



TAOGLAS®



Datasheet

Profila Series

Part No:
MA2330.A.ACT.002

Description:

MA2330 CAMPTENNA – 3-in-1 GNSS, Wi-Fi & AM/FM Headliner Adhesive Antenna

Features:

- 3-in-1 Headliner Adhesive Antenna
- ASA+PC Housing with FM Metalized Film Antenna
- GNSS: FAKRA Code C Blue Connector
- Wi-Fi: FAKRA Code I Beige Connector
- FM/WB: FAKRA Code A Black Connector
- IP21 Waterproof Rated
- Manufactured in TS16949 Automotive Approved Facilities
- RoHS & Reach Compliant

1.	Introduction	3
2.	Specifications	4
3.	Antenna Characteristics	6
4.	Radiation Patterns	12
5.	Mechanical Drawing	22
6.	Packaging	23
	Changelog	24

Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein.

Reproduction, use or disclosure to third parties without express permission is strictly prohibited.

Ireland & USA
ISO 9001:2015
Certified



Taiwan
ISO 9001:2015
Certified



1. Introduction



The Taoglas Profila Series MA2330.A CAMPTENNA antenna is a next generation 3-in-1, embedded solution for vehicles. It comprises of a low profile, robust ABS+PC housing and an ultra-thin metalized PET film antenna. The antenna is approved for use on heavy-duty trucks and meets the strictest OEM heavy-duty truck standards. It supports the following bands: GNSS (GPS/GLONASS/Galileo/BeiDou), Wi-Fi (2.4/5.8GHz), and FM/WB.

The antenna is first tier TS16949 heavy-duty truck approved and is an ideal choice for:

- OEM automotive
- Trucks
- Other vehicles and heavy equipment.

The antenna comes with low-loss RG-174 coaxial pigtail cables as standard, terminating in FAKRA SMB code C for GNSS, FAKRA SMB code A for FM, and with FAKRA SMB code I for Wi-Fi. The FM/WB antenna is passive and utilizes a long metalized film to increase receive signal sensitivity. The antenna is manufactured in TS16949 automotive approved facilities.

Contact your regional Taoglas customer support team for more information or installation guidelines.

2. Specifications

GNSS Antenna	
Frequency	BeiDou: $1561.098 \pm 2.046\text{MHz}$. GPS: $1575.42 \pm 1.023\text{MHz}$ GLONASS: $1602 \pm 5\text{MHz}$
Return loss (GPS L1 GLONASS L1)	< -10 dB
Efficiency	57%
Passive Gain at Zenith (GPS L1 and GLONASS L1)	+3.3 dBi
Average Gain	-2.4
Polarization	RHCP
Impedance	50 Ω

Wi-Fi Antenna		
Frequency	2400~2500MHz	5000~5830MHz
Return loss	<-27.8dB	<-10dB
Efficiency	60%	60%
Peak Gain	4dBi	3.7dBi
Average Gain	-1.9dB	-1.9dB
Impedance	50 Ω	

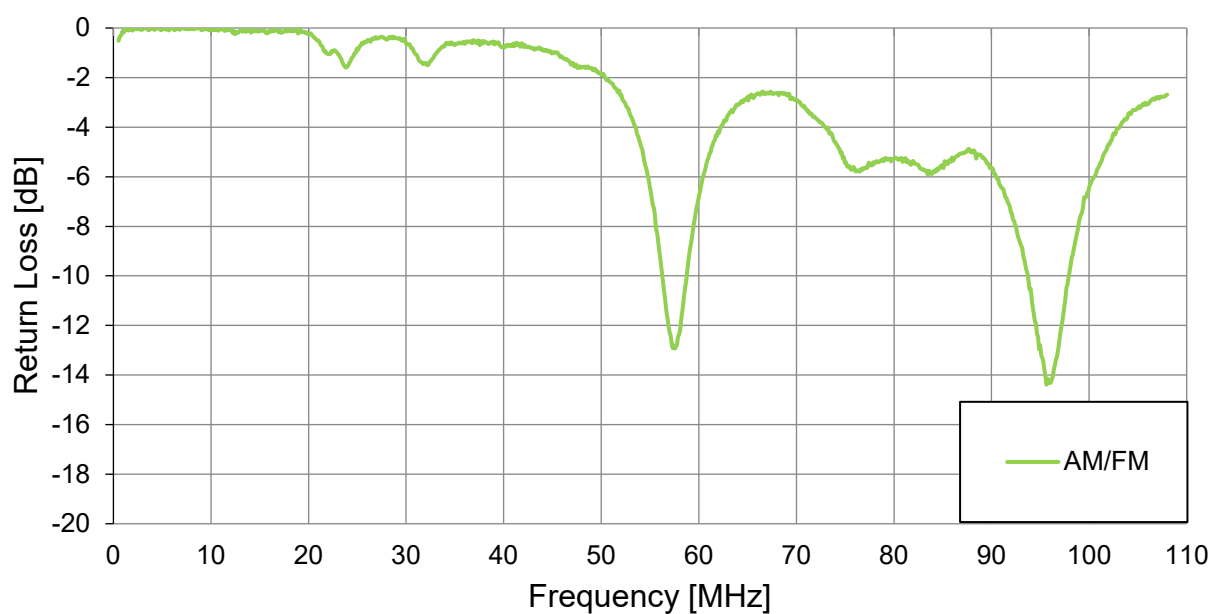
FM Antenna
FM Radio Bands
88~108MHz

Mechanical	
Dimensions	664.33*83.99*14.86mm
Cable	300mm RG-178
Connector	GPS: FAKRA Code C FM: FAKRA Code A Wi-Fi/BT: FAKRA Code I
Casing	ASA+PC w/UV Stabilizer
Adhesive	3M 9448HK on flex 3M VHB 5952 on HSG
Cable Pull	35.59N
Weight	0.145kg
Environmental	
Waterproof	IP21
Temperature Range	-40°C to 85°C
Thermal Shock	IEC 60068-2-14
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

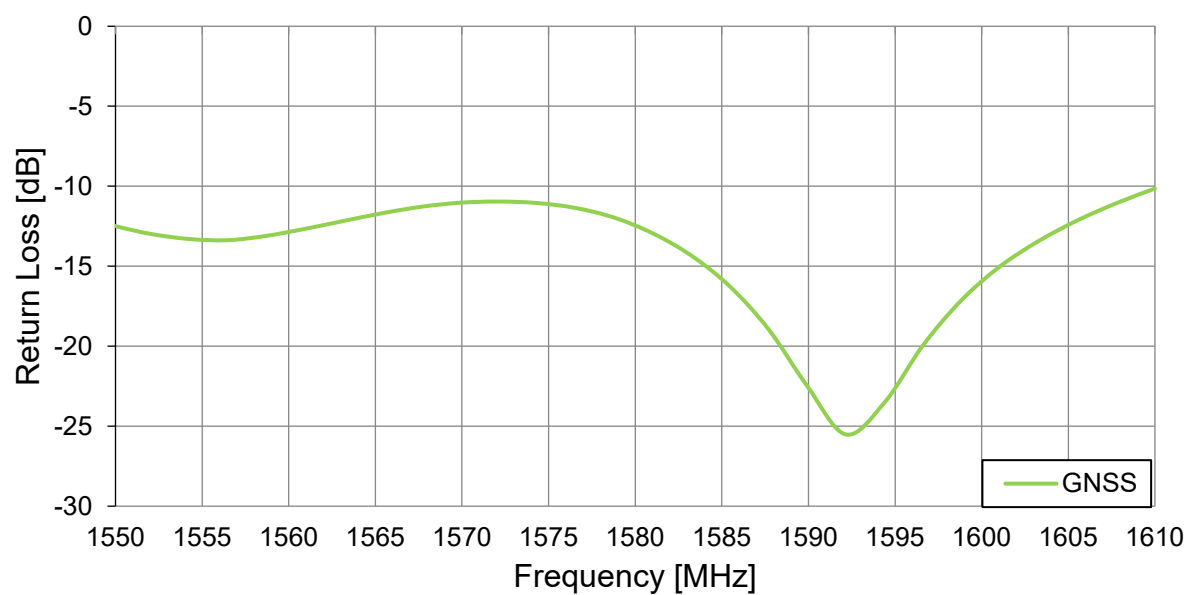
3.1 FM

Return Loss

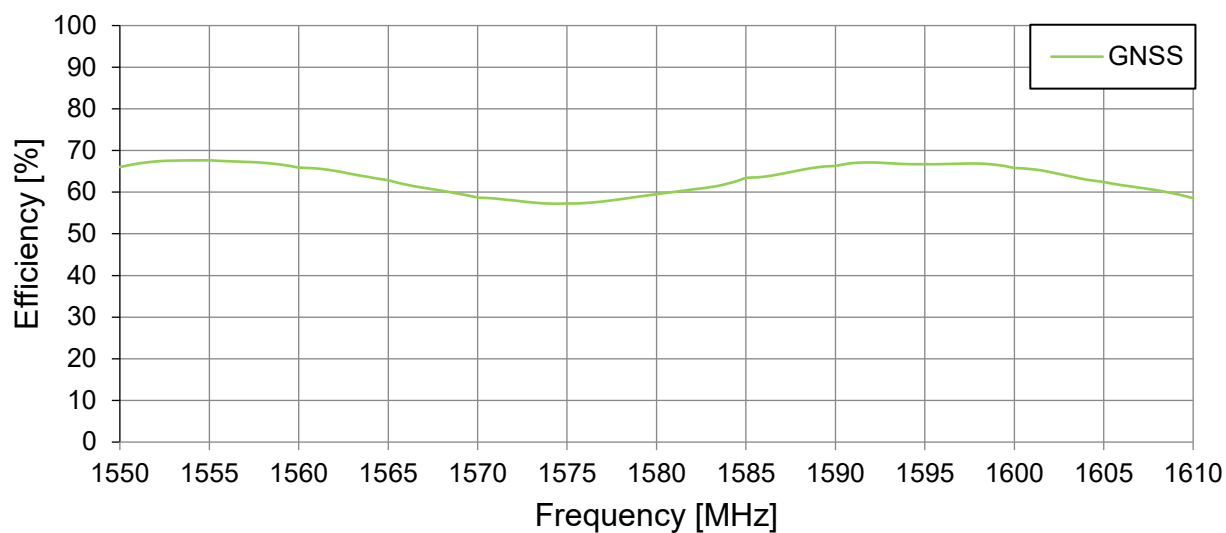


3.2 GNSS

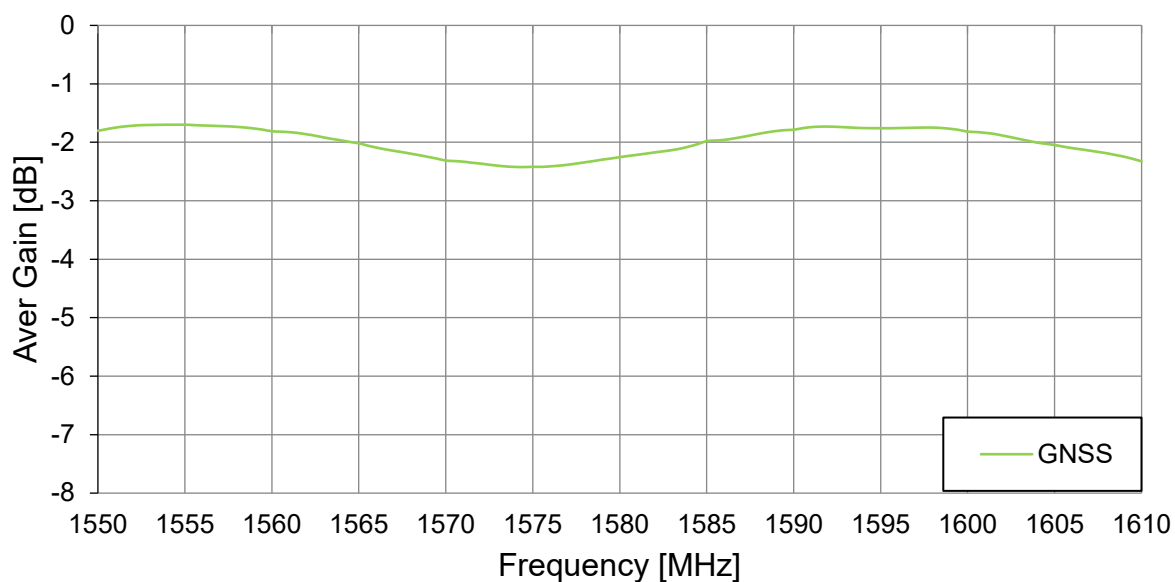
Return Loss



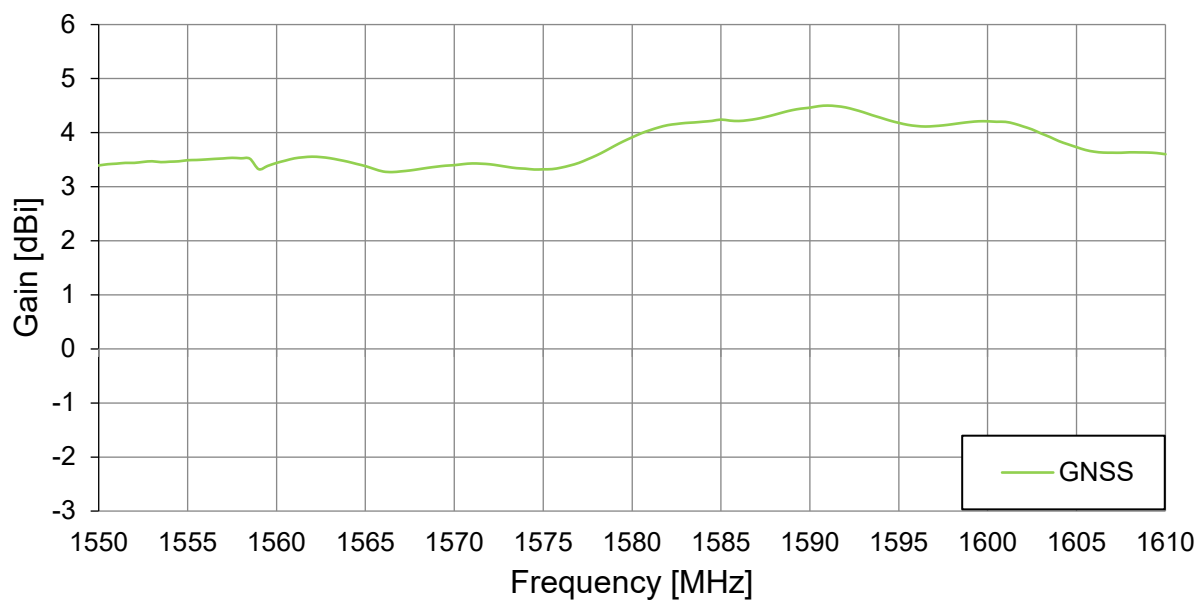
Efficiency



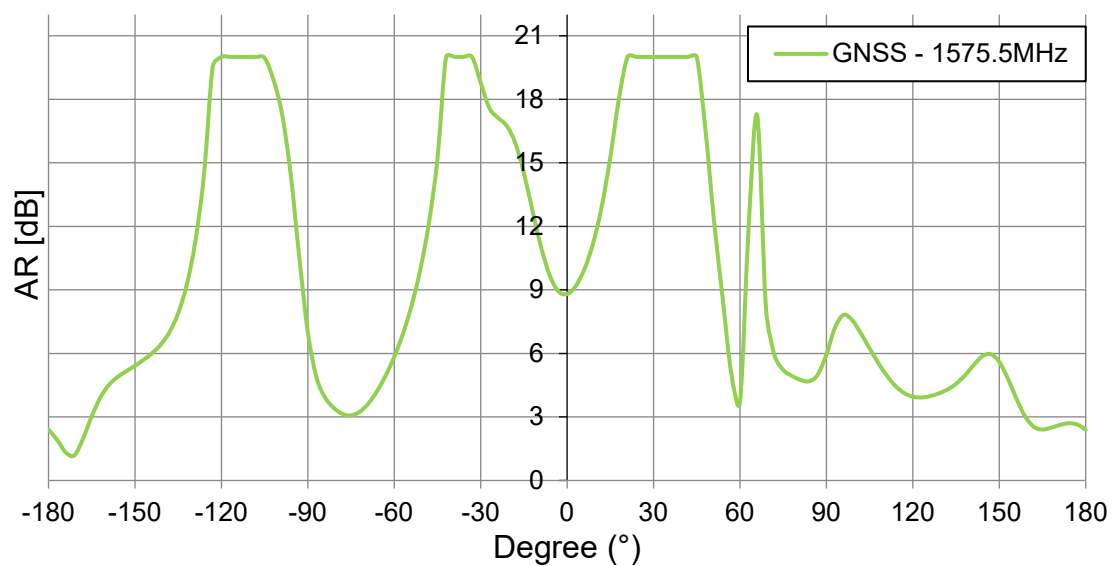
Average Gain



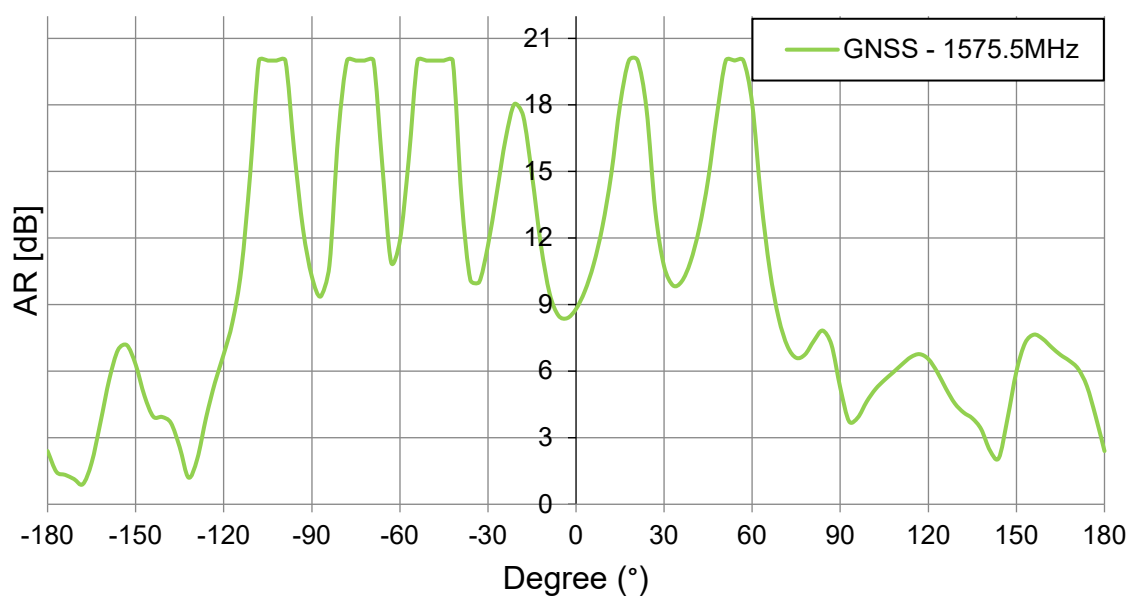
Peak Gain



Axial Ratio XZ Plane @ 1575.5MHz



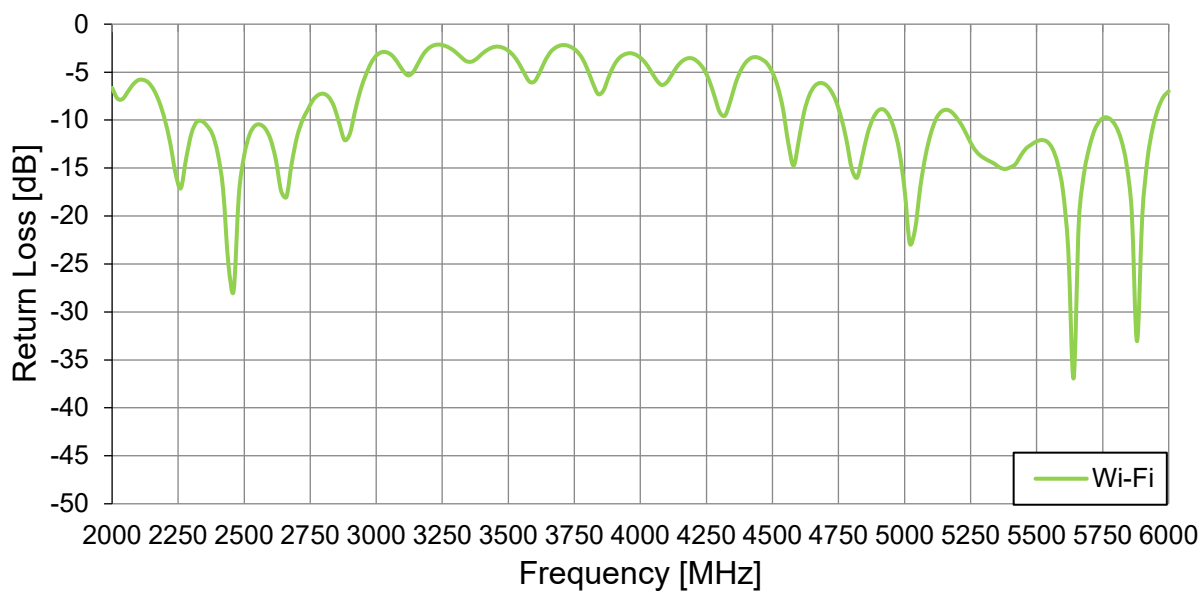
Axial Ratio YZ Plane @ 1575.5MHz



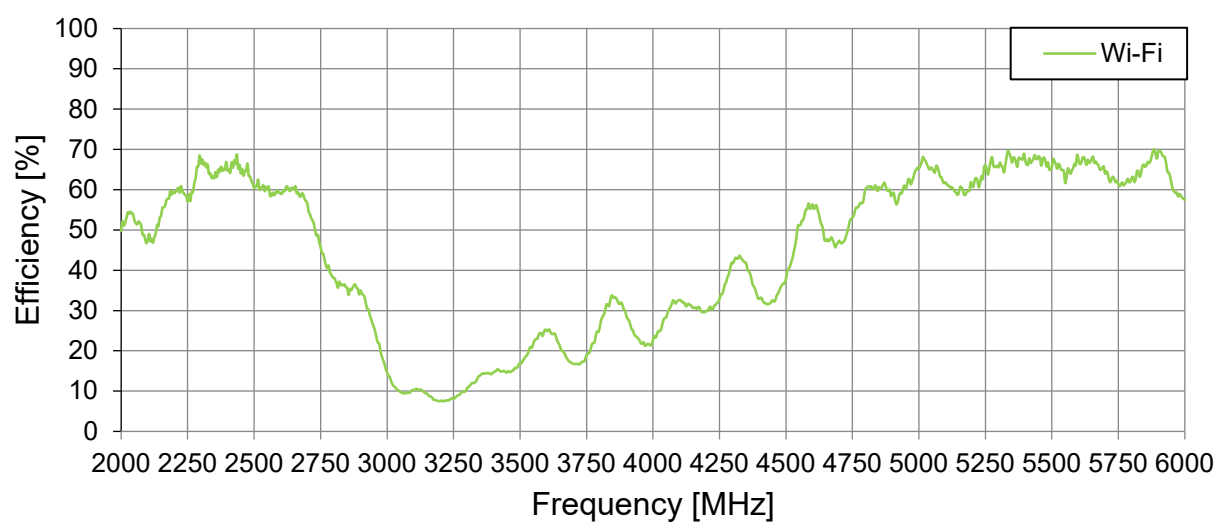
Amplifier		
LNA-10	Frequency Range	1584.5.5±25.5MHz
LNA-20	Gain	31dB Typ
LNA-30	Noise Figure	1.5dB Typ
LNA-40	Output 1dB CP	10.0 dBm Typ
LNA-50	Out Band Rejection	f_0 : 1584.5MHz
		$f_0 \pm 20\text{MHz}$ 15dB Min
		$f_0 \pm 50\text{MHz}$ 30dB Min
		$f_0 \pm 100\text{MHz}$ 40dB Min
LNA-60	Output SWR	2:1 Max
Power		
POW-10	Input Voltage	3.5 ~ 5V
POW-20	Current	30mA Typ

3.3 Wi-Fi Antenna

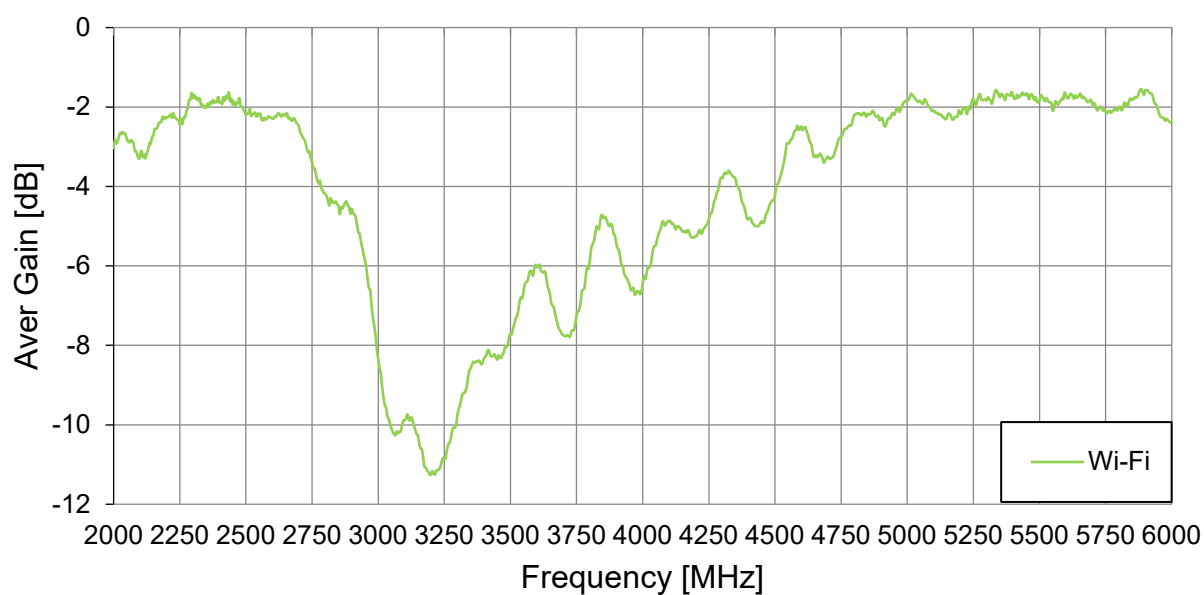
Return Loss



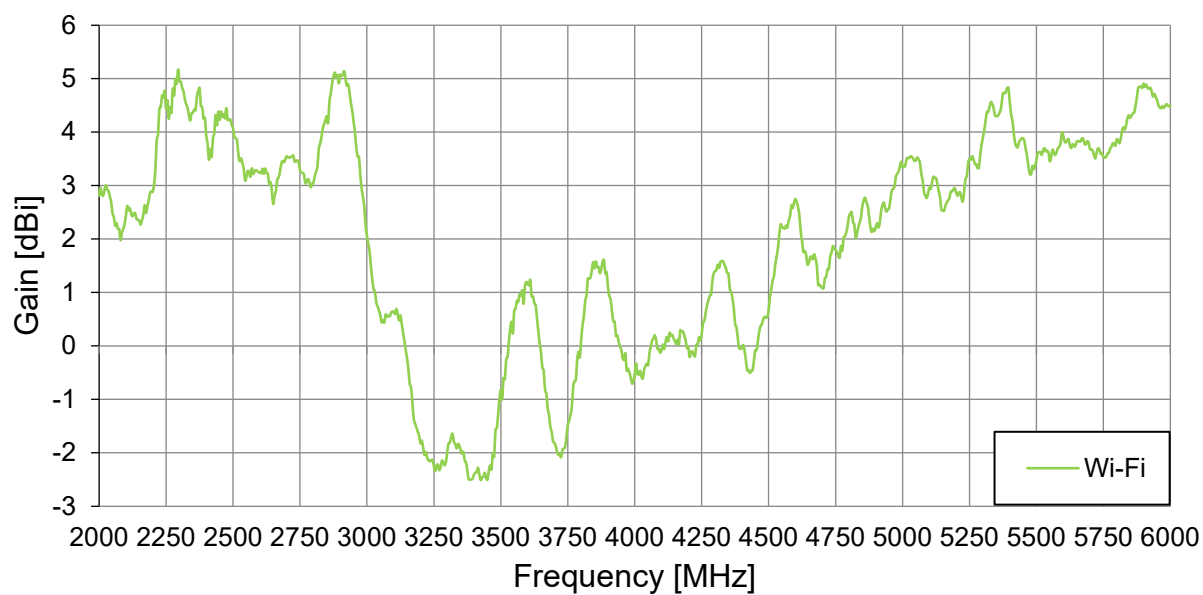
Efficiency



Average Gain

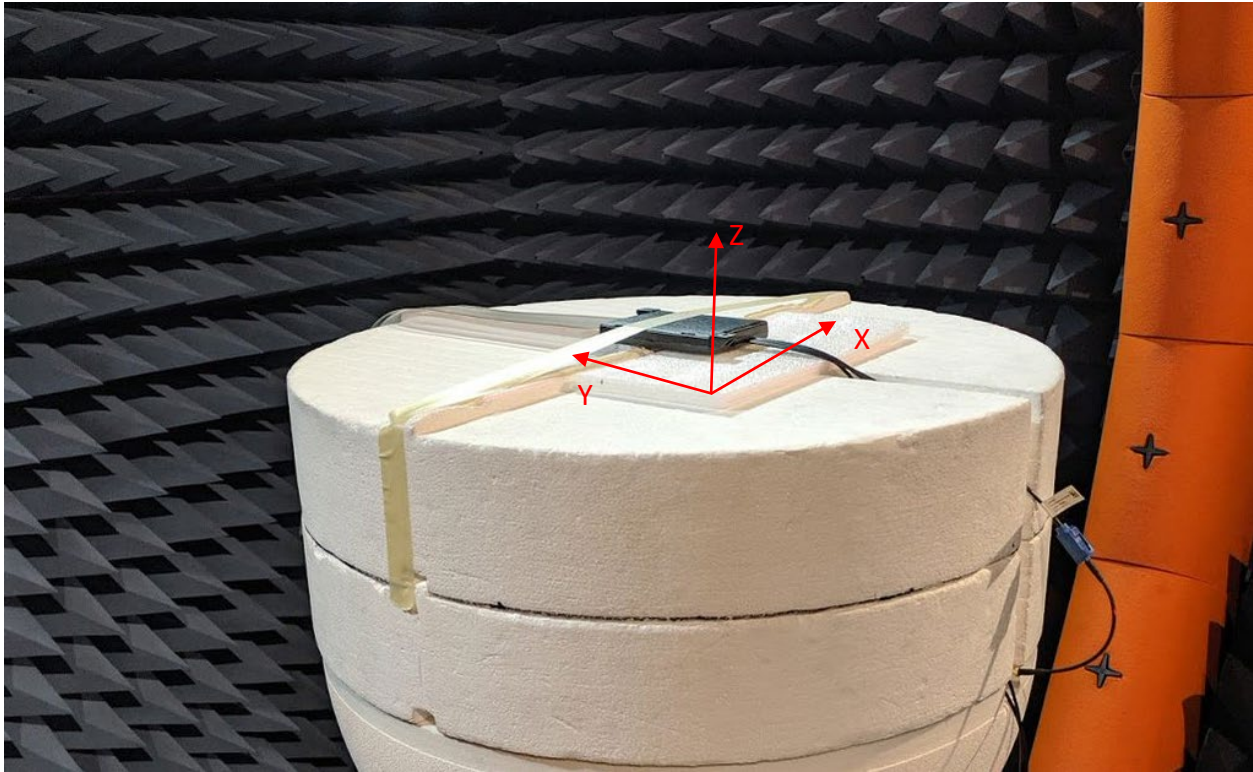


Peak Gain

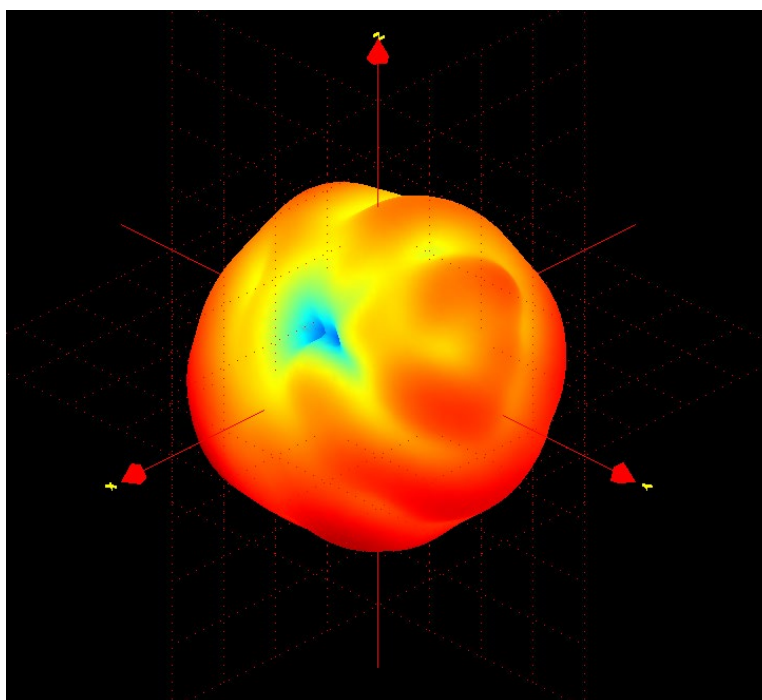


4. Radiation Patterns

4.1 Test Setup



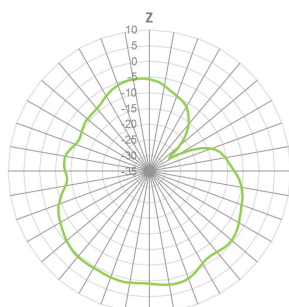
4.2 GNSS 1559MHz 3D and 2D Radiation Patterns



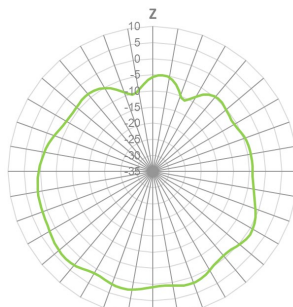
XZ Plane

YZ Plane

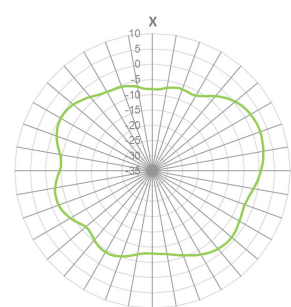
XY Plane



1559 MHz

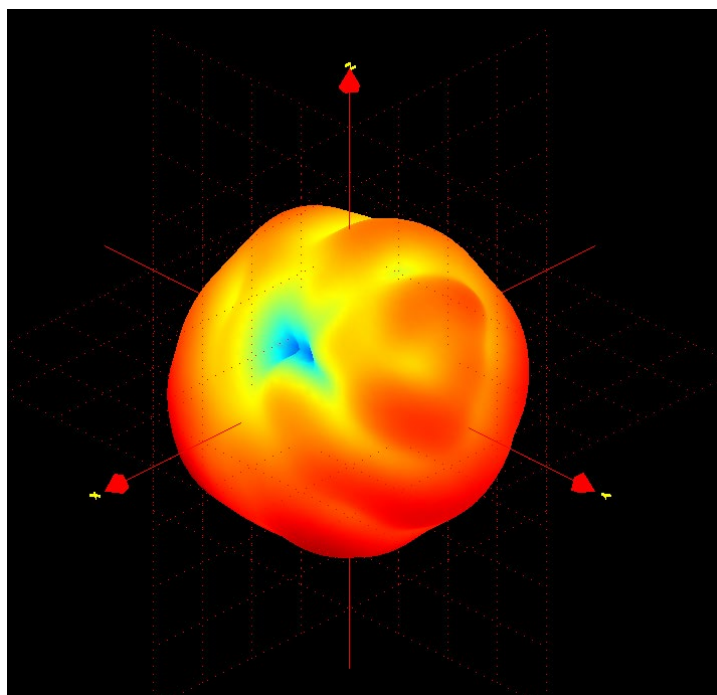


1559 MHz



1559 MHz

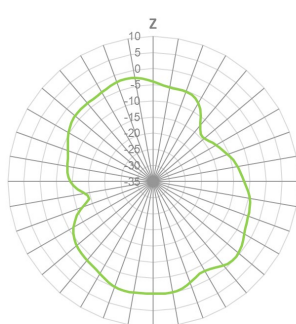
4.3 GNSS 1575MHz 3D and 2D Radiation Patterns



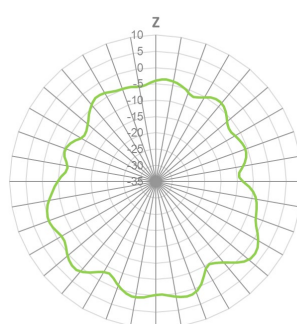
XZ Plane

YZ Plane

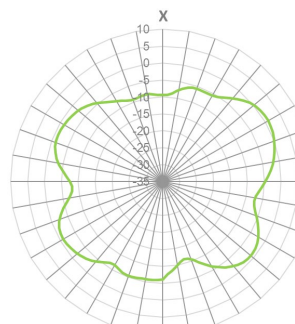
XY Plane



— 1575.5 MHz

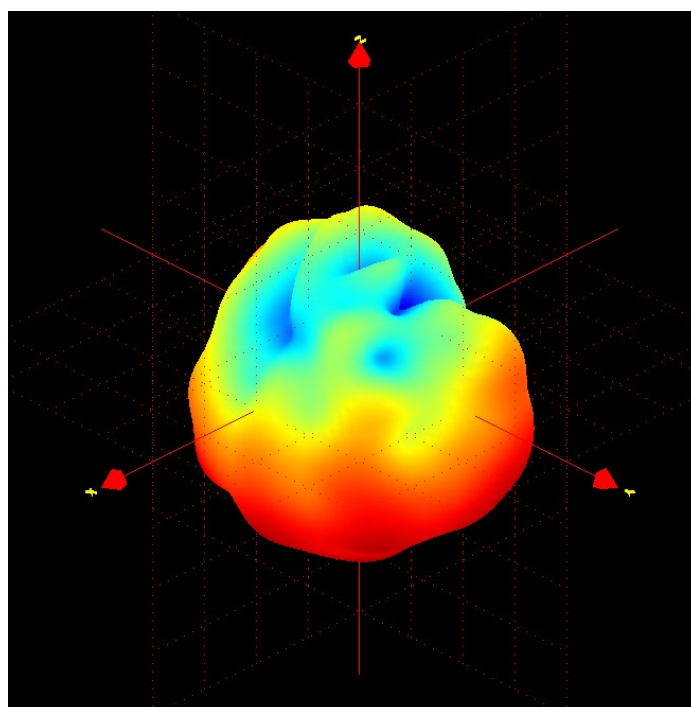


— 1575.5 MHz



— 1575.5 MHz

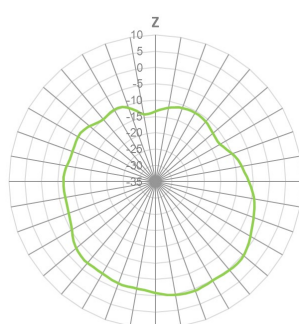
4.4 GNSS 1602MHz 3D and 2D Radiation Patterns



XZ Plane

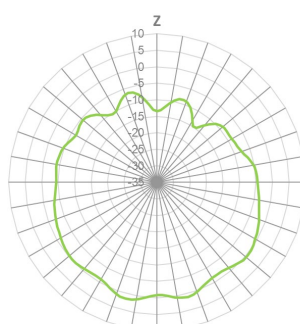
YZ Plane

XY Plane



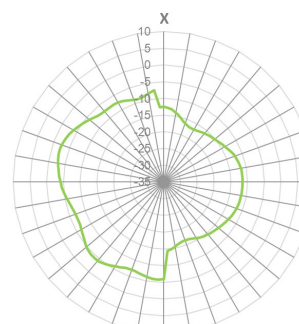
X

— 1602 MHz



Y

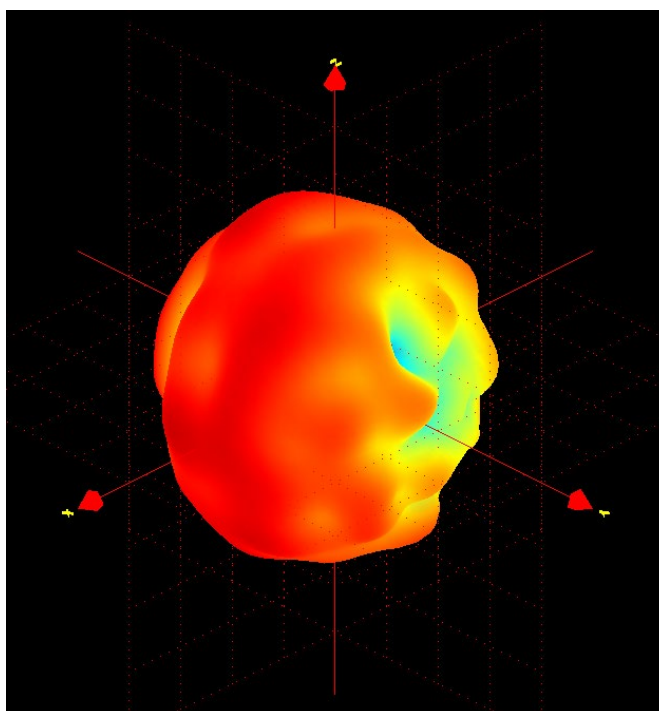
— 1602 MHz



Y

— 1602 MHz

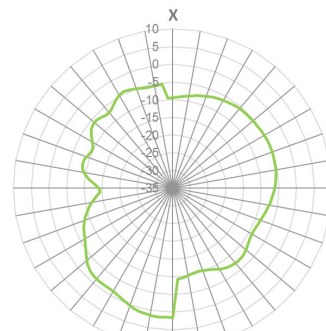
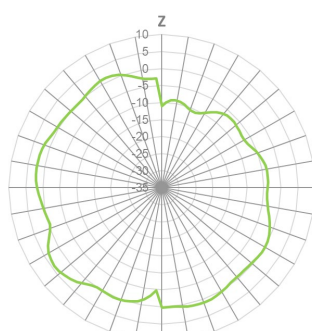
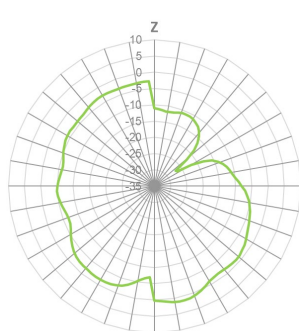
4.5 Wi-Fi 2400MHz 3D and 2D Radiation Patterns



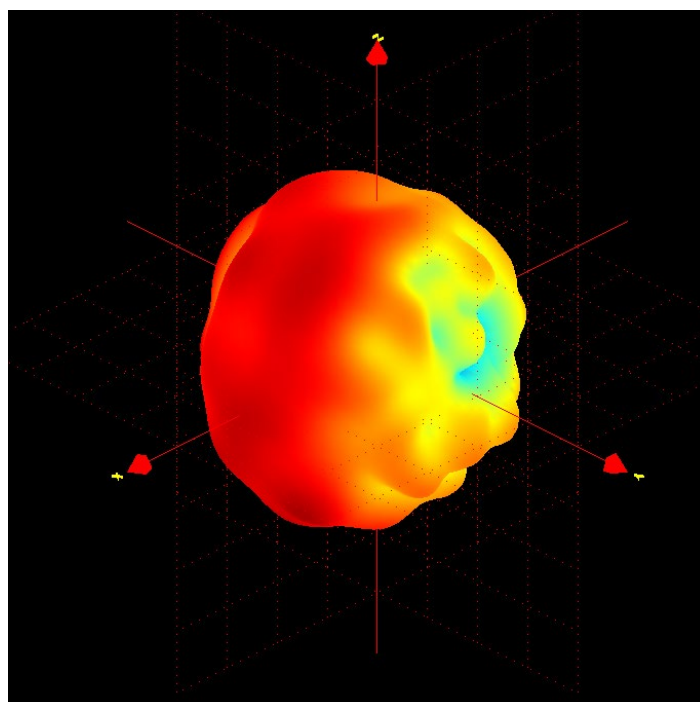
XZ Plane

YZ Plane

XY Plane



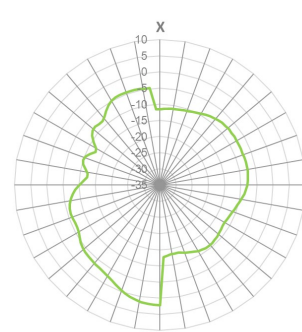
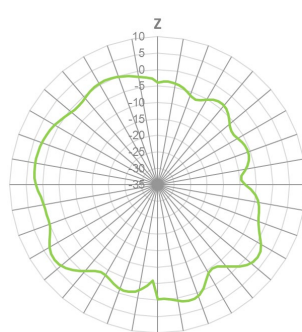
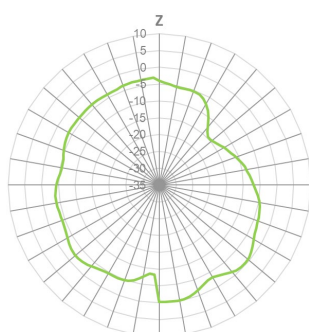
4.6 Wi-Fi 2450MHz 3D and 2D Radiation Patterns



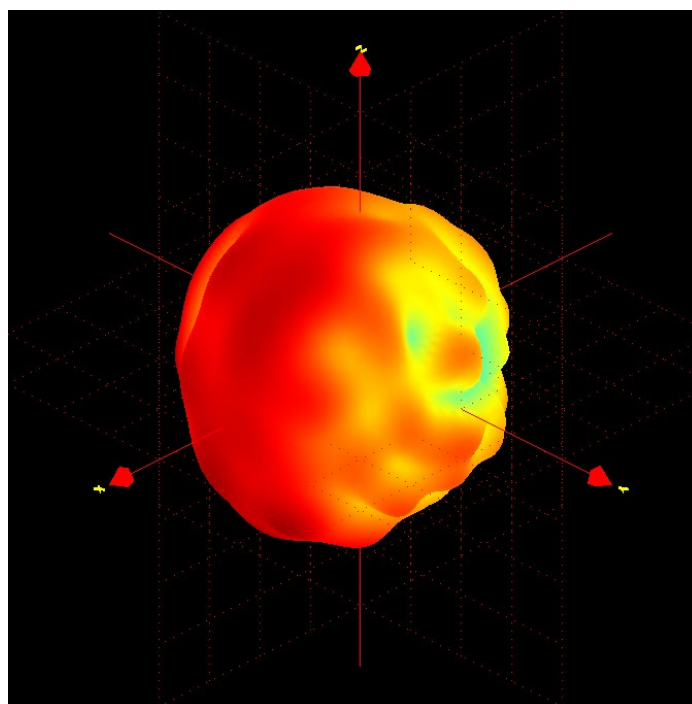
XZ Plane

YZ Plane

XY Plane



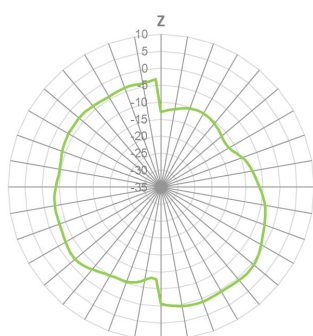
4.7 Wi-Fi 2500MHz 3D and 2D Radiation Patterns



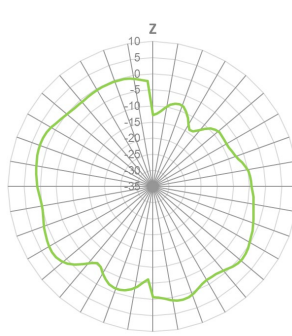
XZ Plane

YZ Plane

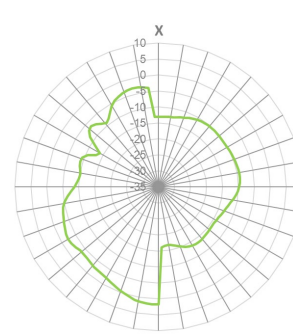
XY Plane



2500 MHz

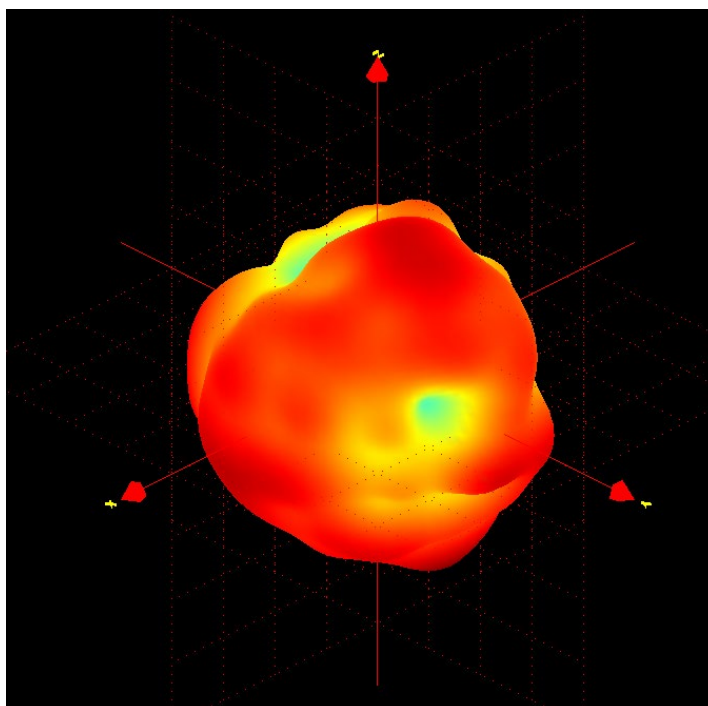


2500 MHz



2500 MHz

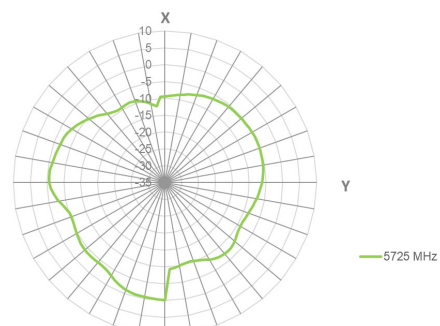
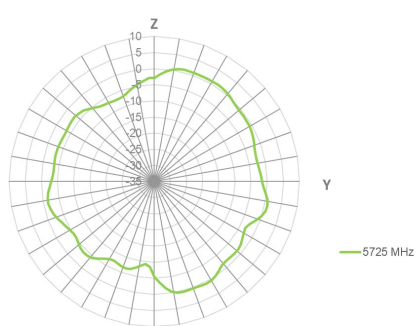
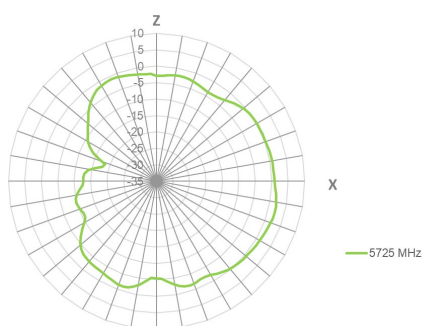
4.8 Wi-Fi 5725MHz 3D and 2D Radiation Patterns



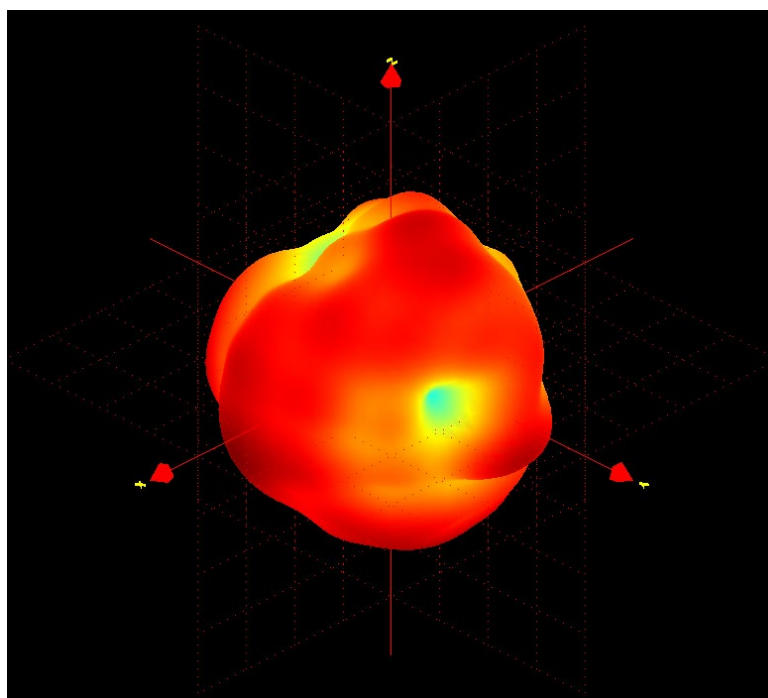
XZ Plane

YZ Plane

XY Plane



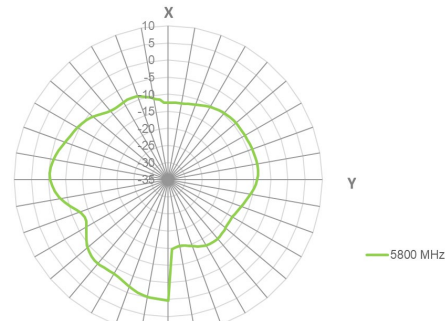
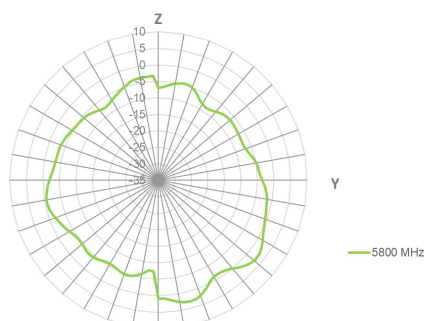
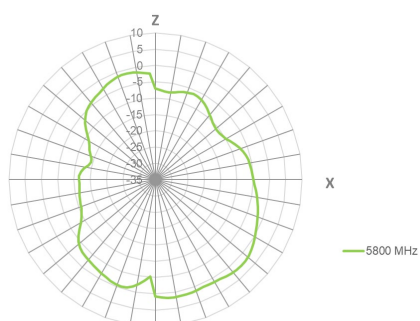
4.9 Wi-Fi 5800MHz 3D and 2D Radiation Patterns



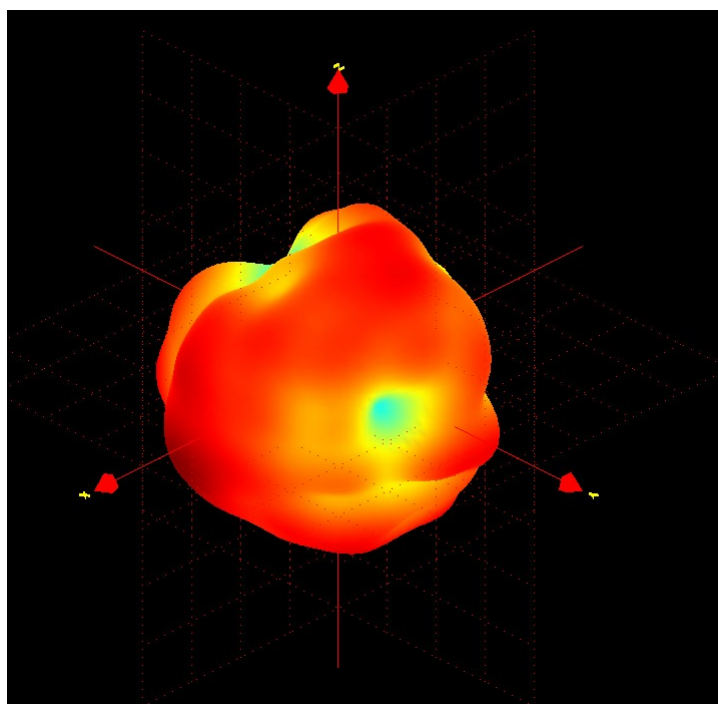
XZ Plane

YZ Plane

XY Plane



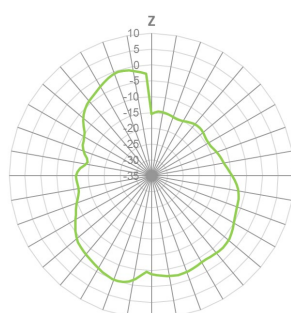
4.10 Wi-Fi 5875MHz 3D and 2D Radiation Patterns



XZ Plane

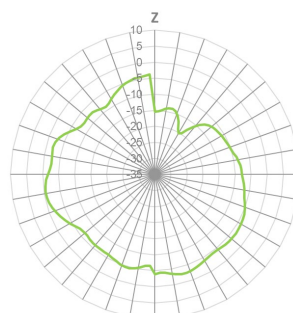
YZ Plane

XY Plane



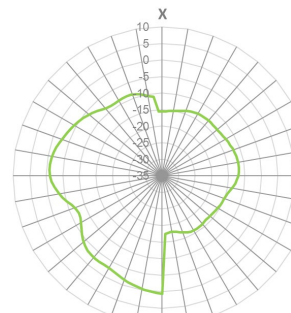
X

— 5875 MHz



Y

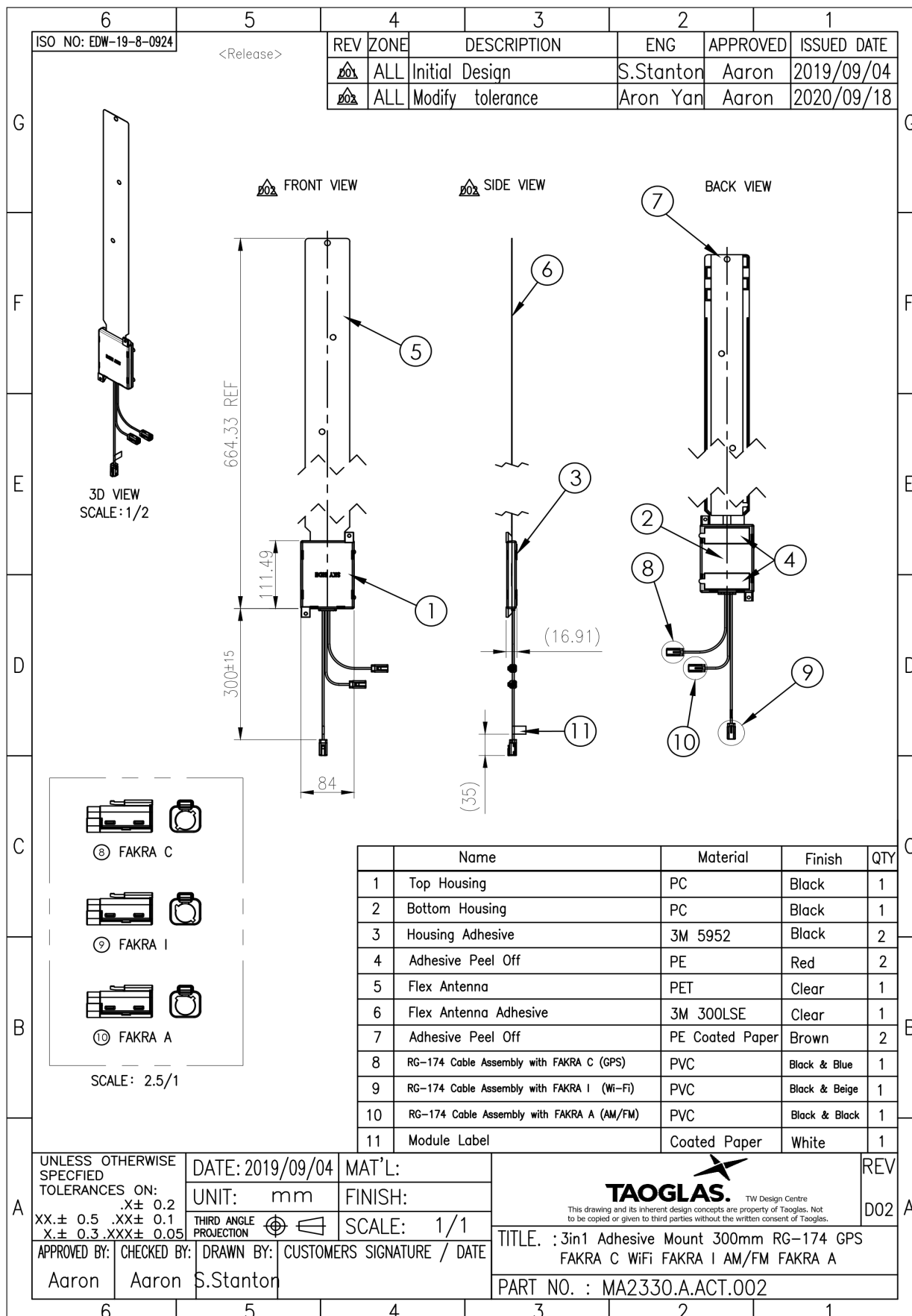
— 5875 MHz



Y

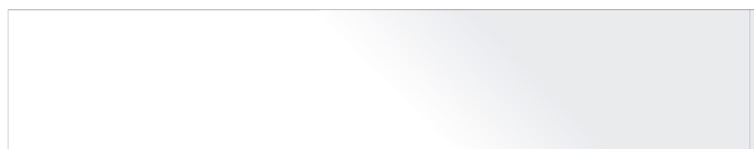
— 5875 MHz

5. Mechanical Drawing (Units: mm)

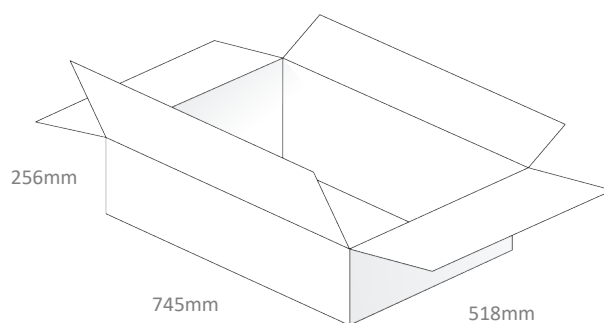


6. Packaging

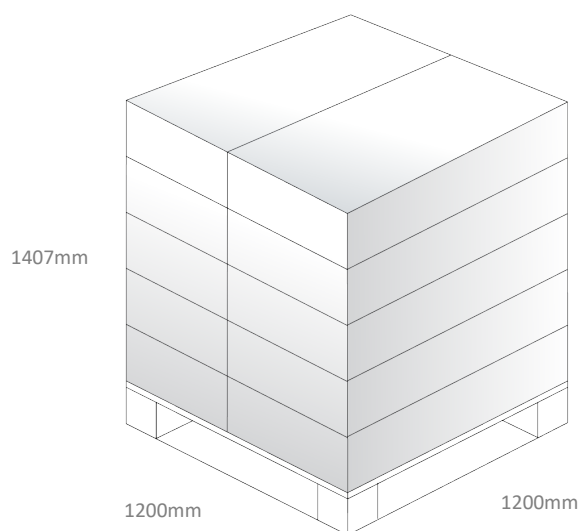
1pc MA2330.A.ACT.002 per Poly Bag
Weight: 145g



100pcs MA2330.A.ACT.002 per Carton
Dimensions: 745*518*256mm
Weight: 14Kg



Pallet Dimensions:
1407*1200*1200mm
16 Cartons Per Pallet
4 Cartons Per Layer, 4 Layers



Changelog for the datasheet

SPE-19-8-116 – MA2330.A.ACT.002

Revision: D (Current Version)	
Date:	2025-10-30
Changes:	Removed ™ from CAMPTENNA references in the product description and introduction.
Changes Made by:	Conor McGrath

Previous Revisions

Revision: C	
Date:	2024-11-06
Changes:	Added CAMPTENNA™ to product description and introduction.
Changes Made by:	Conor McGrath

Revision: B	
Date:	2020-12-04
Changes:	Renamed to Profila Series
Changes Made by:	Jack Conroy

Revision: A (Original First Release)	
Date:	2019-08-27
Notes:	Initial Datasheet Release
Author:	Yu Kai Yeung



www.taoglas.com

