



TAOGLAS®



Datasheet

Guardian

Part No:
MA964.A.CGMMN.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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ISO 9001:2015
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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.

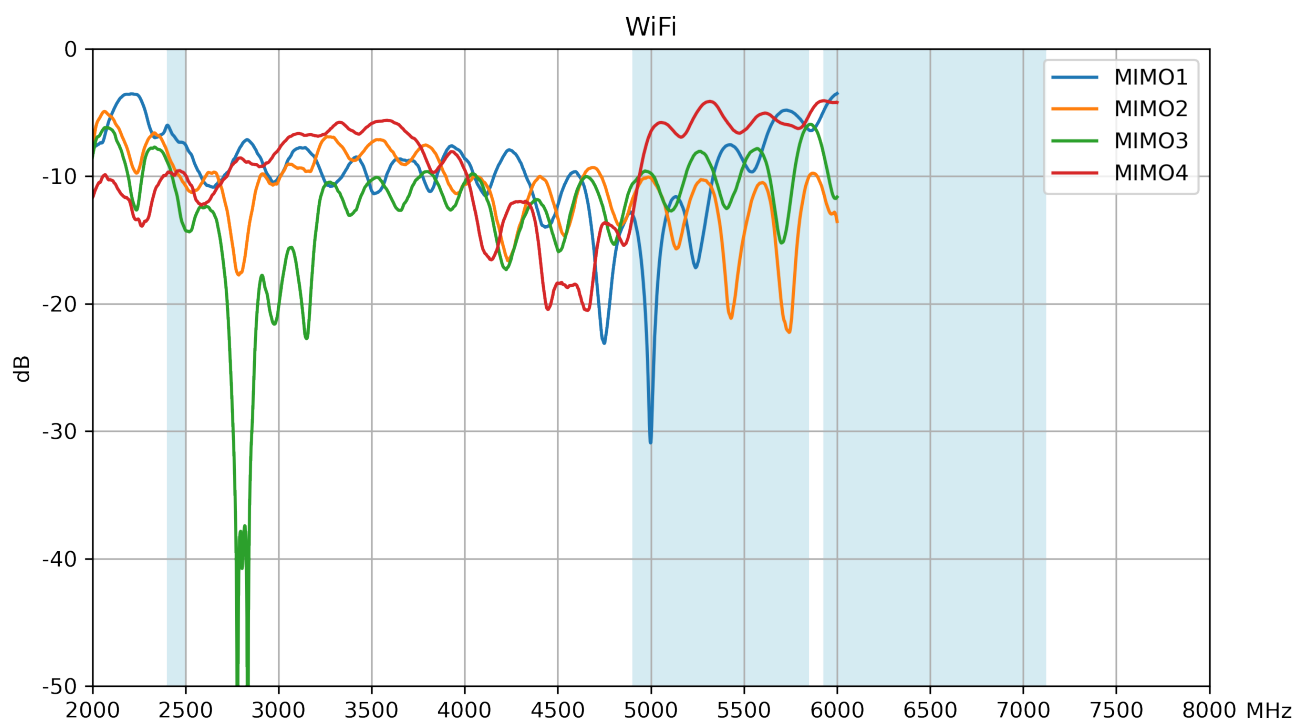
2. Specifications

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				

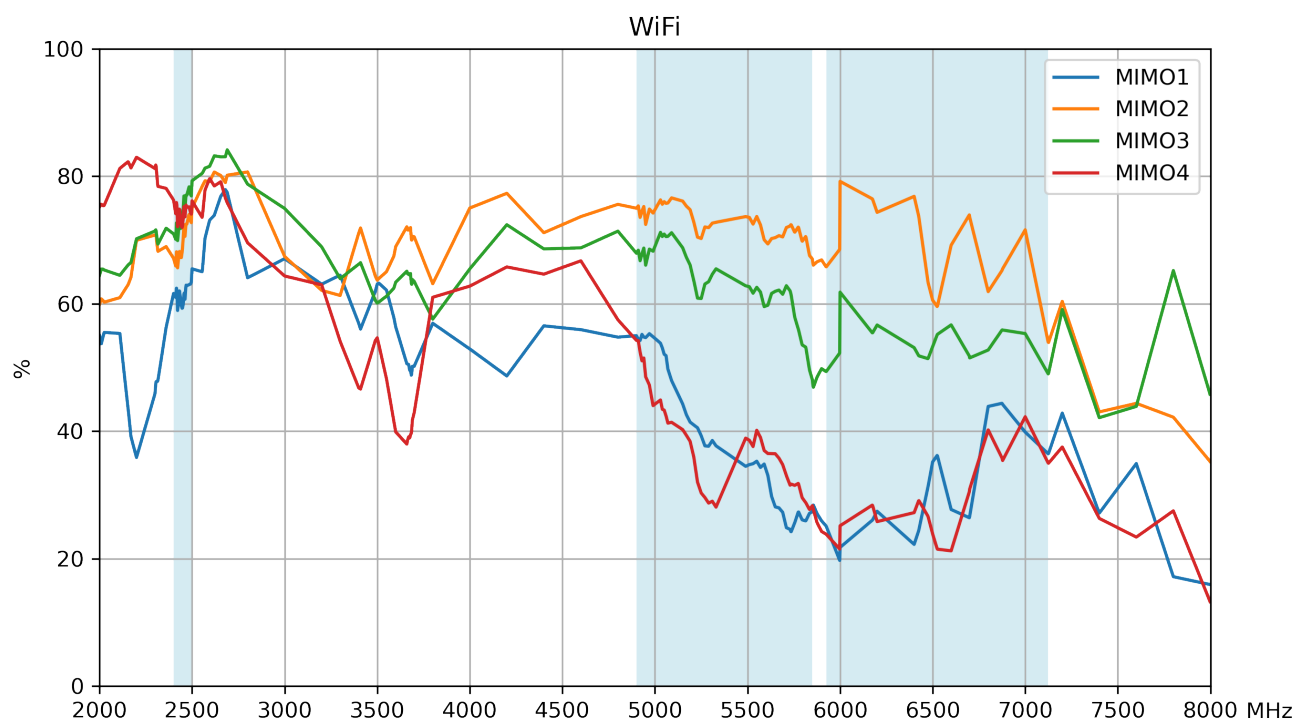
Mechanical	
Antenna Dimensions	146*134*20mm
Casing	ASA
Weight (including cable)	700g
Ingress Protection Rating	IP67
Connector	4* FAKRA Code I Beige
Cables	4* 3000mm TGC200
Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 90°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

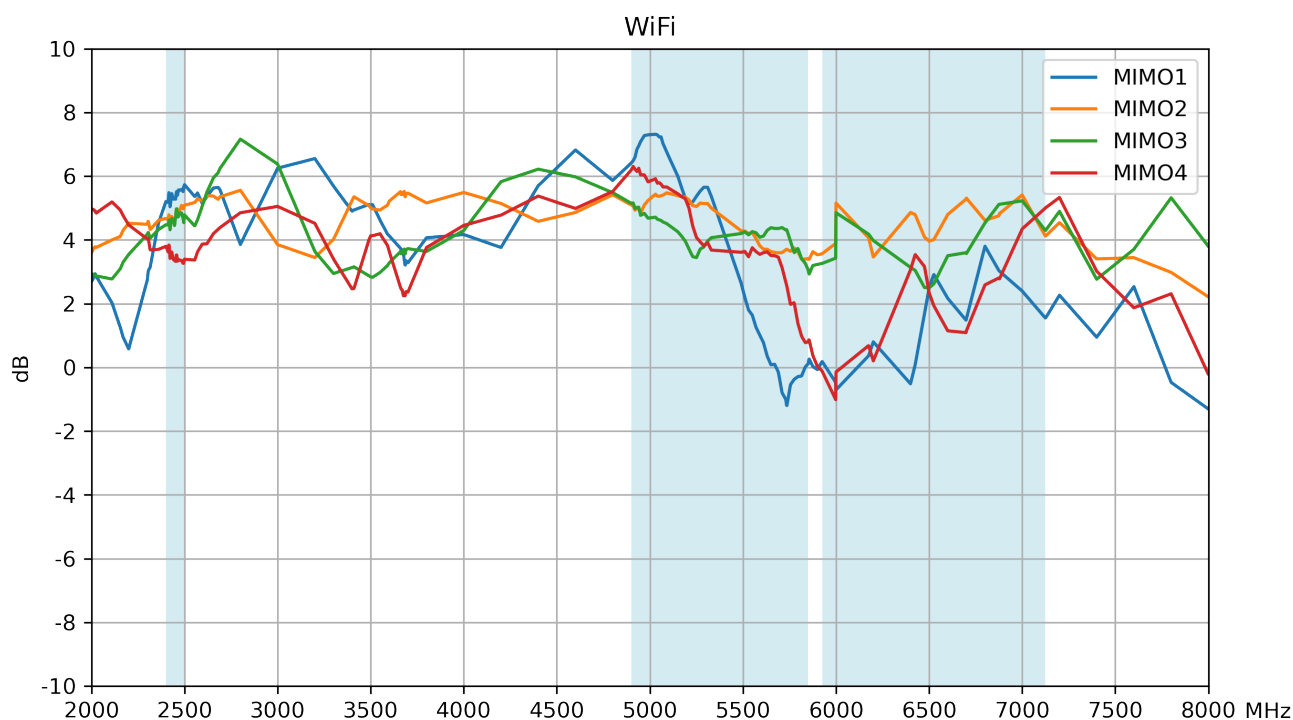
3.1 Return Loss



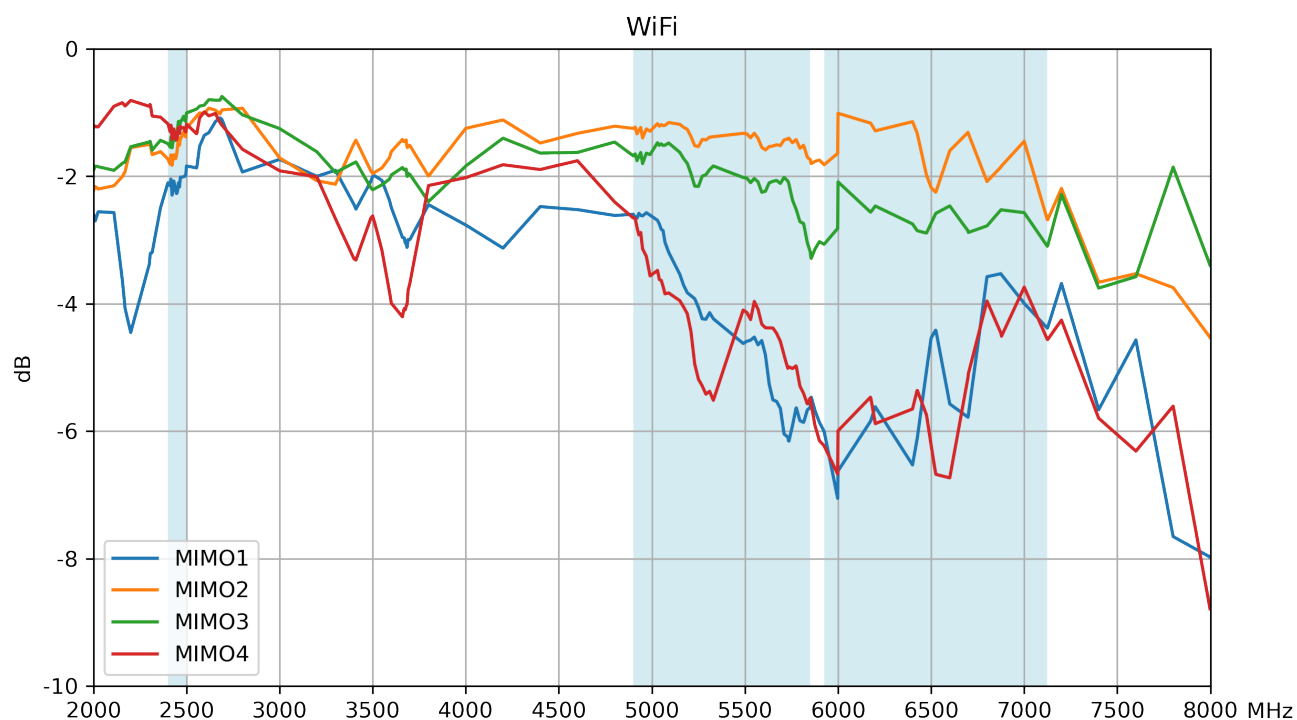
3.2 Efficiency



3.3 Peak Gain



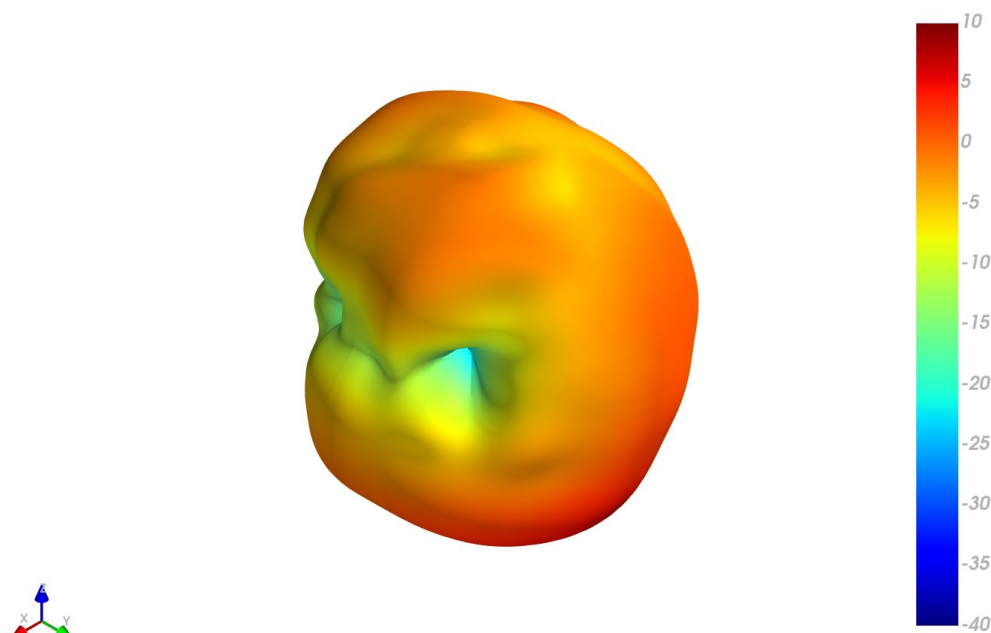
3.4 Average Gain



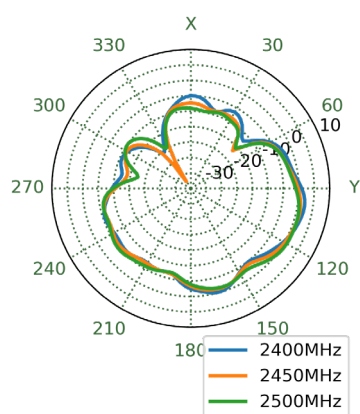
4. Radiation Patterns

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

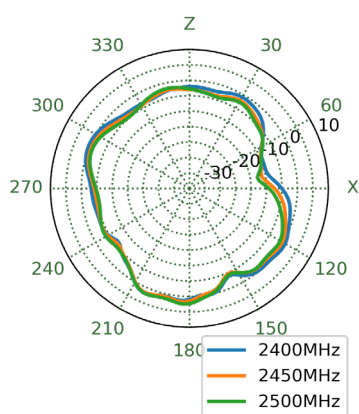
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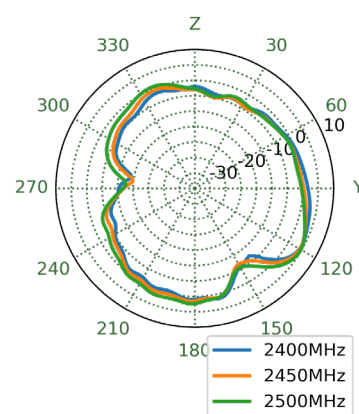
XY Plane



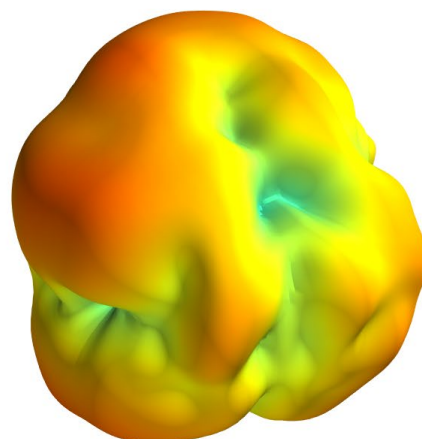
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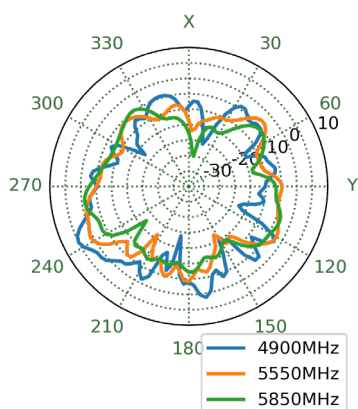
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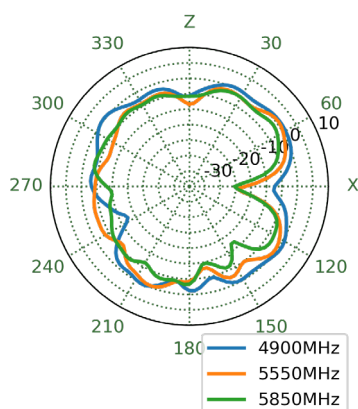
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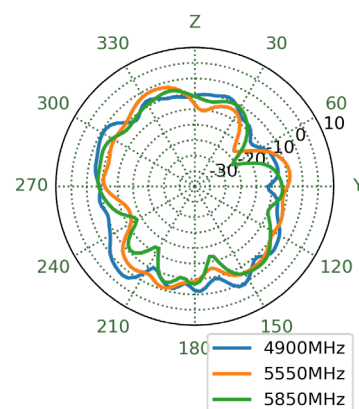
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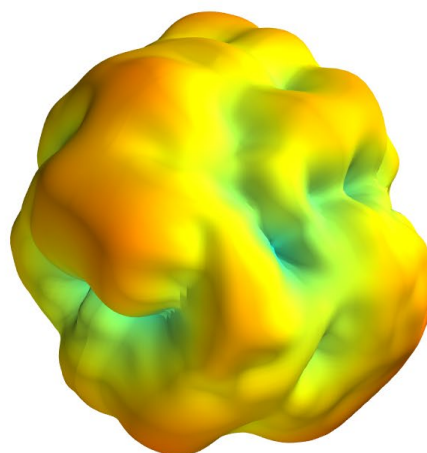
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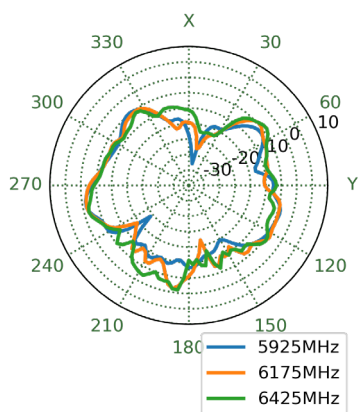
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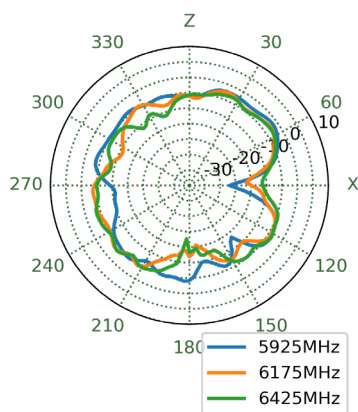
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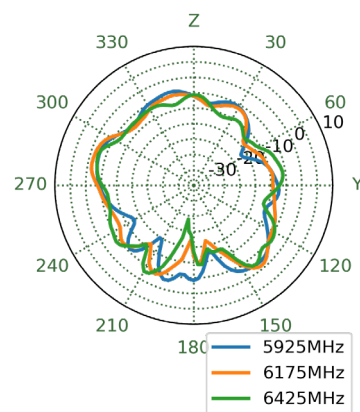
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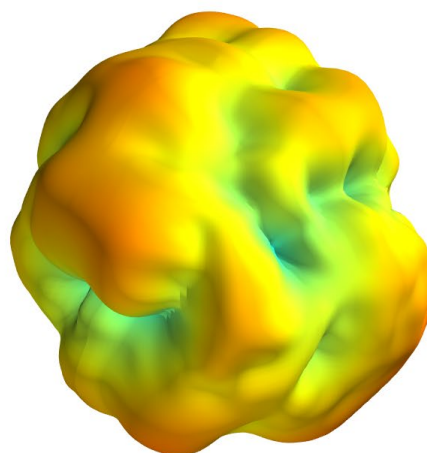
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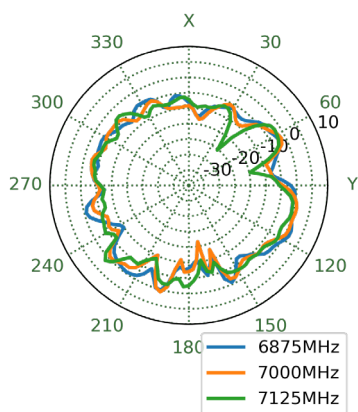
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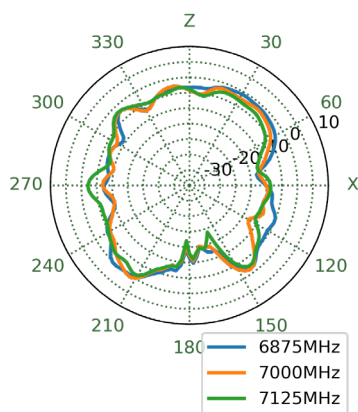
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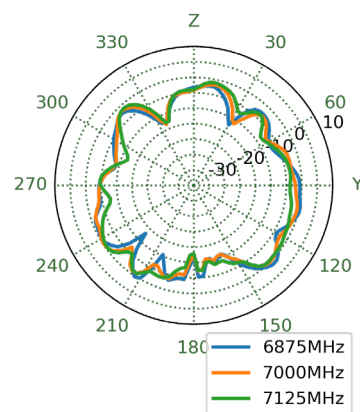
XY Plane



XZ Plane

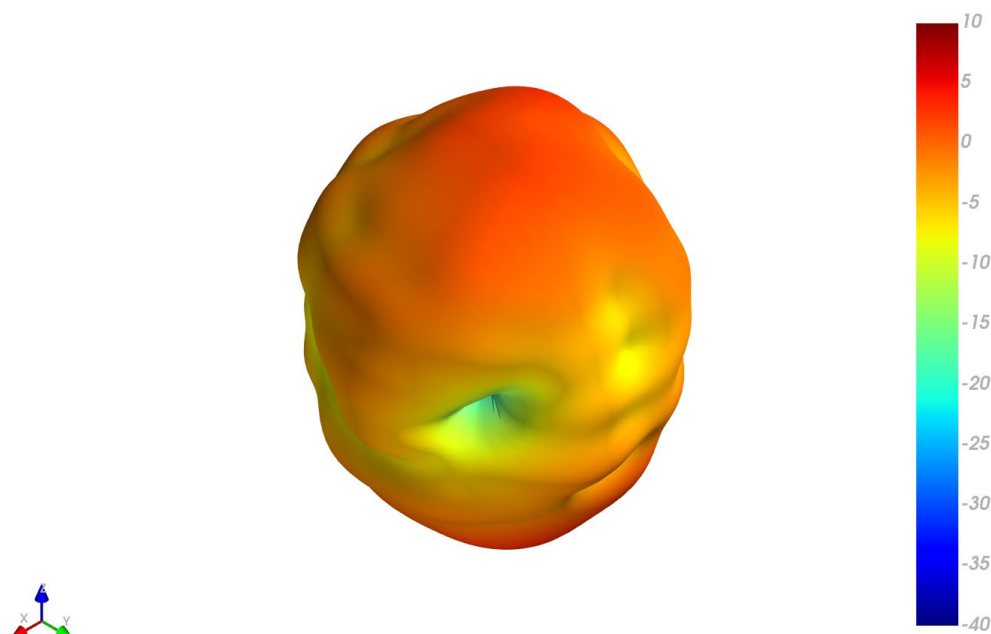


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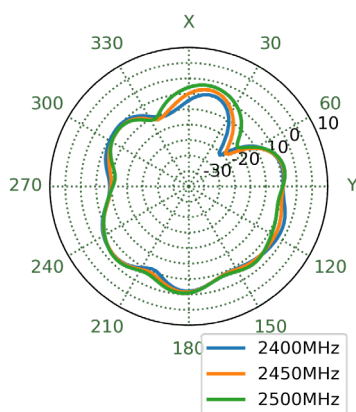


4.2 Wi-Fi MIMO 2 3D and 2D Radiation Patterns

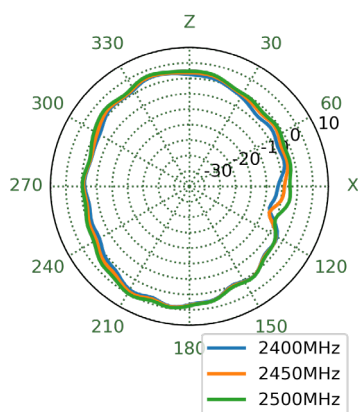
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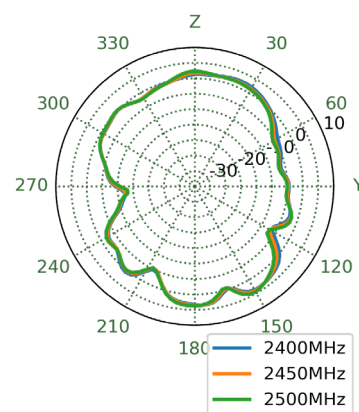
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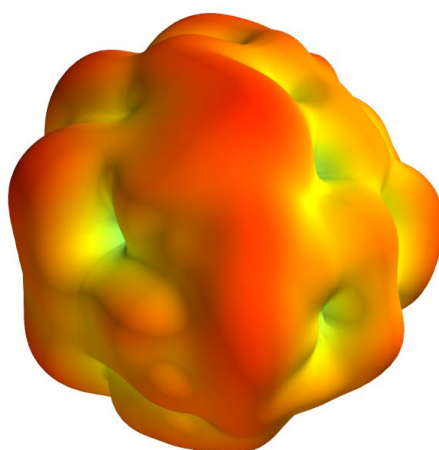
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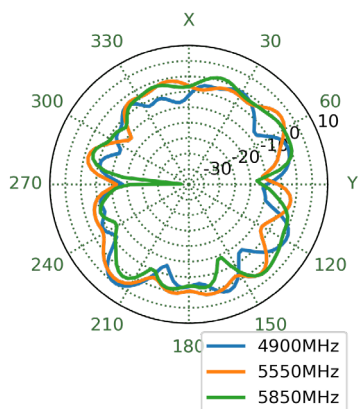
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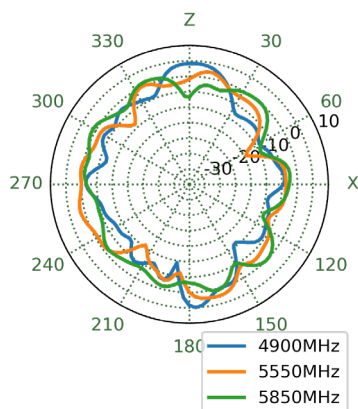
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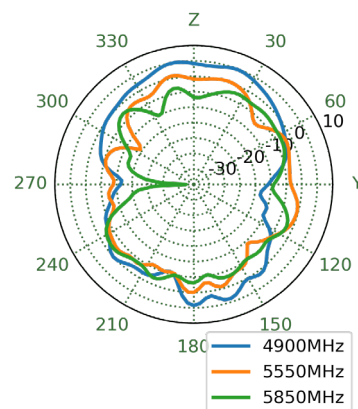
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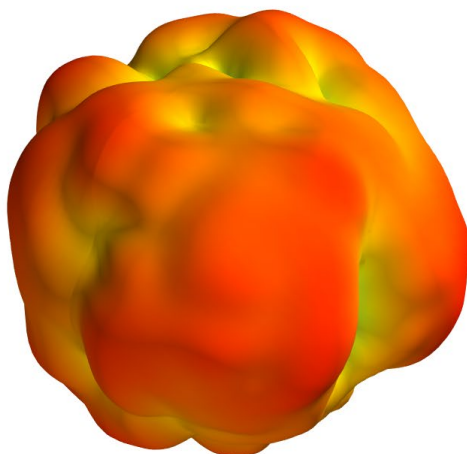
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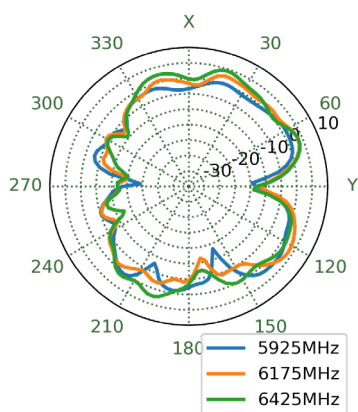
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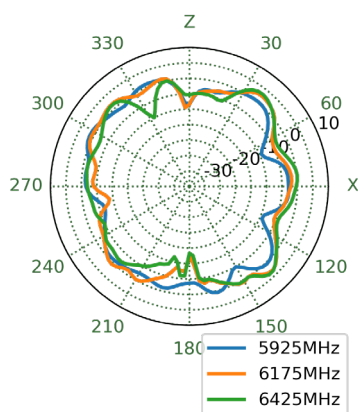
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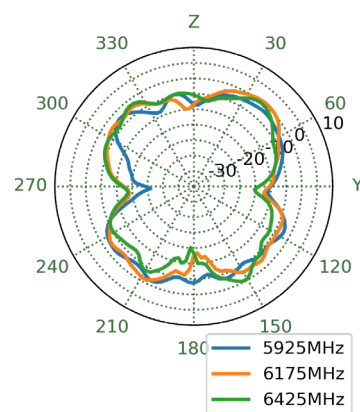
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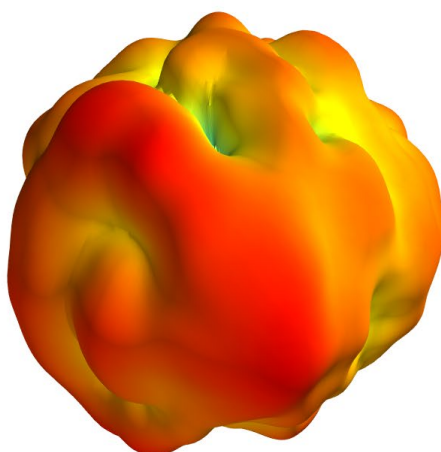
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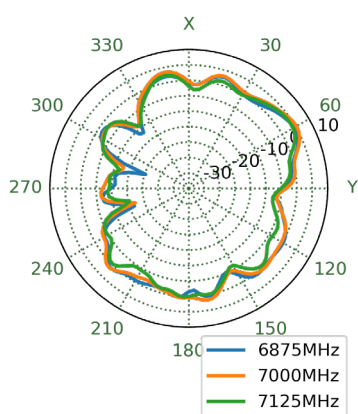
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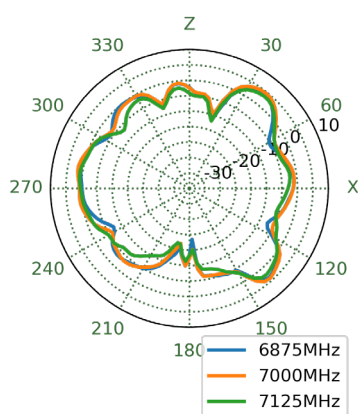
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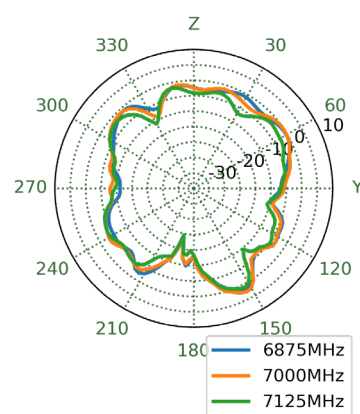
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XZ Plane

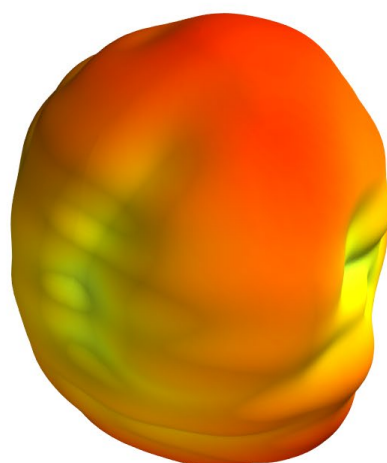


YZ Plane

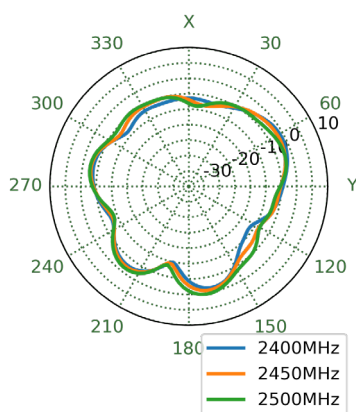


4.3 Wi-Fi MIMO 3 3D and 2D Radiation Patterns

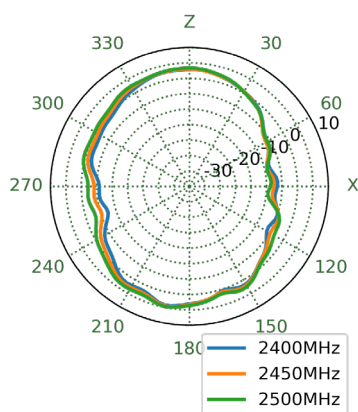
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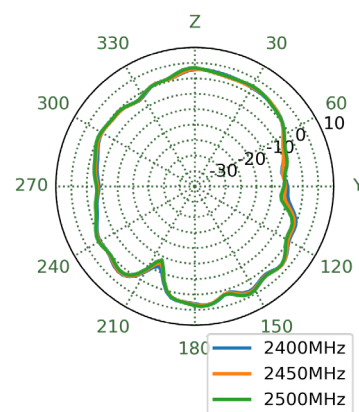
XY Plane



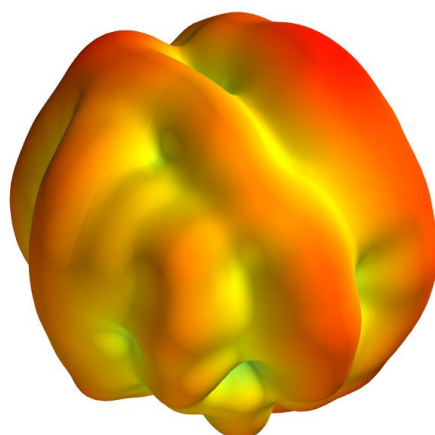
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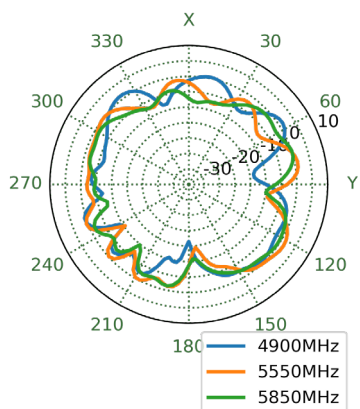
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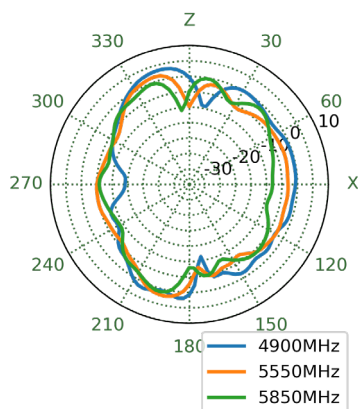
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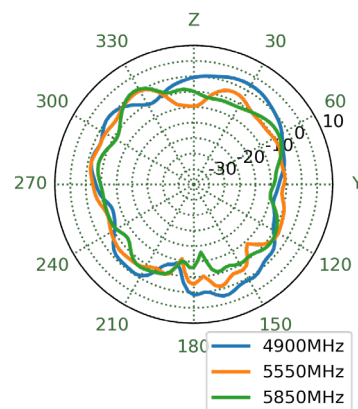
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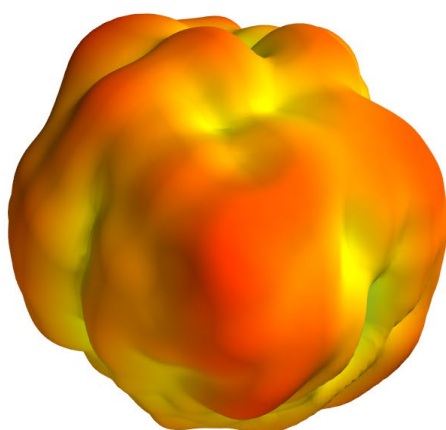
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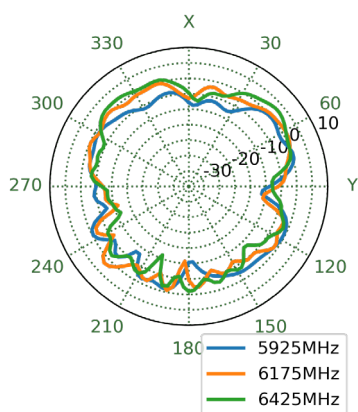
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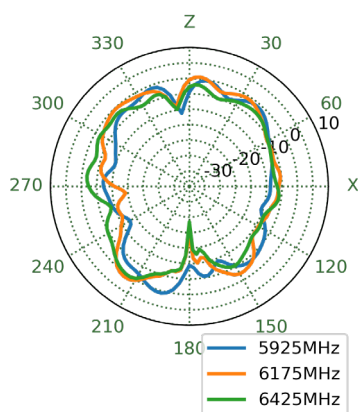
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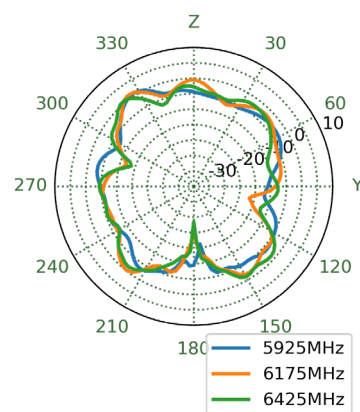
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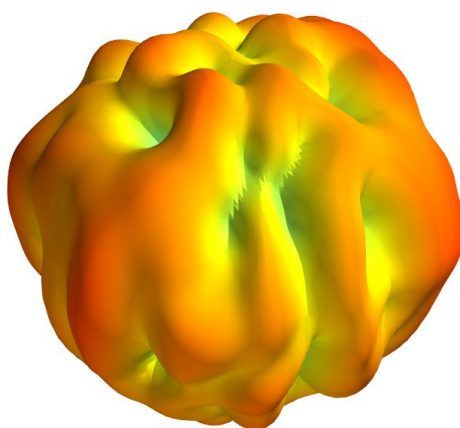
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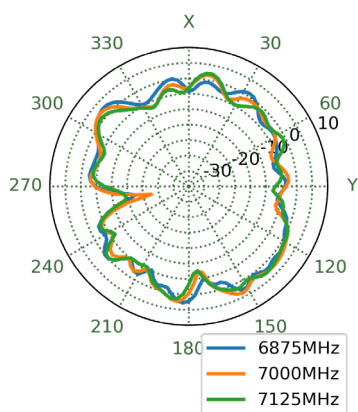
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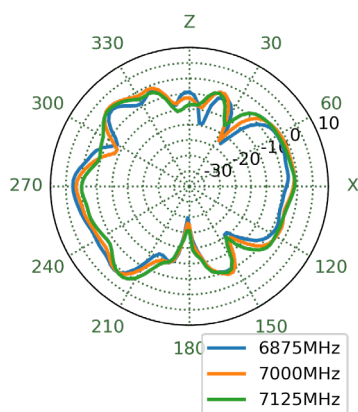
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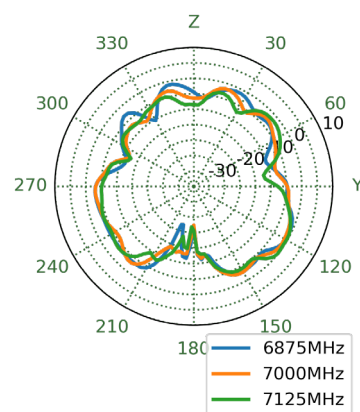
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XZ Plane

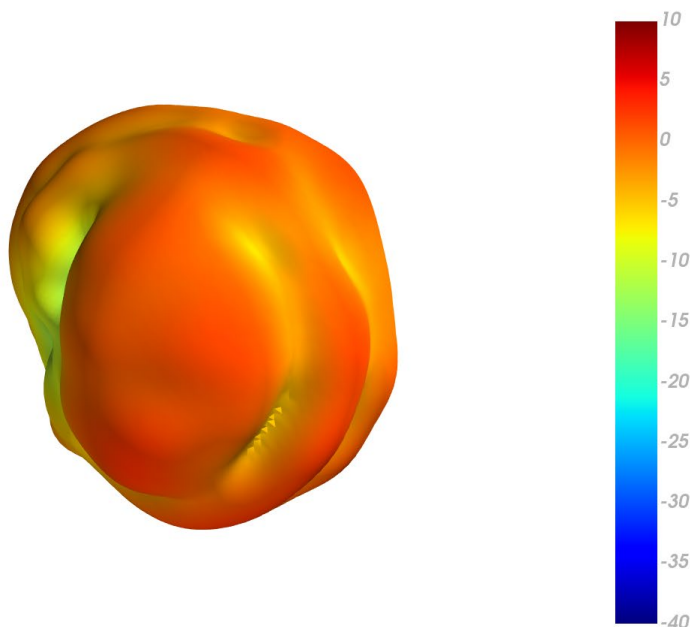


YZ Plane

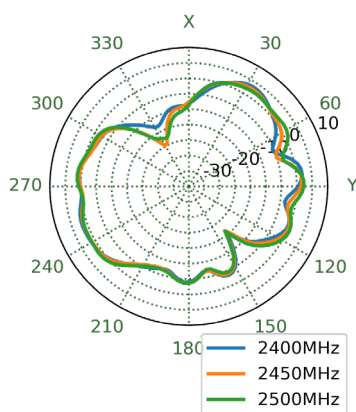


4.4 Wi-Fi MIMO 4 3D and 2D Radiation Patterns

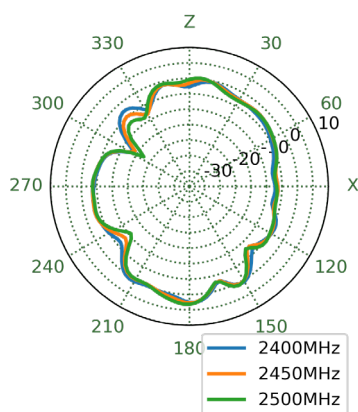
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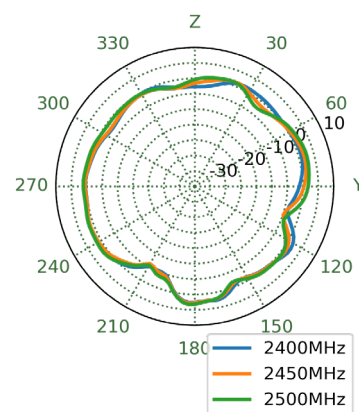
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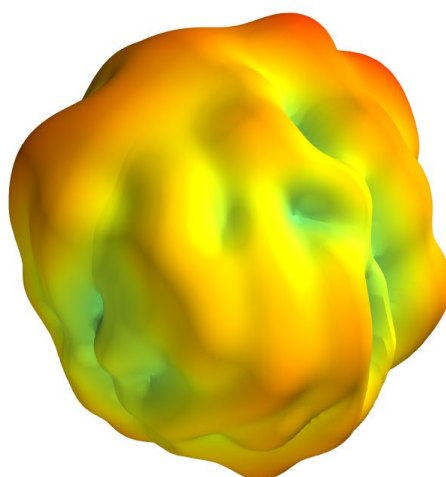
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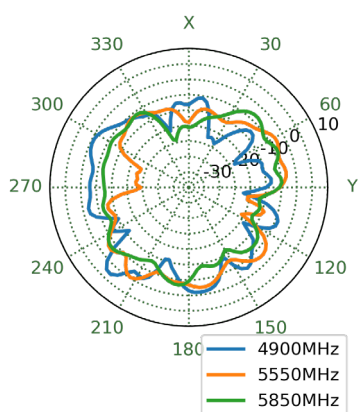
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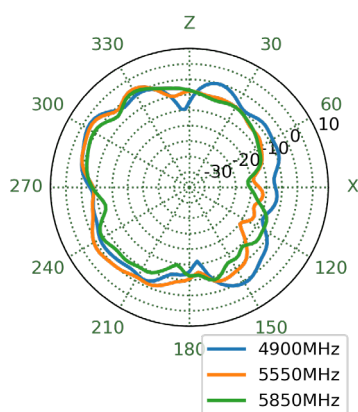
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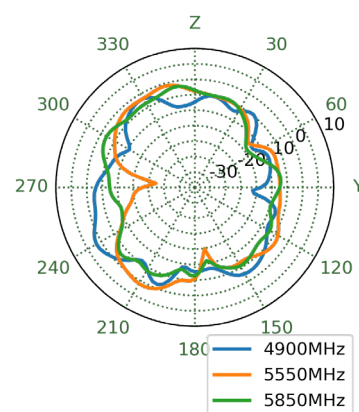
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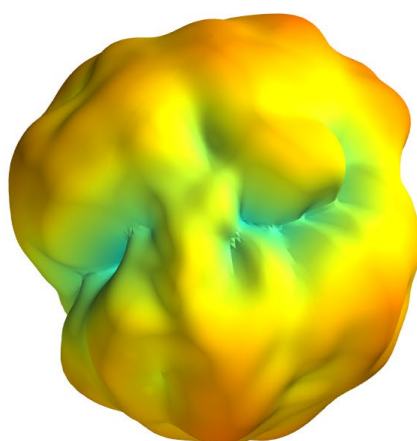
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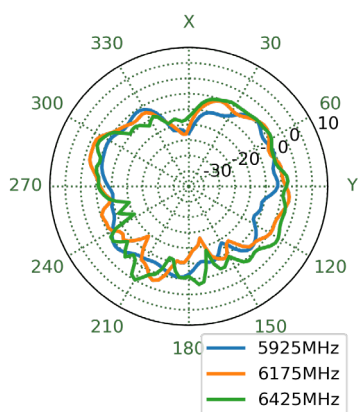
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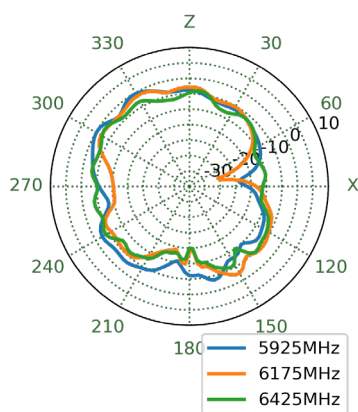
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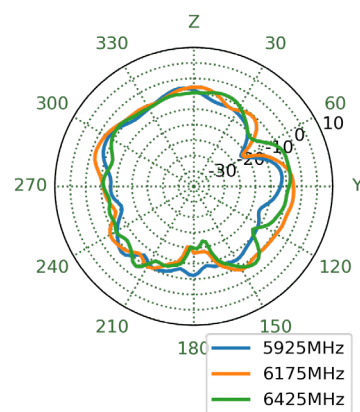
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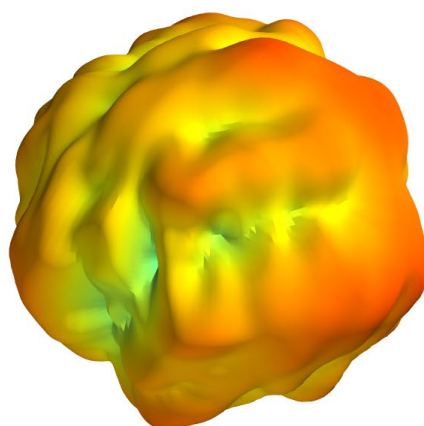
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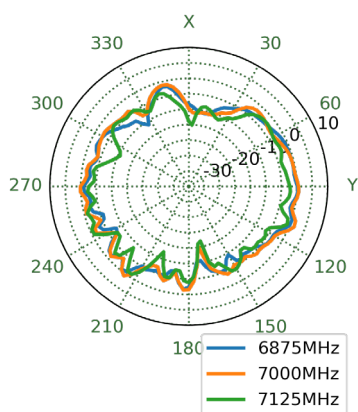
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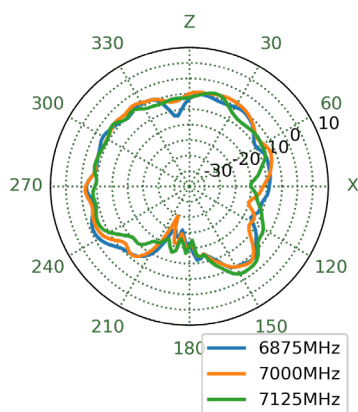
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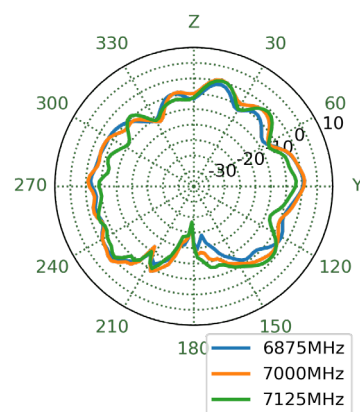
XY Plane



XZ Plane



YZ Plane



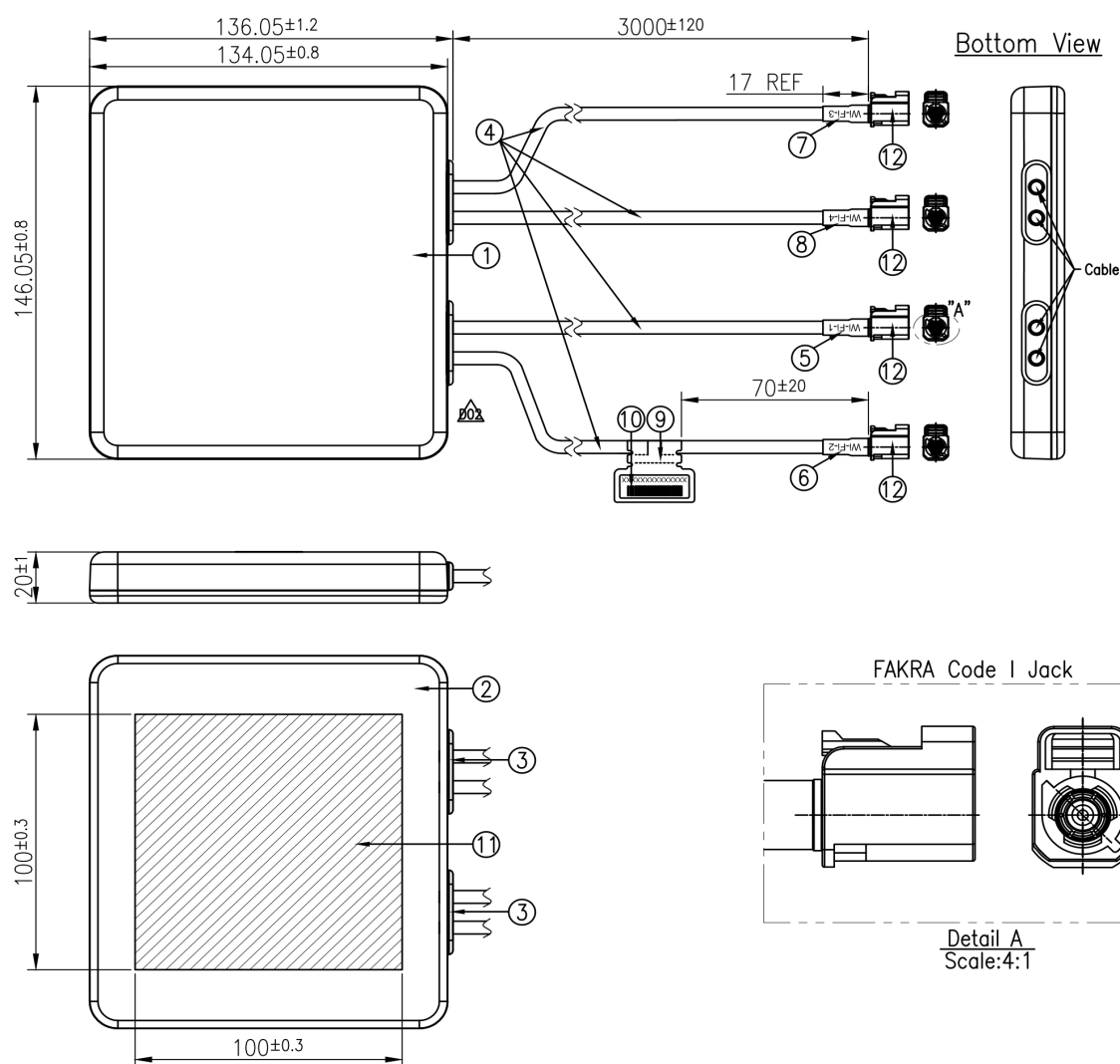
5. Mechanical Drawing (Units: mm)

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 : 

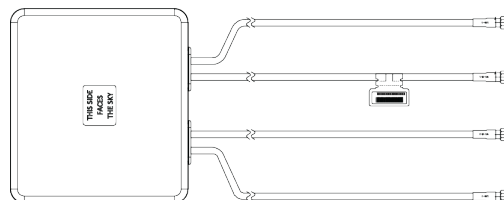
REV.	DESCRIPTION	ENG.	APPROVED	DATE
 D01	Initial Design	Ruby	Aaron	2021/04/20
 D02	Remove this side faces sky label	Ruby	Aaron	2021/08/18



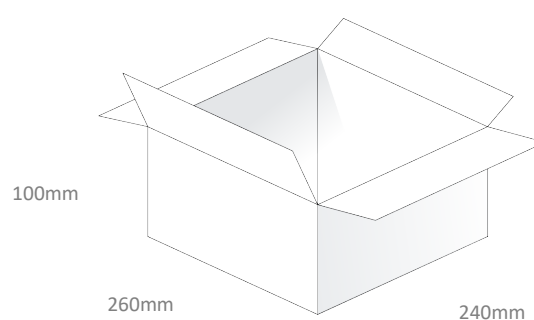
 D02	Name	Material	Finish	QTY
1	Top Housing	ASA	Black	1
2	Bottom Housing	ASA	Black	1
3	Rubber-2 Holes	Silicone Rubber	Black	2
4	TGC200 Coaxial Cable	PE	Black	4
5	Heat Shrink Tube (Wi-Fi-1)	PE	Yellow Tube/Black Text	1
6	Heat Shrink Tube (Wi-Fi-2)	PE	Yellow Tube/Black Text	1
7	Heat Shrink Tube (Wi-Fi-3)	PE	Yellow Tube/Black Text	1
8	Heat Shrink Tube (Wi-Fi-4)	PE	Yellow Tube/Black Text	1
9	Empty Label	PEPA	White	1
10	Barcode Label	PET	White	1
11	Double Sided Adhesive(Black Foam)	OR35-3048BK 35H	White Liner	1
12	FAKRA Code I SMB(F)	PA66	Beige	4

APPROVED BY: Aaron	 TW Design Centre 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.	TITLE : Guardian 4in1 Adhesive Mount Antenna - 4* Wideband Wi-Fi 600-6000MHz with 3m TGC-200 & FAKRA I Pre-adhered		
CHECK BY: Aaron		PART NO. : MA964.A.CGHEM.003.je		
DRAWN BY: Ruby		UNIT: mm	SCALE: 1:2.5	PAGES: 1/1
DATE: 2021/04/20	UNLESS OTHERWISE SPECIFIED TOLERANCES ON: XX±0.5 X±0.3 X±0.2 XX±0.1 XXX±0.05	THIRD ANGLE PROJECTION 	REV. D02	

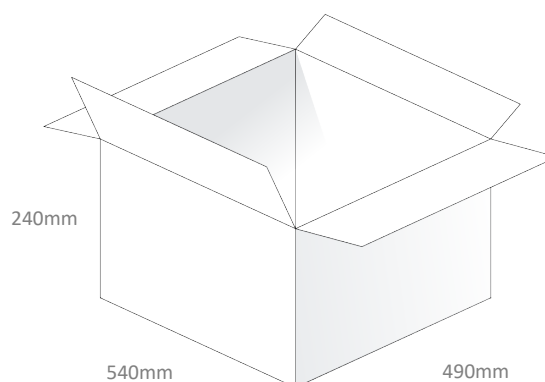
6. Packaging



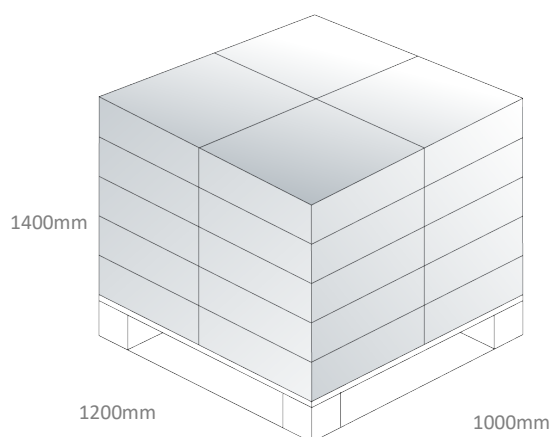
1 MA964.A.CGMN.003.je per small box
Box Dimensions - 260*240*100mm
Weight - 750g



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



www.taoglas.com

