



TAOGLAS®



Datasheet

Watson Series

Part No:
MA2332.A.001

Description

Covert Triband Transparent Film Antenna covering 150-900MHz)
Supplied with 330mm RG-316 and SMA(M) Connector

Features:

- Low-Profile, Covert Film Antenna
- Tri-Band Support: VHF / UHF R1 / UHF R2 / 7-800MHz
- Durable ABS+PC Enclosure
- Designed for Heavy-Duty Vehicles and Equipment
- Integrated 3M VHB Adhesive Mounting
- 330mm / 13" Low-Loss RG-316 Coaxial Cable
- SMA(M) Connector (Custom Options Available)
- Compact Dimensions: 562 × 70 × 16.7mm
- Suitable for OEM Automotive, Trucks, RVs, Motorcycles, and Machinery
- Manufactured in TS16949 Automotive-Approved Facilities
- RoHS & REACH Compliant

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ISO 9001:2015
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1. Introduction



The Taoglas **Watson** Series MA2332 is a next-generation, high-performance, low-profile triband film antenna, designed for demanding automotive and heavy equipment applications. Housed in a robust ABS+PC enclosure with an internal PCB, the MA2332 delivers reliable performance across the VHF, UHF R1/R2, and 7-800MHz frequency bands. Its compact, covert design ensures seamless integration into modern vehicles without compromising durability or RF performance.

Certified to the stringent TS16949 automotive quality standard, the MA2332 is approved for OEM deployment and meets the rigorous requirements of heavy-duty truck and equipment manufacturers.

This makes it the ideal solution for:

- OEM automotive platforms
- Heavy-duty trucks and plant machinery
- Recreational vehicles (RVs)
- Motorcycles
- Specialized and industrial equipment

The antenna includes a 330mm (13") low-loss RG-316 coaxial cable terminating in a SMA male connector as standard. Custom cable lengths and connector configurations are available upon request but a cable assembly with SMA(F) to QMA(M) is advised for use. For tailored integration options, please contact your local Taoglas support team.

2. Specification

VHF	
Band	153 - 174MHz
Gain (dBi)	2.0
Impedance	50 Ω
Polarization	Linear

UHF	
Band	450 – 512MHz
Efficiency (%)	41.7
Impedance	50 Ω
Polarization	Linear

700–800MHz	
Band	700–800MHz
Efficiency (%)	67.5
Impedance	50 Ω
Polarization	Linear

Mechanical	
Dimensions	562.35 × 70.00 × 16.70 mm
Cable	RG-316
Connector	SMA(M)
Housing Material	ABS/PC
Adhesive	3M VHB 5952 on Housing
Weight	130g
Cable Pull Force	15N
Max Input Power	100W

Environmental	
Waterproof	IP41 (Internal Installation Only)
Storage Temperature	-40°C to 85°C
Operational Temperature	-40°C to 85°C
Thermal Shock	IEC 60068-2-14
Humidity	Non-condensing 65°C 95% RH

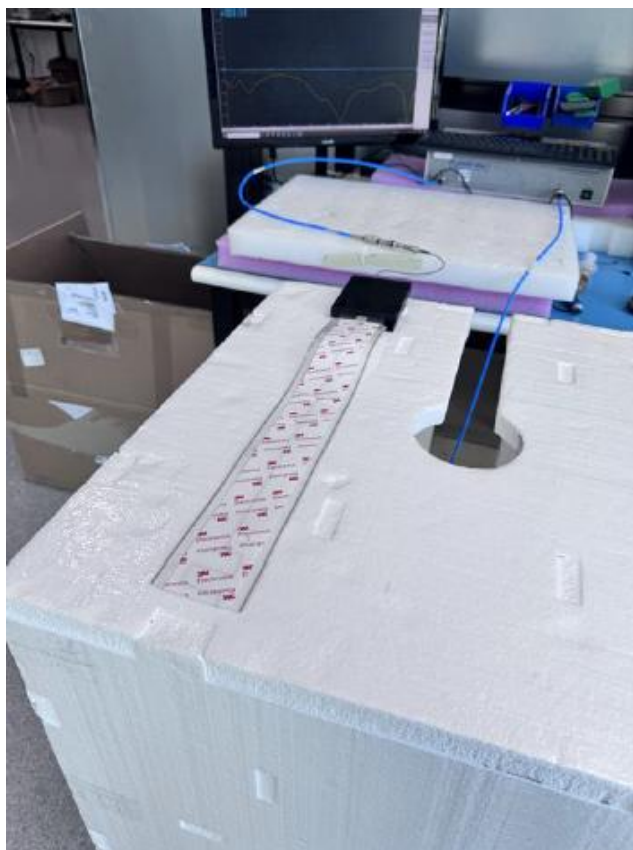
3. Antenna Characteristics

3.1 Test Setup

AUT

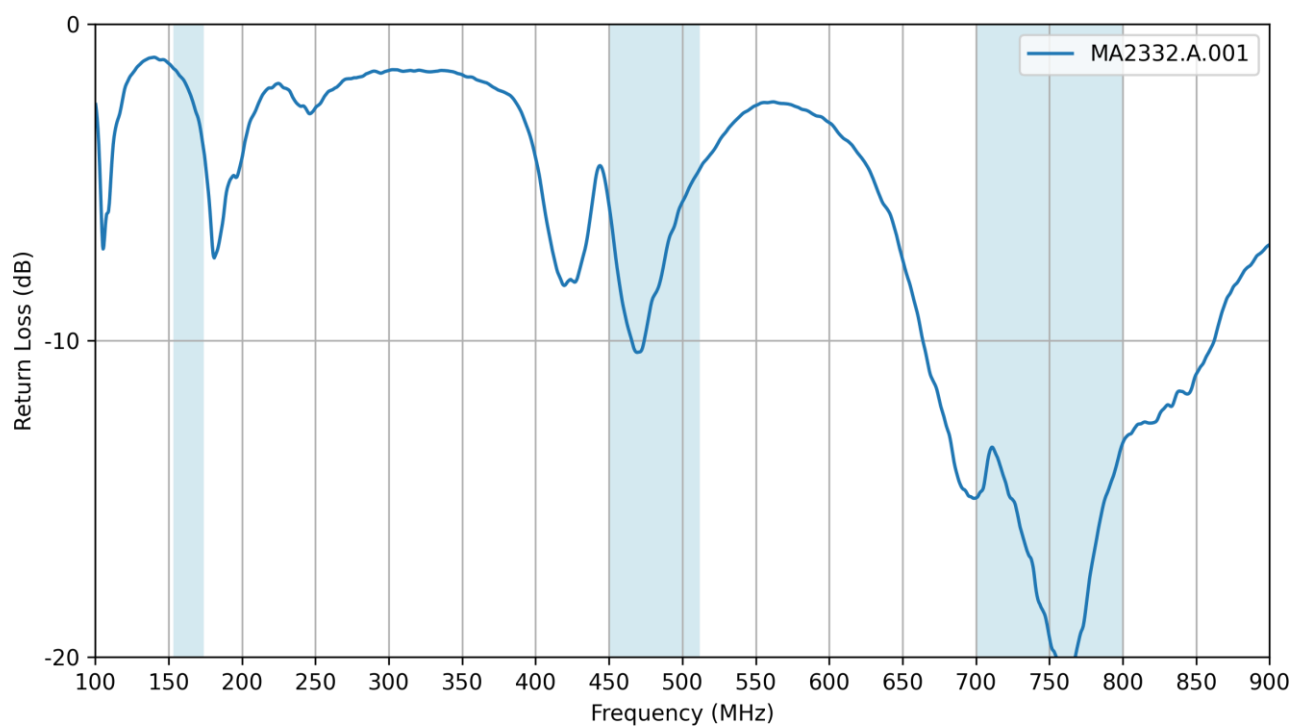


Vector Network Analyzer

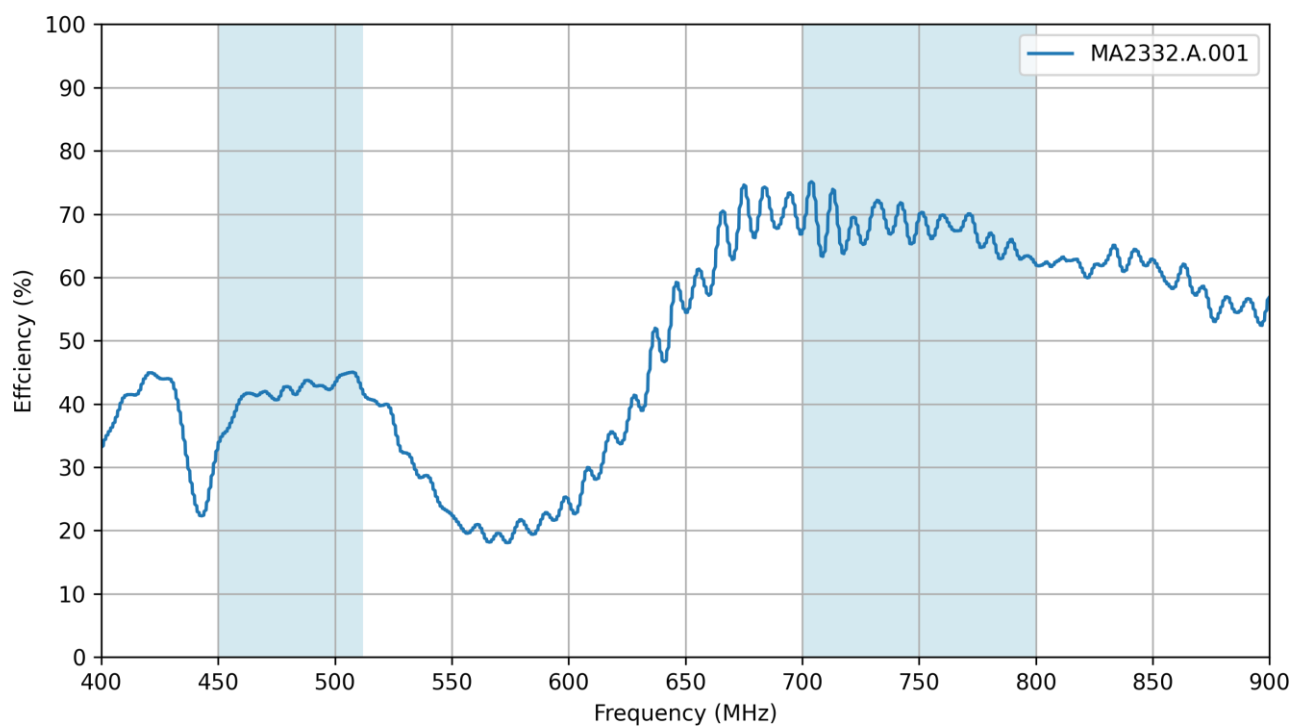


VNA Test Set-up

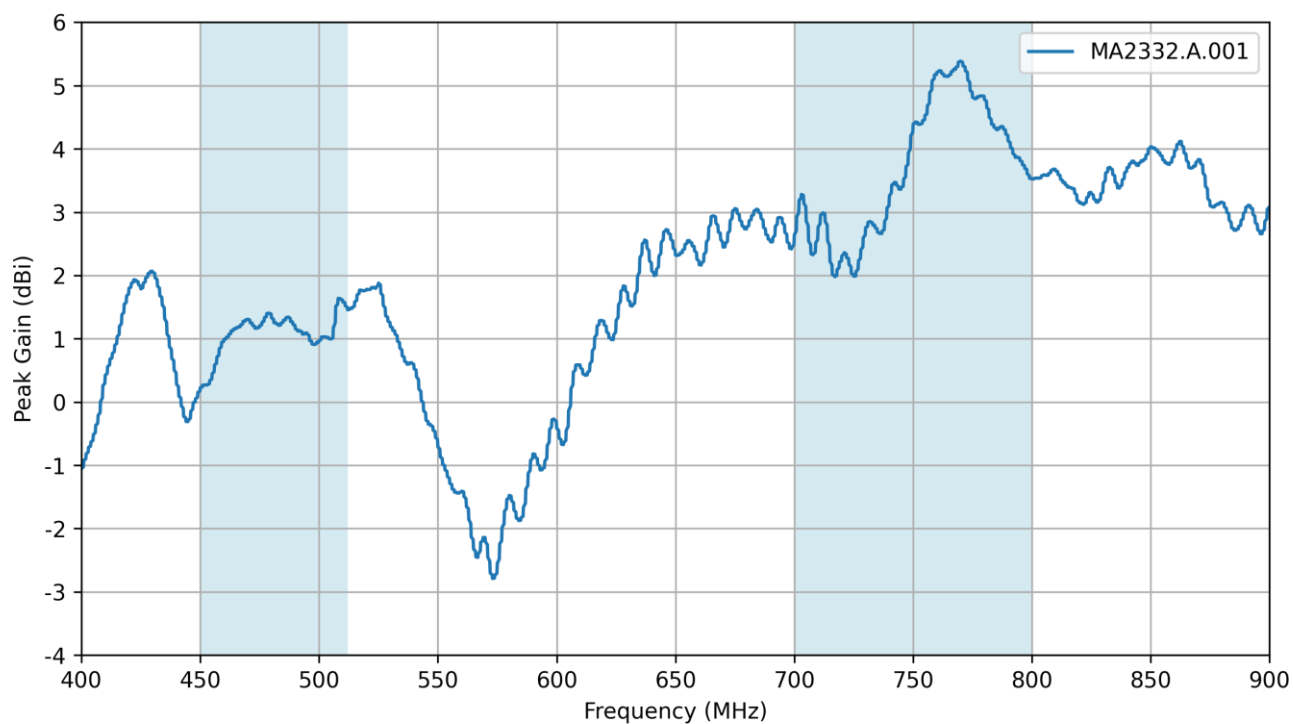
3.2 Return Loss



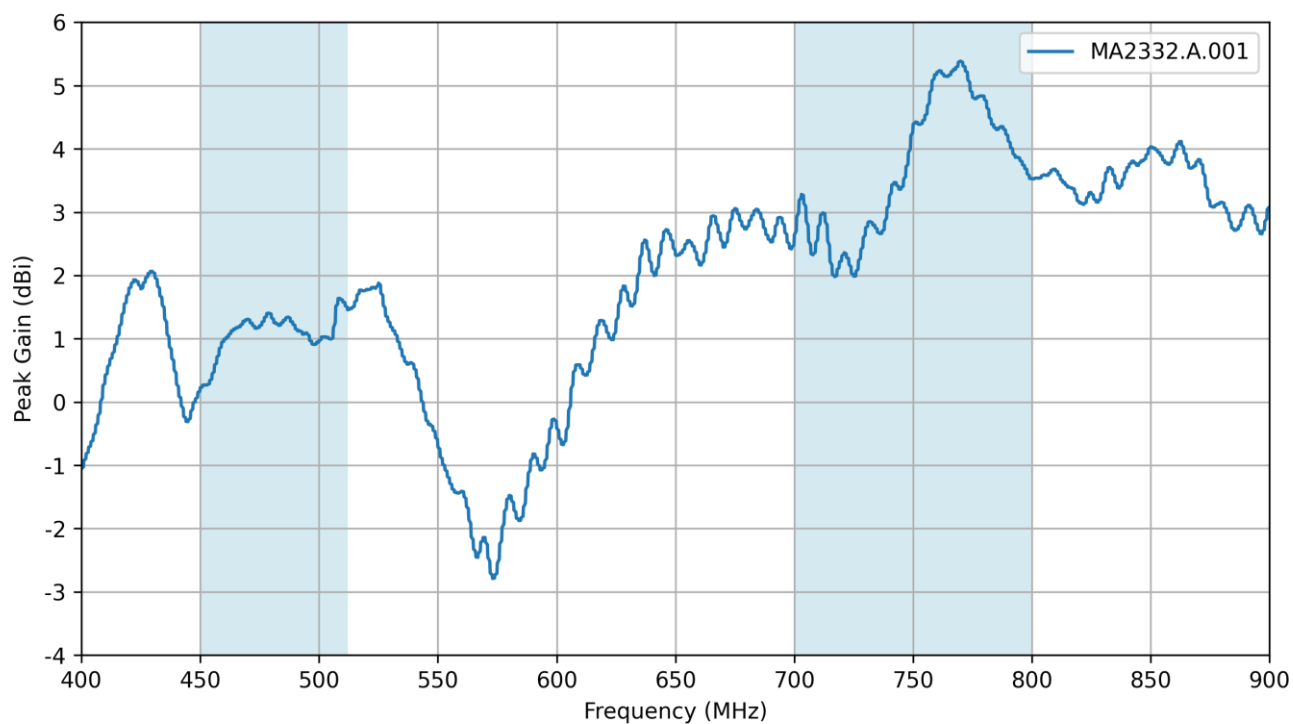
3.3 Efficiency



3.4 Average Gain

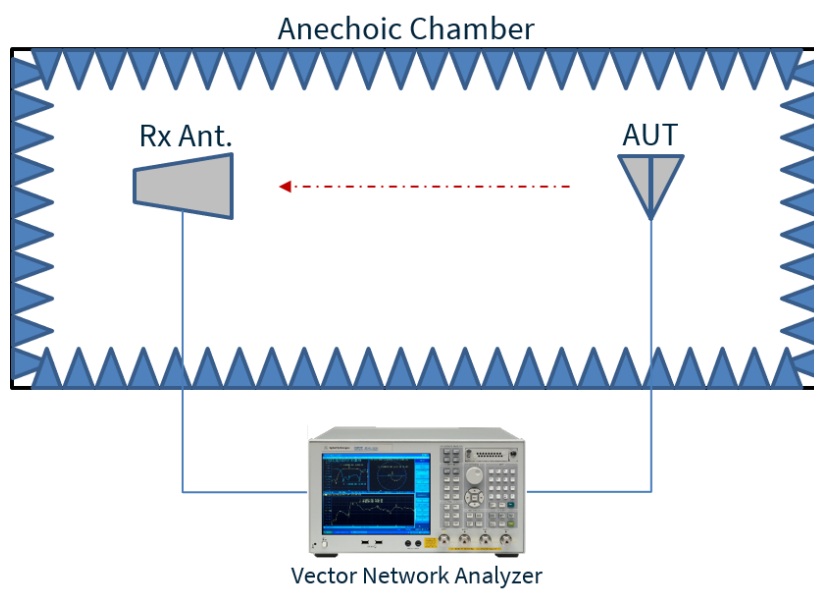


3.5 Peak Gain



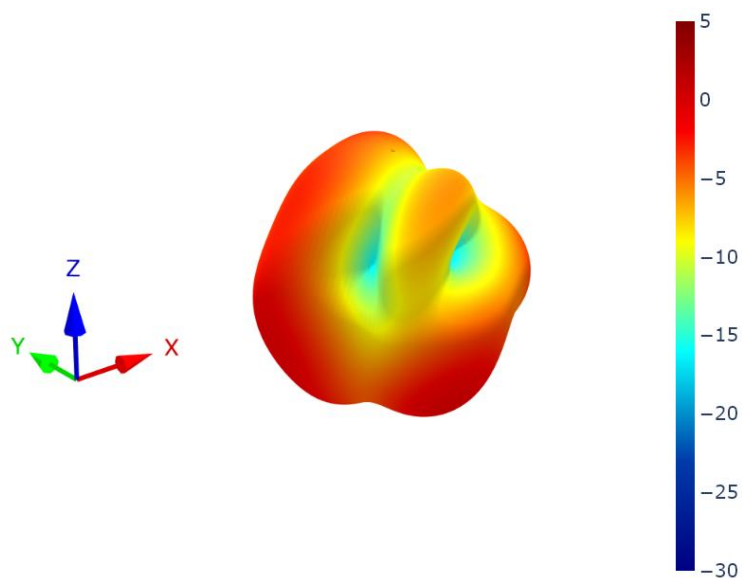
4. Radiation Patterns

4.1 Test Setup

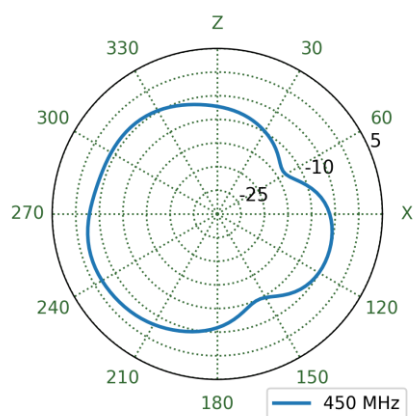


Chamber Test Set-up

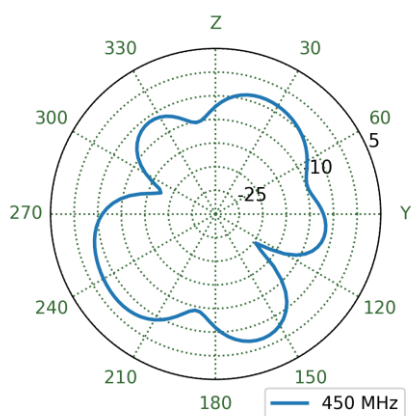
4.2 Patterns at 450 MHz



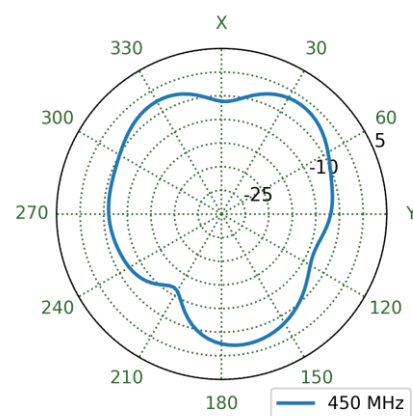
XZ Plane



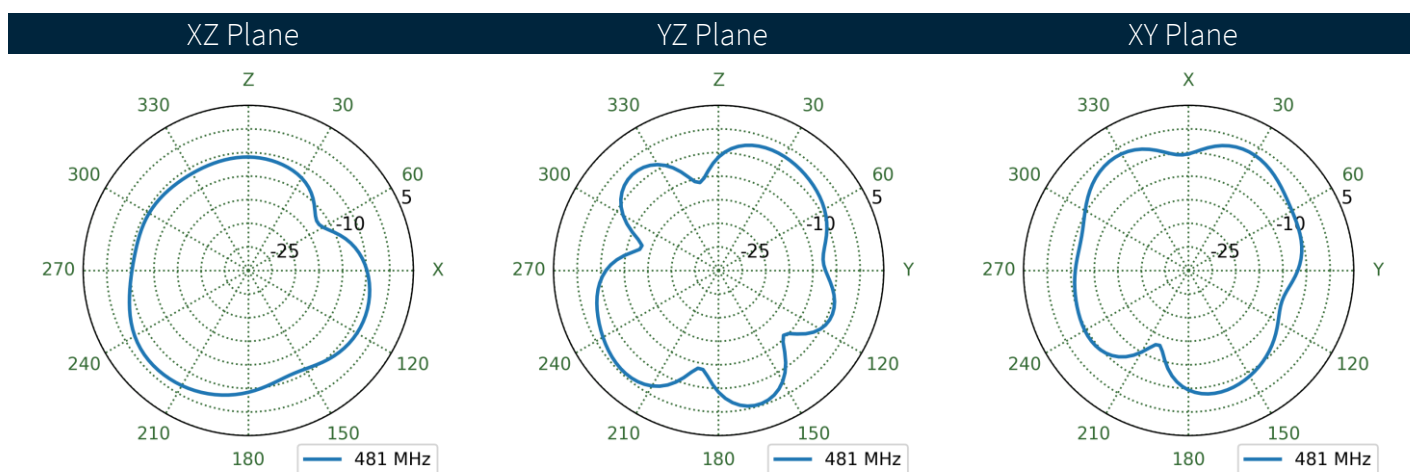
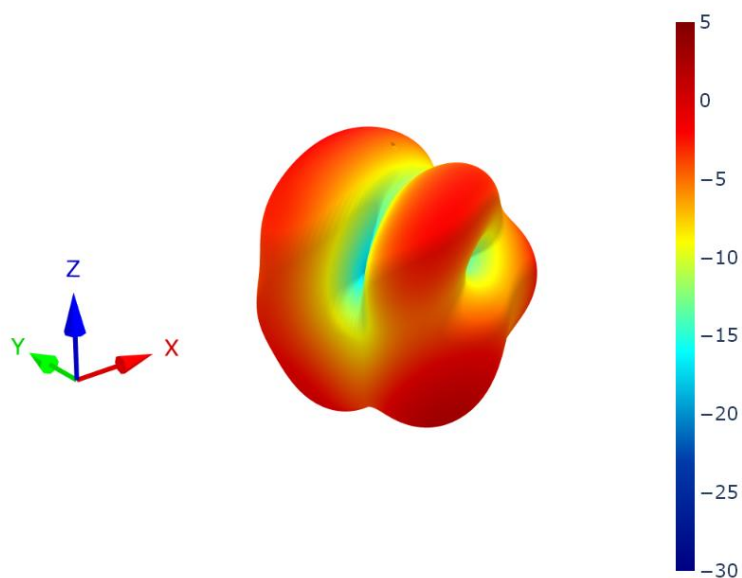
YZ Plane



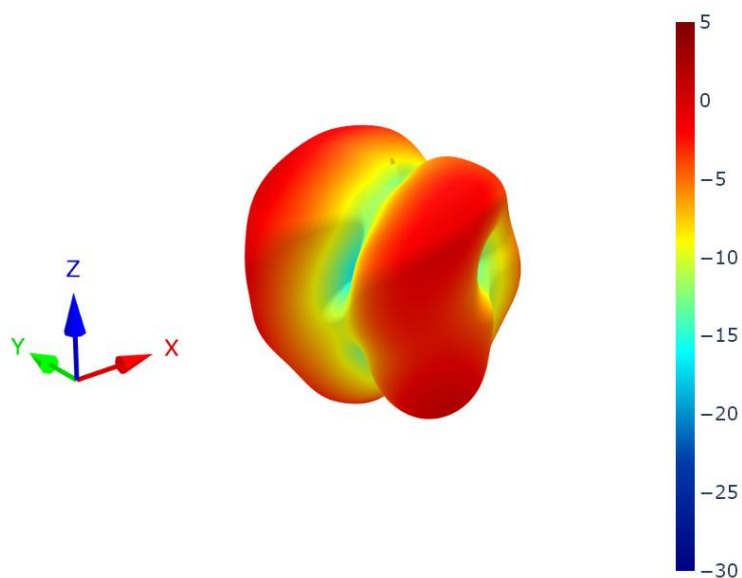
XY Plane



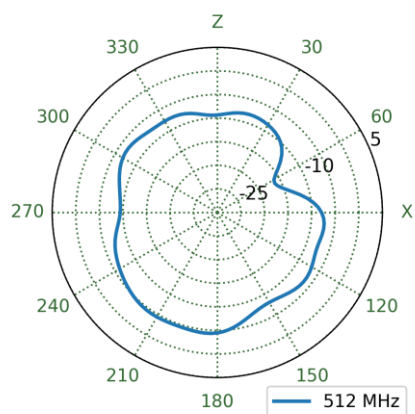
4.3 Patterns at 481 MHz



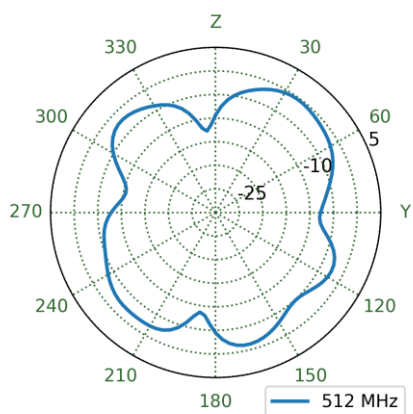
4.4 Patterns at 512 MHz



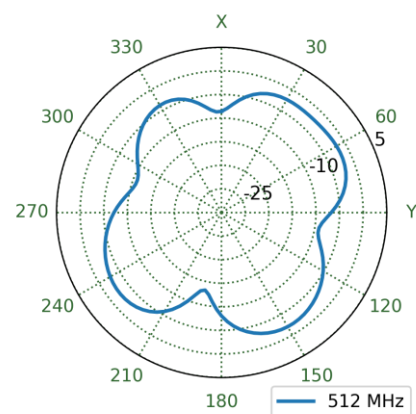
XZ Plane



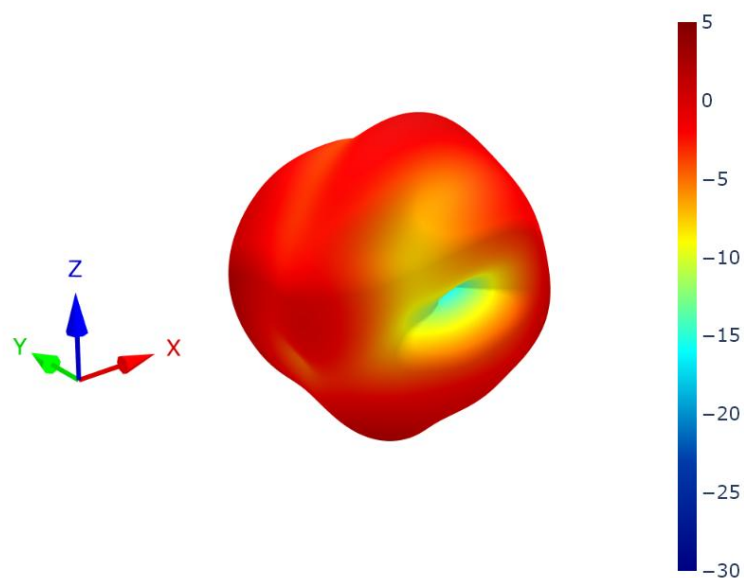
YZ Plane



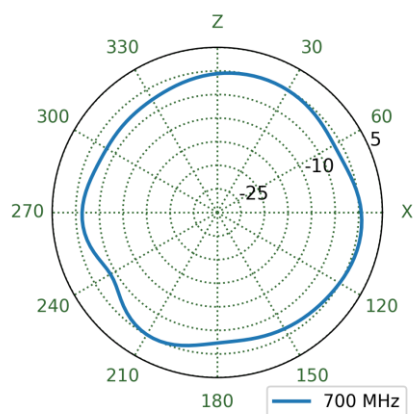
XY Plane



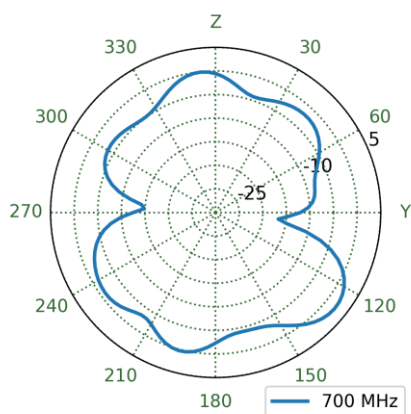
4.5 Patterns at 700 MHz



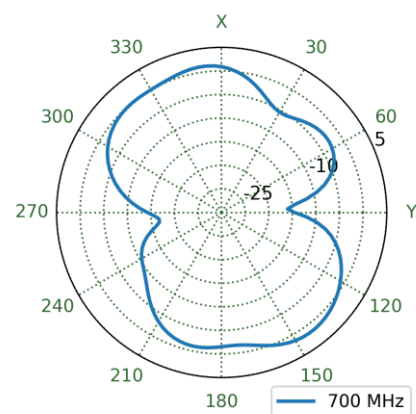
XZ Plane



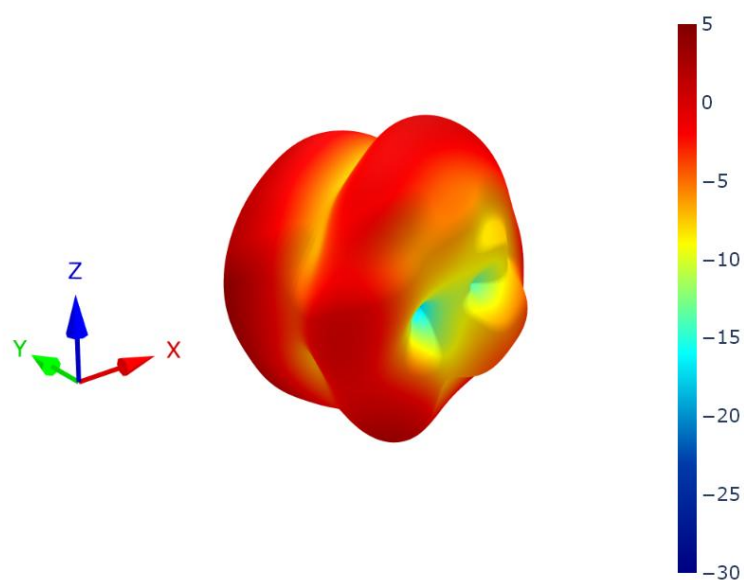
YZ Plane



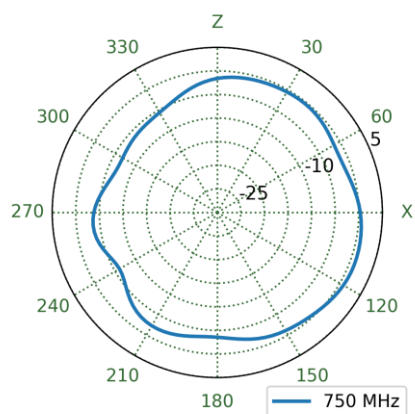
XY Plane



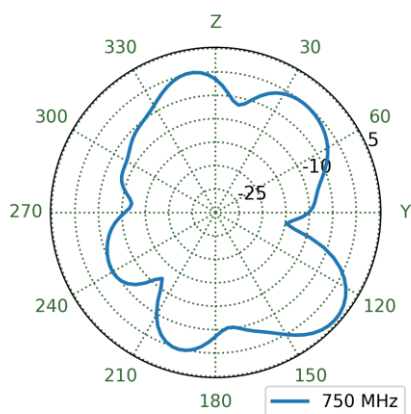
4.6 Patterns at 750 MHz



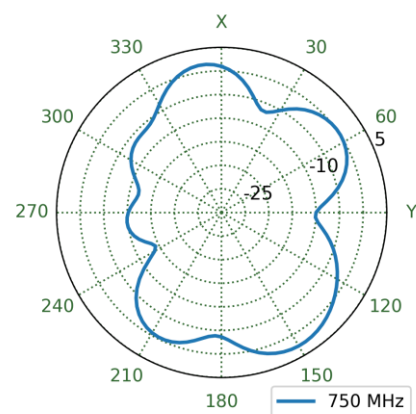
XZ Plane



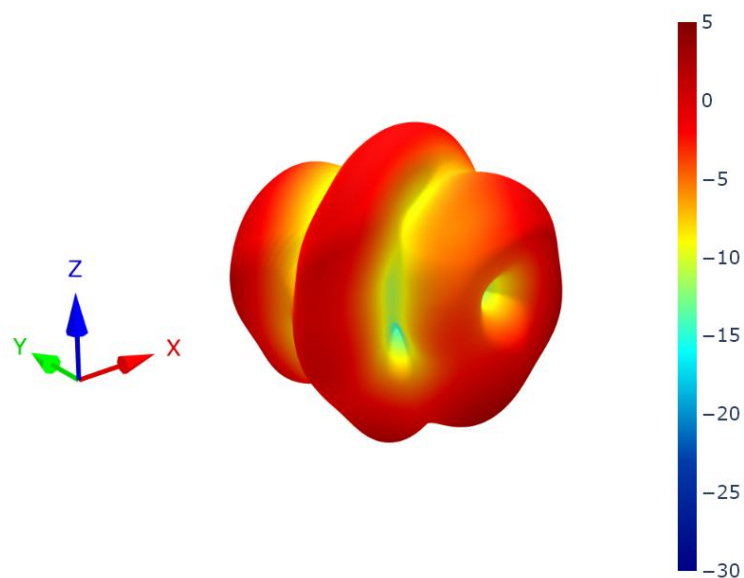
YZ Plane



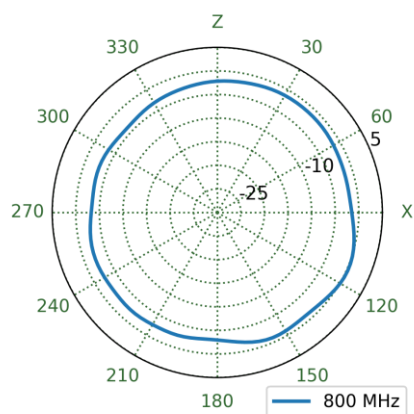
XY Plane



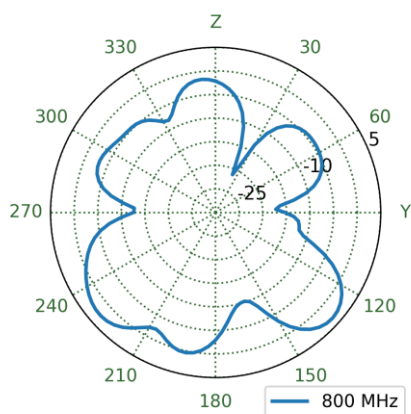
4.7 Patterns at 800 MHz



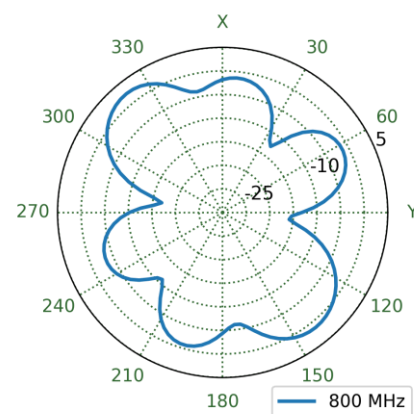
XZ Plane



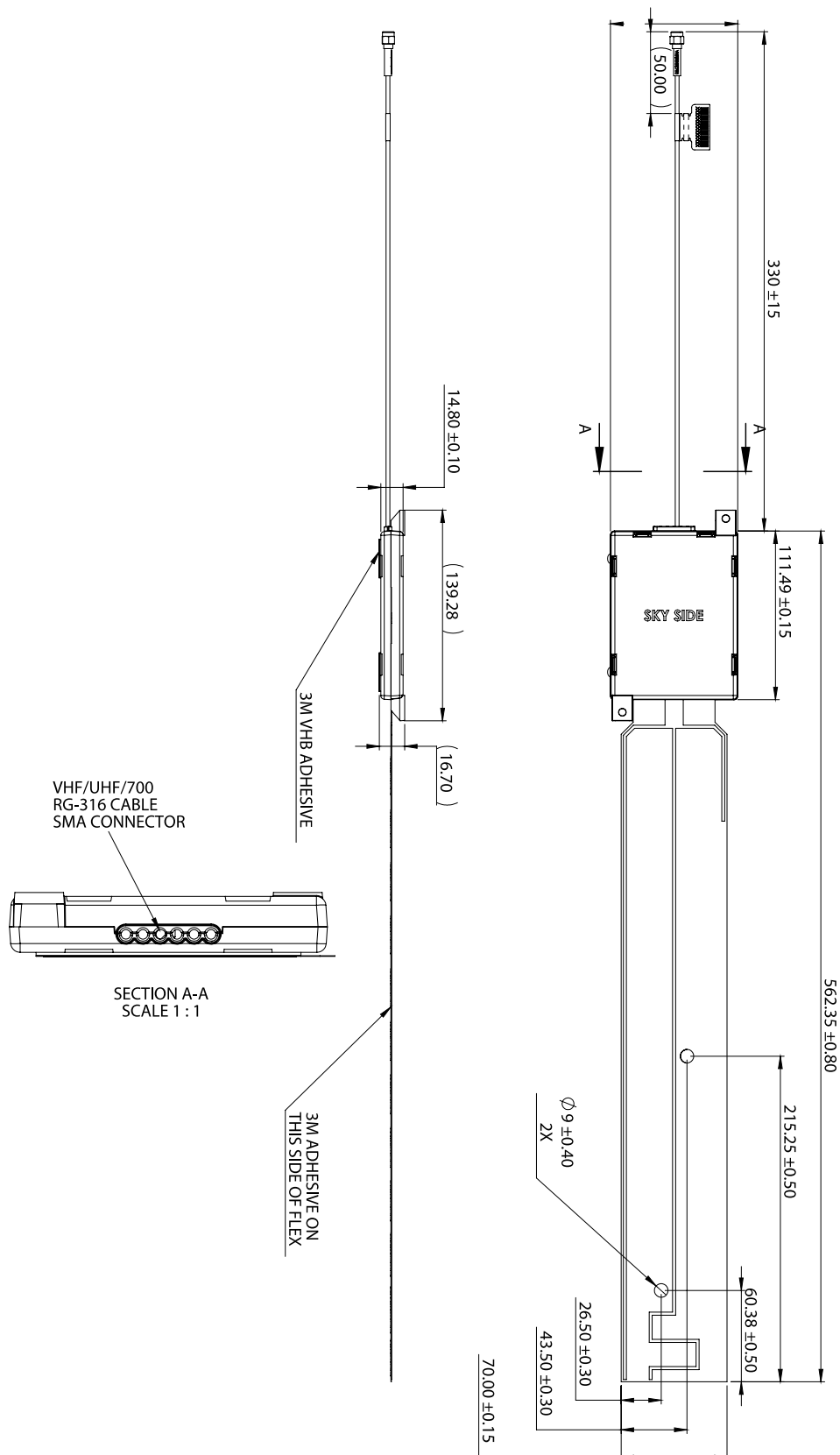
YZ Plane



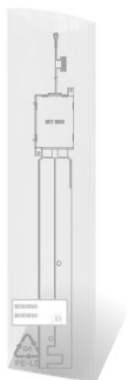
XY Plane



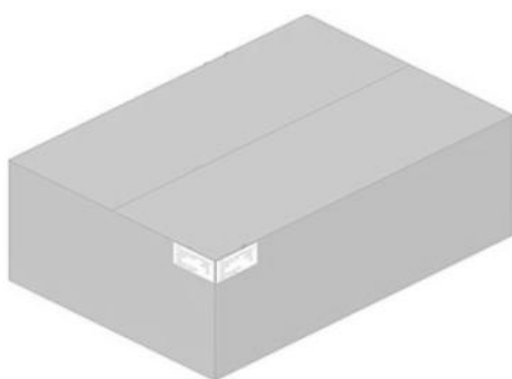
5. Mechanical Drawing



6. Packaging



- ✓ 1 PCS / PE bag
- ✓ Weight (Kg): 0.13 ±3%
- ✓ SPQ Label



- ✓ 100 PCS / Carton
- ✓ Carton(mm): 745x518x256
- ✓ Weight (Kg): 14 ±3%
- ✓ Carton Label

Changelog for the datasheet

SPE-25-8-140 – MA2332.A.001

Revision: C (Current Version)	
Date:	2026-03-18
Notes:	Added radiation patterns.
Author:	Gary West

Revision: B	
Date:	2025-10-11
Notes:	Updated how frequencies are listed under Tri-Band Support in Product Features on cover page and in Introduction.
Author:	Conor McGrath

Revision: A (Original First Release)	
Date:	2025-05-16
Notes:	Initial Release
Author:	Gary West

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