



**Product Name:** Mini GNSS Locator (RS232)

**Part Number:** GM-5G-A1RE-1BN01

**Features:**

- u-blox 8 engine, RS-232 interface.
- GPS / GLONASS / QZSS / SBAS Supported
- Low profile, Robust, IPX7 Water proof enclosure, Magnetic Mount
- Excellent Tracking Sensitivity, -164dBm
- Output Sentences Configurable
- Quick Time-to-First-Fix Cold Start

**Application:**

- Vehicle/bus tracking, fleet management
- Tracking and management of agriculture tracker and farm equipment
- Robotic, autonomous driving applications

# Mini GNSS Locator (RS232)

**MODEL: GM-5G-A1RE-1BN01**

WI-RD-D-286 V1.0

## I. Specifications:

Category	Specifications	
<b>Application Band</b>	L1(GPS)	GLONASS
<b>Frequency (MHz)</b>	1575.42	1602.00
<b>Efficiency(%)</b>	73.62	71.45
<b>Average Gain(dBi)</b>	-1.33	-1.46
<b>Peak Gain(dBi)</b>	4.83	4.41
<b>VSWR</b>	< 2	
<b>Return loss</b>	< -10	
<b>Test Condition</b>	With housing With metal plane (305 * 225 mm)	
<b>Impedance</b>	50Ω	
<b>Polarization</b>	RHCP	
<b>Housing</b>		
<b>Dimension</b>	L 58.3 mm * W 48 mm * H 15 mm	
<b>Weight</b>	243 gram (with cable)	
<b>Housing Material</b>	High-impact plastics with gasket, Waterproof: fulfill IEC 60529 IPX7 standards	
<b>ENVIRONMENTAL CONDITIONS</b>		
<b>Temperature</b>	Operating: -30 ~ +80 °C	
	Storage: -40 ~ +80 °C	
<b>ESD Protection (IEC 61000-4-2 level 4)</b>	Contact : 8KV · Air : 15KV	
<b>COMMUNICATION</b>		
<b>Protocol</b>	NMEA 0183 V4.0	
<b>Interface</b>	RS232	
<b>INTERFACE CAPABILITY</b>		
<b>Output Sentences (Optional)</b>	GGA(1sec), GLL(1sec), GSA(1sec), GSV(1sec), RMC(1sec), VTG(1sec)	
<b>Baud Rate</b>	9600bps	

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PERFORMANCE	
<b>Built in Antenna element</b>	High-reliability ceramic patch
<b>Receiver type</b>	GPS L1C/A GLONASS L1OF SBAS L1C/A QZSS L1C/A
<b>Channels</b>	72 parallel
<b>Sensitivity*</b>	-164dBm
<b>SBAS</b>	Support : WAAS, EGNOS, MSAS
<b>TTFF*</b>	Hot start 1 sec. Typical Cold start 26 sec. Typical
<b>Position accuracy**</b>	2.5 m
<b>Velocity accuracy ***</b>	0.05 m/s
<b>Update Rate(Optional)</b>	1Hz
<b>Input Voltage</b>	3 V ~ 3.6 V
<b>Power Consumption</b>	Typical 75mA

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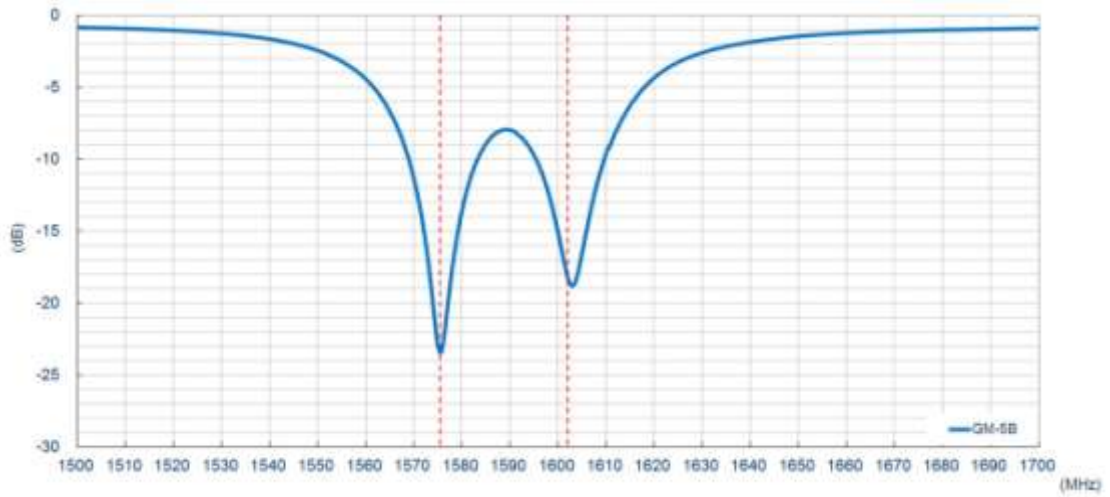
\*All satellites at -130 dBm · Use u-blox u-center test

\*\*CEP, 50%, 24 hours static, -130 dBm, > 6 SVs

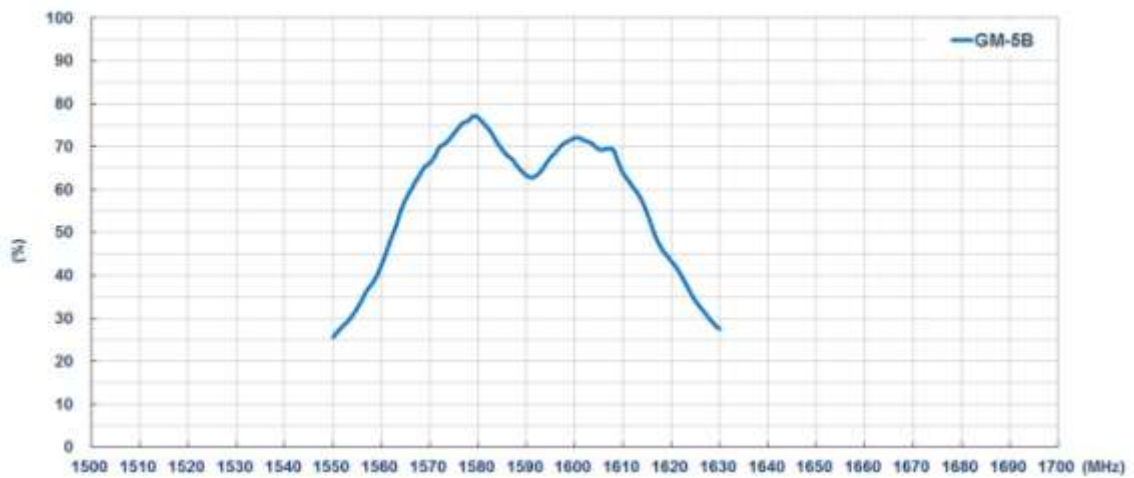
\*\*\* 50% @ 30 m/s

## II. Antenna Technical Parameters:

S-parameters (dB):

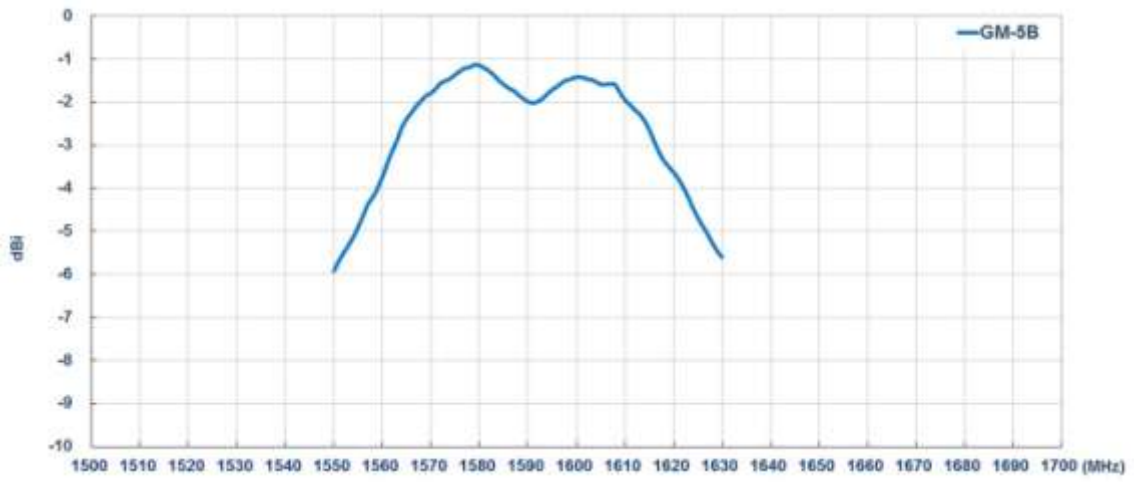


Efficiency (%):

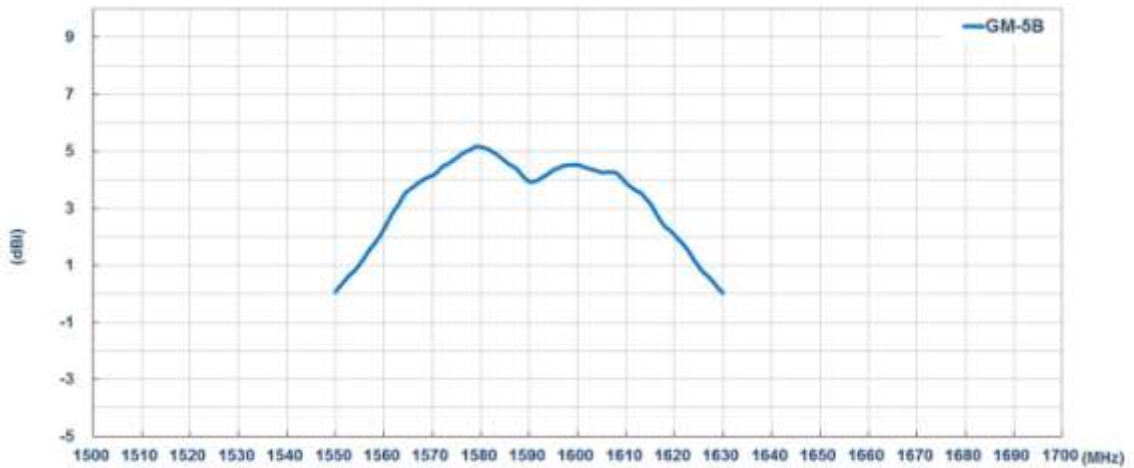


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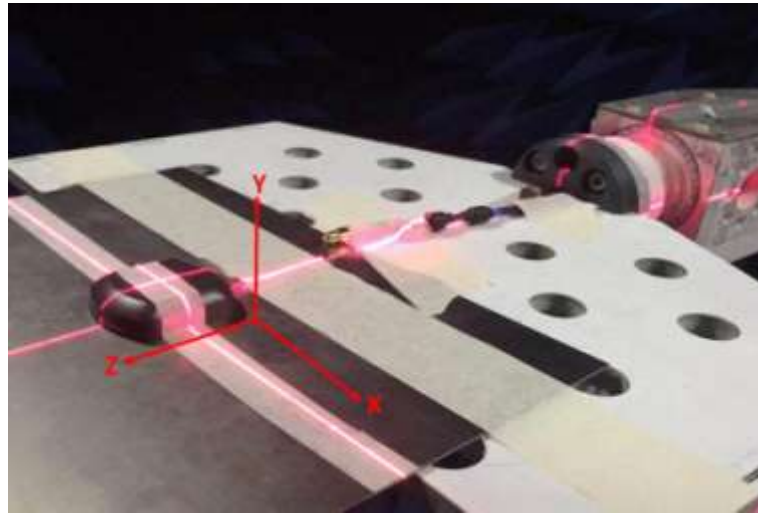
Average Gain (dBi):



Peak Gain (dBi):

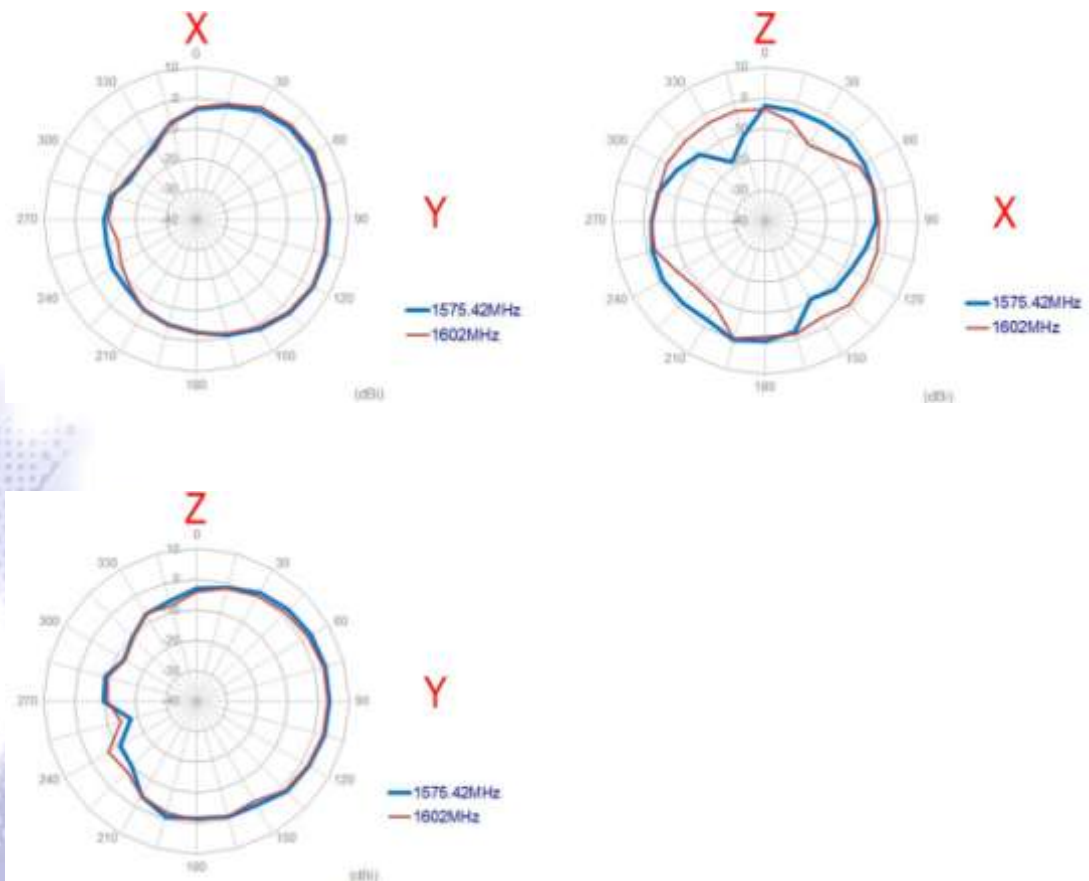


### III. Antenna Radiation Pattern Measurement:

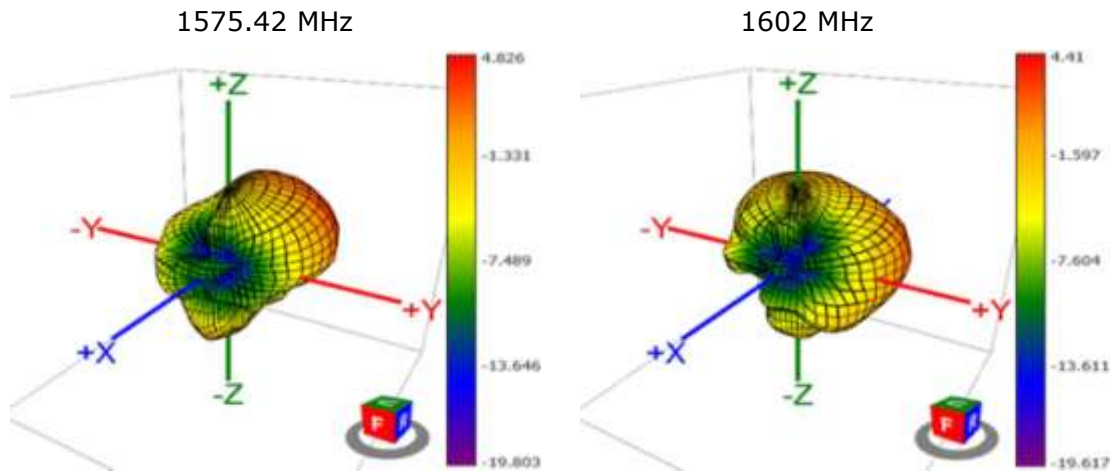


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### IV. 2D Radiation Pattern



## V. 3D Radiation Pattern



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## VI. Mechanical Drawing:

