



# ANTENNA PASSIVE TEST REPORT

<b>Application No.</b>	SEWM2304000124OA
<b>Applicant</b>	Hyperice, Inc.
<b>Manufacturer</b>	Hyperice, Inc.
<b>Product Name</b>	Hypervolt 2 (Fascia gun)
<b>Model No</b>	HV2001
<b>Standards</b>	IEEE Std 149™ -2021
<b>Date Initial Sample(s) Received</b>	2023.04.19
<b>Testing Start Date</b>	2023.04.20
<b>Testing Finish Date</b>	2023.04.20
<b>Report Issue Date</b>	2023.05.04

Comments/ Conclusion: The configuration tested complied to the certification requirements specified in this report.

*Leno Shi*  
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Prepared by

*Caleb Gao*  
Caleb Gao  
Reviewed by

*Panta Sun*  
Panta Sun  
Approved by

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



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## REVISION HISTORY

Report No.	Version	Date	Memo
SEWM2304000124OA01	01	2023/05/04	The final version of report



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## 1. General Information

### 1.1 Details of Client

Applicant	Hyperice, Inc.
Address:	525 Technology Drive, Suite 100, Irvine, California, 92618
Manufacturer	Hyperice, Inc.
Address:	525 Technology Drive, Suite 100, Irvine, California, 92618

### 1.2 Test Location

Company	SGS-CSTC Standards Technical Service ( Suzhou ) Co., Ltd.
Address	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post Code	215000
Telephone	+86(0)512-62990300
Fax	+86(0)512-62990300



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### 1.3 General Description of EUT

Device Description:	Hypervolt 2 (Fascia gun)
Device Manufacturer:	Hyperice, Inc.
Device Model:	HV2001
Hardware Version:	Encoder_LITE_V2.4
Software Version:	Relaxroll Test App v0.1.15

### 1.4 Test Procedure

Testing is performed according to the IEEE Std 149™ -2021

### 1.5 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	



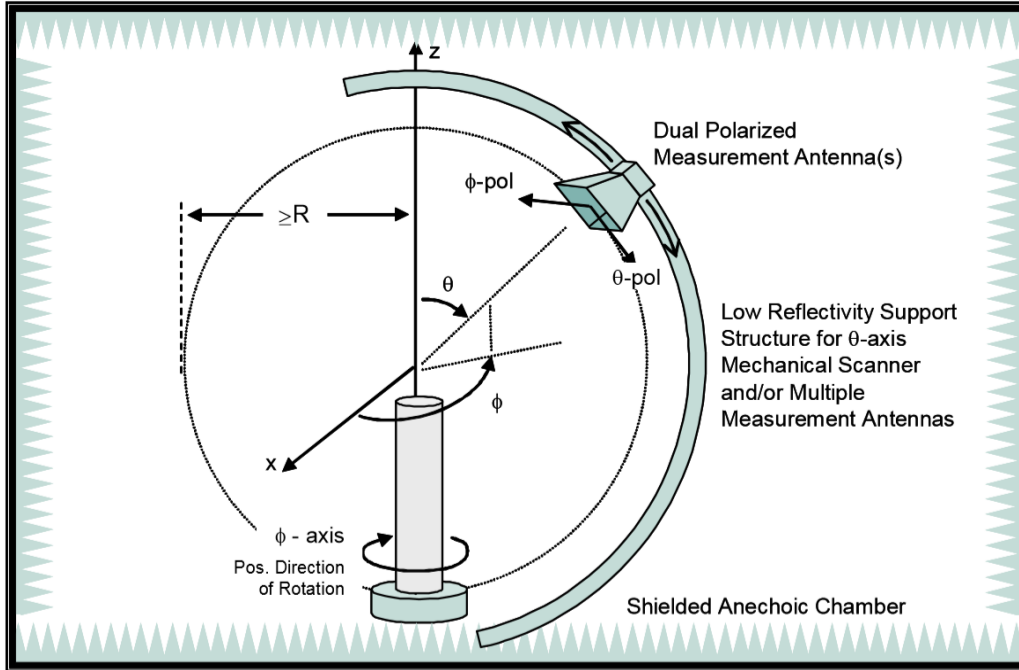
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## 2. OTA Measurements System Configuration

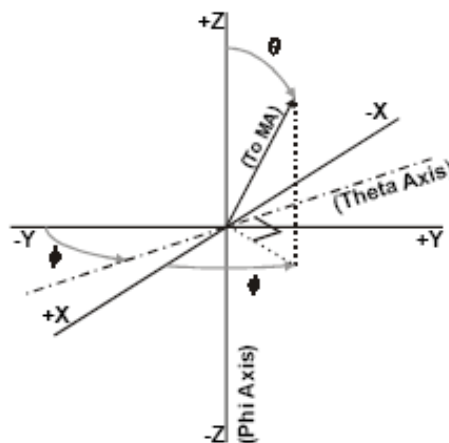
### 2.1 Test Configuration

Conical-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 1.5m



### 2.2 Test Measurement

#### Spherical coordinate system



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### 3. Test Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	ZNB8 S/N 103535	R&S	2023-02-06	2024-02-05
Switch Control System	OSP 130 S/N 100358	R&S	N/A	N/A
MAPS Controller	2090 S/N 114576	ETS-Lindgren L.P.	N/A	N/A
Test Software	EMQuest™ REV 1.14 Build 31654	ETS-Lindgren L.P	N/A	N/A
Full Anechoic Wireless Test chamber	ETS-Lindgren AMS- 8923 CT000596-1149	ETS-Lindgren L.P	N/A	N/A



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## 4. Measurement Uncertainty

Item	617-698MHz (dB)	699-798MHz (dB)	814-894MHz (dB)	1695-1780MHz (dB)	1850-2020MHz (dB)	2300-2800MHz (dB)	3300-3800MHz (dB)	5150-5925MHz (dB)
Gain	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86
Efficiency	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86

Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2



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## 5. Test Results

### 5.1 Antenna

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-10.18	-14.27	3.74
2410	-10.15	-14.09	3.90
2420	-10.50	-14.34	3.68
2430	-10.30	-14.35	3.68
2440	-9.96	-14.35	3.67
2450	-10.33	-14.73	3.36
2460	-10.27	-14.46	3.58
2470	-10.27	-14.49	3.56
2480	-10.36	-14.59	3.47
2490	-10.16	-14.57	3.49
2500	-10.18	-14.61	3.46

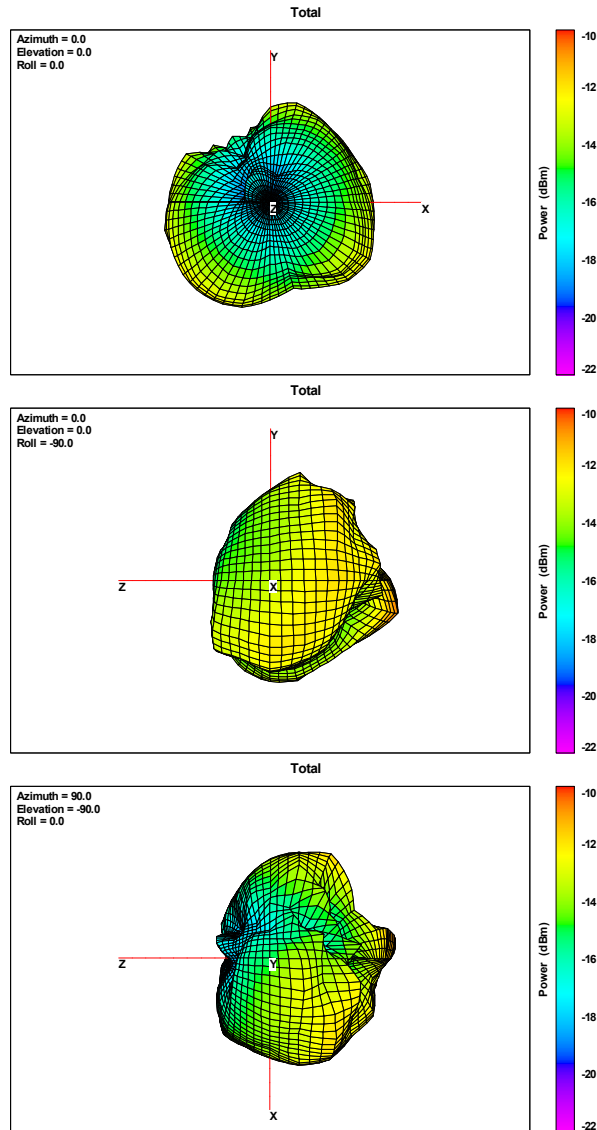


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## 6. 3-D Antenna Pattern

### 6.1 2400MHz



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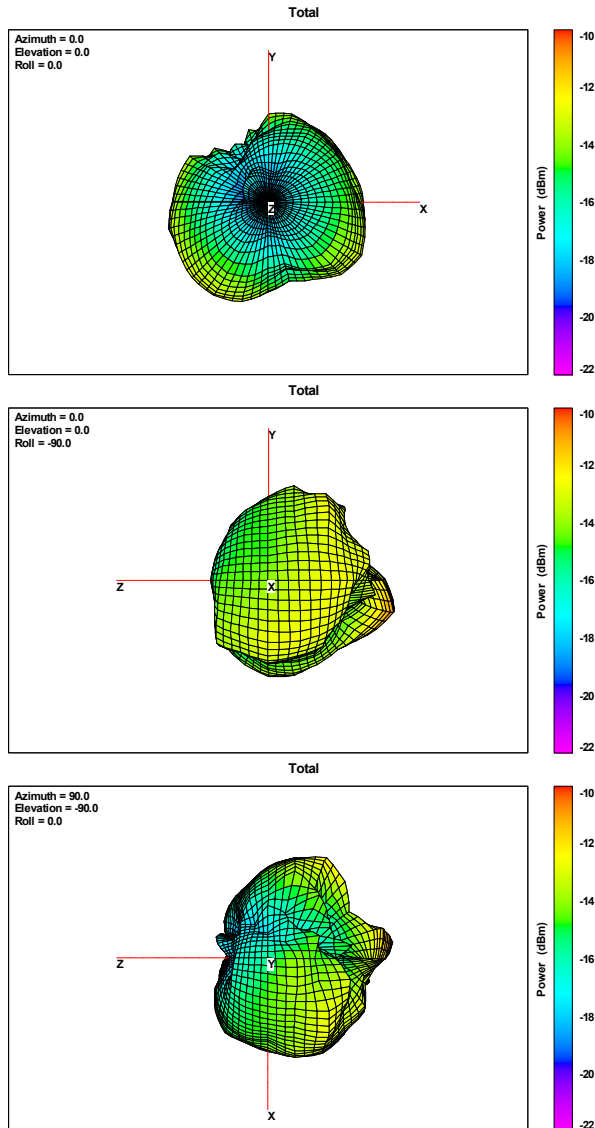
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## 6.2 2450MHz



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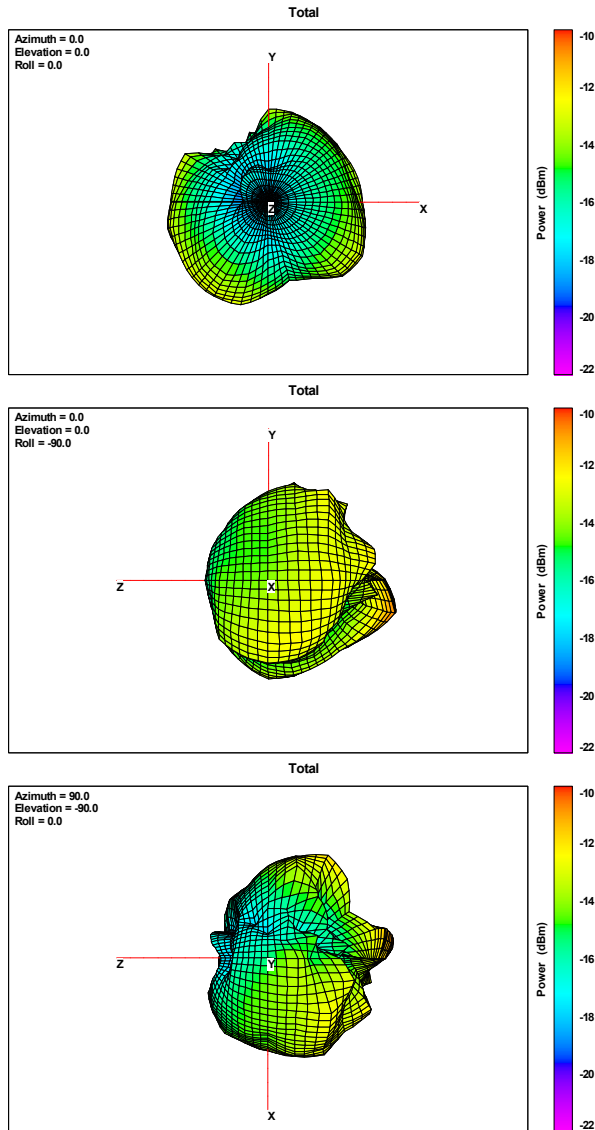
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### 6.3 2500MHz



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## 7. EUT and Test Configuration

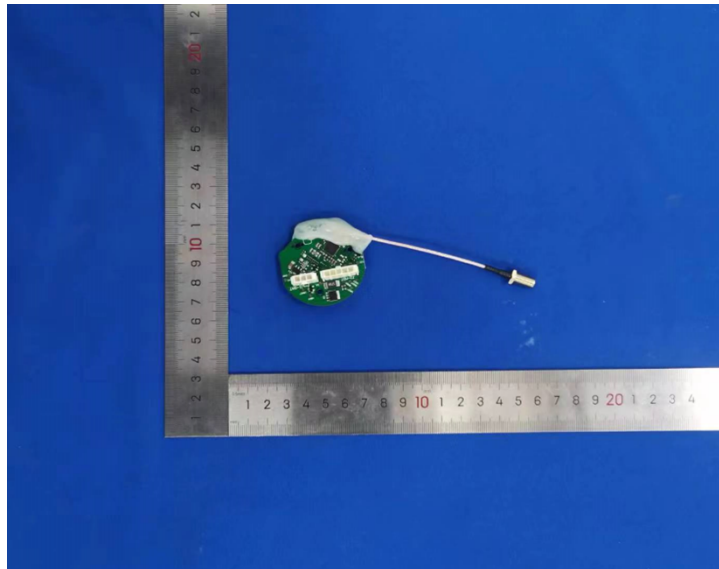
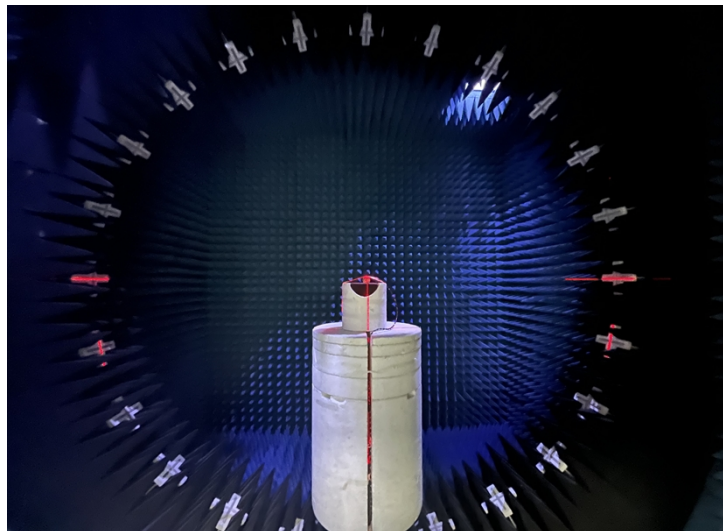


Photo of EUT



Free Space View of EUT

END REPORT

