



FCC Part 15C TEST REPORT

FCC ID: 2BSYP-S2

Prepared for : Shenzhen Jinjing Technology Co., Ltd
Address : Room 303, RongXinXing Creative Park, Xingdong Community,
XinAn Street, 71# Bao'an District, Shenzhen, China
Trade Name : Pernis
E.U.T : DASH CAM
Test Number : S2
Model(s) Number : S2, S1, S2L, S2P, S4, S5, S5P, S6, S6P, S8, S8P, M6, M7, M8,
M9, M10, M300, M800

Prepared by : Keyway Testing Technology(Guangdong) Co., Ltd.
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Report No. : 2025112611712359-00
Date of Test: : Nov. 11, 2025 ~ Dec. 06, 2025
Date of Report : Dec. 08, 2025

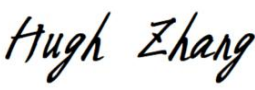
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Keyway Testing Technology (Guangdong) Co., Ltd.

Applicant:	Shenzhen Jinjing Technology Co., Ltd	
Address:	Room 303, RongXinXing Creative Park, Xingdong Community, XinAn Street, 71# Bao'an District, Shenzhen, China	
Manufacturer:	NetConn Electronics Co., Ltd	
Address:	3F-6, No.77, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221, Taiwan	
E.U.T:	DASH CAM	
Test Number:	S2	
Model(s) Number:	S2, S1, S2L, S2P, S4, S5, S5P, S6, S6P, S8, S8P, M6, M7, M8, M9, M10, M300, M800	
Trade Name:	Pernis	
Date of Receipt:	Nov. 11, 2025	
Date of Test:	Nov. 11, 2025 ~ Dec. 06, 2025	
Test Specification :	FCC CFR47 Part 15 Section 15.247 ANSI C63.10-2020+Cor.1-2023	
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.	
		Issue Date: Dec. 06, 2025
Tested by:	Reviewed by:	Authorized by:
		
Hugh Zhang / Engineer	Billy Zeng / Supervisor	Cherry Chen / Manager
Abbreviations: OK/P=passed fail/F=failed N/A=not applicable E.U.T=equipment under tested		
This device described above has been tested by Keyway, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval of Keyway, this document may be altered or revised by Keyway, personal only, and shall be noted in the revision of the document.		

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Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2025.12.08		Original

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1 Test Summary

Test Items	Test Requirement	Result
Conduct Emission	FCC part 15.207	PASS
Radiated Spurious Emissions	FCC part 15.205/15.209	PASS
Conducted Spurious Emission	FCC part 15.205/15.209	PASS
Band edge	FCC part 15.247(d)	PASS
6dB&99% Bandwidth	FCC part 15.247 (a)(2)	PASS
Maximum Peak Output Power	FCC part 15.247 (b)(3)	PASS
Power Spectral Density	FCC part 15.247 (e)	PASS
Antenna Requirement	FCC part 15.203/15.247 (b)	PASS

Remark:

"N/A" denotes test is not applicable in this Test Report.



2 General Information

2.1 General Description of E.U.T.

Product Name	:	DASH CAM
Test Number	:	S2
Sample ID	:	33000256761
Sample(s) Status:	:	Engineer sample
Series Model.	:	S2, S1, S2L, S2P, S4, S5, S5P, S6, S6P, S8, S8P, M6, M7, M8, M9, M10, M300, M800
Model Different.:	:	PCB board, structure and internal of these models (s) are the same, only the Model name is different for these models: does not affect the electrical structure.
Specification	:	802.11b/g/n(HT20) /ax(HE20);n(HT40)/ax(HE40)
Operation Frequency	:	2412-2462MHz for 802.11b/g/n(HT20) /ax(HE20); 2422-2452MHz for 802.11n(HT40)/ax(HE40)
Number of Channel	:	11 channels for 802.11b/g/n(HT20) /ax(HE20); 7 channels for 802.11n(HT40)/ax(HE40)
Type of Modulation	:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n(HT20)/n(HT40): OFDM (QPSK, BPSK, 16-QAM, 64-QAM) 802.11ax(HE20)/ax(HE40): OFDMA (QPSK, BPSK, 16-QAM, 64-QAM, 256QAM, 1024QAM)
Antenna installation	:	Internal Antenna
Antenna Gain	:	1.51dBi @ 2.4GHz; 1.65dBi @ 5.2GHz; 2.55dBi @ 5.8GHz
Power supply	:	DC5V, 1A From The Vehicle Charger By DC 12V Input

Remark:

1. the Antenna gain is provided by customer from Antenna spec. and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.
2. 802.11ax support full RU tone and partial RU tone, both full RU and partial RU-left (for low CH) and partial RU-right (for high CH) are tested for conducted power in appendix, all the other test case were performed with full RU with its maximum power.

2.2 Channel List

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11b: 1 Mbps; 802.11g: 6 Mbps; 802.11n (HT20): MCS0; 802.11n (HT40): MCS0; 802.11ax (HE20): MCS0; 802.11ax (HE40): MCS0 were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 b/g/n(HT20)/ax(HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		

Test Frequency and Channel for 802.11 n (HT40)/ax (HE40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	6	2437	9	2452
4	2427	7	2442		
5	2432	8	2447		

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2.3 Test Site

Lab Qualifications	: Certificated by CMA Registration No.: 202319016955 Date of registration: July 23, 2024 Certificated by CNAS Registration No.: CNAS L5783 Date of registration: March 07, 2025 Certificated by A2LA Certificate Number:7404.01 Valid To: March 31.2027 FCC Designation No.: CN1412 Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. ISED (Company No.: 33959) The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0186 Certificated by VCCI Member No.3498 R-20091:G-20277:966 Chamber 2 Below 1 G G-20277:966 Chamber 2 above 1 G C-20064:Conducted Emissions at Mains ports T-20120:Conducted Emissions at Wired network port Date of Valid until: Step. 19, 2027 Certificated by Nemko Registration No.: ELA 814 Date of registration: September 25, 2024 Certificated by UL Registration No.: 100567237 Date of registration: September 25, 2024
Name of Firm	: Keyway Testing Technology(Guangdong) Co., Ltd.
Site Location	: Room 2102, Building 6, Dongyi Intelligent Equipment New Energy Vehicle Park, No.30 of Tangxia District, Dongshen Road, Tangxia Town, Dongguan, 523710, People's Republic of China

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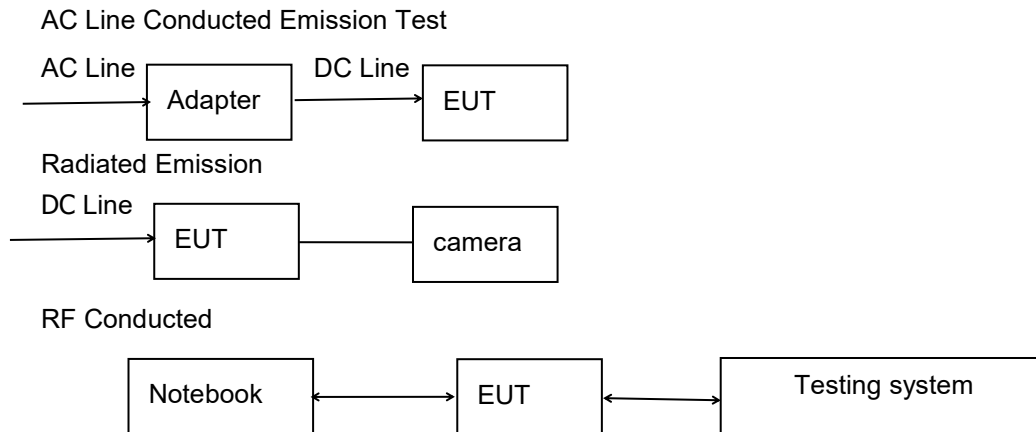
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2.4 Test Setup Configuration



2.5 Test Mode

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	wifi_test
Version number	1.0

Small size RU 52+26 Tone:

Bandwidth	Tones		Index	
20MHz	26	52	1	38
20MHz	52	26	38	4
20MHz	52	26	39	7

Small size RU 106+26 Tone:

Bandwidth	Tones		Index	
20MHz	106	26	53	4
20MHz	26	106	4	54

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Power setting in test

Mode	Channel/ Frequency (MHz)	Data rate	Power setting
802.11b	1 / 2412	1	12.0
	6 / 2437	1	12.0
	11 / 2462	1	12.0
802.11g	1 / 2412	6	12.0
	6 / 2437	6	12.0
	11 / 2462	6	12.0
802.11n(20MHz)	1 / 2412	MCS0	12.0
	6 / 2437	MCS0	12.0
	11 / 2462	MCS0	12.0
802.11n(40MHz)	3 / 2422	MCS0	12.0
	6 / 2437	MCS0	12.0
	9 / 2452	MCS0	12.0
802.11ax(20MHz)	1 / 2412	MCS0	12.0
	6 / 2437	MCS0	12.0
	11 / 2462	MCS0	12.0
802.11ax(40MHz)	3 / 2422	MCS0	12.0
	6 / 2437	MCS0	12.0
	9 / 2452	MCS0	12.0

Channel/ Frequency (MHz)	RU configure	Data rate	Power setting
1 / 2412	26 / 0	MCS0	6.5
1 / 2412	52 / 37	MCS0	6.5
1 / 2412	106 / 53	MCS0	6.5
11 / 2462	26 / 8	MCS0	6.5
11 / 2462	52 / 40	MCS0	6.5
11 / 2462	106 / 54	MCS0	6.5

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3 Equipment During Test

3.1 Equipments List

Equipment	Manufacturer	Model No.	Serial No.	Date of Cal.	Valid until
For conducted emission at the mains terminals and signal port test 944 Shielded Room					
Test Software	FARAD	EZ-EMC Ver.FARAD-3A1+	KWET-089	/	/
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Apr 14, 25	Apr 13, 26
ArtificialMains Network	Rohde&Schwarz	ENV216	101314	Mar 05, 25	Mar 04, 26
RF Cable	FUJIKURA	3D-2W	KWET-030	Apr 14, 25	Apr 13, 26
Socket	Gongniu	KWET-003A1	KWET-003A1	Feb 21, 25	Feb 20, 26
For radiated emission test (30MHz-1GHz)966 Chamber 2					
Test Software	FARAD	EZ-EMC Ver.FARAD-3A1+	KWET-087	/	/
EMI Test Receiver	Rohde&Schwarz	ESCI	101178	Apr 14, 25	Apr 13, 26
TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00829	May 10, 25	May 09, 26
3m Semi-anechoic Chamber	YIHENDIANZI	966	YH-KW-966-02	Mar 08, 24	Mar 07, 26
RF Cable	EMC Instruments	EMCCFD400-NM-NM-2000	240307	Apr 14, 25	Apr 13, 26
RF Cable	EMC Instruments	EMCCFD400-NM-NM-9000	240309	Apr 14, 25	Apr 13, 26
For radiated emission test (Above 1GHz)966 Chamber 2					
Test Software	FARAD	EZ-EMC Ver.FARAD-3A1+	KWET-087	/	/
EMI Test Receiver	Rohde&Schwarz	ESCI	101178	Apr 14, 25	Apr 13, 26
Spectrum Analyzer	Agilent	N9020A	MY56070279	Apr 14, 25	Apr 13, 26
Spectrum analyzer	R&S	FSV 40	101059	Nov 06, 24	Nov 05, 25
Horn Antenna	DAZE	ZN30701	11003	Jul 27, 25	Jul 26, 26
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1368	May 16, 25	May 15, 26
Signal Amplifier	WCS Technology	DLNA-18000-40000	KWET-138	Apr 19, 25	Apr 18, 26
3m anechoic Chamber	YIHENDIANZI	966	YH-KW-966-02	Mar 07, 25	Mar 06, 29
RF Cable(1G-18GHz)	EMC Instruments	EMC105-SM-SM-1000	240301	Apr 14, 25	Apr 13, 26
RF Cable(1G-18GHz)	EMC Instruments	EMC105-SM-SM-2000	240302	Apr 14, 25	Apr 13, 26
RF Cable(1G-18GHz)	EMC Instruments	EMC105-SM-SM-9000	240303	Apr 14, 25	Apr 13, 26
RF Cable(18G-40GHz)	WCS Technology	CA360P-29M29M-1M	W2415130001	Apr 14, 25	Apr 13, 26
RF Cable(18G-40GHz)	WCS Technology	CA360P-29M29M-9M	W2415110001	Apr 14, 25	Apr 13, 26

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For conducted emission test (RF)					
MXG Signal Analyzer	Agilent	N9020A	MY56070279	Apr 14, 25	Apr 13, 26
RF SWITCH BOX	CSKJ	SMU-1003	KWET-047	Apr 14, 25	Apr 13, 26
Attenuator	R&S	ESH3-Z2	102696	Apr 14, 25	Apr 13, 26
Power meter	YOKOKAWA	WY210	27D528405	Apr 14, 25	Apr 13, 26
RF sma cable	Keysight	ULC-1m-SMSM+	1623	May 15, 25	May 14, 26
RF sma cable	Keysight	ULC-1m-SMSM+	1623	May 15, 25	May 14, 26
RF sma cable	Keysight	ULC-1.5FT-SMSM+	1623	May 15, 25	May 14, 26
RF sma cable	Keysight	ULC-1.5FT-SMSM+	1623	May 15, 25	May 14, 26
Coupler	Keysight	ZHDC-10-63-S+	SF331801603	May 15, 25	May 14, 26
Test Software	CSKJ	CS-305X	KWET-149	/	/

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3.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Duty Cycle	±2%
Spurious emissions,conducted	±0.21dB
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(9KHz~30MHz)	±4.51dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB
Radiated Emission(25GHz~40GHz)	±3.38dB
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%	

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	DASH CAM	Pernis	S2	N/A	EUT
E-2	Notebook	lenovo	B40-80	MP07F6JD	Auxiliary
E-3	Car charger	Pernis	S2	N/A	Auxiliary

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

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4 Conducted Emission

Test Requirement:	: FCC CFR 47 Part 15 Section 15.207
Test Method	: ANSI C63.10-2020+Cor.1-2023
Test Result	: PASS
Frequency Range	: 150kHz to 30MHz
Class/Severity	: Class B
Detector:	: Peak for pre-scan (9kHz Resolution Bandwidth)

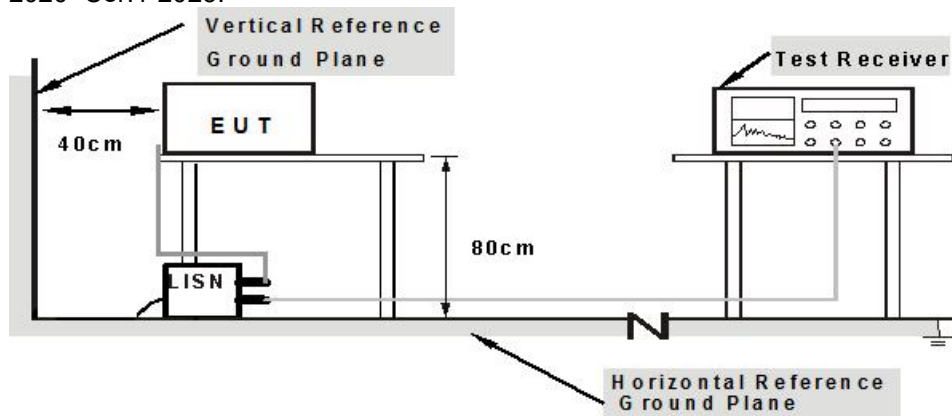
4.1 E.U.T. Operation

Operating Environment :

Temperature	: 24.5 °C
Humidity	: 51.3 % RH
Atmospheric Pressure	: 101.11kPa
Test Voltage	: AC 120V/60Hz

4.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020+Cor.1-2023.



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

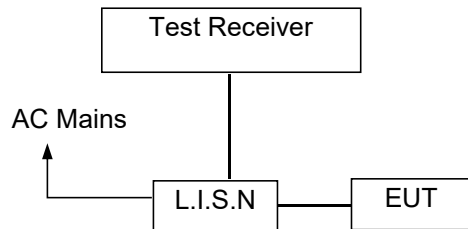
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4.3 Test SET-UP (Block Diagram of Configuration)



4.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

4.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.6 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

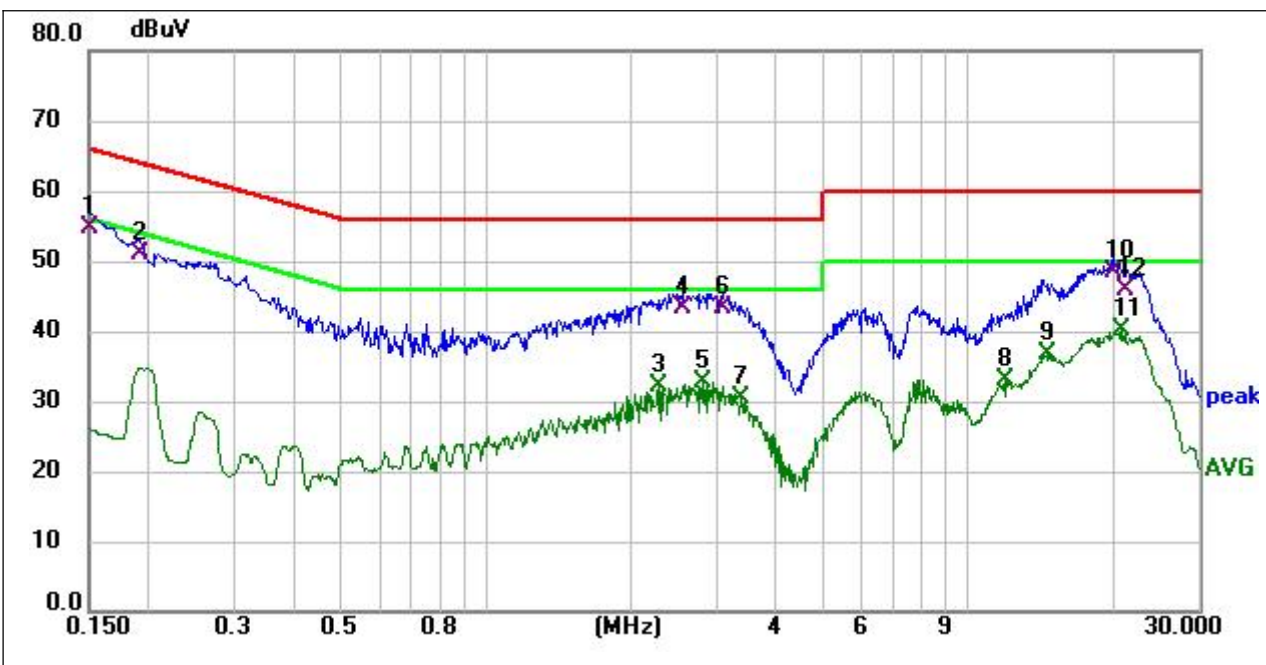
4.7 Conducted Emission Test Result

Pass.

Conducted emission at both 120V & 240V is assessed, and emission at 120V represents the worst case. All the modulation modes were tested the data of the worst mode (802.11n20 High Channel) are recorded in the following pages and the others modulation methods do not exceed the limits.



Channel:	High	Phase :	L
Model:	S2		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.150	44.21	10.50	54.71	66.00	-11.29	QP	P	
2	0.191	40.25	10.70	50.95	63.99	-13.04	QP	P	
3	2.287	21.72	10.55	32.27	46.00	-13.73	AVG	P	
4	2.557	32.85	10.57	43.42	56.00	-12.58	QP	P	
5	2.827	22.22	10.59	32.81	46.00	-13.19	AVG	P	
6	3.097	32.62	10.61	43.23	56.00	-12.77	QP	P	
7	3.367	19.82	10.63	30.45	46.00	-15.55	AVG	P	
8	11.975	21.08	12.05	33.13	50.00	-16.87	AVG	P	
9	14.575	23.96	12.64	36.60	50.00	-13.40	AVG	P	
10	20.000	35.38	13.05	48.43	60.00	-11.57	QP	P	
11 *	20.825	27.06	13.20	40.26	50.00	-9.74	AVG	P	
12	21.150	32.46	13.27	45.73	60.00	-14.27	QP	P	

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.

2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

3.Measurement Level = Reading level + Correct Factor

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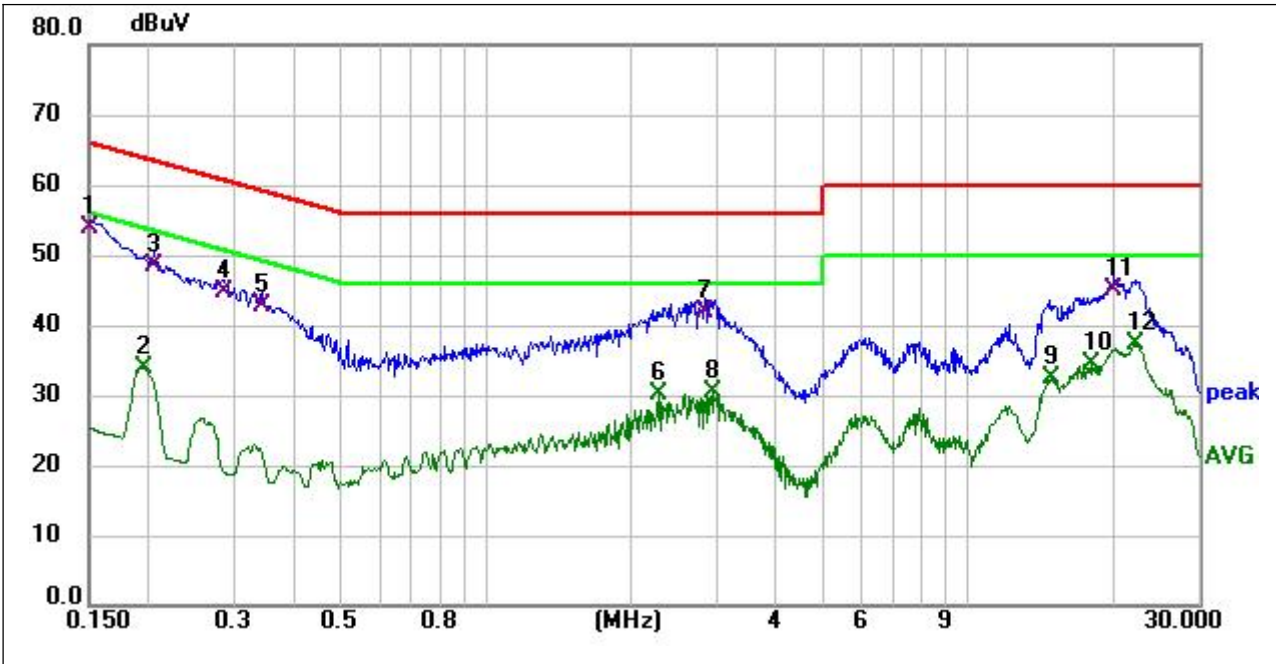
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Channel:	High	Phase :	N
Model:	S2		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.150	43.41	10.31	53.72	66.00	-12.28	QP	P	
2	0.195	23.34	10.48	33.82	53.83	-20.01	AVG	P	
3	0.204	38.06	10.44	48.50	63.45	-14.95	QP	P	
4	0.285	34.41	10.27	44.68	60.67	-15.99	QP	P	
5	0.344	32.55	10.30	42.85	59.11	-16.26	QP	P	
6	2.287	19.86	10.38	30.24	46.00	-15.76	AVG	P	
7	2.845	31.40	10.43	41.83	56.00	-14.17	QP	P	
8	2.962	19.96	10.44	30.40	46.00	-15.60	AVG	P	
9	14.875	19.50	12.96	32.46	50.00	-17.54	AVG	P	
10	18.025	21.34	13.21	34.55	50.00	-15.45	AVG	P	
11	20.075	31.70	13.36	45.06	60.00	-14.94	QP	P	
12	22.200	23.72	13.66	37.38	50.00	-12.62	AVG	P	

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.

2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

3.Measurement Level = Reading level + Correct Factor

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5 Radiated Spurious Emissions

Test Requirement : FCC CFR47 Part 15 Section 15.209 & 15.247
Test Method : ANSI C63.10-2020+Cor.1-2023
Test Result : PASS
Measurement Distance : 3m
Limit : See the follow table

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	$20\log^{(500)}$

5.1 EUT Operation

Operating Environment :

Temperature: : 24.5°C
Humidity: : 52 % RH
Atmospheric Pressure: : 101.11kPa
Test Voltage : DC5V, 1A From The Vehicle Charger By DC 12V Input

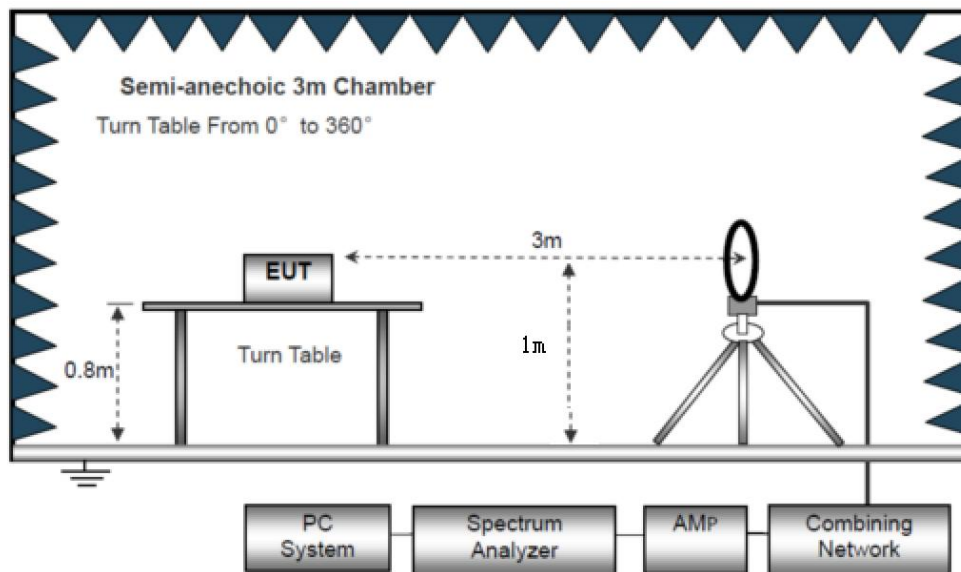
5.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

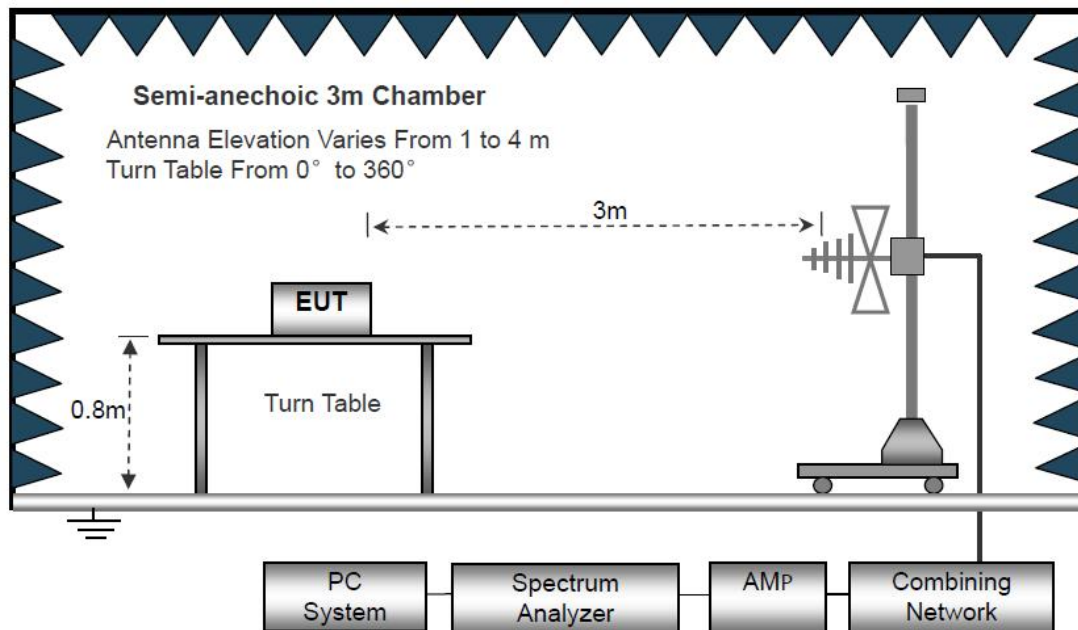
The test setup for emission measurement below 30MHz

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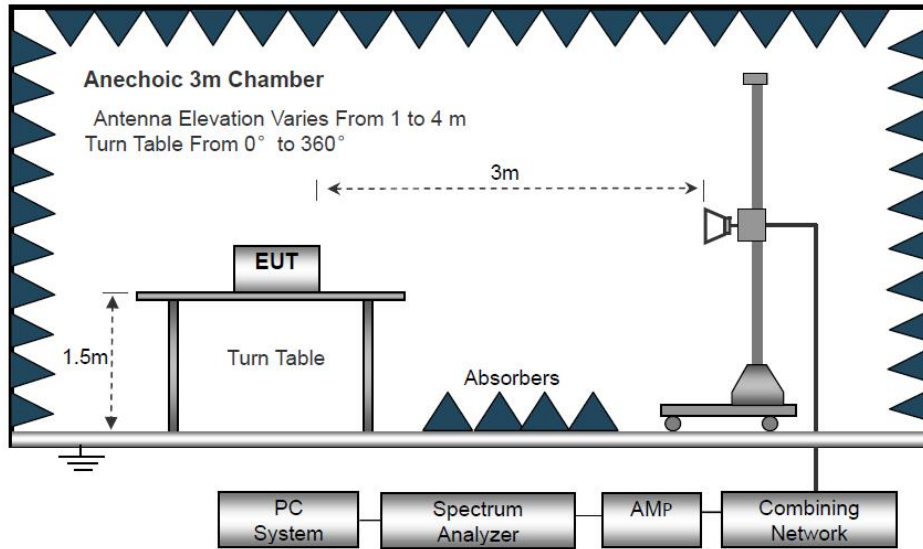
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The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz



5.3 Spectrum Analyzer Setup

Below 30MHz			
IF Bandwidth	:	10kHz	
Resolution Bandwidth	:	10kHz	
Video Bandwidth	:	10kHz	
30MHz ~ 1GHz			
Detector	:	PK	QP
Resolution Bandwidth	:	100kHz	120kHz
Video Bandwidth	:	300kHz	300kHz
Above 1GHz			
Detector	:	PK	AV
Resolution Bandwidth	:	1MHz	1MHz
Video Bandwidth	:	3MHz	10Hz

5.4 Test Procedure

- Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane, And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.
- The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

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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 tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
8. The test above 1GHz must be use the fully anechoic room, and the test below 1GHz use the half anechoic room

5.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	>20

Note:

The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor = $40\log(\text{Specific distance}/\text{test distance})$ (dB);

Limit line = Specific limits(dBuV) + distance extrapolation factor.

Test Frequency: 30MHz ~ 1GHz

All the modulation modes were tested the data of the worst mode (TX 802.11b Low Channel) are recorded in the following pages and the others modulation methods do not exceed the limits.

Please refer to the following test plots:

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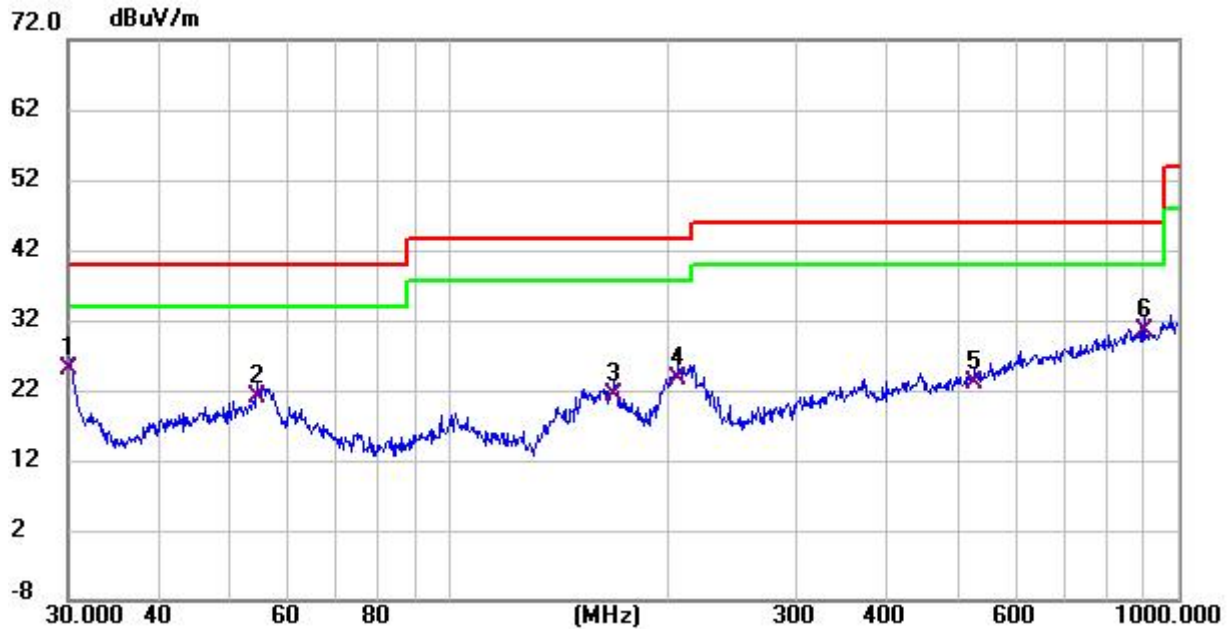
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Model:	S2	Polarization:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1 *	30.000	14.17	10.90	25.07	40.00	-14.93	QP	PASS
2	54.452	8.11	13.01	21.12	40.00	-18.88	QP	PASS
3	168.414	12.00	9.24	21.24	43.50	-22.26	QP	PASS
4	206.398	11.64	12.07	23.71	43.50	-19.79	QP	PASS
5	526.397	3.38	19.70	23.08	46.00	-22.92	QP	PASS
6	900.147	5.26	25.26	30.52	46.00	-15.48	QP	PASS

Remark:

Emission Level=Reading+Factor

Factor=Cable Loss+ANT Factor-Preamp Factor

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Model:	S2	Polarization:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1	30.000	20.06	7.60	27.66	40.00	-12.34	QP	PASS
2 *	57.796	14.20	14.09	28.29	40.00	-11.71	QP	PASS
3	106.013	11.85	12.22	24.07	43.50	-19.43	QP	PASS
4	183.201	15.56	10.23	25.79	43.50	-17.71	QP	PASS
5	535.707	7.38	19.91	27.29	46.00	-18.71	QP	PASS
6	938.832	3.50	25.57	29.07	46.00	-16.93	QP	PASS

Remark:

Emission Level=Reading+Factor

Factor=Cable Loss+ANT Factor-Preamplifier Factor

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**Test Frequency: From 1GHz to 25GHz**

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Low Channel:2412MHz									
V	4824	54.48	34.12	5.03	32.39	57.78	74	-16.22	PK
V	4824	38.92	34.12	5.03	32.39	42.22	54	-11.78	AV
V	7236	49.85	32.54	6.29	35.86	59.46	74	-14.54	PK
V	7236	35.12	32.54	6.29	35.86	44.73	54	-9.27	AV
V	9648	43.37	32.98	7.55	38.4	56.34	74	-17.66	PK
V	9648	31.86	32.98	7.55	38.4	44.83	54	-9.17	AV
V	12060	41.05	32.09	8.93	39	56.89	74	-17.11	PK
V	12060	31.65	32.09	8.93	39	47.49	54	-6.51	AV
H	4824	52.69	34.12	5.03	32.39	55.99	74	-18.01	PK
H	4824	39.67	34.12	5.03	32.39	42.97	54	-11.03	AV
H	7236	44.85	32.54	6.29	35.86	54.46	74	-19.54	PK
H	7236	34.69	32.54	6.29	35.86	44.30	54	-9.70	AV
H	9648	47.12	32.98	7.55	38.4	60.09	74	-13.91	PK
H	9648	31.04	32.98	7.55	38.4	44.01	54	-9.99	AV
H	12060	41.76	32.09	8.93	39	57.60	74	-16.40	PK
H	12060	28.51	32.09	8.93	39	44.35	54	-9.65	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:2437MHz									
V	4874	52.61	30.55	5.77	24.66	52.49	74	-21.51	PK
V	4874	43.47	30.55	5.77	24.66	43.35	54	-10.65	AV
V	7311	52.60	30.33	6.32	24.55	53.14	74	-20.86	PK
V	7311	43.68	30.33	6.32	24.55	44.22	54	-9.78	AV
V	9748	54.29	30.85	7.45	24.69	55.58	74	-18.42	PK
V	9748	44.75	30.85	7.45	24.69	46.04	54	-7.96	AV
V	12185	53.64	31.02	8.99	25.57	57.18	74	-16.82	PK
V	12185	44.16	31.02	8.99	25.57	47.70	54	-6.30	AV
H	4874	52.84	30.55	5.77	24.66	52.72	74	-21.28	PK
H	4874	41.44	30.55	5.77	24.66	41.32	54	-12.68	AV
H	7311	52.38	30.33	6.32	24.55	52.92	74	-21.08	PK
H	7311	42.78	30.33	6.32	24.55	43.32	54	-10.68	AV
H	9748	50.45	30.85	7.45	24.69	51.74	74	-22.26	PK
H	9748	42.54	30.85	7.45	24.69	43.83	54	-10.17	AV
H	12185	54.46	31.02	8.99	25.57	58.00	74	-16.00	PK
H	12185	41.41	31.02	8.99	25.57	44.95	54	-9.05	AV

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Polar	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
(H/V)	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:2462MHz									
V	4924	54.09	30.55	5.77	24.66	53.97	74	-20.03	PK
V	4924	41.75	30.55	5.77	24.66	41.63	54	-12.37	AV
V	7386	52.90	30.33	6.32	24.55	53.44	74	-20.56	PK
V	7386	42.75	30.33	6.32	24.55	43.29	54	-10.71	AV
V	9848	53.74	30.85	7.45	24.69	55.03	74	-18.97	PK
V	9848	42.24	30.85	7.45	24.69	43.53	54	-10.47	AV
V	12310	53.95	31.02	8.99	25.57	57.49	74	-16.51	PK
V	12310	43.78	31.02	8.99	25.57	47.32	54	-6.68	AV
H	4924	52.51	30.55	5.77	24.66	52.39	74	-21.61	PK
H	4924	44.85	30.55	5.77	24.66	44.73	54	-9.27	AV
H	7386	55.57	30.33	6.32	24.55	56.11	74	-17.89	PK
H	7386	44.27	30.33	6.32	24.55	44.81	54	-9.19	AV
H	9848	53.84	30.85	7.45	24.69	55.13	74	-18.87	PK
H	9848	42.77	30.85	7.45	24.69	44.06	54	-9.94	AV
H	12310	53.40	31.02	8.99	25.57	56.94	74	-17.06	PK
H	12310	43.88	31.02	8.99	25.57	47.42	54	-6.58	AV

Note:

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. We test all the mode and recorded the worst mode (802.11b) in the report.

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Radiated Band Emission Measurement:

	Polar (H/V)	Frequenc y (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Detec tor Type	Result
802.11b	Low Channel 2412MHz									
	H	2390	58.28	35.17	3.48	27.49	54.08	74	PK	PASS
	H	2390	50.25	35.17	3.48	27.49	46.05	54	AV	PASS
	H	2400	61.93	35.16	3.49	27.52	57.78	74	PK	PASS
	H	2400	52.39	35.16	3.49	27.52	48.24	54	AV	PASS
	V	2390	59.52	35.17	3.48	27.49	55.32	74	PK	PASS
	V	2390	52.84	35.17	3.48	27.49	48.64	54	AV	PASS
	V	2400	60.25	35.16	3.49	27.52	56.10	74	PK	PASS
	V	2400	52.17	35.16	3.49	27.52	48.02	54	AV	PASS
	High Channel 2462MHz									
	H	2483.5	59.34	35.11	3.56	27.75	55.54	74	PK	PASS
	H	2483.5	49.19	35.11	3.56	27.75	45.39	54	AV	PASS
	H	2500	60.11	35.1	3.57	27.8	56.38	74	PK	PASS
	H	2500	52.18	35.1	3.57	27.8	48.45	54	AV	PASS
	V	2483.5	59.21	35.11	3.56	27.75	55.41	74	PK	PASS
	V	2483.5	50.62	35.11	3.56	27.75	46.82	54	AV	PASS
	V	2500	58.77	35.1	3.57	27.8	55.04	74	PK	PASS
	V	2500	51.37	35.1	3.57	27.8	47.64	54	AV	PASS
802.11g	Low Channel 2412MHz									
	H	2390	57.26	35.17	3.48	27.49	53.06	74	PK	PASS
	H	2390	50.69	35.17	3.48	27.49	46.49	54	AV	PASS
	H	2400	60.11	35.16	3.49	27.52	55.96	74	PK	PASS
	H	2400	51.07	35.16	3.49	27.52	46.92	54	AV	PASS

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	V	2390	58.09	35.17	3.48	27.49	53.89	74	PK	PASS
	V	2390	49.43	35.17	3.48	27.49	45.23	54	AV	PASS
	V	2400	59.57	35.16	3.49	27.52	55.42	74	PK	PASS
	V	2400	50.47	35.16	3.49	27.52	46.32	54	AV	PASS
	High Channel 2462MHz									
	H	2483.5	56.74	35.11	3.56	27.75	52.94	74	PK	PASS
	H	2483.5	48.39	35.11	3.56	27.75	44.59	54	AV	PASS
	H	2500	58.26	35.1	3.57	27.8	54.53	74	PK	PASS
	H	2500	51.16	35.1	3.57	27.8	47.43	54	AV	PASS
	V	2483.5	58.58	35.11	3.56	27.75	54.78	74	PK	PASS
	V	2483.5	50.48	35.11	3.56	27.75	46.68	54	AV	PASS
	V	2500	58.71	35.1	3.57	27.8	54.98	74	PK	PASS
	V	2500	49.95	35.1	3.57	27.8	46.22	54	AV	PASS
802.11 n20	Low Channel 2412MHz									
	H	2390	57.68	35.17	3.48	27.49	53.48	74	PK	PASS
	H	2390	50.48	35.17	3.48	27.49	46.28	54	AV	PASS
	H	2400	61.58	35.16	3.49	27.52	57.43	74	PK	PASS
	H	2400	49.19	35.16	3.49	27.52	45.04	54	AV	PASS
	V	2390	57.61	35.17	3.48	27.49	53.41	74	PK	PASS
	V	2390	50.17	35.17	3.48	27.49	45.97	54	AV	PASS
	V	2400	60.90	35.16	3.49	27.52	56.75	74	PK	PASS
	V	2400	48.75	35.16	3.49	27.52	44.60	54	AV	PASS
	High Channel 2462MHz									
	H	2483.5	58.15	35.11	3.56	27.75	54.35	74	PK	PASS
	H	2483.5	47.96	35.11	3.56	27.75	44.16	54	AV	PASS
	H	2500	61.17	35.1	3.57	27.8	57.44	74	PK	PASS

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	H	2500	51.88	35.1	3.57	27.8	48.15	54	AV	PASS
	V	2483.5	59.33	35.11	3.56	27.75	55.53	74	PK	PASS
	V	2483.5	49.96	35.11	3.56	27.75	46.16	54	AV	PASS
	V	2500	60.33	35.1	3.57	27.8	56.60	74	PK	PASS
	V	2500	52.18	35.1	3.57	27.8	48.45	54	AV	PASS
802.11 n40	Low Channel 2422MHz									
	H	2390	56.70	35.17	3.48	27.49	52.50	74	PK	PASS
	H	2390	49.18	35.17	3.48	27.49	44.98	54	AV	PASS
	H	2400	58.67	35.16	3.49	27.52	54.52	74	PK	PASS
	H	2400	49.58	35.16	3.49	27.52	45.43	54	AV	PASS
	V	2390	57.90	35.17	3.48	27.49	53.70	74	PK	PASS
	V	2390	49.50	35.17	3.48	27.49	45.30	54	AV	PASS
	V	2400	58.77	35.16	3.49	27.52	54.62	74	PK	PASS
	V	2400	47.83	35.16	3.49	27.52	43.68	54	AV	PASS
	High Channel 2452MHz									
	H	2483.5	56.83	35.11	3.56	27.75	53.03	74	PK	PASS
	H	2483.5	48.13	35.11	3.56	27.75	44.33	54	AV	PASS
	H	2500	60.22	35.1	3.57	27.8	56.49	74	PK	PASS
	H	2500	49.03	35.1	3.57	27.8	45.30	54	AV	PASS
	V	2483.5	58.03	35.11	3.56	27.75	54.23	74	PK	PASS
	V	2483.5	50.92	35.11	3.56	27.75	47.12	54	AV	PASS
	V	2500	58.69	35.1	3.57	27.8	54.96	74	PK	PASS
	V	2500	50.35	35.1	3.57	27.8	46.62	54	AV	PASS
802.11 ax20	Low Channel 2412MHz									
	H	2390	57.27	35.17	3.48	27.49	53.07	74	PK	PASS
	H	2390	51.32	35.17	3.48	27.49	47.12	54	AV	PASS

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	H	2400	62.33	35.16	3.49	27.52	58.18	74	PK	PASS
	H	2400	48.38	35.16	3.49	27.52	44.23	54	AV	PASS
	V	2390	57.65	35.17	3.48	27.49	53.45	74	PK	PASS
	V	2390	50.87	35.17	3.48	27.49	46.67	54	AV	PASS
	V	2400	60.99	35.16	3.49	27.52	56.84	74	PK	PASS
	V	2400	48.72	35.16	3.49	27.52	44.57	54	AV	PASS
	High Channel 2462MHz									
	H	2483.5	55.01	35.11	3.56	27.75	51.21	74	PK	PASS
	H	2483.5	49.11	35.11	3.56	27.75	45.31	54	AV	PASS
	H	2500	60.68	35.1	3.57	27.8	56.95	74	PK	PASS
	H	2500	47.94	35.1	3.57	27.8	44.21	54	AV	PASS
	V	2483.5	57.26	35.11	3.56	27.75	53.46	74	PK	PASS
	V	2483.5	51.55	35.11	3.56	27.75	47.75	54	AV	PASS
	V	2500	58.03	35.1	3.57	27.8	54.30	74	PK	PASS
	V	2500	50.42	35.1	3.57	27.8	46.69	54	AV	PASS
802.11 ax40	Low Channel 2422MHz									
	H	2390	55.87	35.17	3.48	27.49	51.67	74	PK	PASS
	H	2390	50.09	35.17	3.48	27.49	45.89	54	AV	PASS
	H	2400	57.85	35.16	3.49	27.52	53.70	74	PK	PASS
	H	2400	49.60	35.16	3.49	27.52	45.45	54	AV	PASS
	V	2390	57.24	35.17	3.48	27.49	53.04	74	PK	PASS
	V	2390	49.97	35.17	3.48	27.49	45.77	54	AV	PASS
	V	2400	59.37	35.16	3.49	27.52	55.22	74	PK	PASS
	V	2400	47.29	35.16	3.49	27.52	43.14	54	AV	PASS
	High Channel 2452MHz									
	H	2483.5	55.84	35.11	3.56	27.75	52.04	74	PK	PASS

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	H	2483.5	48.29	35.11	3.56	27.75	44.49	54	AV	PASS
	H	2500	60.53	35.1	3.57	27.8	56.80	74	PK	PASS
	H	2500	48.46	35.1	3.57	27.8	44.73	54	AV	PASS
	V	2483.5	57.22	35.11	3.56	27.75	53.42	74	PK	PASS
	V	2483.5	51.33	35.11	3.56	27.75	47.53	54	AV	PASS
	V	2500	58.75	35.1	3.57	27.8	55.02	74	PK	PASS
	V	2500	50.65	35.1	3.57	27.8	46.92	54	AV	PASS

Remark:

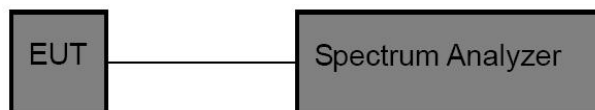
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit



6 Conduct Band Edge And Spurious Emissions Measurement

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10-2020+Cor.1-2023
Test Limit	:	Regulation 15.247 (d), 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 §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)).

6.1 Test Setup



6.2 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: RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold

6.3 Test Result

Please see the attachment for WIFI2.4G data.



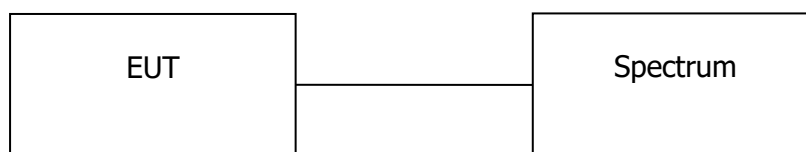
7 6dB&99% Bandwidth Measurement

Test Requirement : FCC CFR47 Part 15 Section 15.247

Test Method : ANSI C63.10-2020+Cor.1-2023

Test Limit : Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

7.1 Test Setup



7.2 Test Procedure

The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.2 (6dB BW).

For 99% Bandwidth:

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

The following procedure shall be used for measuring 99% power bandwidth:

- 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.
- 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.
- Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.6.2.
- Step a) through step c) might require iteration to adjust within the specified range.

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e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall

be used. Otherwise, peak detection and max-hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument

display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

For 6dB Bandwidth:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., $RBW = 100\text{ kHz}$,

$VBW \geq 3 \times RBW$, and peak detector with maximum hold) is implemented by the instrumentation function.

When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be $\geq 6\text{ dB}$.

7.3 Test Result

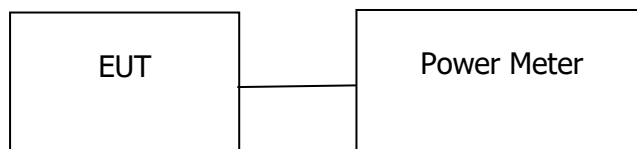
Please see the attachment for WIFI2.4G data.



8 Maximum Peak Output Power

Test Requirement	: FCC CFR47 Part 15 Section 15.247
Test Method	: ANSI C63.10-2020+Cor.1-2023
Test Limit	: Regulation 15.247 (b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.

8.1 Test Setup



8.2 Test Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance and C63.10 section 11.9.1 for Maximum peak conducted output power.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum analyzer

Power Meter:

It is used as the auxiliary test equipment to conduct the output power measurement.

4. Record the max. Reading as observed from Spectrum or Power Meter.

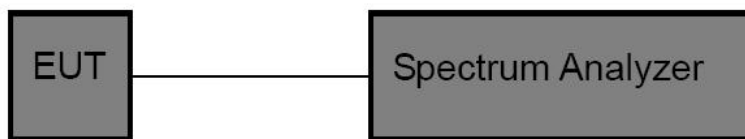
8.3 Test Result

Please see the attachment for WIFI2.4G data.

9 Power Spectral density

Test Requirement	: FCC CFR47 Part 15 Section 15.247
Test Method	: ANSI C63.10-2020+Cor.1-2023
Test Limit	: Regulation 15.247(f) The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

9.1 Test Setup



9.2 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: RBW = 3kHz. VBW = 10kHz, Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. 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.

9.3 Test Result

Please see the attachment for WIFI2.4G data.

10 On Time and Duty Cycle

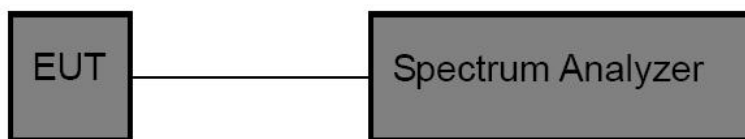
10.1 Standard Applicable

None: for reporting purpose only.

10.2 Measuring Instruments and Setting

Please refer to equipment's list in this report. The following table is the setting of the spectrum analyzer.

10.3 Test Setup



10.4 Test Procedures

1. Set the centre frequency of the spectrum analyzer to the transmitting frequency;
2. Set the span=0MHz, RBW=8MHz, VBW=8MHz, Set detector = peak;
3. Detector = RMS;
4. Trace mode = Single hold.

10.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

10.6 Test result

Please see the attachment for WIFI2.4G data.

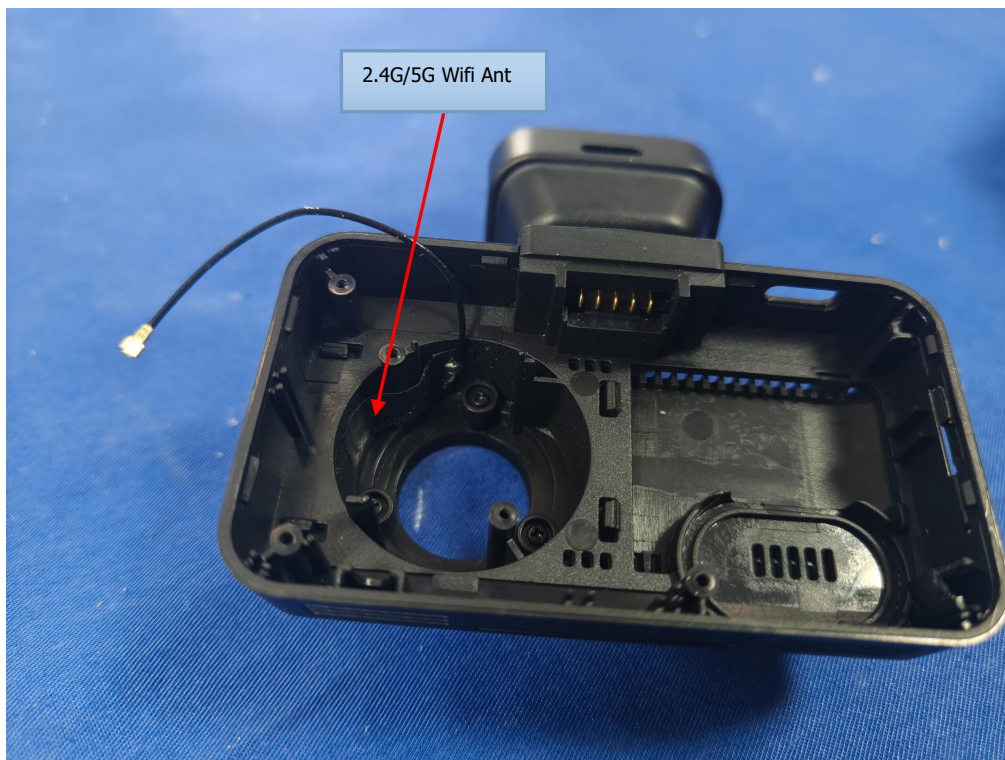
11 Antenna Application

11.1 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2 Result

The EUT'S antenna, permanent attached antenna, is Internal Antenna. The antenna's gain is Antenna: 1.51dBi @ 2.4GHz; 1.65dBi @ 5.2GHz; 2.55dBi @ 5.8GHz, and meets the requirement.





12 Test Setup and EUT Photos

Reference to the attachment for details.

*******THE END REPORT*******