antenna conceptor

Product Datasheet

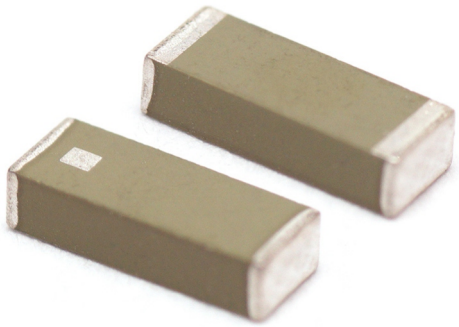
2JE07h

2.4/5.0 GHz ISM Surface Mount

Key Features

2.4/5.0 GHz ISM
- 2410-2490 MHz
- 4920-5925 MHz

Surface Mount
Easy to Integrate
Compact Size
Ceramic Material
Ground Plane Dependent
Dimensions 5.3 x 2 x 1.3 mm



1. Antenna and electrical specifications

Parameters	2.4 / 5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM, SigFox, LoRa	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-14.4	~-14.3
VSWR	~1.4:1	~1.5:1
Efficiency (%)	~75.1	~52.0
Peak Gain (dBi)	~2.3	~1.9
Average Gain (dB)	~-1.3	~-2.9
Impendance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	10	

Antenna Measurement Conditions:

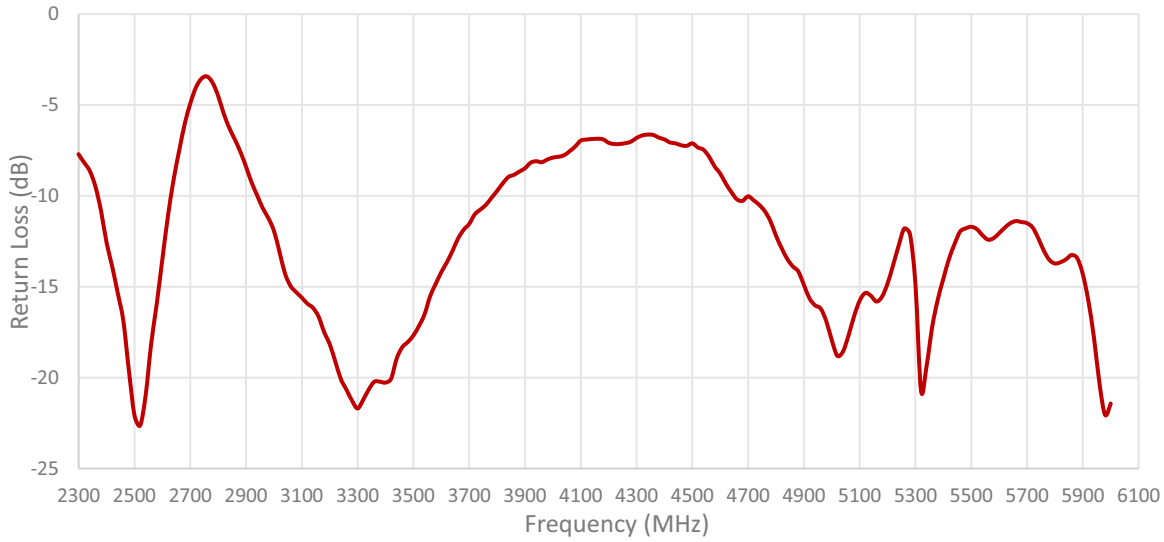
Mounted on ground plane of 50 x 90 mm

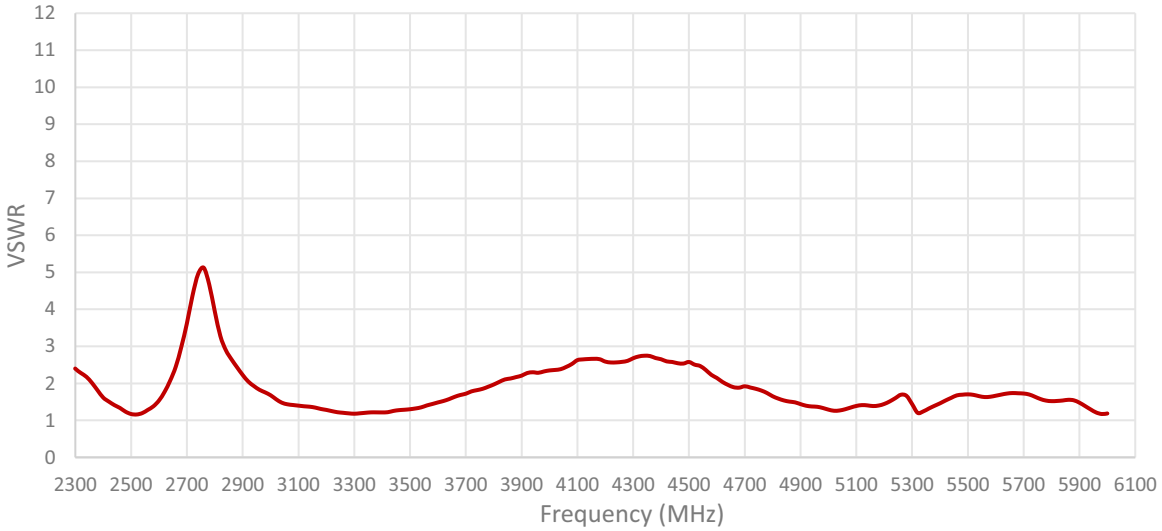
Measured in Certified CTIA 3D Anechoic Chamber

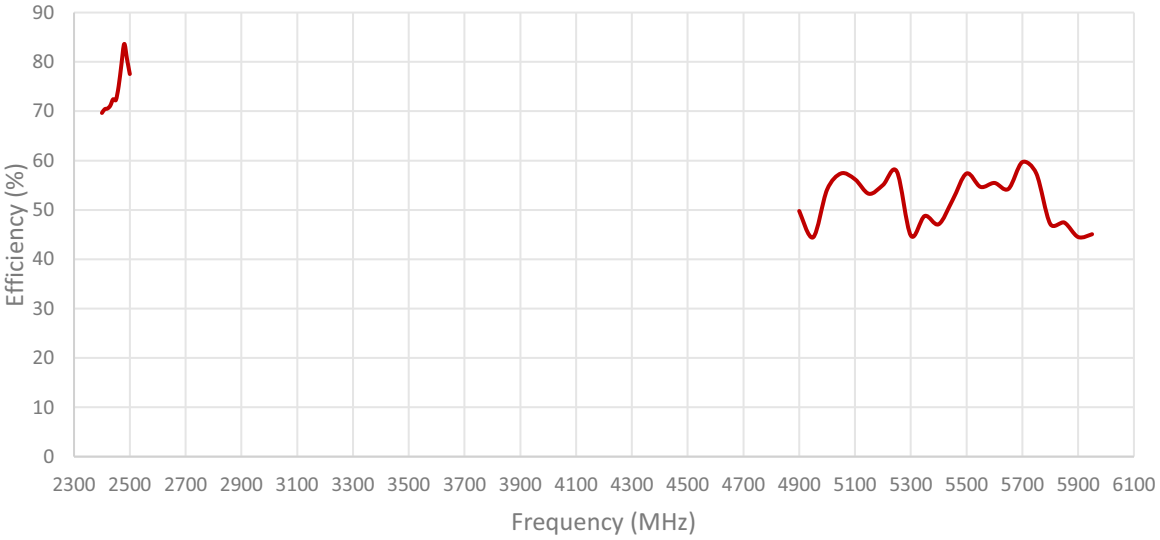
2. Mechanical and environmental specifications

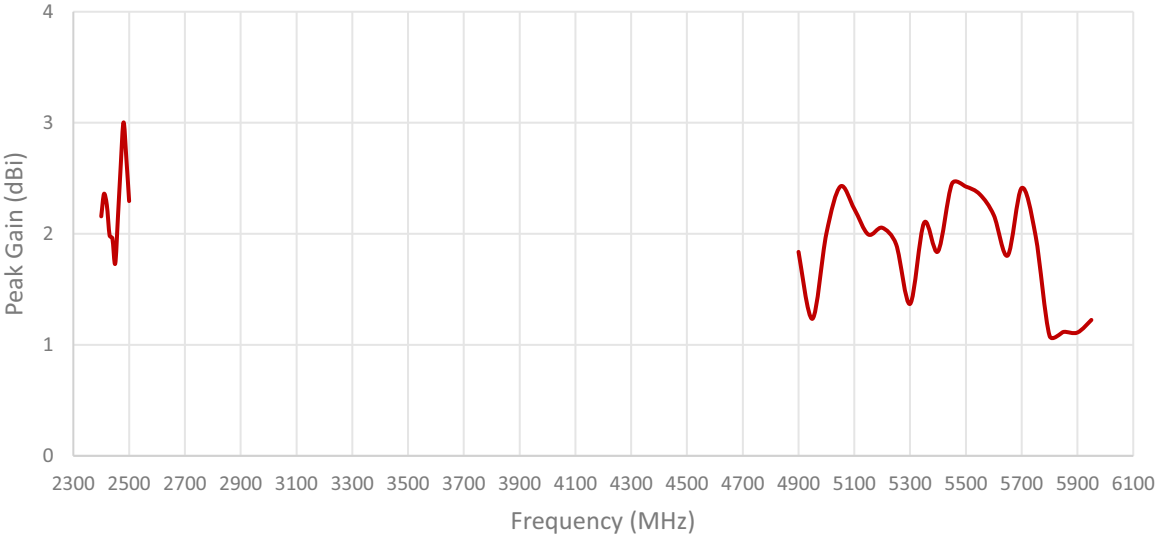
Specifications	2JE07h
Mounting Type	Surface Mount
Dimensions (mm)	5.3x 2 x 1.3
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Typical Shear Force Test	7.5Kgf according to IEC62137-1-2:2007

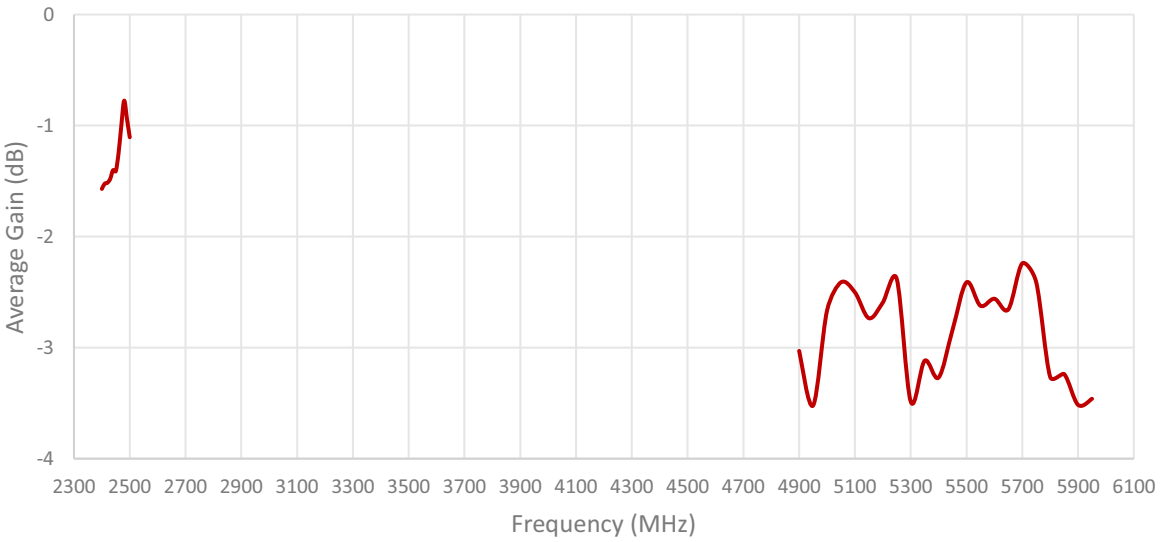
3. Antenna parameters

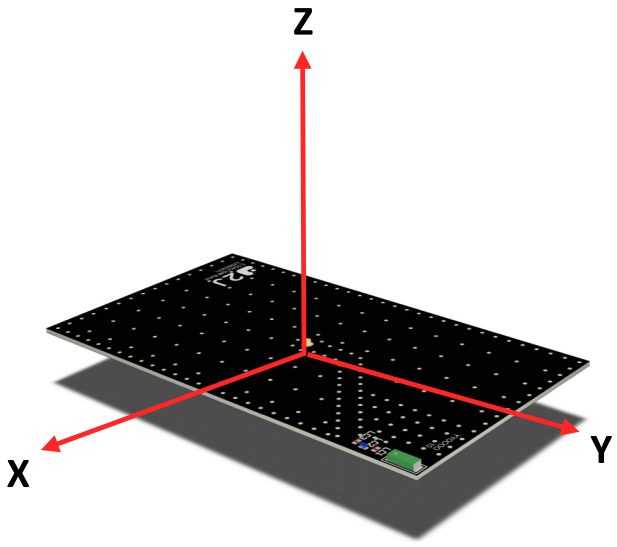




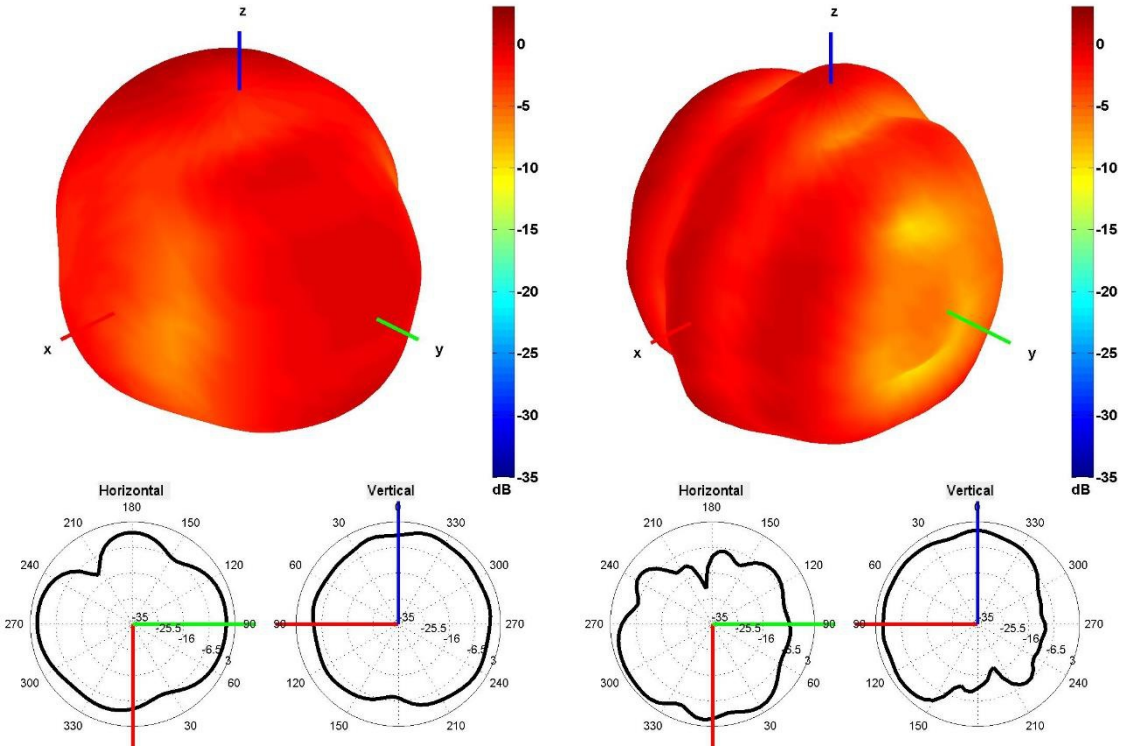

Efficiency (%)
90
80
70
60
50
40
30
20
10
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)


Peak Gain (dBi)
4
3
2
1
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)



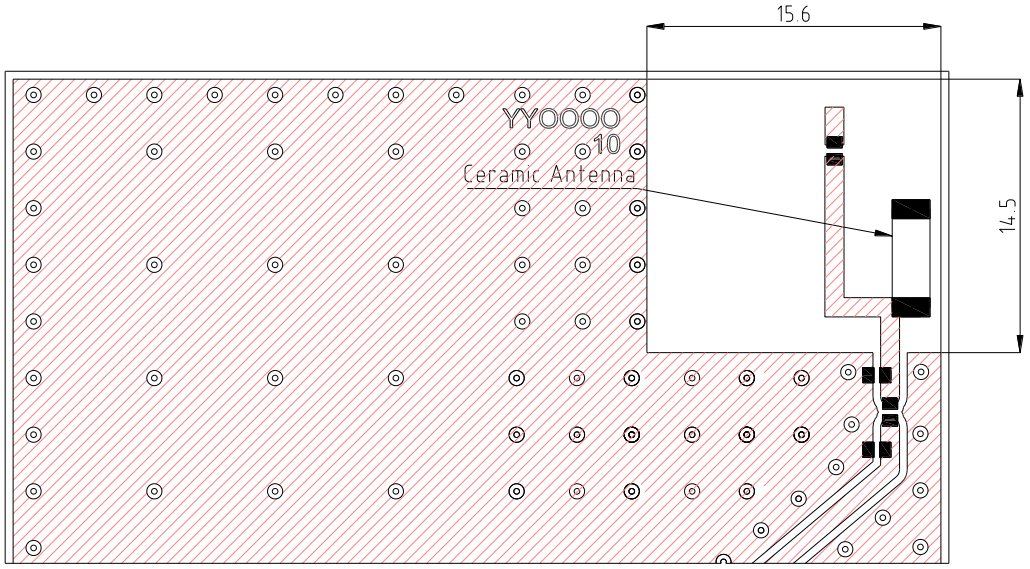


Radiation pattern reference



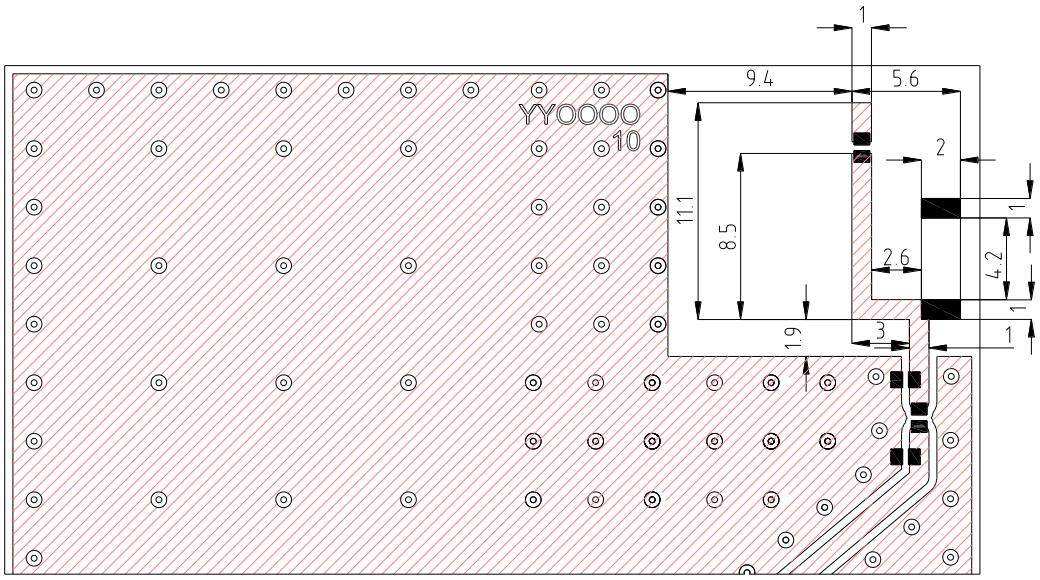
2450 and 5500 MHz Radiation pattern

4. PCB Layout



Minimum area required for antenna integration (15.6mm × 14.5mm)

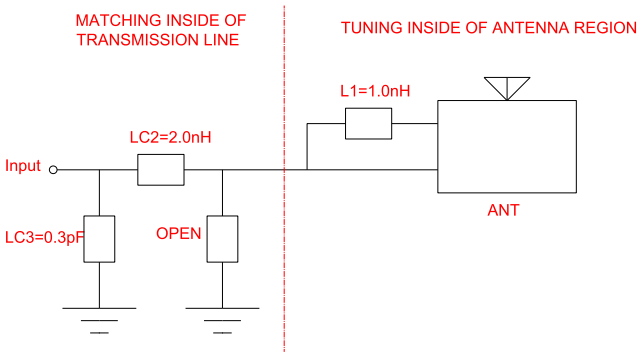
Solder Region
Copper Region
Copper-Free Region



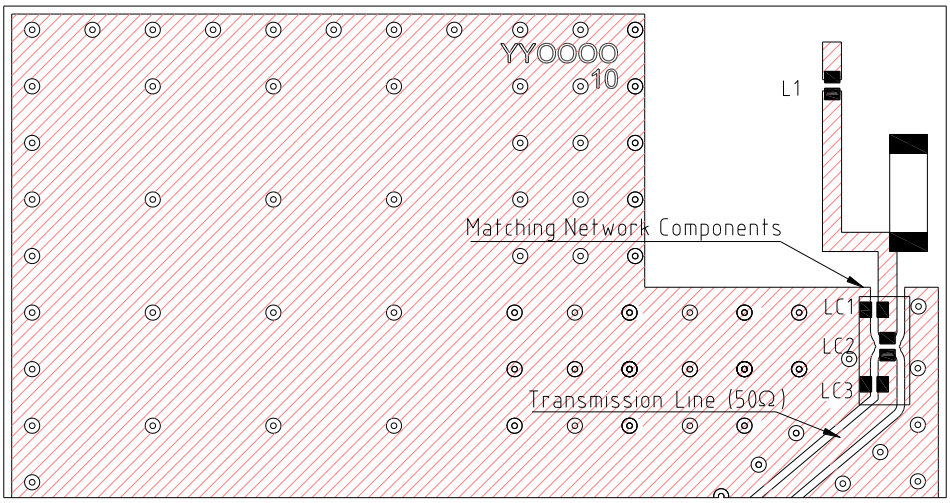
Layout dimensions for antenna integration (mm)

Solder Region
Copper Region
Copper-Free Region

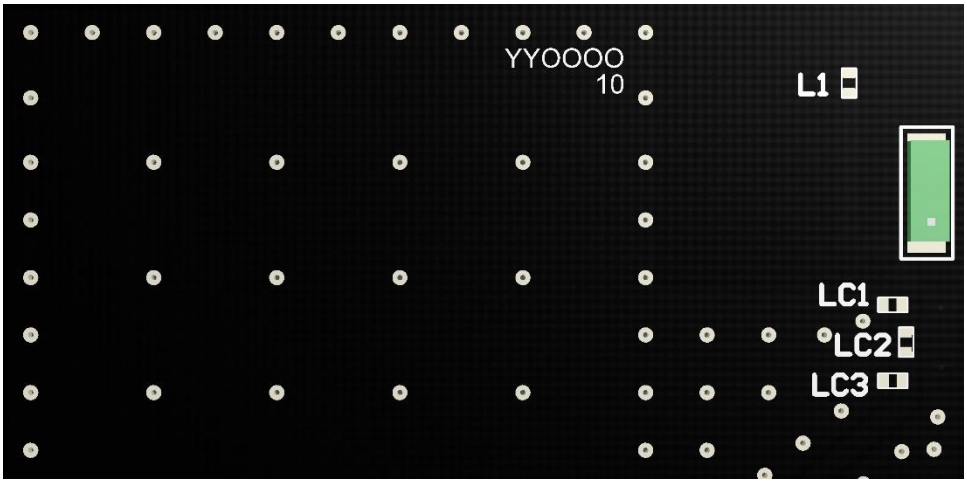
5. Matching Components



Matching Network Schematic

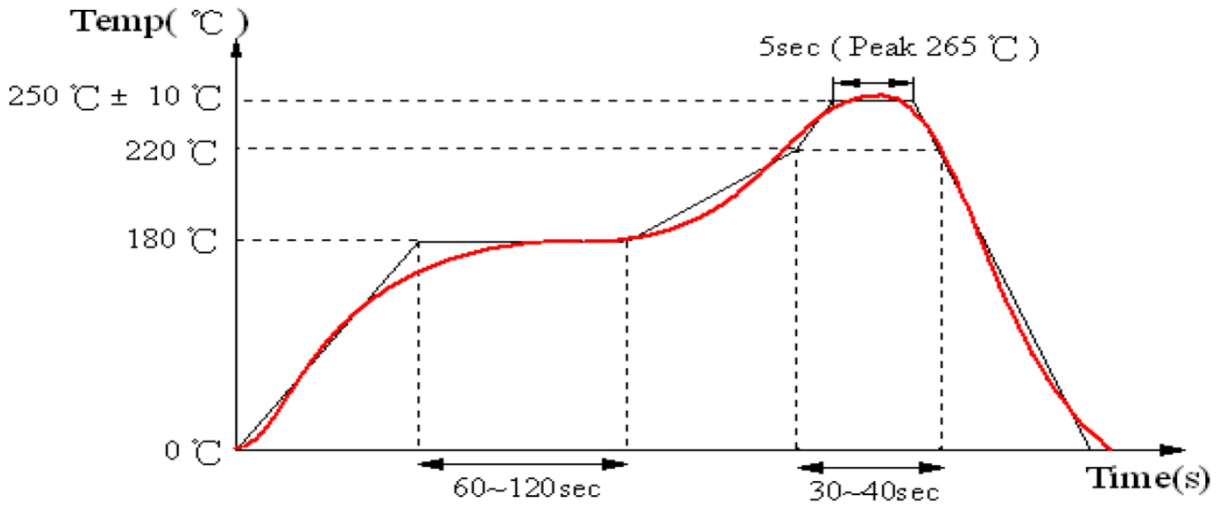


Matching network drawing (L1=1.0nH, LC1=OPEN, LC2=2nH, LC3=0.3pF)

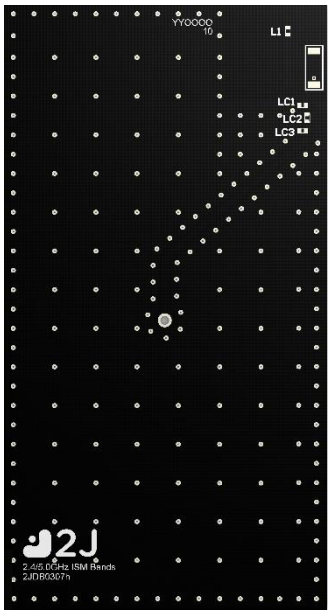
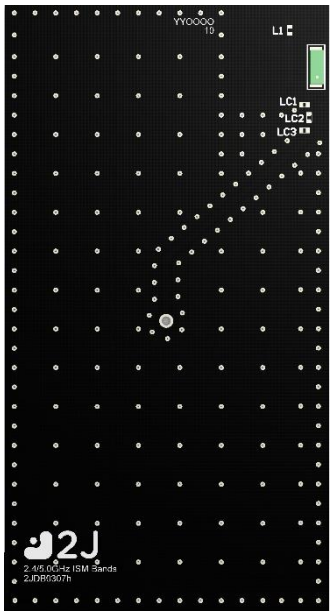
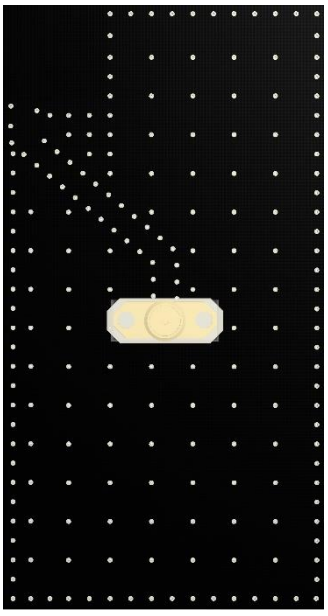


3D View of matching components and recommended values (L1=1.0nH, LC1=OPEN, LC2=2nH, LC3=0.3pF)

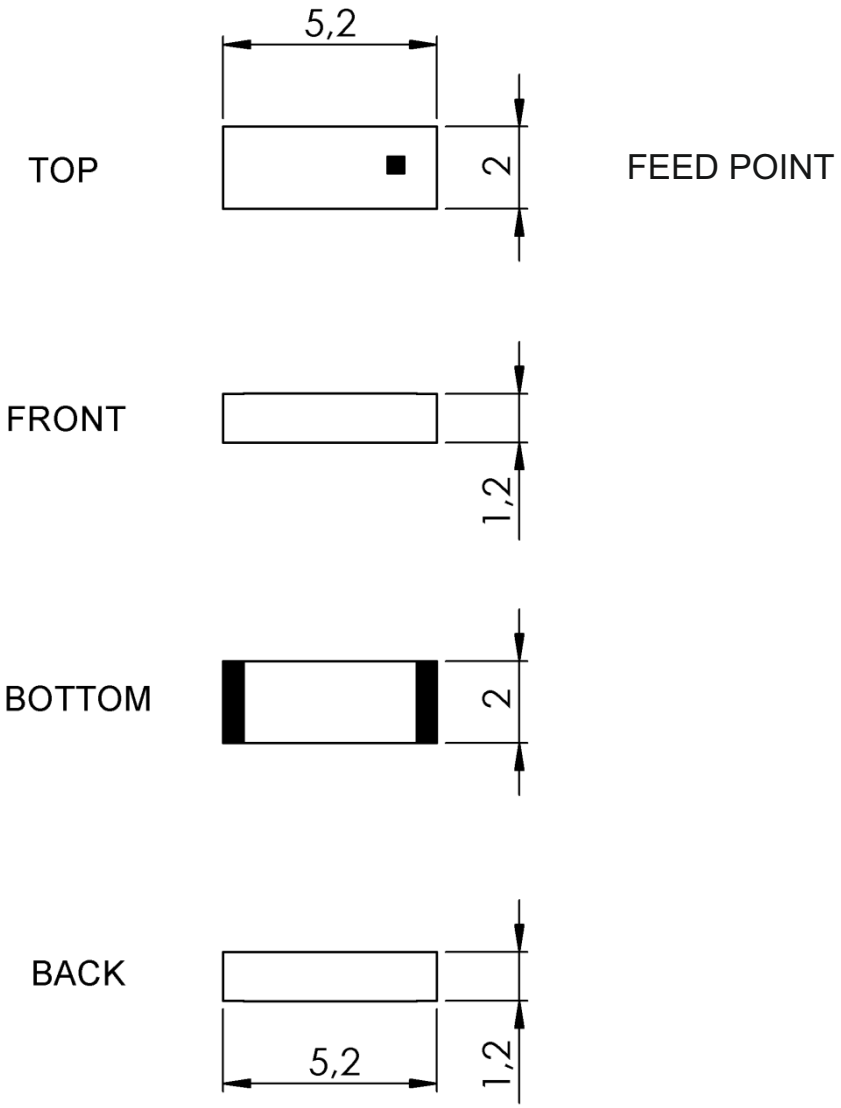
REFLOW TEMPERATURE PROFILE



6. Evaluation Board

90mm x 50mm	90mm x 50mm	90mm x 50mm	90mm x 11.5mm (PCB: 0.8mm, Antenna: 1.2mm, Connector: 9.5mm)
			
Front View without Antenna	**Front View with Antenna**	**Back View**	**Side View**

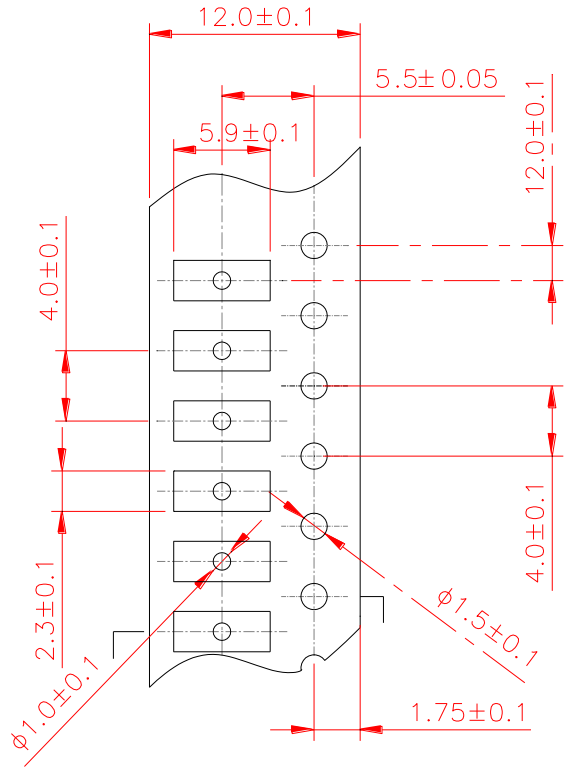
7. Antenna drawings

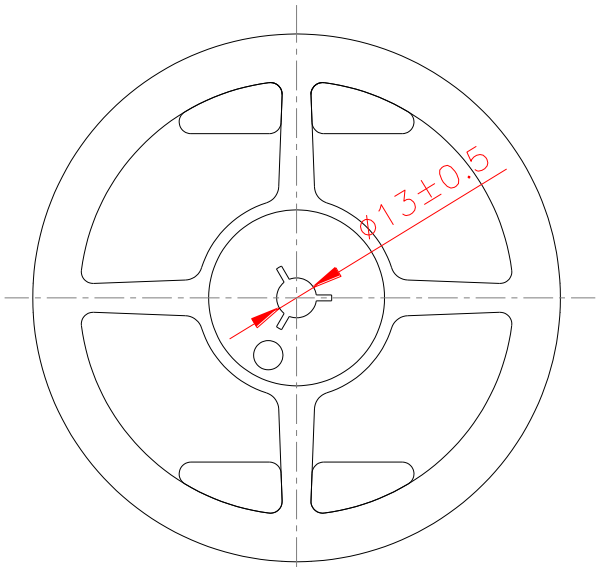


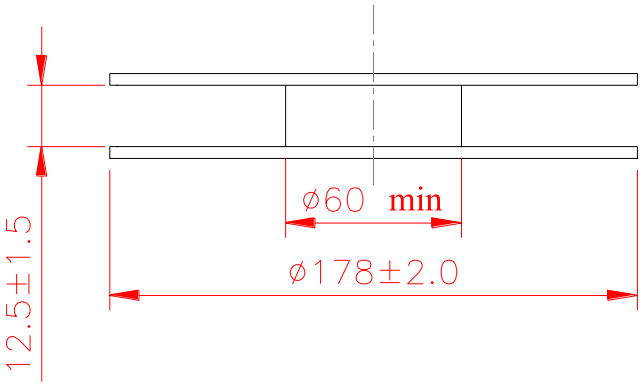
ceramic antenna body (mm)

8. Tape and Reel Information

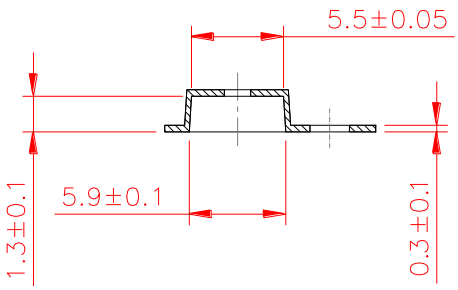
Top View







Front View



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION	
Antenna	2JE07h
REEL	
Max Quantity per Reel	3000
REEL BOX	
Reels per Box	1
Reel Box Dimensions (cm)	18.5 x 18.5 x 3
Reel Box Weight (Kg)	0.27
CARTON	
Reels per Carton	10
Max Quantity per Carton	30,000
Reel Carton Dimensions (cm)	33 x 21 x 21
Reel Carton Weight (Kg)	3.1

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

