



# TAOGLAS®



# Datasheet

**Part No:**  
PC1910.07.0100AQ

## Description

PCB ADS-B Antenna Horizontal feed with 100mm 1.37mm and I-PEX MHF I

## Features:

PCB ADS-B Antenna (Horizontal Feed)  
Cable: 100mm of 1.37 Coaxial  
Connector: I-PEX MHF I  
Dims: 80.0 x 12.0 x 0.86 mm  
RoHS & Reach Compliant

|           |                                |           |
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# 1. Introduction



The PC1910 is a lightweight, high-efficiency PCB ADS-B (Automatic Dependent Surveillance–Broadcast) antenna, designed specifically for reliable operation in the 978 MHz and 1090 MHz bands. Supporting ADS-B applications, the antenna enables robust aircraft tracking and surveillance performance with optimized linear polarization and omnidirectional radiation characteristics.

The antenna integrates a horizontal-feed design with a 100mm 1.37mm coaxial cable terminated in an I-PEX MHF I connector, offering design flexibility and easy integration into compact systems. Despite its compact construction, the PC1910 delivers efficiency levels up to 58% and peak gain of 1.7 dBi, ensuring strong and consistent performance.

With dimensions of just 80 × 12 × 0.86mm and a weight of only 2g, the antenna maintains a low-profile form factor suitable for embedding in space-constrained devices. The integrated 3M adhesive backing allows for quick, reliable mounting 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 Systems
- IoT Tracking and Monitoring Solutions
- Transportation and Logistics Infrastructure

Built on a durable FR4 substrate, the PC1910 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.

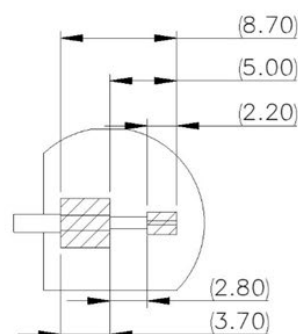
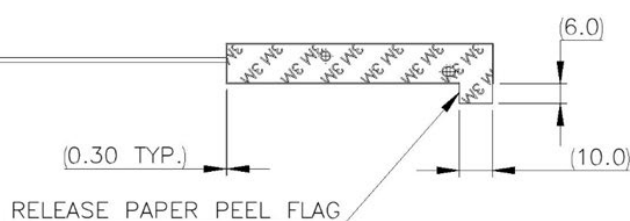
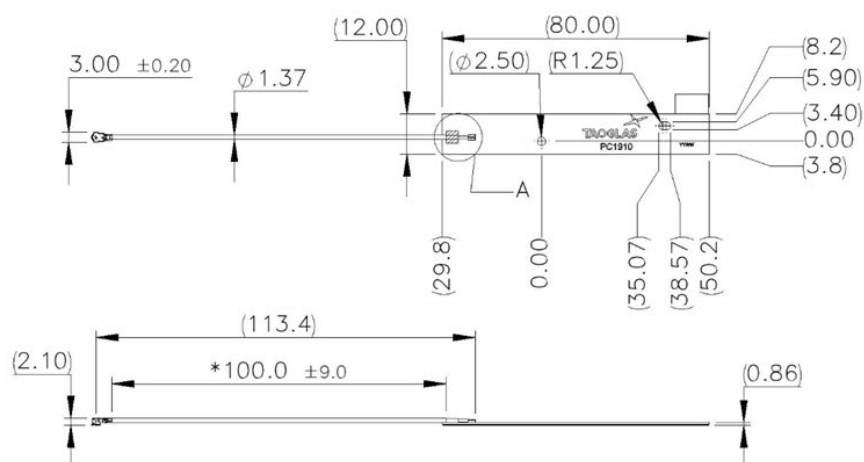
## 2. Specification

| Electrical |                 |                |                   |                 |             |              |                   |                  |
|------------|-----------------|----------------|-------------------|-----------------|-------------|--------------|-------------------|------------------|
| Band       | Frequency (MHz) | Efficiency (%) | Average Gain (dB) | Peak Gain (dBi) | Impedance   | Polarization | Radiation Pattern | Max. input power |
| 978 MHz    | 973-983         | 51.3           | -2.90             | 1.11            | 50 $\Omega$ | Linear       | Omni directional  | 5W               |
| 1090 MHz   | 1085-1095       | 58.2           | -2.35             | 1.71            |             |              |                   |                  |

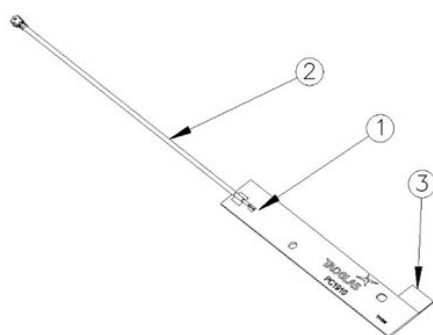
| Mechanical |                        |
|------------|------------------------|
| Dimensions | 80mm x 12mm x 0.86mm   |
| Weight     | 2g                     |
| Material   | FR4 (Composite)        |
| Connector  | IPEX MHF I (U.FL COMP) |
| Cable      | 100mm of 1.37 (Black)  |
| Mount      | Adhesive, 3M 9448 HK   |

| 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



DETAIL A  
SCALE 2 : 1



| ITEM NO. | PART NUMBER | DESCRIPTION                                              | Material  | Color                    | QTY. |
|----------|-------------|----------------------------------------------------------|-----------|--------------------------|------|
| 1        | PCB.000558  | PC1910.07.0100AQ L80mm W12mm                             | Composite | Black                    | 1    |
| 2        | ASY.002894  | 100MM, 1.37MM Black, IPEX MHF I (U.FI Comp.) 2.2-2.8-3.7 | N/A       | N/A                      | 1    |
| 3        | PCB.000558  | Double-Sided Adhesive                                    | 3M 9448HK | White Paper with 3M Logo | 1    |

## 4. Packaging



- ✓ 100 PCS / PE bag
- ✓ PE bag(mm): 200x320 (Ref)
- ✓ Weight (g): 215  $\pm$ 3%
- ✓ SPQ Label

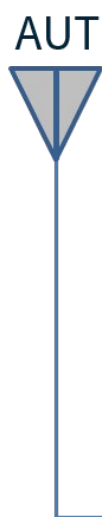


- ✓ 3000 PCS/ Carton
- ✓ Carton(mm):320x250x290
- ✓ Weight (kg): 6.98  $\pm$ 3%
- ✓ Carton Label

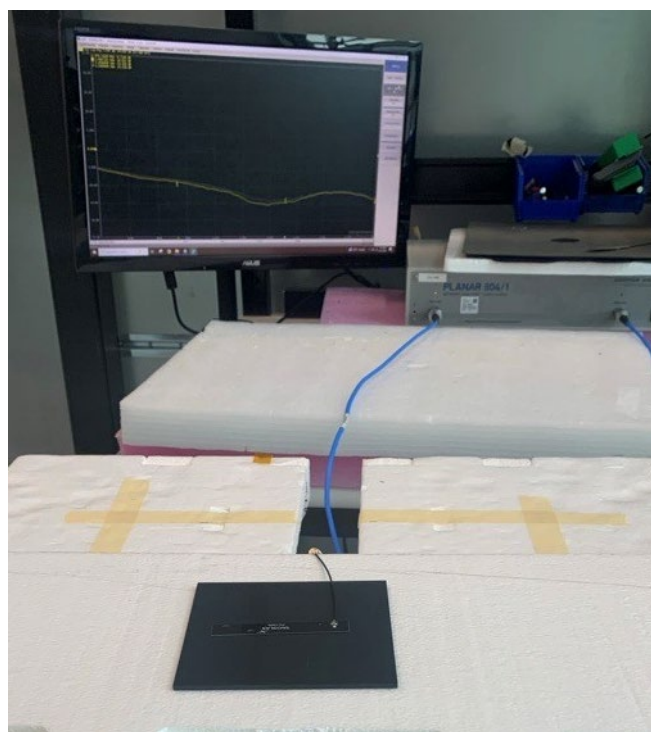
## 5. Antenna Characteristics

### 5.1 Test Setup

AUT

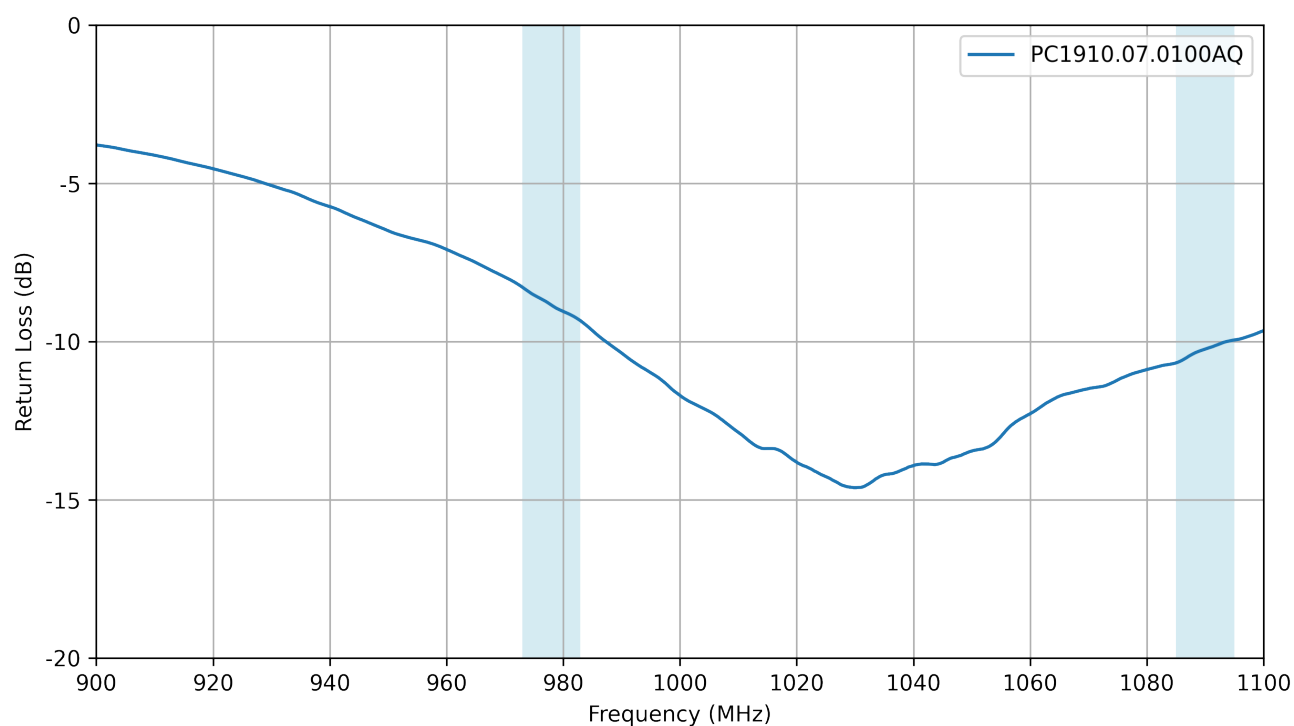


Vector Network Analyzer

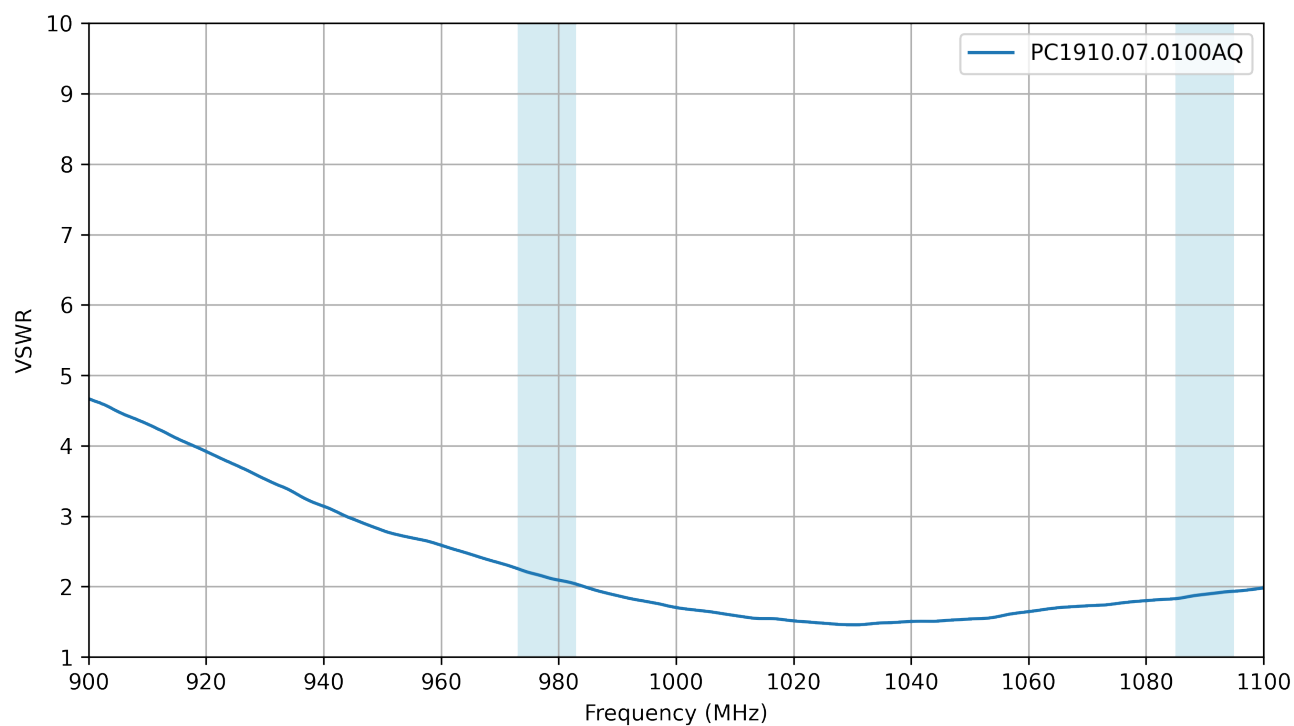


VNA Test Setup on 3mm ABS

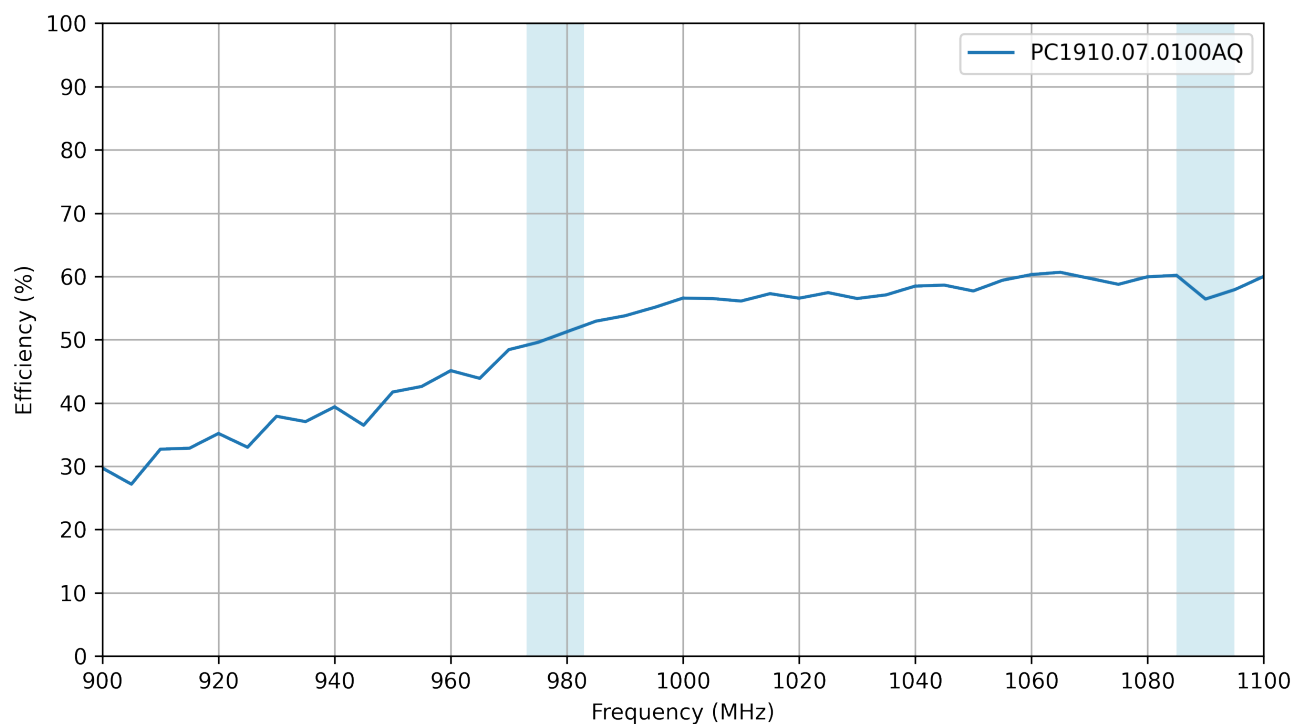
## 5.2 Return Loss



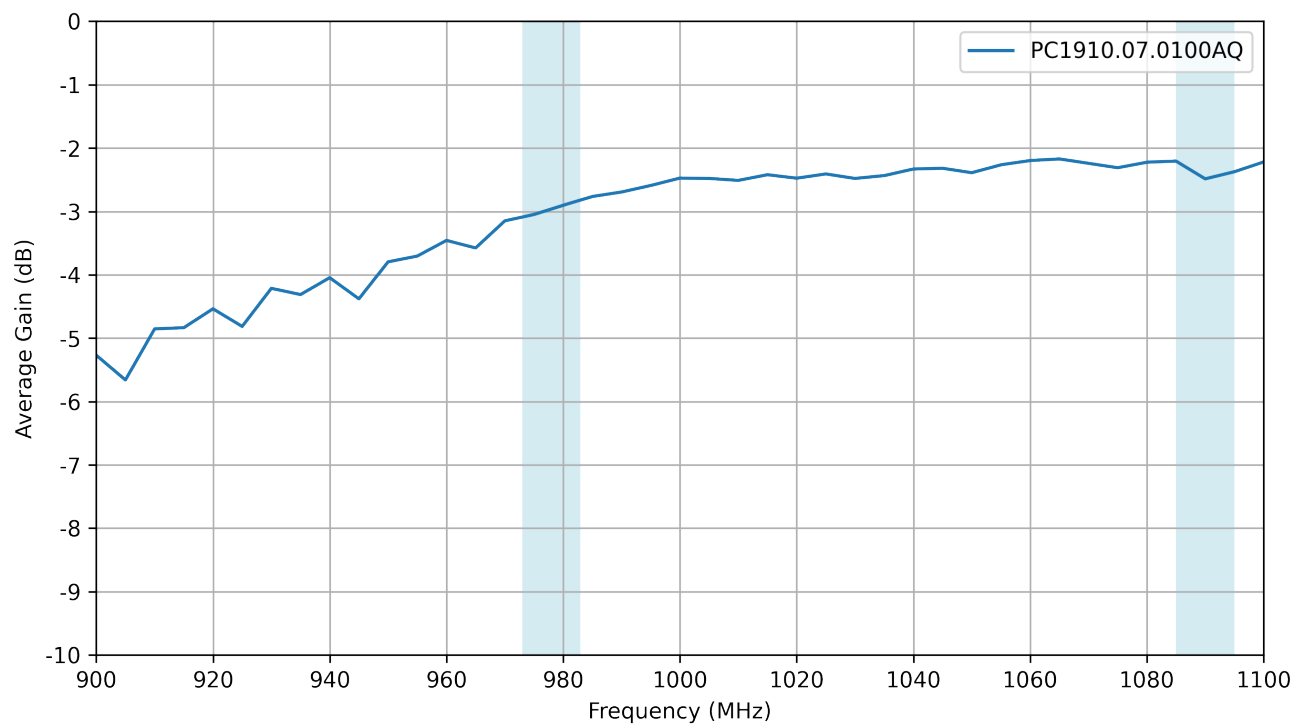
## 5.3 VSWR



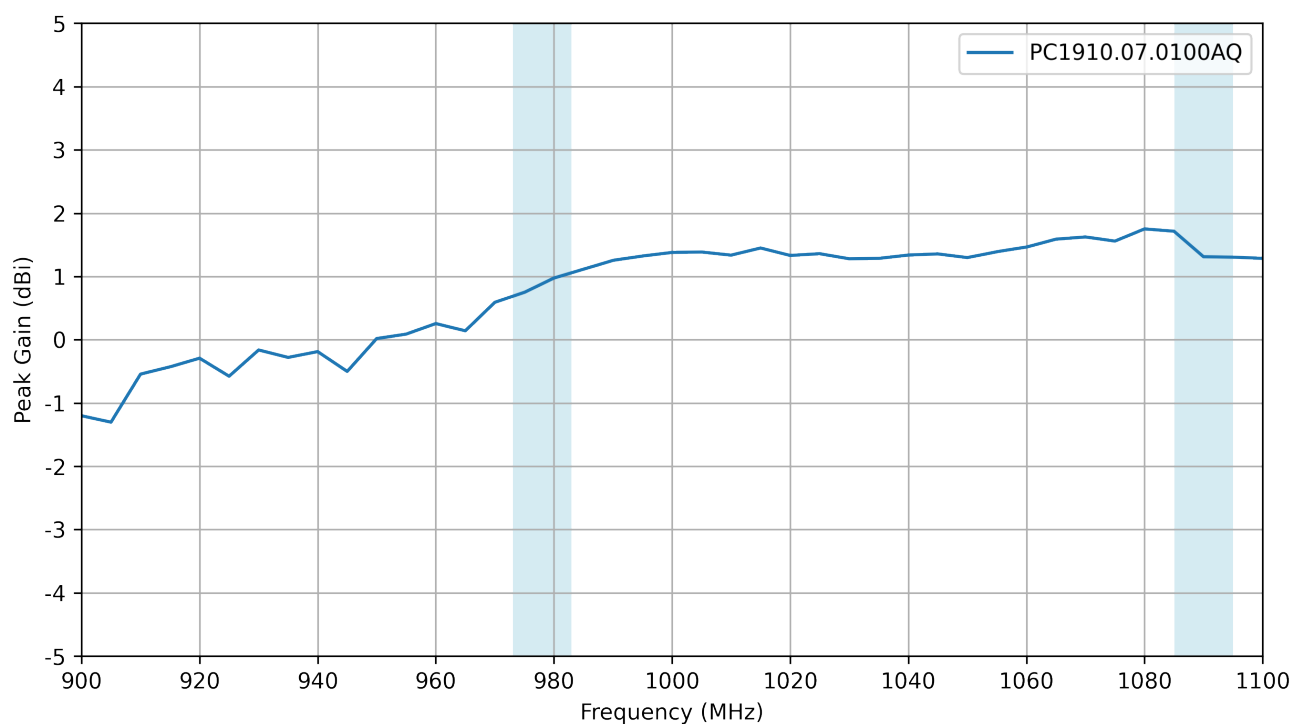
## 5.4 Efficiency



## 5.5 Average Gain

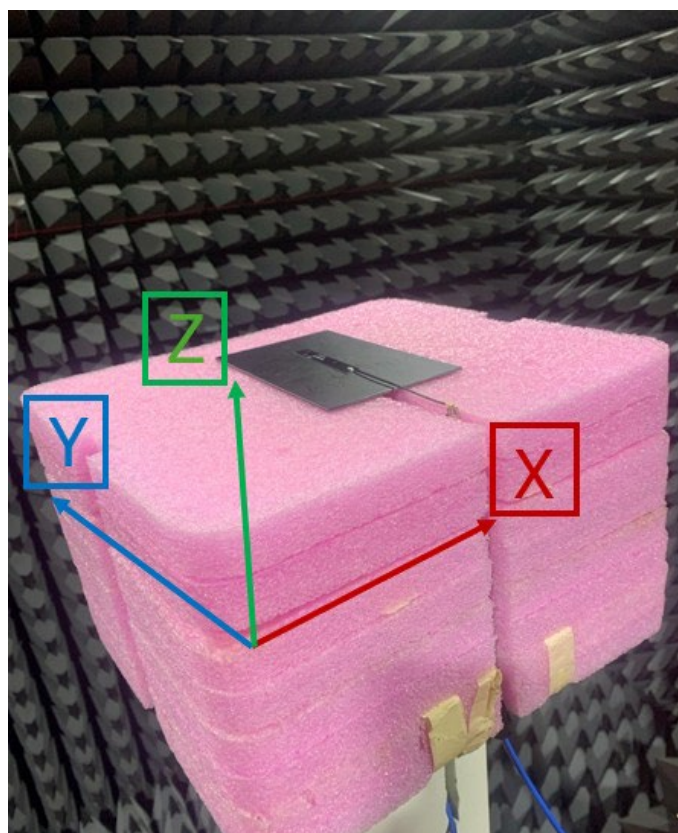
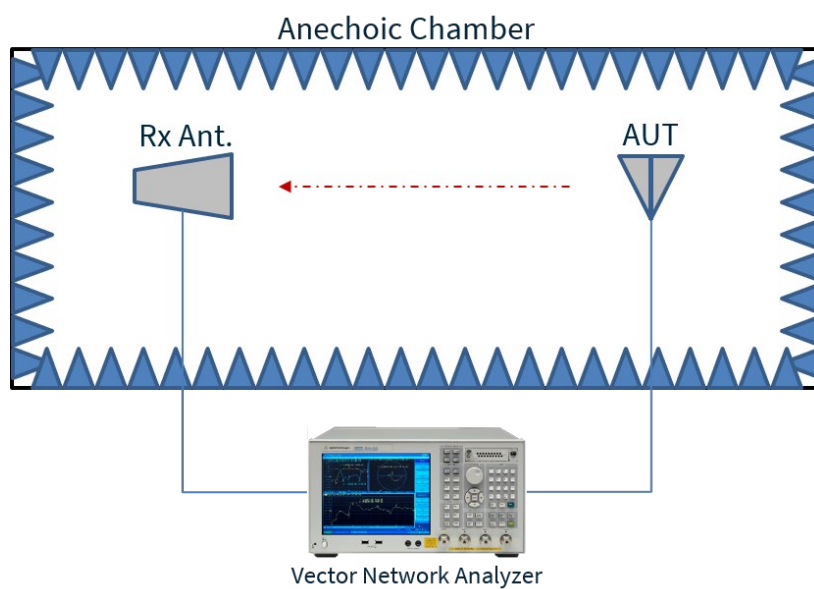


## 5.6 Peak Gain



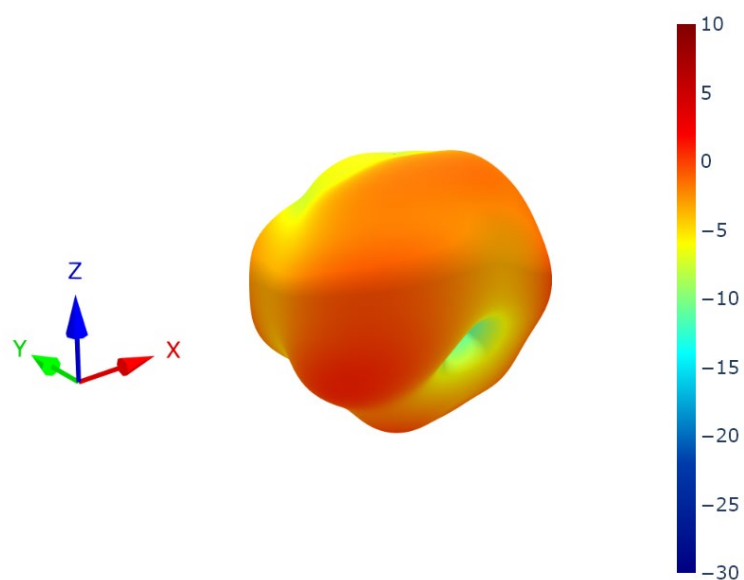
## 6. Radiation Patterns

### 6.1 Test Setup

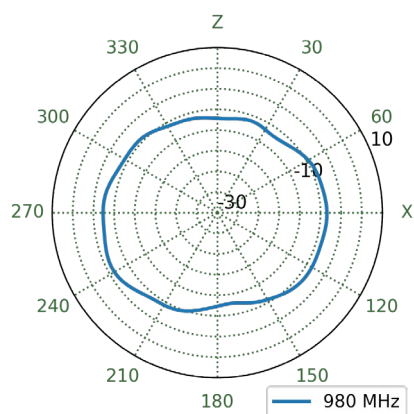


Chamber Test Setup on 3mm ABS

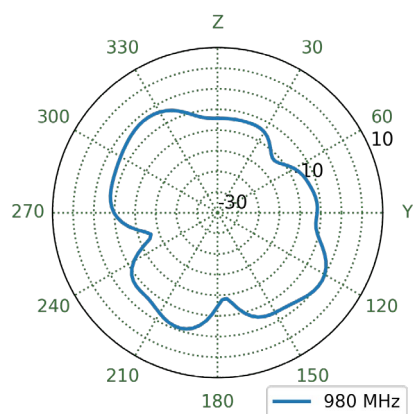
## 6.2 Patterns at 980 MHz



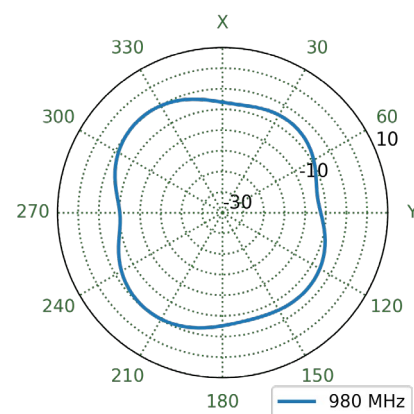
XZ Plane



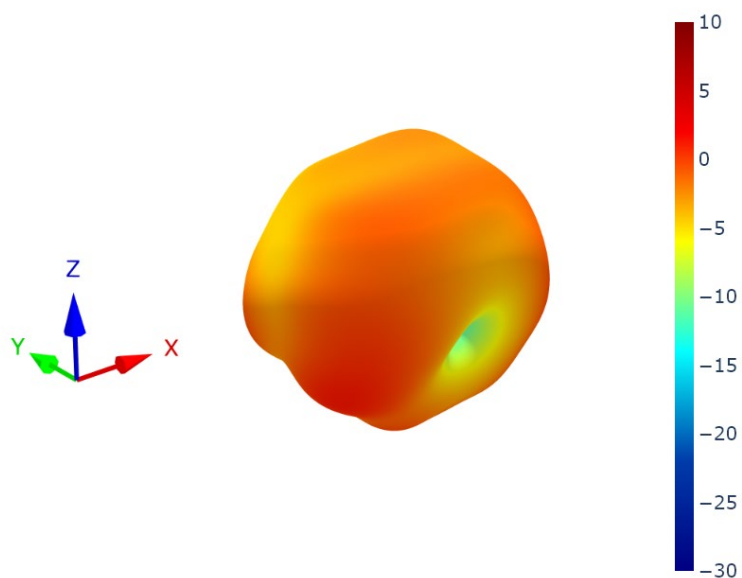
YZ Plane



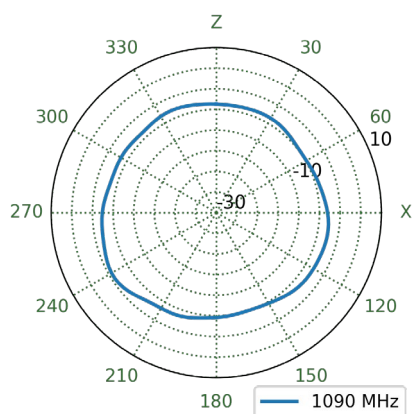
XY Plane



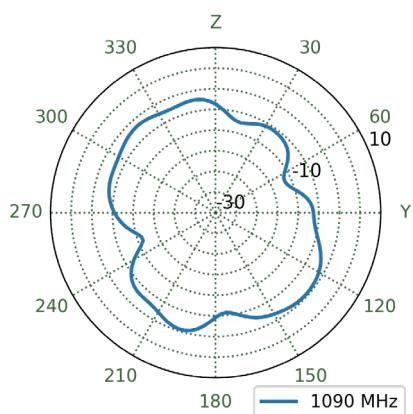
## 6.3 Patterns at 1090 MHz



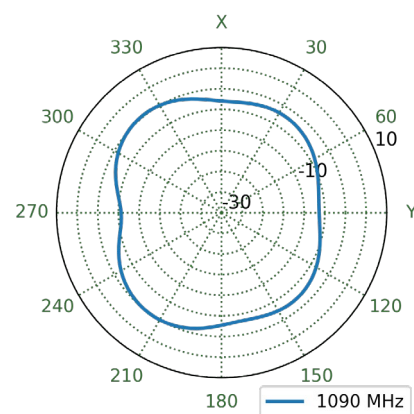
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-25-8-253 - HP25258.A

Revision: A (Original First Release)

|         |                 |
|---------|-----------------|
| Date:   | 2025-09-15      |
| Notes:  | Initial Release |
| Author: | Gary West       |

Previous Revisions

|  |  |
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