

## 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

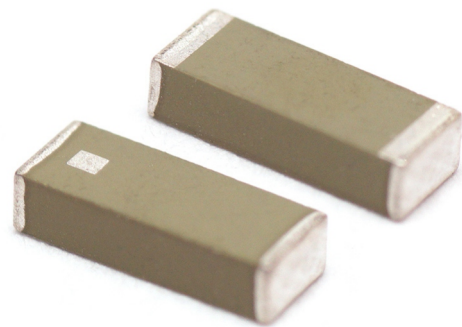
Easy to Integrate

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

### Antenna Measurement Conditions:

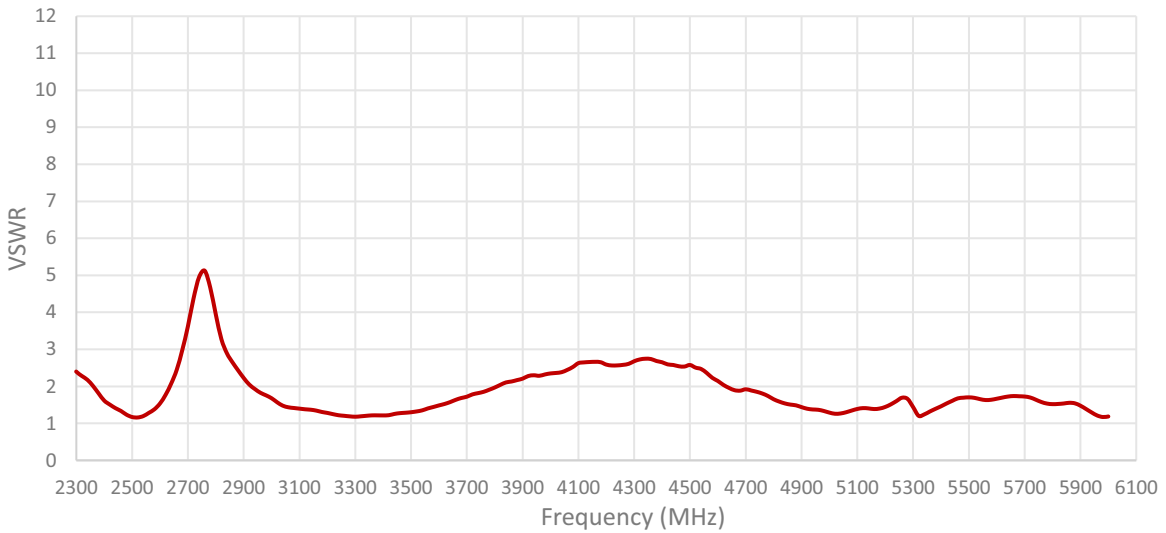
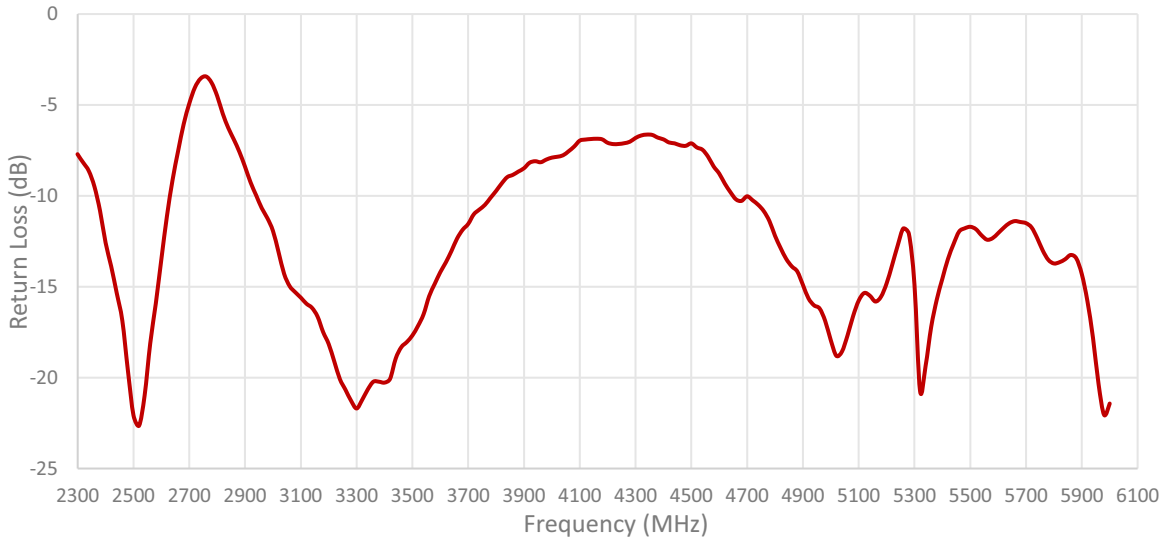
Mounted on ground plane of 50 x 90 mm

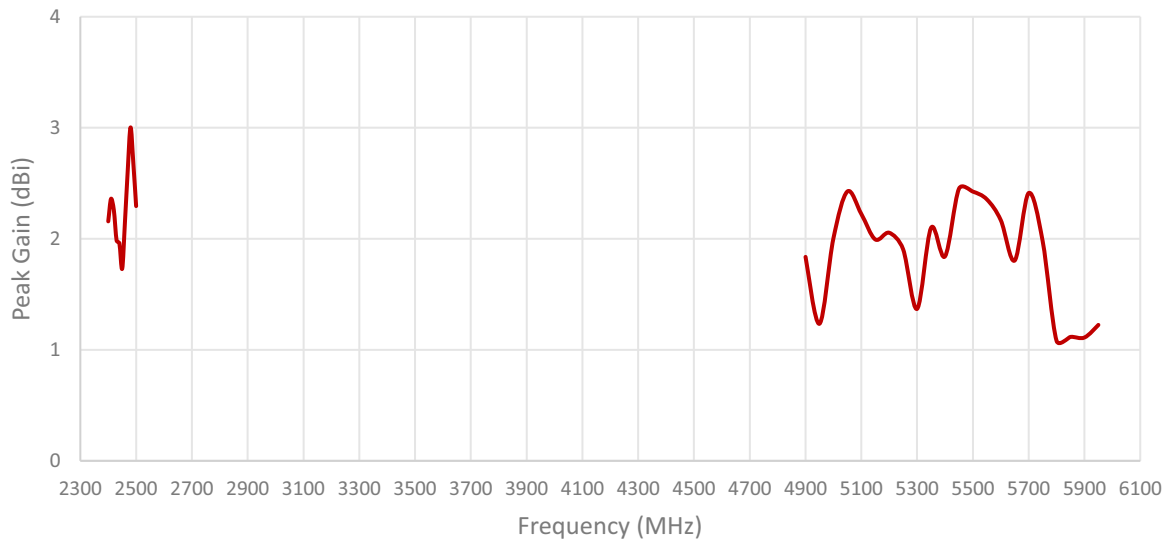
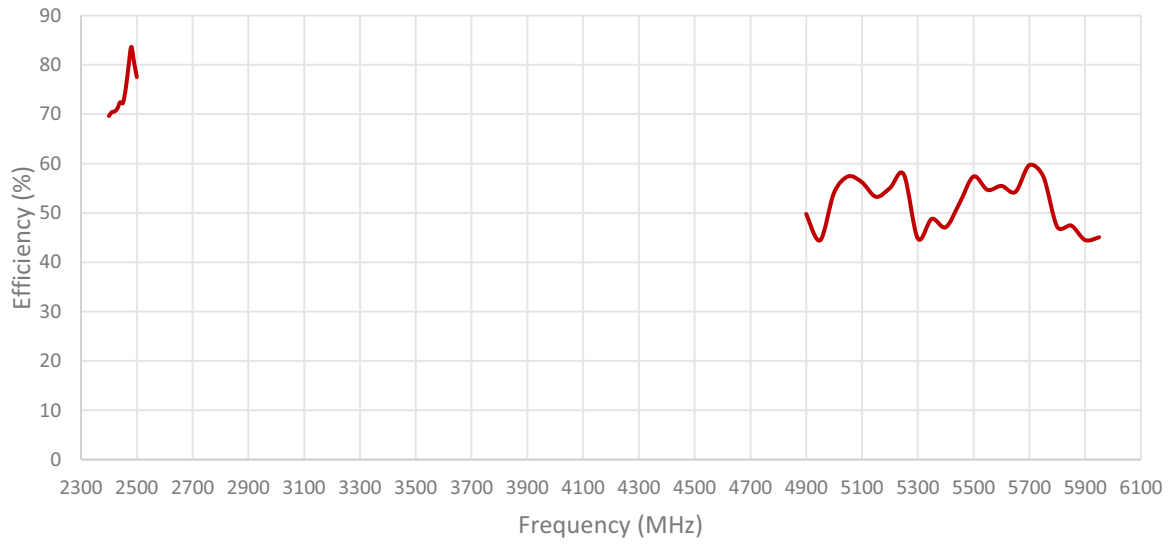
Measured in Certified CTIA 3D Anechoic Chamber

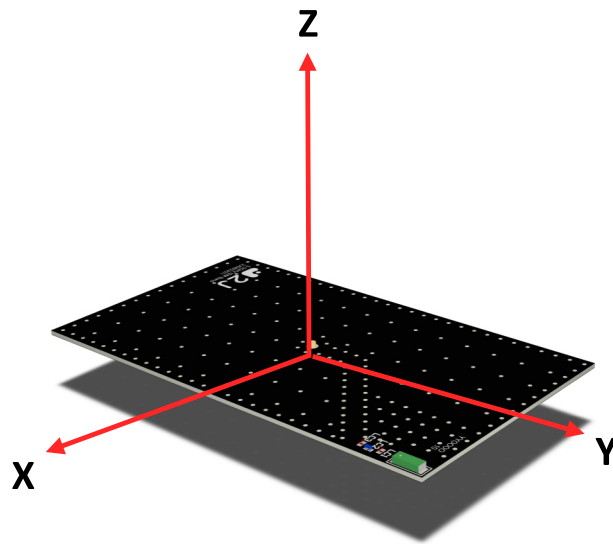
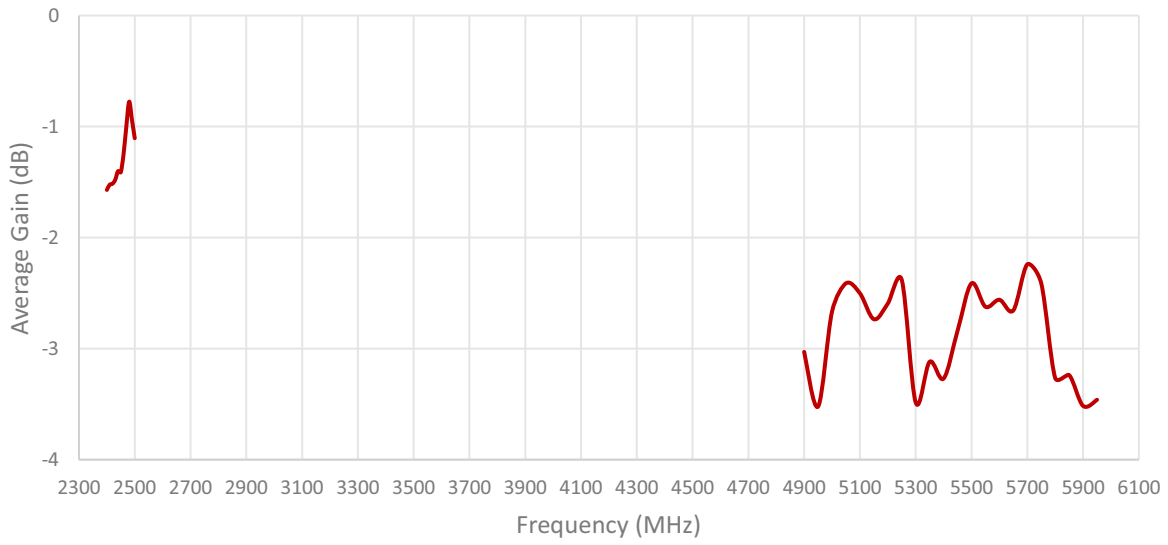
## 2. Mechanical and environmental specifications

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

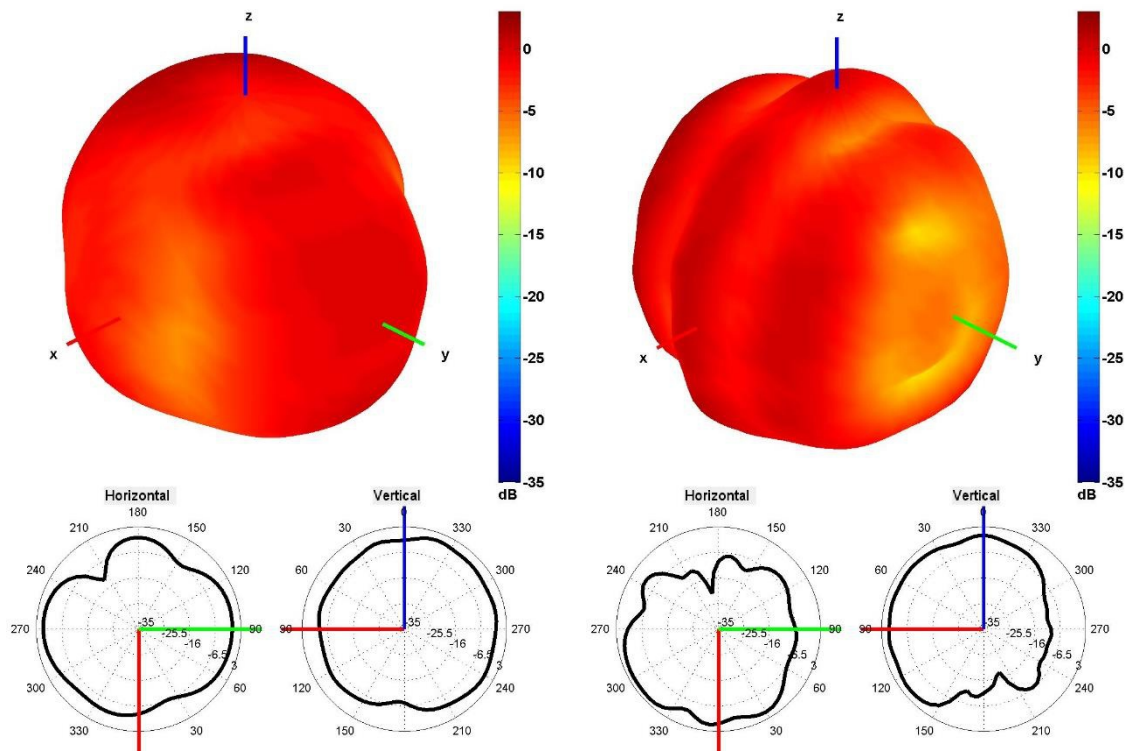
### 3. Antenna parameters





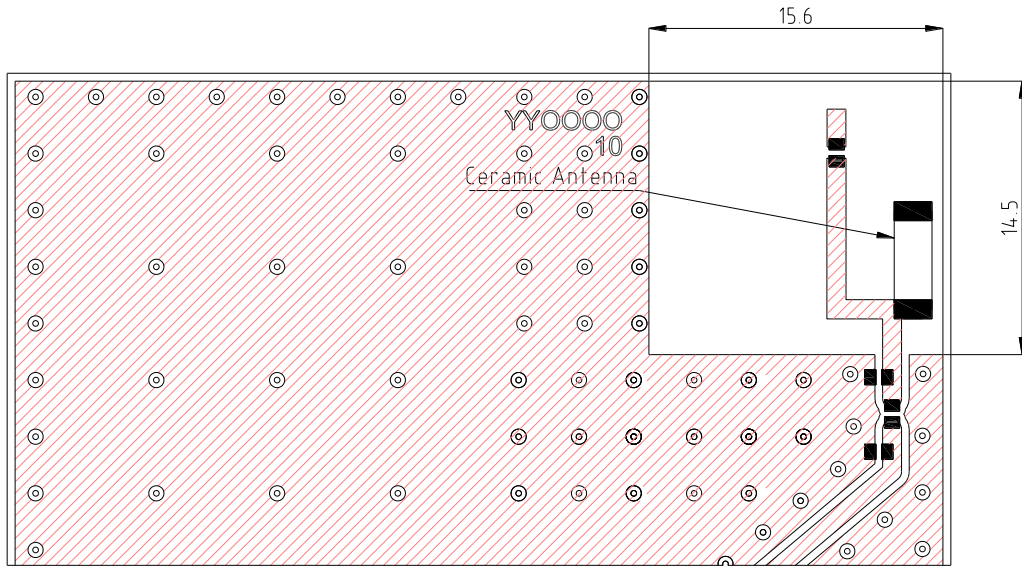


Radiation pattern reference



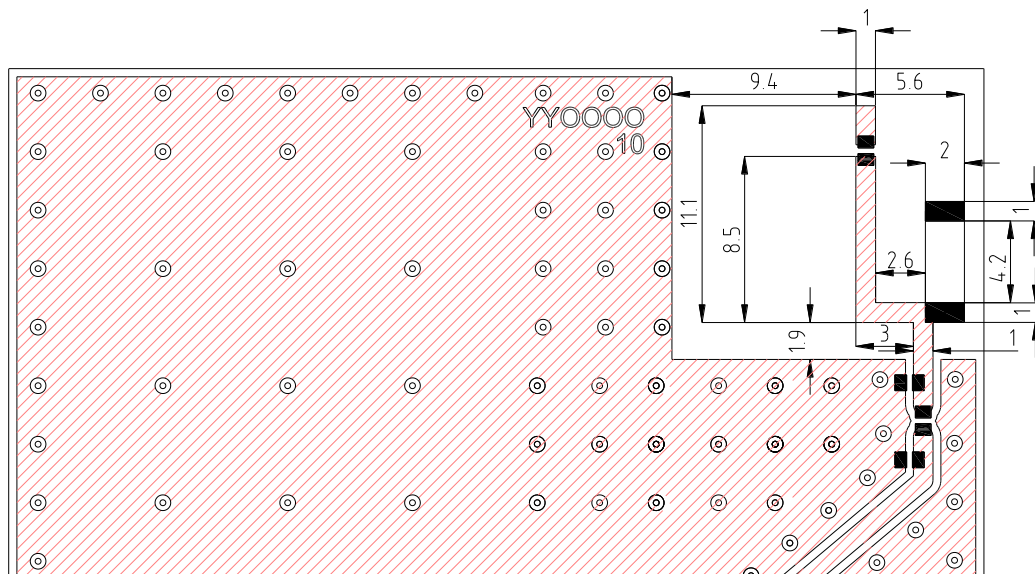
2450 and 5500 MHz Radiation pattern

## 4. PCB Layout



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

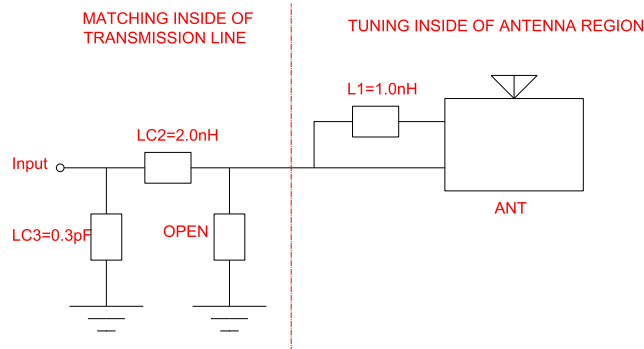
- Solder Region
- Copper Region
- Copper-Free Region



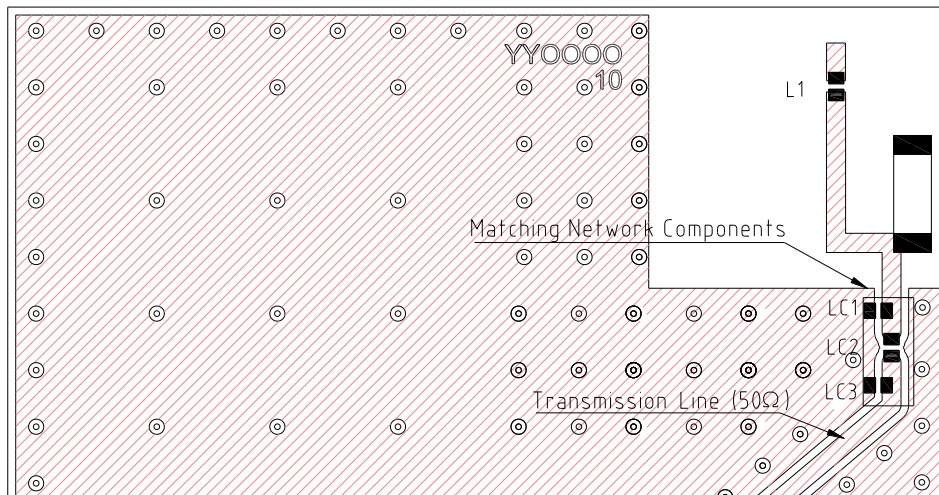
Layout dimensions for antenna integration (mm)

- Solder Region
- Copper Region
- Copper-Free Region

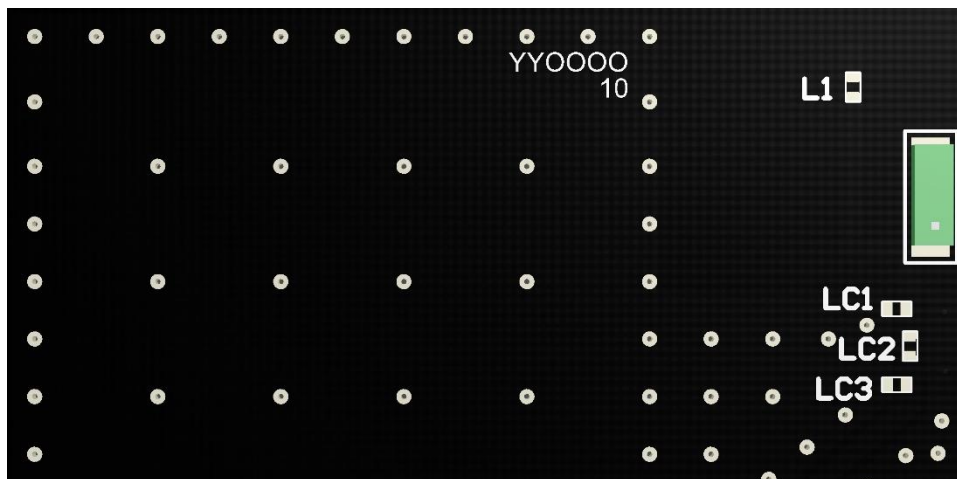
## 5. Matching Components



Matching Network Schematic



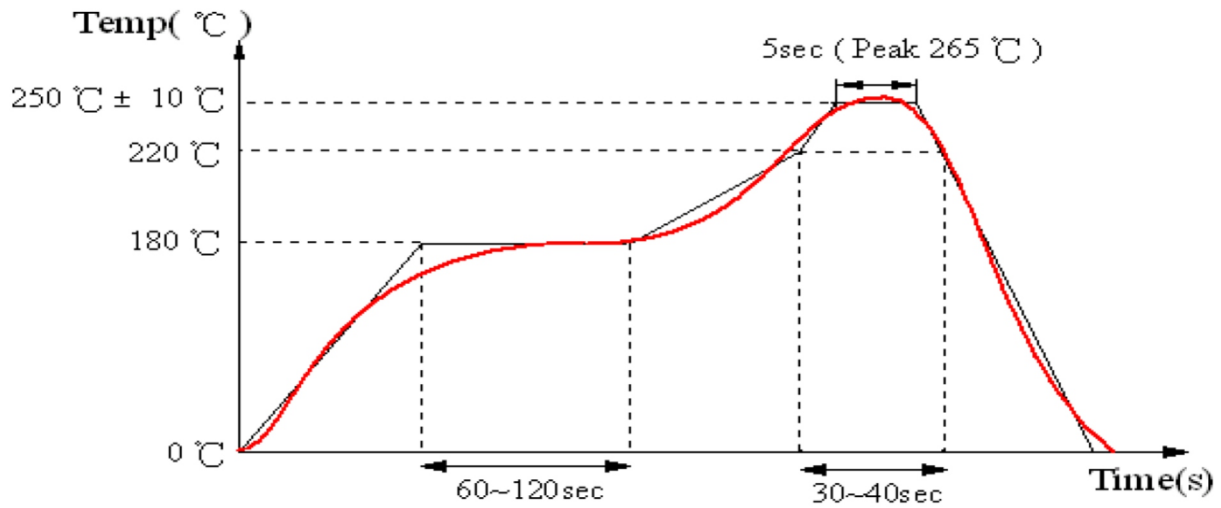
Matching network drawing ( $L1=1.0nH$ ,  $LC1=OPEN$ ,  $LC2=2nH$ ,  $LC3=0.3pF$ )



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



**REFLOW TEMPERATURE PROFILE**



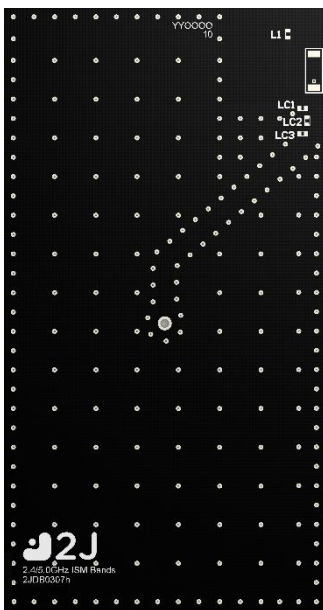
**6. Evaluation Board**

90mm x 50mm

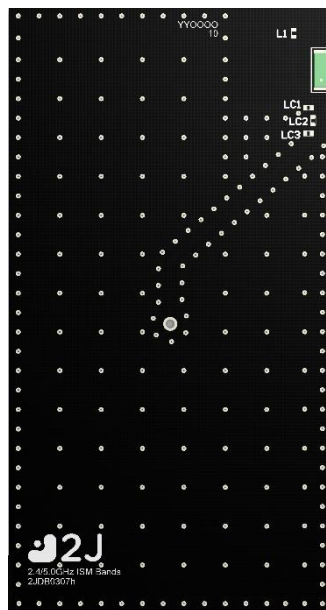
90mm x 50mm

90mm x 50mm

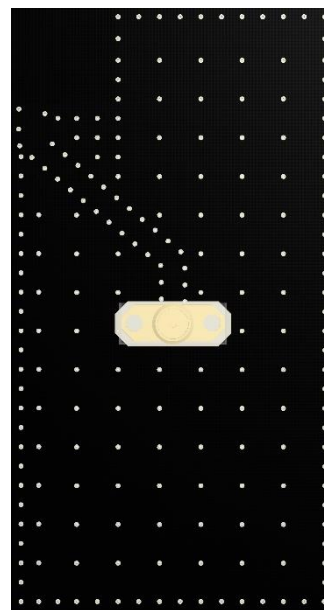
90mm x 11.5mm  
(PCB: 0.8mm, Antenna: 1.2mm,  
Connector: 9.5mm)



Front View without Antenna



Front View with Antenna

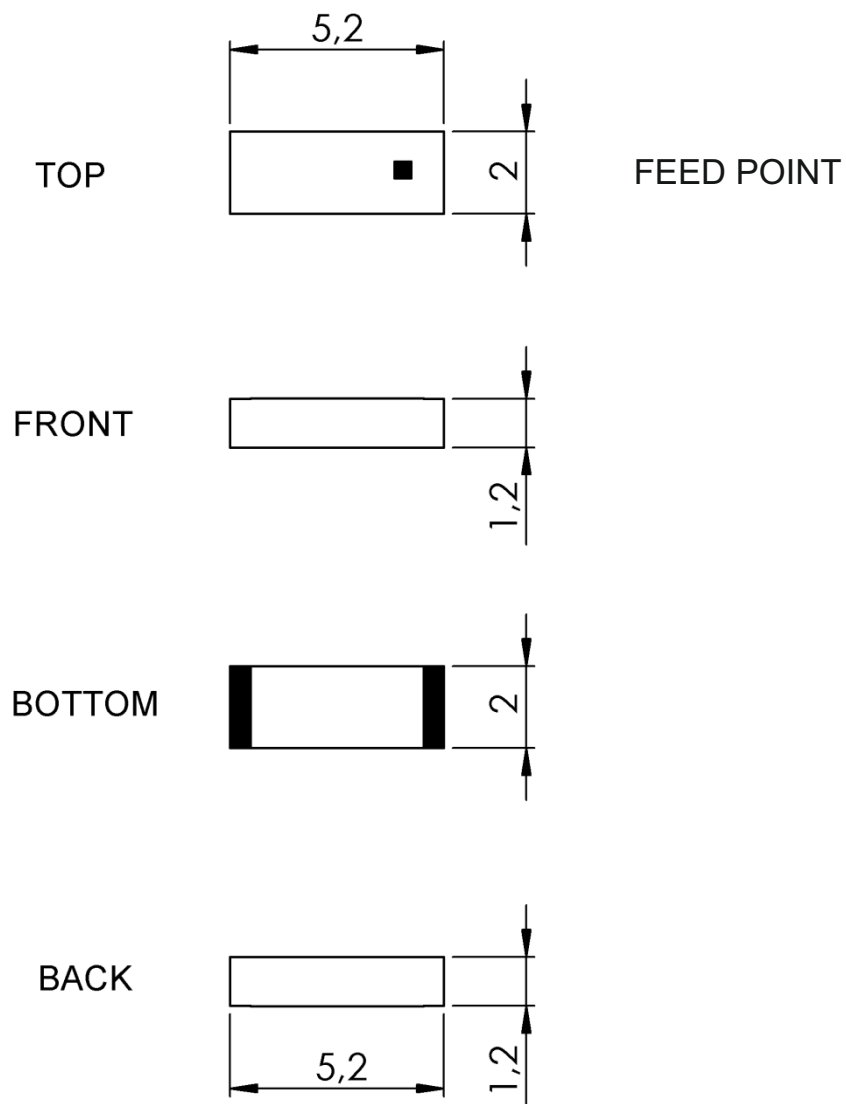


Back View



Side View

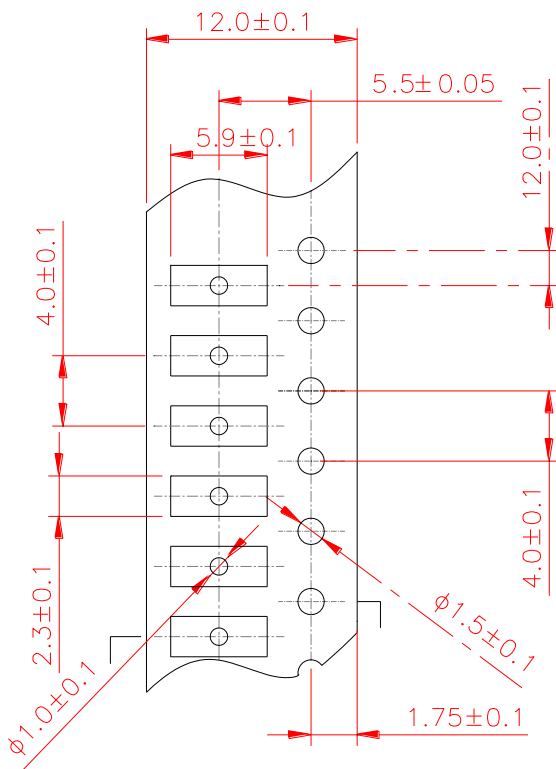
## 7. Antenna drawings



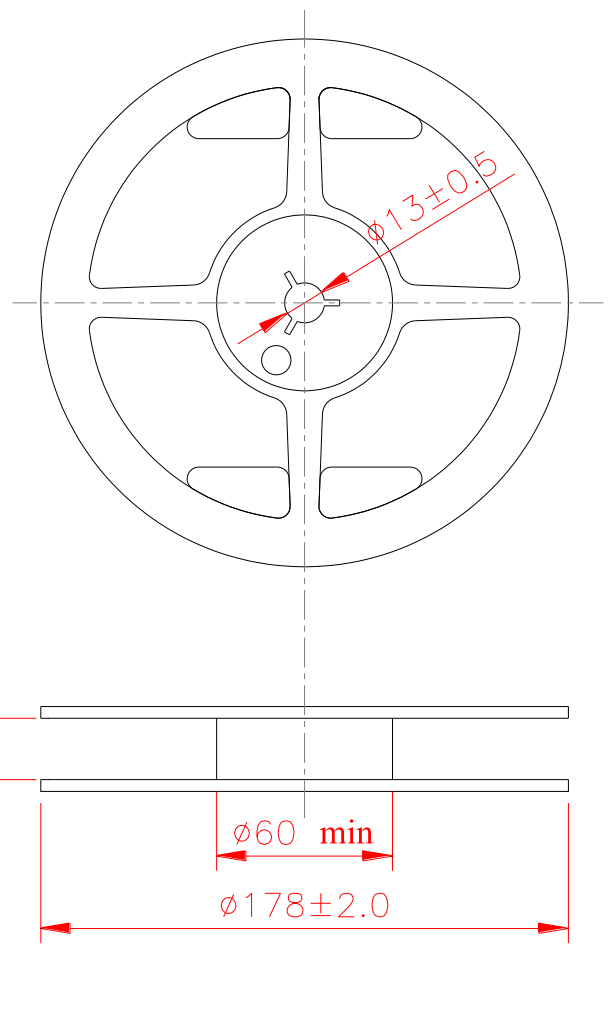
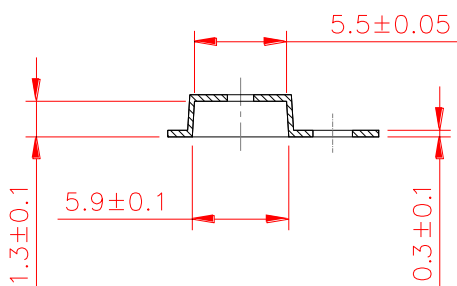
ceramic antenna body (mm)

## 8. Tape and Reel Information

Top View



Front View



Tape and Reel Specifications

## 9. Packaging

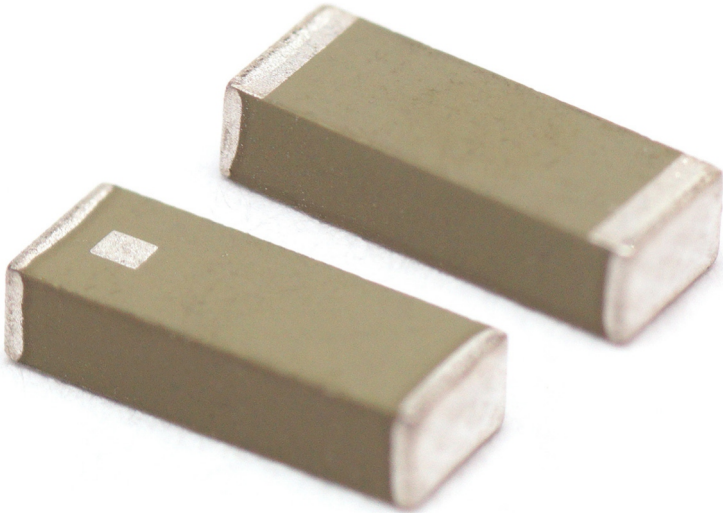
### PACKAGING SPECIFICATION

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





## Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро EMC, входит в ГК Макро Групп)
- поставщик полупроводниковых материалов
- комплексный поставщик электронных компонентов
- моделирование и производство полупроводниковых эпитаксиальных гетероструктур для задач оптоэлектроники

Головной офис расположен в Санкт-Петербурге. Собственные представительства в крупных промышленных городах России и стран СНГ.

## Преимущества для наших заказчиков:

- работа по тендерам с 2012 года
- оформление банковских гарантий
- отсрочки платежей
- поставка электронных компонентов по проектным ценам
- инженерная поддержка проектов заказчиков
- сертификат системы менеджмента качества ISO 9001-2015
- необходимые сертификаты и лицензии

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