

Shenzhen Branch

Report No.: ZEWM2211001370OA01

Rev.00

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# ANTENNA PASSIVE TEST REPORT

Application No. ZEWM2211001370OA SKULLCANDY, INC. **Applicant** Manufacturer SKULLCANDY, INC.

**Product Name** SLYR PRO WIRELESS TRANSMITTER

Model No. SCSCY-R116, SCSCY-R080 **Standards** ANSI/IEEE Std 149-2008

Date Initial Sample(s) Received 2023.11.15 **Testing Start Date** 2023.11.15 **Testing Finish Date** 2023.11.15 **Report Issue Date** 2023.12.12

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

Turner He

Prepared by

Max. Huang

Reviewed By





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# **Revision Version**

Report No.	Version	Date	Memo
ZEWM2211001370OA01	00	2023.12.12	Initial creation of report



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#### **General Information** 1

#### 1.1 Testing Laboratory

•	•
Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen
Test Lab	Branch
Address	No.1 Workshop, M-10, Middle section, Science & Technology
Address	Park, Nanshan District, Shenzhen, Guangdong, China 518057
Contact	Ervin Li
Tel.	+86 18823369694
Fax	+86-755-25328600
. 471	100 100 2002000
E-mail	Ervin.Li@sgs.com

#### 1.2 Details of Applicant

Applicant's Name	SKULLCANDY, INC.
Applicant's Address	6301 N Landmark Dr Park City UT 84098, Utah United States of America
Contact	Andrew Carter
Tel.	(404) 561-0830
Fax	N/A
E-mail	andrew.carter@skullcandy.com

#### 1.3 Details of Manufacturer

Manufacturer's Name	SKULLCANDY, INC.
Manufacturer's Address	6301 N Landmark Dr Park City UT 84098, Utah United States of America
Contact	Andrew Carter
Tel.	(404) 561-0830
Fax	N/A
E-mail	andrew.carter@skullcandy.com



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#### 1.4 General Description of EUT

Device Description:	SLYR PRO WIRELESS TRANSMITTER
Device Manufacturer:	SKULLCANDY, INC.
Device Model:	SCSCY-R116, SCSCY-R080
Hardware Version:	N/A
Software Version:	N/A

#### 1.5 Test Procedure

Testing is performed according to the ANSI/IEEE Std 149-2008.



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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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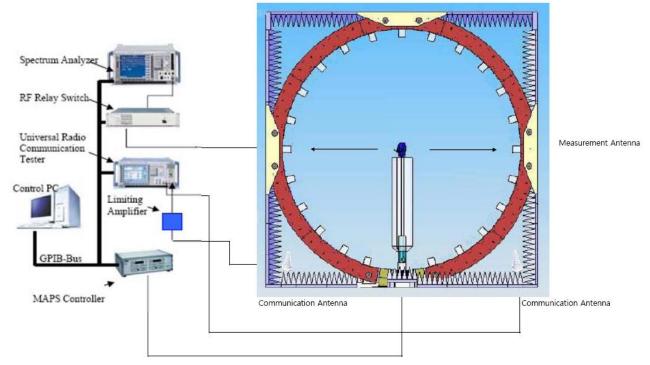
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## **OTA Measurements System Configuration**

#### 2.1 Test Configuration

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 5m



F-1. OTA Measurement System Configuration



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#### **Test Equipment List** 3

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2023/2/16	2024/2/15
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



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**Measurement Uncertainty** 4

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



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#### **Test Results**

FS-Dongle-#1				
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	
2350	-1.54	70.22	3.35	
2355	-1.80	66.13	2.98	
2360	-1.60	69.24	2.96	
2365	-1.71	67.40	2.75	
2370	-1.87	65.03	2.48	
2375	-1.87	64.98	2.60	
2380	-2.00	63.10	2.43	
2385	-1.78	66.40	2.74	
2390	-1.88	64.92	2.71	
2395	-1.69	67.75	2.98	
2400	-1.87	65.00	2.90	
2402	-2.05	62.44	2.60	
2405	-2.09	61.80	2.62	
2410	-2.00	63.13	2.87	
2415	-2.13	61.29	2.64	
2420	-1.95	63.82	2.79	
2425	-2.04	62.52	2.80	
2430	-2.20	60.20	2.61	
2435	-2.26	59.37	2.69	
2440	-2.40	57.56	2.40	
2441	-2.38	57.81	2.43	
2445	-2.20	60.31	2.58	
2450	-2.15	60.94	2.60	
2455	-2.04	62.57	2.75	
2460	-2.15	60.92	2.73	

FS-Dongle-#2				
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	
2350	-1.51	70.57	1.70	
2355	-1.60	69.23	1.81	
2360	-1.41	72.26	1.96	
2365	-1.57	69.63	1.81	
2370	-1.53	70.30	2.03	
2375	-1.74	66.95	1.82	
2380	-1.62	68.79	2.09	
2385	-1.58	69.52	2.10	
2390	-1.56	69.89	1.98	
2395	-1.46	71.53	1.96	
2400	-1.76	66.69	1.43	
2402	-1.76	66.61	1.50	
2405	-1.81	65.89	1.59	
2410	-1.93	64.15	1.48	
2415	-1.86	65.13	1.74	
2420	-1.72	67.32	1.98	
2425	-1.83	65.55	1.75	
2430	-1.91	64.43	1.80	
2435	-2.17	60.72	1.34	
2440	-2.15	60.89	1.49	
2441	-2.10	61.69	1.53	
2445	-2.09	61.75	1.37	
2450	-2.03	62.67	1.40	
2455	-1.90	64.58	1.56	
2460	-2.06	62.17	1.39	



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2465	-2.27	59.30	2.67
2470	-2.46	56.78	2.61
2475	-2.59	55.06	2.35
2480	-2.69	53.82	2.25
2482	-2.68	53.98	2.31
2485	-2.70	53.65	2.18
2490	-2.61	54.85	2.20
2495	-2.39	57.74	2.43
2500	-2.27	59.26	2.47
2505	-2.18	60.59	2.63
2510	-2.23	59.78	2.70
2515	-2.50	56.22	2.49
2520	-2.81	52.42	2.16
2525	-3.04	49.61	1.96
2530	-3.18	48.09	1.85
2535	-3.23	47.54	1.71
2540	-3.19	47.97	1.82
2545	-3.04	49.61	1.89
2550	-3.04	49.67	1.79
2555	-3.02	49.85	1.90
2560	-3.14	48.56	1.73
2565	-3.14	48.49	1.65
2570	-3.18	48.09	1.50
2575	-3.18	48.05	1.52
2580	-3.05	49.59	1.73

2465	-2.09	61.74	1.58
2470	-2.40	57.54	1.30
2475	-2.44	57.03	1.26
2480	-2.55	55.64	1.30
2482	-2.56	55.51	1.19
2485	-2.52	56.01	1.13
2490	-2.50	56.20	1.16
2495	-2.35	58.21	1.20
2500	-2.33	58.49	1.21
2505	-2.25	59.59	1.32
2510	-2.29	58.95	1.29
2515	-2.51	56.08	1.20
2520	-2.73	53.37	0.96
2525	-3.02	49.88	0.67
2530	-3.13	48.65	0.49
2535	-3.22	47.61	0.37
2540	-3.16	48.30	0.49
2545	-3.04	49.62	0.62
2550	-3.01	50.02	0.63
2555	-3.04	49.70	0.64
2560	-3.13	48.65	0.50
2565	-3.16	48.27	0.41
2570	-3.22	47.61	0.42
2575	-3.17	48.17	0.50
2580	-3.18	48.05	0.56



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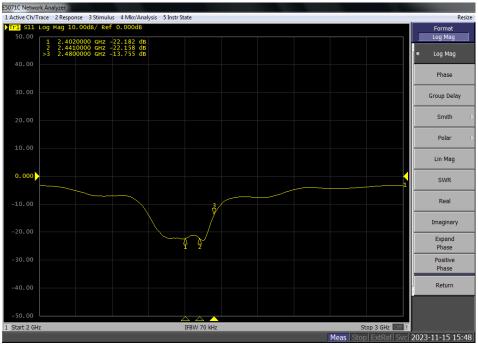
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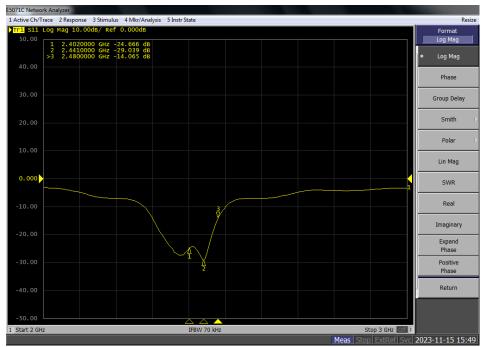
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#### **Pattern Plots** 6

#### 6.1 Return Loss



FS-Dongle-#1



FS-Dongle-#2



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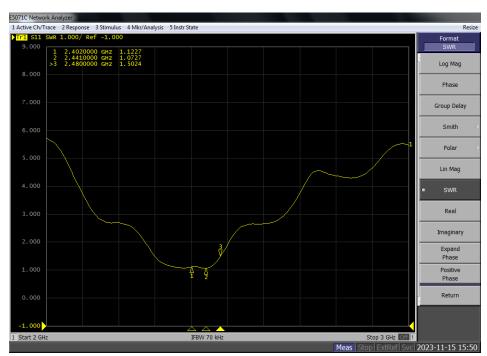
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#### **6.2 VSWR**



FS-Dongle-#1



FS-Dongle-#2



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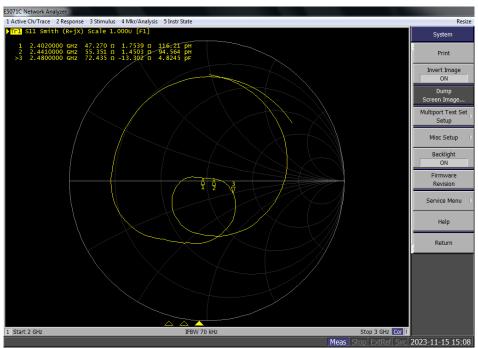
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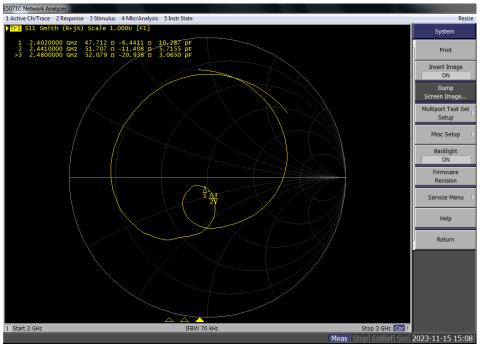
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#### 6.3 Stimulus



FS-Dongle-#1



FS-Dongle-#2



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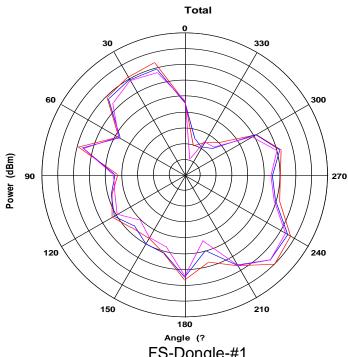
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### 2-D Antenna Pattern(Theta=90°)

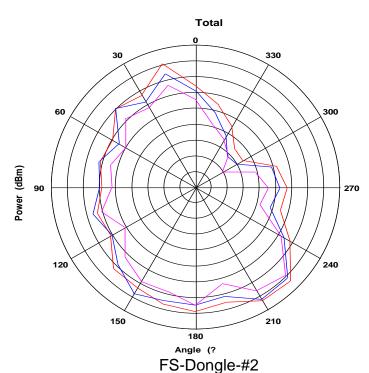


2402 MH 2441 MHz

Min: -16 Scale: 2/div

Max: 2

FS-Dongle-#1







Max: 1

Min: -8 Scale: 1/div

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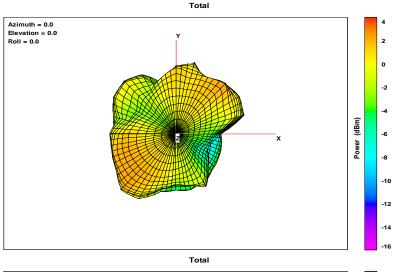
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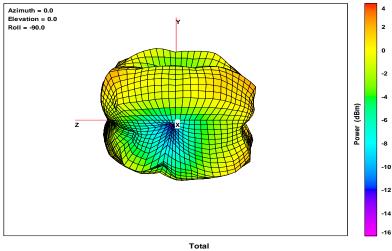
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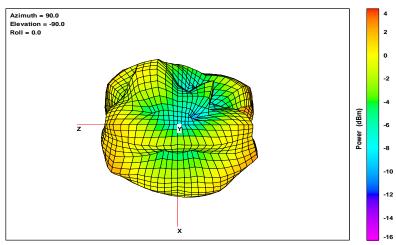
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#### 8 3-D Antenna Pattern









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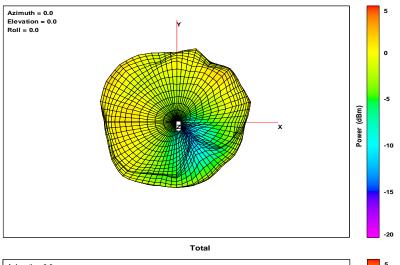
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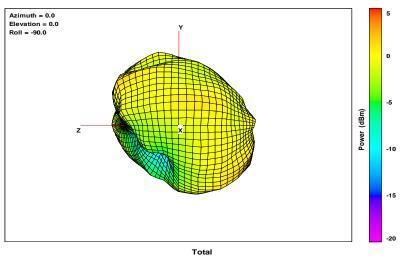
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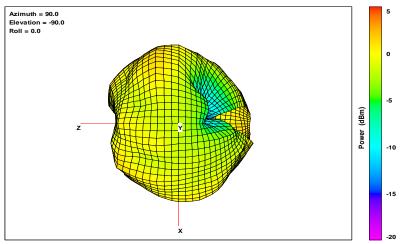
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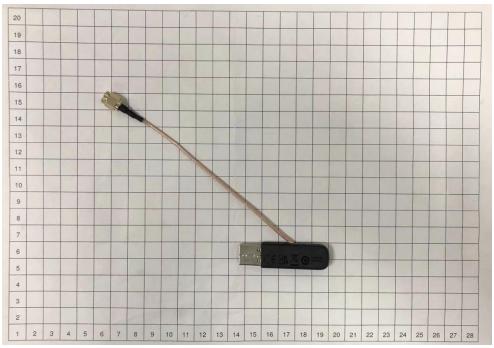
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#### The EUT and Test Configuration 9



#### Photo of EUT#1

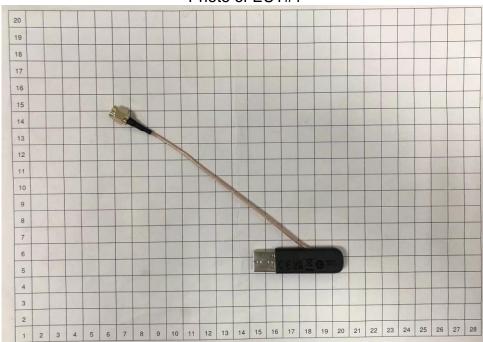


Photo of EUT#2



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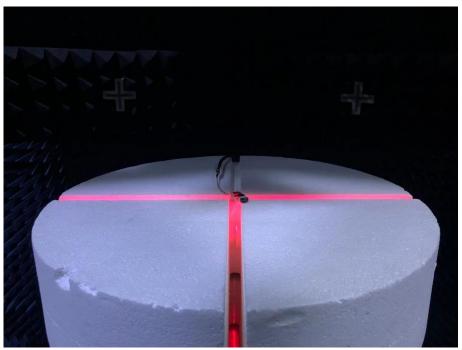


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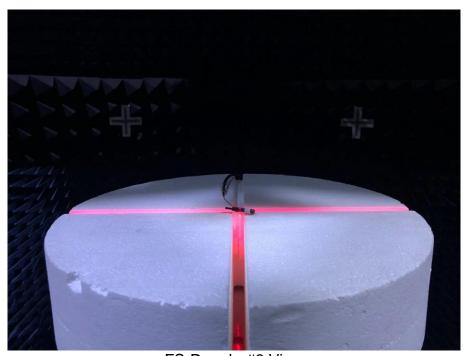
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FS-Dongle-#1 View



FS-Dongle-#2 View



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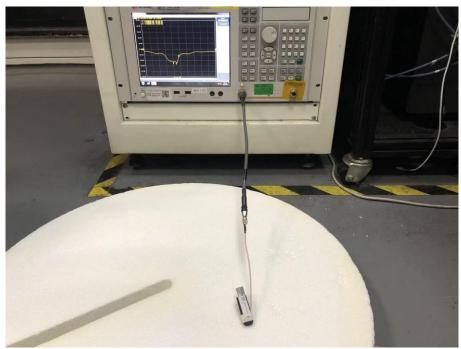


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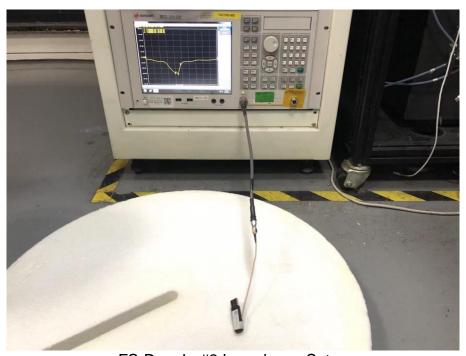
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FS-Dongle-#1 Impedance Setup



FS-Dongle-#2 Impedance Setup

---END---



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