antenna conceptor

Product Datasheet

2JS30

2.4 GHz ISM Surface Mount

Key Features

2.4 GHz ISM
- 2410-2490 MHz
Surface Mount
Easy to Integrate
Compact Size
Ceramic Material
Ground Plane Dependent
Dimensions 13x 13 x 4 mm



1. Antenna and electrical specifications

Parameters	2.4 GHz ISM Antenna
Standards	WiFi, BT, ZigBee, ISM,
Band (MHz)	2400
Frequency (MHz)	2410-2490
Return Loss (dB)	~-10.1
VSWR	~2.5:1
Efficiency (%)	~60.3
Peak Gain (dBi)	~4.2
Average Gain (dB)	~-2.1
Impendance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Hemispherical

Antenna Measurement Conditions:

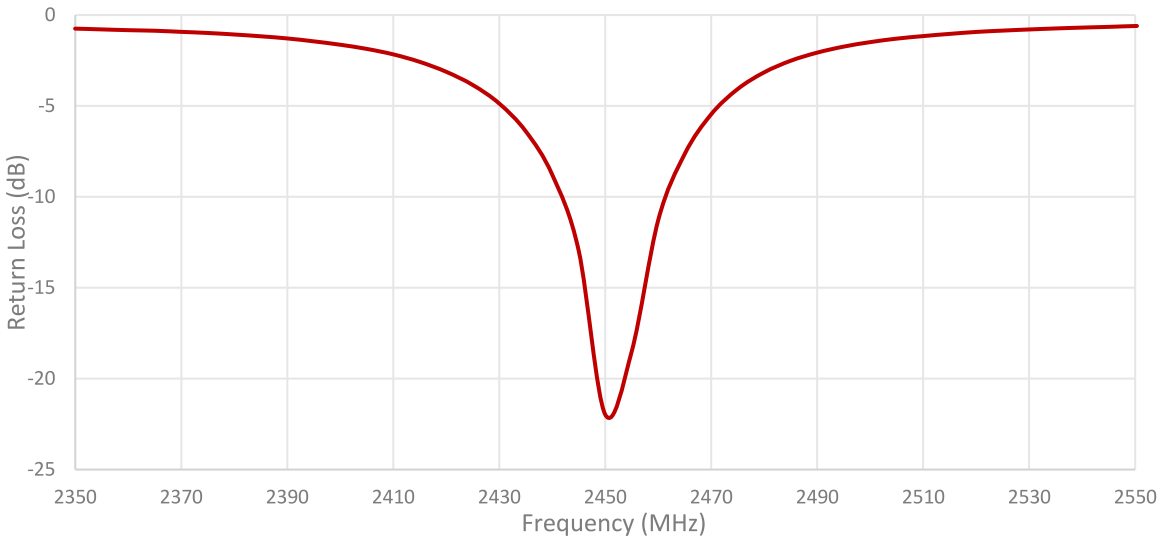
Mounted on ground plane of 70 x 70 mm

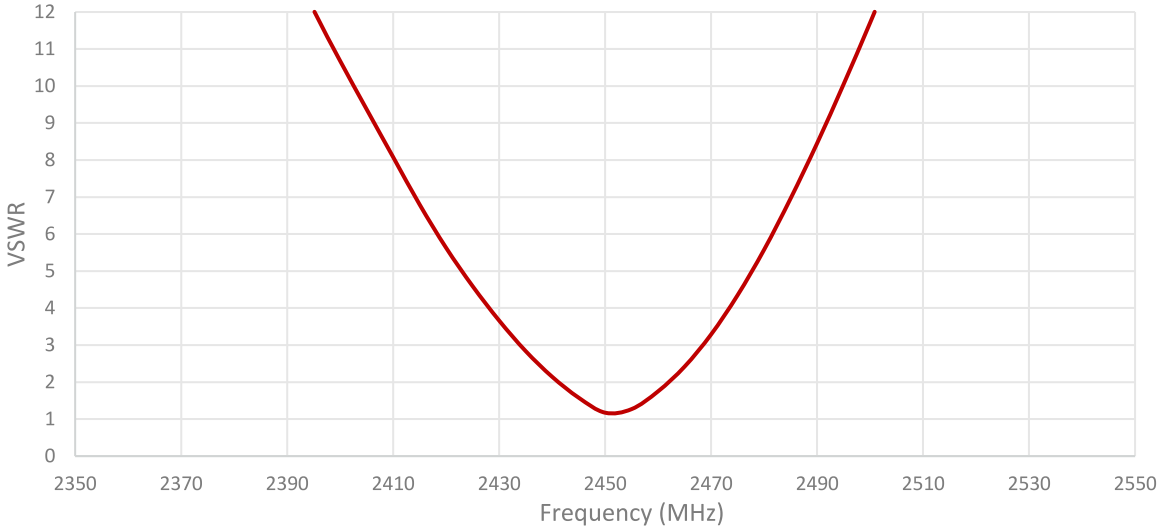
Measured in Certified CTIA 3D Anechoic Chamber

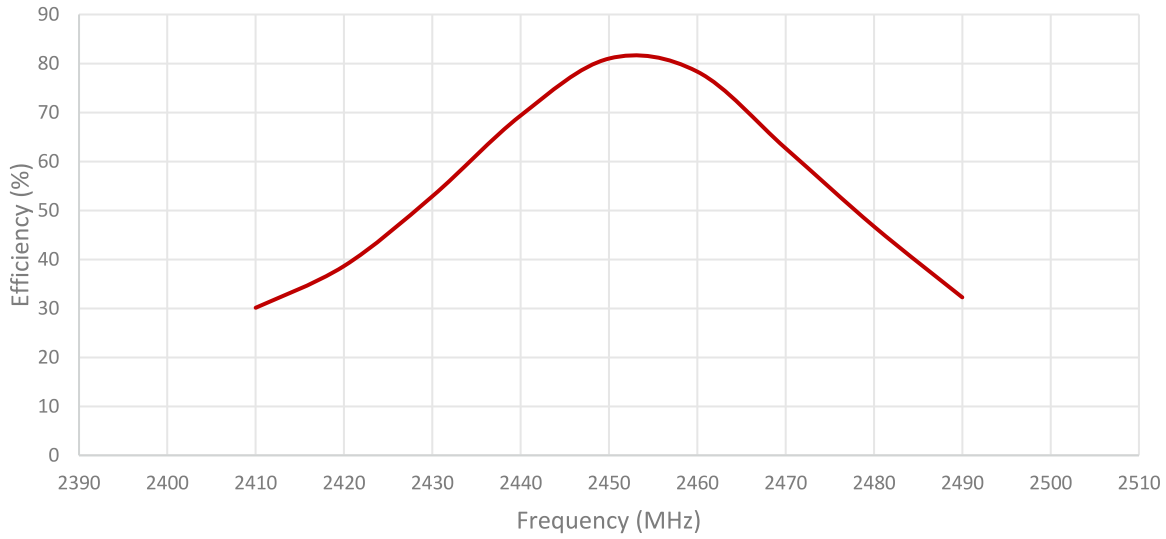
2. Mechanical and environmental specifications

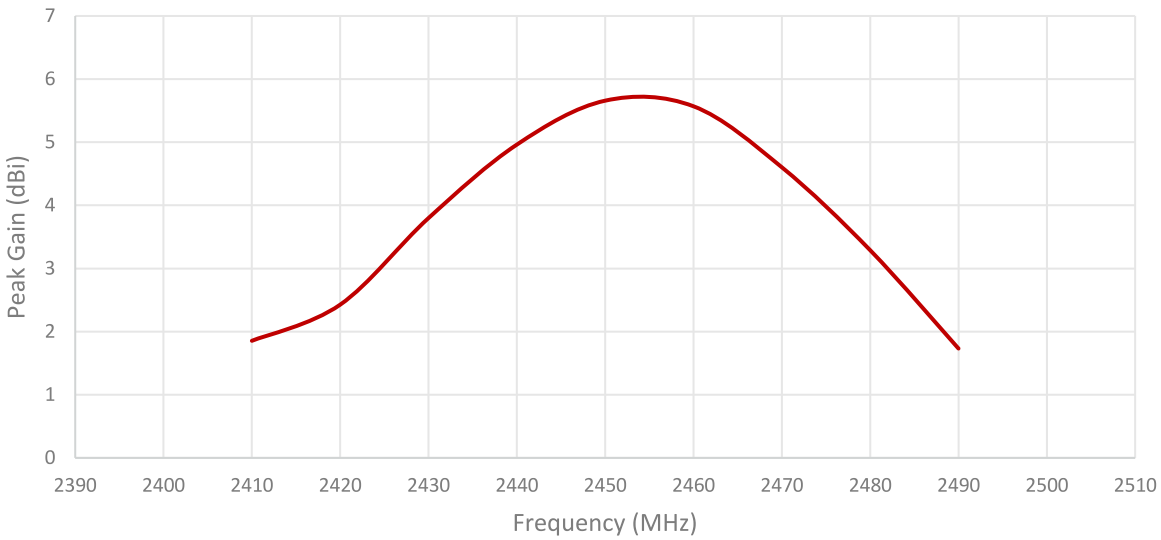
Specifications	2JS30
Mounting Type	Surface Mount
Dimensions (mm)	13 x 13 x 4
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Typical Shear Force Test	50Kgf according to IEC62137-1-2:2007

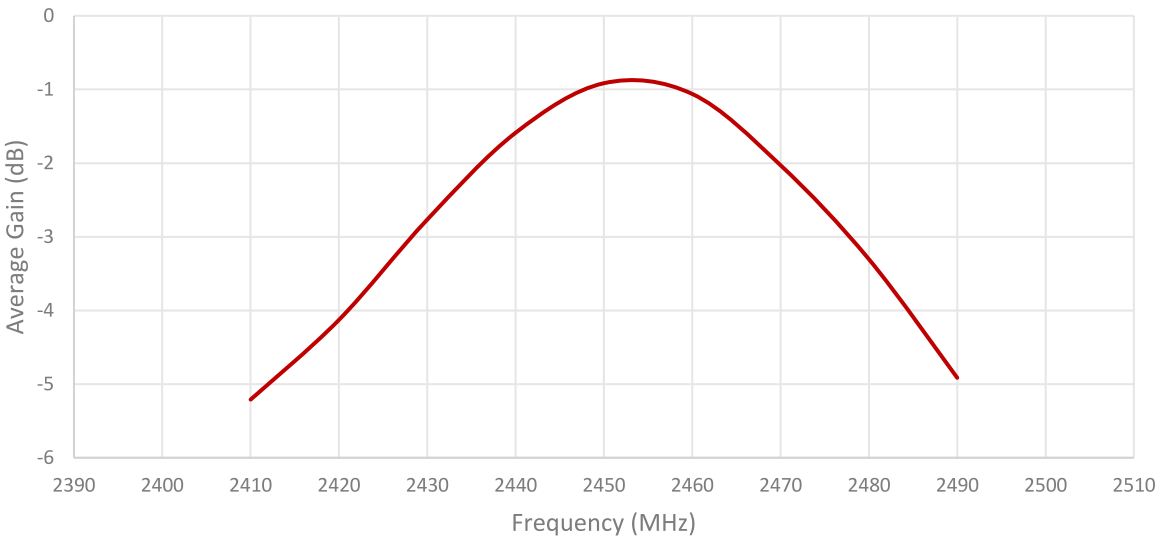
3. Antenna parameters

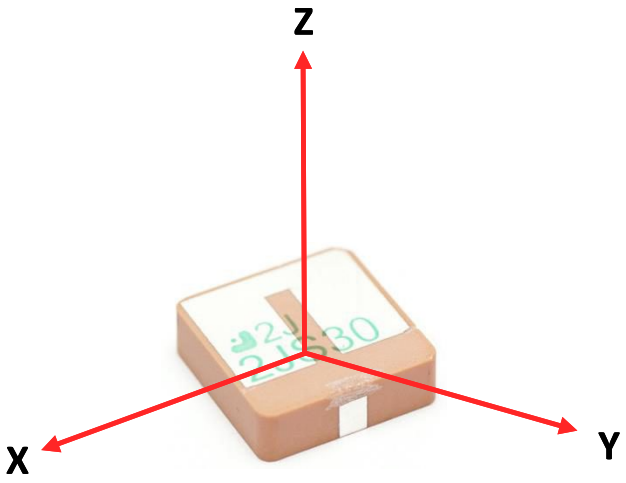




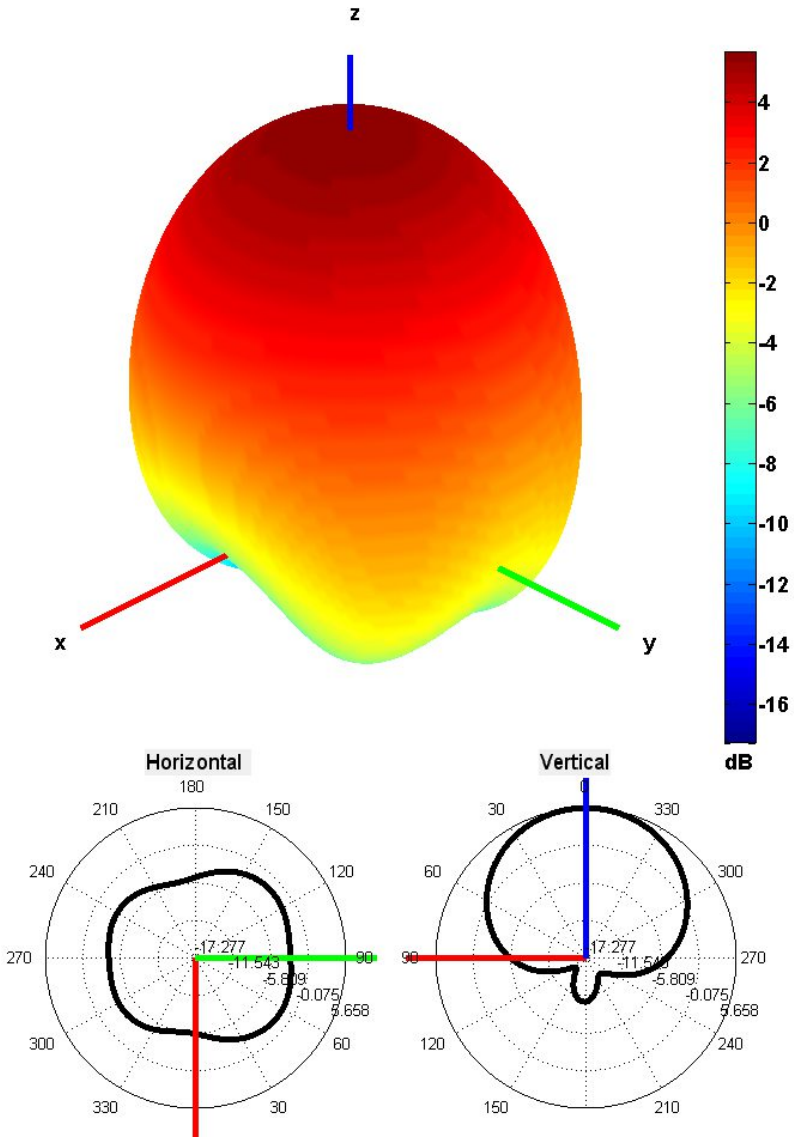

90
80
70
60
50
40
30
20
10
0
Efficiency (%)
2390
2400
2410
2420
2430
2440
2450
2460
2470
2480
2490
2500
2510
Frequency (MHz)


7
6
5
4
3
2
1
0
Peak Gain (dBi)
2390
2400
2410
2420
2430
2440
2450
2460
2470
2480
2490
2500
2510
Frequency (MHz)



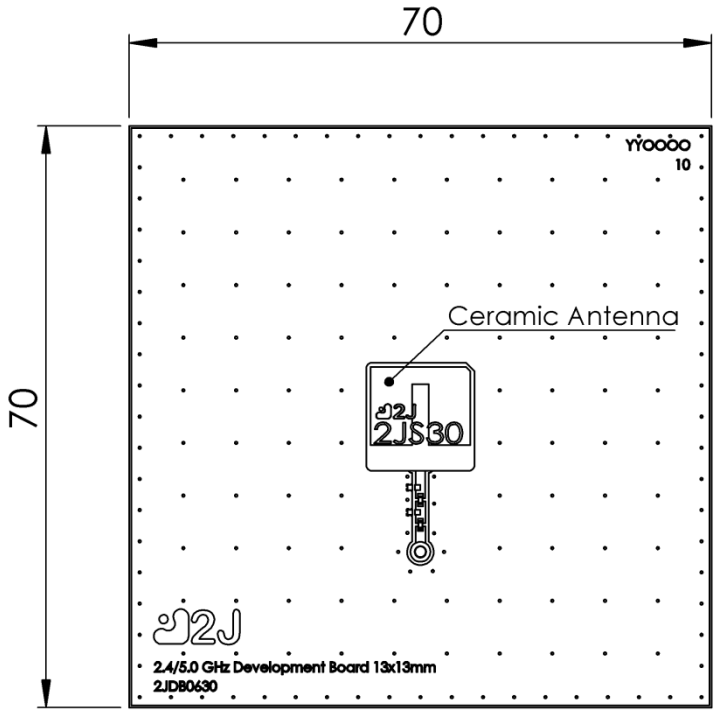


Radiation pattern reference

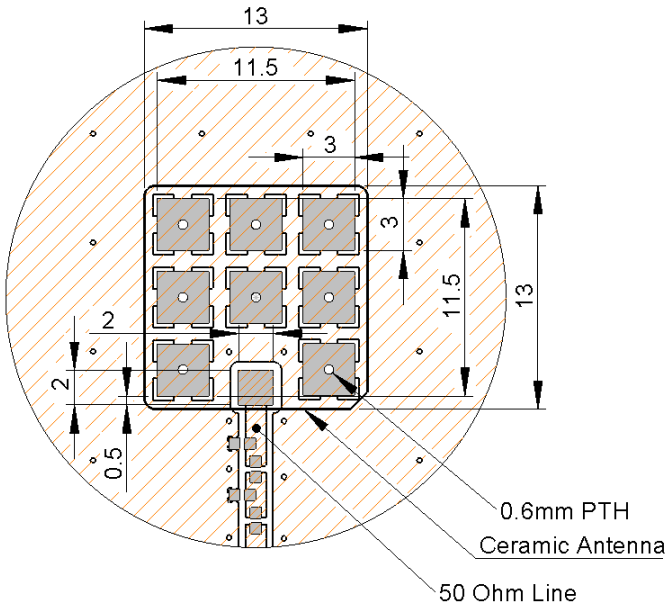


2450 MHz Radiation pattern

4. PCB Layout

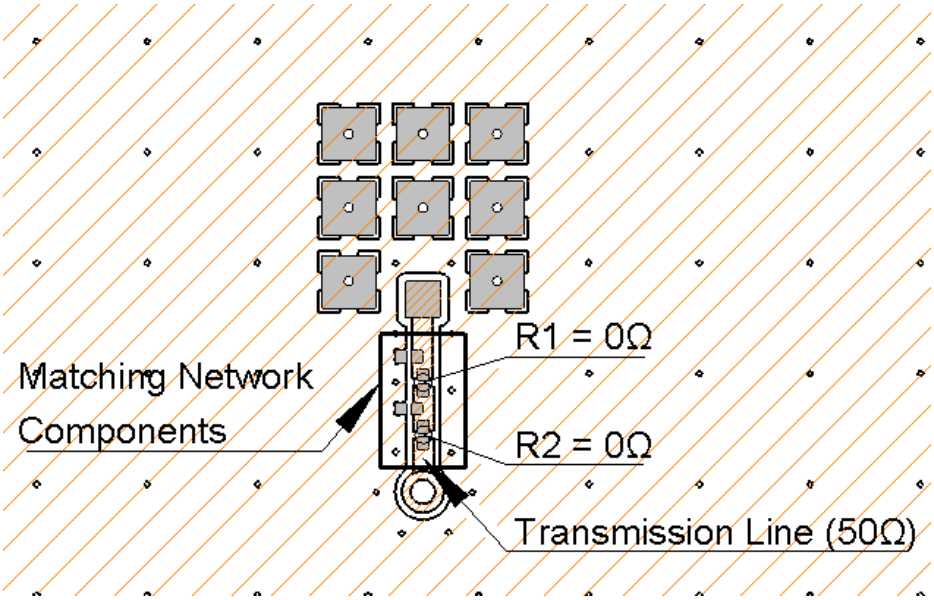


Recommended PCB Dimensions

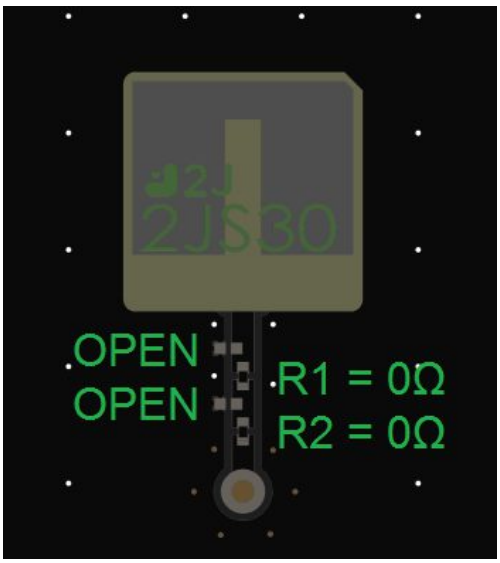


Layout dimensions for antenna integration (mm)

5. Matching Components

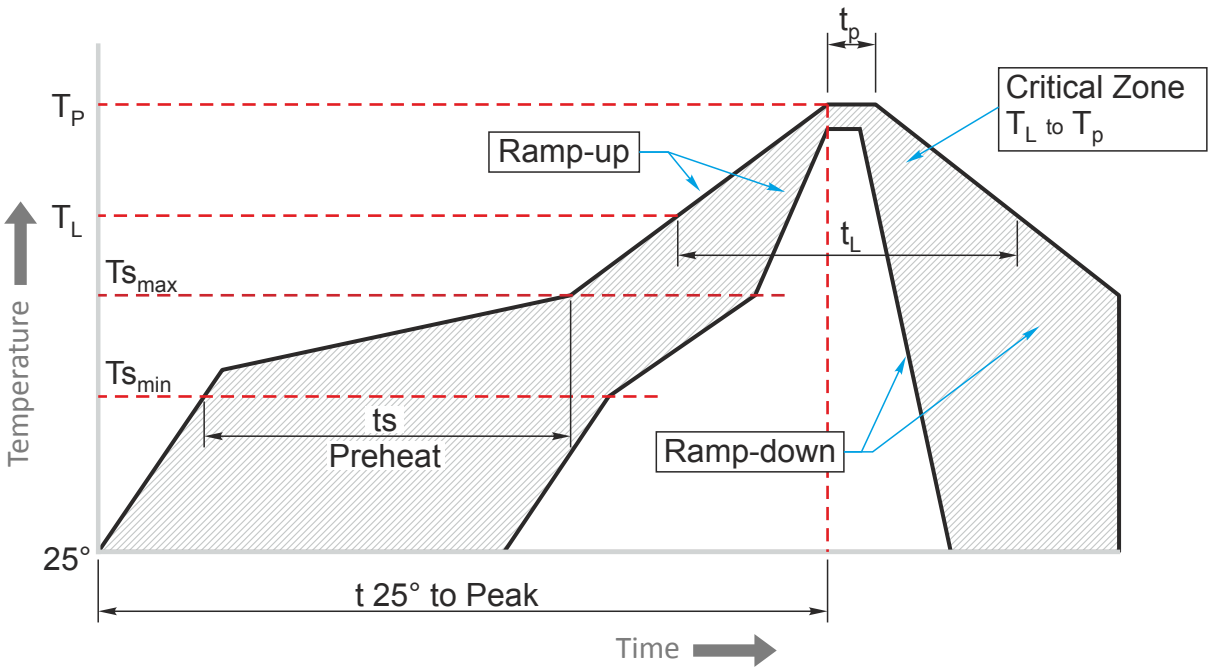


Matching Network Drawing



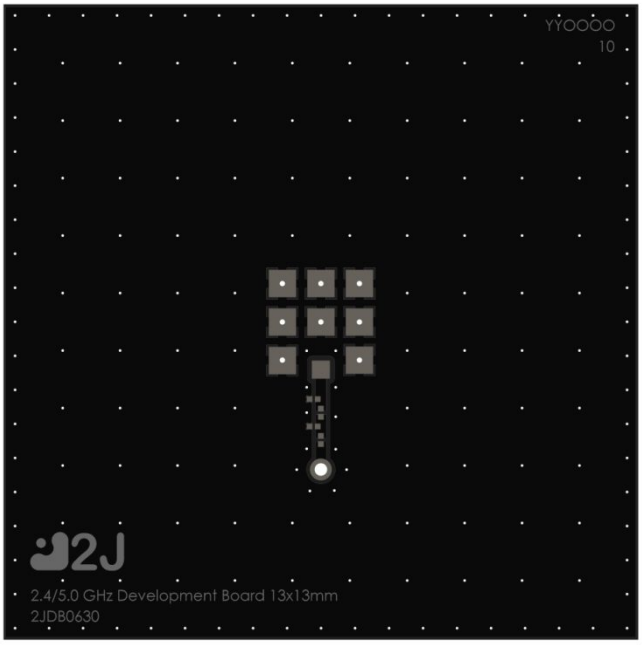
3D View of matching components and recommended values

REFLOW TEMPERATURE PROFILE

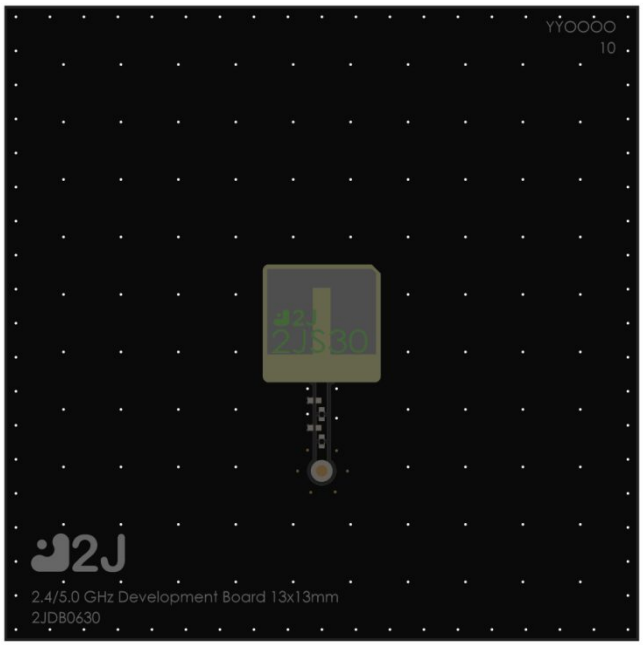


Phase	Profile features	Pb-Free Assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (Ts_{max} to T_p)	3°C / second (max)
PREHEAT	-Temperature Min Rate (Ts_{min})	150°C
	-Temperature Max Rate (Ts_{min})	200°C
	-Time (ts_{min} to ts_{max})	60-120 seconds
REFLOW	-Temperature (T_L)	217°C
	-Total Time above T_L (t_L)	30-100 seconds
PEAK	-Temperature (T_P)	245°C
	-Time (t_P)	2-5 seconds
RAMP-DOWN	Rate	3°C / second max.
Time from 25°C to Peak Temperature		8 minutes max.

6. Evaluation Board



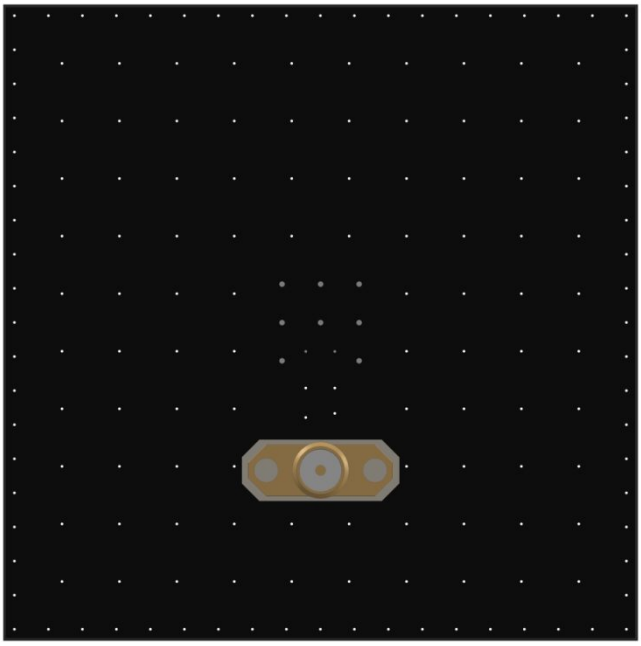
Front View without Antenna



Front View with Antenna



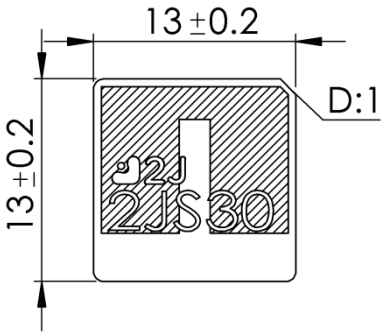
Side View



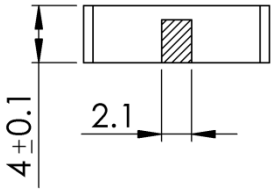
Back View

7. Antenna drawings

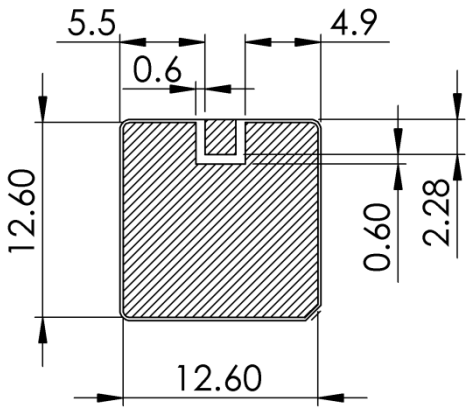
TOP



FRONT

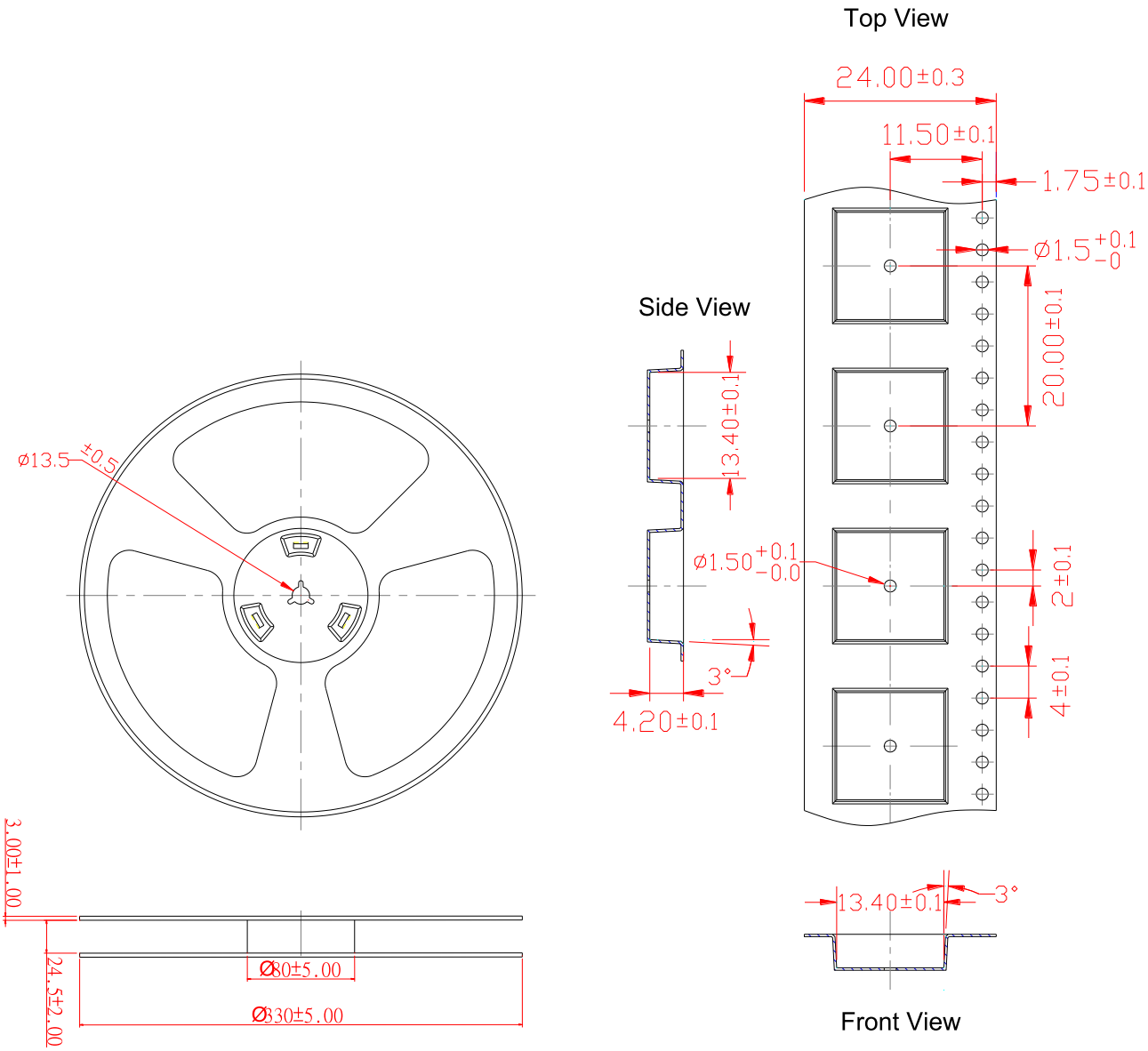


BOTTOM



Dimensions for ceramic antenna 13 x 13 x 4 mm

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION	
Antenna	2JS30
REEL	
Max Quantity per Reel	500
REEL BOX	
Reels per Box	1
Max Quantity per Box	500
Reel Box Dimensions (cm)	34 x 34 x 4
Reel Box Weight (Kg)	2.26
CARTON	
Reels per Carton	5
Max Quantity per Carton	2500
Reel Carton Dimensions (cm)	36 x 36 x 23
Reel Carton Weight (Kg)	11.3

Storage Conditions:

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

10. Antenna Images

