

# **SPECIFICATION**

Part No. : **A.01.C.301111** 

Product Name : GPS Hercules Heavy Duty

**Screw Mount Antenna** 

Description : Two Stage 30dB Active GPS Antenna.

Height 29mm Diameter 49mm

Applications : Location based services

M2M

**Telematics** 

Remote monitoring Timing for base stations Vehicle fleet tracking





#### I. Scope

The A.01 Hercules is a high performance thread mount GPS antenna designed for external use on vehicles and outdoor assets. Designed for heavy duty work with one piece C&C machined nickel steel base plate and threads, there are also convenient side slots for running cables laterally. Durable UV resistant ABS housing is resistant to vandalism and direct attack. At only 29mm high it complies with the latest EU directives for height restrictions, whilst also enabling covert operation with a diameter of 49mm.

Cable lengths, types and connectors are fully customizable. For cable lengths above 5M please use our 40dB LNA A.03 model and low loss cable.

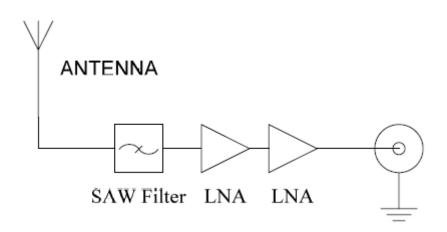
### **II. Specifications**

ELECTRICAL			
Frequency	1575.42MHz ± 1.023MHz		
Dimensions	Height 29mm, Diameter 49mm,		
Impedance	50 ohm		
VSWR	2.0 Max		
GPS Patch Gain	2.0dB Passive Gain at Zenith -1.0dBi Gain at 10 degrees elevation		
Axial ratio	3.0 dB max		
Polarization	RHCP		
Out Band Rejection	fo = $1575.42MHz$ fo $\pm 30$ MHz 5dB Min. fo $\pm 50$ MHz 20dB Min. fo $\pm 100$ MHz 25dB Min.		
Input Voltage	Min.1.8V	Typ. 3.0V	Max. 5.5V
Total Gain @ Zenith	25dBic	30dBic	32dBic
Current Consumption	6mA	12mA	30mA
Noise Figure	2.7dB	3.0dB	3.7dB



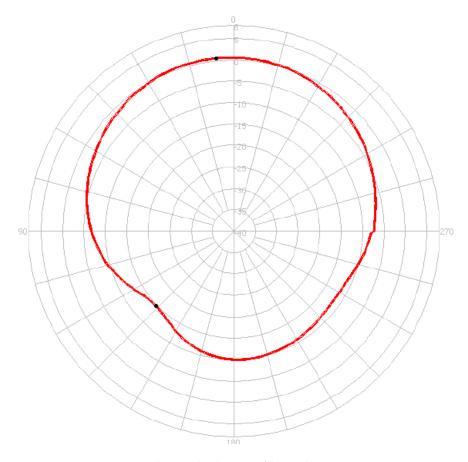
MECHANICAL		
Housing	UV resistant ABS	
Thread and Base Plate	One piece C&C'd Nickel Steel	
Sealing Foam	CR4305 with 3M9448B double-side adhesive	
Waterproof	IP69K High Pressure Water Jets (SGS Certified)	
Thread Diameter	18mm	
Recommended Mounting Torque	95Nm	
Maximum Mounting Torque	135Nm	
Operating Temperature	-40°C ~ +85°C	
Storage Temperature	-40°C ~ +105°C	
Cable/Connectors	3M RG-174 Cables and SMA Connectors (std) Fully Customizable	

# **III. System Block Diagram**





## **IV. GPS Patch Radiation Pattern**

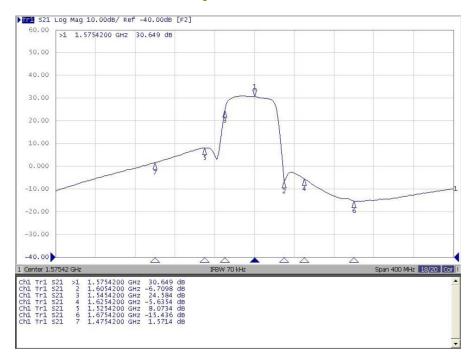


0 degree is the top of Hercules.

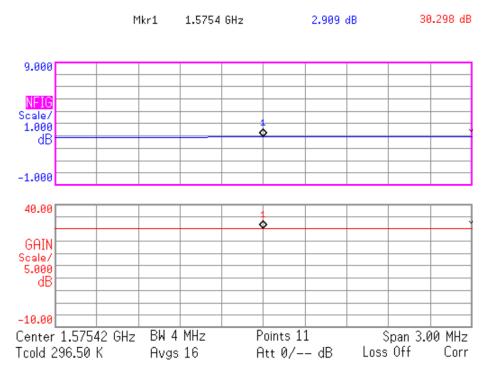


### **V. LNA Properties**

#### V.1. LNA Gain and Out-band Rejection @ 3.0V

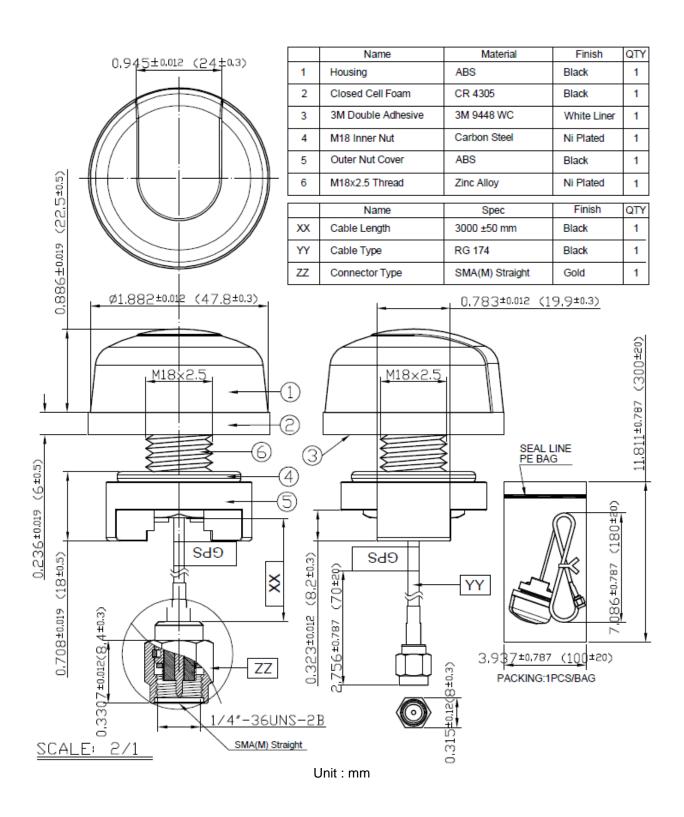


#### V.2. Noise Figure



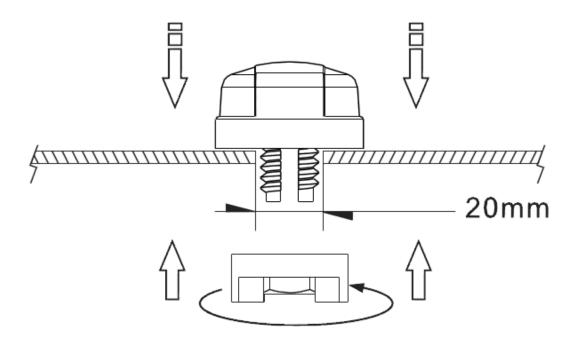


## **VI. Drawings**





#### VII. Installation



Recommended torque for mounting is 95Nm or 70ftlbs Maximum torque for mounting is 135.6Nm or 100ft lbs

