

FCC Test Report

Applicant : **AuVerte AG**

Address : **Rothusmatt 14, CH-6300 Zug, Switzerland**

Product Name : **SC80X**

Report Date : **Aug. 22, 2024**

Shenzhen Anbotek Compliance Laboratory Limited



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TEST REPORT

Applicant : AuVerte AG
Manufacturer : Display electronics (Shenzhen)co.,ltd
Product Name : SC80X
Test Model No. : SC801
Reference Model No. : SC802, SC803
Trade Mark : AuVerte
Rating(s) : Input: with DC 3V battery inside

Test Standard(s) : 47 CFR Part 15.247
Test Method(s) : ANSI C63.10: 2020, KDB 558074 D01 15.247 Meas Guidance v05r02

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the 47 CFR Part 15.247 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited.

Date of Receipt

Jul. 25, 2023

Date of Test

Jul. 25, 2023~May 22, 2024

Prepared By



(Ella Liang)

Approved & Authorized Signer



(Edward Pan)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Aug. 22, 2024



1. General Information

1.1. Client Information

Applicant	:	AuVerte AG
Address	:	Rothusmatt 14, CH-6300 Zug, Switzerland
Manufacturer	:	Display electronics (Shenzhen)co.,ltd
Address	:	No.1,Fifth Road, Yangyong Industrial Park, Shapu Community, Songgang, Bao An District, Shenzhen, China
Factory	:	Display electronics (Shenzhen)co.,ltd
Address	:	No.1,Fifth Road, Yangyong Industrial Park, Shapu Community, Songgang, Bao An District, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	SC80X
Test Model No.	:	SC801
Reference Model No.	:	SC802, SC803 (Note: All samples are the same except the model number and content displayed by the software, so we prepare "SC801" for test only.)
Trade Mark	:	AuVerte
Test Power Supply	:	DC 3V battery inside
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A

RF Specification

Operation Frequency	:	2405~2480MHz
Number of Channel	:	16 Channels
Modulation Type	:	OQPSK
Antenna Type	:	Ceramic Antenna
Antenna Gain(Peak)	:	1dBi

Remark:

- 1) All of the RF specification are provided by customer.
- 2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



1.3. Auxiliary Equipment Used During Test

Description	Rating(s)
-	-

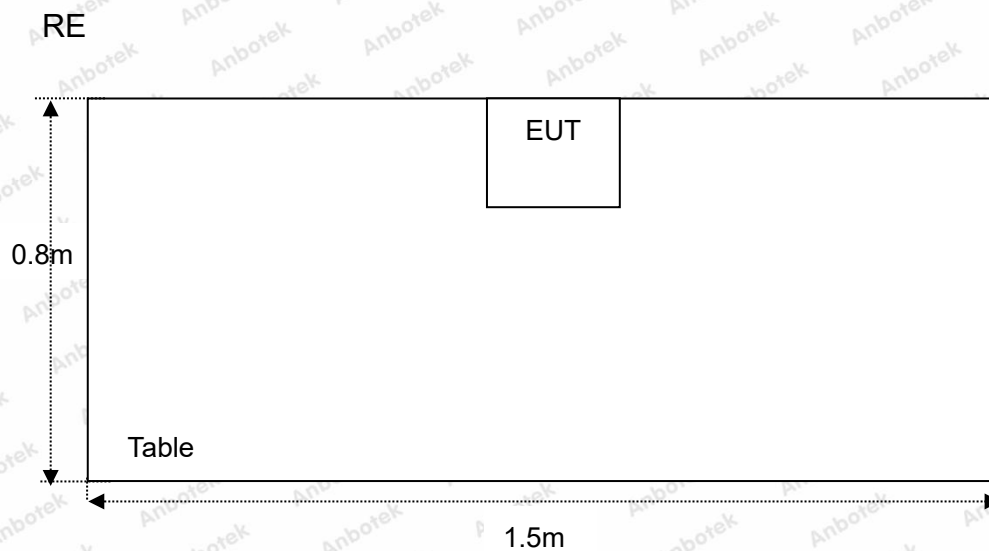
1.4. Description of Test Configuration

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
11	2405	15	2425	19	2445	23	2465		
12	2410	16	2430	20	2450	24	2470		
13	2415	17	2435	21	2455	25	2475		
14	2420	18	2440	22	2460	26	2480		

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
2. EUT was tested with 2405MHz, 2440MHz and 2480MHz.



1.5. Description Of Test Setup

1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Oct. 12, 2023	1 Year
2.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT001	Jul. 05, 2023	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 12, 2023	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Oct. 12, 2023	1 Year
5.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 12, 2023	1 Year
6.	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	Oct. 12, 2023	1 Year
7.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	Oct. 16, 2022	3 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	Oct. 23, 2022	3 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Oct. 12, 2023	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Oct. 12, 2023	1 Year
11.	Pre-amplifier	SONOMA	310N	186860	Oct. 12, 2023	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 12, 2023	1 Year
14.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 12, 2023	1 Year
15.	Signal Generator	Agilent	E4421B	MY41000743	Oct. 12, 2023	1 Year
16.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 20, 2023	1 Year
17.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80 B	N/A	Oct. 16, 2023	1 Year
18.	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	101792	May. 26, 2023	1 Year



1.7. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 434132

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.



1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotech and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



2. Summary of Test Results

Standard Section	Test Item	Result
15.203/15.247(c)	Antenna Requirement	PASS
15.207	Conducted Emission	N/A
15.205/15.209	Radiated Spurious Emission and Band Edge	PASS
15.247(b)(3)	Maximum Conduct Output Power	PASS
15.247(a)(2)	6dB Bandwidth	PASS
N/A	99% Occupied Bandwidth	Report only
15.247(e)	Maximum Power Spectral Density	PASS
15.247(d)	Conducted Spurious Emission and Band Edge	PASS
Remark: "N/A" is an abbreviation for Not Applicable.		



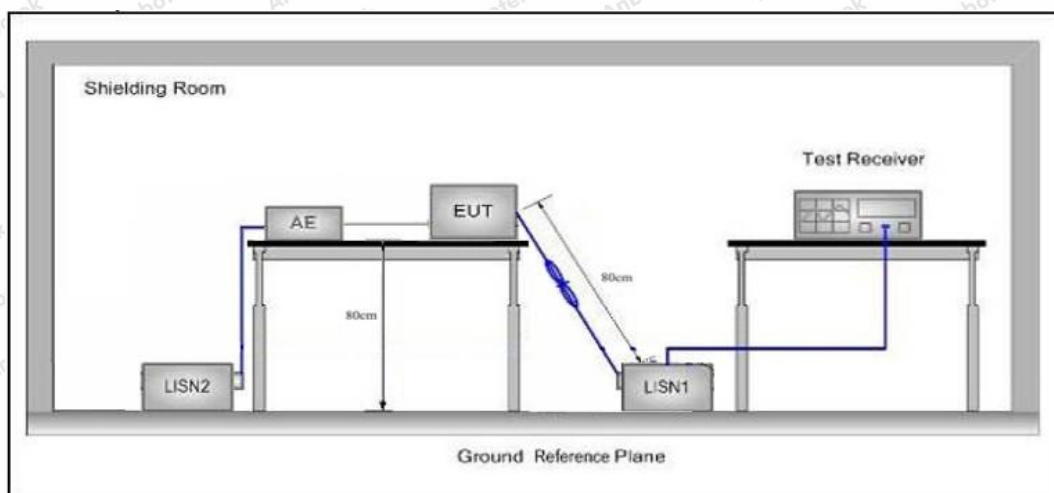
3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50

Remark:(1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequency.

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10: 2020 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

Not applicable.



4. Radiation Spurious Emission and Band Edge Test

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209 and 15.205				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	3
	Above 1000MHz	500	54.0	Average	3
		-	74.0	Peak	3

Remark:

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

4.2. Test Setup

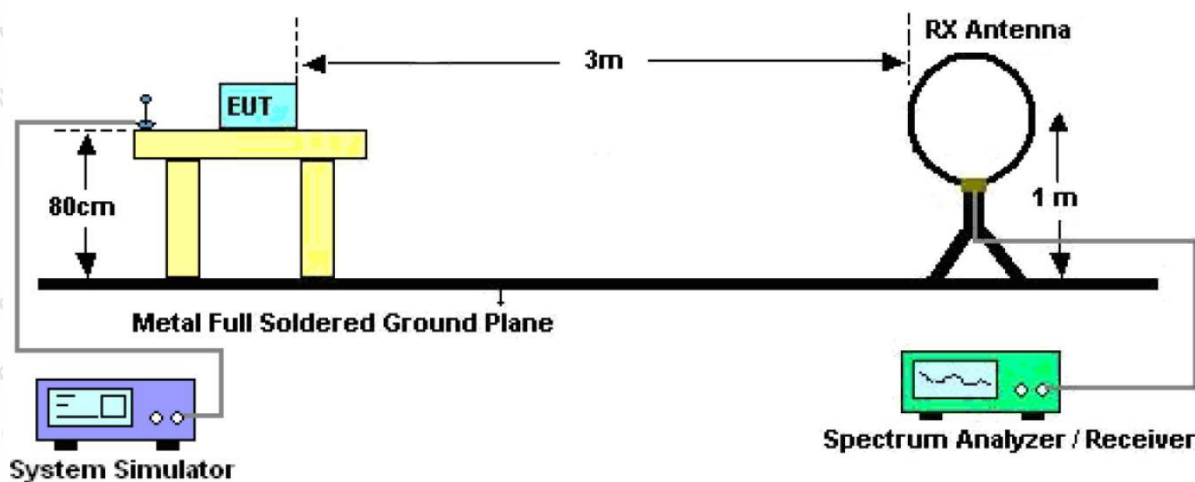


Figure 1. Below 30MHz



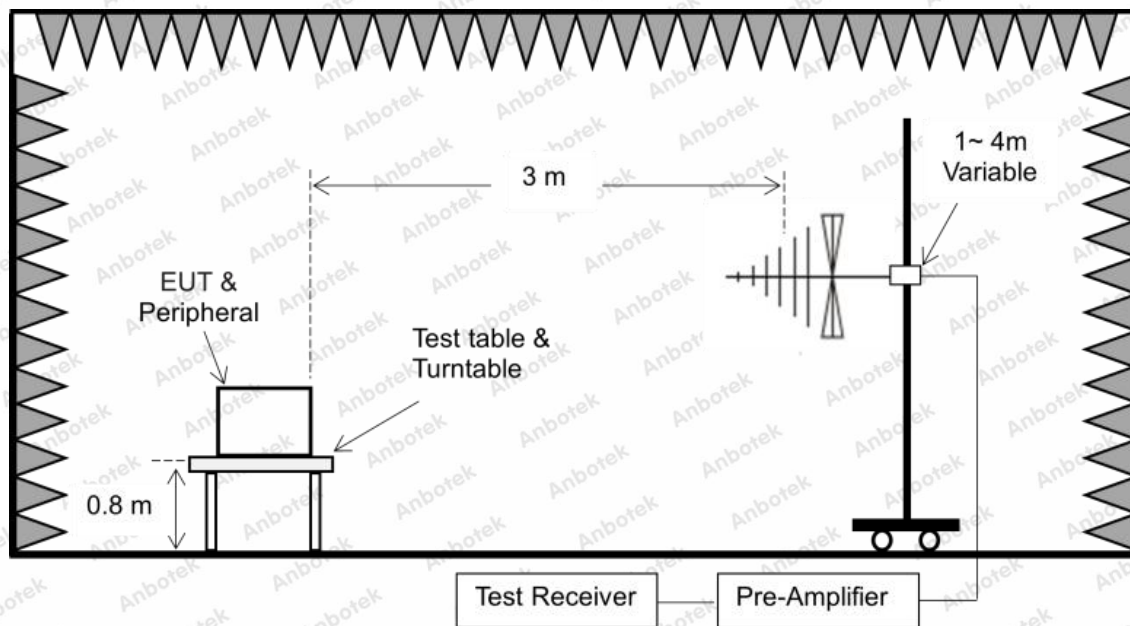


Figure 2. 30MHz to 1GHz

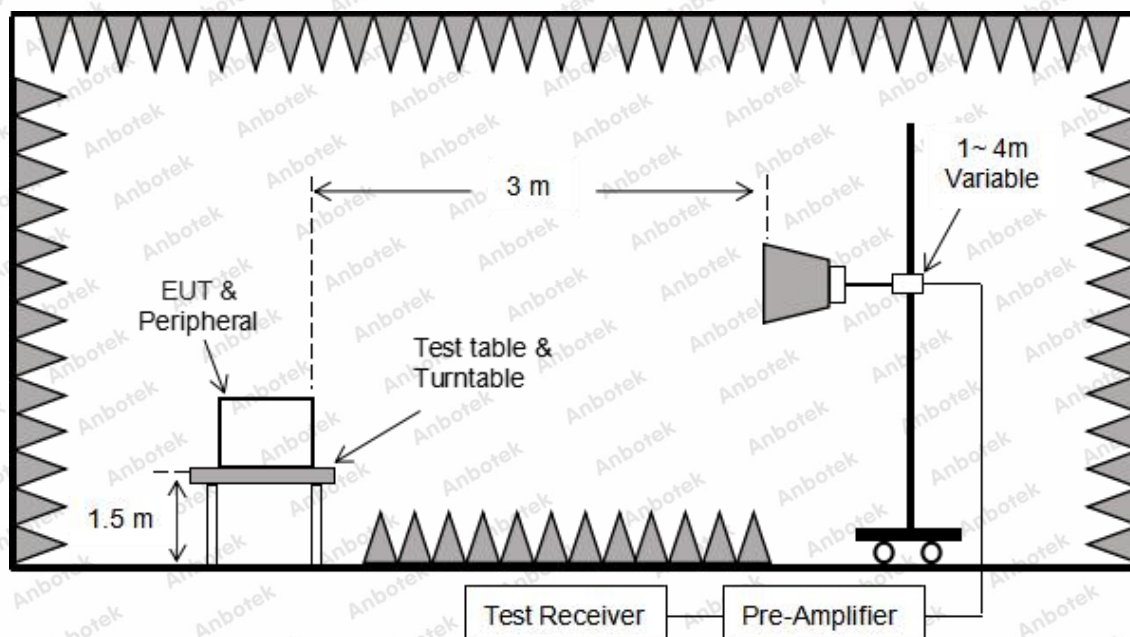


Figure 3. Above 1 GHz

4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal



and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW = 30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW = 1MHz, VBW = 1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

For average measurement:

–VBW=3*RBW, Detector= RMS, When duty cycle is no less than 98 percent

–VBW=3*RBW, Detector= RMS, When duty cycle is less than 98 percent and dutycycle is constant, average=peak level+correction factor($20\log(\text{duty cycle})$)).

–VBW $\geq 1/T$, when duty cycle is less than 98 percent and dutycycle is not constant, where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation, so refer to this clause 5.4 duty cycle.

4.4. Test Data

PASS

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all modes, only the worst case is recorded in the report.



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Test Results (30~1000MHz)

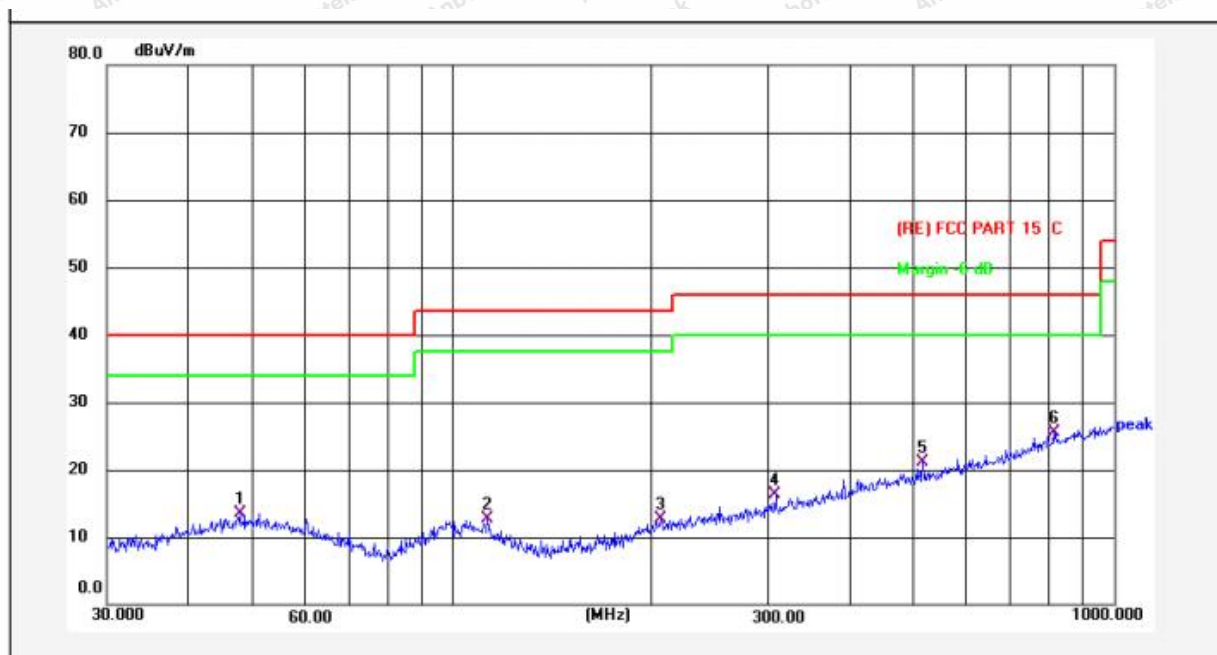
Test Mode: 2405MHz

Power Source: DC 3V

Polarization: Horizontal

Temp.(°C)/Hum.(%RH): 24.5°C/65%RH

Test Model No. SC801



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	47.7213	34.92	-21.45	13.47	40.00	-26.53	QP			
2	113.1178	35.26	-22.47	12.79	43.50	-30.71	QP			
3	206.6691	34.60	-21.90	12.70	43.50	-30.80	QP			
4	308.6419	36.27	-19.92	16.35	46.00	-29.65	QP			
5	514.7601	36.37	-15.36	21.01	46.00	-24.99	QP			
6	810.2654	35.47	-10.04	25.43	46.00	-20.57	QP			



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Test Results (30~1000MHz)

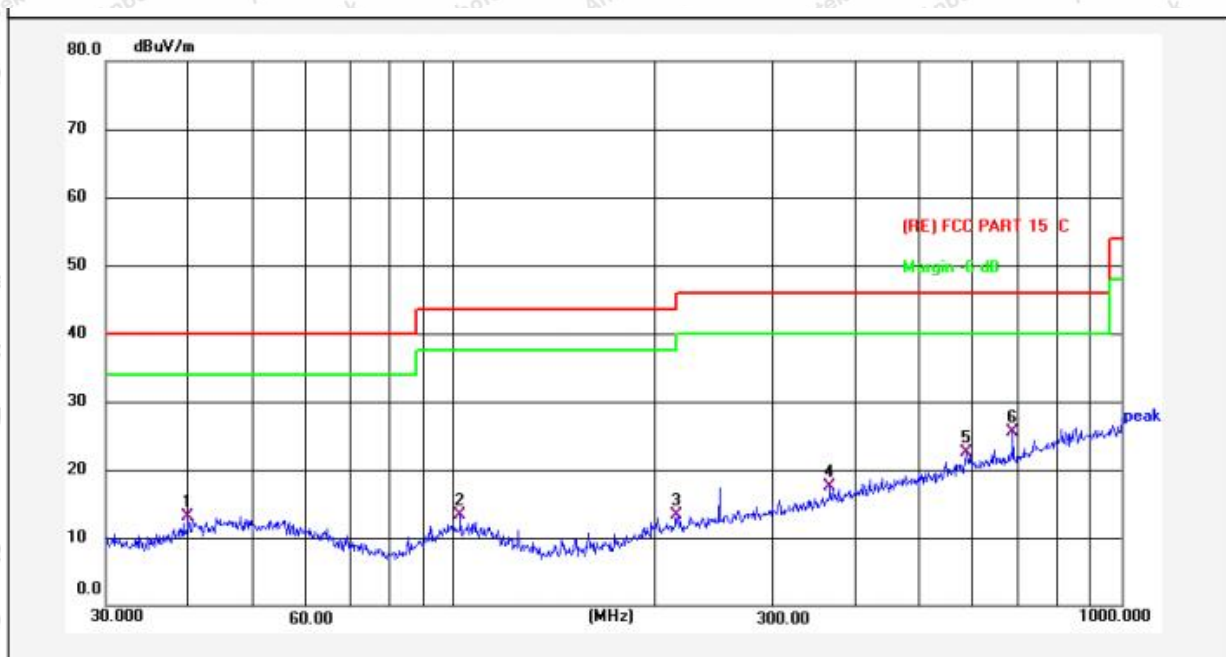
Test Mode: 2405MHz

Power Source: DC 3V

Polarization: Vertical

Temp.(°C)/Hum.(%RH): 24.5°C/65%RH

Test Model No. SC801



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.9592	35.67	-22.54	13.13	40.00	-26.87	QP			
2	102.0461	35.21	-21.98	13.23	43.50	-30.27	QP			
3	216.4979	35.09	-21.79	13.30	46.00	-32.70	QP			
4	365.8597	36.02	-18.58	17.44	46.00	-28.56	QP			
5	586.5865	36.45	-13.87	22.58	46.00	-23.42	QP			
6	687.7533	37.90	-12.38	25.52	46.00	-20.48	QP			



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Test Results (30~1000MHz)

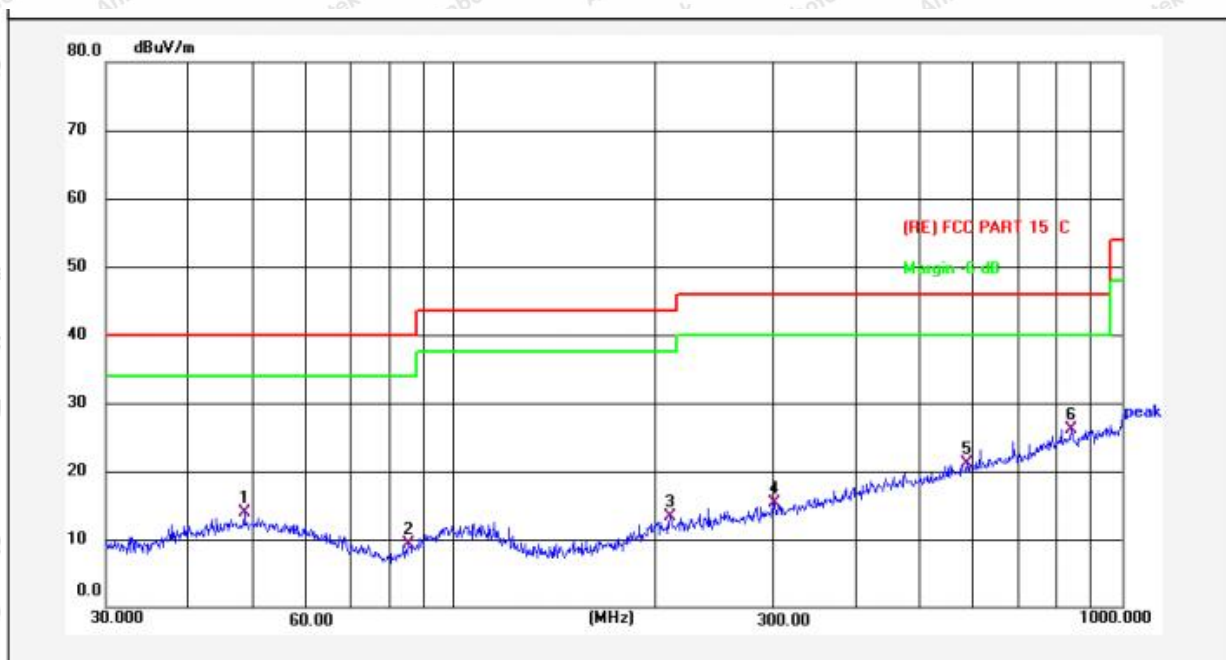
Test Mode: 2405MHz

Power Source: DC 3V

Polarization: Horizontal

Temp.(°C)/Hum.(%RH): 24.5°C/65%RH

Test Model No. SC802



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	48.3742	35.36	-21.44	13.92	40.00	-26.08	QP			
2	85.5227	34.21	-24.96	9.25	40.00	-30.75	QP			
3	210.1403	35.17	-21.86	13.31	43.50	-30.19	QP			
4	301.9513	35.29	-20.08	15.21	46.00	-30.79	QP			
5	585.3024	34.95	-13.89	21.06	46.00	-24.94	QP			
6	841.0230	35.74	-9.62	26.12	46.00	-19.88	QP			



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Test Results (30~1000MHz)

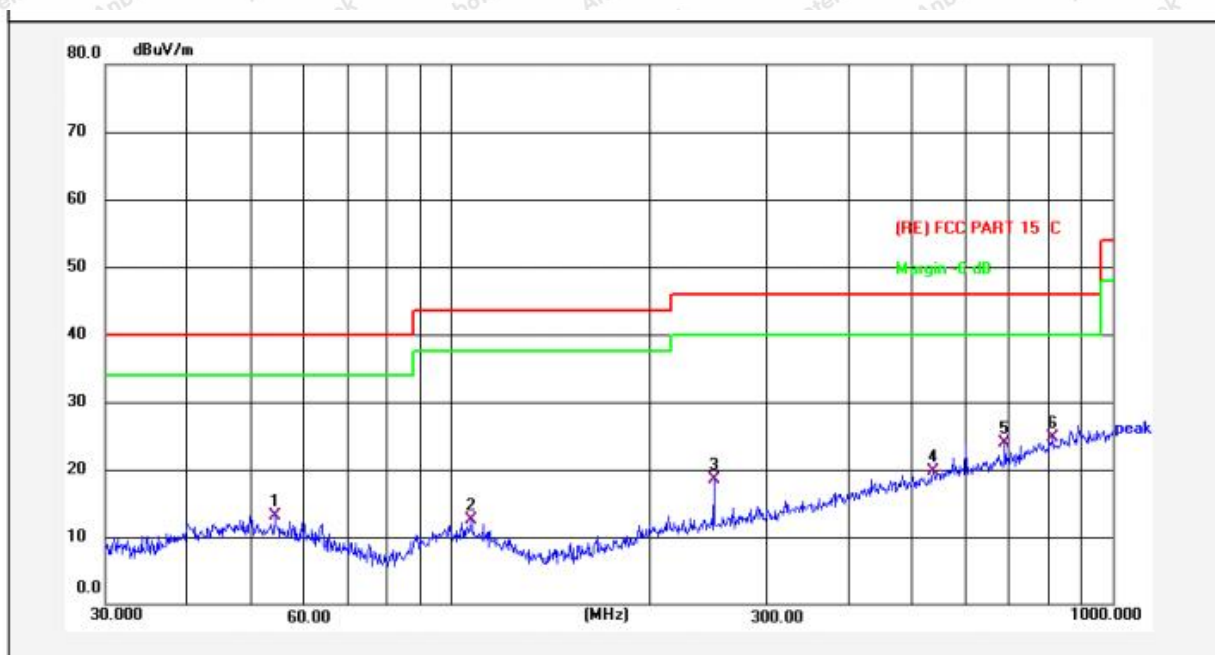
Test Mode: 2405MHz

Power Source: DC 3V

Polarization: Vertical

Temp.(°C)/Hum.(%RH): 24.5°C/65%RH

Test Model No. SC802



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	54.2134	35.09	-21.91	13.18	40.00	-26.82	QP			
2	107.4159	34.43	-21.97	12.46	43.50	-31.04	QP			
3	250.0819	39.68	-21.27	18.41	46.00	-27.59	QP			
4	535.7073	34.71	-14.92	19.79	46.00	-26.21	QP			
5	687.7533	36.22	-12.38	23.84	46.00	-22.16	QP			
6	812.7553	34.75	-10.00	24.75	46.00	-21.25	QP			



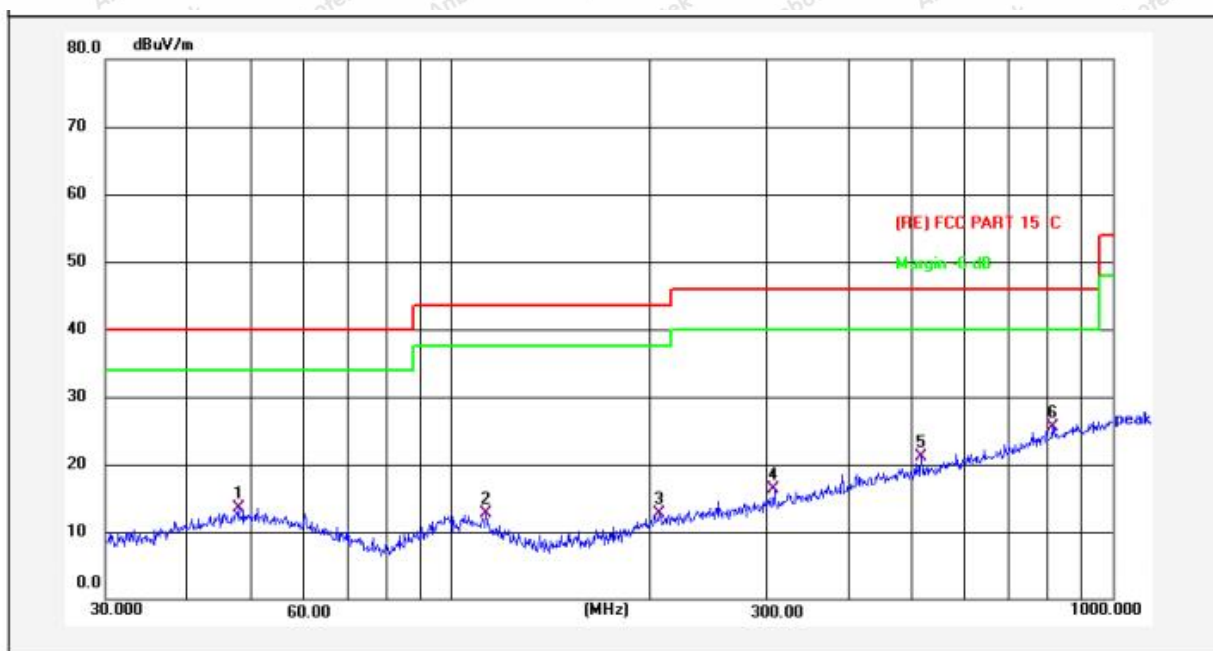
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Test Results (30~1000MHz)

Test Mode: 2405MHz
Power Source: DC 3V
Polarization: Horizontal
Temp.(°C)/Hum.(%RH): 24.5°C/65%RH
Test Model No. SC803



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	47.7213	34.92	-21.45	13.47	40.00	-26.53	QP			
2	113.1178	35.26	-22.47	12.79	43.50	-30.71	QP			
3	206.6691	34.60	-21.90	12.70	43.50	-30.80	QP			
4	308.6419	36.27	-19.92	16.35	46.00	-29.65	QP			
5	514.7601	36.37	-15.36	21.01	46.00	-24.99	QP			
6	810.2654	35.47	-10.04	25.43	46.00	-20.57	QP			



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Test Results (30~1000MHz)

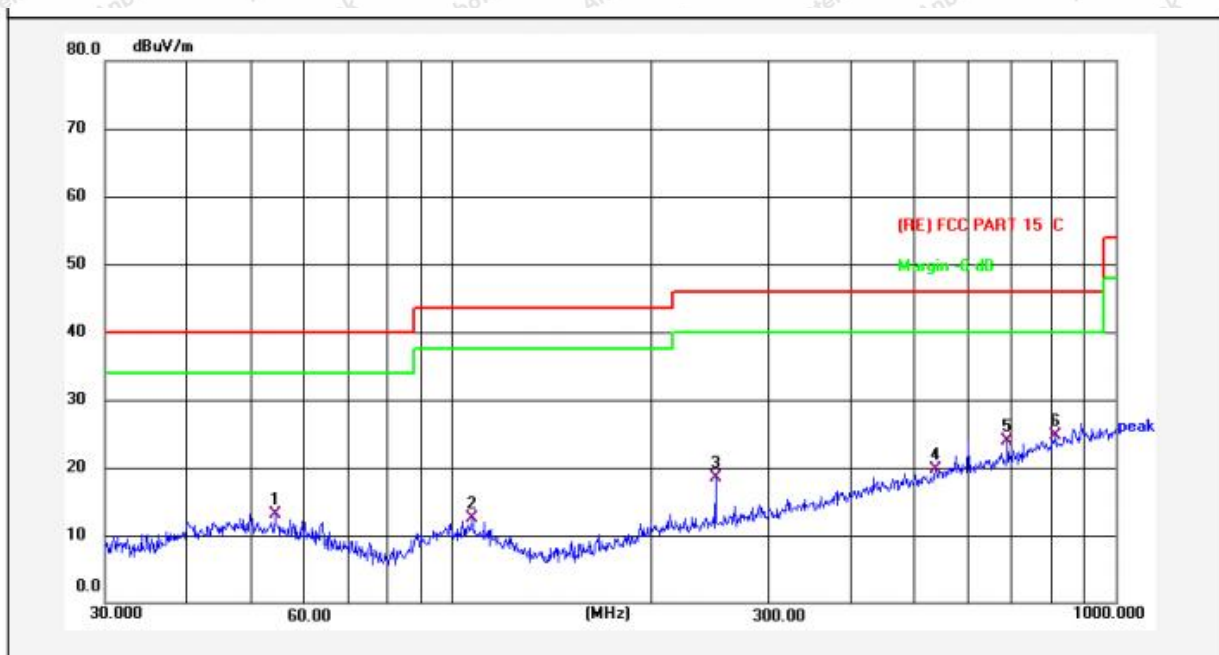
Test Mode: 2405MHz

Power Source: DC 3V

Polarization: Vertical

Temp.(°C)/Hum.(%RH): 24.5°C/65%RH

Test Model No. SC803



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	54.2134	35.09	-21.91	13.18	40.00	-26.82	QP			
2	107.4159	34.43	-21.97	12.46	43.50	-31.04	QP			
3	250.0819	39.68	-21.27	18.41	46.00	-27.59	QP			
4	535.7073	34.71	-14.92	19.79	46.00	-26.21	QP			
5	687.7533	36.22	-12.38	23.84	46.00	-22.16	QP			
6	812.7553	34.75	-10.00	24.75	46.00	-21.25	QP			



Test Results (1GHz-25GHz)

Test channel: Lowest

Test Model No.: SC801

Peak value:

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	polarization
4810.00	27.70	15.27	42.97	74.00	-31.03	Vertical
7215.00	29.19	18.09	47.28	74.00	-26.72	Vertical
9620.00	30.05	23.76	53.81	74.00	-20.19	Vertical
12025.00	*			74.00		Vertical
14430.00	*			74.00		Vertical
4810.00	28.17	15.27	43.44	74.00	-30.56	Horizontal
7215.00	29.35	18.09	47.44	74.00	-26.56	Horizontal
9620.00	28.87	23.76	52.63	74.00	-21.37	Horizontal
12025.00	*			74.00		Horizontal
14430.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	polarization
4810.00	17.08	15.27	32.35	54.00	-21.65	Vertical
7215.00	18.22	18.09	36.31	54.00	-17.69	Vertical
9620.00	19.07	23.76	42.83	54.00	-11.17	Vertical
12025.00	*			54.00		Vertical
14430.00	*			54.00		Vertical
4810.00	16.52	15.27	31.79	54.00	-22.21	Horizontal
7215.00	18.41	18.09	36.50	54.00	-17.50	Horizontal
9620.00	18.18	23.76	41.94	54.00	-12.06	Horizontal
12025.00	*			54.00		Horizontal
14430.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Middle

Test Model No.: SC801

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	27.72	15.42	43.14	74.00	-30.86	Vertical
7320.00	29.04	18.02	47.06	74.00	-26.94	Vertical
9760.00	29.06	23.80	52.86	74.00	-21.14	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
4880.00	27.87	15.42	43.29	74.00	-30.71	Horizontal
7320.00	29.34	18.02	47.36	74.00	-26.64	Horizontal
9760.00	28.57	23.80	52.37	74.00	-21.63	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	
4880.00	16.81	15.42	32.23	54.00	-21.77	polarization
7320.00	18.32	18.02	36.34	54.00	-17.66	Vertical
9760.00	18.93	23.80	42.73	54.00	-11.27	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
4880.00	16.43	15.42	31.85	54.00	-22.15	Vertical
7320.00	17.97	18.02	35.99	54.00	-18.01	Horizontal
9760.00	18.69	23.80	42.49	54.00	-11.51	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Highest

Test Model No.: SC801

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	27.99	15.58	43.57	74.00	-30.43	Vertical
7440.00	29.05	17.93	46.98	74.00	-27.02	Vertical
9920.00	29.61	23.83	53.44	74.00	-20.56	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	27.94	15.58	43.52	74.00	-30.48	Horizontal
7440.00	29.37	17.93	47.30	74.00	-26.70	Horizontal
9920.00	29.25	23.83	53.08	74.00	-20.92	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	17.93	15.58	33.51	54.00	-20.49	Vertical
7440.00	19.33	17.93	37.26	54.00	-16.74	Vertical
9920.00	19.48	23.83	43.31	54.00	-10.69	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	17.87	15.58	33.45	54.00	-20.55	Horizontal
7440.00	19.34	17.93	37.27	54.00	-16.73	Horizontal
9920.00	18.59	23.83	42.42	54.00	-11.58	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Lowest						
Test Model No.: SC802						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	27.97	15.27	43.24	74.00	-30.76	Vertical
7215.00	29.51	18.09	47.60	74.00	-26.40	Vertical
9620.00	30.43	23.76	54.19	74.00	-19.81	Vertical
12025.00	*			74.00		Vertical
14430.00	*			74.00		Vertical
4810.00	28.44	15.27	43.71	74.00	-30.29	Horizontal
7215.00	29.72	18.09	47.81	74.00	-26.19	Horizontal
9620.00	29.09	23.76	52.85	74.00	-21.15	Horizontal
12025.00	*			74.00		Horizontal
14430.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4810.00	17.35	15.27	32.62	54.00	-21.38	Vertical
7215.00	18.54	18.09	36.63	54.00	-17.37	Vertical
9620.00	19.45	23.76	43.21	54.00	-10.79	Vertical
12025.00	*			54.00		Vertical
14430.00	*			54.00		Vertical
4810.00	16.79	15.27	32.06	54.00	-21.94	Horizontal
7215.00	18.78	18.09	36.87	54.00	-17.13	Horizontal
9620.00	18.40	23.76	42.16	54.00	-11.84	Horizontal
12025.00	*			54.00		Horizontal
14430.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Middle

Test Model No.: SC802

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	27.99	15.42	43.41	74.00	-30.59	Vertical
7320.00	29.36	18.02	47.38	74.00	-26.62	Vertical
9760.00	29.44	23.80	53.24	74.00	-20.76	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
4880.00	28.14	15.42	43.56	74.00	-30.44	Horizontal
7320.00	29.71	18.02	47.73	74.00	-26.27	Horizontal
9760.00	28.79	23.80	52.59	74.00	-21.41	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	
4880.00	17.08	15.42	32.50	54.00	-21.50	polarization
7320.00	18.64	18.02	36.66	54.00	-17.34	Vertical
9760.00	19.31	23.80	43.11	54.00	-10.89	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
4880.00	16.70	15.42	32.12	54.00	-21.88	Vertical
7320.00	18.34	18.02	36.36	54.00	-17.64	Horizontal
9760.00	18.91	23.80	42.71	54.00	-11.29	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Highest						
Test Model No.: SC802						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	28.26	15.58	43.84	74.00	-30.16	Vertical
7440.00	29.37	17.93	47.30	74.00	-26.70	Vertical
9920.00	29.99	23.83	53.82	74.00	-20.18	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	28.21	15.58	43.79	74.00	-30.21	Horizontal
7440.00	29.74	17.93	47.67	74.00	-26.33	Horizontal
9920.00	29.47	23.83	53.30	74.00	-20.70	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	18.20	15.58	33.78	54.00	-20.22	Vertical
7440.00	19.65	17.93	37.58	54.00	-16.42	Vertical
9920.00	19.86	23.83	43.69	54.00	-10.31	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	18.14	15.58	33.72	54.00	-20.28	Horizontal
7440.00	19.71	17.93	37.64	54.00	-16.36	Horizontal
9920.00	18.81	23.83	42.64	54.00	-11.36	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Lowest

Test Model No.: SC803

Peak value:

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	polarization
4810.00	27.66	15.27	42.93	74.00	-31.07	Vertical
7215.00	29.14	18.09	47.23	74.00	-26.77	Vertical
9620.00	29.98	23.76	53.74	74.00	-20.26	Vertical
12025.00	*			74.00		Vertical
14430.00	*			74.00		Vertical
4810.00	28.12	15.27	43.39	74.00	-30.61	Horizontal
7215.00	29.28	18.09	47.37	74.00	-26.63	Horizontal
9620.00	28.84	23.76	52.60	74.00	-21.40	Horizontal
12025.00	*			74.00		Horizontal
14430.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	polarization
4810.00	17.04	15.27	32.31	54.00	-21.69	Vertical
7215.00	18.17	18.09	36.26	54.00	-17.74	Vertical
9620.00	19.00	23.76	42.76	54.00	-11.24	Vertical
12025.00	*			54.00		Vertical
14430.00	*			54.00		Vertical
4810.00	16.47	15.27	31.74	54.00	-22.26	Horizontal
7215.00	18.34	18.09	36.43	54.00	-17.57	Horizontal
9620.00	18.15	23.76	41.91	54.00	-12.09	Horizontal
12025.00	*			54.00		Horizontal
14430.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Middle

Test Model No.: SC803

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	27.68	15.42	43.10	74.00	-30.90	Vertical
7320.00	28.99	18.02	47.01	74.00	-26.99	Vertical
9760.00	28.99	23.80	52.79	74.00	-21.21	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
4880.00	27.82	15.42	43.24	74.00	-30.76	Horizontal
7320.00	29.27	18.02	47.29	74.00	-26.71	Horizontal
9760.00	28.54	23.80	52.34	74.00	-21.66	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	
4880.00	16.77	15.42	32.19	54.00	-21.81	polarization
7320.00	18.27	18.02	36.29	54.00	-17.71	Vertical
9760.00	18.86	23.80	42.66	54.00	-11.34	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
4880.00	16.38	15.42	31.80	54.00	-22.20	Vertical
7320.00	17.90	18.02	35.92	54.00	-18.08	Horizontal
9760.00	18.66	23.80	42.46	54.00	-11.54	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Highest

Test Model No.: SC803

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	27.95	15.58	43.53	74.00	-30.47	Vertical
7440.00	29.00	17.93	46.93	74.00	-27.07	Vertical
9920.00	29.54	23.83	53.37	74.00	-20.63	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	27.89	15.58	43.47	74.00	-30.53	Horizontal
7440.00	29.30	17.93	47.23	74.00	-26.77	Horizontal
9920.00	29.22	23.83	53.05	74.00	-20.95	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	17.89	15.58	33.47	54.00	-20.53	Vertical
7440.00	19.28	17.93	37.21	54.00	-16.79	Vertical
9920.00	19.41	23.83	43.24	54.00	-10.76	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	17.82	15.58	33.40	54.00	-20.60	Horizontal
7440.00	19.27	17.93	37.20	54.00	-16.80	Horizontal
9920.00	18.56	23.83	42.39	54.00	-11.61	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal

Remark:

1.Result =Reading + Factor

2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



Report No.: 18220WC30153401

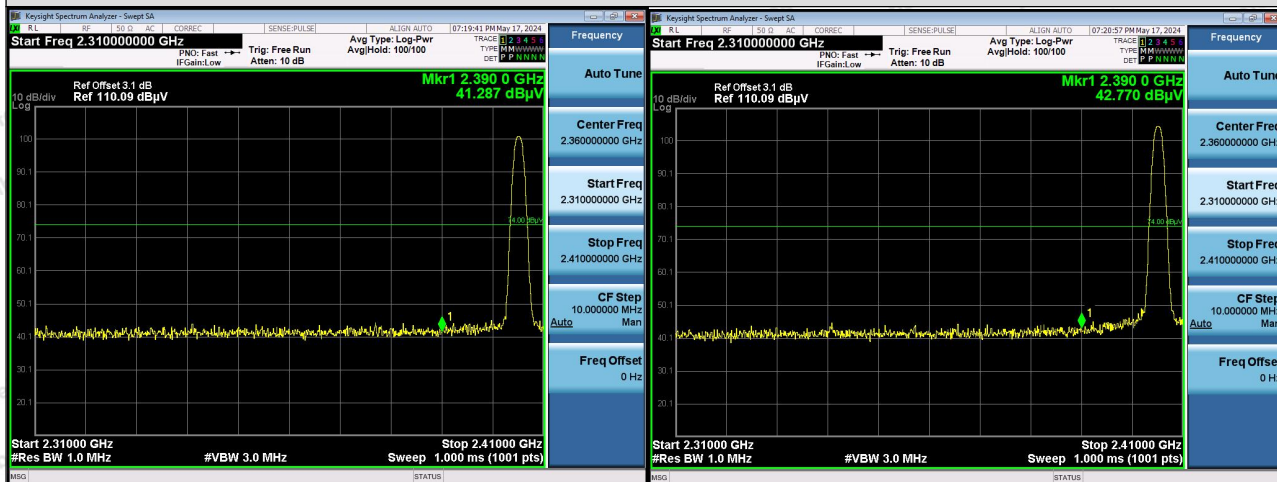
FCC ID: 2AWOQ-SC801

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Radiated Band Edge:

Test Model No.: SC801

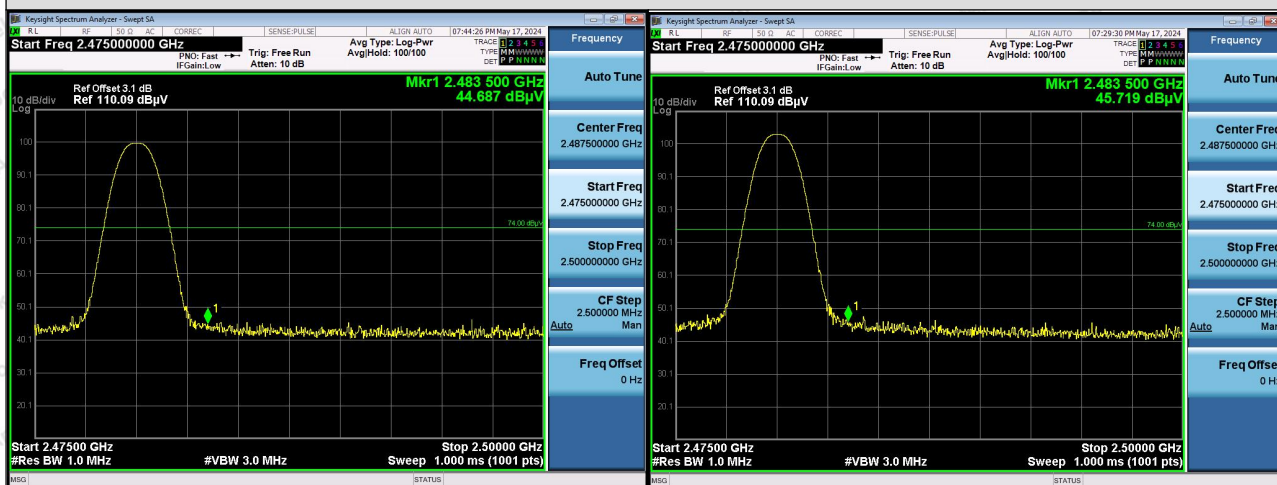
Test Mode: Lowest



Peak Value(Vertical)

Peak Value(Horizontal)

Test Mode: Highest



Peak Value(Vertical)

Peak Value(Horizontal)

Remark:

1. Correction factor=20log(Duty Cycle)
2. Average Value=Peak Value+Correction factor
3. Only record the worst model data in the report.

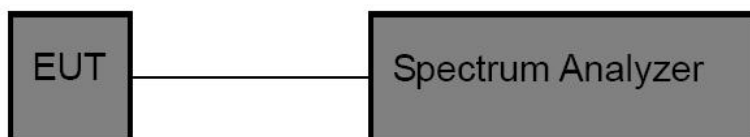


5. Maximum Conducted Output Power Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (b)(3)
Test Limit	1W (30dBm)

5.2. Test Setup



5.3. Test Procedure

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

1. Set the RBW $\geq$ DTS bandwidth.
2. Set the VBW $\geq 3 \times$ RBW.
3. Set the span $\geq 3 \times$ RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.

5.4. Test Data

Pass

Please refer to Appendix C of the Appendix Test Data.

Test for Duty Cycle.

Please refer to Appendix G of the Appendix Test Data.

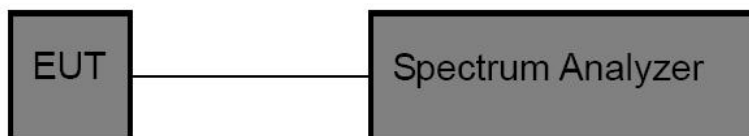


6. 6dB Bandwidth and 99% Occupied Bandwidth Test

6.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (a)(2)
Test Limit	≥500kHz

6.2. Test Setup



6.3. Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
RBW = 100kHz, VBW≥3*RBW
Detector= Peak
Trace mode= Max hold.
Sweep- auto couple.
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

6.4. Test Data

Pass

Please refer to Appendix A&B of the Appendix Test Data.

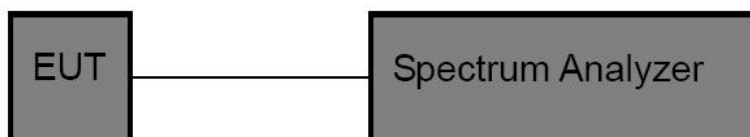


7. Maximum Power Spectral Density Test

7.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (e)
Test Limit	8dBm/3KHz

7.2. Test Setup



7.3. Test Procedure

1. Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as $3\text{kHz} \leq \text{RBW} \leq 100\text{kHz}$, $\text{VBW} \geq 3 \times \text{RBW}$, $\text{Span} = 1.5 \times \text{DTS BW}$
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

7.4. Test Data

Pass

Please refer to Appendix D of the Appendix Test Data.

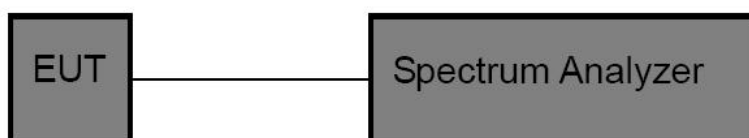


8. Conducted Spurious Emission and Band Edge Test

8.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (d)
Test Limit	In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

8.2. Test Setup



8.3. Test Procedure

Using the following spectrum analyzer setting:

1. Set the RBW = 100KHz.
2. Set the VBW = 300KHz.
3. Sweep time = auto couple.
4. Detector function = peak.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.

8.4. Test Data

Pass

Please refer to Appendix E&F of the Appendix Test Data.



9. Antenna Requirement

9.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203 /247(c)
Requirement	1) 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 2) 15.247(c) (1)(i) requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

9.2. Antenna Connected Construction

The antenna is a Ceramic Antenna which permanently attached, and the best case gain of the antenna is 1dBi. It complies with the standard requirement.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

