chanhvinh.com

TAOGLAS®



Datasheet

Part No:
FXM100.07.0060C

Description

"AntJack" Wi-Fi® 2.4/5.8/7.125 GHz Antenna on a Carrier for RJ45 Mounting

Features:

Patent Pending Design
Wi-Fi® Flex PCB Antenna on Plastic Carrier
Covering: 2.4GHz/5.8/7.125GHz
Dimensions: 26.65 x 15.65 x 13.1mm
Cables: 60mm of Ø1.37mm Coaxial
Connectors: I-PEX MHF® I (U.FL Compatible)
RoHS & Reach Compliant

chanhvinh.com

1.	Introduction	3
2.	Specification	4
3.	Mechanical Drawing	5
4.	Packaging	6
5.	Installation Guidelines	7
6.	Antenna Characteristics	8
7.	Radiation Patterns	11
	Changelog	15

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.

chanhvinh.com

1. Introduction



Innovative, space-saving Wi-Fi® antenna for mounting on an RJ45 Jack

The Taoglas FXM100 “AntJack” is a patent-pending, flexible PCB Wi-Fi® antenna, supplied pre-attached to a lightweight, plastic carrier that allows the antenna to be mounted on an RJ45 Jack. By placing the Wi-Fi® antenna on an RJ45 jack inside your device, the FXM100 “AntJack” allows you to save on valuable board space without compromising on the antenna’s performance. Despite its size, the FXM100 is a high-efficiency, small, omnidirectional, dipole antenna and covers 2.4GHz, 5.8GHz and 7.1GHz bands including Bluetooth®, Wi-Fi® and the newly established Wi-Fi® 6 / 6E and Wi-Fi® 7, making this an ideal solution for futureproofing an IoT device.

This Taoglas patent-pending antenna, a market first, is manufactured from flexible PCB material, has a small form factor, overall, just 26.6 x 15.6 x 13.1mm, and has adhesive conductive foam for easy “peel and stick” mounting on the RJ45.

Typical applications:

- Modems and Routers
- Industrial Gateways
- Factory Automation
- Industrial Process Control
- Industrial Robotics (fabrication and assembly)
- Test and Measurement Systems





*RJ45 Not Included

Supplied with 60mm of 1.37 micro coax cable and an I-PEX MHFI connector as standard, both can be fully customised to suit your application requirements or device. Following extensive testing, and for optimized integration, it is recommended that the product is used with the cable mounted in a straight position. Bending or routing the cable inside a device may impact the performance. The technology and carrier used in the FXM.100 can be adapted for any frequency or size/configuration of RJ45 Jack, for example 2x2, 4x2 etc. All cables and connectors can be fully customised to suit your requirements. For more information on the FXM100, to request samples, or to discuss your project, contact your local Taoglas customer services team.

chanhvinh.com

2. Specification

Wi-Fi Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi - 2GHz	2400-2500	51.9	-2.8	2.1	50 Ω	Linear	Omni	2W
Wi-Fi - 5GHz	5150-5850	45.6	-3.4	4.5				
Wi-Fi - 6GHz	5925-7125	48.3	-3.1	5.0				
***Testing performed with cable in a straight position with the FXM100 mounted on top of an RJ45 soldered onto a PCB ground plane**								

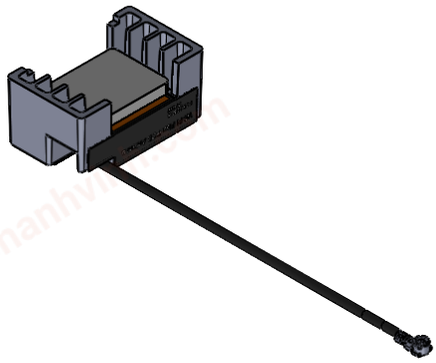
Mechanical	
Dimensions	26.65 x 15.65 x 13.1mm
Weight	2g
Material	Flexible Polymer
Connector	IPEX MHF1 (U.FL Comp)
Cable	60mm 1.37 Coaxial

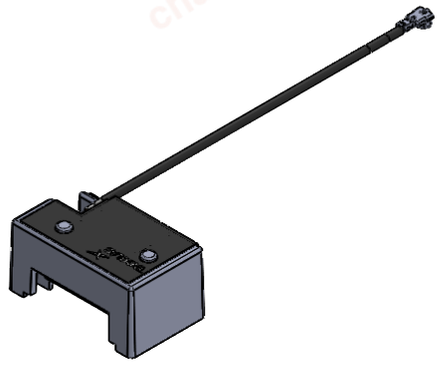
Environmental	
Temperature Range	-40°C to 85°C
Relative Humidity	65°C, 95%RH for 96 hours
RoHs & REACH Compliant	Yes

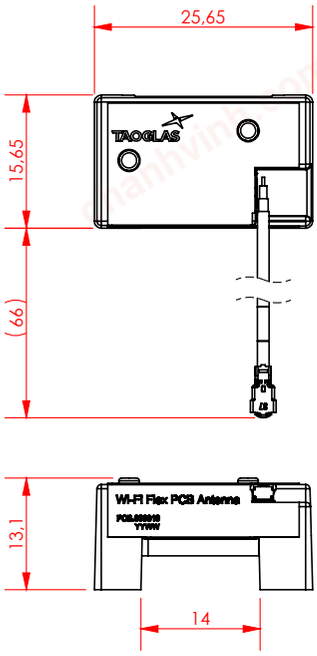


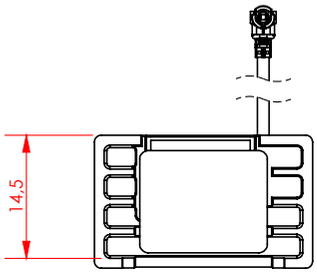
chanhvinh.com

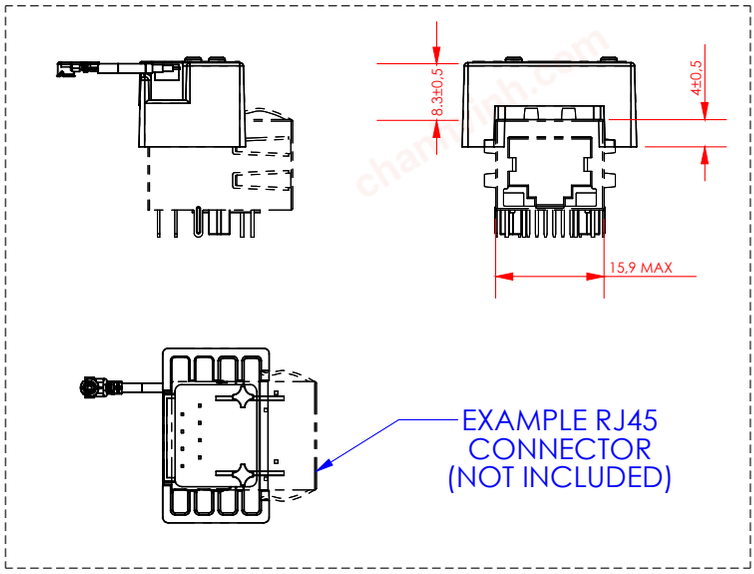
3. Mechanical Drawing











PRODUCT INTERFACE VIEW

chanhvinh.com

4. Packaging

1pc FXM100.07.0060C per Ziploc bag
Bag dimensions – 50x70mm
Weight - 2g



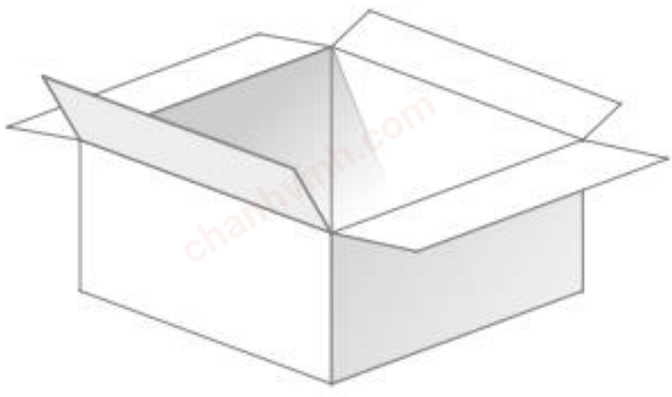
30pcs FXM100.07.0060C per Tray
Tray dimensions 365x300x25mm
Weight - 65g



120pcs FXM100.07.0060C per vacuum bag
2pcs 3g Desiccant
Dimensions 420x560mm
Weight – 0.8Kg



360pcs FXM100.07.0060C per carton
Dimensions 390x320x290mm
Weight – 3.3Kg

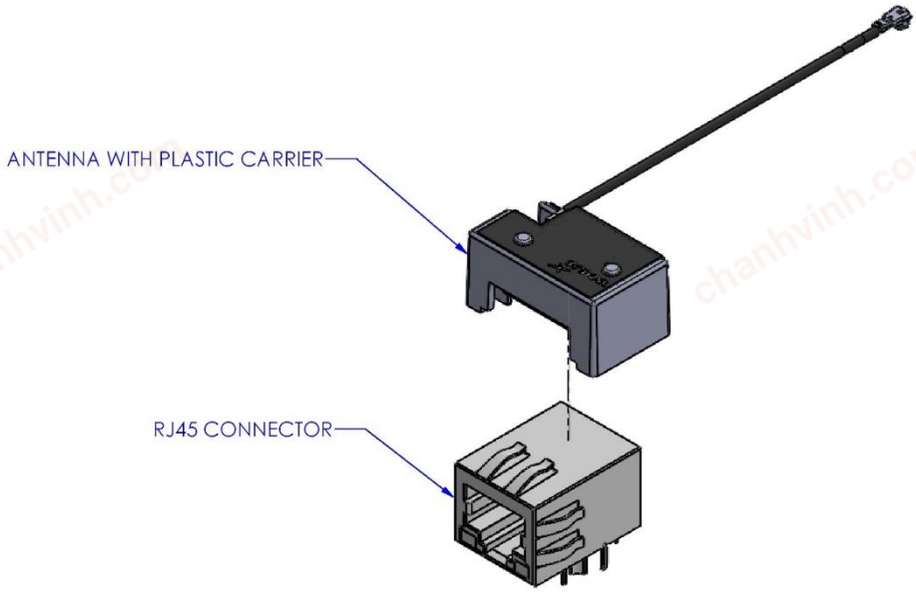


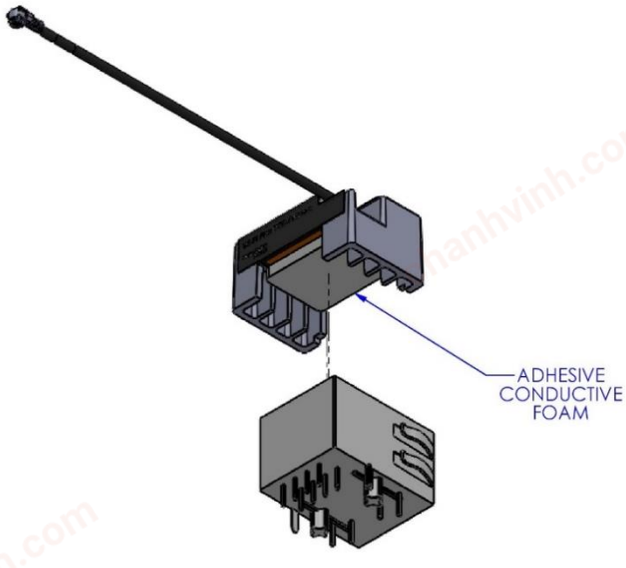
chanhvinh.com

5. Installation Guidelines

The Taoglas FXM100 is compatible with the following Taoglas RJ45 connectors:

Taoglas RJ45 connectors Part Number				
TMJ0011ABNL	TMJ167819BENL	TMJG0820GENL	TMJG4813-8KGDNL4	TMJG4944GENL
TMJ0011BBNL	TMJ19911ADNL	TMJG16391A4NL	TMJG4820G4NL	TMJM4938HENL
TMJ0026ABNL	TMJ4011ABNL	TMJG16459-8ADNL	TMJG4820GENL	TMJUTGW0021102440
TMJ0162GDNL	TMJ4011BBNL	TMJG16459BDNL	TMJG4887GENL	TMJUTGW0121102420
TMJ0277AHNL	TMJ4049HDNL	TMJG16470ADNL	TMJG4926HENL	TMJUTHW0021102420
TMJ1011BBNL	TMJG0801GENL	TMJG16540A4NL	TMJG4933-8GENL	TMJUTVW0021192448
TMJ16611AENL	TMJG0803HENL	TMJG16565-8ADNL	TMJG4933GENL	TMJG4933HENL
TMJ166323B10NL	TMJG0813GENL	TMJG37867A5NL		

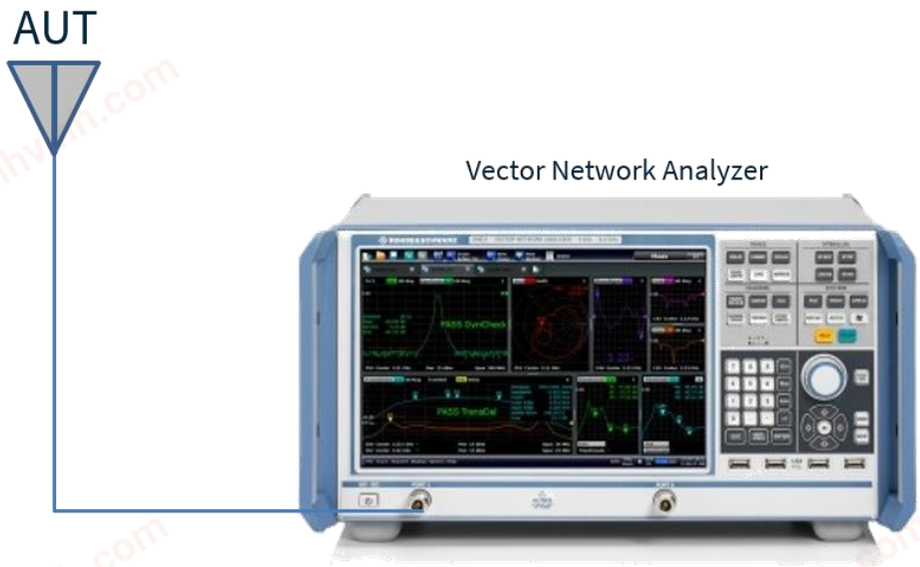




chanhvinh.com

6. Antenna Characteristics

6.1 Test Setup

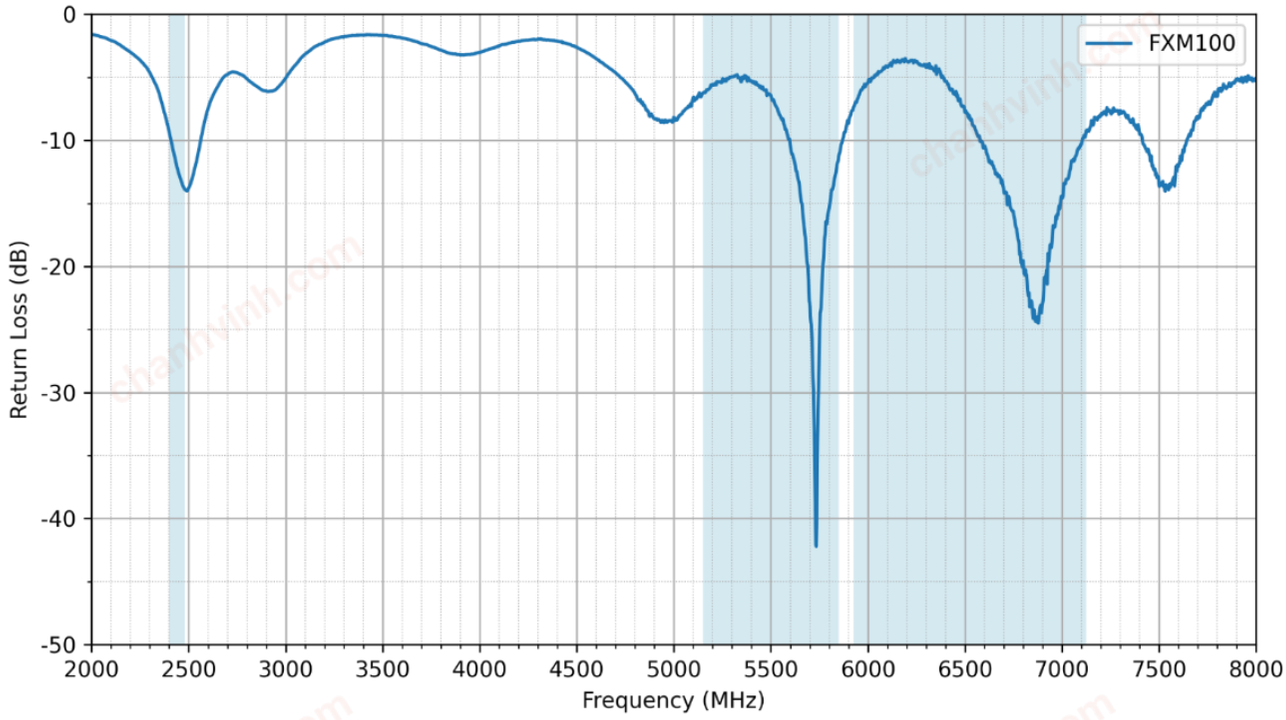




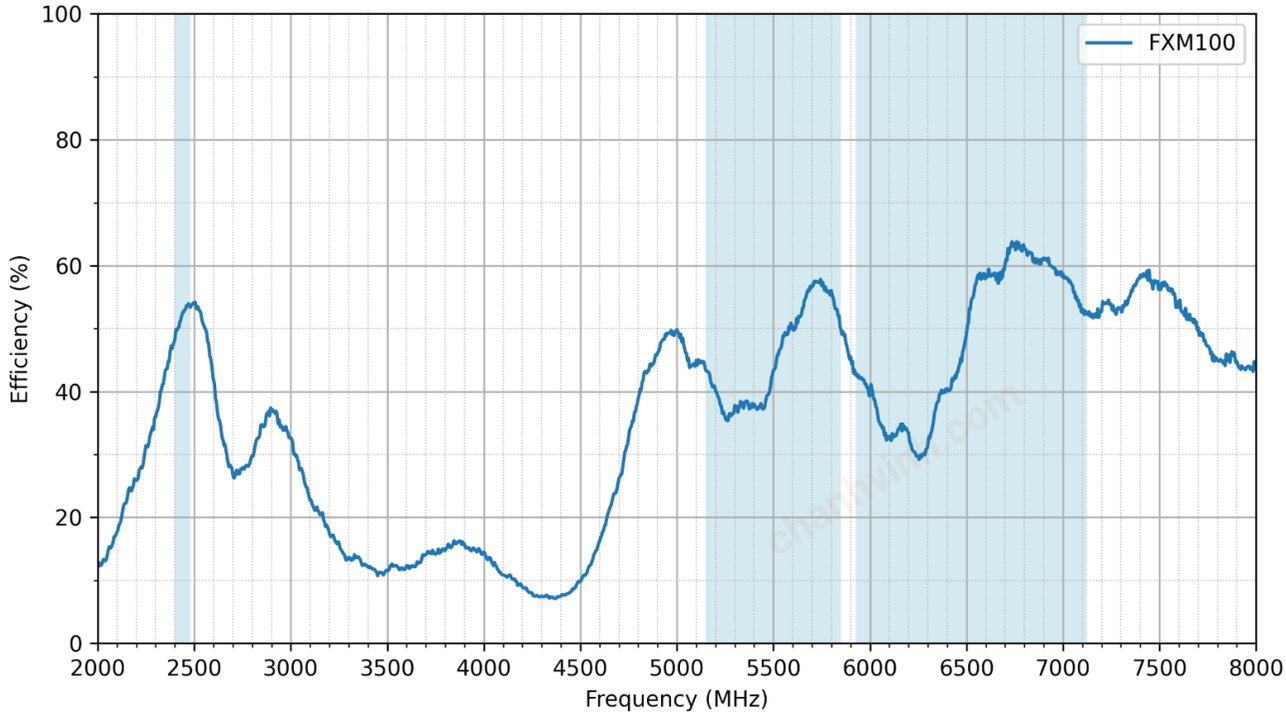
For VNA testing, the FXM100 was mounted on top of an RJ45 soldered onto a PCB ground plane

chanhvinh.com

6.2 Return Loss

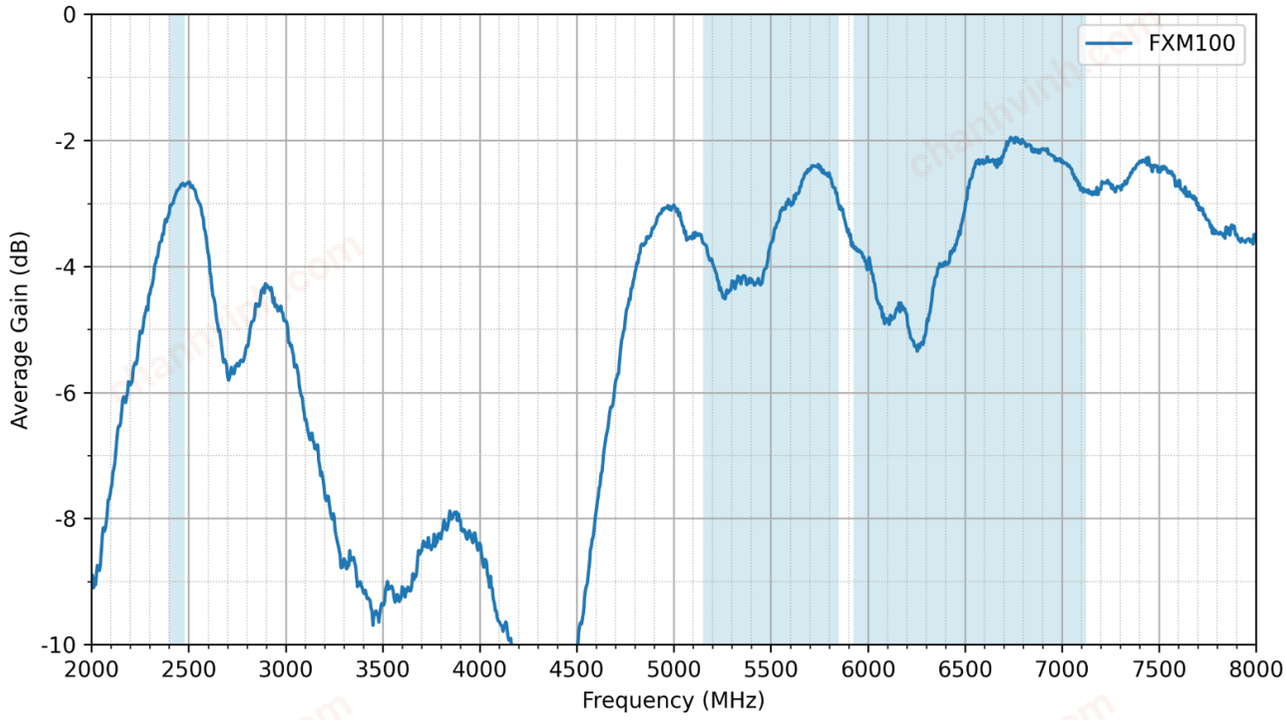


6.3 Efficiency

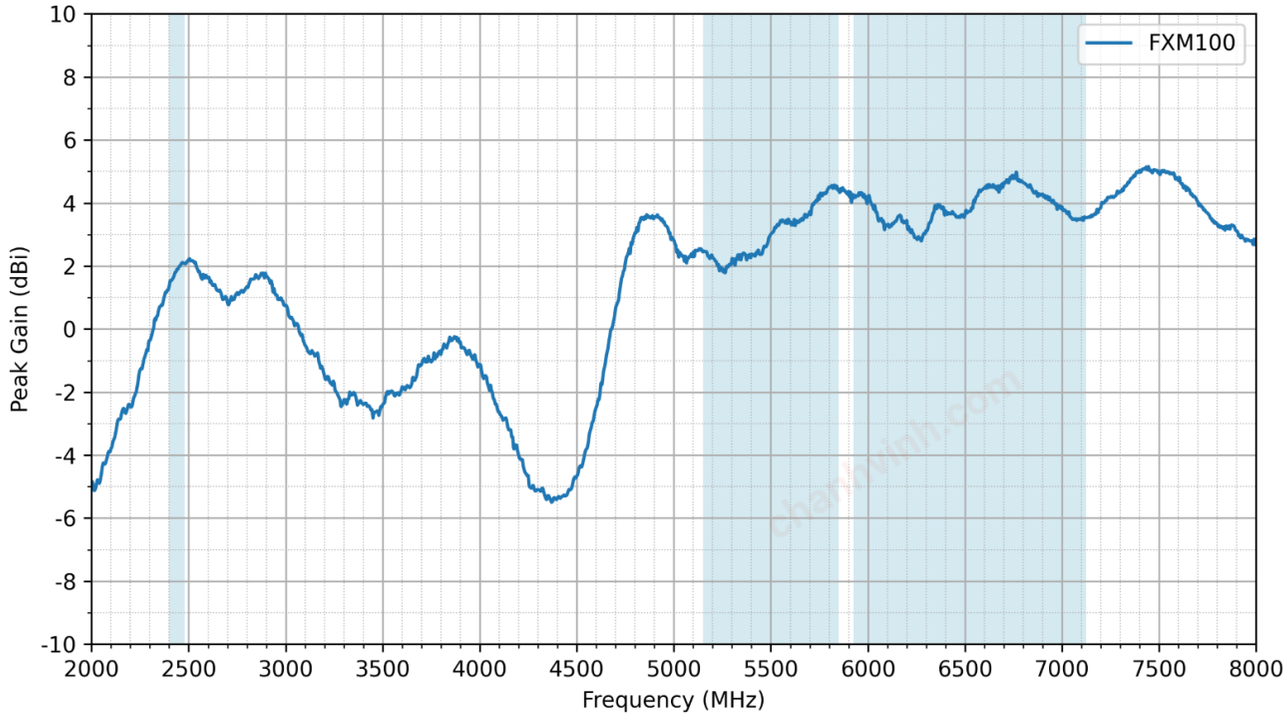


chanhvinh.com

6.4 Average Gain



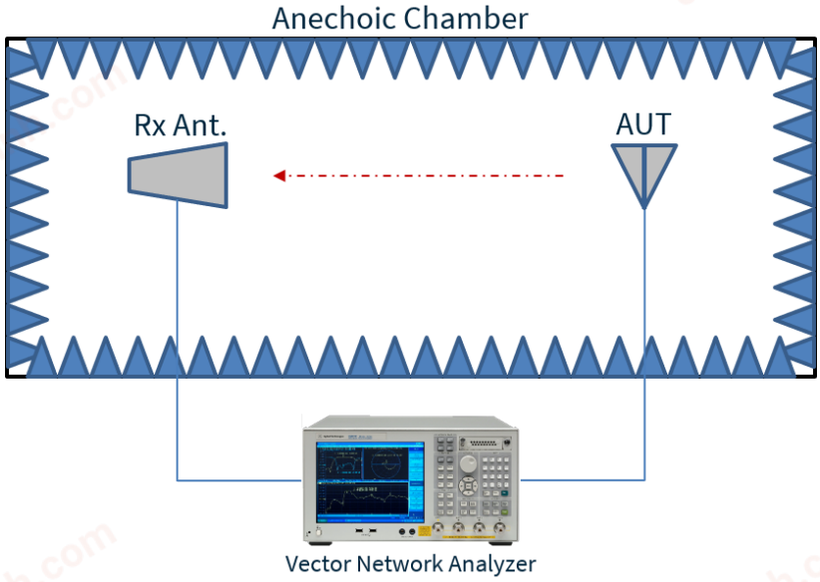
6.5 Peak Gain

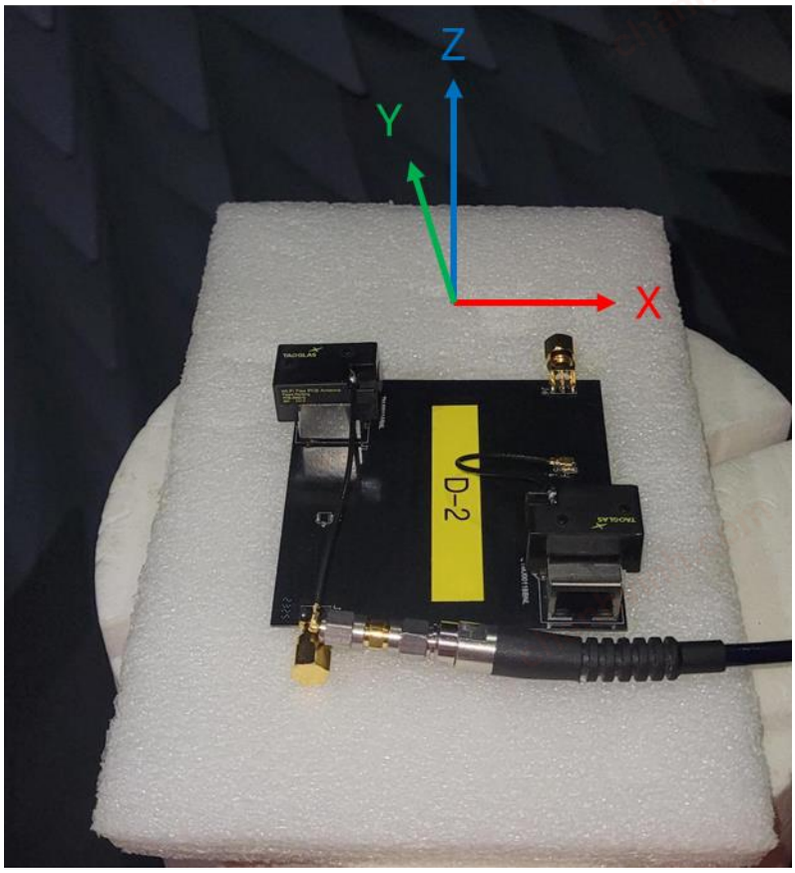


chanhvinh.com

7. Radiation Patterns

7.1 Test Setup

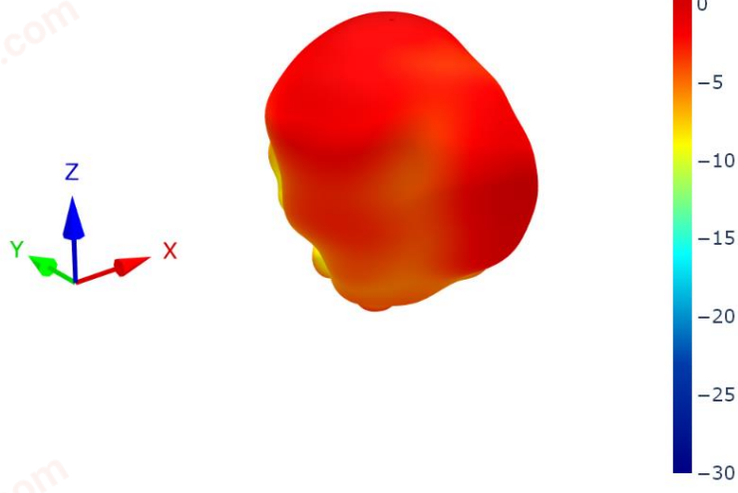


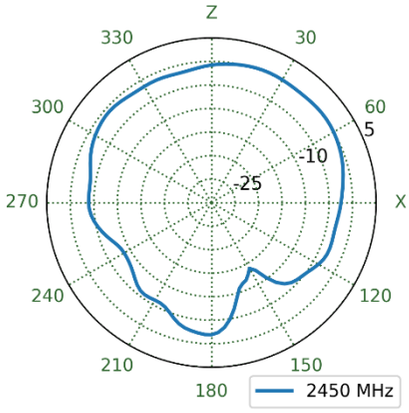
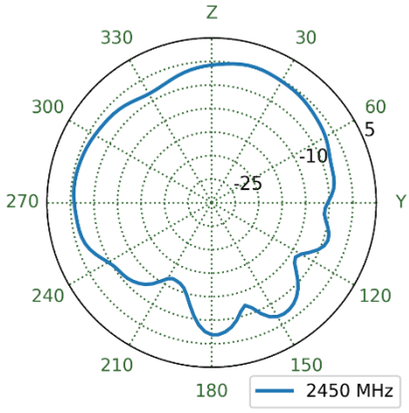
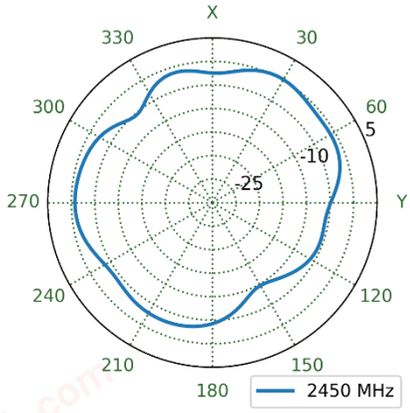


FXM100.07.0060C Chamber Test Set-up

chanhvinh.com

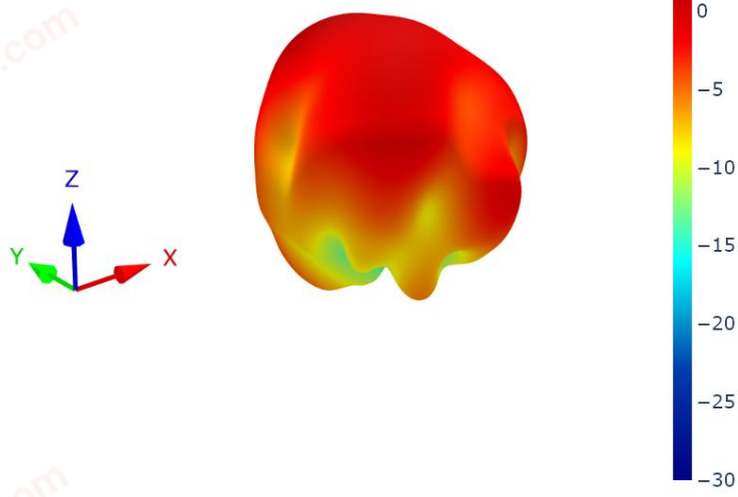
7.2 Patterns at 2450 MHz

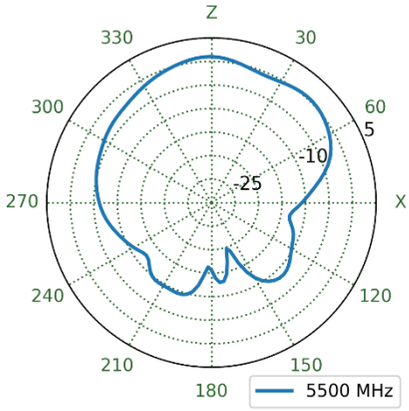
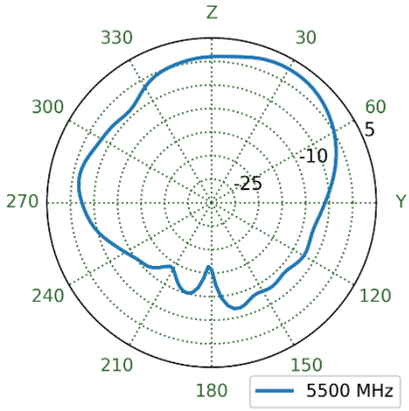
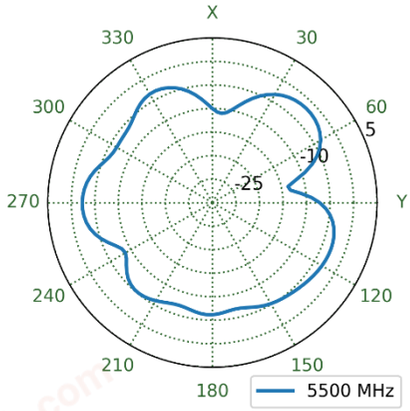


XZ Plane	YZ Plane	XY Plane
		

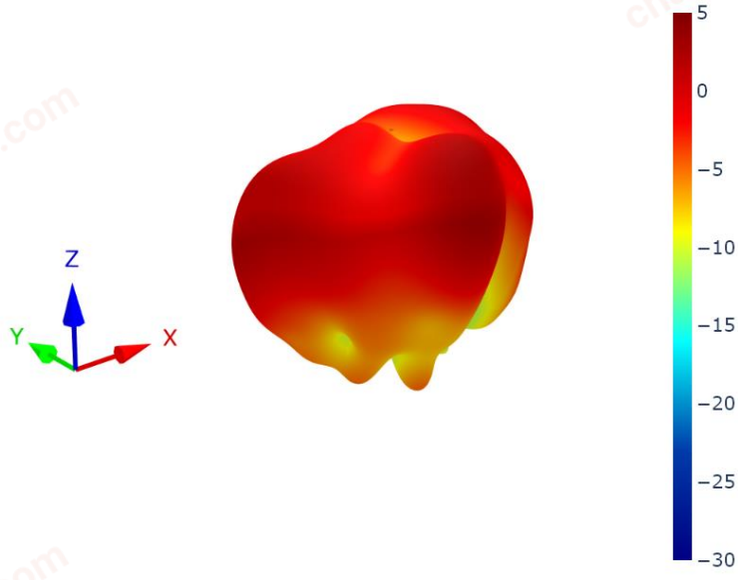
chanhvinh.com

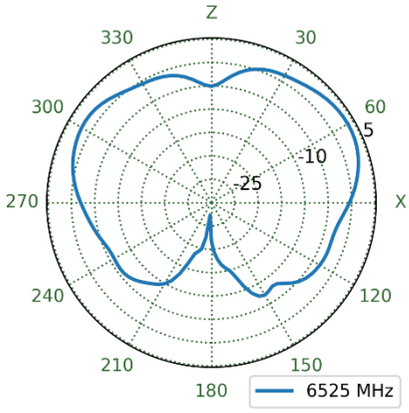
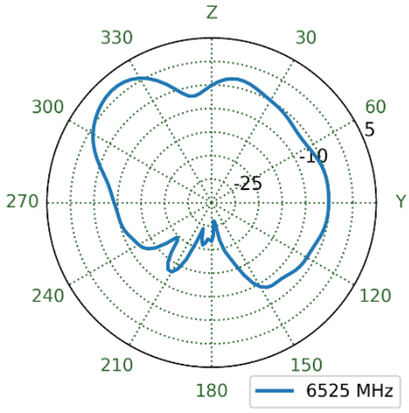
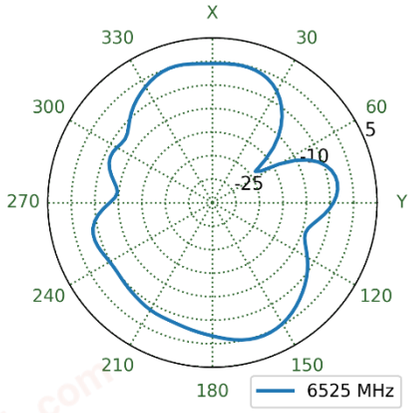
7.3 Patterns at 5550 MHz



XZ Plane	YZ Plane	XY Plane
		

7.4 Patterns at 6525 MHz



XZ Plane	YZ Plane	XY Plane
		

chanhvinh.com

Changelog for the datasheet

SPE-24-8-081 - FXM100.07.0060C

Revision: C (Current Version)	
Date:	2025-03-21
Notes:	Added “AntJack” naming to introduction and description.
Author:	Conor McGrath

Previous Revisions

Revision: B	
Date:	2024-09-13
Notes:	Photo, Drawing and Intro Update
Author:	David Connolly

Revision: A (Original First Release)	
Date:	2024-04-25
Notes:	Initial Release
Author:	Gary West

chanhvinh.com



www.taoglas.com