



Product Name: GNSS Mouse Receiver (RS232)

Part Number: H2A3GM58000000

Features:

- U-blox 10 engine
- Maximum position availability with concurrent reception of 4 GNSS
- Low profile, Robust, IP67 Water proof enclosure
- Ultra low power consumption without compromising GNSS performance
- Excellent Tracking Sensitivity, -167 dBm
- Advanced spoofing and jamming detection
- Quick Time-to-First-Fix Cold Start
- RoHS & REACH Compliant

Applications:

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

GNSS Mouse Receiver

MODEL: GM58GBR2

Rev.B

I. Specifications:

Items	Specifications
Built in Antenna element	High-reliability ceramic patch
Receiver type	u-blox M10 receiver GPS L1 C/A, QZSS L1 C/A L1S, GLONASS L1OF BeiDou B1I/B1C, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGA
Sensitivity*	Tracking and nav.-167 dBm
Nav update rate	1Hz (default) Up to 10Hz
Acquisition**	Cold start 28 sec. Hot start 1 sec. Aided start 1 sec.
Position accuracy**	2.0 m cep
Velocity accuracy ***	0.05 m/s
Operating Voltage	5V
Physical Construction	
Dimension (mm)	46.4(L) x 38.4(W) x 16.1(H)
Weight (g)	77 grams (with cable)
Case Material	Fully gasketed high-impact plastic, waterproof to IEC 60529 IP67 standards
Environmental Conditions	
Temperature	Operating: -30 ~ +80 °C
	Storage: -40 ~ +80 °C
ESD Protection (IEC 61000-4-2 level 4)	Contact : 8KV · Air : 15KV

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Communication		
Protocol	NMEA 0183 V4.10	
Interface	RS232	
Interface Capability		
Output Sentences	GGA(1sec), GLL(1sec), GSA(1sec), GSV(1sec), RMC(1sec), VTG(1sec)	
Baud Rate	9600 bps	
Antenna Performance		
Application Bands	GPS L1	GLONASS L1OF
Frequencies (MHz)	1575.42	1602.00
Efficiency (%)	73.62	71.45
Average Gain (dBi)	-1.33	-1.46
Peak Gain (dBi)	4.83	4.41
V.S.W.R	< 2	
Return loss	< -10	
Test Condition	With housing With metal plane (305 * 225 mm)	
Impedance (Ω)	50	
Polarization	R.H.C.P. (Right-Handed Circular Polarization)	

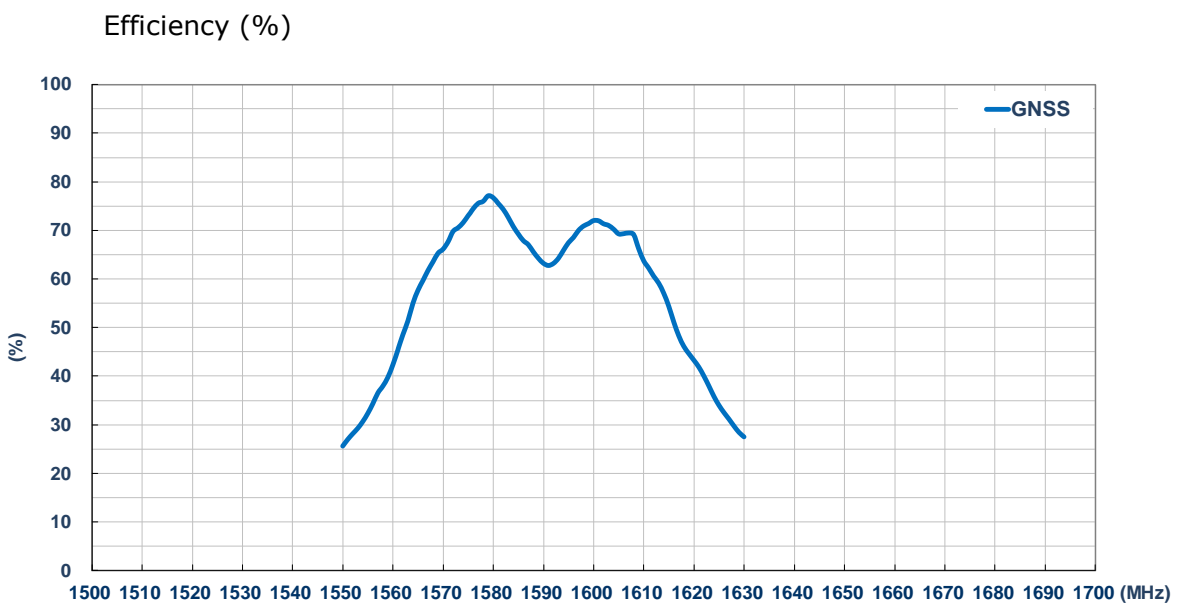
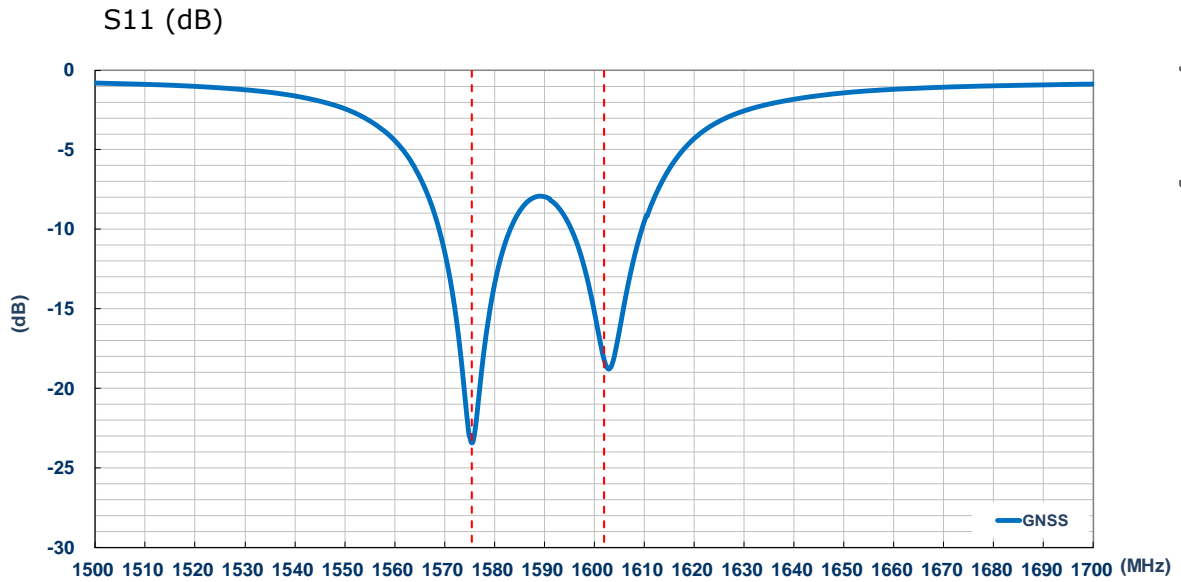
*All satellites at -130 dBm › Use u-blox u-center test

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

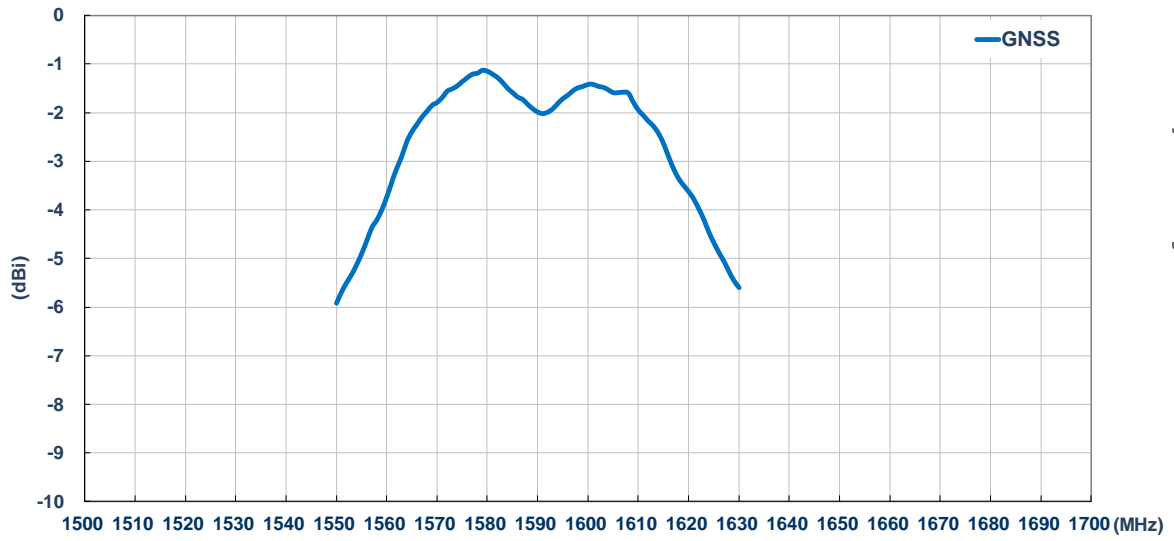
*** 50% @ 30 m/s

II. Antenna Technical Parameters:

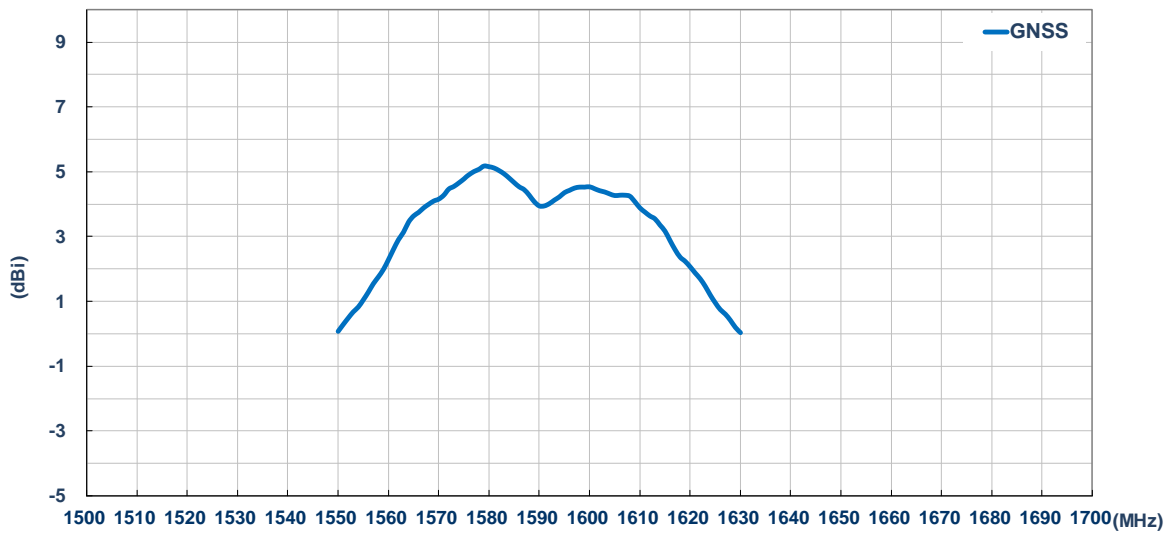
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Average Gain (dBi)

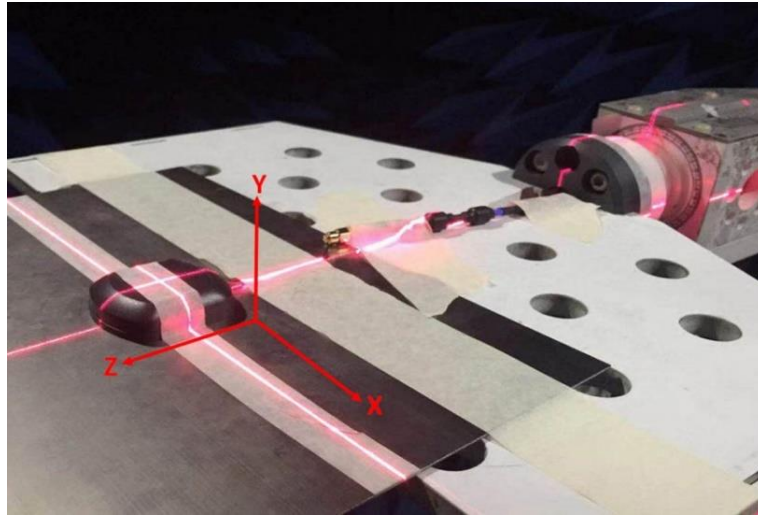


Peak Gain (dBi)



III. Antenna Radiation Pattern Measurement:

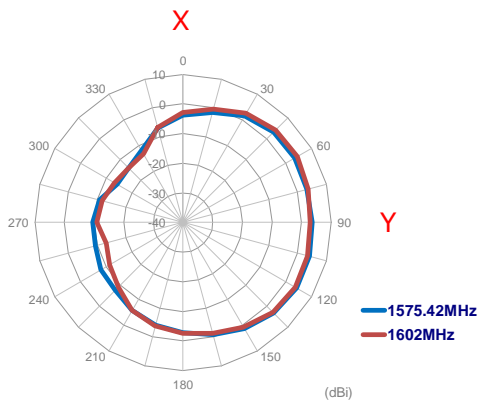
The antenna radiation patterns are measured in 3D Anechoic Chamber. The measurement setup is as shown below,



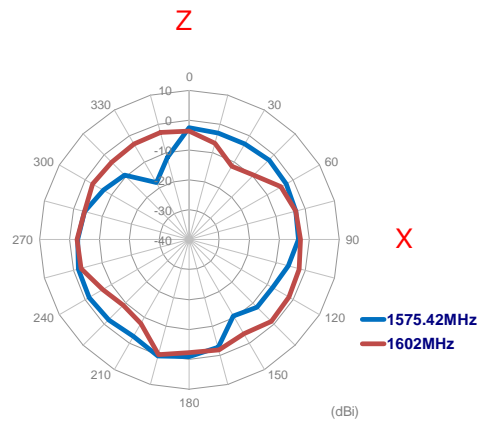
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A) 2D Radiation Pattern

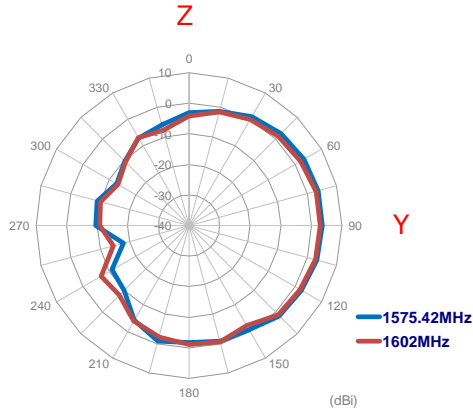
GNSS X-Y Plane



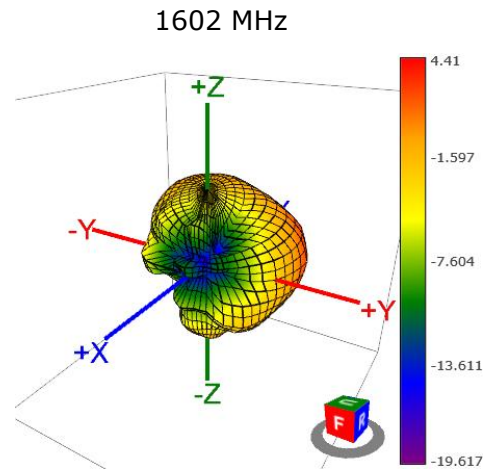
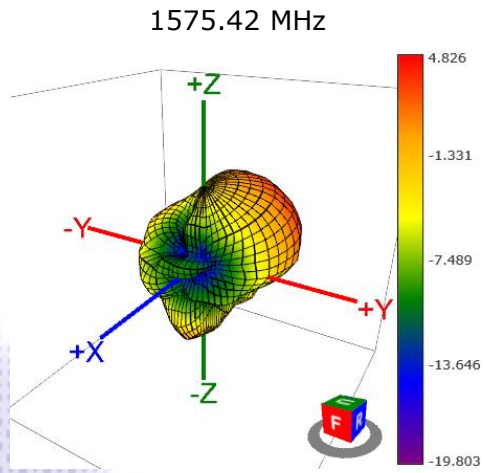
GNSS X-Z Plane



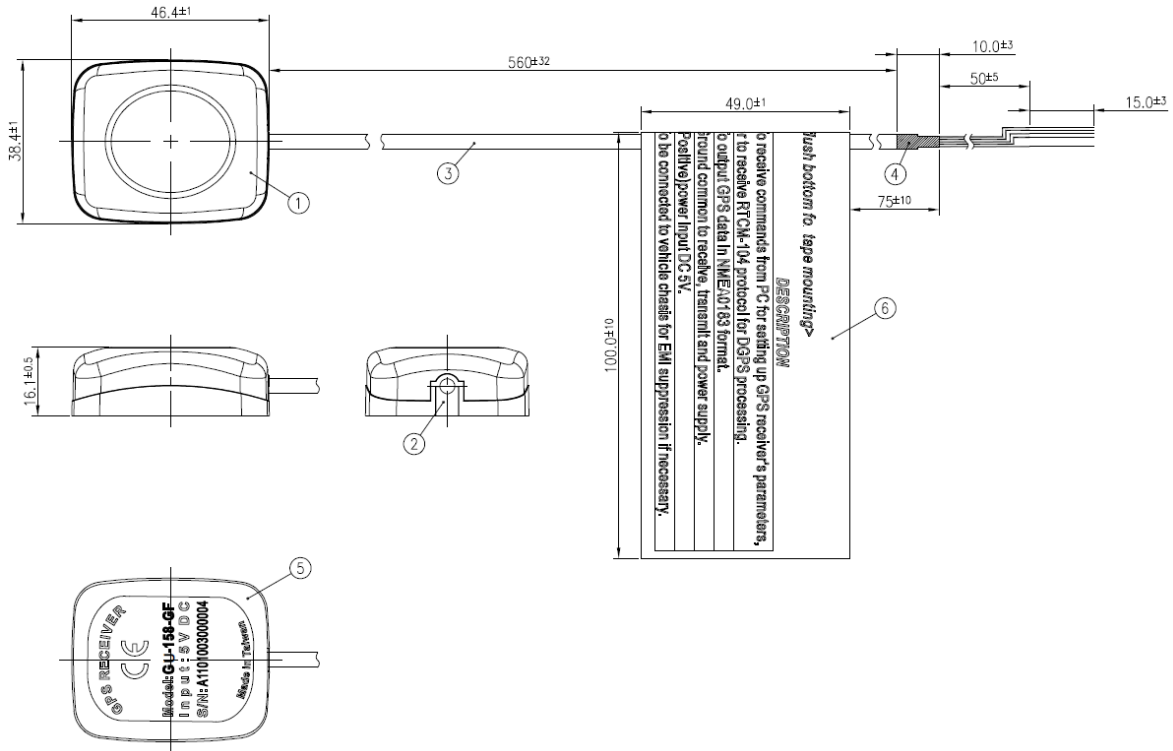
GNSS Y-Z Plane



B) 3D Radiation Pattern



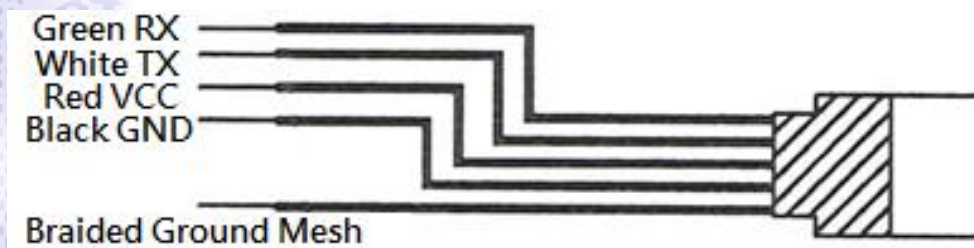
IV. Mechanical Drawing (Unit:mm):



- Notes:
- IP Code : IP67.

6	Label-2 (49*150mm)	PET	White	1
5	Label-1	PET	Silver	1
4	Heat Shrink Tube	PVC	Black	1
3	Cable 2725 28AWG/4C	PVC	Black	1
2	Bottom Case	Zinc Alloy	Cr3+Zn	1
1	Top Housing	PC+PBT	Black	1
No	NAME	MATERIAL	FINISH	Q'TY

Pin Assignment



Pin color.	Title	I/O	Note
White	TX	O	RS232 TRANSMITTER
Green	RX	I	RS232 RECEIVER
Red	VCC	-	Power Supply (VDC 5V)
Black	GND	-	Ground
	Braided Ground Mesh	-	Ground

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