

## AMC-ANT-2JS20

### GNSS ceramic surface mount antenna

#### Key Features

- GPS/GLONASS/QZSS/Galileo
  - 1575 - 1606MHz
- Surface mount
- Easy to integrate
- Compact size
- Ceramic material
- Ground plane dependent
- Dimensions – 25 x 25 x 4mm



## 1. Antenna and Electrical Specifications

Parameters	GNSS ceramic surface mount antenna	
Standards	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency (MHz)	1575.42	1598 - 1606
Return Loss (dB)	~-26.4	~-26.4
VSWR	~1.1:1	~1.1:1
Efficiency (%)	~84.2	~80.9
Peak Gain (dBi)	~4.6	~4.7
Average Gain (dB)	~-0.7	~-0.9
Impedance (Ohms)	50	
Radiation Pattern	Hemispherical	

### Antenna Measurement Conditions:

Free space

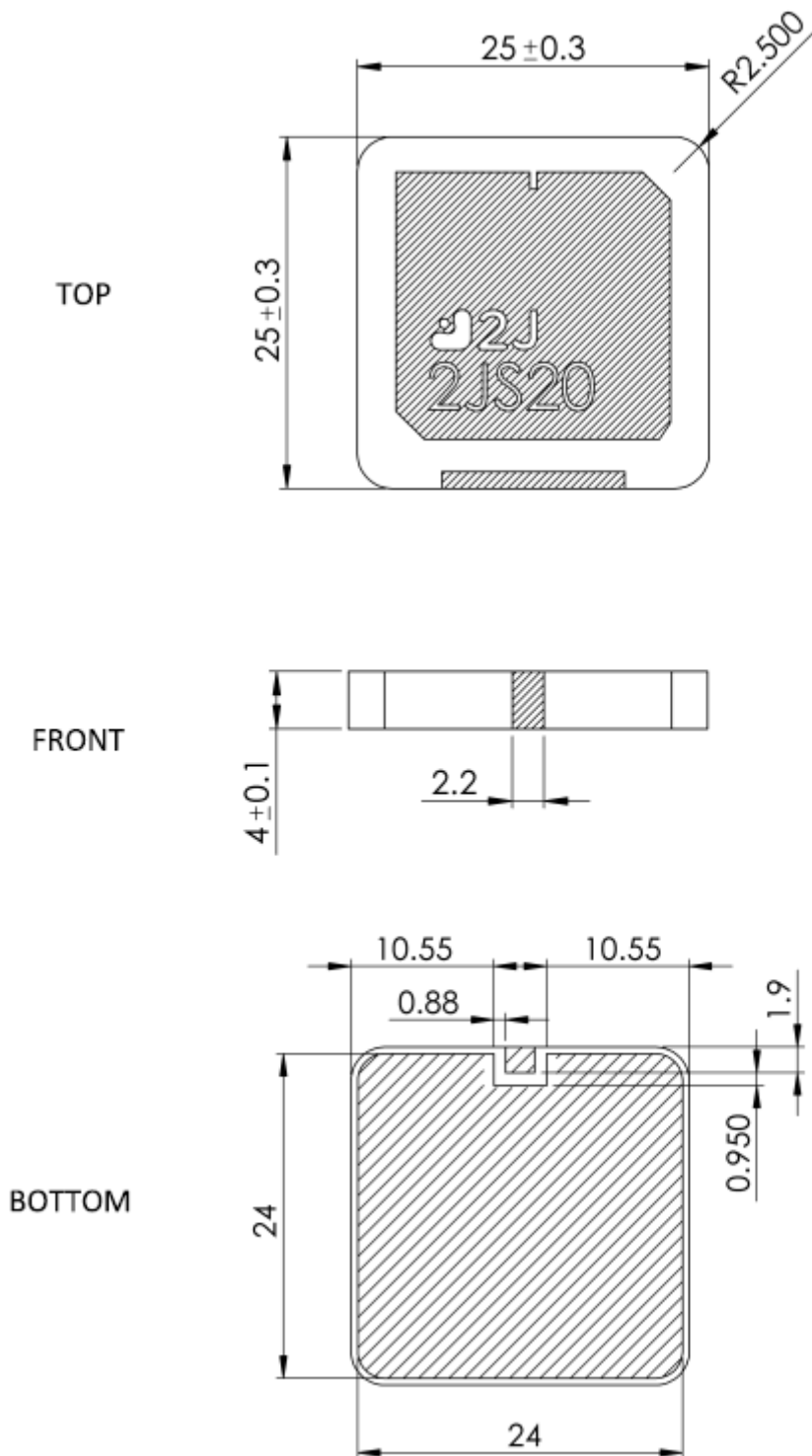
Mounted on ground plane of 70 x 70mm

Measured in certified CTIA 3D anechoic chamber

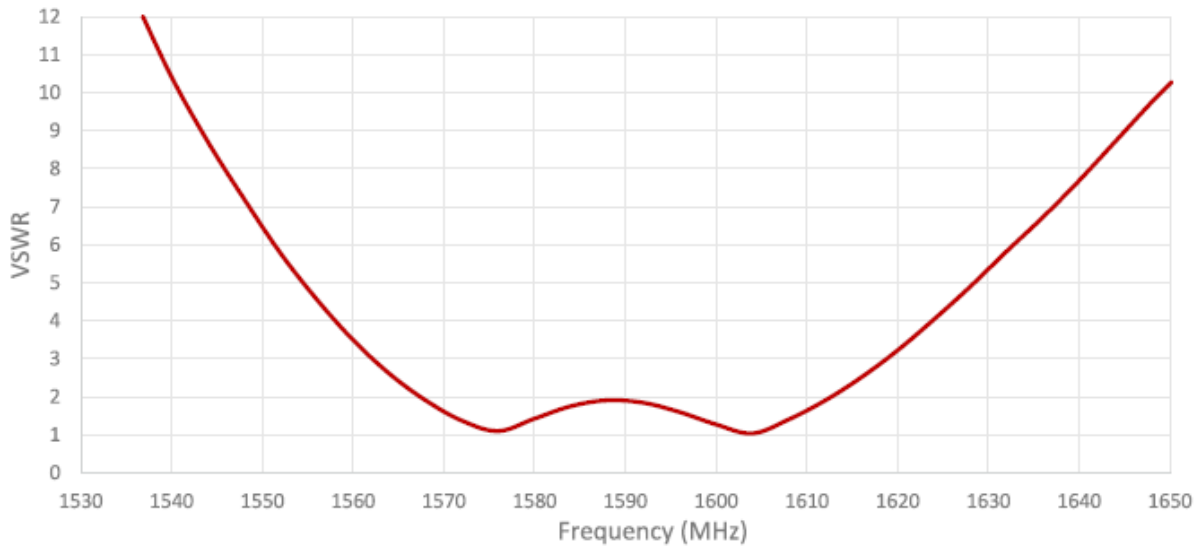
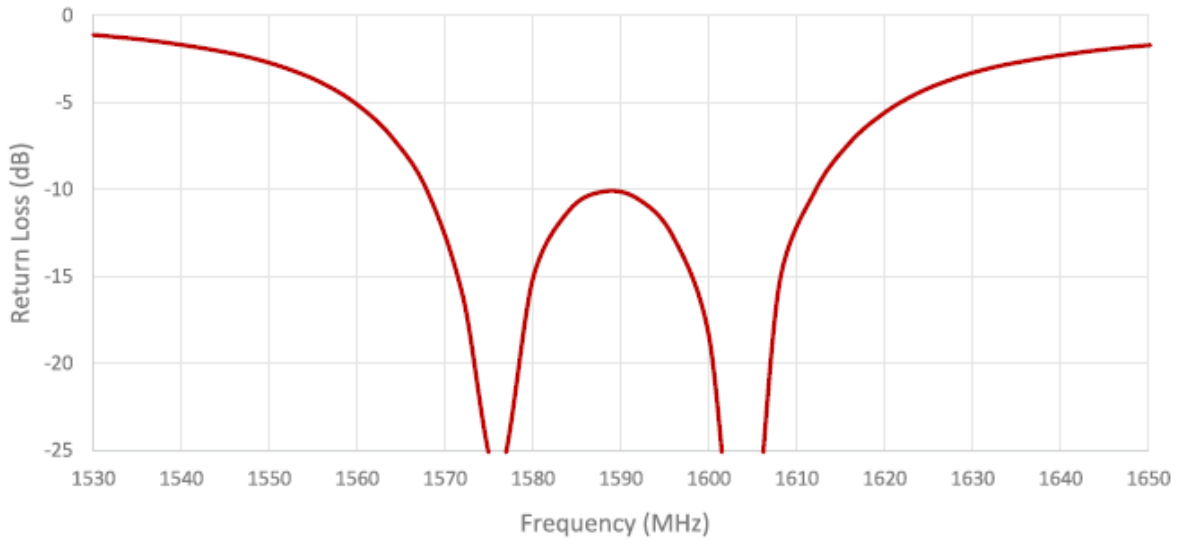
## 2. Mechanical and Environmental Specifications

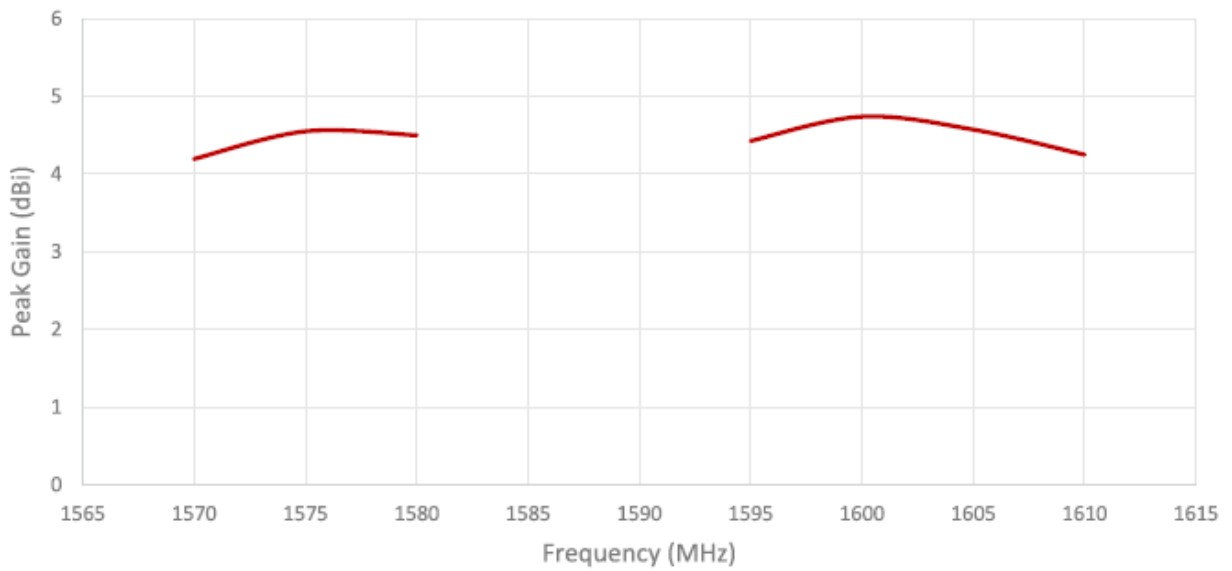
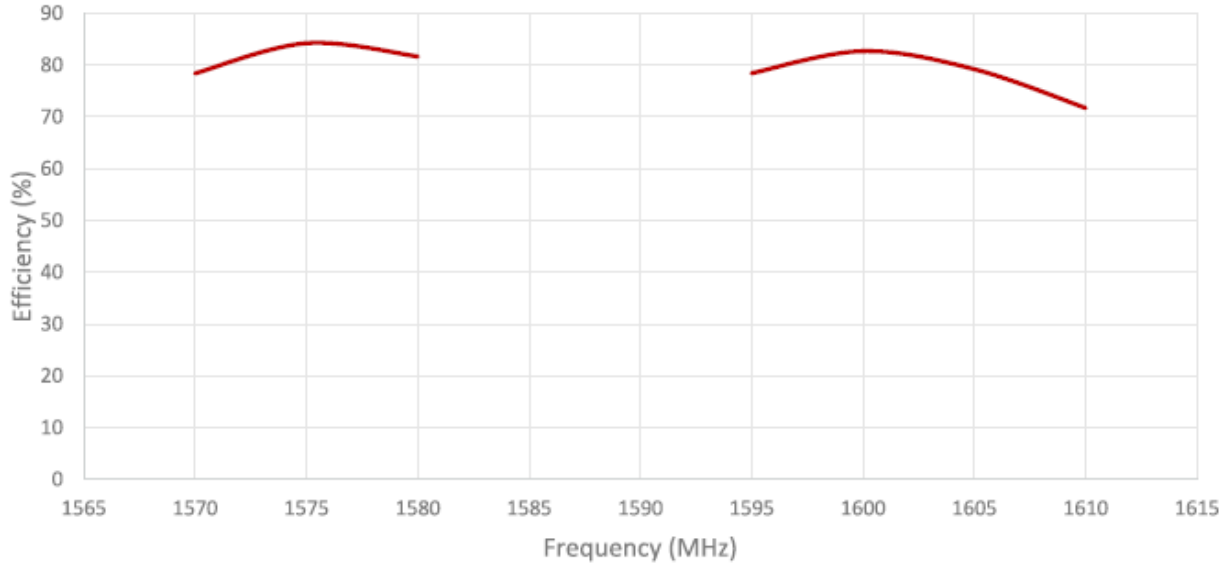
Mounting Type	Surface mount
Dimensions (mm)	25 x 25 x 4
Material	Ceramic
Operating Temperature (°C)	-40 to +85
Storage Temperature (°C)	-40 to +85
Substance Compliance	RoHS

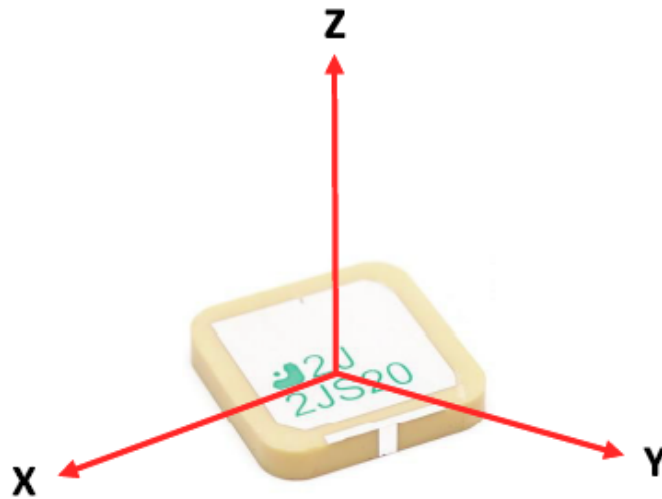
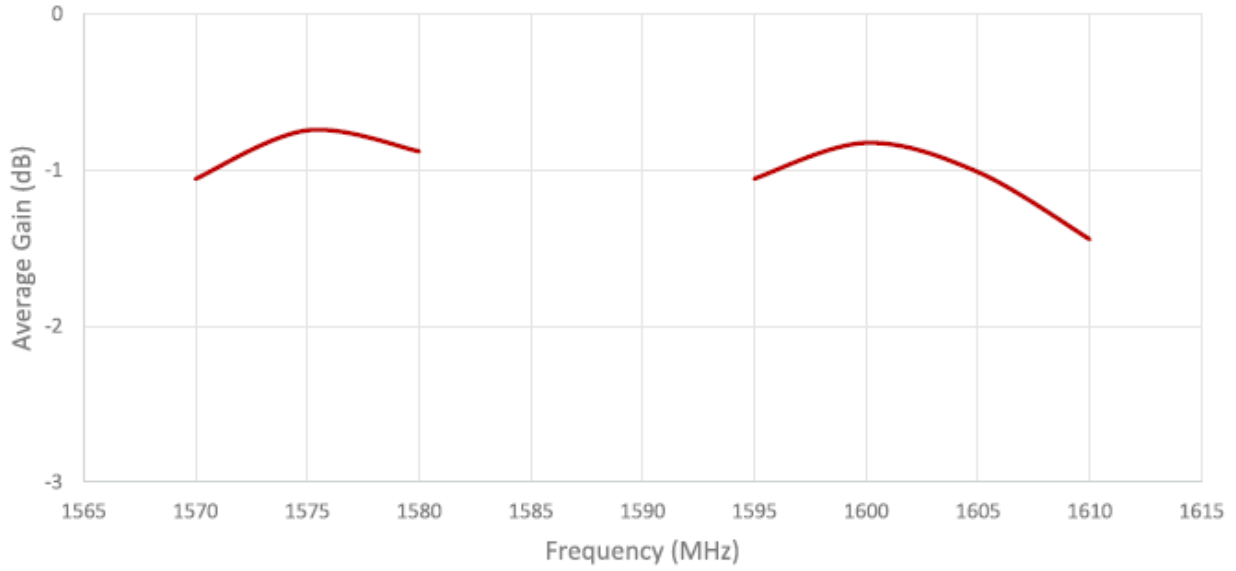




### 3. Antenna Parameters

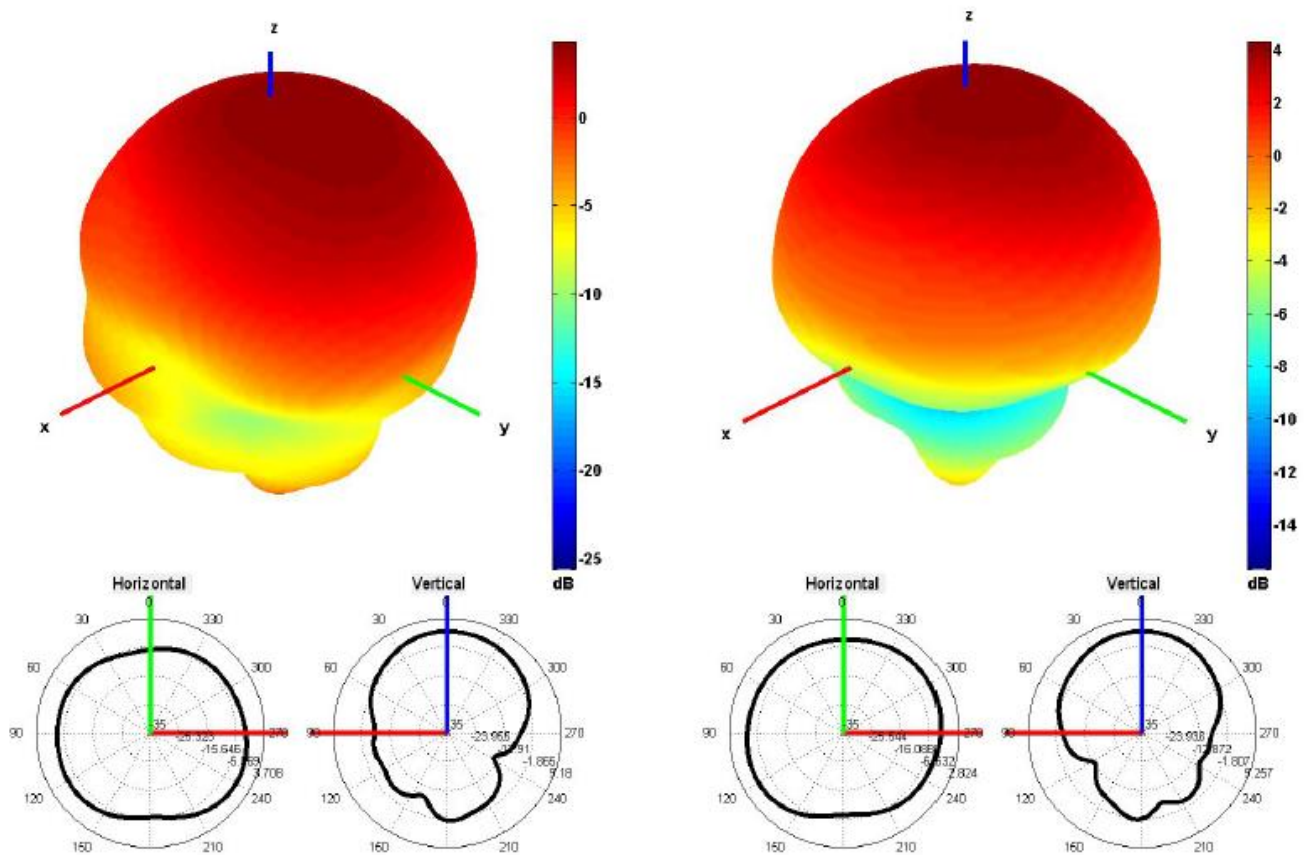






Radiation pattern reference

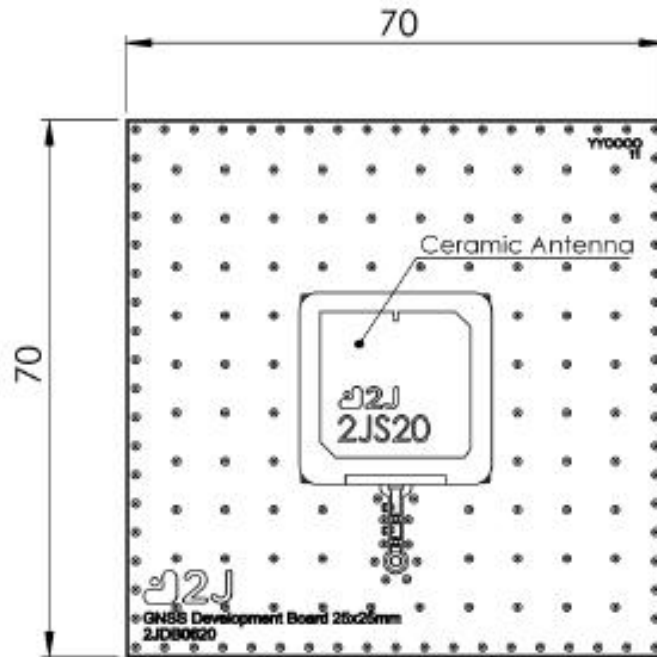




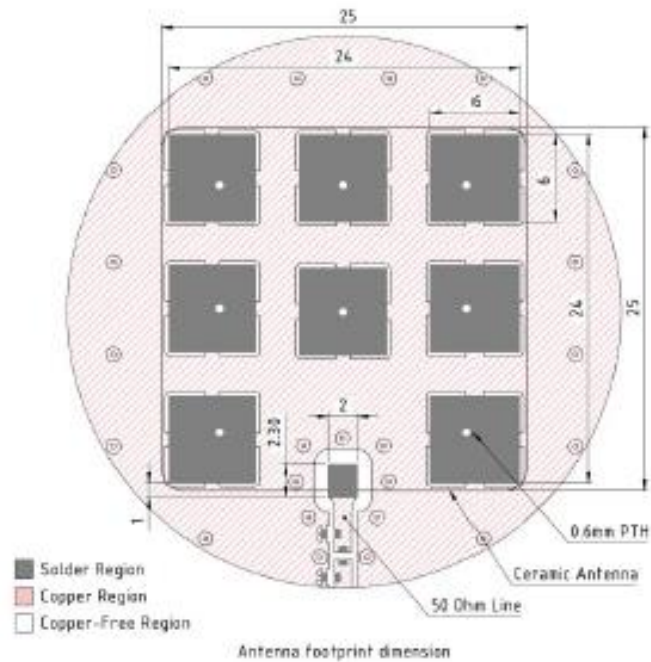
1575 AND 1600 MHz Radiation pattern



### 4. PCB Layout



Recommended PCB Dimensions

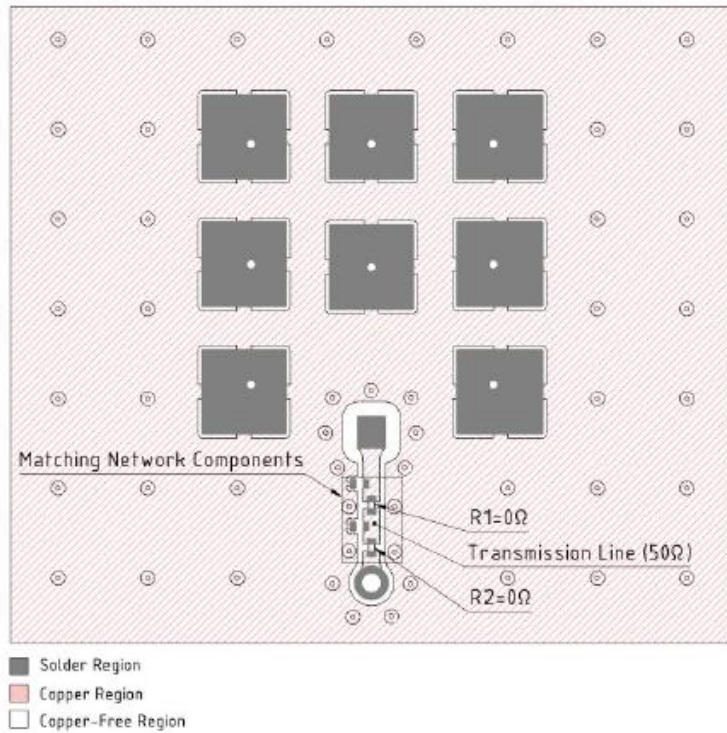


Layout dimensions for antenna integration (mm)





## 5. Matching Components



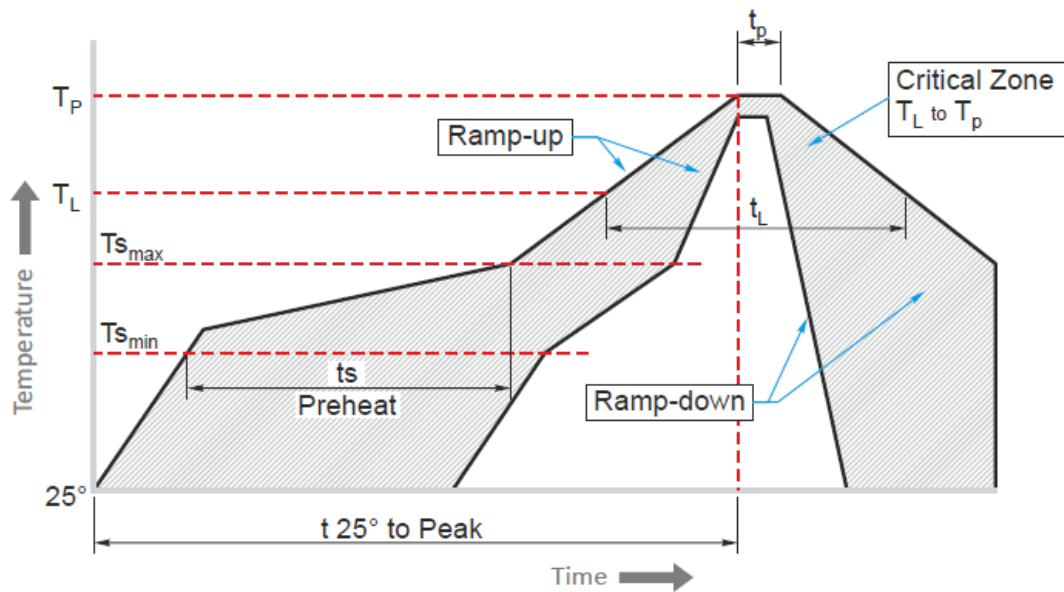
Matching Network Drawing



3D View of matching components and recommended values



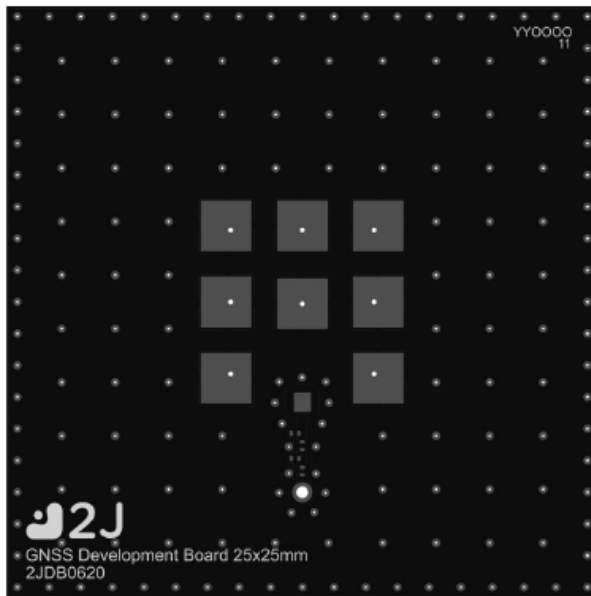
REFLOW TEMPERATURE PROFILE



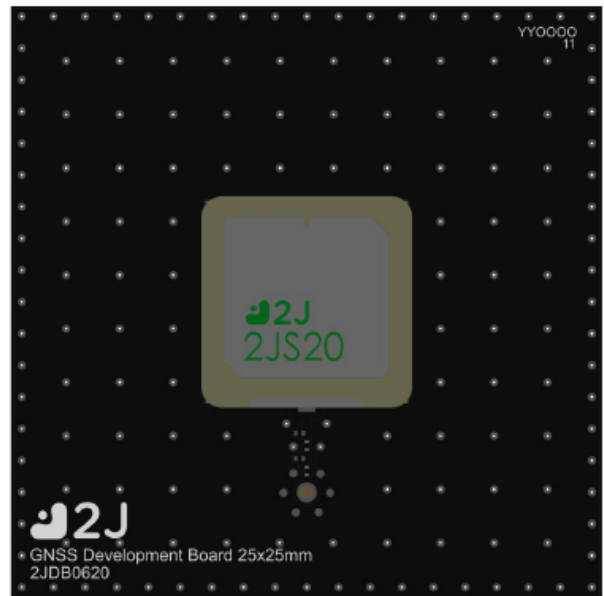
Phase	Profile features	Pb-Free Assembly (SnAgCu)
<b>RAMP-UP</b>	Avg. Ramp-up Rate ( $T_{s_{max}}$ to $T_P$ )	3°C / second (max)
<b>PREHEAT</b>	-Temperature Min Rate ( $T_{s_{min}}$ )	150°C
	-Temperature Max Rate ( $T_{s_{max}}$ )	200°C
	-Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	60-120 seconds
<b>REFLOW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



## 6. Evaluation Board



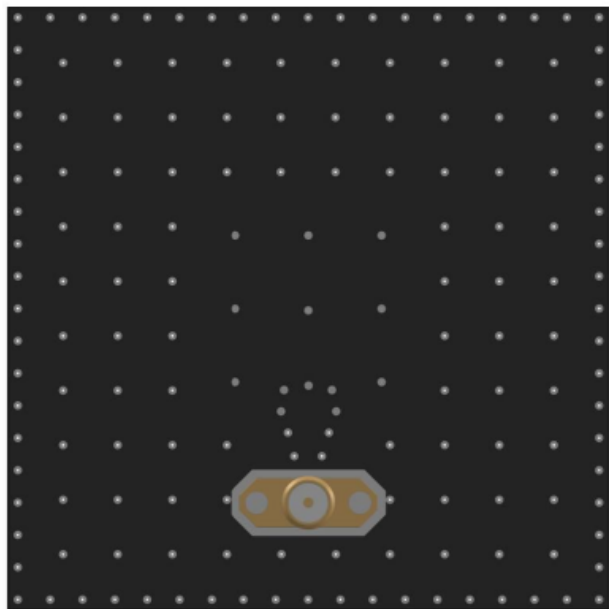
Front View without Antenna



Front View with Antenna



Side View



Back View





## 8. Packaging

### PACKAGING SPECIFICATION

<b>Antenna</b>	2JS20
<b>REEL</b>	
<b>Max Quantity per Reel</b>	250
<b>REEL BOX</b>	
<b>Reels per Box</b>	1
<b>Reel Box Dimensions (cm)</b>	34 x 34 x 4
<b>Reel Box Weight (Kg)</b>	2.75
<b>CARTON</b>	
<b>Reels per Carton</b>	4
<b>Max Quantity per Carton</b>	1000
<b>Reel Carton Dimensions (cm)</b>	36 x 36 x 23
<b>Reel Carton Weight (Kg)</b>	11

#### 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.

