

TEST REPORT

Applicant : Sichuan Astrocetus Smart Device Co., Ltd.
Address : No5 Building- Economic Development Zone-Yingshan County.
Nanchong City, Sichuan Province, China
Manufacturer : Sichuan Astrocetus Smart Device Co., Ltd.
Address : No5 Building- Economic Development Zone-Yingshan County.
Nanchong City, Sichuan Province, China
Product Name : Ai Voice Recorder
Model Number : V05E, V05, V05D
Trademark : N/A
FCC ID : 2BYKQ-V05E
Test Date : Oct. 10, 2026 ~ Oct. 22, 2026
Date of Report : Oct. 22, 2026

Test Result : This device described above has been tested by NTT, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report.

Test Procedure Used:

Standards : FCC CFR Title 47 Part 15 Subpart C Section 15.247
ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024

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[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name	: Ai Voice Recorder
Model No.	: V05E, V05E, V05, V05D
Model Difference	: These models are same PCB Layout, Schematics, BOM. Only for different model name, brand name, appearance color and shell shape (non-metallic and does not affect the electrical structure) for different market require.
Power supply	: DC 3.8V/400mAh
Operation frequency	: 2402-2480MHz
Numbers of Channel	: 40 Channels
Modulation	: GFSK
Rate	: 2Mbps
Antenna Type	: Chip Antenna, Maximum Gain is 1.96 dBi
Intend use environment	: Residential, commercial and light industrial environment

1.2. Channel List

Frequency and Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

1.3. Test configuration

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

Test Software	DUT Selection
Power level setup	3 dBm

1.4.Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna requirement	FCC part 15.203/15.247 (b)	PASS
Duty cycle	/	PASS
AC Power Line Conducted Emission	FCC part 15.207	PASS
Conducted Peak Output Power	FCC part 15.247 (b)(3)	PASS
Channel Bandwidth& 99% OCB	FCC part 15.247 (a)(2)	PASS
Power Spectral Density	FCC part 15.247 (e)	PASS
Band Edge	FCC part 15.247(d)	PASS
Spurious Emission	FCC part 15.205/15.209	PASS
Remark: N/A is an abbreviation for Not Applicable. Measurement Uncertainty is not taken into account for conformity statement		

1.5.Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Hardware Version	Software Version
USB serial port	/	ISOLATOR	/	/
PC	ASUS	U1	/	/
			/	/

1.6.Test mode

The special RF test software was used to control EUT work in Continuous BLE TX mode, and select test channel, wireless mode.

Test mode	Low channel	Middle channel	High channel
GFSK	2402MHz	2440MHz	2480MHz

1.7.Block Diagram

Radiated Emission



RF Conducted Test



1.8.Test Conditions

Category	Normal Conditions	Extreme Conditions
Temperature range	15-35℃	N/A
Humidity range	20-75%	N/A
Pressure range	86-106kPa	N/A
Note: N/A is an abbreviation for Not Applicable.		

1.9.Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for radio frequency	$\pm 7 \times 10^{-8}$	
Conducted Emissions (150kHz~30MHz)	$\pm 3.64\text{dB}$	
Radiated Emission(9KHz~30MHz)	$\pm 4.51\text{dB}$	
Radiated Emission(30MHz~1GHz)	$\pm 5.03\text{dB}$	
Radiated Emission(1GHz~6GHz)	$\pm 3.92\text{dB}$	
Radiated Emission(6GHz~18GHz)	$\pm 4.33\text{dB}$	
Radiated Emission(18GHz~40GHz)	$\pm 3.38\text{dB}$	
Uncertainty for conducted RF Power	$\pm 0.20\text{dB}$	
Conducted spurious emissions	$\pm 0.24\text{dB}$	
Uncertainty for temperature	0.6℃	
Uncertainty for humidity	1%	
Bandwidth	$\pm 1.5 \times 10^{-6}$	
Time	$\pm 2\%$	
Duty Cycle	$\pm 2\%$	
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%		

1.10.Test Facility

Site Description		
Name of Firm	:	Shenzhen NTT Testing Technology Co.,Ltd.
Site Location	:	1B, Building 2, Factory Building & 103, Building 3, Factory Building, Dayang Industrial Park, No.4, Industrial Avenue, Tangwei Community, Fuhai Sub-district, Bao 'an District, Shenzhen City, Guangdong, China
FCC Designation Number	:	CN3446
FCC Test Firm Registration Number	:	129414

1.11.Test Equipment

Conducted Test Site

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	HSRCE944	/	HTEC	2025/04/30	2028/04/29
EMI Test Receiver	ESPI	/	RS	2026/09/04	2027/09/03
LISN	AMN6500	101185	ROHDE&SCHWARZ	2026/09/04	2027/09/03
LISN	NNLK 8129	00603	SCHWARZBECK	2026/09/04	2027/09/03
Pulse Limiters	VTSD 9561 F	00343	SCHWARZBECK	2026/09/04	2027/09/03
Cable	RG223-2M	/	RG	2026/09/04	2027/09/03

Radiated Test Site(Below 1G and Above 1G)&RF Test Site

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2025/07/24	2028/07/23
EMI Test Receiver	ESPI	101018	ROHDE&SCHWARZ	2026/09/04	2027/09/03
Amplifier (30MHz-1GHz)	BBV 9745	00431	SCHWARZBECK	2026/09/04	2027/09/03
Bilog Antenna (30MHz-1GHz)	VULB9168	1858	SCHWARZBECK	2026/09/05	2027/09/04
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHWARZBECK	2026/09/05	2027/09/04
Preamplifier (1GHz-18GHz)	BBV 9718D	0024	SCHWARZBECK	2026/09/04	2027/09/03
Spectrum Analyzer (10Hz-40GHz)	FSV 40	100952	ROHDE&SCHWARZ	2026/09/04	2027/09/03
Preamplifier (18GHz-40GHz)	BBV 9721	0056	SCHWARZBECK	2026/09/04	2027/09/03

Double Ridge Guide Horn Antenna (18GHz-40GHz)	SAS-574	588	A.H.System	2026/09/05	2027/09/04
Loop Antenna (9KHz-30MHz)	FMZB 1513-60	00115	SCHWARZBECK	2026/09/04	2027/09/03
MXG Signal Analyzer	N9020A	MY49100730	Agilent	2026/09/04	2027/09/03
MXG Vector Signal Generator	N5182A	MY50144920	Agilent	2026/09/04	2027/09/03
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	/	ROHDE&SCHWA RZ	2026/09/07	2027/09/06
Power Sensor	MW100-RFC B-2	MW260105N TT-64	MWRFTtest	2026/09/04	2027/09/03
RF Swith	MW100-RFC B-1	MW260105N TT-64	MWRFTtest	2026/09/04	2027/09/03
Cable	RG223-3M	/	DA	2026/09/04	2027/09/03
Cable	RG223-12M	/	DA	2026/09/04	2027/09/03
Cable	SFT205-NM NMSW-2.5M	/	DA	2026/09/04	2027/09/03
Cable	SFT205-NM NM-12M	/	DA	2026/09/04	2027/09/03
Cable	UCA500-NJ WSM-1.5M	017	MWRFTtest	2026/09/04	2027/09/03
High Pass Filter	High Pass Filter	2025072200 01	luanwei	2026/09/04	2027/09/03

Test software

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ-EMC	Ver.EMC-CON 3A1.1+
2	EMC radiation test system	FALA	EZ-EMC	Ver.FA-03A2 RE+
3	RF test system	TACHOY	RFTest	V1.0.0
4	RF communication test system	TACHOY	RFTest	V1.0.0

2. Conducted emission at the mains terminals test

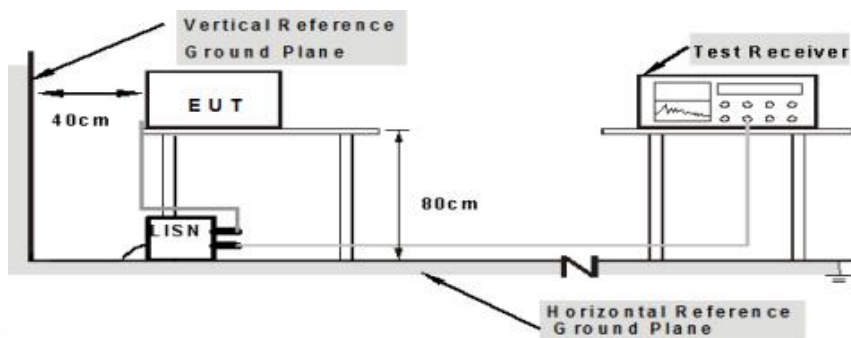
2.1.Limit

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.2.Test Setup

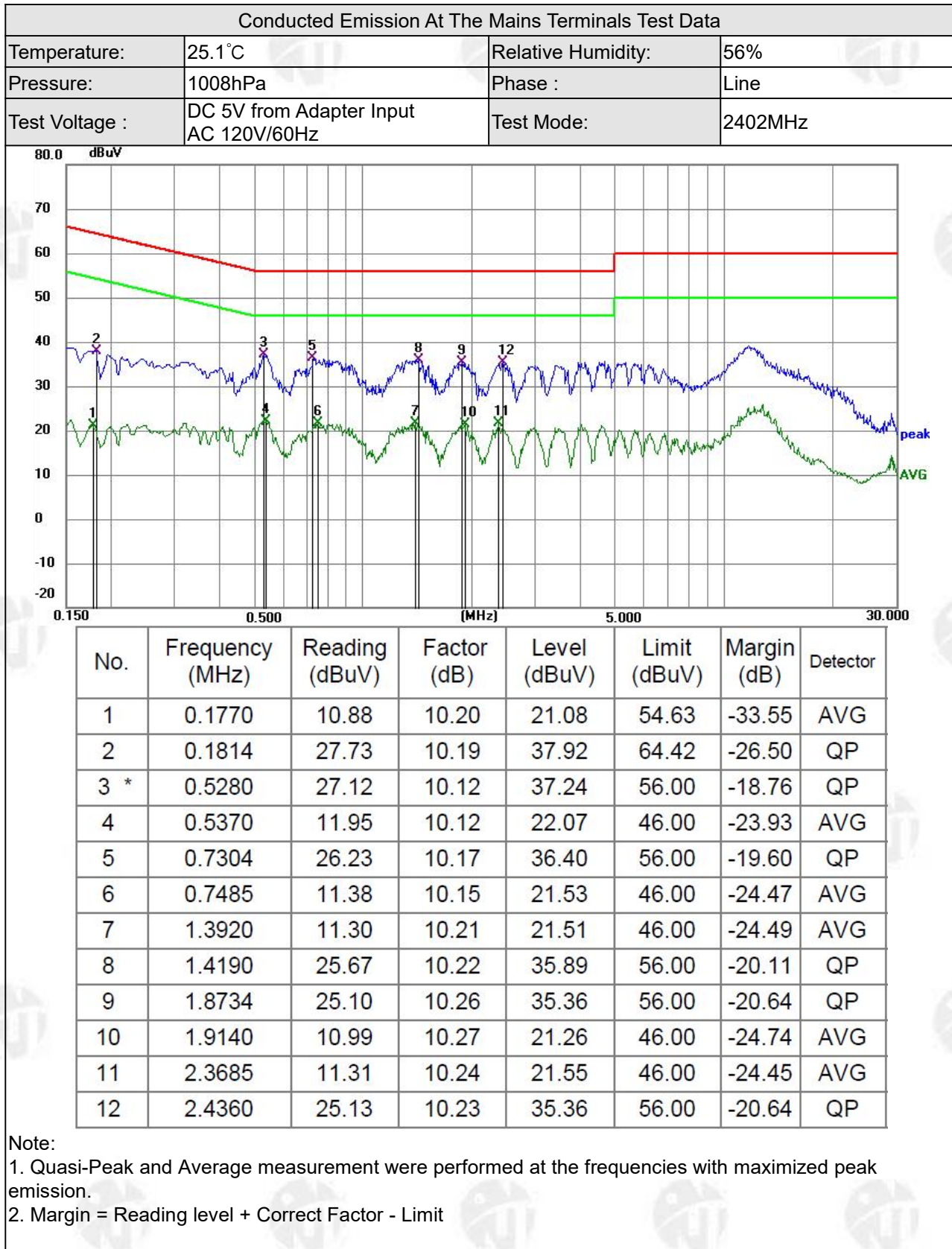


Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

2.3.Test Procedure

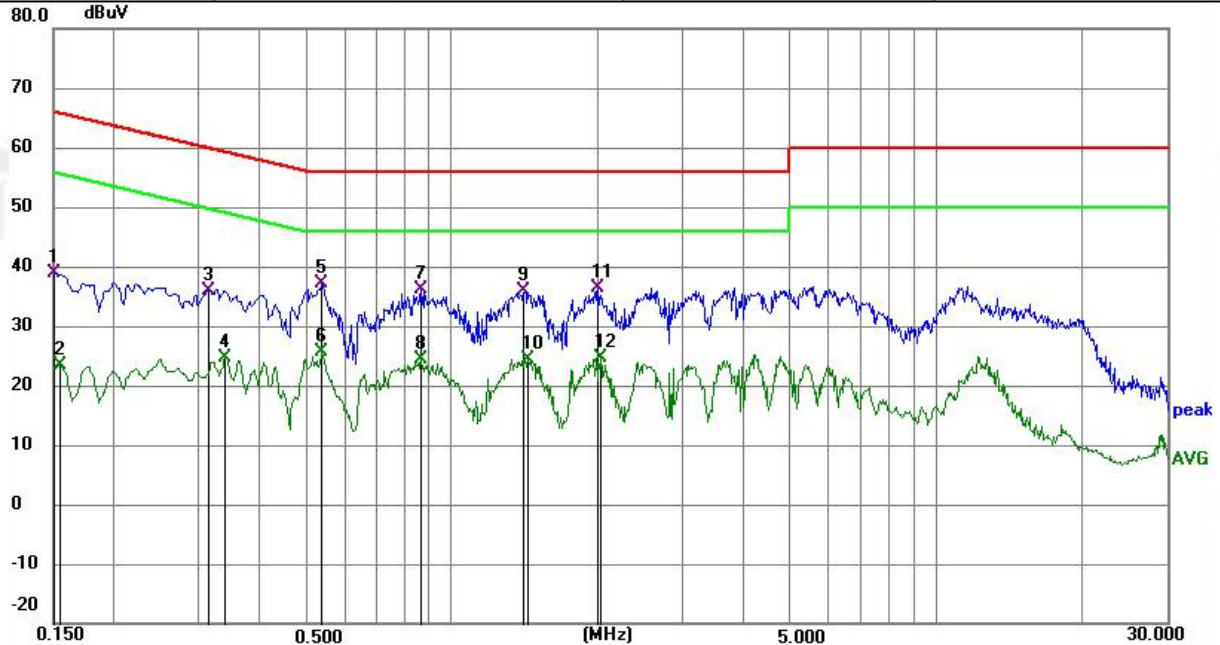
1. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

2.4.Test Result



Conducted Emission At The Mains Terminals Test Data

Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Neutral
Test Voltage :	DC 5V from Adapter Input AC 120V/60Hz	Test Mode:	2402MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	28.79	10.12	38.91	66.00	-27.09	QP
2	0.1545	13.38	10.12	23.50	55.75	-32.25	AVG
3	0.3149	25.88	10.12	36.00	59.84	-23.84	QP
4	0.3390	14.51	10.12	24.63	49.23	-24.60	AVG
5 *	0.5370	26.93	10.14	37.07	56.00	-18.93	QP
6	0.5370	15.51	10.14	25.65	46.00	-20.35	AVG
7	0.8655	25.98	10.17	36.15	56.00	-19.85	QP
8	0.8655	14.32	10.17	24.49	46.00	-21.51	AVG
9	1.4144	25.81	10.19	36.00	56.00	-20.00	QP
10	1.4370	14.20	10.19	24.39	46.00	-21.61	AVG
11	2.0040	26.15	10.21	36.36	56.00	-19.64	QP
12	2.0264	14.30	10.21	24.51	46.00	-21.49	AVG

Note:

1. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
2. Margin = Reading level + Correct Factor - Limit

3. Radiated Spurious Emissions

3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247
 Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
 Test Result: PASS
 Measurement Distance: 3m

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

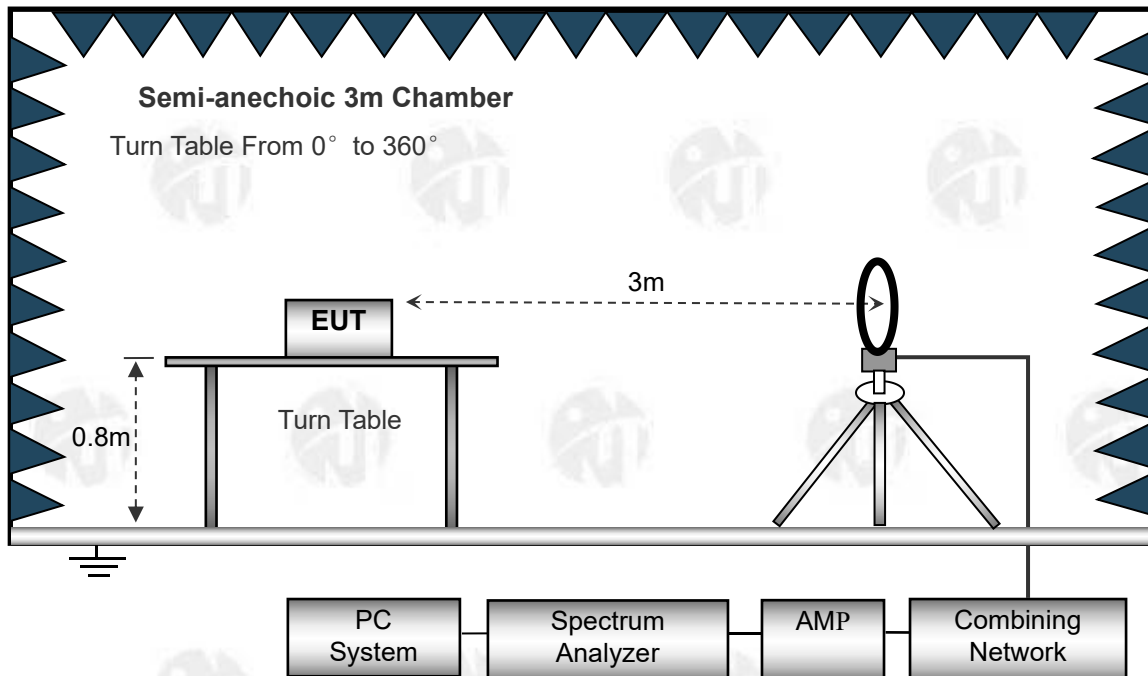
Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log(2400/F(kHz)) + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log(24000/F(kHz)) + 40
1.705 ~ 30	30	30	100 * 30	20log(30) + 40
30 ~ 88	100	3	100	20log(100)
88 ~ 216	150	3	150	20log(150)
216 ~ 960	200	3	200	20log(200)
Above 960	500	3	500	20log(500)

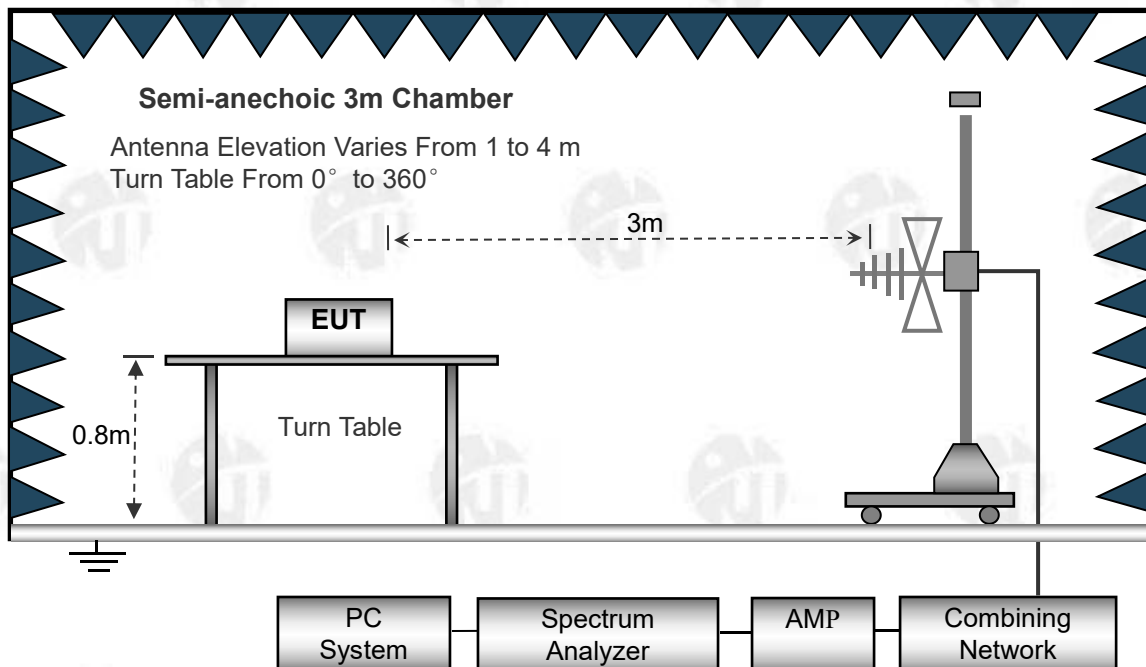
3.2.Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

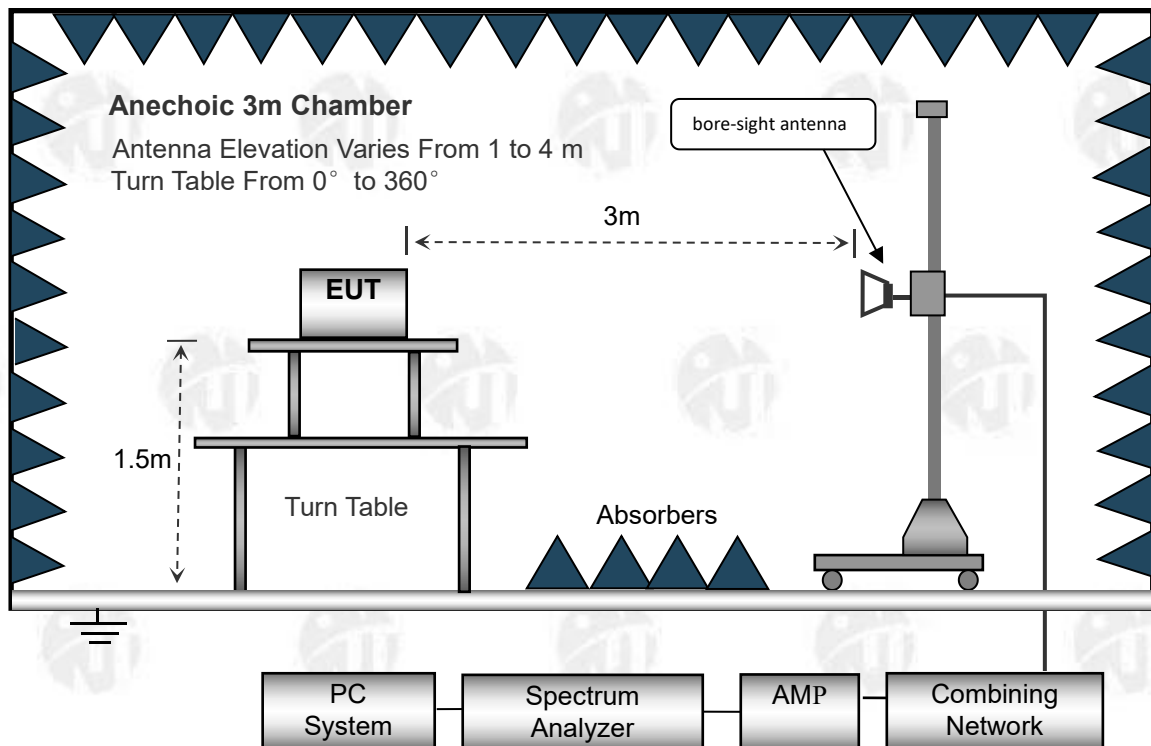
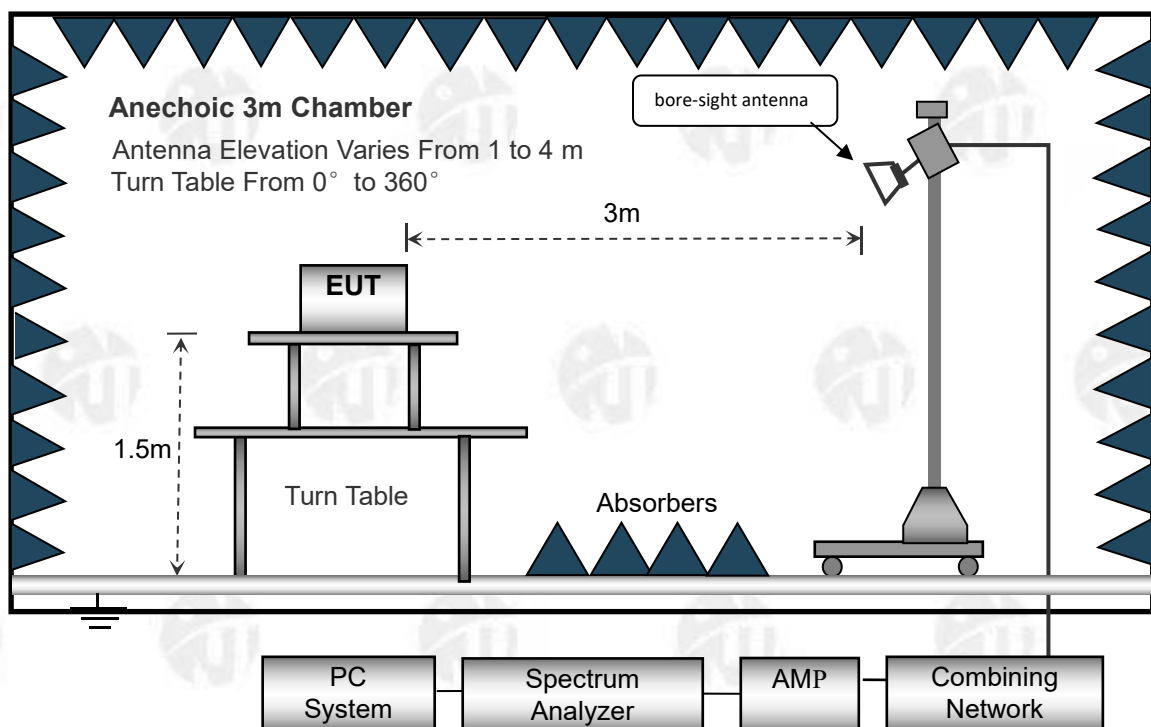
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



3.3.Test Procedure

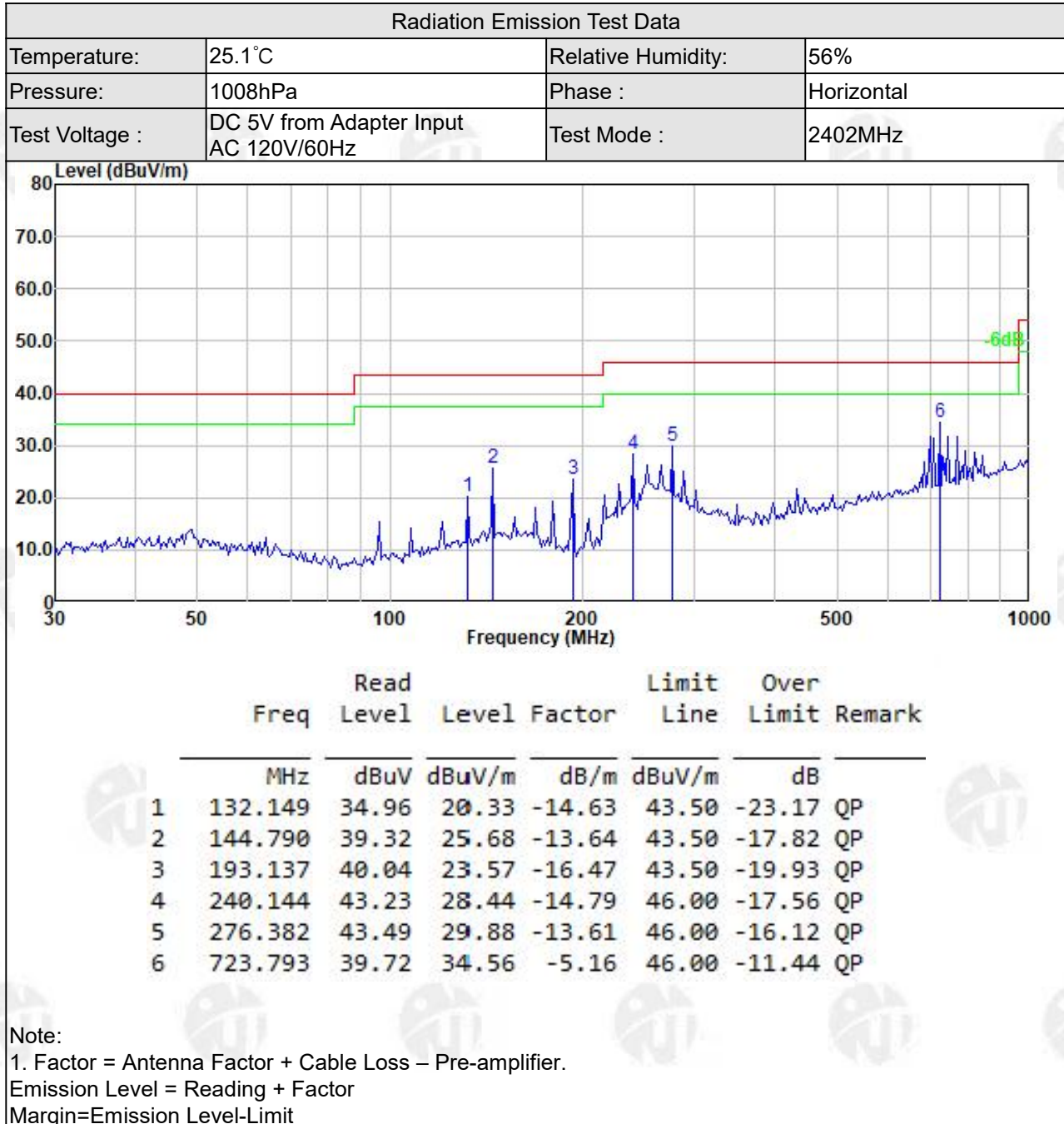
1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high - pass filter is used during radiated emissions above 1GHz measurement.

3.4.Test Result

Test Frequency: 9KHz~30MHz

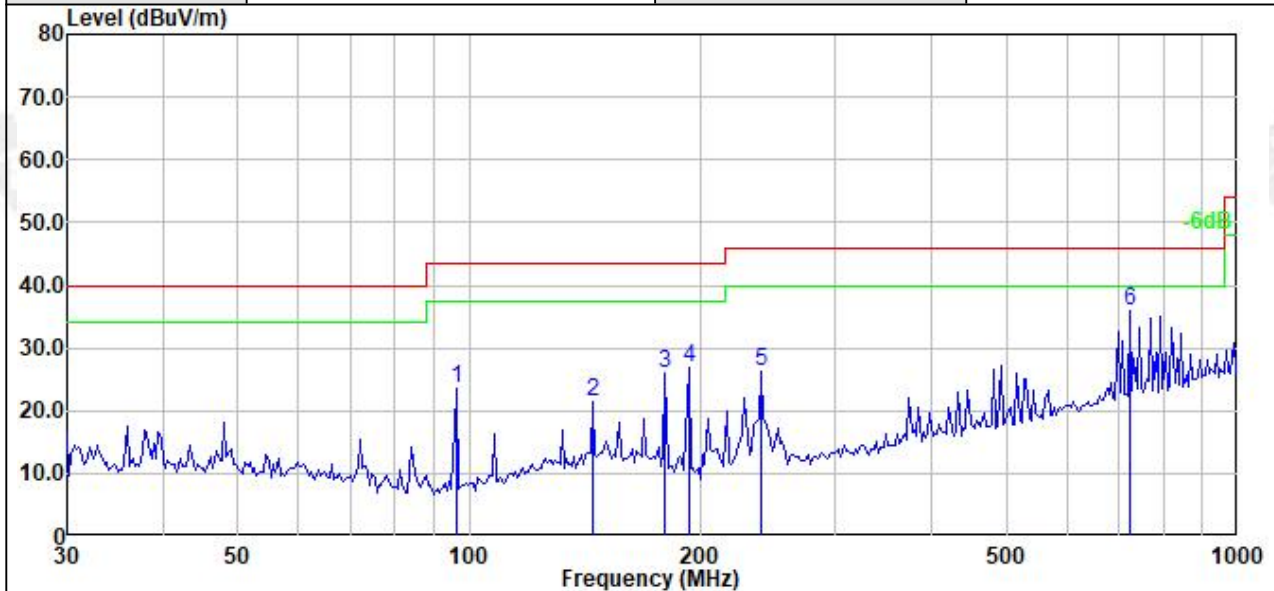
The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz



Radiation Emission Test Data

Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	DC 5V from Adapter Input AC 120V/60Hz	Test Mode :	2402MHz



	Read			Limit	Over	
Freq	Level	Level	Factor	Line	Limit	Remark
MHz	dBuV	dBuV/m	dB/m	dBuV/m	dB	
1	96.323	41.66	23.64	-18.02	43.50	-19.86 QP
2	144.790	35.12	21.48	-13.64	43.50	-22.02 QP
3	180.030	41.36	26.04	-15.32	43.50	-17.46 QP
4	193.137	43.37	26.90	-16.47	43.50	-16.60 QP
5	240.144	41.15	26.36	-14.79	46.00	-19.64 QP
6	723.793	41.11	35.95	-5.16	46.00	-10.05 QP

Note:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor

Margin=Emission Level-Limit

Test Frequency 1GHz-25GHz

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2402MHz									
V	4804.00	54.59	34.12	5.03	32.39	57.89	74.00	-16.11	PK
V	4804.00	40.47	34.12	5.03	32.39	43.77	54.00	-10.23	AV
V	7206.00	47.34	32.54	6.29	35.86	56.95	74.00	-17.05	PK
V	7206.00	32.29	32.54	6.29	35.86	41.90	54.00	-12.10	AV
V	9608.00	44.44	32.98	7.55	38.40	57.41	74.00	-16.59	PK
V	9608.00	30.34	32.98	7.55	38.40	43.31	54.00	-10.69	AV
V	12010.00	41.51	32.09	8.93	39.00	57.35	74.00	-16.65	PK
V	12010.00	26.26	32.09	8.93	39.00	42.10	54.00	-11.90	AV
H	4804.00	24.24	34.12	5.03	32.39	27.54	74.00	-46.46	PK
H	4804.00	39.19	34.12	5.03	32.39	42.49	54.00	-11.51	AV
H	7206.00	47.10	32.54	6.29	35.86	56.71	74.00	-17.29	PK
H	7206.00	33.49	32.54	6.29	35.86	43.10	54.00	-10.90	AV
H	9608.00	42.82	32.98	7.55	38.40	55.79	74.00	-18.21	PK
H	9608.00	29.24	32.98	7.55	38.40	42.21	54.00	-11.79	AV
H	12010.00	41.27	32.09	8.93	39.00	57.11	74.00	-16.89	PK
H	12010.00	26.89	32.09	8.93	39.00	42.73	54.00	-11.27	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:2440MHz									
V	4880.00	53.92	34.12	5.03	32.39	57.22	74.00	-16.78	PK
V	4880.00	40.08	34.12	5.03	32.39	43.38	54.00	-10.62	AV
V	7320.00	46.88	32.54	6.29	35.86	56.49	74.00	-17.51	PK
V	7320.00	32.08	32.54	6.29	35.86	41.69	54.00	-12.31	AV
V	9760.00	43.82	32.98	7.55	38.40	56.79	74.00	-17.21	PK
V	9760.00	30.47	32.98	7.55	38.40	43.44	54.00	-10.56	AV
V	12200.00	41.45	32.09	8.93	39.00	57.29	74.00	-16.71	PK
V	12200.00	26.54	32.09	8.93	39.00	42.38	54.00	-11.62	AV
H	4880.00	53.56	34.12	5.03	32.39	56.86	74.00	-17.14	PK
H	4880.00	38.69	34.12	5.03	32.39	41.99	54.00	-12.01	AV
H	7320.00	46.16	32.54	6.29	35.86	55.77	74.00	-18.23	PK
H	7320.00	33.41	32.54	6.29	35.86	43.02	54.00	-10.98	AV
H	9760.00	42.47	32.98	7.55	38.40	55.44	74.00	-18.56	PK
H	9760.00	29.56	32.98	7.55	38.40	42.53	54.00	-11.47	AV
H	12200.00	41.81	32.09	8.93	39.00	57.65	74.00	-16.35	PK
H	12200.00	26.28	32.09	8.93	39.00	42.12	54.00	-11.88	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:2480MHz									
V	4960.00	52.76	34.12	5.03	32.39	56.06	74.00	-17.94	PK
V	4960.00	38.86	34.12	5.03	32.39	42.16	54.00	-11.84	AV
V	7440.00	45.44	32.54	6.29	35.86	55.05	74.00	-18.95	PK
V	7440.00	32.45	32.54	6.29	35.86	42.06	54.00	-11.94	AV
V	9920.00	43.20	32.98	7.55	38.40	56.17	74.00	-17.83	PK
V	9920.00	29.86	32.98	7.55	38.40	42.83	54.00	-11.17	AV
V	12400.00	40.80	32.09	8.93	39.00	56.64	74.00	-17.36	PK
V	12400.00	26.62	32.09	8.93	39.00	42.46	54.00	-11.54	AV
H	4960.00	52.45	34.12	5.03	32.39	55.75	74.00	-18.25	PK
H	4960.00	38.57	34.12	5.03	32.39	41.87	54.00	-12.13	AV
H	7440.00	45.02	32.54	6.29	35.86	54.63	74.00	-19.37	PK
H	7440.00	32.84	32.54	6.29	35.86	42.45	54.00	-11.55	AV
H	9920.00	42.42	32.98	7.55	38.40	55.39	74.00	-18.61	PK
H	9920.00	29.28	32.98	7.55	38.40	42.25	54.00	-11.75	AV
H	12400.00	40.82	32.09	8.93	39.00	56.66	74.00	-17.34	PK
H	12400.00	26.86	32.09	8.93	39.00	42.70	54.00	-11.30	AV

Note: 1. The testing has been conformed to $10 \times 2480\text{MHz} = 24800\text{MHz}$.

2. All other emissions more than 30dB below the limit.

3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor

Margin=Emission Level-Limit

Radiated Band Emission Measurement:

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Margin (dB)	Detec tor Type
GFSK	Low Channel: 2402MHz									
	H	2390.00	45.45	35.17	3.48	27.49	41.25	74.00	-32.75	PK
	H	2390.00	41.75	35.17	3.48	27.49	37.55	54.00	-16.45	AV
	H	2400.00	61.80	35.16	3.49	27.52	57.65	74.00	-16.35	PK
	H	2400.00	49.02	35.16	3.49	27.52	44.87	54.00	-9.13	AV
	V	2390.00	45.29	35.17	3.48	27.49	41.09	74.00	-32.91	PK
	V	2390.00	42.11	35.17	3.48	27.49	37.91	54.00	-16.09	AV
	V	2400.00	62.29	35.16	3.49	27.52	58.14	74.00	-15.86	PK
	V	2400.00	50.38	35.16	3.49	27.52	46.23	54.00	-7.77	AV
	High Channel: 2480MHz									
	H	2483.50	60.48	35.17	3.48	27.49	56.28	74.00	-17.72	PK
	H	2483.50	47.56	35.17	3.48	27.49	43.36	54.00	-10.64	AV
	H	2500.00	46.05	35.16	3.49	27.52	41.90	74.00	-32.10	PK
	H	2500.00	41.20	35.16	3.49	27.52	37.05	54.00	-16.95	AV
	V	2483.50	60.19	35.17	3.48	27.49	55.99	74.00	-18.01	PK
	V	2483.50	47.47	35.17	3.48	27.49	43.27	54.00	-10.73	AV
	V	2500.00	46.58	35.16	3.49	27.52	42.43	74.00	-31.57	PK
	V	2500.00	40.48	35.16	3.49	27.52	36.33	54.00	-17.67	AV

Remark:

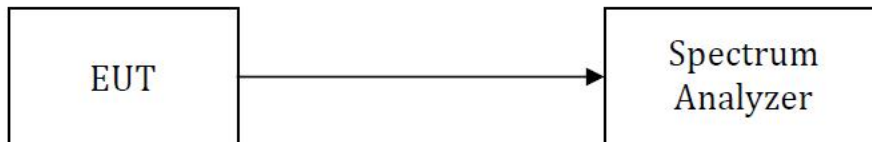
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

4. Duty cycle

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247
Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
Test Result: PASS

4.2.Test Setup



4.3.Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
 - a) Set the center frequency of the instrument to the center frequency of the transmission.
 - b) Set RBW $\geq$ OBW if possible; otherwise, set RBW to the largest available value.
 - c) Set VBW $\geq$ RBW. Detector = peak or average.
 - d) Sweep time = auto couple.
 - e) Trace mode = max hold.
 - f) Allow trace to fully stabilize.

4.4.Test Result

Please see the attachment for data 2.

5. Conducted Spurious Emissions

5.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247
Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
Test Result: PASS

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.2.Test Setup



5.3.Test Procedure

- Set instrument center frequency to DTS channel center frequency.
 - Set the span to ≥ 1.5 times the DTS bandwidth.
 - Set the RBW = 100 kHz.
 - Set the VBW $\geq [3 \times \text{RBW}]$.
 - Detector = peak.
 - Sweep time = No faster than coupled (auto) time.
 - Trace mode = max-hold.
 - Allow trace to fully stabilize.
 - Use the peak marker function to determine the maximum PSD level.
- Note that the channel found to contain the maximum PSD level can be used to establish the reference level
- Establish an emission level by using the following procedure:

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- Set the RBW = 100 kHz.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

5.4.Test Result

Please see the attachment for data 2.

6. Band Edge Measurement

6.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method:

ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024

Test Limit: Regulation 15.247 (d), In any 100 kHz bandwidth outside the frequency band which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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) (see §15.205(c)).

Test Mode: Transmitting

6.2.Test setup



6.3.Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
3. Establish a reference level by using the following procedure
 - a) Set instrument center frequency to DTS channel center frequency.
 - b) Set the span to ≈ 1.5 times the DTS bandwidth.
 - c) Set the RBW = 100 kHz.
 - d) Set the VBW $\approx [3 \times \text{RBW}]$.
 - e) Detector = peak.
 - f) Sweep time = No faster than coupled (auto) time.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum PSD level.Note that the channel found to contain the maximum PSD level can be used to establish the reference level.
4. Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- b) Set the RBW = 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- f) Trace mode = max-hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

6.4.Test Result

Please see the attachment for data 2.

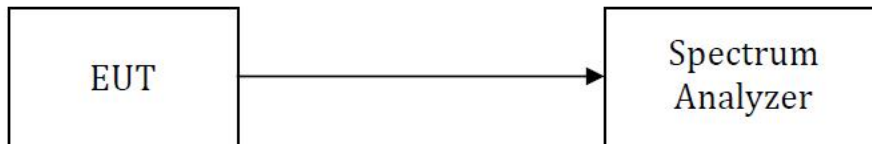
7. -6 dB Bandwidth and 99% Bandwidth Measurement

7.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024

7.2.Test Setup



7.3.Test Procedure

DTS Bandwidth

- a) Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
- b) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Trace mode = max-hold.
- f) Sweep = No faster than coupled (auto) time.
- g) Allow the trace to stabilize.

99% Bandwidth

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.

7.4.Test Result

Please see the attachment for data 2.

8. Maximum Output Power

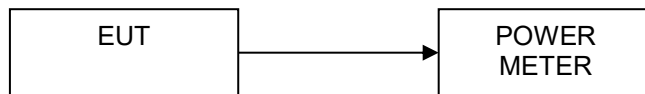
8.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2.Test Setup



8.3.Test Procedure

8.3.1 The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.

8.3.2 Set to the maximum power setting and enable the EUT transmit continuously.

8.3.3 Measure the conducted output power and record the results in the test report.

8.4.Test Result

Please see the attachment for data 2.

9. Power Spectral density

9.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8dBm/3kHz	2400-2483.5	PASS

9.2.Test Setup



9.3.Test Procedure

KDB 558074 D01 15.247 Meas Guidance v05r02;

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set instrument center frequency to DTS channel center frequency
3. Set span to > 1.5 times the OBW.
4. Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
5. Set VBW $\geq [3 \times \text{RBW}]$
6. Detector = power averaging (rms) or sample detector (when rms not available).
7. Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
8. Sweep time = auto couple.
9. Employ trace averaging (rms) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level.
11. If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat(note that this might require zooming in on the emission of interest and reducing the span to meetthe minimum measurement point requirement as the RBW is reduced).
12. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

9.4.Test Result

Please see the attachment for data 2.

10. Antenna Requirement

According to the FCC Part 15 Paragraph 15.203, 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. This product has an integrated antenna fulfill the requirement of this section.

11. TEST SETUP & EUT PHOTOGRAPH

Please see the attachment for details.

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