FCC PART 15.249

TEST REPORT

For

AKUVOX (XIAMEN) NETWORKS CO., LTD.

10/F, No.56 Guanri Road, Software Park II, Xiamen 361009, China

FCC ID: 2AHCR-S532V1

Report Type:	**Product Name:**
Original	Door Phone

Report Number:	2407T77479E-RF-03
Report Date:	2024-12-13
Reviewed By:	Ash Lin
Approved By:	Miles Chen
Prepared By:	Bay Area Compliance Laboratories Corp. (Xiamen) Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen Tel: +86-592-3200111 www.baclcorp.com.cn

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2407T77479E-RF-03	R1V1	2024-12-13	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	AKUVOX (XIAMEN) NETWORKS CO., LTD.
Tested Model:	S532
Firmware version:	V1.00
Software version:	532.30.1.19
Product Name:	Door Phone
Power Supply:	DC 12V from Adapter or DC 48V from PoE
RF Function:	SRD
Operating Band/Frequency:	5866MHz
Modulation Type:	CW
Antenna Type:	PCB Antenna
★Maximum Antenna Gain:	-1dBi

Note:
1. The maximum antenna gain is provided by the applicant.
2. *All measurement and test data in this report was gathered from production sample serial number:2LWH-1 (Assigned by the BACL (Xiamen). The EUT supplied by the applicant was received on 2024-05-23)*

Objective

This test report is prepared for *AKUVOX (XIAMEN) NETWORKS CO., LTD.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209, 15.215 and 15.249 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

Measurement Uncertainty

Item		U_{lab}
Conducted Emissions	150kHz-30MHz(LISN)	2.33dB
Radiated Disturbance	9kHz~30MHz	2.59 dB
	30MHz~200MHz	4.38dB
	200MHz ~1GHz	4.50dB
	1GHz~6GHz	4.58dB
	6GHz~18GHz	5.43dB
	18GHz~26.5GHz	5.47dB
Occupied Bandwidth		0.053kHz
Temperature		1℃
Humidity		5%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, FCC Registration No.: 485720, the FCC Designation No.: CN1384.

SYSTEM TEST CONFIGURATION

Test Mode and Voltage

The system was configured for testing in a typical mode (as normally used by a typical user).	
Test mode:	Transmitting
Test voltage:	DC 12V from Adapter or DC 48V from PoE
Remark:	During all emission tests, the EUT was configured to measure its highest possible emission level and the worst case's test data was presented in this test report.

Note: Power from adapter and PoE were evaluated in the 2407T77479E-RF-02 report for the 9kHz~30MHz Radiation Spurious Emissions Test. The report showed that adapter had worse emissions in 9kHz~30MHz Radiation Spurious Emissions Test. Therefore, only the test results with worst case adapter are reflected in this report.

Justification

The system was configured in testing mode which was provided by manufacturer.

EUT Exercise Software

Engineering Mode was provided by manufacturer.

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
NETGEAR	POE	MSIP-REN-NGR-GS108Ev3	3UJD1756006EB
SWITCHING ADAPTER	Adapter	FJ-SW126K1201000DU	Unknown
Router	Router	WS831	W6E7S15B09001200
BACL	Relay Load	Unknown	Unknown
BACL	RS 485 Load	Unknown	Unknown
BACL	Relay Load	Unknown	Unknown
Unknown	Exit Button	Unknown	Unknown
Unknown	Exit Button	Unknown	Unknown
Unknown	Exit Button	Unknown	Unknown
Unknown	Exit Button	Unknown	Unknown

External I/O Cable

For Adapter

Cable Description	Length (m)	From Port	To
Power cable	2	EUT	Adapter
Load cable	10	EUT	Relay Load
Load cable	10	EUT	RS 485 Load
Load cable	10	EUT	Relay Load
Network cable	10	EUT	Router
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button

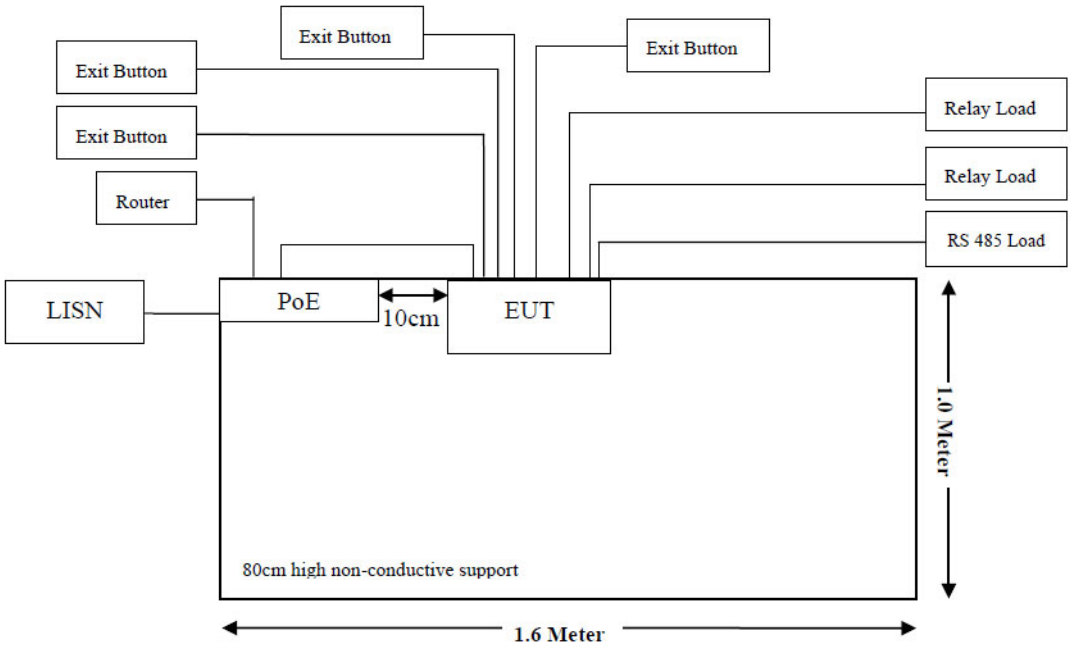
For PoE

Cable Description	Length (m)	From Port	To
Network cable	1	EUT	POE
Load cable	10	EUT	Relay Load
Load cable	10	EUT	RS 485 Load
Load cable	10	EUT	Relay Load
Network cable	10	POE	Router
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button
Load cable	10	EUT	Exit Button

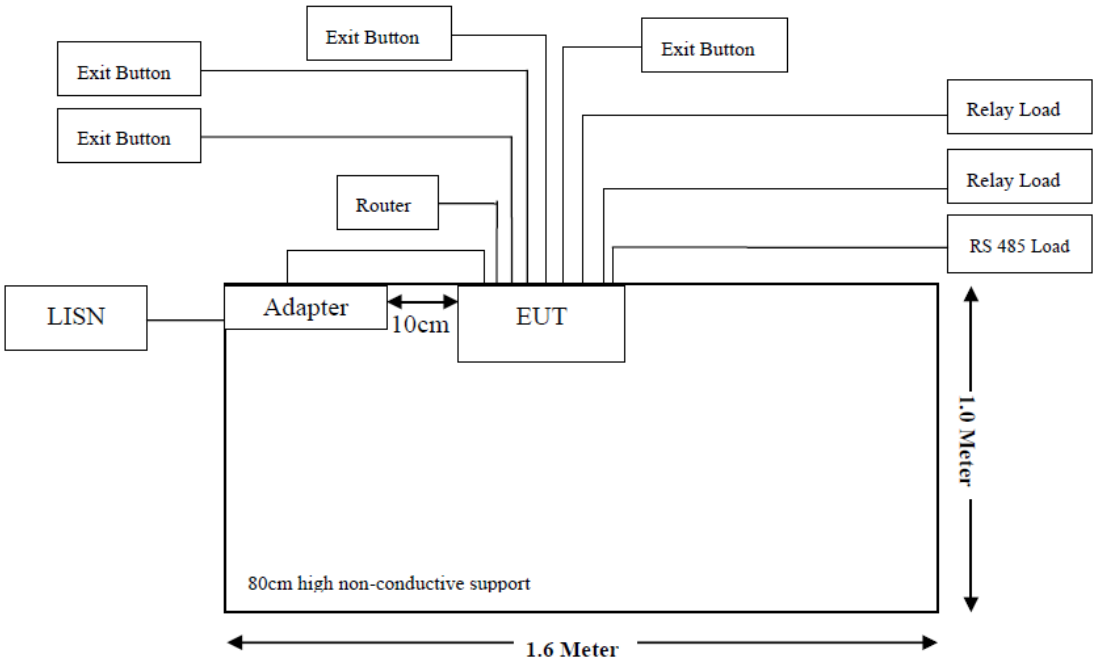
Block Diagram of Test Setup

For Conducted Emissions:

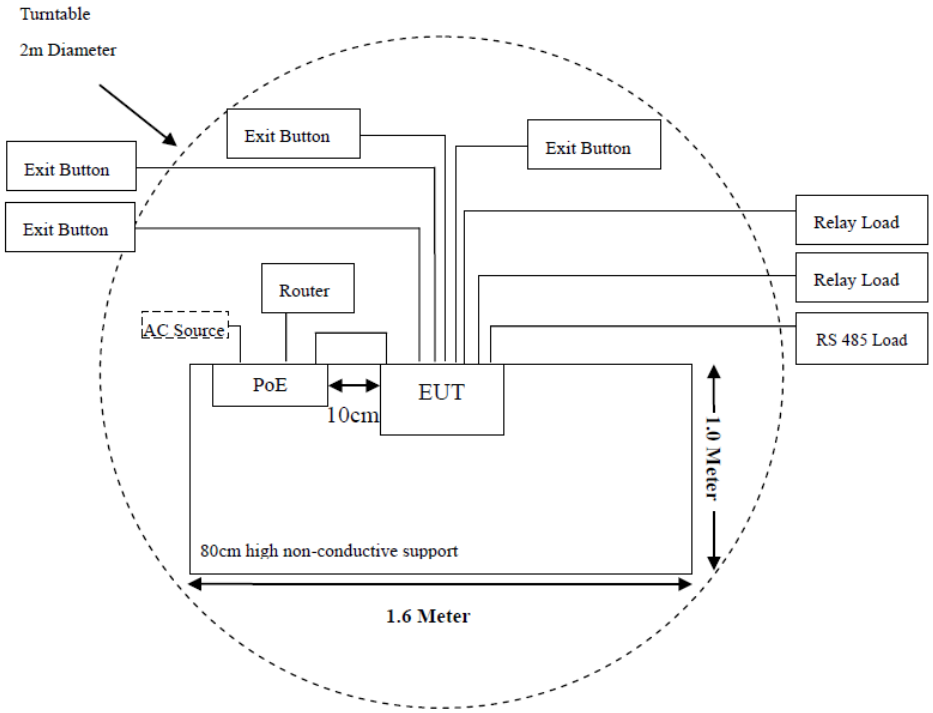
Powered by PoE



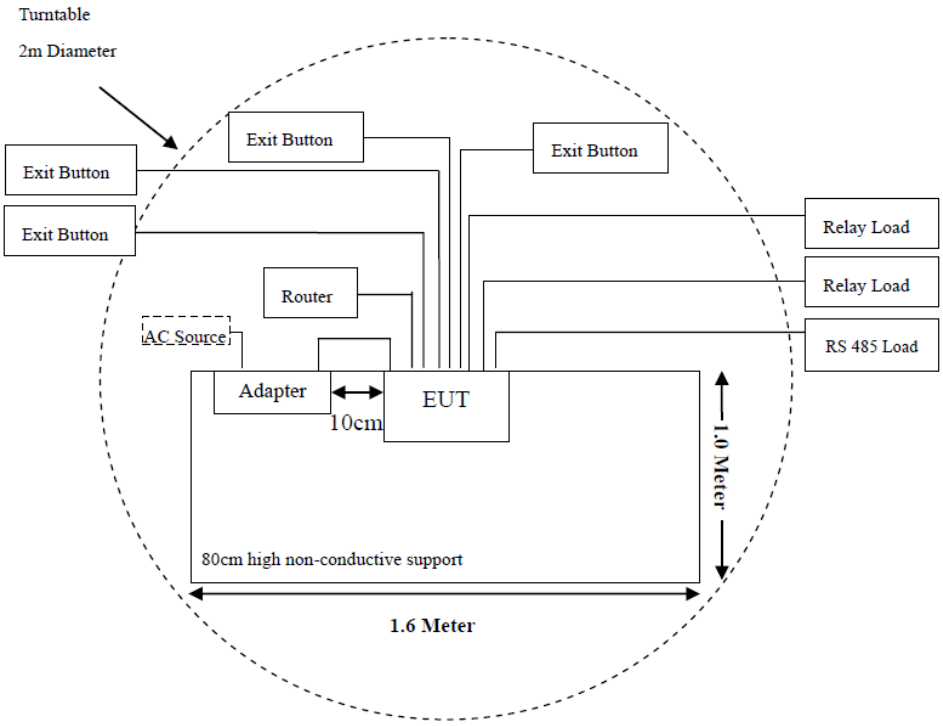
Powered by Adapter



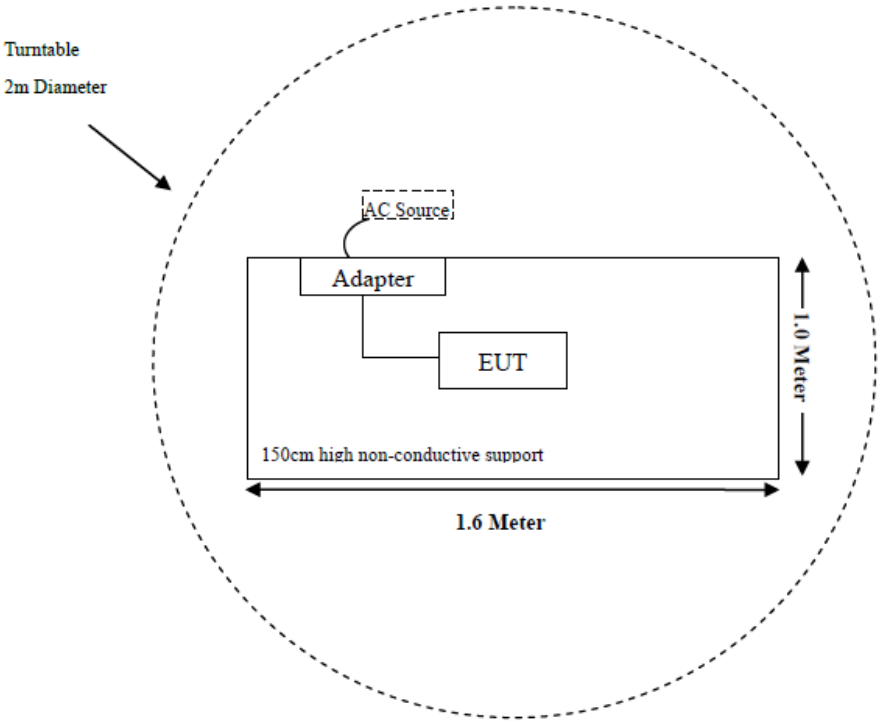
For Radiated Emissions:
Below 1GHz
Powered by PoE



Powered by Adapter



Above 1GHz


Turntable
2m Diameter
AC Source
Adapter
EUT
150cm high non-conductive support
1.0 Meter
1.6 Meter

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conducted Emissions	Compliant
§15.205, §15.209, §15.249	Radiated Emissions & Fundamental Test & Out-of-band Emissions Test	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant

TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emissions Below 1 GHz					
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2024/03/29	2025/03/28
Loop Antenna	Rohde & Schwarz	HFH2-Z2	830749/001	2023/07/27	2026/07/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/07/27	2026/07/26
Amplifier	Sonoma	310B	120903	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2024/03/29	2025/03/28
Double Ridge Guide Horn Antenna	A.H.Systems	SAS-571	1980	2023/07/28	2026/07/27
Horn Aantenna	EMCO	3115	9002-3355	2024/11/19	2027/11/18
Filter Switch Unit	Decentest	DT7220FSU	DS79904	2024/02/23	2025/02/22
Multiplex Switch Test Control Set	Decentest	DT7220SCU	DS79901	2024/02/23	2025/02/22
Spectrum Analyzer	Rohde & Schwarz	FSU	100405	2024/03/29	2025/03/28
Preamplifier	A.H.Systems	PAM-0118P	489	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC003	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2024/03/29	2025/03/28
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Preamplifier	A.H.Systems	PAM-1840	200	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-3M	CC008	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-1M	CC009	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
Conducted Emissions					
EMI Test Receiver	Rohde & Schwarz	ESR	103105	2024/03/29	2025/03/28
LISN	Rohde & Schwarz	ENV216	100129	2024/03/29	2025/03/28
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC001	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Xiamen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

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 shall be considered sufficient to comply with the provisions of this section.

Antenna Connected Construction

The EUT has a PCB antenna which was permanently attached and the antenna gain is -1dBi; fulfill the requirement of this section. Please refer to EUT photos.

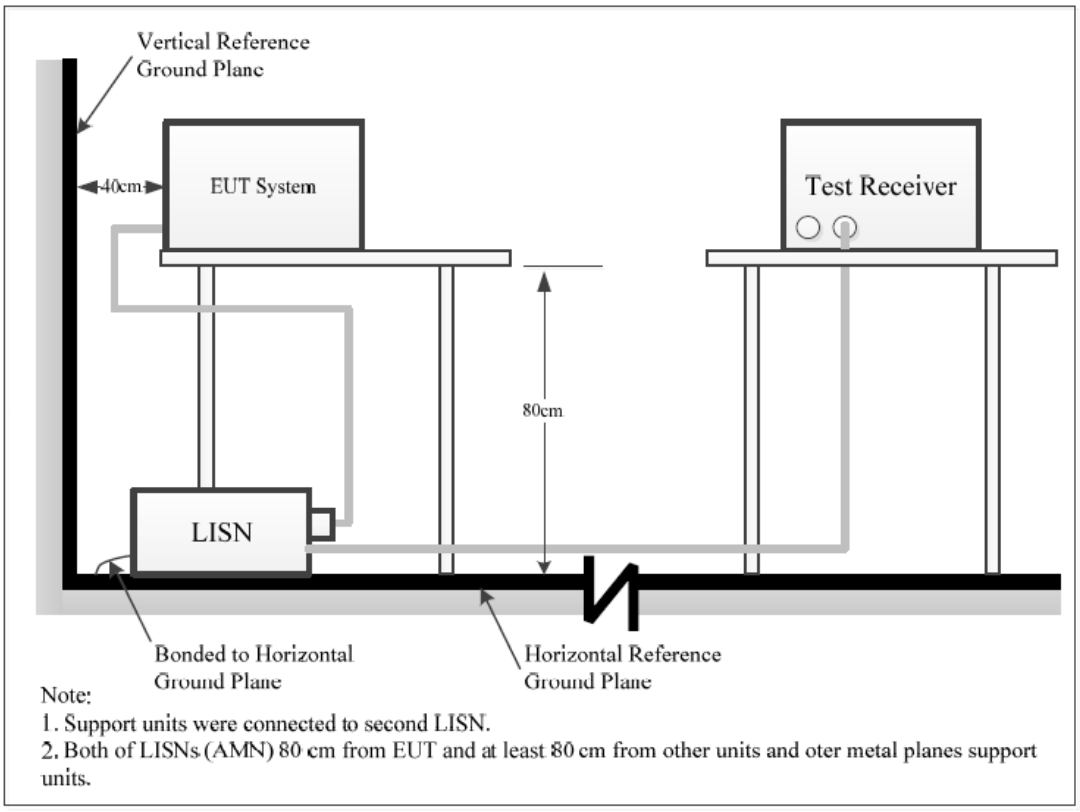
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2020. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	VBW
150 kHz - 30 MHz	9 kHz	30 kHz

Test Procedure

ANSI C63.10-2020 clause 6.2

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Result &Margin Calculation

The Result is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
Result (dBμV) = Reading (dBμV) + Factor (dB)

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV) –Result (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, FCC Part 15.207.

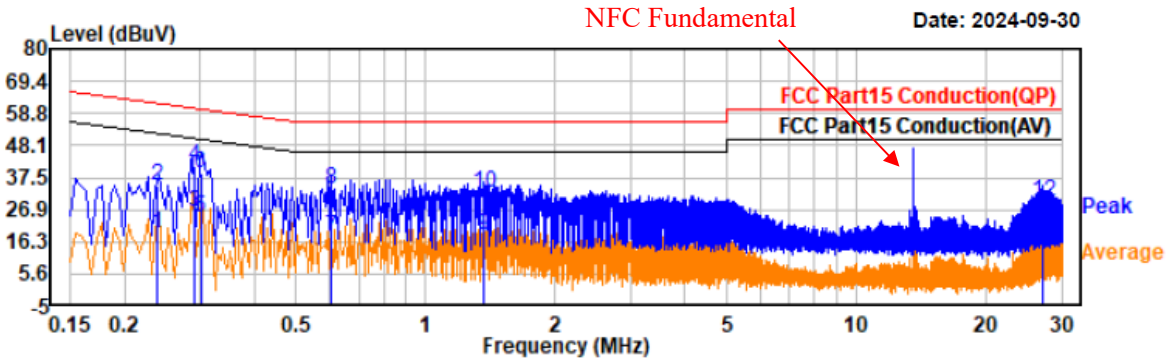
Test Data

Temperature:	22.8℃
Relative Humidity:	51 %
ATM Pressure:	100.1 kPa
Test Date:	2024-09-30
Test Engineer:	Spike Gao

Powered by Adapter

Project No.: 2407T77479E-RF
Test Mode: radar
EUT Model: S532

Temp/Humi/ATM: 22.8℃/51%/100.1kPa
Tested by: Spike Gao
Power Source: DC 12V from Adapter

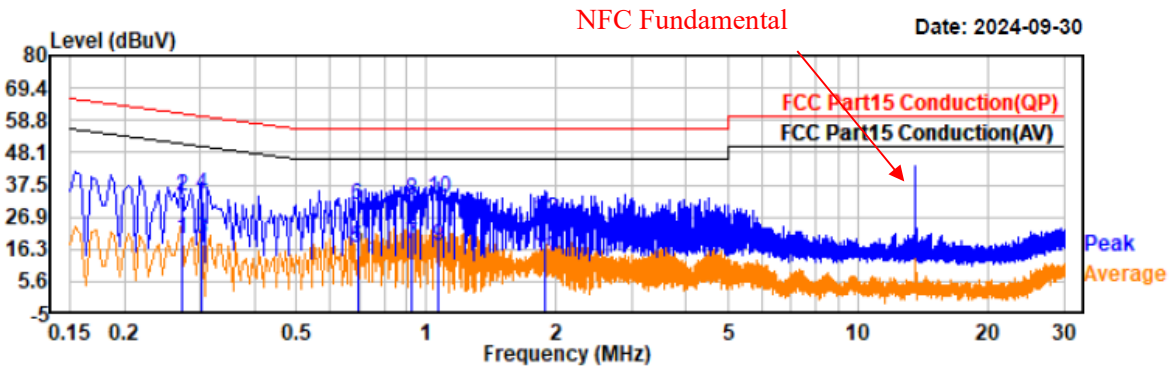


Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.24	-2.11	21.08	18.97	52.17	33.20	Line	Average
0.24	13.60	21.08	34.68	62.17	27.49	Line	QP
0.29	5.15	20.87	26.02	50.48	24.46	Line	Average
0.29	20.15	20.87	41.02	60.48	19.46	Line	QP
0.30	3.65	20.83	24.48	50.22	25.74	Line	Average
0.30	18.11	20.83	38.94	60.22	21.28	Line	QP
0.61	-2.42	20.46	18.04	46.00	27.96	Line	Average
0.61	12.99	20.46	33.45	56.00	22.55	Line	QP
1.37	-2.57	20.80	18.23	46.00	27.77	Line	Average
1.37	11.70	20.80	32.50	56.00	23.50	Line	QP
27.19	-5.86	21.20	15.34	50.00	34.66	Line	Average
27.19	8.13	21.20	29.33	60.00	30.67	Line	QP

Project No.: 2407T77479E-RF
Test Mode: radar
EUT Model: S532

Temp/Humi/ATM: 22.8℃/51%/100.1kPa
Tested by: Spike Gao
Power Source: DC 12V from Adapter



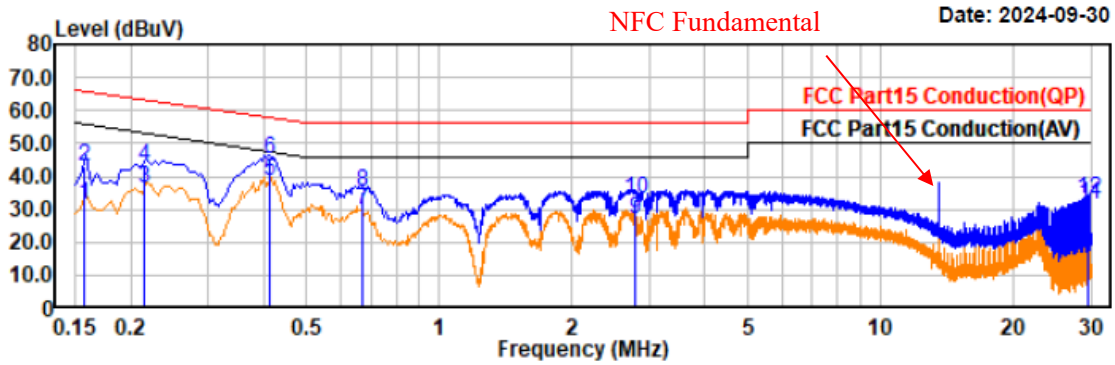
Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.27	-1.13	20.81	19.68	51.07	31.39	Neutral	Average
0.27	13.03	20.81	33.84	61.07	27.23	Neutral	QP
0.30	-1.22	20.72	19.50	50.21	30.71	Neutral	Average
0.30	13.35	20.72	34.07	60.21	26.14	Neutral	QP
0.69	-4.01	20.41	16.40	46.00	29.60	Neutral	Average
0.69	10.39	20.41	30.80	56.00	25.20	Neutral	QP
0.93	-2.74	20.65	17.91	46.00	28.09	Neutral	Average
0.93	11.96	20.65	32.61	56.00	23.39	Neutral	QP
1.07	-3.20	20.76	17.56	46.00	28.44	Neutral	Average
1.07	12.13	20.76	32.89	56.00	23.11	Neutral	QP
1.88	-7.05	21.09	14.04	46.00	31.96	Neutral	Average
1.88	5.11	21.09	26.20	56.00	29.80	Neutral	QP

Powered by PoE

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532

Temp/Humi/ATM: 22.8℃/51%/100.1kPa
Tested by: Spike Gao
Power Source: DC 48V from POE

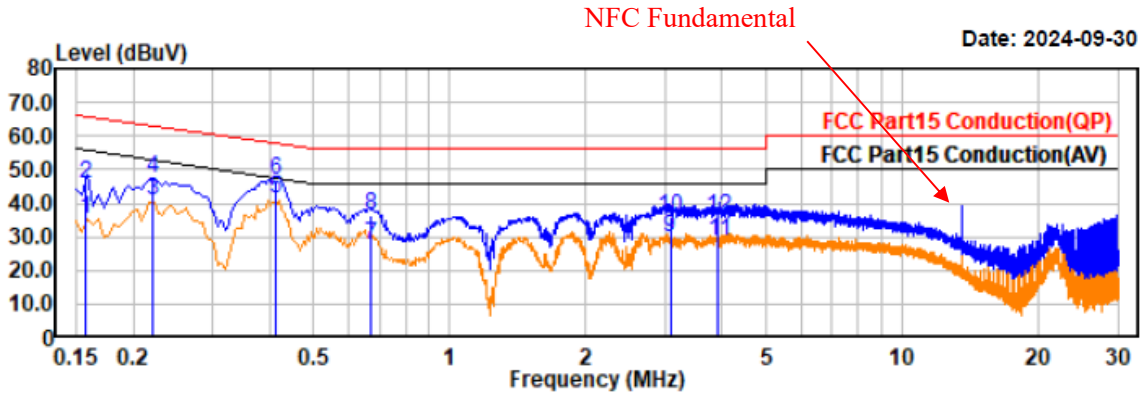


Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.16	10.58	21.09	31.67	55.58	23.91	Line	Average
0.16	22.20	21.09	43.29	65.58	22.29	Line	QP
0.22	15.28	21.19	36.47	53.00	16.53	Line	Average
0.22	21.87	21.19	43.06	63.00	19.94	Line	QP
0.41	18.29	20.50	38.79	47.59	8.80	Line	Average
0.41	24.83	20.50	45.33	57.59	12.26	Line	QP
0.67	9.45	20.56	30.01	46.00	15.99	Line	Average
0.67	14.90	20.56	35.46	56.00	20.54	Line	QP
2.78	5.96	21.00	26.96	46.00	19.04	Line	Average
2.78	12.35	21.00	33.35	56.00	22.65	Line	QP
29.61	10.58	20.92	31.50	50.00	18.50	Line	Average
29.61	11.94	20.92	32.86	60.00	27.14	Line	QP

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532

Temp/Humi/ATM: 22.8℃/51%/100.1kPa
Tested by: Spike Gao
Power Source: DC 48V from POE



Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.16	14.30	20.88	35.18	55.59	20.41	Neutral	Average
0.16	25.01	20.88	45.89	65.59	19.70	Neutral	QP
0.22	19.79	20.99	40.78	52.81	12.03	Neutral	Average
0.22	26.40	20.99	47.39	62.81	15.42	Neutral	QP
0.41	20.77	20.46	41.23	47.60	6.37	Neutral	Average
0.41	26.39	20.46	46.85	57.60	10.75	Neutral	QP
0.67	7.24	20.39	27.63	46.00	18.37	Neutral	Average
0.67	16.08	20.39	36.47	56.00	19.53	Neutral	QP
3.07	8.69	21.03	29.72	46.00	16.28	Neutral	Average
3.07	15.10	21.03	36.13	56.00	19.87	Neutral	QP
3.92	7.83	20.97	28.80	46.00	17.20	Neutral	Average
3.92	15.00	20.97	35.97	56.00	20.03	Neutral	QP

FCC §15.205, §15.209, §15.249 - RADIATED EMISSIONS & OUT OF BAND EMISSION

Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

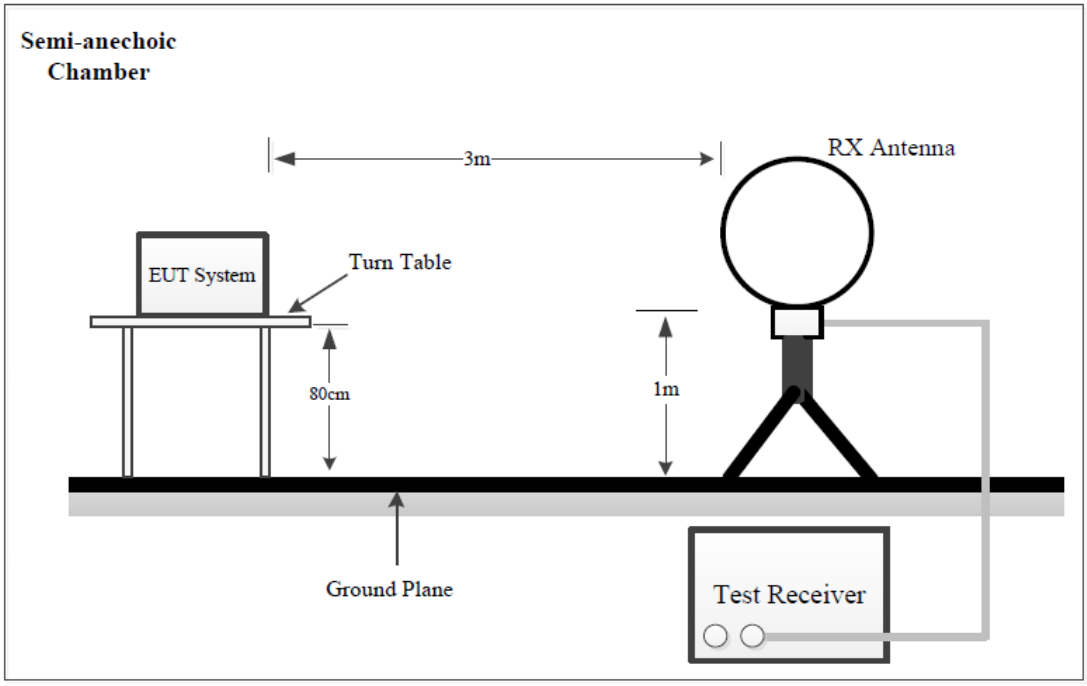
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

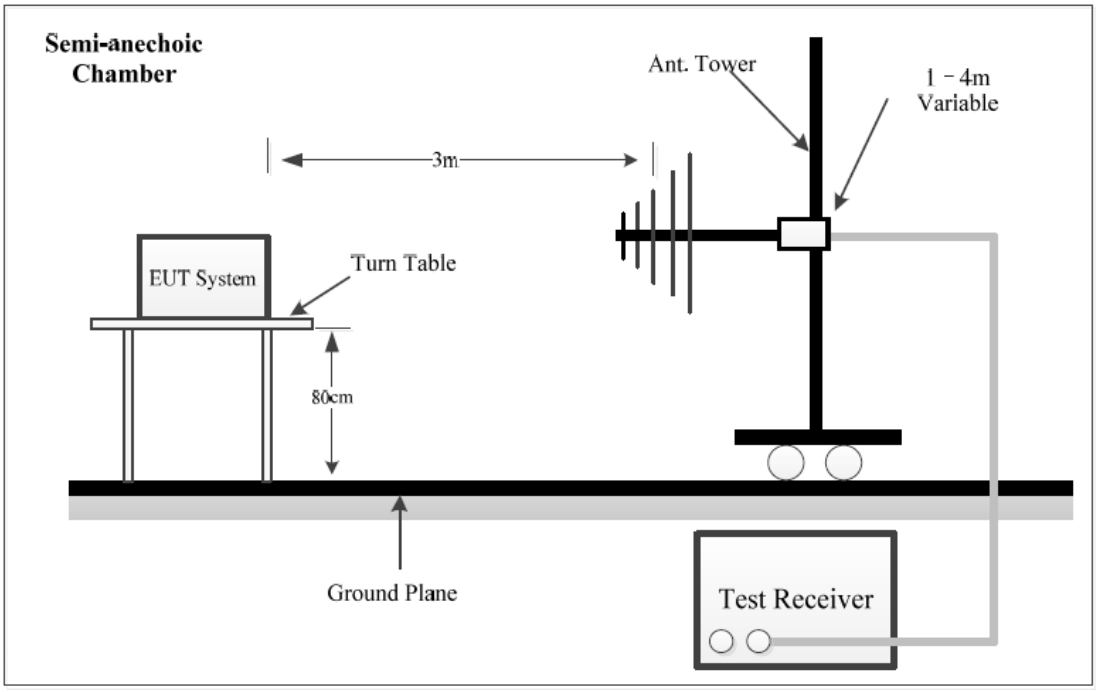
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test System Setup

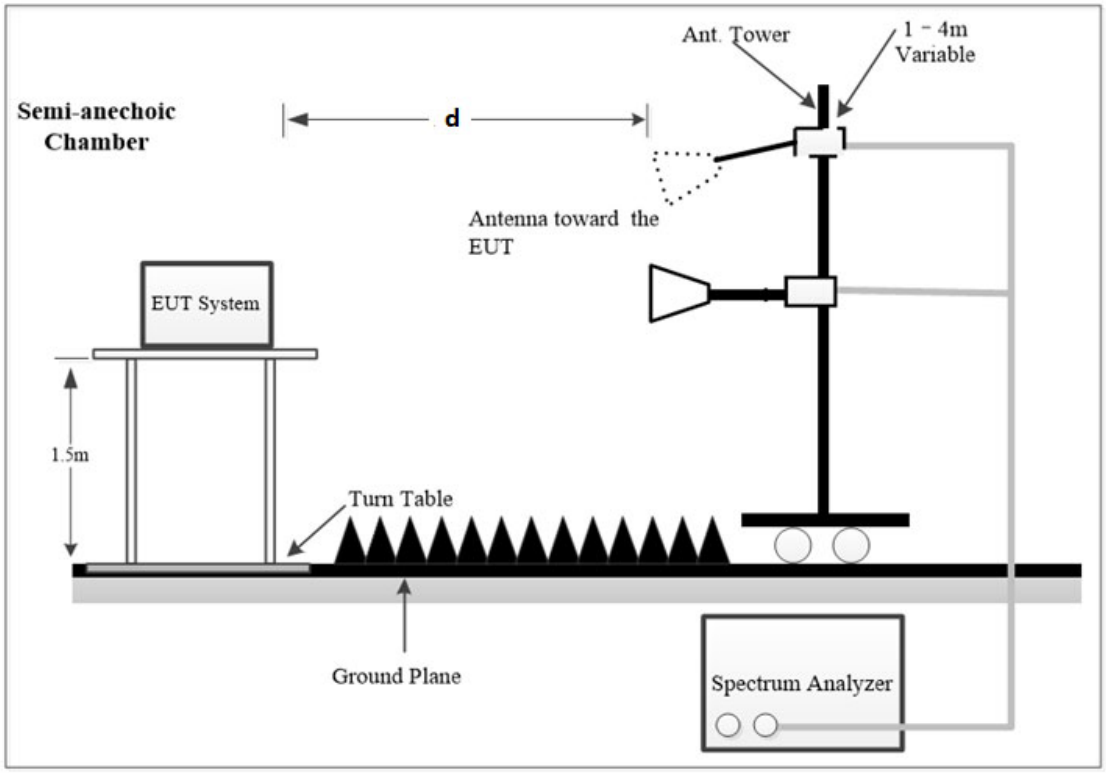
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



NOTE:
NOTE: d is testing distance;
For Radiated Emission test (1GHz-18GHz) and Bandedge Emission test, which was performed at 3 m distance.

For Radiated Emission test (18GHz-40GHz), which was performed at 1.0 m distance, according to ANSI C63.10-2020, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.0m.
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.0m]) dB= 9.54 dB

EMI Test Receiver Setup

The system was investigated from 9 kHz to 40GHz.

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	300Hz	1 kHz	200Hz	QP/AV
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP/AV
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120kHz	QP

1GHz~25GHz:
Pre-scan:

Measurement	RBW	Video B/W
PK	1MHz	3MHz
Ave.	1MHz	5kHz

Final measurement for emission identified during the pre-scan:

Measurement	RBW	Video B/W
PK	1MHz	3MHz
Ave.	1MHz	10Hz

Test Procedure

According to section 6.3, 6.4, 6.5, 6.6 of standard ANSI C63.10-2020

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

For each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable. The report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground parallel) unless the margin is greater than 20 dB, then the following statement shall be made: “all emissions were greater than 20 dB below the limit.”

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at below the AV emission limit at least 6dB, there's no need to record the measured AV level of the emissions in the report.

Result &Margin Calculation

The Result is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

For 9 kHz to 18GHz Radiated emission test
Factor (dB/m) =Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

For 18GHz to 40GHz Radiated emission test and Bandedge emissions test
Factor (dB/m) =Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB) - Extrapolation factor (dB)

Extrapolation factor=9.54dB (distance=1m)

Result (dBμV/m) = Reading (dBμV) + Factor (dB/m)

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) –Result (dBμV/m)

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 &15.205 & 15.249.

Test Data

Frequency Range:	Below 1 GHz	Above 1 GHz	Fundamental Test & Out-of-band Emissions Test
Temperature:	24.2℃	24.2℃~24.3℃	24.2℃
Relative Humidity:	56 %	52%~56 %	56 %
ATM Pressure:	100.1kPa	100.1kPa~100.4kPa	100.1kPa
Test Date:	2024-09-29	2024-09-29~2024-12-12	2024-09-29
Test Engineer:	Wlif Wu, Zane Zhang	Wlif Wu	Wlif Wu

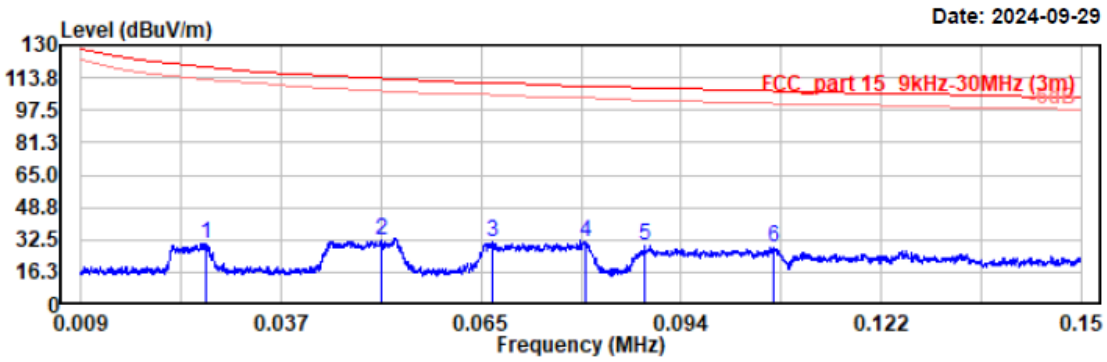
Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.

1) 9 kHz~30MHz

Pre-scan in parallel, ground-parallel and perpendicular of orientation of loop antenna, ground-parallel is worst case

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

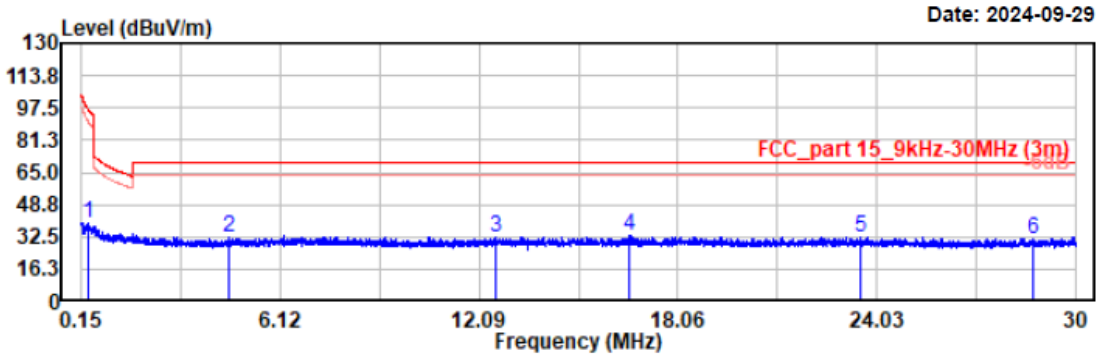
Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.027	10.71	19.88	30.59	119.12	88.53	Peak
0.051	12.38	19.91	32.29	113.40	81.11	Peak
0.067	11.26	19.84	31.10	111.09	79.99	Peak
0.080	11.49	19.71	31.20	109.53	78.33	Peak
0.089	9.47	19.79	29.26	108.67	79.41	Peak
0.107	8.84	19.73	28.57	107.05	78.48	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



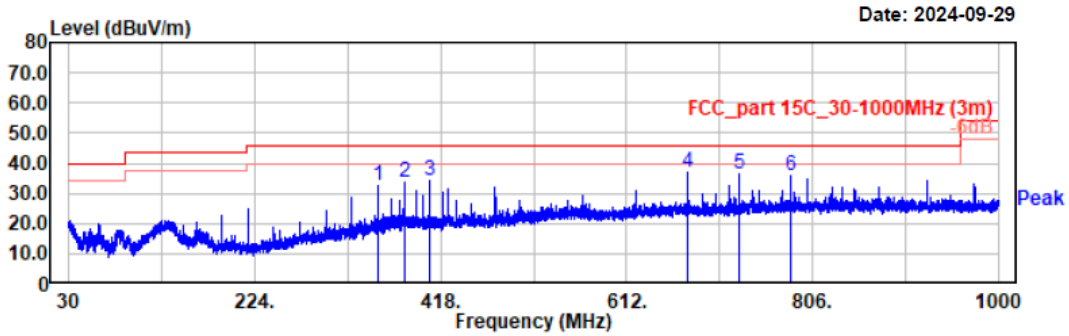
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.374	19.36	19.75	39.11	96.15	57.04	Peak
4.586	12.53	19.71	32.24	69.54	37.30	Peak
12.577	12.49	19.73	32.22	69.54	37.32	Peak
16.624	13.64	19.87	33.51	69.54	36.03	Peak
23.546	12.25	20.18	32.43	69.54	37.11	Peak
28.713	11.71	20.02	31.73	69.54	37.81	Peak

2） 30MHz~ 1GHz

Powered by PoE

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

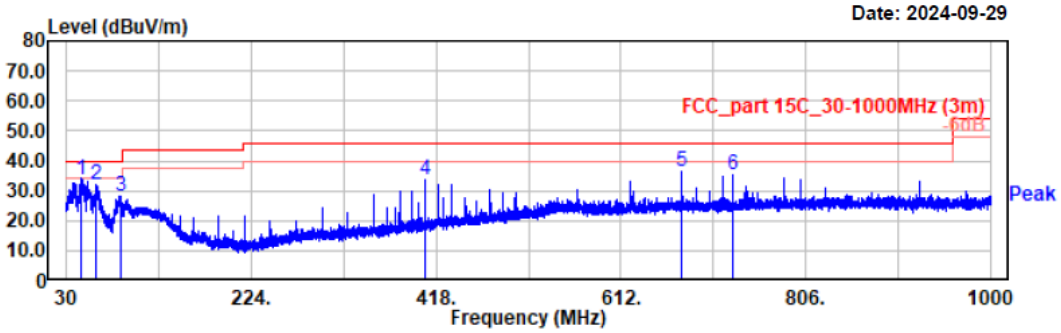
Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Zane Zhang
Power Source: DC 48V from PoE



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
352.53	40.73	-7.99	32.74	46.00	13.26	Horizontal	Peak
379.69	40.54	-7.13	33.41	46.00	12.59	Horizontal	Peak
406.85	40.08	-6.07	34.01	46.00	11.99	Horizontal	Peak
675.05	37.54	-0.61	36.93	46.00	9.07	Horizontal	Peak
729.08	36.52	0.09	36.61	46.00	9.39	Horizontal	Peak
783.11	34.72	1.08	35.80	46.00	10.20	Horizontal	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Zane Zhang
Power Source: DC 48V from PoE

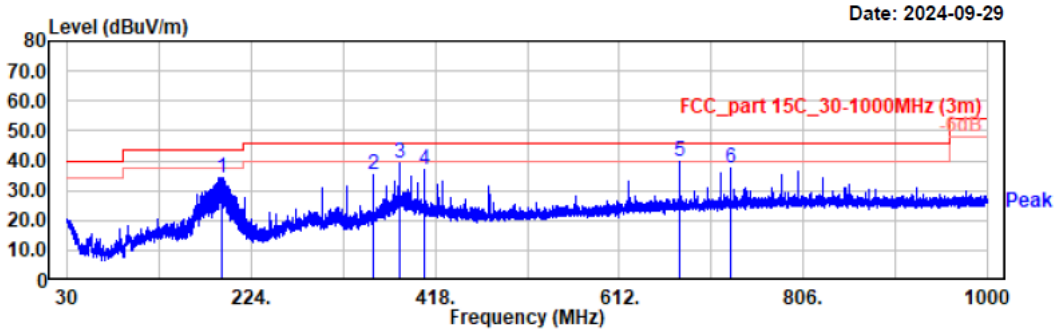


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
45.90	49.28	-15.71	33.57	40.00	6.43	Vertical	QP
61.82	49.63	-17.44	32.19	40.00	7.81	Vertical	QP
86.36	45.27	-17.18	28.09	40.00	11.91	Vertical	QP
406.85	39.52	-6.07	33.45	46.00	12.55	Vertical	QP
675.05	37.16	-0.61	36.55	46.00	9.45	Vertical	QP
729.08	35.43	0.09	35.52	46.00	10.48	Vertical	QP

Powered by Adapter

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

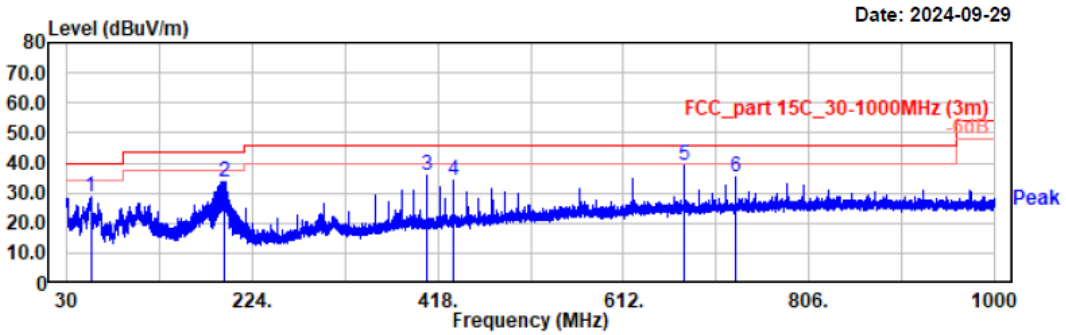
Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Zane Zhang
Power Source: DC 12V from adapter



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
193.01	46.25	-12.17	34.08	43.50	9.42	Horizontal	QP
352.53	43.18	-7.99	35.19	46.00	10.81	Horizontal	QP
379.69	46.14	-7.13	39.01	46.00	6.99	Horizontal	QP
406.85	42.81	-6.07	36.74	46.00	9.26	Horizontal	QP
675.05	40.25	-0.61	39.64	46.00	6.36	Horizontal	QP
729.08	37.30	0.09	37.39	46.00	8.61	Horizontal	QP

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Zane Zhang
Power Source: DC 12V from adapter

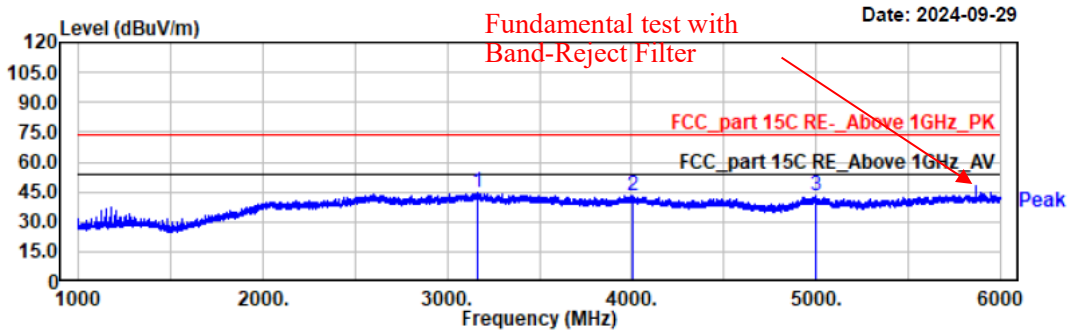


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
54.93	46.54	-17.81	28.73	40.00	11.27	Vertical	QP
194.61	45.54	-12.00	33.54	43.50	9.96	Vertical	QP
406.85	42.15	-6.07	36.08	46.00	9.92	Vertical	QP
433.91	39.25	-5.30	33.95	46.00	12.05	Vertical	QP
675.05	39.59	-0.61	38.98	46.00	7.02	Vertical	QP
729.08	35.46	0.09	35.55	46.00	10.45	Vertical	QP

3) 1GHz~6GHz

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

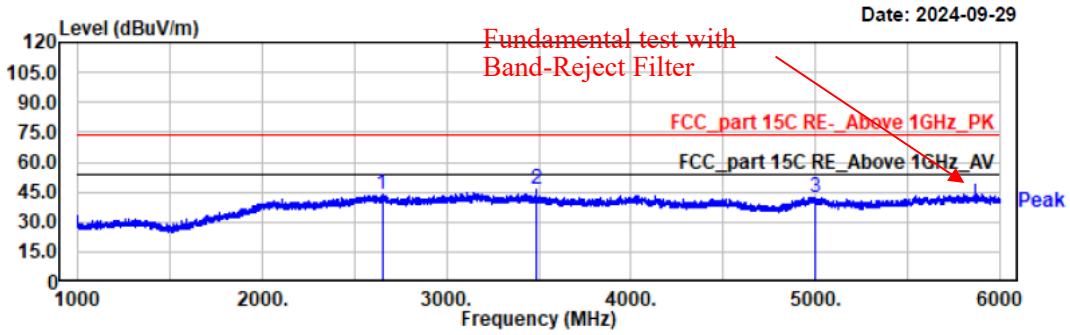
Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
3168.00	47.93	-2.94	44.99	74.00	29.01	horizontal	Peak
4009.00	47.45	-4.42	43.03	74.00	30.97	horizontal	Peak
4996.50	48.20	-5.47	42.73	74.00	31.27	horizontal	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter

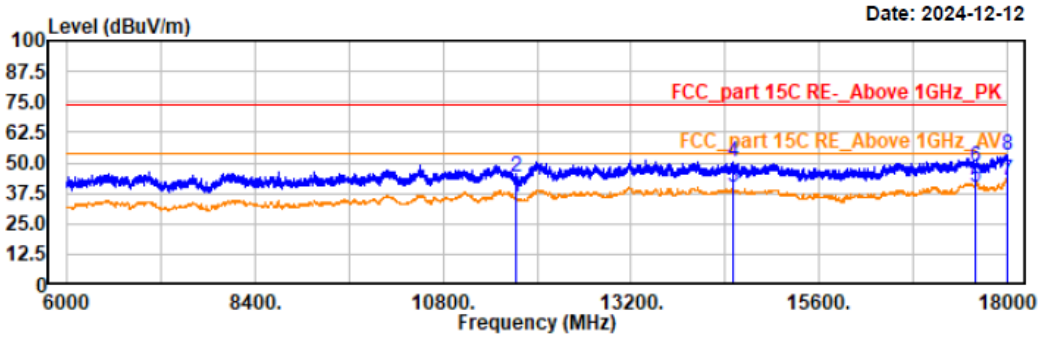


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2650.00	46.87	-3.37	43.50	74.00	30.50	vertical	Peak
3485.00	49.97	-3.97	46.00	74.00	28.00	vertical	Peak
4999.50	47.89	-5.45	42.44	74.00	31.56	vertical	Peak

4) 6GHz~18GHz

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.3℃/52%/100.4kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter

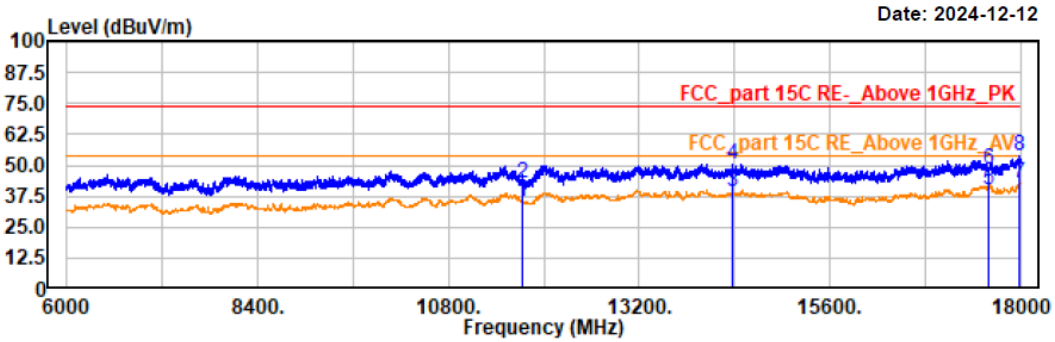


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
11732.00	31.94	3.67	35.61	54.00	18.39	horizontal	Average
11732.00	40.39	3.67	44.06	74.00	29.94	horizontal	Peak
14497.20	34.77	4.98	39.75	54.00	14.25	horizontal	Average
14497.20	45.47	4.98	50.45	74.00	23.55	horizontal	Peak
17598.00	33.62	6.62	40.24	54.00	13.76	horizontal	Average
17598.00	41.35	6.62	47.97	74.00	26.03	horizontal	Peak
17995.20	34.97	7.74	42.71	54.00	11.29	horizontal	Average
17995.20	45.64	7.74	53.38	74.00	20.62	horizontal	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.3℃/52%/100.4kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



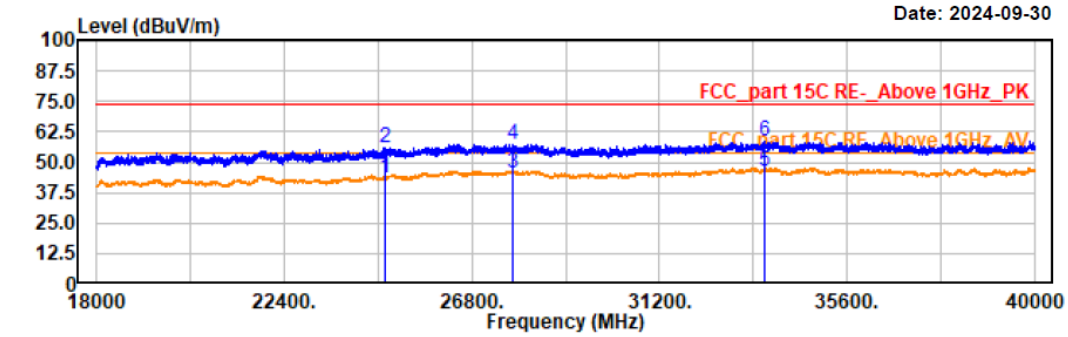
Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
11732.40	31.72	3.67	35.39	54.00	18.61	vertical	Average
11732.40	39.23	3.67	42.90	74.00	31.10	vertical	Peak
14373.60	34.06	5.16	39.22	54.00	14.78	vertical	Average
14373.60	45.33	5.16	50.49	74.00	23.51	vertical	Peak
17598.00	33.66	6.62	40.28	54.00	13.72	vertical	Average
17598.00	41.83	6.62	48.45	74.00	25.55	vertical	Peak
17989.20	35.14	7.72	42.86	54.00	11.14	vertical	Average
17989.20	45.92	7.72	53.64	74.00	20.36	vertical	Peak

5) 18 GHz~40 GHz

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 1m

Temp/Humi/ATM: 24.3℃/56%/101kPa
Tested by: Wlif Wu
Power Source: DC 12V from Adapter

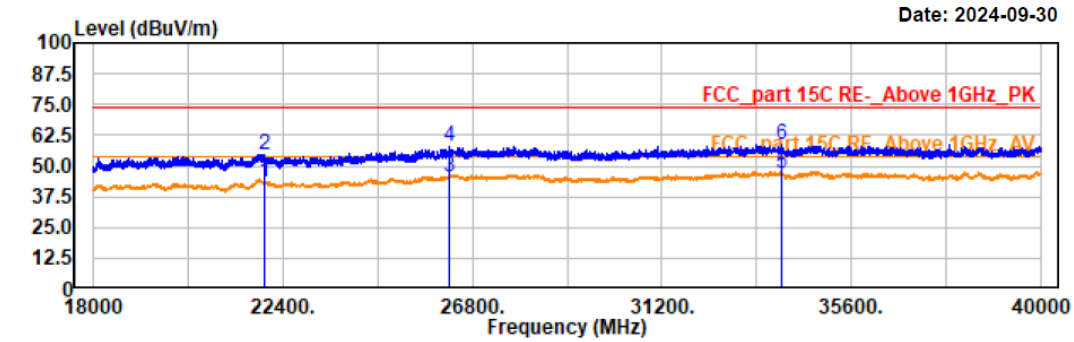


Trace: 1

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
24773.80	24.55	18.92	43.47	54.00	10.53	horizontal	Average
24773.80	36.81	18.92	55.73	74.00	18.27	horizontal	Peak
27776.80	25.68	20.17	45.85	54.00	8.15	horizontal	Average
27776.80	37.34	20.17	57.51	74.00	16.49	horizontal	Peak
33659.60	24.75	21.30	46.05	54.00	7.95	horizontal	Average
33659.60	37.39	21.30	58.69	74.00	15.31	horizontal	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 1m

Temp/Humi/ATM: 24.3℃/56%/101kPa
Tested by: Wlif Wu
Power Source: DC 12V from Adapter



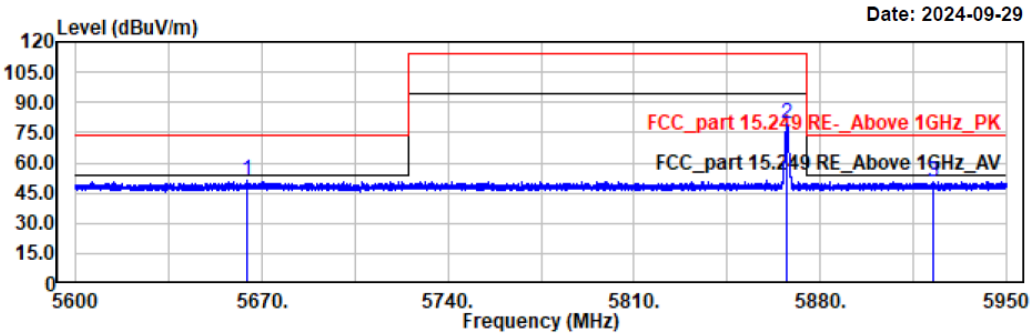
Trace: 1

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
21953.40	26.68	16.55	43.23	54.00	10.77	vertical	Average
21953.40	37.88	16.55	54.43	74.00	19.57	vertical	Peak
26278.60	25.11	20.32	45.43	54.00	8.57	vertical	Average
26278.60	37.44	20.32	57.76	74.00	16.24	vertical	Peak
33980.80	24.41	22.17	46.58	54.00	7.42	vertical	Average
33980.80	36.73	22.17	58.90	74.00	15.10	vertical	Peak

Fundamental band Out-of-band Emissions Test:

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

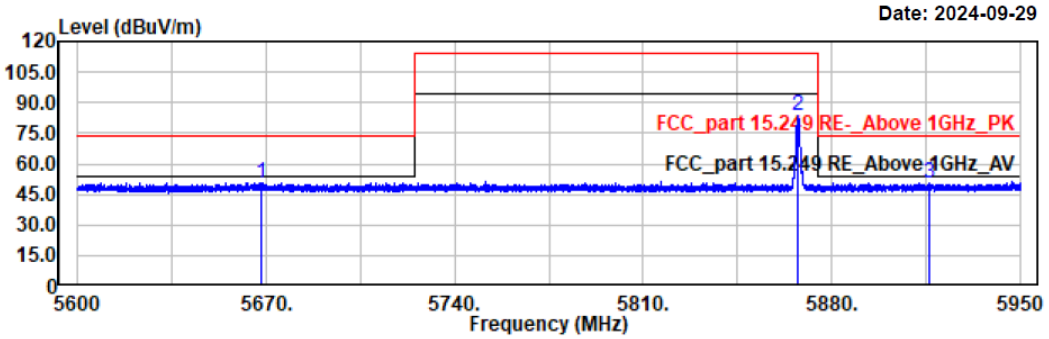
Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
5664.37	47.86	3.32	51.18	74.00	22.82	horizontal	Peak
5867.51	75.87	3.66	79.53	114.00	34.47	horizontal	Peak
5922.67	46.80	3.76	50.56	74.00	23.44	horizontal	Peak

Project No.: 2407T77479E-RF
Test Mode: Radar
EUT Model: S532
Test distance: 3m

Temp/Humi/ATM: 24.2℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 12V from adapter



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
5668.04	47.26	3.34	50.60	74.00	23.40	vertical	Peak
5867.51	79.65	3.66	83.31	114.00	30.69	vertical	Peak
5916.05	46.84	3.73	50.57	74.00	23.43	vertical	Peak

FCC §15.215(c) - 20dB EMISSION BANDWIDTH TESTING

Applicable Standard

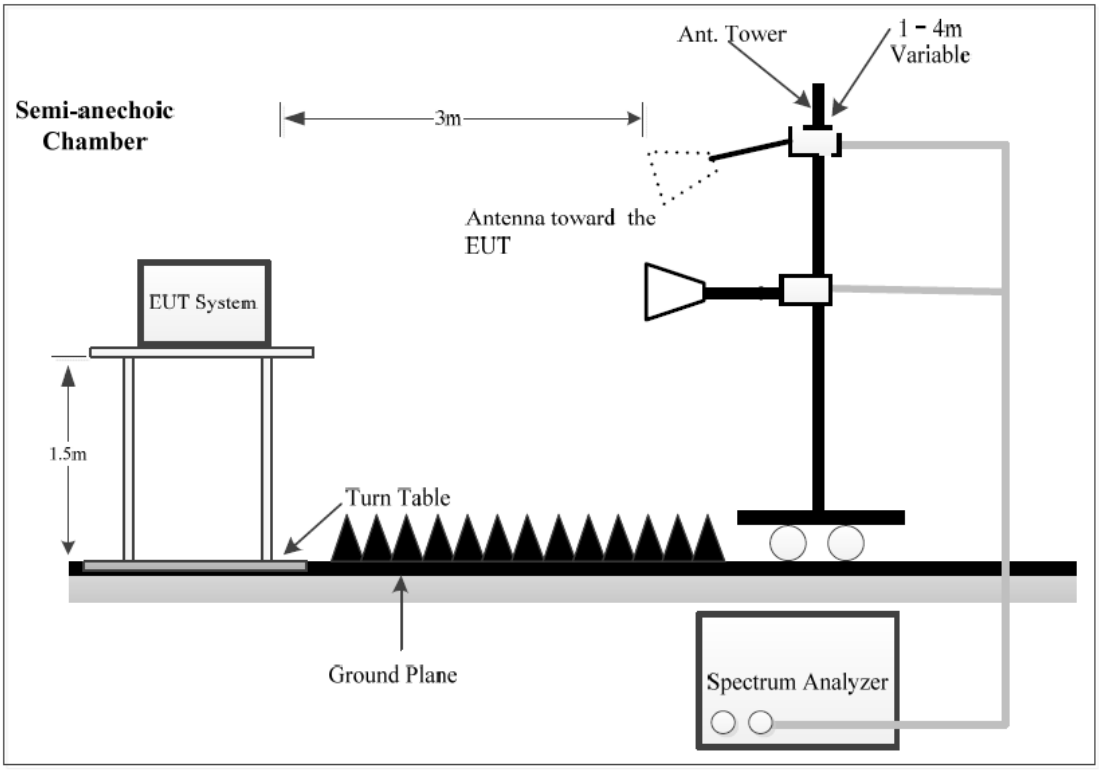
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure

According to section 6.9 of standard ANSI C63.10-2020.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
3. Repeat above procedures until all frequencies measured were complete.

Test Setup Block diagram



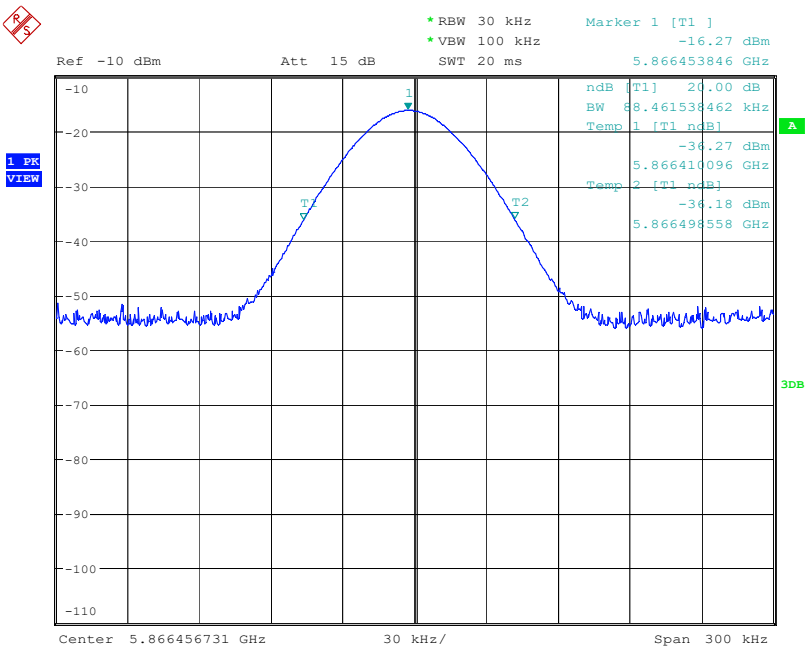
Test Data

Test Mode:	Transmitting	Test Engineer:	Wlif Wu
Test Date:	2024-09-30	Environment:	Temp.:21.5℃ Humi.:56% Atm:101.1kPa

Test Result: Compliant.

Frequency (MHz)	20 dB Bandwidth (kHz)	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)
5866	88.46	5866.41	5866.50	5725	5875

20 dB Bandwidth



ProjectNo.:2407T77479E-RF Tester:Wlif Wu
Date: 30.SEP.2024 19:25:36

EUT PHOTOGRAPHS

Please refer to the attachment 2407T77479E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2407T77479E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2407T77479E-RF-TSP-03 TEST SETUP PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk "★".

2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.

3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.

4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95.45% confidence interval.

5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).

6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******