



TAOGLAS®



Datasheet

[Model Name]

Part No:
TFX257.A

Description

Wi-Fi Transparent Antenna

Features:

Wi-Fi (including Wi-Fi 6) 2.4-2.5, 4.9-5.8, 5.9-7.125GHz
Transparent – Ultra Low Profile
Dimensions: 32mm * 114mm
Connector: FAKRA Code I (M) Beige
RoHS & Reach Compliant

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1. Introduction



The TFX257 is a first of its kind, transparent antenna designed to cover the entire spectrum of Wi-Fi bands. The TFX257 has been expertly engineered by Taoglas with innovation in mind. The transparent flexible antennas are an alternative to standard Flexible PCB antennas where the user may want to install an antenna in a covert area or on a surface they may want to keep semi visible.

Typical Applications Include:

- Automotive and Commercial Transportation
- EV Charging and Parking Bays
- Digital Signage and Display screens
- Point Of Sale Kiosks

The TFX257 is connected via a FAKRA Code I male connector for ease of installation. If a custom connector is required please contact your regional Taoglas customer support team.

2. Specification

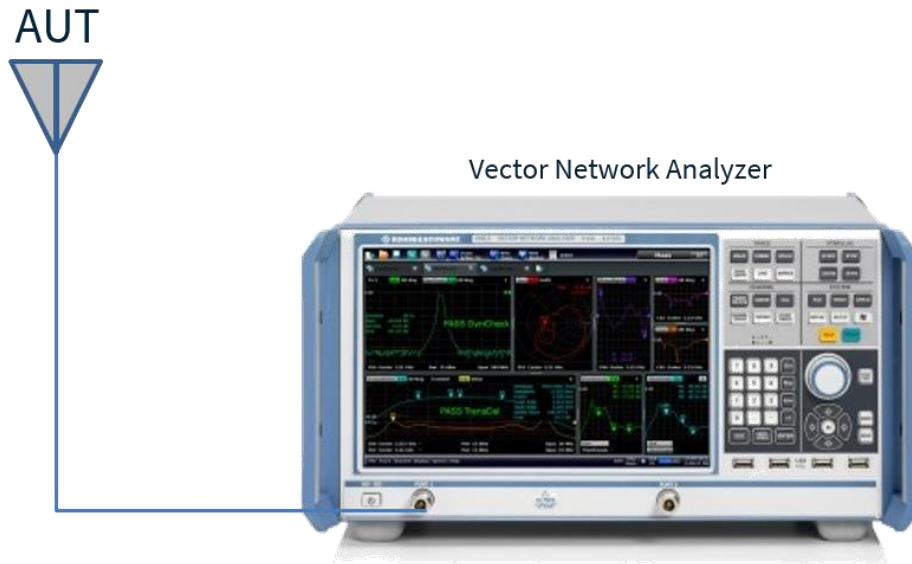
Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi 2	2400-2500	55.3	-2.58	4.59	50 Ω	Linear	Omni	2W
Wi-Fi 5	5150-5850	41.6	-3.81	3.58				
Wi-Fi 6	5925-7125	31.0	-5.09	2.04				

Mechanical	
Dimensions	32 x 114mm
Weight	5g
Material (Housing)	ABS/PC
Material (Antenna)	PET
Connector	Code I FAKRA (M) Beige

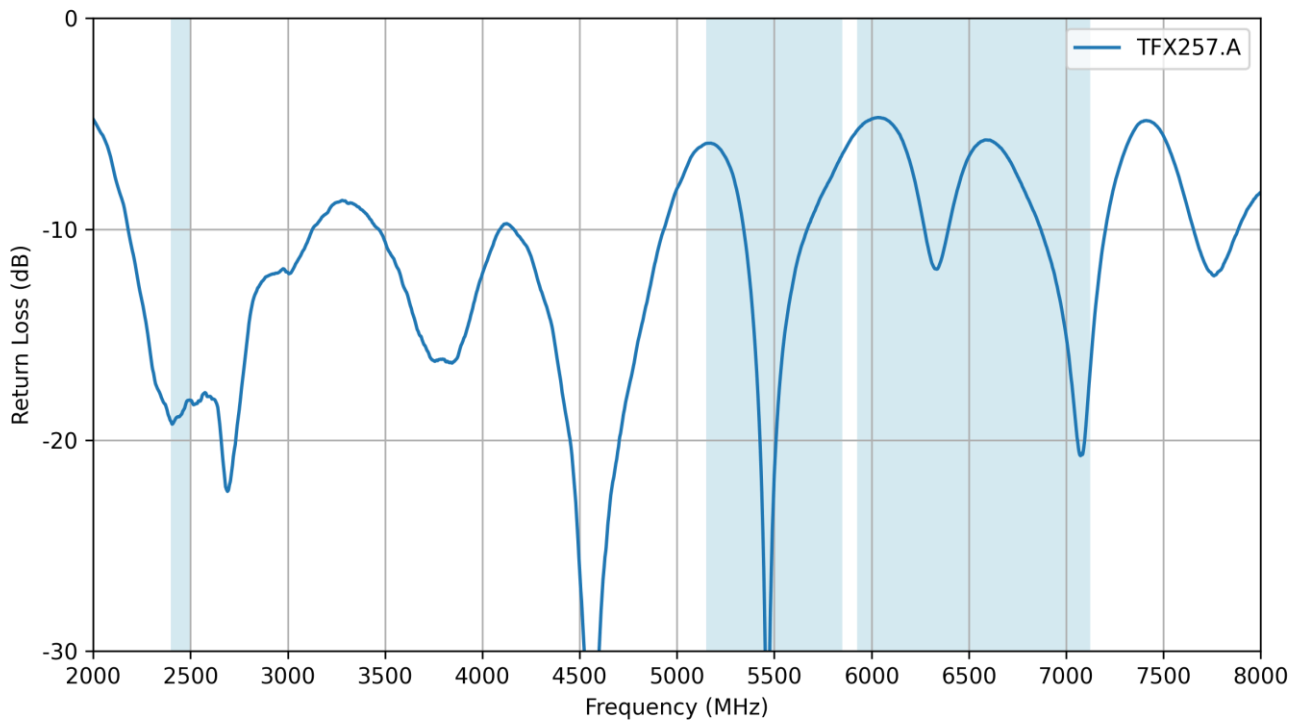
Environmental	
Operation Temperature	-20°C to 85°C
Storage Temperature	-20°C to 85°C
Relative Humidity	Non-condensing TBD°C TBD% RH

3. Antenna Characteristics

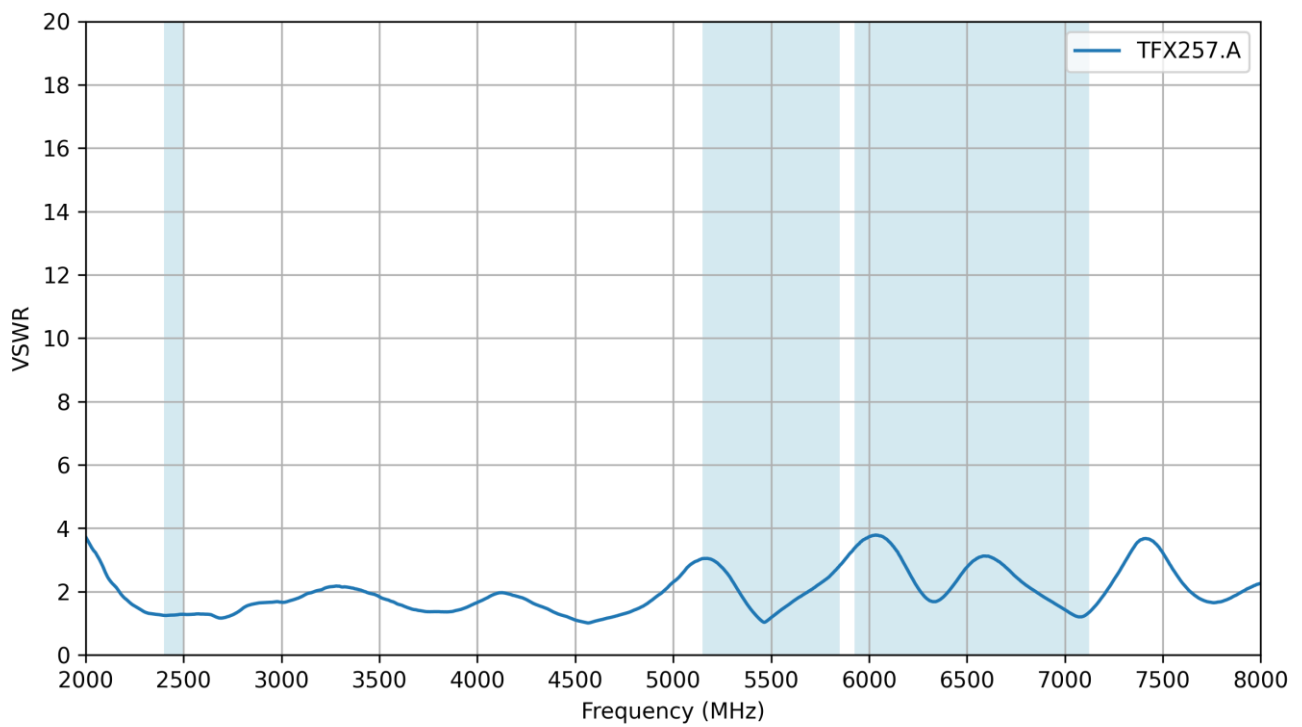
3.1 Test Setup



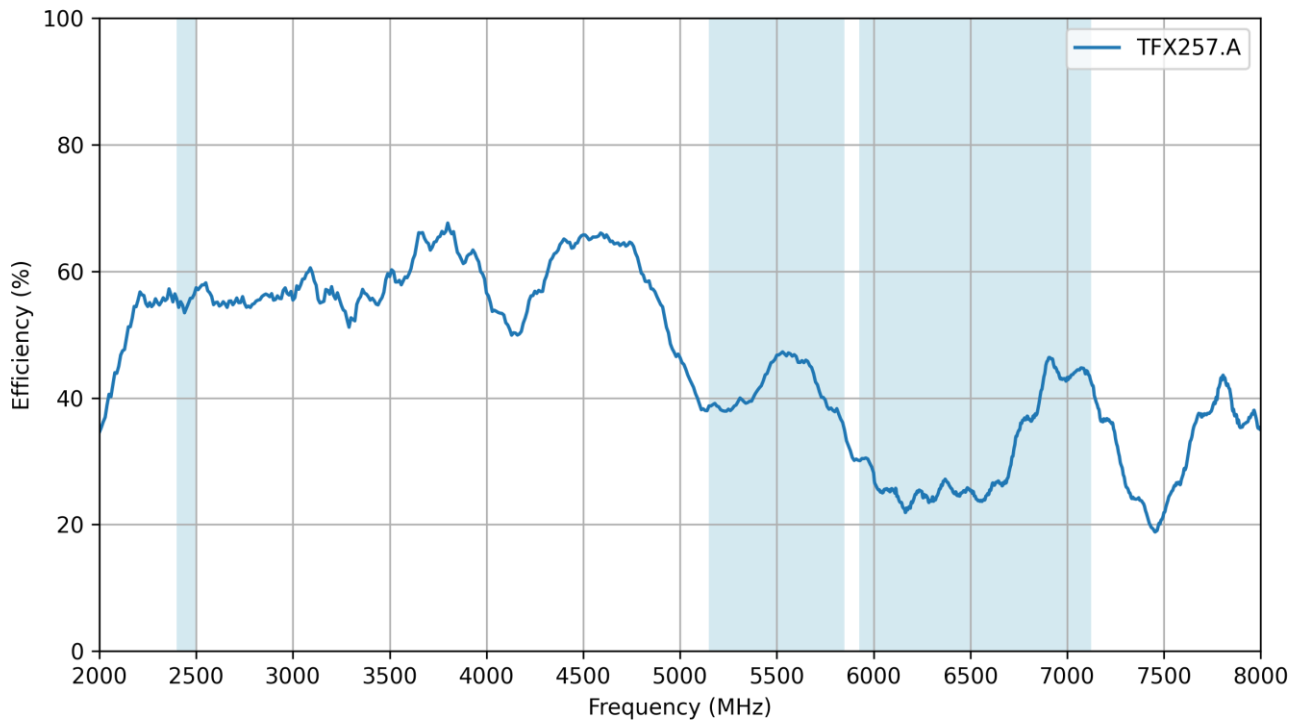
3.2 Return Loss



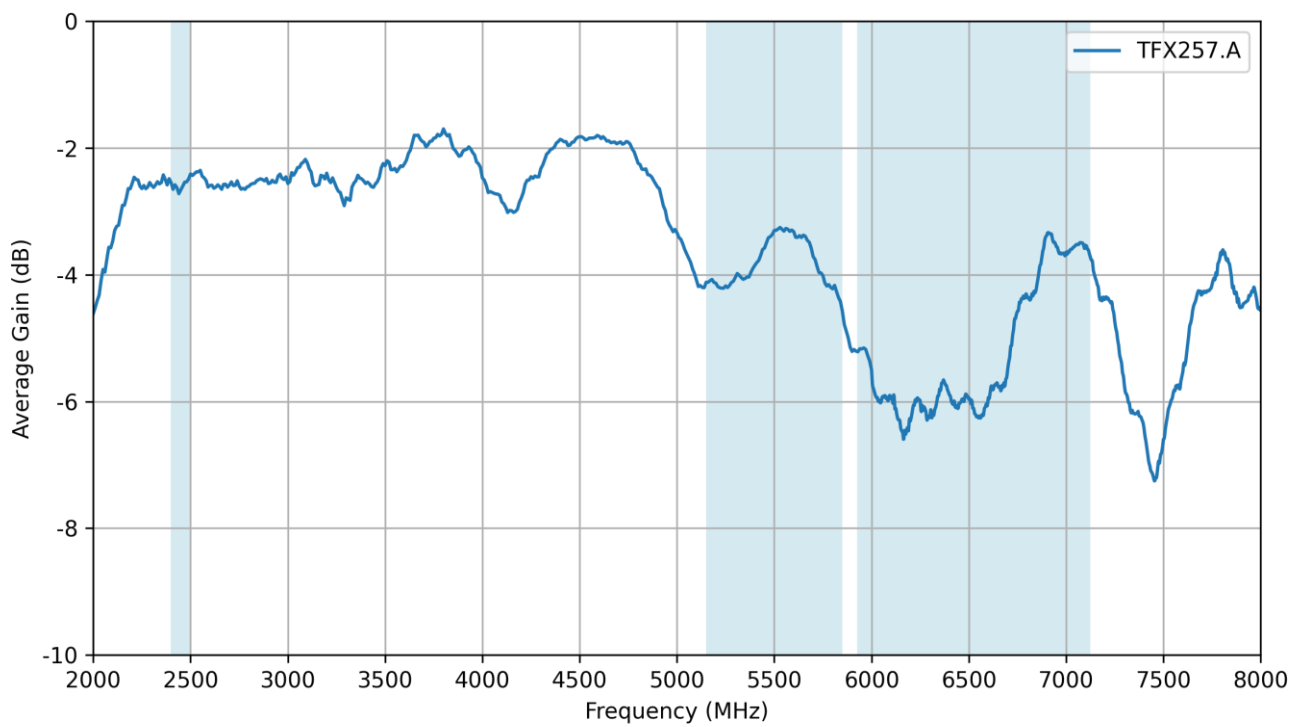
3.3 VSWR



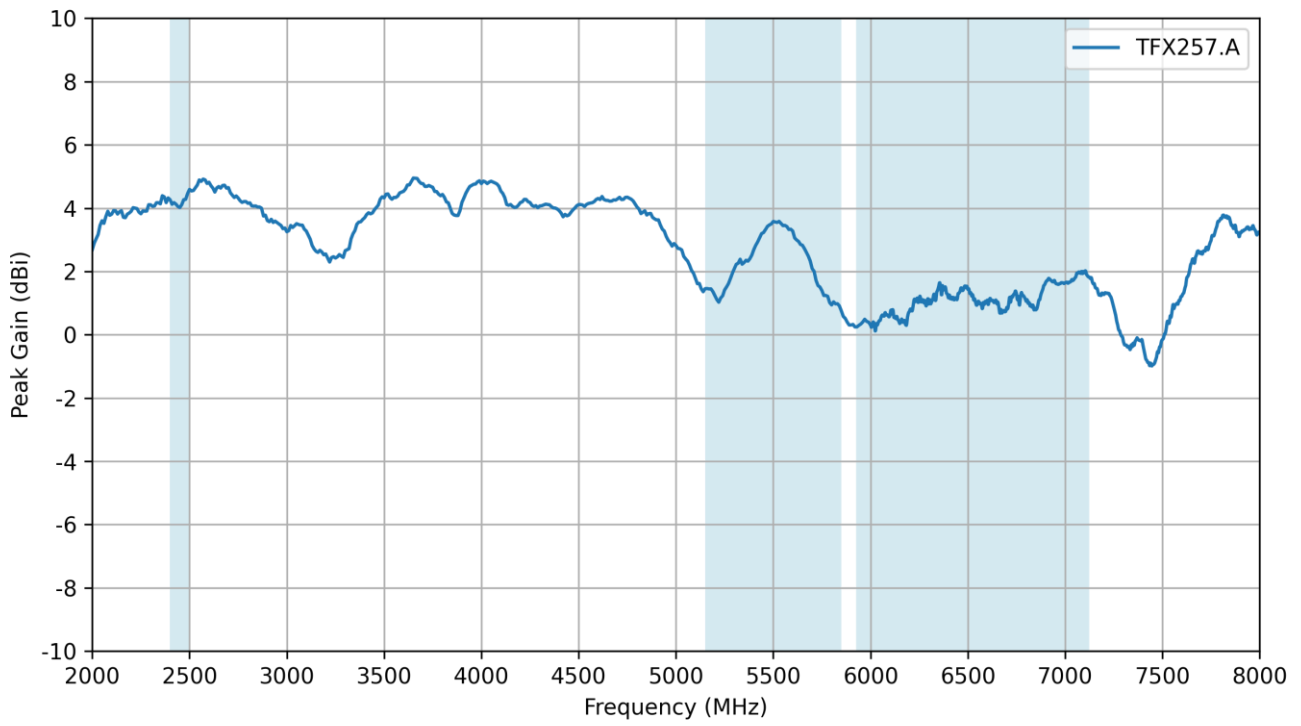
3.4 Efficiency



3.5 Average Gain

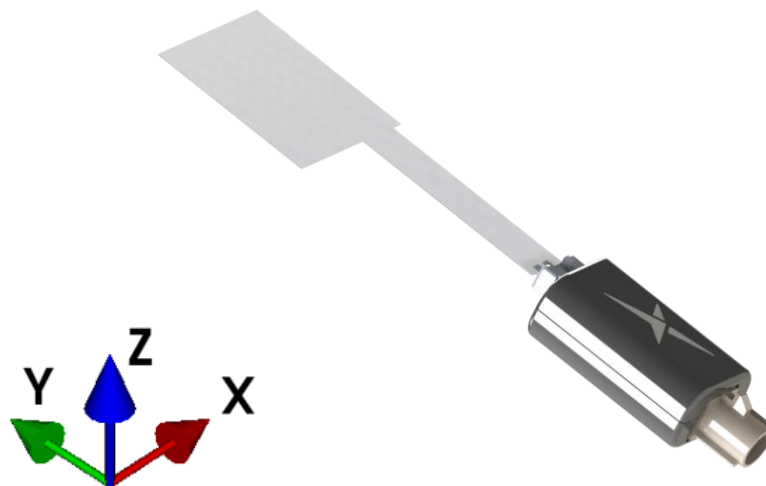
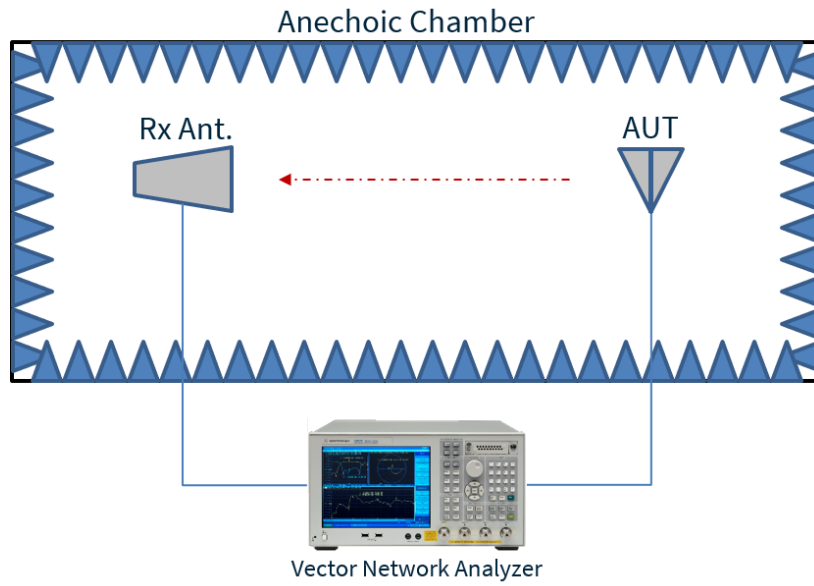


3.6 Peak Gain

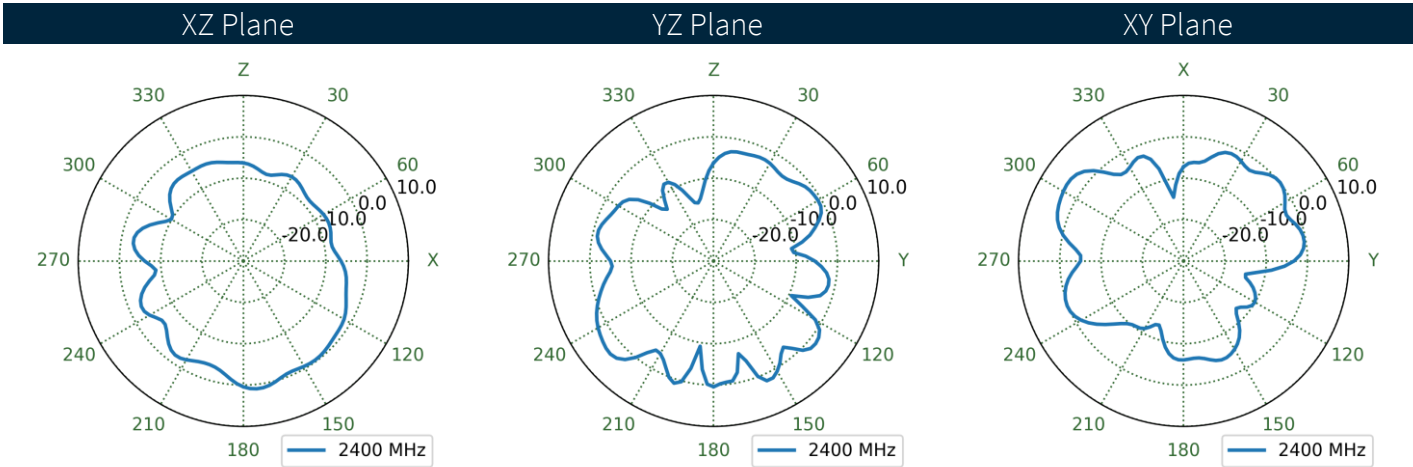
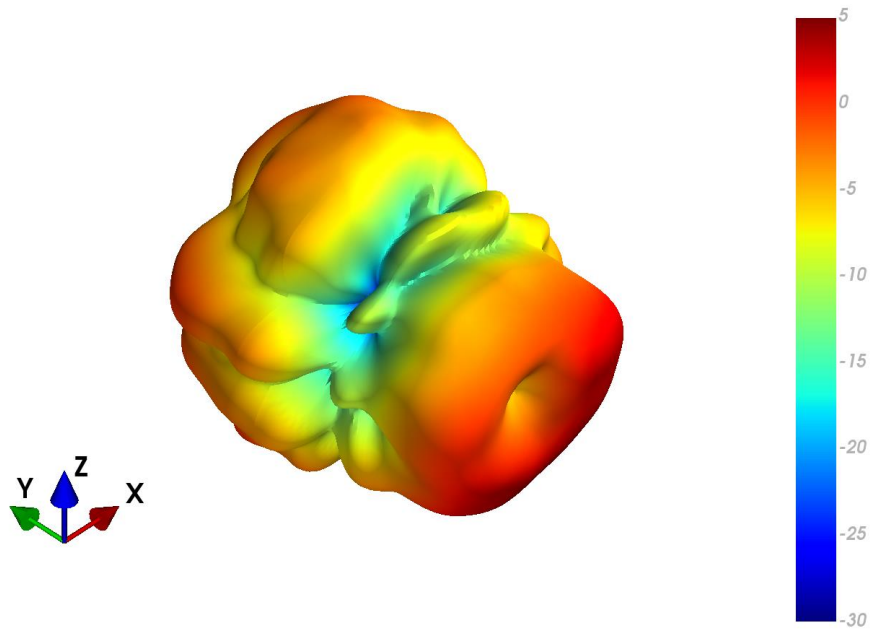


4. Radiation Patterns

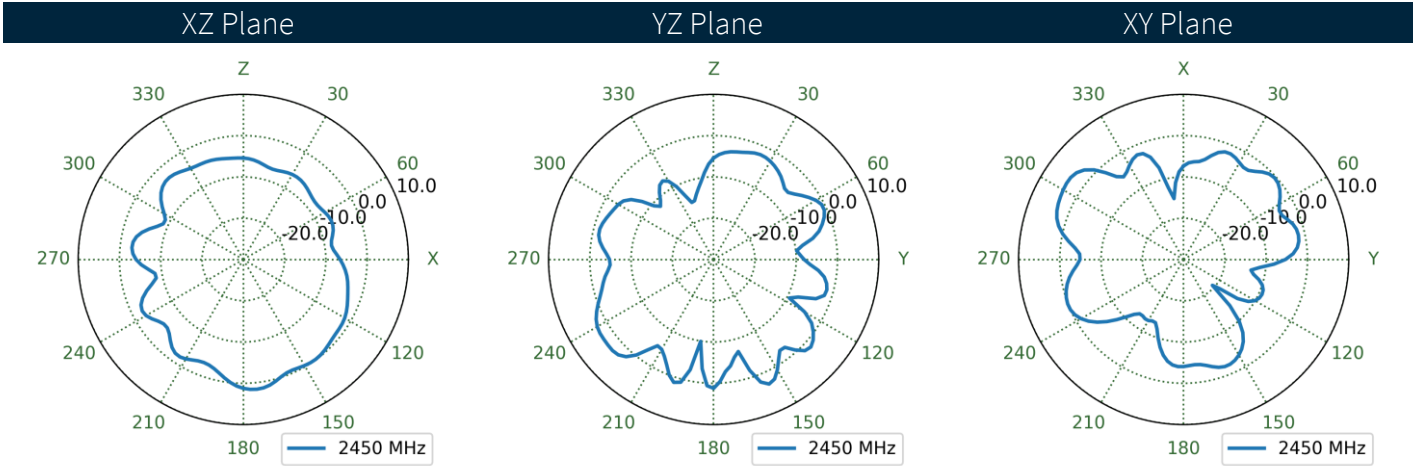
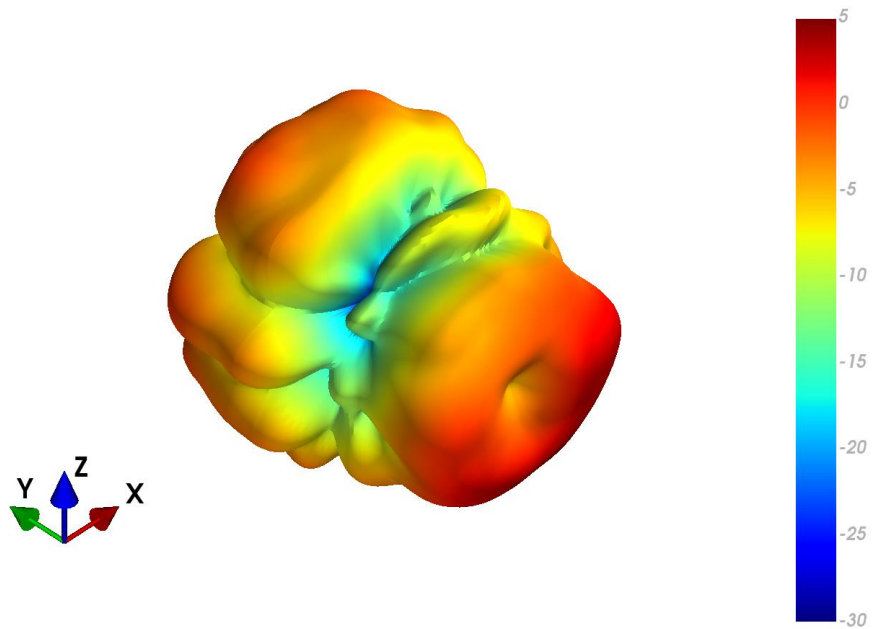
4.1 Test Setup



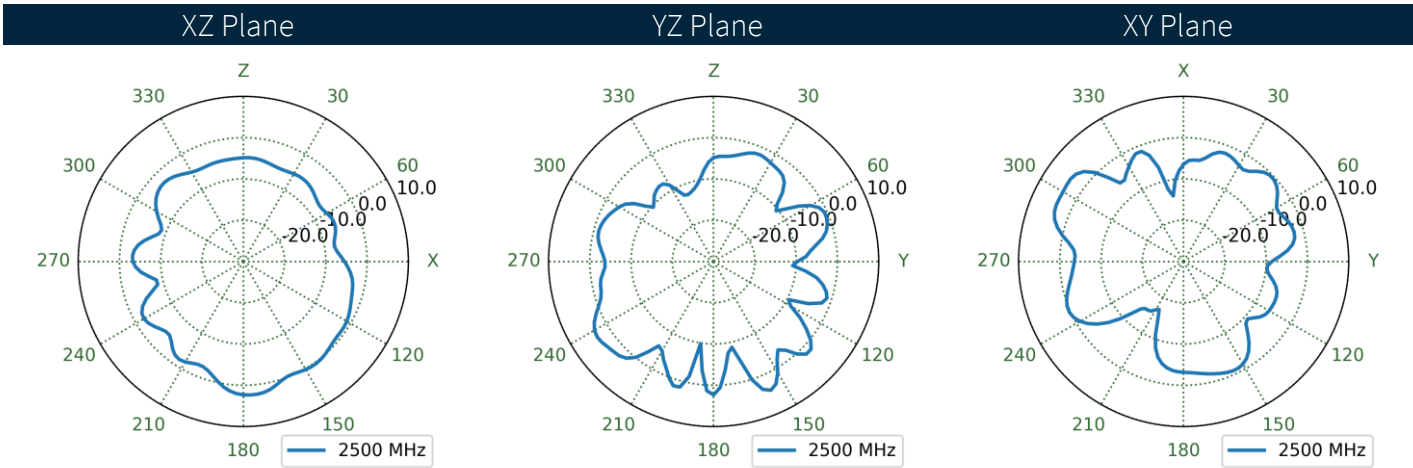
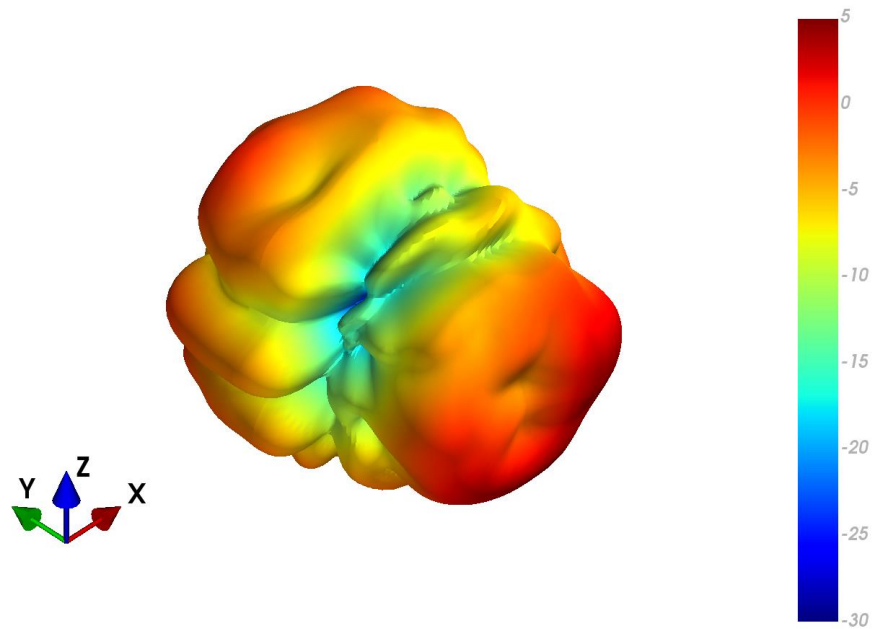
4.2 TFX257.A Patterns at 2400 MHz



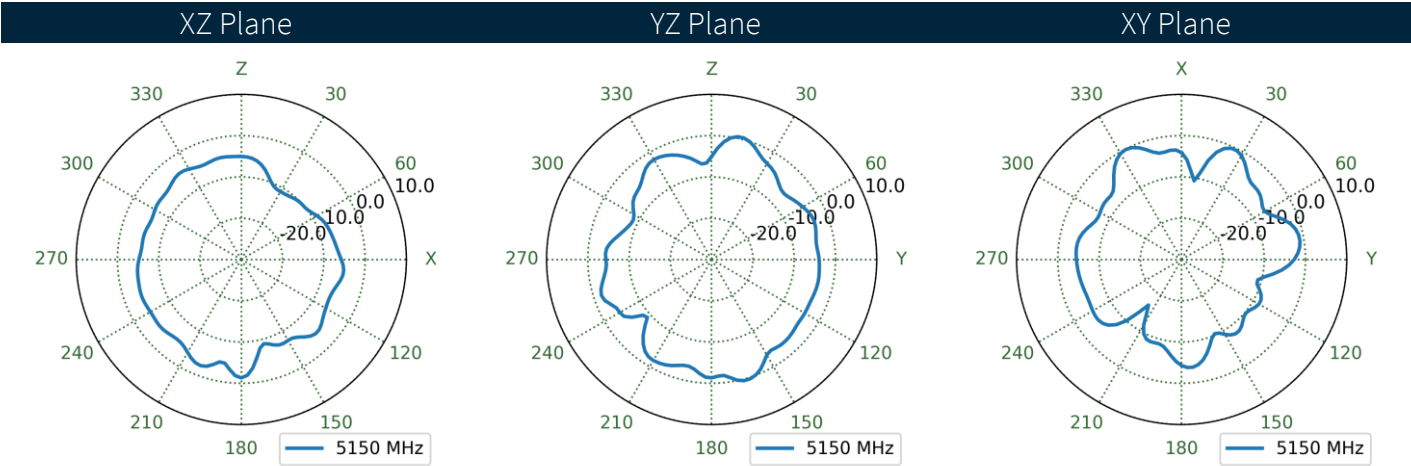
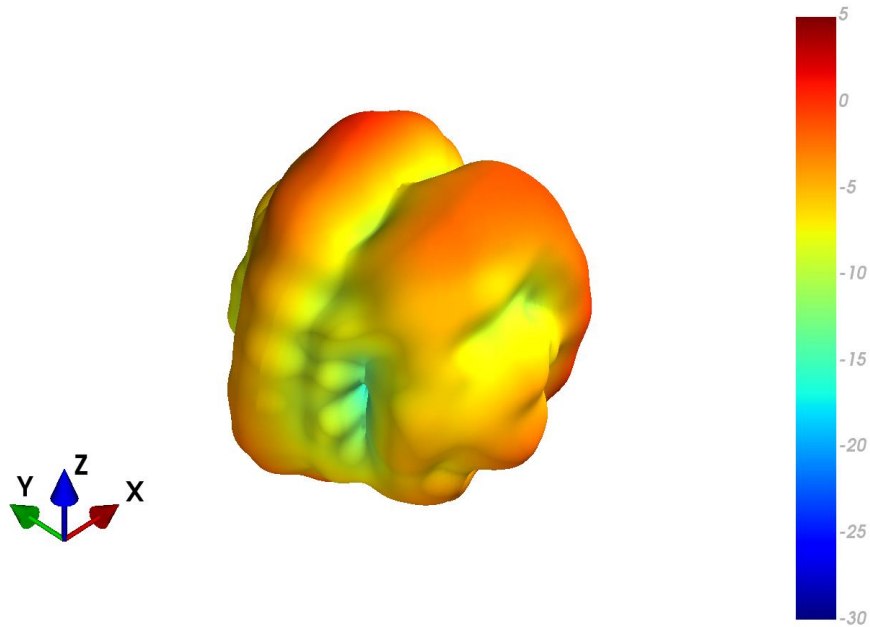
4.3 TFX257.A Patterns at 2450 MHz



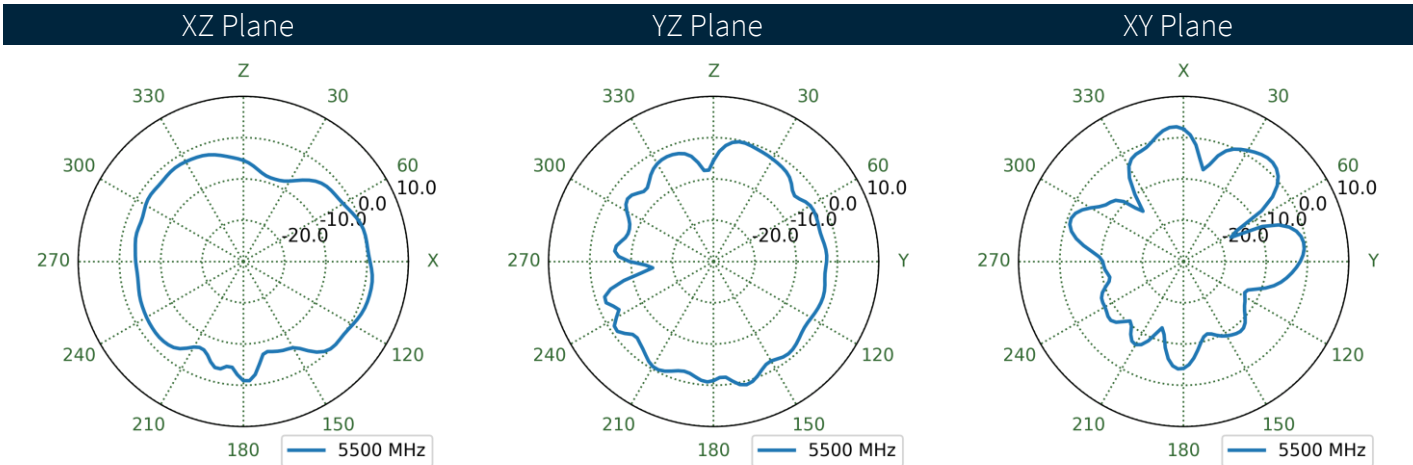
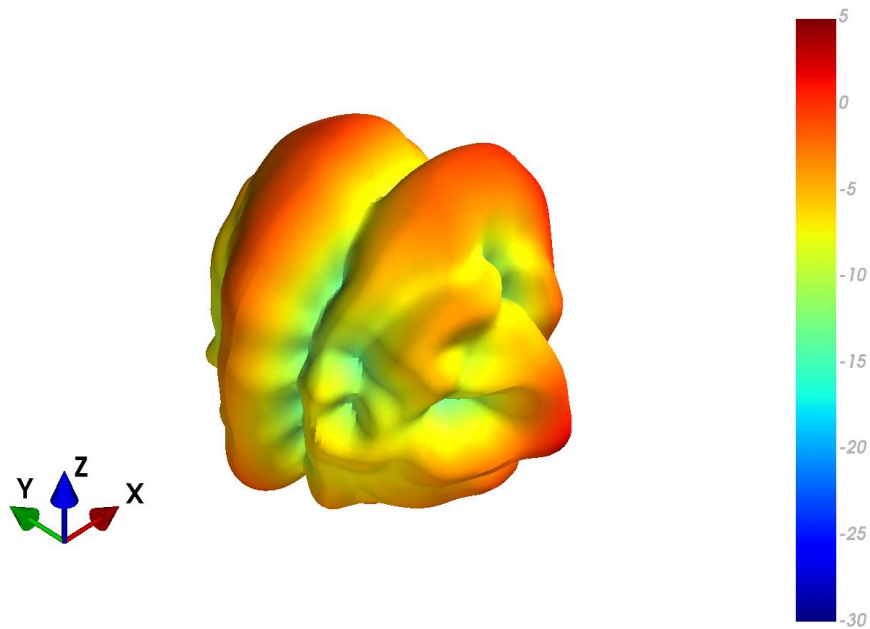
4.4 TFX257.A Patterns at 2500 MHz



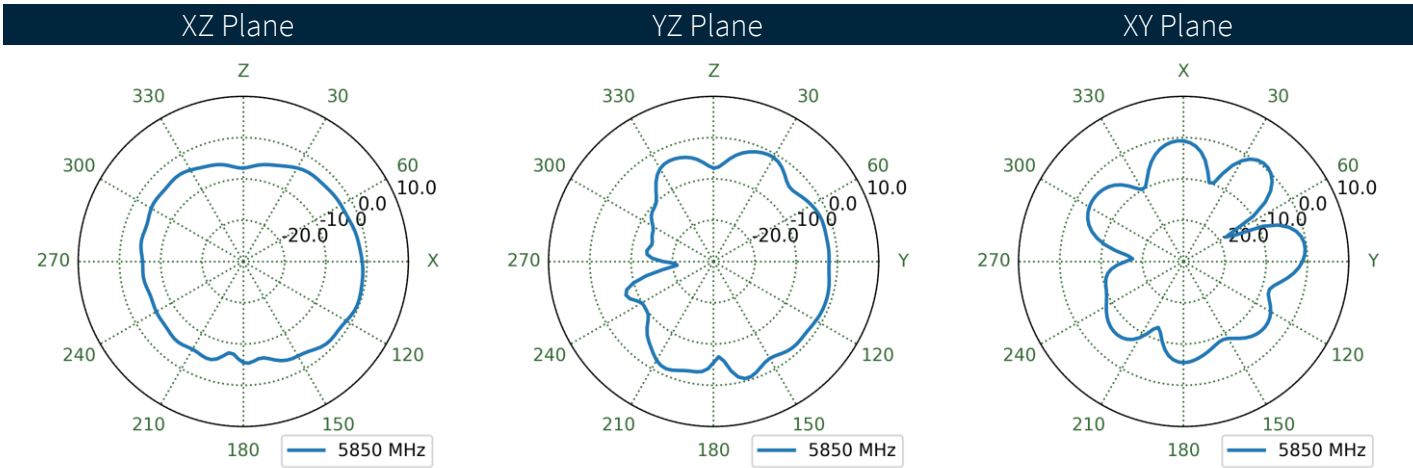
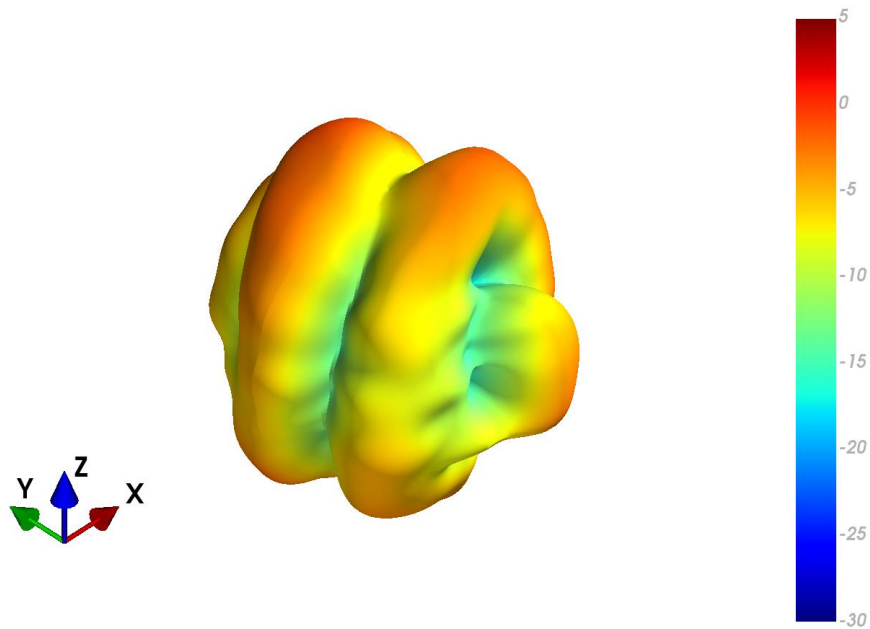
4.5 TFX257.A Patterns at 5150 MHz



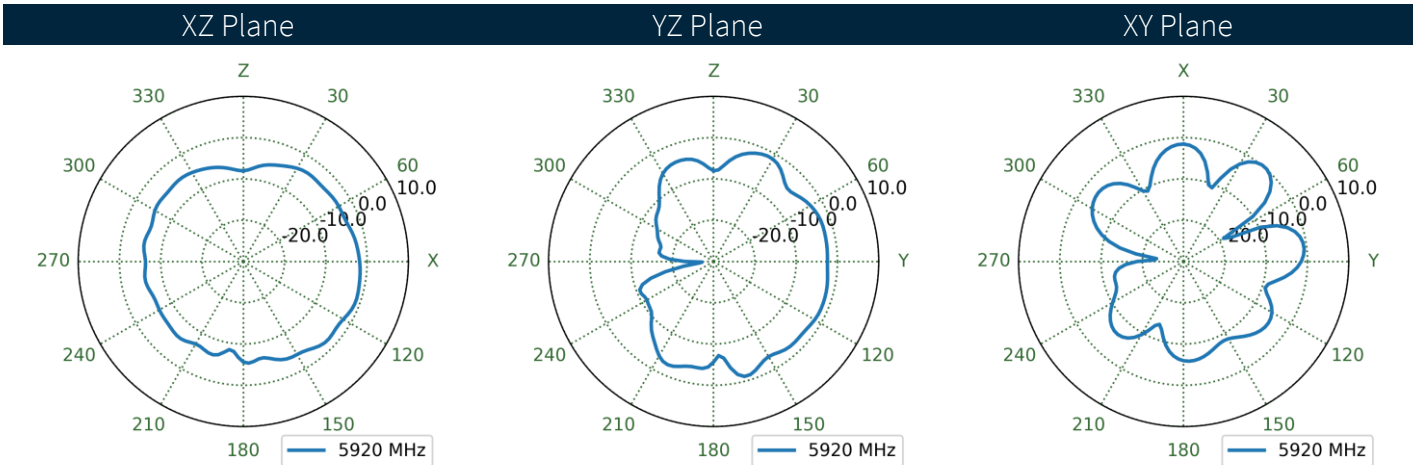
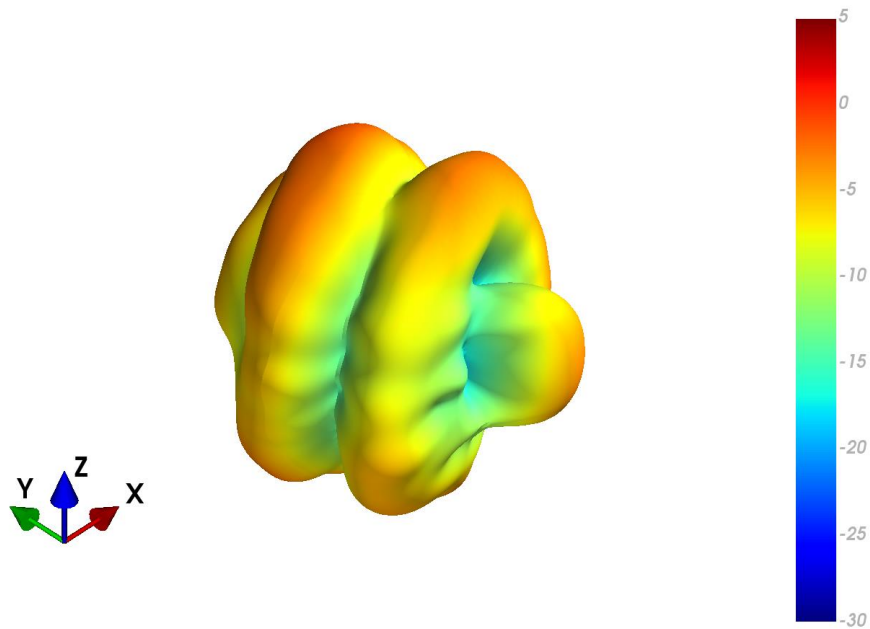
4.6 TFX257.A Patterns at 5500 MHz



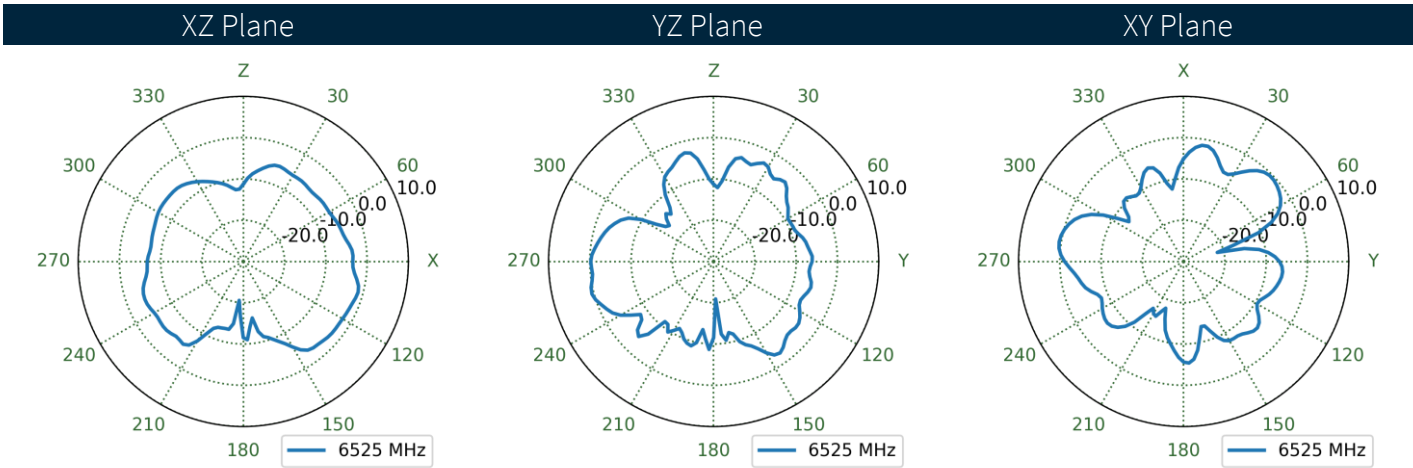
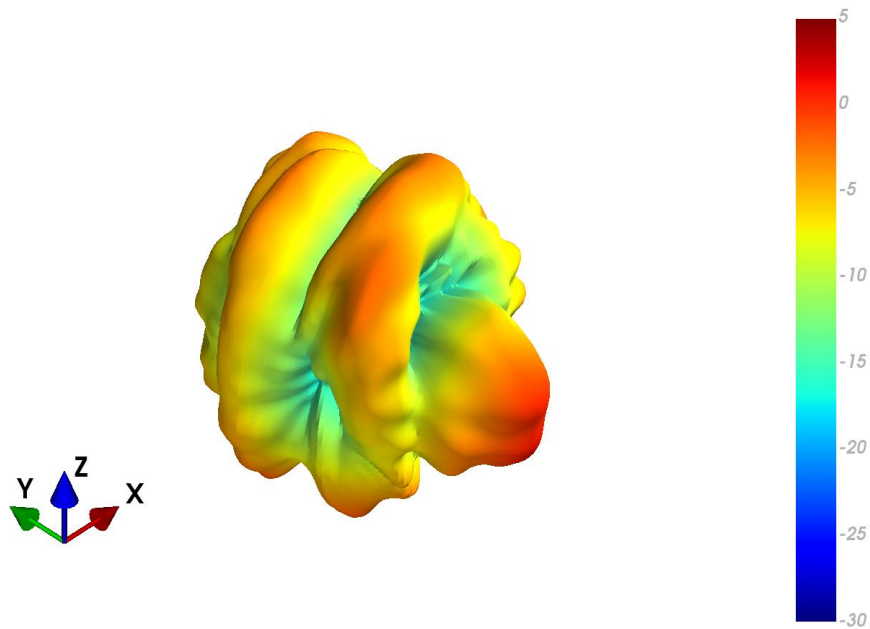
4.7 TFX257.A Patterns at 5850 MHz



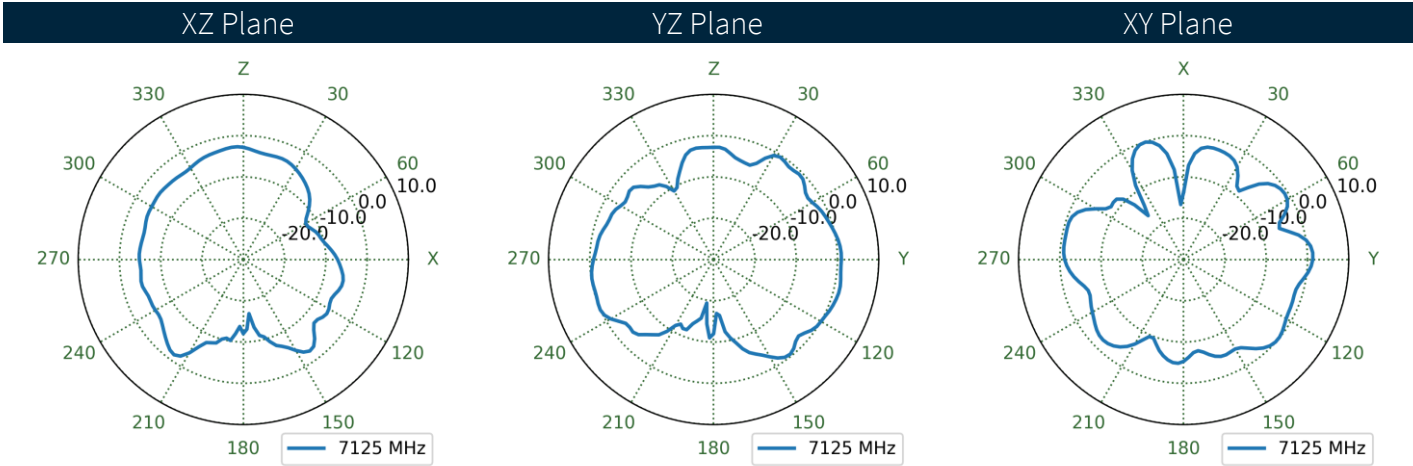
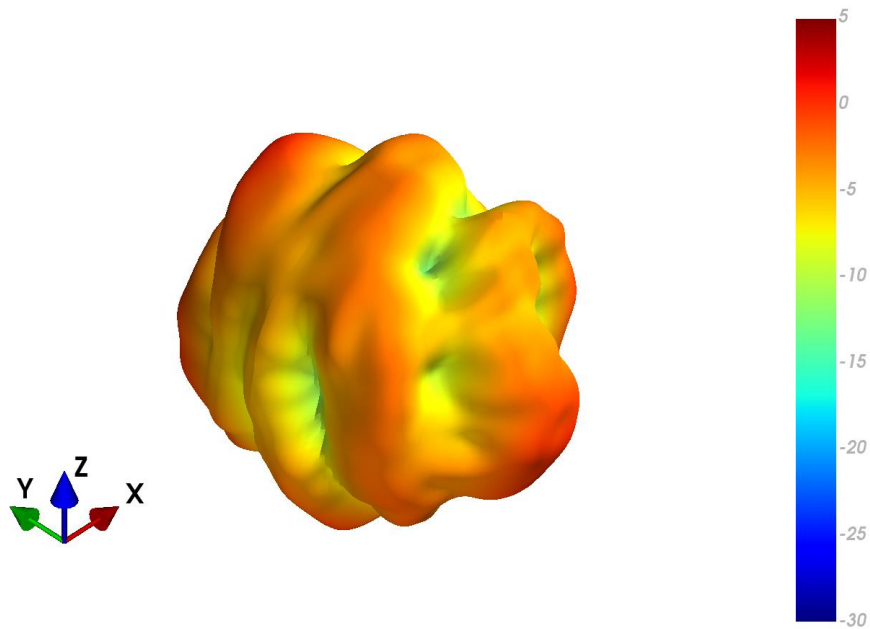
4.8 TFX257.A Patterns at 5925 MHz



4.9 TFX257.A Patterns at 6525 MHz



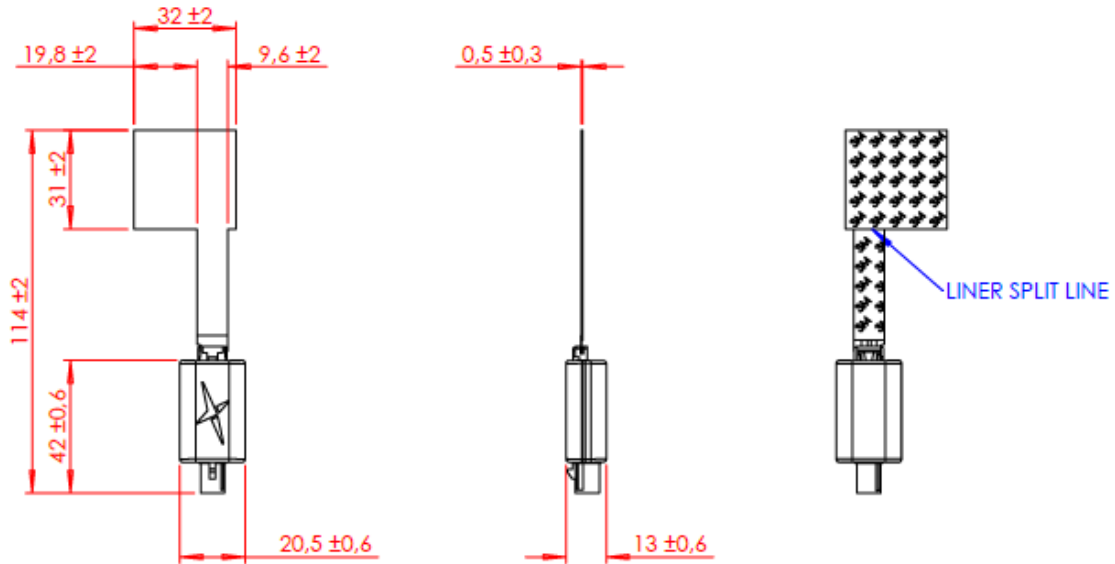
4.10 TFX257.A Patterns at 7125 MHz



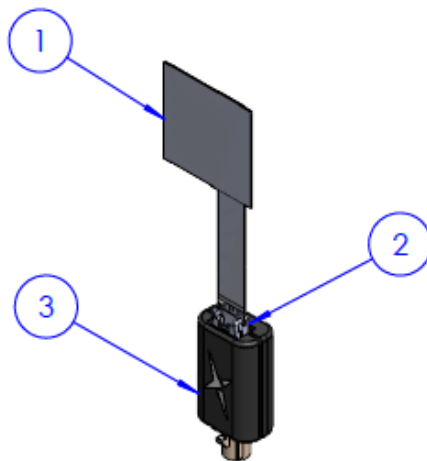
5. Mechanical Drawing

ISO NO.: EDW-22-8-0989
 STATE: RELEASE
 NOTES: I. ALL MATERIAL MUST BE ROHS COMPLIANT.

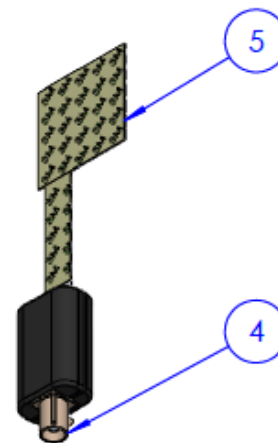
REVISIONS				
REV.	DESCRIPTION	DATE	ENGINEER	APPROVED
D01	FIRST ISSUE	18OCT2022	SC	WL



ITEM NO.	DESCRIPTION	MATERIAL	FINISH	QTY
1	TRANSPARENT FLEX WI-FI ANTENNA COVERING 2.4 - 5 - 7.125 GHz	PET	CLEAR	1
2	FPC-to-BOARD CONNECTOR ADAPTOR 2 CONTACT	LCP	BLACK	1
3	ANTENNA PCB HOUSING	ABS/PC	BLACK	1
4	FAKRA CODE I MALE	NYLON/ZINC	BEIGE	1
5	3M ADHESIVE + LINER	3M 8146	BROWN LINER	1



MODEL VIEW
SCALE 1:2



MODEL VIEW
SCALE 1:2

APPROVED BY: NW	 <small>EMSA 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: WL	
DRAWN BY: SC	
DATE: 18OCT2022	
<small>UNLESS OTHERWISE SPECIFIED TOLERANCES ON:</small> X0.0125 X0.025 X0.050 X0.100 X0.200	TITLE: TRANSPARENT FLEX WI-FI ANTENNA COVERING 2.4-5-7.125 GHz w/CONVERTER AND FAKRA CODE I MALE
THIRD ANGLE PROJECTION	PART NO.: TFX257.A UNT: mm SCALE: 1:2 PAGES: 1/1 REV: D01

6. Packaging

TBD

Changelog for the datasheet

SPE-22-8-163 – TFX257.A

Revision: A (Original First Release)	
Date:	2022-10-14
Notes:	Initial Release
Author:	Gary West

Previous Revisions



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