



**Product Name: GPS Receiver (RS-232)**

**Part Number: H2A3GR43000200**

**Features:**

- Support GPS L1 Bands
- Excellent Sensitivity Performance and Positioning Accuracy
- NMEA 0183 V4.0 Supported via RS-232
- SBAS Supported including WAAS/EGNOS/MSAS
- Robust Enclosure, IP67 Waterproof
- RoHS & REACH Compliant

**Applications:**

- Vehicle Tracking
- Asset Tracking Vehicle/bus tracking, fleet management
- Marine navigation
- Robotic, autonomous driving applications

# GPS Receiver (RS-232)

## MODEL: GR43GDR1

Rev.A

### I. Specifications:

Items	Specifications
Application Bands	L1(GPS)
Frequencies (MHz)	1575.42
Efficiency (%)	39.99
Average Gain (dBi)	-3.98
Peak Gain (dBi)	1.81
V.S.W.R	< 2
Return loss	< -10
Test Condition	With housing
Impedance ( $\Omega$ )	50
Polarization	R.H.C.P. (Right-Handed Circular Polarization)
<b>Housing</b>	
Dimension (mm)	60.50mm (Diameter) x 23.80 mm (Height)
Weight	Typical 125 grams without cable
Housing Material	High-impact plastics with gasket
<b>Environmental Conditions</b>	
Temperature	Operating: -30 ~ +80 °C
	Storage: -40 ~ +80 °C
ESD Protection (IEC 61000-4-2 level 4)	Contact : 8KV · Air : 15KV
<b>Communication</b>	
Protocol	NMEA 0183 V4.0
Interface	RS232
<b>Interface Capability</b>	
Output Sentences (Optional)	GGA(1sec), GSV(1sec), RMC(1sec)
Baud Rate	115200 bps

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All specifications subject to change without notice.

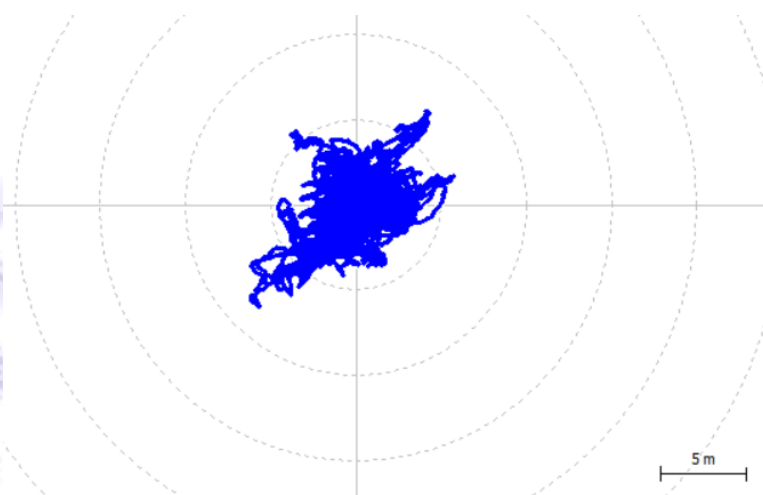
Performance	
<b>Built in Antenna element</b>	High-reliability ceramic patch
<b>Receiver type</b>	GPS L1C/A
<b>Channels</b>	72 parallel
<b>Sensitivity*</b>	-164dBm
<b>SBAS</b>	Support : WAAS, EGNOS, MSAS
<b>TTFF**</b>	Hot start 1 sec. Typical Cold start 26 sec. Typical
<b>Position accuracy**</b>	2.5 m
<b>Velocity accuracy ***</b>	0.05 m/s
<b>Update Rate(Optional)</b>	1Hz
<b>Input Voltage</b>	8~35V
<b>Power Consumption</b>	Typical 36mA@12V DC

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

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

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

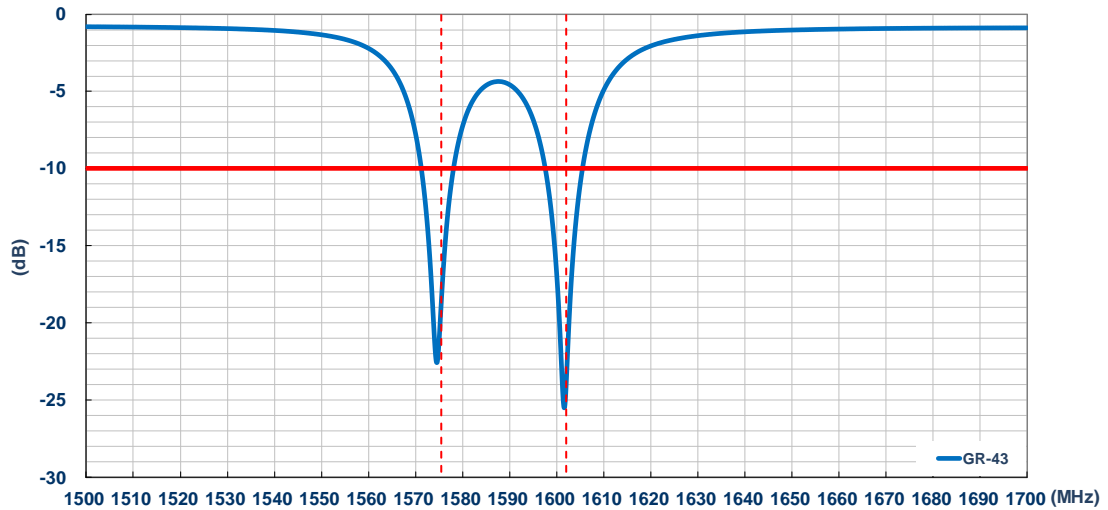
## II. Horizontal position accuracy



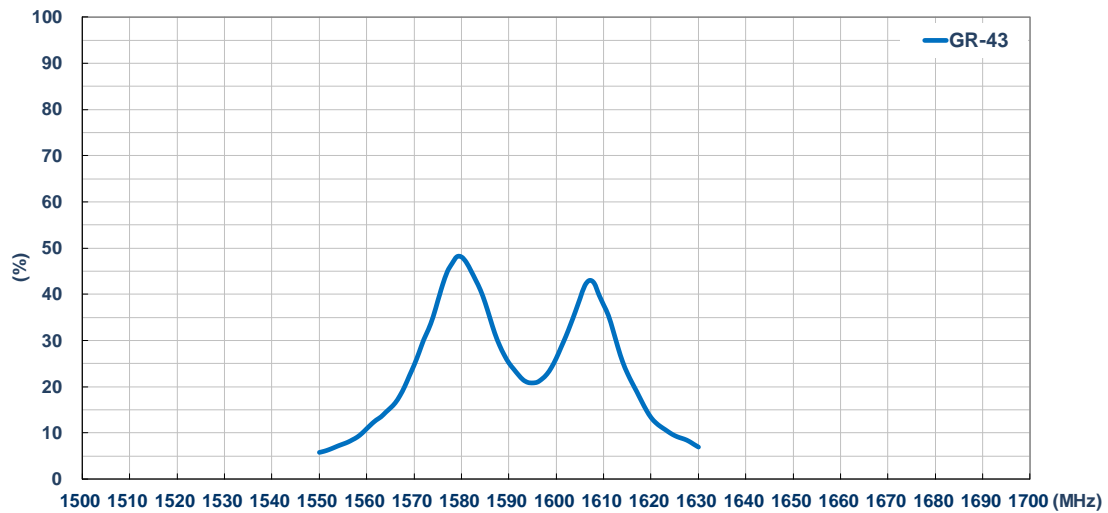
\*CEP=1.585m

### III. Antenna Technical Parameters:

S-parameters (dB):

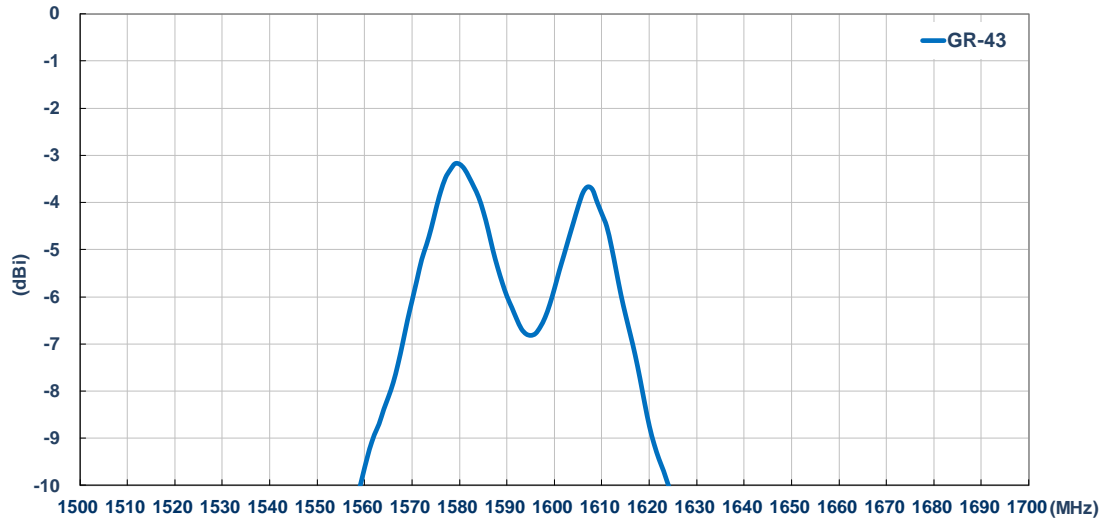


Efficiency (%):

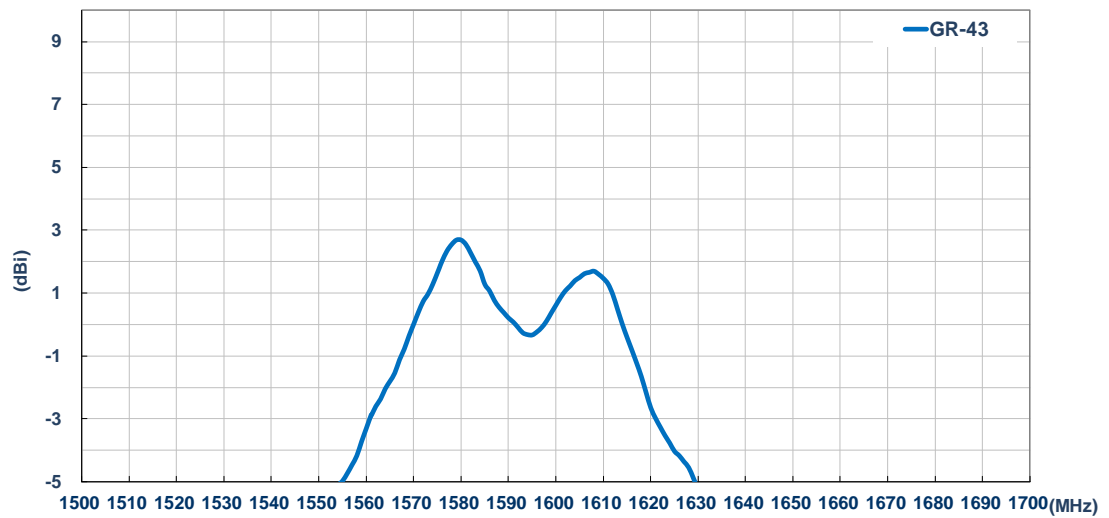


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Average Gain (dBi):

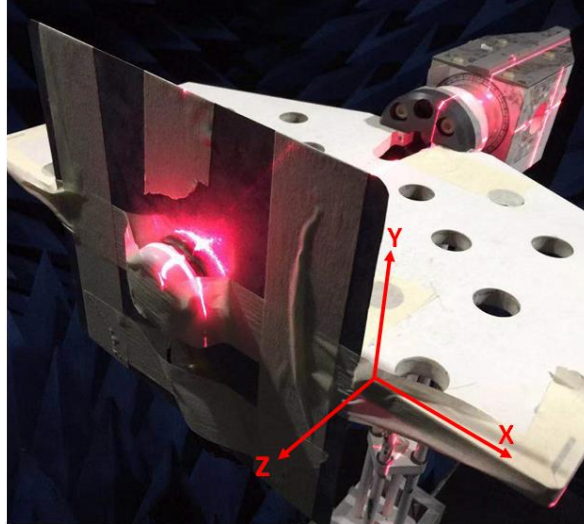


Peak Gain (dBi):



#### IV. Antenna Radiation Pattern Measurement:

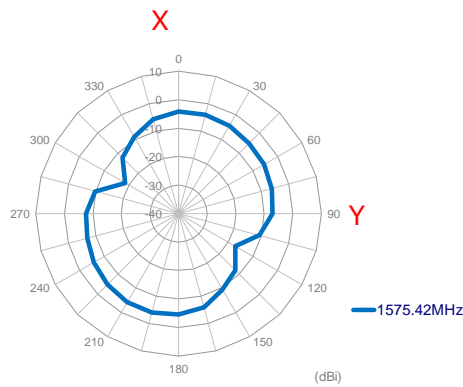
The antenna radiation patterns are measured in 3D Anechoic Chamber. The measurement setup is as show below,



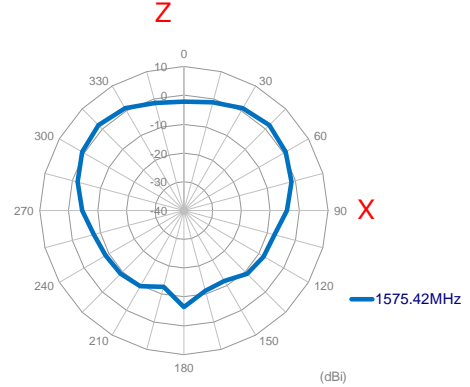
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#### V. 2D Radiation Pattern

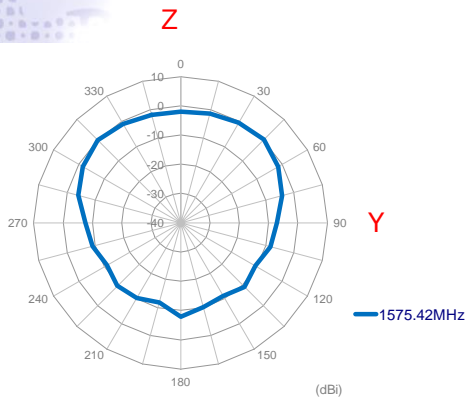
X-Y plane



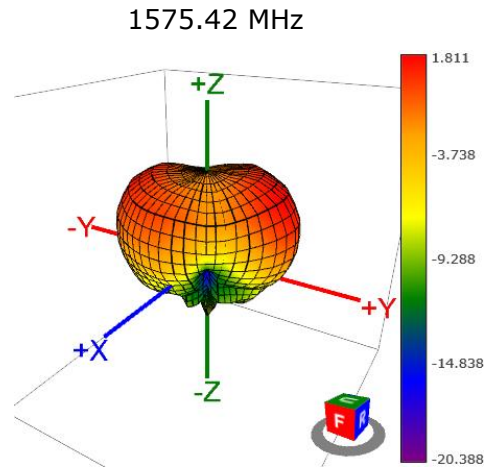
X-Z plane



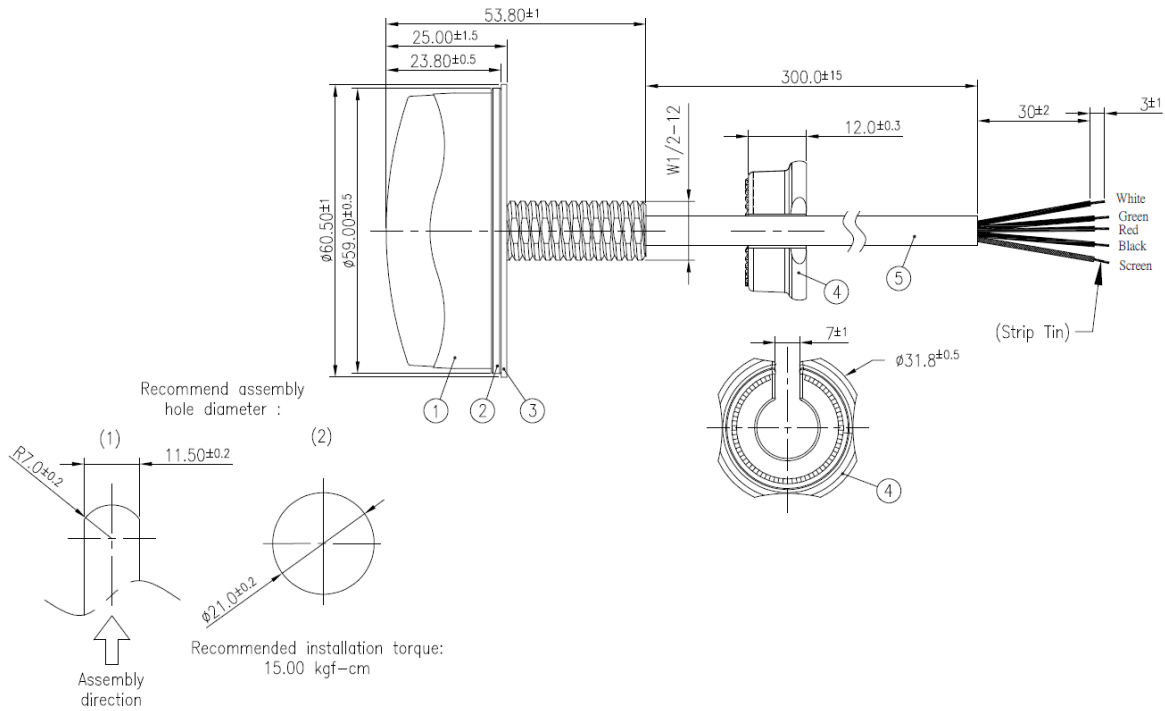
Y-Z plane



## VI. 3D Radiation Pattern



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



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Notes:

- IP Code : Antenna can reach IP67 after installed, but cable assembly is not waterproof.
- The waterproof function is for the antenna body, but not for the hole where the cable comes out.

Color	Function
White	TX
Green	RX
Red	VCC
Black	GND

5	ø6.0 Cable 2464 24AWG	PVC	Black	1
4	Nut	Zinc Alloy	Ni plated	1
3	Waterproof Gasket	Silicone	White	1
2	Bottom Base	Zinc Alloy	Ni Plated	1
1	Top Housing	PC+PBT	White	1
No	NAME	MATERIAL	FINISH	Q'TY

### Label

