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[A.01.C.301111](#)

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Hercules

A.01.C.301111

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 UV and Vandal Resistant PC Housing IP67 & IP69K Waterproof Rating 3M RG-174 SMA(M) – Standard RoHS Compliant
Applications	Location based services M2M Telematics Remote monitoring Timing for base stations Vehicle fleet tracking



1. Introduction

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.



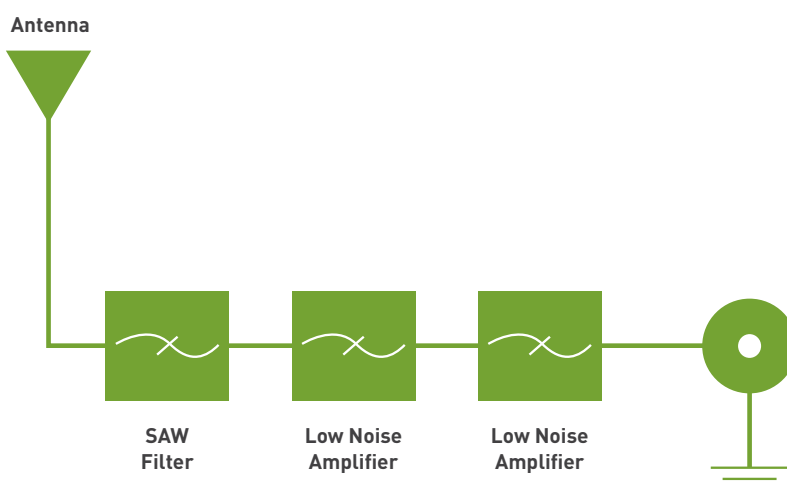
2. Electrical Specifications

Parameter	Specification		
Frequency	1575.42MHz $\pm$ 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



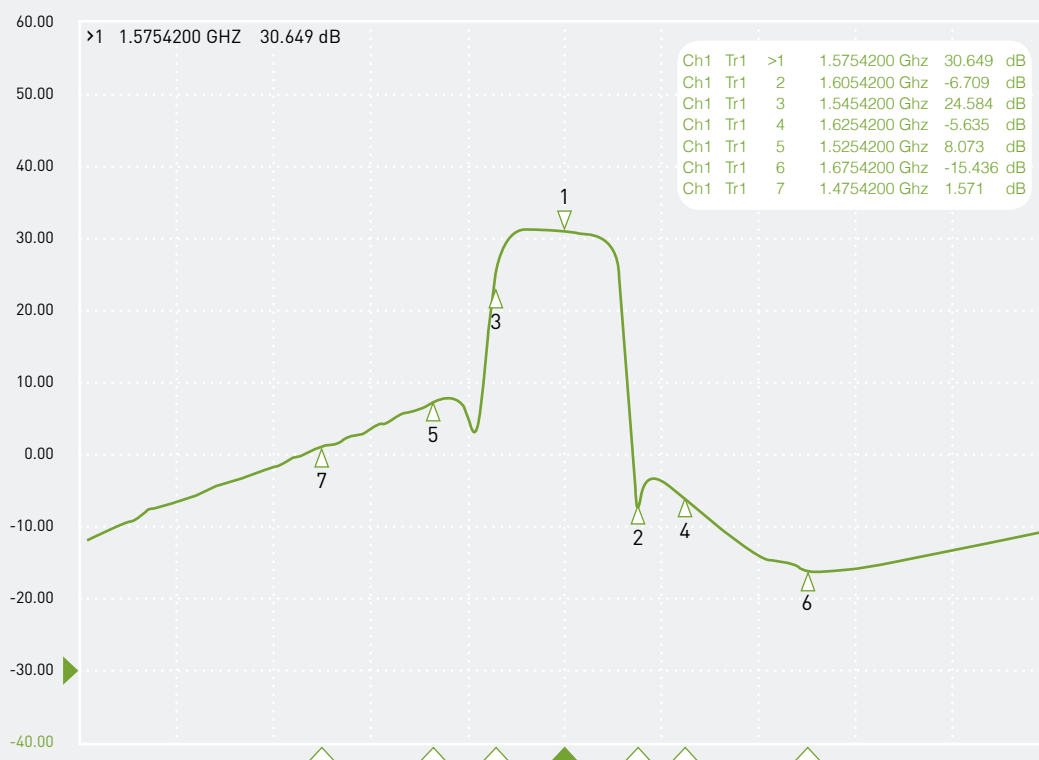
3. LNA

3.1 LNA Functional Circuit



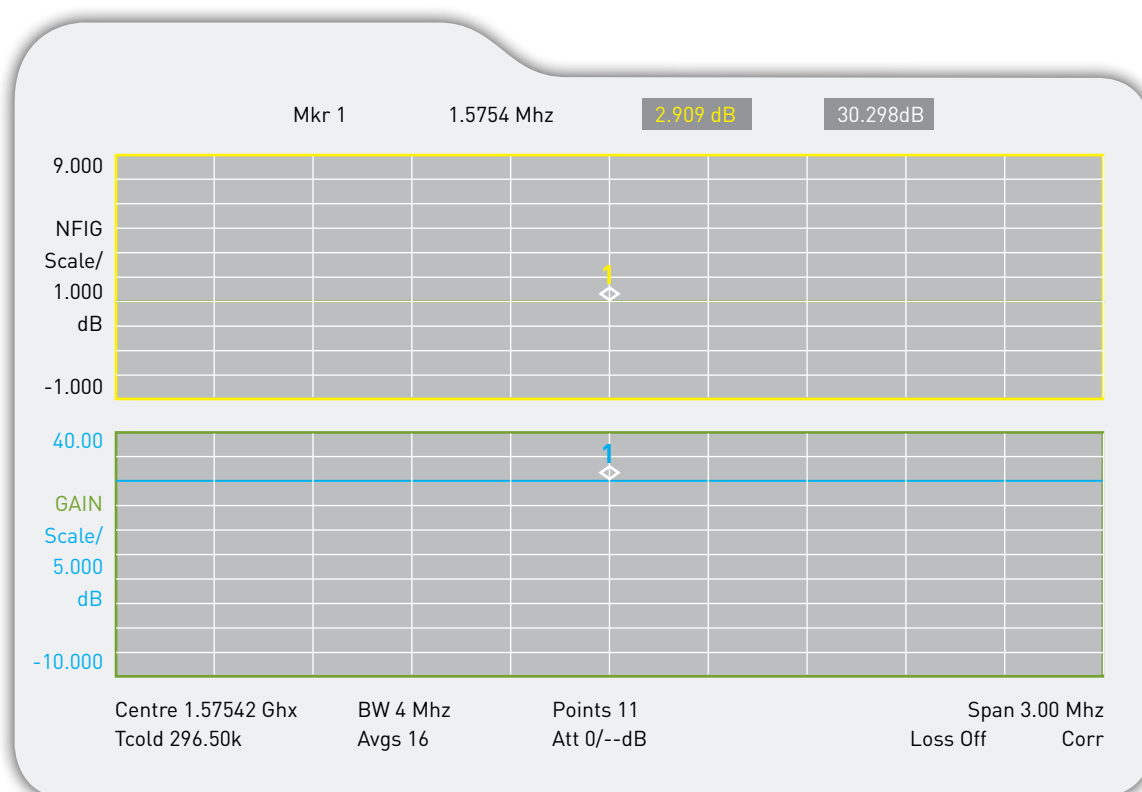
3.2 LNA Gain and Out-band Rejection @ 3.0V

► **TR1** S21 LOG MAG 10.00dB/ ref -40.00dB [F2]



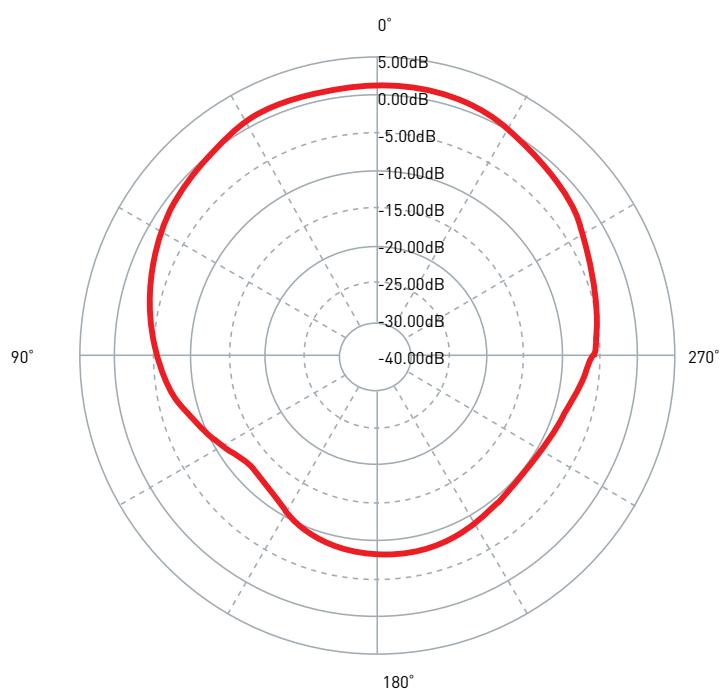


3.4 LNA Noise Figure at DC 3V





4. Radiation Patterns



0 degree is the top of Hercules

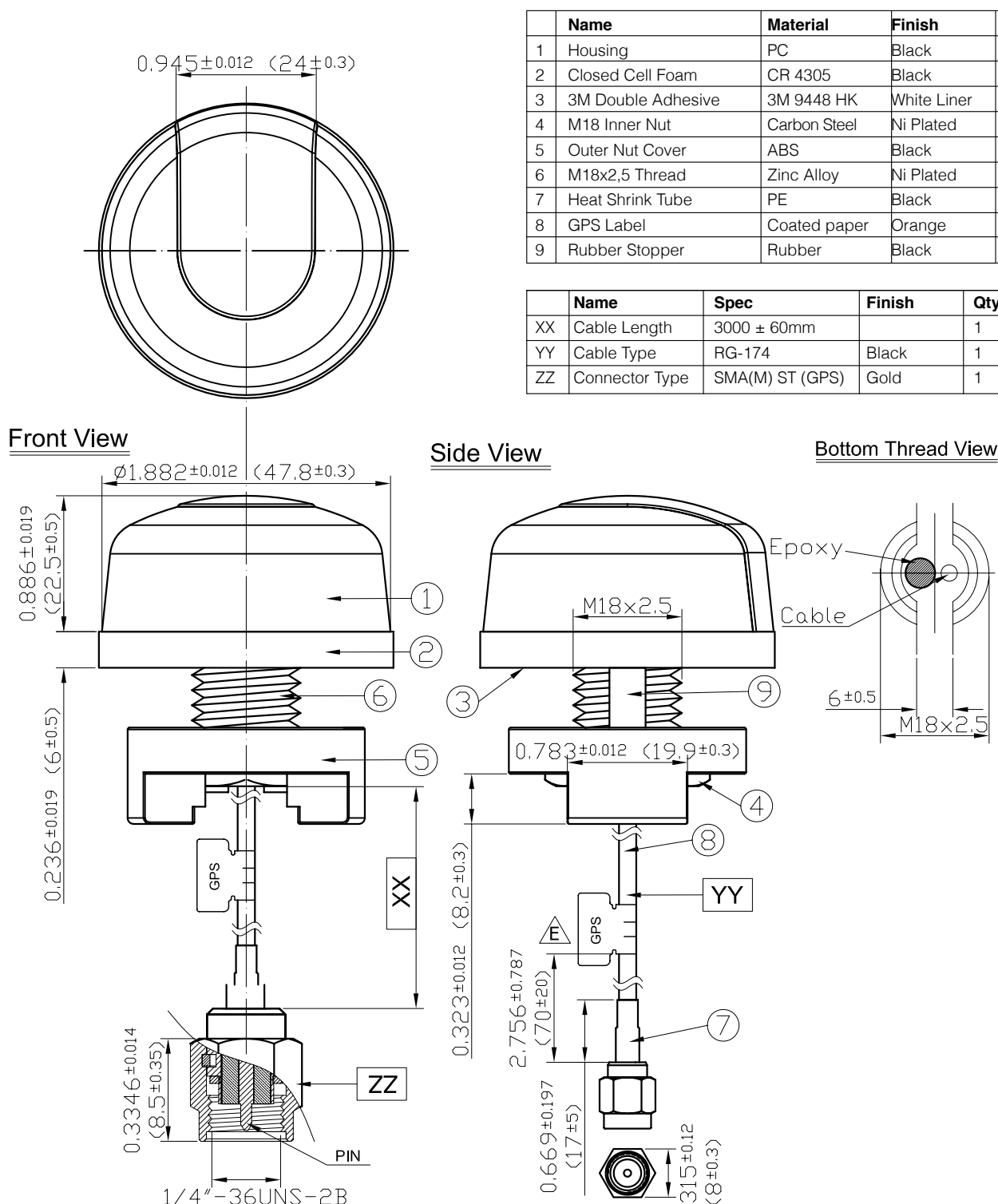


5. Mechanical Specifications

Parameter	Specification
Housing	UV resistant PC
Thread and Base Plate	Nickel Plated Steel/Zinc
Sealing Foam	CR4305 with 3M9448B double-side adhesive
Waterproof	IP67 & IP69K
Thread Diameter	18mm
Recommended Mounting Torque	24.5N·m
Maximum Mounting Torque	29.4N·m
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-40°C ~ +105°C
Cable/Connectors	3M RG-174 Cables and SMA Connector (std) Fully Customizable

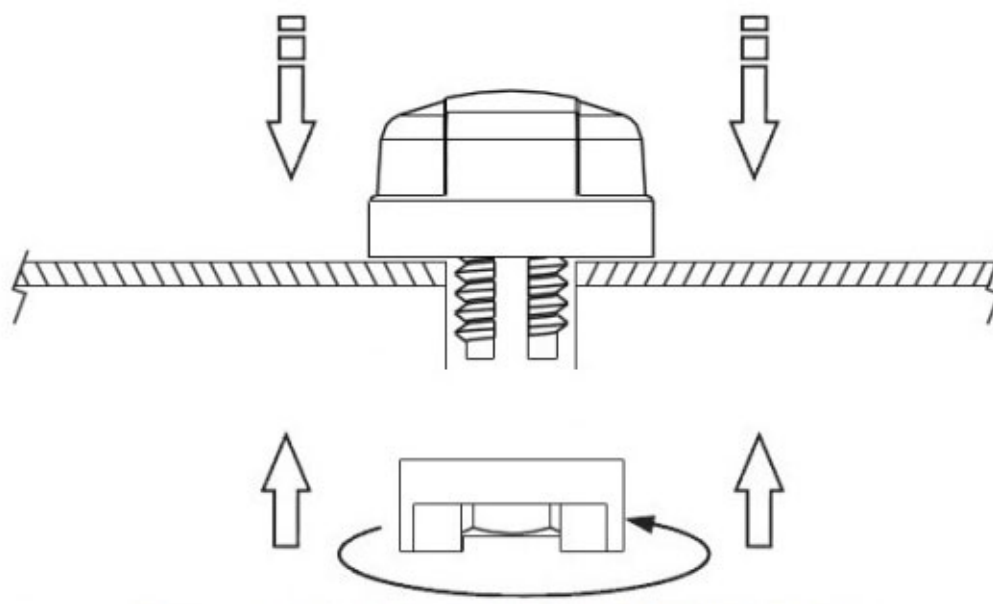


6. Mechanical Drawing





7. Installation



Recommended torque for mounting is 24.5N·m

Maximum torque for mounting is 29.4N·m





8. Packaging

1pc antenna per PE Bag
40 big PE bags per box

Unit : mm

