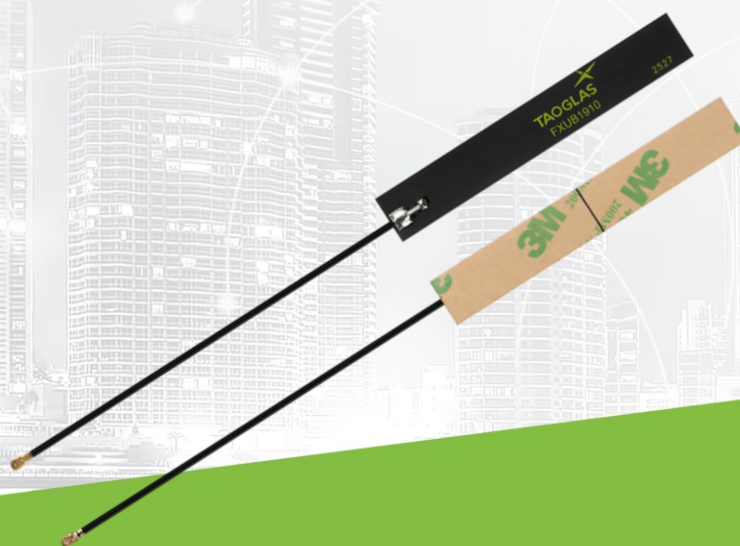




TAOGLAS®



Datasheet

Part No:
FXUB1910.07.0100AQ

Description

Flex PCB ADSB Antenna Horizontal with 100mm 1.37mm and I-PEX MHF I

Features:

Flex PCB ADSB Antenna (Horizontal Feed)
Cable: 100mm of 1.37 Coaxial
Connector: I-PEX MHF I
Dims: 80.0 x 12.0 x 0.24 mm
RoHS & Reach Compliant

| | | |
|-----------|--------------------------------|-----------|
| 1. | Introduction | 3 |
| 2. | Specification | 3 |
| 3. | Mechanical Drawing | 5 |
| 4. | Packaging | 6 |
| 5. | Antenna Characteristics | 7 |
| 6. | Radiation Patterns | 11 |
| <hr/> | | |
| | Changelog | 14 |

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.



1. Introduction



The FXUB1910 is an ultra-thin, flexible PCB antenna designed for ADS-B (Automatic Dependent Surveillance-Broadcast) systems, the global aviation surveillance technology enabling safe and efficient air traffic management. Covering both 1090 ES (Extended Squitter, 1090 ± 5 MHz) and 978 UAT (Universal Access Transceiver, 978 ± 5 MHz) bands, the antenna provides robust and reliable aircraft tracking performance across worldwide deployments.

Built with a flexible polymer substrate, the FXUB1910 offers a unique combination of lightweight design and mechanical adaptability, allowing integration into housings or surfaces where rigid PCB antennas cannot be used. The antenna features a horizontal-feed configuration with a 100mm 1.37 mm coaxial cable and I-PEX MHF I connector, simplifying integration into compact systems. With efficiencies up to 57% and a peak gain of 1.3 dBi, it delivers stable omnidirectional coverage with linear polarization.

At just $80 \times 12 \times 0.24$ mm and weighing only 0.9g, the antenna's ultra-slim profile makes it ideal for discreet mounting. A 3M 467 adhesive backing ensures secure installation on enclosures or substrates, with performance optimized on a 3 mm ABS ground plane.

Typical applications include:

- ADS-B (Automatic Dependent Surveillance-Broadcast) Ground Stations
- Unmanned Aerial Vehicles (UAVs)
- Avionics and Air Traffic Management Systems
- IoT Tracking and Monitoring Devices
- Transportation and Logistics Infrastructure

Built on a flexible polymer substrate, the FXUB1910 is engineered for long-term reliability in harsh environments. Cables and Connectors can be fully customized based on customer requirements, please contact your regional Taoglas customer support team.

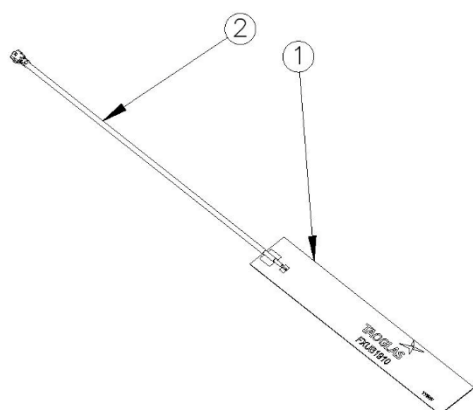
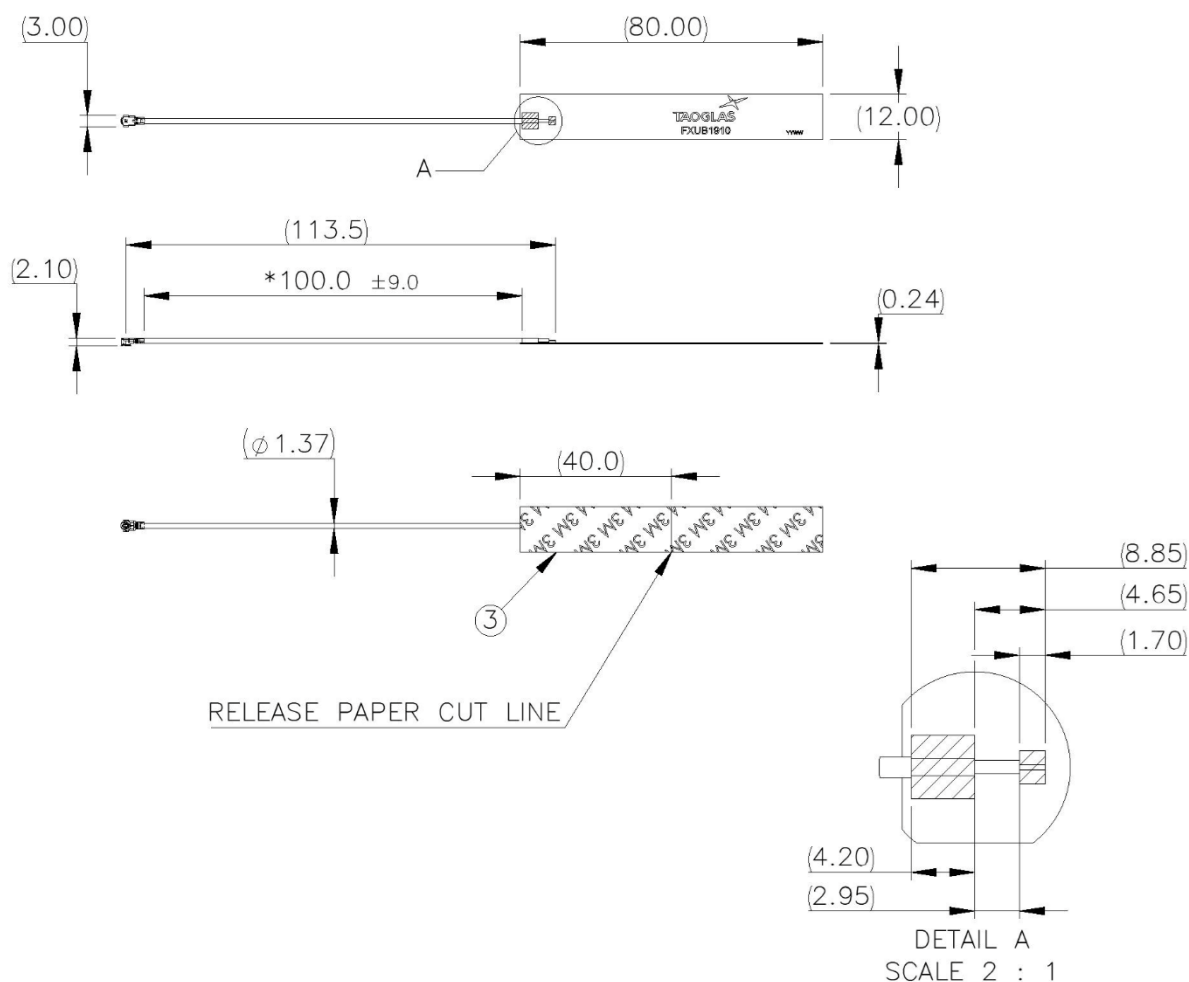
2. Specification

| Electrical | | | | | | | | |
|------------|-----------------|----------------|-------------------|-----------------|-------------|--------------|-------------------|------------------|
| Band | Frequency (MHz) | Efficiency (%) | Average Gain (dB) | Peak Gain (dBi) | Impedance | Polarization | Radiation Pattern | Max. input power |
| 978 MHz | 973-983 | 53.4 | -2.72 | 1.07 | 50 Ω | Linear | Omni directional | 5W |
| 1090 MHz | 1085-1095 | 57.3 | -2.42 | 1.31 | | | | |

| Mechanical | |
|------------|------------------------|
| Dimensions | 80mm x 12mm x 0.24mm |
| Weight | 0.9g |
| Material | Flexible Polymer |
| Connector | IPEX MHF I (U.FL COMP) |
| Cable | 100mm of 1.37 (Black) |
| Mount | Adhesive, 3M 467 |

| Environmental | |
|-----------------------|----------------------------|
| Operation Temperature | -40°C to 85°C |
| Storage Temperature | -40°C to 85°C |
| Relative Humidity | Non-condensing 65°C 95% RH |

3. Mechanical Drawing



| ITEM NO. | DESCRIPTION | Material | Color | QTY. |
|----------|---|-----------|--------------------------|------|
| 1 | FXUB1910.07.0100AQ L80mm W12mm | Polyimide | Black | 1 |
| 2 | 100MM, 1.37MM Black, IPEX MHF I (U.FI Comp.) 1.7-2.95-4.2 | N/A | N/A | 1 |
| 3 | Double-Sided Adhesive | 3M 467 | Brown Paper with 3M Logo | 1 |

4. Packaging



- ✓ 100 PCS / PE bag
- ✓ PE bag(mm): 180x280 (Ref)
- ✓ Weight (g): 103 ±3%
- ✓ SPQ Label



- ✓ 5000 PCS/ Carton
- ✓ Carton(mm):320x250x290
- ✓ Weight (kg): 5.68 ±3%
- ✓ Carton Label

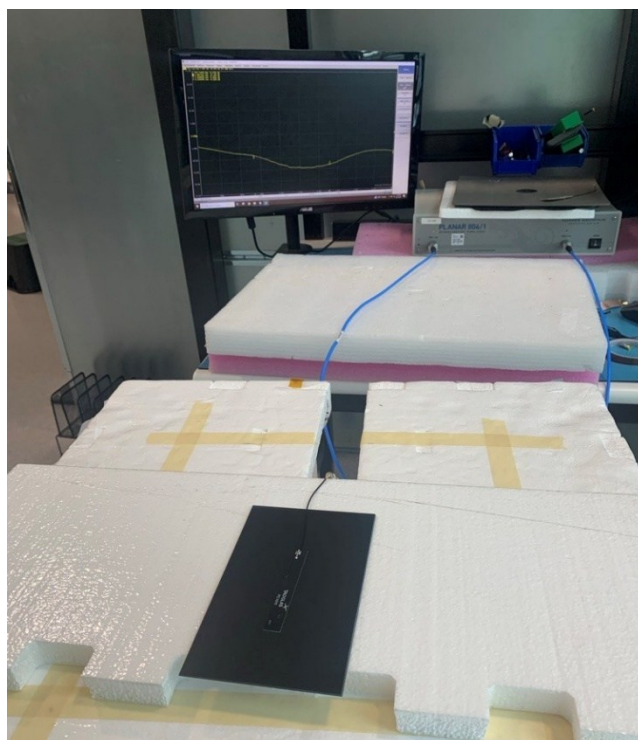
5. Antenna Characteristics

5.1 Test Setup

AUT

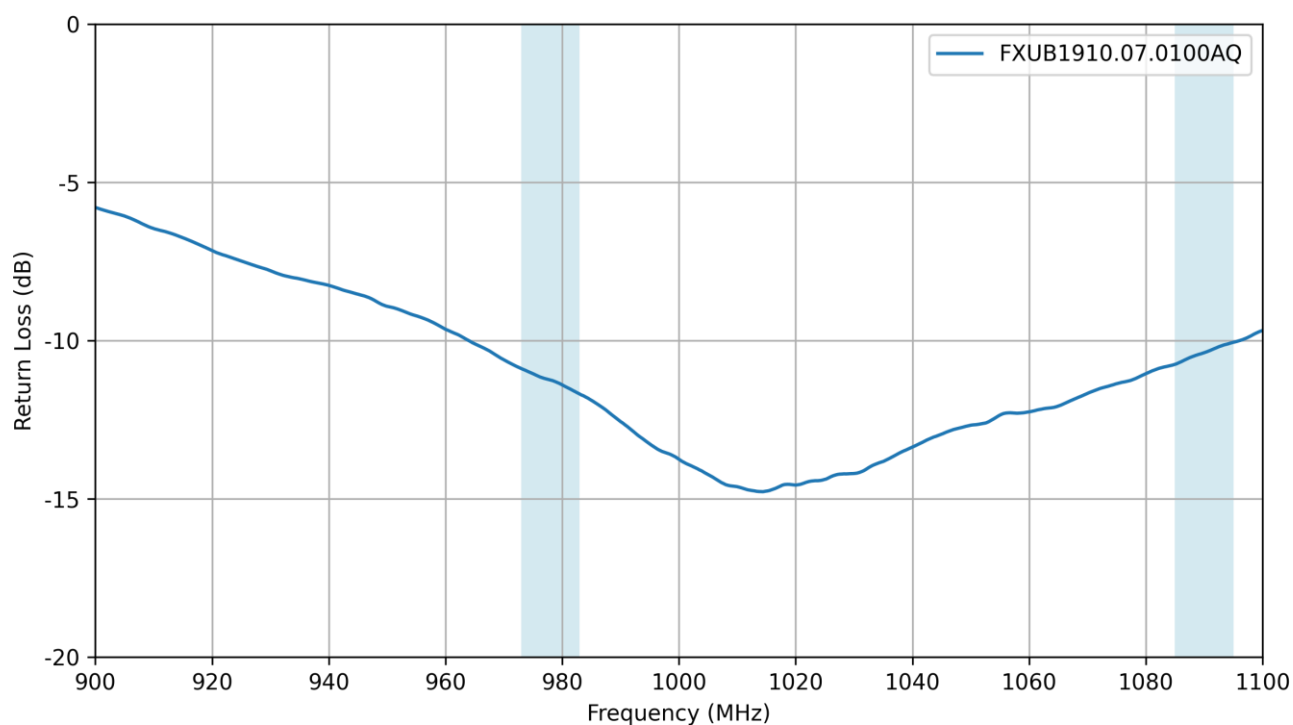


Vector Network Analyzer

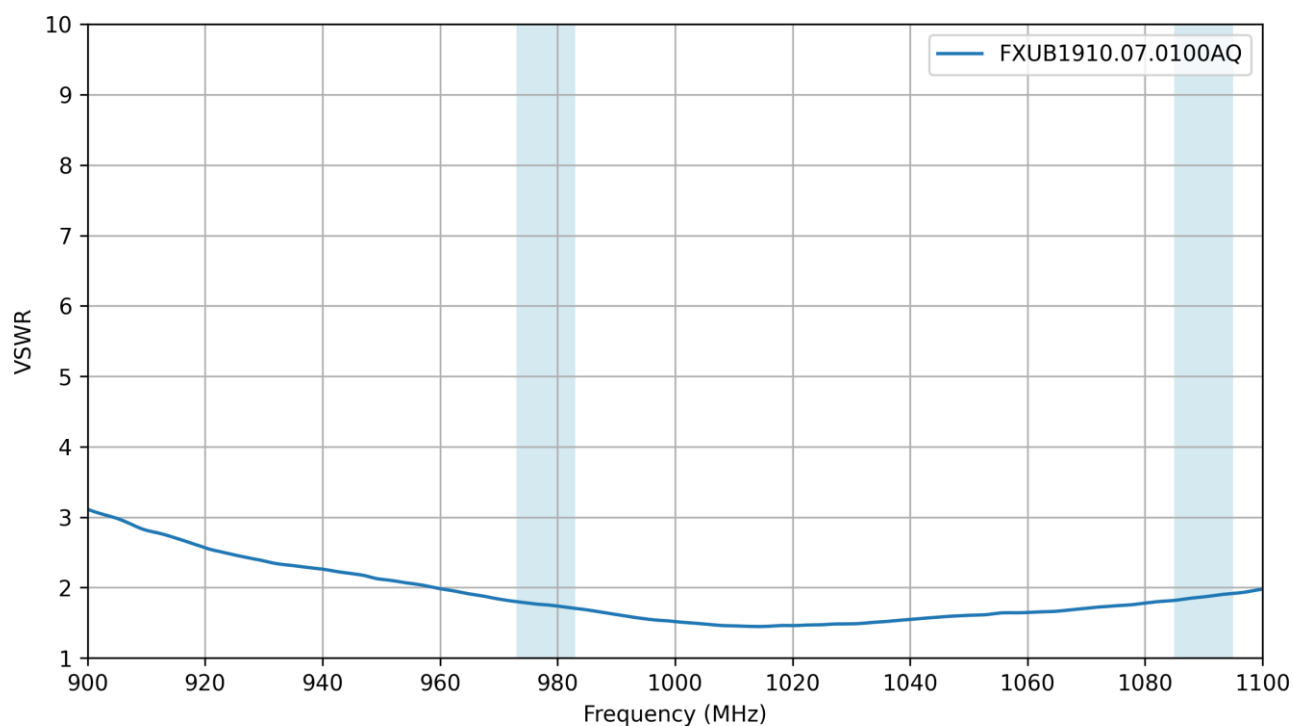


VNA Test Setup on 3mm ABS

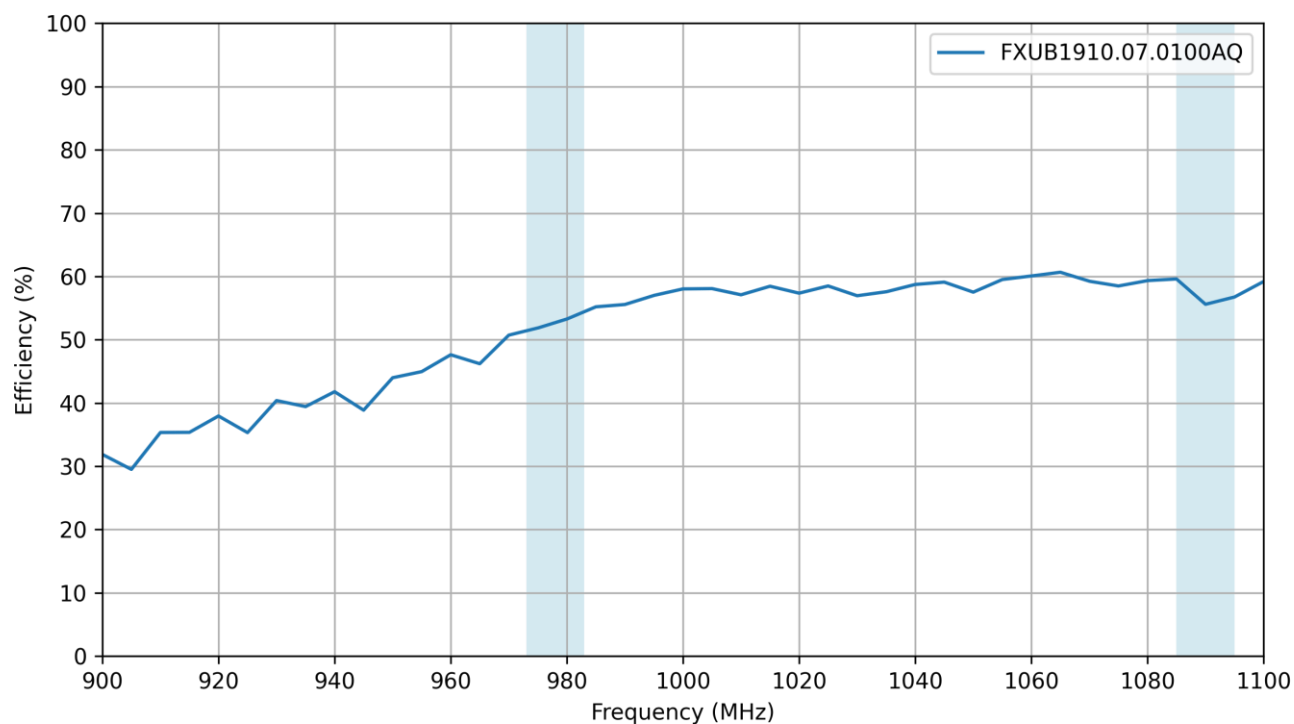
5.2 Return Loss



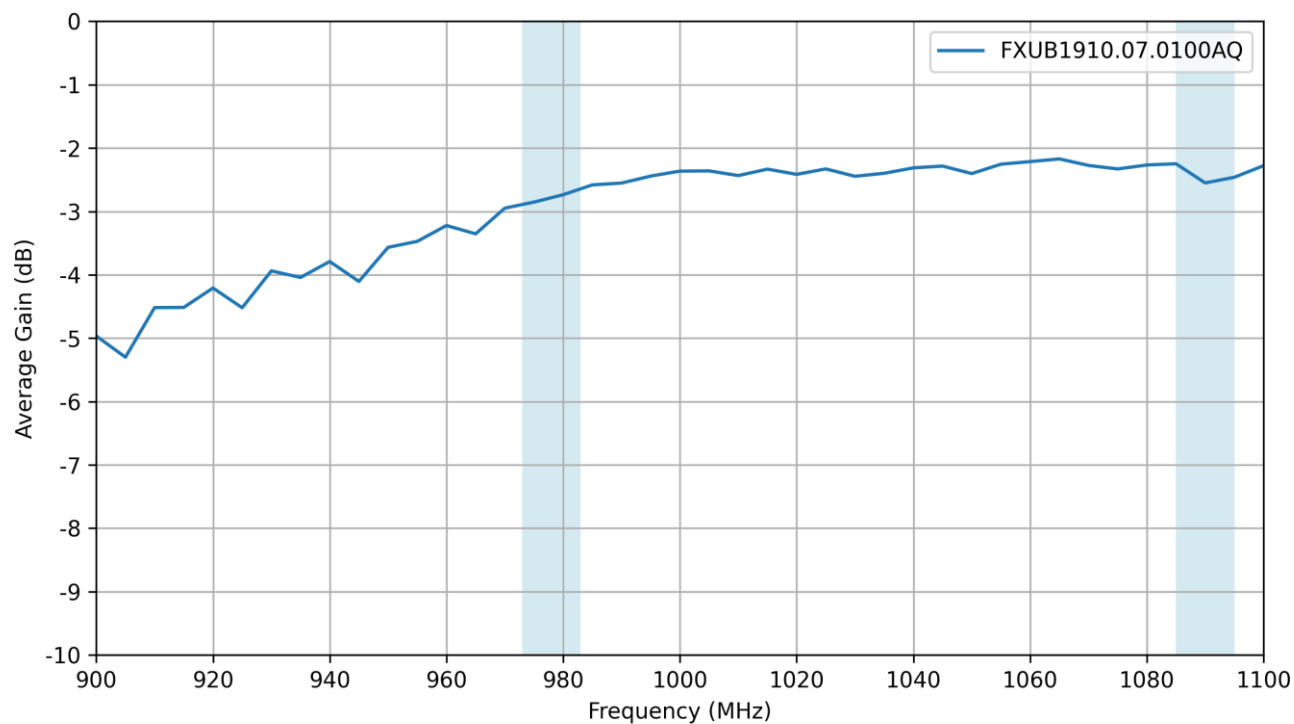
5.3 VSWR



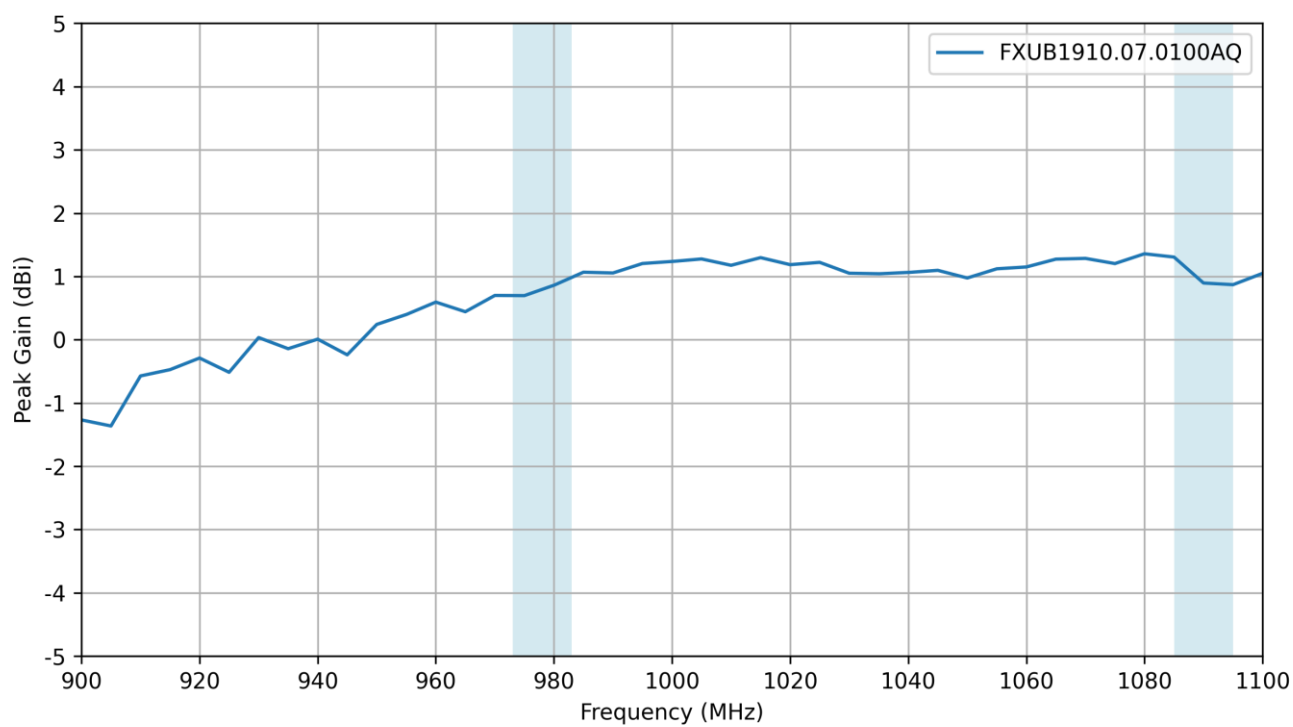
5.4 Efficiency



5.5 Average Gain

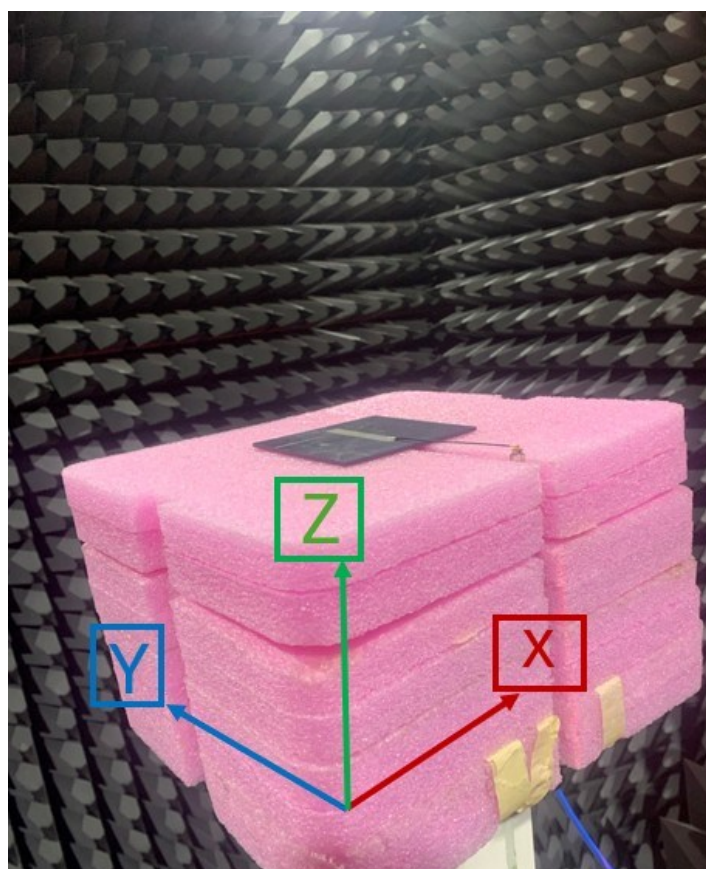


5.6 Peak Gain



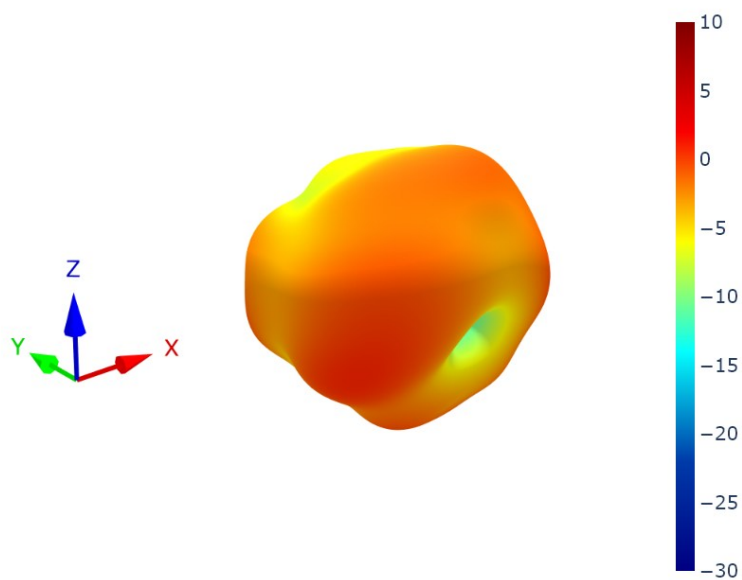
6. Radiation Patterns

6.1 Test Setup

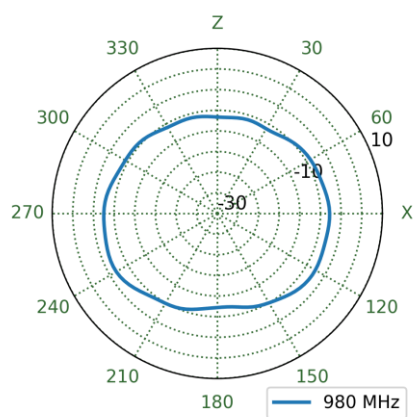


Chamber Test Setup on 3mm ABS

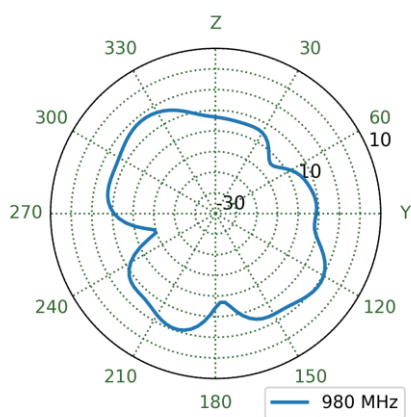
6.2 Patterns at 980 MHz



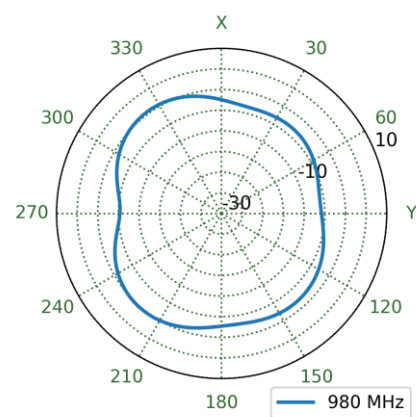
XZ Plane



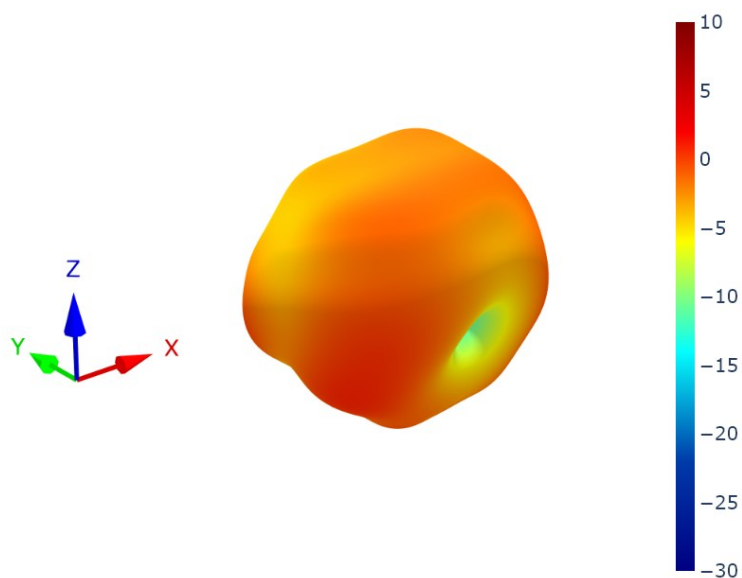
YZ Plane



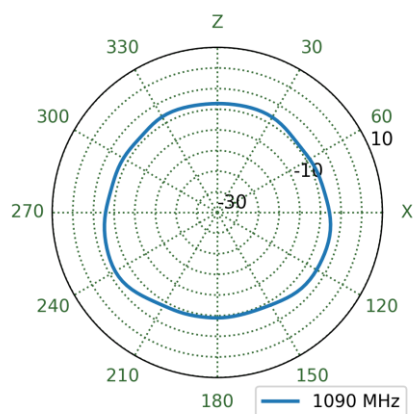
XY Plane



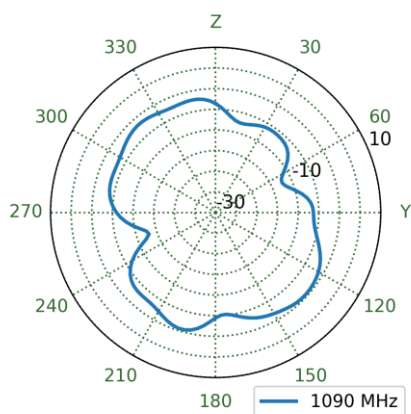
6.3 Patterns at 1090 MHz



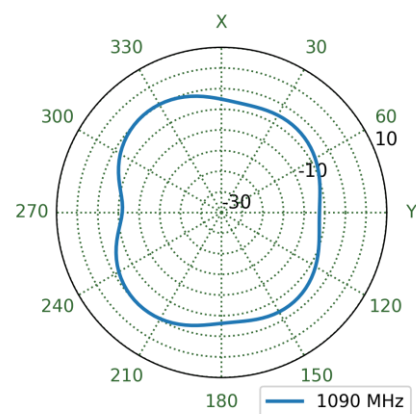
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-25-8-256 - FXUB1910.07.0100AQ

Revision: A (Original First Release)

| | |
|---------|-----------------|
| Date: | 2025-09-17 |
| Notes: | Initial Release |
| Author: | Gary West |

Previous Revisions

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |



www.taoglas.com

