



TAOGLAS®



Datasheet

RC Drone FPV Antenna

Part No:
WCM.30.01D151

Description

5-5.9GHz Connector Mount Antenna with RG-402 Coaxial Cable and RP-SMA(M),
IP67 Rated

Features:

- Covers 5-5.9GHz Frequency Range
- Flexible and durable RG-402 Cable with RP-SMA Connector
- IP67 Waterproof Enclosure
- Perfect Axial Ratio
- Dimension: Ø34.5 x 108mm
- RoHS & Reach Compliant

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1. Introduction



The Taoglas **WCM.30** is a high-performance circularly polarized antenna specifically engineered for First-Person View (FPV) remote-controlled drones and wireless video transmission systems. Designed to deliver stable, omni-directional coverage with right-hand circular polarization (RHCP), it ensures reliable, low-latency video and control links, even in dynamic flight environments.

The WCM.30 utilizes a precision-tuned design achieving over 80% efficiency and 4.8 dBi peak gain, minimizing signal fading and multipath interference—critical for real-time HD video streaming. Its robust RG-402 coaxial cable provides exceptional mechanical strength and flexibility, allowing the antenna to be bent, rotated, and fixed easily without performance degradation.

Built with a fully IP67 and UV-rated enclosure, the WCM.30 is resistant to dust, water, and UV exposure, making it ideal for outdoor and harsh environmental deployments.

As drone and wireless video technologies continue to evolve, the WCM.30's versatility and durability make it suitable not only for FPV drones but also for autonomous robots, ground vehicles, and industrial IoT systems requiring high-efficiency, omnidirectional communication.

The antenna includes an RP-SMA connector as standard, ensuring easy integration with most FPV transmitters and receivers. For high-volume or specialized applications, custom connector types, cable lengths, and mounting options can be tailored upon request (subject to MOQ and NRE), contact your regional Taoglas customer support team for more information.

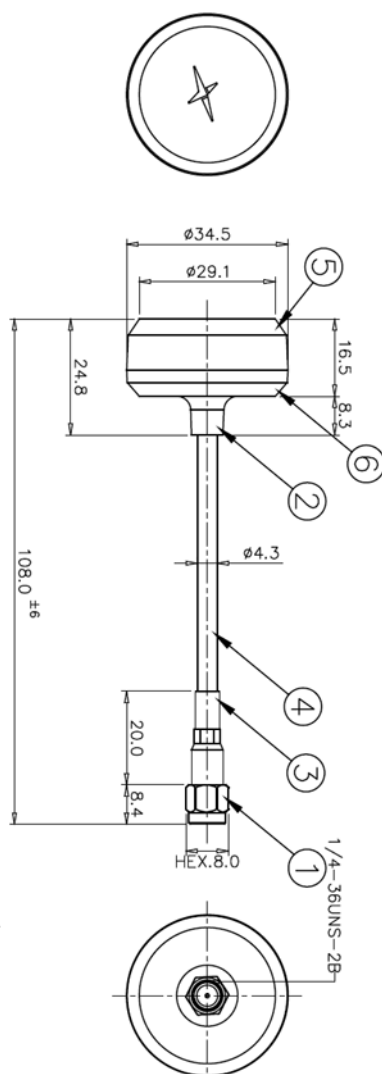
2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Axial Ratio (dB)
Wi-Fi/ISM 5.8GHz	5000-5925	82.5	-0.84	4.82	50 Ω	RHCP	Omni directional	< 3

Mechanical	
Dimensions	Ø34.5mm x 108mm
Weight	12.4g
Plastic Material	PC/ABS
Mount	Terminal, connector
Cable	RG-402
Connector	RP-SMA Plug

Environmental	
Waterproof Rating	IP67
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing

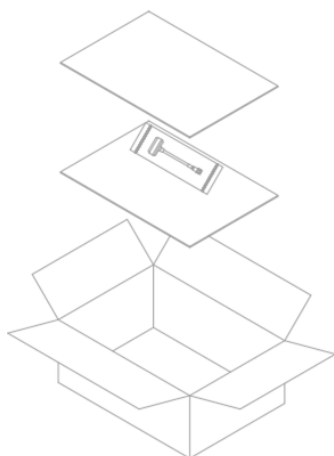


	Name	Material	Finish	QTY
1	Connector RP SMA Plug	Brass	Gold plated	1
2	Copper Tube	BST	Nickel plated	1
3	Heat shrink tubing	PE	Black	1
4	Coaxial Cable	RG-402	Blue	1
5	Upper cover	PC+ABS	Black	1
6	Lower cover	PC+ABS	Black	1

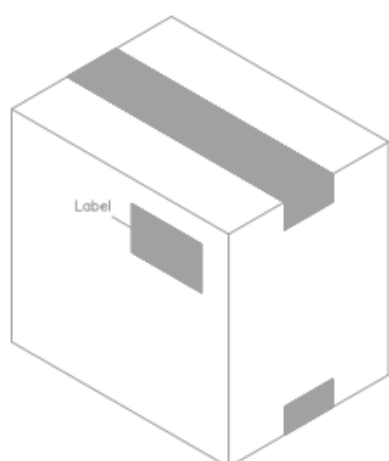
4. Packaging



- ☑ 1 PCS / PE bag
- ☑ Weight (g): 14.6 ±3%
- ☑ SPQ Label



- ☑ 80 PCS / Inner box
- ☑ Inner box (mm): 290 x 210 x 120
- ☑ Weight (kg): 1.53 ±3%



- ☑ 160 PCS / Carton
- ☑ Carton(mm): 312 x 230 x 290
- ☑ Weight (kg): 3.57 ±3%
- ☑ Carton Label

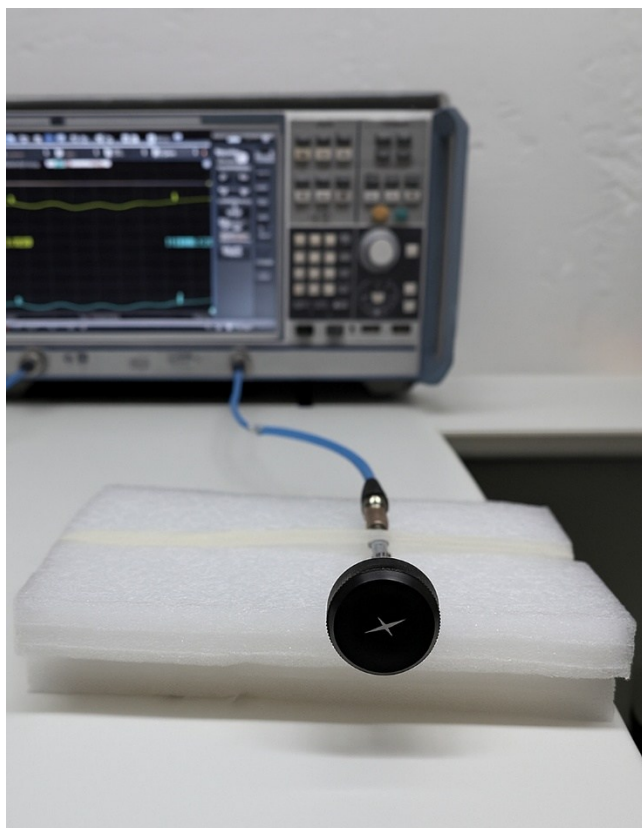
5. Antenna Characteristics

5.1 Test Setup

AUT

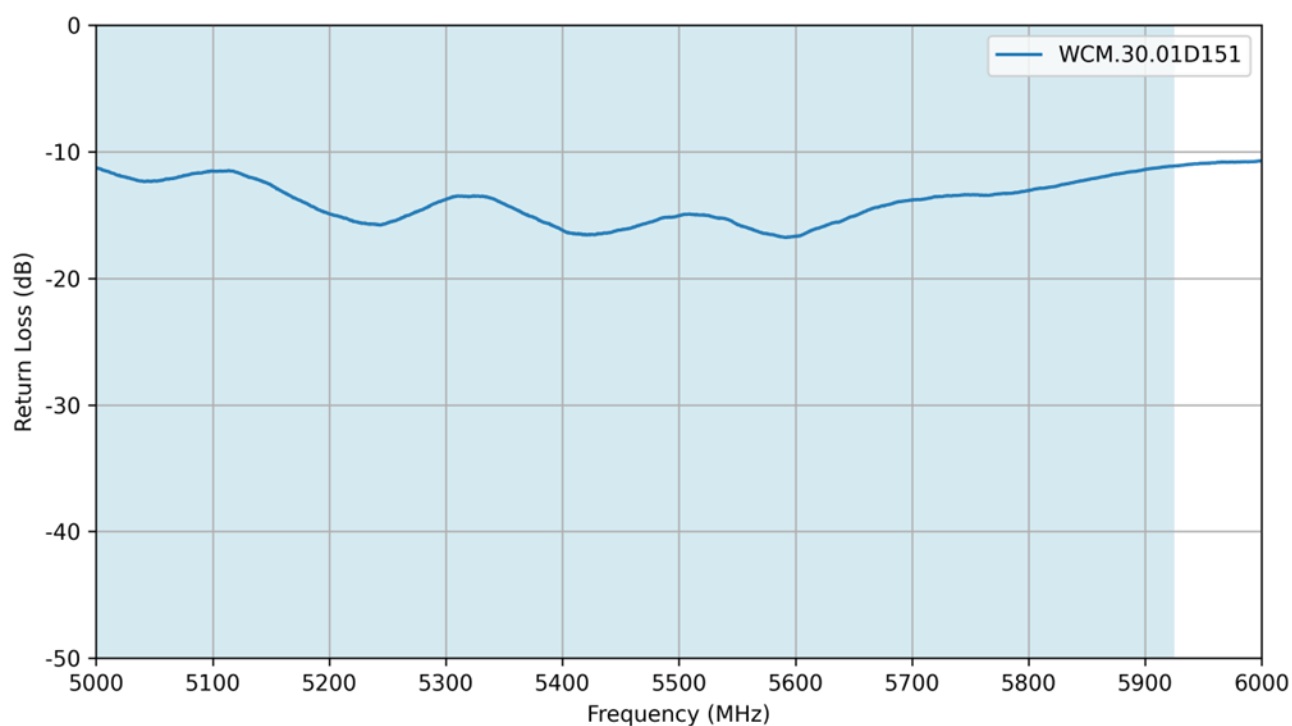


Vector Network Analyzer

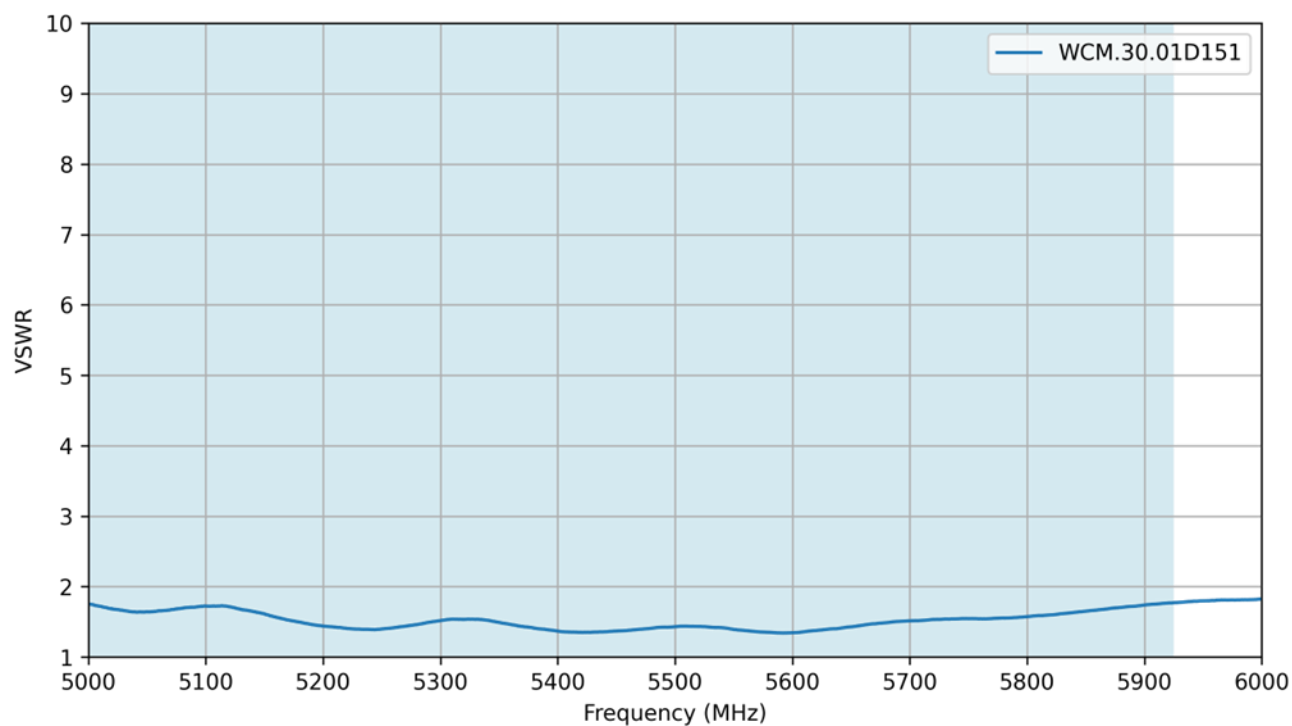


VNA Test Set-up in Free Space

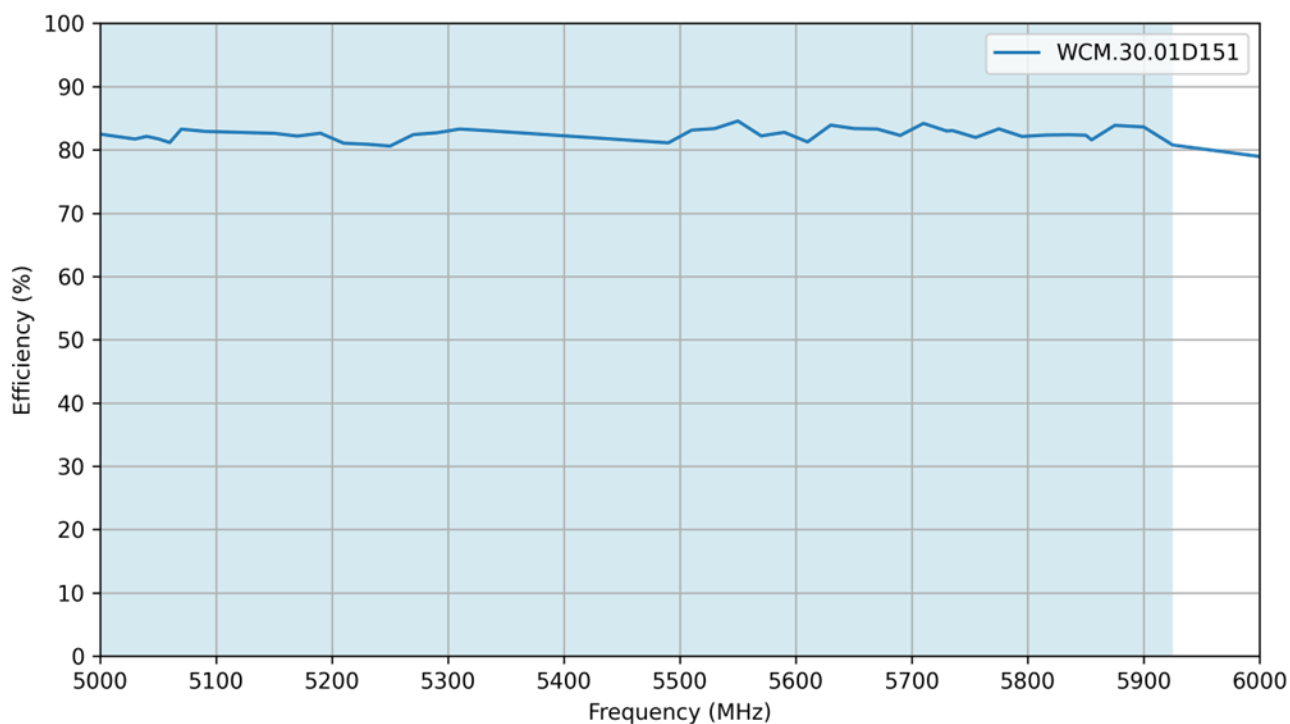
5.2 Return Loss



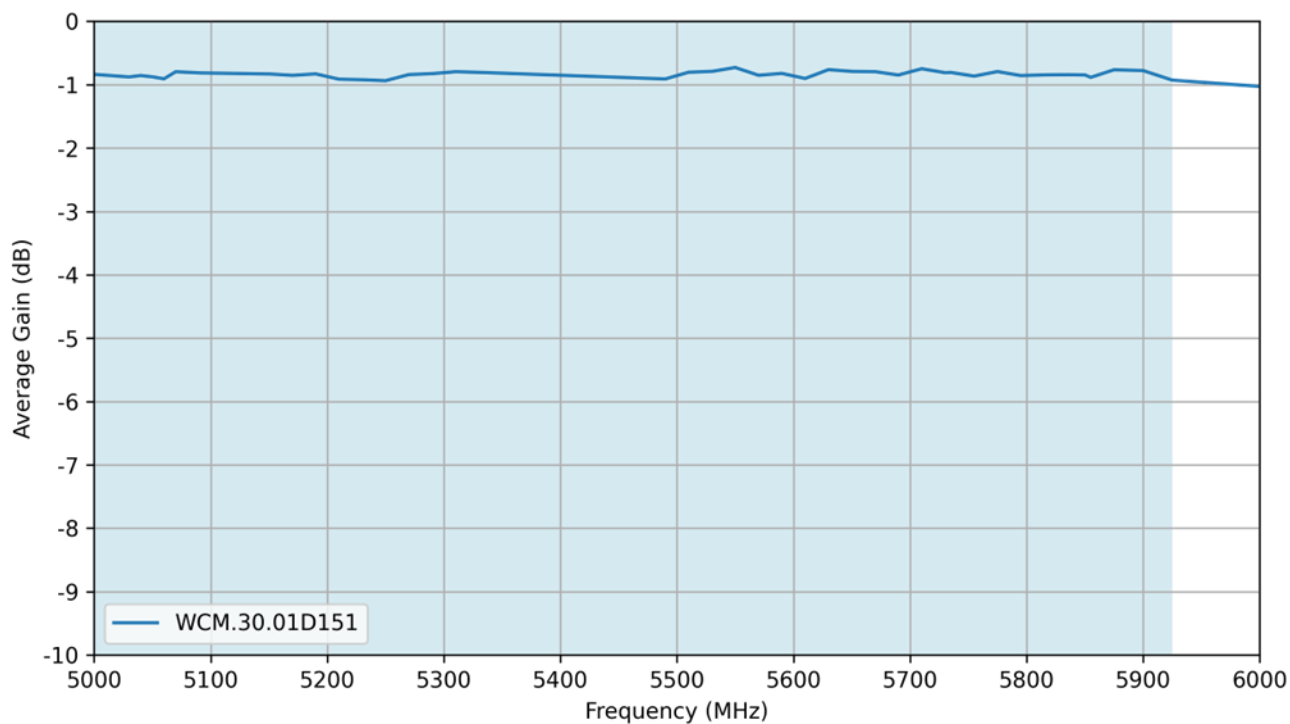
5.3 VSWR



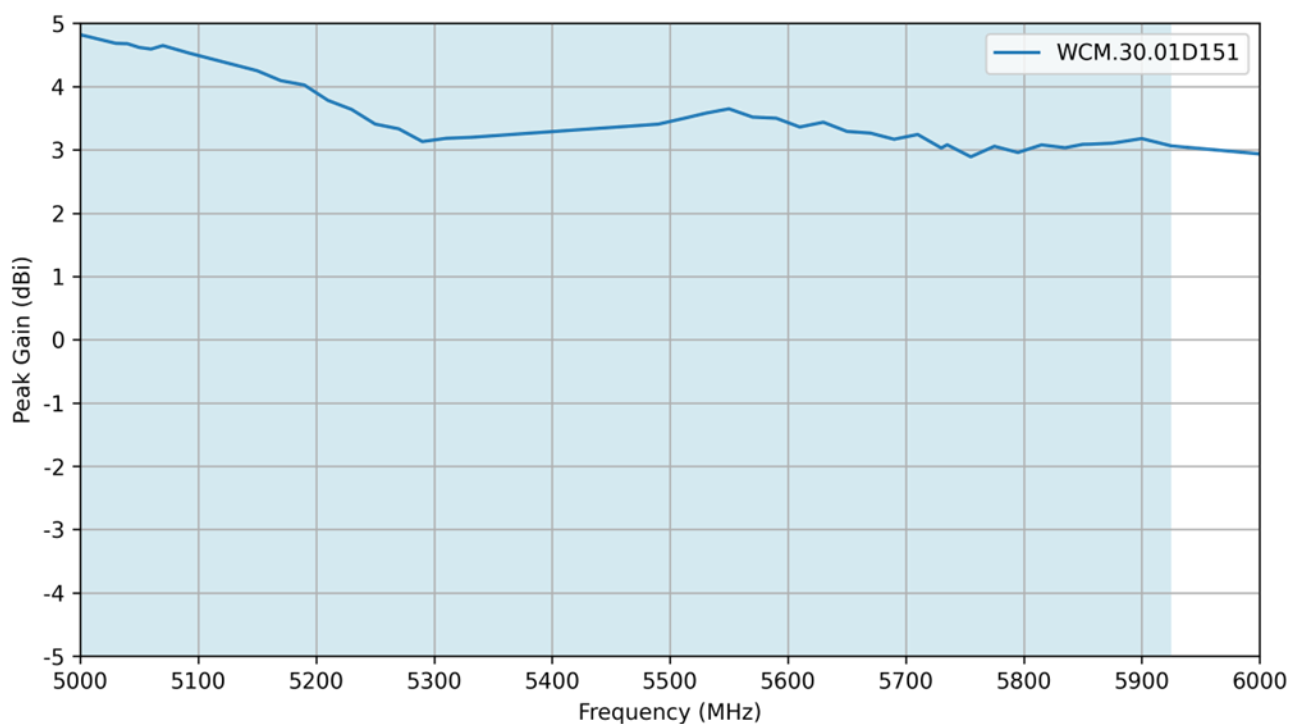
5.4 Efficiency



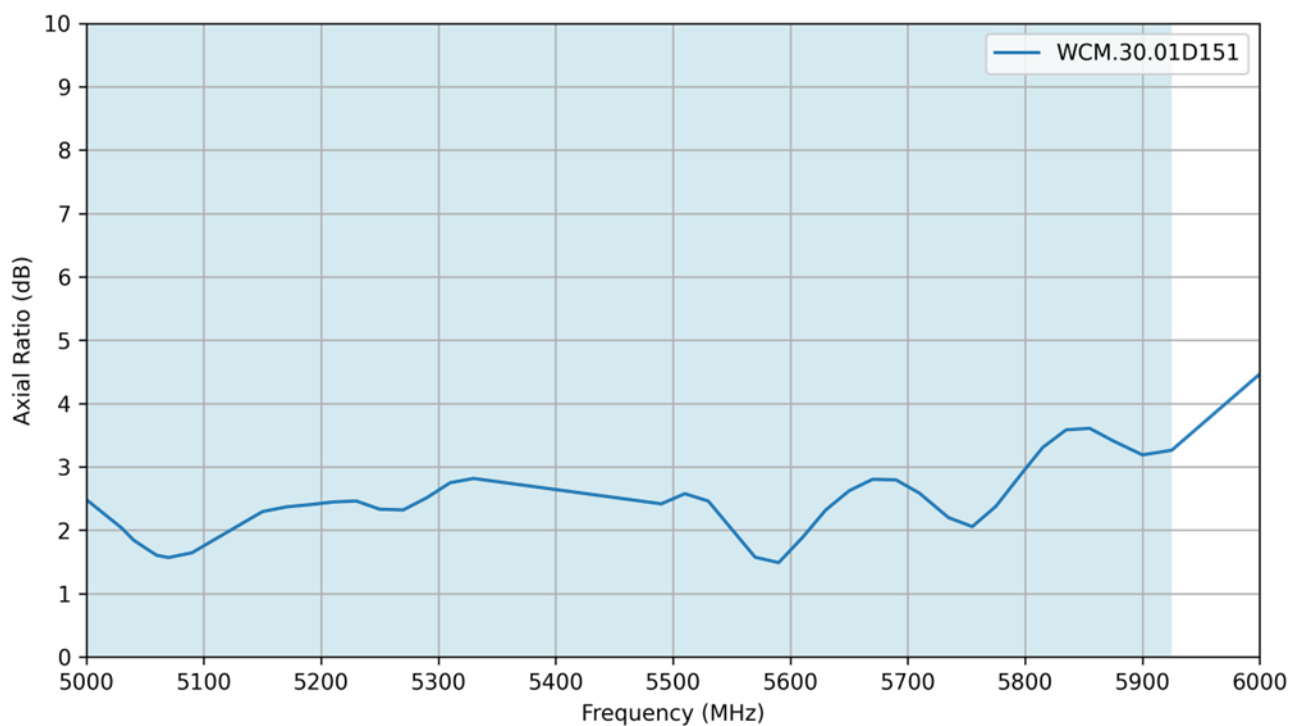
5.5 Average Gain



5.6 Peak Gain

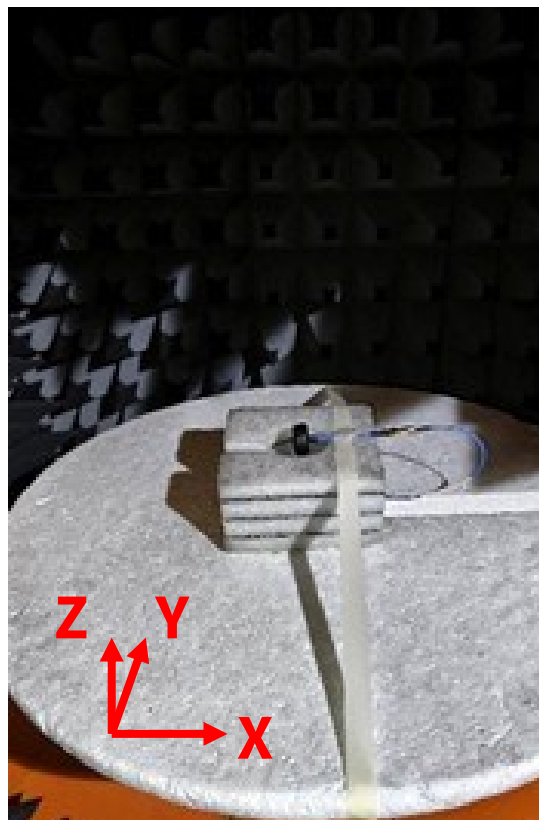
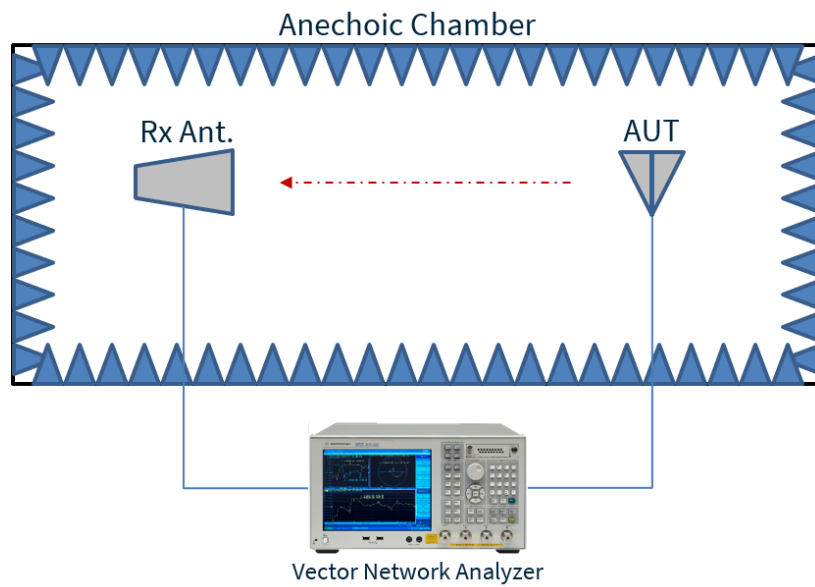


5.7 Axial Ratio



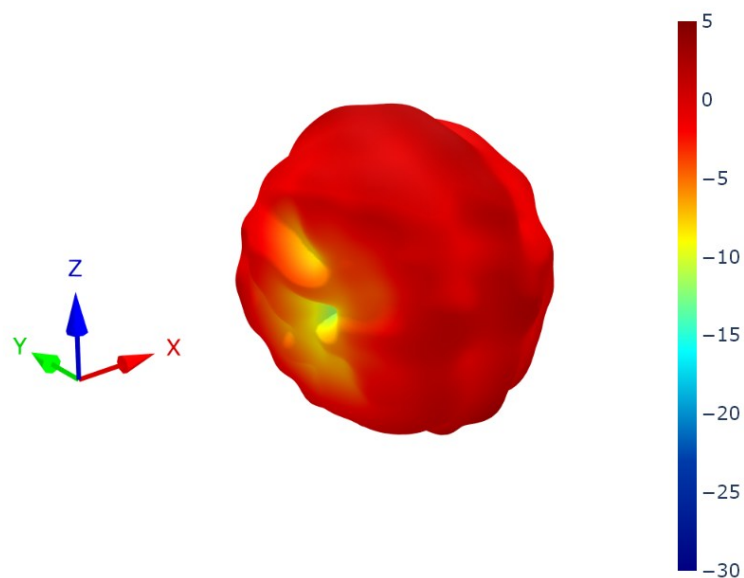
6. Radiation Patterns

6.1 Test Setup

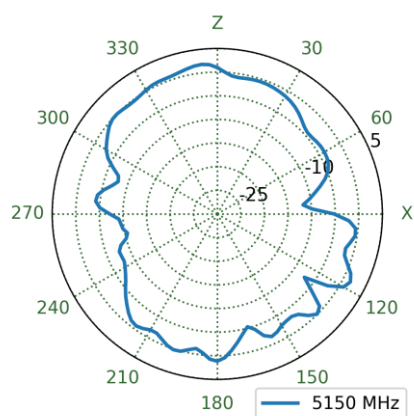


Chamber Test Set-up in Free Space

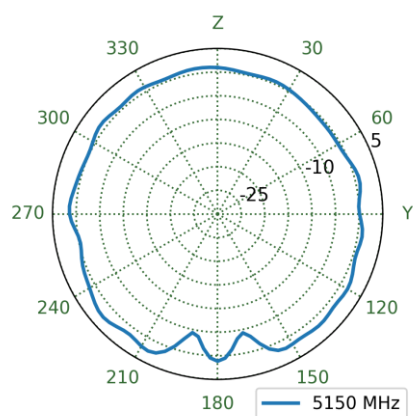
6.2 Patterns at 5150 MHz



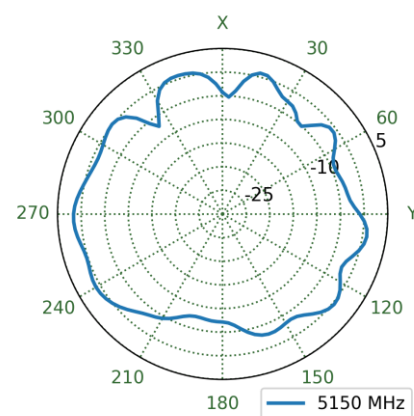
XZ Plane



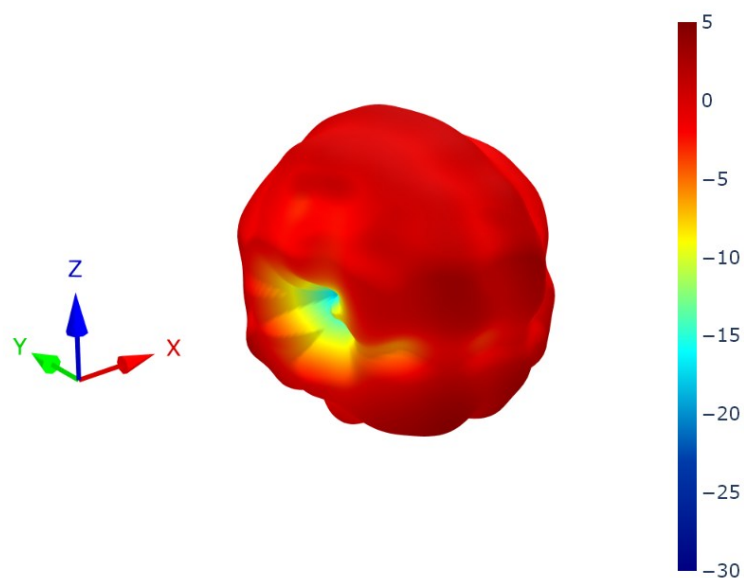
YZ Plane



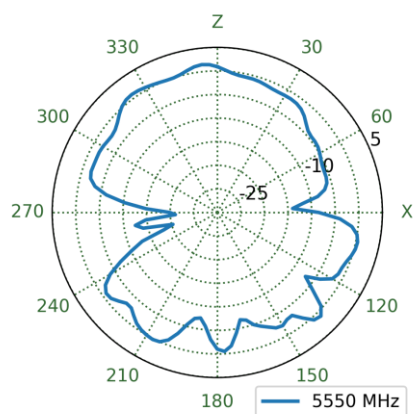
XY Plane



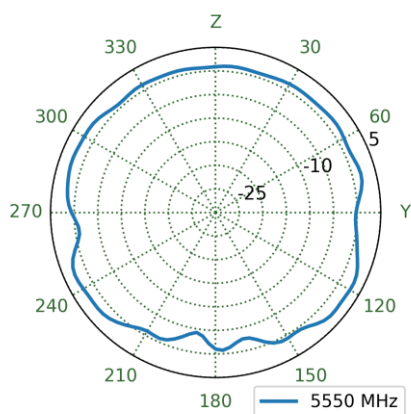
6.3 Patterns at 5550 MHz



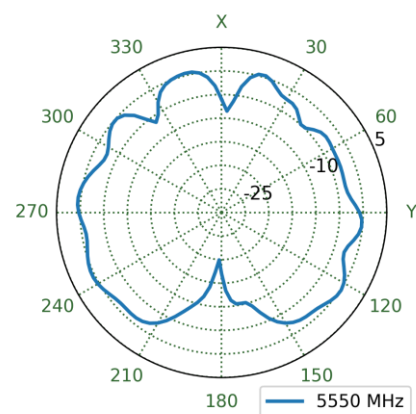
XZ Plane



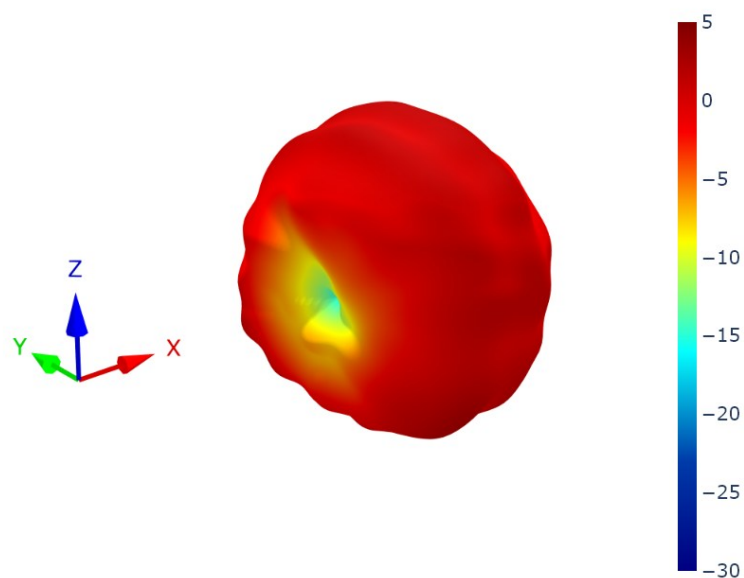
YZ Plane



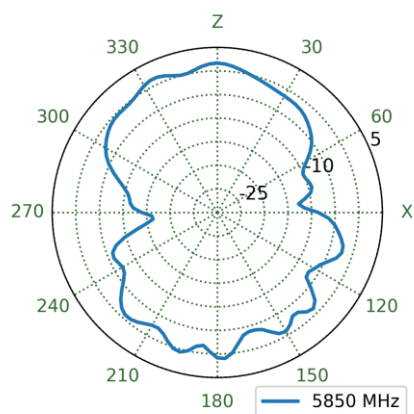
XY Plane



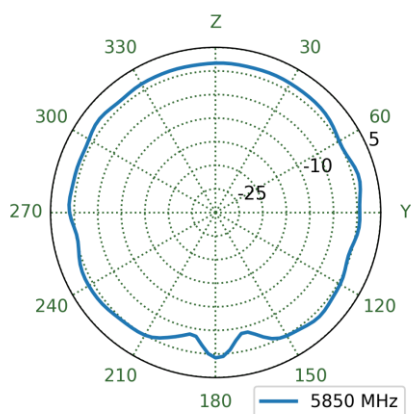
6.4 Patterns at 5850 MHz



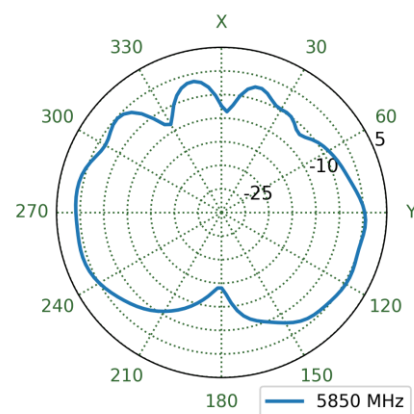
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-25-8-124 – WCM.30.01D151

Revision: A (Original First Release)	
Date:	2025-05-19
Notes:	First release.
Author:	Paul Liu

Previous Revisions

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