Antenna Characterization Test Data

Report No.: iKEY01- 902.381MHz, 903.432MHz

Company: iKeyless

Model No.: FDSSL-G140

Table of Contents

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

TEST SETUP

The chamber uses spherical measurement system. Figure 1. shows the typical setup of the chamber. In addition to the pictured Theta axis rotation, the EUT will have to be rotated about the Z-axis (Phi rotation) in order to perform the full spherical scans. The EUT is placed on a turn table typically rotating 360 degrees (Azimuth). A receiving antenna, typically a horn antenna or patch antenna with dual polarization, is placed on a boom that moves from zero to 180 degrees (Elevation).
The EUT antenna transmits radio waves which are picked up by the horn antenna for the receiving instrumentation. Measurements are recorded continuously at several angles of Elevation (theta = 0 to 180) and Azimuth (Phi = 0 to 360) to provide a 2D or 3D view of the antenna radiation pattern.

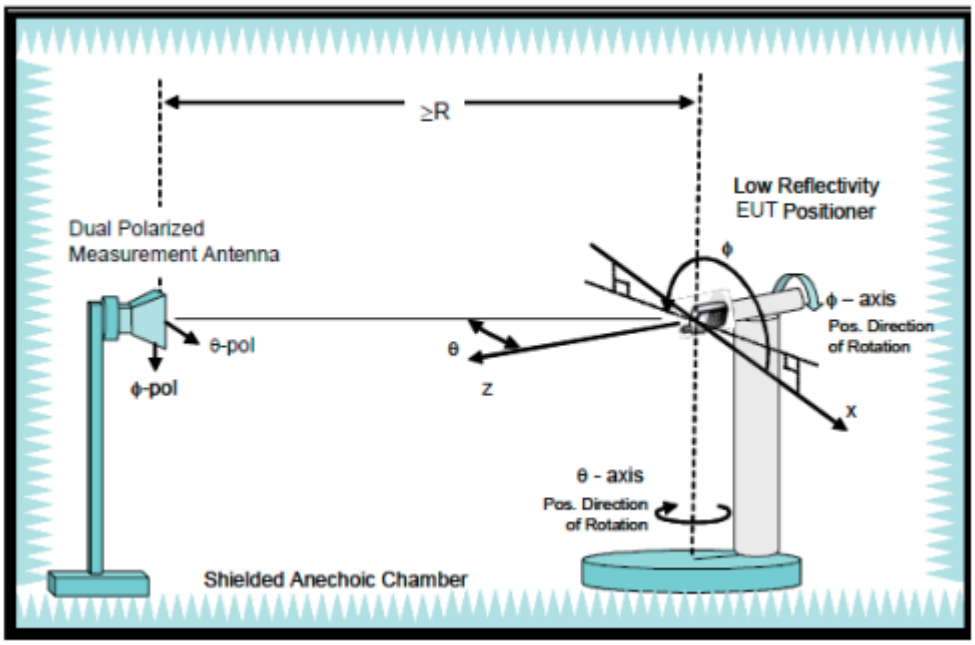


Fig 1. Test Setup

Test Equipment Utilized

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
294	Antenna Measurement Chamber	ETS Lindgren	AMS-8500	008	Not Required
369	Quad Ridge Horn Antenna	ETS-Lindgren	ETS 3164-08	00123798	12 Jan 2026
439	Sleeve Dipole Antenna	ETS Lindgren	3126-920	00168522	9 Sep 2025
444	SMA Cable Assembly	ETS-Lindgren	RFC-NMS-100-SMS-256 IN	001	Cal when used
499	ENA Series Network Analyzer 100 kHz to 8.5 GHz	Agilent	E5071C	MY46100409	11 Feb 2026
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2026
900	Test Software for 2D and 3D antenna pattern measurement.	ETS Lindgren	EMQuest V1.08 Build 3151	900	Not Required

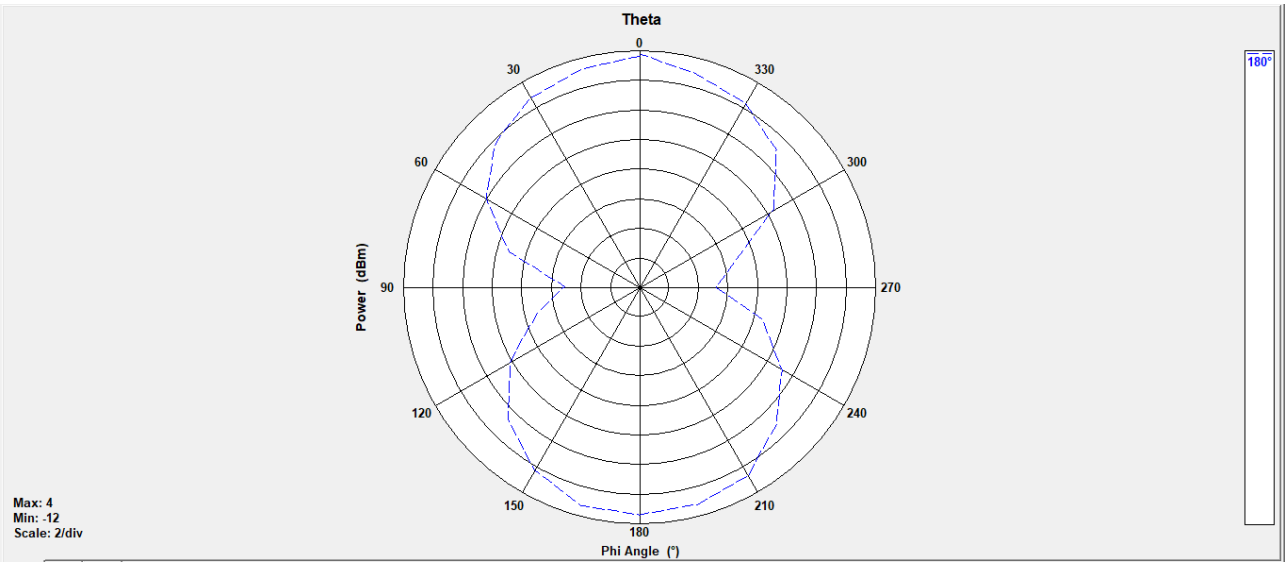
TEST METHOD

The method is used to measure the antenna 2D or 3D gain of EUT in OTA anechoic chamber. Equipment Under Test (EUT) is placed at the center of the platform. EUT was rotated and data was recorded, step rotation 15^0 on both axis

902.381MHz

ANTENNA SPECIFICATION	
SUMMARY	
ITEM	KEYFOB
MODEL NO	FDSSL-G140
FREQUENCY	902.381MHz

Horizontal



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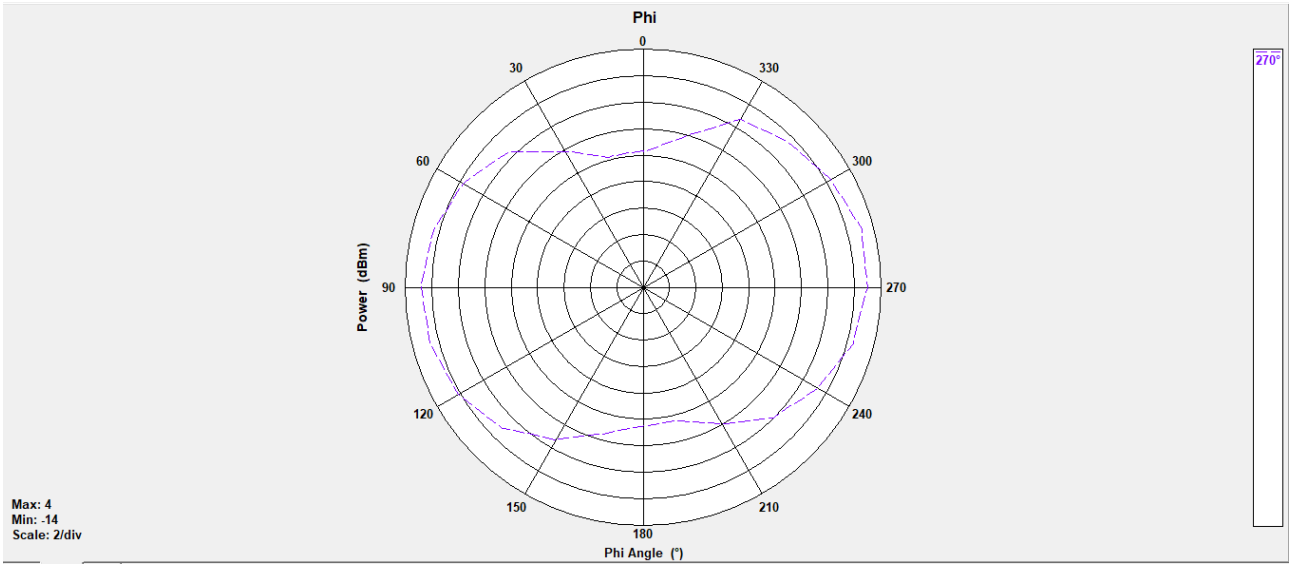
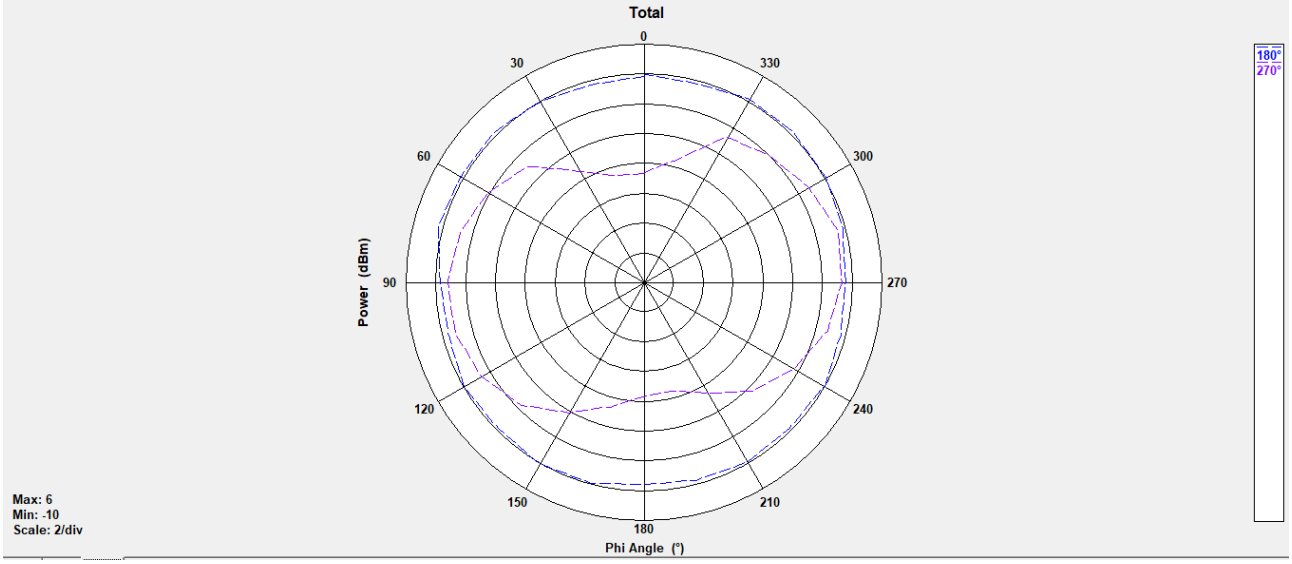


Total

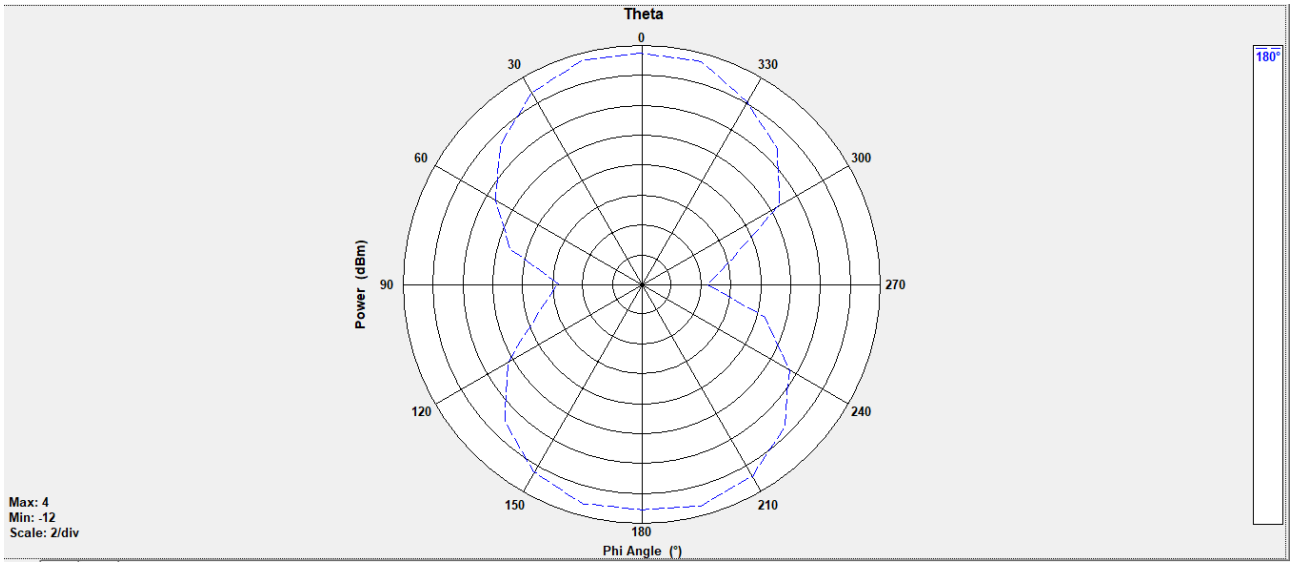


Frequency (MHz)	Gain (dBi)		
	Max	Min	Avg
902.381	-6.44	-6.48	-6.46

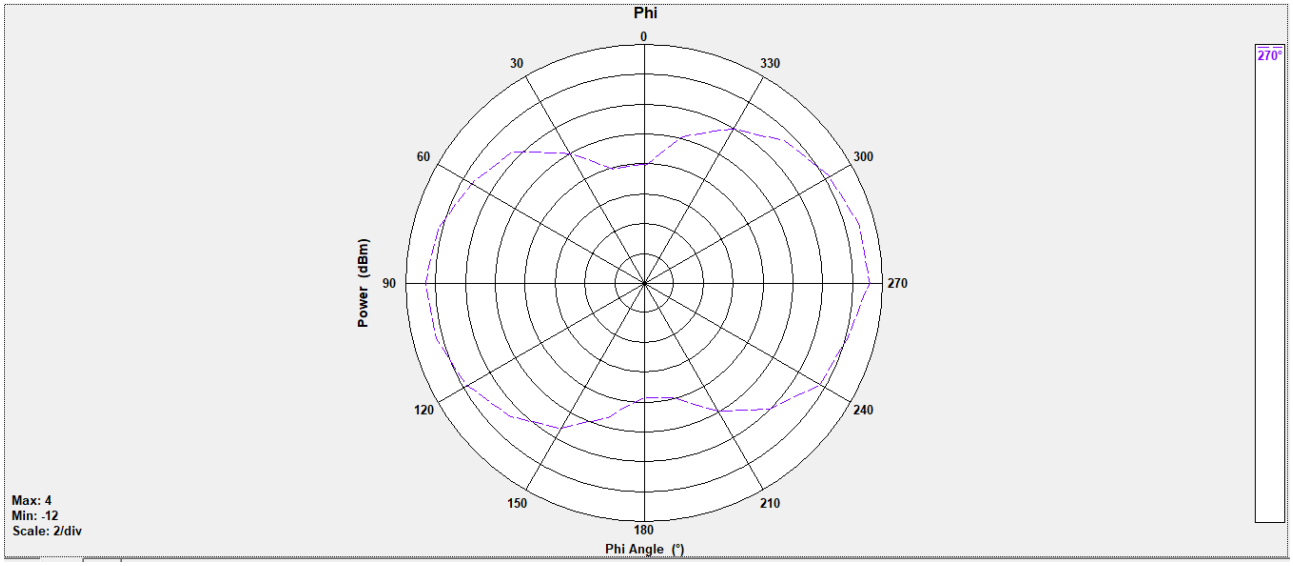
903.432 MHz

ANTENNA SPECIFICATION	
SUMMARY	
ITEM	KEYFOB
MODEL NO	FDSSL-G140
FREQUENCY	903.432MHz

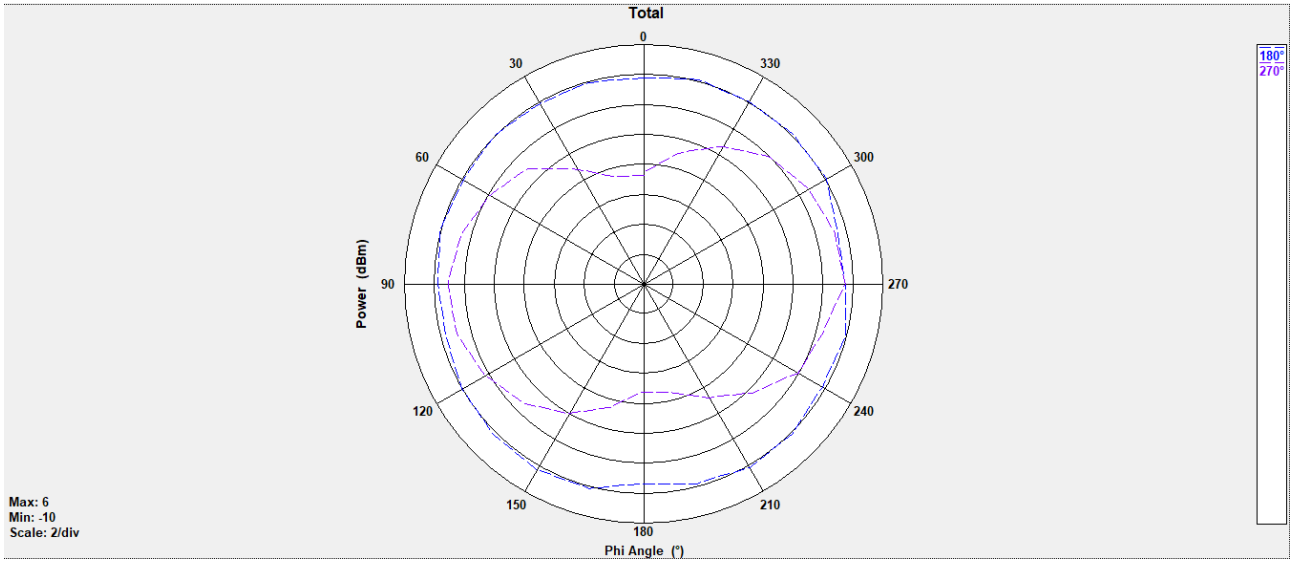
Horizontal



Vertical



Total



Frequency (MHz)	Gain (dBi)		
	Max	Min	Avg
903.432	-5.07	-6.53	-5.8

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PHOTOGRAPHS

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