

## Antenna Test Report



**Report No.: TEOT2209000466EO**

**Applicant Name: ID TECH**  
**Manufacturer Name: ID TECH TAIWAN**

**Product Name: Kiosk V**  
**Model Name: Kiosk V**

**Measurements performed at**  
**SGS Taiwan Ltd.**  
**WuKu District, Taiwan**

**Issued Date: October 07, 2022**

	Name	Date & Signature	Distribution
Prepared by:	Eric Cheng Sr. Engineer	 October 07, 2022	
Approved by:	Eason Chou Supervisor	 October 07, 2022	

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## Revision Version

Report Number	Revision	Date	Memo
TEOT2206000237EO	00	2022/06/29	Initial creation of test report.
TEOT2209000466EO	01	2022/10/07	<p>Modify general information.</p> <p><i>Please be noted that the report TEOT2209000466EO will replace the previous TEOT2206000237EO as the new version.</i></p> <p><i>Also be pay attention that TEOT2206000237EO is ineffective anymore from now on.</i></p>

**This test report contains a reference to the previous version test report that it replaces.**

## Measurement System Information

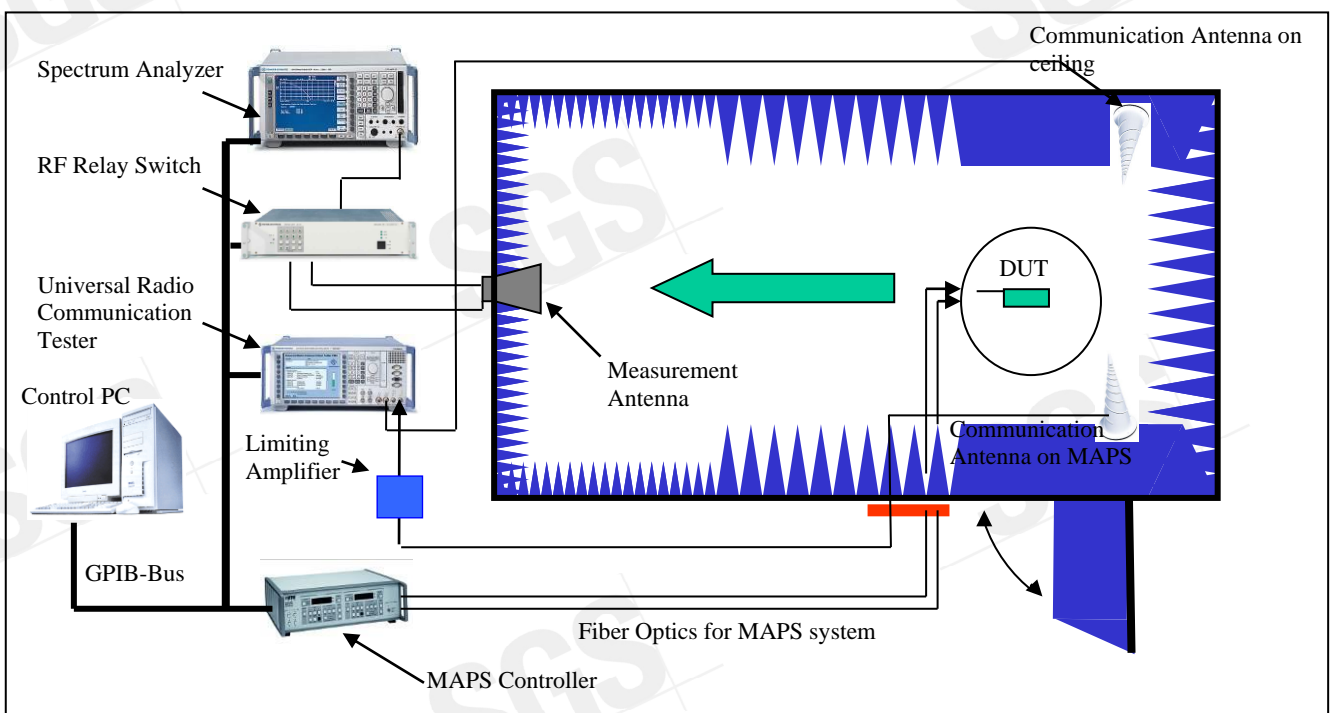
### General Information

#### Testing Condition:

- Temperature:  $25 \pm 3^\circ\text{C}$
- Humidity:  $< 80\%$

#### Measurement Facility:

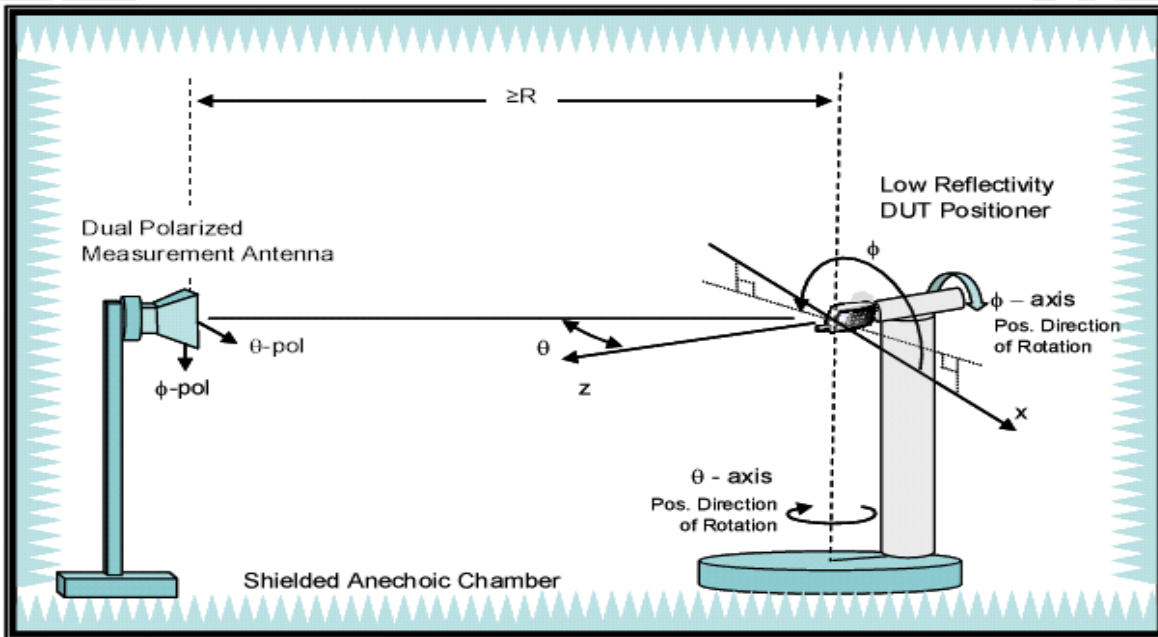
- Measurement Chamber: ETS-Lindgren 3D fully anechoic chamber and its measuring system (AMS-8500)
- Base Station Simulator: Agilent E5515C
- ETS-Lindgren EMCO-2090 Auxiliary Ports RF Relay Switches
- Spectrum Analyzer: Agilent N9010A
- Network Analyzer: Agilent E5071C



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Measurements are performed in an ETS-Lindgren **AMS-8500** 3D fully anechoic test system. The test system includes a high-performance RF-shielded, rectangular anechoic chamber, a Multi-Axis Positioning System (MAPS), and *EMQuest™EMQ-100* data acquisition and analysis software. The geometry of the setup is specified below for reference.

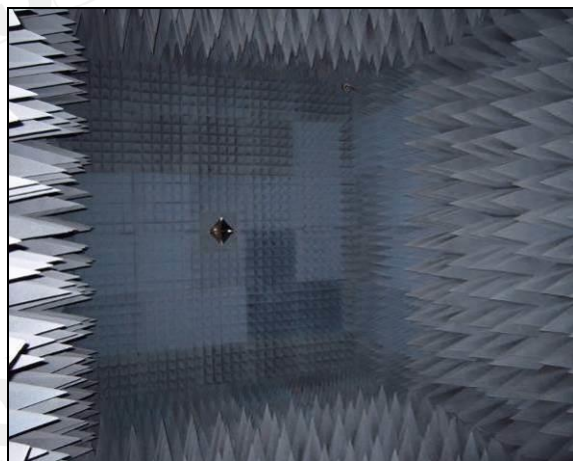
### Typical Setup for ETS-Lindgren AMS-8500:



### Instruments View



### Inside View



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### Testing Laboratory: Identification of the Responsible Test Laboratory.

- OTA Laboratory:**  
**SGS Taiwan Ltd. Wireless Laboratory**  
 No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803.  
 Telephone: +886 2 2299 3279  
 Fax: +886 2 2298 0488  
 Internet: <http://www.tw.sgs.com>
- Testing Location:**  
 No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803.

### Details of Applicant:

<b>Applicant's name:</b>	<b>ID TECH</b>
<b>Applicant's address:</b>	<b>10721 Walker Street, Cypress, California 90630</b>
<b>Contact person:</b>	<b>Vincent Wang</b>
<b>Telephone:</b>	<b>+86-21-64707052-361</b>
<b>Fax:</b>	<b>021-64707052-306</b>
<b>E-mail:</b>	<b><a href="mailto:vincent.wang@idtechproducts.com">vincent.wang@idtechproducts.com</a></b>

### Details of Manufacturer:

<b>Manufacturer's name:</b>	<b>ID TECH TAIWAN</b>
<b>Manufacturer's address:</b>	<b>No. 16, Lane 22, GaoQing Rd., YanMei Dist., TaoYuan City 326, Taiwan</b>
<b>Contact person:</b>	<b>Tony Hou</b>
<b>Telephone:</b>	<b>(03) 496-6988-311</b>
<b>Fax:</b>	<b>(03) 496-5888</b>
<b>E-mail:</b>	<b><a href="mailto:tony.hou@idtechproducts.com">tony.hou@idtechproducts.com</a></b>

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**Details of EUT:**

<b>Product Name:</b>	<b>Kiosk V</b>
<b>Device Manufacturer:</b>	<b>ID TECH TAIWAN</b>
<b>Device Model Name:</b>	<b>Kiosk V</b>
<b>Hardware Version:</b>	<b>A</b>
<b>Software Version:</b>	<b>v1.00</b>
<b>FCC ID No.</b>	<b>WQJ-KIOSKV</b>
<b>Frequency Range:</b>	<b>2400MHz ~ 2500MHz</b> <b>Step size: 10MHz</b>
<b>Antenna Type:</b>	<b>Embedded Antenna</b>

**Duration of Tests:**

<b>Sample Receive Date:</b>	<b>2022-06-07</b>
<b>Test Starting Date:</b>	<b>2022-06-08</b>
<b>Test Ending Date:</b>	<b>2022-06-08</b>
<b>Report Issued Date:</b>	<b>2022-10-07</b>

**Photographs of EUT:**

Please refer to the attached file (EUT Photo)

## List of Equipment

### Equipment Summary Sheet

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Base station	Agilent	E5515C	2022/02/21	2023/02/20
Spectrum analyzer	Agilent	N9010A	2021/12/09	2022/12/08
Network analyzer	Agilent	E5071C	2021/12/16	2022/12/15
Measurement software	ETS-Lindgren	EMQuest 1.14	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2115	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2110	N/A	N/A
MAPSTM controller	ETS-Lindgren	EMCO 2090	N/A	N/A
Horn antenna	ETS-Lindgren	3164-04	N/A	N/A

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## Antenna Gain and Efficiency

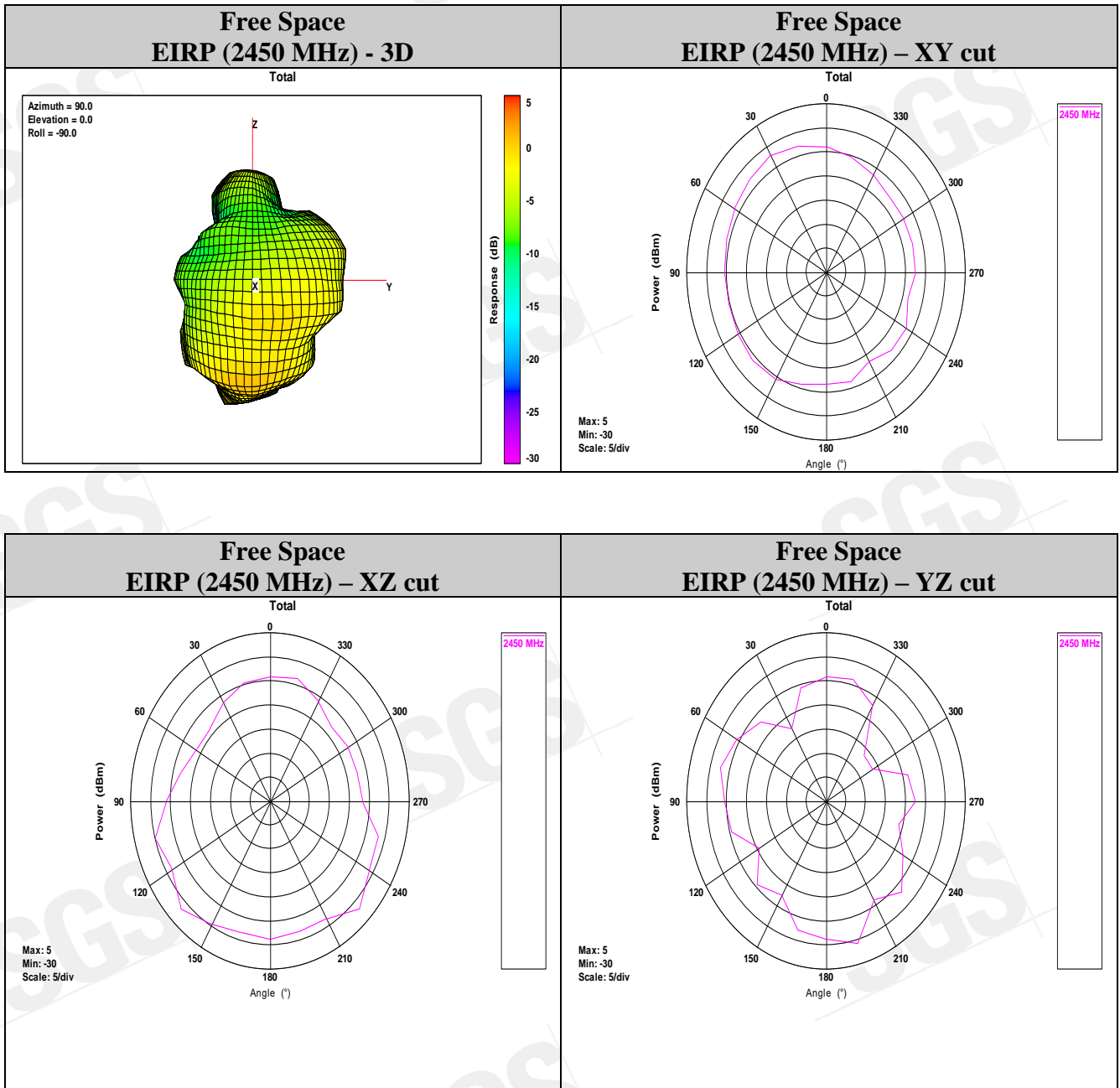
Test Results											
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-2.68	-2.77	-2.95	-3.48	-3.94	-4.31	-4.70	-5.11	-5.33	-5.42	-5.41
Peak EIRP (dBm)	3.11	3.18	3.19	2.89	2.60	2.48	2.29	1.87	1.55	1.24	1.15
Directivity (dBi)	5.79	5.95	6.14	6.37	6.54	6.79	6.99	6.98	6.88	6.66	6.56
Efficiency (dB)	-2.68	-2.77	-2.95	-3.48	-3.94	-4.31	-4.70	-5.11	-5.33	-5.42	-5.41
Efficiency (%)	53.91	52.87	50.67	44.92	40.34	37.04	33.87	30.80	29.30	28.69	28.75
Gain (dBi)	3.11	3.18	3.19	2.89	2.60	2.48	2.29	1.87	1.55	1.24	1.15
NHPRP $\pm$ Pi/4 (dBm)	-4.04	-4.16	-4.42	-5.04	-5.61	-6.10	-6.59	-7.06	-7.28	-7.33	-7.24
NHPRP $\pm$ Pi/6 (dBm)	-5.59	-5.76	-6.06	-6.72	-7.35	-7.90	-8.45	-8.96	-9.19	-9.21	-9.07
NHPRP $\pm$ Pi/8 (dBm)	-6.70	-6.88	-7.18	-7.85	-8.48	-9.04	-9.61	-10.14	-10.39	-10.41	-10.27
Upper Hem. PRP (dBm)	-8.22	-8.31	-8.45	-8.86	-9.20	-9.50	-9.87	-10.30	-10.57	-10.72	-10.77
Lower Hem. PRP (dBm)	-4.11	-4.19	-4.39	-4.96	-5.48	-5.88	-6.28	-6.68	-6.88	-6.94	-6.91

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## Antenna 3D Plot Matrix

All plots in this section show the total EIRP ( $EIRP_{\theta} + EIRP_{\phi}$ ) with the +x-axis pointing out of the page, +y-axis pointing right of the page, and +z-axis pointing up of the page.



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## Appendix (Applicant's declaration)

Issued Date: Sep. 14, 2022

### Declaration

We, IDTECH Ltd., hereby claim that the product of Kiosk V. Declare that the Kiosk V update of the model number, no hardware changes. **It has no impact to the Antenna/ RF performance.**

HW: Rev.A

S/W Versions: v1.00

Should you have any questions please have my best attention.

Sincerely yours,



Contact Person: Vincent Wang / HQA Group Manager

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Email: Vincent.Wang@idtechproducts.com

## End of Report