



TAOGLAS®



Datasheet

Part No:
PC1900.07.0100AQ

Description

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

Features:

PCB ADS-B Antenna (Vertical 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

1.	Introduction	3
2.	Specification	3
3.	Mechanical Drawing	5
4.	Packaging	6
5.	Antenna Characteristics	7
6.	Radiation Patterns	11
	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 PC1900 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 vertical-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 PC1900 delivers efficiency levels up to 63% and peak gain of 1.64 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 3mm 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 PC1900 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.

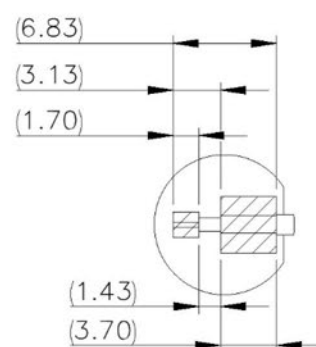
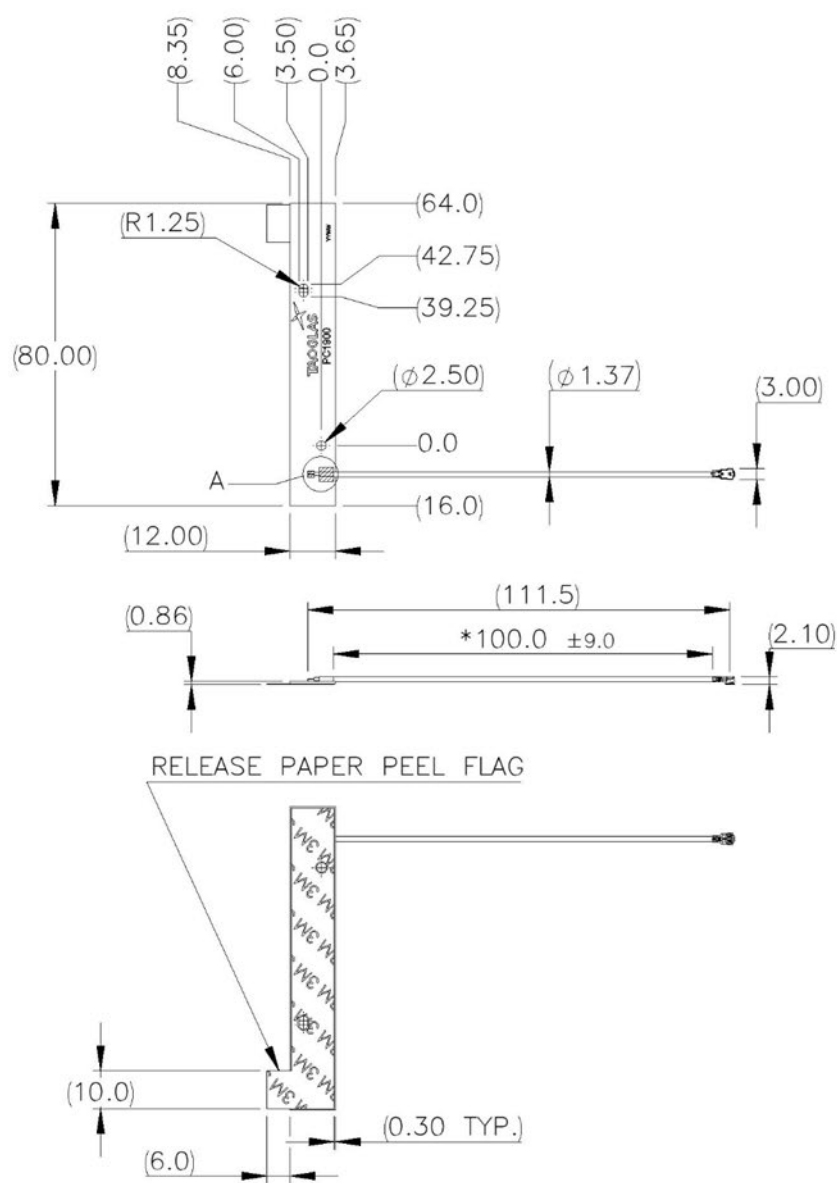
2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
978 MHz	973-983	59.3	-2.27	1.39	50 Ω	Linear	Omni directional	10W
1090 MHz	1085-1095	63.7	-1.96	1.64				

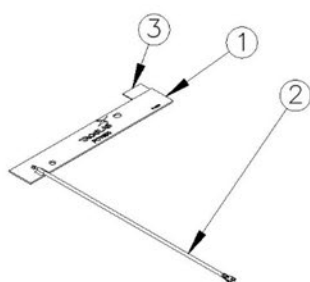
Mechanical	
Dimensions	80mm x 12mm x 0.86mm
Weight	2g
Material	FR4 (Composite)
Connector	IPEX MHF I (U.FL COMP)
Cable	100mm of 1.37 (Black)
Mount	Adhesive, 3M 9448 HK

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.000557	PC1900.07.0100AQ L80mm W12mm	Composite	Black	1
2	ASY.002893	100MM, 1.37MM Black, IPEX MHF I (U.FI Comp.) 1.7-1.43-3.7	N/A	N/A	1
3	PCB.000557	Double-Sided Adhesive	3M 9448HK	White Paper with 3M Logo	1

4. Packaging



- ☒ 50 PCS / PE bag
- ☒ PE bag(mm): 200x320 (Ref)
- ☒ Weight (g): 110 $\pm$ 3%
- ☒ SPQ Label

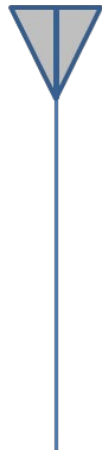


- ☒ 2000 PCS/ Carton
- ☒ Carton(mm):320x250x290
- ☒ Weight (kg): 4.93 $\pm$ 3%
- ☒ Carton Label

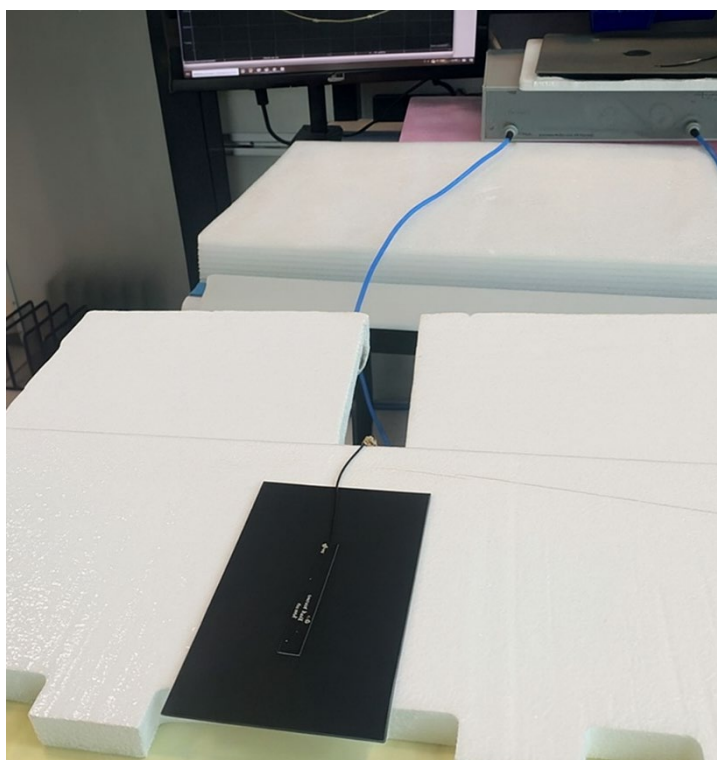
5. Antenna Characteristics

5.1 Test Setup

AUT

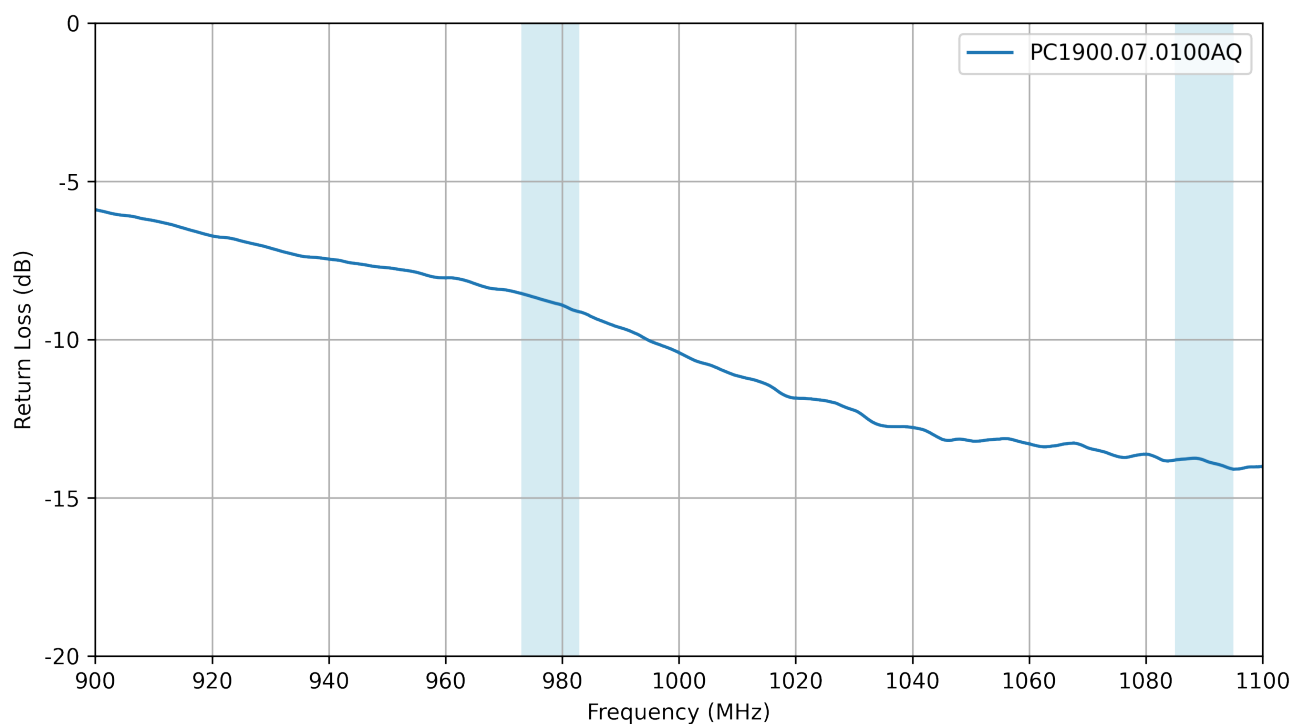


Vector Network Analyzer

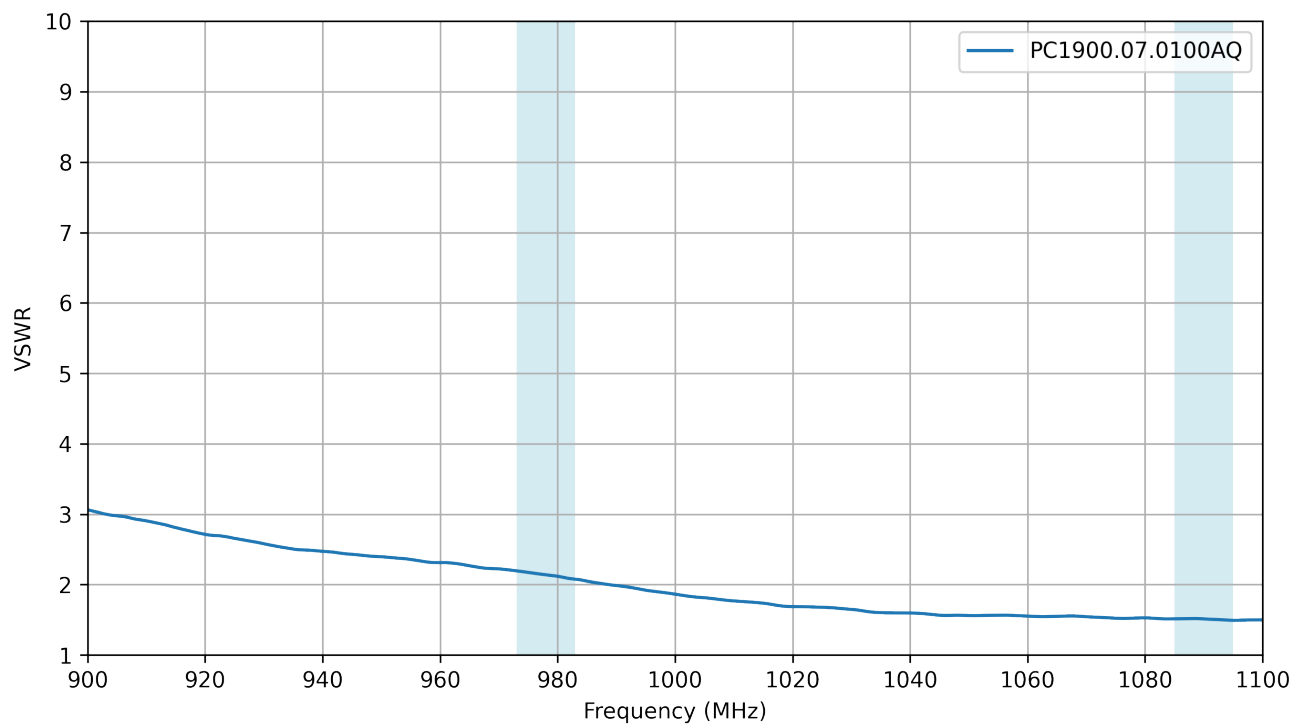


VNA Test Setup on 3mm ABS

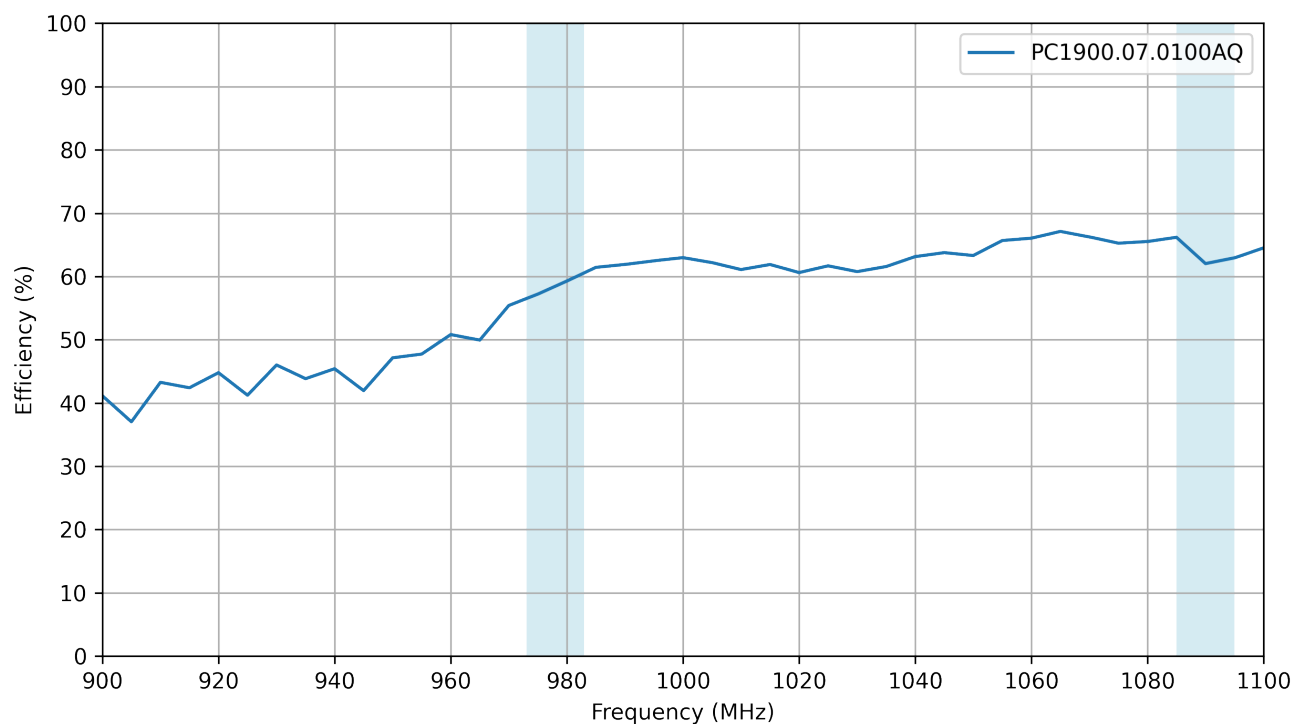
5.2 Return Loss



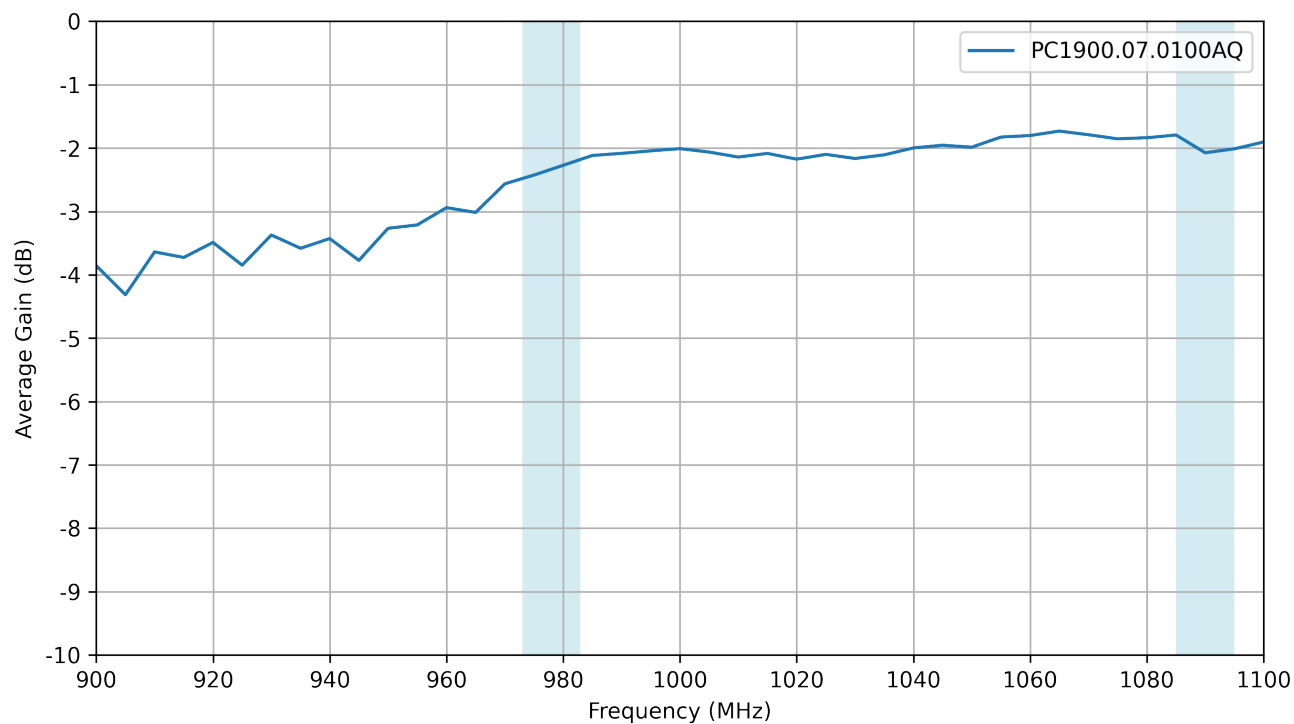
5.3 VSWR



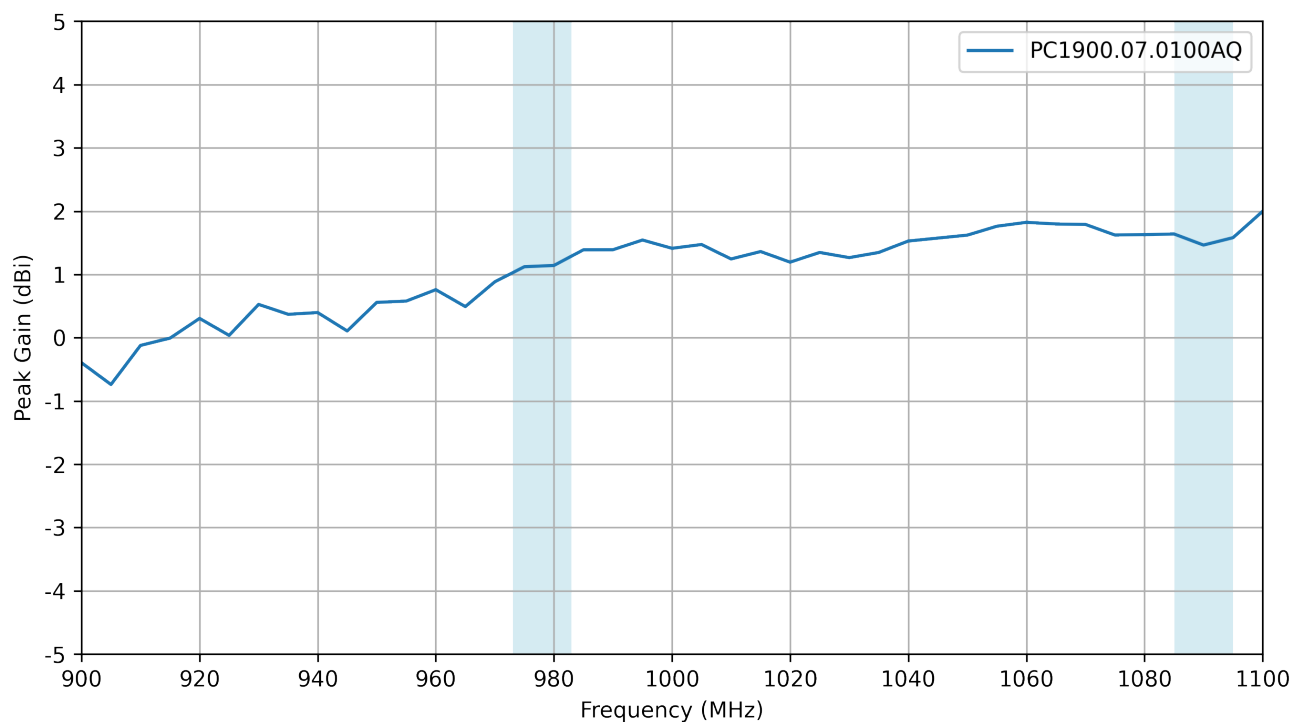
5.4 Efficiency



5.5 Average Gain

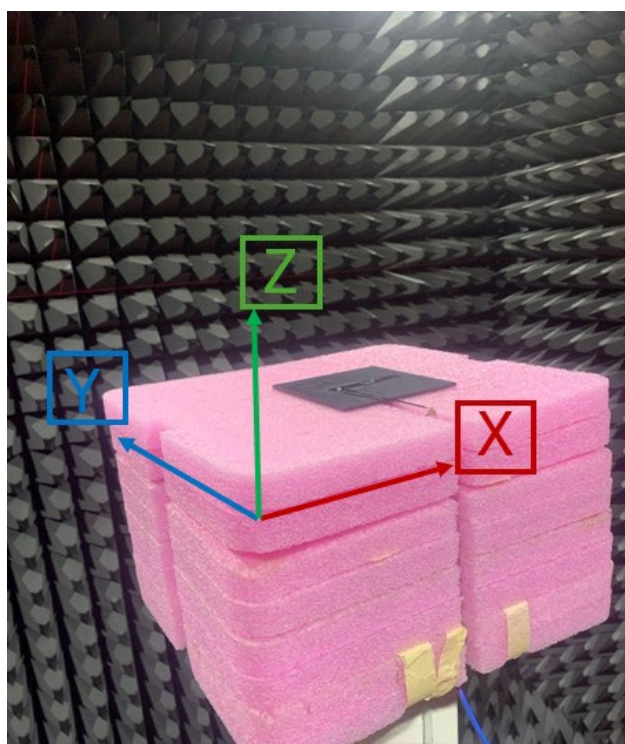
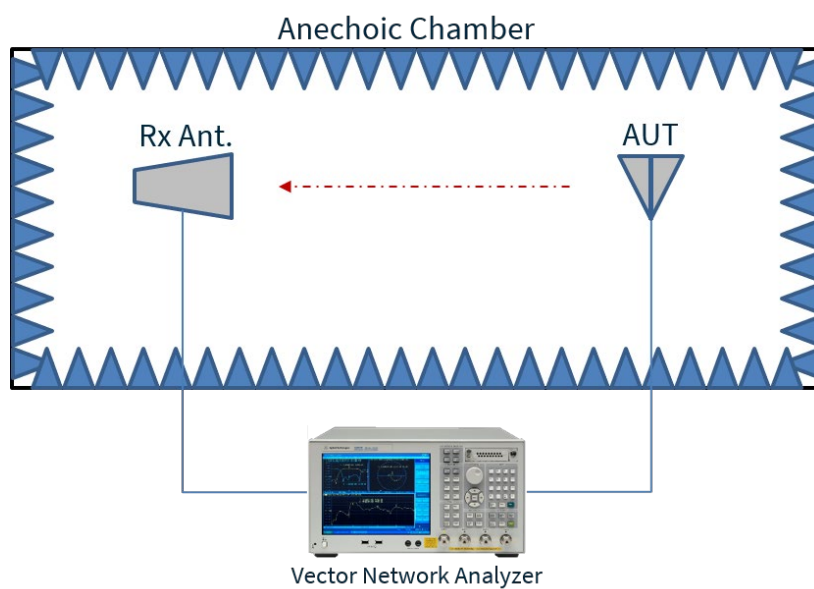


5.6 Peak Gain



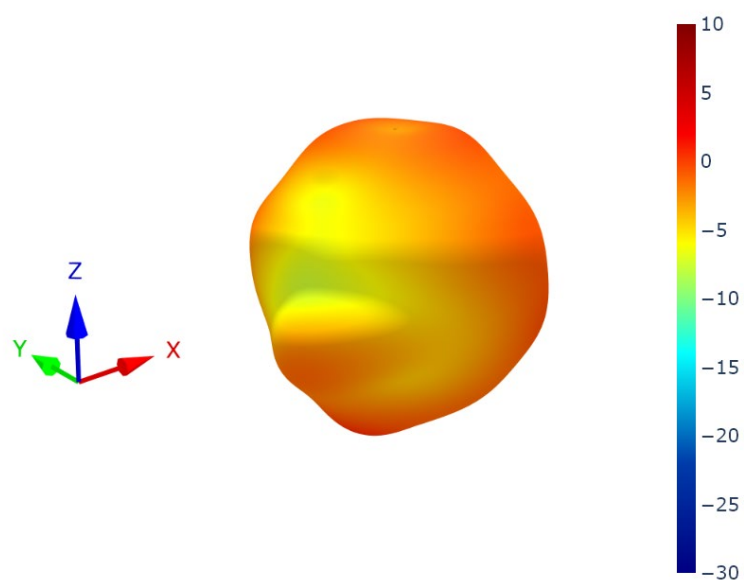
6. Radiation Patterns

6.1 Test Setup

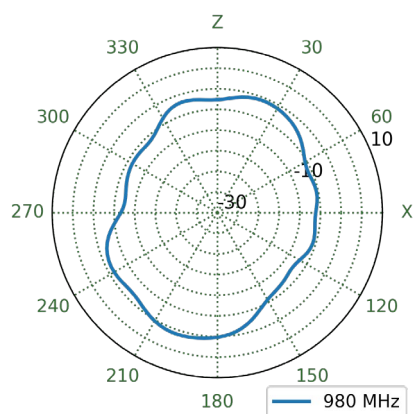


Chamber Test Setup on 3mm ABS

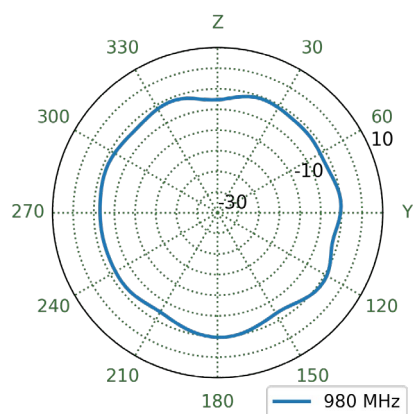
6.2 Patterns at 980 MHz



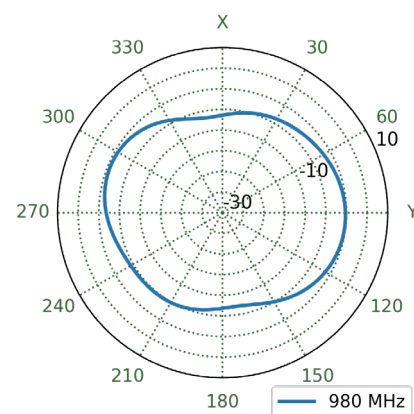
XZ Plane



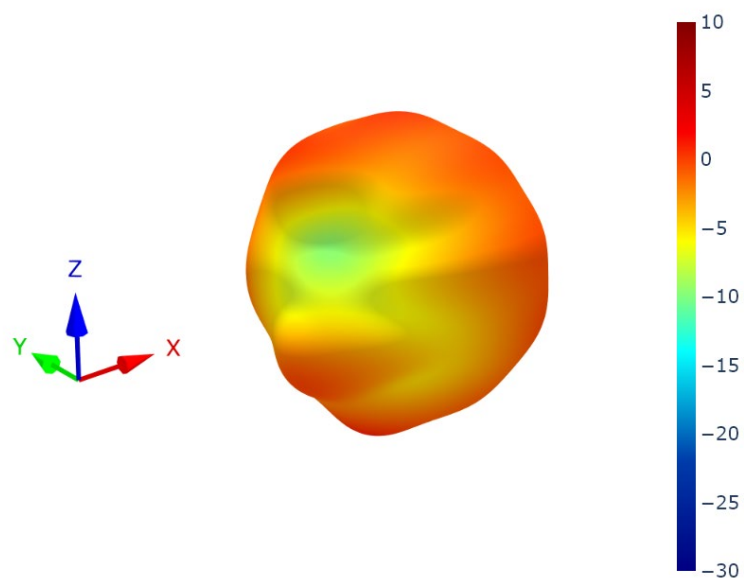
YZ Plane



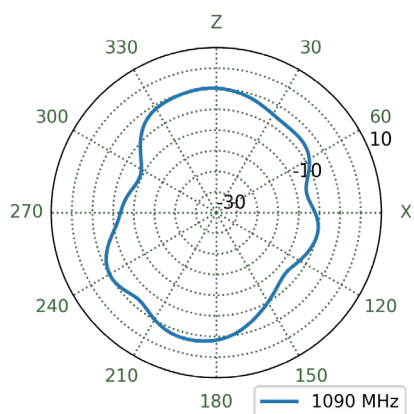
XY Plane



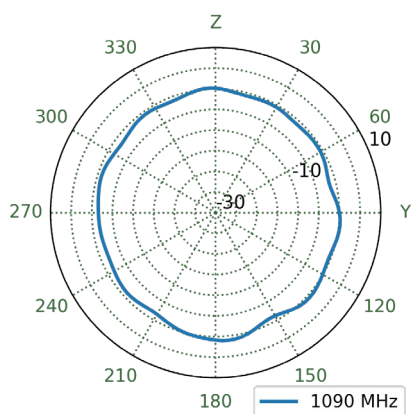
6.3 Patterns at 1090 MHz



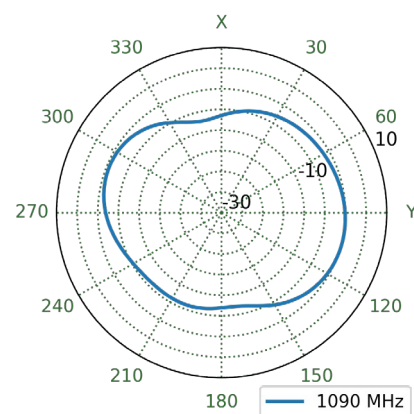
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-25-8-255 - PC1900.07.0100AQ

Revision: A (Original First Release)

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

Previous Revisions



www.taoglas.com

