

AMC-ANTEGNESC01-01

Type GNSS Ceramic Surface Mount Antenna

Features

- GPS/Galileo/QZSS/GLONASS/BeiDou
 - 1561 – 1606MHz
- Surface mount
- Ground plane dependent
- Compact size – 8 x 1 x 1.7mm



Certifications:



Alpha Micro UK: Tel: +44 1256 851770 | email: sales@alphamicro.net
www.alphamicro.net



1. Antenna and Electrical Specifications

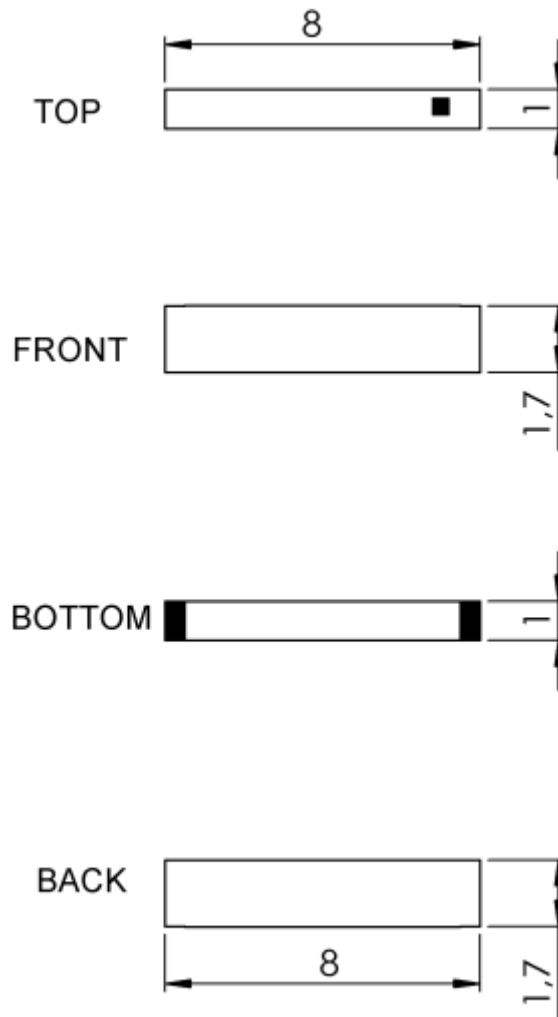
Parameters	Ceramic Surface Mount Antenna		
Standards	BeiDou	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1561	1575	1602
Frequency (MHz)	1561.098	1575.42	1598 - 1606
Return Loss (dB)	~-12.1	~-14.5	~-12.5
VSWR	~1.7:1	~1.5:1	~1.6:1
Efficiency (%)	~55.5	~56.9	~55.8
Peak Gain (dBi)	~1.0	~1.1	~1.3
Average Gain (dB)	~-2.6	~-2.5	~-2.5
Impedance (Ohms)	50		
Polarisation	Linear		
Radiation Pattern	Hemispherical		

Measurement Conditions:

- Mounted on 50mm x 90mm ground plane
- Free space
- Measured in certified CTIA 3D anechoic chamber

2. Mechanical and Environmental Specifications

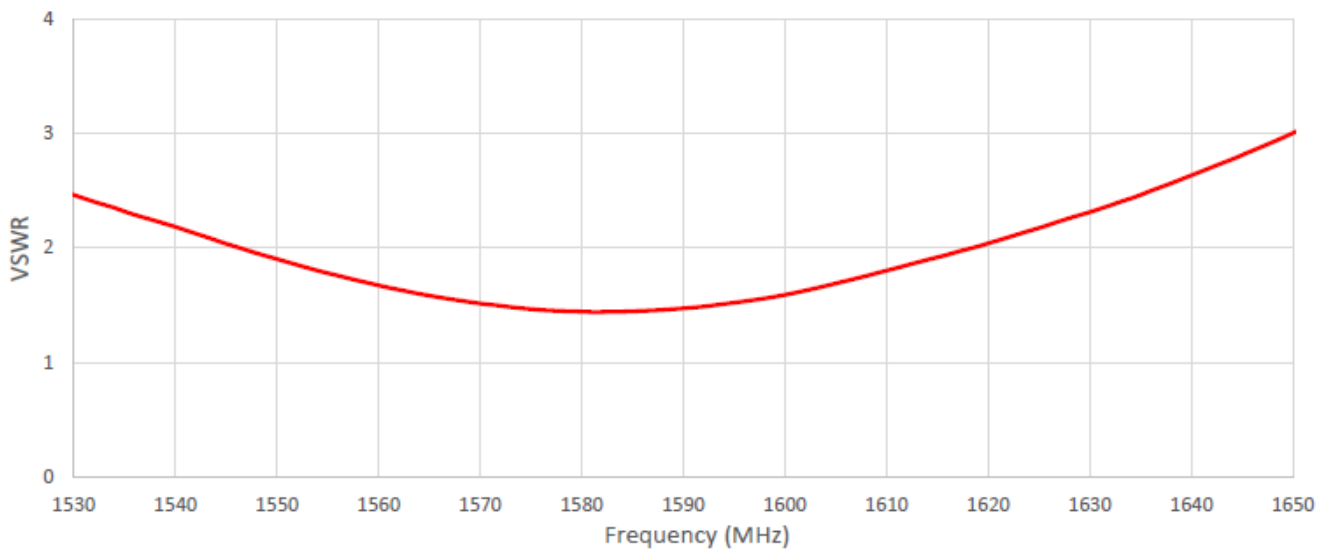
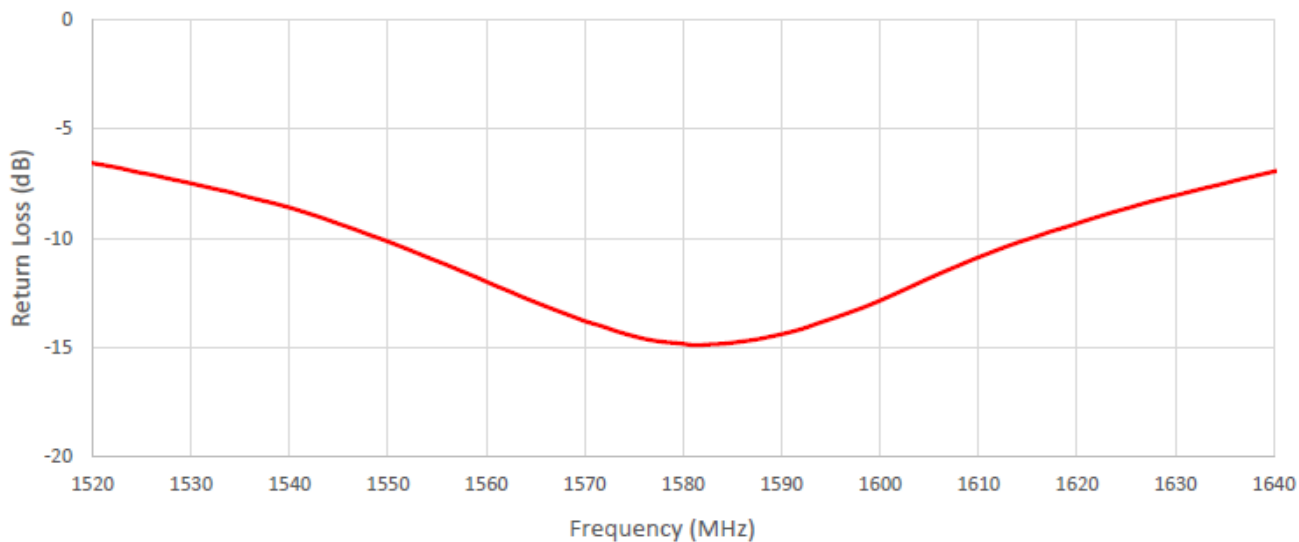
Mounting Type	Surface mount
Dimensions (mm)	8 x 1 x 1.7
Operating Temperature (°C)	-40 to +85
Storage Temperature (°C)	-40 to +85
Substance Compliance	RoHS

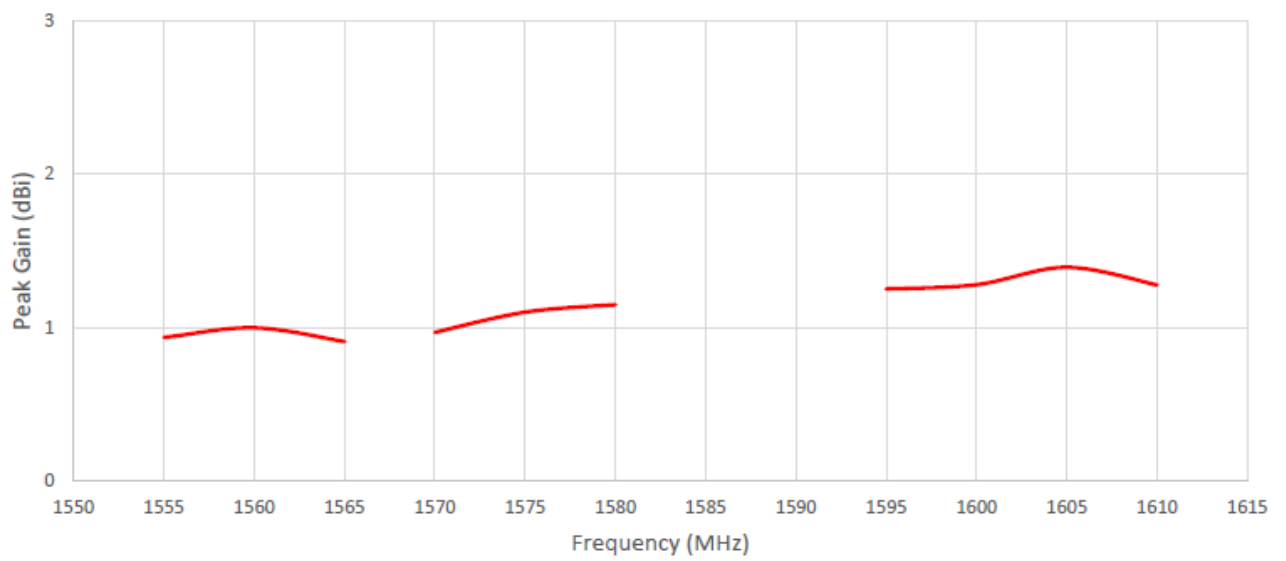
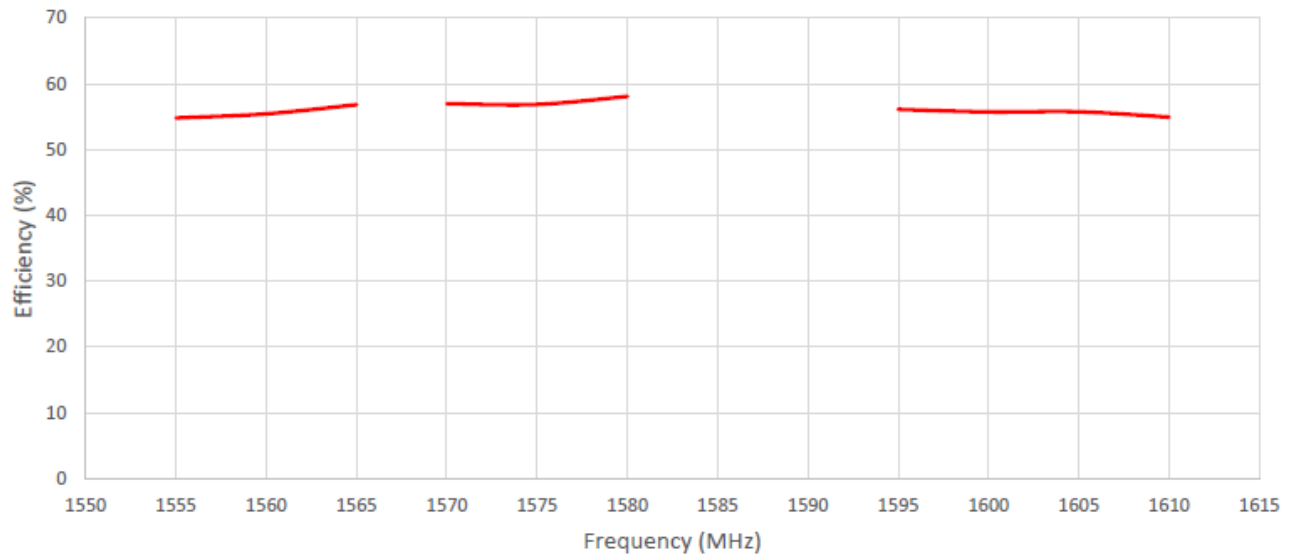


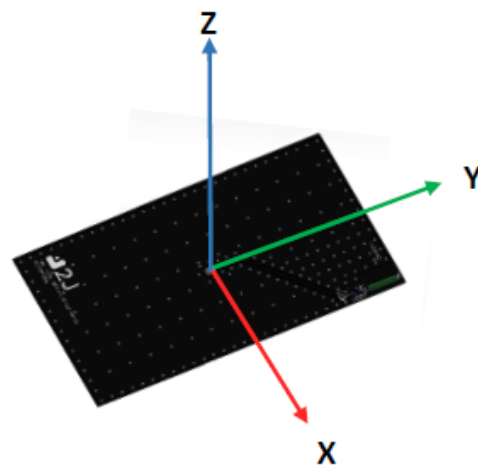
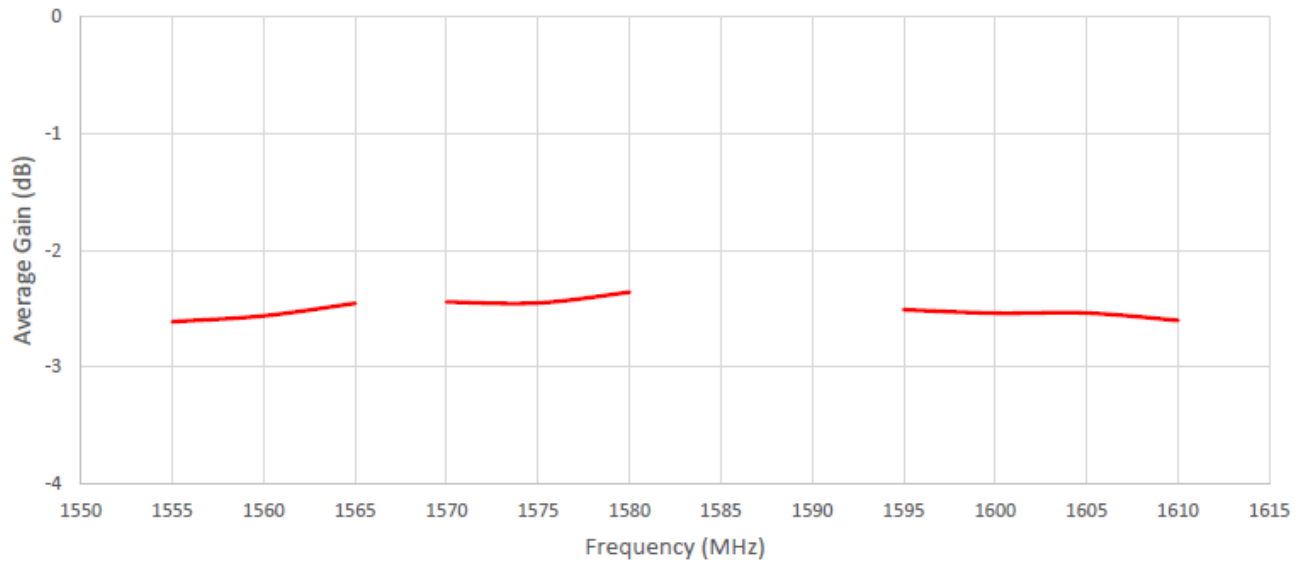
ceramic antenna body (mm)



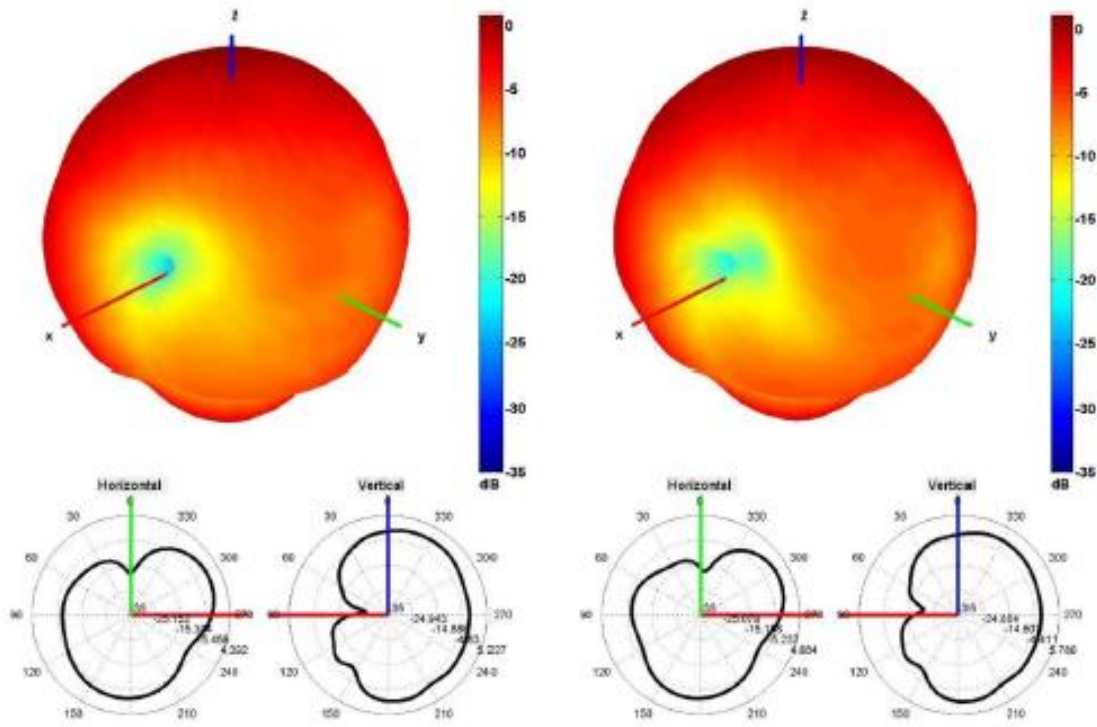
3. Antenna Parameters



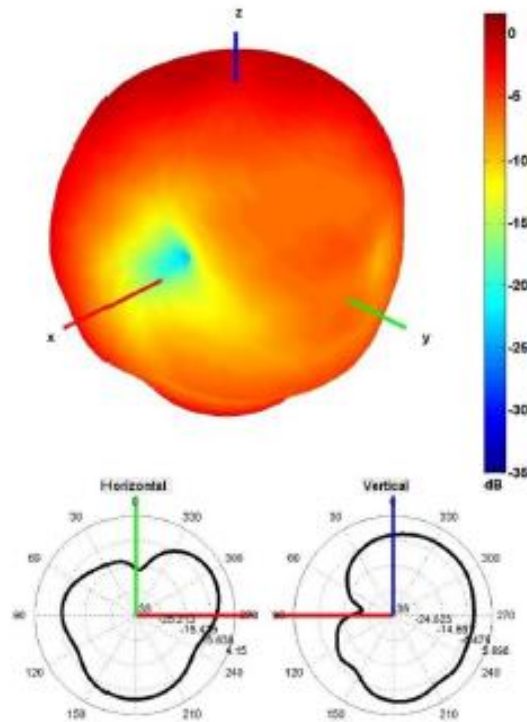




RADIATION PATTERN REFERENCE

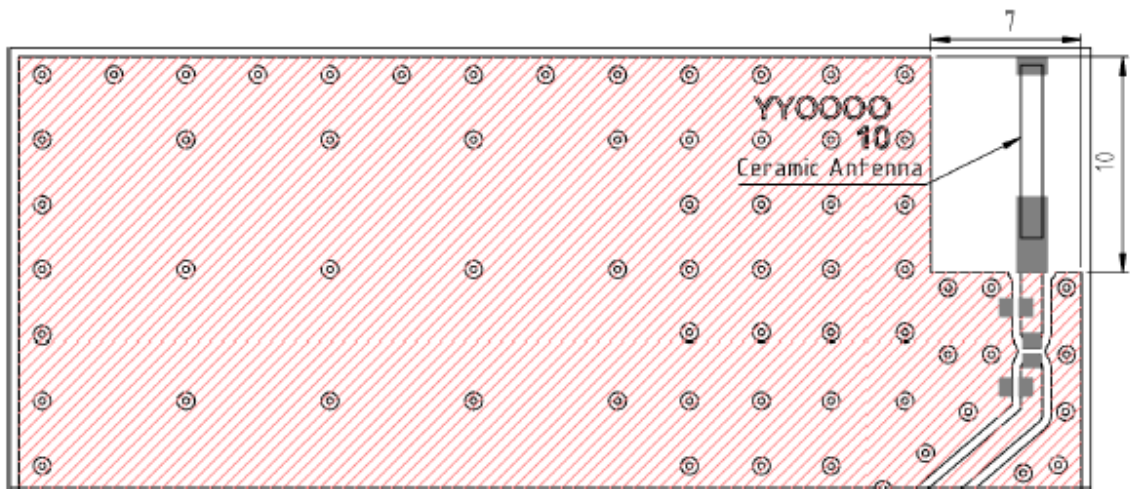


1561 AND 1575 MHz RADIATION PATTERN



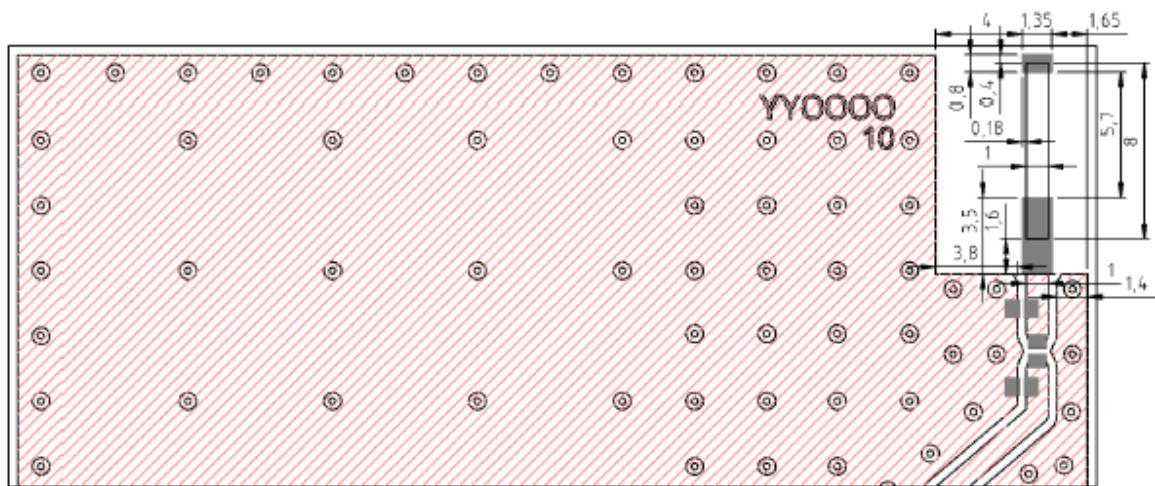
1602 MHz RADIATION PATTERN

4. PCB Layout



Minimum area required for antenna integration (7mm x 10mm)

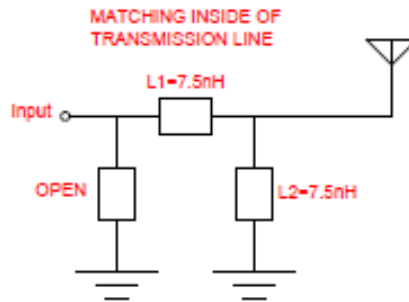
- Solder Region
- Copper Region
- Copper-Free Region



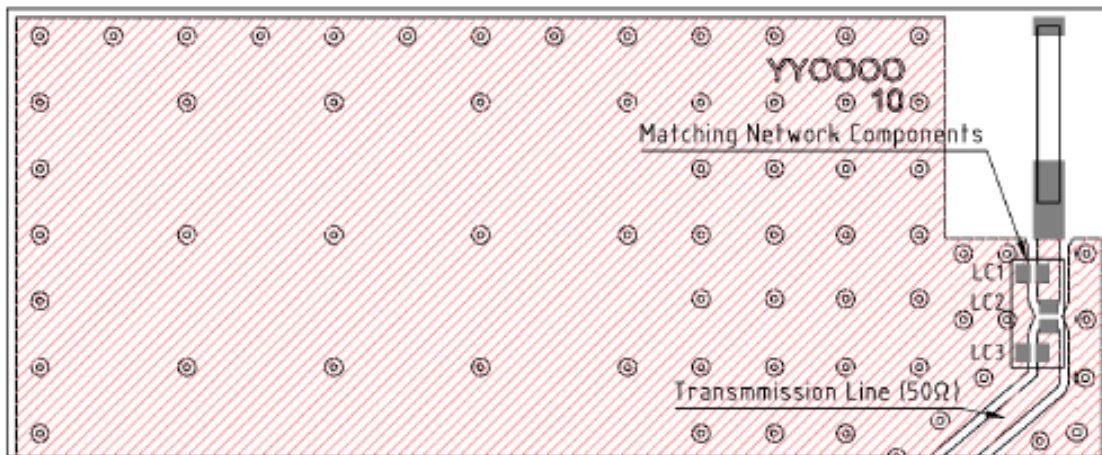
Layout dimensions for antenna integration (mm)

- Solder Region
- Copper Region
- Copper-Free Region

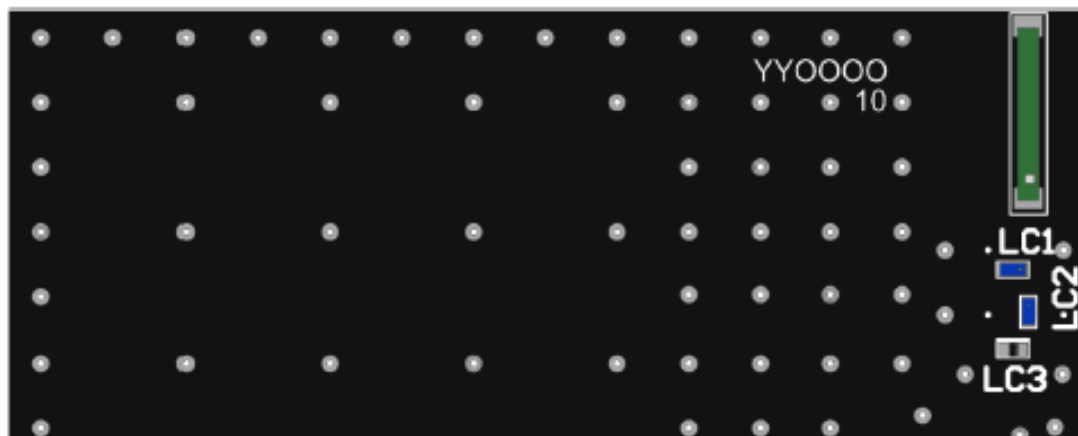
5. Matching Components



Matching Network Schematic



Matching network drawing (LC1=7.5nH, LC2=7.5nH, LC3=OPEN)

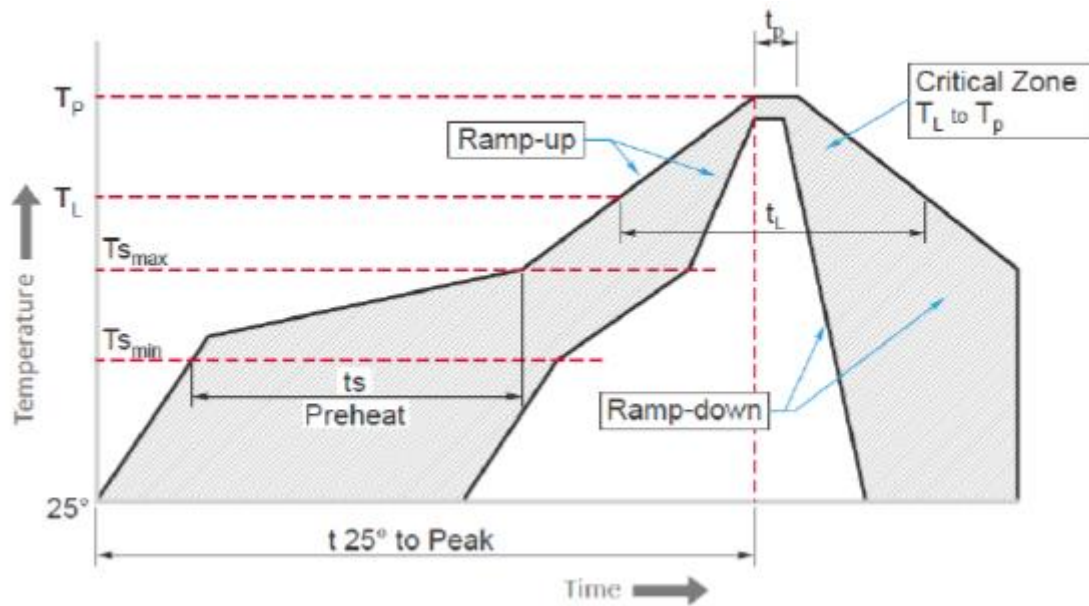


3D View of matching components and recommended values (LC1=7.5nH, LC2=7.5nH, LC3=OPEN)

6. Evaluation Board

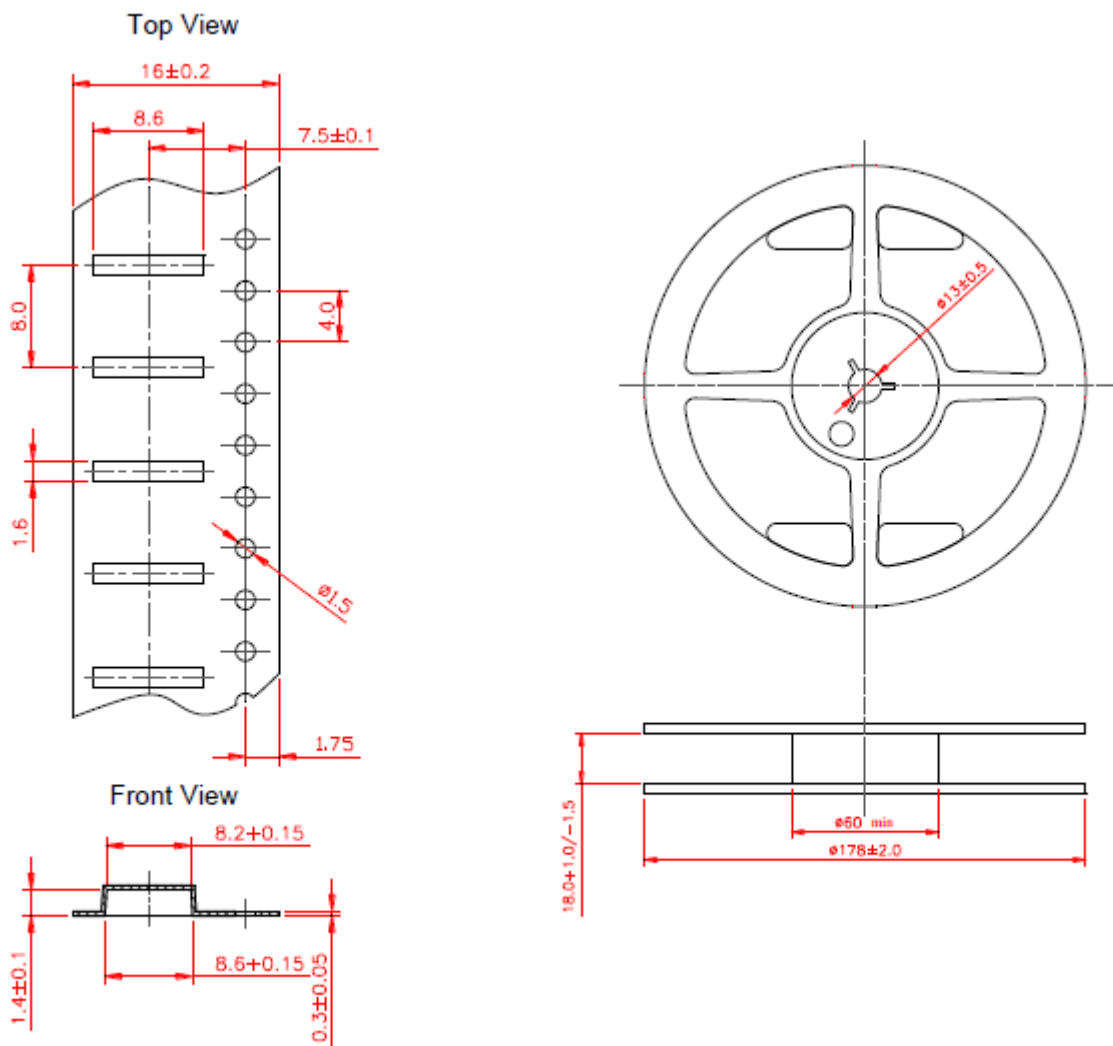


7. Reflow Temperature Profile



Phase	Profile Features	Sn-Pb Assembly	Pb-Free Assembly (SnAgCu)
Ramp-Up	Avg. ramp-up rate (TS _{max} to T _p)	3°C/second (max)	3°C/second (max)
Pre-heat	- Temperature Min Rate (TS _{min})	100°C	100°C
	- Temperature Max Rate(TS _{min})	150°C	150°C
	- Time (TS _{min} to TS _{max})	60 – 120 seconds	60 – 120 seconds
Reflow	- Temperature (T _L)	183°C	217°C
	- Total Time above T _L (t _L)	60 – 150 seconds	60 – 150 seconds
Peak	- Temperature (T _p)	235°C	260°C
	- Time (t _p)	10 – 30 seconds	20 – 40 seconds
Ramp-Down	Rate	6°C/second (max)	6°C/second (max)
Time from 25°C to Peak Temperature		6 minutes (max)	8 minutes (max)

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

Packaging Specification	
Reel	
Quantity per reel	6,000
Reel Box	
Reels per Box	1
Reel Box Dimensions (cm)	18.5 x 18.5 x 3
Reel Box Weight (Kg)	0.27
Carton	
Reel Boxes per Carton	10
Max Quantity per Carton	60,000
Carton Dimensions (cm)	33 x 21 x 21
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
- Re-pack material after use by re-sealing package