

**Product Name:** High Gain GNSS Active Antenna Module

**Part Number:** AM-4-A-B02

**Features:**

- 18 x 18 x 7.9 mm Compact Form Factor
- Dual Satellite Navigation System ,GPS/GLONASS
- 29dB LNA Gain, Exceptionally Low Noise Figure
- Up to 50dB Out-of-Band Suppression

**Application:**

- GNSS Navigation or Tracking Devices

# High Gain GNSS Active Antenna Module

**MODEL: AM-4-A-B02**

WI-RD-D-248 V1.1

## I. Specifications:

Items	Specification		
<b>Patch Specification</b>			
<b>Application Bands</b>	GPS	GLONASS	
<b>Frequencies Range</b>	1575.42 ± 1.023MHz	1602 ± 5MHz	
<b>Efficiency (%)</b>	29.85	42.36	
<b>Average Gain (dBi)</b>	-5.25	-3.73	
<b>Gain (zenith) (dBi)</b>	0.29	1.95	
<b>Polarization</b>	R.H.C.P		
<b>Test Condition</b>	Without housing 18 x 18 mm <sup>2</sup> (Ground Plane Dimension)		
<b>VSWR</b>	< 2		
<b>Return loss</b>	< -10		
<b>Impedance</b>	50 Ω		
<b>Filter / LNA Specification</b>			
<b>Frequencies Range</b>	1575.42 ± 1.023MHz	1602 ± 5MHz	
<b>Gain</b>	29±2 dB	29±2 dB	
<b>Noise Figure</b>	1.5dB typ.		
<b>Output V.S.W.R</b>	< 2		
<b>Operation Voltage</b>	3.0~5.0 V		
<b>Current</b>	10±2 mA		
<b>GNSS _Out Of Band Rejection</b>			
<b>Frequency (MHz)</b>	600~1350	1350~1460	1720~3000
<b>Out Of Band Rejection (dB)</b>	57	41	39

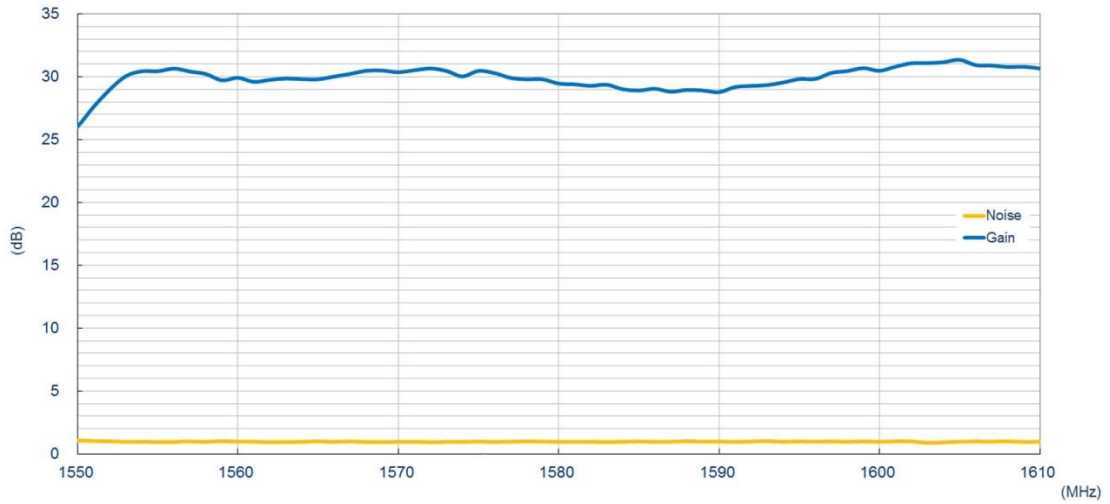
Overall Specification (Through Antenna , LNA , without cable loss)		
<b>Frequencies Range</b>	1575.42 ± 1.023MHz	1602 ± 5MHz
<b>Zenith Gain</b>	29.4±2 dB	29.2±2 dB
<b>Output Impedance</b>	50 Ω	
<b>Output V.S.W.R</b>	< 2	
<b>Operation Voltage</b>	3.0~5.0 V	
<b>Current</b>	10±2 mA	
<b>Cable</b>	H-100 / 10 cm	
<b>Dimension</b>	18 x 18 x 7.9 mm	
<b>ESD Protection</b>	±8 KV (direct discharge) ±15KV (air discharge)	
<b>Operation Temperature</b>	-40 ~ +85 °C	
<b>Storage Temperature</b>	-40 ~ +85 °C	

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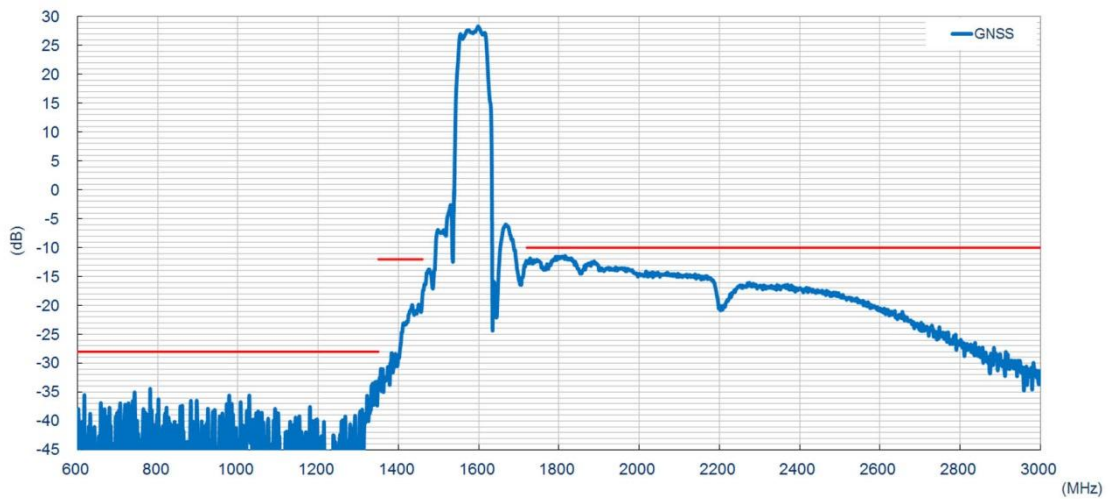
## II. Analysis Antenna Performance:

- Active antenna performance

GNSS\_Noise & gain :



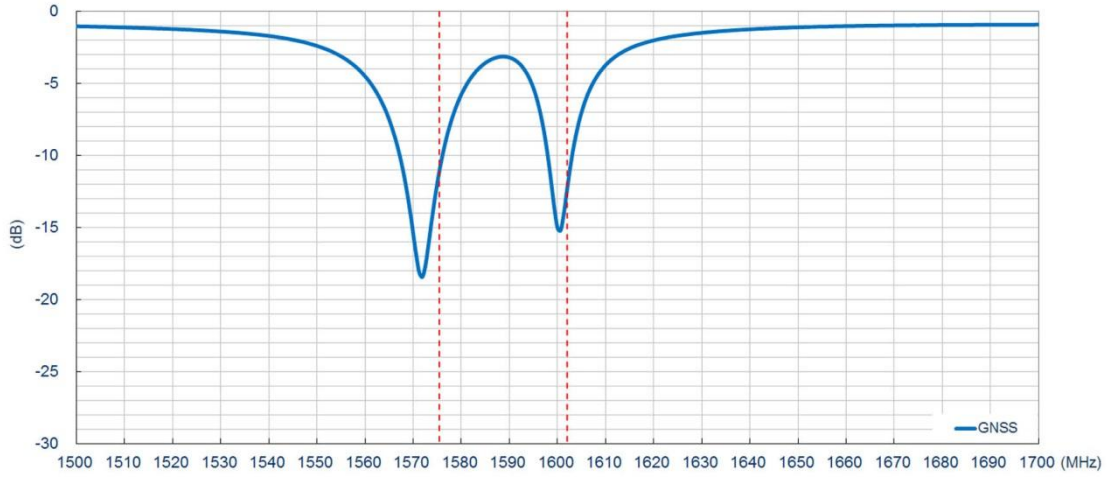
GNSS \_Out of Band Rejection :



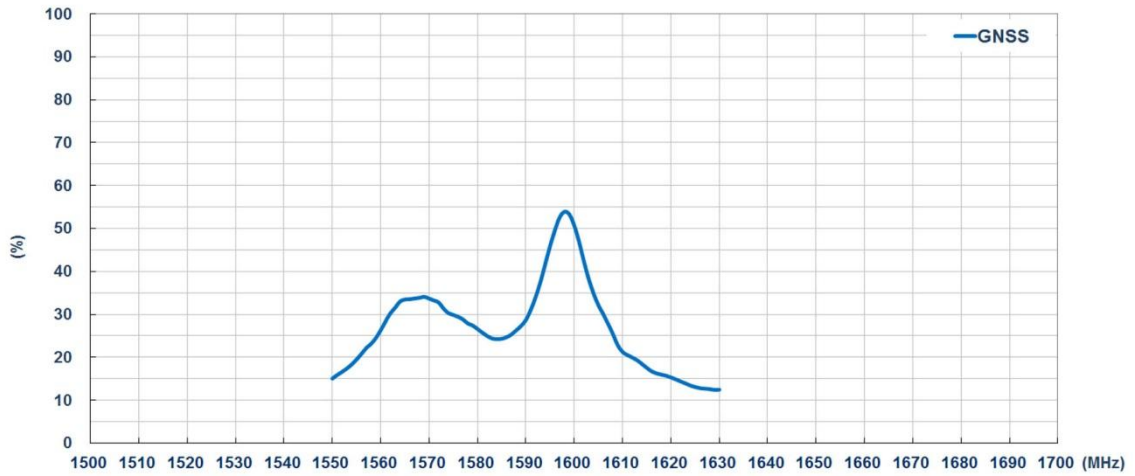
- **Passive antenna performance**

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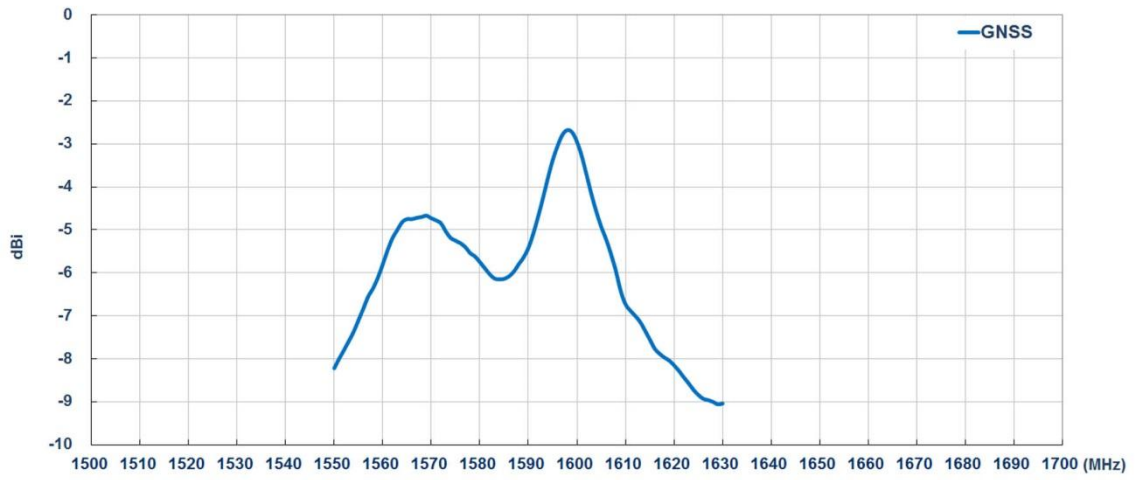
S-parameters:



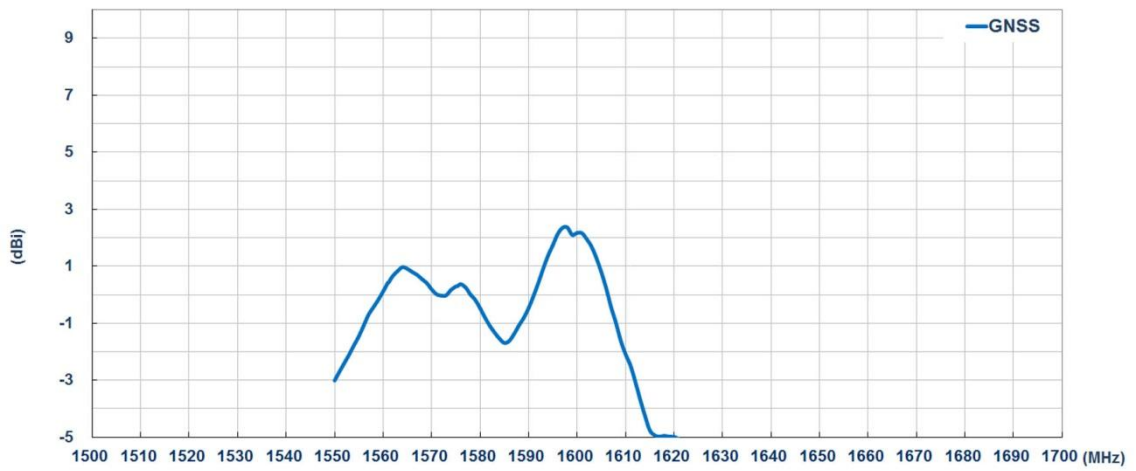
Efficiency:



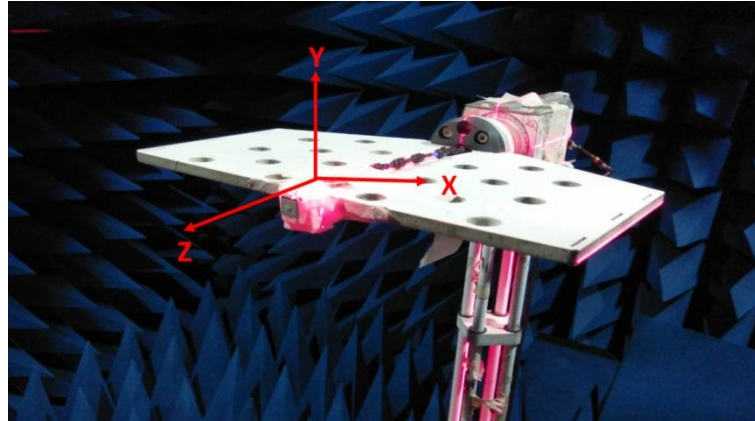
Average Gain:



Peak Gain

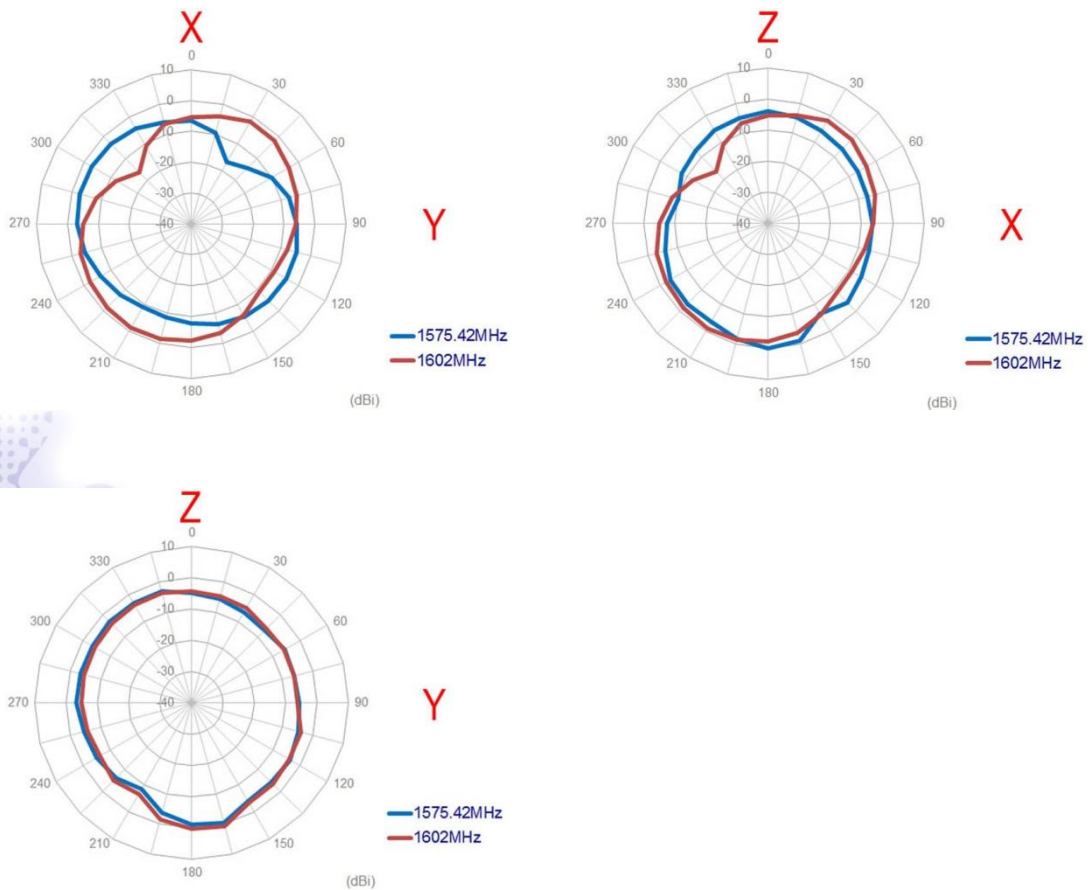


### III. Antenna Radiation Pattern Measurement:

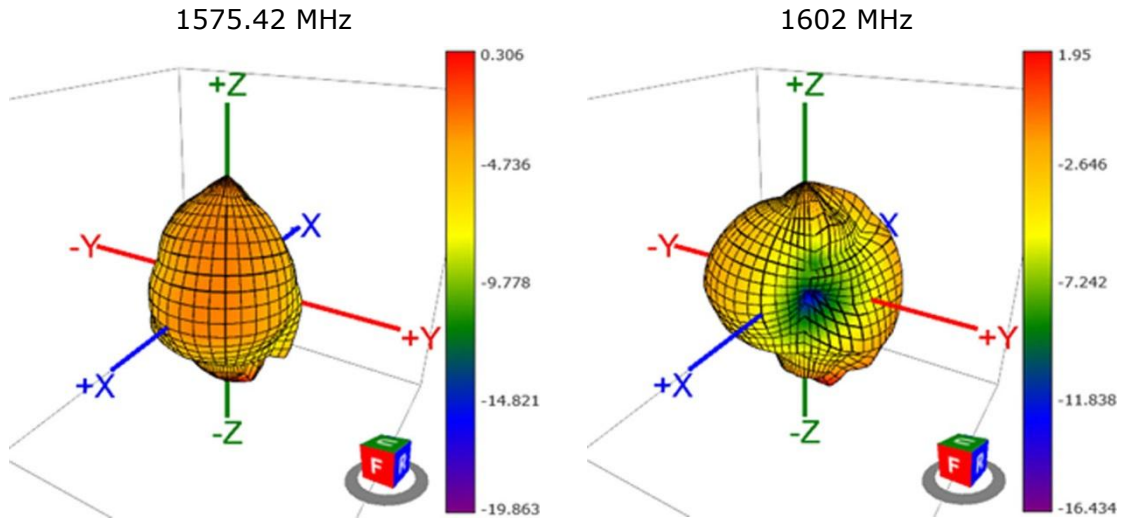


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2D radiation pattern :



3D radiation pattern :



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#### IV. Mechanical Drawing (Unit:mm):

