



GPS L1 & L5 External Antenna
Model: HB70DF
GPS L1 & L5
Product Number: H2MA003D100100

Preliminary Engineering Specification

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1 Introduction

The HB70DF External antenna is a high performance solution for high accuracy centimeter level tracking in telematics applications. The HB70DF is especially designed for precision dual frequency positioning GPS L1/L5, provides superior multi-path rejection and axial ratio.

Features

- *High Accuracy
- *Covering GPS L1/L5 band.
- *DC power input 3V to 24V
- *RoHS compliant.

Applications

- * Automotive telematics
- * Safety of life transportation
- * Marine
- * Navigation

2 Electrical Specifications

GNSS NAVIGATION ANTENNA		
Navigation	GPS L5	GPS L1
Center Frequency(MHz)	1176.45	1575.42
Peak Gain(dBiC)	2.3 Typ.	3.0 Typ.
VSWR	< 2.0	
Impedance(Ω)	50	
Polarization	RHCP	
LNA ELECTRICAL PROPERTIES		
Gain(dB)	30 Typ.	
Noise Figure(dB)	1.1 Typ.	1.6 Typ.
Output VSWR	< 2.0	
DC Input Voltage(V)	3~24	
Current consumption	17 mA Typ. @ 3V	

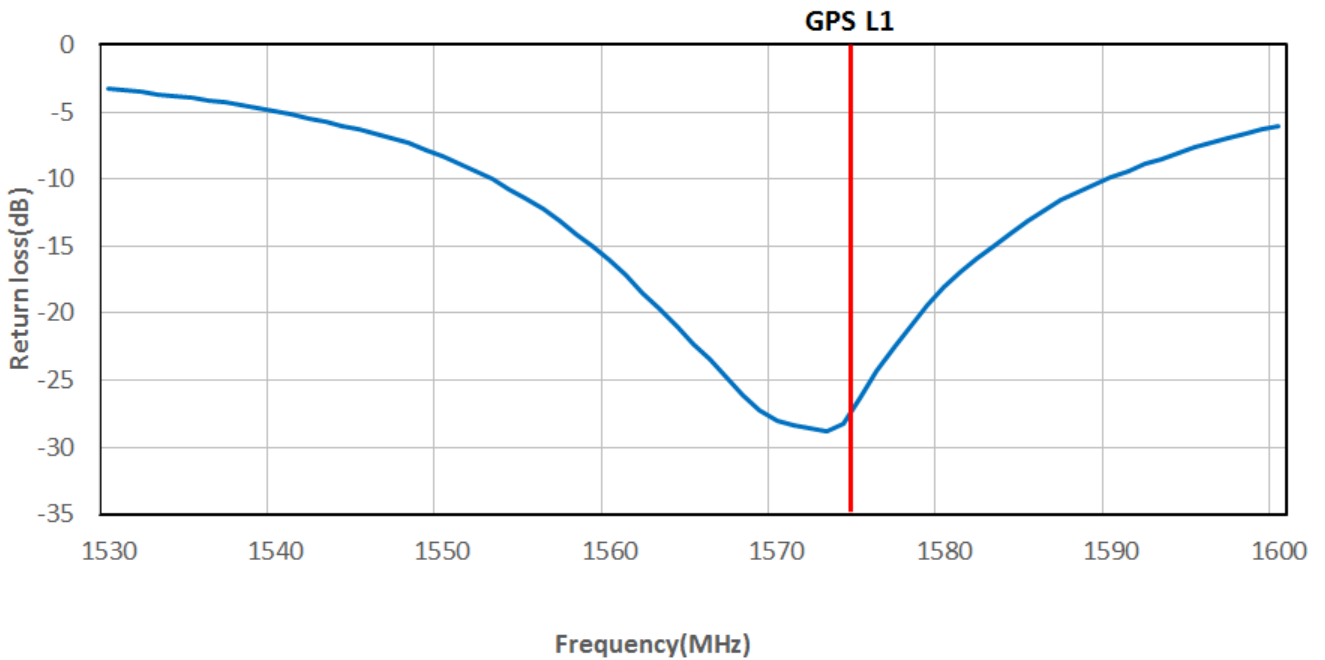
MECHANICAL	
Antenna Dimensions	70 * 70 * 17 mm
Waterproof	IP67
Cable type*	RG-174
Cable Length*	2M
Connector*	SMA(M) ST
Mounting Type	Adhesive mount

*The connector, cable length, and cable type can be tailor made upon request.

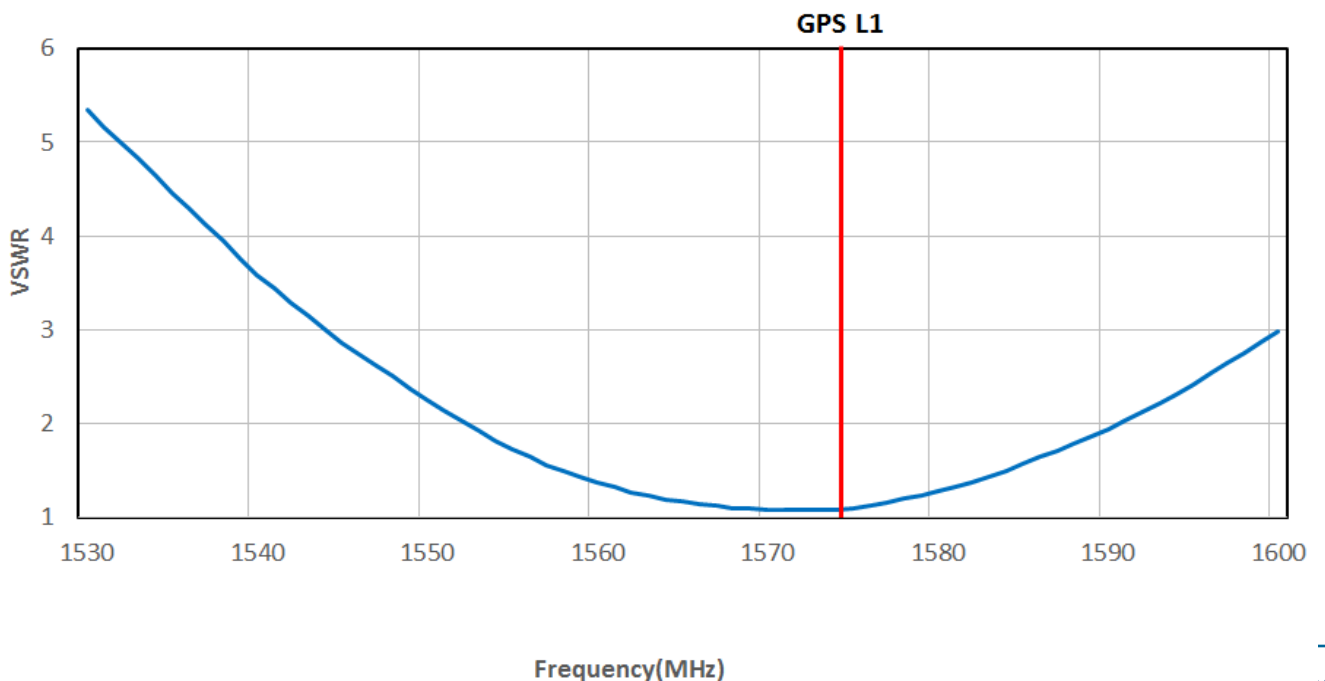
ENVIRONMENTAL	
Operation Temperature	-40~+85 °C
Storage Temperature	-40~+85 °C

3 GPS L1 Band Characteristics.

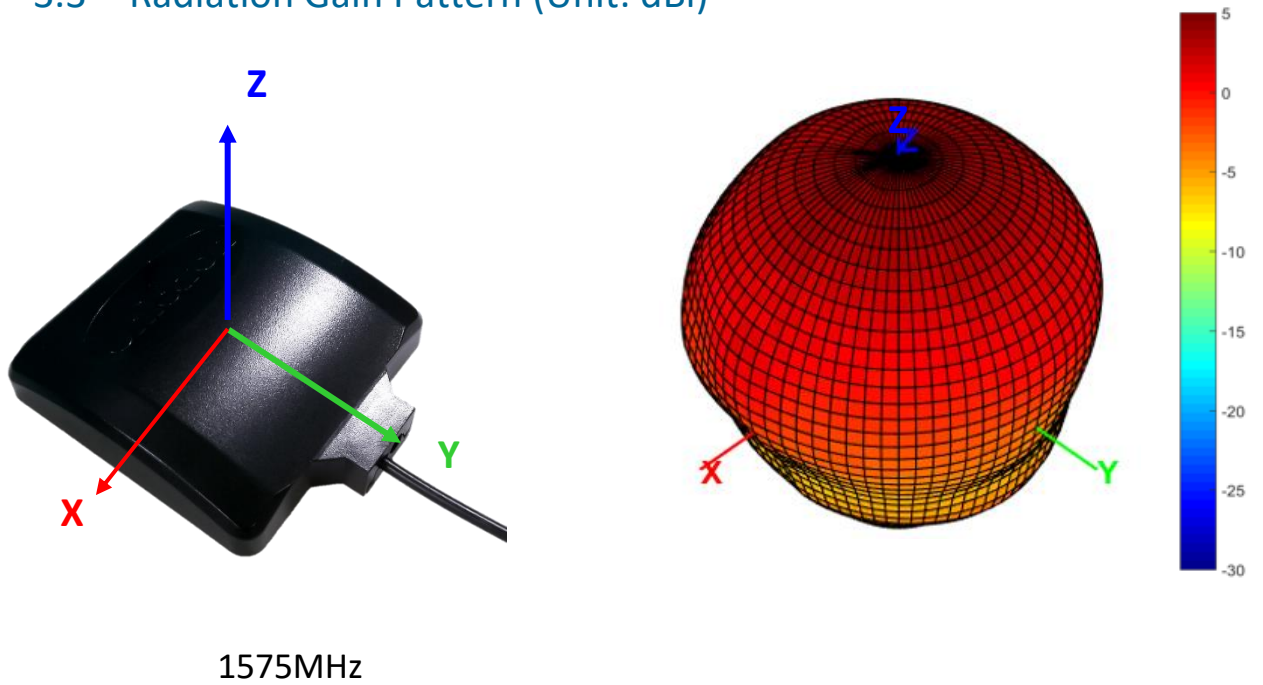
3.1 Return Loss



3.2 VSWR

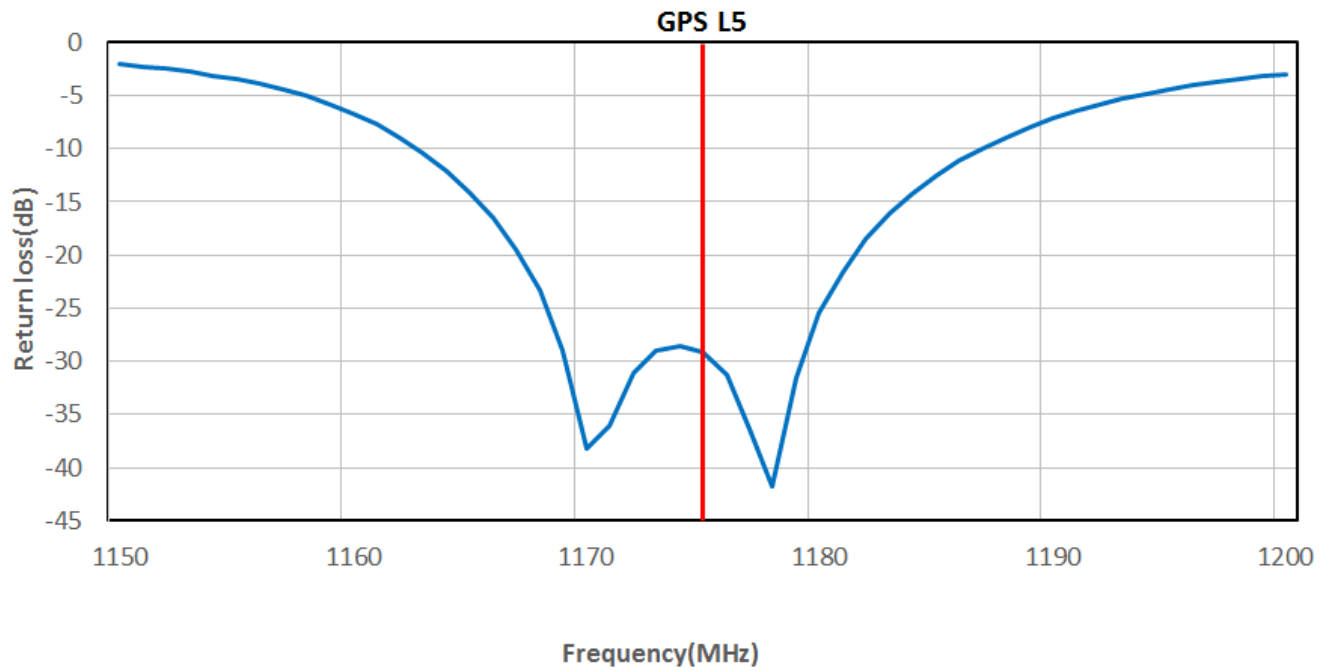


3.3 Radiation Gain Pattern (Unit: dBi)

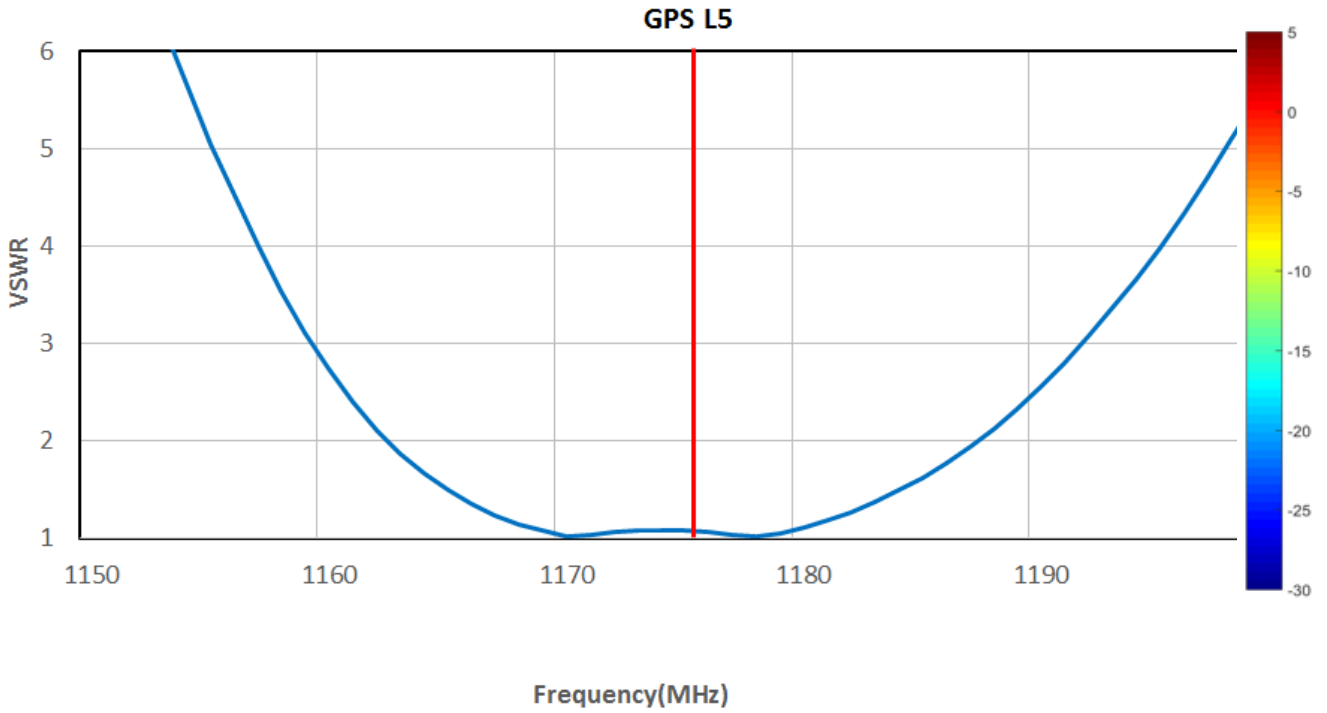


4 GPS L5 Band Characteristics.

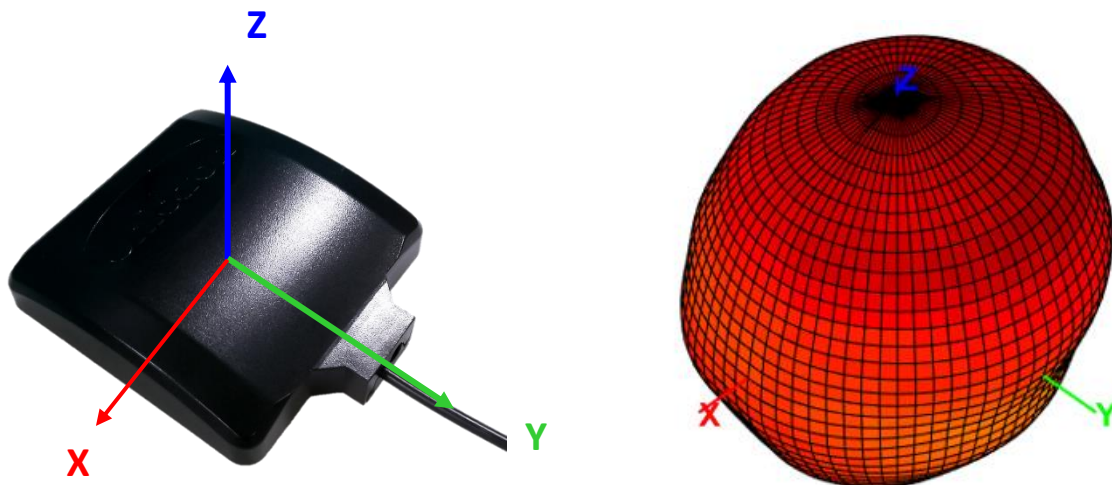
4.1 Return Loss



4.2 VSWR

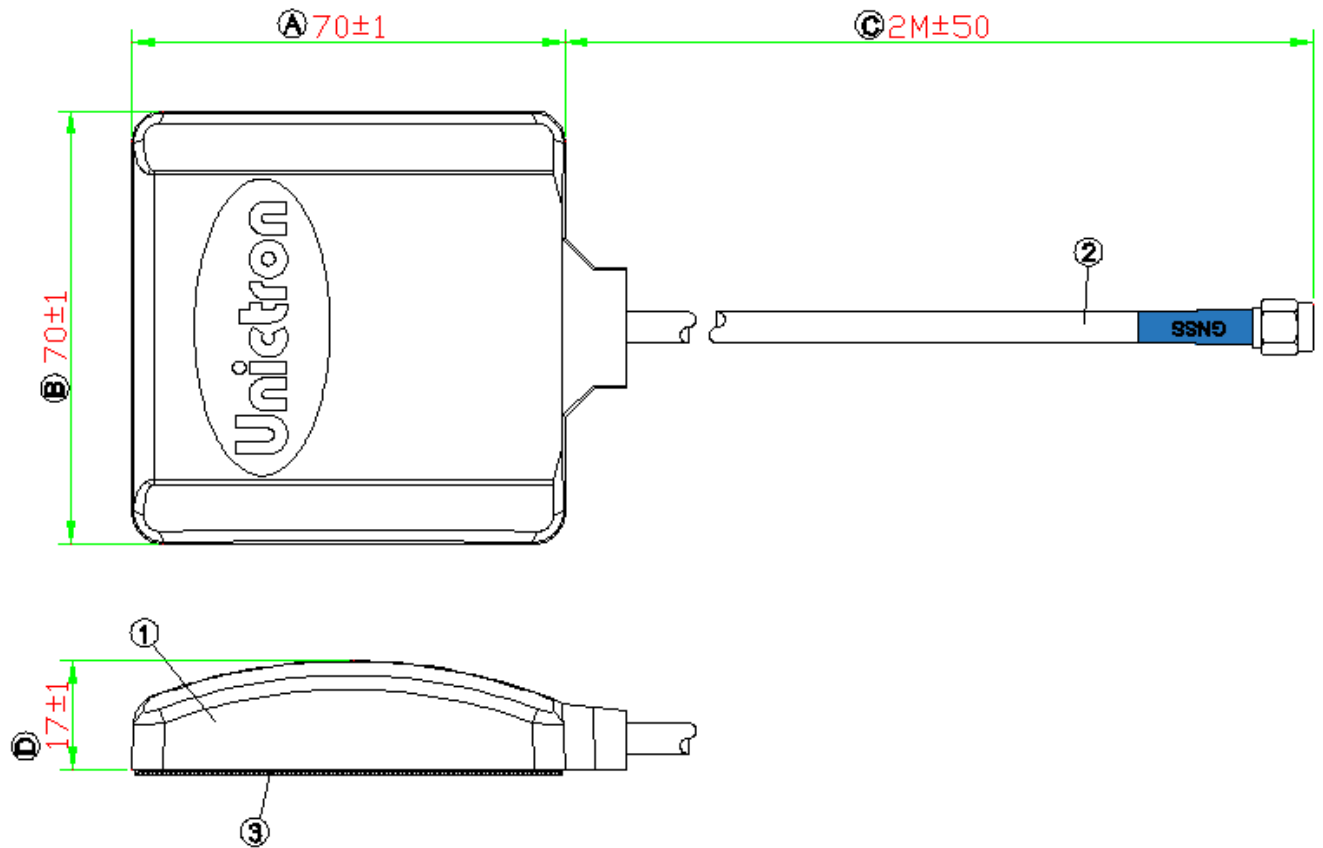


4.3 Radiation Gain Pattern (Unit: dBi)



1176MHz

5 Antenna Dimensions(Unit:mm)



Item	Name	Material	Color	Q'ty
1	Plastic cover	PC	Black	1
2	Connector cable \varnothing 2.7mm	PVC	Black	1
3	Adhesive tape(3M_VHB5952_t:1.1mm)	-	Black	1