

FCC Test Report

Report No.: RF191021C11-1

FCC ID: M72-P017

Test Model: P017

Received Date: Oct. 21, 2019

Test Date: Nov. 05 ~ Nov. 19, 2019

Issued Date: Nov. 26, 2019

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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF191021C11-1	Original release	Nov. 26, 2019

1 Certificate of Conformity

Product: Poly Studio X50

Brand: Poly

Test Model: P017

Sample Status: Engineering sample

Applicant: Polycom Inc.

Test Date: Nov. 05 ~ Nov. 19, 2019

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Nov. 26, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Nov. 26, 2019
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -18.50dB at 0.45118MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -2.8dB at 5350.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Poly Studio X50
Brand	Poly
Test Model	P017
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 50.636mW 5260 ~ 5320MHz: 55.667mW 5500 ~ 5720MHz: 61.490mW 5745 ~ 5825MHz: 41.470mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter, Remote Controller (Brand: Poly, Model: BW7630UN)
Cable Supplied	1.75m shielded HDMI cable without core x 2 4.55m shielded RJ45 cable without core

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function
802.11a	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT consumes power from the following adapter.

Adapter	
Brand	FSP GROUP INC.
Model	FSP060-DHAN3
Input Power	100-240Vac, 50-60Hz, 1.8A
Output Power	12Vdc, 5A (60W Max.)
Power Line	2.65m non-shielded AC power cord without core 1.75m DC power cable with one core attached on adapter

3. The following antennas were provided to the EUT.

No.	Brand	Model	Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	Yageo	ANTA0ZZ11241WLAN1	Dipole	i-pex(MHF)	2.6	3.0
2	Yageo	ANTA0ZZ13651WLAN3	Dipole	i-pex(MHF)	2.6	3.0

4. 2.4GHz & 5GHz & BT technology cannot transmit at same time.

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz:

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

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500 ~ 5720MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz
138	5690 MHz		

For 5745 ~ 5825MHz:

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

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

- The EUT was positioned on **X-plane**.
- Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (VHT80)	42	42	138	OFDM	29.3
-	802.11ac (VHT80)	58	58		OFDM	29.3
-	802.11ac (VHT80)	106 to 138	106, 122, 138		OFDM	29.3
-	802.11ac (VHT80)	155	155		OFDM	29.3

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (VHT80)	42	42	138	OFDM	29.3
-	802.11ac (VHT80)	58	58		OFDM	29.3
-	802.11ac (VHT80)	106 to 138	106, 122, 138		OFDM	29.3
-	802.11ac (VHT80)	155	155		OFDM	29.3

Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	24 deg. C, 68% RH 25 deg. C, 68% RH	120Vac, 60Hz	Greg Lin Willy Cheng
RE<1G	24 deg. C, 68% RH	120Vac, 60Hz	Greg Lin
PLC	24 deg. C, 68% RH	120Vac, 60Hz	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Leo Tsai

3.3 Duty Cycle of Test Signal

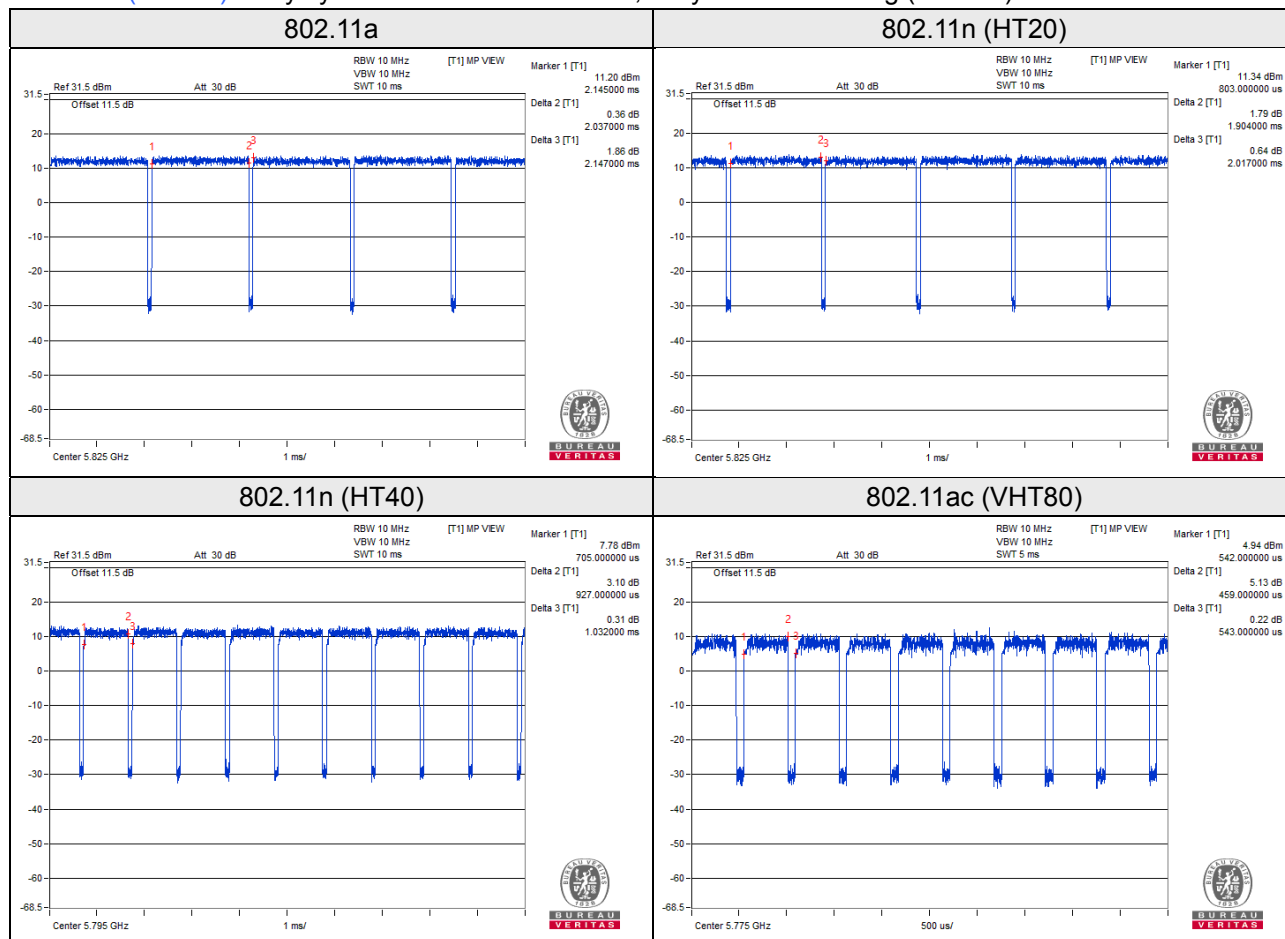
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = $2.037/2.147 = 0.949$, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11n (HT20): Duty cycle = $1.904/2.017 = 0.944$, Duty factor = $10 * \log(1/0.944) = 0.25$

802.11n (HT40): Duty cycle = $0.927/1.032 = 0.898$, Duty factor = $10 * \log(1/0.898) = 0.47$

802.11ac (VHT80): Duty cycle = $0.459/0.543 = 0.845$, Duty factor = $10 * \log(1/0.845) = 0.73$



3.4 Description of Support Units

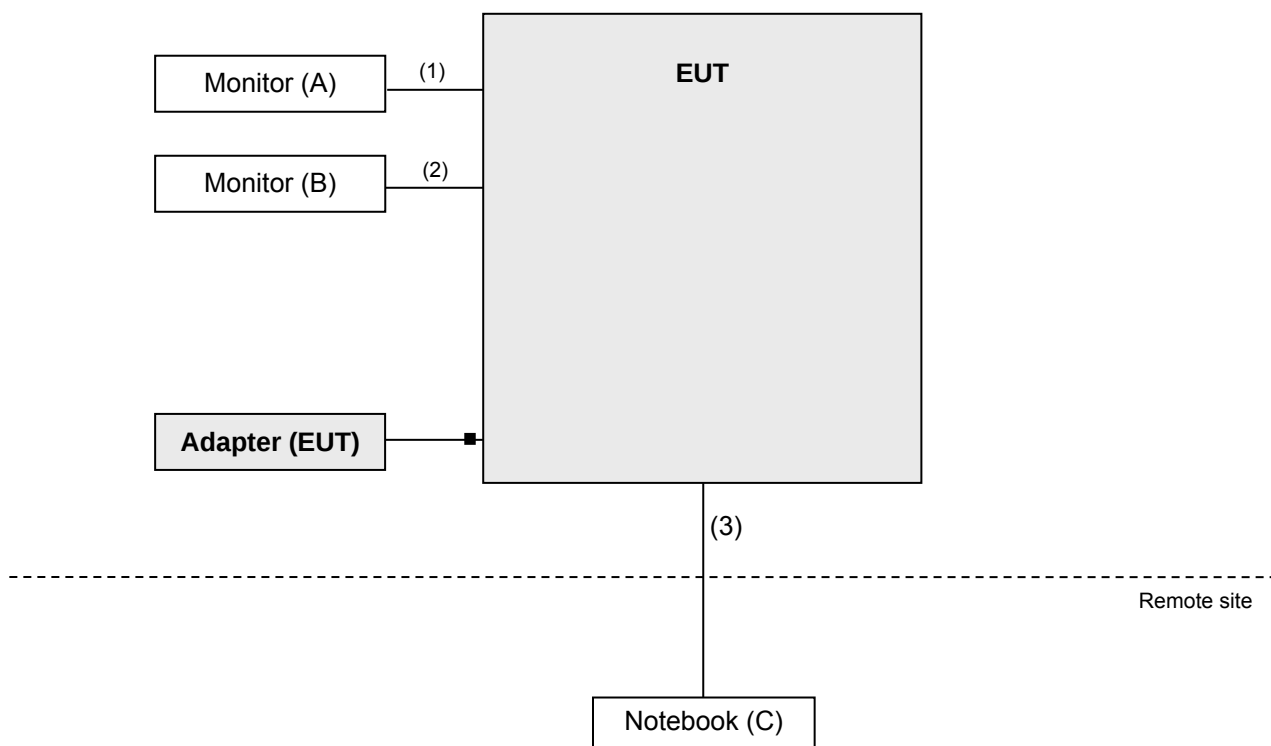
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Monitor	ViewSonic	VX2457-MHD	UG0182942330	FCC DoC Approved	-
B.	Monitor	Lenovo	L215pwA	4M0373192470697	FCC DoC Approved	-
C.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	HDMI cable	1	1.75	Y	0	Accessory of EUT
2.	HDMI cable	1	1.75	Y	0	Accessory of EUT
3.	LAN cable	1	4.55	Y	0	Accessory of EUT RJ45, Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must 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 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK: 105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK: 122.2 (dBµV/m) ^{*4}
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.			^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 04, 2019	Jun. 03, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Dec. 07, 2018	Dec. 06, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jul. 11, 2019	Jul. 10, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jul. 11, 2019	Jul. 10, 2020
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 30, 2019	Jul. 29, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 05, 2019	Sep. 04, 2020
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190 004/MY55190007/MY55 210005	Jul. 15, 2019	Jul. 14, 2020

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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 Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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 height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

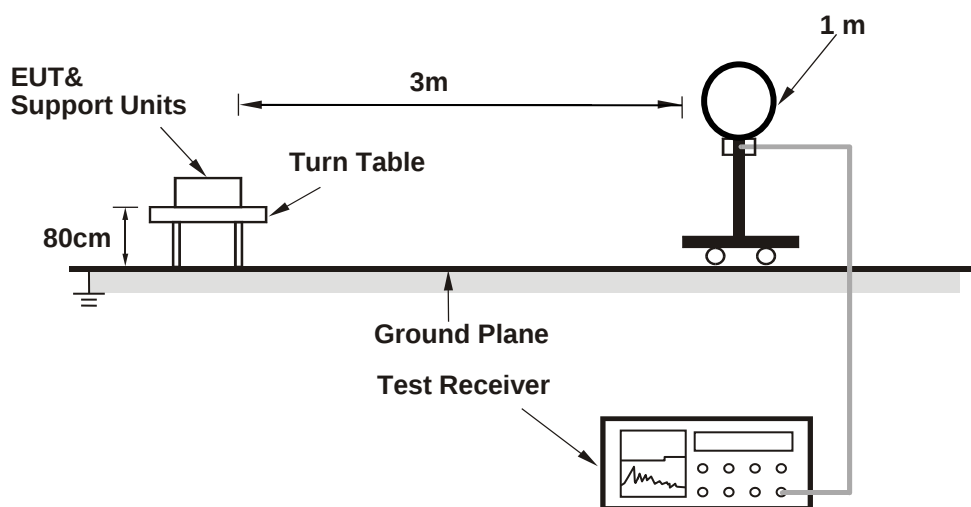
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 1kHz; 802.11n (HT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

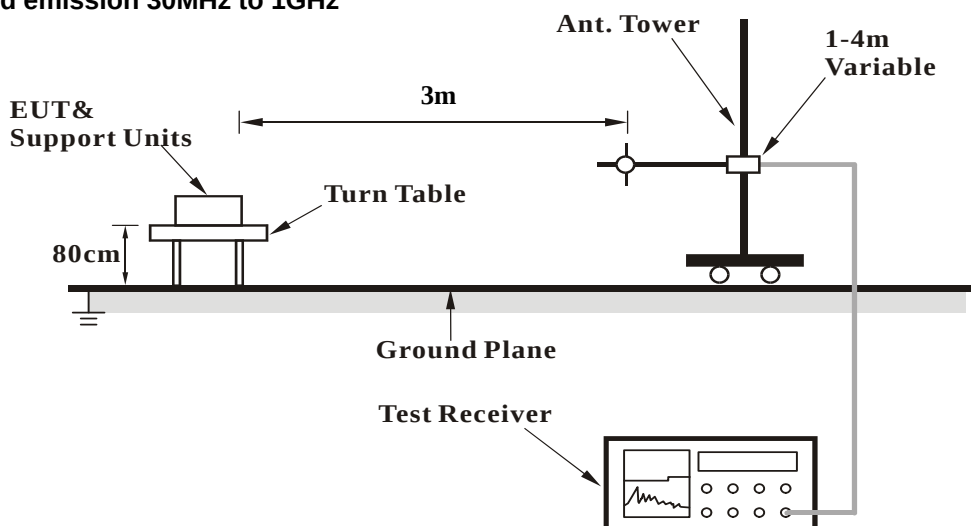
No deviation.

4.1.5 Test Setup

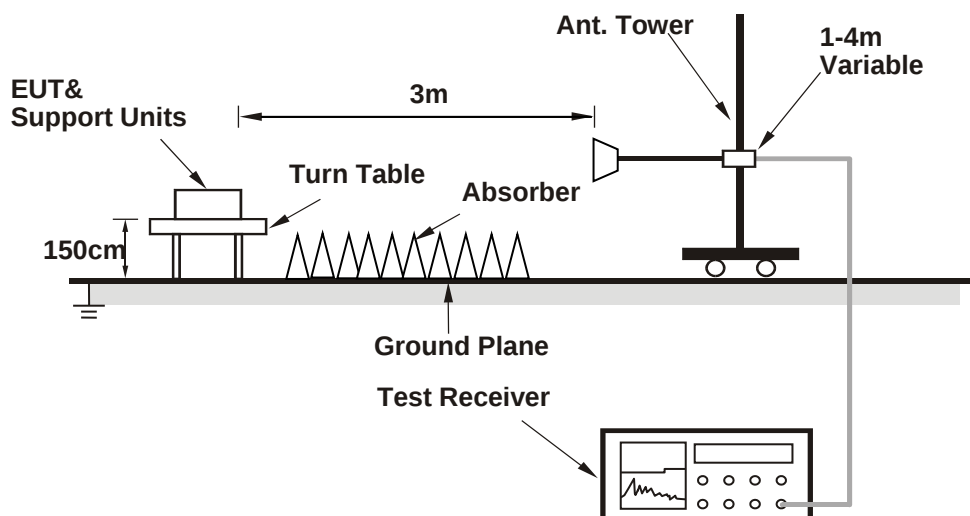
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Set the EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	2.01 H	348	52.3	4.1
2	5150.00	45.4 AV	54.0	-8.6	2.01 H	348	41.3	4.1
3	*5180.00	111.0 PK			2.07 H	358	72.5	38.5
4	*5180.00	101.0 AV			2.07 H	358	62.5	38.5
5	#10360.00	60.4 PK	68.2	-7.8	1.56 H	184	43.9	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.3 PK	74.0	-18.7	1.87 V	72	51.2	4.1
2	5150.00	44.4 AV	54.0	-9.6	1.87 V	72	40.3	4.1
3	*5180.00	109.5 PK			1.80 V	64	71.0	38.5
4	*5180.00	99.6 AV			1.80 V	64	61.1	38.5
5	#10360.00	59.6 PK	68.2	-8.6	1.77 V	194	43.1	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	111.1 PK			2.11 H	354	72.7	38.4
2	*5200.00	101.1 AV			2.11 H	354	62.7	38.4
3	#10400.00	60.7 PK	68.2	-7.5	1.57 H	176	44.2	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	109.8 PK			1.78 V	63	71.4	38.4
2	*5200.00	99.8 AV			1.78 V	63	61.4	38.4
3	#10400.00	59.8 PK	68.2	-8.4	1.82 V	198	43.3	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.1 PK			1.65 H	357	70.8	38.3
2	*5240.00	99.1 AV			1.65 H	357	60.8	38.3
3	5350.00	54.3 PK	74.0	-19.7	1.59 H	346	50.4	3.9
4	5350.00	44.1 AV	54.0	-9.9	1.59 H	346	40.2	3.9
5	#10480.00	60.0 PK	68.2	-8.2	1.63 H	176	43.7	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	107.9 PK			1.84 V	57	69.6	38.3
2	*5240.00	97.9 AV			1.84 V	57	59.6	38.3
3	5350.00	53.7 PK	74.0	-20.3	1.76 V	51	49.8	3.9
4	5350.00	43.6 AV	54.0	-10.4	1.76 V	51	39.7	3.9
5	#10480.00	59.1 PK	68.2	-9.1	1.82 V	203	42.8	16.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.1 PK	74.0	-19.9	1.55 H	349	50.0	4.1
2	5150.00	41.6 AV	54.0	-12.4	1.55 H	349	37.5	4.1
3	*5260.00	110.1 PK			1.62 H	359	71.9	38.2
4	*5260.00	99.4 AV			1.62 H	359	61.2	38.2
5	#10520.00	61.9 PK	68.2	-6.3	2.01 H	144	45.6	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.4 PK	74.0	-19.6	1.46 V	111	50.3	4.1
2	5150.00	41.3 AV	54.0	-12.7	1.46 V	111	37.2	4.1
3	*5260.00	108.7 PK			1.21 V	66	70.5	38.2
4	*5260.00	99.1 AV			1.21 V	66	60.9	38.2
5	#10520.00	59.0 PK	68.2	-9.2	1.65 V	196	42.7	16.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.1 PK			1.62 H	330	70.0	38.1
2	*5300.00	97.6 AV			1.62 H	330	59.5	38.1
3	10600.00	57.5 PK	74.0	-16.5	1.49 H	182	41.0	16.5
4	10600.00	44.0 AV	54.0	-10.0	1.49 H	182	27.5	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.1 PK			1.43 V	65	70.0	38.1
2	*5300.00	97.7 AV			1.43 V	65	59.6	38.1
3	10600.00	58.7 PK	74.0	-15.3	1.73 V	195	42.2	16.5
4	10600.00	45.0 AV	54.0	-9.0	1.73 V	195	28.5	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.7 PK			2.26 H	332	69.5	38.2
2	*5320.00	96.9 AV			2.26 H	332	58.7	38.2
3	5350.00	54.1 PK	74.0	-19.9	1.99 H	274	50.2	3.9
4	5350.00	41.4 AV	54.0	-12.6	1.99 H	274	37.5	3.9
5	10640.00	56.9 PK	74.0	-17.1	1.62 H	143	40.2	16.7
6	10640.00	43.8 AV	54.0	-10.2	1.62 H	143	27.1	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.2 PK			1.60 V	67	69.0	38.2
2	*5320.00	96.8 AV			1.60 V	67	58.6	38.2
3	5350.00	54.3 PK	74.0	-19.7	1.83 V	85	50.4	3.9
4	5350.00	41.6 AV	54.0	-12.4	1.83 V	85	37.7	3.9
5	10640.00	58.0 PK	74.0	-16.0	1.62 V	195	41.3	16.7
6	10640.00	44.5 AV	54.0	-9.5	1.62 V	195	27.8	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.6 PK	74.0	-18.4	1.95 H	342	51.2	4.4
2	5460.00	42.0 AV	54.0	-12.0	1.95 H	342	37.6	4.4
3	#5470.00	55.8 PK	68.2	-12.4	1.74 H	318	51.3	4.5
4	*5500.00	108.6 PK			1.87 H	355	69.8	38.8
5	*5500.00	98.8 AV			1.87 H	355	60.0	38.8
6	11000.00	57.7 PK	74.0	-16.3	1.74 H	176	39.3	18.4
7	11000.00	44.3 AV	54.0	-9.7	1.74 H	176	25.9	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	1.38 V	77	50.2	4.4
2	5460.00	42.1 AV	54.0	-11.9	1.38 V	77	37.7	4.4
3	#5470.00	57.1 PK	68.2	-11.1	1.20 V	92	52.6	4.5
4	*5500.00	108.5 PK			1.33 V	68	69.7	38.8
5	*5500.00	98.9 AV			1.33 V	68	60.1	38.8
6	11000.00	56.4 PK	74.0	-17.6	2.36 V	216	38.0	18.4
7	11000.00	43.2 AV	54.0	-10.8	2.36 V	216	24.8	18.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	107.5 PK			1.52 H	329	68.8	38.7
2	*5580.00	97.5 AV			1.52 H	329	58.8	38.7
3	11160.00	57.5 PK	74.0	-16.5	1.69 H	143	40.4	17.1
4	11160.00	43.4 AV	54.0	-10.6	1.69 H	143	26.3	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	108.4 PK			1.40 V	91	69.7	38.7
2	*5580.00	98.7 AV			1.40 V	91	60.0	38.7
3	11160.00	56.4 PK	74.0	-17.6	2.34 V	251	39.3	17.1
4	11160.00	43.3 AV	54.0	-10.7	2.34 V	251	26.2	17.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.4 PK			1.72 H	33	70.5	38.9
2	*5700.00	99.1 AV			1.72 H	33	60.2	38.9
3	#5725.00	55.9 PK	68.2	-12.3	1.86 H	55	51.3	4.6
4	11400.00	57.4 PK	74.0	-16.6	1.96 H	152	39.9	17.5
5	11400.00	43.5 AV	54.0	-10.5	1.96 H	152	26.0	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.0 PK			1.54 V	92	70.1	38.9
2	*5700.00	99.3 AV			1.54 V	92	60.4	38.9
3	#5725.00	56.1 PK	68.2	-12.1	1.41 V	87	51.5	4.6
4	11400.00	57.2 PK	74.0	-16.8	1.40 V	192	39.7	17.5
5	11400.00	44.7 AV	54.0	-9.3	1.40 V	192	27.2	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.4 PK	74.0	-19.6	2.08 H	351	50.0	4.4
2	5460.00	42.0 AV	54.0	-12.0	2.08 H	351	37.6	4.4
3	#5470.00	55.4 PK	68.2	-12.8	1.84 H	342	50.9	4.5
4	*5720.00	107.9 PK			1.72 H	8	69.0	38.9
5	*5720.00	98.0 AV			1.72 H	8	59.1	38.9
6	#5850.00	55.3 PK	68.2	-12.9	1.62 H	317	50.4	4.9
7	11440.00	57.0 PK	74.0	-17.0	2.31 H	255	39.8	17.2
8	11440.00	43.5 AV	54.0	-10.5	2.31 H	255	26.3	17.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.8 PK	74.0	-19.2	1.00 V	110	50.4	4.4
2	5460.00	42.0 AV	54.0	-12.0	1.00 V	110	37.6	4.4
3	#5470.00	55.4 PK	68.2	-12.8	1.46 V	99	50.9	4.5
4	*5720.00	109.2 PK			1.51 V	91	70.3	38.9
5	*5720.00	99.6 AV			1.51 V	91	60.7	38.9
6	#5850.00	55.5 PK	68.2	-12.7	1.62 V	131	50.6	4.9
7	11440.00	56.8 PK	74.0	-17.2	2.31 V	196	39.6	17.2
8	11440.00	43.7 AV	54.0	-10.3	2.31 V	196	26.5	17.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5631.20	56.0 PK	68.2	-12.2	1.74 H	7	51.5	4.5
2	*5745.00	107.7 PK			1.74 H	7	68.7	39.0
3	*5745.00	97.7 AV			1.74 H	7	58.7	39.0
4	#5943.20	56.4 PK	68.2	-11.8	1.74 H	7	51.1	5.3
5	11490.00	58.1 PK	74.0	-15.9	1.63 H	189	41.3	16.8
6	11490.00	44.2 AV	54.0	-9.8	1.63 H	189	27.4	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.00	54.9 PK	68.2	-13.3	1.18 V	73	50.5	4.4
2	*5745.00	109.4 PK			1.18 V	73	70.4	39.0
3	*5745.00	99.4 AV			1.18 V	73	60.4	39.0
4	#5966.40	55.8 PK	68.2	-12.4	1.18 V	73	50.4	5.4
5	11490.00	58.2 PK	74.0	-15.8	1.80 V	212	41.4	16.8
6	11490.00	44.2 AV	54.0	-9.8	1.80 V	212	27.4	16.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	56.5 PK	68.2	-11.7	1.78 H	6	52.0	4.5
2	*5785.00	107.8 PK			1.78 H	6	68.6	39.2
3	*5785.00	97.7 AV			1.78 H	6	58.5	39.2
4	#5949.60	57.8 PK	68.2	-10.4	1.78 H	6	52.5	5.3
5	11570.00	58.1 PK	74.0	-15.9	1.69 H	173	41.5	16.6
6	11570.00	44.2 AV	54.0	-9.8	1.69 H	173	27.6	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5641.60	55.9 PK	68.2	-12.3	1.16 V	72	51.3	4.6
2	*5785.00	109.6 PK			1.16 V	72	70.4	39.2
3	*5785.00	99.7 AV			1.16 V	72	60.5	39.2
4	#5938.40	57.3 PK	68.2	-10.9	1.16 V	72	52.0	5.3
5	11570.00	58.2 PK	74.0	-15.8	1.89 V	217	41.6	16.6
6	11570.00	44.1 AV	54.0	-9.9	1.89 V	217	27.5	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.20	55.3 PK	68.2	-12.9	2.02 H	7	50.9	4.4
2	*5825.00	107.9 PK			2.02 H	7	68.5	39.4
3	*5825.00	97.9 AV			2.02 H	7	58.5	39.4
4	#5959.20	56.0 PK	68.2	-12.2	2.02 H	7	50.7	5.3
5	11650.00	57.9 PK	74.0	-16.1	1.59 H	178	41.4	16.5
6	11650.00	43.8 AV	54.0	-10.2	1.59 H	178	27.3	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.80	55.2 PK	68.2	-13.0	1.08 V	73	50.7	4.5
2	*5825.00	110.5 PK			1.08 V	73	71.1	39.4
3	*5825.00	100.4 AV			1.08 V	73	61.0	39.4
4	#5936.80	56.0 PK	68.2	-12.2	1.08 V	73	50.7	5.3
5	11650.00	58.1 PK	74.0	-15.9	1.85 V	208	41.6	16.5
6	11650.00	43.9 AV	54.0	-10.1	1.85 V	208	27.4	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	2.08 H	344	50.8	4.1
2	5150.00	44.7 AV	54.0	-9.3	2.08 H	344	40.6	4.1
3	*5180.00	111.9 PK			2.16 H	357	73.4	38.5
4	*5180.00	101.1 AV			2.16 H	357	62.6	38.5
5	#10360.00	59.8 PK	68.2	-8.4	1.43 H	194	43.3	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.4 PK	74.0	-19.6	1.83 V	66	50.3	4.1
2	5150.00	43.9 AV	54.0	-10.1	1.83 V	66	39.8	4.1
3	*5180.00	110.4 PK			1.93 V	76	71.9	38.5
4	*5180.00	99.8 AV			1.93 V	76	61.3	38.5
5	#10360.00	59.2 PK	68.2	-9.0	1.83 V	207	42.7	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	109.7 PK			1.51 H	358	71.3	38.4
2	*5200.00	98.9 AV			1.51 H	358	60.5	38.4
3	#10400.00	59.5 PK	68.2	-8.7	1.43 H	171	43.0	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	108.7 PK			1.73 V	77	70.3	38.4
2	*5200.00	97.9 AV			1.73 V	77	59.5	38.4
3	#10400.00	59.1 PK	68.2	-9.1	1.72 V	208	42.6	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.1 PK			1.66 H	355	70.8	38.3
2	*5240.00	98.2 AV			1.66 H	355	59.9	38.3
3	5350.00	54.3 PK	74.0	-19.7	1.61 H	347	50.4	3.9
4	5350.00	44.2 AV	54.0	-9.8	1.61 H	347	40.3	3.9
5	#10480.00	59.7 PK	68.2	-8.5	1.47 H	181	43.4	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	107.9 PK			1.93 V	72	69.6	38.3
2	*5240.00	97.1 AV			1.93 V	72	58.8	38.3
3	5350.00	53.5 PK	74.0	-20.5	1.84 V	67	49.6	3.9
4	5350.00	43.3 AV	54.0	-10.7	1.84 V	67	39.4	3.9
5	#10480.00	58.8 PK	68.2	-9.4	1.82 V	207	42.5	16.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.6 PK	74.0	-19.4	1.73 H	312	50.5	4.1
2	5150.00	41.6 AV	54.0	-12.4	1.73 H	312	37.5	4.1
3	*5260.00	109.0 PK			1.63 H	355	70.8	38.2
4	*5260.00	98.8 AV			1.63 H	355	60.6	38.2
5	#10520.00	60.5 PK	68.2	-7.7	2.02 H	146	44.2	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.2 PK	74.0	-19.8	1.49 V	96	50.1	4.1
2	5150.00	41.3 AV	54.0	-12.7	1.49 V	96	37.2	4.1
3	*5260.00	109.0 PK			1.24 V	65	70.8	38.2
4	*5260.00	98.6 AV			1.24 V	65	60.4	38.2
5	#10520.00	58.4 PK	68.2	-9.8	1.64 V	195	42.1	16.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.4 PK			2.19 H	354	70.3	38.1
2	*5300.00	97.9 AV			2.19 H	354	59.8	38.1
3	10600.00	59.4 PK	74.0	-14.6	1.97 H	145	42.9	16.5
4	10600.00	45.8 AV	54.0	-8.2	1.97 H	145	29.3	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.8 PK			1.53 V	66	69.7	38.1
2	*5300.00	97.4 AV			1.53 V	66	59.3	38.1
3	10600.00	57.5 PK	74.0	-16.5	1.70 V	195	41.0	16.5
4	10600.00	44.5 AV	54.0	-9.5	1.70 V	195	28.0	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.2 PK			2.52 H	355	69.0	38.2
2	*5320.00	97.0 AV			2.52 H	355	58.8	38.2
3	5350.00	55.4 PK	74.0	-18.6	2.55 H	338	51.5	3.9
4	5350.00	41.5 AV	54.0	-12.5	2.55 H	338	37.6	3.9
5	10640.00	58.0 PK	74.0	-16.0	1.80 H	145	41.3	16.7
6	10640.00	44.8 AV	54.0	-9.2	1.80 H	145	28.1	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.5 PK			1.38 V	66	68.3	38.2
2	*5320.00	96.2 AV			1.38 V	66	58.0	38.2
3	5350.00	55.5 PK	74.0	-18.5	1.48 V	79	51.6	3.9
4	5350.00	42.9 AV	54.0	-11.1	1.48 V	79	39.0	3.9
5	10640.00	56.6 PK	74.0	-17.4	2.19 V	225	39.9	16.7
6	10640.00	43.5 AV	54.0	-10.5	2.19 V	225	26.8	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.2 PK	74.0	-18.8	2.18 H	332	50.8	4.4
2	5460.00	42.3 AV	54.0	-11.7	2.18 H	332	37.9	4.4
3	#5470.00	56.1 PK	68.2	-12.1	2.18 H	356	51.6	4.5
4	*5500.00	108.5 PK			2.08 H	354	69.7	38.8
5	*5500.00	98.0 AV			2.08 H	354	59.2	38.8
6	11000.00	58.3 PK	74.0	-15.7	1.77 H	169	39.9	18.4
7	11000.00	44.1 AV	54.0	-9.9	1.77 H	169	25.7	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.2 PK	74.0	-18.8	1.56 V	91	50.8	4.4
2	5460.00	42.4 AV	54.0	-11.6	1.56 V	91	38.0	4.4
3	#5470.00	57.5 PK	68.2	-10.7	1.66 V	92	53.0	4.5
4	*5500.00	108.0 PK			1.45 V	91	69.2	38.8
5	*5500.00	97.9 AV			1.45 V	91	59.1	38.8
6	11000.00	57.4 PK	74.0	-16.6	1.64 V	193	39.0	18.4
7	11000.00	44.0 AV	54.0	-10.0	1.64 V	193	25.6	18.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	108.7 PK			1.89 H	30	70.0	38.7
2	*5580.00	98.1 AV			1.89 H	30	59.4	38.7
3	11160.00	58.7 PK	74.0	-15.3	2.12 H	163	41.6	17.1
4	11160.00	43.5 AV	54.0	-10.5	2.12 H	163	26.4	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.1 PK			1.38 V	91	70.4	38.7
2	*5580.00	98.8 AV			1.38 V	91	60.1	38.7
3	11160.00	57.4 PK	74.0	-16.6	1.96 V	144	40.3	17.1
4	11160.00	43.3 AV	54.0	-10.7	1.96 V	144	26.2	17.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.2 PK			1.58 H	9	69.3	38.9
2	*5700.00	97.9 AV			1.58 H	9	59.0	38.9
3	#5725.00	58.9 PK	68.2	-9.3	2.11 H	7	54.3	4.6
4	11400.00	56.1 PK	74.0	-17.9	2.32 H	164	38.6	17.5
5	11400.00	43.2 AV	54.0	-10.8	2.32 H	164	25.7	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.9 PK			1.55 V	89	70.0	38.9
2	*5700.00	98.7 AV			1.55 V	89	59.8	38.9
3	#5725.00	58.8 PK	68.2	-9.4	1.38 V	91	54.2	4.6
4	11400.00	56.8 PK	74.0	-17.2	1.99 V	162	39.3	17.5
5	11400.00	43.1 AV	54.0	-10.9	1.99 V	162	25.6	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	1.72 H	315	50.2	4.4
2	5460.00	42.0 AV	54.0	-12.0	1.72 H	315	37.6	4.4
3	#5470.00	55.5 PK	68.2	-12.7	1.55 H	326	51.0	4.5
4	*5720.00	106.6 PK			1.67 H	358	67.7	38.9
5	*5720.00	96.2 AV			1.67 H	358	57.3	38.9
6	#5850.00	55.4 PK	68.2	-12.8	1.46 H	323	50.5	4.9
7	11440.00	55.9 PK	74.0	-18.1	2.13 H	169	38.7	17.2
8	11440.00	43.1 AV	54.0	-10.9	2.13 H	169	25.9	17.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.7 PK	74.0	-19.3	1.63 V	96	50.3	4.4
2	5460.00	42.0 AV	54.0	-12.0	1.63 V	96	37.6	4.4
3	#5470.00	55.1 PK	68.2	-13.1	1.46 V	73	50.6	4.5
4	*5720.00	108.6 PK			1.52 V	90	69.7	38.9
5	*5720.00	98.3 AV			1.52 V	90	59.4	38.9
6	#5850.00	55.5 PK	68.2	-12.7	1.58 V	91	50.6	4.9
7	11440.00	56.4 PK	74.0	-17.6	1.96 V	187	39.2	17.2
8	11440.00	43.1 AV	54.0	-10.9	1.96 V	187	25.9	17.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.40	55.1 PK	68.2	-13.1	1.72 H	4	50.6	4.5
2	*5745.00	107.7 PK			1.72 H	4	68.7	39.0
3	*5745.00	97.4 AV			1.72 H	4	58.4	39.0
4	#5957.60	56.5 PK	68.2	-11.7	1.72 H	4	51.2	5.3
5	11490.00	58.3 PK	74.0	-15.7	1.52 H	177	41.5	16.8
6	11490.00	44.4 AV	54.0	-9.6	1.52 H	177	27.6	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5601.60	55.0 PK	68.2	-13.2	1.05 V	74	50.6	4.4
2	*5745.00	108.0 PK			1.05 V	74	69.0	39.0
3	*5745.00	97.6 AV			1.05 V	74	58.6	39.0
4	#5999.20	56.7 PK	68.2	-11.5	1.05 V	74	51.4	5.3
5	11490.00	58.1 PK	74.0	-15.9	1.73 V	197	41.3	16.8
6	11490.00	44.3 AV	54.0	-9.7	1.73 V	197	27.5	16.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	56.1 PK	68.2	-12.1	1.80 H	5	51.5	4.6
2	*5785.00	107.9 PK			1.80 H	5	68.7	39.2
3	*5785.00	97.2 AV			1.80 H	5	58.0	39.2
4	#5954.40	57.2 PK	68.2	-11.0	1.80 H	5	51.9	5.3
5	11570.00	58.1 PK	74.0	-15.9	1.61 H	178	41.5	16.6
6	11570.00	44.0 AV	54.0	-10.0	1.61 H	178	27.4	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5609.60	55.8 PK	68.2	-12.4	1.14 V	70	51.4	4.4
2	*5785.00	108.3 PK			1.14 V	70	69.1	39.2
3	*5785.00	97.5 AV			1.14 V	70	58.3	39.2
4	#5928.00	56.9 PK	68.2	-11.3	1.14 V	70	51.6	5.3
5	11570.00	58.0 PK	74.0	-16.0	1.84 V	206	41.4	16.6
6	11570.00	44.1 AV	54.0	-9.9	1.84 V	206	27.5	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5614.40	55.8 PK	68.2	-12.4	1.77 H	5	51.3	4.5
2	*5825.00	107.8 PK			1.77 H	5	68.4	39.4
3	*5825.00	97.3 AV			1.77 H	5	57.9	39.4
4	#5968.80	55.9 PK	68.2	-12.3	1.77 H	5	50.5	5.4
5	11650.00	58.1 PK	74.0	-15.9	1.59 H	173	41.6	16.5
6	11650.00	44.2 AV	54.0	-9.8	1.59 H	173	27.7	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5604.00	54.9 PK	68.2	-13.3	1.21 V	71	50.5	4.4
2	*5825.00	109.7 PK			1.21 V	71	70.3	39.4
3	*5825.00	98.8 AV			1.21 V	71	59.4	39.4
4	#5968.00	56.4 PK	68.2	-11.8	1.21 V	71	51.0	5.4
5	11650.00	57.8 PK	74.0	-16.2	1.84 V	215	41.3	16.5
6	11650.00	44.1 AV	54.0	-9.9	1.84 V	215	27.6	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.4 PK	74.0	-10.6	2.11 H	352	59.3	4.1
2	5150.00	50.8 AV	54.0	-3.2	2.11 H	352	46.7	4.1
3	*5190.00	106.6 PK			2.15 H	357	68.2	38.4
4	*5190.00	96.4 AV			2.15 H	357	58.0	38.4
5	#10380.00	59.3 PK	68.2	-8.9	1.43 H	176	42.7	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.81 V	62	58.6	4.1
2	5150.00	49.9 AV	54.0	-4.1	1.81 V	62	45.8	4.1
3	*5190.00	105.3 PK			1.87 V	69	66.9	38.4
4	*5190.00	95.1 AV			1.87 V	69	56.7	38.4
5	#10380.00	58.9 PK	68.2	-9.3	1.88 V	206	42.3	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	106.8 PK			2.06 H	358	68.6	38.2
2	*5230.00	96.9 AV			2.06 H	358	58.7	38.2
3	5350.00	54.6 PK	74.0	-19.4	2.11 H	353	50.7	3.9
4	5350.00	44.3 AV	54.0	-9.7	2.11 H	353	40.4	3.9
5	#10460.00	59.0 PK	68.2	-9.2	1.52 H	185	42.7	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	105.8 PK			1.79 V	58	67.6	38.2
2	*5230.00	95.8 AV			1.79 V	58	57.6	38.2
3	5350.00	54.1 PK	74.0	-19.9	1.71 V	54	50.2	3.9
4	5350.00	43.7 AV	54.0	-10.3	1.71 V	54	39.8	3.9
5	#10460.00	58.5 PK	68.2	-9.7	1.89 V	211	42.2	16.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.5 PK	74.0	-19.5	1.88 H	303	50.4	4.1
2	5150.00	41.4 AV	54.0	-12.6	1.88 H	303	37.3	4.1
3	*5270.00	101.5 PK			1.65 H	331	63.3	38.2
4	*5270.00	91.6 AV			1.65 H	331	53.4	38.2
5	#10540.00	57.2 PK	68.2	-11.0	1.86 H	139	40.8	16.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.0 PK	74.0	-20.0	1.48 V	326	49.9	4.1
2	5150.00	41.7 AV	54.0	-12.3	1.48 V	326	37.6	4.1
3	*5270.00	105.5 PK			1.39 V	310	67.3	38.2
4	*5270.00	95.6 AV			1.39 V	310	57.4	38.2
5	#10540.00	57.2 PK	68.2	-11.0	2.69 V	222	40.8	16.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.9 PK			1.31 H	355	64.7	38.2
2	*5310.00	92.8 AV			1.31 H	355	54.6	38.2
3	5350.00	61.9 PK	74.0	-12.1	1.05 H	359	58.0	3.9
4	5350.00	49.2 AV	54.0	-4.8	1.05 H	359	45.3	3.9
5	10620.00	56.7 PK	74.0	-17.3	1.69 H	155	40.0	16.7
6	10620.00	44.3 AV	54.0	-9.7	1.69 H	155	27.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.1 PK			1.52 V	65	63.9	38.2
2	*5310.00	92.2 AV			1.52 V	65	54.0	38.2
3	5350.00	63.5 PK	74.0	-10.5	1.79 V	84	59.6	3.9
4	5350.00	50.9 AV	54.0	-3.1	1.79 V	84	47.0	3.9
5	10620.00	56.7 PK	74.0	-17.3	1.89 V	263	40.0	16.7
6	10620.00	43.1 AV	54.0	-10.9	1.89 V	263	26.4	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.7 PK	74.0	-16.3	1.76 H	347	53.3	4.4
2	5460.00	44.9 AV	54.0	-9.1	1.76 H	347	40.5	4.4
3	#5470.00	62.1 PK	68.2	-6.1	1.80 H	353	57.6	4.5
4	*5510.00	106.7 PK			2.00 H	355	67.9	38.8
5	*5510.00	96.6 AV			2.00 H	355	57.8	38.8
6	11020.00	58.9 PK	74.0	-15.1	1.63 H	174	40.8	18.1
7	11020.00	44.8 AV	54.0	-9.2	1.63 H	174	26.7	18.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.9 PK	74.0	-16.1	1.71 V	79	53.5	4.4
2	5460.00	45.1 AV	54.0	-8.9	1.71 V	79	40.7	4.4
3	#5470.00	62.4 PK	68.2	-5.8	1.73 V	74	57.9	4.5
4	*5510.00	106.9 PK			1.78 V	82	68.1	38.8
5	*5510.00	96.8 AV			1.78 V	82	58.0	38.8
6	11020.00	58.7 PK	74.0	-15.3	1.83 V	202	40.6	18.1
7	11020.00	44.6 AV	54.0	-9.4	1.83 V	202	26.5	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	105.9 PK			1.73 H	356	67.2	38.7
2	*5550.00	95.8 AV			1.73 H	356	57.1	38.7
3	11100.00	57.0 PK	74.0	-17.0	2.34 H	168	39.8	17.2
4	11100.00	43.8 AV	54.0	-10.2	2.34 H	168	26.6	17.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	105.6 PK			1.72 V	68	66.9	38.7
2	*5550.00	95.5 AV			1.72 V	68	56.8	38.7
3	11100.00	56.9 PK	74.0	-17.1	1.76 V	198	39.7	17.2
4	11100.00	43.6 AV	54.0	-10.4	1.76 V	198	26.4	17.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	105.8 PK			1.78 H	8	66.8	39.0
2	*5670.00	95.8 AV			1.78 H	8	56.8	39.0
3	#5725.00	62.2 PK	68.2	-6.0	2.11 H	7	57.6	4.6
4	11340.00	57.4 PK	74.0	-16.6	2.27 H	156	39.7	17.7
5	11340.00	44.1 AV	54.0	-9.9	2.27 H	156	26.4	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	115.6 PK			1.67 V	72	76.6	39.0
2	*5670.00	95.6 AV			1.67 V	72	56.6	39.0
3	#5725.00	61.9 PK	68.2	-6.3	1.72 V	83	57.3	4.6
4	11340.00	57.1 PK	74.0	-16.9	1.83 V	207	39.4	17.7
5	11340.00	44.0 AV	54.0	-10.0	1.83 V	207	26.3	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.0 PK	74.0	-19.0	1.63 H	351	50.6	4.4
2	5460.00	44.6 AV	54.0	-9.4	1.63 H	351	40.2	4.4
3	#5470.00	56.9 PK	68.2	-11.3	1.67 H	354	52.4	4.5
4	*5710.00	106.4 PK			1.56 H	5	67.5	38.9
5	*5710.00	96.4 AV			1.56 H	5	57.5	38.9
6	#5850.00	57.6 PK	68.2	-10.6	1.52 H	9	52.7	4.9
7	11420.00	57.7 PK	74.0	-16.3	2.06 H	175	40.3	17.4
8	11420.00	43.6 AV	54.0	-10.4	2.06 H	175	26.2	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	1.55 V	77	49.8	4.4
2	5460.00	44.1 AV	54.0	-9.9	1.55 V	77	39.7	4.4
3	#5470.00	56.3 PK	68.2	-11.9	1.53 V	74	51.8	4.5
4	*5710.00	106.0 PK			1.51 V	70	67.1	38.9
5	*5710.00	95.9 AV			1.51 V	70	57.0	38.9
6	#5850.00	57.2 PK	68.2	-11.0	1.62 V	89	52.3	4.9
7	11420.00	57.1 PK	74.0	-16.9	2.03 V	196	39.7	17.4
8	11420.00	43.4 AV	54.0	-10.6	2.03 V	196	26.0	17.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	56.1 PK	68.2	-12.1	1.71 H	6	51.6	4.5
2	*5755.00	105.9 PK			1.71 H	6	66.8	39.1
3	*5755.00	95.9 AV			1.71 H	6	56.8	39.1
4	#5924.00	56.1 PK	68.9	-12.8	1.71 H	6	50.8	5.3
5	11510.00	57.6 PK	74.0	-16.4	1.63 H	181	40.8	16.8
6	11510.00	44.0 AV	54.0	-10.0	1.63 H	181	27.2	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.80	55.6 PK	68.2	-12.6	1.19 V	74	51.0	4.6
2	*5755.00	106.5 PK			1.19 V	74	67.4	39.1
3	*5755.00	96.3 AV			1.19 V	74	57.2	39.1
4	#5978.40	57.4 PK	68.2	-10.8	1.19 V	74	52.1	5.3
5	11510.00	57.8 PK	74.0	-16.2	1.79 V	201	41.0	16.8
6	11510.00	44.1 AV	54.0	-9.9	1.79 V	201	27.3	16.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5617.60	55.1 PK	68.2	-13.1	1.79 H	7	50.6	4.5
2	*5795.00	106.1 PK			1.79 H	7	66.9	39.2
3	*5795.00	96.1 AV			1.79 H	7	56.9	39.2
4	#5961.60	55.9 PK	68.2	-12.3	1.79 H	7	50.5	5.4
5	11590.00	57.2 PK	74.0	-16.8	1.59 H	176	40.7	16.5
6	11590.00	43.4 AV	54.0	-10.6	1.59 H	176	26.9	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.60	55.6 PK	68.2	-12.6	1.16 V	72	51.1	4.5
2	*5795.00	106.9 PK			1.16 V	72	67.7	39.2
3	*5795.00	96.8 AV			1.16 V	72	57.6	39.2
4	#5948.00	56.5 PK	68.2	-11.7	1.16 V	72	51.2	5.3
5	11590.00	57.3 PK	74.0	-16.7	1.83 V	205	40.8	16.5
6	11590.00	43.3 AV	54.0	-10.7	1.83 V	205	26.8	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	2.12 H	358	56.7	4.1
2	5150.00	50.6 AV	54.0	-3.4	2.12 H	358	46.5	4.1
3	*5210.00	103.4 PK			2.23 H	354	65.1	38.3
4	*5210.00	92.7 AV			2.23 H	354	54.4	38.3
5	5350.00	54.6 PK	74.0	-19.4	2.11 H	347	50.7	3.9
6	5350.00	44.0 AV	54.0	-10.0	2.11 H	347	40.1	3.9
7	#10420.00	58.8 PK	68.2	-9.4	1.62 H	188	42.3	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.6 PK	74.0	-14.4	1.82 V	65	55.5	4.1
2	5150.00	49.3 AV	54.0	-4.7	1.82 V	65	45.2	4.1
3	*5210.00	102.5 PK			1.89 V	72	64.2	38.3
4	*5210.00	91.8 AV			1.89 V	72	53.5	38.3
5	5350.00	53.6 PK	74.0	-20.4	1.93 V	78	49.7	3.9
6	5350.00	43.4 AV	54.0	-10.6	1.93 V	78	39.5	3.9
7	#10420.00	58.3 PK	68.2	-9.9	1.78 V	196	41.8	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.1 PK	74.0	-18.9	2.14 H	335	51.0	4.1
2	5150.00	42.3 AV	54.0	-11.7	2.14 H	335	38.2	4.1
3	*5290.00	99.0 PK			2.27 H	335	60.9	38.1
4	*5290.00	89.2 AV			2.27 H	335	51.1	38.1
5	5350.00	59.5 PK	74.0	-14.5	2.45 H	341	55.6	3.9
6	5350.00	49.2 AV	54.0	-4.8	2.45 H	341	45.3	3.9
7	#10580.00	57.1 PK	68.2	-11.1	1.94 H	151	40.5	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.6 PK	74.0	-19.4	2.03 V	92	50.5	4.1
2	5150.00	41.7 AV	54.0	-12.3	2.03 V	92	37.6	4.1
3	*5290.00	97.0 PK			2.05 V	68	58.9	38.1
4	*5290.00	87.9 AV			2.05 V	68	49.8	38.1
5	5350.00	61.9 PK	74.0	-12.1	2.21 V	68	58.0	3.9
6	5350.00	51.2 AV	54.0	-2.8	2.21 V	68	47.3	3.9
7	#10580.00	56.6 PK	68.2	-11.6	2.87 V	259	40.0	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.9 PK	74.0	-12.1	1.69 H	353	57.5	4.4
2	5460.00	50.0 AV	54.0	-4.0	1.69 H	353	45.6	4.4
3	#5470.00	65.2 PK	68.2	-3.0	2.16 H	353	60.7	4.5
4	*5530.00	102.3 PK			2.35 H	355	63.6	38.7
5	*5530.00	91.9 AV			2.35 H	355	53.2	38.7
6	#5725.00	55.2 PK	68.2	-13.0	1.83 H	348	50.6	4.6
7	11060.00	58.1 PK	74.0	-15.9	1.71 H	183	40.3	17.8
8	11060.00	44.8 AV	54.0	-9.2	1.71 H	183	27.0	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.78 V	75	57.2	4.4
2	5460.00	49.8 AV	54.0	-4.2	1.78 V	75	45.4	4.4
3	#5470.00	64.9 PK	68.2	-3.3	1.83 V	84	60.4	4.5
4	*5530.00	102.1 PK			1.74 V	72	63.4	38.7
5	*5530.00	91.8 AV			1.74 V	72	53.1	38.7
6	#5725.00	54.9 PK	68.2	-13.3	1.71 V	69	50.3	4.6
7	11060.00	57.4 PK	74.0	-16.6	1.83 V	212	39.6	17.8
8	11060.00	44.3 AV	54.0	-9.7	1.83 V	212	26.5	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.9 PK	74.0	-19.1	1.81 H	6	50.5	4.4
2	5460.00	44.6 AV	54.0	-9.4	1.81 H	6	40.2	4.4
3	#5470.00	56.8 PK	68.2	-11.4	1.84 H	356	52.3	4.5
4	*5610.00	101.7 PK			1.92 H	353	62.8	38.9
5	*5610.00	91.7 AV			1.92 H	353	52.8	38.9
6	#5725.00	56.0 PK	68.2	-12.2	1.97 H	348	51.4	4.6
7	11220.00	57.6 PK	74.0	-16.4	1.64 H	175	40.5	17.1
8	11220.00	43.8 AV	54.0	-10.2	1.64 H	175	26.7	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.2 PK	74.0	-18.8	1.76 V	83	50.8	4.4
2	5460.00	44.7 AV	54.0	-9.3	1.76 V	83	40.3	4.4
3	#5470.00	57.2 PK	68.2	-11.0	1.74 V	89	52.7	4.5
4	*5610.00	102.2 PK			1.83 V	74	63.3	38.9
5	*5610.00	92.1 AV			1.83 V	74	53.2	38.9
6	#5725.00	56.5 PK	68.2	-11.7	1.71 V	93	51.9	4.6
7	11220.00	57.8 PK	74.0	-16.2	1.87 V	211	40.7	17.1
8	11220.00	43.9 AV	54.0	-10.1	1.87 V	211	26.8	17.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.6 PK	74.0	-18.4	1.69 H	358	51.2	4.4
2	5460.00	45.0 AV	54.0	-9.0	1.69 H	358	40.6	4.4
3	#5470.00	57.4 PK	68.2	-10.8	1.76 H	355	52.9	4.5
4	*5690.00	102.3 PK			1.86 H	7	63.4	38.9
5	*5690.00	91.7 AV			1.86 H	7	52.8	38.9
6	#5850.00	58.2 PK	68.2	-10.0	1.92 H	11	53.3	4.9
7	11380.00	57.8 PK	74.0	-16.2	2.14 H	170	40.2	17.6
8	11380.00	43.9 AV	54.0	-10.1	2.14 H	170	26.3	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.2 PK	74.0	-18.8	1.89 V	76	50.8	4.4
2	5460.00	44.6 AV	54.0	-9.4	1.89 V	76	40.2	4.4
3	#5470.00	57.1 PK	68.2	-11.1	1.86 V	73	52.6	4.5
4	*5690.00	102.0 PK			1.83 V	83	63.1	38.9
5	*5690.00	91.5 AV			1.83 V	83	52.6	38.9
6	#5850.00	57.9 PK	68.2	-10.3	1.81 V	67	53.0	4.9
7	11380.00	57.9 PK	74.0	-16.1	1.81 V	209	40.3	17.6
8	11380.00	43.8 AV	54.0	-10.2	1.81 V	209	26.2	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	55.2 PK	68.2	-13.0	1.68 H	6	50.7	4.5
2	#5650.00	56.2 PK	68.2	-12.0	1.79 H	357	51.6	4.6
3	*5775.00	102.5 PK			1.68 H	6	63.4	39.1
4	*5775.00	91.6 AV			1.68 H	6	52.5	39.1
5	#5925.00	57.7 PK	68.2	-10.5	1.64 H	11	52.4	5.3
6	#5944.80	56.6 PK	68.2	-11.6	1.68 H	6	51.3	5.3
7	11550.00	57.0 PK	74.0	-17.0	1.53 H	174	40.3	16.7
8	11550.00	43.2 AV	54.0	-10.8	1.53 H	174	26.5	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	55.4 PK	68.2	-12.8	1.22 V	70	50.9	4.5
2	#5650.00	56.5 PK	68.2	-11.7	1.34 V	76	51.9	4.6
3	*5775.00	102.8 PK			1.22 V	70	63.7	39.1
4	*5775.00	92.3 AV			1.22 V	70	53.2	39.1
5	#5925.00	57.9 PK	68.2	-10.3	1.18 V	64	52.6	5.3
6	#5968.00	56.4 PK	68.2	-11.8	1.22 V	70	51.0	5.4
7	11550.00	57.3 PK	74.0	-16.7	1.75 V	213	40.6	16.7
8	11550.00	43.4 AV	54.0	-10.6	1.75 V	213	26.7	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Worst-Case Data:

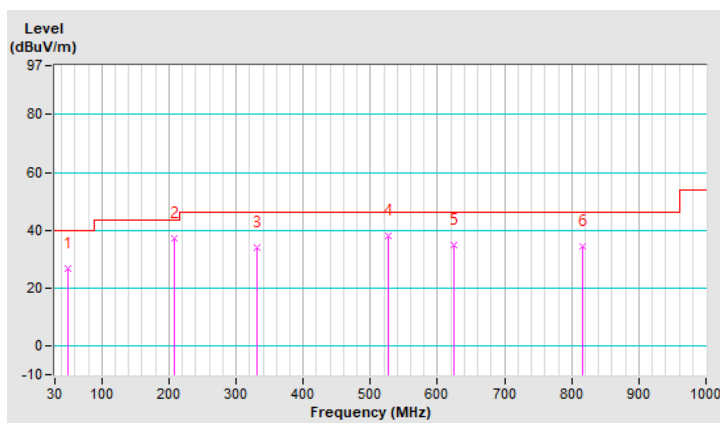
802.11ac (VHT80)

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	50.37	26.5 QP	40.0	-13.5	1.00 H	77	36.3	-9.8
2	208.48	37.2 QP	43.5	-6.3	1.25 H	194	48.7	-11.5
3	331.67	34.0 QP	46.0	-12.0	1.50 H	273	41.2	-7.2
4	527.61	38.0 QP	46.0	-8.0	1.00 H	210	41.4	-3.4
5	623.64	34.9 QP	46.0	-11.1	1.25 H	123	36.5	-1.6
6	815.70	34.5 QP	46.0	-11.5	1.50 H	232	32.9	1.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

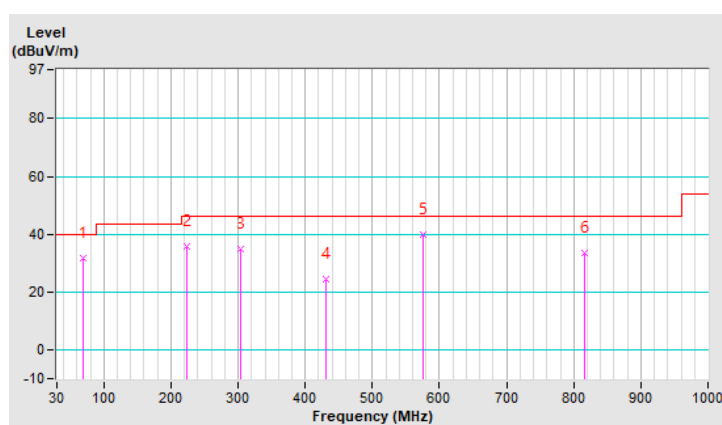


CHANNEL	TX Channel 138	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	68.80	31.9 QP	40.0	-8.1	1.50 V	325	43.6	-11.7
2	223.03	35.9 QP	46.0	-10.1	1.00 V	18	47.3	-11.4
3	304.51	34.9 QP	46.0	-11.1	1.25 V	108	42.8	-7.9
4	430.61	24.5 QP	46.0	-21.5	1.00 V	240	29.4	-4.9
5	576.11	39.8 QP	46.0	-6.2	1.25 V	7	42.3	-2.5
6	815.70	33.4 QP	46.0	-12.6	1.00 V	177	31.8	1.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 22, 2019	Aug. 21, 2020
Software ADT	BV ADT_Conc_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

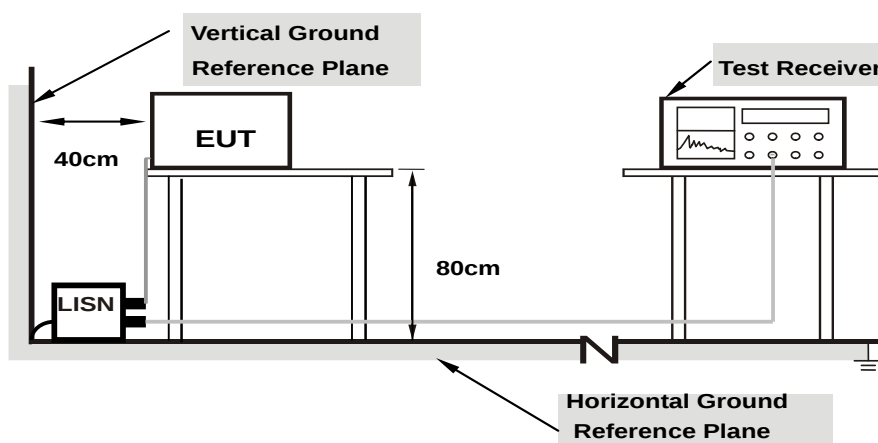
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

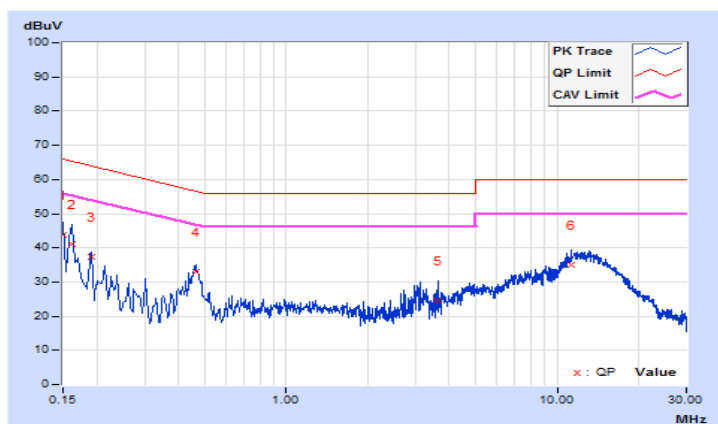
802.11ac (VHT80)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.67	34.15	19.51	43.82	29.18	66.00	56.00	-22.18	-26.82
2	0.16190	9.67	31.52	15.65	41.19	25.32	65.37	55.37	-24.18	-30.05
3	0.19000	9.66	27.57	13.24	37.23	22.90	64.04	54.04	-26.81	-31.14
4	0.46200	9.69	23.29	13.99	32.98	23.68	56.66	46.66	-23.68	-22.98
5	3.64600	9.83	14.86	6.56	24.69	16.39	56.00	46.00	-31.31	-29.61
6	11.29800	9.94	24.98	20.19	34.92	30.13	60.00	50.00	-25.08	-19.87

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

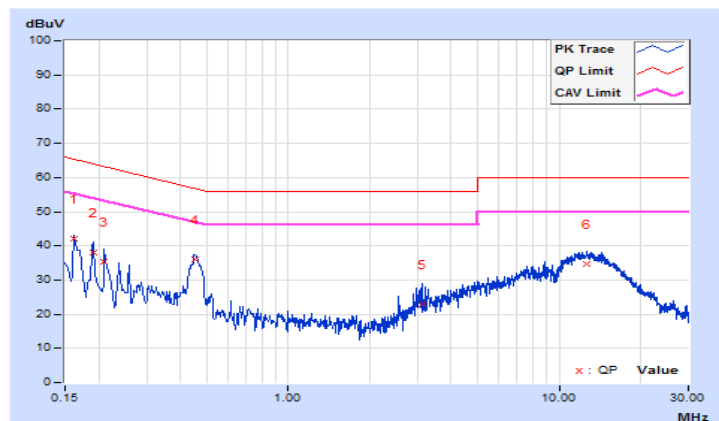


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16200	9.64	32.38	15.95	42.02	25.59	65.36	55.36	-23.34	-29.77
2	0.19000	9.64	28.43	13.21	38.07	22.85	64.04	54.04	-25.97	-31.19
3	0.21000	9.64	25.62	10.87	35.26	20.51	63.21	53.21	-27.95	-32.70
4	0.45118	9.66	26.47	18.69	36.13	28.35	56.85	46.85	-20.72	-18.50
5	3.12600	9.78	13.28	4.29	23.06	14.07	56.00	46.00	-32.94	-31.93
6	12.63000	9.95	24.57	19.63	34.52	29.58	60.00	50.00	-25.48	-20.42

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 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 (24 dBm) or 11 dBm+10 log B*
U-NII-2C	✓		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	✓		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

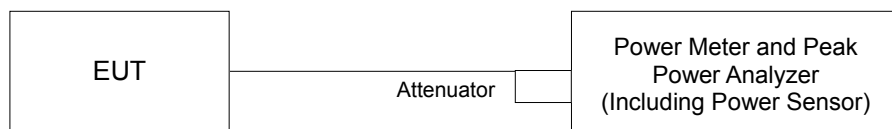
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

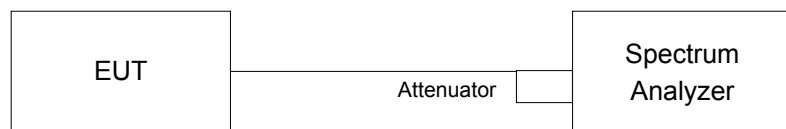
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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 and set the detector to average. Duty factor is not added to measured value.

For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.44	13.19	48.642	16.87	24.00	Pass
40	5200	13.74	13.48	45.943	16.62	24.00	Pass
48	5240	13.76	13.88	48.202	16.83	24.00	Pass
52	5260	13.65	13.42	45.153	16.55	24.00	Pass
60	5300	12.76	13.05	39.064	15.92	24.00	Pass
64	5320	12.08	12.95	35.868	15.55	24.00	Pass
100	5500	10.57	11.14	24.404	13.87	24.00	Pass
116	5580	12.47	12.31	34.682	15.40	24.00	Pass
140	5700	13.53	14.05	47.952	16.81	24.00	Pass
144	5720 (For U-NII-2C)	7.90	10.83	19.259	12.85	23.34	Pass
144	5720 (For U-NII-3)	2.28	5.42	5.452	7.37	30.00	Pass
149	5745	12.02	13.05	36.106	15.58	30.00	Pass
157	5785	10.98	12.40	29.909	14.76	30.00	Pass
165	5825	9.90	11.51	23.930	13.79	30.00	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(25.09) = 24.99 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(25.48) = 25.06 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.92) = 24.78 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(25.32) = 25.03 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.46) = 24.88 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(24.44) = 24.88 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.83) = 23.34 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(25.02) = 24.98 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(24.49) = 24.88 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.44) = 24.69 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.65) = 24.91 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.50) = 24.89 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(26.35) = 25.20 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.52) = 23.42 < 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.35	12.86	40.947	16.12	24.00	Pass
40	5200	13.71	13.30	44.876	16.52	24.00	Pass
48	5240	14.12	13.44	47.903	16.80	24.00	Pass
52	5260	13.92	13.45	46.791	16.70	24.00	Pass
60	5300	13.13	13.16	41.260	16.16	24.00	Pass
64	5320	12.39	12.83	36.525	15.63	24.00	Pass
100	5500	11.07	10.91	25.125	14.00	24.00	Pass
116	5580	11.45	12.14	30.332	14.82	24.00	Pass
140	5700	13.79	14.11	49.696	16.96	24.00	Pass
144	5720 (For U-NII-2C)	11.79	12.42	34.491	15.38	23.37	Pass
144	5720 (For U-NII-3)	7.82	8.68	14.229	11.53	30.00	Pass
149	5745	11.60	13.06	34.684	15.40	30.00	Pass
157	5785	11.20	13.12	33.695	15.28	30.00	Pass
165	5825	9.75	12.04	25.437	14.05	30.00	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(25.10) = 24.99 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(24.66) = 24.91 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(25.27) = 25.02 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(25.51) = 25.06 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(25.54) = 25.07 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(24.93) = 24.96 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.71) = 23.37 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(24.77) = 24.93 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(24.78) = 24.94 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(24.37) = 24.86 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.68) = 24.92 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.80) = 24.94 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(25.49) = 25.06 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.46) = 23.44 < 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.43	10.84	26.034	14.16	24.00	Pass
46	5230	13.55	14.47	50.636	17.04	24.00	Pass
54	5270	14.37	14.52	55.667	17.46	24.00	Pass
62	5310	10.13	10.26	20.921	13.21	24.00	Pass
102	5510	13.07	12.03	36.236	15.59	24.00	Pass
110	5550	13.45	12.18	38.651	15.87	24.00	Pass
134	5670	14.75	14.85	60.403	17.81	24.00	Pass
142	5710 (For U-NII-2C)	13.86	14.47	58.237	17.65	24.00	Pass
142	5710 (For U-NII-3)	6.24	6.78	9.987	9.99	30.00	Pass
151	5755	12.27	13.91	41.470	16.18	30.00	Pass
159	5795	11.72	12.39	32.197	15.08	30.00	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(42.61) = 27.29 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.47) = 27.28 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.58) = 27.29 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.14) = 27.24 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.27) = 27.26 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5688.71) = 26.59 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(42.28) = 27.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.77) = 27.31 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.59) = 27.29 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.36) = 27.26 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.89) = 27.32 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5688.84) = 26.58 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.42	11.26	27.234	14.35	24.00	Pass
58	5290	10.06	10.83	22.245	13.47	24.00	Pass
106	5530	13.24	12.14	37.454	15.73	24.00	Pass
122	5610	14.42	13.29	48.999	16.90	24.00	Pass
138	5690 (For U-NII-2C)	13.80	14.47	61.490	17.89	24.00	Pass
138	5690 (For U-NII-3)	3.54	4.11	5.720	7.57	30.00	Pass
155	5775	12.64	13.08	38.689	15.88	30.00	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(83.92) = 30.23 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.22) = 30.25 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.47) = 30.26 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.02) = 29.86 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.83) = 30.23 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.09) = 30.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.58) = 30.27 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.36) = 29.84 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	25.09	25.02
60	5300	25.48	24.49
64	5320	23.92	23.44
100	5500	25.32	24.65
116	5580	24.46	24.50
140	5700	24.44	26.35
144	5720 (For U-NII-2C)	17.17	17.48
144	5720 (For U-NII-3)	8.23	8.20

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	25.10	24.77
60	5300	24.66	24.78
64	5320	25.27	24.37
100	5500	25.51	24.68
116	5580	25.54	24.80
140	5700	24.93	25.49
144	5720 (For U-NII-2C)	17.29	17.54
144	5720 (For U-NII-3)	6.93	7.42

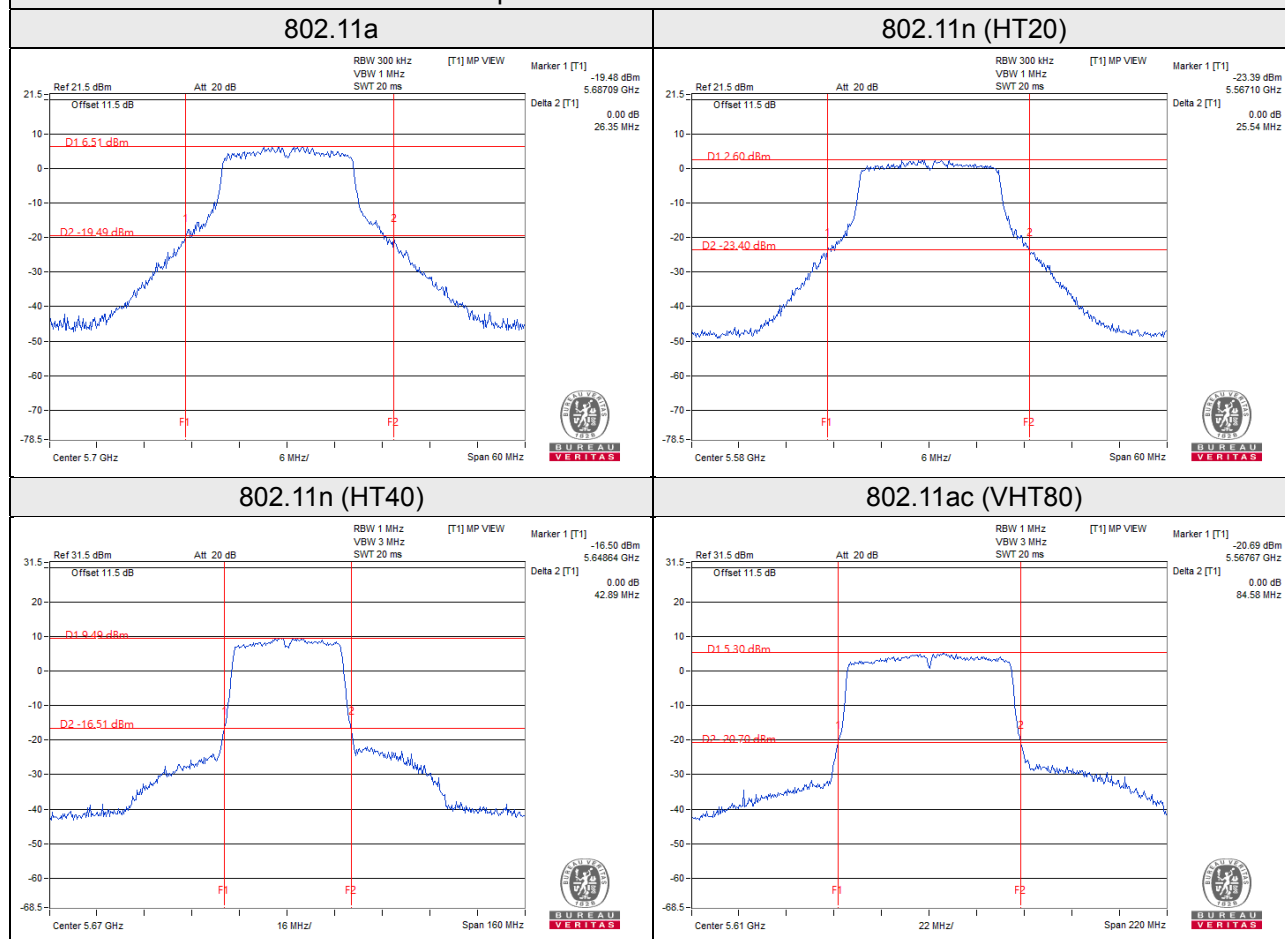
802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	42.61	42.28
62	5310	42.47	42.77
102	5510	42.58	42.59
110	5550	42.14	42.36
134	5670	42.27	42.89
142	5710 (For U-NII-2C)	36.29	36.16
142	5710 (For U-NII-3)	6.29	6.16

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.92	83.83
106	5530	84.22	84.09
122	5610	84.47	84.58
138	5690 (For U-NII-2C)	76.98	76.64
138	5690 (For U-NII-3)	7.26	7.05

Spectrum Plot of Worst Value



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.55	45.153
5470~5725	16.81	47.952

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.70	46.791
5470~5725	16.96	49.696

802.11n (HT40)

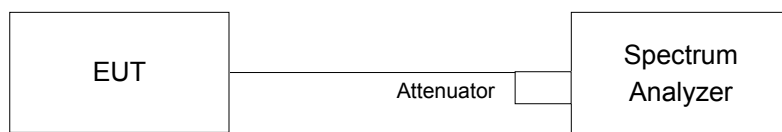
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	17.46	55.667
5470~5725	17.81	60.403

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	13.47	22.245
5470~5725	17.89	61.490

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, 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.

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.68
40	5200	16.92	16.68
48	5240	16.92	16.68
52	5260	16.92	16.80
60	5300	16.80	16.80
64	5320	16.80	16.80
100	5500	16.92	16.80
116	5580	16.80	16.80
140	5700	16.80	16.80
144	5720 (For U-NII-2C)	13.28	13.28
144	5720 (For U-NII-3)	3.28	3.28
149	5745	16.78	16.78
157	5785	16.80	16.80
165	5825	16.80	16.80

802.11n (HT20)

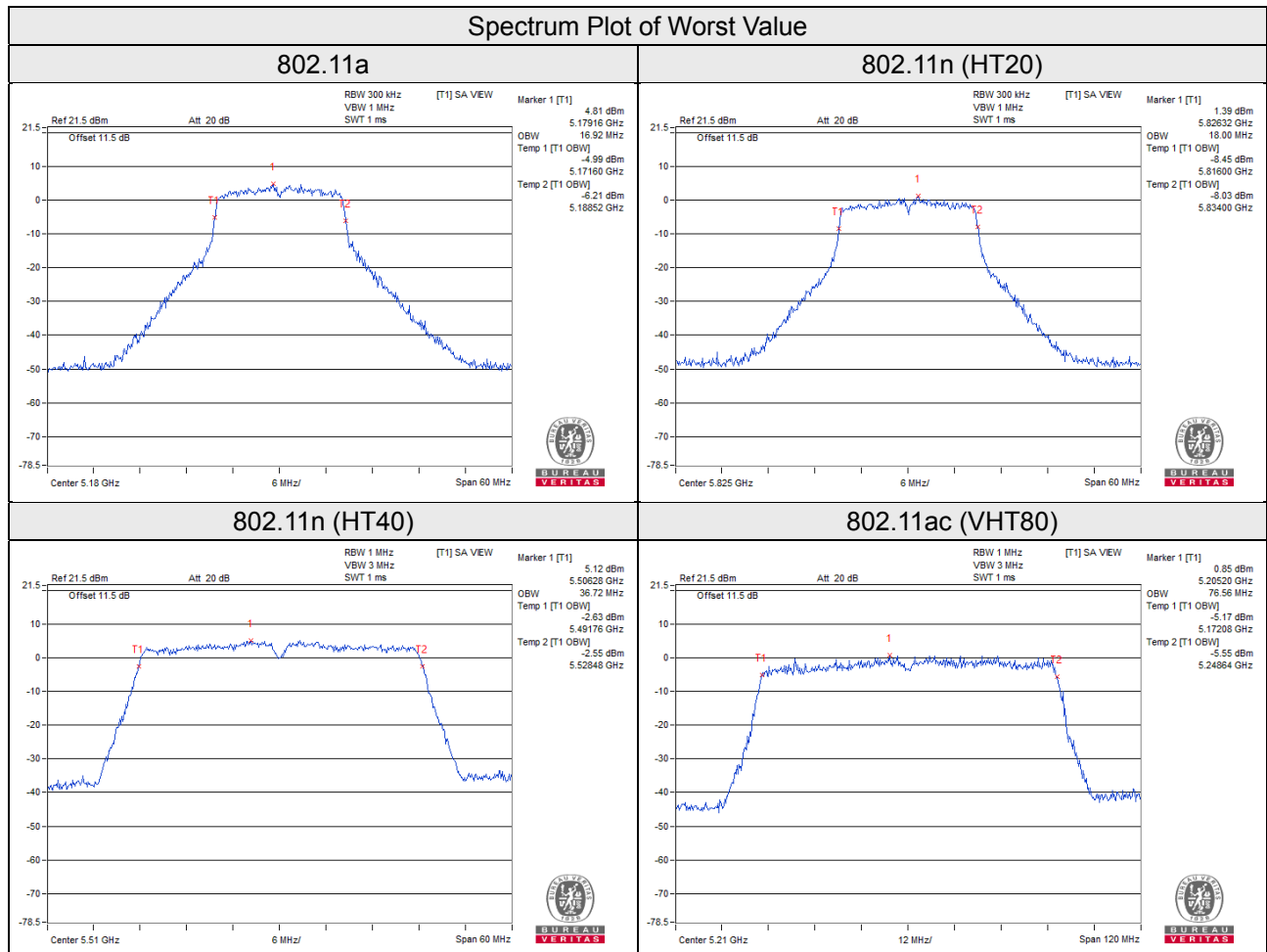
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.88	17.88
40	5200	18.00	17.88
48	5240	17.88	17.88
52	5260	17.88	17.88
60	5300	17.88	17.88
64	5320	18.00	18.00
100	5500	18.00	18.00
116	5580	18.00	17.88
140	5700	17.88	17.88
144	5720 (For U-NII-2C)	13.88	13.88
144	5720 (For U-NII-3)	3.88	3.88
149	5745	18.00	18.00
157	5785	18.00	18.00
165	5825	18.00	18.00

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.72	36.60
46	5230	36.60	36.60
54	5270	36.60	36.60
62	5310	36.48	36.60
102	5510	36.72	36.60
110	5550	36.60	36.60
134	5670	36.60	36.72
142	5710 (For U-NII-2C)	33.36	33.24
142	5710 (For U-NII-3)	3.48	3.36
151	5755	36.60	36.72
159	5795	36.48	36.60

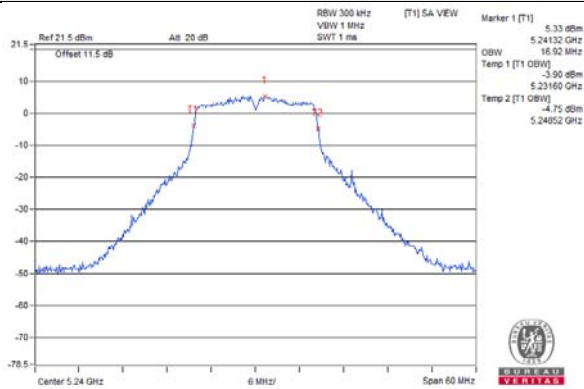
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	76.56
58	5290	75.60	75.60
106	5530	75.84	76.08
122	5610	76.08	76.08
138	5690 (For U-NII-2C)	72.92	72.92
138	5690 (For U-NII-3)	3.16	2.92
155	5775	75.84	76.08

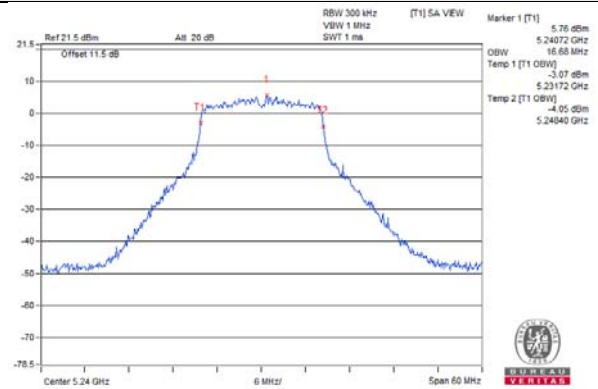


Spectrum Plot for near By DFS Band

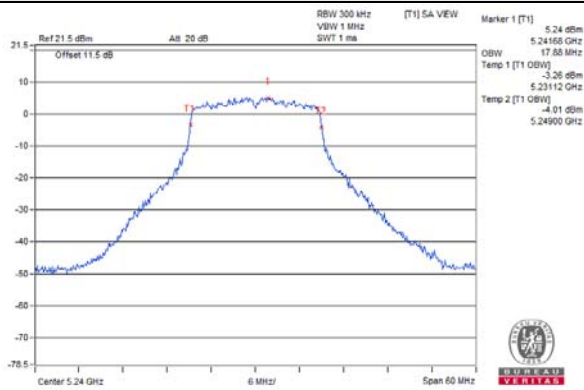
802.11a / Chain 0 / CH 48



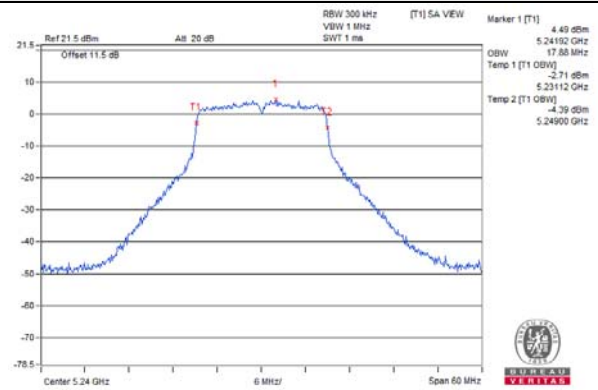
802.11a / Chain 1 / CH 48



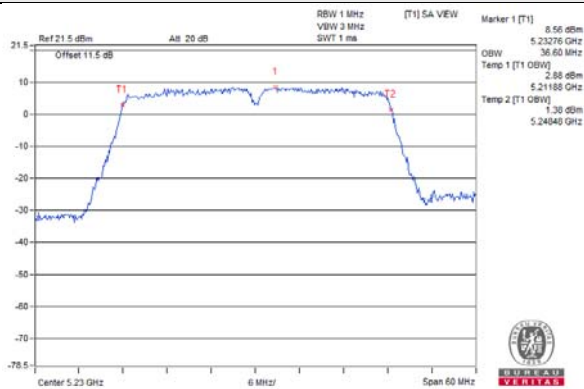
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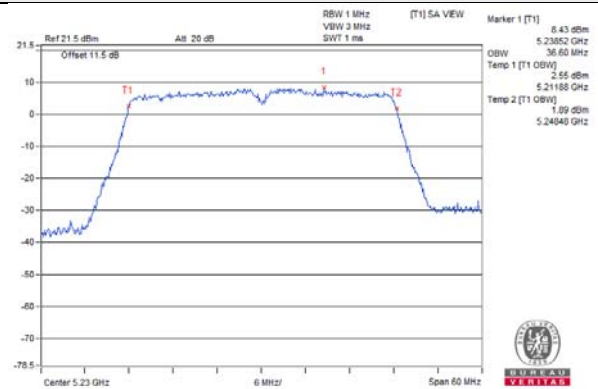
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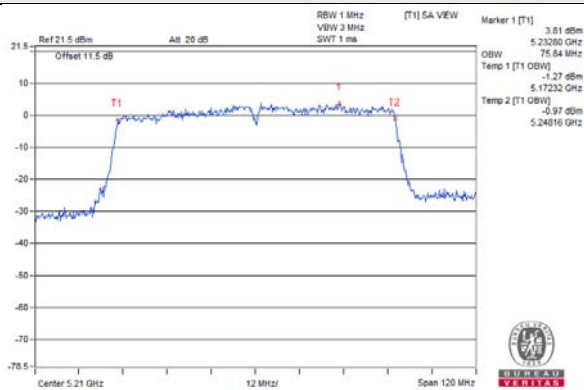
802.11n (HT40) / Chain 0 / CH 46



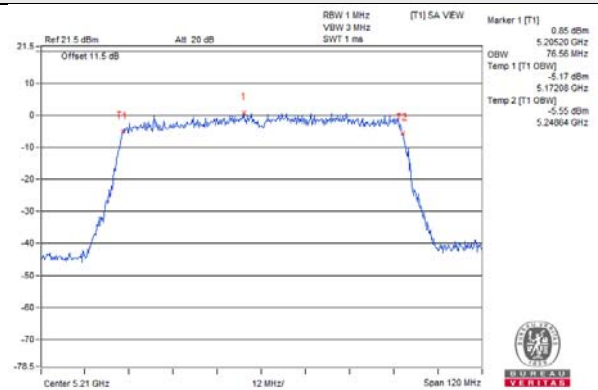
802.11n (HT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42

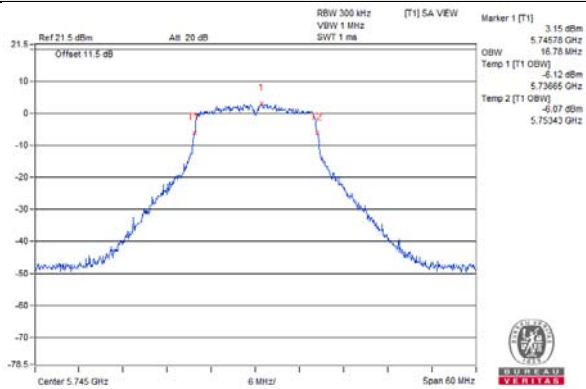


802.11ac (VHT80) / Chain 1 / CH 42

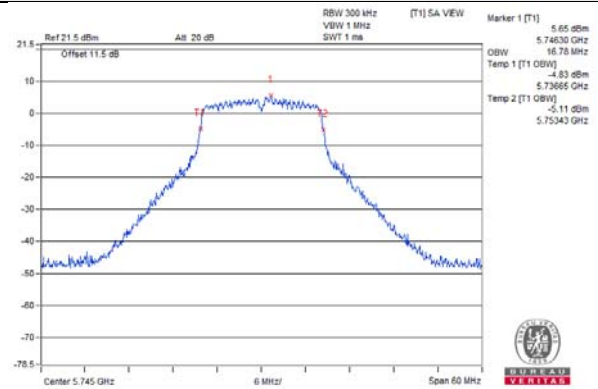


Spectrum Plot for near By DFS Band

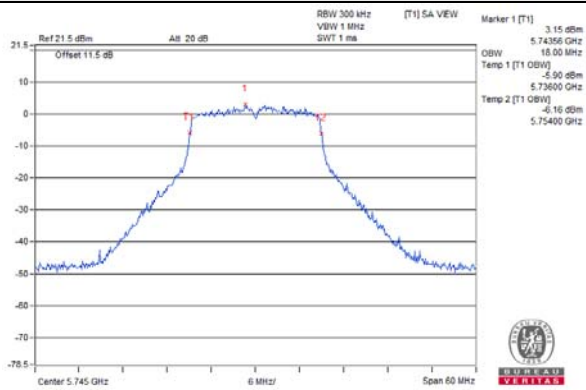
802.11a / Chain 0 / CH 149



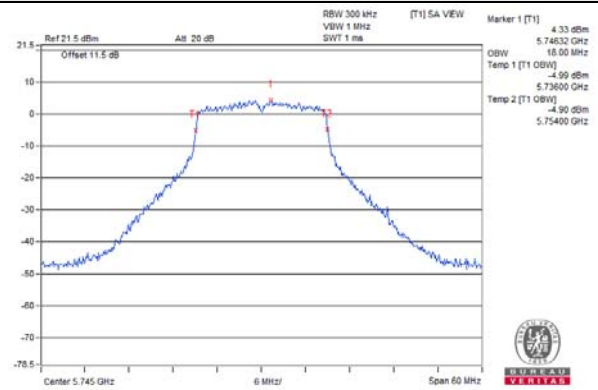
802.11a / Chain 1 / CH 149



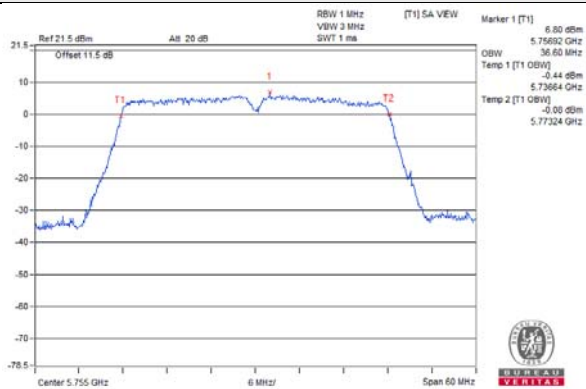
802.11n (HT20) / Chain 0 / CH 149



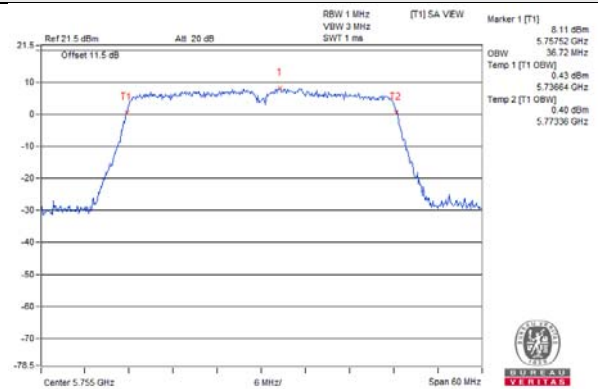
802.11n (HT20) / Chain 1 / CH 149



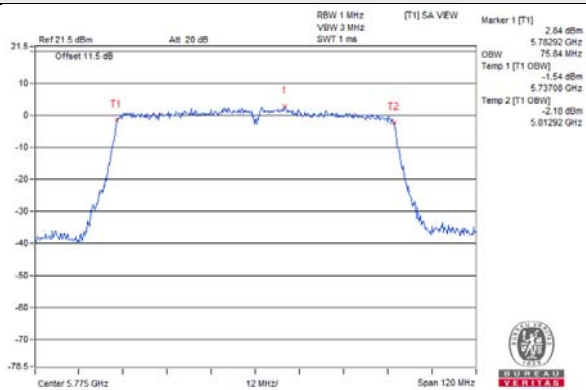
802.11n (HT40) / Chain 0 / CH 151



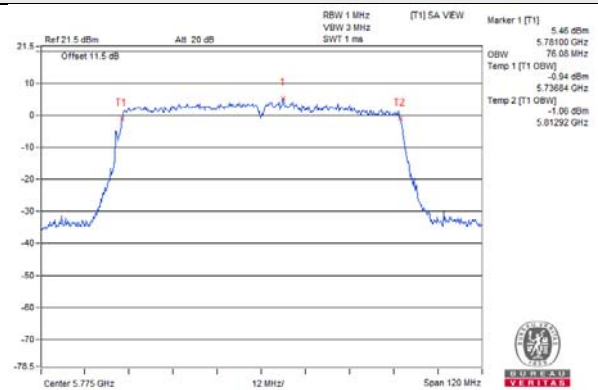
802.11n (HT40) / Chain 1 / CH 151



802.11ac (VHT80) / Chain 0 / CH 155



802.11ac (VHT80) / Chain 1 / CH 155

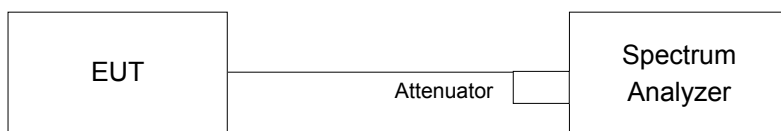


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A and U-NII-2C band:

Using method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- Set Channel power measure = 1MHz
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

For U-NII-1, U-NII-2A and U-NII-2C band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	0.68	0.15	0.23	3.66	10.99	Pass
40	5200	0.76	0.32	0.23	3.79	10.99	Pass
48	5240	0.95	0.51	0.23	3.98	10.99	Pass
52	5260	1.14	0.71	0.23	4.17	10.99	Pass
60	5300	1.03	0.75	0.23	4.13	10.99	Pass
64	5320	0.67	0.36	0.23	3.76	10.99	Pass
100	5500	-2.49	-0.87	0.23	1.64	10.99	Pass
116	5580	-1.40	-0.40	0.23	2.37	10.99	Pass
140	5700	0.21	1.71	0.23	4.26	10.99	Pass
144	5720	-1.01	1.99	0.23	3.98	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-0.09	-0.19	0.25	3.12	10.99	Pass
40	5200	0.70	-0.03	0.25	3.61	10.99	Pass
48	5240	1.18	0.08	0.25	3.93	10.99	Pass
52	5260	1.15	0.35	0.25	4.03	10.99	Pass
60	5300	0.67	0.30	0.25	3.75	10.99	Pass
64	5320	-0.16	0.02	0.25	3.19	10.99	Pass
100	5500	-2.95	-1.15	0.25	1.30	10.99	Pass
116	5580	-2.17	-0.56	0.25	1.97	10.99	Pass
140	5700	-0.11	1.42	0.25	3.98	10.99	Pass
144	5720	-1.09	1.40	0.25	3.59	10.99	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.99	-3.36	0.47	-0.18	10.99	Pass
46	5230	-1.53	-2.28	0.47	1.59	10.99	Pass
54	5270	-1.67	-1.94	0.47	1.68	10.99	Pass
62	5310	-2.87	-2.00	0.47	1.07	10.99	Pass
102	5510	-5.26	-3.69	0.47	-0.92	10.99	Pass
110	5550	-4.98	-3.68	0.47	-0.80	10.99	Pass
134	5670	-2.40	-1.04	0.47	1.81	10.99	Pass
142	5710	-3.05	-0.67	0.47	1.78	10.99	Pass

Note:

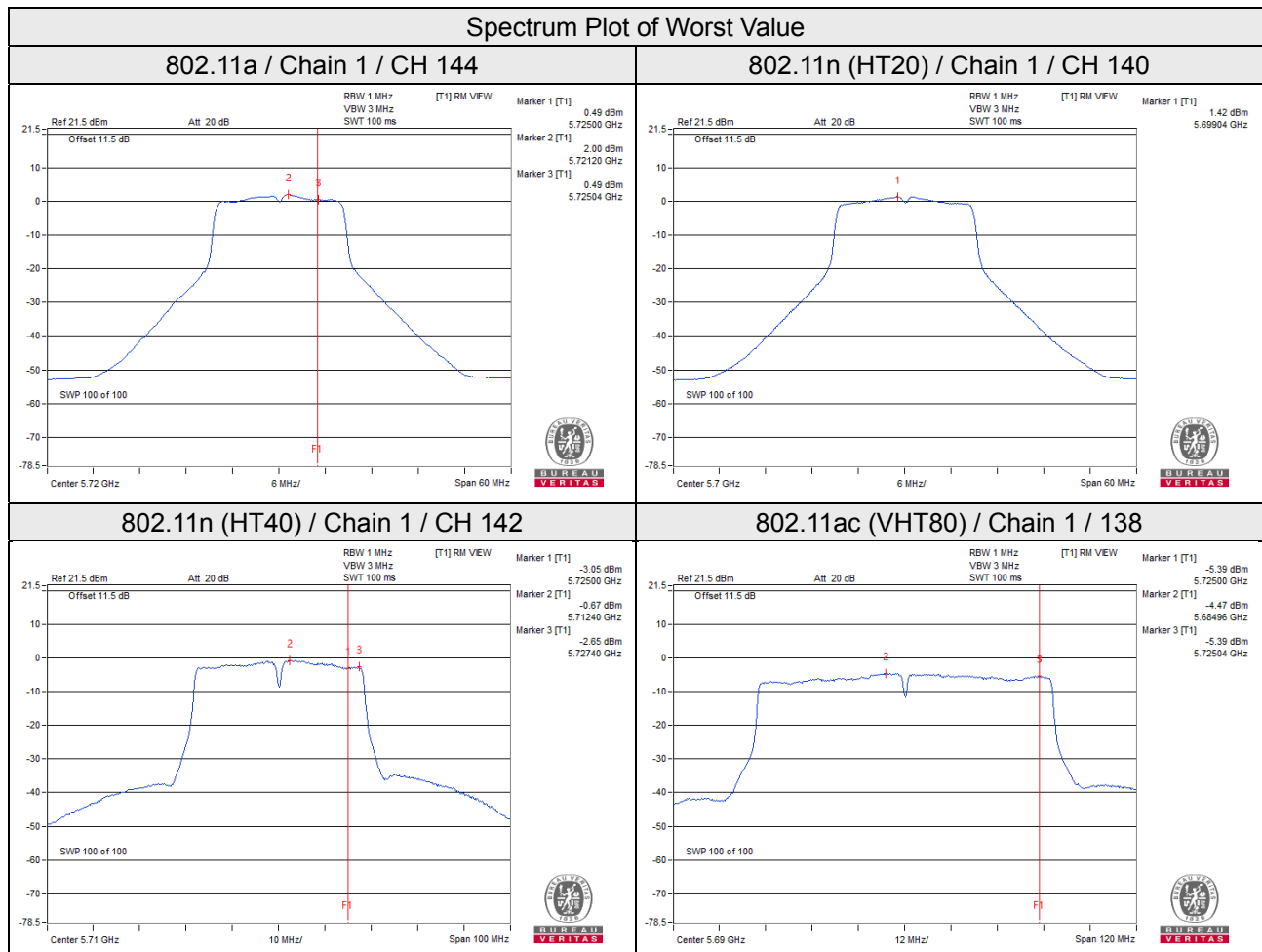
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-7.91	-5.91	0.73	-3.06	10.99	Pass
58	5290	-6.00	-5.89	0.73	-2.20	10.99	Pass
106	5530	-8.69	-7.42	0.73	-4.27	10.99	Pass
122	5610	-6.82	-6.10	0.73	-2.70	10.99	Pass
138	5690	-7.00	-4.47	0.73	-1.81	10.99	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-10.79	-8.57	3.01	0.23	-5.33	29.99	Pass
	149	5745	-9.28	-7.06	3.01	0.23	-3.82	29.99	Pass
	157	5785	-10.50	-8.28	3.01	0.23	-5.04	29.99	Pass
	165	5825	-11.10	-8.88	3.01	0.23	-5.64	29.99	Pass
1	144	5720	-7.80	-5.58	3.01	0.23	-2.34	29.99	Pass
	149	5745	-7.66	-5.44	3.01	0.23	-2.20	29.99	Pass
	157	5785	-8.47	-6.25	3.01	0.23	-3.01	29.99	Pass
	165	5825	-9.67	-7.45	3.01	0.23	-4.21	29.99	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.01 - 6) = 29.99dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-10.83	-8.61	3.01	0.25	-5.35	29.99	Pass
	149	5745	-9.79	-7.57	3.01	0.25	-4.31	29.99	Pass
	157	5785	-10.93	-8.71	3.01	0.25	-5.45	29.99	Pass
	165	5825	-11.52	-9.30	3.01	0.25	-6.04	29.99	Pass
1	144	5720	-7.86	-5.64	3.01	0.25	-2.38	29.99	Pass
	149	5745	-8.06	-5.84	3.01	0.25	-2.58	29.99	Pass
	157	5785	-9.08	-6.86	3.01	0.25	-3.60	29.99	Pass
	165	5825	-9.92	-7.70	3.01	0.25	-4.44	29.99	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.01 - 6) = 29.99dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710	-13.61	-11.39	3.01	0.47	-7.91	29.99	Pass
	151	5755	-12.81	-10.59	3.01	0.47	-7.11	29.99	Pass
	159	5795	-13.91	-11.69	3.01	0.47	-8.21	29.99	Pass
1	142	5710	-11.03	-8.81	3.01	0.47	-5.33	29.99	Pass
	151	5755	-10.98	-8.76	3.01	0.47	-5.28	29.99	Pass
	159	5795	-11.96	-9.74	3.01	0.47	-6.26	29.99	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.01 - 6) = 29.99dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

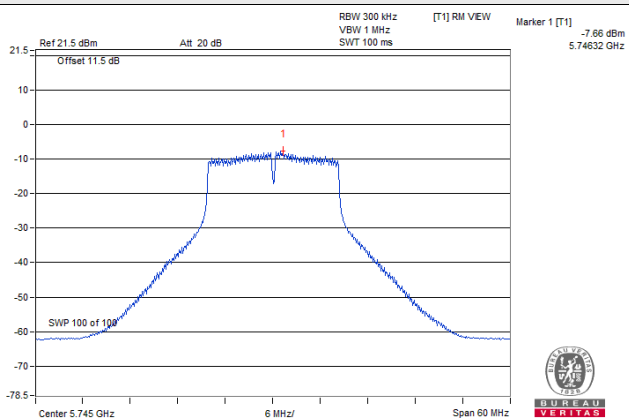
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690	-17.50	-15.28	3.01	0.73	-11.54	29.99	Pass
	155	5775	-16.91	-14.69	3.01	0.73	-10.95	29.99	Pass
1	138	5690	-14.58	-12.36	3.01	0.73	-8.62	29.99	Pass
	155	5775	-15.15	-12.93	3.01	0.73	-9.19	29.99	Pass

Note:

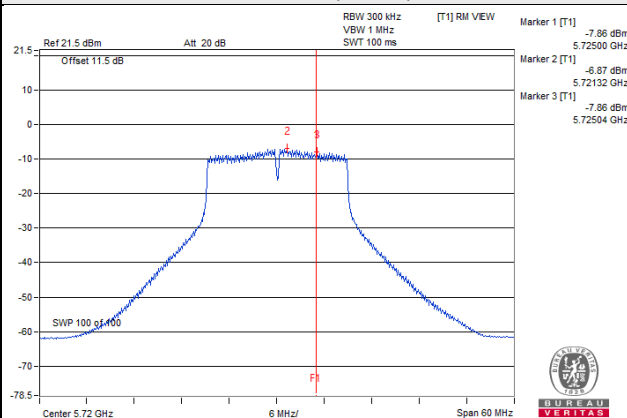
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.01 - 6) = 29.99dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

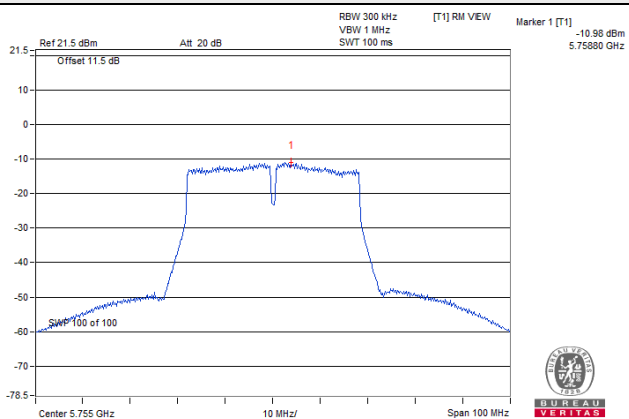
802.11a



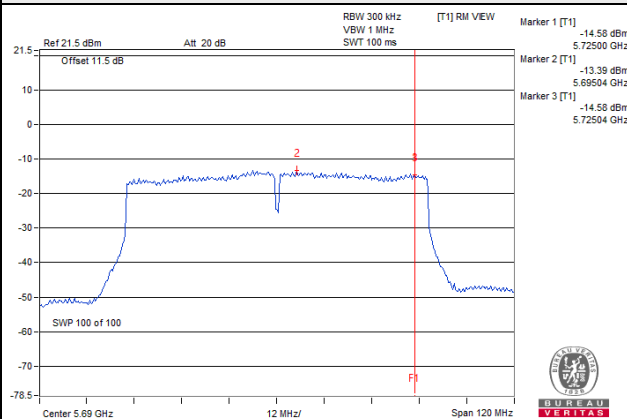
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

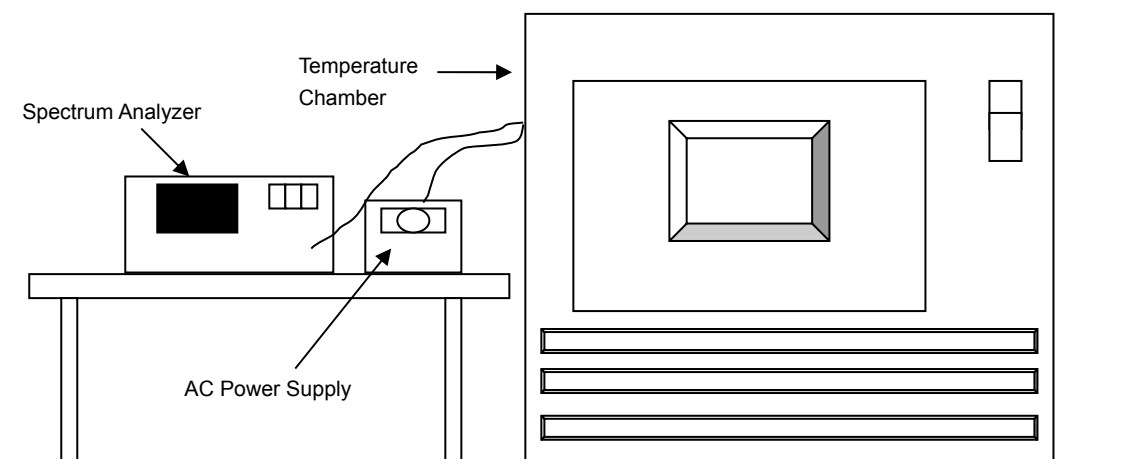


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 23, 2019	Sep. 22, 2020
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
Digital Multimeter Fluke	87-III	70360742	Jun. 28, 2019	Jun. 27, 2020
AC Power Supply Extech	CFW-105	E000603	NA	NA
True RMS Clamp Meter Fluke	325	31130711WS	May 21, 2019	May 20, 2020

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step c and d with every 10 degrees reduction until the lowest temperature achieved.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5180.0233	Pass	5180.0215	Pass	5180.0227	Pass	5180.0213	Pass
40	120	5179.9913	Pass	5179.9867	Pass	5179.9867	Pass	5179.9873	Pass
30	120	5180.0217	Pass	5180.0255	Pass	5180.0262	Pass	5180.0265	Pass
20	120	5179.9805	Pass	5179.9792	Pass	5179.981	Pass	5179.9806	Pass
10	120	5179.9752	Pass	5179.9726	Pass	5179.9747	Pass	5179.9749	Pass
0	120	5180.0162	Pass	5180.0162	Pass	5180.0162	Pass	5180.0165	Pass
-10	120	5179.9948	Pass	5179.9941	Pass	5179.9933	Pass	5179.991	Pass
-20	120	5180.0163	Pass	5180.0169	Pass	5180.0174	Pass	5180.0176	Pass

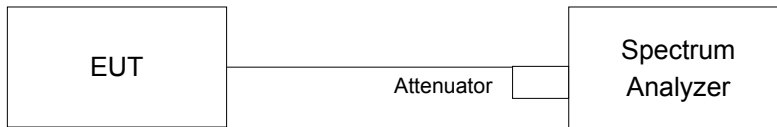
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9801	Pass	5179.9787	Pass	5179.9815	Pass	5179.9801	Pass
	120	5179.9805	Pass	5179.9792	Pass	5179.981	Pass	5179.9806	Pass
	102	5179.9802	Pass	5179.9801	Pass	5179.9818	Pass	5179.9803	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	3.21	2.84	0.5	Pass
149	5745	15.96	16.05	0.5	Pass
157	5785	15.23	16.32	0.5	Pass
165	5825	15.97	16.11	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	3.20	3.85	0.5	Pass
149	5745	15.76	15.94	0.5	Pass
157	5785	15.74	16.56	0.5	Pass
165	5825	16.02	16.33	0.5	Pass

802.11n (HT40)

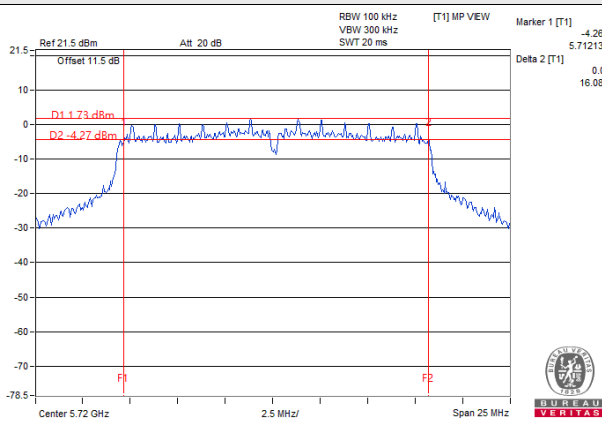
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (For U-NII-3)	5710	3.00	2.88	0.5	Pass
151	5755	35.59	35.61	0.5	Pass
159	5795	35.80	35.50	0.5	Pass

802.11ac (VHT80)

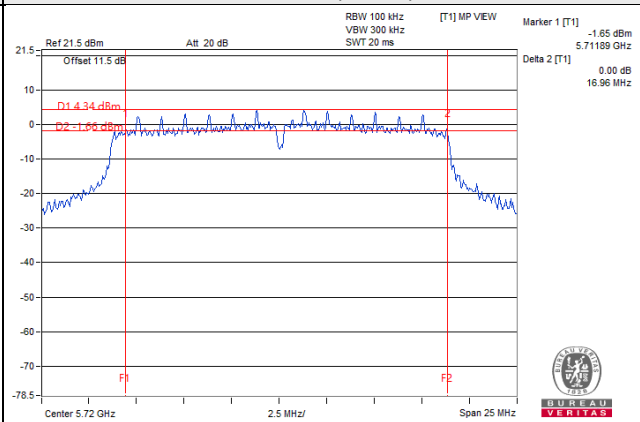
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (For U-NII-3)	5690	2.74	2.73	0.5	Pass
155	5775	75.46	75.38	0.5	Pass

Spectrum Plot of Worst Value

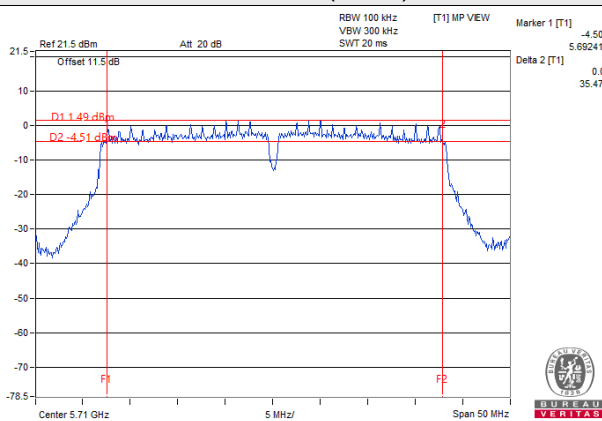
802.11a



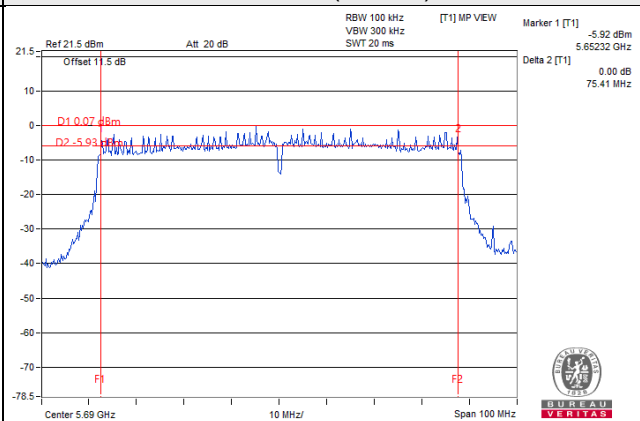
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Note:

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

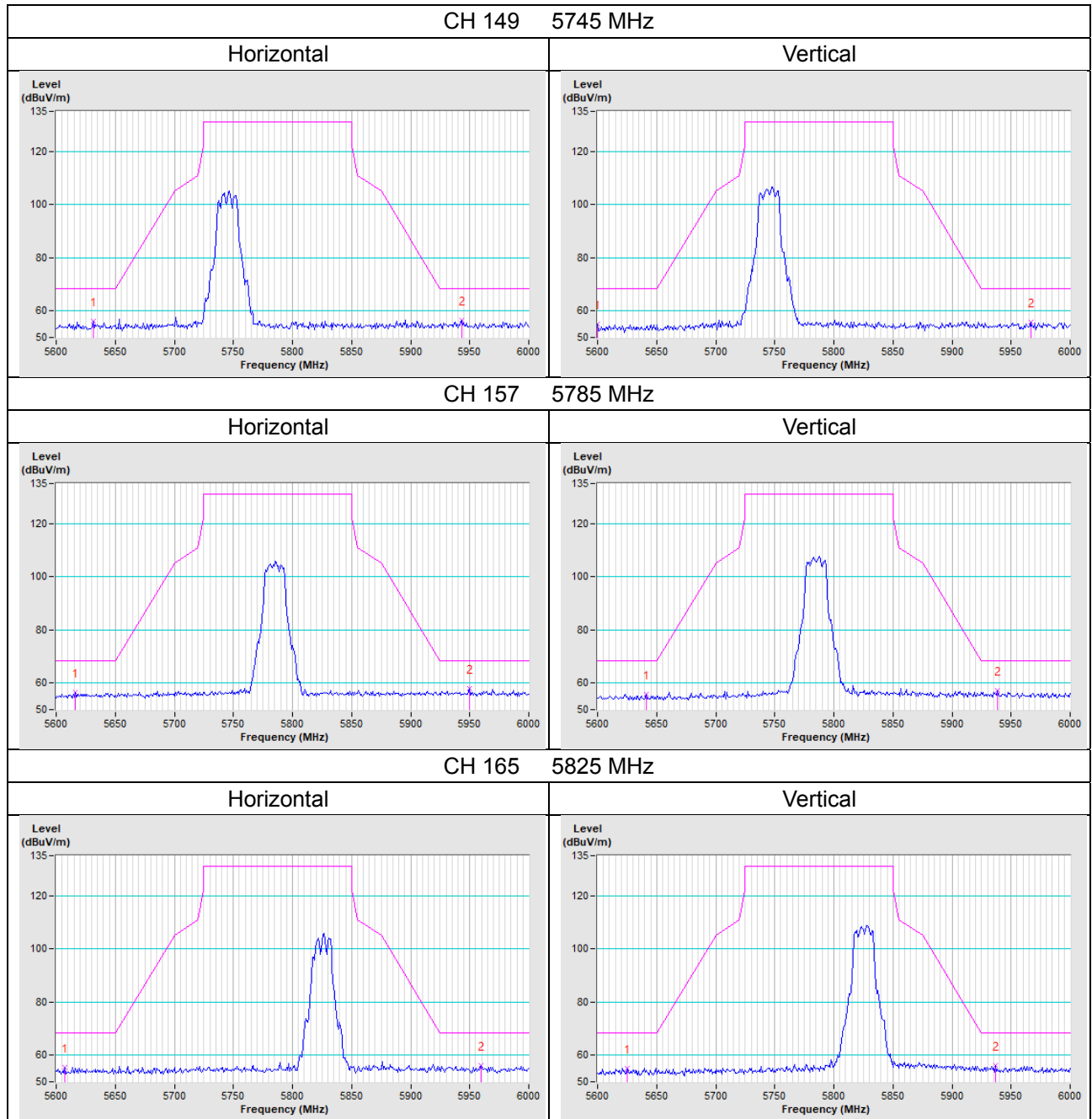
For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

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

Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

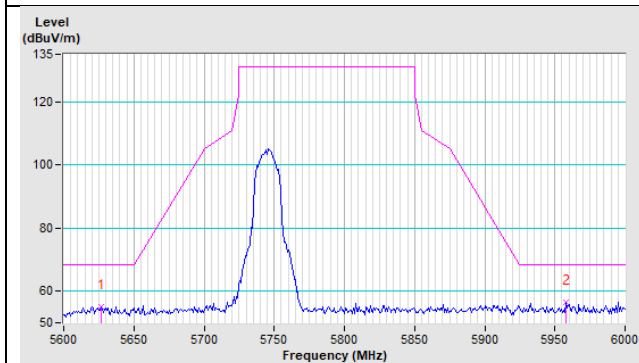
802.11a



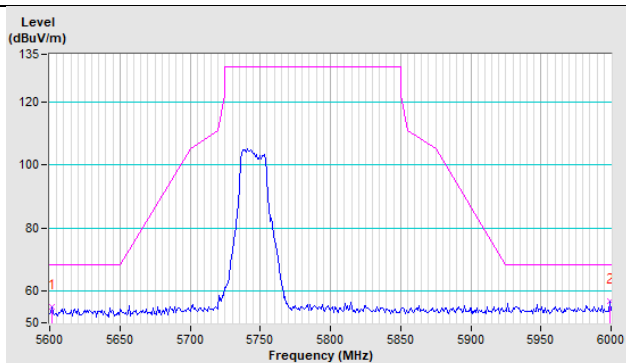
802.11n (HT20)

CH 149 5745 MHz

Horizontal

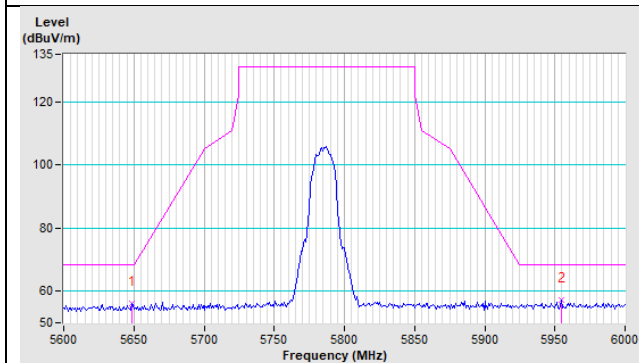


Vertical

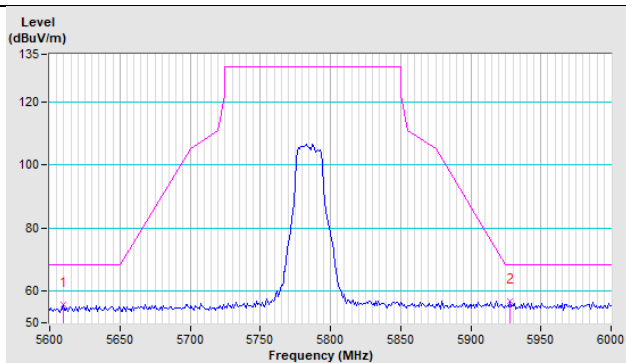


CH 157 5785 MHz

Horizontal

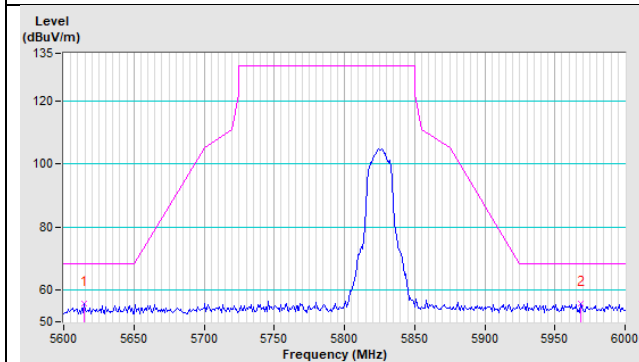


Vertical

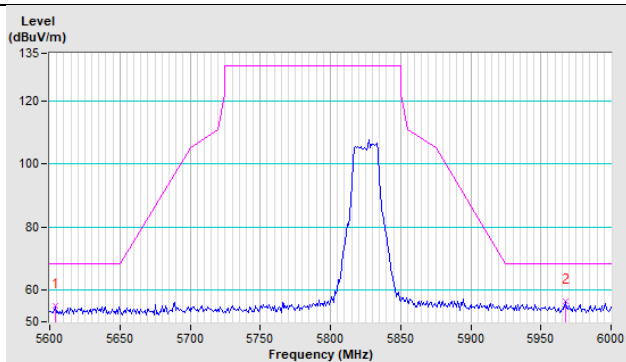


CH 165 5825 MHz

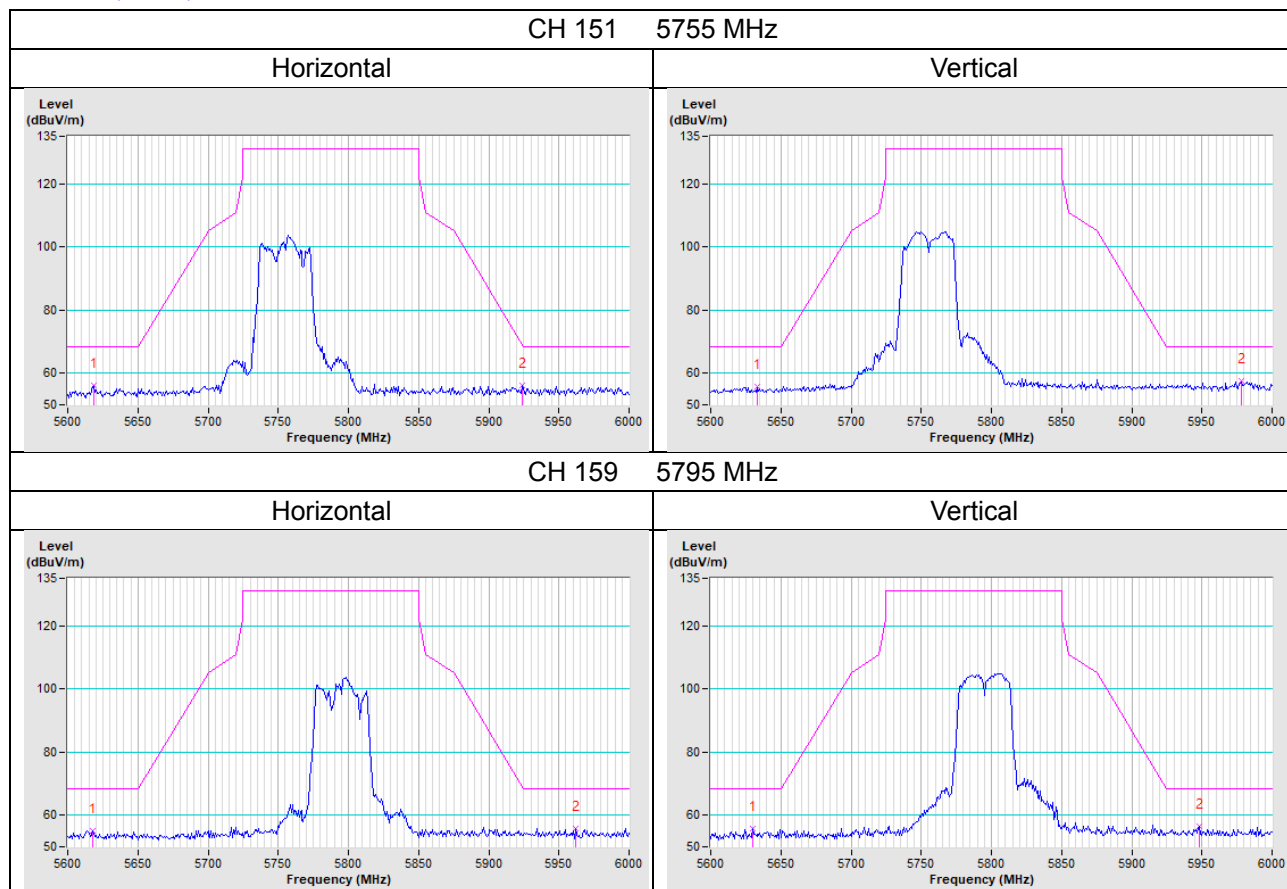
Horizontal



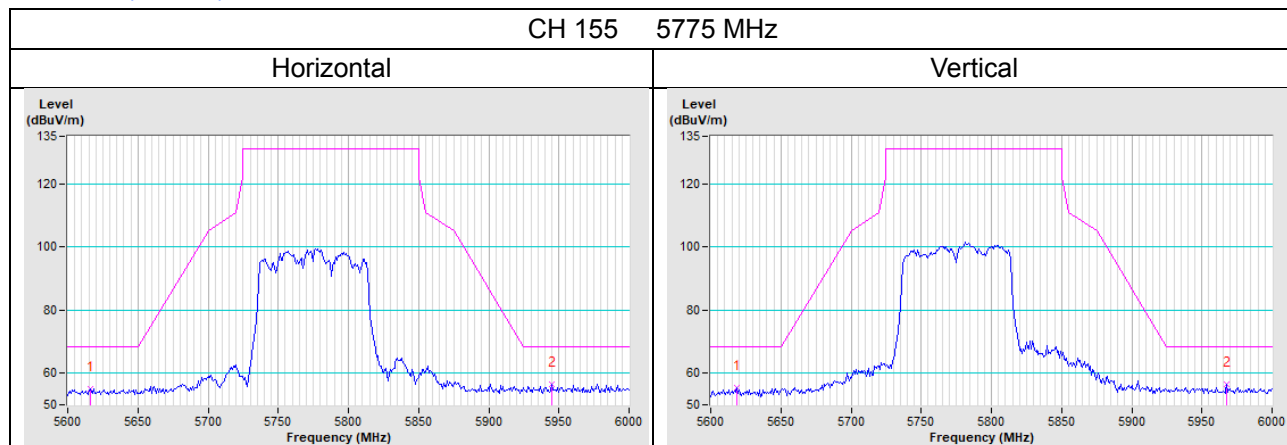
Vertical



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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