

TEST REPORT

Applicant : Shenzhen ZhenCheng Technology Co., Ltd.
Address : 3/F, Building C, NO.2, Road 1, ShangXue, Industrial Area, Bantian Street, Longgang District, ShenZhen, Guangdong 518129, China
Manufacturer : Shenzhen ZhenCheng Technology Co., Ltd.
Address : 3/F, Building C, NO.2, Road 1, ShangXue, Industrial Area, Bantian Street, Longgang District, ShenZhen, Guangdong 518129, China
Product Name : Action Camera
Model Number : SJ30
Trademark : SJCAM

FCC ID : 2A5I9-SJ30

Test Date : Jan. 20, 2026 to Feb. 04, 2026

Date of Report : Feb. 04, 2026

Test Result : This device described above has been tested by BKC, 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

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Reviewer(Supervisor):
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Approved(Manager):
Jerry Liao



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Revision History of This Test Report

[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name : Action Camera

Model No. : SJ30

Model Difference : /

Power supply : Input:DC 5V or Battery DC 3.8V

Operation frequency : 2412-2462MHz for 802.11b/g/n20/ax20;
2422-2452MHz for 802.11n40/ax40;

Modulation : 802.11b: DSSS (CCK, DQPSK, DBPSK)
802.11g/n(20)/ ax(20)/ ax(40)n(40): DSSS (CCK, DQPSK,DBPSK)+OFDM+OFDMA
(QPSK, BPSK, 16-QAM, 64-QAM)

Antenna Type : Internal antenna, Maximum Gain is -9.03dBi

Intend use environment : Residential, commercial and light industrial environment

1.2. Channel List

Frequency and Channel list for 802.11 b/g/n/ax (HT20/HT40):

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462		

Test Frequency and Channel for 802.11 b/g/n/ax (HT20/HT40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	6	2437	11	2462
3	2422	6	2437	9	2452

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	The EUT enters engineering mode
Power level setup	0 dBm

1.4. Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna requirement	FCC part 15.203/15.247 (c)	PASS
Duty cycle	FCC part 15.247	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
Adapter	/	MDY-12-EF	/	/

1.6. Test mode

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

Test mode	Low channel	Middle channel	High channel
802.11b	2412MHz	2437MHz	2462MHz
802.11g	2412MHz	2437MHz	2462MHz
802.11n20	2412MHz	2437MHz	2462MHz
802.11ax(HE20)	2412MHz	2437MHz	2462MHz
802.11n40	2422MHz	2437MHz	2452MHz
802.11ax(HE40)	2422MHz	2437MHz	2452MHz

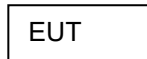
Note: Only the worst Data 1Mbps/6Mbps/6.5Mbps Record in the report

1.7. Block Diagram

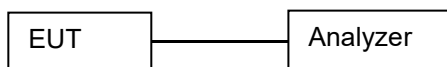
Conducted Emission



Radiated Emission



Conducted Spurious



1.8. Test Conditions

Category	Normal Conditions	Extreme Conditions
Temperature range	15-35°C	N/A
Humidity range	20-75%	N/A
Pressure range	86-106kPa	N/A
Power supply	Input: DC 5V or Battery DC 3.8V	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)	$\pm 2.54\text{dB}$	
Radiated Emission(9KHz~30MHz)	$\pm 1.6\text{ dB}$	
Radiated Emission(30MHz~1GHz)	Vertical: $\pm 4.14\text{dB}$ Horizontal: $\pm 4.25\text{dB}$	
Radiated Emission(1GHz~6GHz)	$\pm 3.9\text{dB}$	
Radiated Emission(6GHz~18GHz)	$\pm 4.3\text{dB}$	
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°C	
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 BKC Testing Co., Ltd.
Site Location	:	Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China.
ISED CAB identifier	:	CN0188
ISED Company Number	:	34333
FCC Designation Number	:	CN1416
FCC Test Firm Registration Number	:	701543

1.11. Test Equipment

Conducted Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	102762	Mar. 10. 2025	Mar. 09. 2026
2	EMI Test Receiver	R&S	ESCI	101424	Mar. 10. 2025	Mar. 09. 2026
3	Rf cables	HTEC	HCE 2M-CE	N/A	Mar. 10. 2025	Mar. 09. 2026
4	Coupling/ Decoupling Network	Diamond	CX210	N/A	Mar. 10. 2025	Mar. 09. 2026
5	CE Testing software	EZ	EZ-EMC	/	/	/

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

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Antenna	Schwarzbeck	VULB 9168	01321	Mar. 20. 2025	Mar. 19. 2028
2	EMI Test Receiver	R&S	ESRP	101478	Mar. 10. 2025	Mar. 09. 2026
3	Preamplifier	HP	8447D	2727A05345	Mar. 10. 2025	Mar. 09. 2026
4	Double Ridged Broadband	SCHWARZBECK	BBHA 9120D	02621	Mar. 10. 2025	Mar. 19. 2028
5	Preamplifier	Schwarzbeck	BBV 9718D	00041	Mar. 10. 2025	Mar. 09. 2026
6	Rf cables	HUBER+SUHNER	8M-RE	N/A	Mar. 10. 2025	Mar. 09. 2026
7	Rf cables	HUBER+SUHNER	1.5M-RE	N/A	Mar. 10. 2025	Mar. 09. 2026
8	Rf cables	HUBER+SUHNER	1.5M-AP-RE	N/A	Mar. 10. 2025	Mar. 09. 2026
9	Loop antenna	TESEQ	HLA6121	58357	Mar. 09. 2025	Mar. 10. 2026
10	Spectrum analyzer	R&S	FSP40	200061	Feb. 13. 2025	Feb. 12. 2026
11	Double Ridged Broadband Horn	COM-POWER	AH-1840	10100009	Mar. 10. 2025	Mar. 09. 2026

	Antenna					
12	Spectrum	Agilent	N9020A	MY50510311	Mar. 09. 2025	Mar. 10. 2026
13	Band Stop Filter	Bafang	BSF5G	2024052610	Mar. 09. 2025	Mar. 10.2026
14	RE Testing software	EZ	EZ-EMC	/		/

RF Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum	Agilent	N9020A	MY50510311	Mar. 09. 2025	Mar. 10. 2026
2	Vector source	Agilent	N5182A	MY47420223	Mar. 09. 2025	Mar. 10. 2026
3	All instrument	Rohde & Schwarz	CMW 500	101131	Mar. 09. 2025	Mar. 10. 2026
4	control unit	MW	MW100-RFCB	MW200411BK-34	Mar. 09. 2025	Mar. 10. 2026
5	RF Testing software	MW	MTS 8310	/	Mar. 09. 2025	/
6	Spectrum analyzer	R&S	FSP40	200061	Feb. 13. 2025	Feb. 12. 2026
7	Power Meter	Anritsu	MAX540	ML2495A	Mar. 09. 2025	Mar. 10.2026

Test software

Software name	RF Testing software
Software version	2.0.0.0
Software name	RE Testing software
Software version	EMEC-03A2 RE+
Software name	CE Testing software
Software version	EMEC-3A1+

2. Conducted emission at the mains terminals test

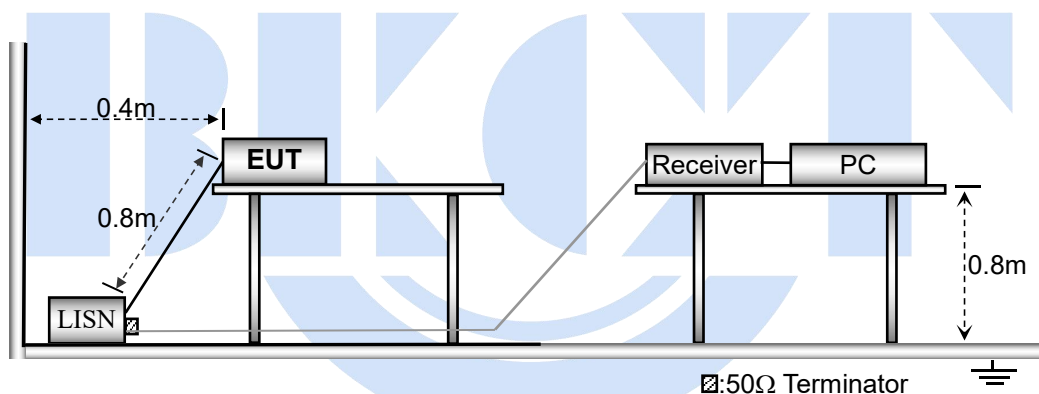
2.1.Limit

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020+Cor.1-2023
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

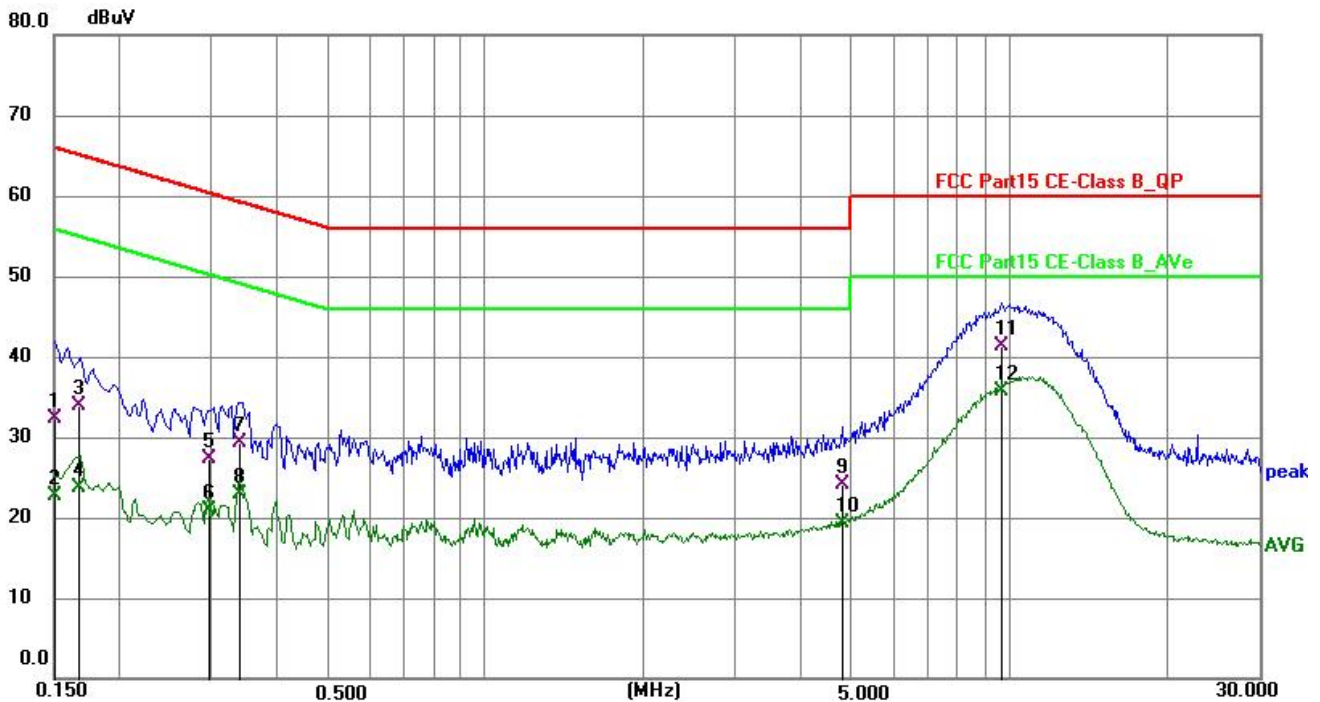


2.3.Test Procedure

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

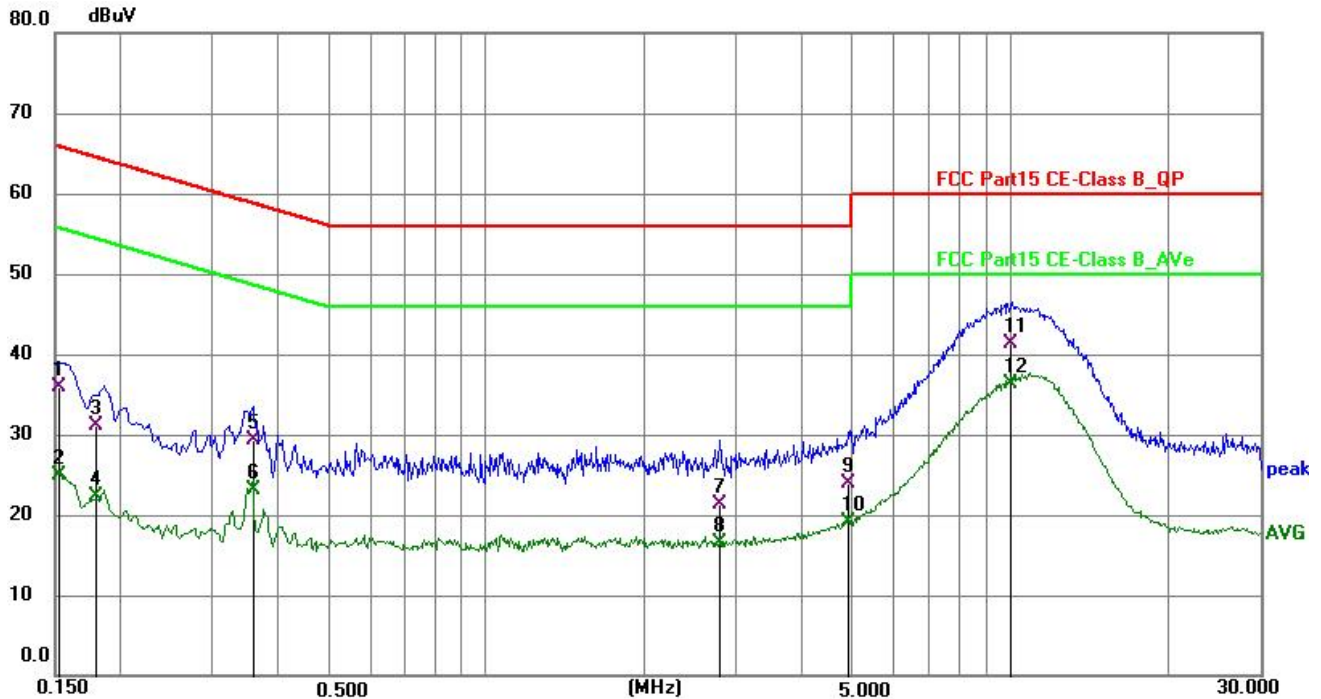
Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	802.11b(2462.00MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1501	22.18	10.18	32.36	65.99	-33.63	QP
2	0.1501	12.48	10.18	22.66	55.99	-33.33	AVG
3	0.1679	23.67	10.18	33.85	65.06	-31.21	QP
4	0.1679	13.43	10.18	23.61	55.06	-31.45	AVG
5	0.2960	17.15	10.12	27.27	60.35	-33.08	QP
6	0.2960	10.73	10.12	20.85	50.35	-29.50	AVG
7	0.3400	19.09	10.12	29.21	59.20	-29.99	QP
8	0.3400	12.69	10.12	22.81	49.20	-26.39	AVG
9	4.8244	13.88	10.22	24.10	56.00	-31.90	QP
10	4.8244	8.99	10.22	19.21	46.00	-26.79	AVG
11	9.6909	30.93	10.33	41.26	60.00	-18.74	QP
12 *	9.6909	25.36	10.33	35.69	50.00	-14.31	AVG

Conducted Emission At The Mains Terminals Test Data

Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	802.11b(2462.00MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1524	25.74	10.19	35.93	65.87	-29.94	QP
2	0.1524	14.67	10.19	24.86	55.87	-31.01	AVG
3	0.1797	21.00	10.17	31.17	64.50	-33.33	QP
4	0.1797	12.15	10.17	22.32	54.50	-32.18	AVG
5	0.3571	19.19	10.12	29.31	58.80	-29.49	QP
6	0.3571	13.00	10.12	23.12	48.80	-25.68	AVG
7	2.7843	11.12	10.17	21.29	56.00	-34.71	QP
8	2.7843	6.28	10.17	16.45	46.00	-29.55	AVG
9	4.9494	13.76	10.24	24.00	56.00	-32.00	QP
10	4.9494	8.80	10.24	19.04	46.00	-26.96	AVG
11	10.0940	30.95	10.35	41.30	60.00	-18.70	QP
12 *	10.0940	26.00	10.35	36.35	50.00	-13.65	AVG

3. Radiated Spurious Emissions

3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247
Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02;
ANSI C63.10-2020+Cor.1-2023
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

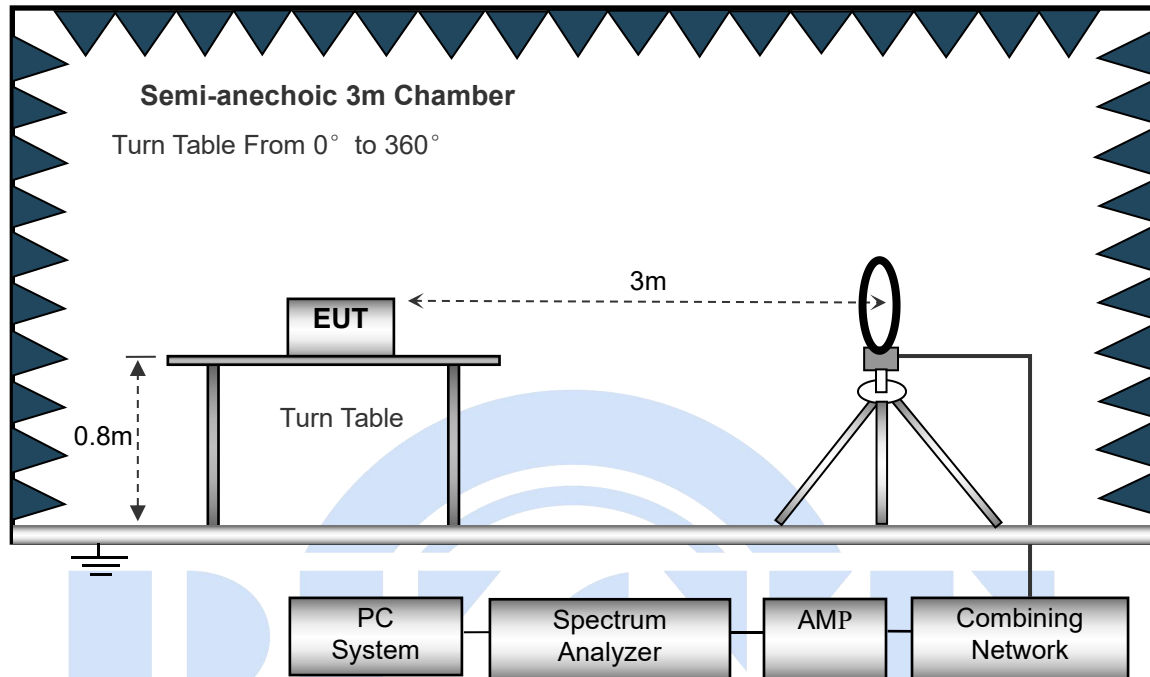
Limit:

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

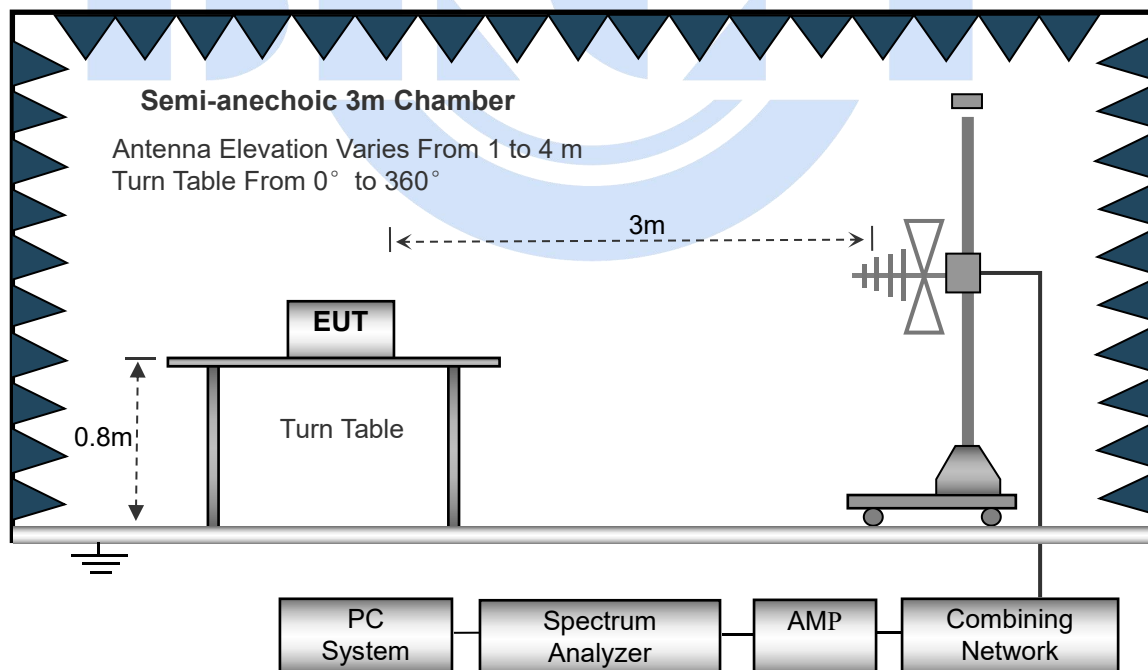
3.2. Test Setup

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

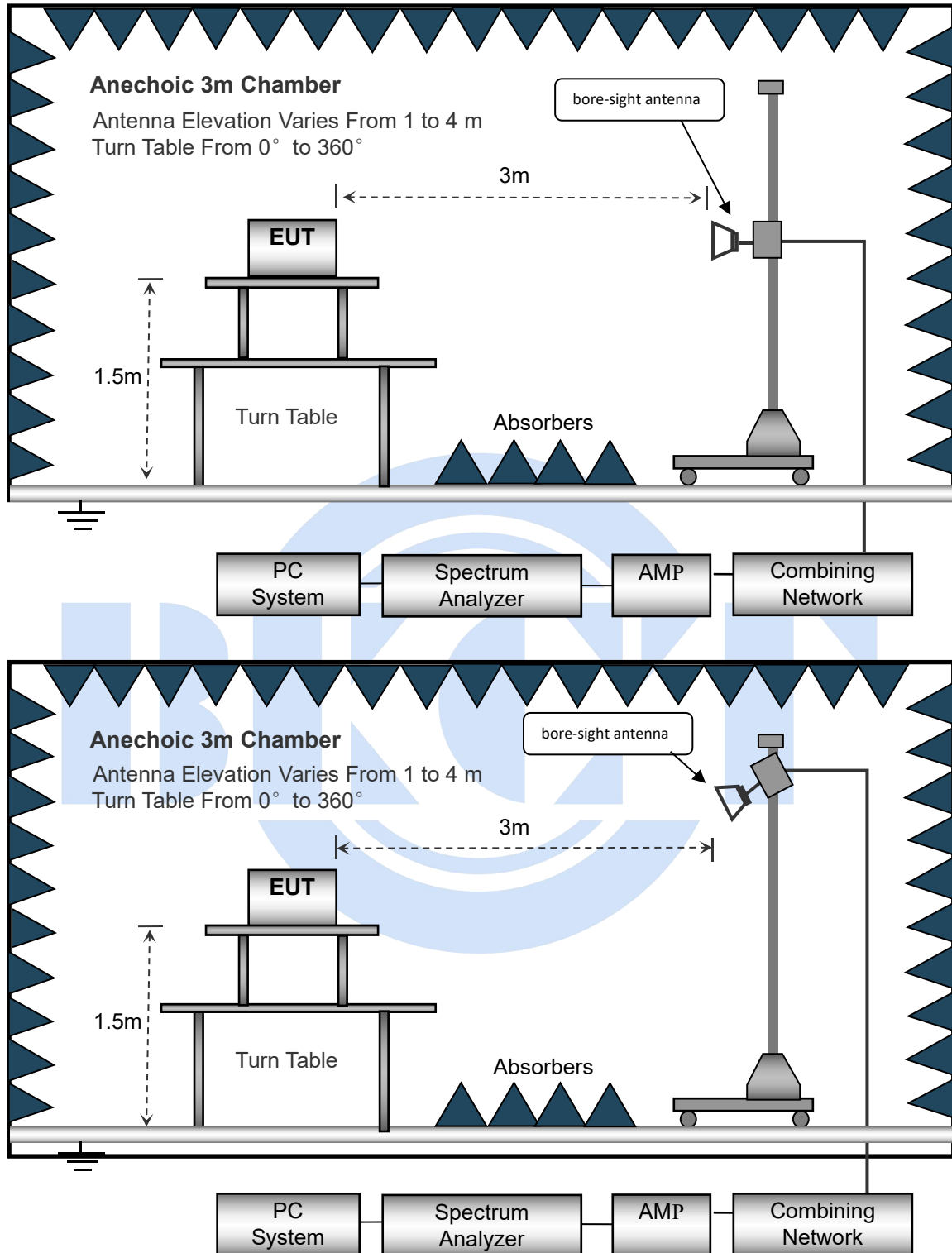
The test setup for emission measurement below 30MHz.



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.



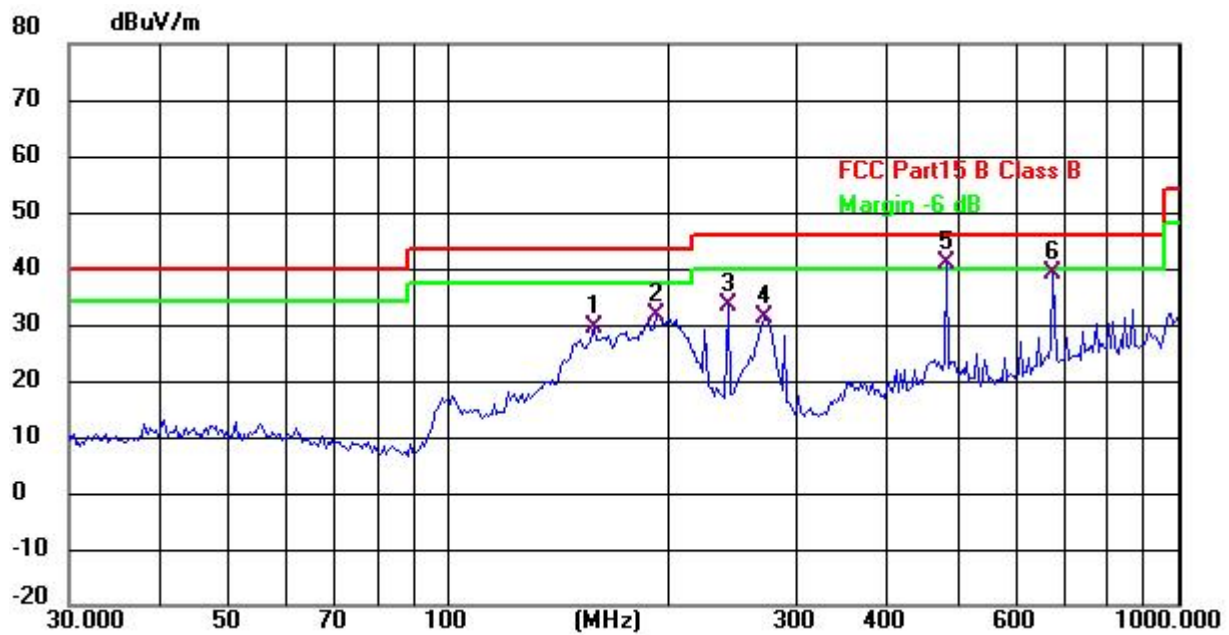
3.4. Test Result

Test Frequency: 9KHz~30MHz

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

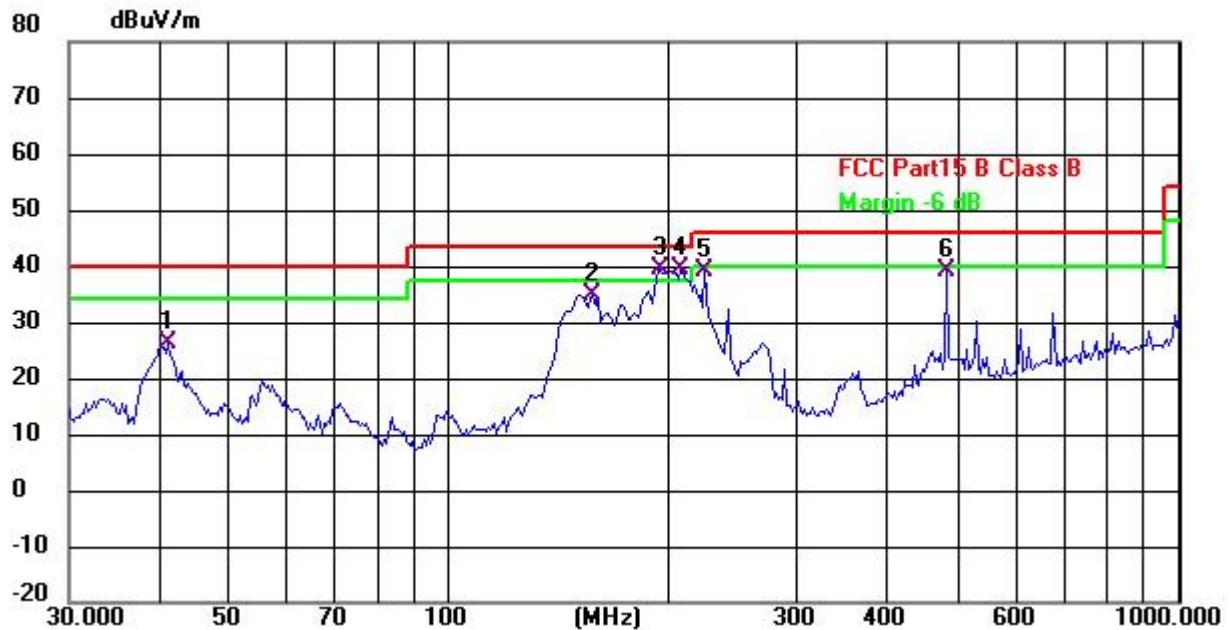
Test Frequency : 30MHz ~ 1GHz

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	DC 3.8V	Test Mode :	802.11b(2462.00MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	158.1123	41.38	-12.00	29.38	43.50	-14.12	QP
2	192.4186	46.98	-15.23	31.75	43.50	-11.75	QP
3	240.8304	47.62	-14.27	33.35	46.00	-12.65	QP
4	271.3246	44.42	-13.34	31.08	46.00	-14.92	QP
5 *	482.2156	48.88	-8.05	40.83	46.00	-5.17	QP
6	675.2080	42.61	-3.64	38.97	46.00	-7.03	QP

Radiation Emission Test Data			
Temperature:	25.1°C	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	DC 3.8V	Test Mode :	802.11b(2462.00MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	41.1320	39.54	-13.14	26.40	40.00	-13.60	QP
2	157.0074	47.04	-12.07	34.97	43.50	-8.53	QP
3 *	195.1365	54.79	-15.34	39.45	43.50	-4.05	QP
4 !	207.8501	54.70	-15.34	39.36	43.50	-4.14	QP
5	224.5193	54.00	-14.89	39.11	46.00	-6.89	QP
6	482.2156	47.16	-8.05	39.11	46.00	-6.89	QP

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:2412MHz									
V	4804.00	47.16	34.12	5.03	32.39	50.46	74.00	-23.54	Pk
V	4804.00	37.15	34.12	5.03	32.39	40.45	54.00	-13.55	AV
V	7206.00	42.75	32.54	6.29	35.86	52.36	74.00	-21.64	Pk
V	7206.00	30.39	32.54	6.29	35.86	40.00	54.00	-14.00	AV
V	9608.00	36.78	32.98	7.55	38.40	49.75	74.00	-24.25	Pk
V	9608.00	24.14	32.98	7.55	38.40	37.11	54.00	-16.89	AV
V	12010.00	34.80	32.09	8.93	39.00	50.64	74.00	-23.36	Pk
V	12010.00	21.59	32.09	8.93	39.00	37.43	54.00	-16.57	AV
H	4804.00	48.86	34.12	5.03	32.39	52.16	74.00	-21.84	Pk
H	4804.00	36.25	34.12	5.03	32.39	39.55	54.00	-14.45	AV
H	7206.00	41.04	32.54	6.29	35.86	50.65	74.00	-23.35	Pk
H	7206.00	29.69	32.54	6.29	35.86	39.30	54.00	-14.70	AV
H	9608.00	39.39	32.98	7.55	38.40	52.36	74.00	-21.64	Pk
H	9608.00	26.02	32.98	7.55	38.40	38.99	54.00	-15.01	AV
H	12010.00	37.20	32.09	8.93	39.00	53.04	74.00	-20.96	Pk
H	12010.00	26.58	32.09	8.93	39.00	42.42	54.00	-11.58	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:2437MHz									
V	4882.00	47.13	34.07	5.09	32.59	50.74	74.00	-23.26	Pk
V	4882.00	35.66	34.07	5.09	32.59	39.27	54.00	-14.73	AV
V	7323.00	43.59	32.63	6.34	35.96	53.26	74.00	-20.74	Pk
V	7323.00	31.46	32.63	6.34	35.96	41.13	54.00	-12.87	AV
V	9764.00	41.05	32.92	7.59	38.40	54.12	74.00	-19.88	Pk
V	9764.00	35.03	32.92	7.59	38.40	48.10	54.00	-5.90	AV
V	12205.00	44.66	31.96	8.88	39.04	60.62	74.00	-13.38	Pk
V	12205.00	26.32	31.96	8.88	39.04	42.28	54.00	-11.72	AV
H	4882.00	45.85	34.07	5.09	32.59	49.46	74.00	-24.54	Pk
H	4882.00	33.47	34.07	5.09	32.59	37.08	54.00	-16.92	AV
H	7323.00	41.04	32.63	6.34	35.96	50.71	74.00	-23.29	Pk
H	7323.00	30.38	32.63	6.34	35.96	40.05	54.00	-13.95	AV
H	9764.00	43.09	32.92	7.59	38.40	56.16	74.00	-17.84	Pk
H	9764.00	29.56	32.92	7.59	38.40	42.63	54.00	-11.37	AV
H	12205.00	38.38	31.96	8.88	39.04	54.34	74.00	-19.66	Pk
H	12205.00	25.54	31.96	8.88	39.04	41.50	54.00	-12.50	AV

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
High Channel:2462MHz									
V	4960.00	49.09	34.02	5.15	32.80	53.02	74.00	-20.98	Pk
V	4960.00	33.89	34.02	5.15	32.80	37.82	54.00	-16.18	AV
V	7440.00	38.38	32.71	6.40	36.05	48.12	74.00	-25.88	Pk
V	7440.00	28.07	32.71	6.40	36.05	37.81	54.00	-16.19	AV
V	9920.00	42.44	32.86	7.62	38.40	55.60	74.00	-18.40	Pk
V	9920.00	27.29	32.86	7.62	38.40	40.45	54.00	-13.55	AV
V	12400.00	33.87	31.82	8.84	39.08	49.97	74.00	-24.03	Pk
V	12400.00	25.78	31.82	8.84	39.08	41.88	54.00	-12.12	AV
H	4960.00	46.01	34.02	5.15	32.80	49.94	74.00	-24.06	Pk
H	4960.00	35.19	34.02	5.15	32.80	39.12	54.00	-14.88	AV
H	7440.00	46.29	32.71	6.40	36.05	56.03	74.00	-17.97	Pk
H	7440.00	26.76	32.71	6.40	36.05	36.50	54.00	-17.50	AV
H	9920.00	40.42	32.86	7.62	38.40	53.58	74.00	-20.42	Pk
H	9920.00	24.68	32.86	7.62	38.40	37.84	54.00	-16.16	AV
H	12400.00	36.53	31.82	8.84	39.08	52.63	74.00	-21.37	Pk
H	12400.00	28.27	31.82	8.84	39.08	44.37	54.00	-9.63	AV

- Note: 1. The testing has been conformed to 10*2480MHz=24800MHz.
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
4. All the modes have tested and recorded the worst mode(802.11b) in the report

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)	Detector Type
802.11b	Low Channel: 2412MHz									
	H	2390	58.35	35.17	3.48	27.49	54.15	74.00	-19.85	PK
	H	2390	50.33	35.17	3.48	27.49	46.13	54.00	-7.87	AV
	H	2400	59.91	35.16	3.49	27.52	55.76	74.00	-18.24	PK
	H	2400	50.31	35.16	3.49	27.52	46.16	54.00	-7.84	AV
	V	2390	58.08	35.17	3.48	27.49	53.88	74.00	-20.12	PK
	V	2390	50.08	35.17	3.48	27.49	45.88	54.00	-8.12	AV
	V	2400	59.52	35.16	3.49	27.52	55.37	74.00	-18.63	PK
	V	2400	50.02	35.16	3.49	27.52	45.87	54.00	-8.13	AV
	High Channel: 2462MHz									
	H	2483.5	57.75	35.11	3.56	27.75	53.95	74.00	-20.05	PK
	H	2483.5	48.37	35.11	3.56	27.75	44.57	54.00	-9.43	AV
	H	2500	59.16	35.10	3.57	27.80	55.43	74.00	-18.57	PK
	H	2500	49.39	35.10	3.57	27.80	45.66	54.00	-8.34	AV
	V	2483.5	58.77	35.11	3.56	27.75	54.97	74.00	-19.03	PK
	V	2483.5	50.62	35.11	3.56	27.75	46.82	54.00	-7.18	AV
	V	2500	58.67	35.10	3.57	27.80	54.94	74.00	-19.06	PK
	V	2500	49.31	35.10	3.57	27.80	45.58	54.00	-8.42	AV
802.11g	Low Channel: 2412MHz									
	H	2390	57.46	35.17	3.48	27.49	53.45	74.00	-20.55	PK
	H	2390	49.82	35.17	3.48	27.49	45.62	54.00	-8.38	AV
	H	2400	58.90	35.16	3.49	27.52	54.75	74.00	-19.25	PK
	H	2400	49.39	35.16	3.49	27.52	45.24	54.00	-8.76	AV
	V	2390	57.12	35.17	3.48	27.49	52.92	74.00	-21.08	PK
	V	2390	48.80	35.17	3.48	27.49	44.60	54.00	-9.40	AV
	V	2400	58.42	35.16	3.49	27.52	54.27	74.00	-19.73	PK
	V	2400	48.78	35.16	3.49	27.52	44.63	54.00	-9.37	AV
	High Channel: 2462MHz									
	H	2483.5	56.84	35.11	3.56	27.75	53.04	74.00	-20.96	PK
	H	2483.5	48.36	35.11	3.56	27.75	44.56	54.00	-9.44	AV
	H	2500	58.51	35.10	3.57	27.80	54.78	74.00	-19.22	PK
	H	2500	48.74	35.10	3.57	27.80	45.01	54.00	-8.99	AV
	V	2483.5	57.75	35.11	3.56	27.75	53.95	74.00	-20.05	PK
	V	2483.5	49.84	35.11	3.56	27.75	46.04	54.00	-7.96	AV
	V	2500	58.06	35.10	3.57	27.80	54.33	74.00	-19.67	PK
	V	2500	49.25	35.10	3.57	27.80	45.52	54.00	-8.48	AV
802.11 n20	Low Channel: 2412MHz									
	H	2390	57.94	35.17	3.48	27.49	53.74	74.00	-20.26	PK
	H	2390	49.82	35.17	3.48	27.49	45.62	54.00	-8.38	AV
	H	2400	60.29	35.16	3.49	27.52	56.14	74.00	-17.86	PK
	H	2400	49.40	35.16	3.49	27.52	45.25	54.00	-8.75	AV
	V	2390	57.44	35.17	3.48	27.49	53.24	74.00	-20.76	PK
	V	2390	50.46	35.17	3.48	27.49	46.26	54.00	-7.74	AV
	V	2400	59.78	35.16	3.49	27.52	55.63	74.00	-18.37	PK
	V	2400	49.66	35.16	3.49	27.52	45.51	54.00	-8.49	AV
	High Channel: 2462MHz									
	H	2483.5	57.91	35.11	3.56	27.75	54.11	74.00	-19.89	PK
	H	2483.5	48.74	35.11	3.56	27.75	44.94	54.00	-9.06	AV

	H	2500	59.65	35.10	3.57	27.80	55.92	74.00	-18.08	PK
	H	2500	50.03	35.10	3.57	27.80	46.30	54.00	-7.70	AV
	V	2483.5	58.30	35.11	3.56	27.75	54.50	74.00	-19.50	PK
	V	2483.5	49.92	35.11	3.56	27.75	46.12	54.00	-7.88	AV
	V	2500	58.47	35.10	3.57	27.80	54.74	74.00	-19.26	PK
	V	2500	50.26	35.10	3.57	27.80	46.53	54.00	-7.47	AV
802.11 n40	Low Channel: 2422MHz									
	H	2390	57.75	35.17	3.48	27.49	53.55	74.00	-20.45	PK
	H	2390	49.69	35.17	3.48	27.49	45.49	54.00	-8.51	AV
	H	2400	60.19	35.16	3.49	27.52	56.04	74.00	-17.96	PK
	H	2400	49.38	35.16	3.49	27.52	45.23	54.00	-8.77	AV
	V	2390	58.15	35.17	3.48	27.49	53.95	74.00	-20.05	PK
	V	2390	49.52	35.17	3.48	27.49	45.32	54.00	-8.68	AV
	V	2400	59.82	35.16	3.49	27.52	55.67	74.00	-18.33	PK
	V	2400	49.61	35.16	3.49	27.52	45.46	54.00	-8.54	AV
	High Channel: 2452MHz									
	H	2483.5	58.08	35.11	3.56	27.75	54.28	74.00	-19.72	PK
	H	2483.5	49.20	35.11	3.56	27.75	45.40	54.00	-8.60	AV
	H	2500	58.94	35.10	3.57	27.80	55.21	74.00	-18.79	PK
	H	2500	49.42	35.10	3.57	27.80	45.69	54.00	-8.31	AV
	V	2483.5	58.68	35.11	3.56	27.75	54.88	74.00	-19.12	PK
	V	2483.5	49.80	35.11	3.56	27.75	46.00	54.00	-8.00	AV
	V	2500	58.93	35.10	3.57	27.80	55.20	74.00	-18.80	PK
	V	2500	49.63	35.10	3.57	27.80	45.90	54.00	-8.10	AV
802.11 ax20	Low Channel: 2422MHz									
	H	2390	57.78	35.17	3.48	27.49	53.45	74.00	-20.55	PK
	H	2390	49.88	35.17	3.48	27.49	45.68	54.00	-8.32	AV
	H	2400	58.78	35.16	3.49	27.52	54.63	74.00	-19.37	PK
	H	2400	49.58	35.16	3.49	27.52	45.43	54.00	-8.57	AV
	V	2390	57.31	35.17	3.48	27.49	53.11	74.00	-20.89	PK
	V	2390	48.83	35.17	3.48	27.49	44.63	54.00	-9.37	AV
	V	2400	58.54	35.16	3.49	27.52	54.39	74.00	-19.61	PK
	V	2400	49.09	35.16	3.49	27.52	44.94	54.00	-9.06	AV
	High Channel: 2462MHz									
	H	2483.5	57.03	35.11	3.56	27.75	53.23	74.00	-20.77	PK
	H	2483.5	48.74	35.11	3.56	27.75	44.94	54.00	-9.06	AV
	H	2500	58.79	35.10	3.57	27.80	55.06	74.00	-18.94	PK
	H	2500	49.29	35.10	3.57	27.80	45.56	54.00	-8.44	AV
	V	2483.5	57.73	35.11	3.56	27.75	53.93	74.00	-20.07	PK
	V	2483.5	49.80	35.11	3.56	27.75	46.00	54.00	-8.00	AV
	V	2500	58.42	35.10	3.57	27.80	54.69	74.00	-19.31	PK
	V	2500	48.87	35.10	3.57	27.80	45.14	54.00	-8.86	AV
802.11 ax40	Low Channel: 2422MHz									
	H	2390	57.76	35.17	3.48	27.49	53.56	74.00	-20.44	PK
	H	2390	49.76	35.17	3.48	27.49	45.56	54.00	-8.44	AV
	H	2400	60.32	35.16	3.49	27.52	56.17	74.00	-17.83	PK
	H	2400	49.29	35.16	3.49	27.52	45.14	54.00	-8.86	AV
	V	2390	57.65	35.17	3.48	27.49	53.45	74.00	-20.55	PK
	V	2390	50.34	35.17	3.48	27.49	46.14	54.00	-7.86	AV
	V	2400	59.53	35.16	3.49	27.52	55.38	74.00	-18.62	PK
	V	2400	49.67	35.16	3.49	27.52	45.52	54.00	-8.48	AV
	High Channel: 2462MHz									
	H	2483.5	57.73	35.11	3.56	27.75	53.93	74.00	-20.07	PK
	H	2483.5	48.71	35.11	3.56	27.75	44.91	54.00	-9.09	AV

	H	2500	59.58	35.10	3.57	27.80	55.85	74.00	-18.15	PK
	H	2500	49.53	35.10	3.57	27.80	45.80	54.00	-8.20	AV
	V	2483.5	58.48	35.11	3.56	27.75	54.68	74.00	-19.32	PK
	V	2483.5	50.00	35.11	3.56	27.75	46.20	54.00	-7.80	AV
	V	2500	58.78	35.10	3.57	27.80	55.05	74.00	-18.95	PK
	V	2500	50.24	35.10	3.57	27.80	46.51	54.00	-7.49	AV

Remark:

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

Margin= Emission Level - Limit

2. If peak below the average limit, the average emission was no test.

3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



4. Duty cycle

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247
Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02;
ANSI C63.10-2020+Cor.1-2023
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.

5. Conducted Spurious Emissions

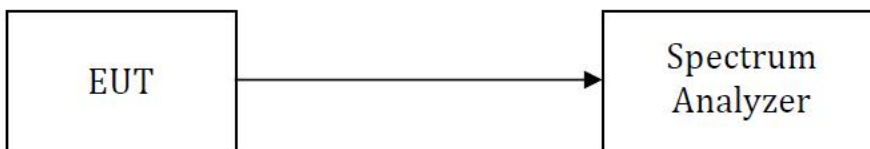
5.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247
Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02;
ANSI C63.10-2020+Cor.1-2023
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.

6. Band Edge Measurement

6.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

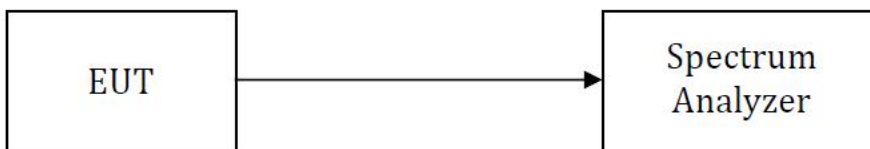
Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02;

ANSI C63.10-2020+Cor.1-2023

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.

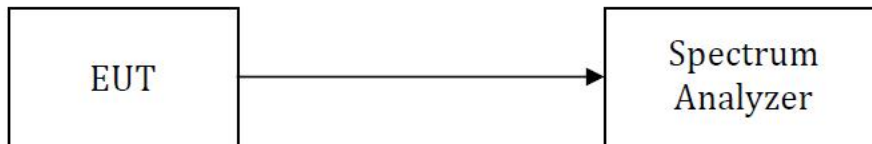
7. -6 dB Bandwidth and 99% Bandwidth Measurement

7.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02; ANSI C63.10-2020+Cor.1-2023

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.

8. Maximum Output Power

8.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02;ANSI C63.10-2020+Cor.1-2023

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.

9. Power Spectral density

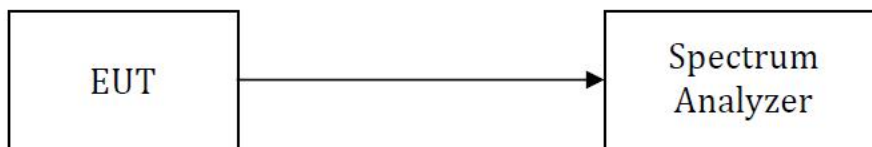
9.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02; ANSI C63.10-2020+Cor.1-2023

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 meet the 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.

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 -----

