

ANTENNA PASSIVE TEST REPORT

Application No. ZEWM2304000431OA
Applicant Merlyn Mind, Inc.
Manufacturer Merlyn Mind, Inc.
Product Name ActivPanel Merlyn Remote
Model No. AP-MM-RCU
Standards ANSI/IEEE Std 149-2008
Date Initial Sample(s) Received 2023.04.07
Testing Start Date 2023.04.09
Testing Finish Date 2023.04.09
Report Issue Date 2023.05.08

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

YUANYU LUO

Prepared by

Max. Huang

Reviewed By

Irvin Li

Approved by



Revision Version

Report No.	Version	Date	Memo
ZEWM2304000431OA01	00	2023.05.08	Initial creation of report



TABLE OF CONTENTS

1	GENERAL INFORMATION.....	4
1.1	Testing Laboratory	4
1.2	Details of Applicant	4
1.3	Details of Manufacturer	4
1.4	General Description of EUT.....	5
1.5	Test Procedure	5
1.6	Test Specification	6
1.7	Laboratory Environment.....	6
2	OTA MEASUREMENTS SYSTEM CONFIGURATION.....	7
2.1	Test Configuration.....	7
3	TEST EQUIPMENT LIST	8
4	MEASUREMENT UNCERTAINTY	9
5	TEST RESULTS	10
6	PATTERN PLOTS.....	12
6.1	Return Loss.....	12
6.2	VSWR	13
6.3	Stimulus	14
7	2-D ANTENNA PATTERN	15
8	3-D ANTENNA PATTERN	16
9	THE EUT AND TEST CONFIGURATION.....	17



1 General Information

1.1 Testing Laboratory

Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address	No.1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057
Contact	Ervin Li
Tel.	+86 18823369694
Fax	+86-755-25328600
E-mail	Ervin.Li@sgs.com

1.2 Details of Applicant

Applicant's Name	Merlyn Mind, Inc.
Applicant's Address	8 West 40th Street, Floor 20, New York, NY 10018, USA
Contact	Max Tsou
Tel.	1-714-6993737
Fax	N/A
E-mail	max@merlyn.org

1.3 Details of Manufacturer

Manufacturer's Name	Merlyn Mind, Inc.
Manufacturer's Address	8 West 40th Street, Floor 20, New York, NY 10018, USA
Contact	Max Tsou
Tel.	1-714-6993737
Fax	N/A
E-mail	max@merlyn.org



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

1.4 General Description of EUT

Device Description:	ActivPanel Merlyn Remote
Device Manufacturer:	Merlyn Mind, Inc.
Device Model:	AP-MM-RCU
Hardware Version:	N/A
Software Version:	N/A

1.5 Test Procedure

Testing is performed according to the **ANSI/IEEE Std 149-2008**.



1.6 Test Specification

Identity	Document Title
ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

1.7 Laboratory Environment

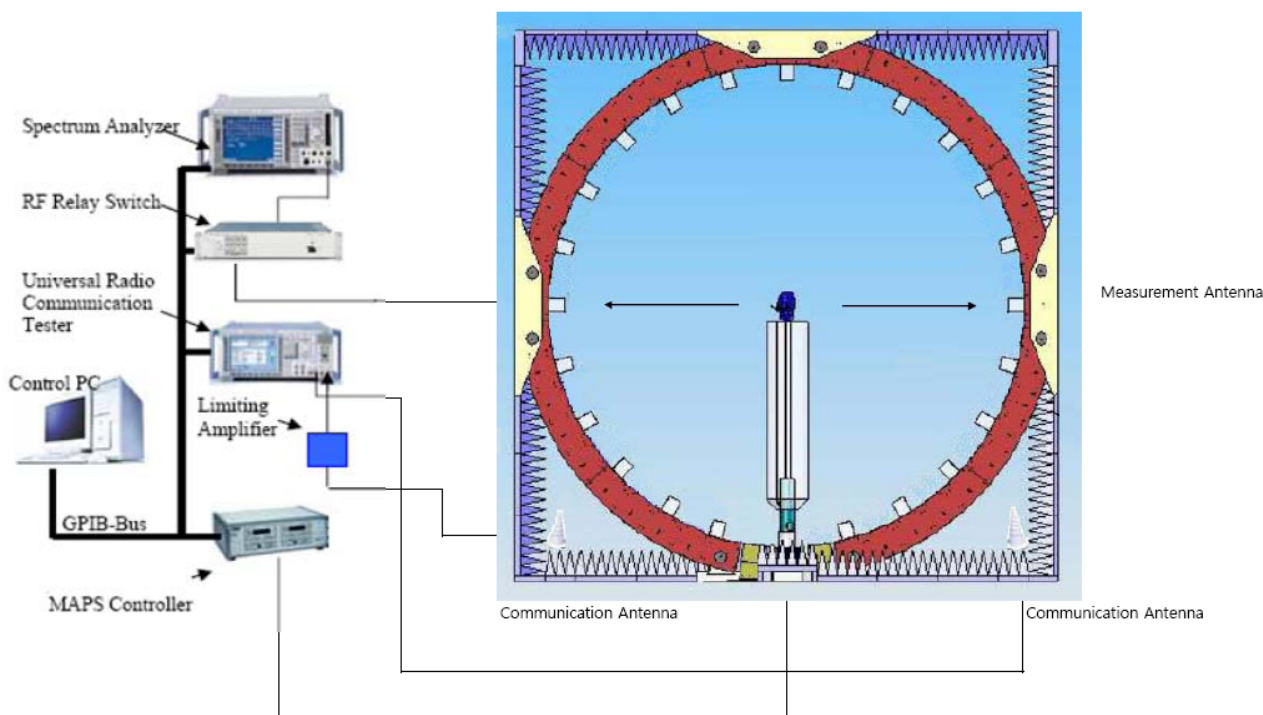
Temperature	Min. =19°C , Max. = 25°C	
Relative humidity	Min. =40% , Max. =72%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	



2 OTA Measurements System Configuration

2.1 Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m



F-1. OTA Measurement System Configuration



3 Test Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2023/2/16	2024/2/15
Quad-Ridge Horn Antenna 700 MHz-10 GHz	EMCO 3164-08 S/N 161915	ETS-Lindgren L.P.	N/A	N/A
MAPS Controller	EMCENTER S/N 160485	ETS-Lindgren L.P.	N/A	N/A



4 Measurement Uncertainty

Item	2400-2500 MHz (dB)
Gain	0.88
Efficiency	0.88
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2	



5 Test Results

Free Space			
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2350	-20.60	0.87	-13.51
2355	-20.29	0.93	-13.19
2360	-19.88	1.03	-12.62
2365	-19.71	1.07	-12.63
2370	-19.45	1.13	-12.44
2375	-19.24	1.19	-12.38
2380	-18.86	1.30	-12.18
2385	-18.50	1.41	-11.84
2390	-18.11	1.55	-11.53
2395	-17.67	1.71	-10.96
2400	-17.37	1.83	-10.83
2402	-17.18	1.91	-10.53
2405	-16.93	2.03	-10.21
2410	-16.58	2.20	-9.98
2415	-16.27	2.36	-9.63
2420	-16.11	2.45	-9.66
2425	-15.97	2.53	-9.72
2430	-15.95	2.54	-9.70
2435	-15.95	2.54	-10.02
2440	-15.95	2.54	-9.95
2441	-15.99	2.52	-9.99
2445	-16.16	2.42	-10.03
2450	-16.38	2.30	-10.08
2455	-16.73	2.12	-10.35
2460	-17.15	1.93	-11.04
2465	-17.49	1.78	-11.28
2470	-18.09	1.55	-12.37
2475	-18.36	1.46	-12.96
2480	-18.87	1.30	-13.41
2482	-18.97	1.27	-13.86
2485	-19.17	1.21	-13.92
2490	-19.53	1.11	-14.30
2495	-19.73	1.06	-14.40
2500	-19.93	1.02	-14.44

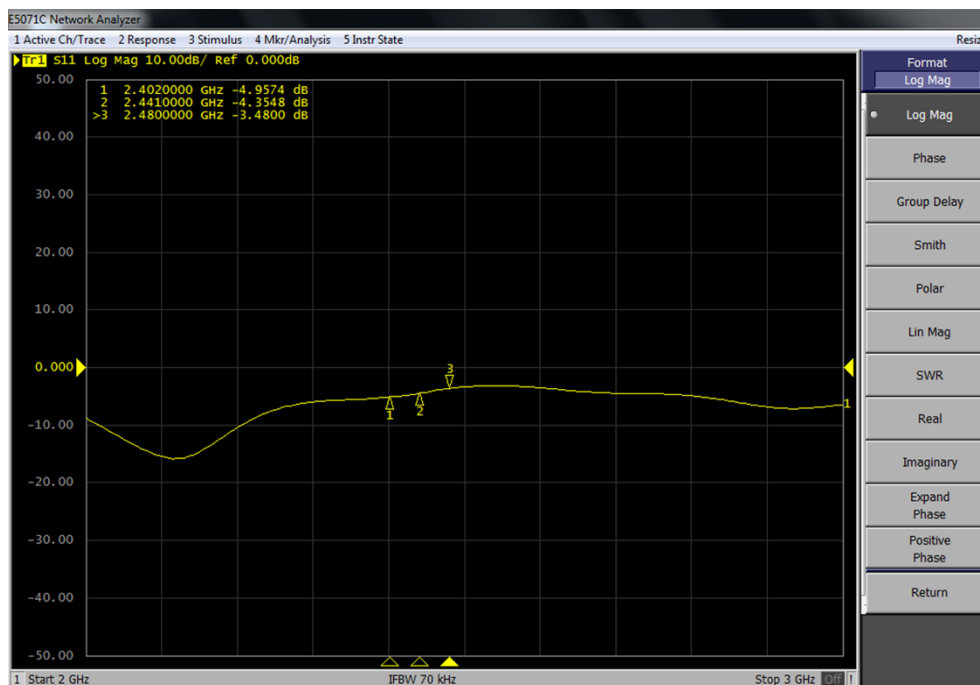


2505	-20.20	0.95	-14.73
2510	-20.48	0.90	-14.85
2515	-21.00	0.79	-15.73
2520	-21.45	0.72	-16.54
2525	-21.92	0.64	-17.28
2530	-22.27	0.59	-18.05
2535	-22.58	0.55	-18.22
2540	-22.86	0.52	-18.60
2545	-23.04	0.50	-18.05
2550	-23.36	0.46	-18.09
2555	-23.54	0.44	-18.10
2560	-23.82	0.41	-18.18
2565	-23.95	0.40	-17.97
2570	-24.10	0.39	-17.90
2575	-24.28	0.37	-18.79
2580	-24.34	0.37	-19.25

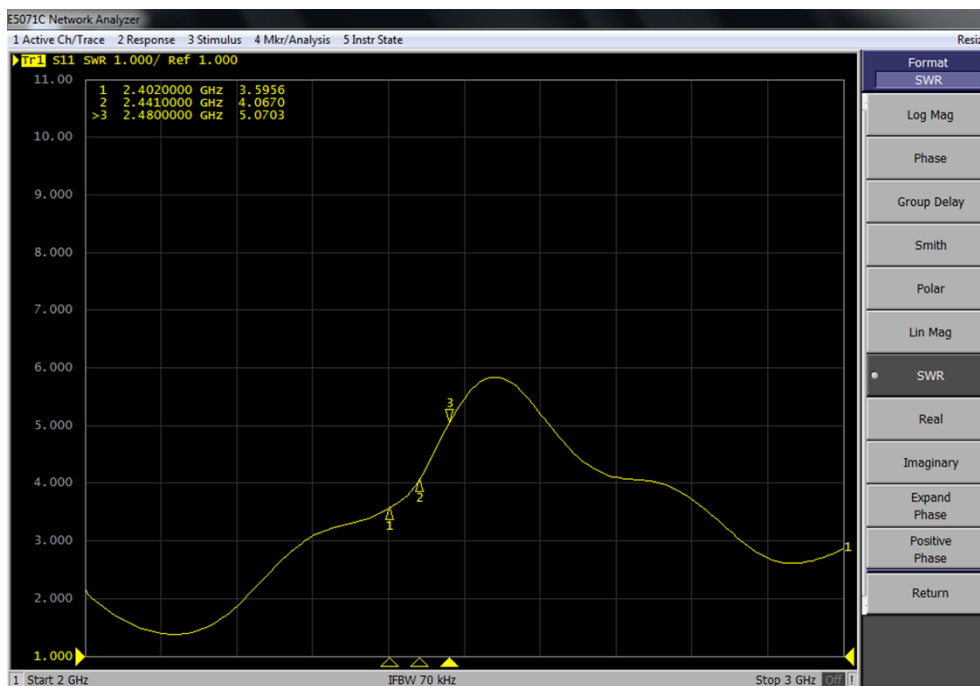


6 Pattern Plots

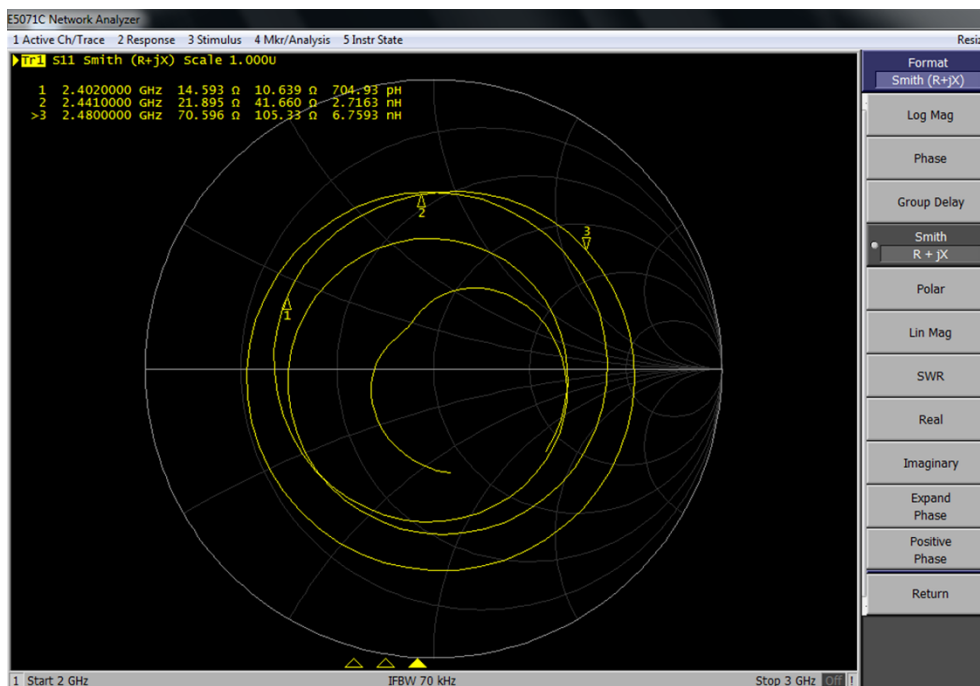
6.1 Return Loss



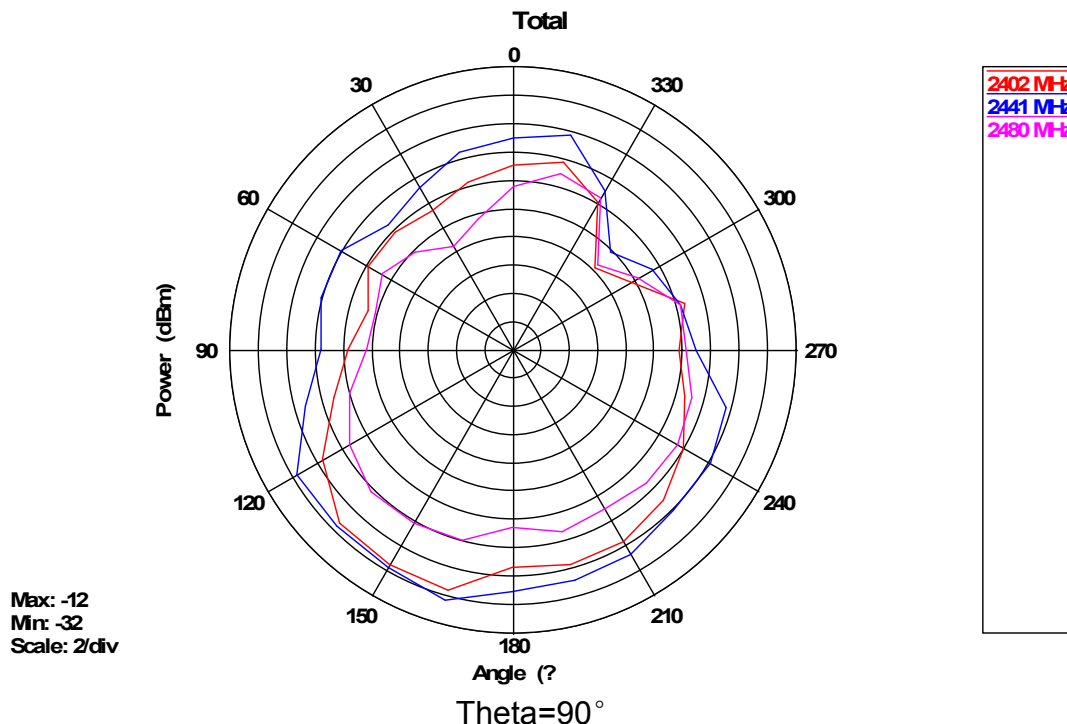
6.2 VSWR



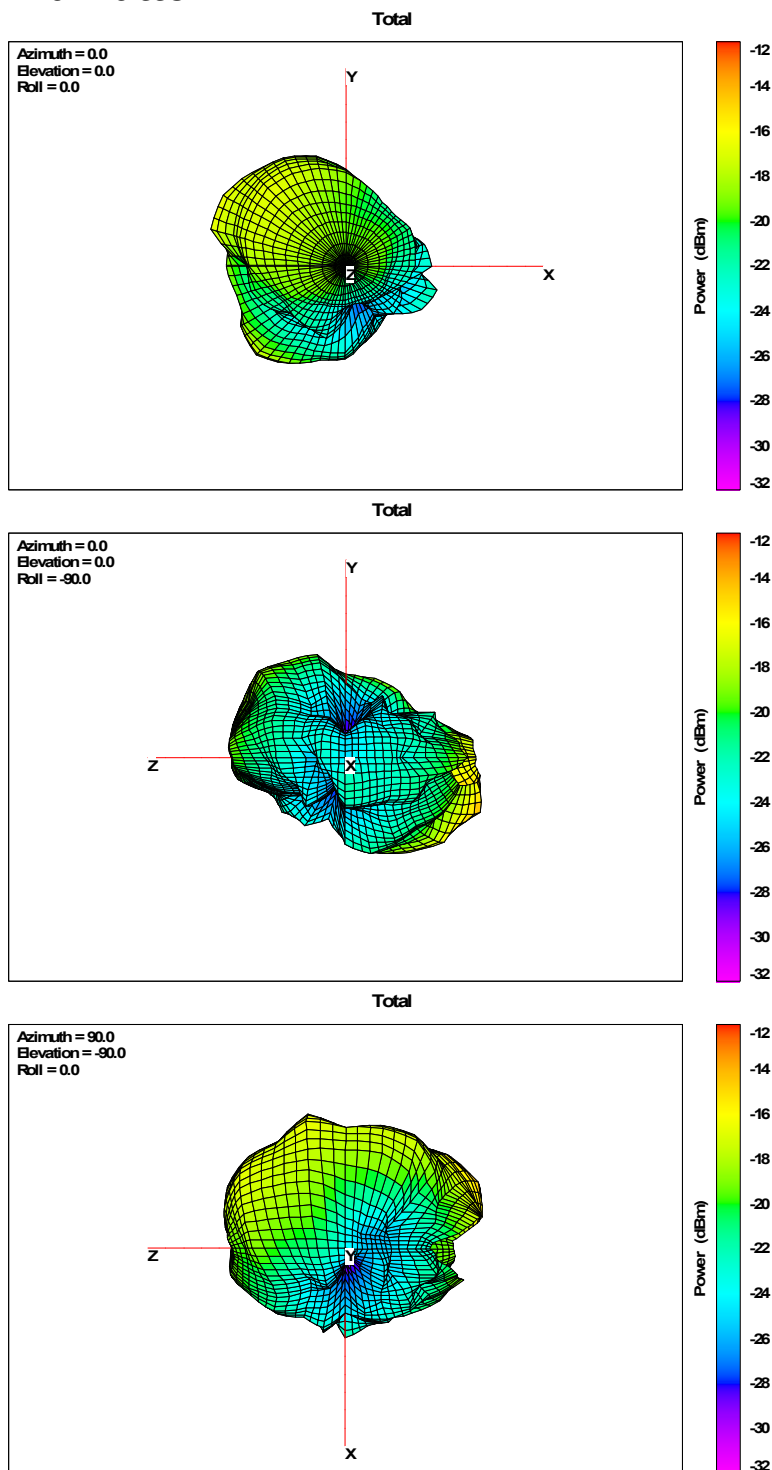
6.3 Stimulus

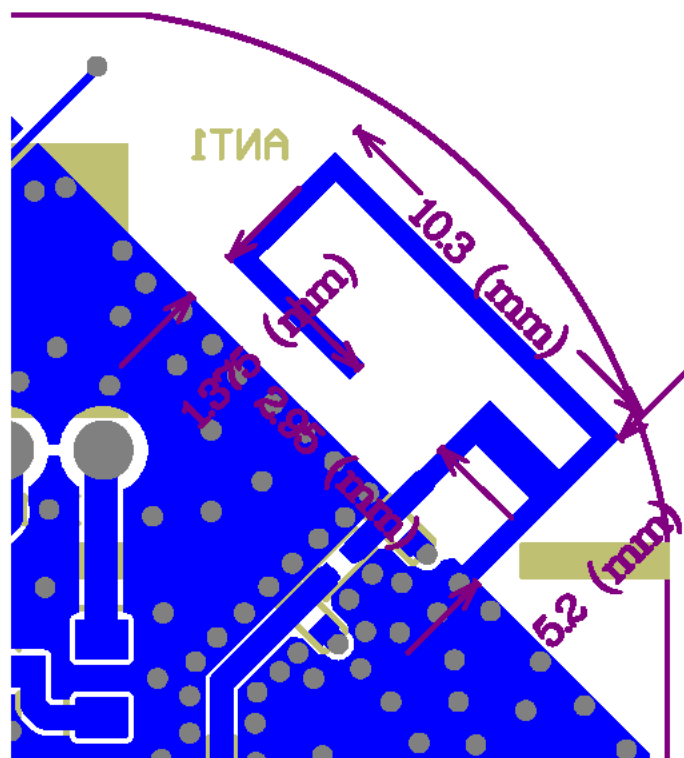


7 2-D Antenna Pattern



8 3-D Antenna Pattern





Antenna Dimension

---END---

