

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

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

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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
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Contact	Ervin Li
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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



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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

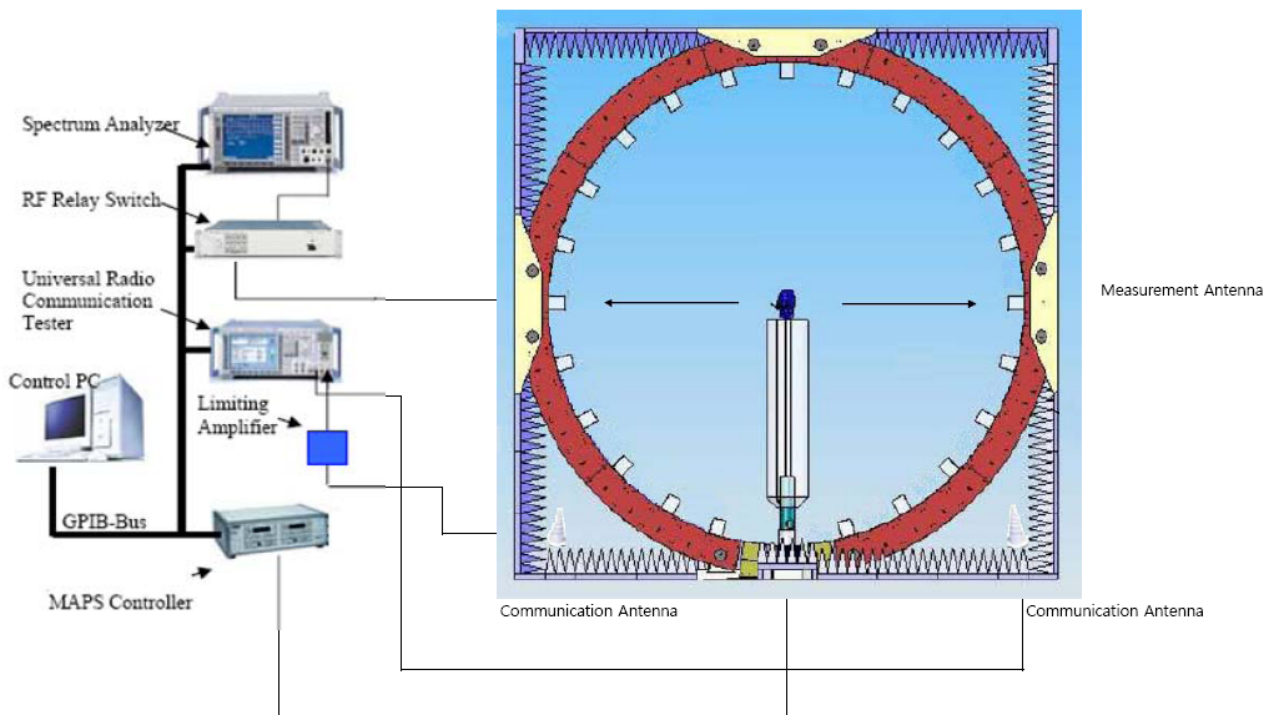
Temperature	Min. =19°C , Max. = 25°C	
Relative humidity	Min. =40% , Max. =72%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	



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

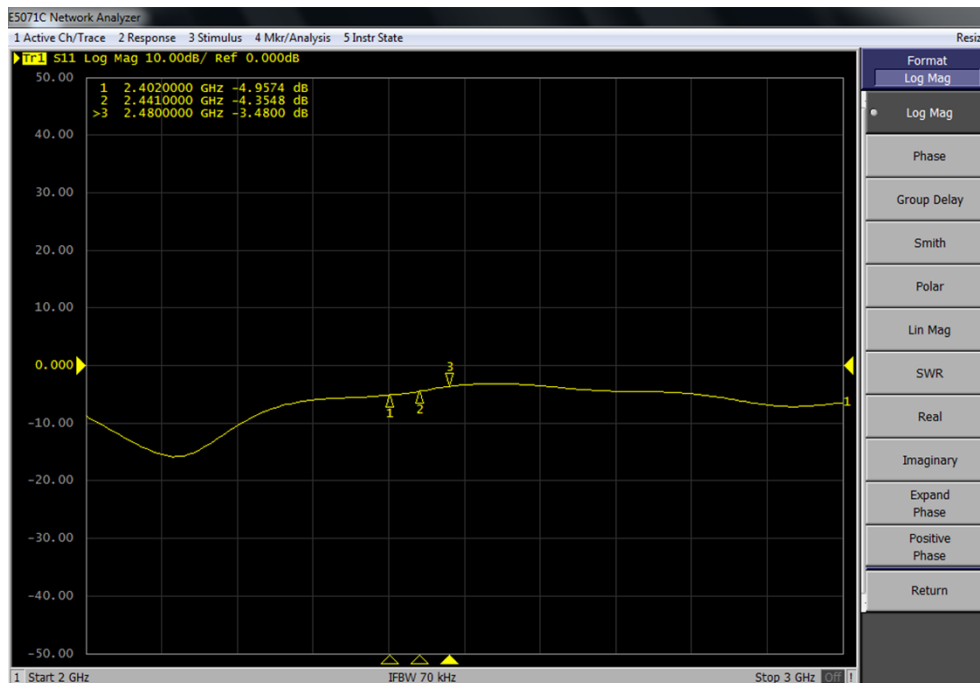


2505	-20.20	0.95	-14.73
2510	-20.48	0.90	-14.85
2515	-21.00	0.79	-15.73
2520	-21.45	0.72	-16.54
2525	-21.92	0.64	-17.28
2530	-22.27	0.59	-18.05
2535	-22.58	0.55	-18.22
2540	-22.86	0.52	-18.60
2545	-23.04	0.50	-18.05
2550	-23.36	0.46	-18.09
2555	-23.54	0.44	-18.10
2560	-23.82	0.41	-18.18
2565	-23.95	0.40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

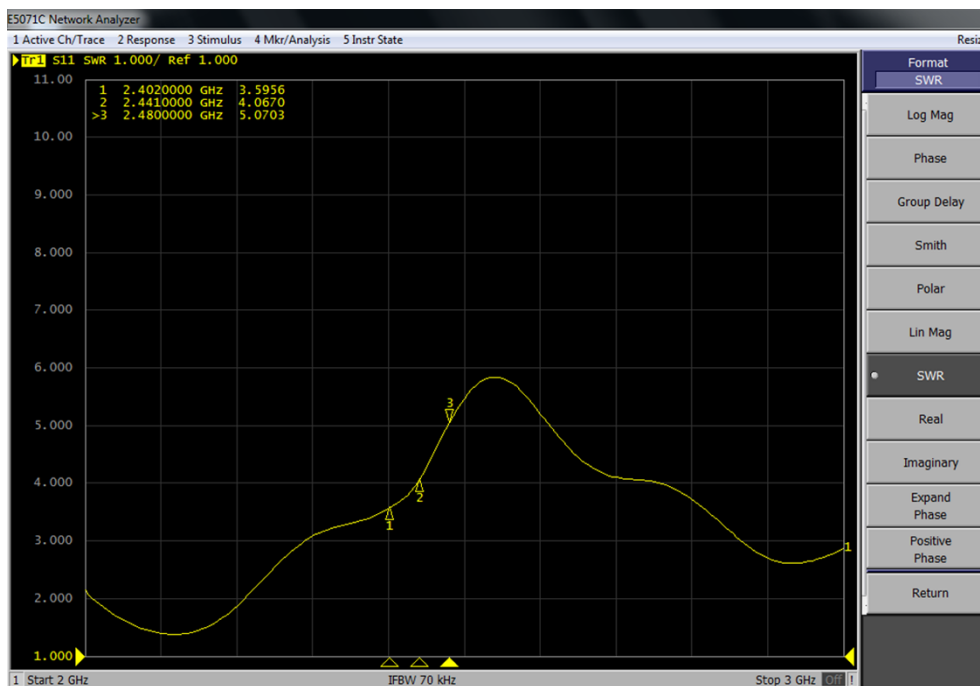


6 Pattern Plots

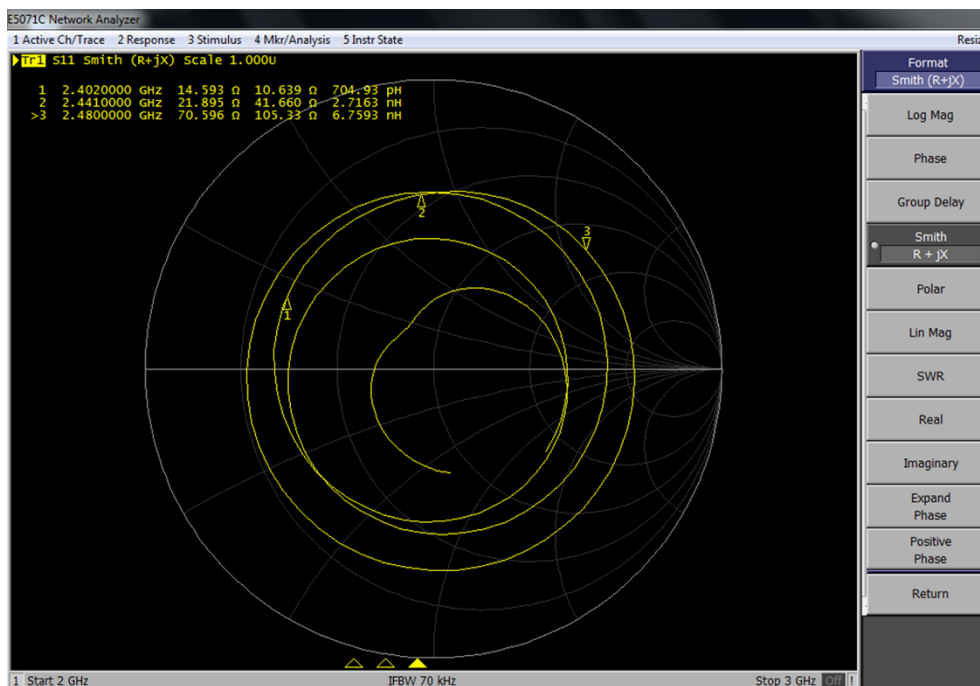
6.1 Return Loss



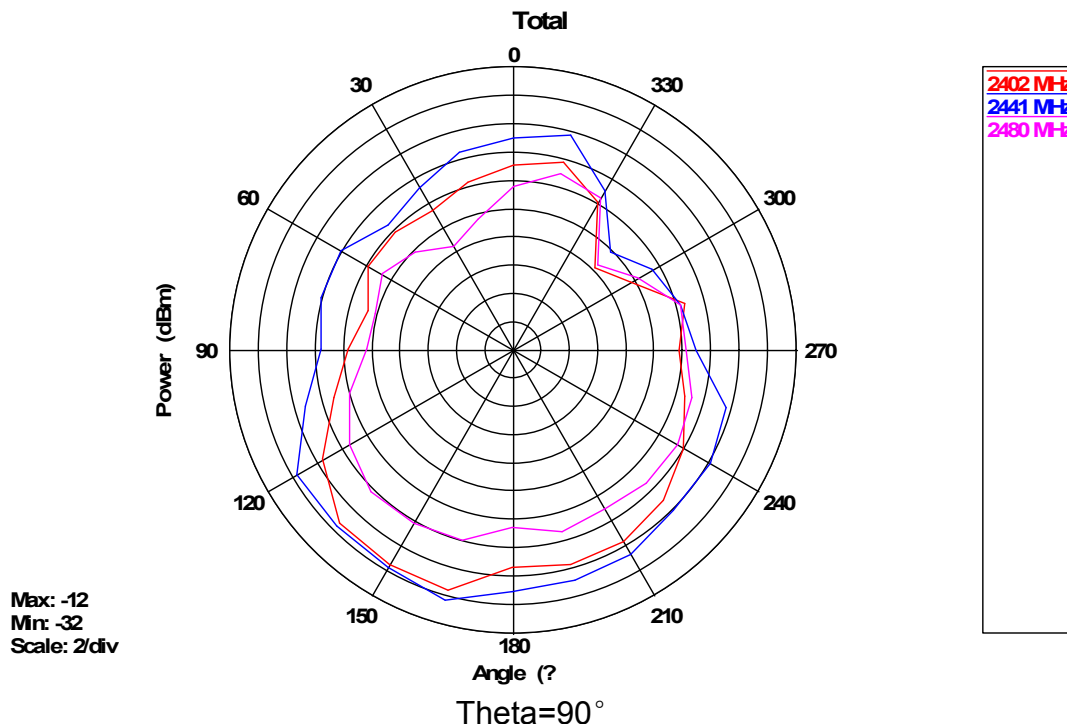
6.2 VSWR



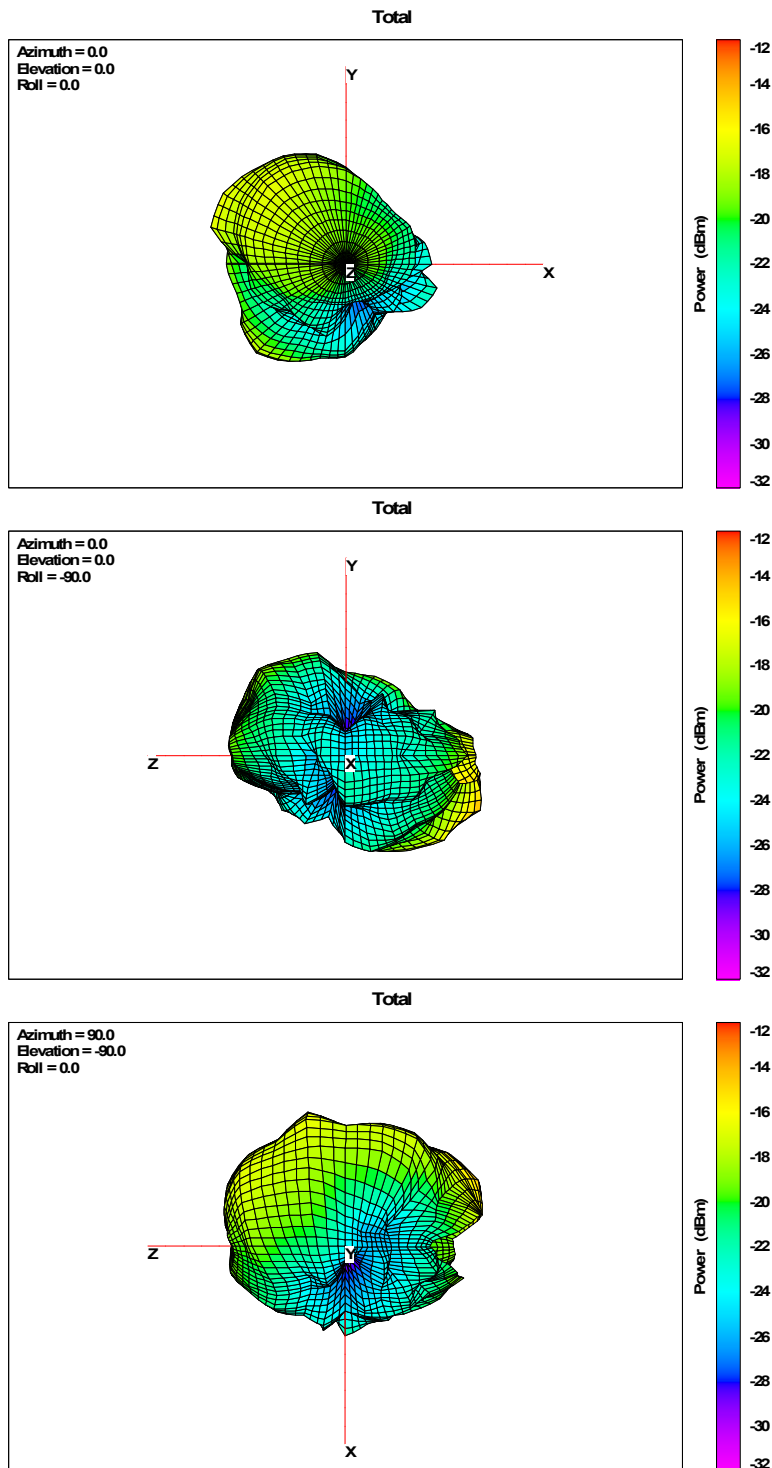
6.3 Stimulus

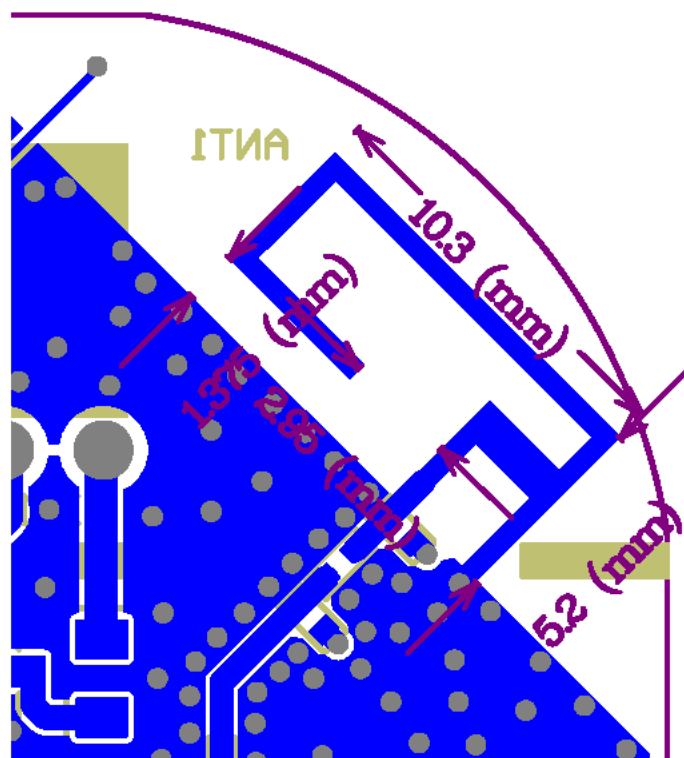


7 2-D Antenna Pattern



8 3-D Antenna Pattern





Antenna Dimension

---END---

