

2JE05e

915 MHz ISM Surface Mount

Key Features

915 MHz ISM

- 902-928 MHz

Surface Mount

Easy to Integrate

Compact Size

Ceramic Material

Ground Plane Dependent

Dimensions 12 x 4 x 1.6 mm



1. Antenna and electrical specifications

Parameters	915 MHz ISM Antenna
Standards	ZigBee, ISM, SigFox, LoRa
Band (MHz)	915
Frequency (MHz)	902-928
Return Loss (dB)	~-9.7
VSWR	~2.0:1
Efficiency (%)	~40.5
Peak Gain (dBi)	~1.0
Average Gain (dB)	~-3.9
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	10

Antenna Measurement Conditions:

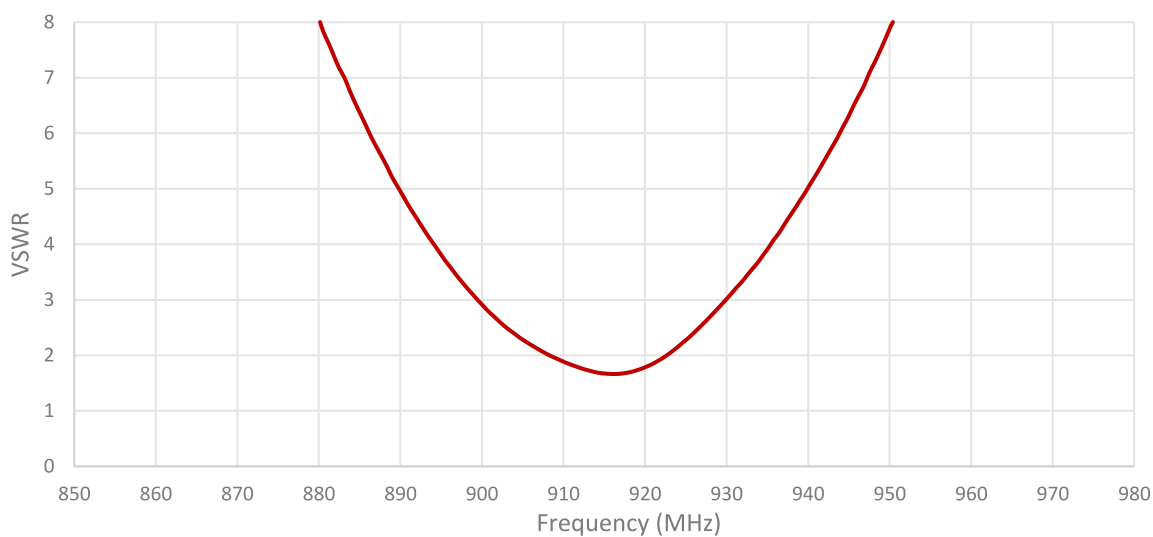
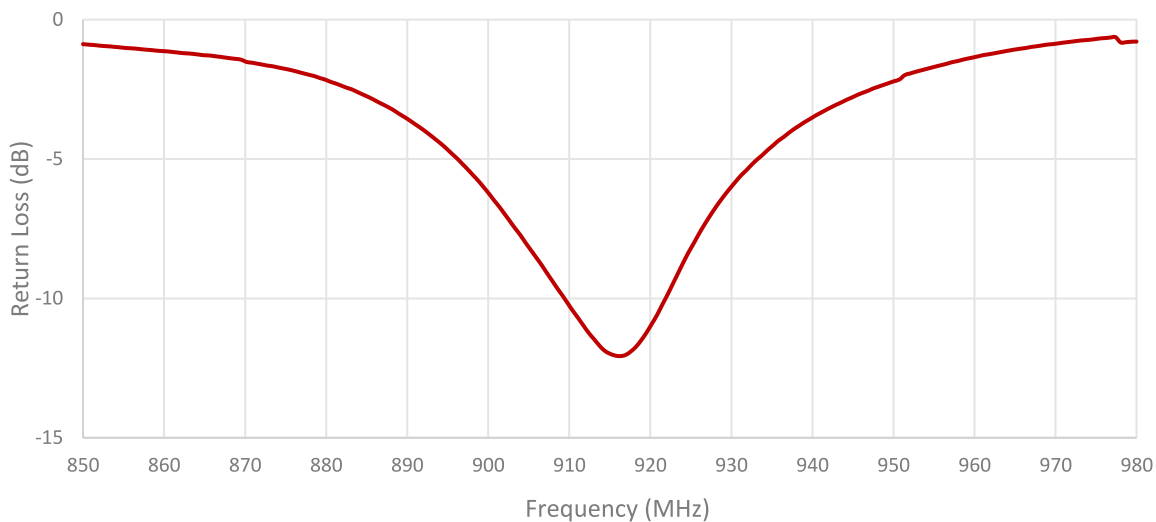
Mounted on ground plane of 50 x 90 mm

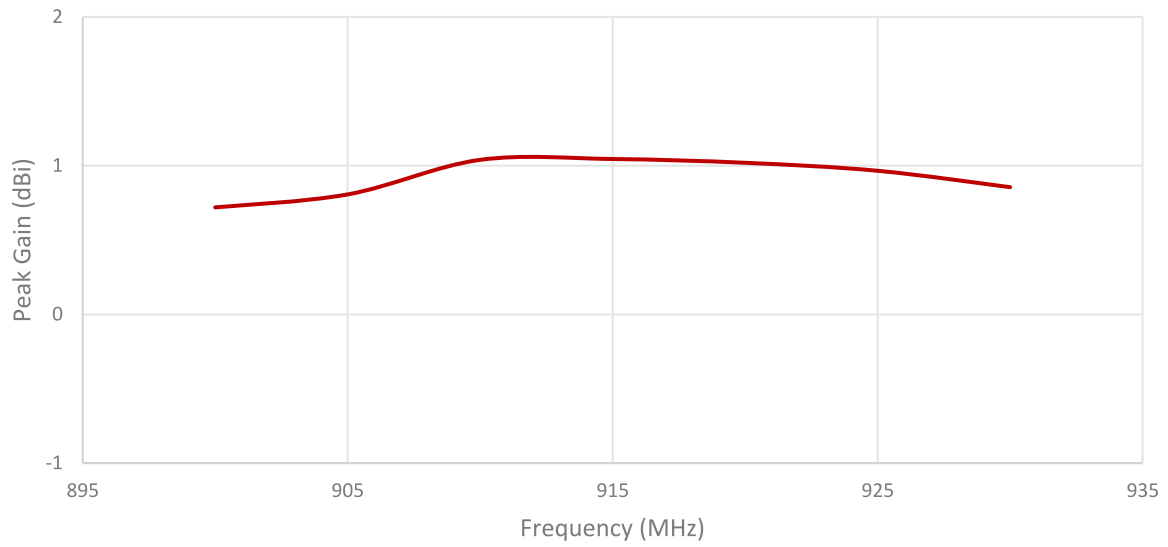
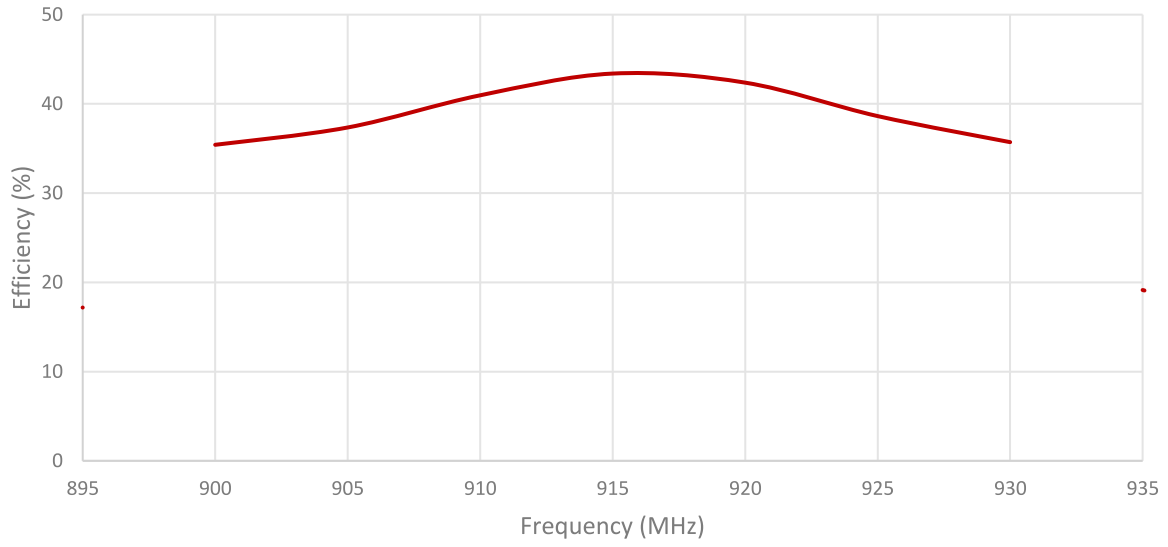
Measured in Certified CTIA 3D Anechoic Chamber

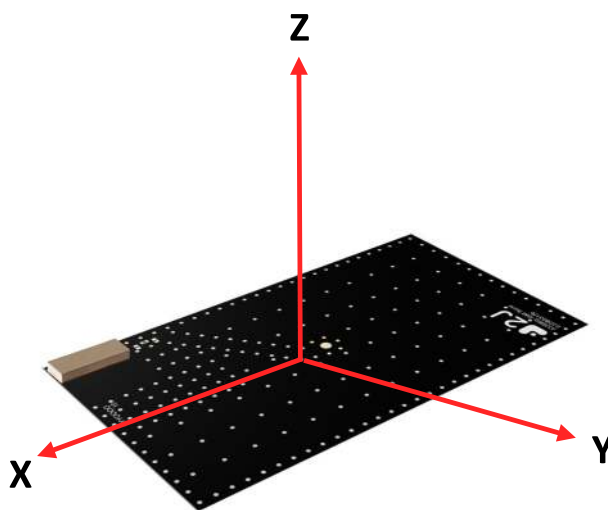
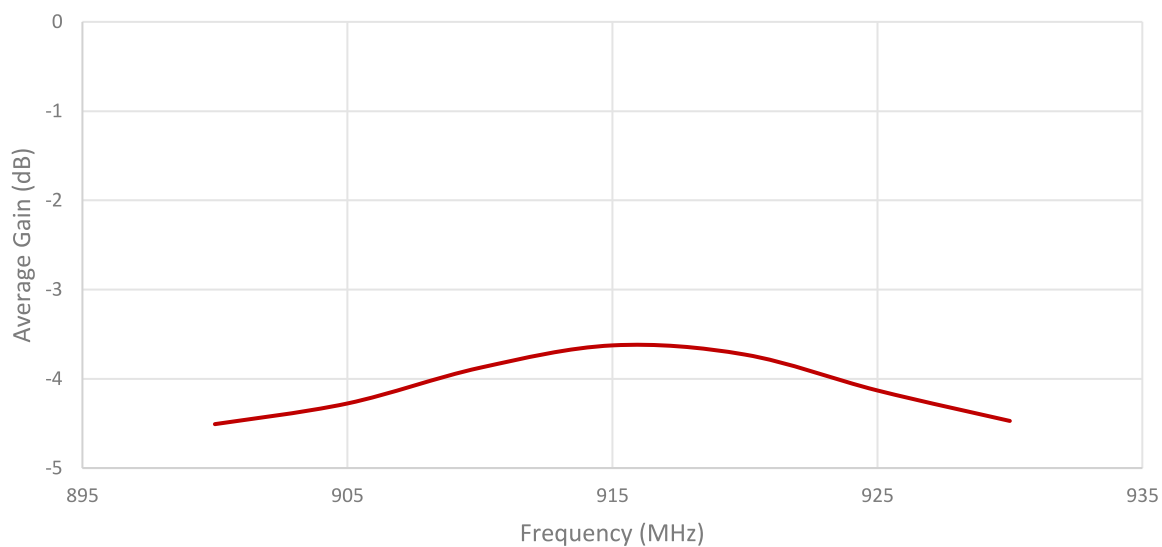
2. Mechanical and environmental specifications

Specifications	2JE05e
Mounting Type	Surface Mount
Dimensions (mm)	12 x 4 x 1.6
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Typical Shear Force Test	20Kgf according to IEC62137-1-2:2007

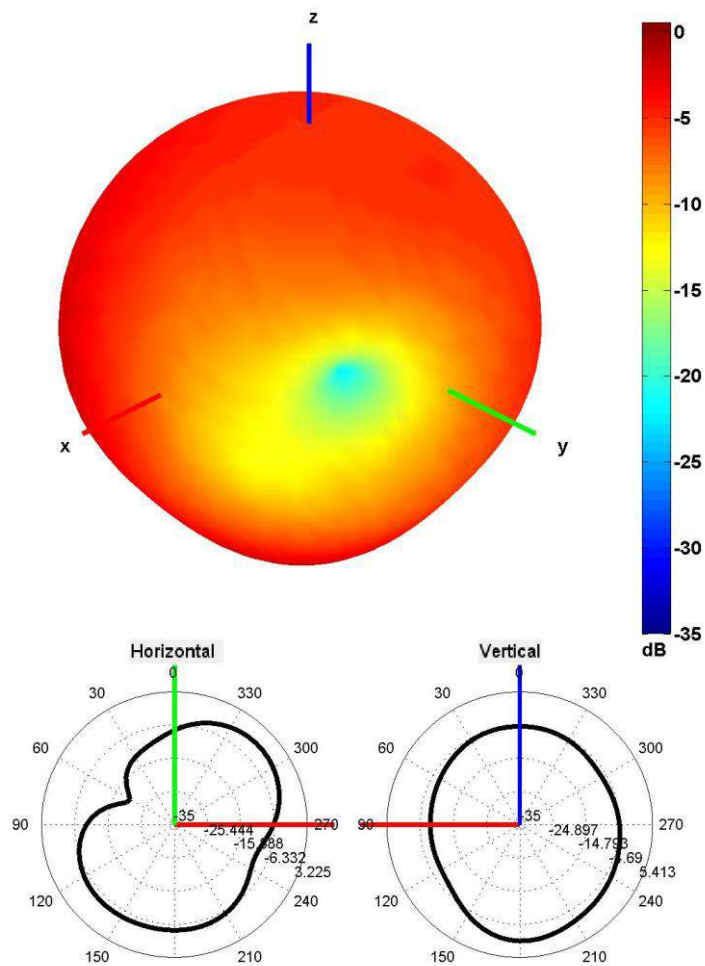
3. Antenna parameters





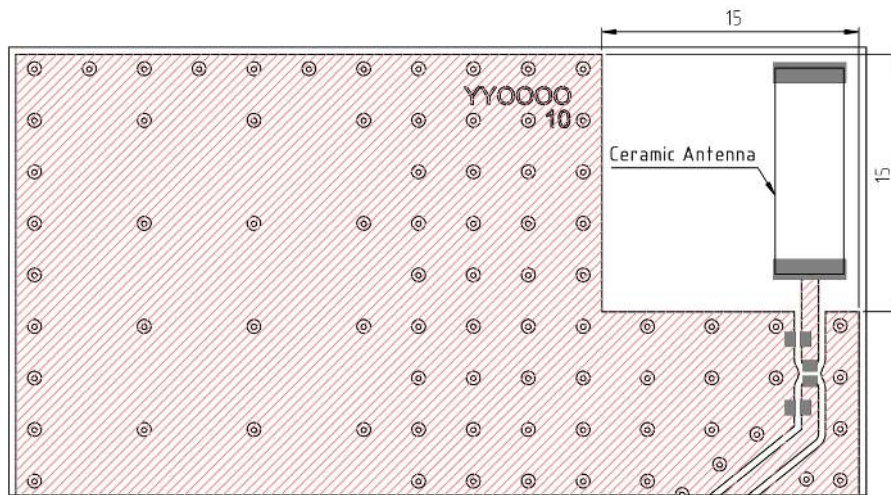


Radiation pattern reference



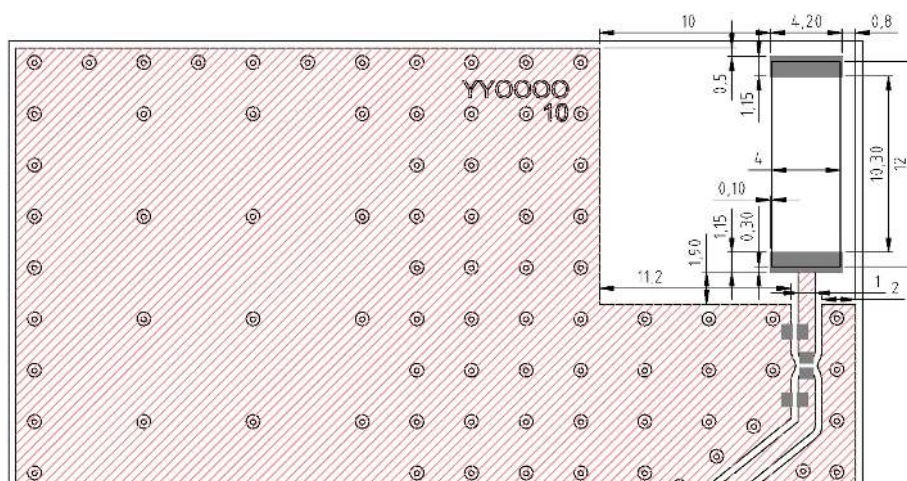
915 MHz Radiation pattern

4. PCB Layout



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

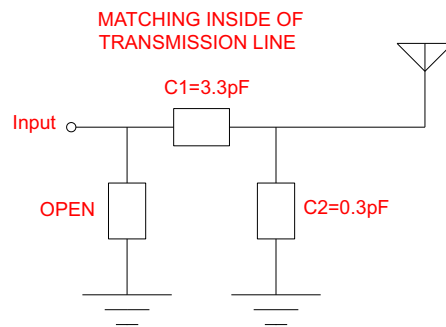
- Solder Region
- Copper Region
- Copper-Free Region



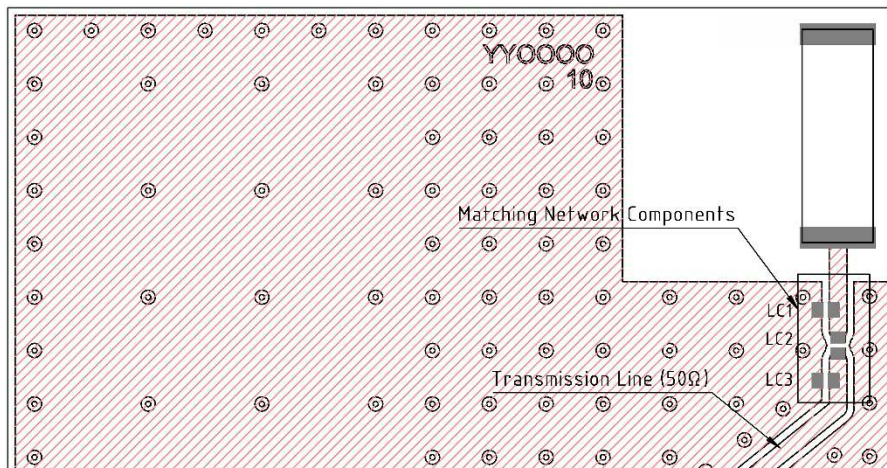
Layout dimensions for antenna integration (mm)

- Solder Region
- Copper Region
- Copper-Free Region

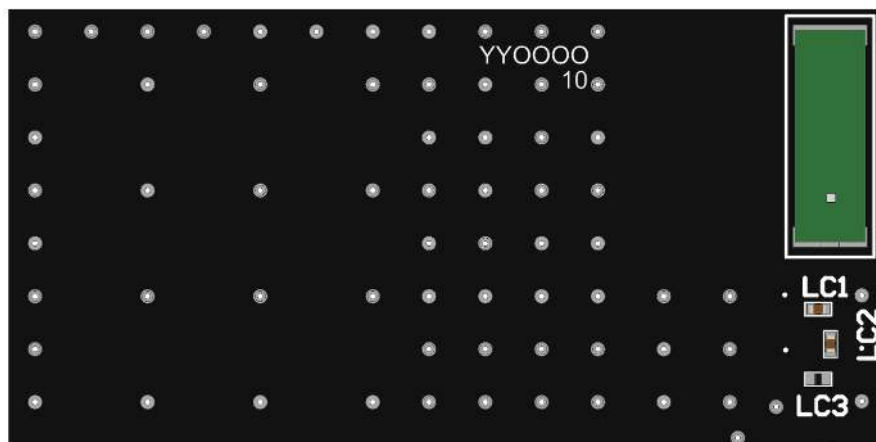
5. Matching Components



Matching Network Schematic

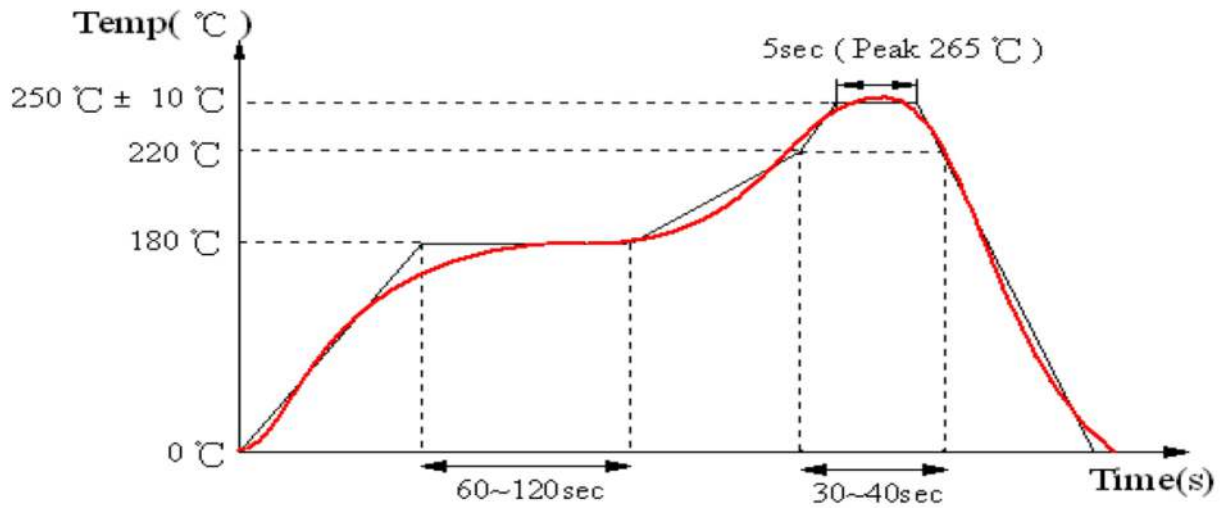


Matching network drawing (LC1=0.3pF, LC2=3.3pF, LC3=OPEN)



3D View of matching components and recommended values (LC1 = 0.3pF, LC2=3.3pF, LC3= OPEN)

REFLOW TEMPERATURE PROFILE



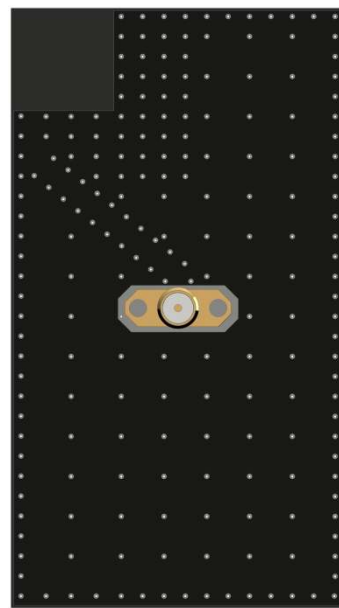
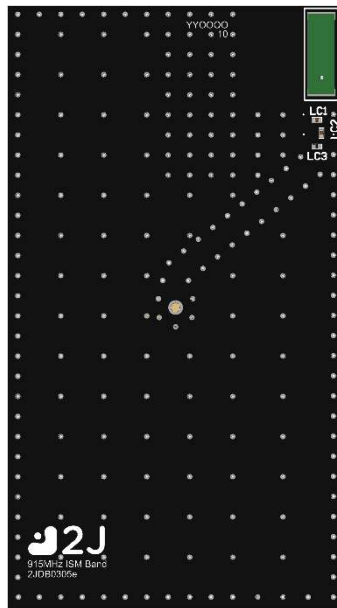
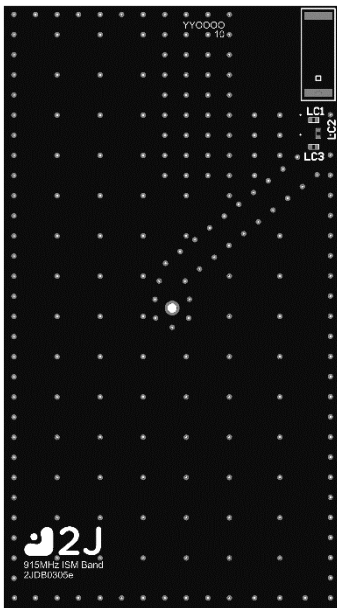
6. Evaluation Board

90mm x 50mm

90mm x 50mm

90mm x 50mm

90mm x 11.9mm
(PCB: 0.8mm, Antenna: 1.6mm,
Connector: 9.5mm)



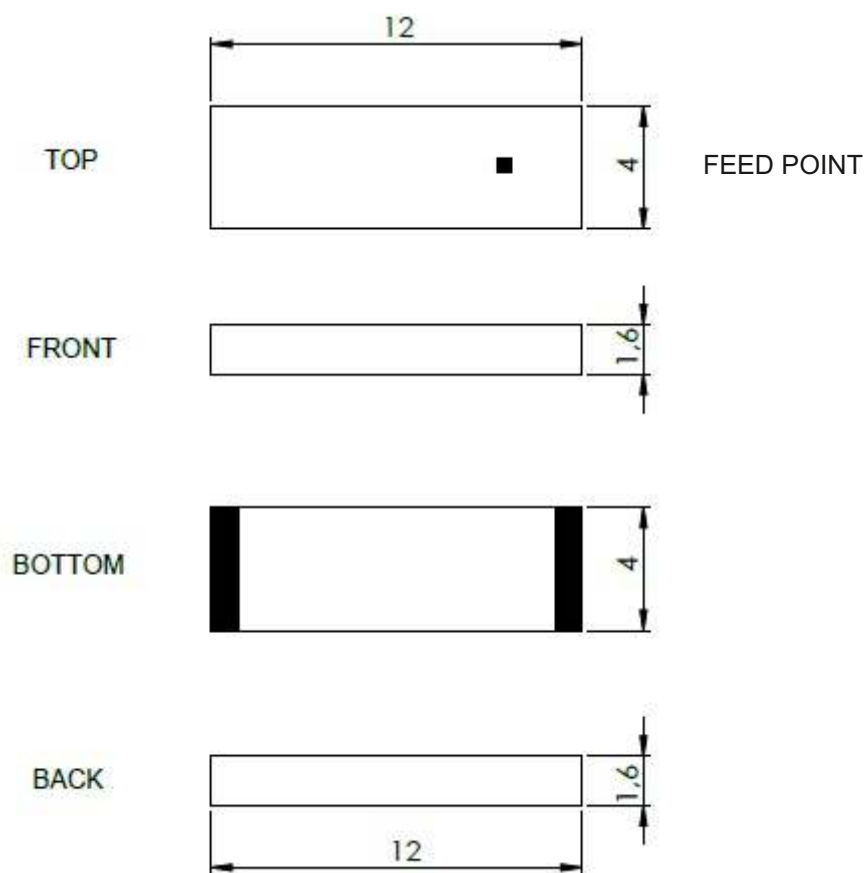
Front View without Antenna

Front View with Antenna

Back View

Side View

7. Antenna drawings



ceramic antenna body (mm)

9. Packaging

PACKAGING SPECIFICATION

Antenna	2JE05e
REEL	
Max Quantity per Reel	3000
REEL BOX	
Reels per Box	1
Reel Box Dimensions (cm)	34 x 34 x 4.9
Reel Box Weight (Kg)	1.4
CARTON	
Reels per Carton	5
Max Quantity per Carton	15,000
Reel Carton Dimensions (cm)	34.5 x 25 x 36
Reel Carton Weight (Kg)	7.5

Storage Conditions:

- Storage Temperature Range: -40 °C to +85 °C
- Oxidizable material. Store for 12 months in vacuum sealed bag.
- Repack material after use by re-sealing package.

10. Antenna Images

