



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

Report No.: SZOA2511000206AT01
Rev.: 01
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ANTENNA PASSIVE TEST REPORT

Application No. SZOA2511000206AT
Applicant ACCO Brands USA LLC.
Manufacturer ACCO Brands USA LLC.
Product Name PowerA Advantage Wireless Controller for Xbox Series X|S
Model No. XBGPWL (Handle) +XBGPWLTX (dongle)
Standards ANSI/IEEE Std 149-2021.
Date Initial Sample(s) Received Nov. 07, 2025
Testing Start Date Nov. 07, 2025
Testing Finish Date Nov. 12, 2025
Report Issue Date Nov. 19, 2025

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

Yuanyu Luo

Prepared by: Yuanyu Luo/ Test Engineer

Ervin Li

Approved by: Ervin Li/ Technical Manager



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Revision History

Revision	Issue Date	Description
01	Nov. 19, 2025	Initial creation of report



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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	ACCO Brands USA LLC.
Applicant's Address	4 Corporate Dr. Lake Zurich IL 60047 United States
Contact	Elena ZHong
Tel.	0755 2682 7016
Fax	N/A
E-mail	Elena.zhong@PowerA.com

1.3 Details of Manufacturer

Manufacturer's Name	ACCO Brands USA LLC.
Manufacturer's Address	4 Corporate Dr. Lake Zurich IL 60047 United States
Contact	0755 2682 7016
Tel.	N/A
Fax	N/A
E-mail	Elena.zhong@PowerA.com



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1.4 General Description of EUT

Device Description:	PowerA Advantage Wireless Controller for Xbox Series X S
Device Manufacturer:	ACCO BRANDS USA LLC.
Device Model:	XBGPAWL (Handle) +XBGPWLTX (dongle)
Antenna Type:	Handle :PCB antenna; dongle : ceramic antenna
Antenna Dimension:	Handle : 18.2 x 7.0 x 0.5 mm ; dongle :3.2 x 1.6 x 0.5 mm

1.5 Test Procedure

Testing is performed according to the **ANSI/IEEE Std 149-2021**.



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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	



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2 OTA Measurements System Configuration

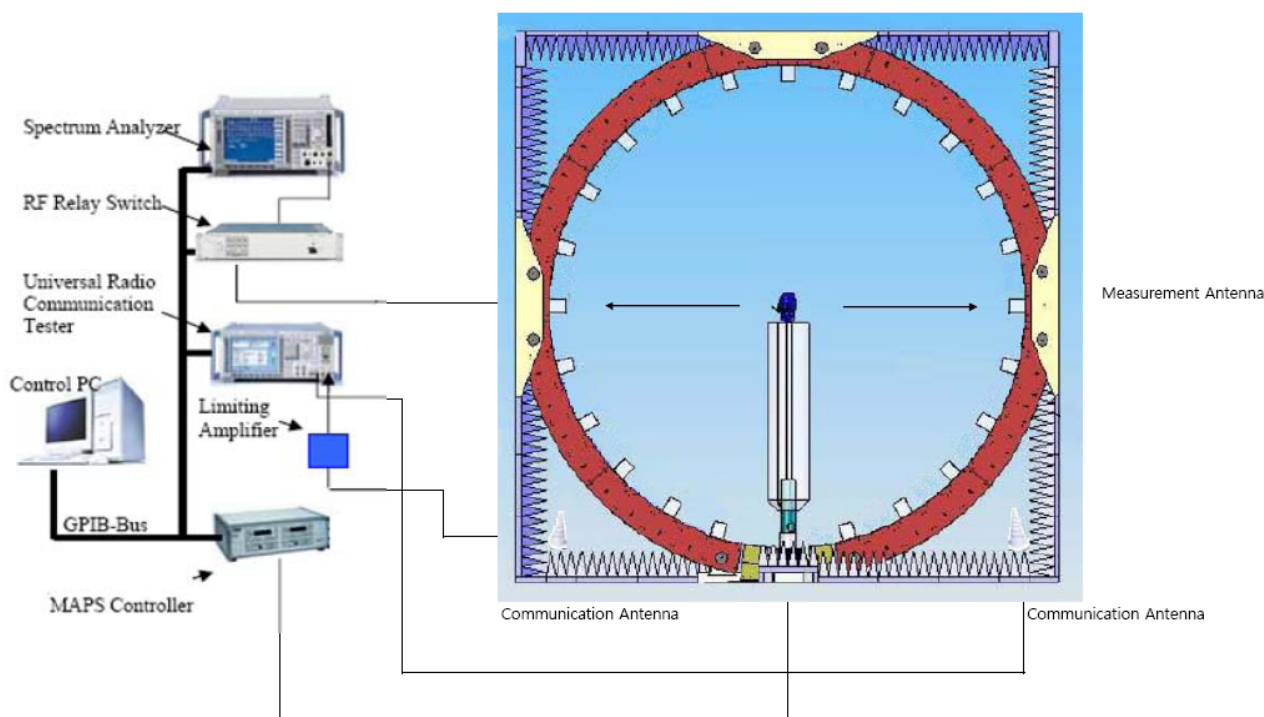
2.1 Test Configuration

Testing Condition:

- Temperature: $22 \pm 3^\circ\text{C}$
- Humidity: <80%

Measurement Facility:

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 1.95m



F-1. OTA Measurement System Configuration



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3 Test Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2024/12/19	2025/12/18
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
SAM V4.5BS Head Phantom	Head Phantom S/N 3609	SPEAG	NCR	NCR

Definition of Acronyms:
 NCR: No Calibration Requirement.



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4 Measurement Uncertainty

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



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5 Test Results

XBGPAWL (handle)			
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2350	-7.21	19.01	-2.18
2355	-7.22	18.96	-2.13
2360	-6.96	20.14	-1.87
2365	-7.01	19.91	-1.93
2370	-6.84	20.70	-1.72
2375	-6.83	20.75	-1.73
2380	-6.60	21.89	-1.39
2385	-6.43	22.74	-1.24
2390	-6.29	23.49	-0.93
2395	-6.12	24.44	-0.71
2400	-6.26	23.68	-0.61
2402	-6.28	23.56	-0.62
2405	-6.28	23.56	-0.65
2410	-6.20	23.97	-0.38
2415	-6.15	24.27	-0.27
2420	-5.85	26.02	0.07
2425	-5.89	25.77	0.14
2430	-5.87	25.86	0.02
2435	-6.05	24.86	0.00
2440	-5.99	25.19	-0.11
2441	-5.93	25.52	-0.03
2445	-5.86	25.95	0.12
2450	-5.80	26.31	0.04
2455	-5.62	27.39	0.32
2460	-5.75	26.64	0.11
2465	-5.64	27.31	0.35
2470	-5.77	26.46	0.12
2475	-5.69	26.97	0.28
2480	-5.68	27.03	0.28
2482	-5.68	27.04	0.24
2485	-5.59	27.63	0.38
2490	-5.45	28.48	0.54

XBGPWLTX (dongle)			
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2350	-10.09	9.80	-3.61
2355	-10.18	9.58	-3.59
2360	-10.03	9.92	-3.48
2365	-10.31	9.31	-3.75
2370	-10.49	8.92	-3.92
2375	-10.54	8.83	-4.05
2380	-10.51	8.89	-4.06
2385	-10.26	9.42	-3.93
2390	-10.31	9.31	-4.14
2395	-10.22	9.50	-4.17
2400	-10.49	8.94	-4.61
2402	-10.65	8.61	-4.74
2405	-10.72	8.47	-4.87
2410	-10.62	8.66	-4.96
2415	-10.81	8.29	-5.05
2420	-10.71	8.48	-5.01
2425	-10.89	8.14	-5.25
2430	-11.17	7.64	-5.53
2435	-11.42	7.22	-6.02
2440	-11.67	6.80	-6.23
2441	-11.69	6.78	-6.23
2445	-11.61	6.90	-6.50
2450	-11.66	6.83	-6.59
2455	-11.65	6.84	-6.71
2460	-11.97	6.36	-7.00
2465	-12.17	6.07	-7.20
2470	-12.37	5.80	-7.36
2475	-12.44	5.70	-7.44
2480	-12.51	5.62	-7.43
2482	-12.51	5.61	-7.37
2485	-12.54	5.57	-7.27
2490	-12.50	5.63	-6.99



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2495	-5.21	30.16	0.70
2500	-5.04	31.31	0.85
2505	-4.83	32.92	0.96
2510	-4.73	33.62	1.05
2515	-4.89	32.45	0.72
2520	-5.09	30.97	0.54
2525	-5.34	29.21	0.13
2530	-5.44	28.55	0.09
2535	-5.48	28.29	-0.03
2540	-5.40	28.84	0.17
2545	-5.21	30.12	0.35
2550	-5.16	30.51	0.48
2555	-5.14	30.63	0.51
2560	-5.26	29.78	0.37
2565	-5.28	29.66	0.40
2570	-5.28	29.65	0.30
2575	-5.17	30.41	0.45
2580	-5.05	31.26	0.46

2495	-12.35	5.81	-6.62
2500	-12.35	5.81	-6.41
2505	-12.30	5.89	-6.30
2510	-12.38	5.78	-6.32
2515	-12.70	5.37	-6.89
2520	-13.12	4.88	-7.31
2525	-13.55	4.41	-7.60
2530	-13.88	4.10	-7.76
2535	-14.08	3.91	-7.82
2540	-14.22	3.79	-7.81
2545	-14.25	3.76	-7.75
2550	-14.46	3.58	-7.96
2555	-14.68	3.40	-8.05
2560	-15.10	3.09	-8.64
2565	-15.35	2.91	-8.93
2570	-15.54	2.79	-9.34
2575	-15.68	2.70	-9.64
2580	-15.57	2.77	-9.48



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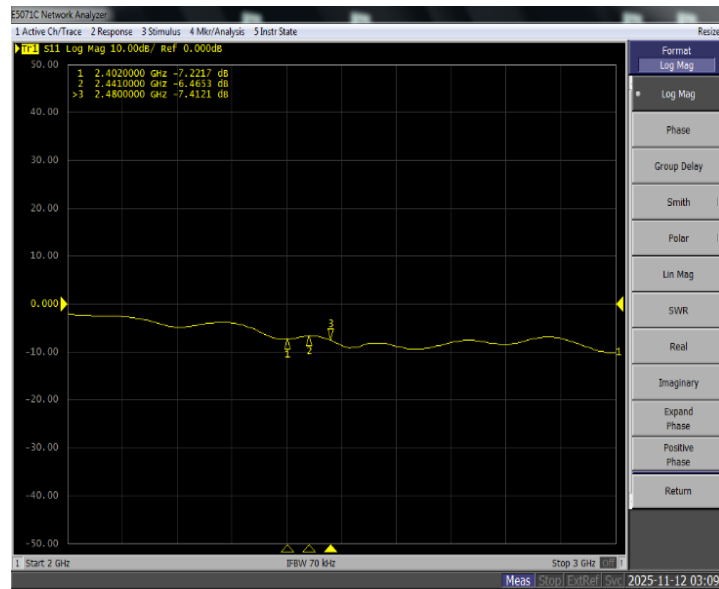
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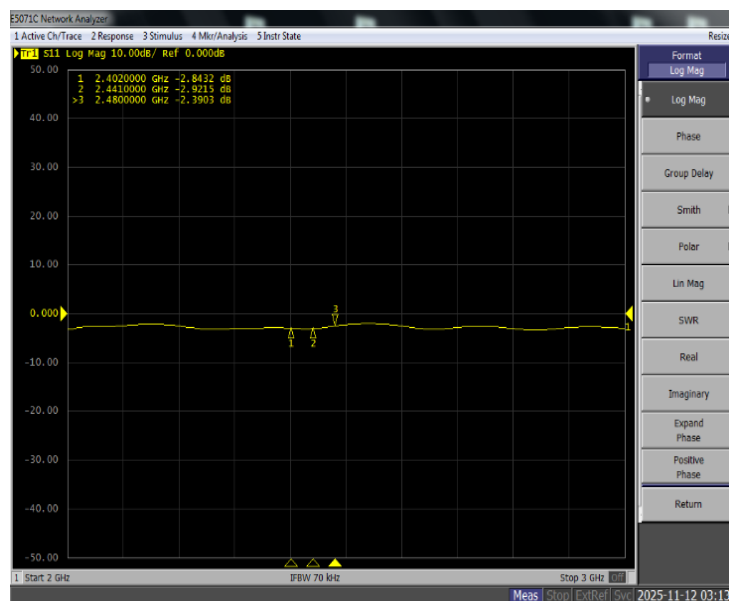
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6 Pattern Plots

6.1 Return Loss



Free Space – (handle)



Free Space – (dongle)



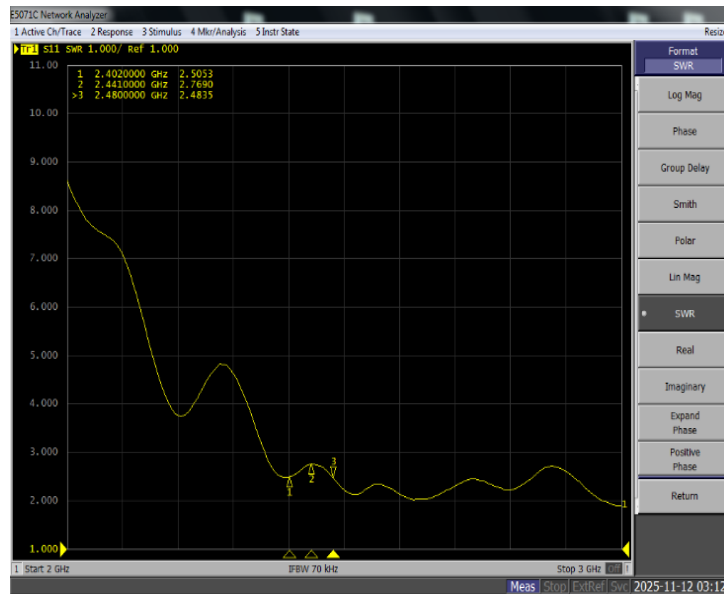
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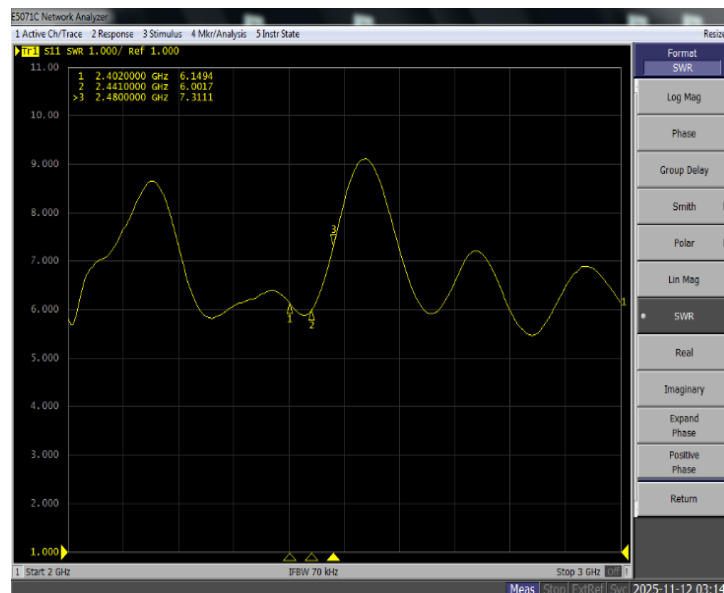
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6.2 VSWR



Free Space – (handle)



Free Space – (dongle)

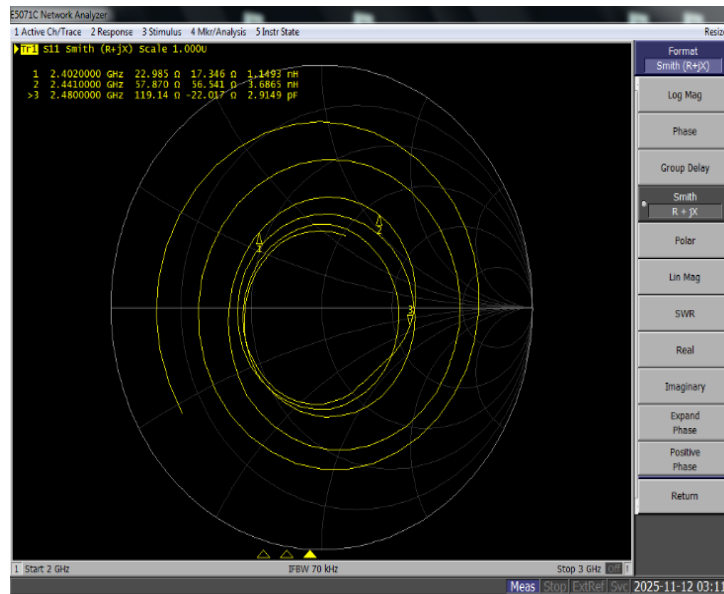


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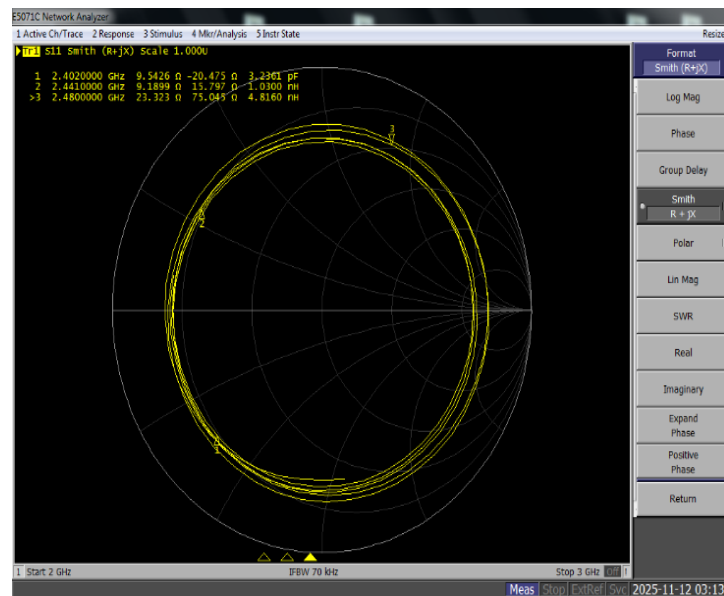
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6.3 Stimulus



Free Space – (handle)



Free Space – (dongle)



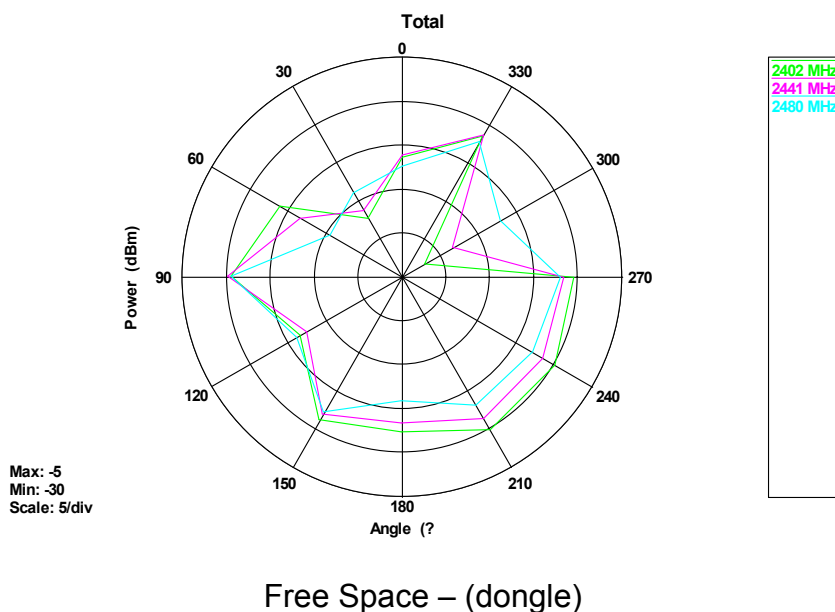
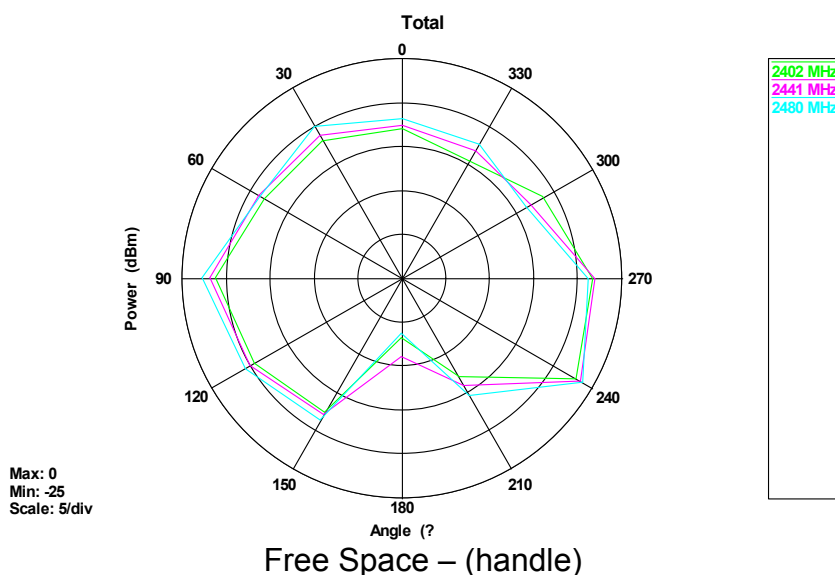
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7 2-D Antenna Pattern(Theta=90°)

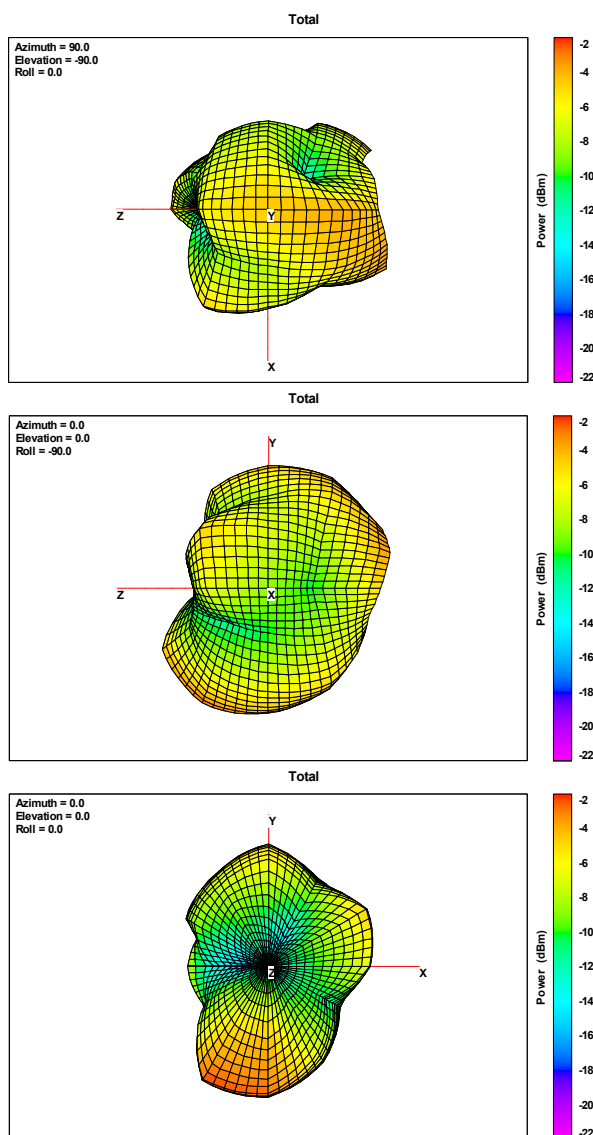


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8 3-D Antenna Pattern



Free Space – (handle)

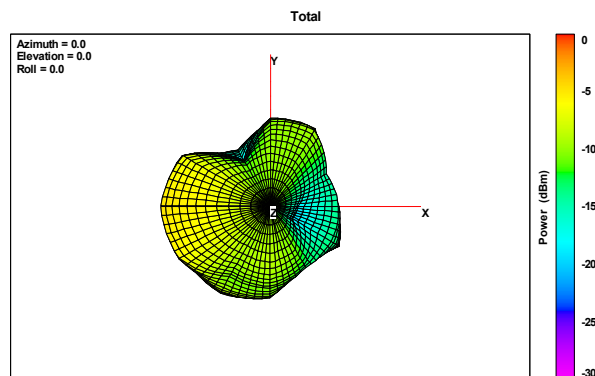
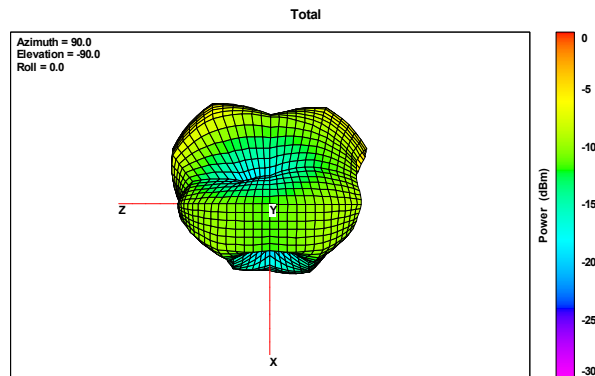
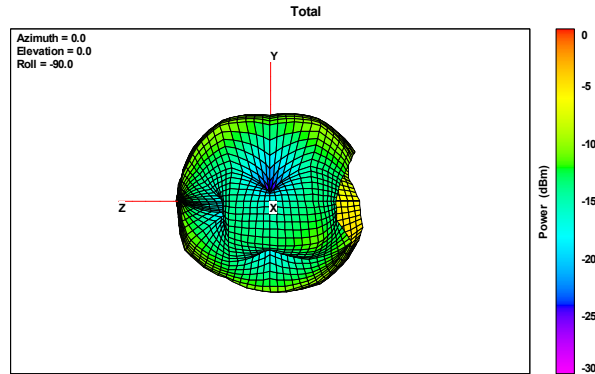


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Free Space – (dongle)



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9 The EUT and Test Configuration



Photo of EUT – (handle)

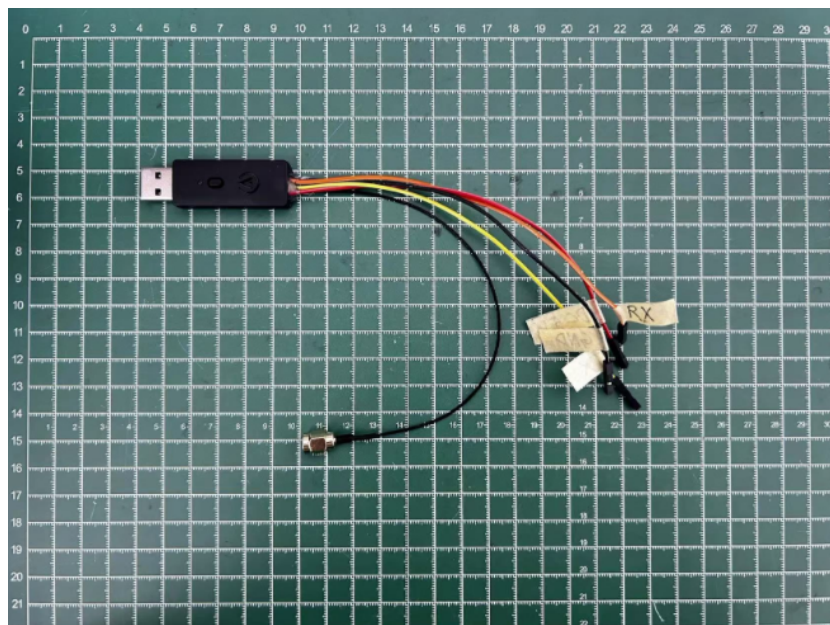


Photo of EUT – (dongle)



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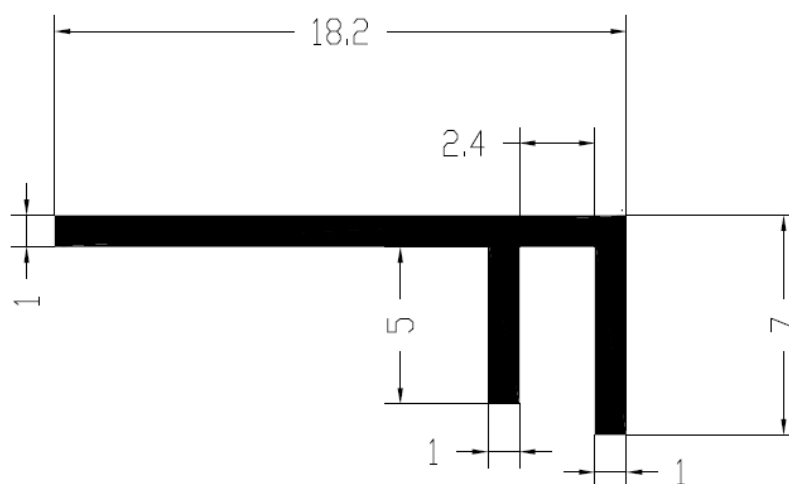
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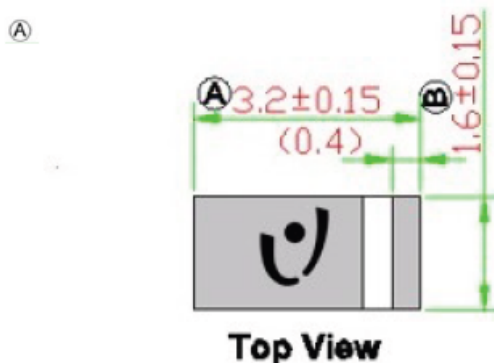
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Antenna Dimensions – (handle)

a) Antenna Dimensions

Unit: mm



Top View

Antenna Dimensions – (dongle)



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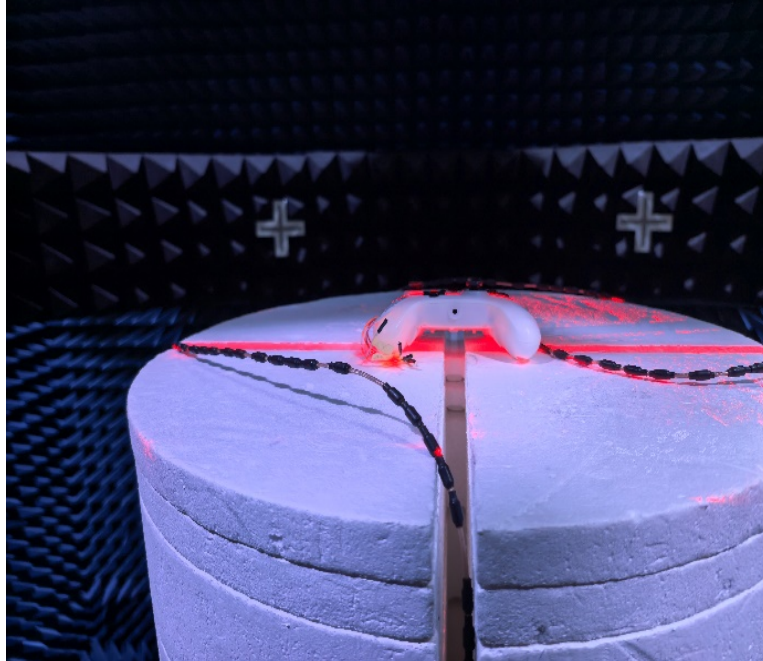
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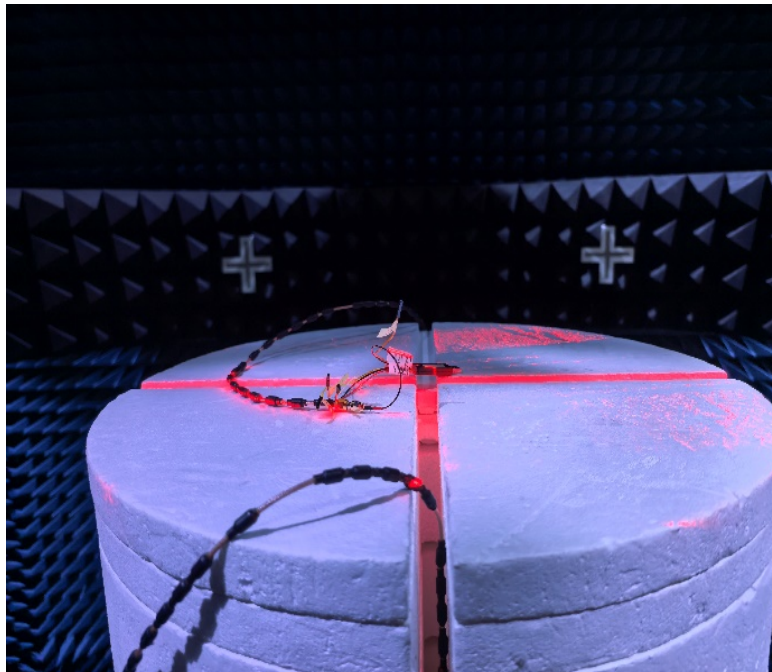
Report No.: SZOA2511000206AT01

Rev.: 01

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Free Space View – (handle)



Free Space View – (dongle)



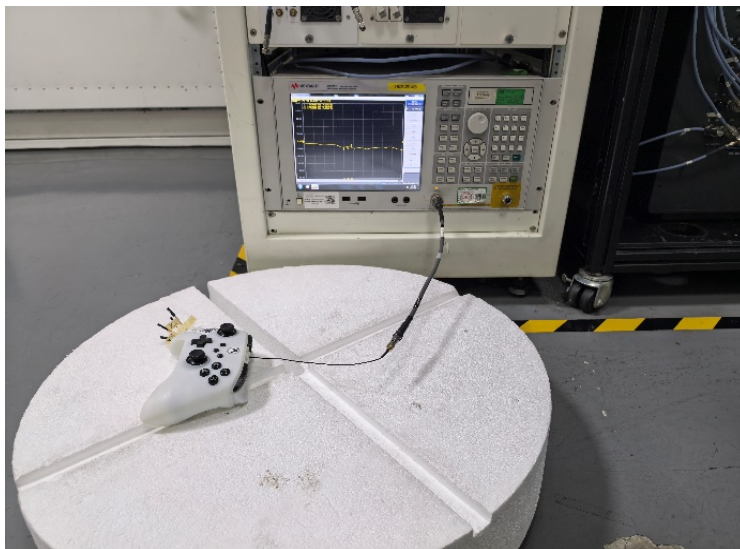
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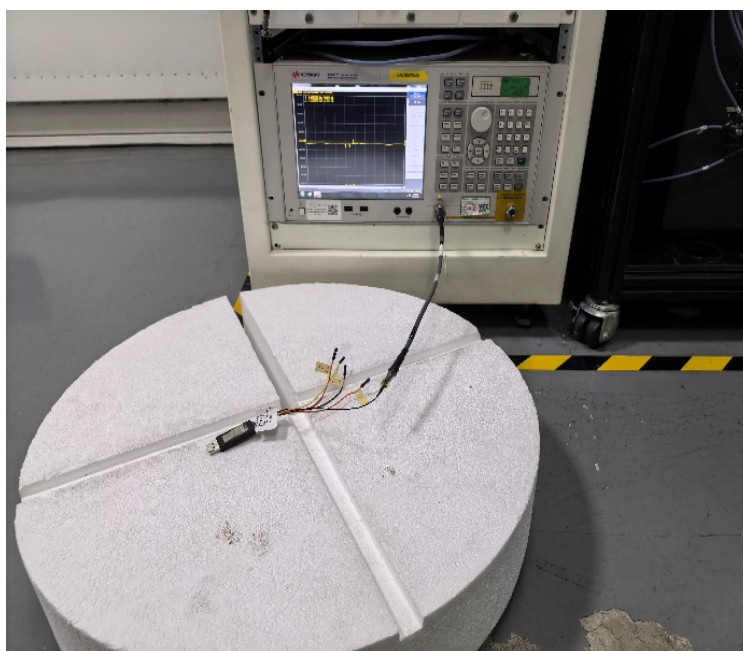
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Free Space Impedance Setup – (handle)



Free Space Impedance Setup – (dongle)

---END---



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