LH-1256AR-E Specification

1. Introduction

The LH-1256AR-E is a compact and lightweight four-constellation multi-band GNSS helix antenna, supporting L1, L2, L5, and L-bands of GPS/QZSS, GLONASS, GALILEO, BEIDOU systems. This antenna is designed to deliver reliable and accurate GNSS reception across multiple satellite systems, making it versatile for diverse operational needs in challenging environments.

2. Features

- Built-in multi-stage filter and low-noise amplifier, with good out-of-band suppression and strong anti-interference ability, ensuring normal operation in harsh electromagnetic environments.
- High Gain and outstanding reception at low elevation. Meet the current needs for multi-system compatibility and high-precision measurement.
- Small Profile, easy to install
- IP67 Weather Proof Housing, Ideal for harsh environments, excellent low noise figure.

3. Application

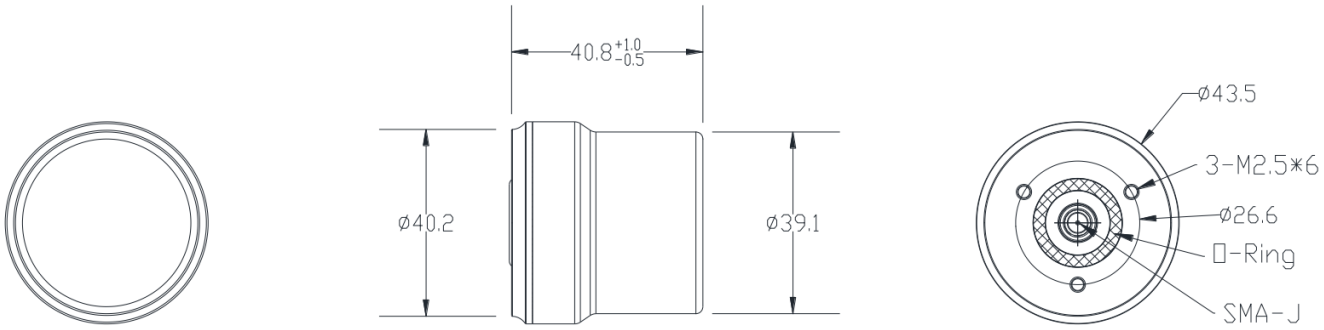
It can be widely used in UAV, micro RTK, handheld equipment and other fields with strict requirements on weight and volume.

4. Technical specification

Antenna Specifications	
Frequency range (MHz)	GPS: L1, L2, L5 GLONASS: L1, L2, L3 GALILEO: E1, E5a, E5b,E6 BEIDOU: B1I, B1C, B2a, B2b, B3I NAVIC: L5 QZSS: L1, L2, L5, L6 L-Band: 1525 - 1559 MHz
Gain (dBi)	≥2.5
Antenna AR (dB)	≤1.5
VSWR	≤2
Azimuth Coverage	360°

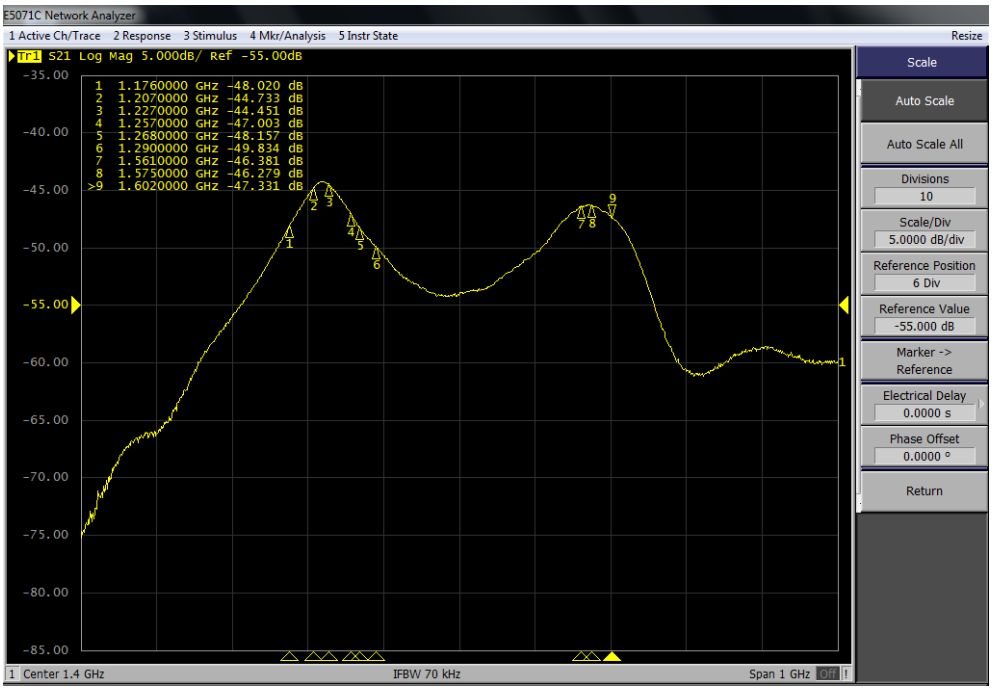
Polarization	Right-hand circular polarization
Port impedance (Ω)	50
Electrical Specifications	
LNA Gain (dB)	39±3
Noise figure (dB)	≤1.5 @25°C,Typ.
Group Delay Variation	≤5ns
Operating voltage (VDC)	3.0-12.0 Recommend 3.3V or 5.0V
Operating current (mA)	≤45
VSWR	≤2
Structural Characteristics	
Connector type	SMA Male
Antenna size (mm)	Φ43.5*40.8
Antenna weight (g)	≤30
Degree of protection	IP67
Environmental Characteristics	
Operating temperature (℃)	-40~85
Storage temperature (℃)	-45~85
Relative humidity	95% not condensing

5. Size Unit:mm (Tolerance±0.3MM)

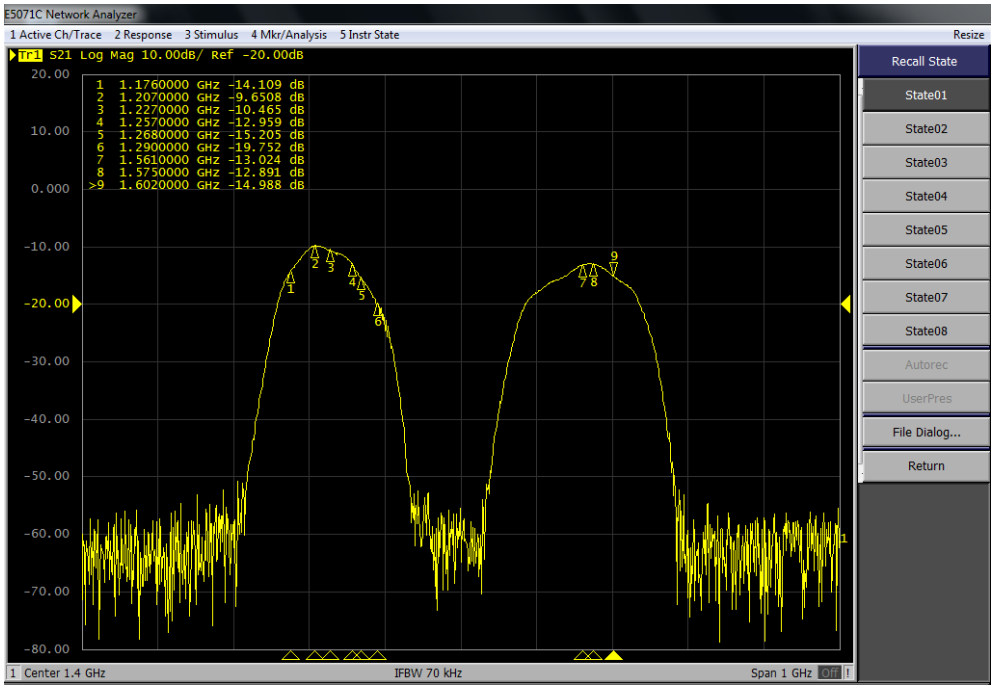


6. Electrical Characteristics

6.1 Waveform for Passive Antenna

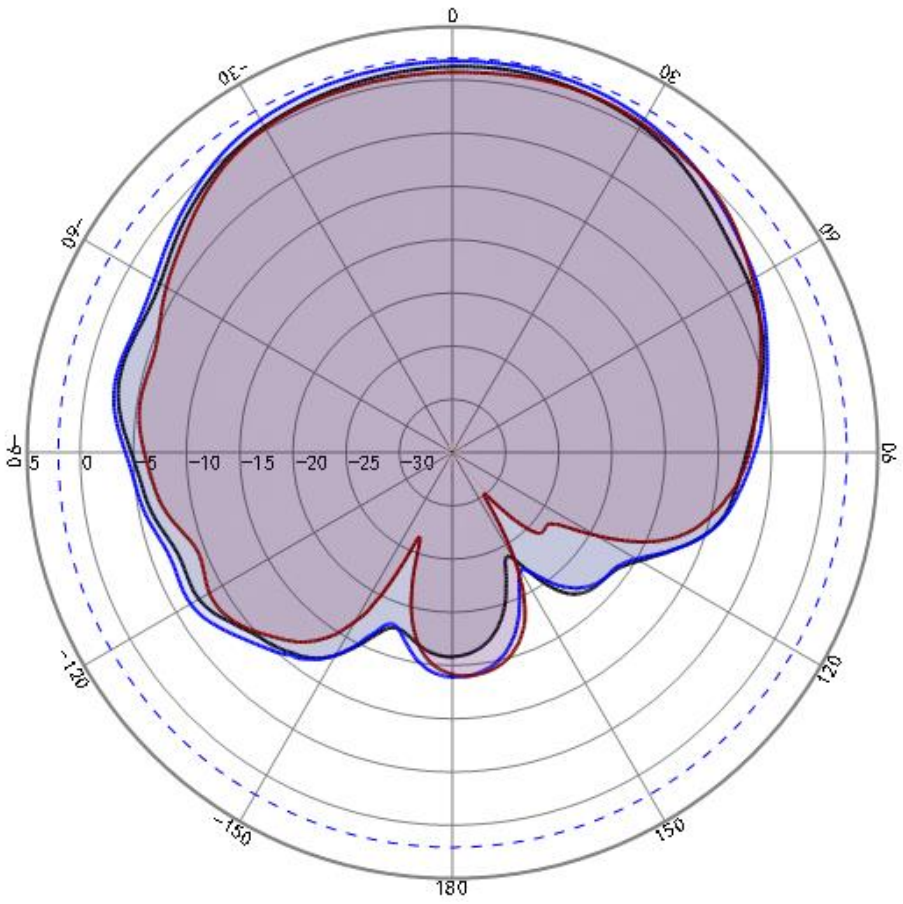


6.2 Waveform for Active Antenna

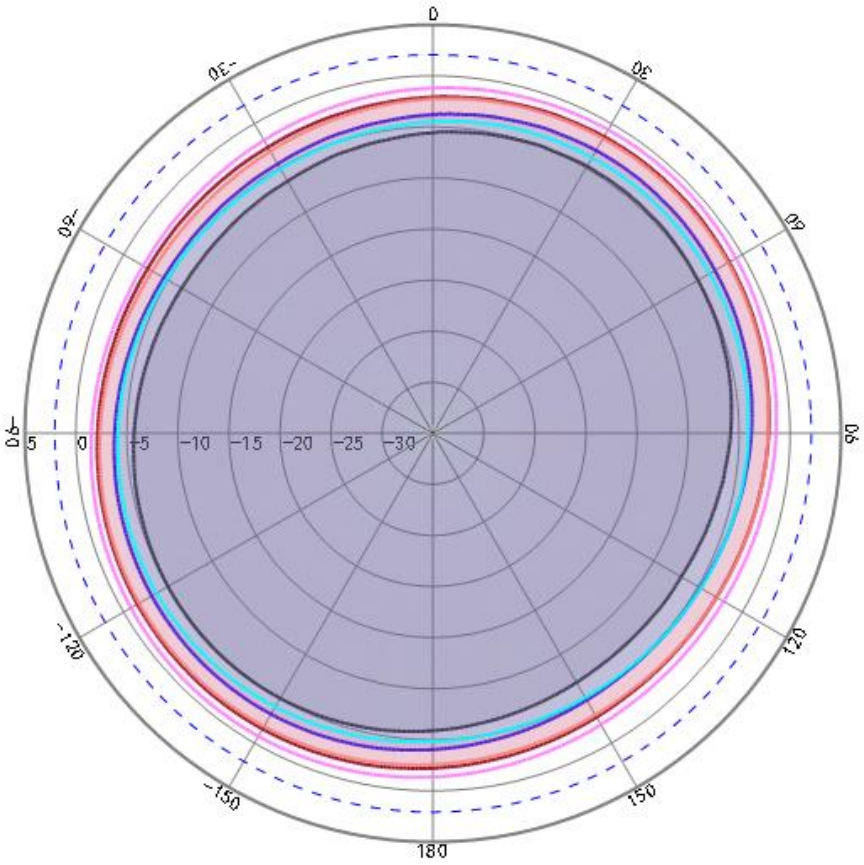


6.3 Radiation Pattern & Axial Ratio

- L1 Vertical (phi=0)：

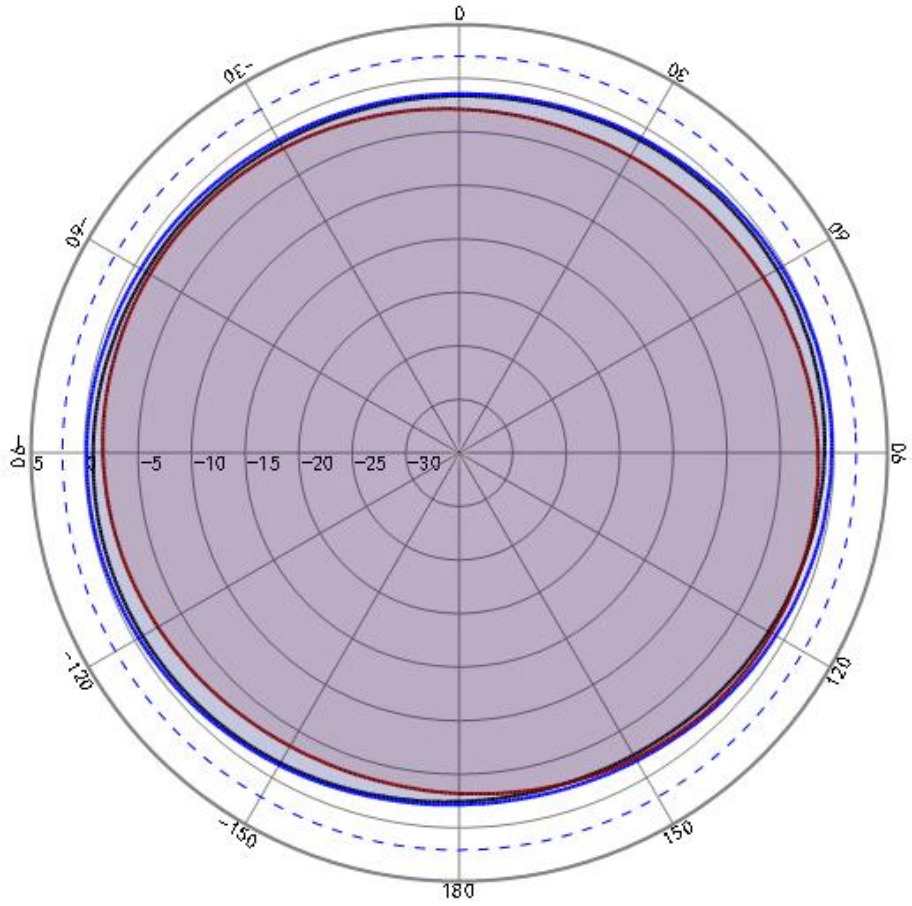


- Horizon Radiation Pattern



Freq(MHz)	Circularity(dB)
1176	1.2
1192	1.0
1207	0.9
1227	0.8
1246	0.9
1268	0.8

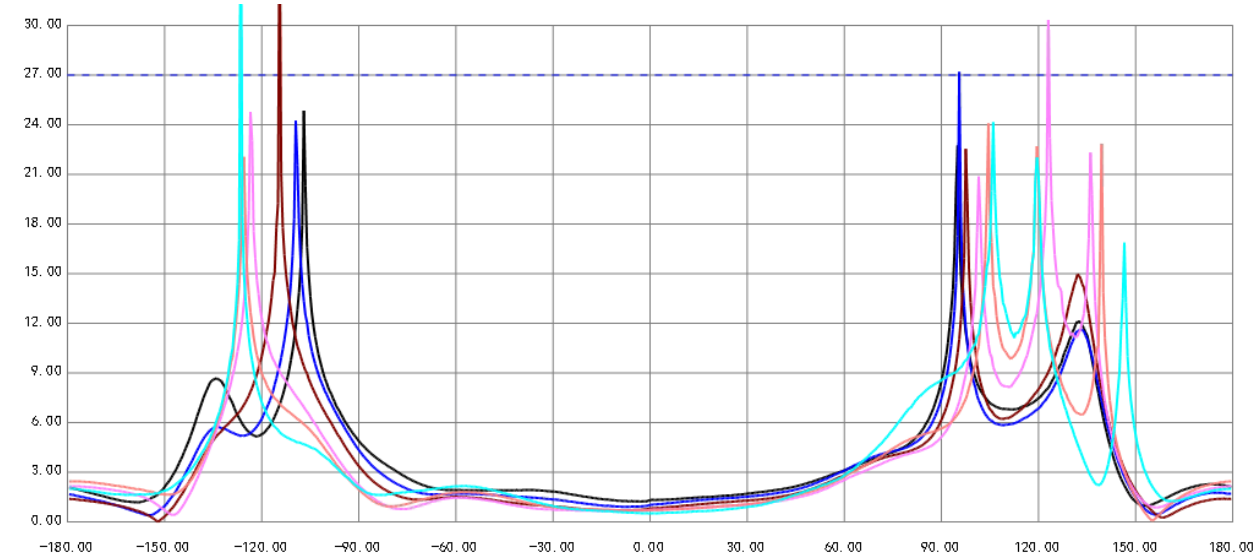
Passive gain out-of-roundness @L2



Freq(MHz)	Circularity(dB)
1561	1.2
1575	1.2
1602	1.2

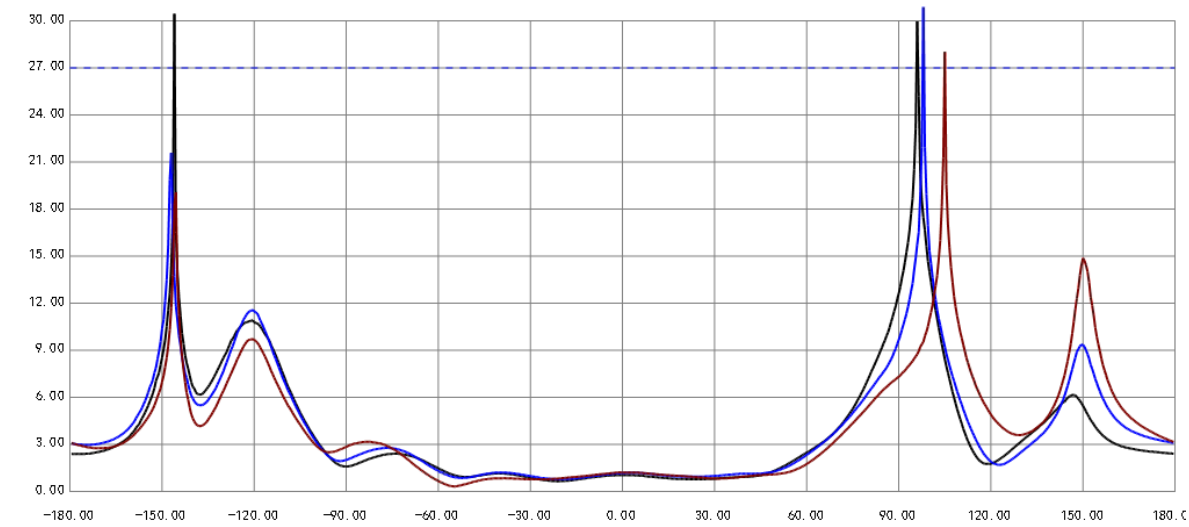
Passive gain out-of-roundness @L1

- Axial Ratio



Freq(MHz)	@Zentth(dB)
1176	1.3
1192	1.0
1207	0.8
1227	0.7
1246	0.7
1268	0.5

AR@L2



Freq(MHz)	@Zentth(dB)
1561	1.0
1575	1.1
1602	1.2

AR@L1

6.4 LNA Gain & V.S.W.R.