



TAOGLAS®



Datasheet

Hercules Wi-Fi 6 Permanent Mount Antenna

Part No:
WS.03.B.205151.vj

Description

Hercules – Low Profile Wi-Fi 6 Permanent Mount Antenna
Covering Frequencies 2.4 – 2.5 / 5.1 - 5.8 / 5.9 - 7.125GHz

Features:

- Low Profile Permanent Mount Antenna
- Covers 2.4/5.8GHz as well as Wi-Fi 6 Frequencies from 5.9 - 7.125GHz
- Robust, UV and Vandal Resistant ABS Housing
- IP65 Rated Enclosure
- Dimensions: Ø49 x 29mm
- Connector: RP-SMA Male
- Cable: 2m of TGC-200
- RoHS & Reach Compliant

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1. Introduction



The Hercules WS.03 is a high efficiency, high gain permanent mount antenna designed to cover all Wi-Fi bands including frequencies for Wi-Fi 6, up to 7.125GHz. It has omni-directional gain across both bands ensures constant reception and transmission making the WS.03 an ideal solution for varied Wi-Fi applications.

At only 29mm high, with a diameter of 49mm, the Hercules has been designed as a covert solution, for use in the most challenging of environments. With a durable UV-resistant ASA housing that is IP65 rated, the WS.03 is resistant to vandalism and is supplied with a heavy-duty thread for secure mounting.

Typical Applications Include:

- Remote Monitoring
- Gateways and Routers
- HD Video Streaming
- Smart Cities

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free space can degrade by at least 1 or 2dBi when put inside a device. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

The cable and connectors are fully customizable, for further information please contact your regional Taoglas customer support team.

2. Specification

Wi-Fi Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi - 2GHz	2400-2500	47	-3.22	3.43	50 Ω	Linear	Omni	2W
Wi-Fi - 5GHz	5150-5850	41	-3.89	5.02				
Wi-Fi - 6GHz	5925-7125	38	-4.21	5.23				

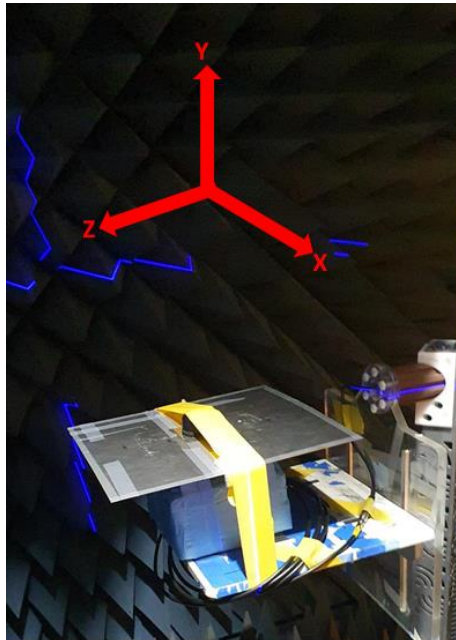
Tested on a 30x30cm Ground Plane

Mechanical	
Height	29 mm
Planner Dimension	49 mm
Casing	ASA
Cable	2000mm of TGC-200
Connector	Reverse Polarity SMA Male
Base and Thread	Zinc Alloy
Thread Diameter	M18
Sealant	Silicon Rubber
Weight	130g

Environmental	
Temperature Range	-40°C to 85°C
Humidity Level	Non-condensing 65°C 95% RH
Ingress Protection	IP65

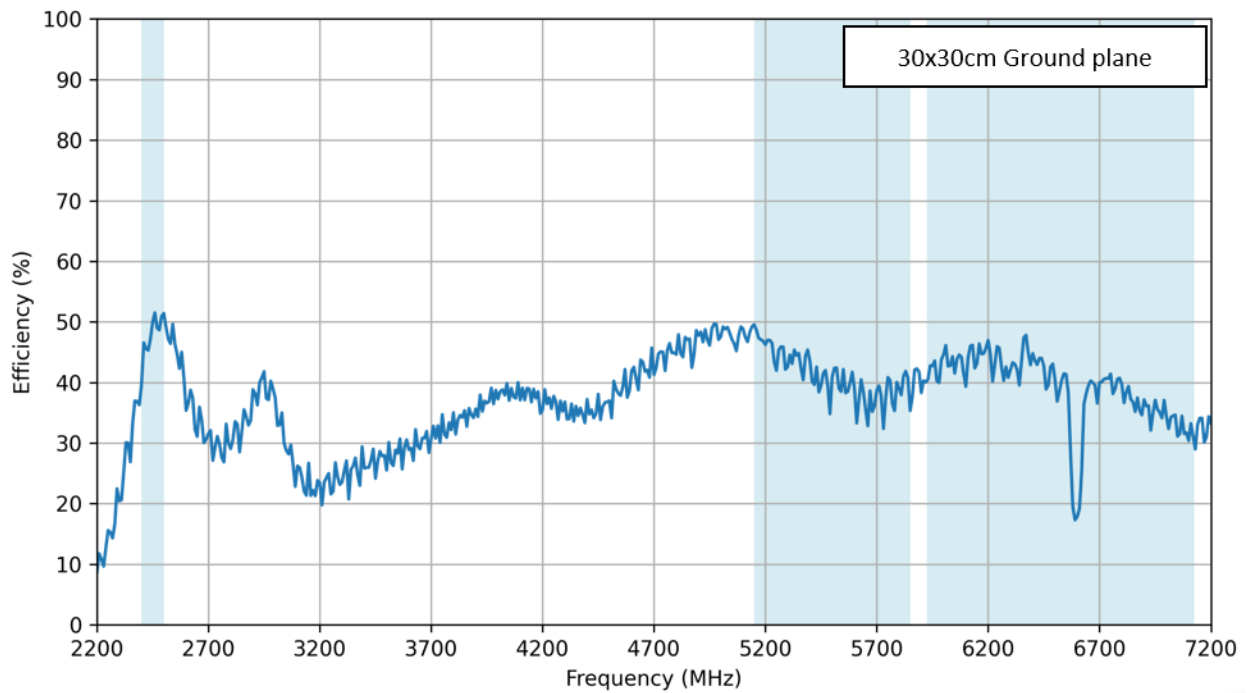
3. Antenna Characteristics

3.1 Test Setup

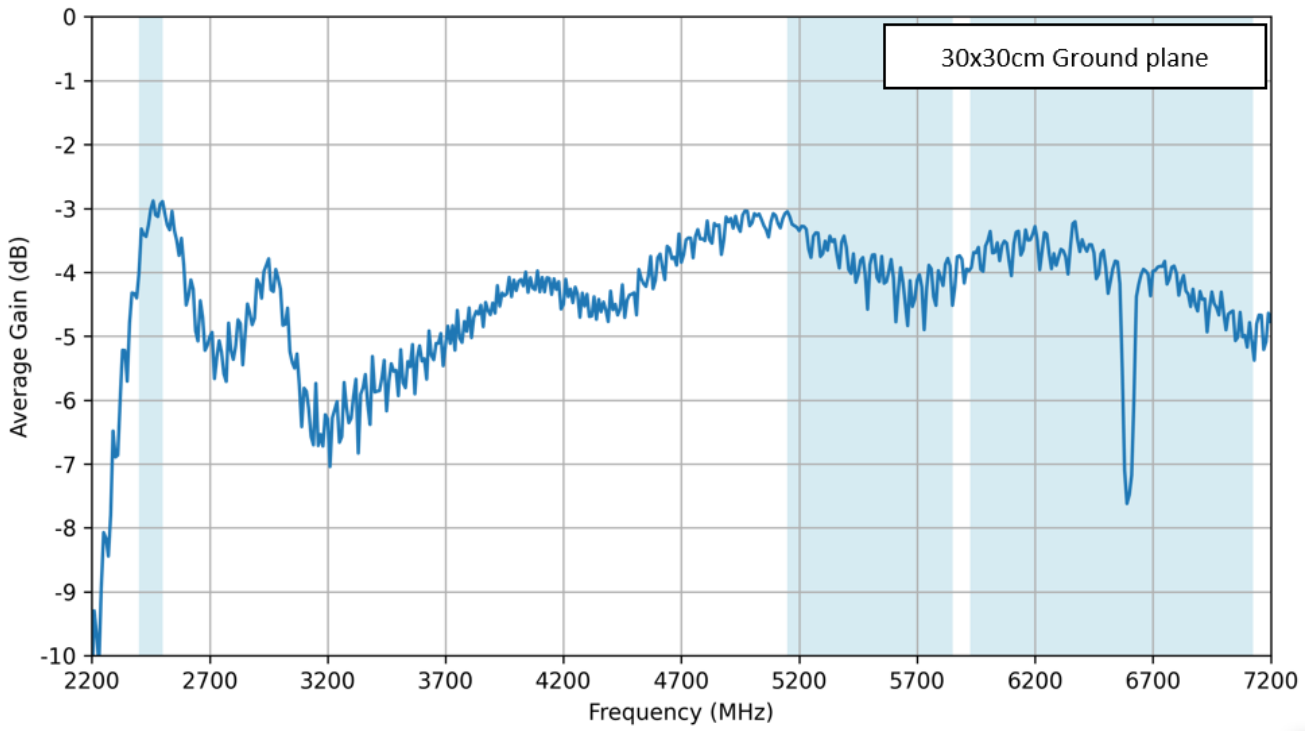


Chamber Test Setup

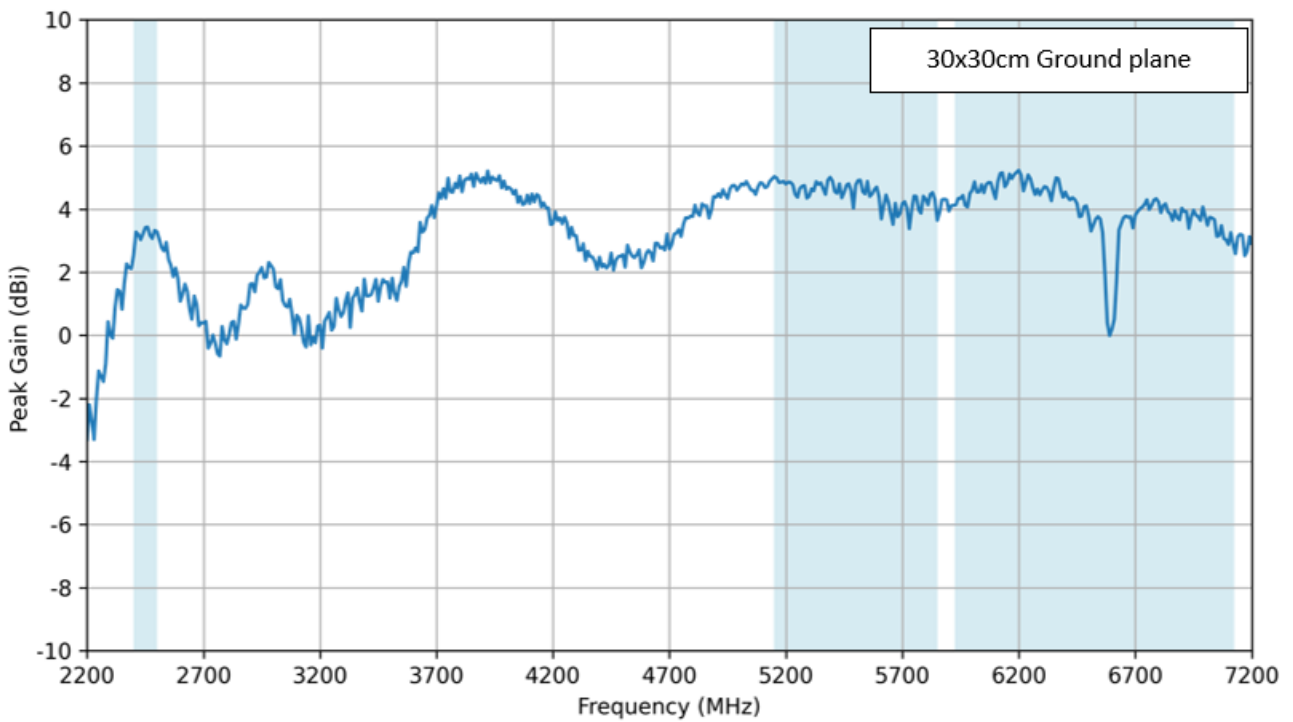
3.2 Efficiency



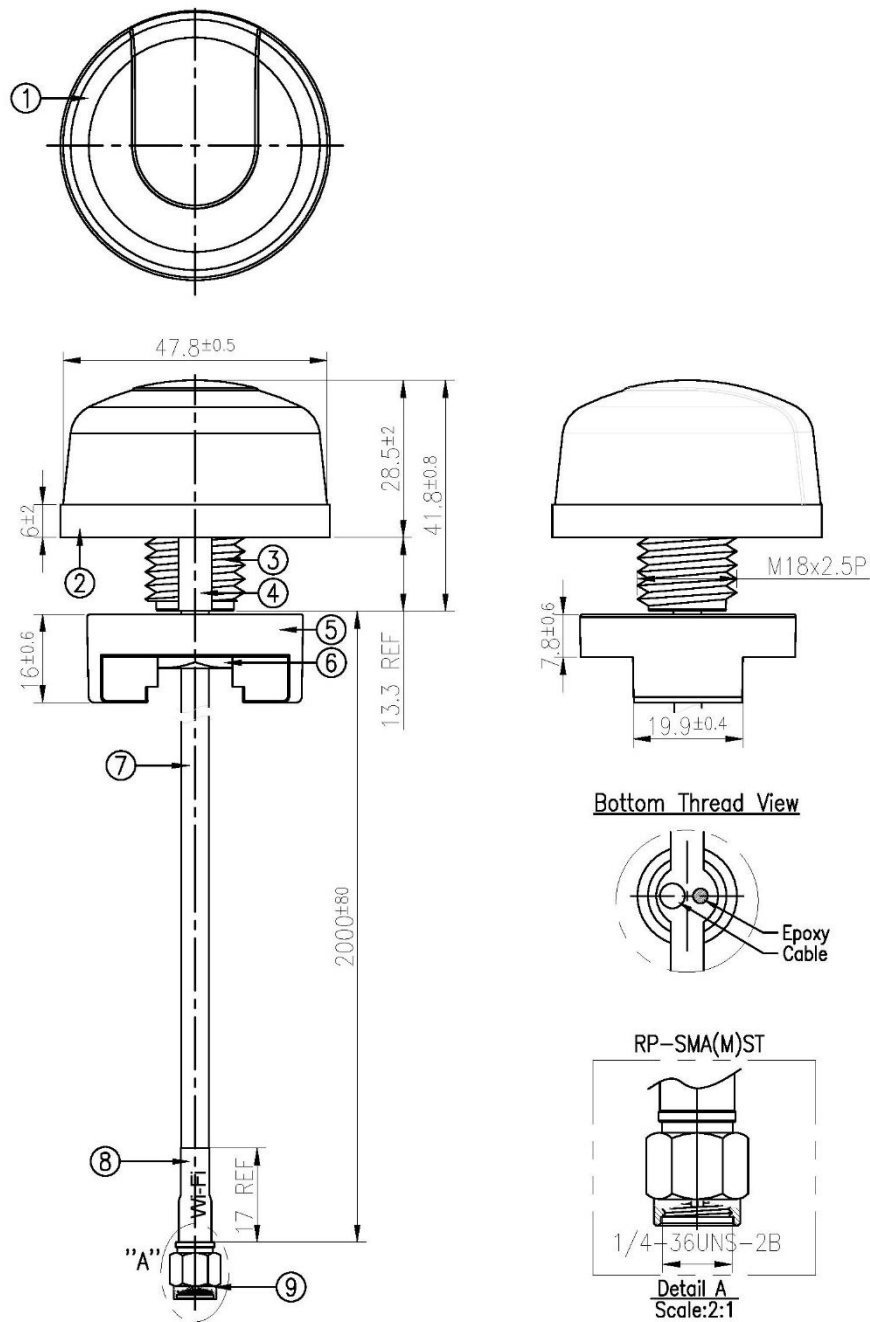
3.3 Average Gain



3.4 Peak Gain



4. Mechanical Drawing



	Name	Material	Finish	QTY
1	Housing	PC	Black	1
2	Double Sided Adhesive with foam	3M 9448HK+CR4305	Black Foam/White Liner	1
3	Metal Base	Zinc Alloy	Ni Plated	1
4	Rubber Stopper	Silicone Rubber	Black	1
5	Outer Nut Cover	ASA	Black	1
6	M18 Inner Nut Cut	Steel Carbon	Zn Plated	1
7	TGC200 Coaxial Cable	PE	Black	1
8	Heat Shrink Tube(Wi-Fi)	PE	Yellow Tube/Black Text	1
9	RP-SMA(M)ST	Brass	Au Plated	1

Changelog for the datasheet

SPE-24-8-058 - WS.03.B.205151.vj

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Author:	Gary West

Previous Revisions



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