



TAOGLAS®



Datasheet

Guardian

Part No:
MA964.A.CGMM.003.je

Description:

Guardian 4-in-1 Wi-Fi Adhesive Mount Combination Antenna

Features:

Low-Profile Adhesive Mount Housing – Mounts Flush to Wall

4* Wi-Fi (including Wi-Fi 6) MIMO 2.4GHz/5.8/7.1GHz

IP67 Waterproof Resistant Enclosure

Cable: 3m TGC-200

Connectors: FAKRA Code I Beige

Dimensions: 146 * 134 * 20 mm

RoHS & Reach Compliant

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1. Introduction



The MA964 Guardian is a low-profile 4-in-1 Wi-Fi (with Wi-Fi 6 included) MIMO adhesive mount external antenna. As part of the first series of panel antenna worldwide designed for IoT gateway and router devices, it belongs to a new generation of combination antenna. The antenna functions at all Wi-Fi frequencies (2.4-2.5GHz, 5-7.125GHz) meaning it is a future-proof solution for any Wi-Fi devices.

The MA964 Guardian is ideal for Wi-Fi applications requiring the increased data throughput and range provided by MIMO technology, all in a convenient and compact form factor. It is designed with high efficiency and gain as well as high isolation between the antennas to prevent self-interference. Low loss cables are used to keep efficiency high over long cable lengths. With its heavy-duty, fully IP67 casing, the MA964 Guardian can withstand a range of environments.

All these factors make the MA964 Guardian antenna an excellent choice for use by RF professionals in:

- IoT Gateway and Routers
- HD Video Streaming
- Transportation
- Remote monitoring applications

The standard MA964 Guardian antenna comes with 3 meter, low loss TGC-200 coaxial cable. Customized cables and connector versions are also available. Also available in white, contact your regional Taoglas customer support team for further information.

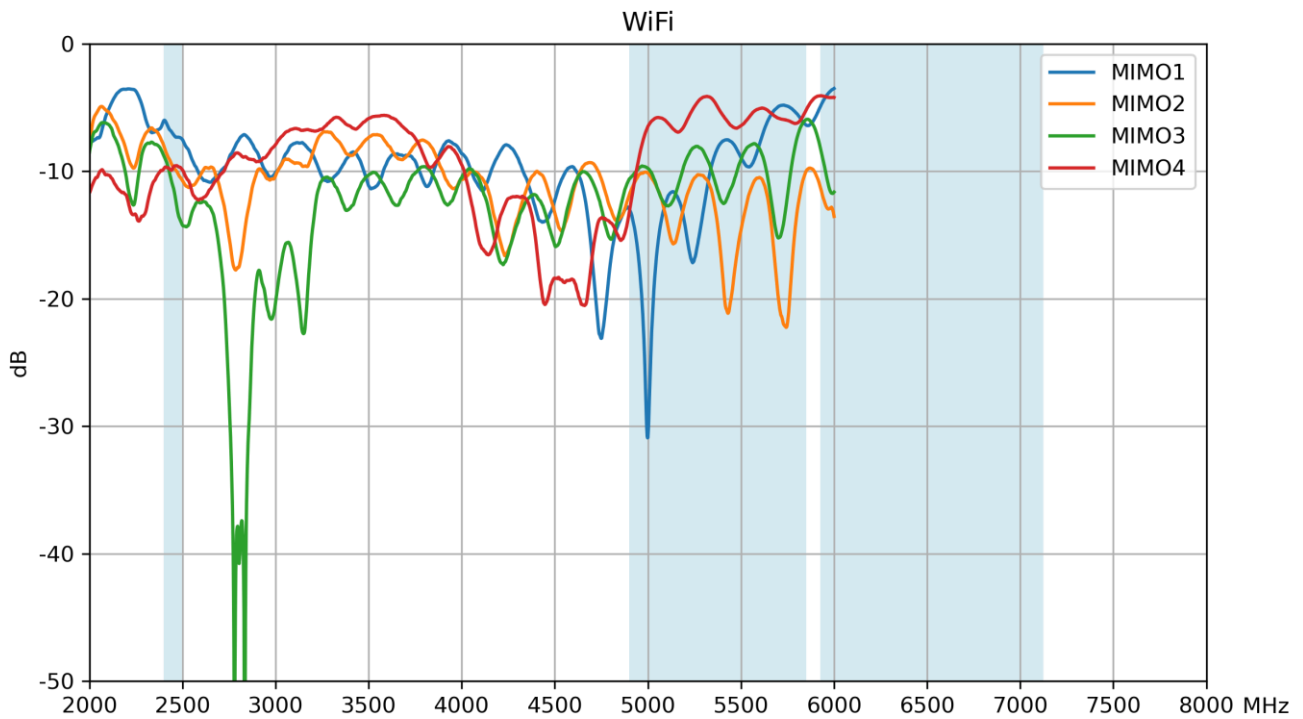
2. Specifications

Wi-Fi MIMO Free Space Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	MIMO 1	61.5	-2.11	5.73	50 Ω	10W	Linear	Omni-Directional
		MIMO 2	69.9	-1.55	5.09				
		MIMO 3	74.3	-1.29	5.03				
		MIMO 4	74.2	-1.29	3.89				
5.8GHz Wi-Fi	5150~5850	MIMO 1	39.4	-4.04	7.31				
		MIMO 2	72.8	-1.38	5.48				
		MIMO 3	63.5	-1.97	5.16				
		MIMO 4	38.1	-4.19	6.30				
7.1GHz Wi-Fi 6	5925~7125	MIMO 1	32.8	-4.9	2.6				
		MIMO 2	67.3	-1.7	5.2				
		MIMO 3	53.8	-2.7	4.6				
		MIMO 4	29.6	-5.3	3.7				

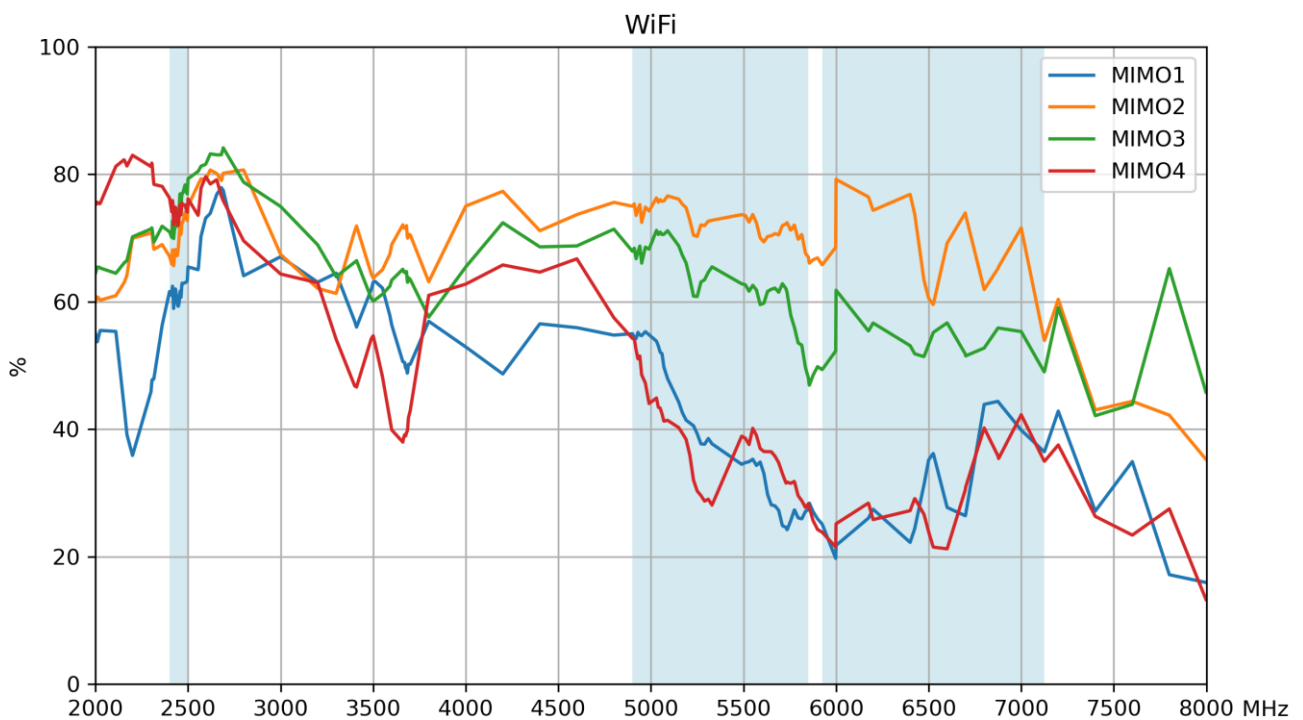
Mechanical	
Antenna Dimensions	146*134*20mm
Casing	ASA
Weight (including cable)	700g
Ingress Protection Rating	IP67
Connector	4* FAKRA Code I Beige
Cables	4* 3000mm TGC200
Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 90°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

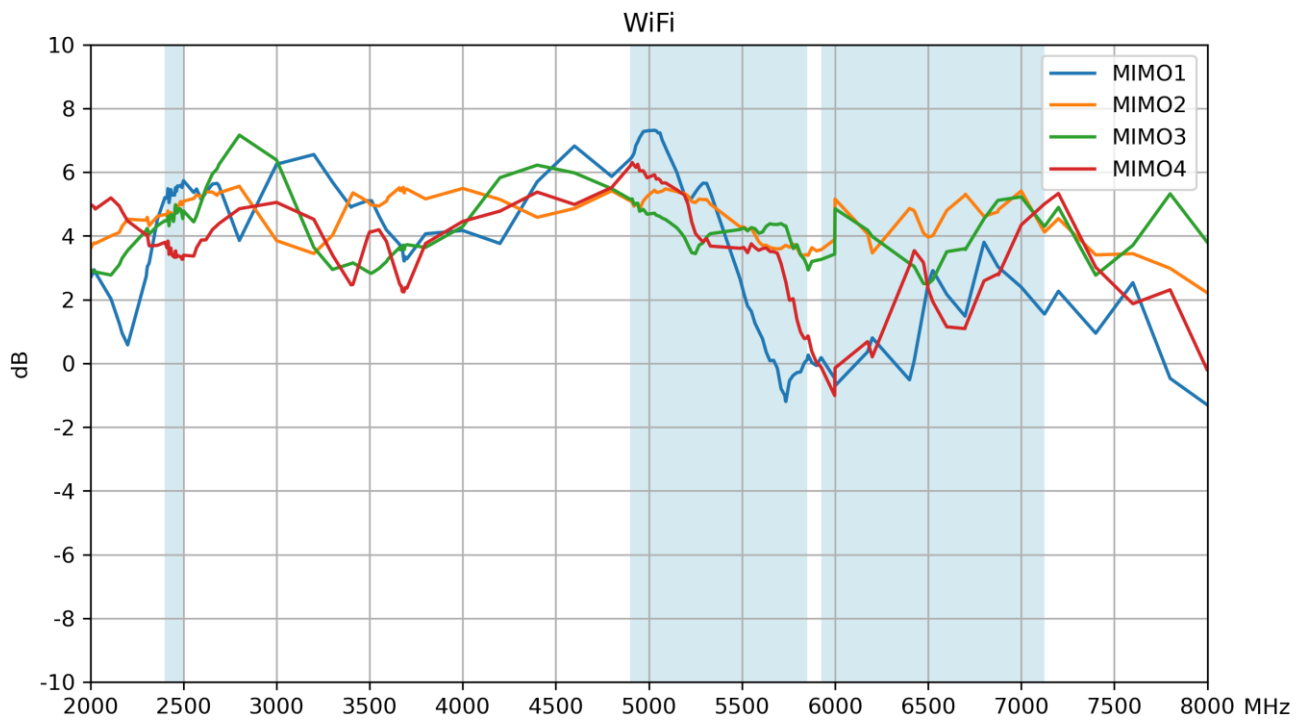
3.1 Return Loss



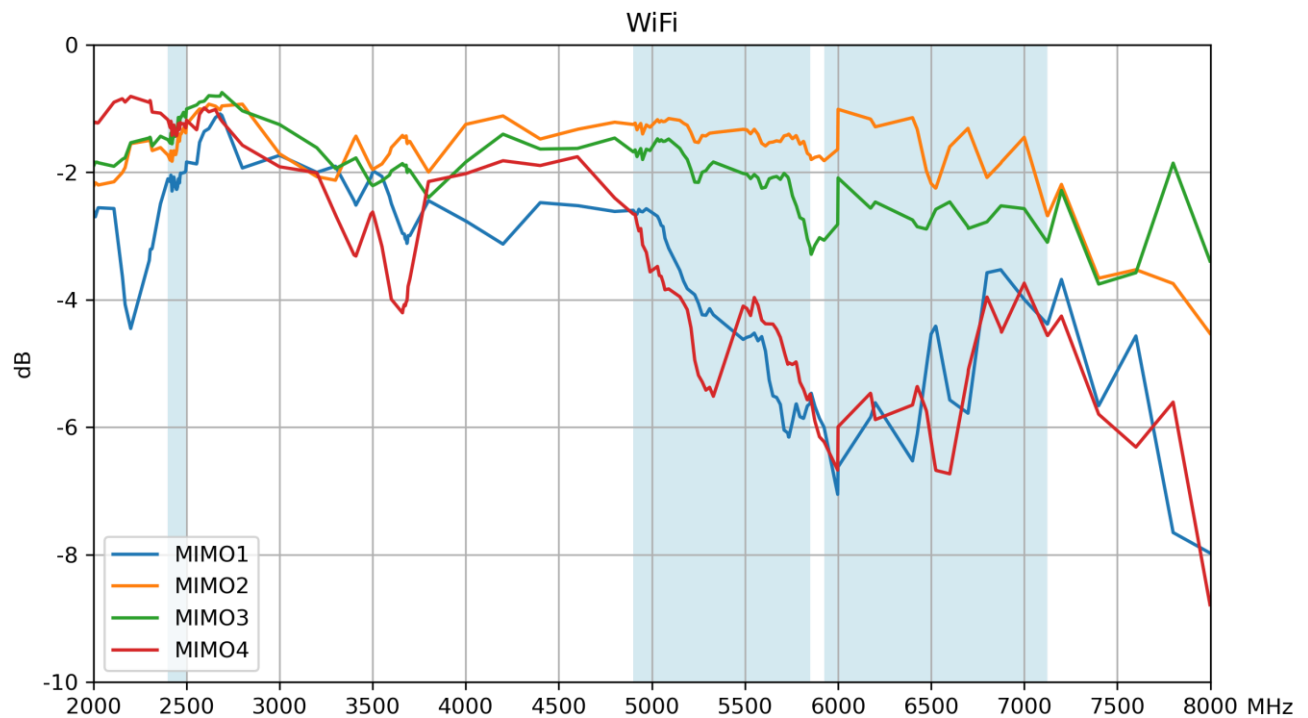
3.2 Efficiency



3.3 Peak Gain



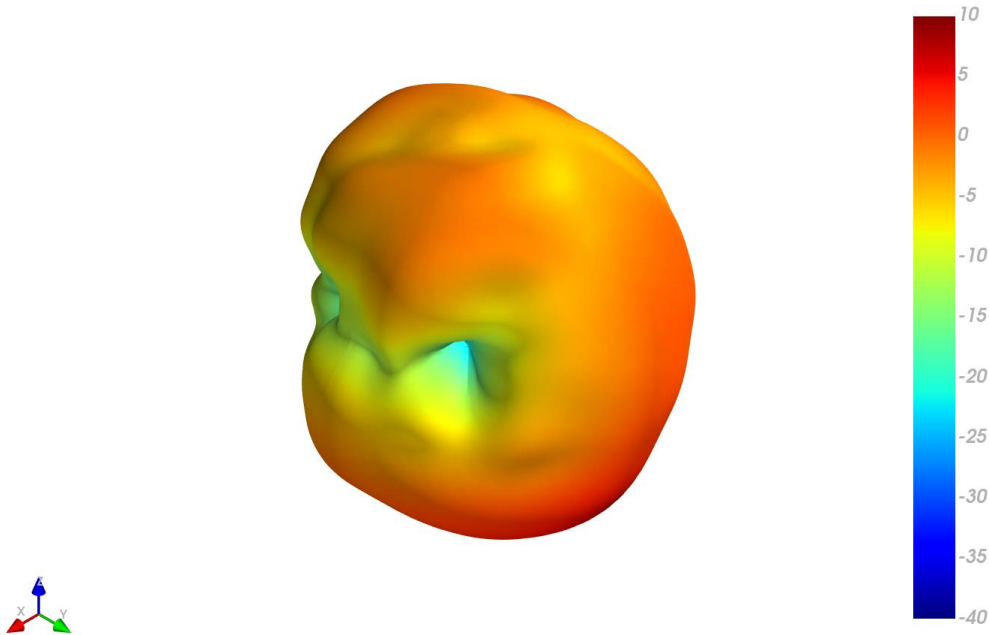
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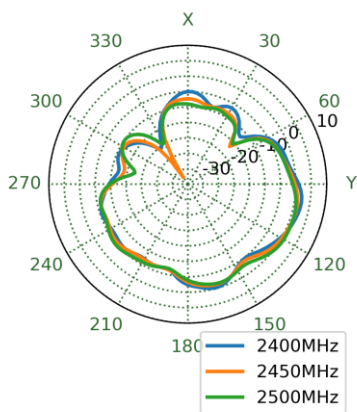
4. Radiation Patterns

4.1 Wi-Fi MIMO 1 3D and 2D Radiation Patterns

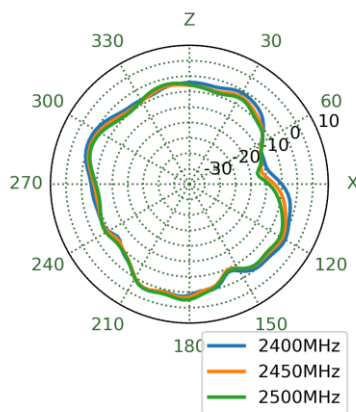
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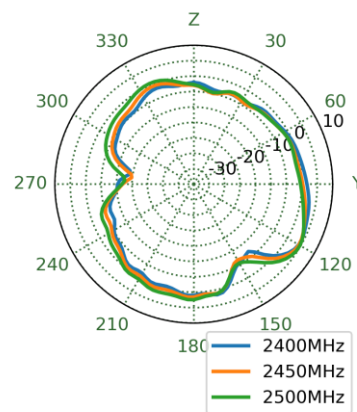
XY Plane



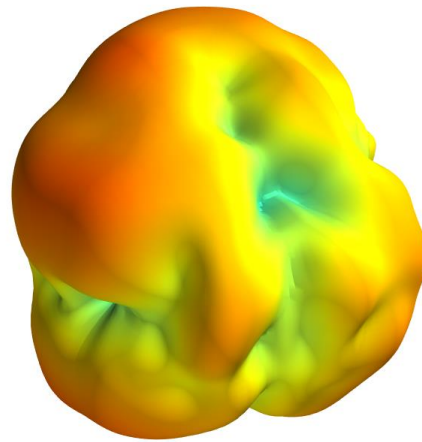
XZ Plane



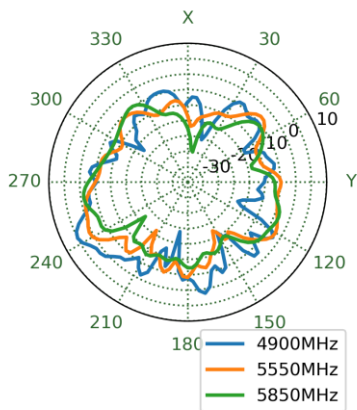
YZ Plane



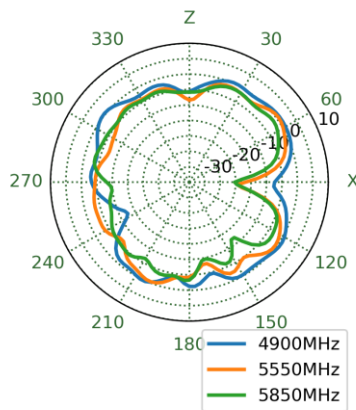
5550MHz



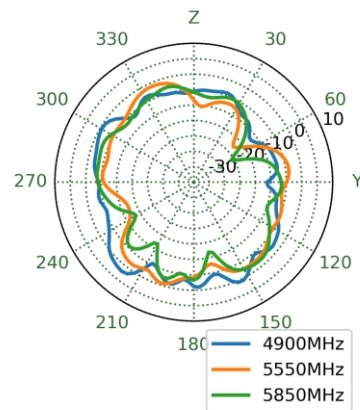
XY Plane



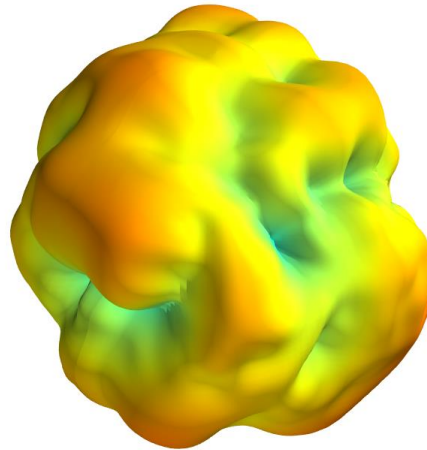
XZ Plane



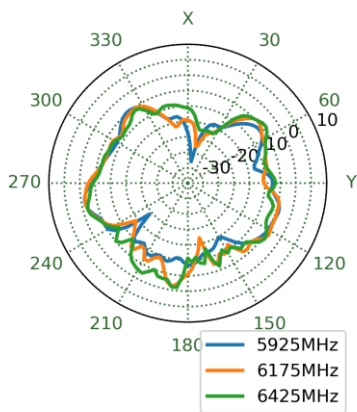
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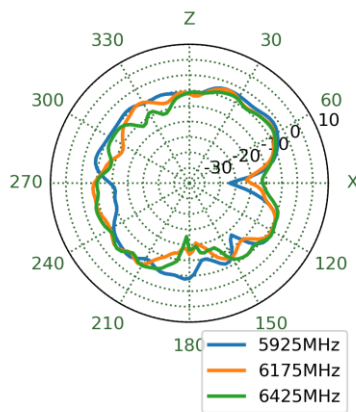
6175MHz



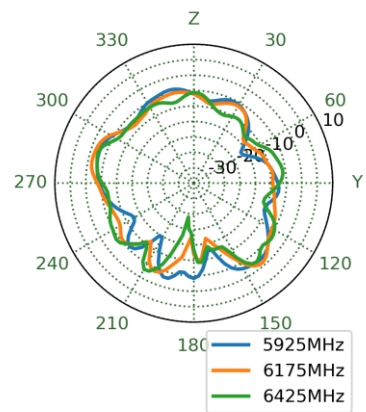
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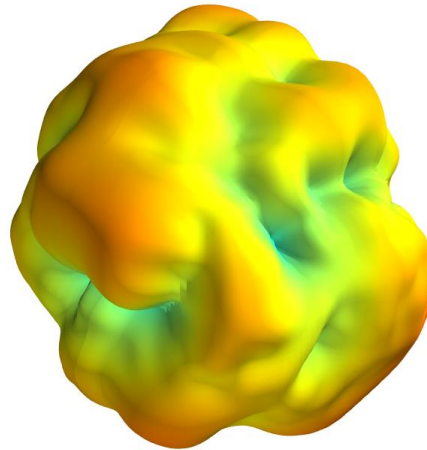
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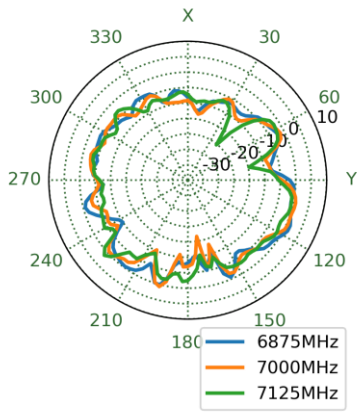
YZ Plane



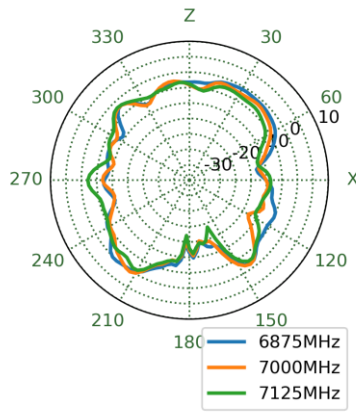
7000MHz



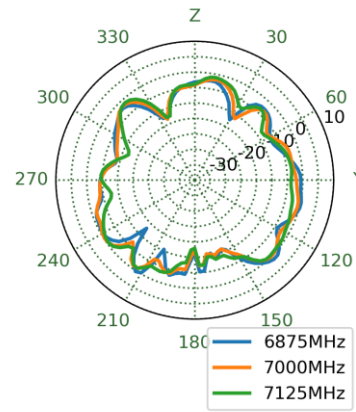
XY Plane



XZ Plane

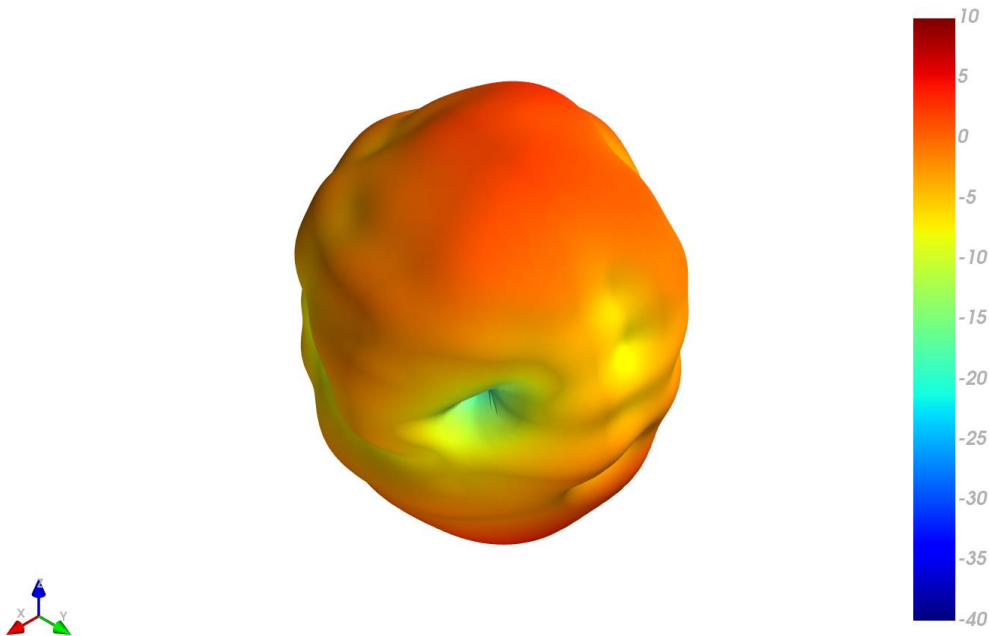


YZ Plane

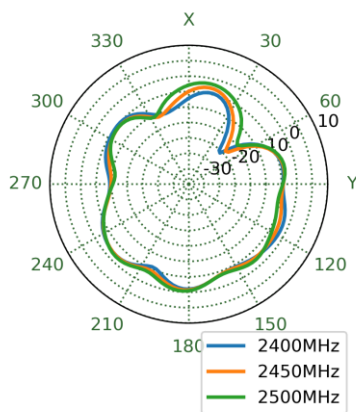


4.2 Wi-Fi MIMO 2 3D and 2D Radiation Patterns

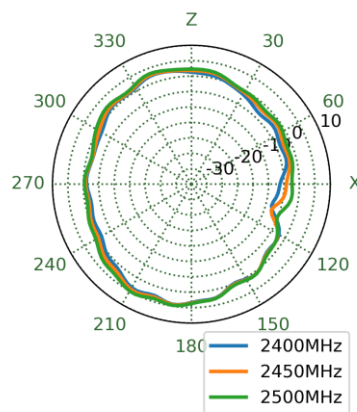
2450MHz



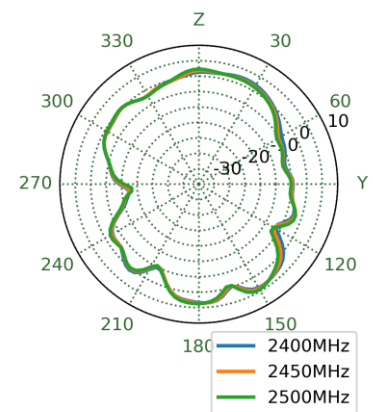
XY Plane



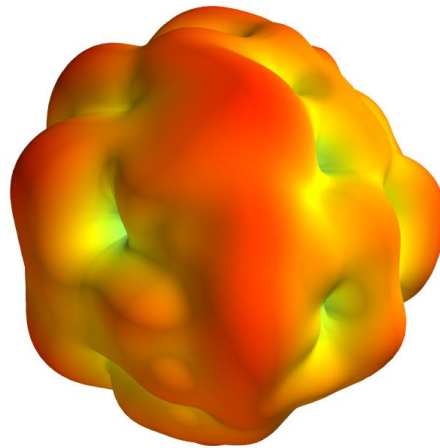
XZ Plane



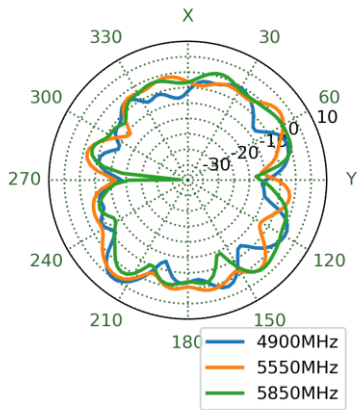
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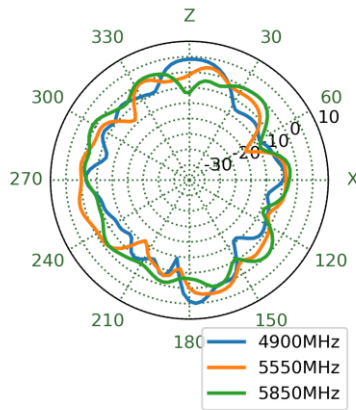
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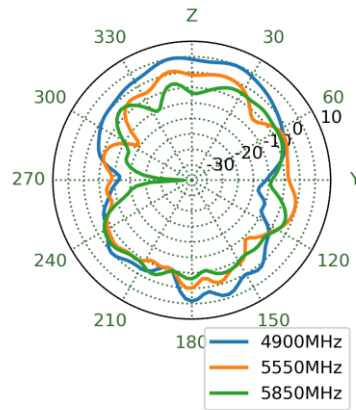
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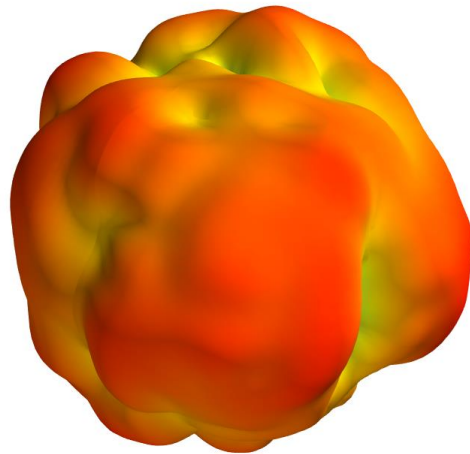
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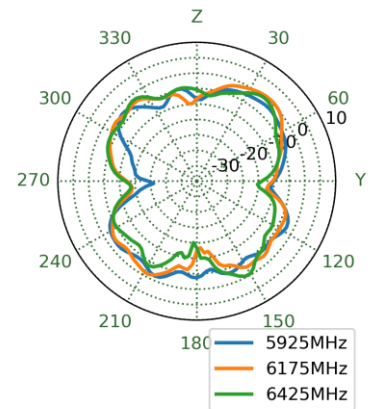
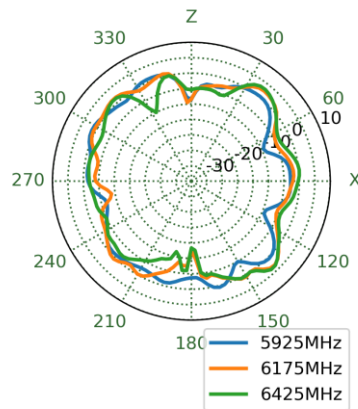
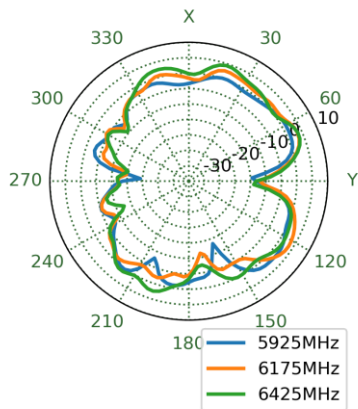
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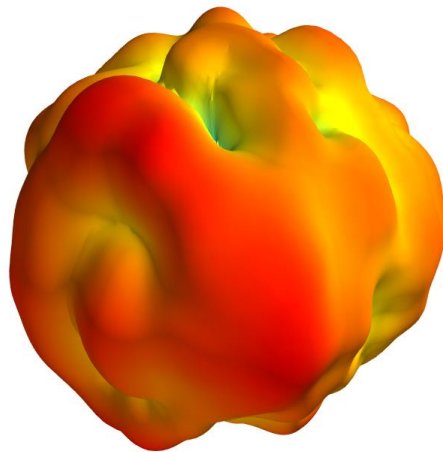
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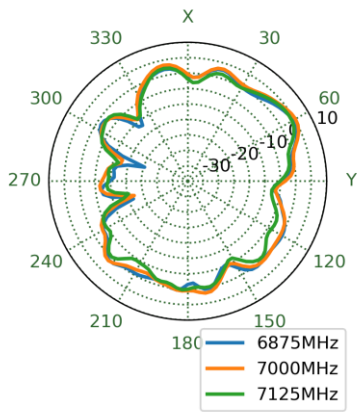
XY Plane XZ Plane YZ Plane



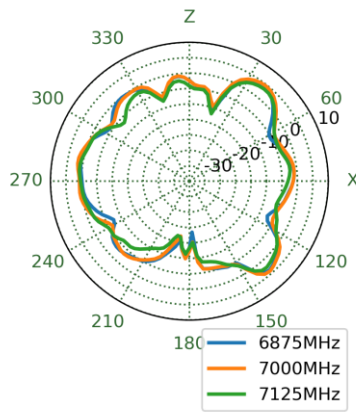
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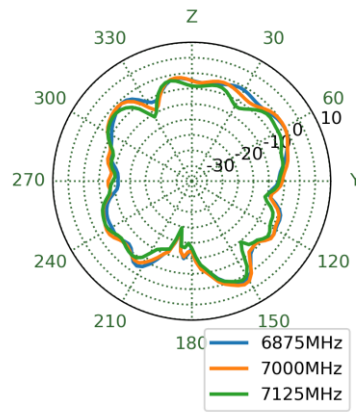
XY Plane



XZ Plane

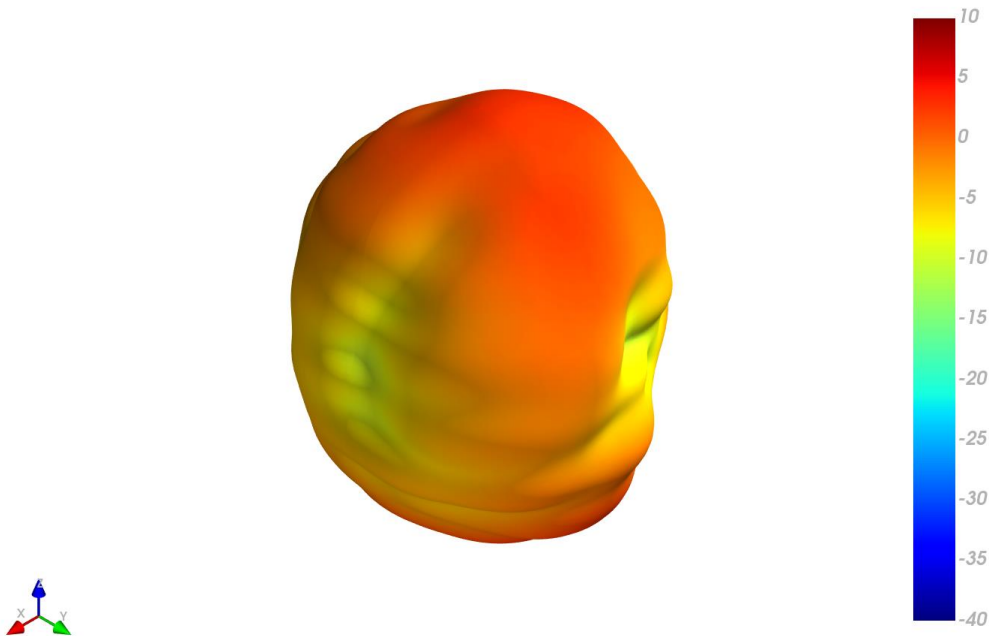


YZ Plane

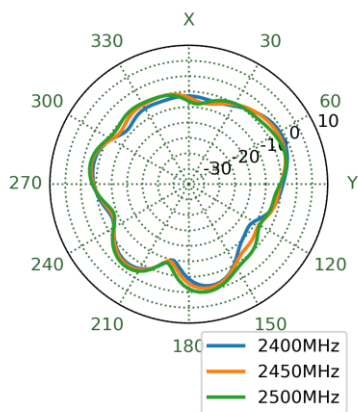


4.3 Wi-Fi MIMO 3 3D and 2D Radiation Patterns

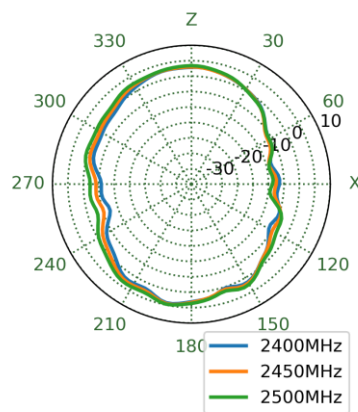
2450MHz



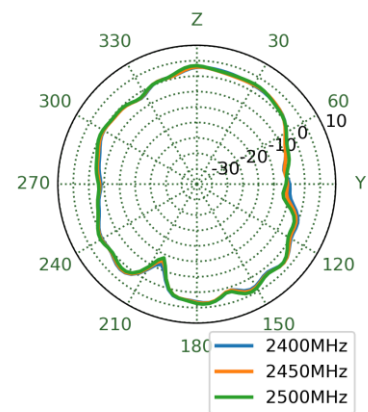
XY Plane



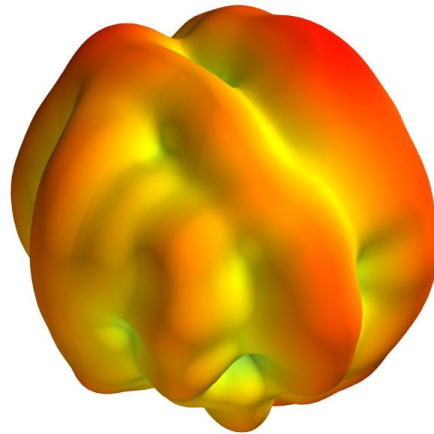
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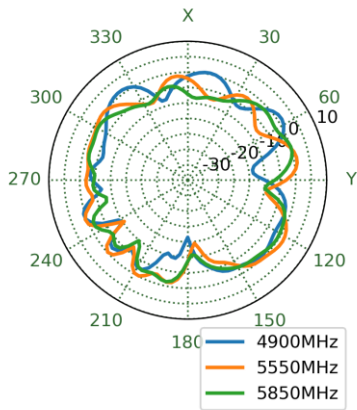
YZ Plane



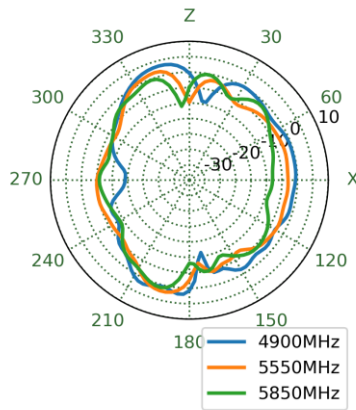
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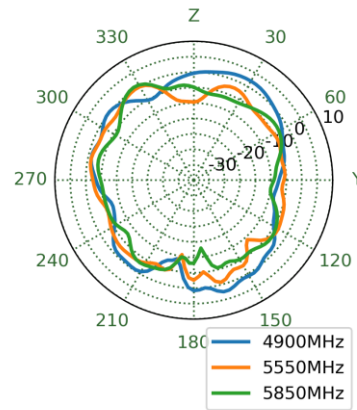
XY Plane



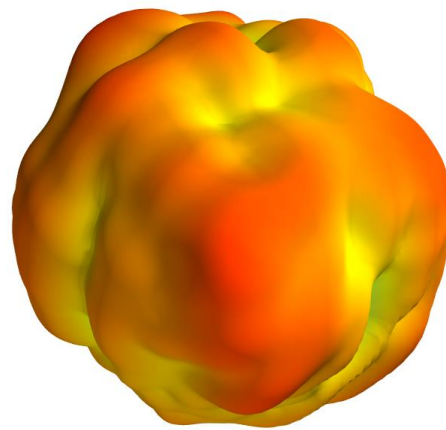
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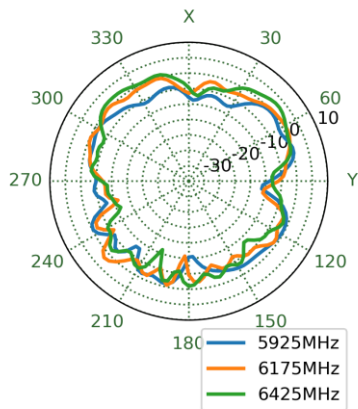
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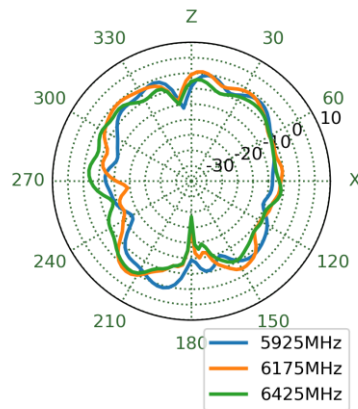
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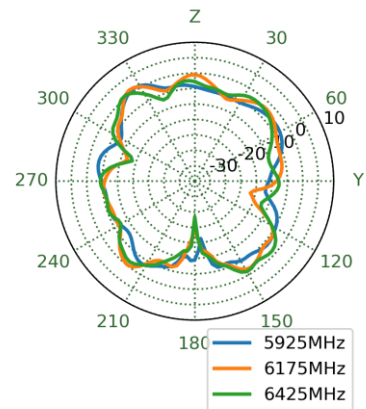
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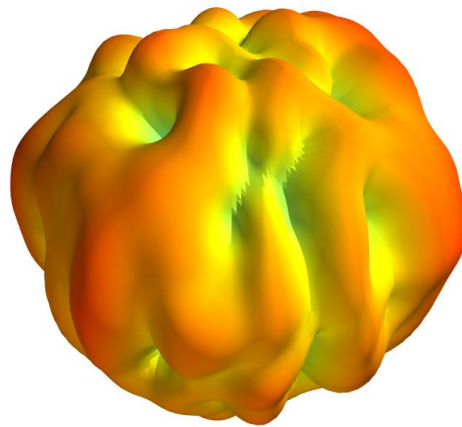
XZ Plane



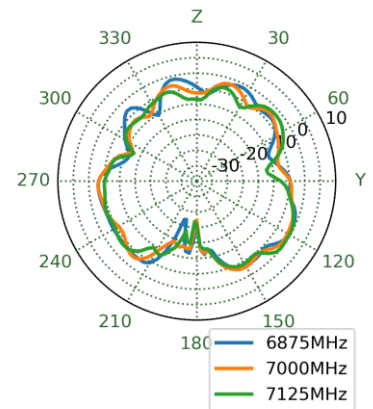
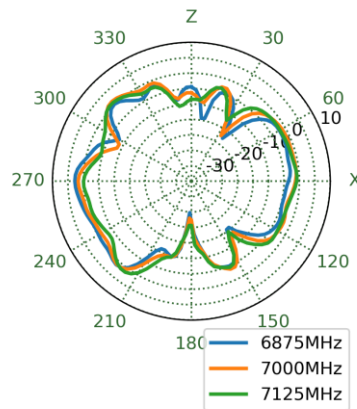
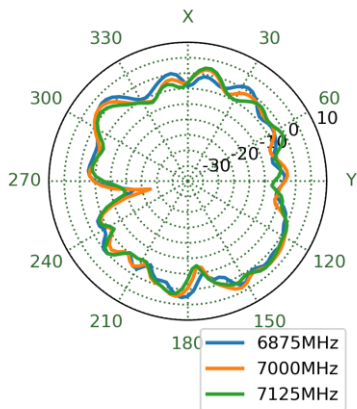
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7000MHz

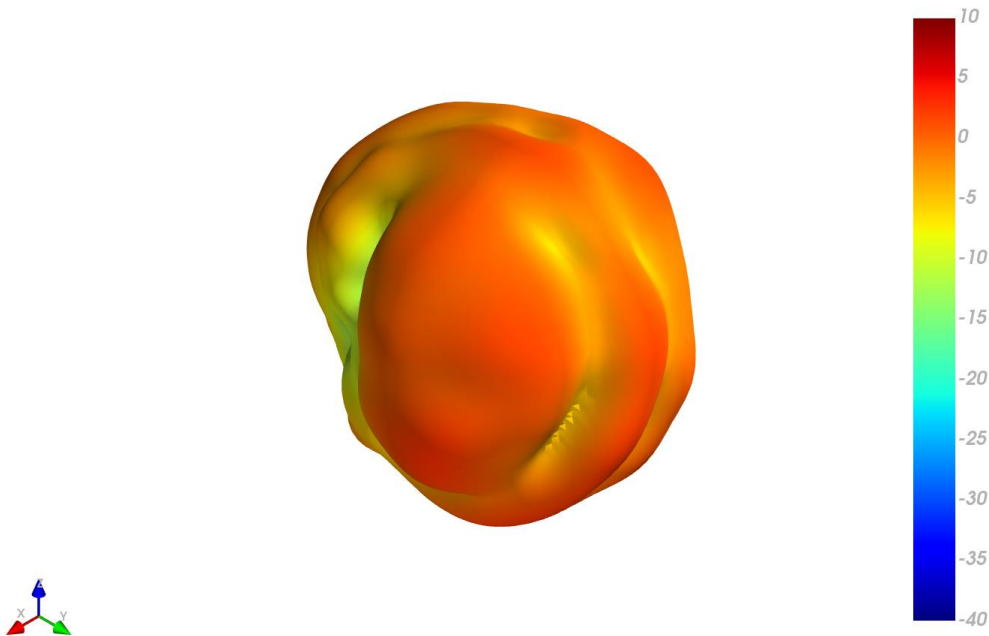


XY Plane XZ Plane YZ Plane

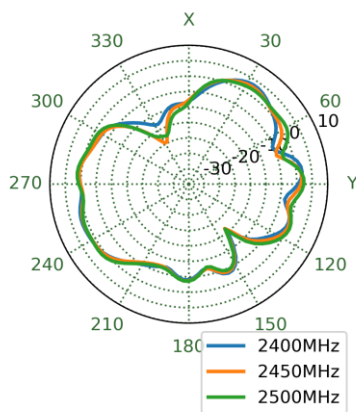


4.4 Wi-Fi MIMO 4 3D and 2D Radiation Patterns

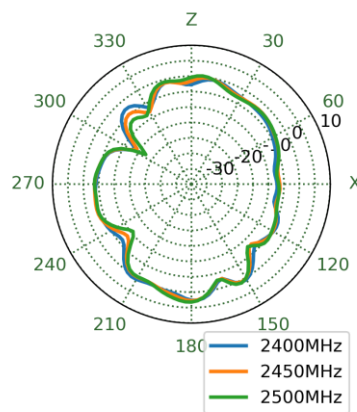
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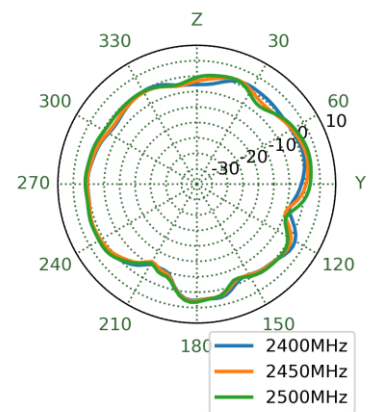
XY Plane



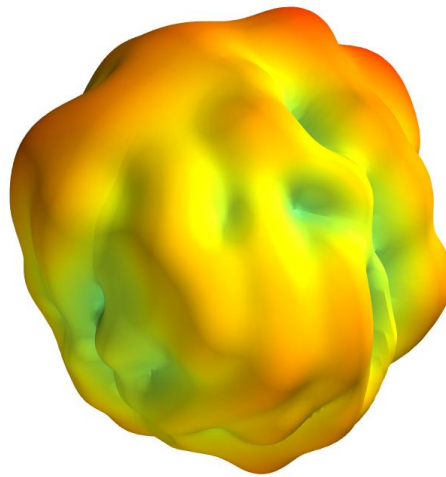
XZ Plane



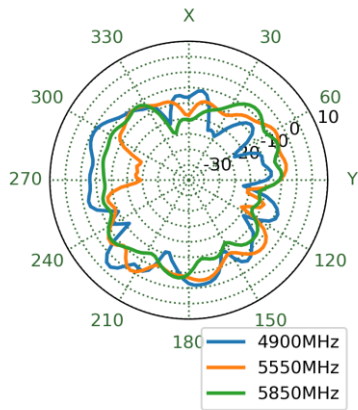
YZ Plane



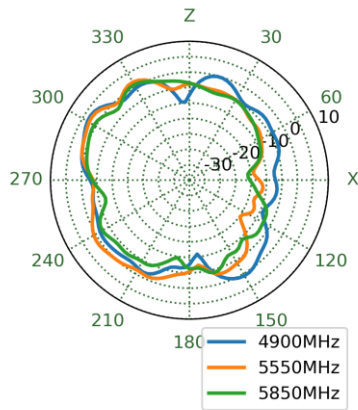
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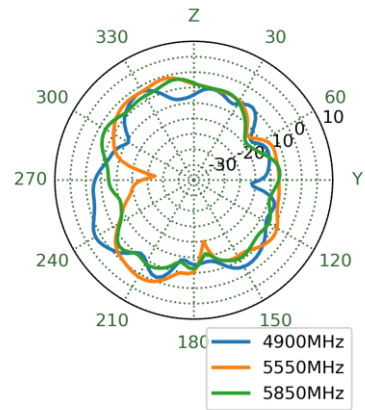
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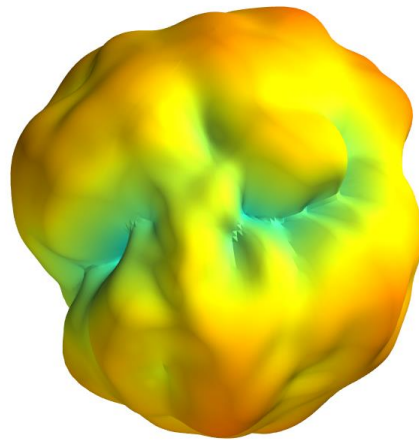
XZ Plane



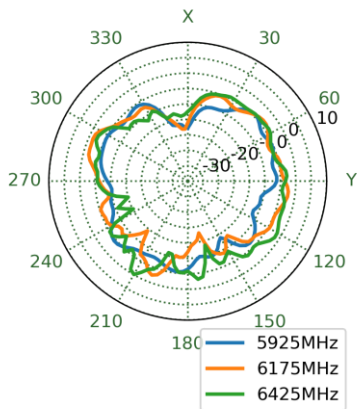
YZ Plane



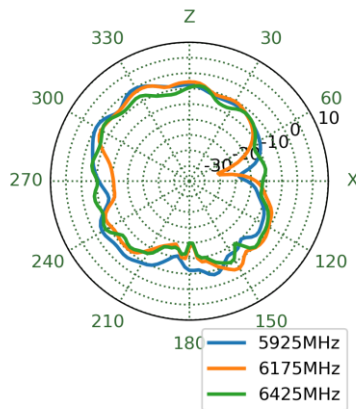
6175MHz



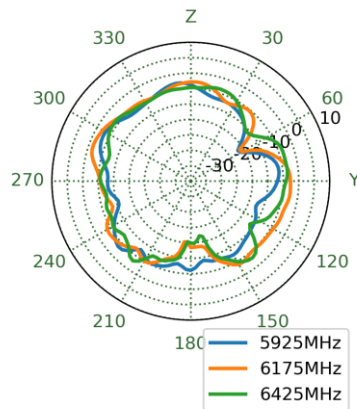
XY Plane



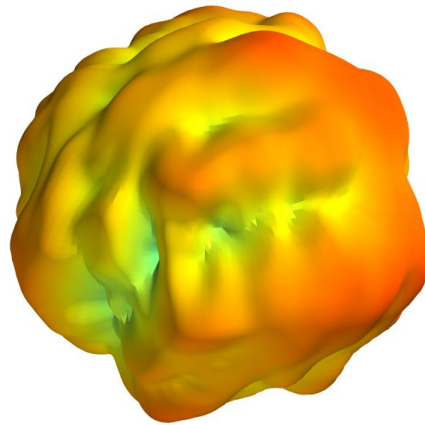
XZ Plane



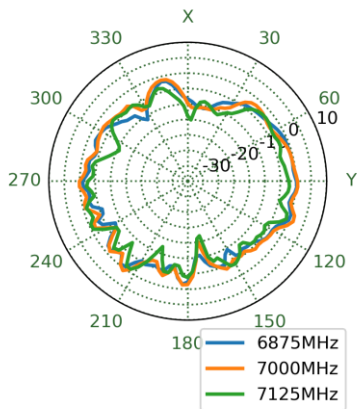
YZ Plane



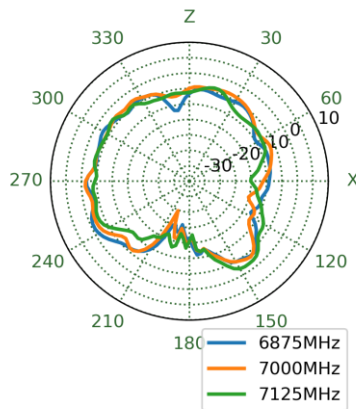
7000MHz



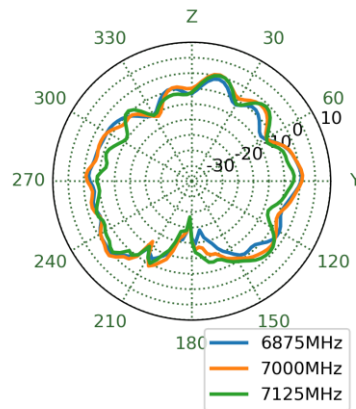
XY Plane



XZ Plane



YZ Plane



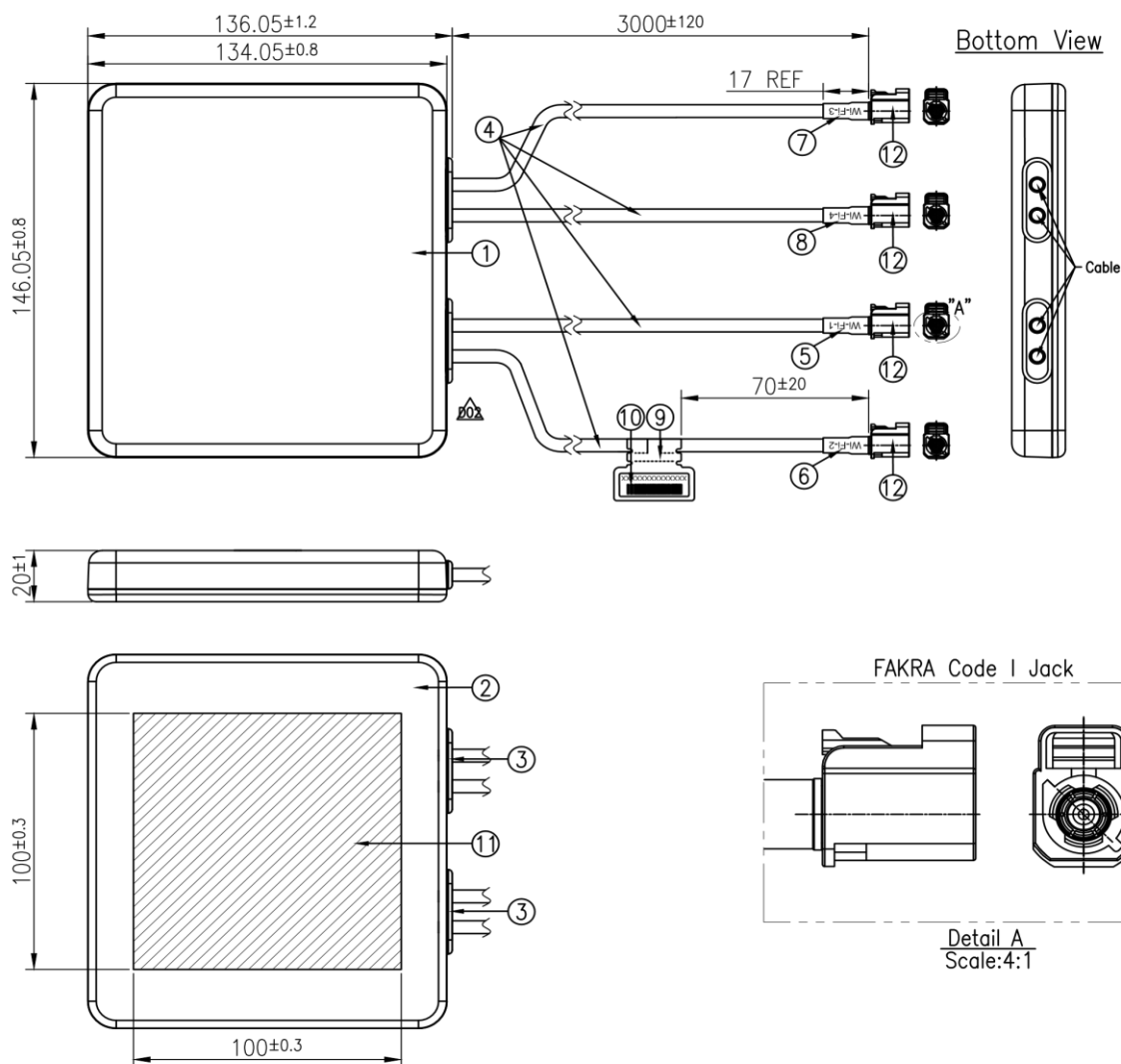
5. Mechanical Drawing (Units: mm)

ISO NO.: EDW-21-8-0538

STATE: Release

NOTES: 1. All material must be RoHS compliant.
2. The connector orientation has a fixed position to the antenna as per drawing.
3. Double Sided Adhesive Area :

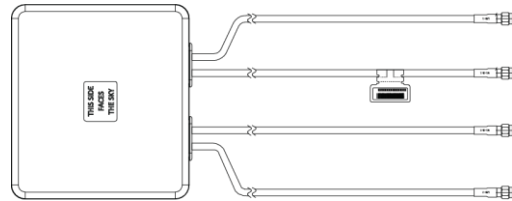
REV.	DESCRIPTION	ENG.	APPROVED	DATE
D01	Initial Design	Ruby	Aaron	2021/04/20
D02	Remove this side faces sky label	Ruby	Aaron	2021/08/18



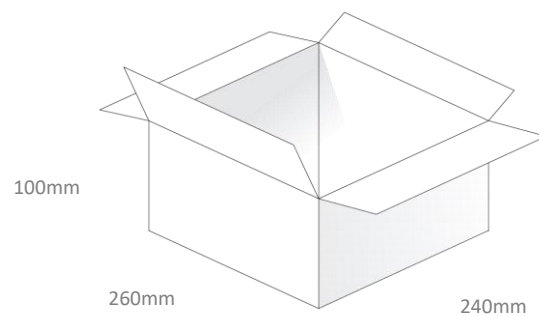
QTY	Name	Material	Finish
1	Top Housing	ASA	Black
1	Bottom Housing	ASA	Black
2	Rubber-2 Holes	Silicone Rubber	Black
4	TGC200 Coaxial Cable	PE	Black
1	Heat Shrink Tube (Wi-Fi-1)	PE	Yellow Tube/Black Text
1	Heat Shrink Tube (Wi-Fi-2)	PE	Yellow Tube/Black Text
1	Heat Shrink Tube (Wi-Fi-3)	PE	Yellow Tube/Black Text
1	Heat Shrink Tube (Wi-Fi-4)	PE	Yellow Tube/Black Text
1	Empty Label	PEPA	White
1	Barcode Label	PET	White
1	Double Sided Adhesive(Black Foam)	ONKOR 3000/150	White Liner
4	FAKRA Code I SMB(F)	PA66	Beige

APPROVED BY: Aaron	 <small>TW Design Centre</small> This drawing and its inherent design concepts are property of Taoglas. Not to be copied or given to third parties without the written consent of Taoglas.
CHECK BY: Aaron	
DRAWN BY: Ruby	TITLE : Guardian 4in1 Adhesive Mount Antenna - 4* Wideband Wi-Fi 600-6000MHz with 3m TGC-200 & FAKRA I Pre-adhered
DATE: 2021/04/20	PART NO. : MA964.A.CGHEM.003.je
UNLESS OTHERWISE SPECIFIED TOLERANCES ON: XX±0.5 X±0.3 X±0.2 X±0.1 XXX±0.05	UNIT: mm SCALE: 1:2.5 PAGES: 1/1 REV. D02
THIRD ANGLE PROJECTION	

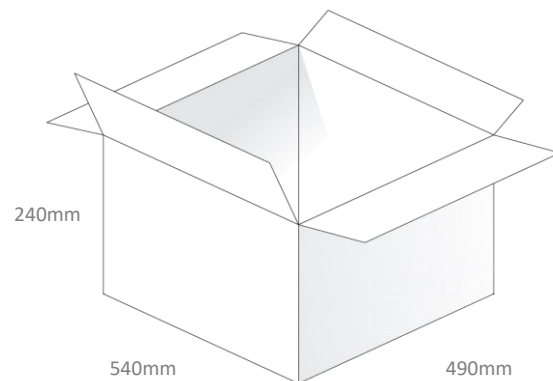
6. Packaging



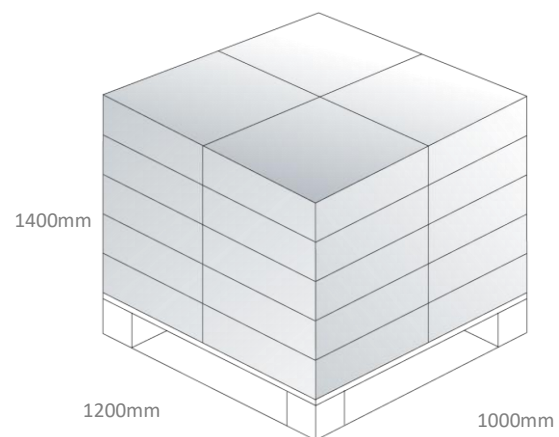
1 MA964.A.CGMN.003.je per small box
 Box Dimensions - 260*240*100mm
 Weight - 750g



Box Dimensions - 540*490*240mm
 8 pcs MA964.A.CGMN.003.je per carton
 Weight - 7Kg



Pallet Dimensions:
 1200*1000*1400mm
 20 Cartons per Pallet
 4 Cartons per layer, 5 Layers



Changelog for the datasheet

SPE-21-8-060 – MA964.A.CGMMN.003.je

Revision: A (Original First Release)	
Date:	2021-08-13
Notes:	
Author:	Jack Conroy

Previous Revisions



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