

1. General

ORG9802 is a miniature antenna assembly, comprising four components:

1. Ceramic patch antenna element
2. Adaptor PCB
3. Coaxial cable (option)
4. Connector (option)

2. Mechanical Specifications

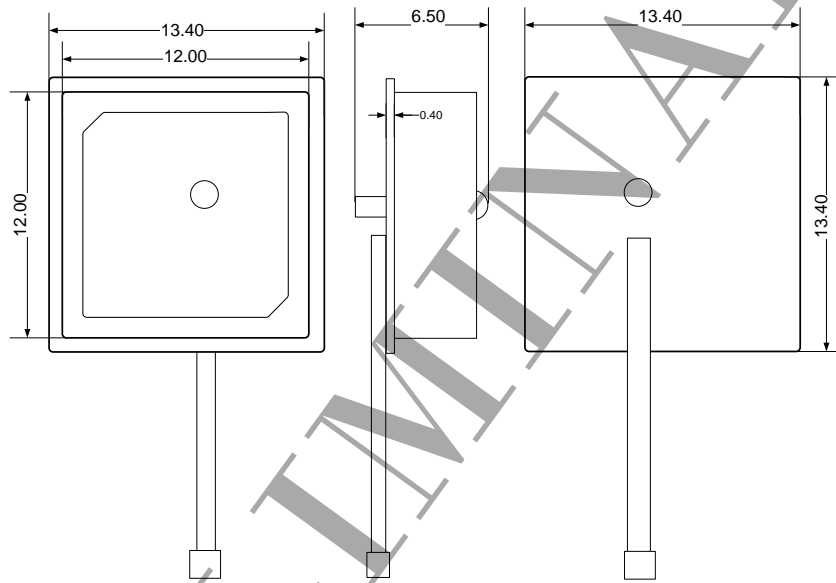


Figure 1-1: Mechanical outline

Dimensions	Length	Width	Thickness	Weight	
	mm	13.4 ± 0.2	13.4 ± 0.2	6.5 ± 0.1	gr
inch	0.528 ± 0.008	0.528 ± 0.008	0.256 ± 0.004	oz	0.14

Table 1-1: Mechanical summary

3. Specifications

3.1. Electrical Characteristics

Parameter	Value	Unit	Notes
Center frequency (f_c)	1575 ± 3	MHz	
Return Loss (S_{11})	-15 (min)	dB	@ f_c
Bandwidth (BW)	7 (min)	MHz	@ $f(S_{11}=-9\text{dB})$
VSWR	1.2 (max)		
Impedance (Z_A)	50	Ω	
Axial Ratio (AR)	2.5 (max)	dB	
Gain @ f_c	90° Elevation	-1.0 (typ)	dBic Properties of antenna element
	10° Elevation	-6.5 (typ)	
Polarization	R.H.C.P		
Insertion Loss (S_{21})	3	dB/m	Property of coaxial cable
Operating Temperature	-40 to +85	°C	

Table 2-1: Electrical Specifications

3.2. Typical S_{11} ¹

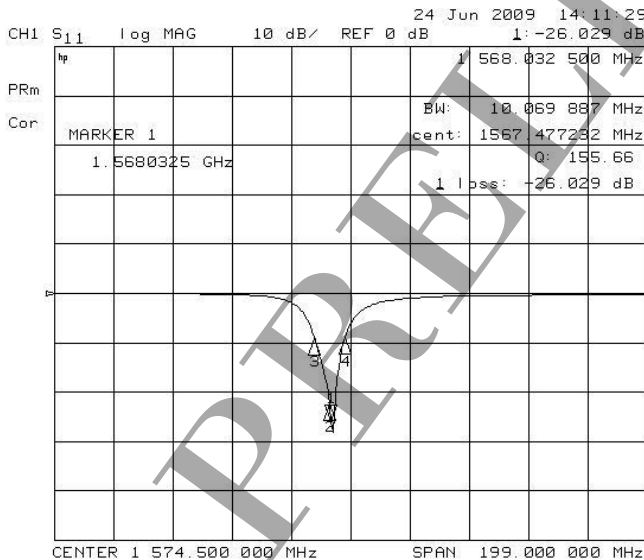


Figure 2-1: S_{11} Log Magnitude

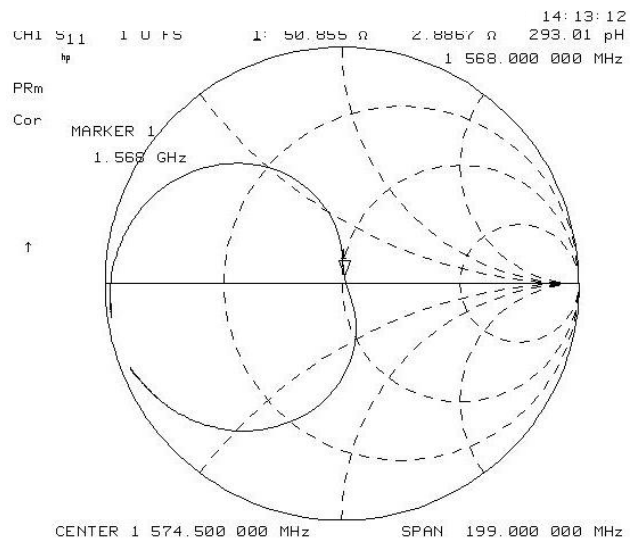


Figure 2-2: S_{11} Smith Chart

Note:
1. Measured with 38mm length cable and W.FL connector

4. Assembly

Antenna assembly without connector is intended for manual RoHS Pb-Free iron soldering with Sn:Ag:Cu 96.5:3.0:0.5. Soldering temperature is $300 \pm 5^{\circ}\text{C}$, 5 sec. max
Antenna assembly with connector is intended for manual assembly process.

5. Storage

Avoid intentional shock or drop to prevent cracking of antenna.

6. Compliance

Antenna assembly was designed and being manufactured and handled to comply with and according with Pb-Free/RoHS Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Antennas are manufactured in ISO 9001:2000 accredited facility.



PRELIMINARY

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