

Antenna Test Report

Report No.: TEOT2208000418EP
Test Plan: Non-compliance with ISO17025

Applicant Name: CiaoDa Cloud Technology Co., Ltd.
Manufacturer Name: CiaoDa Cloud Technology Co., Ltd.

Product Name: UHF RFID Reader Antenna
Model Number: 1037D10A021212

Measurements performed at
SGS Taiwan Ltd.
Hwaya District, Taiwan

Issued Date: August 17, 2022

	Name	Date & Signature	Distribution
Prepared by:	Shawn Yen Supervisor	<i>Shawn Yen</i> August 17, 2022	
Approved by:	Dragon Wu Asst. Manager	<i>Dragon Wu</i> August 17, 2022	

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Measurement System Information

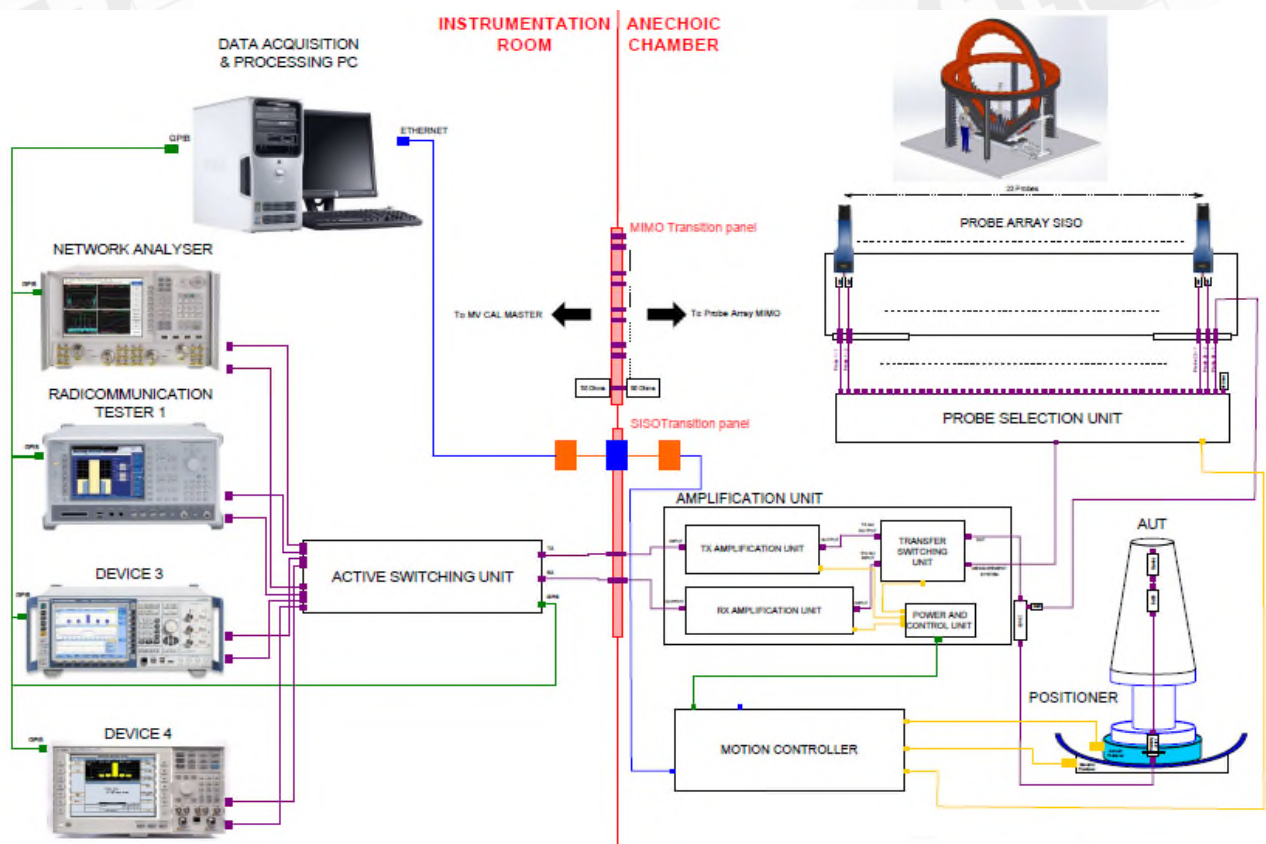
General Information

Testing Condition:

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

Measurement Facility:

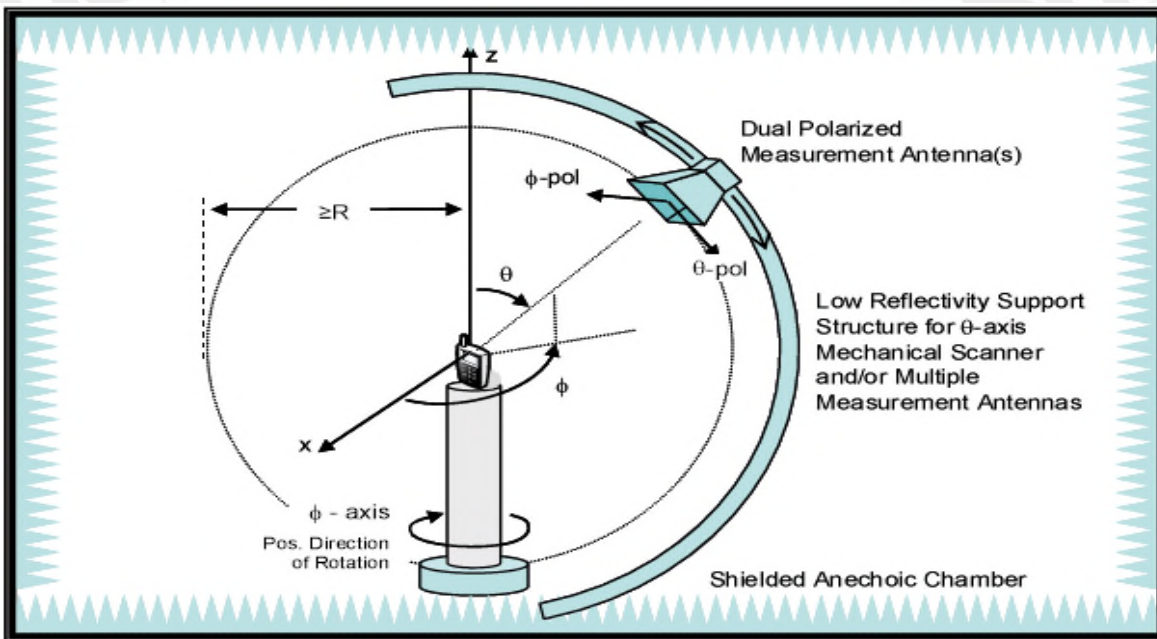
- Measurement Chamber: MVG 3D fully anechoic chamber and its measuring system (Stargate-24-L)
- Base Station Simulator: Anritsu MT8820C (or R&S CMU200)
- Network Analyzer: Agilent E5071C



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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.

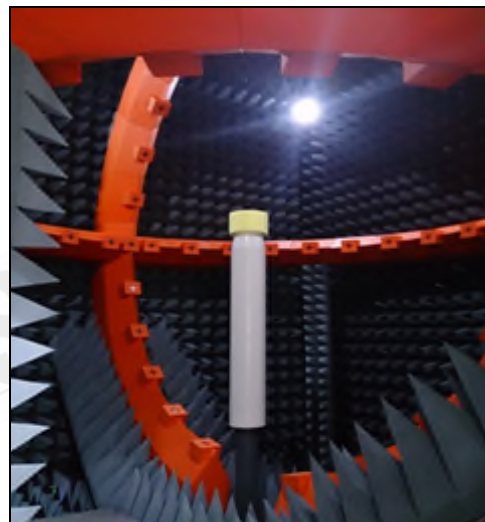
Typical Setup for MVG Stargate-24-L:



Instruments View



Inside View



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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. 2, Keji 1st Rd., Hwaya Technology Park, Guishan District, Taoyuan City, Taiwan 33383.

Details of Applicant:

Applicant's name:	CiaoDa Cloud Technology Co., Ltd.
Applicant's address:	17F.-1, No. 104, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City, Taiwan
Contact person:	李舜華
Telephone:	26962500
Fax:	26962515
E-mail:	arron_lee@szok-enc.com

Details of Manufacturer:

Applicant's name:	CiaoDa Cloud Technology Co., Ltd.
Applicant's address:	17F.-1, No. 104, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City, Taiwan
Contact person:	李舜華
Telephone:	26962500
Fax:	26962515
E-mail:	arron_lee@szok-enc.com

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Details of EUT:

Device Description:	UHF RFID Reader Antenna
Device Manufacturer:	CiaoDa Cloud Technology Co., Ltd.
Device Model:	1037D10A021212
Hardware Version:	N/A
Software Version:	N/A
Frequency Range:	902MHz~928MHz Step size: 1MHz
Antenna Type:	Patch antenna

Duration of Tests:

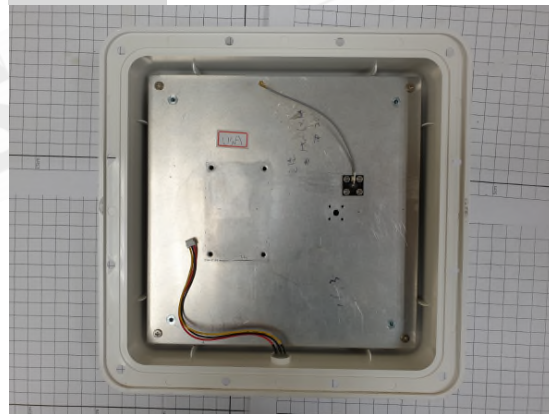
Sample Receive Date:	2022-03-31
Test Starting Date:	2022-04-15
Test Ending Date:	2022-04-15
Report Issued Date:	2022-08-17

Photographs of EUT:

Front View



Back View



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List of Equipment

Equipment Summary Sheet

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Universal Radio Communication tester	Anritsu	MT8820C	2021/10/12	2022/10/11
Network Analyzer	Agilent	E5071C	2022/01/12	2023/01/11
Sleeve Dipole	MVG	SD740	2022/01/07	2025/01/06
Dual Ridge Horn	MVG	SH800	2021/11/09	2022/11/08
Dipole antenna	ETS-Lindgren	3126-700	2020/10/13	2023/10/12
Stargate-24-L probe array	MVG	Stargate-24-L	2021/11/11	2022/11/10
Measurement software	MVG	SPM V1.9	N/A	N/A

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Antenna Gain and Efficiency

1037D10A021212			
Freq(MHz)	Peak. dBi	Efficiency	Average. dBi
902.00	7.22	72.88%	-1.37
903.00	7.30	74.27%	-1.29
904.00	7.38	75.62%	-1.21
905.00	7.38	76.72%	-1.15
906.00	7.36	76.40%	-1.17
907.00	7.34	75.97%	-1.19
908.00	7.33	75.77%	-1.21
909.00	7.36	76.37%	-1.17
910.00	7.43	77.74%	-1.09
911.00	7.52	79.24%	-1.01
912.00	7.55	79.62%	-0.99
913.00	7.54	79.02%	-1.02
914.00	7.49	77.88%	-1.09
915.00	7.37	77.02%	-1.13
916.00	7.37	76.87%	-1.14
917.00	7.43	77.67%	-1.10
918.00	7.49	78.60%	-1.05
919.00	7.51	79.08%	-1.02
920.00	7.50	78.97%	-1.03
921.00	7.49	78.60%	-1.05
922.00	7.49	78.43%	-1.06
923.00	7.52	78.69%	-1.04
924.00	7.56	79.21%	-1.01
925.00	7.48	78.23%	-1.07
926.00	7.51	78.47%	-1.05
927.00	7.51	78.31%	-1.06
928.00	7.53	78.46%	-1.05

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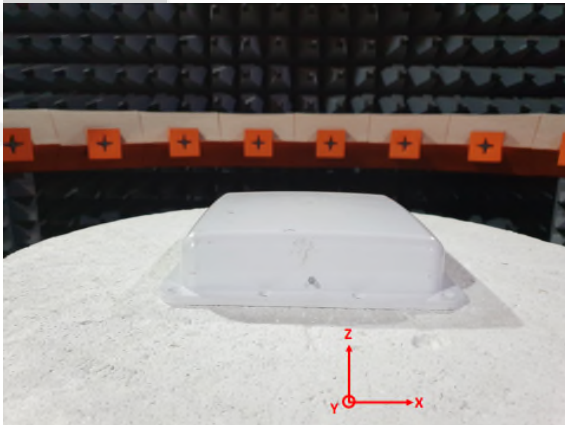
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Low Gain

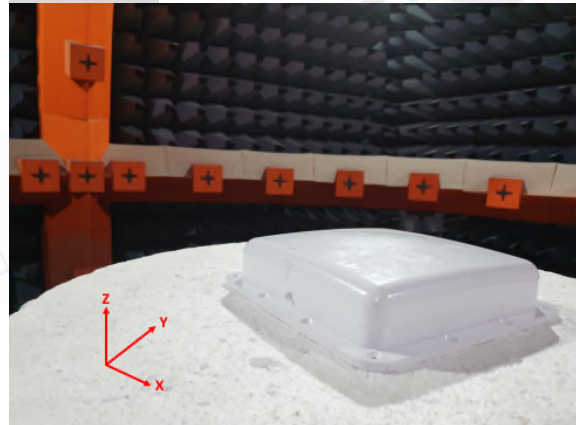
1037D10A021213			
Freq(MHz)	Peak. dBi	Efficiency	Average. dBi
902.00	4.92	46.48%	-3.33
903.00	4.97	47.37%	-3.25
904.00	5.04	48.25%	-3.17
905.00	5.11	48.78%	-3.12
906.00	5.09	48.59%	-3.13
907.00	5.06	48.31%	-3.16
908.00	5.06	48.16%	-3.17
909.00	5.10	48.52%	-3.14
910.00	5.15	49.36%	-3.07
911.00	5.24	50.29%	-2.98
912.00	5.22	50.50%	-2.97
913.00	5.17	50.06%	-3.01
914.00	5.10	49.25%	-3.08
915.00	5.04	48.46%	-3.15
916.00	5.03	48.25%	-3.17
917.00	5.05	48.62%	-3.13
918.00	5.06	49.05%	-3.09
919.00	5.03	49.18%	-3.08
920.00	4.98	48.94%	-3.10
921.00	4.93	48.54%	-3.14
922.00	4.90	48.25%	-3.17
923.00	4.89	48.20%	-3.17
924.00	4.90	48.30%	-3.16
925.00	4.81	47.53%	-3.23
926.00	4.79	47.42%	-3.24
927.00	4.75	47.07%	-3.27
928.00	4.72	46.90%	-3.29

Test Setup

Front View



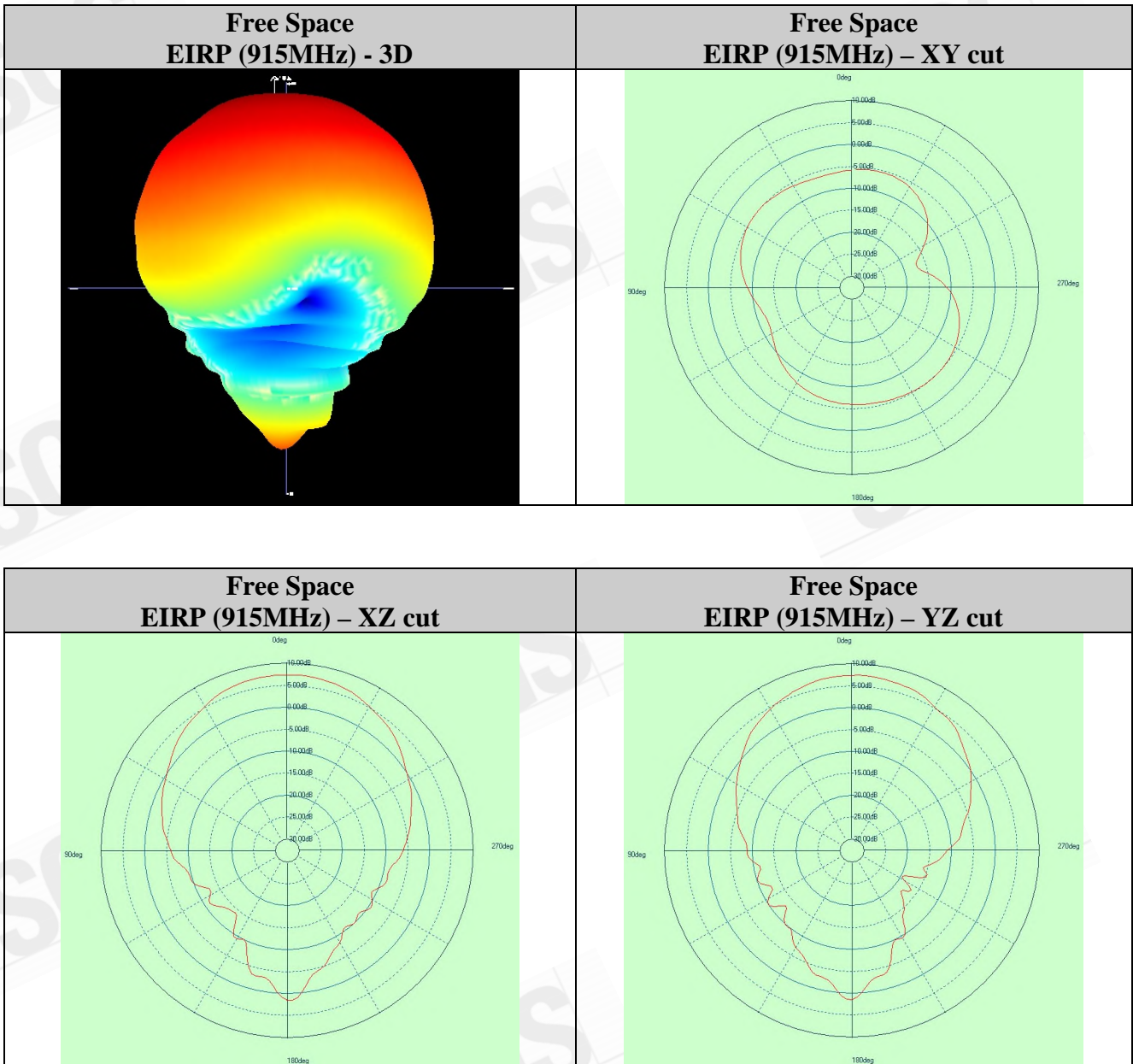
Side View



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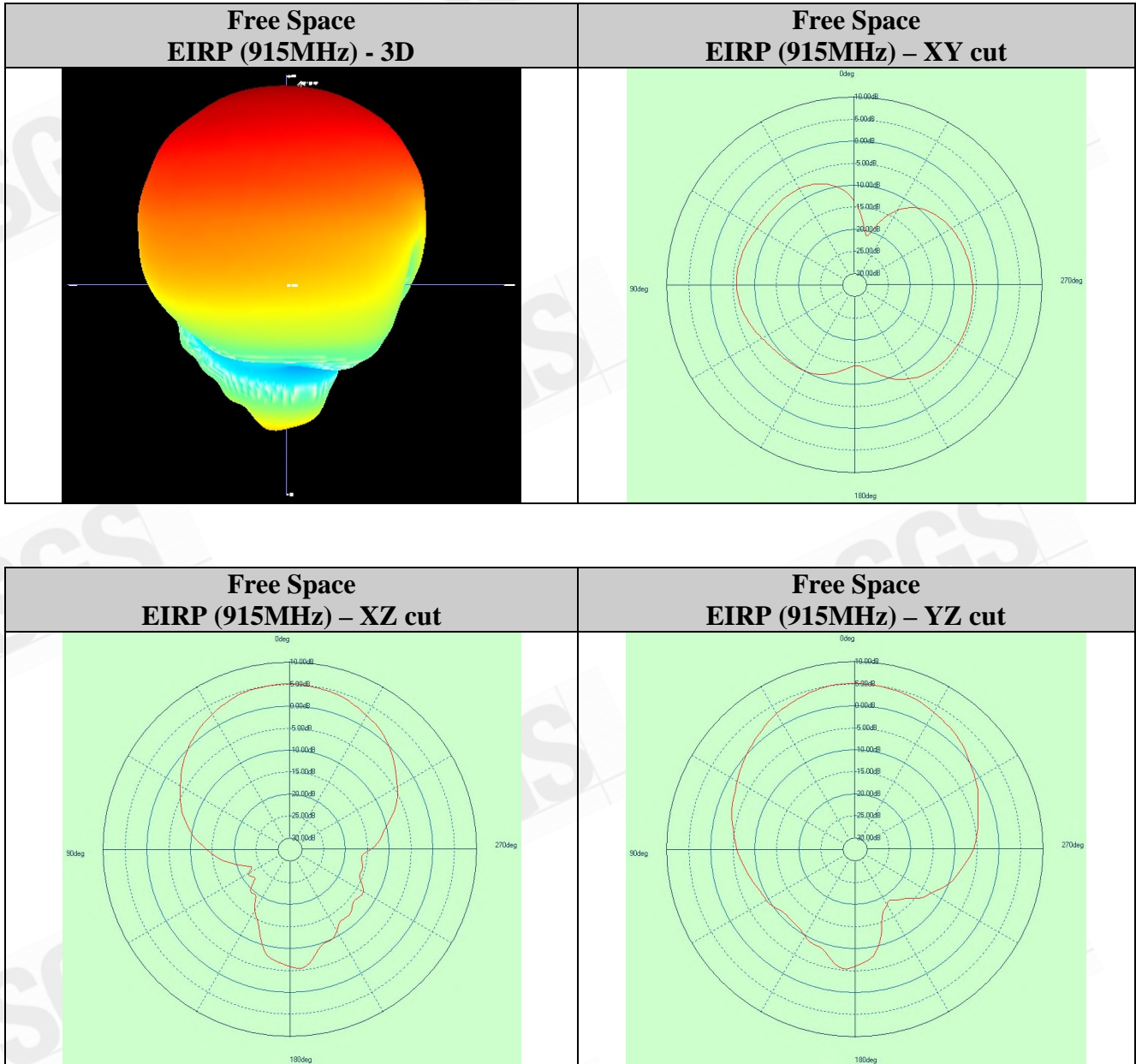
Antenna 3D Plot Matrix

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, and +z-axis pointing up.



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Low Gain



End of Report

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