

# Antenna Test Report

**Report No. : TEOT2503000429E4**

**Applicant Name : DUCTECH Co., Ltd**

**Manufacturer Name : GOOD WAY TECHNOLOGY CO., LTD.**

**Product Name : AC REMOTE**

**Model Number : TE-ACRT**

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

**Issued Date: April 29, 2025**

	Name	Date & Signature	Distribution
Prepared by:	Nandi Chen Sr. Engineer	<i>Nandi Chen</i> April 29, 2025	
Approved by:	Shawn Yen Supervisor	<i>Shawn Yen</i> April 29, 2025	

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

**Revision Version**

Report Number	Revision	Date	Memo
TEOT2503000429E4	00	2025/04/29	Initial creation of test report.

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

## Measurement System Information

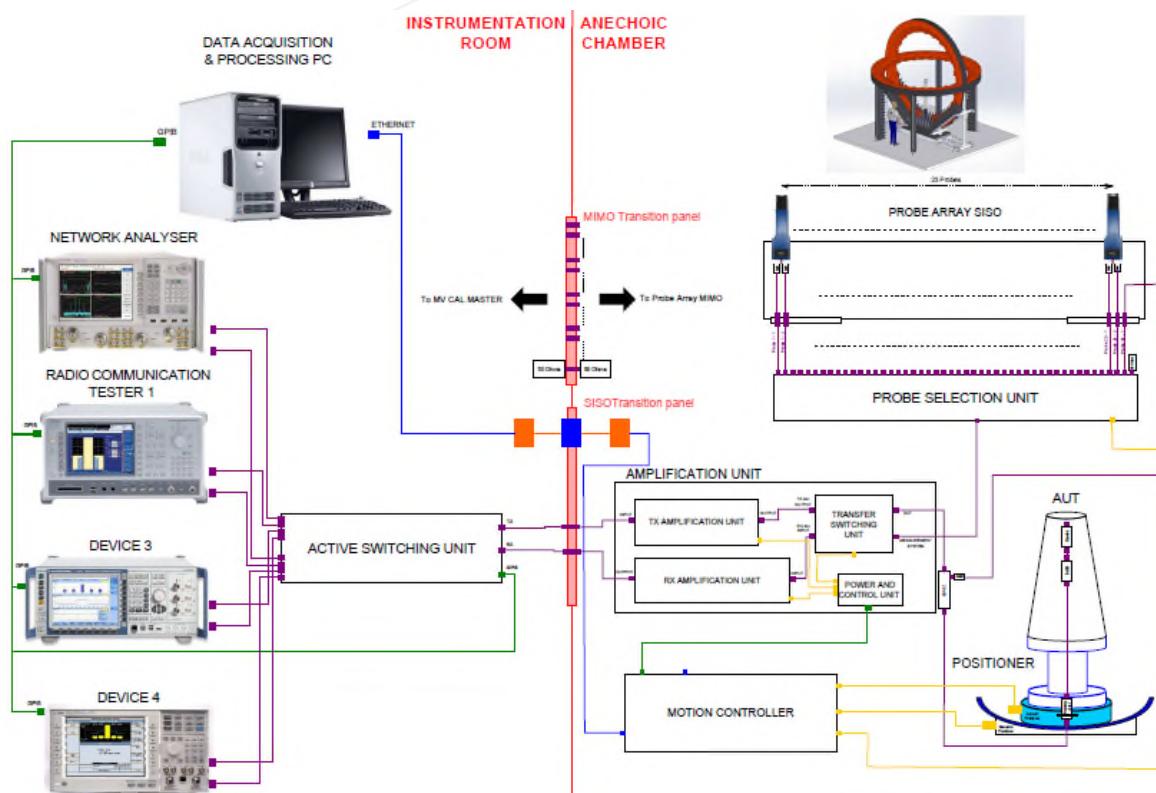
### General Information

#### Testing Condition:

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

#### Measurement Facility:

- Measurement Chamber: MVG 3D fully anechoic chamber and its measuring system (Stargate-24-L)
- Network Analyzer: Agilent E5071C

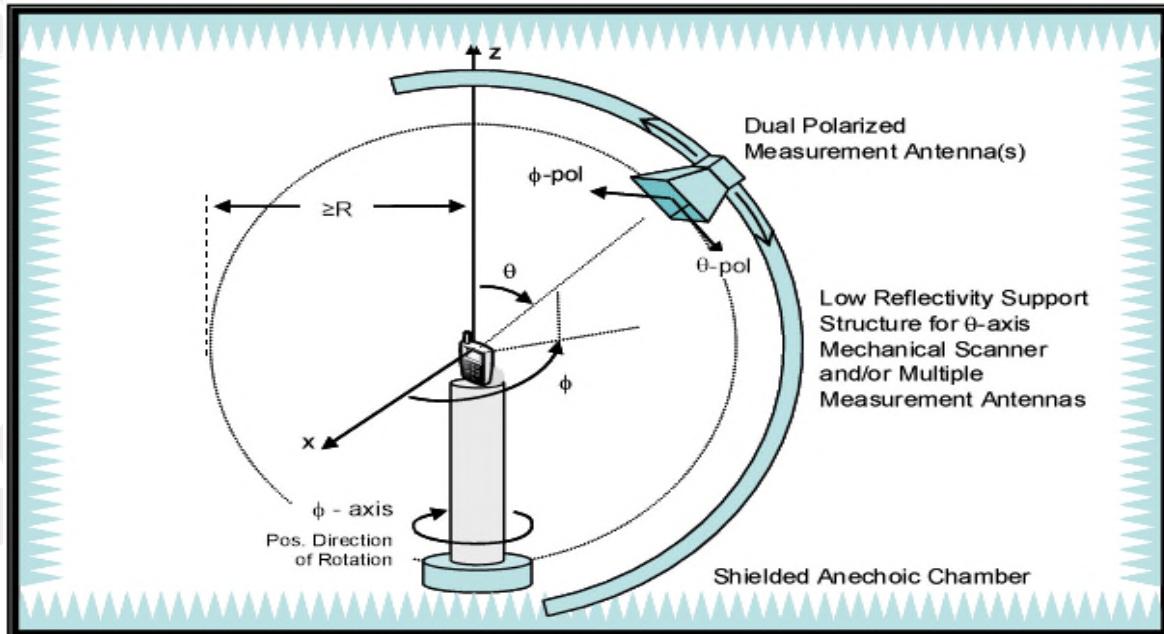


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

Measurements are performed in a MVG **Stargate-24-L** with the StarAct interface for a base station simulator. The **Stargate-24-L** has 23 probe antennas mounted with equal spacing on a circular arch. Electronic switching of the probe antennas provides outstanding measurement speed. The geometry of the setup, with only a Styrofoam column within 1.6 meters of the EUT, ensures minimum interference and low ripple on the measured radiation patterns. The DUT is placed on top of the pedestal, in the center of the system.

### Typical Setup for MVG Stargate-24-L:



**Instruments View**



**Inside View**



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

**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. 2, Keji 1<sup>st</sup> Rd., Hwaya Technology Park, Guishan District, Taoyuan City, Taiwan 33383.

**Details of Applicant:**

<b>Applicant's name:</b>	<b>DUCTECH Co., Ltd</b>
<b>Applicant's address:</b>	<b>8F, No.202-16, Zhonghua Rd., Yongkang Dist., Tainan City 710, Taiwan</b>
<b>Contact person:</b>	<b>N/A</b>
<b>Telephone:</b>	<b>N/A</b>
<b>Fax:</b>	<b>N/A</b>
<b>E-mail:</b>	<b>N/A</b>

**Details of Manufacturer:**

<b>Applicant's name:</b>	<b>GOOD WAY TECHNOLOGY CO., LTD.</b>
<b>Applicant's address:</b>	<b>3F, No. 135, Ln. 235, Baociao Rd., Sindian Dist., New Taipei City 231, Taiwan</b>
<b>Contact person:</b>	<b>N/A</b>
<b>Telephone:</b>	<b>N/A</b>
<b>Fax:</b>	<b>N/A</b>
<b>E-mail:</b>	<b>N/A</b>

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

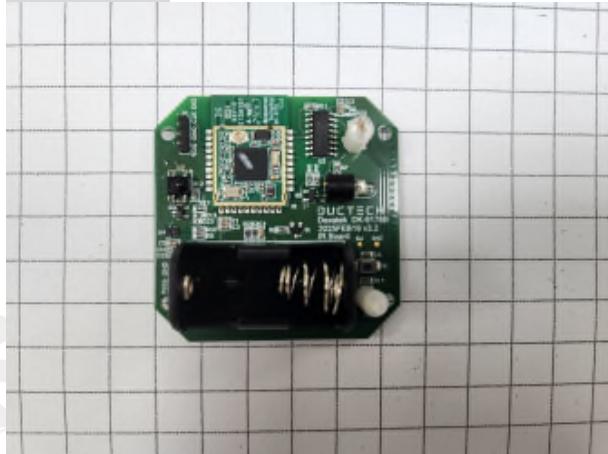
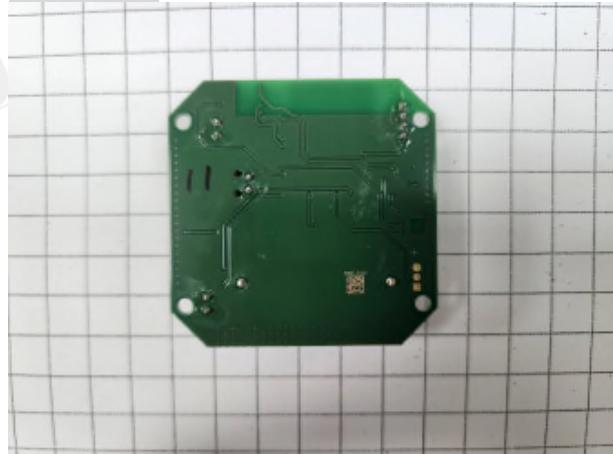
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

**Details of EUT:**

<b>Device Description:</b>	<b>AC REMOTE</b>
<b>Device Manufacturer:</b>	<b>DUCTECH Co., Ltd</b>
<b>Device Model:</b>	<b>TE-ACRT</b>
<b>Hardware Version:</b>	<b>N/A</b>
<b>Software Version:</b>	<b>N/A</b>
<b>Frequency Point:</b>	<b>2400 MHz ~ 2500 MHz, Step: 10MHz</b>
<b>Antenna Type:</b>	<b>PCB</b>

**Duration of Tests:**

<b>Sample Receive Date:</b>	<b>2025-03-26</b>
<b>Test Starting Date:</b>	<b>2025-04-11</b>
<b>Test Ending Date:</b>	<b>2025-04-11</b>
<b>Report Issued Date:</b>	<b>2025-04-29</b>

**Photographs of EUT:****Front View****Side View**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

## List of Equipment

### Equipment Summary Sheet

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Network Analyzer	Agilent	E5071C	2024/07/05	2025/07/04
Stargate-24-L probe array	MVG	Stargate-24-L	2024/08/14	2025/08/13
Measurement software	MVG	Wave Studio v23.3.2	N/A	N/A

## Reference Measurement Procedure

The reference measurement procedure is described in SGS Working Instruction WI-TESP-EO-002 for OTA service. Measurements are made by placing the probe in contact with the sample and measuring the admittance or reflection coefficient with respect to the open-circuit end, using a network analyzer or equivalent instrumentation.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

## Antenna Gain and Efficiency

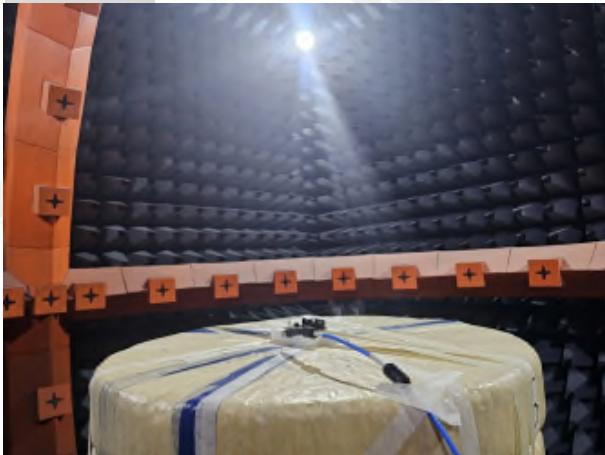
TR62000N1				
Frequency (MHz)	Efficiency (%)	Average Gain (dBi)	Peak Gain (dBi)	Directivity (dBi)
2400	38.37%	-4.16	0.52	4.68
2410	36.39%	-4.39	0.26	4.65
2420	34.99%	-4.56	0.08	4.64
2430	34.59%	-4.61	0.13	4.74
2440	33.88%	-4.70	0.06	4.76
2450	32.96%	-4.82	-0.03	4.79
2460	31.05%	-5.08	-0.33	4.74
2470	26.85%	-5.71	-0.97	4.75
2480	23.77%	-6.24	-1.43	4.80
2490	21.43%	-6.69	-1.83	4.86
2500	19.36%	-7.13	-2.22	4.91

### Test Setup

#### Front View



#### Side View

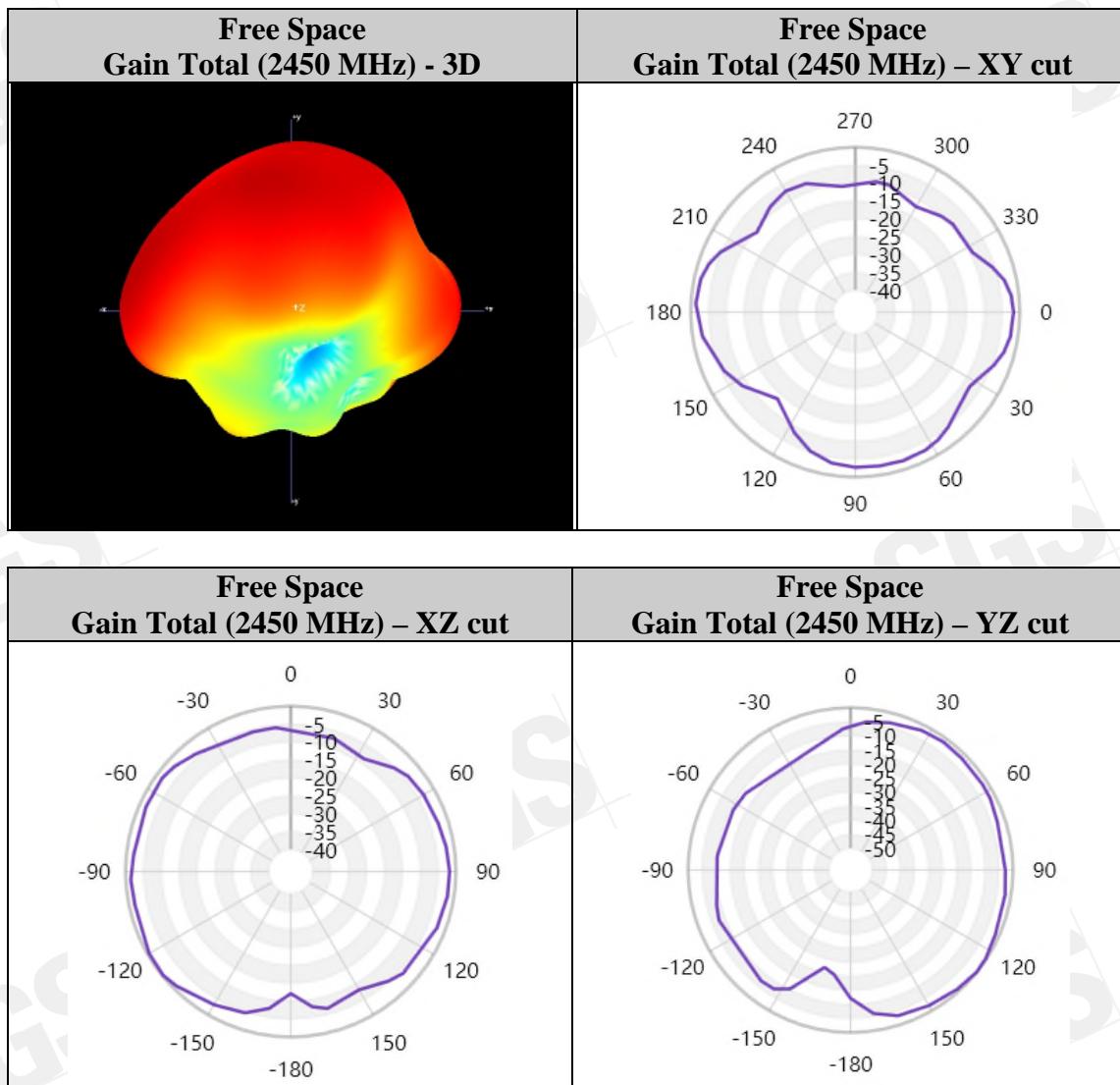


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.

## Antenna 3D Plot Matrix

All plots in this section show the Gain Total with the +x-axis pointing right, +y-axis pointing up, and +z-axis pointing out of the page.



## End of Report

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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.