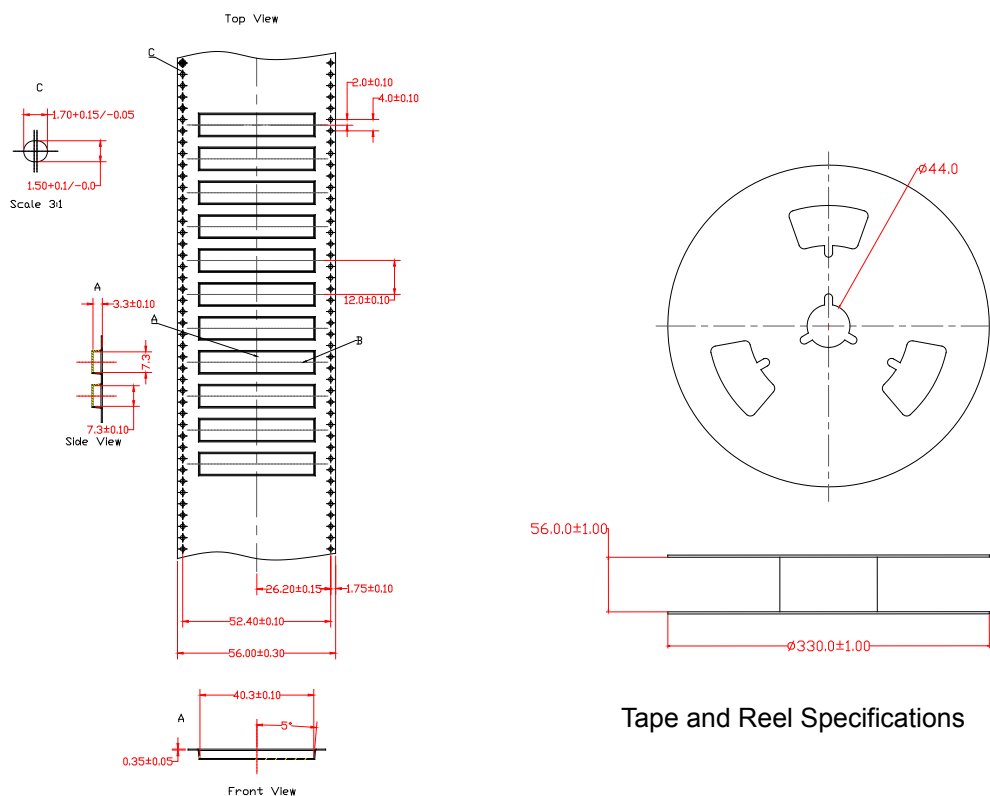
Side View

7. Packaging

PACKAGING SPECIFICATION

Antenna	2JE38
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

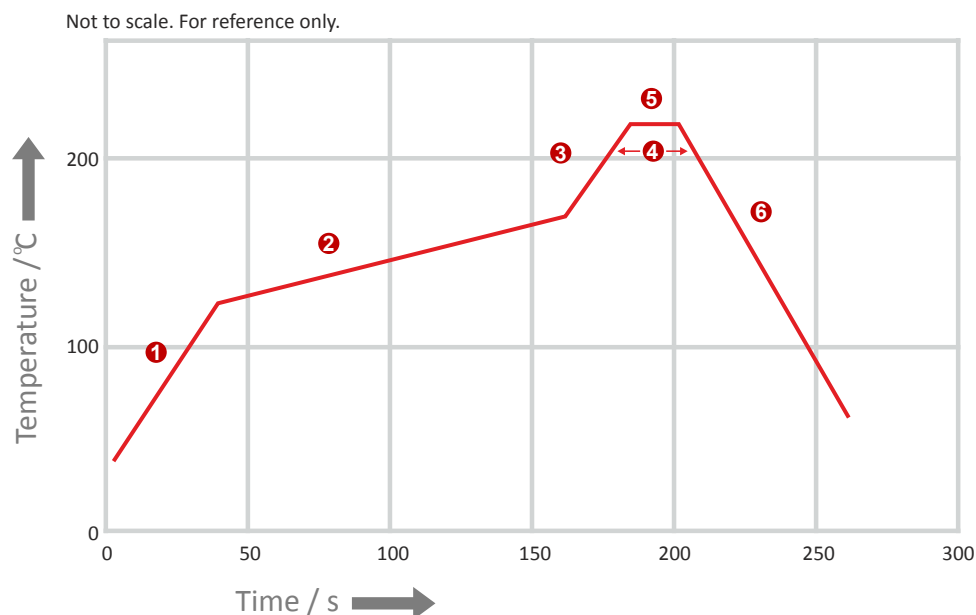


Tape and Reel Specifications

REFLOW TEMPERATURE PROFILE

Minimum Recommended Reflow Profile

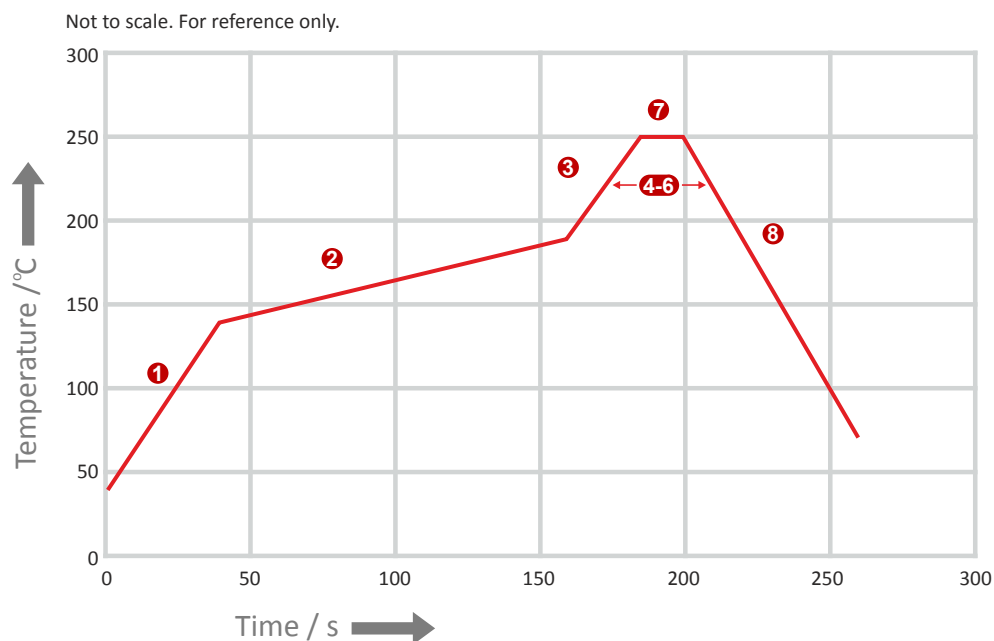
	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 30 sec
5	Peak temperature in reflow	230 °C for 10 seconds
6	Temperature gradient in cooling	Max -5 °C/s



REFLOW TEMPERATURE PROFILE

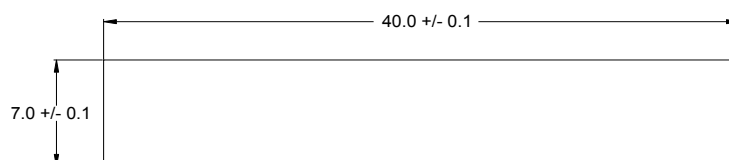
Maximum Recommended Reflow Profile

	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

Top View



Front View



Bottom View



Back View



Dimensions for fiberglass antenna 40 x 7 x 3 mm ± 0.2 mm

10. Antenna Images

