

2JE05d

868 MHz ISM Surface Mount

Key Features

868 MHz ISM

- 863-870 MHz

Surface Mount

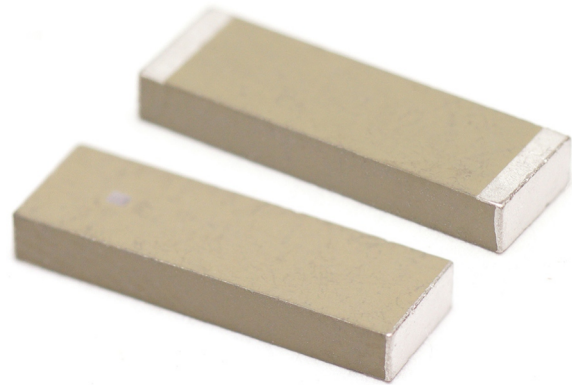
Easy to Integrate

Compact Size

Ceramic Material

Ground Plane Dependent

Dimensions 12 x 4 x 1.6 mm



1. Antenna and electrical specifications

Parameters	868 MHz ISM Antenna
Standards	ZigBee, ISM, SigFox, LoRa
Band (MHz)	868
Frequency (MHz)	863-870
Return Loss (dB)	~-29.4
VSWR	~1.1:1
Efficiency (%)	~38.0
Peak Gain (dBi)	~0.5
Average Gain (dB)	~-4.4
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	10

Antenna Measurement Conditions:

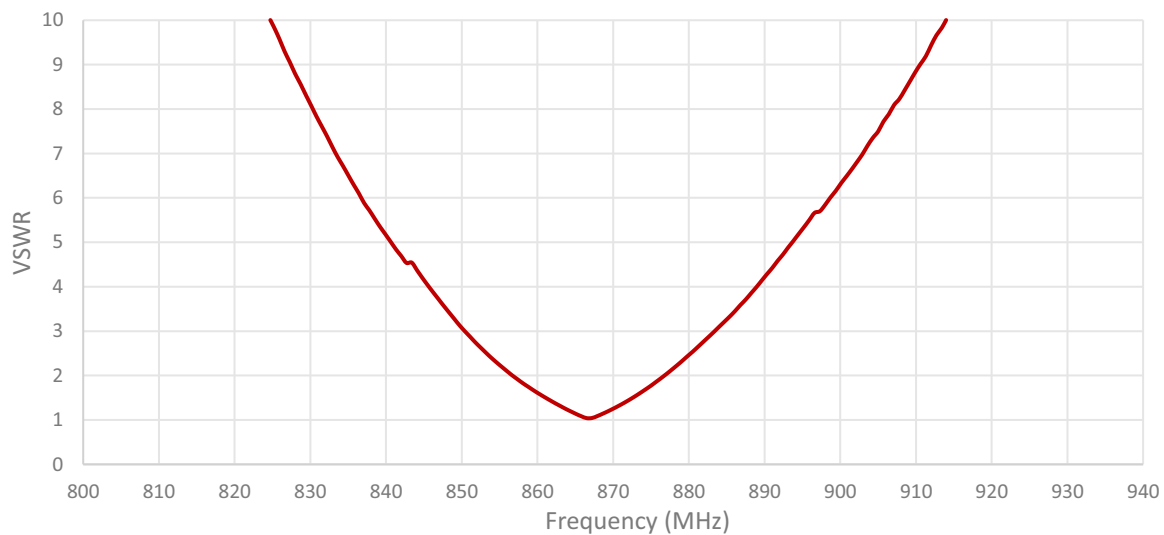
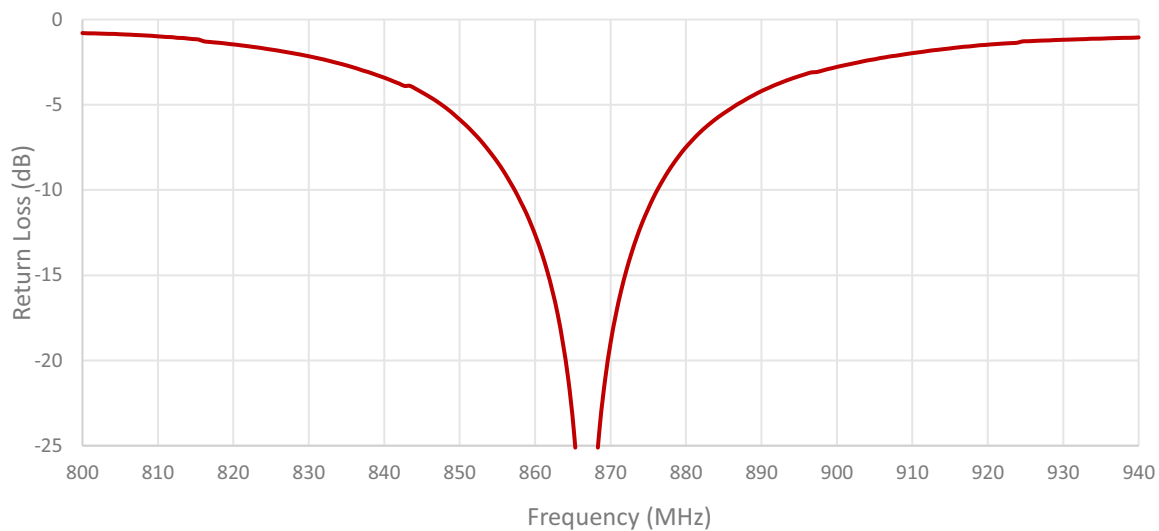
Mounted on ground plane of 50 x 90 mm

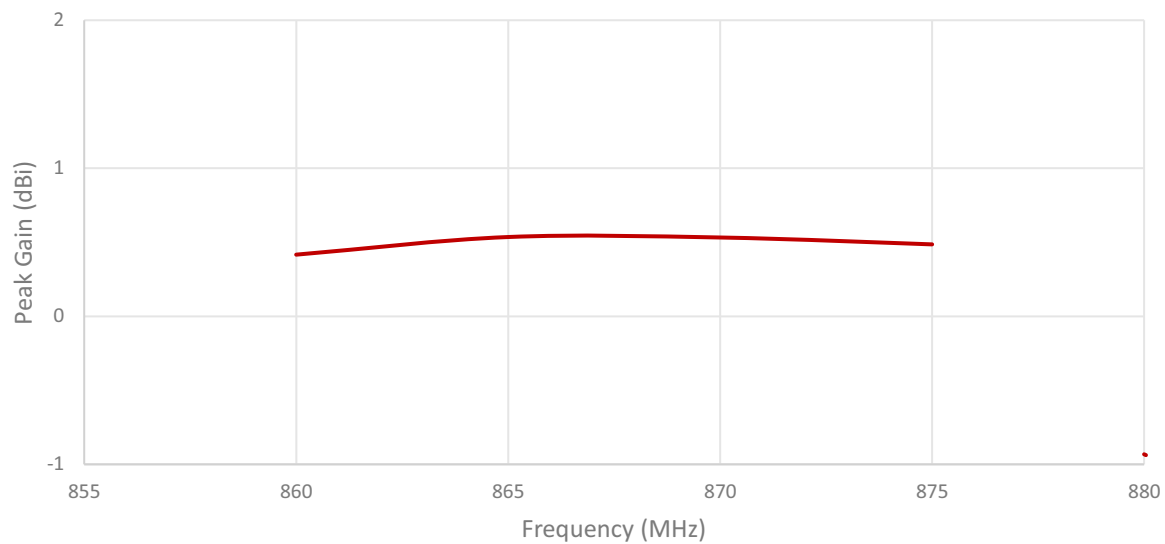
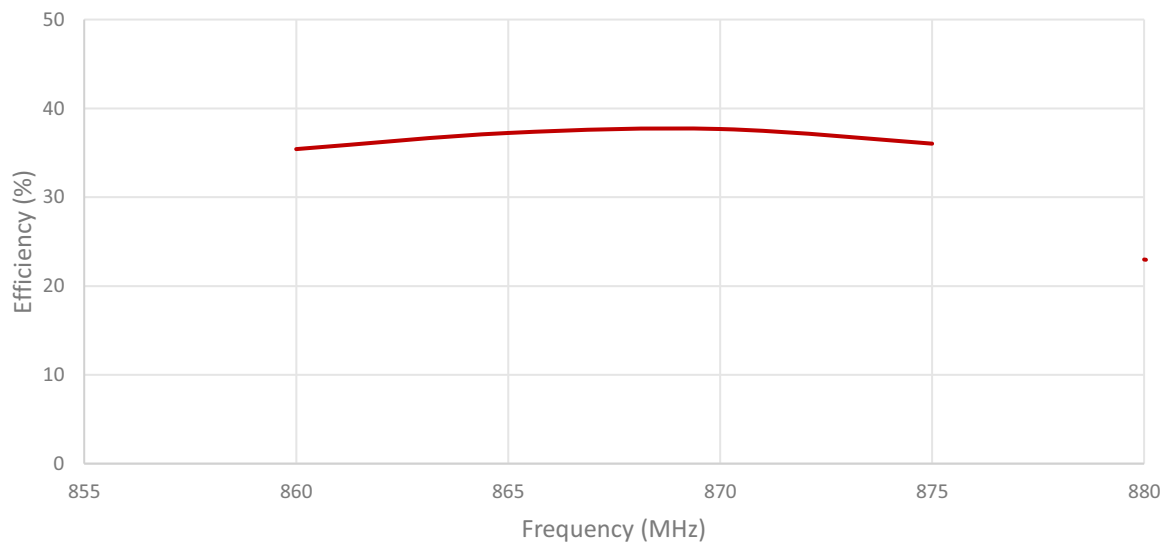
Measured in Certified CTIA 3D Anechoic Chamber

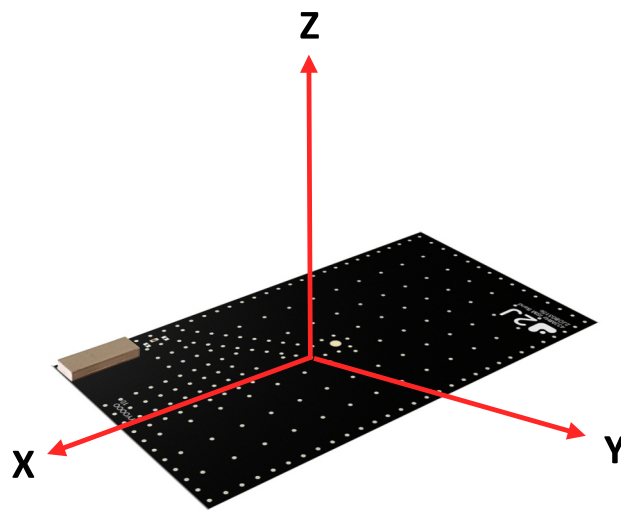
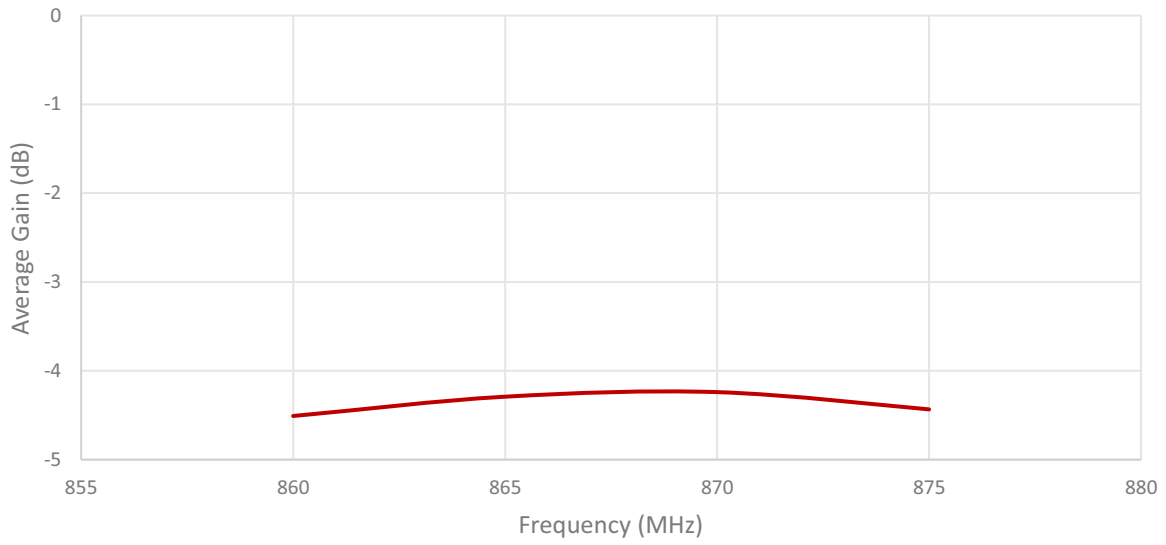
2. Mechanical and environmental specifications

Specifications	2JE05d
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	19Kgf according to IEC62137-1-2:2007

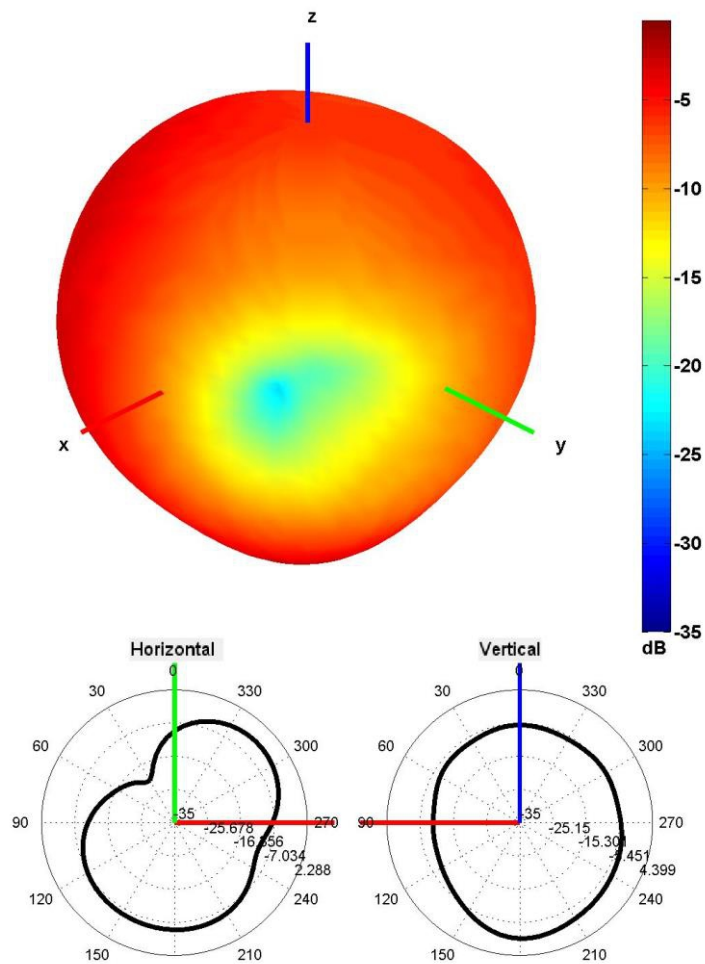
3. Antenna parameters





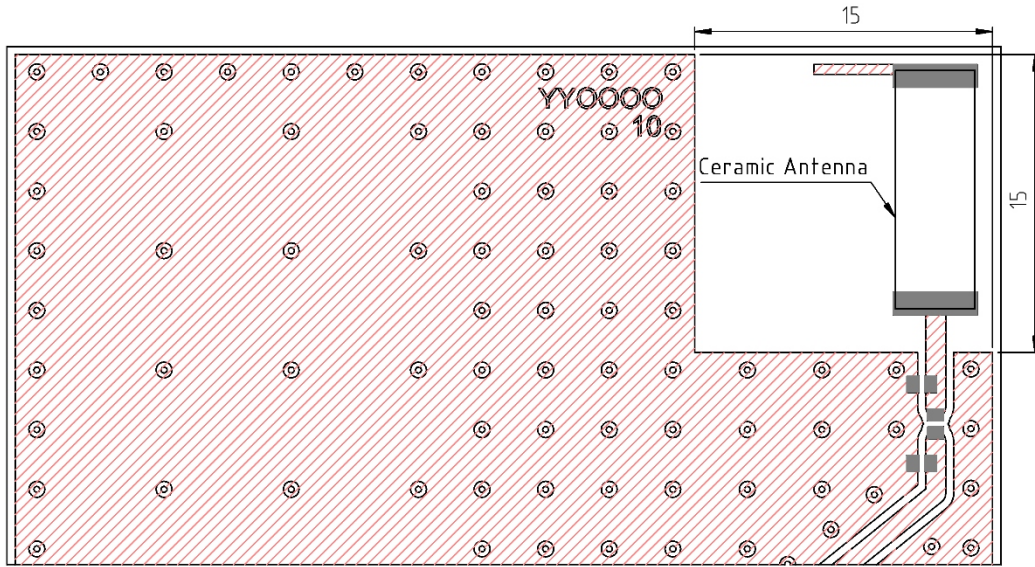


Radiation pattern reference



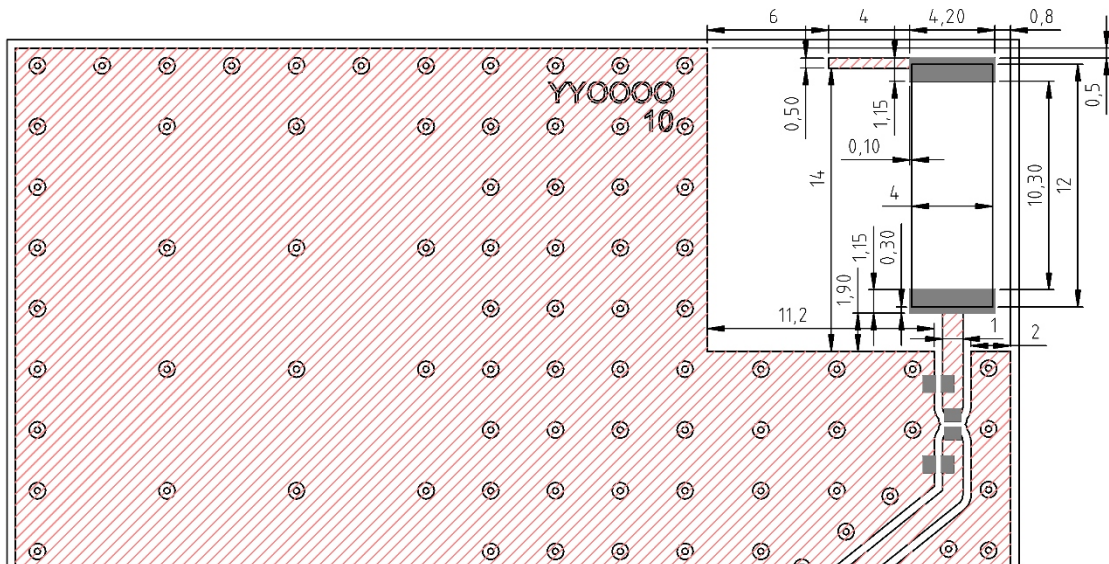
868 MHz Radiation pattern

4. PCB Layout



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

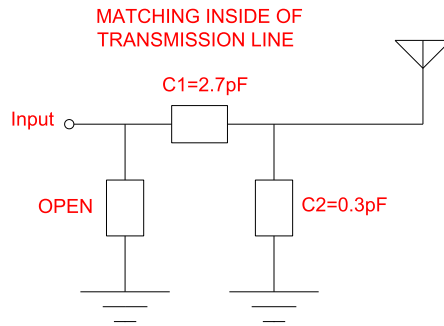
- Solder Region
- Copper Region
- Copper-Free Region



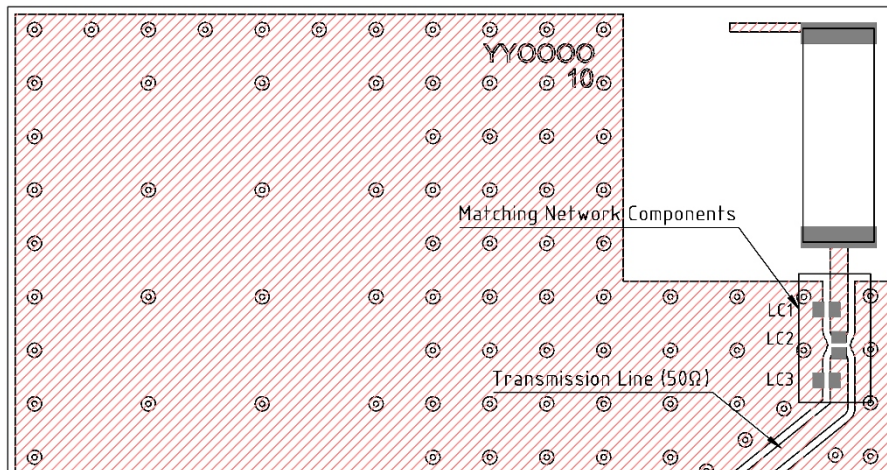
Layout dimensions for antenna integration (mm)

- Solder Region
- Copper Region
- Copper-Free Region

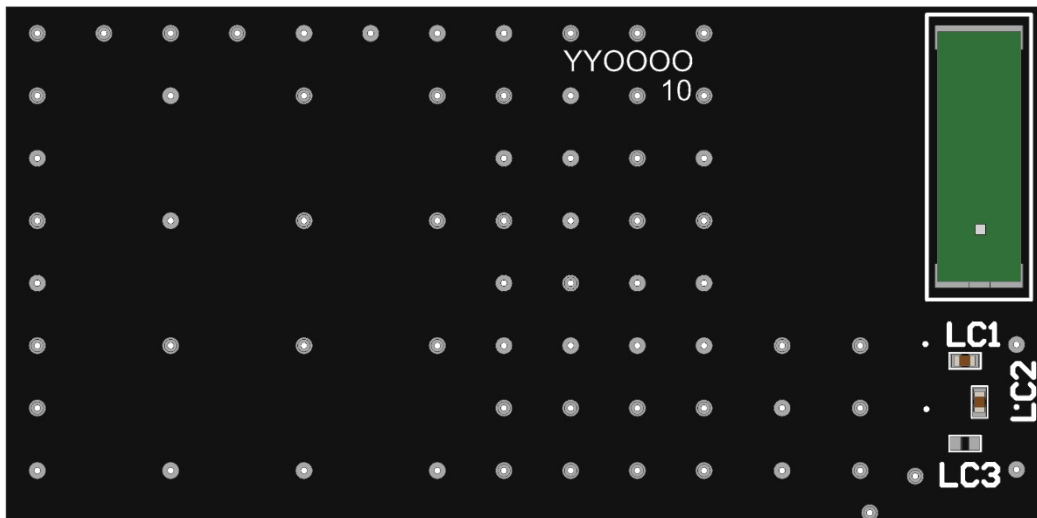
5. Matching Components



Matching Network Schematic

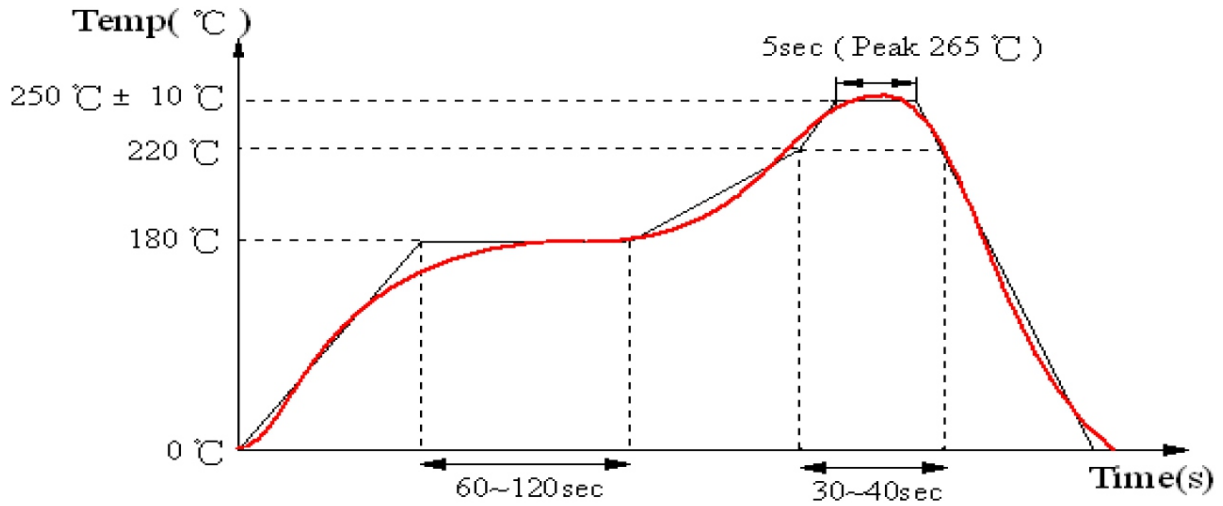


Matching network drawing (LC1=0.3pF, LC2=2.7pF, LC3=OPEN)



3D View of matching components and recommended values (LC1 = OPEN, LC2=2.7pF, LC3= 0.3pF)

REFLOW TEMPERATURE PROFILE



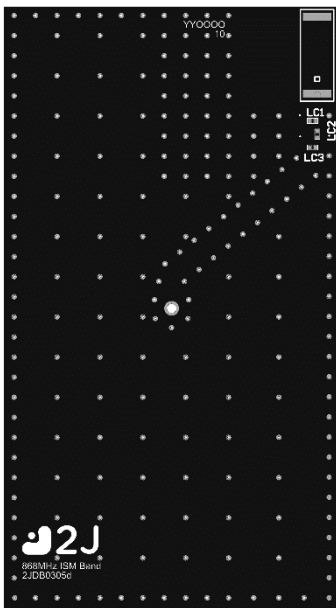
6. Evaluation Board

90mm x 50mm

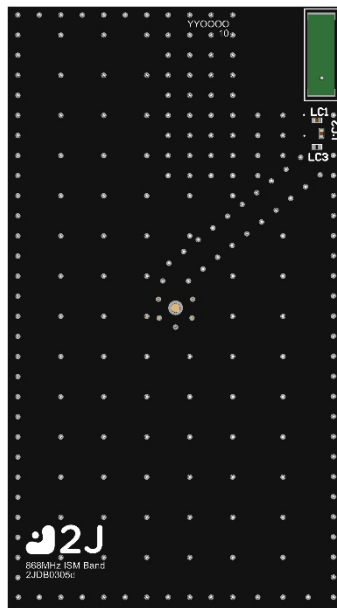
90mm x 50mm

90mm x 50mm

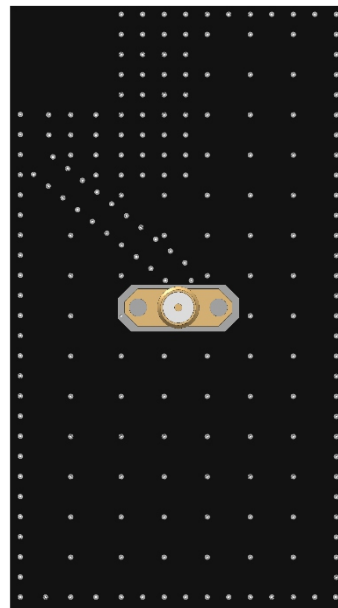
90mm x 11.9mm
(PCB: 0.8mm, Antenna: 1.6mm,
Connector: 9.5mm)



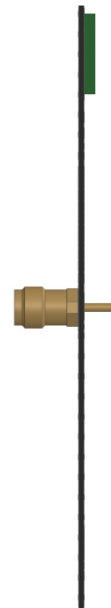
Front View without Antenna



Front View with Antenna

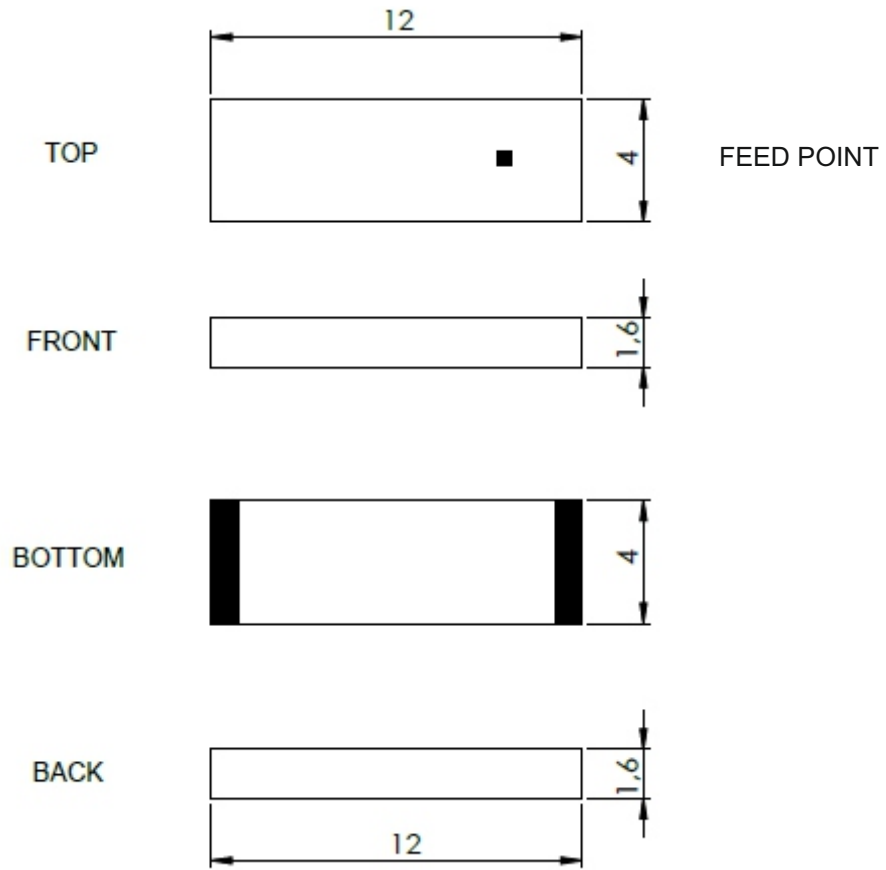


Back View



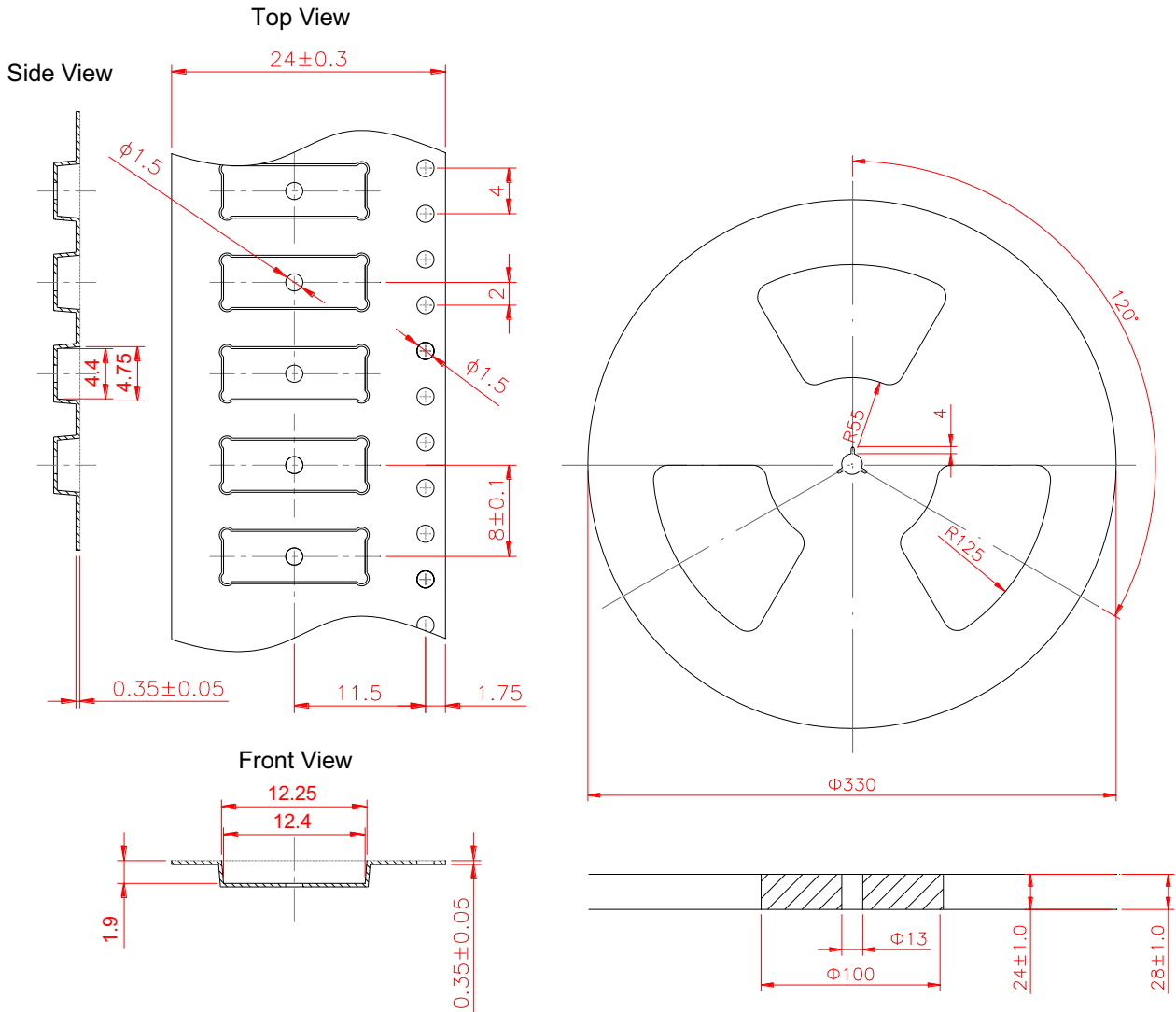
Side View

7. Antenna drawings



ceramic antenna body (mm)

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION

Antenna	2JE05d
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

