antenna conceptor

Product Datasheet

2JE17

CELLULAR Surface Mount

Key Features

CELLULAR
- 824-960 MHz
- 1710-2170 MHz

Surface Mount
High Performance
Fiberglass Material
Ground Plane Dependent
Dimensions 26 x 7.6 x 3 mm

1. Antenna and electrical specifications

Parameters	CELLULAR Antenna	
Standards	2G and 3G	
Band (MHz)	850/900	1700/1800/1900/2100
Frequency (MHz)	824-960	1710-2170
Return Loss (dB)	~-11.65	~-13.3
VSWR	~2.0:1	~1.8:1
Efficiency (%)	~67.5	~70.8
Peak Gain (dBi)	~2.2	~2.2
Average Gain (dB)	~-1.7	~-1.6
Impendance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	25	

Antenna Measurement Conditions:

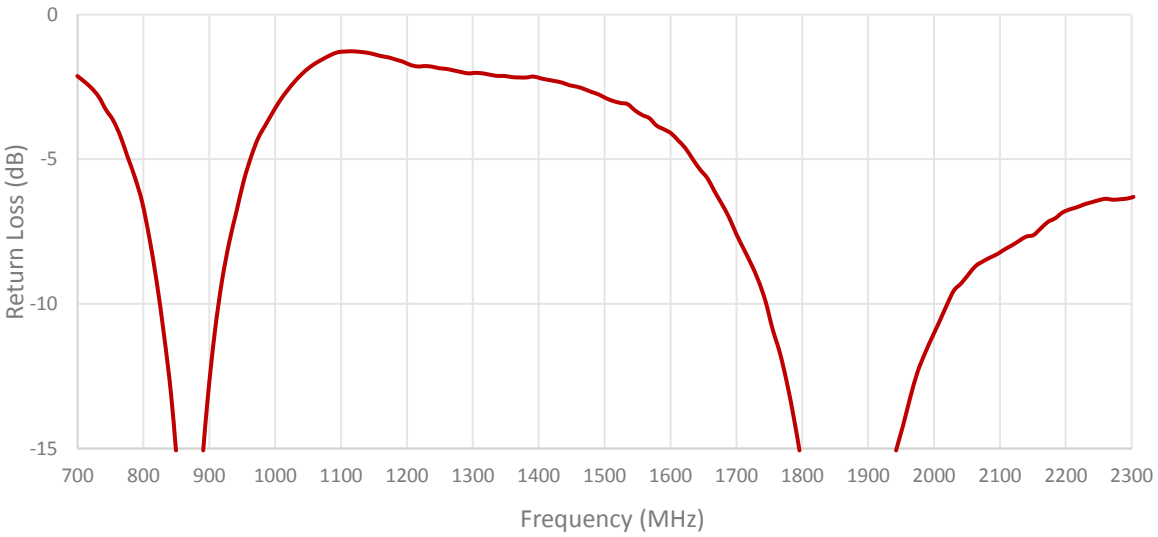
Mounted on ground plane of 113 x 40.5 mm

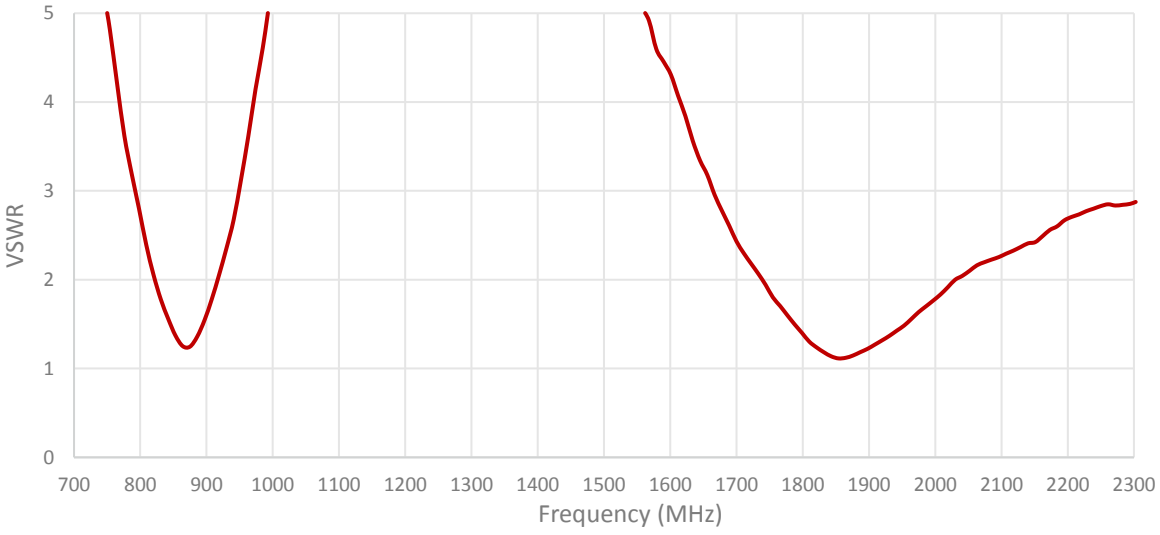
Measured in Certified CTIA 3D Anechoic Chamber

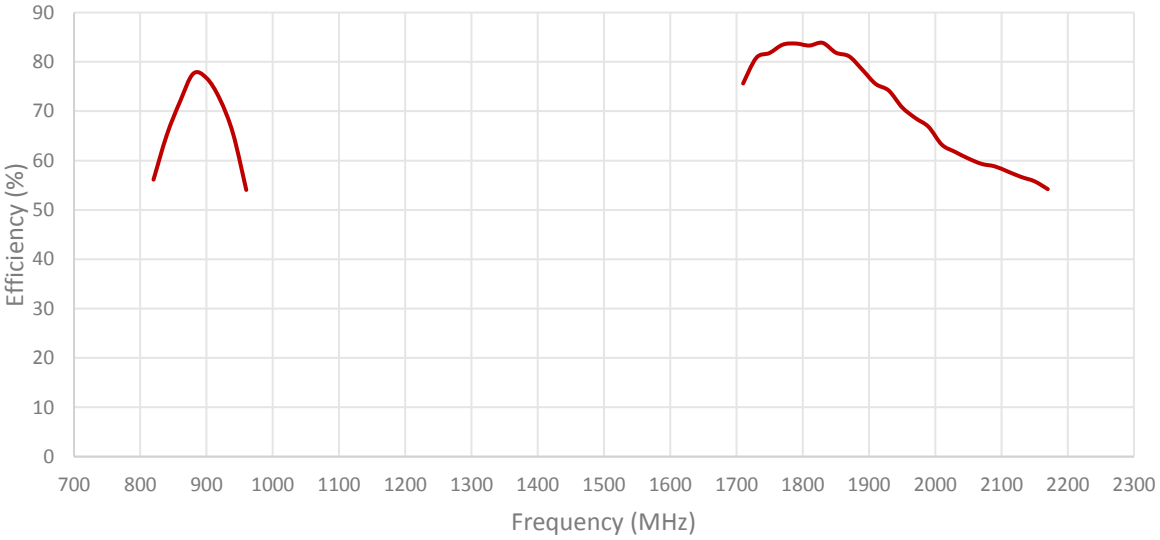
2. Mechanical and environmental specifications

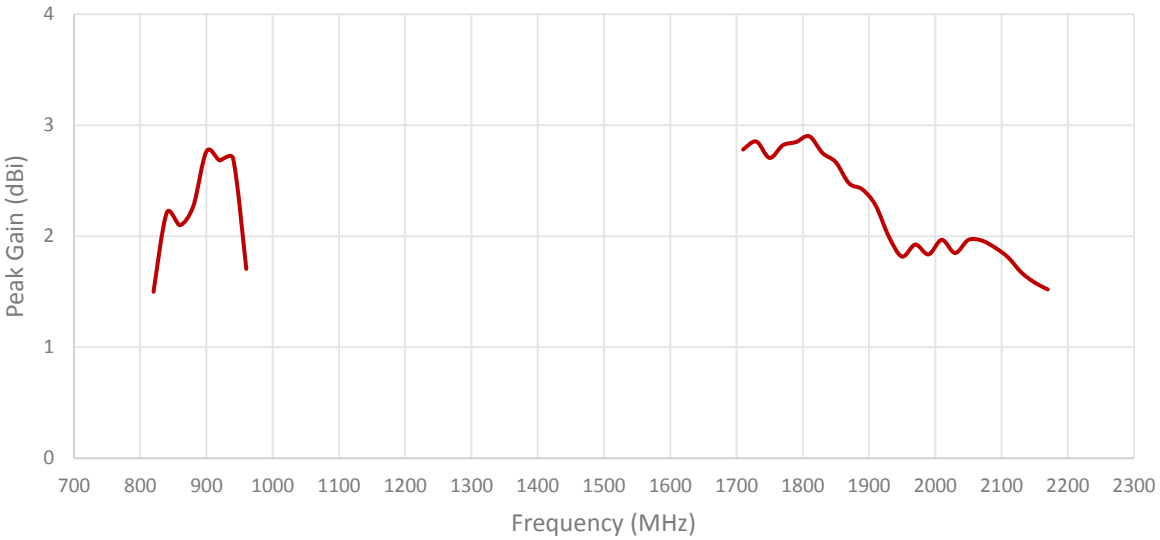
Specifications	2JE17
Mounting Type	Surface Mount
Dimensions (mm)	26 x 7.6 x 3
Material	Fiberglass
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Storage Relative Humidity (%)	Up to 93 at 30 C
Substance Compliance	RoHS
Shear Force Test	Minimum specified shear force: 50 kgf according to Relevant Standards for Tests: IEC62137-1-2 (2007) Test Report No.: TRSF-2J36058-01

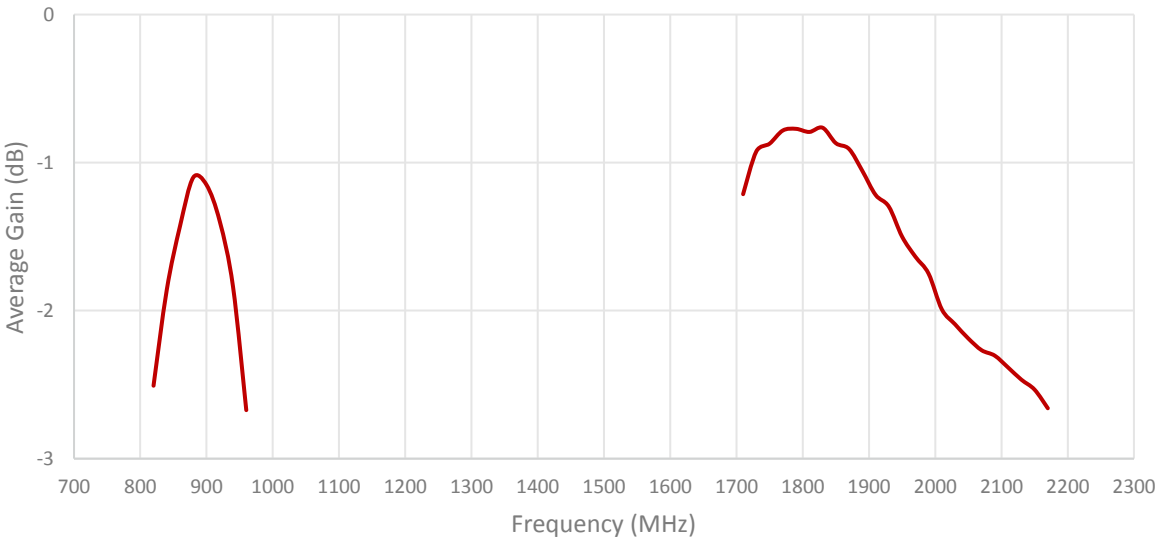
3. Antenna parameters

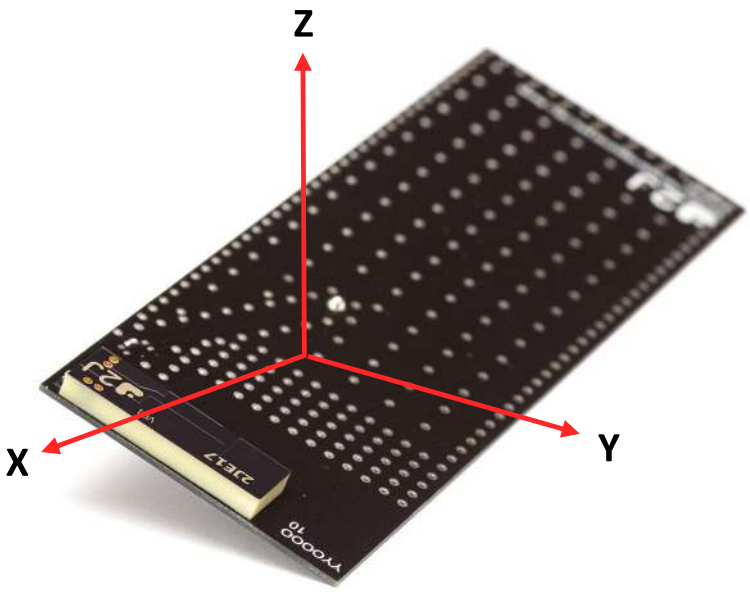




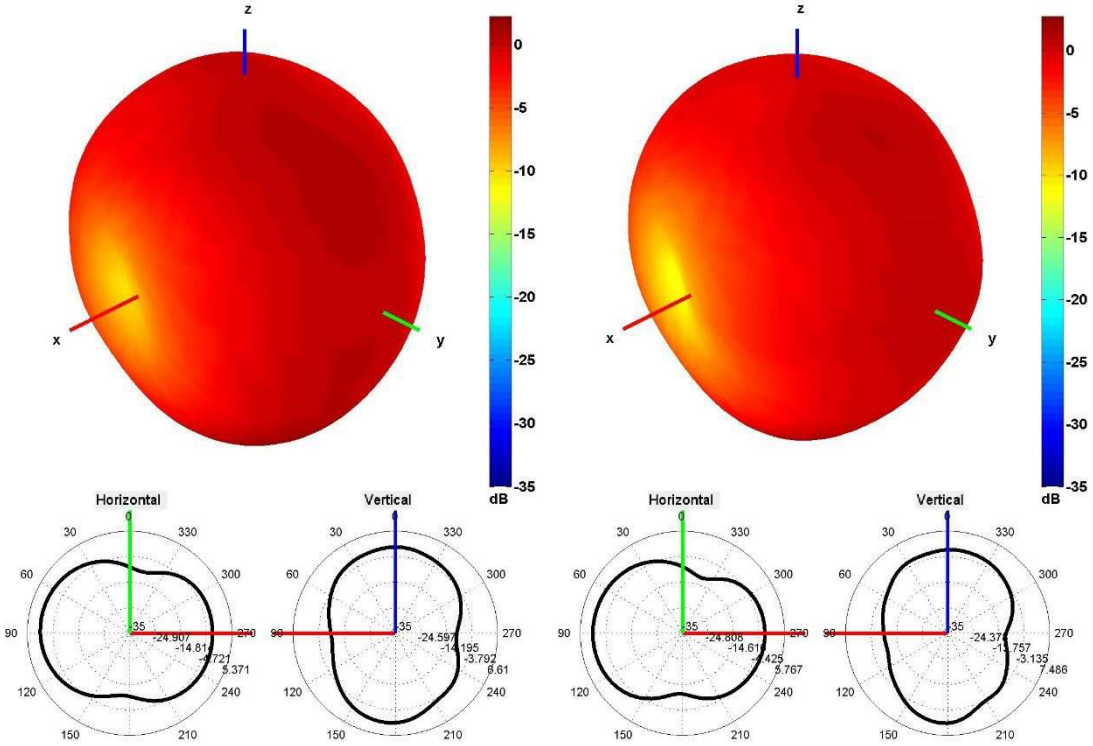

Efficiency (%)
90
80
70
60
50
40
30
20
10
0
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
Frequency (MHz)


Peak Gain (dBi)
4
3
2
1
0
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
Frequency (MHz)

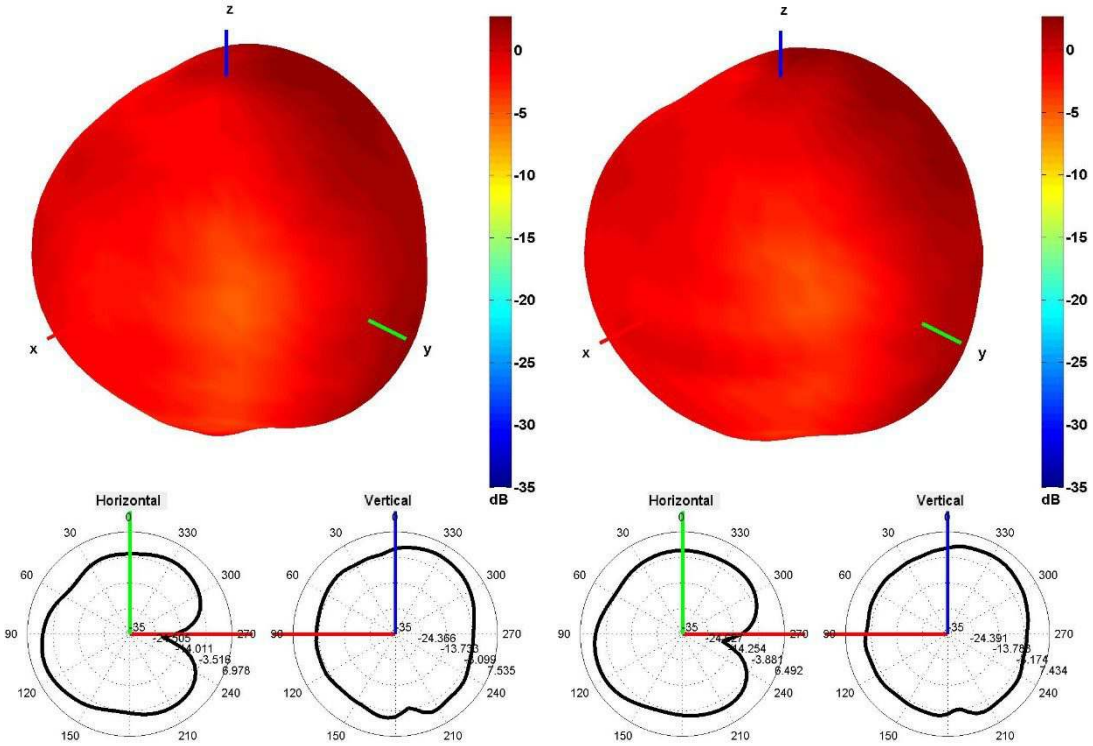




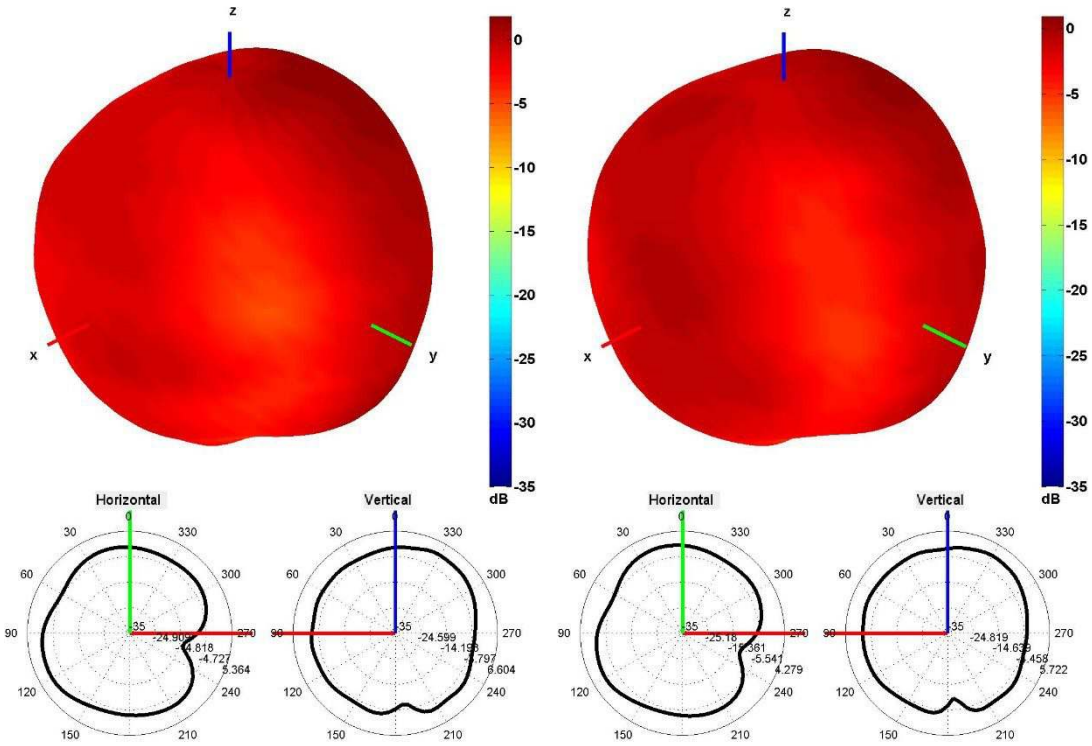
Radiation pattern reference



850 and 940 MHz Radiation pattern

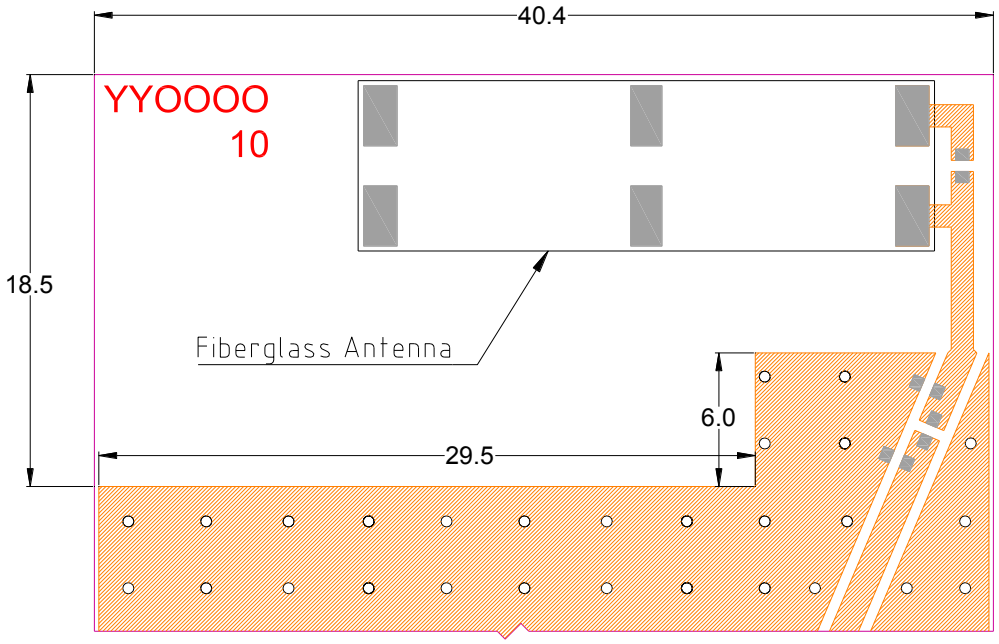


1750 and 1850 MHz Radiation pattern



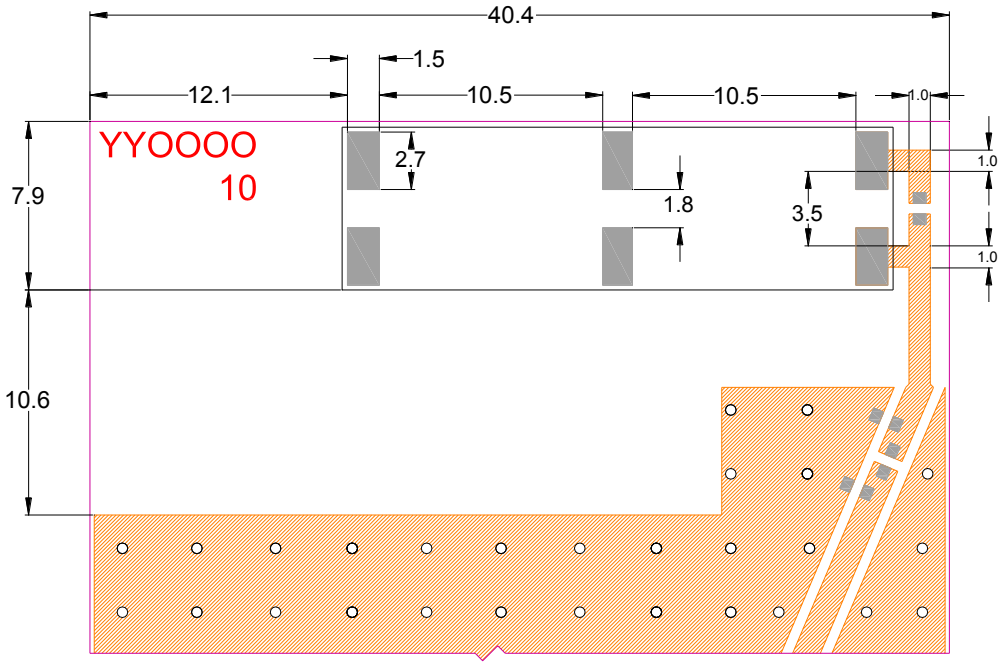
1950 and 2100 MHz Radiation pattern

4. PCB Layout



Minimum area required for antenna integration (40.4mm × 18.5mm)

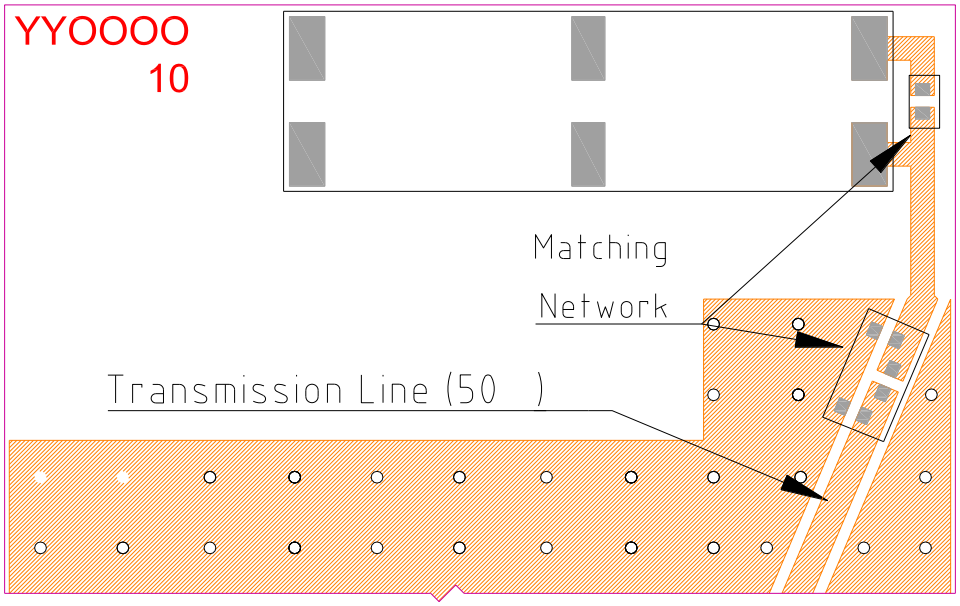
Solder Region
Copper Region
Copper-Free Region



Layout dimensions for antenna integration (mm)

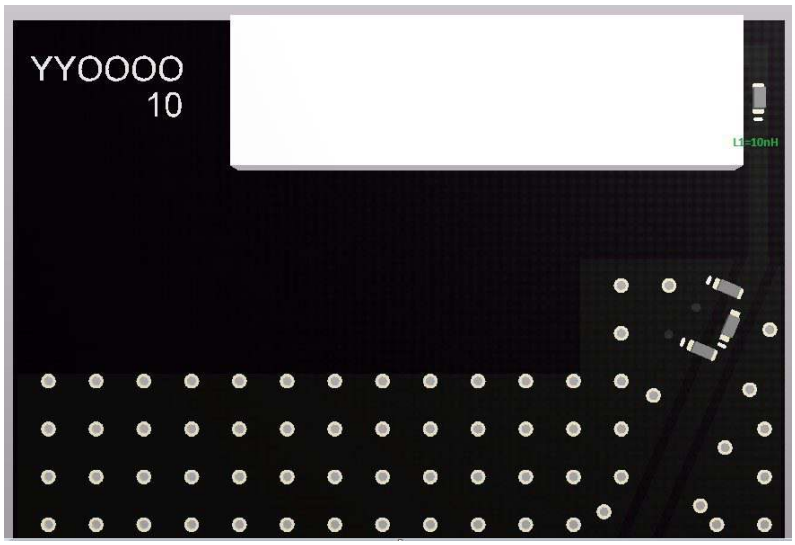
Solder Region
Copper Region
Copper-Free Region

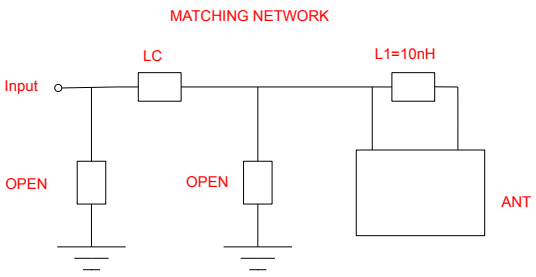
5. Matching Network



Solder Region
Copper Region
Copper-Free Region

Matching network drawing

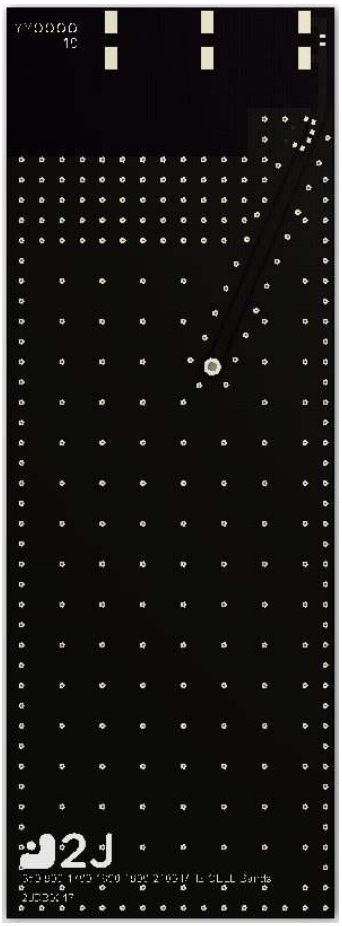




3D View of matching components and recommended values (LC = 0Ohm resistor)

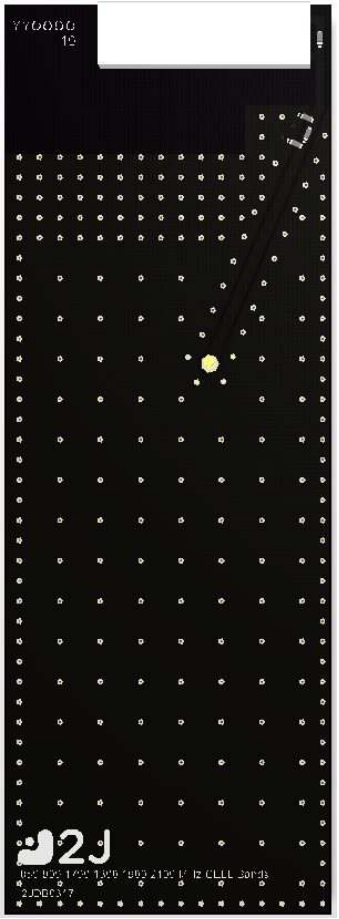
6. Evaluation Board

112.7mm x 40.4mm



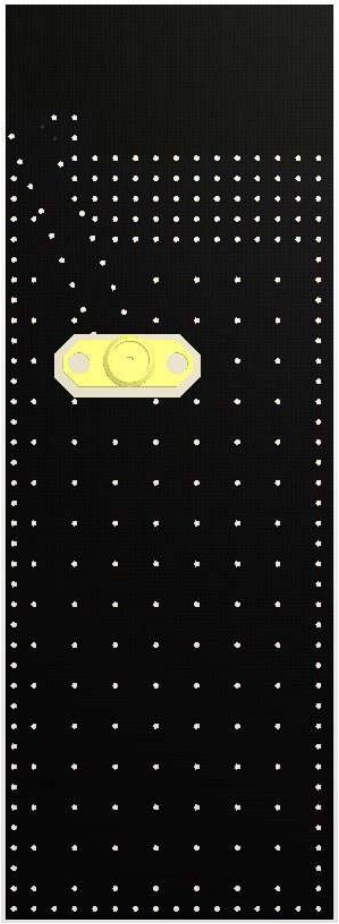
Front View without Antenna

112.7mm x 40.4mm



Front View with Antenna

112.7mm x 40.4mm



Back View

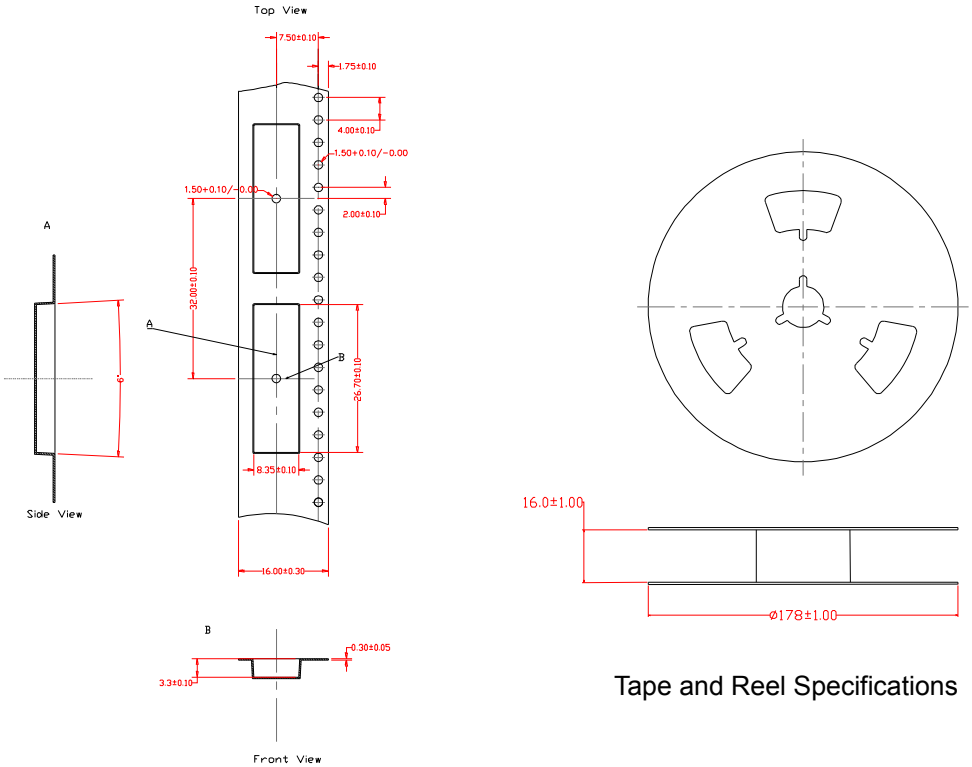
112.7mm x 40.4mm
(PCB: 0.8mm, Antenna: 3mm,
Connector: 9.5mm)

Side View

7. Packaging

PACKAGING SPECIFICATION	
Antenna	2JE17
REEL	
Max Quantity per Reel	140
REEL CARTON	
Reels per Carton	10
Max Quantity per Carton	1400
Reel Carton Dimensions (cm)	40.5 x 23 x 16.5
Reel Carton Weight (Kg)	3.3
PALLET	
Max Cartons per Pallet	70
Cartons per Layer	10
Number of Layers	7
Max Quantities per Pallet	98,000
Total Cartons Dimensions (cm)	115 x 81 x 115.5
Total Cartons Weight (Kg)	231
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



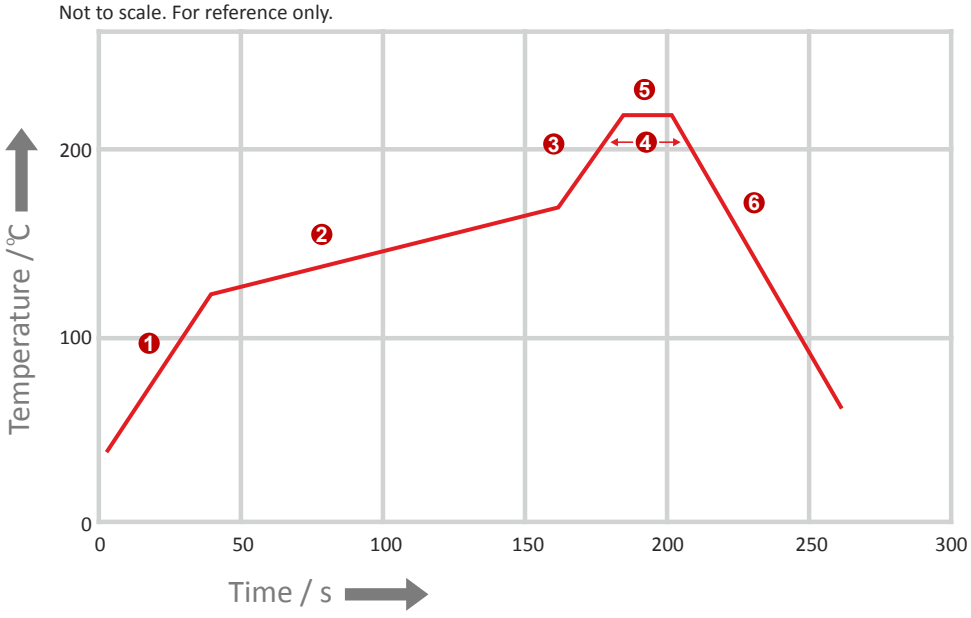
Tape and Reel Specifications

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

Not to scale. For reference only.

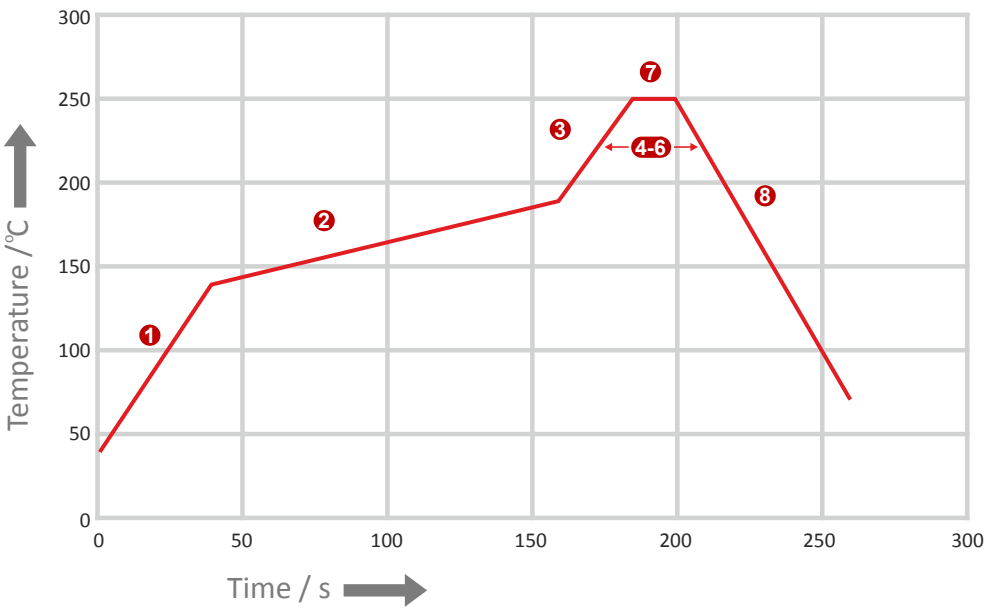


REFLOW TEMPERATURE PROFILE

Maximum Recommended Reflow Profile

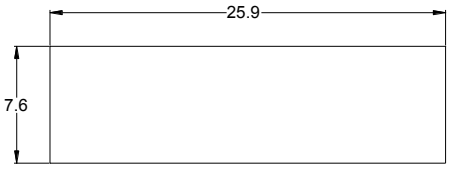
	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	260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

Not to scale. For reference only.

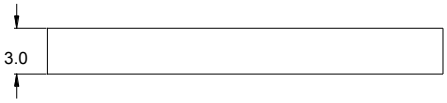


9. Antenna drawings

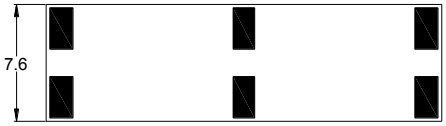
Top View



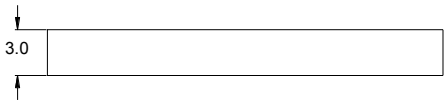
Front View



Bottom View



Back View



Dimensions for fiberglass antenna 25.9 x 7.6 x 3 mm +/-0.2mm

10. Antenna Images