Test Report No.:
FCCSZ2023-0011-RF2

RF Test Report

FCC ID	:	**O3Q10-8231**
EUT	:	**Smart PDM assembly**
MODEL	:	**10-8231**
BRAND NAME	:	**N/A**
APPLICANT	:	**THERMASOL STEAMBATH CO.**
Classification Of Test	:	**N/A**

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant	**Name: THERMASOL STEAMBATH CO.** **Address:1958 STEAM WAY ROUND ROCK, TX 78665 USA**
Manufacturer	**Name: Chengdu Vantron Technology Co., Ltd.** **Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China**
Equipment Under Test	**Product Name:Smart PDM assembly** **Model/Type: 10-8231** **Brand Name: N/A** **Serial NO.: N/A** **Sample NO.:2-1**

Date of Receipt.	**2023.10.16**	Date of Testing	**2023.10.16～2023.11.02**

Test Specification	**Test Result**
FCC Part 15, Subpart E (15.407)	PASS

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC **Issue Date:2023.11.06**

Tested by:	Tested by:	Approved by:
Liang Jiatong	Huang Meng	Dong Sanbi
Liang Jiatong	Huang Meng	Dong Sanbi
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2023-0011-RF2	Original release	2023.11.06

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPARTE (SECTION 15.407)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
FCC 15.207	AC Power Conducted Emission	PASS	See section 3.1
FCC 15.403(a)(e)	6dB&26dB Emission Bandwidth	PASS	Appendix A1&A3 of FCCSZ2023-0011-RF2-A1
---	Occupied Bandwidth Measurement	PASS	Appendix A2 of FCCSZ2023-0011-RF2-A1
FCC 15.407(b)	Radiated Emission and Bandedge	PASS	See section 3.2
FCC 15.407(a)	Transmit Power	PASS	Appendix C of FCCSZ2023-0011-RF2-A1
FCC 15.407(a)	Power Spectral Density	PASS	Appendix D of FCCSZ2023-0011-RF2-A1
FCC 15.407(g)	Frequency Stability	PASS	Appendix E of FCCSZ2023-0011-RF2-A1
FCC 15.203 FCC 15.407(a)	Antenna Requirement	PASS	See section 3.9

1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
WIFI & Bluetooth Test System					/
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	1 year	2024.5.21
#3Shielding room	MORI	443	N/A	3 year	2026.5.16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168778	1 year	2024.5.25
Analog signal Generator (100kHz ~ 40GHz)	Rohde&Schwarz	SMB 100A	181934	1 year	2024.5.21
Vector signal Generator (9kHz ~ 6GHz)	Keysight	N5182B	MY57301451	1 year	2024.4.25
Vector signal Generator (9kHz ~ 6GHz)	Rohde&Schwarz	SGT 100A	111724	1 year	2024.5.21
RF control unit(BT/WiFi)	Tonscend	JS0806-2-8CH	20E8060261	1 year	2024.5.21
Radiation Spurious(Above 1GHz)					/
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 40	101898	1 year	2024.5.21
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2024.5.25
Antenna(30MHz~1001MHz)	SCHWARZBECK	VULB 9168	1133	1 year	2024.2.21
Horn antenna(1GHz-18GHz)	ETS	3117	227611	1 year	2024.3.25
Horn antenna(18GHz-40GHz)	QMS	QMS-00880	22051	1 year	2024.3.25
3m anechoic chamber	MORI	966	CS0300011	3 year	2026.5.18
Filter group(RSE-BT/WiFi)	Rohde&Schwarz	WiFi /BT Variant 1	100820	1 year	2024.5.21
Filter group(RSE-Cellular)	Rohde&Schwarz	Cellular Variant 1	100768	1 year	2024.5.21
Preamplifier(10kHz-1GHz)	Rohde&Schwarz	SCU-01F	100299	1 year	2024.5.21
Preamplifier(1GHz-18GHz)	Rohde&Schwarz	SCU-18F	100799	1 year	2024.5.21
Preamplifier(1GHz-18GHz)	Rohde&Schwarz	SCU-18F	100801	1 year	2024.5.21
Preamplifier(18Gz-40GHz)	Rohde&Schwarz	SCU-40A	101209	1 year	2024.5.21
#2 control room	MORI	433	CS0300028	3 year	2024.5.21
Temperature and humidity meter	/	C193561517	C193561517	1 year	2024.5.21
Radiation Spurious(Below 1GHz)					/
EMI Test Receiver	Rohde&Schwarz	ESR 26	101718	1 year	2024.5.25
Loop antenna（8.3k~30MHz）	Rohde&Schwarz	HFH2-Z2E	100951	1 year	2024.5.26
Antenna(30MHz~1000MHz)	SCHWARZBECK	VULB 9168	1132	1 year	2024.2.14
3m anechoic chamber	MORI	966	CS0200019	3 year	2026.5.18
Attenuator	/	SJ-5dB	607684	1 year	2024.2.21
#1 control room	MORI	433	CS0300028	3 year	2026.5.16
Temperature and humidity meter	/	C193561473	CS0200071	1 year	2024.5.21
Conducted emission					/
EMI Test Receiver	Rohde&Schwarz	ESR3	102694	1 year	2024.5.25
limiter（10 dB）	Rohde&Schwarz	ESH3-Z2	102824	1 year	2024.5.16
Voltage probe	Rohde&Schwarz	CVP9222C	28	1 year	2024.5.16
Current probe	Rohde&Schwarz	EZ-17	101442	1 year	2024.5.21
ISN network	Rohde&Schwarz	ENV 81	100401	1 year	2024.5.16
ISN network	Rohde&Schwarz	ENV 81 Cat6	101896	1 year	2024.5.16
LISN（single-phase）	Rohde&Schwarz	ENV216	102569	1 year	2024.4.11
#1Shielding room	MORI	854	N/A	3 year	2026.5.16

1.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

No.	Item	Measurement Uncertainty
1	Conducted emission test	+/-2.7 dB
2	Radiated emission 9kHz-30MHz	+/-5.6 dB
3	Radiated emission 30MHz-1GHz	+/-4.6 dB
4	Radiated emission 1GHz-18GHz	+/-4.4 dB
5	Radiated emission 18GHz-40GHz	+/-5.1 dB
6	Occupied Bandwidth	+/-1.86%
Remark: 95% Confidence Levels, k=2.		

1.3 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology (Shenzhen) Co., Ltd.

CABID:CN0137
Lab Address: No. 1301, Guanguang Road, Xinlan Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province 518110 P.R.China
Post Code：518110 Tel：0755-23763060-8805
Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn
http://www.cvc.org.cn

2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Smart PDM assembly		
BRAND	N/A		
TEST MODEL	10-8231		
ADDITIONAL MODEL	N/A		
POWER SUPPLY	DC 24V host unit		
MODULATION TECHNOLOGY	OFDM		
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM		
TRANSFER RATE	802.11a: up to 54Mbps, 802.11n: up to 150Mbps, 802.11ac: up to 433.3Mbps,		
OPERATING FREQUENCY AND MAXIMUM POWER	Frequency	MAX output power(dBm)	MAX.EIPR(dBm)
	5180 ~ 5240MHz	14.84	17.48
	5745 ~ 5825MHz	11.67	14.87
NUMBER OF CHANNEL	See item 2.3		
ANTENNA TYPE(NOTE 4)	External antenna 2.64dBi for 5180 ~ 5240MHz 3.20dBi for 5745 ~ 5825MHz		
FIX FREQUENCY SOFTWARE	adb		
I/O PORTS	Refer to user's manual		
CABLE SUPPLIED	N/A		

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. EUT photo refer to report (Report NO.: FCCSZ2023-0011-EUT).
4. Since the above data and/or information is provided by the client, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
5. At the same time, EUT provides a complete transmitter and a receiver.

Mode 1 ANT1:

MODULATION MODE	TX FUNCTION
802.11a	1TX/1RX
802. 11n	1TX/1RX
802. 11ac	1TX/1RX

2.2 CARRIER FREQUENCY AND CHANNEL

FOR 5180 ~ 5260MHz

8 channels are provided for 802.11a, 802.11n (HT20),802.11ac (VHT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	**5180MHz**	40	5200MHz
44	**5220 MHz**	**48**	**5240MHz**

4 channels are provided for 802.11n (HT40),802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	**5190MHz**	**46**	**5230 MHz**

1 channel are provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	**5210MHz**	/	/

FOR 5745 ~ 5825MHz

5 channels are provided for 802.11a, 802.11n (20MHz),802.11ac (VHT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	**5745MHz**	153	5765MHz
157	**5785MHz**	161	5805MHz
165	**5825MHz**	--	--

2 channels are providedfor802.11n (HT40),802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	**5755MHz**	**159**	**5795MHz**

1 channel are provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
155	**5210MHz**	/	/

The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.

By means of test software which provided by manufacture, the power levels during the tests were set according to the following codes:

Operated in 5180 ~ 5240MHz band							
802.11a		802.11n(HT20)		802.11n(HT40)		802.11ac (VHT80)	
FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING
5180	15	**5180**	15	**5190**	15	**5210**	15
5200	15	**5200**	15	**5230**	15		
5240	15	**5240**	15				
Operated in 5745 ~ 5825MHz band							
802.11a		802.11n(HT20)		802.11n(HT40)		802.11ac (VHT80)	
FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING	FREQUENCY (MHZ)	POWER SETTING
5745	15	**5745**	15	**5755**	15	**5755**	15
5785	15	**5785**	15	**5795**	15		
5825	15	**5825**	15				

2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	**Powered by host unit with wifi(5G) link**

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
NOTE: "-"means no effect.

MODULATION	DATA RATE
802.11a	6Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20(Covered by HT20)	MCS0
802.11ac VHT40(Covered by HT40)	MCS0
802.11ac VHT80	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	25deg. C, 54%RH	DC 3.3V from host unit	Liu Yuan
RE≥1G	25deg. C, 54%RH	DC 3.3V from host unit	Liu Yuan
PLC	20deg. C, 56%RH	DC 3.3V from host unit	Wang Zhiming
APCM	20deg. C, 55%RH	DC 3.3V from host unit	Liang Jiatong

2.4 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.

Support Equipment					
NO	**Description**	**Brand**	**Model No.**	**Serial Number**	**Supplied by**
1	Laptop	Lenovo	K4e-ARE120	MP20kshe	Lab
2	Adapter	MW	OWA-60U-24	CC37274540	Client
3	10' display assembly	N/A	10-8229	N/A	Client

Support Cable							
NO	**Description**	**Quantity (Number)**	**Length (cm)**	**Detachable (Yes/ No)**	**Shielded (Yes/ No)**	**Cores (Number)**	**Supplied by**
1	HMDI+USB	N/A	N/A	yes	yes	N/A	Client

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	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 to0.50MHz.

3.All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.1.2 TEST PROCEDURES

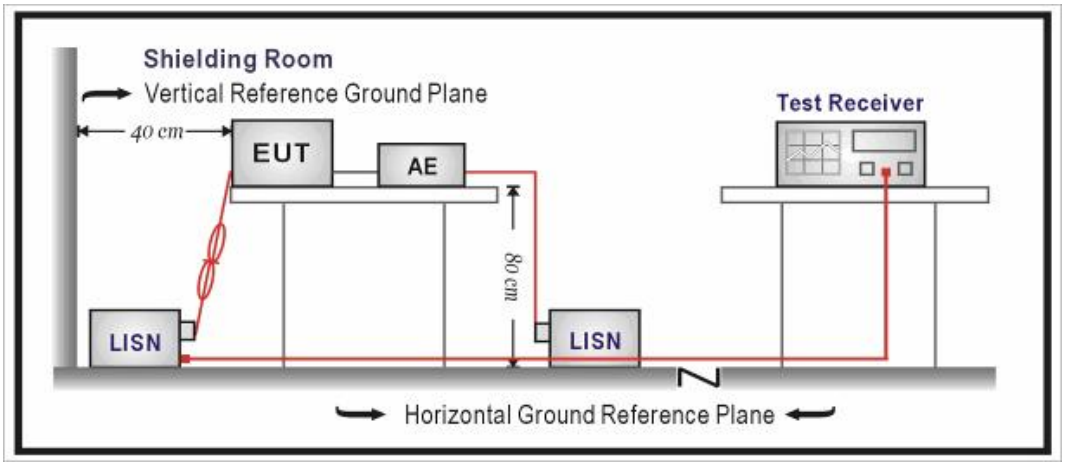
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

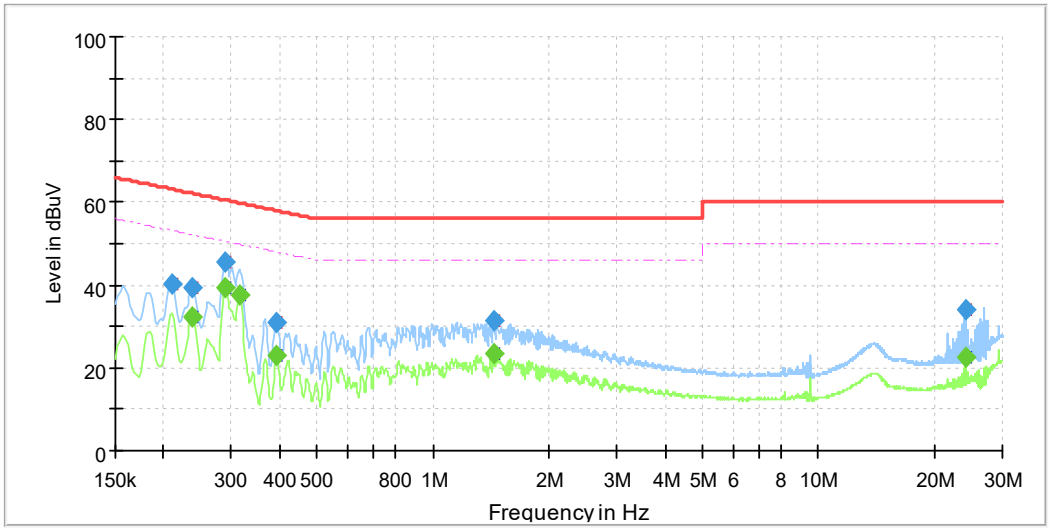
3.1.3 TEST SETUP



NOTE: For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.4 TEST RESULTS

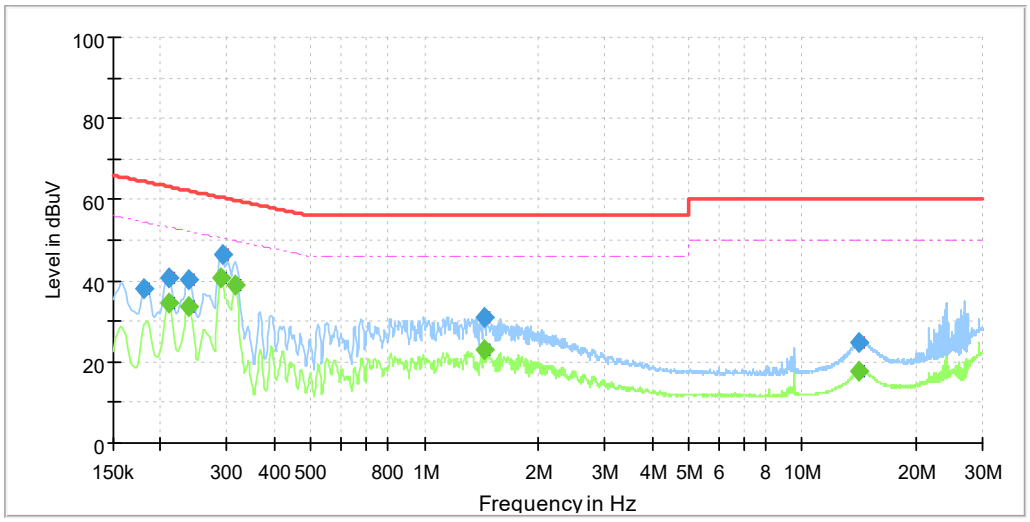
Test Mode	5G WIFI Link	Frequency Range	150KHz ~ 30MHz
PHASE	Line (L)		



NO	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr.Factor (dB)
1	0.211	40.2	---	63.2	23.0	L1	19.4
2	0.238	39.2	---	62.2	22.9	L1	19.4
3	0.238	---	32.4	52.2	19.8	L1	19.4
4	0.290	45.7	---	60.5	14.8	L1	19.4
5	0.290	---	39.4	50.5	11.1	L1	19.4
6	0.317	---	37.7	49.8	12.1	L1	19.4
7	0.391	30.9	---	58.0	27.2	L1	19.4
8	0.393	---	23.0	48.0	25.0	L1	19.4
9	1.435	---	23.3	46.0	22.7	L1	19.5
10	1.437	31.4	---	56.0	24.6	L1	19.5
11	24.000	---	22.4	50.0	27.6	L1	19.9
12	24.000	34.1	---	60.0	25.9	L1	19.9

Remark: The emission levels of other frequencies were very low against the limit.

Test Mode	5G WIFI Link	Frequency Range	150KHz ~ 30MHz
PHASE	Line (N)		



NO	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr.Factor (dB)
1	0.182	38.1	---	64.4	26.3	N	19.5
2	0.211	40.7	---	63.2	22.5	N	19.5
3	0.211	---	34.5	53.2	18.7	N	19.5
4	0.238	40.2	---	62.2	22.0	N	19.4
5	0.238	---	33.6	52.2	18.6	N	19.4
6	0.290	---	40.5	50.5	10.0	N	19.4
7	0.292	46.5	---	60.5	13.9	N	19.4
8	0.317	---	38.8	49.8	11.0	N	19.4
9	1.435	31.1	---	56.0	24.9	N	19.5
10	1.435	---	23.1	46.0	22.9	N	19.5
11	14.044	24.8	---	60.0	35.2	N	20.1
12	14.177	---	17.9	50.0	32.1	N	20.1

Remark: The emission levels of other frequencies were very low against the limit.

3.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bandsmust comply with the radiated emission limits specified as below table:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 30dB under any condition of modulation.

3.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
KDB 789033 D02 General UNII Test Procedures New Rules v02r01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	**EIRP LIMIT**	**EQUIVALENT FIELD STRENGTH AT 3m**
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	Note	Note

NOTE:
For transmitters operating in the 5.725-5.85 GHz band:Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the alternative limit.
15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below theband 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 orbelow 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.

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

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

3.1.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz)and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

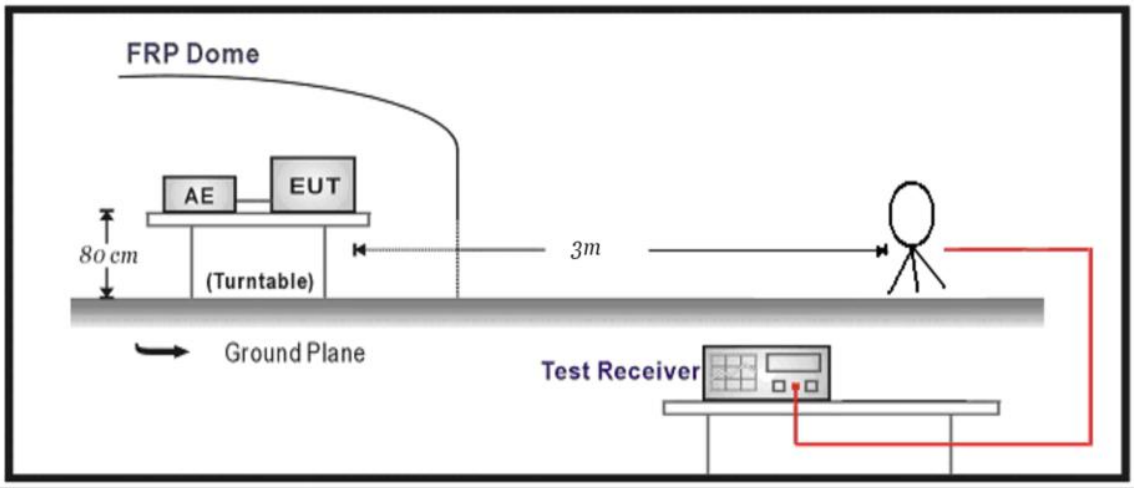
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

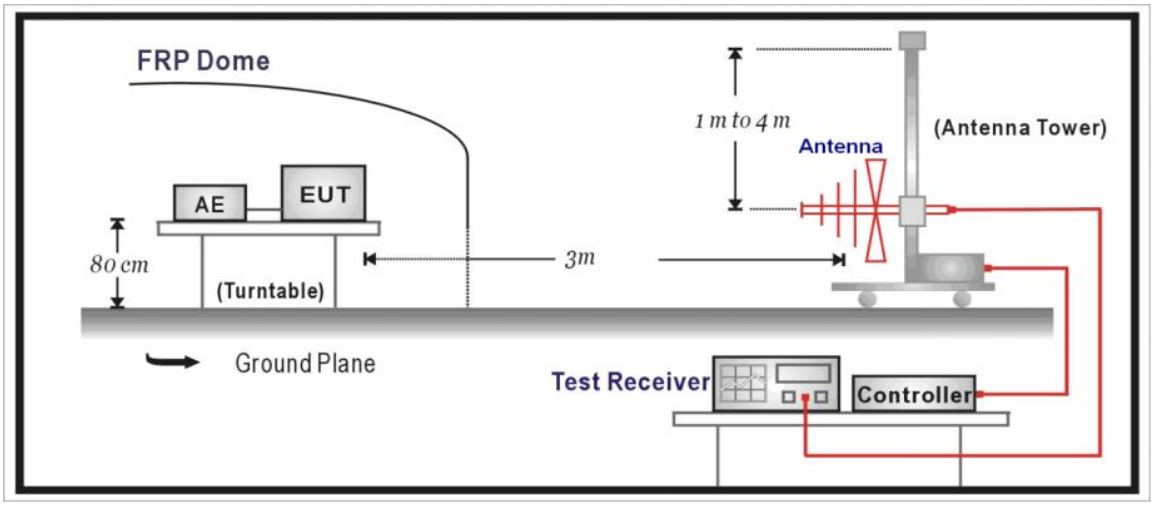
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 TEST SETUP

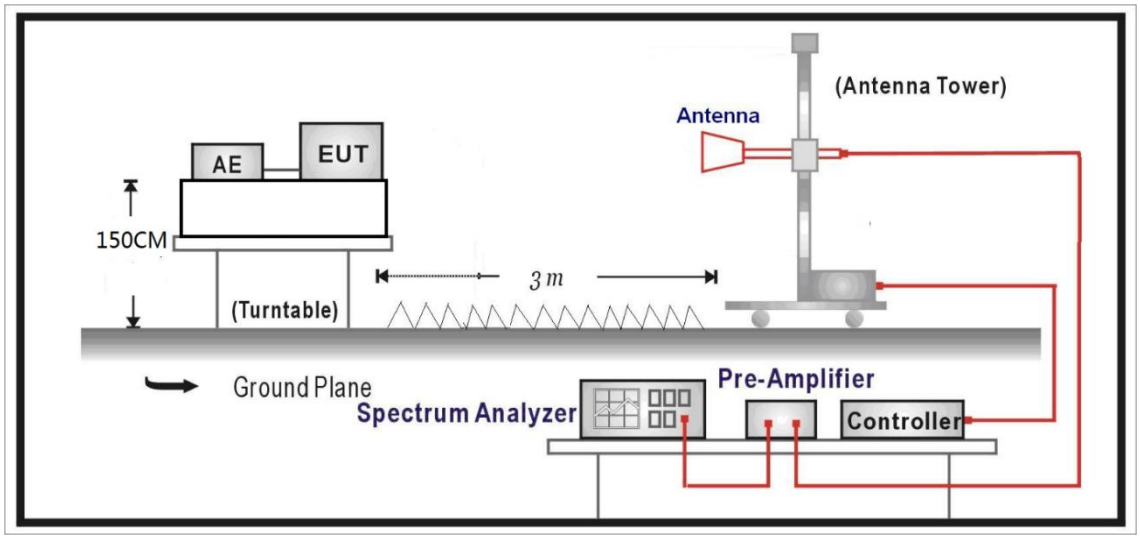
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:

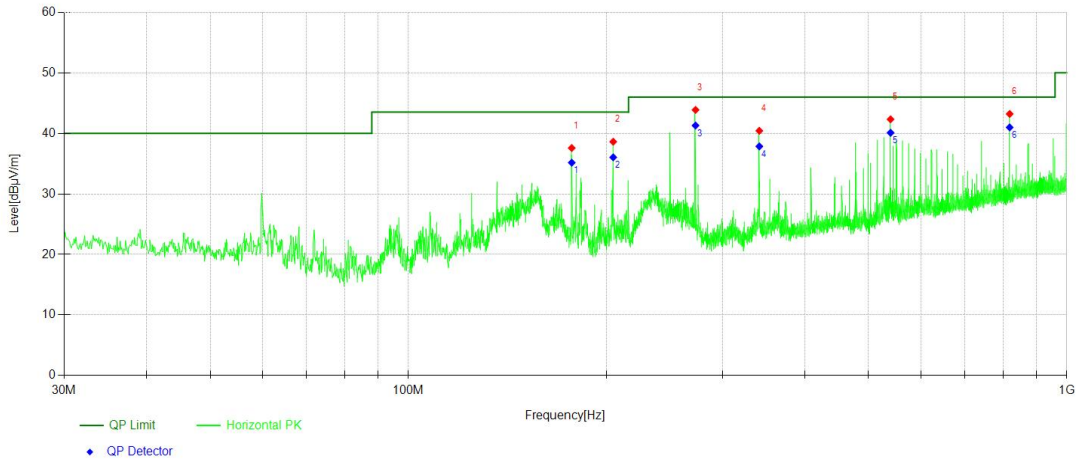


Note: For the actual test configuration, please refer to the related Item in this test report (Photographs of the Test Setup)

3.1.5 TEST RESULTS - BELOW 1GHz

Test Mode:	11a 5180	Frequency Range	9kHz-1000MHz
Detector Function	Quasi-Peak(QP)		

Horizontal

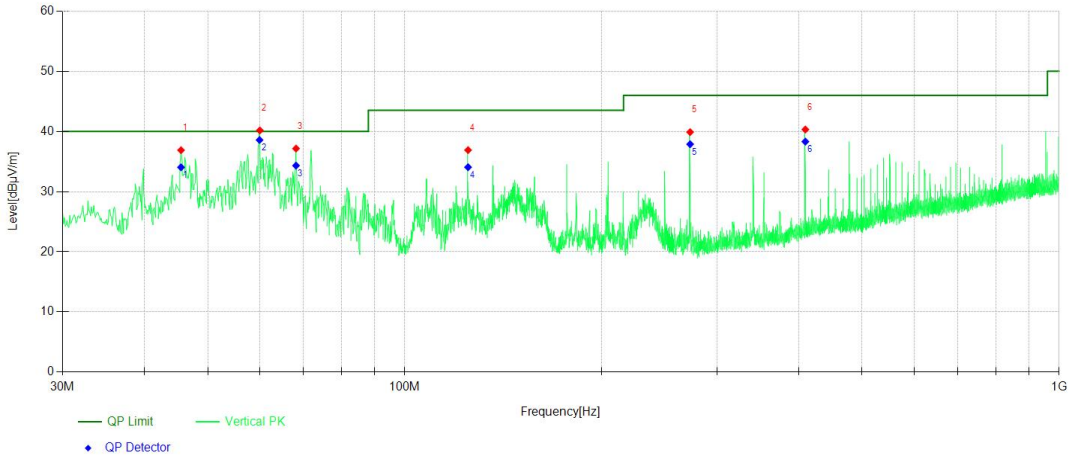


NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	177.0667	15.9	19.26	35.16	43.50	8.34	200	334
2	204.7145	18.56	17.48	36.04	43.50	7.46	200	293
3	273.0093	21.19	20.11	41.30	46.00	4.70	100	320
4	341.2071	15.87	21.98	37.85	46.00	8.15	100	269
5	539.98	14.33	25.77	40.10	46.00	5.90	200	10
6	818.9799	10.94	30.05	40.99	46.00	5.01	100	118

Remark: 1. The emission levels of 9k - 30MHz were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Test Mode:	11a 5180	Frequency Range	9kHz-1000MHz
Detector Function	Quasi-Peak(QP)		

Vertical



NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	45.5216	14.03	20.01	34.04	40.00	5.96	100	198
2	60.0059	19.52	19.06	38.58	40.00	1.42	100	164
3	68.2218	16.96	17.36	34.32	40.00	5.68	100	148
4	124.9725	13.99	20.07	34.06	43.50	9.44	100	351
5	273.0093	17.77	20.11	37.88	46.00	8.12	100	87
6	409.502	15.11	23.20	38.31	46.00	7.69	100	46

Remark: 1. The emission levels of 9k - 30MHz were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

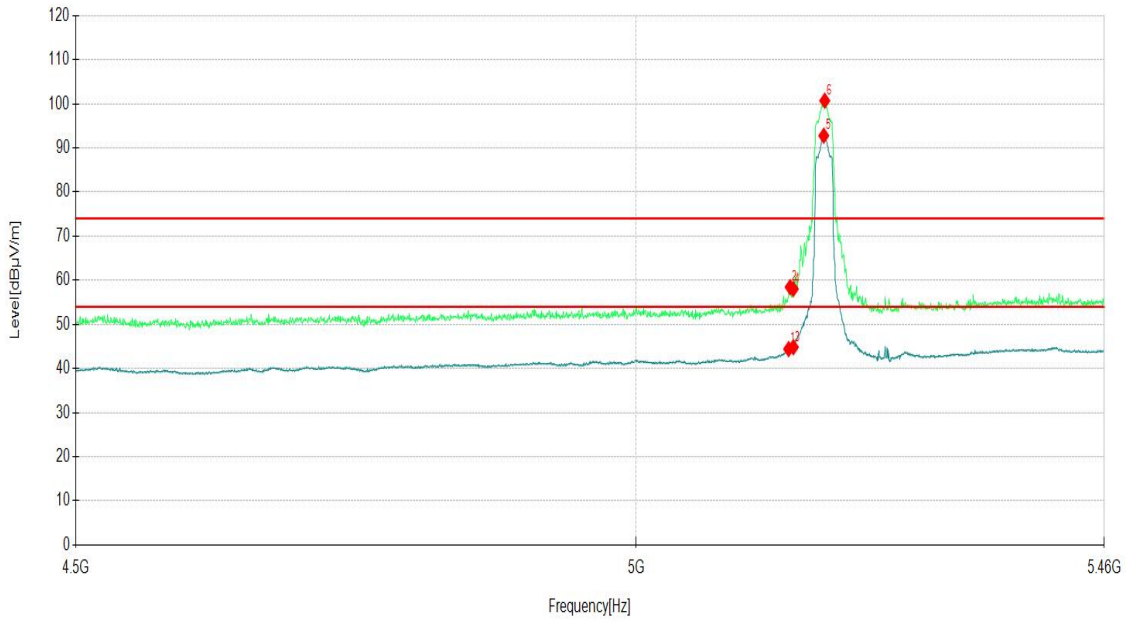
3.1.6 TEST RESULTS - Band 1 (5180-5240MHz):

ABOVE 1GHz DATA

Channel	802.11a CH36	Frequency	5180 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5145.44	36.43	7.99	44.42	54.00	9.58	400	81	AV
2	5146.88	50.47	7.99	58.46	74.00	15.54	400	78	PK
3	5150.00	36.81	8.03	44.84	54.00	9.16	100	95	AV
4	5150.00	49.99	8.03	58.02	74.00	15.98	100	87	PK
5	5179.54	84.85	7.92	92.77			200	81	AV
6	5180.50	92.80	7.90	100.70			200	81	PK
7	10360.00	27.24	16.24	43.48	68.20	24.72	300	96	PK
8	10360.00	17.87	16.24	34.11	54.00	19.89	300	239	AV
9	15540.00	23.09	19.20	42.29	74.00	31.71	400	269	PK
10	15540.00	13.92	19.20	33.12	54.00	20.88	400	175	AV

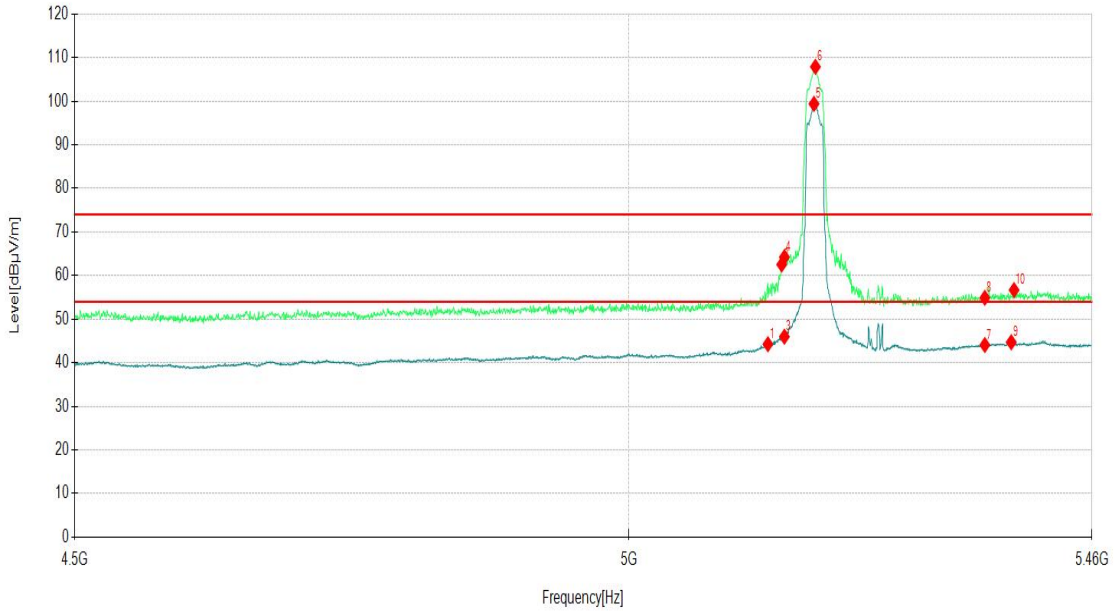


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH36	Frequency	5180 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5133.92	36.13	8.13	44.26	54.00	9.74	300	124	AV
2	5147.36	54.53	8.00	62.53	74.00	11.47	300	321	PK
3	5150.00	37.96	8.03	45.99	54.00	8.01	400	315	AV
4	5150.00	56.19	8.03	64.22	74.00	9.78	400	311	PK
5	5179.06	91.45	7.92	99.37			200	317	AV
6	5180.50	99.97	7.90	107.87			200	317	PK
7	5350.00	34.11	9.96	44.07	54.00	9.93	200	277	AV
8	5350.00	44.95	9.96	54.91	74.00	19.09	200	267	PK
9	5376.92	34.64	10.07	44.71	54.00	9.29	400	185	AV
10	5379.80	46.55	10.12	56.67	74.00	17.33	400	326	PK
11	10360.00	26.57	16.24	42.81	68.20	25.39	100	115	PK
12	10360.00	17.50	16.24	33.74	54.00	20.26	100	292	AV
13	15540.00	22.36	19.20	41.56	74.00	32.44	400	238	PK
14	15540.00	13.82	19.20	33.02	54.00	20.98	400	66	AV



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH 44	Frequency	5220MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	10440.00	25.65	16.71	42.36	68.20	25.84	300	360	PK
2	10440.00	17.21	16.71	33.92	54.00	20.08	300	333	AV
3	15660.00	23.06	19.93	42.99	74.00	31.01	100	244	PK
4	15660.00	13.88	19.93	33.81	54.00	20.19	100	269	AV

Vertical

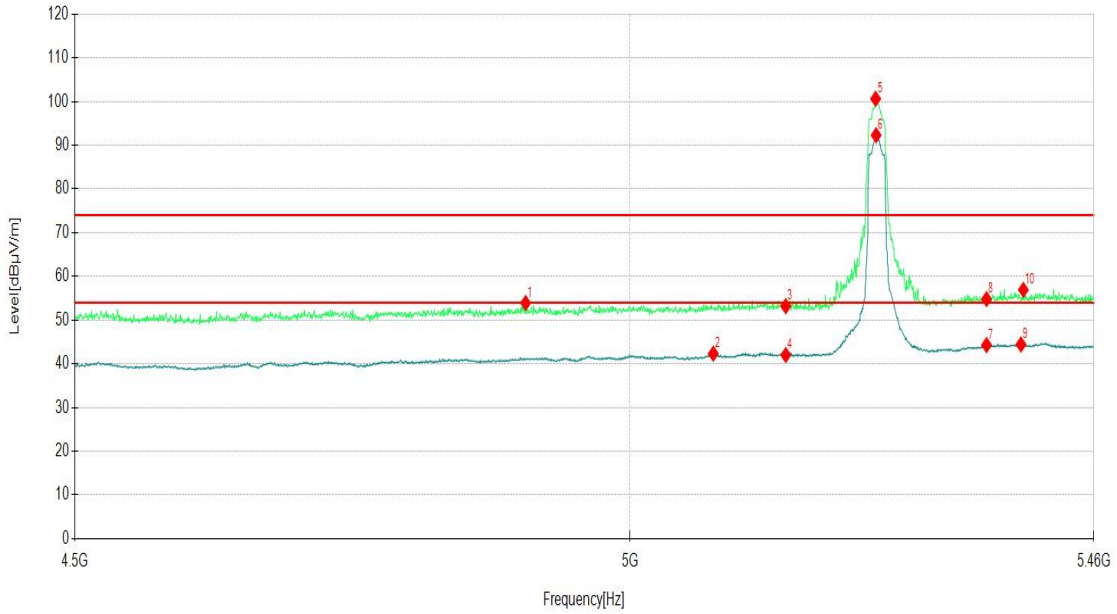
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	10440.00	26.57	16.71	43.28	68.20	24.92	200	282	PK
2	10440.00	16.93	16.71	33.64	54.00	20.36	200	272	AV
3	15660.00	22.25	19.93	42.18	74.00	31.82	100	317	PK
4	15660.00	13.41	19.93	33.34	54.00	20.66	100	238	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH48	Frequency	5240 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	4901.96	46.94	6.96	53.90	74.00	20.10	100	9	PK
2	5079.65	34.52	7.81	42.33	54.00	11.67	100	171	AV
3	5150.00	45.15	8.03	53.18	74.00	20.82	400	112	PK
4	5150.00	33.99	8.03	42.02	54.00	11.98	400	106	AV
5	5238.61	92.41	8.22	100.63			200	89	PK
6	5239.09	84.09	8.21	92.30			200	89	AV
7	5350.00	34.33	9.96	44.29	54.00	9.71	300	296	AV
8	5350.00	44.84	9.96	54.80	74.00	19.20	300	329	PK
9	5385.08	34.34	10.09	44.43	54.00	9.57	200	82	AV
10	5387.48	46.85	10.07	56.92	74.00	17.08	200	11	PK
11	10480.00	25.97	16.74	42.71	68.20	25.49	200	269	PK
12	10480.00	16.61	16.74	33.35	54.00	20.65	200	359	AV
13	15720.00	22.63	20.24	42.87	74.00	31.13	100	1	PK
14	15720.00	12.93	20.24	33.17	54.00	20.83	100	36	AV

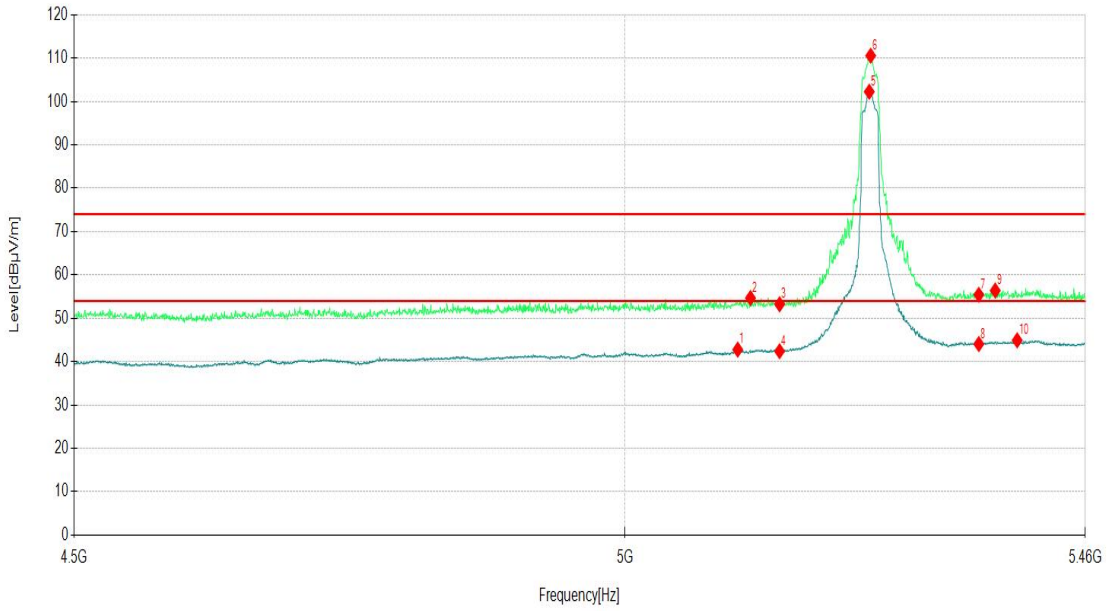


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH48	Frequency	5240 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5108.94	34.75	8.03	42.78	54.00	11.22	200	112	AV
2	5121.43	46.86	7.82	54.68	74.00	19.32	200	156	PK
3	5150.00	45.20	8.03	53.23	74.00	20.77	100	154	PK
4	5150.00	34.38	8.03	42.41	54.00	11.59	100	108	AV
5	5239.09	94.03	8.21	102.24	54.00	-48.24	200	316	AV
6	5240.53	102.33	8.22	110.55			200	321	PK
7	5350.00	45.46	9.96	55.42			400	327	PK
8	5350.00	34.10	9.96	44.06	54.00	9.94	400	122	AV
9	5366.83	46.43	9.97	56.40	74.00	17.60	400	95	PK
10	5389.40	34.86	10.06	44.92	54.00	9.08	400	294	AV
11	10480.00	25.88	16.74	42.62	68.20	25.58	100	318	PK
12	10480.00	17.18	16.74	33.92	54.00	20.08	100	274	AV
13	15720.00	21.79	20.24	42.03	74.00	31.97	400	80	PK
14	15720.00	13.25	20.24	33.49	54.00	20.51	400	224	AV

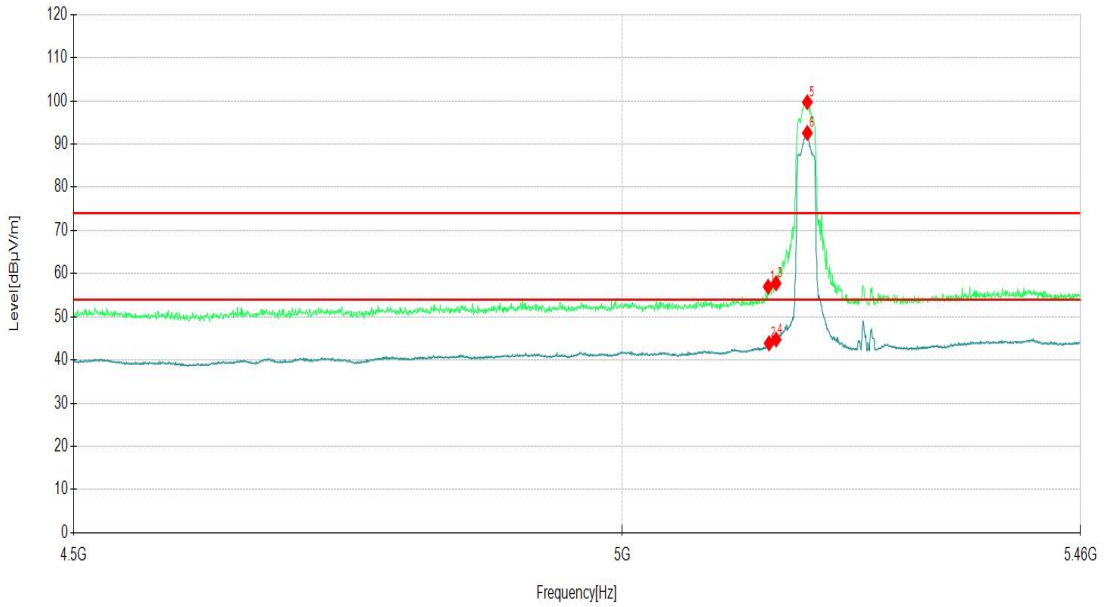


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH36	Frequency	5180 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5142.08	49.04	7.95	56.99	74.00	17.01	300	78	PK
2	5143.04	35.91	7.97	43.88	54.00	10.12	300	84	AV
3	5150.00	49.74	8.03	57.77	74.00	16.23	200	86	PK
4	5150.00	36.74	8.03	44.77	54.00	9.23	200	78	AV
5	5180.98	91.82	7.89	99.71			100	80	PK
6	5180.98	84.68	7.89	92.57			100	80	AV
7	10360.00	26.93	16.24	43.17	68.20	25.03	100	274	PK
8	10360.00	17.49	16.24	33.73	54.00	20.27	100	344	AV
9	15540.00	23.48	19.20	42.68	74.00	31.32	400	91	PK
10	15540.00	13.38	19.20	32.58	54.00	21.42	400	250	AV

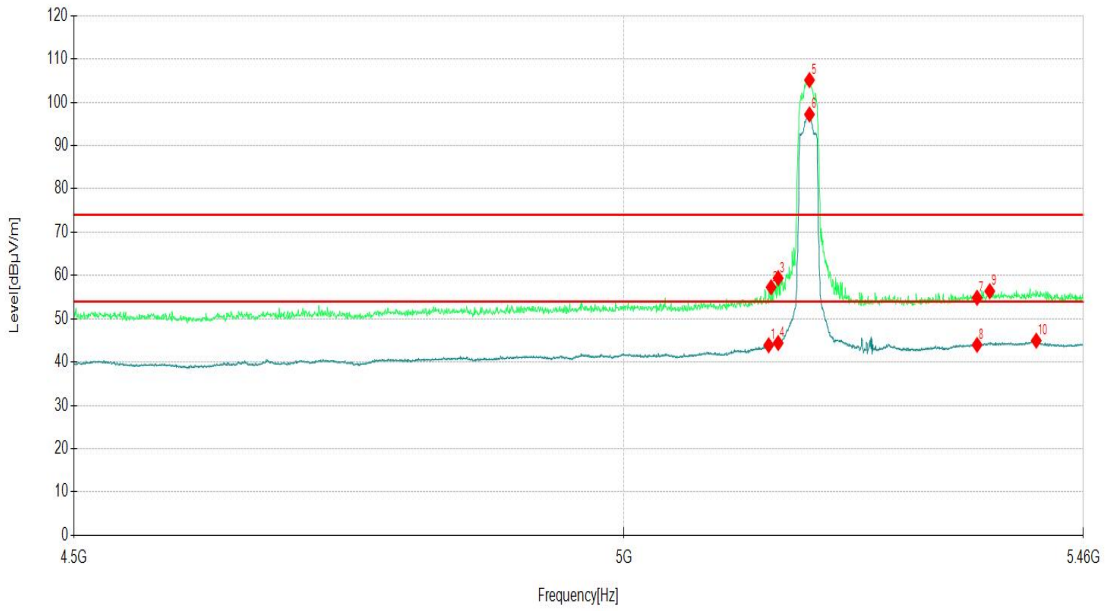


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH36	Frequency	5180 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5140.64	35.95	7.94	43.89	54.00	10.11	400	317	AV
2	5143.04	49.32	7.97	57.29	74.00	16.71	400	103	PK
3	5150.00	51.36	8.03	59.39	74.00	14.61	300	322	PK
4	5150.00	36.38	8.03	44.41	54.00	9.59	300	322	AV
5	5180.98	97.23	7.89	105.12			400	319	PK
6	5180.98	89.30	7.89	97.19			400	317	AV
7	5350.00	44.90	9.96	54.86	74.00	19.14	200	72	PK
8	5350.00	34.01	9.96	43.97	54.00	10.03	200	5	AV
9	5362.99	46.34	10.02	56.36	74.00	17.64	300	198	PK
10	5411.02	34.71	10.24	44.95	54.00	9.05	300	53	AV
11	10360.00	26.96	16.24	43.20	68.20	25.00	100	275	PK
12	10360.00	17.94	16.24	34.18	54.00	19.82	100	201	AV
13	15540.00	22.91	19.20	42.11	74.00	31.89	100	14	PK
14	15540.00	13.67	19.20	32.87	54.00	21.13	100	270	AV



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH44	Frequency	5220MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	10440.00	26.42	16.71	43.13	68.20	25.07	400	338	PK
2	10440.00	17.20	16.71	33.91	54.00	20.09	400	229	AV
3	15660.00	23.18	19.93	43.11	74.00	30.89	200	41	PK
4	15660.00	13.56	19.93	33.49	54.00	20.51	200	115	AV

Vertical

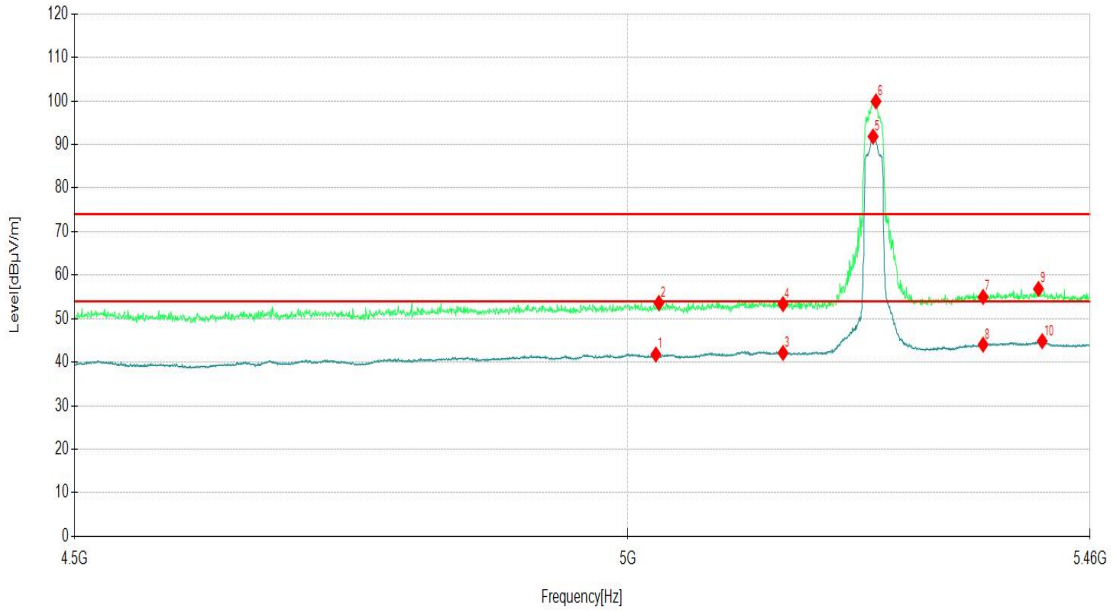
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	10440.00	26.01	16.71	42.72	68.20	25.48	400	13	PK
2	10440.00	16.83	16.71	33.54	54.00	20.46	400	354	AV
3	15660.00	22.53	19.93	42.46	74.00	31.54	300	112	PK
4	15660.00	14.08	19.93	34.01	54.00	19.99	300	344	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH48	Frequency	5240 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5026.82	34.44	7.33	41.77	54.00	12.23	400	76	AV
2	5029.70	46.31	7.31	53.62	74.00	20.38	400	296	PK
3	5150.00	34.10	8.03	42.13	54.00	11.87	200	97	AV
4	5150.00	45.32	8.03	53.35	74.00	20.65	200	91	PK
5	5239.09	83.62	8.21	91.83			200	91	AV
6	5241.97	91.67	8.22	99.89			200	93	PK
7	5350.00	45.04	9.96	55.00	74.00	19.00	300	227	PK
8	5350.00	34.08	9.96	44.04	54.00	9.96	300	154	AV
9	5406.69	46.63	10.21	56.84	74.00	17.16	300	3	PK
10	5410.54	34.59	10.26	44.85	54.00	9.15	300	290	AV
11	10480.00	26.00	16.74	42.74	68.20	25.46	400	51	PK
12	10480.00	16.98	16.74	33.72	54.00	20.28	400	140	AV
13	15720.00	21.74	20.24	41.98	74.00	32.02	200	90	PK
14	15720.00	12.54	20.24	32.78	54.00	21.22	200	360	AV

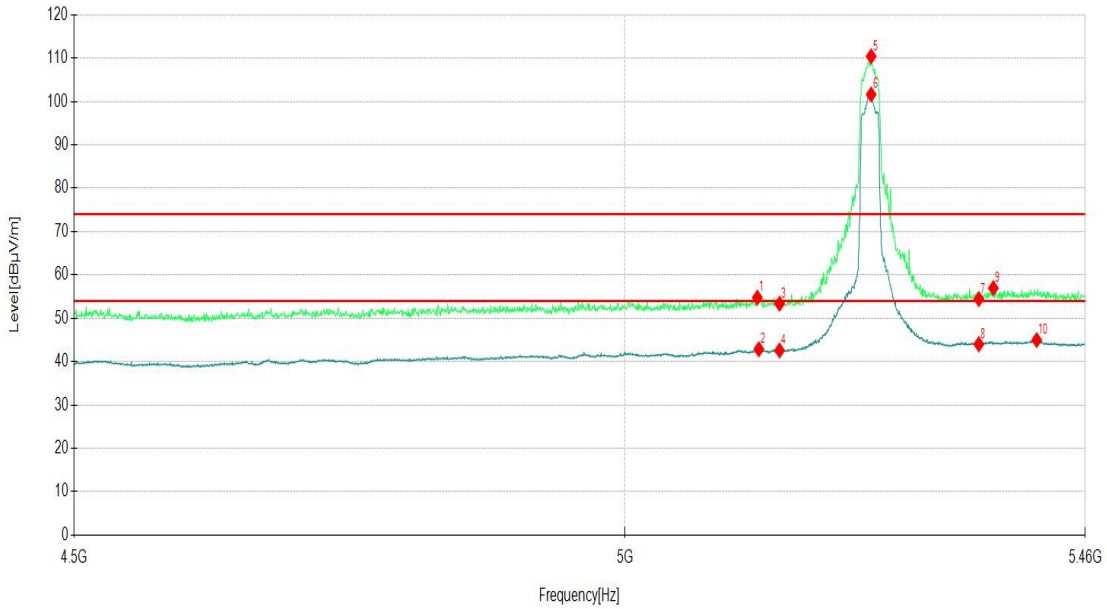


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH48	Frequency	5240 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5128.15	46.60	8.17	54.77	74.00	19.23	400	272	PK
2	5129.59	34.64	8.23	42.87	54.00	11.13	400	315	AV
3	5150.00	45.34	8.03	53.37	74.00	20.63	100	188	PK
4	5150.00	34.56	8.03	42.59	54.00	11.41	100	317	AV
5	5241.01	102.19	8.22	110.41			100	319	PK
6	5241.01	93.38	8.22	101.60			100	315	AV
7	5350.00	44.48	9.96	54.44	74.00	19.56	100	79	PK
8	5350.00	34.06	9.96	44.02	54.00	9.98	100	338	AV
9	5364.91	46.96	9.99	56.95	74.00	17.05	100	60	PK
10	5409.57	34.69	10.29	44.98	54.00	9.02	100	351	AV
11	10480.00	26.14	16.74	42.88	68.20	25.32	400	120	PK
12	10480.00	16.67	16.74	33.41	54.00	20.59	400	150	AV
13	15720.00	22.78	20.24	43.02	74.00	30.98	200	224	PK
14	15720.00	12.88	20.24	33.12	54.00	20.88	200	190	AV

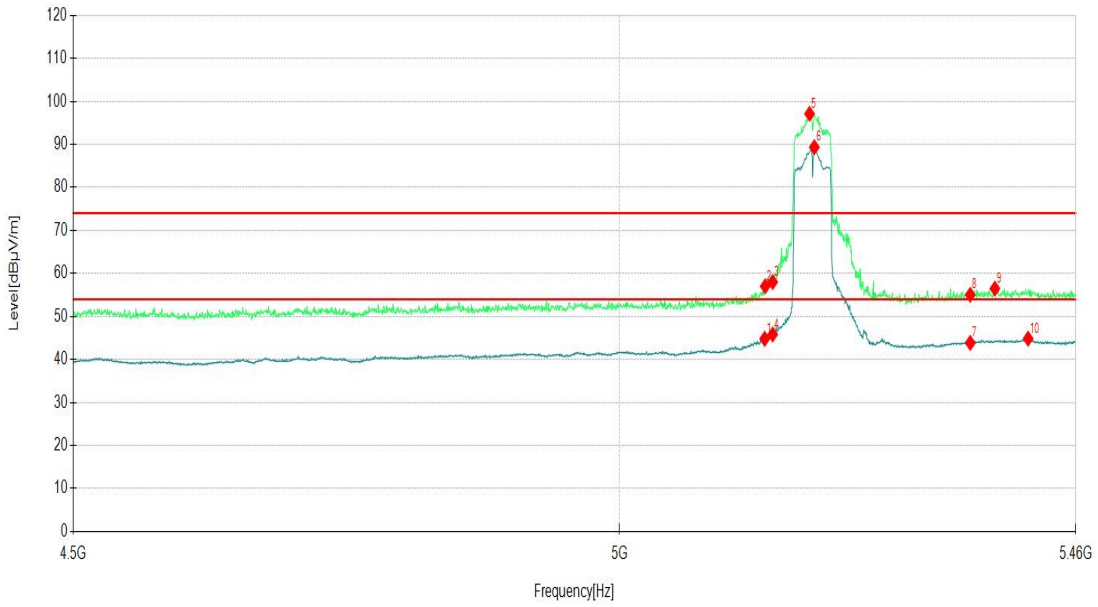


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH38	Frequency	5190 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5142.08	36.85	7.95	44.80	54.00	9.20	200	75	AV
2	5142.56	49.07	7.96	57.03	74.00	16.97	200	61	PK
3	5150.00	49.98	8.03	58.01	74.00	15.99	200	86	PK
4	5150.00	37.79	8.03	45.82	54.00	8.18	200	77	AV
5	5186.74	89.37	7.73	97.10			200	77	PK
6	5191.55	81.71	7.64	89.35			200	79	AV
7	5350.00	33.90	9.96	43.86	54.00	10.14	400	338	AV
8	5350.00	45.08	9.96	55.04	74.00	18.96	400	209	PK
9	5375.48	46.43	10.04	56.47	74.00	17.53	100	255	PK
10	5410.06	34.55	10.29	44.84	54.00	9.16	100	217	AV
11	10380.00	26.58	16.32	42.90	68.20	25.30	300	274	PK
12	10380.00	17.39	16.32	33.71	54.00	20.29	300	56	AV
13	15570.00	21.63	19.48	41.11	74.00	32.89	400	329	PK
14	15570.00	13.17	19.48	32.65	54.00	21.35	400	259	AV

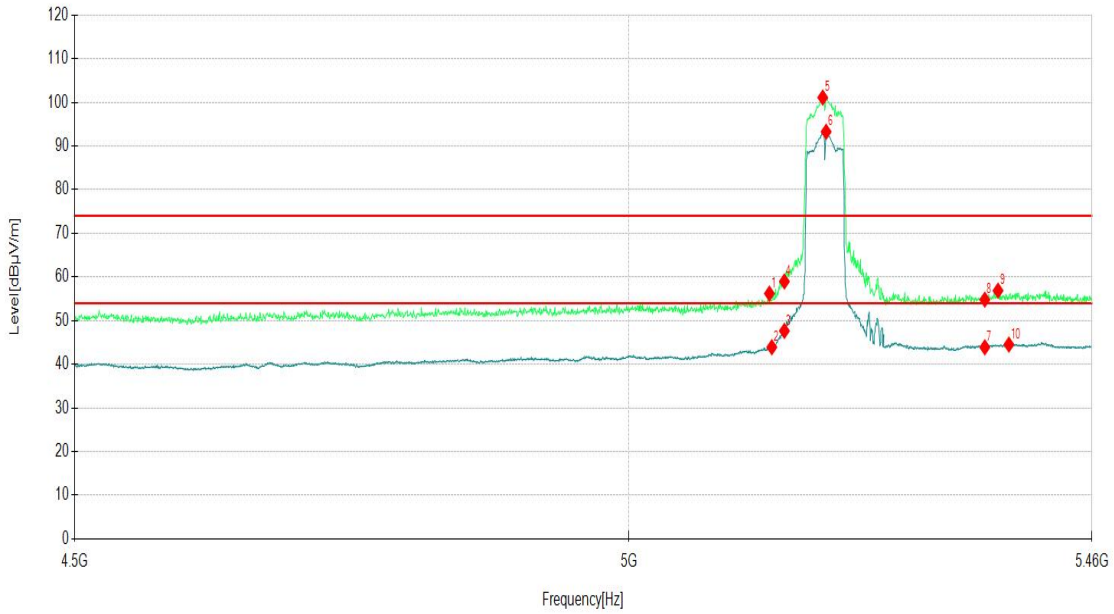


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH38	Frequency	5190 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5135.36	48.12	8.08	56.20	74.00	17.80	200	296	PK
2	5137.76	35.91	8.00	43.91	54.00	10.09	200	320	AV
3	5150.00	39.62	8.03	47.65	54.00	6.35	200	311	AV
4	5150.00	50.95	8.03	58.98	74.00	15.02	200	114	PK
5	5187.70	93.39	7.70	101.09			300	311	PK
6	5191.07	85.63	7.64	93.27			300	318	AV
7	5350.00	33.94	9.96	43.90	54.00	10.10	200	5	AV
8	5350.00	44.84	9.96	54.80	74.00	19.20	200	328	PK
9	5363.47	46.86	10.01	56.87	74.00	17.13	400	296	PK
10	5374.52	34.50	10.01	44.51	54.00	9.49	400	359	AV
11	10380.00	26.99	16.32	43.31	68.20	24.89	200	105	PK
12	10380.00	17.43	16.32	33.75	54.00	20.25	200	214	AV
13	15570.00	21.99	19.48	41.47	74.00	32.53	200	51	PK
14	15570.00	13.24	19.48	32.72	54.00	21.28	200	209	AV

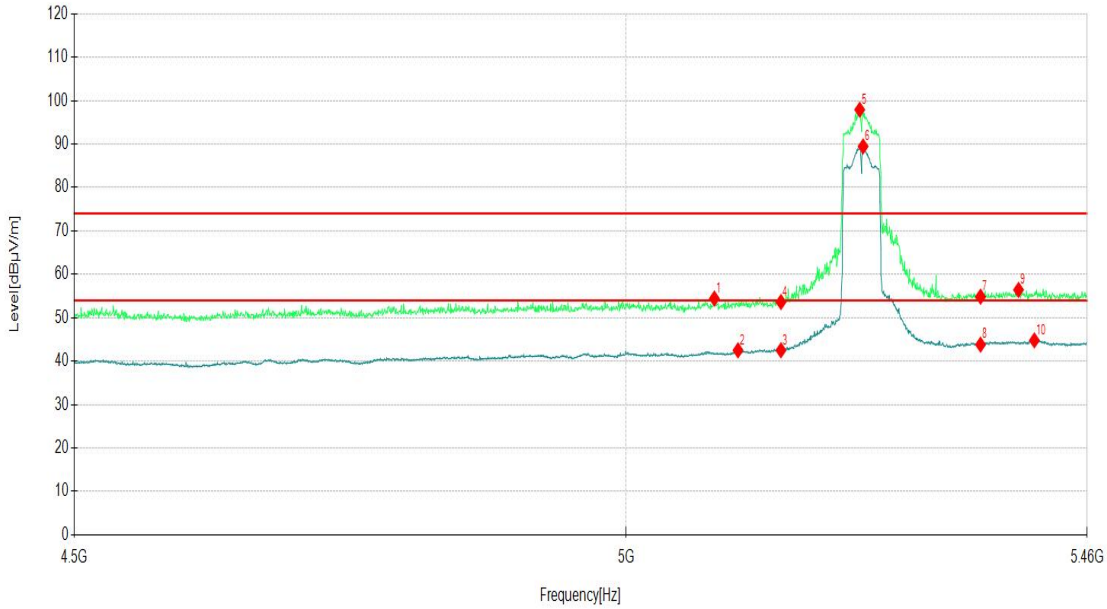


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

Channel	802.11n40 CH46	Frequency	5230 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5084.93	46.71	7.72	54.43	74.00	19.57	200	82	PK
2	5107.98	34.51	7.98	42.49	54.00	11.51	200	149	AV
3	5150.00	34.48	8.03	42.51	54.00	11.49	200	1	AV
4	5150.00	45.59	8.03	53.62	74.00	20.38	200	40	PK
5	5228.04	89.70	8.20	97.90			100	97	PK
6	5231.41	81.26	8.19	89.45			100	91	AV
7	5350.00	44.90	9.96	54.86	74.00	19.14	100	168	PK
8	5350.00	33.86	9.96	43.82	54.00	10.18	100	355	AV
9	5388.92	46.36	10.06	56.42	74.00	17.58	300	84	PK
10	5405.25	34.62	10.17	44.79	54.00	9.21	300	349	AV
11	10460.00	26.00	16.86	42.86	68.20	25.34	400	344	PK
12	10460.00	16.73	16.86	33.59	54.00	20.41	400	344	AV
13	15690.00	13.63	20.19	33.82	54.00	20.18	200	146	AV
14	15690.00	23.24	20.19	43.43	74.00	30.57	200	116	PK

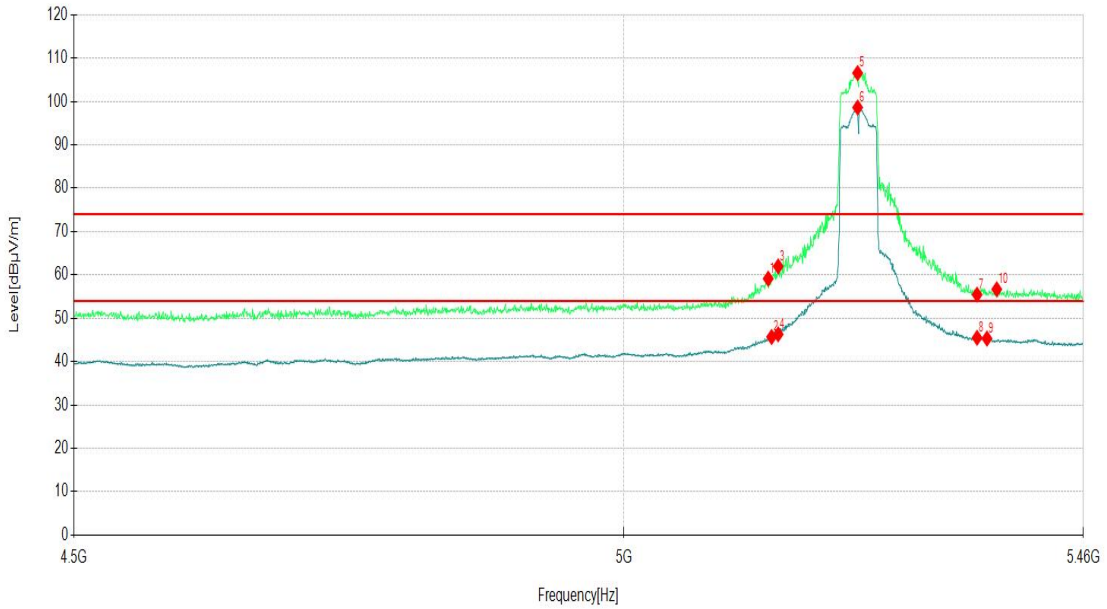


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH46	Frequency	5230 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5140.16	51.20	7.93	59.13	74.00	14.87	300	323	PK
2	5143.52	37.72	7.97	45.69	54.00	8.31	300	312	AV
3	5150.00	53.94	8.03	61.97	74.00	12.03	100	302	PK
4	5150.00	38.28	8.03	46.31	54.00	7.69	100	318	AV
5	5229.00	98.35	8.20	106.55			400	318	PK
6	5229.00	90.41	8.20	98.61			400	316	AV
7	5350.00	45.49	9.96	55.45	74.00	18.55	400	325	PK
8	5350.00	35.55	9.96	45.51	54.00	8.49	400	312	AV
9	5360.11	35.28	10.05	45.33	54.00	8.67	400	289	AV
10	5370.20	46.76	9.93	56.69	74.00	17.31	400	270	PK
11	10460.00	25.62	16.86	42.48	68.20	25.72	200	120	PK
12	10460.00	16.67	16.86	33.53	54.00	20.47	200	234	AV
13	15690.00	13.76	20.19	33.95	54.00	20.05	400	264	AV
14	15690.00	22.28	20.19	42.47	74.00	31.53	400	289	PK

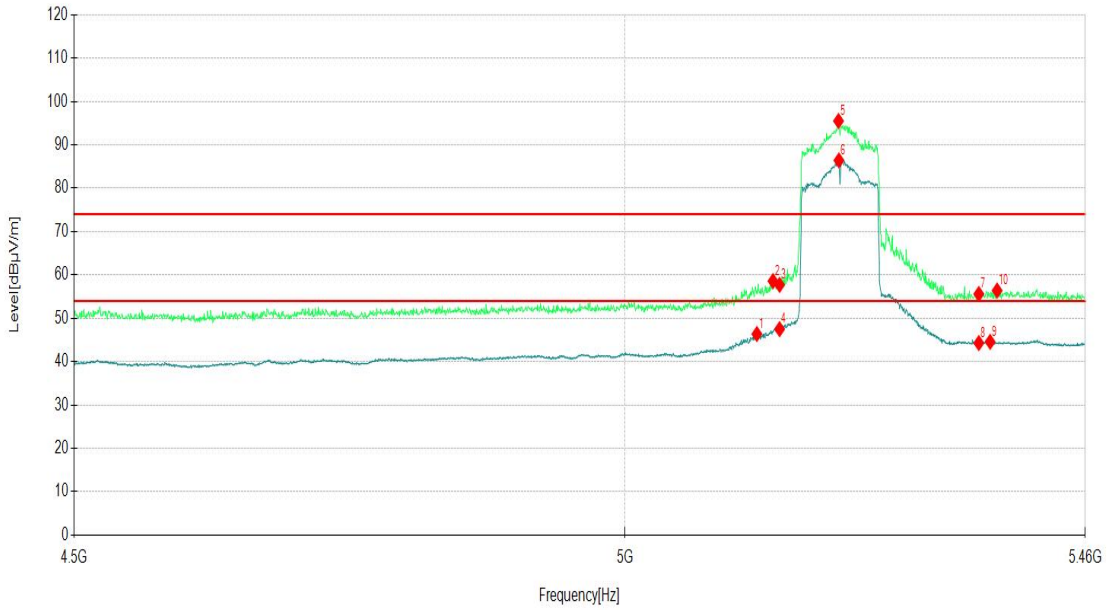


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBµV/m] - Level [dBµV/m]

Channel	802.11ac80 CH42	Frequency	5210 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5127.67	38.23	8.15	46.38	54.00	7.62	200	95	AV
2	5143.52	50.61	7.97	58.58	74.00	15.42	200	78	PK
3	5150.00	49.68	8.03	57.71	74.00	16.29	100	101	PK
4	5150.00	39.47	8.03	47.50	54.00	6.50	100	80	AV
5	5208.35	87.05	8.44	95.49			100	88	PK
6	5208.83	77.92	8.48	86.40			100	88	AV
7	5350.00	45.64	9.96	55.60	74.00	18.40	300	5	PK
8	5350.00	34.33	9.96	44.29	54.00	9.71	300	95	AV
9	5361.55	34.54	10.03	44.57	54.00	9.43	200	109	AV
10	5368.75	46.46	9.94	56.40	74.00	17.60	200	126	PK
11	10460.00	26.21	16.86	43.07	68.20	25.13	100	94	PK
12	10460.00	16.94	16.86	33.80	54.00	20.20	100	309	AV
13	15690.00	13.59	20.19	33.78	54.00	20.22	300	79	AV
14	15690.00	22.98	20.19	43.17	74.00	30.83	300	249	PK

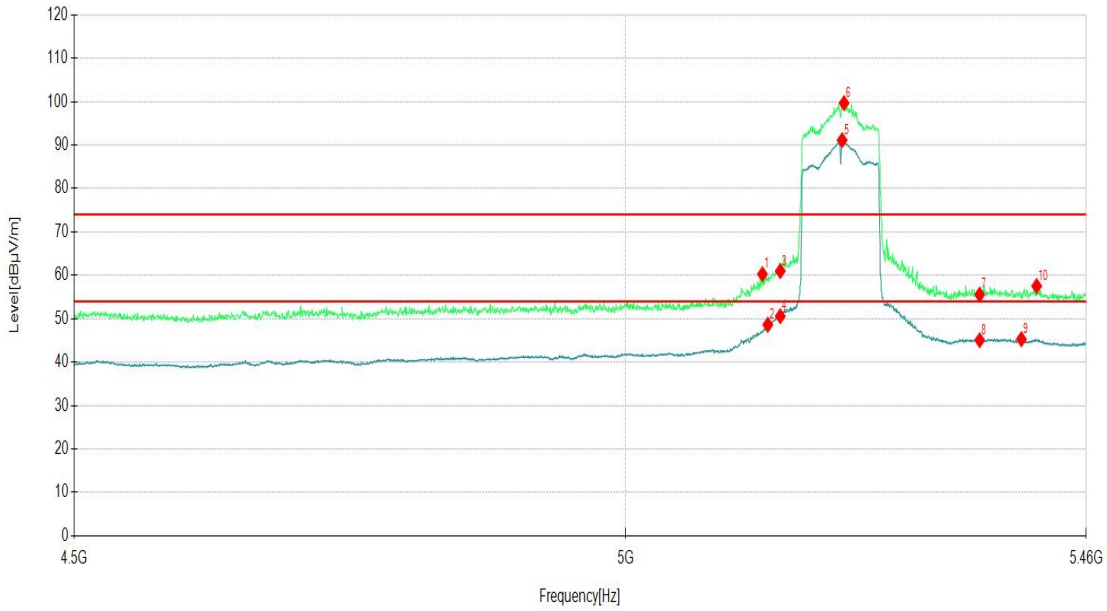


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11ac80 CH42	Frequency	5210 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5132.48	52.11	8.17	60.28	74.00	13.72	200	305	PK
2	5137.76	40.61	8.00	48.61	54.00	5.39	200	317	AV
3	5150.00	52.95	8.03	60.98	74.00	13.02	100	313	PK
4	5150.00	42.56	8.03	50.59	54.00	3.41	100	317	AV
5	5211.24	82.58	8.54	91.12			100	322	AV
6	5213.16	91.19	8.47	99.66			100	317	PK
7	5350.00	45.59	9.96	55.55	74.00	18.45	300	296	PK
8	5350.00	35.09	9.96	45.05	54.00	8.95	300	319	AV
9	5392.77	35.25	10.05	45.30	54.00	8.70	200	141	AV
10	5408.61	47.27	10.25	57.52	74.00	16.48	200	311	PK
11	10460.00	25.71	16.86	42.57	68.20	25.63	100	314	PK
12	10460.00	17.17	16.86	34.03	54.00	19.97	100	51	AV
13	15690.00	13.60	20.19	33.79	54.00	20.21	300	195	AV
14	15690.00	22.41	20.19	42.60	74.00	31.40	300	357	PK



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

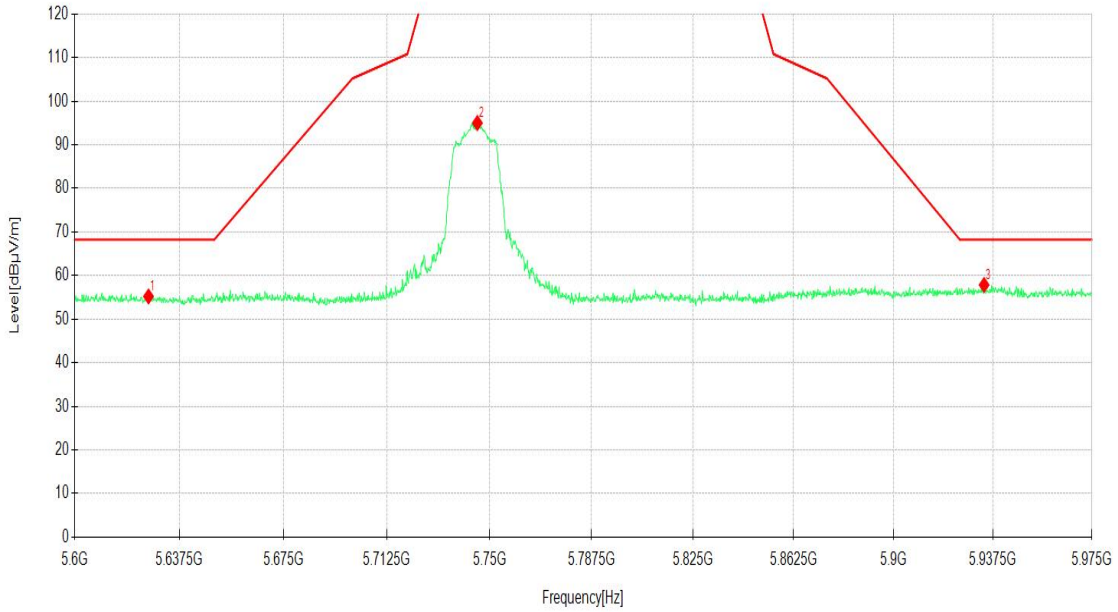
3.1.7 TEST RESULTS - Band 4 (5745-5825MHz):

ABOVE 1GHz DATA

Channel	802.11a CH149	Frequency	5745 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5626.45	46.19	9.02	55.21	68.20	12.99	300	291	PK
2	5745.57	86.05	8.93	94.98			300	99	PK
3	5934.10	47.22	10.63	57.85	68.20	10.35	300	48	PK
4	11490.00	25.05	15.04	40.09	74.00	33.91	100	319	PK
5	11490.00	17.48	15.04	32.52	54.00	21.48	100	0	AV
6	17235.00	20.92	25.54	46.46	68.20	21.74	400	146	PK
7	17235.00	12.61	25.54	38.15	54.00	15.85	400	235	AV

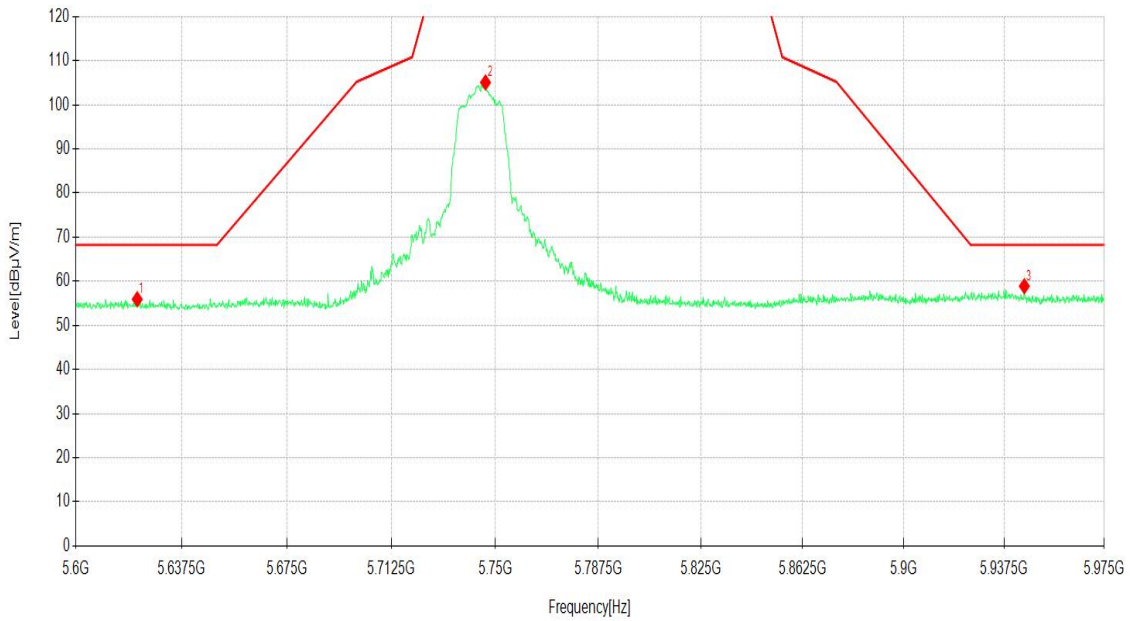


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH149	Frequency	5745 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5621.76	46.93	9.00	55.93	68.20	12.27	400	158	PK
2	5746.51	96.13	8.93	105.06			400	323	PK
3	5944.99	48.62	10.26	58.88	68.20	9.32	400	272	PK
4	11490.00	24.58	15.04	39.62	74.00	34.38	300	309	PK
5	11490.00	17.26	15.04	32.30	54.00	21.70	300	61	AV
6	17235.00	19.93	25.54	45.47	68.20	22.73	300	225	PK
7	17235.00	13.00	25.54	38.54	54.00	15.46	300	96	AV



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH 157	Frequency	5785MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	11570.00	25.89	15.34	41.23	74.00	32.77	400	66	PK
2	11570.00	18.41	15.34	33.75	54.00	20.25	400	31	AV
3	17355.00	19.32	26.31	45.63	68.20	22.57	100	215	PK
4	17355.00	11.93	26.31	38.24	54.00	15.76	100	26	AV

Vertical

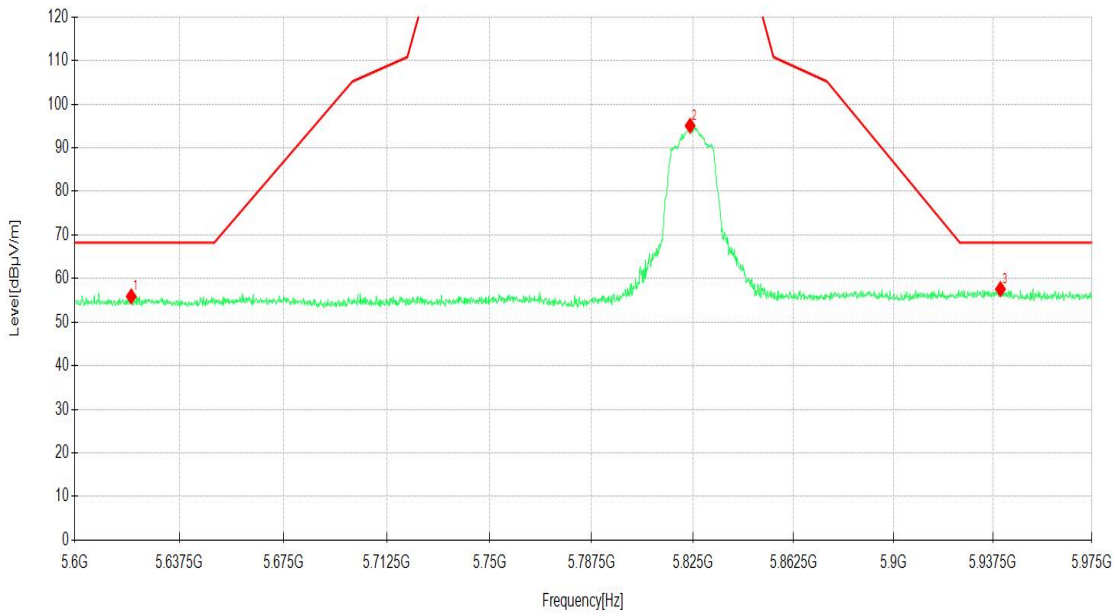
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	11490.00	24.55	15.04	39.59	74.00	34.41	400	110	PK
2	11490.00	17.43	15.04	32.47	54.00	21.53	400	289	AV
3	17235.00	18.83	25.54	44.37	68.20	23.83	200	229	PK
4	17235.00	12.62	25.54	38.16	54.00	15.84	200	120	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH165	Frequency	5825 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5620.26	46.90	8.99	55.89	68.20	12.31	100	28	PK
2	5823.99	86.24	8.81	95.05			100	102	PK
3	5940.30	46.79	10.78	57.57	68.20	10.63	100	16	PK
4	11650.00	25.24	15.20	40.44	74.00	33.56	400	32	PK
5	11650.00	18.33	15.20	33.53	54.00	20.47	400	52	AV
6	17475.00	18.90	26.05	44.95	68.20	23.25	200	131	PK
7	17475.00	11.42	26.05	37.47	54.00	16.53	200	200	AV

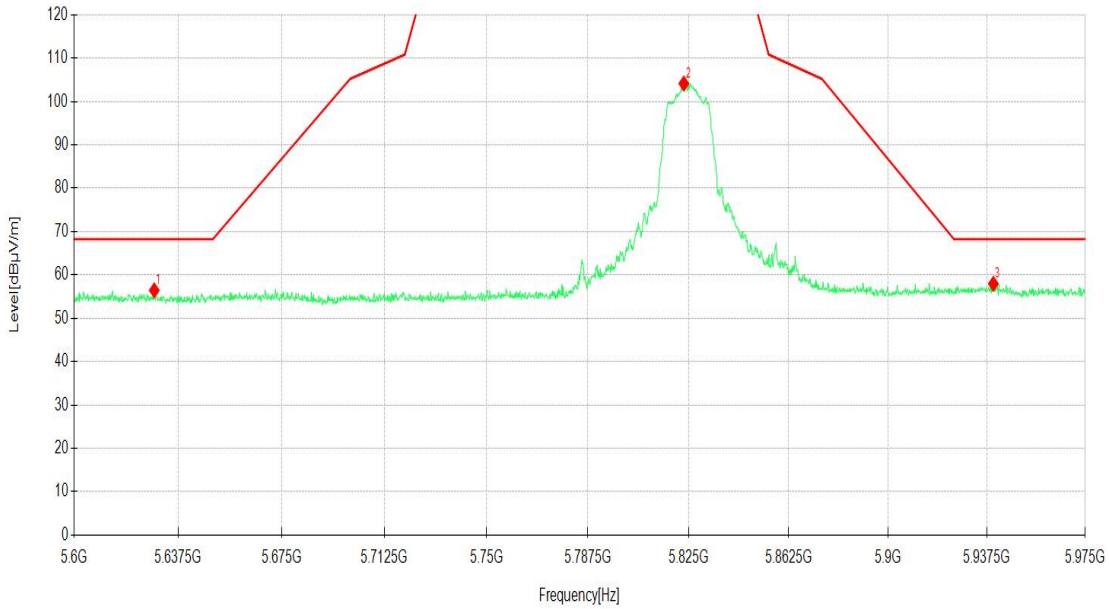


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11a CH165	Frequency	5825 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5628.89	47.40	9.04	56.44	68.20	11.76	400	166	PK
2	5823.24	95.31	8.82	104.13			400	330	PK
3	5939.92	47.14	10.81	57.95	68.20	10.25	400	138	PK
4	11650.00	27.27	15.20	42.47	74.00	31.53	100	166	PK
5	11650.00	18.76	15.20	33.96	54.00	20.04	100	102	AV
6	17475.00	18.48	26.05	44.53	68.20	23.67	400	205	PK
7	17475.00	11.15	26.05	37.20	54.00	16.80	400	354	AV

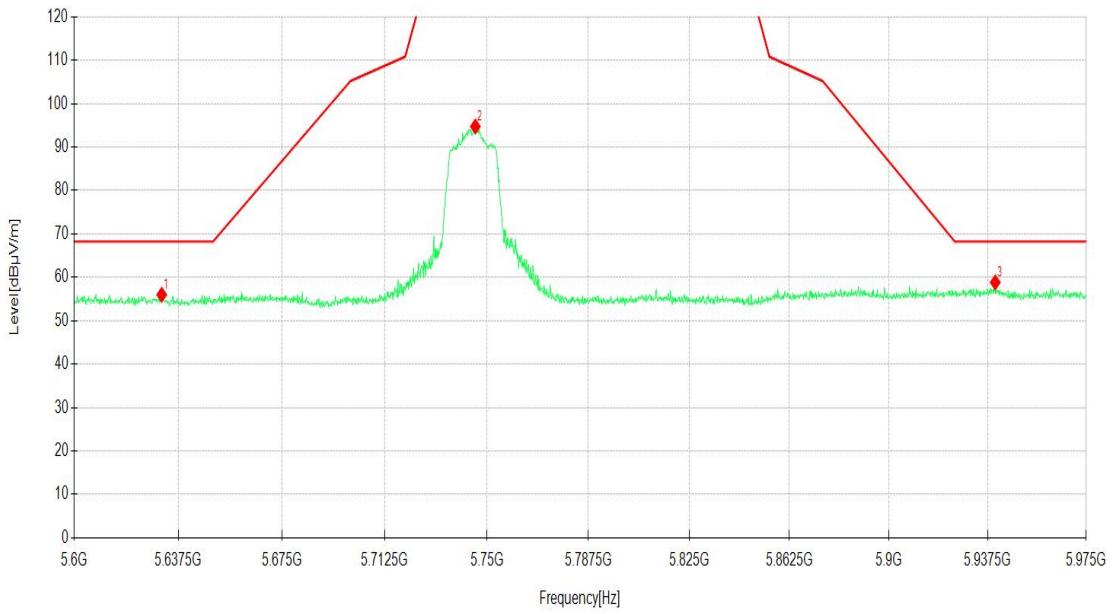


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH149	Frequency	5745 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5631.52	47.03	8.95	55.98	68.20	12.22	300	1	PK
2	5745.76	85.79	8.93	94.72			300	83	PK
3	5940.30	48.06	10.78	58.84	68.20	9.36	300	345	PK
4	11490.00	27.01	15.04	42.05	74.00	31.95	100	119	PK
5	11490.00	18.45	15.04	33.49	54.00	20.51	100	119	AV
6	17235.00	20.08	25.54	45.62	68.20	22.58	400	264	PK
7	17235.00	13.11	25.54	38.65	54.00	15.35	400	23	AV

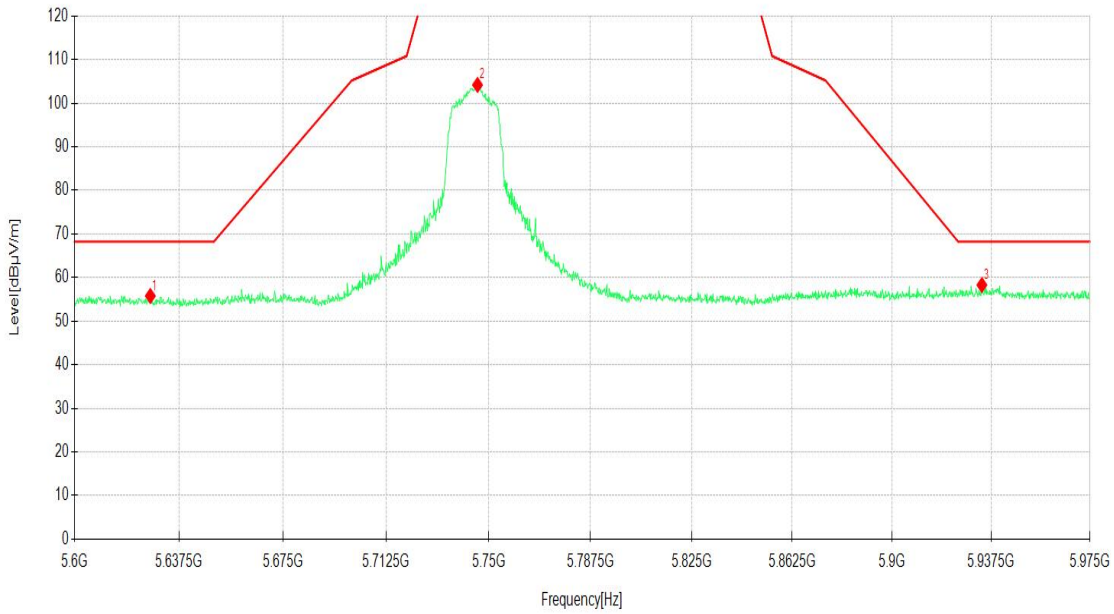


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH149	Frequency	5745 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5627.20	46.75	9.03	55.78	68.20	12.42	100	151	PK
2	5745.95	95.25	8.93	104.18			100	319	PK
3	5933.92	47.68	10.62	58.30	68.20	9.90	100	280	PK
4	11490.00	25.07	15.04	40.11	74.00	33.89	200	309	PK
5	11490.00	17.26	15.04	32.30	54.00	21.70	200	200	AV
6	17235.00	19.83	25.54	45.37	68.20	22.83	200	0	PK
7	17235.00	12.84	25.54	38.38	54.00	15.62	200	27	AV



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH 157	Frequency	5785MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	11570.00	26.09	15.34	41.43	74.00	32.57	200	30	PK
2	11570.00	18.25	15.34	33.59	54.00	20.41	200	49	AV
3	17355.00	20.01	26.31	46.32	68.20	21.88	200	54	PK
4	17355.00	12.18	26.31	38.49	54.00	15.51	200	30	AV

Vertical

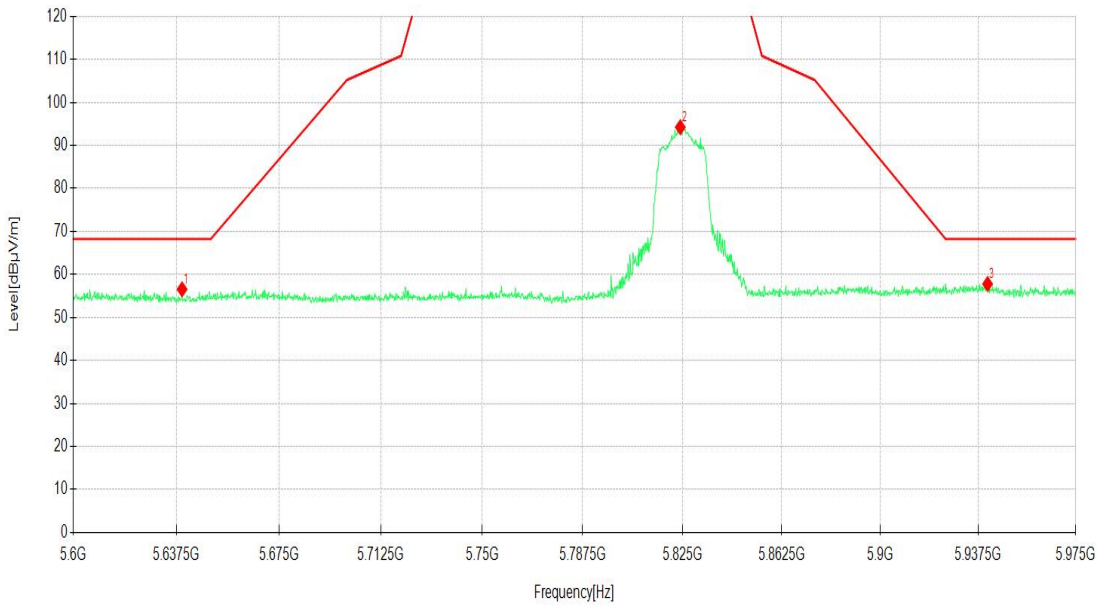
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark
1	11570.00	25.15	15.34	40.49	74.00	33.51	300	117	PK
2	11570.00	17.74	15.34	33.08	54.00	20.92	300	270	AV
3	17355.00	19.09	26.31	45.40	68.20	22.80	100	68	PK
4	17355.00	12.87	26.31	39.18	54.00	14.82	100	68	AV

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH165	Frequency	5825 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5639.58	48.08	8.46	56.54	68.20	11.66	100	196	PK
2	5824.17	85.42	8.81	94.23			100	100	PK
3	5941.05	47.08	10.70	57.78	68.20	10.42	100	335	PK
4	11650.00	26.49	15.20	41.69	74.00	32.31	400	250	PK
5	11650.00	18.47	15.20	33.67	54.00	20.33	400	27	AV
6	17475.00	18.98	26.05	45.03	68.20	23.17	400	260	PK
7	17475.00	12.04	26.05	38.09	54.00	15.91	400	4	AV

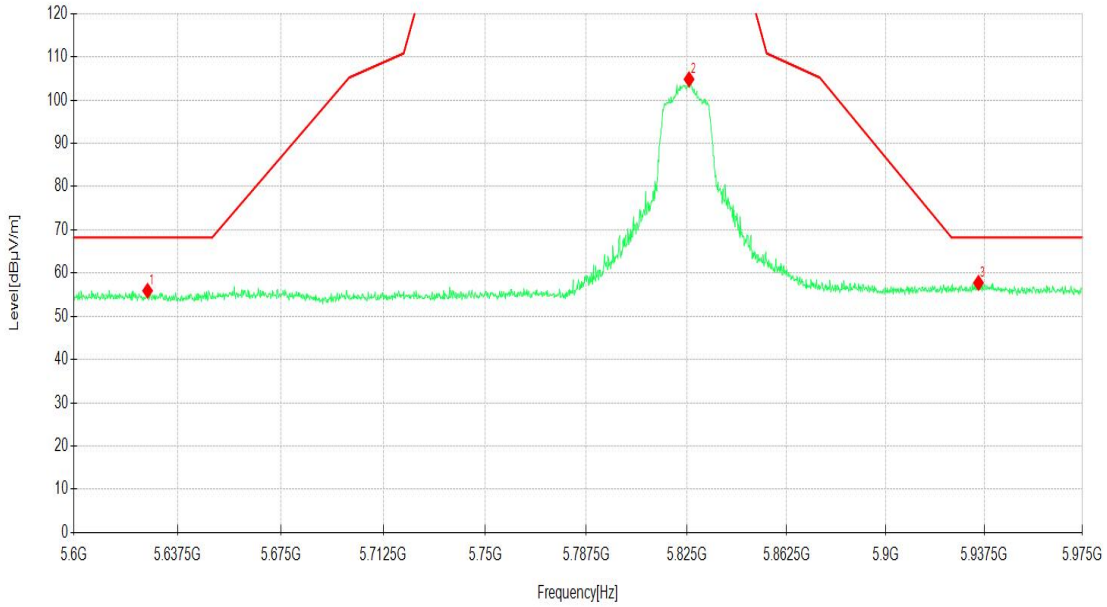


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n20 CH165	Frequency	5825 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5626.64	46.88	9.03	55.91	68.20	12.29	100	353	PK
2	5825.86	96.03	8.78	104.81			100	318	PK
3	5935.23	47.07	10.67	57.74	68.20	10.46	100	5	PK
4	11650.00	26.20	15.20	41.40	74.00	32.60	400	100	PK
5	11650.00	18.29	15.20	33.49	54.00	20.51	400	120	AV
6	17475.00	19.24	26.05	45.29	68.20	22.91	400	6	PK
7	17475.00	11.51	26.05	37.56	54.00	16.44	400	11	AV

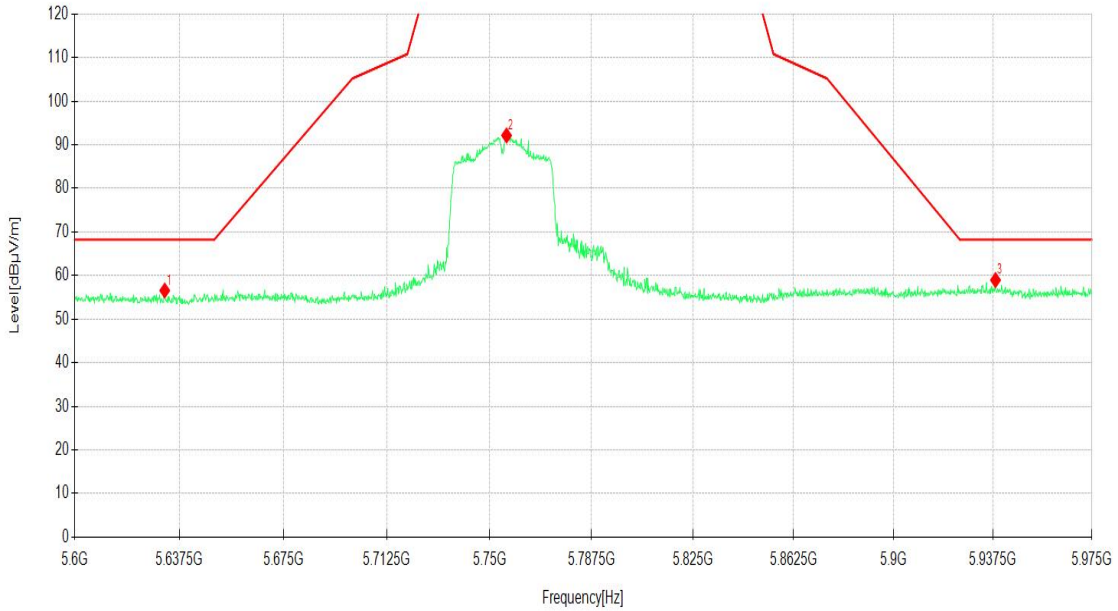


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH151	Frequency	5755 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5632.27	47.65	8.91	56.56	68.20	11.64	100	133	PK
2	5756.27	82.93	9.20	92.13			100	86	PK
3	5938.42	48.21	10.76	58.97	68.20	9.23	100	216	PK
4	11510.00	25.87	15.12	40.99	74.00	33.01	100	225	PK
5	11510.00	18.02	15.12	33.14	54.00	20.86	100	310	AV
6	17265.00	19.61	25.62	45.23	68.20	22.97	300	1	PK
7	17265.00	12.81	25.62	38.43	54.00	15.57	300	349	AV

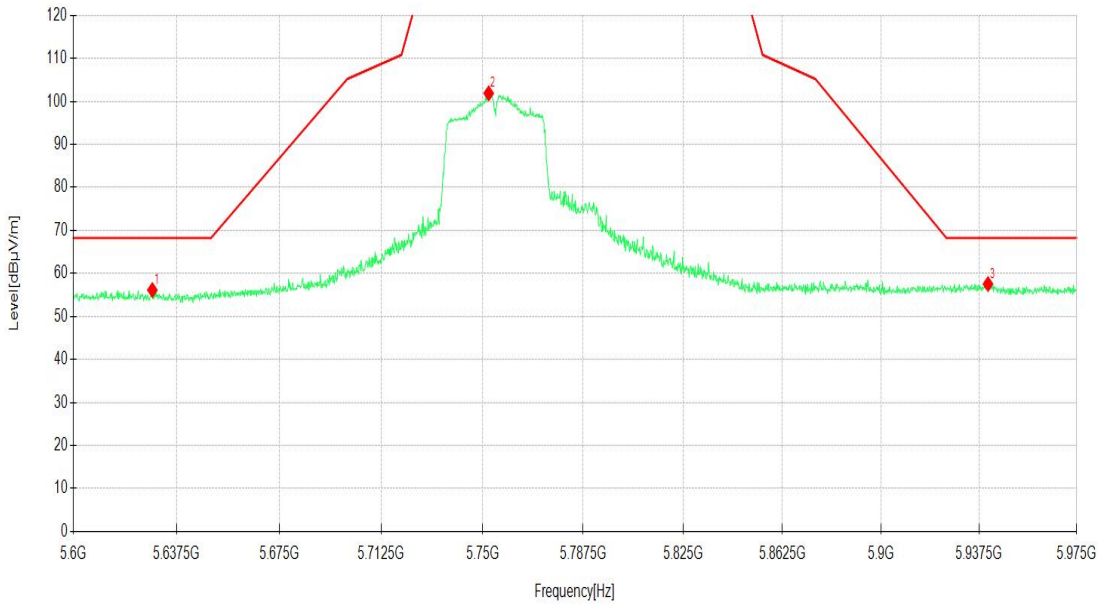


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH151	Frequency	5755 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5628.70	47.08	9.05	56.13	68.20	12.07	100	88	PK
2	5752.33	92.85	9.02	101.87			100	319	PK
3	5940.86	46.83	10.71	57.54	68.20	10.66	100	358	PK
4	11510.00	26.33	15.12	41.45	74.00	32.55	200	2	PK
5	11510.00	17.41	15.12	32.53	54.00	21.47	200	48	AV
6	17265.00	19.65	25.62	45.27	68.20	22.93	200	255	PK
7	17265.00	12.88	25.62	38.50	54.00	15.50	200	241	AV

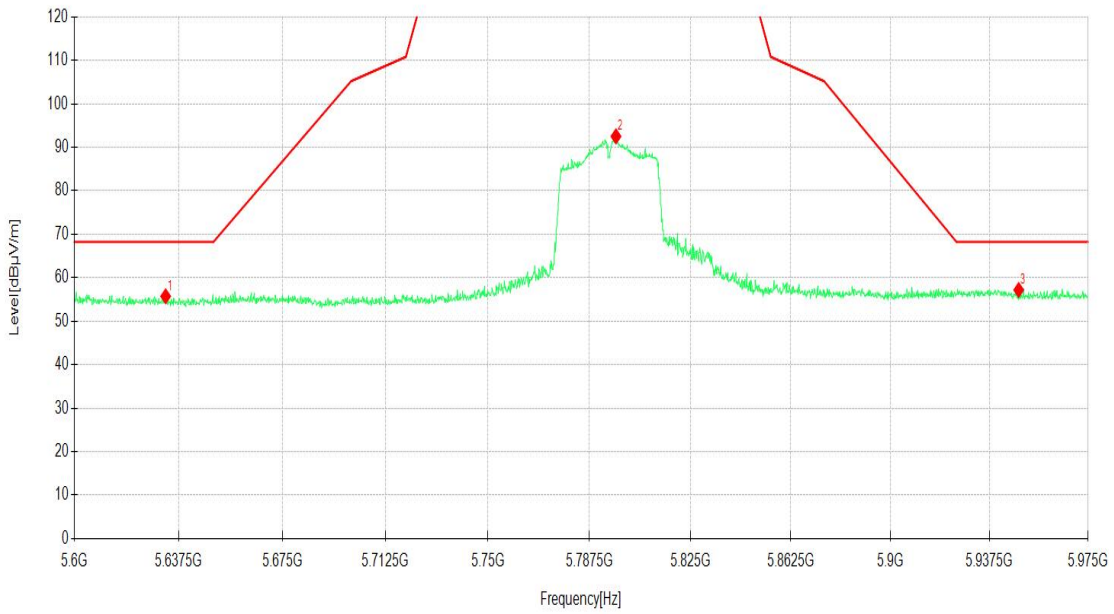


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH159	Frequency	5795 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5632.83	46.85	8.88	55.73	68.20	12.47	200	154	PK
2	5797.35	83.92	8.59	92.51			200	99	PK
3	5948.55	47.32	9.87	57.19	68.20	11.01	200	51	PK
4	11590.00	25.84	15.17	41.01	74.00	32.99	400	120	PK
5	11590.00	18.67	15.17	33.84	54.00	20.16	400	284	AV
6	17385.00	19.40	26.15	45.55	68.20	22.65	400	359	PK
7	17385.00	12.47	26.15	38.62	54.00	15.38	400	170	AV

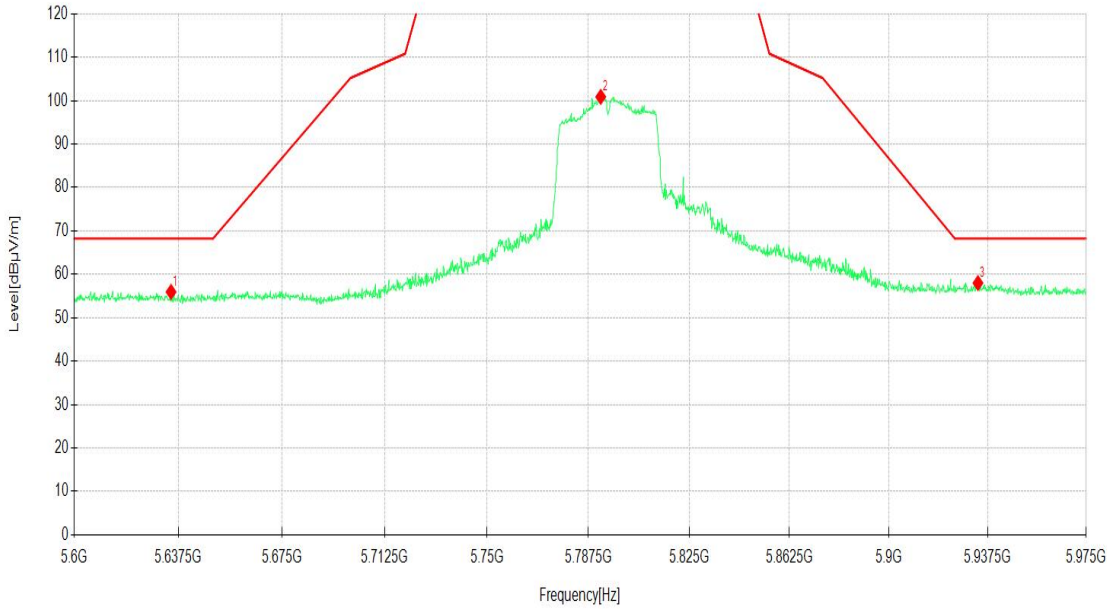


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11n40 CH159	Frequency	5795 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5634.89	47.19	8.75	55.94	68.20	12.26	200	154	PK
2	5792.10	92.26	8.60	100.86			200	332	PK
3	5933.73	47.38	10.62	58.00	68.20	10.20	200	79	PK
4	11590.00	25.25	15.17	40.42	74.00	33.58	100	150	PK
5	11590.00	18.11	15.17	33.28	54.00	20.72	100	125	AV
6	17385.00	18.63	26.15	44.78	68.20	23.42	100	230	PK
7	17385.00	12.73	26.15	38.88	54.00	15.12	100	230	AV

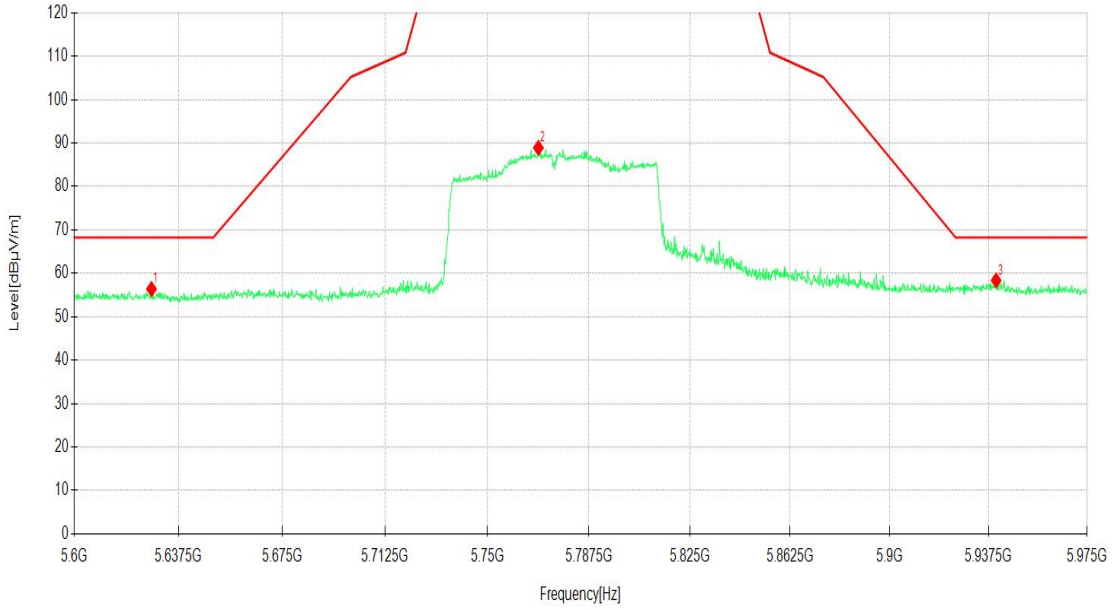


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11ac80 CH155	Frequency	5755 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Horizontal

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5627.76	47.34	9.04	56.38	68.20	11.82	200	311	PK
2	5768.83	79.96	8.94	88.90			200	99	PK
3	5940.30	47.59	10.78	58.37	68.20	9.83	200	296	PK
4	11550.00	24.88	15.40	40.28	74.00	33.72	200	81	PK
5	11550.00	17.79	15.40	33.19	54.00	20.81	200	205	AV
6	17325.00	19.22	26.20	45.42	68.20	22.78	300	309	PK
7	17325.00	11.54	26.20	37.74	54.00	16.26	300	210	AV

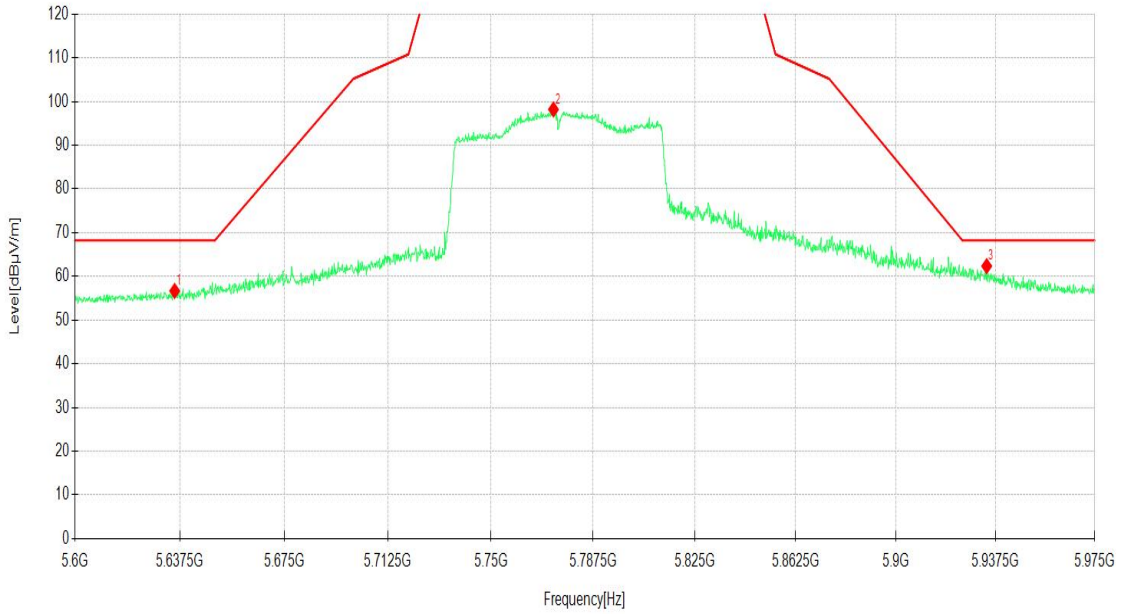


Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

Channel	802.11ac80 CH155	Frequency	5755 MHz
Frequency Range	Above 1G	Detector Function	PK/AV

Vertical

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5635.64	47.97	8.70	56.67	68.20	11.53	200	106	PK
2	5772.96	89.51	8.67	98.18			200	312	PK
3	5934.10	51.72	10.63	62.35	68.20	5.85	200	42	PK
4	11550.00	26.31	15.40	41.71	74.00	32.29	400	112	PK
5	11550.00	19.15	15.40	34.55	54.00	19.45	400	206	AV
6	17325.00	18.64	26.20	44.84	68.20	23.36	400	132	PK
7	17325.00	12.40	26.20	38.60	54.00	15.40	400	294	AV



Remark: 1. The emission levels of other frequencies were greater than 20dB margin.
2. Level (dBuV/m) = Reading (dBuV) + Factor (dB/m).
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 Measurement procedure

The transmitter antenna output was connected to the spectrum analyzer through an attenuator. The resolution bandwidth shall be set to the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.
below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP

3.4 26DB EMISSION BANDWIDTH

3.4.1 LIMITS OF 26DB EMISSION BANDWIDTH

This section is for reporting purpose only, there is on restriction limit of bandwidth

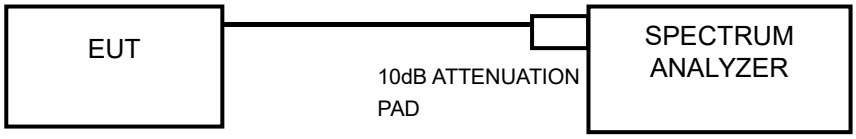
3.4.2 TEST PROCEDURES

FOR 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 peak 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%.

3.4.3 TEST SETUP

FOR 26dB BANDWIDTH



3.5 6DB EMISSION BANDWIDTH

3.5.1 LIMITS OF 6DB EMISSION BANDWIDTH

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

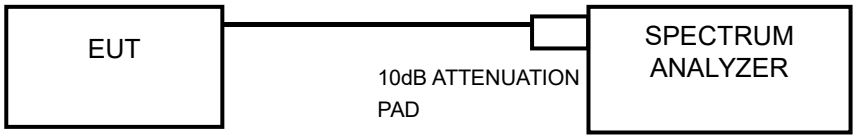
3.5.2 TEST PROCEDURES

FOR 6dB BANDWIDTH

1)Set RBW = 100 kHz.
2)Set the video bandwidth (VBW) ≥ 3 RBW.
3)Detector = Peak.
4)Trace mode = max hold.
5) Sweep = auto couple.
6) Allow the trace to stabilize.
7)Measurethe maximum width of the emission that is constrained by thefrequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.5.3 TEST SETUP

FOR 6dB BANDWIDTH



3.6 TRANSMIT POWER MEASUREMENT

3.6.1 LIMITS OF TRANSMIT POWER MEASUREMENT(FCC)

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√		250mW(24dBm) or 11 dBm+10LogB*
U-NII-2C	√		250mW(24dBm) or 11 dBm+10LogB*
U-NII-3	√		1 Watt (30 dBm)

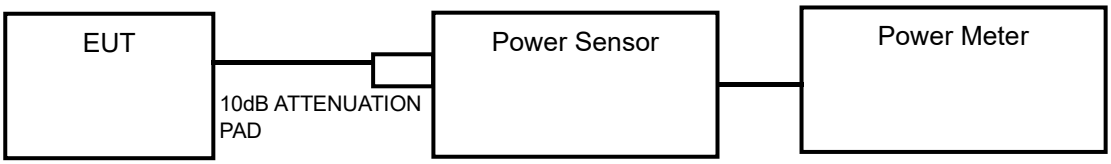
NOTE: 1. Where B is the 26dB emission bandwidth in MHz.

3.6.2 TEST PROCEDURES

FOR AVERAGE POWER MEASUREMENT

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

3.6.3 TEST SETUP



3.7 POWER SPECTRAL DENSITY MEASUREMENT

3.7.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT(FCC)

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

3.7.2 TEST PROCEDURE

For U-NII-1, U-NII-2A, U-NII-2Cband:

Using method SA-2

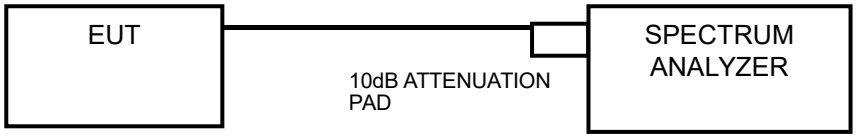
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW =3 MHz, Detector = AV
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to“free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Using method SA-2

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 300 kHz, Set VBW =1 MHz, Detector = AV
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to“free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

3.7.3 TEST SETUP



3.8 FREQUENCY STABILITY

3.8.1 LIMITS OFFREQUENCY STABILITY

The frequency of the carrier signal shall be maintained within band of operation.

3.8.2 TEST PROCEDURES

a. The EUT wasplacedinside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

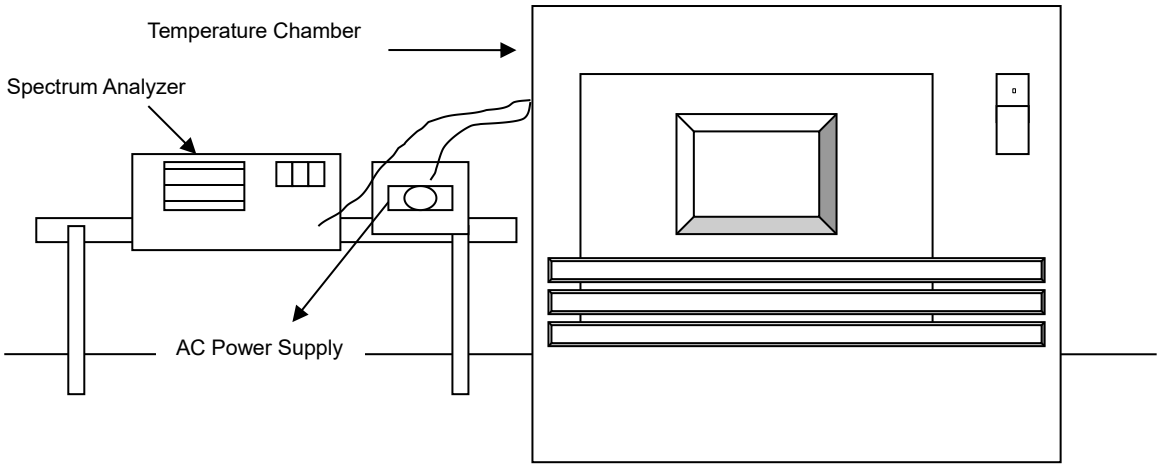
c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber tostabilize, turn the EUT on and measure the operatingfrequency after 2, 5, and 10 minutes.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30minutes. The supply voltage was then adjusted onthe EUT from 85% to 115%and the frequency record.

3.8.3 TEST SETUP



3.9 ANTENNA REQUIREMENT

3.9.1 LIMITS OFFREQUENCY STABILITY

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. According to FCC 47 CFR Section 15.407(a)(1)(2) , if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.9.2 ANTENNA ANTI-REPLACEMENT CONSTRUCTION

The antenna used for this product is External antenna and that no antenna other than that furnished by the responsible party shall be used with the device

3.9.3 ANTENNA GAIN

The maximum peak gain of the transmit antenna is 3.20 dBi.

4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).

5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).

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

Important

(1) The test report is valid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented.

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