FCC RADIO TEST REPORT

FCC ID: 2BN6E-4DKANKAN

Sample : 3D Capture System

Trade Mark : 4DKanKan

Main Model : 4DKanKan Minion

Additional Model : N/A

Report No. : UNIA25021408ER-63

Prepared for

Zhuhai 4DAGE Technology Co., Ltd.

2-101-2,Building 2,Tech Bay,NO.1 Jintang Road,Tangjiawan,
High-Tech Zone,Zhuhai,China

Prepared by

Shenzhen United Testing Technology Co., Ltd.

D101&D401, No. 107, Kaicheng High-Tech Park, Taoyuan Community,
Dalang Sub-District, Longhua District, Shenzhen, Guangdong, China

TEST RESULT CERTIFICATION

Applicant	:	Zhuhai 4DAGE Technology Co., Ltd.
Address	:	2-101-2,Building 2,Tech Bay,NO.1 Jintang Road,Tangjiawan, High-Tech Zone,Zhuhai,China
Manufacturer	:	Zhuhai 4DAGE Technology Co., Ltd.
Address	:	2-101-2,Building 2,Tech Bay,NO.1 Jintang Road,Tangjiawan, High-Tech Zone,Zhuhai,China

Product description

Product	:	3D Capture System
Trade Mark	:	4DKanKan
Model Name	:	4DKanKan Minion
Test Methods	:	FCC Rules and Regulations Part 15 Subpart E Section 15.407 ANSI C63.10: 2013

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., 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, this document may be altered or revised by Shenzhen United Testing Technology Co., Ltd., personnel only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests	:	Feb. 27, 2025 ~ Apr. 02, 2025
Date of Issue	:	Apr. 02, 2025
Test Result	:	Pass

Edited by: Abe Yang

Reviewed by: Kelly Cheng

Approved by: Liuze

Table of Contents Page

Table of Contents Page

1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

Item	FCC Rules	Description Of Test	Result
1	FCC Part 15.407	6dB Bandwidth	Pass
2	FCC Part 15.407	Emission Bandwidth	Pass
3	FCC Part 15.407	Maximum conducted output power	Pass
4	FCC Part 15.407	Conducted Spurious Emission	Pass
5	FCC Part 15.407	Maximum Conducted Output Power Density	Pass
6	FCC Part 15.209	Radiated Emission	Pass
7	FCC Part 15.407	Band Edges	Pass
8	FCC Part 15.207	Line Conduction Emission	Pass
9	FCC Part 15.203	Antenna Requirement	Pass

Note:

1. “N/A” denotes test is not applicable in this Test Report.

2.EUT has two antennas and cannot transmit at the same time

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address : D101&D401, No. 107, Kaicheng High-Tech Park, Taoyuan Community, Dalang Sub-District, Longhua District, Shenzhen, Guangdong, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01
The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885
The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 31584
The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
UNI	ANSI	9kHz ~ 150kHz	2.96
		150kHz ~ 30MHz	2.44

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
UNI	ANSI	9kHz ~ 30MHz	2.50
		30MHz ~ 1000MHz	4.80
		1000MHz ~ 18000MHz	4.13

C. RF Conducted Method:

Item	Measurement Uncertainty
Uncertainty of total RF power, conducted	U_c = ±0.8 dB
Uncertainty of RF power density, conducted	U_c = ±2.6 dB
Uncertainty of spurious emissions, conducted	U_c = ±2 %
Uncertainty of Occupied Channel Bandwidth	U_c = ±2 %

1.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 °C
Relative Humidity:	30~60 %
Air Pressure:	950~1050 hPa

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product:	3D Capture System
Trade Mark:	4DKanKan
Main Model:	4DKanKan Minion
Additional Model:	N/A
Model Difference:	N/A
FCC ID:	2BN6E-4DKANKAN
Operation Frequency:	Band 1: 5150 MHz～5250MHz Band 4: 5725 MHz～5850MHz
Modulation Type:	802.11a/n20/ac20 802.11n40/ac40 802.11ac80 BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM, OFDM
Maximum Peak Conducted Output Power:	Band 1: 18.95dBm Band 4: 18.58dBm
Antenna Type:	External Antenna
Antenna Gain:	ANT 1 B1:3.69dBi,B4:2.95dBi ANT 2 B1:3.69dBi,B4:2.95dBi
Battery:	DC 14.52V
Adapter:	INPUT: 100-240VAC, 50/60Hz, 1.3A OUTPUT:19V- 4.74A
Power Source:	DC 19V from adapter or DC 14.52V from Li-battery

2.2 CARRIER FREQUENCY OF CHANNELS

Frequency Band	Channel Number	Frequency	Frequency Band	Channel Number	Frequency
5150 MHz ~ 5250MHz	36	5180 MHz	5725 MHz ~ 5850MHz	149	5745 MHz
	38	5190 MHz		151	5755 MHz
	40	5200 MHz		153	5765 MHz
	42	5210 MHz		155	5775 MHz
	44	5220 MHz		157	5785 MHz
	46	5230 MHz		159	5795 MHz
	48	5240 MHz		165	5825MHz

Note: For 20MHz bandwidth system use Channel 36, 40, 48, 149, 157, 165; For 40MHz bandwidth system use Channel 38, 46, 151, 159.For 80MHz bandwidth system use Channel 42,155.

2.3 TEST MODE

Mode	Available channel	Tested channel	Modulation	Date rate(Mbps)
802.11a/n20/ac20	36, 40, 44, 48, 149, 153, 157, 165	36, 40, 48, 149, 157, 165	OFDM	6Mbps/MCS0
802.11n40/ac40	38, 46, 151, 159;	38, 46, 151, 159	OFDM	MCS0
802.11ac80	42, 155	42, 155	OFDM	MCS0

Note:

1. The EUT has been set to operate continuously on tested channel individually, and the EUT is operating at its maximum duty cycle>or equal 98%.
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

2.4 DESCRIPTION OF THE TEST MODES

During the measurement the environmental conditions were within the listed ranges:

Voltage	Normal Voltage	DC 14.52V
	High Voltage	DC 15.972V
	Low Voltage	DC 13.068V
Other	Normal Temperature	24°C
	Relative Humidity	55 %
	Air Pressure	989 hPa

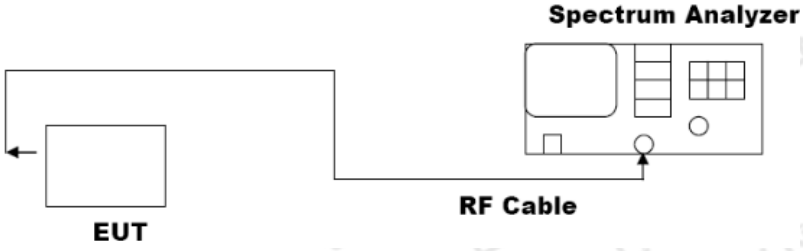
Note: All modes were test at Normal Voltage, High Voltage, and Low Voltage, only the worst results of Normal Voltage was reported in the test report.

2.5 TEST SETUP

Operation of EUT during Conducted testing:

Operation of EUT during Radiation testing:

Operation of EUT during RF Conducted testing:



2.6 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

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	Model/Type No.	Cable Length(m)	Note
1	3D Capture System	4DKanKan Minion	--	EUT

2	Adapter	GST90A19	--	AE

Note:

1. The support equipment was authorized by Declaration of Confirmation.
2. All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

2.7 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Conduction Emissions Measurement					
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2025.06.11
3	AAN	TESEQ	T8-Cat6	38888	2025.06.11
4	Pulse Limiter	CYBRTEK	EM5010	E115010056	2025.06.11
5	EMI Test Receiver	Rohde&Schwarz	ESCI	101210	2025.06.11
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2025.07.14
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2025.07.28
4	PREAMP	HP	8449B	3008A00160	2025.06.11
5	PREAMP	HP	8447D	2944A07999	2025.06.11
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2025.06.11
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2025.06.11
8	Signal Generator	Agilent	E4421B	MY4335105	2025.06.11
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2025.06.11
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2025.06.11
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2025.06.11
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2025.06.11
13	RF power divider	Anritsu	K241B	992289	2025.06.11
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2025.06.11
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2025.06.11
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2025.09.22
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2025.07.14
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2025.07.14
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2025.09.22
20	Signal Generator	Agilent	N5183A	MY47420153	2025.09.22
21	Spctrum Analyzer	Rohde&Schwarz	FSP 40	100501	2025.09.22
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2025.09.22
23	Frequency Meter	VICTOR	VC2000	997406086	2025.09.22
24	DC Power Source	HYELEC	HY5020E	055161818	2025.09.22

3 CONDUCTED EMISSION

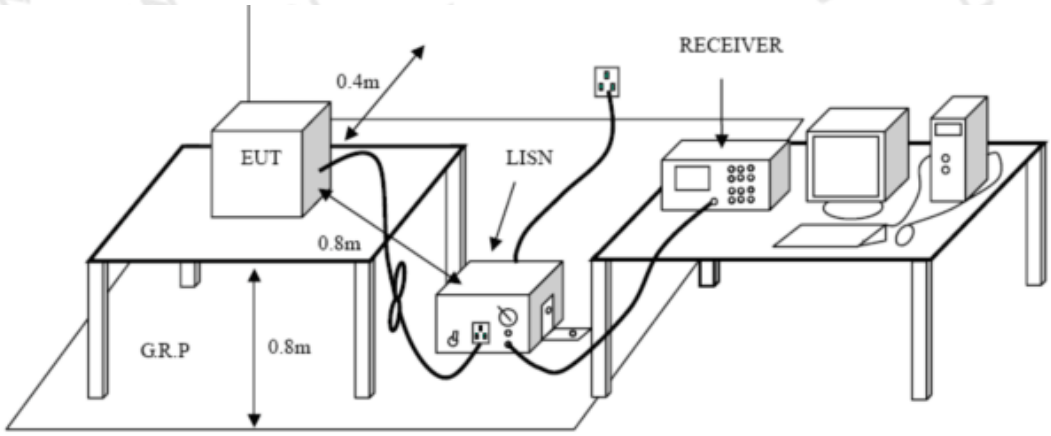
3.1 TEST LIMIT

For unintentional device, according to § 15.207(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency.
For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 TEST SETUP



3.3 TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is placed on a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

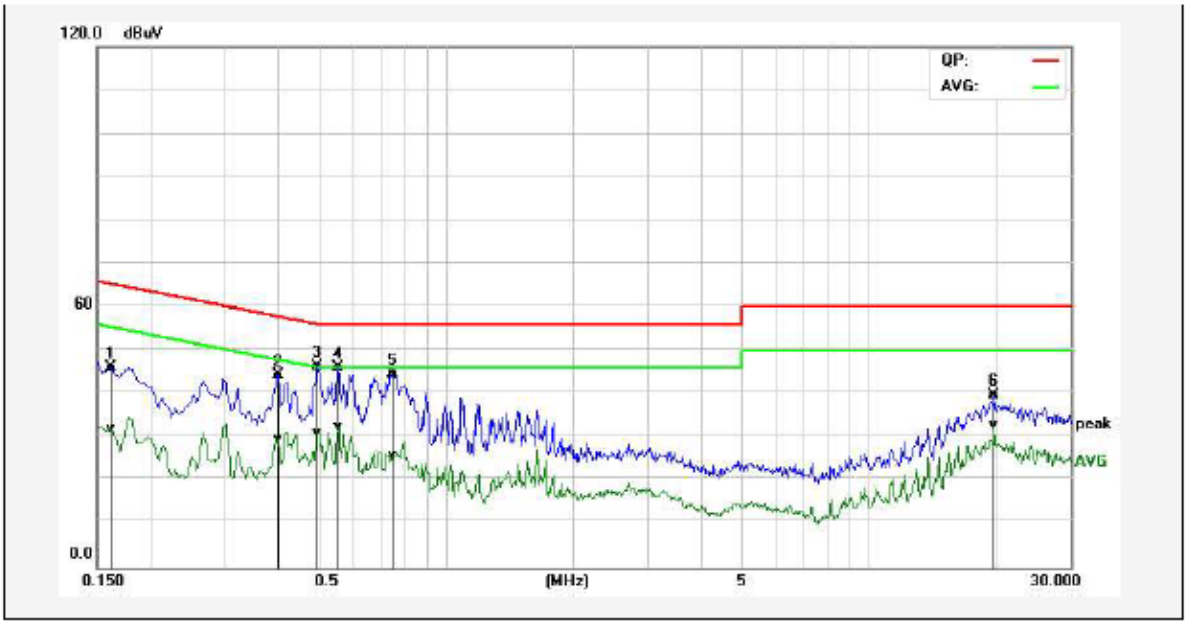
3.4 TEST RESULT

PASS

Remark:

1. All modes were test at Low, Middle, and High channel, only the worst result of Band 1 802.11a Low Channel was reported for below 1GHz test.
2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, and test data recorded in this report.

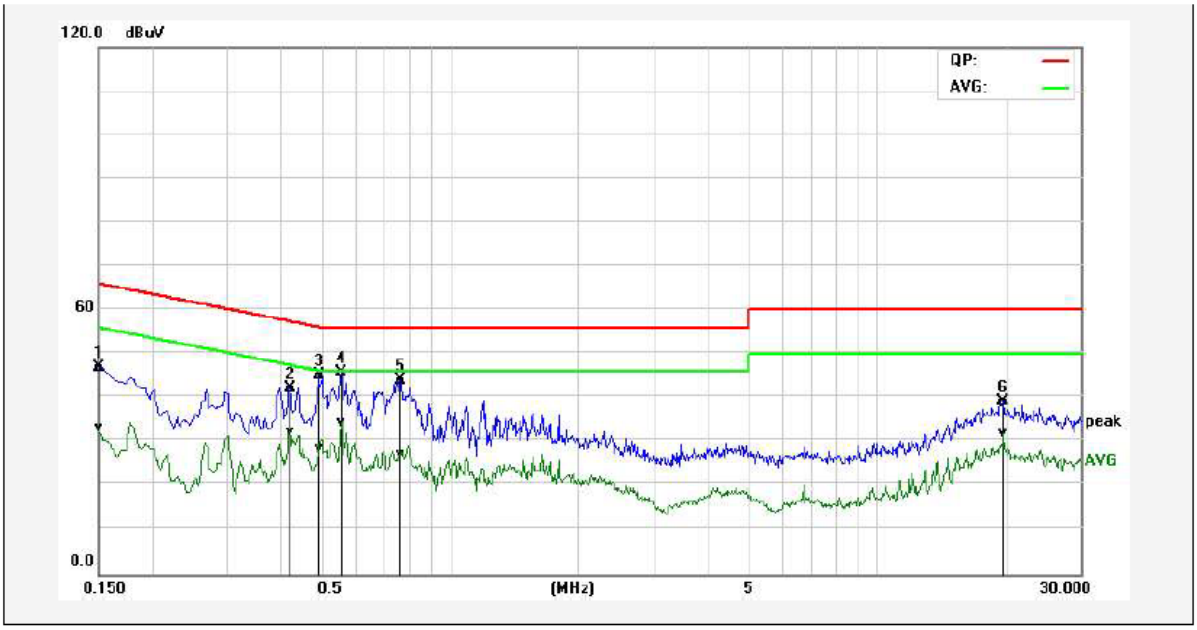
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Line
Test Mode:	Transmitting mode of Band 1		



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.1620	36.00	21.92	10.13	46.13	32.05	65.36	55.36	-19.23	-23.31	Pass
2P	0.4020	34.28	19.55	10.11	44.39	29.66	57.81	47.81	-13.42	-18.15	Pass
3*	0.4980	36.30	21.01	10.08	46.38	31.09	56.03	46.03	-9.65	-14.94	Pass
4P	0.5580	35.89	22.54	10.08	45.97	32.62	56.00	46.00	-10.03	-13.38	Pass
5P	0.7500	34.55	15.96	10.11	44.66	26.07	56.00	46.00	-11.34	-19.93	Pass
6P	19.7979	29.06	22.09	10.73	39.79	32.82	60.00	50.00	-20.21	-17.18	Pass

Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Neutral
Test Mode:	Transmitting mode of Band 1		



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1P	0.1516	36.88	22.89	10.12	47.00	33.01	65.91	55.91	-18.91	-22.90	Pass
2P	0.4220	31.96	22.28	10.10	42.06	32.38	57.41	47.41	-15.35	-15.03	Pass
3P	0.4940	34.98	18.35	10.08	45.06	28.43	56.10	46.10	-11.04	-17.67	Pass
4*	0.5580	35.64	24.42	10.08	45.72	34.50	56.00	46.00	-10.28	-11.50	Pass
5P	0.7660	33.79	17.02	10.11	43.90	27.13	56.00	46.00	-12.10	-18.87	Pass
6P	19.7979	28.36	21.14	10.73	39.09	31.87	60.00	50.00	-20.91	-18.13	Pass

Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

4 RADIATED EMISSION

4.1 TEST LIMIT

For unintentional device, according to §15.209(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	Quasi-peak	300
0.490MHz-1.705MHz	24000/F (kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3
		74.0	Peak	3

Limit calculation and transfer to 3m distance as showed in the following table:

Frequency (MHz)	**Limit (dBuV/m)**	**Distance (m)**
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

For intentional device, according to §15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

Limits of unwanted emission out of the restricted bands

Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)
5150~5250	-27	68.2
5250~5350	-27	68.2
5470~5725	-27	68.2
5725~5850	-27(Note 2)	68.2
	10(Note 2)	105.2
	15.6(Note 2)	110.8
	27(Note 2)	122.2

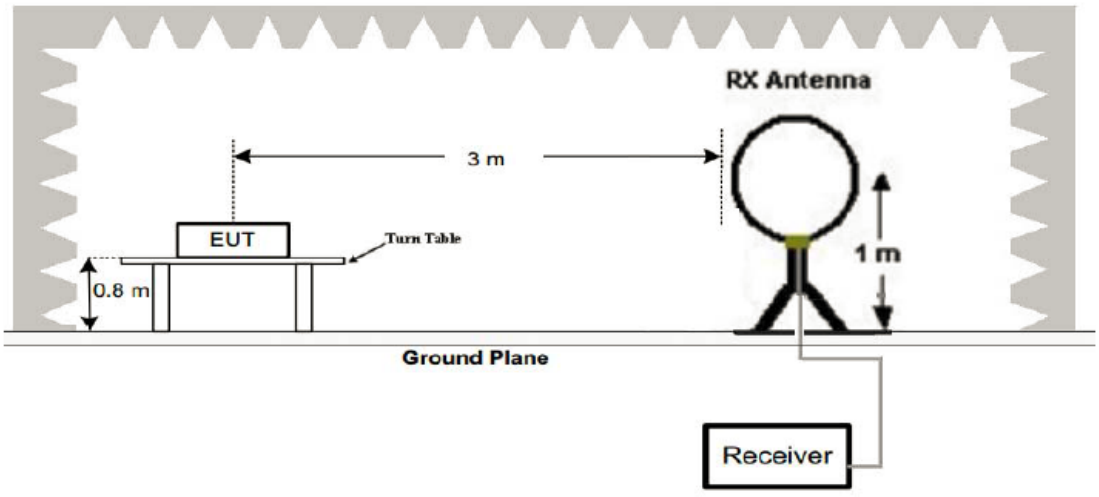
NOTE:
1, The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E=\frac{1000000\sqrt{30P}}{3}$$ uV/m, where P is the eirp (Watts)

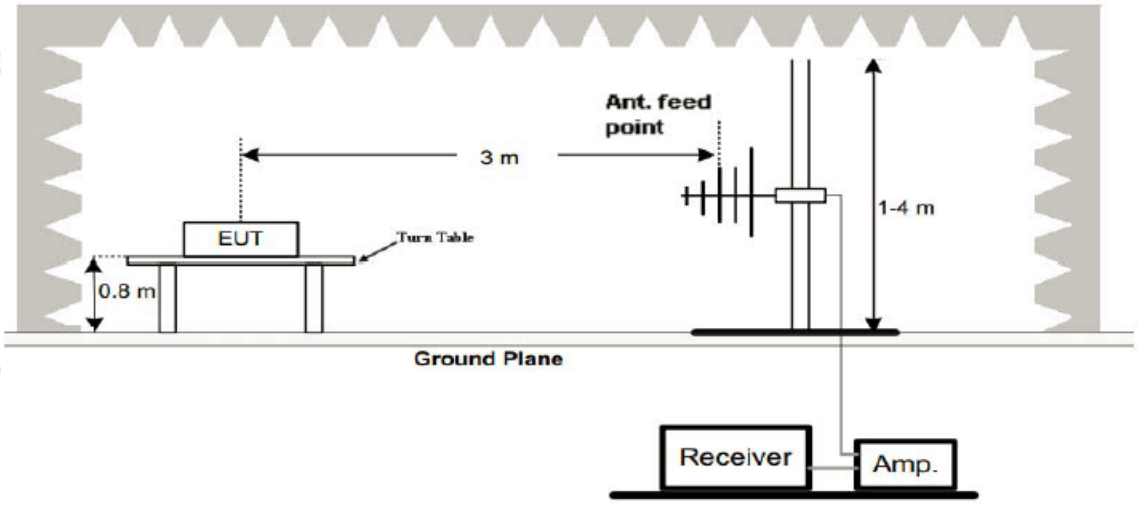
2, According to FCC 16-24,All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

4.2 TEST SETUP

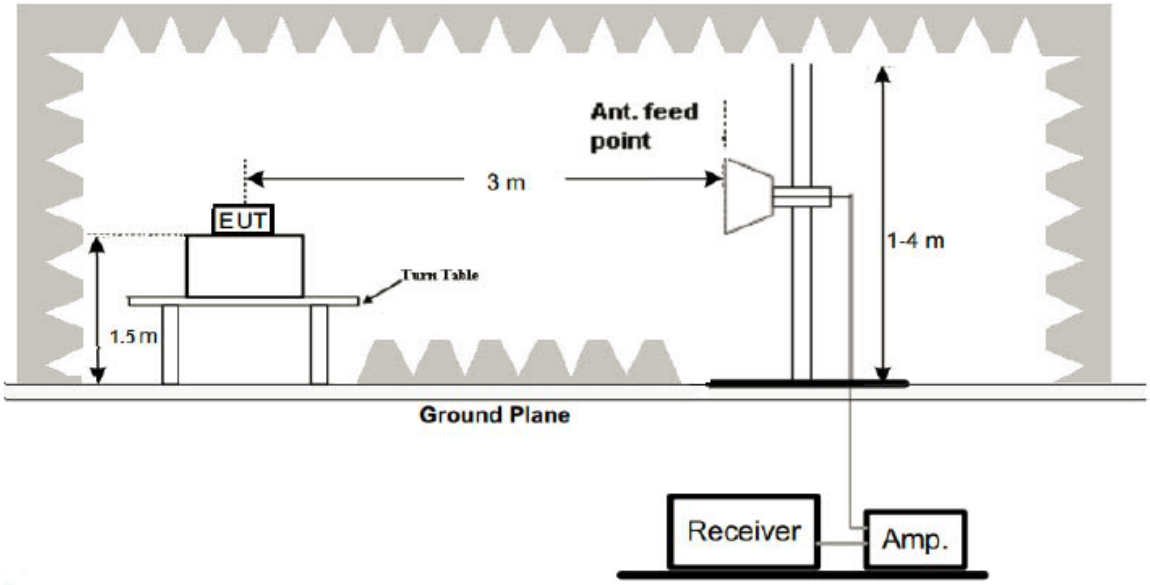
1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



3. Radiated Emission Test-Up Frequency Above 1GHz



4.3 TEST PROCEDURE

1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
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 varied from 1m to 4m to find out the highest 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 test frequency range from 9kHz to 25GHz per FCC PART 15.33(a).

Note: For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 TEST RESULT

PASS

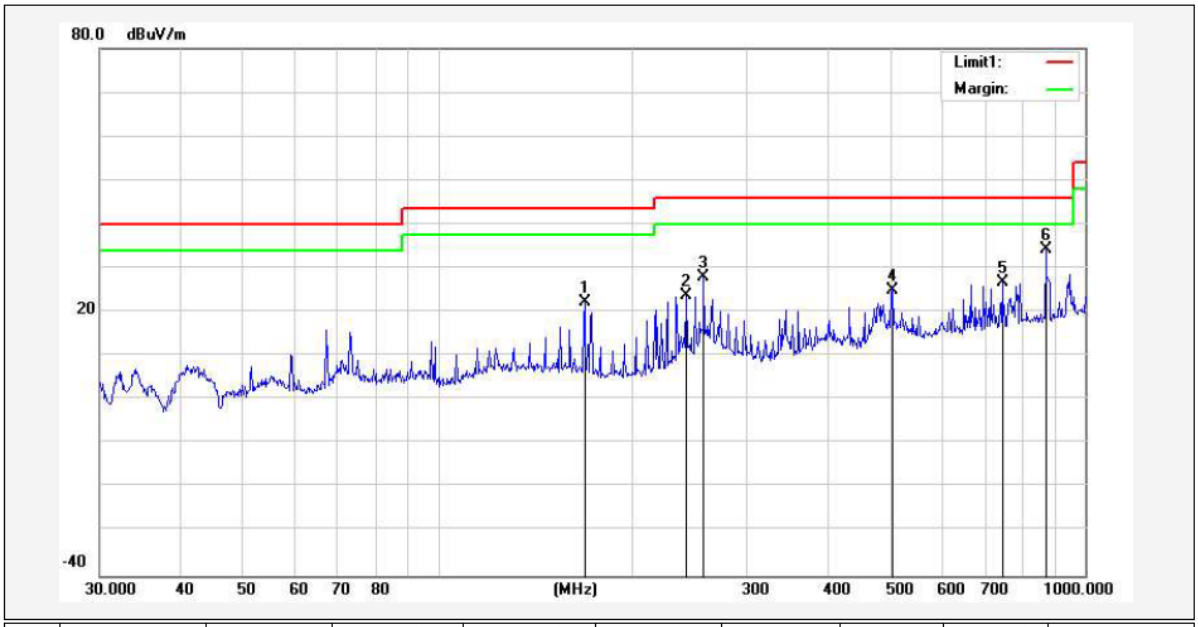
Remark:
1. All modes were test at Low, Middle, and High channel, only the worst result of band 1 802.11a Low Channel was reported for below 1GHz test.
2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, and test data recorded in this report.

Radiated emission below 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Below 1GHz Test Results:

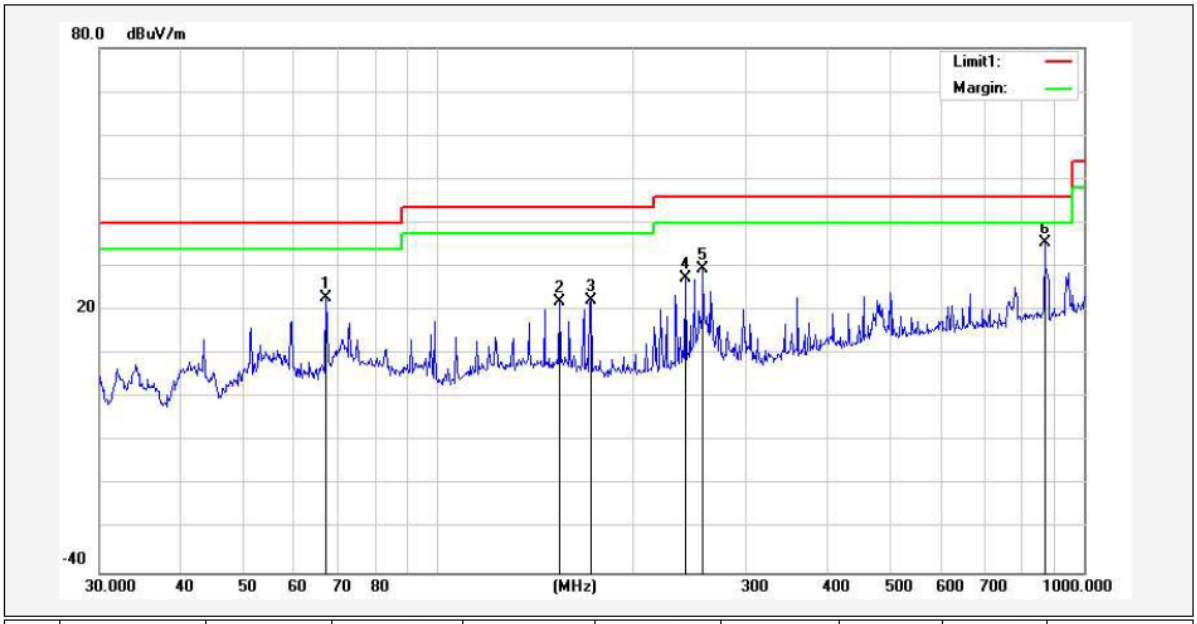
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	DC 14.52V	Phase:	Horizontal
Test Mode:	Transmitting mode of band 1		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	168.4138	42.44	-20.31	22.13	43.50	-21.37			QP
2	241.6763	43.45	-19.62	23.83	46.00	-22.17			QP
3	257.4222	47.13	-19.05	28.08	46.00	-17.92			QP
4	504.7062	38.58	-13.66	24.92	46.00	-21.08			QP
5	744.8661	36.80	-10.08	26.72	46.00	-19.28			QP
6*	869.1302	42.07	-7.72	34.35	46.00	-11.65			QP

Remark: Result = Reading Level + Factor, Margin = Result– Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

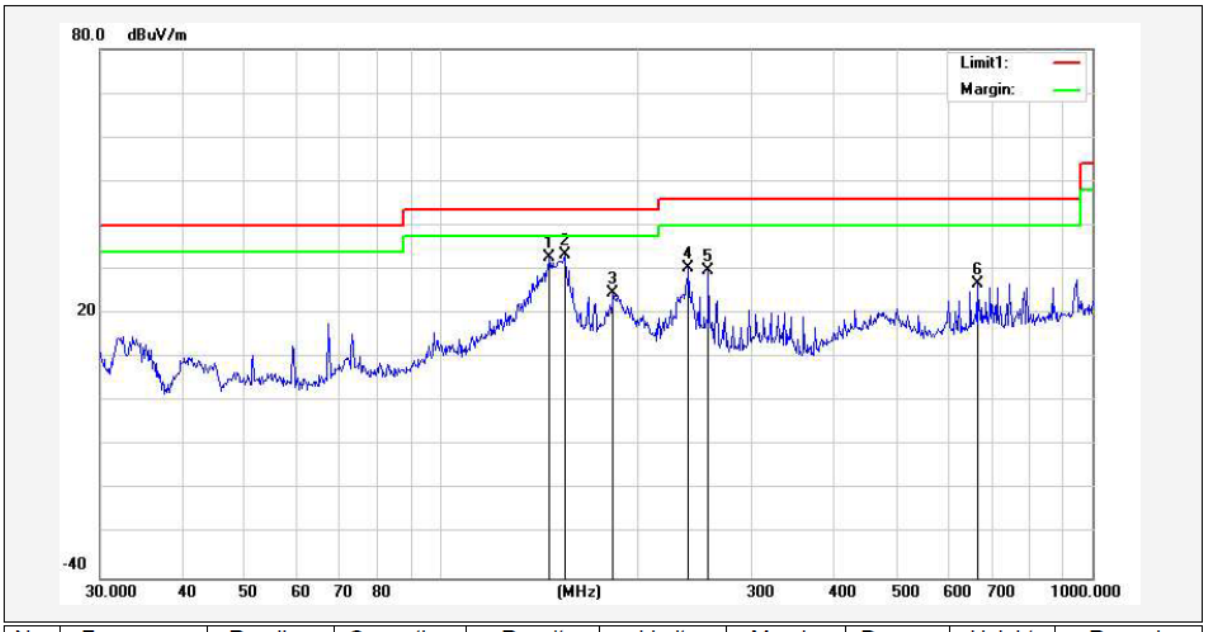
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	DC 14.52V	Phase:	Vertical
Test Mode:	Transmitting mode of band 1		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	67.2022	48.71	-25.72	22.99	40.00	-17.01			QP
2	154.2786	41.75	-19.93	21.82	43.50	-21.68			QP
3	172.5988	42.59	-20.46	22.13	43.50	-21.37			QP
4	241.6763	47.00	-19.62	27.38	46.00	-18.62			QP
5	257.4222	48.39	-19.05	29.34	46.00	-16.66			QP
6*	869.1302	43.20	-7.72	35.48	46.00	-10.52			QP

Remark: Result = Reading Level + Factor, Margin = Result– Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

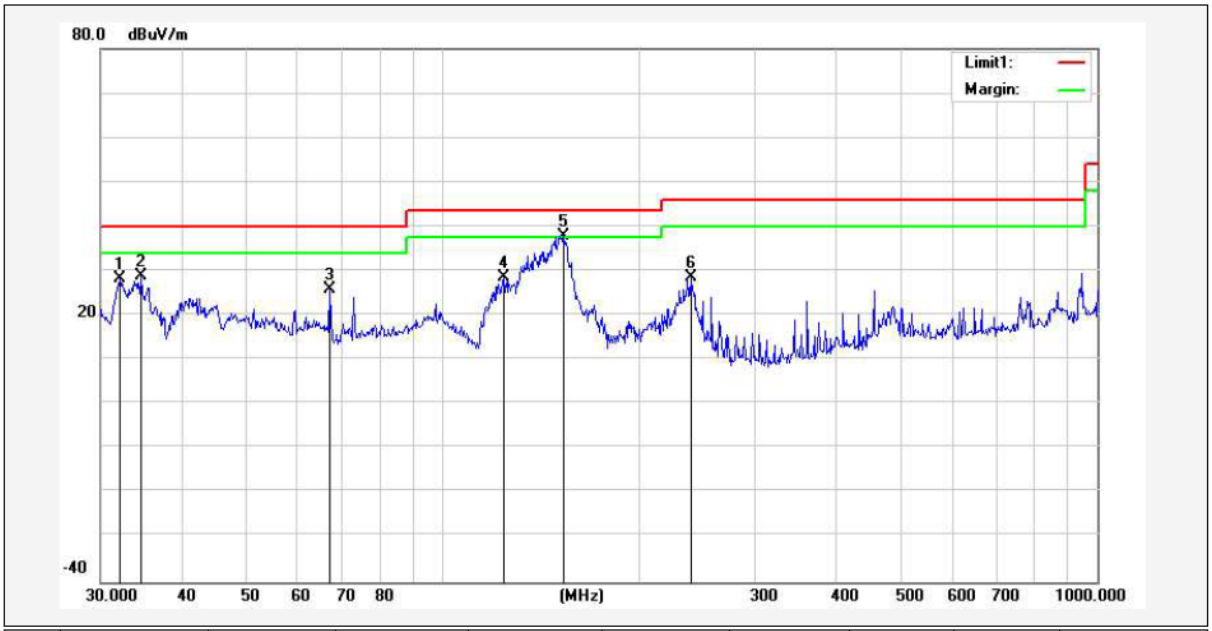
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	DC 14.52V	Phase:	Horizontal
Test Mode:	Transmitting mode of band 4		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	146.8877	52.21	-19.40	32.81	43.50	-10.69			QP
2*	154.8205	53.31	-20.03	33.28	43.50	-10.22			QP
3	183.8440	45.74	-21.07	24.67	43.50	-18.83			QP
4	239.9873	50.01	-19.65	30.36	46.00	-15.64			QP
5	257.4222	48.74	-19.05	29.69	46.00	-16.31			QP
6	665.8035	37.90	-11.04	26.86	46.00	-19.14			QP

Remark: Result = Reading Level + Factor, Margin = Result– Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 08, 2025	Pressure:	1010hPa
Test Voltage:	DC 14.52V	Phase:	Vertical
Test Mode:	Transmitting mode of band 4		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	32.0668	50.38	-21.99	28.39	40.00	-11.61			QP
2	34.6385	53.94	-25.04	28.90	40.00	-11.10			QP
3	67.2022	51.60	-25.72	25.88	40.00	-14.12			QP
4	124.1330	47.39	-18.95	28.44	43.50	-15.06			QP
5*	153.2004	57.59	-19.80	37.79	43.50	-5.71			QP
6	239.1473	48.12	-19.67	28.45	46.00	-17.55			QP

Remark: Result = Reading Level + Factor, Margin = Result– Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

ANT 1 Radiated emission above 1GHz

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5180MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.047	44.26	9.14	53.40	68.20	-14.80	peak
15540.065	42.36	10.22	52.58	74.00	-21.42	peak
15540.066	42.46	10.22	52.68	54.00	-1.32	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.047	46.65	9.14	55.79	68.2	-12.41	peak
15540.065	41.49	10.22	51.71	74	-22.29	peak
15540.066	42.69	10.22	52.91	54	-1.09	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5200MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	44.59	9.14	53.73	68.20	-14.47	peak
15600.063	41.46	10.22	51.68	74.00	-22.32	peak
15600.063	30.26	10.22	40.48	54.00	-13.52	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	43.36	9.14	52.50	68.20	-15.70	peak
15600.063	42.16	10.22	52.38	74.00	-21.62	peak
15600.063	31.33	10.22	41.55	54.00	-12.45	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5240MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	44.69	9.27	53.96	68.20	-14.24	peak
15720.063	41.23	10.38	51.61	74.00	-22.39	peak
15720.063	33.69	10.38	44.07	54.00	-9.93	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	43.66	9.27	52.93	68.20	-15.27	peak
15720.063	41.59	10.38	51.97	74.00	-22.03	peak
15720.063	33.49	10.38	43.87	54.00	-10.13	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5180MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	43.26	9.14	52.40	68.20	-15.80	peak
15540.063	42.36	10.22	52.58	74.00	-21.42	peak
15540.063	32.26	10.22	42.48	54.00	-11.52	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	42.36	9.14	51.50	68.20	-16.70	peak
15540.063	41.26	10.22	51.48	74.00	-22.52	peak
15540.063	31.32	10.22	41.54	54.00	-12.46	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5200MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	42.36	9.14	51.50	68.20	-16.70	peak
15600.063	41.21	10.22	51.43	74.00	-22.57	peak
15600.063	31.52	10.22	41.74	54.00	-12.26	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	43.26	9.14	52.40	68.20	-15.80	peak
15600.063	41.15	10.22	51.37	74.00	-22.63	peak
15600.063	32.29	10.22	42.51	54.00	-11.49	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5240MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	45.55	9.27	54.82	68.20	-13.38	peak
15720.063	41.29	10.38	51.67	74.00	-22.33	peak
15720.063	32.55	10.38	42.93	54.00	-11.07	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	44.26	9.27	53.53	68.20	-14.67	peak
15720.063	40.22	10.38	50.60	74.00	-23.40	peak
15720.063	31.65	10.38	42.03	54.00	-11.97	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5745MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	44.22	9.42	53.64	74.00	-20.36	peak
11490.042	37.52	9.42	46.94	54.00	-7.06	AVG
17235.063	40.55	10.51	51.06	68.20	-17.14	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	43.38	9.42	52.80	74.00	-21.20	peak
11490.042	36.59	9.42	46.01	54.00	-7.99	AVG
17235.063	41.02	10.51	51.53	68.20	-16.67	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5785MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	47.12	9.42	56.54	74.00	-17.46	peak
11570.042	35.26	9.42	44.68	54.00	-9.32	AVG
17355.063	41.22	10.51	51.73	68.20	-16.47	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	45.66	9.42	55.08	74.00	-18.92	peak
11570.042	37.56	9.42	46.98	54.00	-7.02	AVG
17355.063	42.32	10.51	52.83	68.20	-15.37	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5825MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.69	9.62	52.92	74.00	-21.02	peak
11650.042	38.58	9.62	45.05	54.00	-8.95	AVG
17475.063	43.42	10.75	47.61	68.20	-26.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.45	9.62	53.55	74.00	-20.45	peak
11650.042	36.65	9.62	47.64	54.00	-6.36	AVG
17475.063	41.69	10.75	48.61	68.20	-25.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5745MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	45.65	9.42	55.07	74.00	-18.93	peak
11490.042	37.76	9.42	47.18	54.00	-6.82	AVG
17235.063	41.23	10.51	51.74	68.20	-16.46	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	45.23	9.42	54.65	74.00	-19.35	peak
11490.042	37.63	9.42	47.05	54.00	-6.95	AVG
17235.063	41.51	10.51	52.02	68.20	-16.18	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5785MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	46.27	9.42	55.69	74.00	-18.31	peak
11570.042	35.23	9.42	44.65	54.00	-9.35	AVG
17355.063	41.56	10.51	52.07	68.20	-16.13	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	47.12	9.42	56.54	74.00	-17.46	peak
11570.042	37.16	9.42	46.58	54.00	-7.42	AVG
17355.063	42.45	10.51	52.96	68.20	-15.24	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5825MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.26	9.62	52.92	74.00	-21.02	peak
11650.042	38.65	9.62	45.05	54.00	-8.95	AVG
17475.063	43.12	10.75	47.61	68.20	-26.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.45	9.62	53.55	74.00	-20.45	peak
11650.042	36.36	9.62	47.64	54.00	-6.36	AVG
17475.063	41.42	10.75	48.61	68.20	-25.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: All test channels had been tested. The 802.11a is the worst case and recorded in the test report. Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The “Factor” value can be calculated automatically by software of measurement system.

ANT 2 Radiated emission above 1GHz

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5180MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.047	44.55	9.14	53.69	68.20	-14.51	peak
15540.065	42.39	10.22	52.61	74.00	-21.39	peak
15540.066	42.59	10.22	52.81	54.00	-1.19	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.047	45.33	9.14	54.47	68.20	-13.73	peak
15540.065	42.44	10.22	52.66	74.00	-21.34	peak
15540.066	42.49	10.22	52.71	54.00	-1.29	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5200MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	46.36	9.14	55.50	68.20	-12.70	peak
15600.063	42.23	10.22	52.45	74.00	-21.55	peak
15600.063	30.22	10.22	40.44	54.00	-13.56	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	44.11	9.14	53.25	68.20	-14.95	peak
15600.063	42.19	10.22	52.41	74.00	-21.59	peak
15600.063	30.26	10.22	40.48	54.00	-13.52	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a 5240MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	45.35	9.27	54.62	68.20	-13.58	peak
15720.063	42.23	10.38	52.61	74.00	-21.39	peak
15720.063	33.64	10.38	44.02	54.00	-9.98	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	46.23	9.27	55.50	68.20	-12.70	peak
15720.063	42.23	10.38	52.61	74.00	-21.39	peak
15720.063	34.12	10.38	44.50	54.00	-9.50	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5180MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	46.23	9.14	55.37	68.20	-12.83	peak
15540.063	42.35	10.22	52.57	74.00	-21.43	peak
15540.063	32.28	10.22	42.50	54.00	-11.50	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	42.56	9.14	51.70	68.20	-16.50	peak
15540.063	41.24	10.22	51.46	74.00	-22.54	peak
15540.063	31.39	10.22	41.61	54.00	-12.39	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5200MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	42.52	9.14	51.66	68.20	-16.54	peak
15600.063	42.22	10.22	52.44	74.00	-21.56	peak
15600.063	32.34	10.22	42.56	54.00	-11.44	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10400.042	44.23	9.14	53.37	68.20	-14.83	peak
15600.063	41.65	10.22	51.87	74.00	-22.13	peak
15600.063	32.68	10.22	42.90	54.00	-11.10	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5240MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	45.59	9.27	54.86	68.20	-13.34	peak
15720.063	41.68	10.38	52.06	74.00	-21.94	peak
15720.063	32.58	10.38	42.96	54.00	-11.04	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	45.23	9.27	54.50	68.20	-13.70	peak
15720.063	42.26	10.38	52.64	74.00	-21.36	peak
15720.063	31.69	10.38	42.07	54.00	-11.93	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5745MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	44.29	9.42	53.71	74.00	-20.29	peak
11490.042	33.33	9.42	42.75	54.00	-11.25	AVG
17235.063	32.03	10.51	42.54	68.20	-25.66	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	43.39	9.42	52.81	74.00	-21.19	peak
11490.042	36.52	9.42	45.94	54.00	-8.06	AVG
17235.063	41.08	10.51	51.59	68.20	-16.61	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5785MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	47.65	9.42	57.07	74.00	-16.93	peak
11570.042	35.26	9.42	44.68	54.00	-9.32	AVG
17355.063	41.26	10.51	51.77	68.20	-16.43	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	45.65	9.42	55.07	74.00	-18.93	peak
11570.042	37.52	9.42	46.94	54.00	-7.06	AVG
17355.063	42.37	10.51	52.88	68.20	-15.32	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11a20 5825MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.62	9.62	52.92	74.00	-21.02	peak
11650.042	38.54	9.62	45.05	54.00	-8.95	AVG
17475.063	43.47	10.75	47.61	68.20	-26.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.49	9.62	53.55	74.00	-20.45	peak
11650.042	36.62	9.62	47.64	54.00	-6.36	AVG
17475.063	41.62	10.75	48.61	68.20	-25.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5745MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	45.66	9.42	55.08	74.00	-18.92	peak
11490.042	37.76	9.42	47.18	54.00	-6.82	AVG
17235.063	41.29	10.51	51.80	68.20	-16.40	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11490.042	45.23	9.42	54.65	74.00	-19.35	peak
11490.042	37.63	9.42	47.05	54.00	-6.95	AVG
17235.063	41.51	10.51	52.02	68.20	-16.18	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5785MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	46.29	9.42	55.71	74.00	-18.29	peak
11570.042	35.23	9.42	44.65	54.00	-9.35	AVG
17355.063	41.54	10.51	52.05	68.20	-16.15	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11570.042	47.12	9.42	56.54	74.00	-17.46	peak
11570.042	37.16	9.42	46.58	54.00	-7.42	AVG
17355.063	42.45	10.51	52.96	68.20	-15.24	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Temperature	25°C	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n20 5825MHz	**Antenna**	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	47.26	9.62	52.92	74.00	-21.02	peak
11650.042	38.65	9.62	45.05	54.00	-8.95	AVG
17475.063	43.12	10.75	47.61	68.20	-26.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
11650.042	45.32	9.62	53.55	74.00	-20.45	peak
11650.042	36.39	9.62	47.64	54.00	-6.36	AVG
17475.063	38.23	10.75	48.61	68.20	-25.39	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: All test channels had been tested. The 802.11a is the worst case and recorded in the test report. Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The “Factor” value can be calculated automatically by software of measurement system.

Note: 1. All the 20MHz bandwidth modulation had been tested, the 802.11a at 5180MHz was the worst case and record in his test report.

2. The factor had been edited in the “Input Correction” of the Spectrum Analyzer.

3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz and 5.35GHz-5.46GHz record in the report. Other restricted band 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

4. The sideband standard of Band 4 frequency band is not defined, the transmitted signal does not fall in the restricted band, and the edge signal is far away from the edge of other restricted bands, and it is not recorded in the report.

5 OCCUPIED BANDWIDTH

5.1 TEST LIMIT

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

FCC Part 15 Subpart C(15.407)		
Test Item	Limit	Frequency Range(MHz)
26 dB Bandwidth	N/A	5150~5250
		5250~5350
		5470~5725
6 dB Bandwidth	>500kHz	5725~5850

5.2 TEST PROCEDURE

-6dB bandwidth (DTS bandwidth):

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = 100kHz.
4. Set the VBW ≥3*RBW. Detector = Peak. Trace mode = max hold.
5. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.

99% occupied bandwidth:

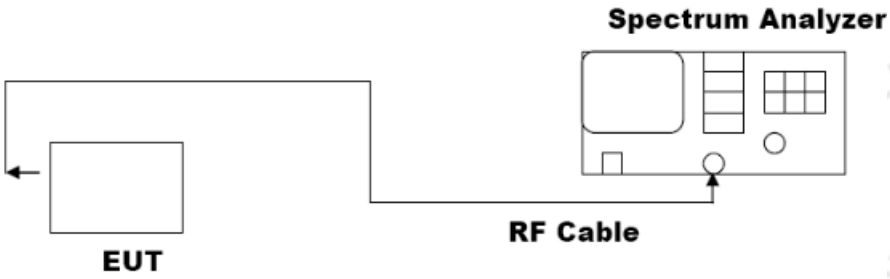
1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set Span = approximately 1.5 to 5 times the OBW, centered on a nominal channel
   The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

-26dB Bandwidth:

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

5.3 TEST SET-UP



5.4 TEST RESULT

PASS

Please Refer to Appendix 5G WIFI RF test data for Details

6 MAXIMUM CONDUCTED OUTPUT AVERAGE POWER SPECTRAL DENSITY

6.1 TEST LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(a):

FCC Part 15 Subpart E(15.407)		
Test Item	**Limit**	**Frequency Range(MHz)**
Power Spectral Density	Other than Mobile and Portable : 17dBm/MHz Mobile and Portable : 11dBm/MHz	5150~5250
	11dBm/MHz	5250~5350
	11dBm/MHz	5470~5725
	30dBm/500kHz	5725~5850

6.2 TEST PROCEDURE

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
(2) Set analyser centre frequency to transmitting frequency.
(3) Set the span to encompass the entire emissions bandwidth (EBW)(alternatively, the entire 99% OBW) of the signal.
(4) 5.2G Set the RBW to: 1 MHz, 5.8G Set the RBW to: 510KHz
(5) 5.2G Set the VBW to: 3 MHz, 5.8G Set the VBW to: 3 MHz
(6) Detector: RMS
(7) Trace: Max Hold
(7) Sweep time: auto
(8) Trace average at least 100 traces in power averaging.
(9) User the peak marker function to determine the maximum amplitude level within the RBW. Apply correction to the result if different RBW is used.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

6.3 TEST SET-UP

Same as 5.3.

6.4 EQUIPMENT USED

Same as Radiated Emission Measurement.

6.5 TEST RESULT

PASS

Please Refer to Appendix 5G WIFI RF test data for Details

7 AVARAGE7 OUTPUT POWER

7.1 TEST LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(a):

FCC Part 15 Subpart E(15.407)		
Test Item	**Limit**	**Frequency Range(MHz)**
Conducted Output Power	Fixed: 1 Watt (30dBm) Mobile and Portable: 250mW (24dBm)	5150~5250
	250mW (24dBm)	5250~5350
	250mW (24dBm)	5470~5725
	1 Watt (30dBm)	5725~5850

7.2 TEST PROCEDURE

1.The EUT was tested according to according to section 3 of KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

2.The maximum conducted output power may be measured using a broadband AVG RF power meter.

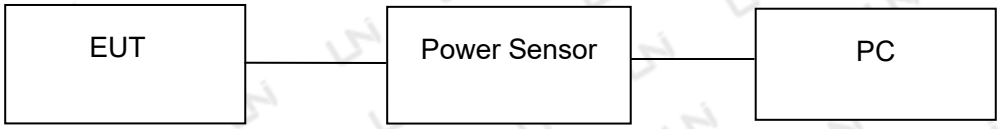
3. Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.

4.The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

5.Record the measurement data.

7.3 TEST SET-UP

AVERAGE POWER SETUP



7.4 EQUIPMENT USED

Same as Radiated Emission Measurement.

7.5 TEST RESULT

PASS

Please Refer to Appendix 5G WIFI RF test data for Details

8 CONDUCTED SPURIOUS EMISSION

7.6 TEST LIMIT

Applicable Limits	Channel
-27dBm/MHz	5150MHz-5250MHz
All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	5725MHz-5850MHz

7.7 TEST SETUP

Same as 5.3

7.8 TEST PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

7.9 TEST RESUL

PASS

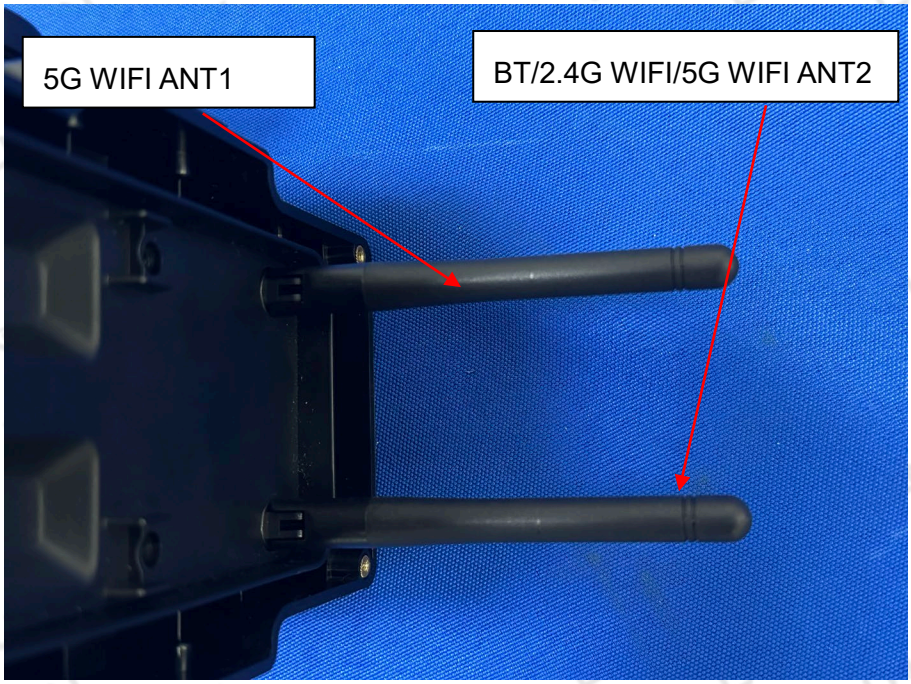
Please Refer to Appendix 5G WIFI RF test data for Details

9 ANTENNA REQUIREMENT

Standard Applicable:
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.

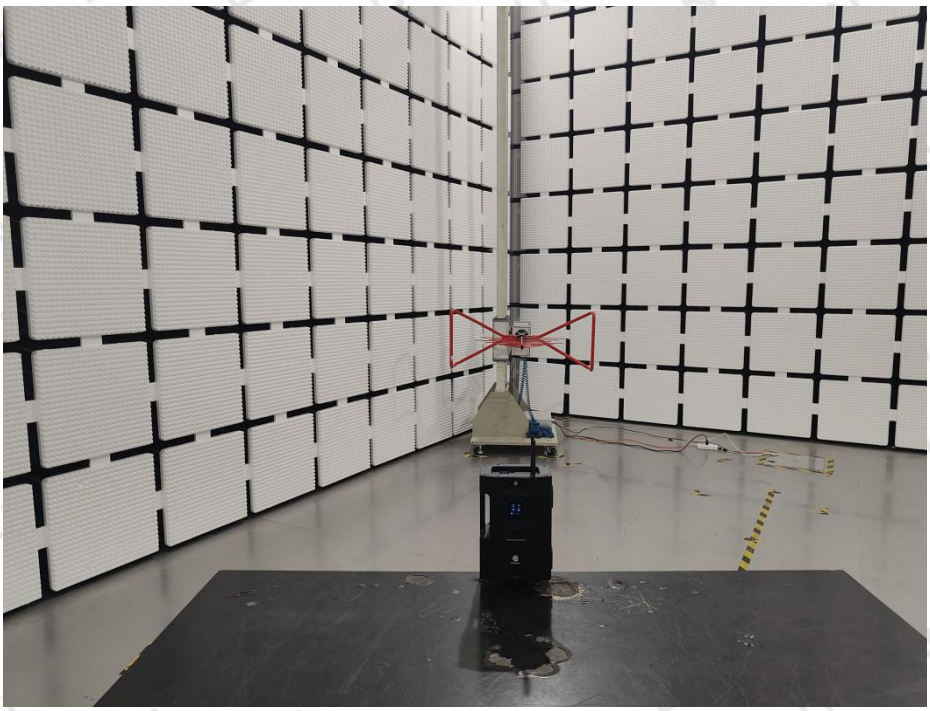
Antenna Connected Construction
The antenna used in this product is a External Antenna, The directional gains of antenna used for transmitting is B1:3.69dBi,B4:2.95dBi

ANTENNA:

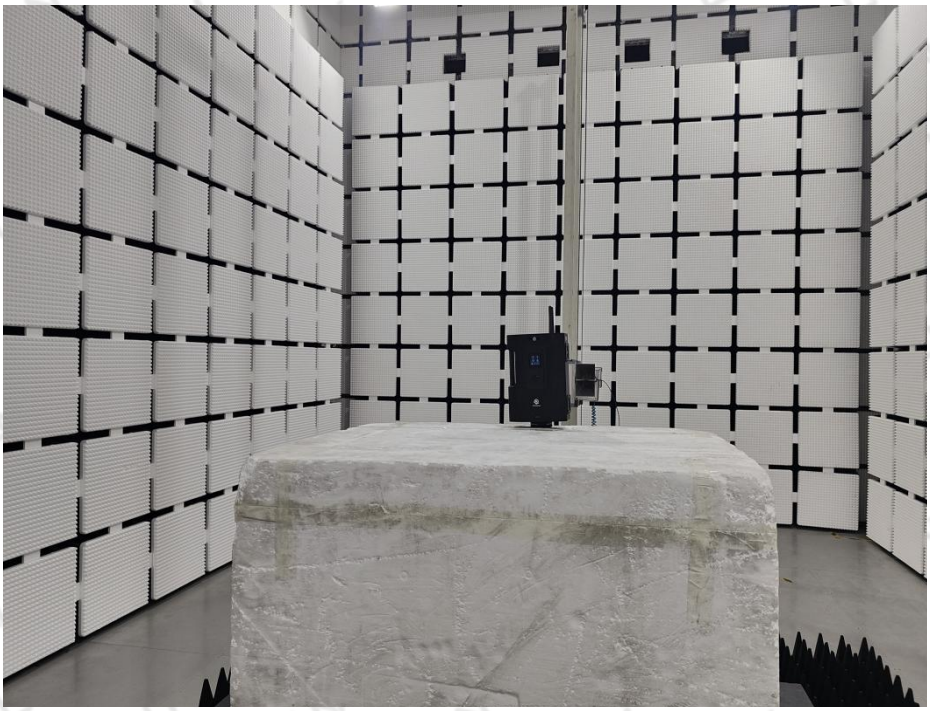


10 PHOTO OF TEST

RADIATED EMISSION

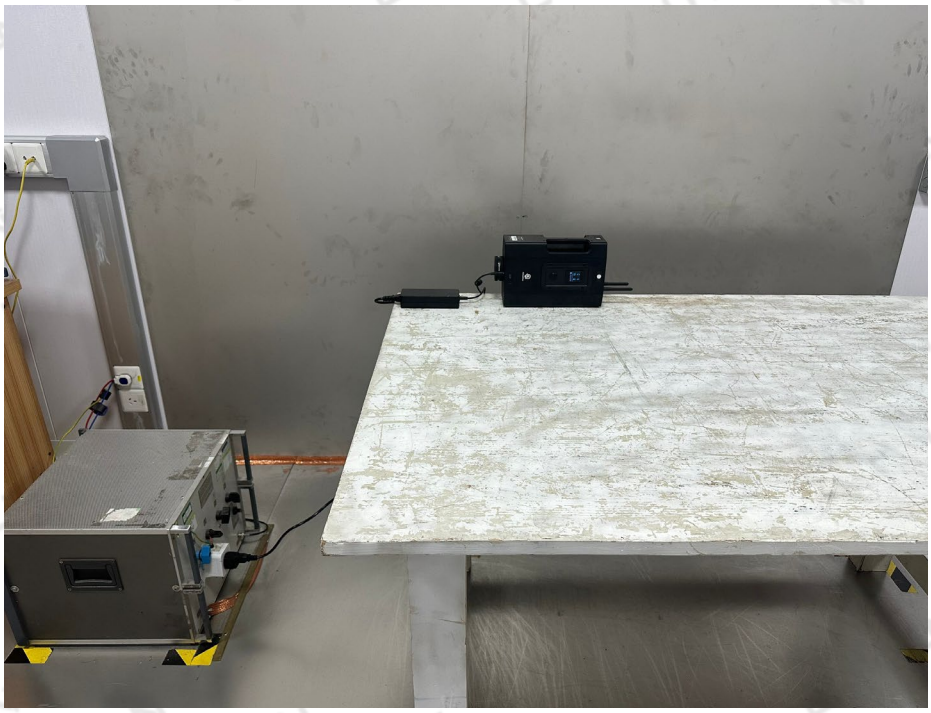


30MHz-1000MHz



Above 1GHz

CONDUCTED EMISSION



RF CONDUCTED

11 EUT Constructional Details

Refer to the External Photos and Internal Photos for details.

End of Report