

FCC Test Report

Report No.: RF160725C02-1

FCC ID: UDX-60052010

Test Model: MR33-HW

Received Date: Jul. 25, 2016

Test Date: Jul. 25 ~ Aug. 31, 2016

Issued Date: Sep. 09, 2016

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Release Control Record

Issue No.	Description	Date Issued
RF160725C02-1	Original release	Sep. 09, 2016

1 Certificate of Conformity

Product: Wireless 802.11 abgn/ac indoor AP

Brand: Cisco

Test Model: MR33-HW

Sample Status: Engineering sample

Applicant: Cisco Systems, Inc.

Test Date: Jul. 25 ~ Aug. 31, 2016

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 EMC characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Sep. 09, 2016
Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Sep. 09, 2016
Ken Liu / Senior Manager

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 -13.81dB at 0.15000MHz.
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 -1.0dB at 39.49MHz.
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 IPEX not a standard connector.

*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	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 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	Wireless 802.11 abgn/ac indoor AP
Brand	Cisco
Test Model	MR33-HW
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter 48Vdc or 55Vdc from POE
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	Radio 2: CDD Mode 5180 ~ 5240MHz: 436.587mW 5745 ~ 5825MHz: 474.987mW Beamforming Mode 5180 ~ 5240MHz: 404.160mW 5745 ~ 5825MHz: 469.686mW Radio 3: CDD Mode 5180 ~ 5240MHz: 54.954mW 5745 ~ 5825MHz: 52.240mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Data Cable Supplied	NA

Note:

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

Modulation Mode	TX Function	Beamforming	Remark
802.11a	2TX	Not Support	Radio 2
802.11n (HT20)	2TX	Support	
802.11n (HT40)	2TX	Support	
802.11ac (VHT20)	2TX	Support	
802.11ac (VHT40)	2TX	Support	
802.11ac (VHT80)	2TX	Support	
802.11a	1TX	Not Support	Radio 3
802.11n (HT20)	1TX	Not Support	
802.11n (HT40)	1TX	Not Support	
802.11ac (VHT20)	1TX	Not Support	
802.11ac (VHT40)	1TX	Not Support	
802.11ac (VHT80)	1TX	Not Support	

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

* For 5GHz band, CDD mode is the worst case for final radiated emission below 1GHz and power line conducted emission tests after pretesting CDD mode and beamforming mode.

2. The EUT consumes power from the following adapter and POE. (Support unit only)

Adapter	
Brand	CISCO
Model	KSAS0361200250HU
Input Power	100-240Vac, 50/60Hz, 1.0A
Output Power	12Vdc, 2.5A
Power Line	1.5m cable without core attached on adapter

POE	
Brand	CISCO
Model	MA-INJ-4
Input Power	100-240Vac, 50/60Hz, 0.67A
Output Power	55Vdc/ 0.6A
Power Line	1.4m non-shielded Power cable without core

3. The EUT with follow antennas gain is listed as table below.

No.	Type	Connector	Gain(dBi)		Remark
			2.4GHz	5GHz	
1	PIFA	IPEX	4.17	-	Radio 1 (WLAN)
2	PIFA	IPEX	3.74	-	
3	PIFA	IPEX	-	5.34	Radio 2 (WLAN)
4	PIFA	IPEX	-	5.71	
5	Printed	IPEX	5.67	-	Radio 4 (BT LE)
6	Printed	IPEX	4.65	5.50	Radio 3 (WLAN)

4. 2.4GHz, 5GHz and BT LE technology can transmit at same time.

5. Spurious emission of the simultaneous operation (2.4GHz, 5GHz and BT LE) has been evaluated and no non-compliance was found.

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 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 $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Powered by POE
B	-	√	√	-	Powered by adapter

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz & Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	REMARK
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	Radio 2 (2TX)
			36 to 48	36, 40, 48	OFDM	BPSK	6.0	Radio 3 (1TX)
A	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5	Radio 2 (2TX)
			36 to 48	36, 40, 48	OFDM	BPSK	6.5	Radio 3 (1TX)
A	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5	Radio 2 (2TX)
			38 to 46	38, 46	OFDM	BPSK	13.5	Radio 3 (1TX)
A	802.11ac (VHT80)		42	42	OFDM	BPSK	58.5	Radio 2 (2TX)
			42	42	OFDM	BPSK	29.3	Radio 3 (1TX)
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0	Radio 2 (2TX)
			149 to 165	149, 157, 165	OFDM	BPSK	6.0	Radio 3 (1TX)
A	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5	Radio 2 (2TX)
			149 to 165	149, 157, 165	OFDM	BPSK	6.5	Radio 3 (1TX)
A	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5	Radio 2 (2TX)
			151 to 159	151, 159	OFDM	BPSK	13.5	Radio 3 (1TX)
A	802.11ac (VHT80)		155	155	OFDM	BPSK	58.5	Radio 2 (2TX)
			155	155	OFDM	BPSK	29.3	Radio 3 (1TX)

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	REMARK
A, B	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0	Radio 2 (2TX)
	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0	Radio 2 (2TX)

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	REMARK
A, B	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0	Radio 2 (2TX)
	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0	Radio 2 (2TX)

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	REMARK
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	Radio 2 (2TX)
			36 to 48	36, 40, 48	OFDM	BPSK	6.0	Radio 3 (1TX)
A	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5	Radio 2 (2TX)
			36 to 48	36, 40, 48	OFDM	BPSK	6.5	Radio 3 (1TX)
A	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5	Radio 2 (2TX)
			38 to 46	38, 46	OFDM	BPSK	13.5	Radio 3 (1TX)
A	802.11ac (VHT80)		42	42	OFDM	BPSK	58.5	Radio 2 (2TX)
			42	42	OFDM	BPSK	29.3	Radio 3 (1TX)
A	802.11a		149 to 165	149, 157, 165	OFDM	BPSK	6.0	Radio 2 (2TX)
			149 to 165	149, 157, 165	OFDM	BPSK	6.0	Radio 3 (1TX)
A	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5	Radio 2 (2TX)
			149 to 165	149, 157, 165	OFDM	BPSK	6.5	Radio 3 (1TX)
A	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5	Radio 2 (2TX)
			151 to 159	151, 159	OFDM	BPSK	13.5	Radio 3 (1TX)
A	802.11ac (VHT80)		155	155	OFDM	BPSK	58.5	Radio 2 (2TX)
			155	155	OFDM	BPSK	29.3	Radio 3 (1TX)

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	16deg. C, 70%RH	120Vac, 60Hz	James Yang
RE<1G	19deg. C, 70%RH	120Vac, 60Hz 55Vdc	James Yang
PLC	23deg. C, 70%RH	120Vac, 60Hz 55Vdc	Jones Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Ted Chang Frank Liu

3.3 Duty Cycle of Test Signal

Radio 2: CDD Mode

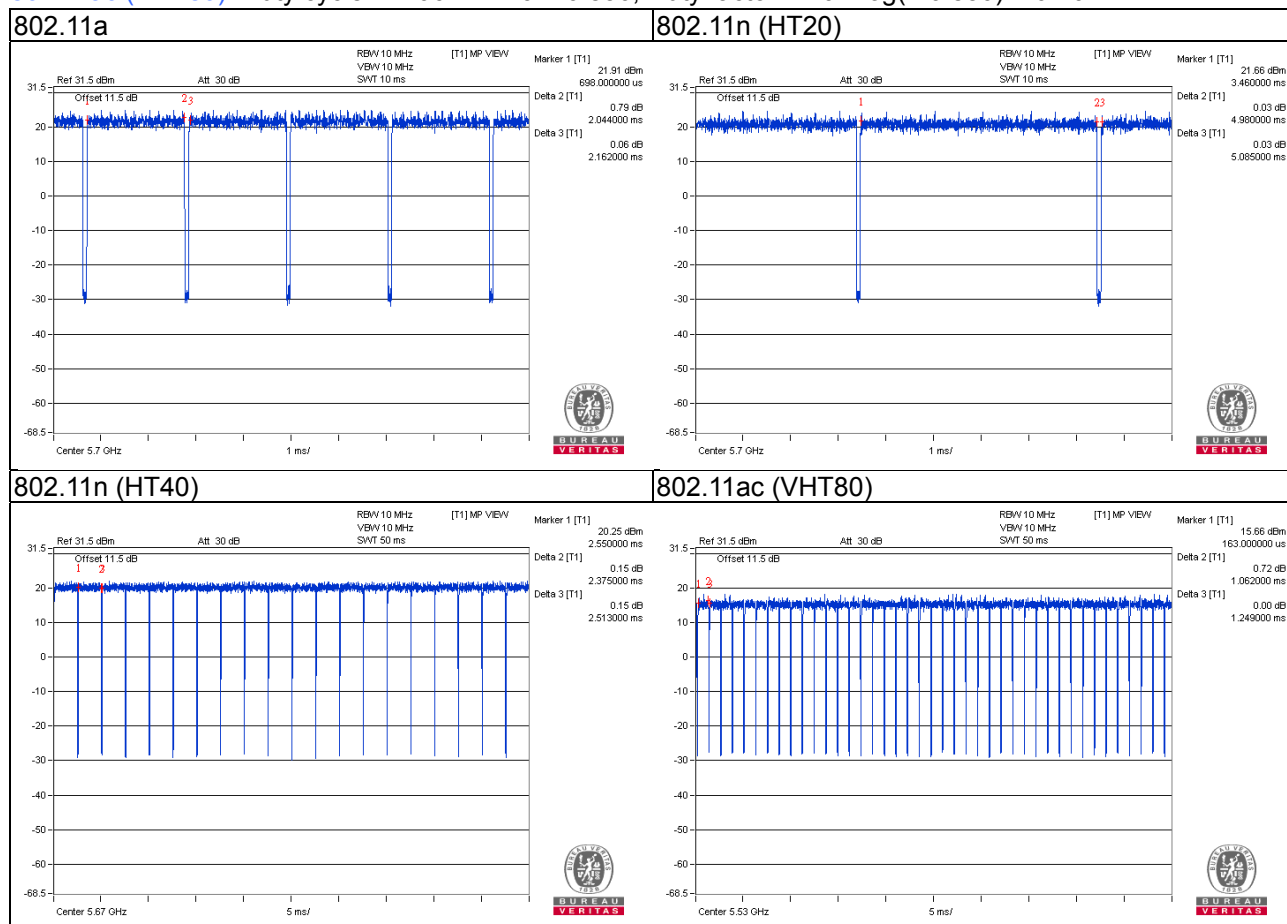
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = $2.044/2.162 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.24$

802.11n (HT20): Duty cycle = $4.980/5.085 = 0.979$, Duty factor = $10 * \log(1/0.979) = 0.09$

802.11n (HT40): Duty cycle = $2.375/2.513 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.25$

802.11ac (VHT80): Duty cycle = $1.062/1.249 = 0.850$, Duty factor = $10 * \log(1/0.850) = 0.70$



Radio 2: Beamforming Mode

802.11ac (VHT20): Duty cycle of test signal is > 98 %, duty factor is not required.

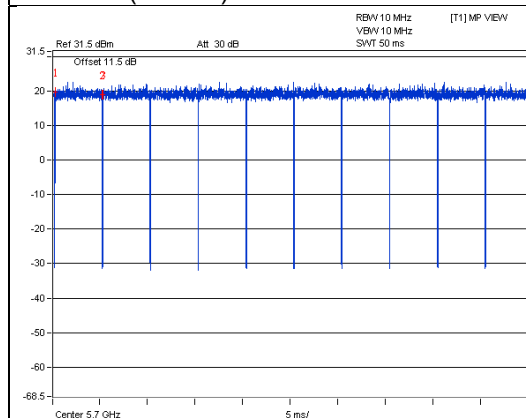
802.11ac (VHT40), 802.11ac (VHT80): Duty cycle of test signal is < 98 %, duty factor is required.

802.11ac (VHT20): Duty cycle = $4.962/5.050 = 0.983$

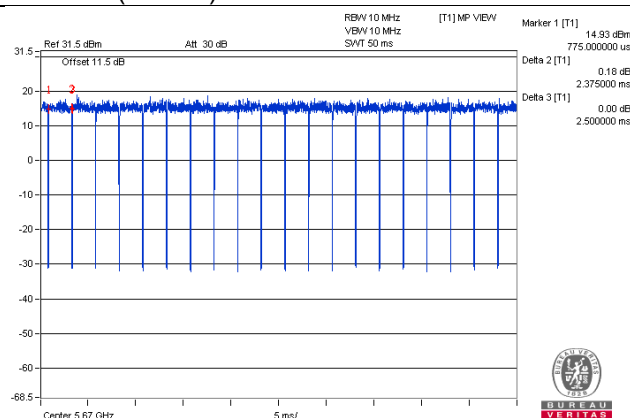
802.11ac (VHT40): Duty cycle = $2.375/2.500 = 0.950$, Duty factor = $10 * \log(1/0.950) = 0.22$

802.11ac (VHT80): Duty cycle = $1.120/1.217 = 0.920$, Duty factor = $10 * \log(1/0.920) = 0.36$

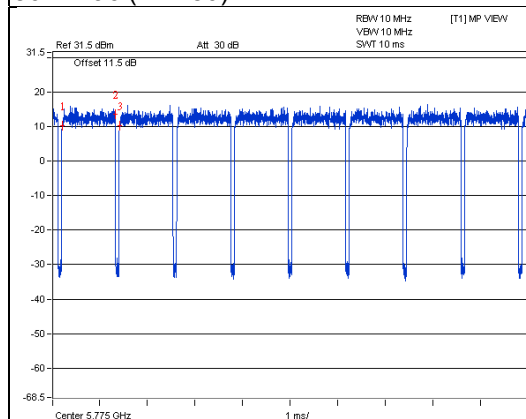
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Radio 3: CDD Mode

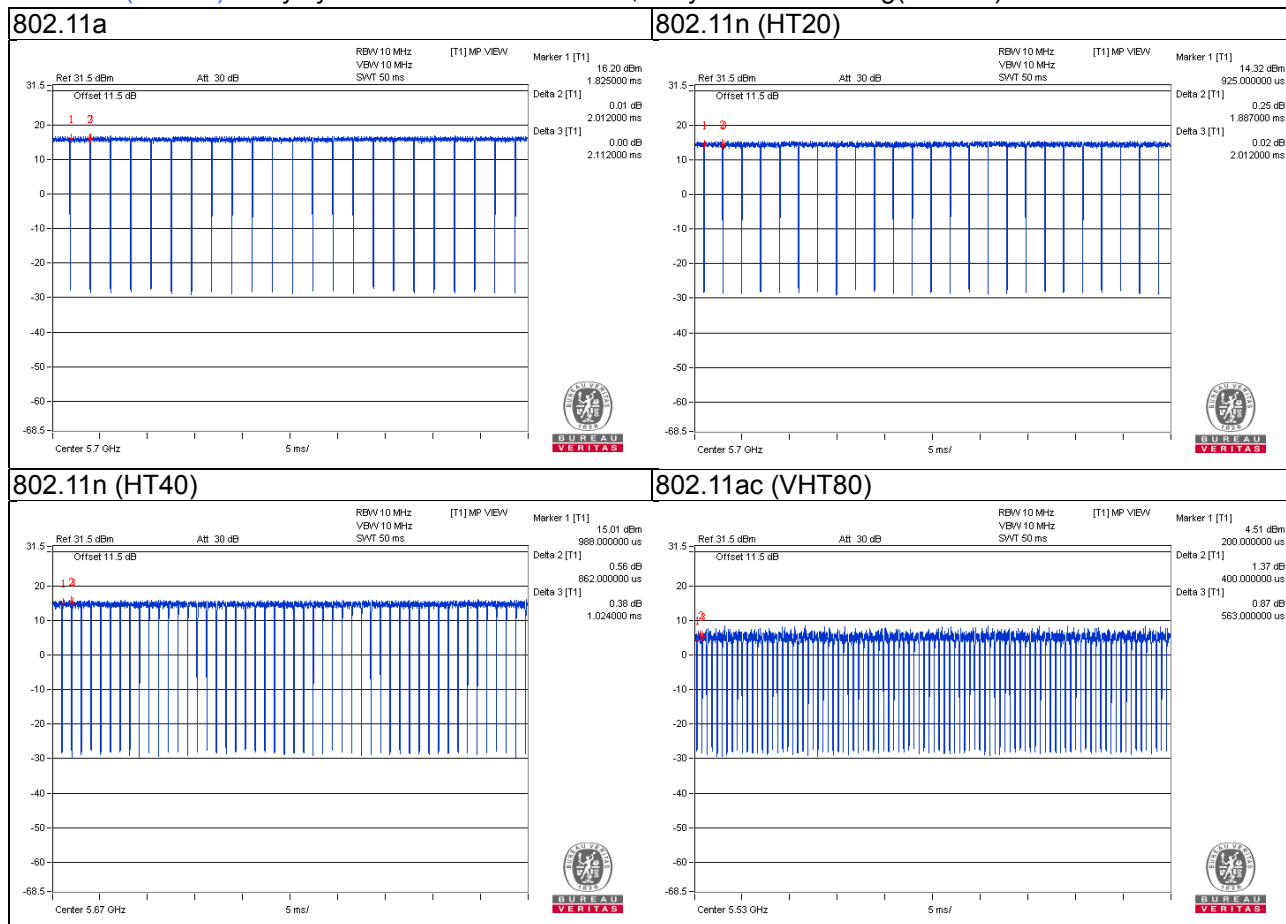
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = $2.012/2.112 = 0.953$, Duty factor = $10 * \log(1/0.953) = 0.21$

802.11n (HT20): Duty cycle = $1.887/2.012 = 0.938$, Duty factor = $10 * \log(1/0.938) = 0.28$

802.11n (HT40): Duty cycle = $0.862/1.024 = 0.842$, Duty factor = $10 * \log(1/0.842) = 0.75$

802.11ac (VHT80): Duty cycle = $0.400/0.563 = 0.710$, Duty factor = $10 * \log(1/0.710) = 1.48$



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.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	Adapter	CISCO	KSAS0361200250HU	N/A	N/A	Provided by manufacturer For test mode A only
C.	POE	CISCO	MA-INJ-4	N/A	N/A	Provided by manufacturer For test mode B only

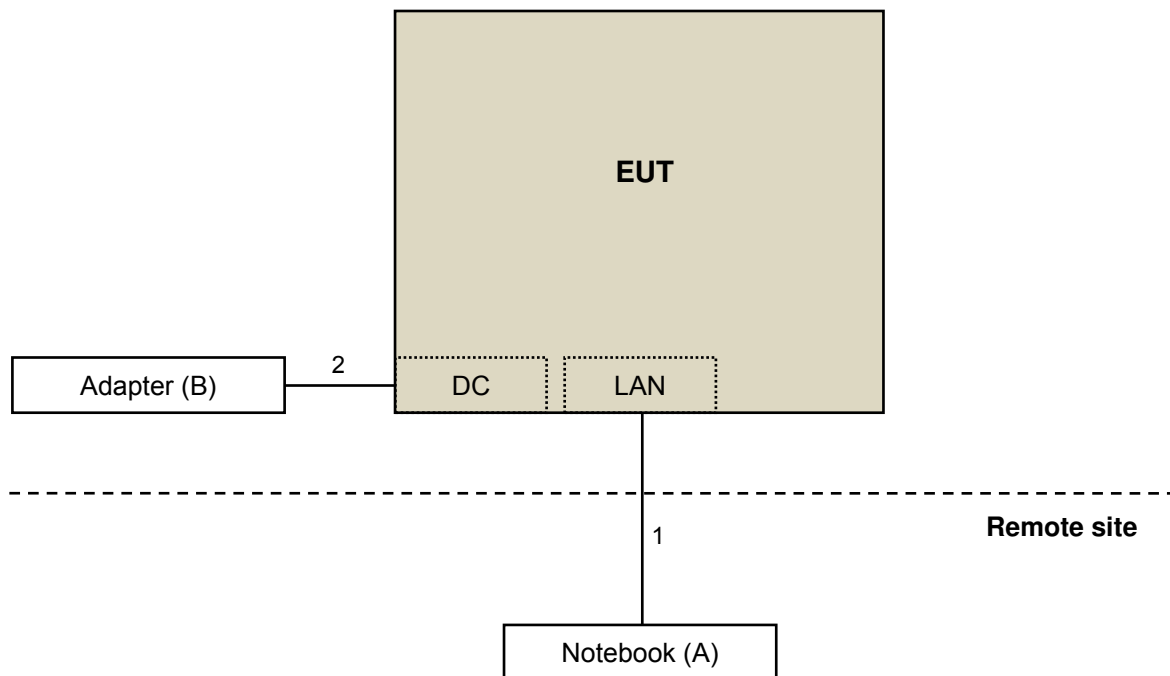
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as communication partner to transfer data.

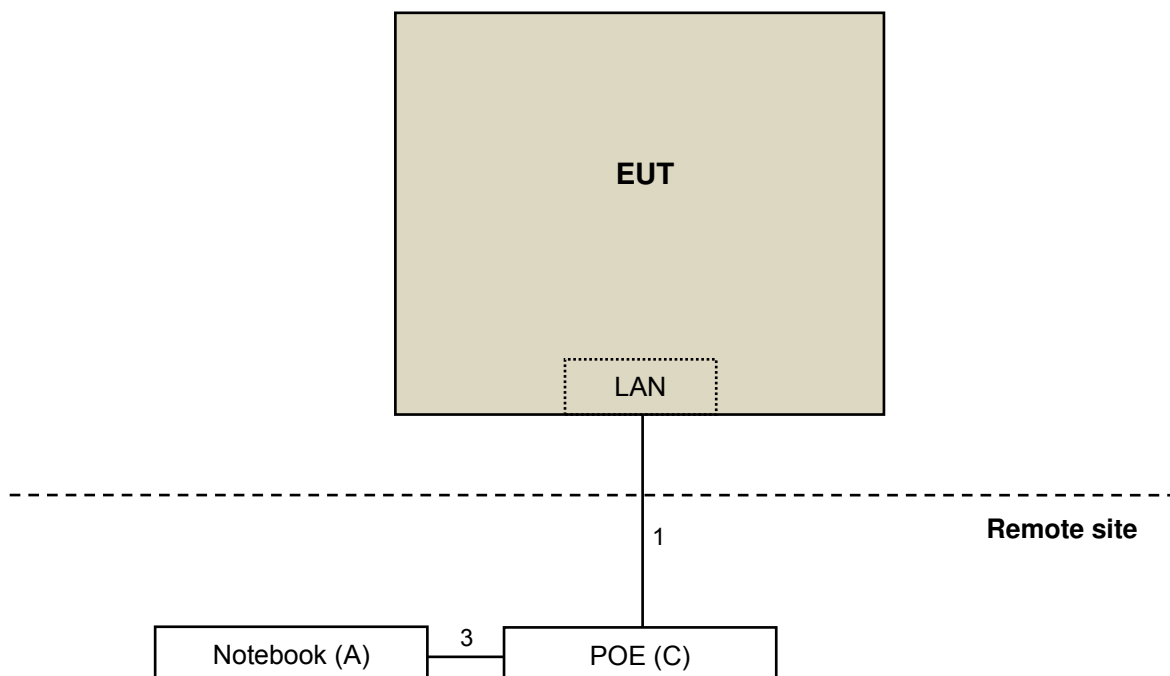
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	1	3	N	0	Cat5e
2.	Power Cable	1	1.5	N	0	For test mode A only
3.	RJ45 Cable	1	1.8	N	0	Cat5e For test mode B only

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedure New Rules v01r03

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

Note: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 v01r03			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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Sep. 02, 2015	Sep. 01, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	9120D	209	Jan. 20, 2016	Jan. 19, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2015	Oct. 17, 2016
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2015	Aug. 21, 2016
			Aug. 22, 2016	Aug. 21, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2015	Aug. 21, 2016
			Aug. 22, 2016	Aug. 21, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2015	Aug. 21, 2016
			Aug. 22, 2016	Aug. 21, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
			Jul. 09, 2016	Jul. 08, 2017
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016
			Jul. 09, 2016	Jul. 08, 2017
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017

- 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 3.
 3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 988962.
 5. The IC Site Registration No. is IC 7450F-3.

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

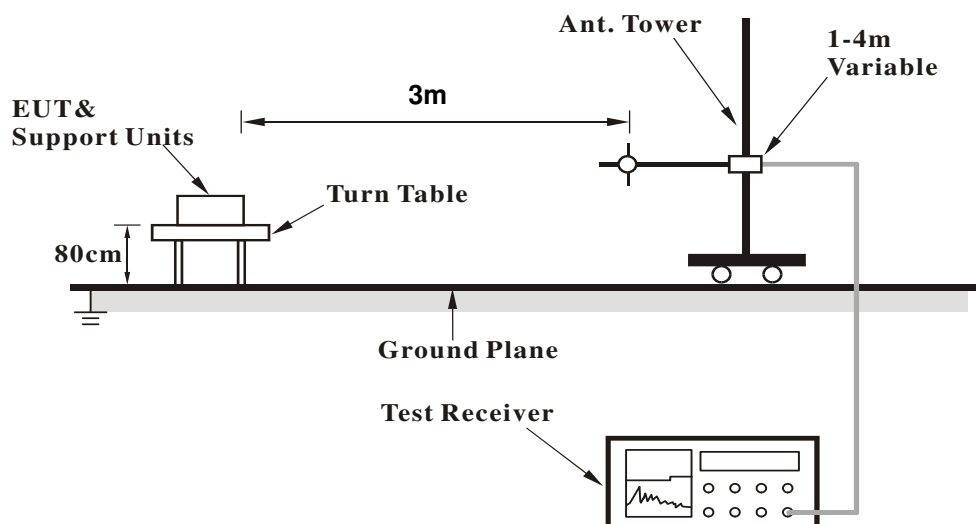
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

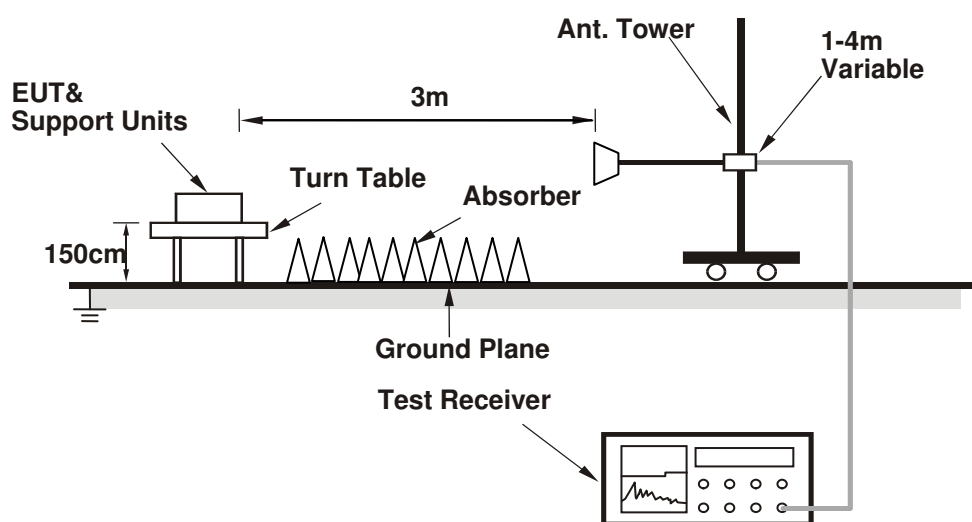
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range 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.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz Worst-Case Data:

Radio 2: CDD Mode

802.11a

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

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	69.2 PK	74.0	-4.8	1.51 H	276	63.2	6.0
2	5150.00	52.7 AV	54.0	-1.3	1.51 H	276	46.7	6.0
3	*5180.00	115.9 PK			1.62 H	275	76.5	39.4
4	*5180.00	105.7 AV			1.62 H	275	66.3	39.4
5	#10360.00	60.3 PK	74.0	-13.7	1.78 H	90	42.5	17.8
6	#10360.00	47.0 AV	54.0	-7.0	1.78 H	90	29.2	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	5150.00	66.5 PK	74.0	-7.5	2.71 V	343	60.5	6.0
2	5150.00	52.3 AV	54.0	-1.7	2.71 V	343	46.3	6.0
3	*5180.00	116.9 PK			2.54 V	348	77.5	39.4
4	*5180.00	106.4 AV			2.54 V	348	67.0	39.4
5	#10360.00	59.6 PK	74.0	-14.4	1.97 V	247	41.8	17.8
6	#10360.00	46.9 AV	54.0	-7.1	1.97 V	247	29.1	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	63.1 PK	74.0	-10.9	1.49 H	289	57.1	6.0
2	5150.00	49.3 AV	54.0	-4.7	1.49 H	289	43.3	6.0
3	*5200.00	119.5 PK			1.93 H	273	80.0	39.5
4	*5200.00	109.3 AV			1.93 H	273	69.8	39.5
5	#10400.00	59.3 PK	74.0	-14.7	1.83 H	223	41.6	17.7
6	#10400.00	46.6 AV	54.0	-7.4	1.83 H	223	28.9	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	5150.00	65.0 PK	74.0	-9.0	2.84 V	342	59.0	6.0
2	5150.00	50.0 AV	54.0	-4.0	2.84 V	342	44.0	6.0
3	*5200.00	121.5 PK			2.40 V	350	82.0	39.5
4	*5200.00	111.2 AV			2.40 V	350	71.7	39.5
5	#10400.00	59.3 PK	74.0	-14.7	1.47 V	255	41.6	17.7
6	#10400.00	46.6 AV	54.0	-7.4	1.47 V	255	28.9	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	119.4 PK			1.14 H	281	79.8	39.6
2	*5240.00	108.8 AV			1.14 H	281	69.2	39.6
3	5350.00	60.6 PK	74.0	-13.4	1.64 H	242	54.1	6.5
4	5350.00	48.0 AV	54.0	-6.0	1.64 H	242	41.5	6.5
5	#10480.00	59.8 PK	74.0	-14.2	1.33 H	170	41.1	18.7
6	#10480.00	47.2 AV	54.0	-6.8	1.33 H	170	28.5	18.7
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	*5240.00	121.3 PK			2.38 V	351	81.7	39.6
2	*5240.00	111.1 AV			2.38 V	351	71.5	39.6
3	5350.00	61.0 PK	74.0	-13.0	1.95 V	236	54.5	6.5
4	5350.00	47.9 AV	54.0	-6.1	1.95 V	236	41.4	6.5
5	#10480.00	61.0 PK	74.0	-13.0	2.38 V	157	42.3	18.7
6	#10480.00	47.3 AV	54.0	-6.7	2.38 V	157	28.6	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5643.20	59.3 PK	68.2	-8.9	2.78 H	286	52.2	7.1
2	*5745.00	120.0 PK			2.78 H	286	79.5	40.5
3	*5745.00	109.9 AV			2.78 H	286	69.4	40.5
4	#5965.60	60.2 PK	68.2	-8.0	2.78 H	286	52.4	7.8
5	11490.00	59.8 PK	74.0	-14.2	2.16 H	169	41.1	18.7
6	11490.00	47.0 AV	54.0	-7.0	2.16 H	169	28.3	18.7
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	#5640.80	59.5 PK	68.2	-8.7	2.56 V	342	52.4	7.1
2	*5745.00	120.5 PK			2.56 V	342	80.0	40.5
3	*5745.00	110.3 AV			2.56 V	342	69.8	40.5
4	#5930.40	60.1 PK	68.2	-8.1	2.56 V	342	52.4	7.7
5	11490.00	59.4 PK	74.0	-14.6	2.28 V	243	40.7	18.7
6	11490.00	47.1 AV	54.0	-6.9	2.28 V	243	28.4	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5623.20	57.9 PK	68.2	-10.3	3.02 H	294	50.8	7.1
2	*5785.00	119.4 PK			3.02 H	294	78.8	40.6
3	*5785.00	109.0 AV			3.02 H	294	68.4	40.6
4	#5942.40	60.1 PK	68.2	-8.1	3.02 H	294	52.4	7.7
5	11570.00	60.4 PK	74.0	-13.6	3.20 H	295	41.7	18.7
6	11570.00	47.7 AV	54.0	-6.3	3.20 H	295	29.0	18.7
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	#5611.20	58.8 PK	68.2	-9.4	2.54 V	339	51.7	7.1
2	*5785.00	120.3 PK			2.54 V	339	79.7	40.6
3	*5785.00	109.6 AV			2.54 V	339	69.0	40.6
4	#5976.80	59.6 PK	68.2	-8.6	2.54 V	339	51.7	7.9
5	11570.00	59.5 PK	74.0	-14.5	2.40 V	211	40.8	18.7
6	11570.00	47.0 AV	54.0	-7.0	2.40 V	211	28.3	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	57.9 PK	68.2	-10.3	2.88 H	292	50.8	7.1
2	*5825.00	118.2 PK			2.88 H	292	77.6	40.6
3	*5825.00	108.0 AV			2.88 H	292	67.4	40.6
4	#5936.80	59.9 PK	68.2	-8.3	2.88 H	292	52.2	7.7
5	11650.00	59.3 PK	74.0	-14.7	3.39 H	284	40.1	19.2
6	11650.00	47.4 AV	54.0	-6.6	3.39 H	284	28.2	19.2
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	#5644.00	57.7 PK	68.2	-10.5	2.60 V	338	50.6	7.1
2	*5825.00	118.8 PK			2.60 V	338	78.2	40.6
3	*5825.00	108.6 AV			2.60 V	338	68.0	40.6
4	#5979.20	58.5 PK	68.2	-9.7	2.60 V	338	50.6	7.9
5	11650.00	59.2 PK	74.0	-14.8	2.44 V	283	40.0	19.2
6	11650.00	46.8 AV	54.0	-7.2	2.44 V	283	27.6	19.2

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

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

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	63.3 PK	74.0	-10.7	1.50 H	265	57.3	6.0
2	5150.00	48.8 AV	54.0	-5.2	1.50 H	265	42.8	6.0
3	*5180.00	116.2 PK			1.85 H	268	76.8	39.4
4	*5180.00	104.9 AV			1.85 H	268	65.5	39.4
5	#10360.00	59.5 PK	74.0	-14.5	1.87 H	178	41.7	17.8
6	#10360.00	46.8 AV	54.0	-7.2	1.87 H	178	29.0	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	5150.00	70.1 PK	74.0	-3.9	2.72 V	356	64.1	6.0
2	5150.00	52.5 AV	54.0	-1.5	2.72 V	356	46.5	6.0
3	*5180.00	116.7 PK			2.55 V	338	77.3	39.4
4	*5180.00	106.3 AV			2.55 V	338	66.9	39.4
5	#10360.00	59.7 PK	74.0	-14.3	2.88 V	116	41.9	17.8
6	#10360.00	47.1 AV	54.0	-6.9	2.88 V	116	29.3	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	64.0 PK	74.0	-10.0	1.74 H	269	58.0	6.0
2	5150.00	48.0 AV	54.0	-6.0	1.74 H	269	42.0	6.0
3	*5200.00	120.0 PK			1.66 H	279	80.5	39.5
4	*5200.00	108.9 AV			1.66 H	279	69.4	39.5
5	#10400.00	59.3 PK	74.0	-14.7	2.47 H	169	41.6	17.7
6	#10400.00	46.4 AV	54.0	-7.6	2.47 H	169	28.7	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	5150.00	67.3 PK	74.0	-6.7	2.71 V	355	61.3	6.0
2	5150.00	50.8 AV	54.0	-3.2	2.71 V	355	44.8	6.0
3	*5200.00	120.2 PK			3.05 V	336	80.7	39.5
4	*5200.00	109.7 AV			3.05 V	336	70.2	39.5
5	#10400.00	59.1 PK	74.0	-14.9	1.91 V	227	41.4	17.7
6	#10400.00	46.6 AV	54.0	-7.4	1.91 V	227	28.9	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	120.1 PK			1.30 H	284	80.5	39.6
2	*5240.00	109.0 AV			1.30 H	284	69.4	39.6
3	5350.00	60.9 PK	74.0	-13.1	1.90 H	285	54.4	6.5
4	5350.00	48.1 AV	54.0	-5.9	1.90 H	285	41.6	6.5
5	#10480.00	60.8 PK	74.0	-13.2	1.66 H	177	42.1	18.7
6	#10480.00	47.4 AV	54.0	-6.6	1.66 H	177	28.7	18.7
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	*5240.00	121.6 PK			2.51 V	345	82.0	39.6
2	*5240.00	110.8 AV			2.51 V	345	71.2	39.6
3	5350.00	60.3 PK	74.0	-13.7	2.53 V	219	53.8	6.5
4	5350.00	48.0 AV	54.0	-6.0	2.53 V	219	41.5	6.5
5	#10480.00	60.7 PK	74.0	-13.3	1.68 V	95	42.0	18.7
6	#10480.00	47.1 AV	54.0	-6.9	1.68 V	95	28.4	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5623.20	57.9 PK	68.2	-10.3	1.63 H	292	50.8	7.1
2	*5745.00	120.7 PK			1.63 H	292	80.2	40.5
3	*5745.00	110.5 AV			1.63 H	292	70.0	40.5
4	#5953.60	59.0 PK	68.2	-9.2	1.63 H	292	51.3	7.7
5	11490.00	58.7 PK	74.0	-15.3	1.52 H	211	40.0	18.7
6	11490.00	46.5 AV	54.0	-7.5	1.52 H	211	27.8	18.7
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	#5605.60	58.4 PK	68.2	-9.8	2.26 V	341	51.3	7.1
2	*5745.00	120.5 PK			2.26 V	341	80.0	40.5
3	*5745.00	109.8 AV			2.26 V	341	69.3	40.5
4	#5977.60	59.6 PK	68.2	-8.6	2.26 V	341	51.7	7.9
5	11490.00	58.6 PK	74.0	-15.4	2.10 V	234	39.9	18.7
6	11490.00	46.2 AV	54.0	-7.8	2.10 V	234	27.5	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5632.80	58.0 PK	68.2	-10.2	1.67 H	288	50.9	7.1
2	*5785.00	119.9 PK			1.67 H	288	79.3	40.6
3	*5785.00	109.8 AV			1.67 H	288	69.2	40.6
4	#5964.00	59.5 PK	68.2	-8.7	1.67 H	288	51.7	7.8
5	11570.00	59.2 PK	74.0	-14.8	1.75 H	264	40.5	18.7
6	11570.00	46.5 AV	54.0	-7.5	1.75 H	264	27.8	18.7
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	#5643.20	58.0 PK	68.2	-10.2	2.31 V	332	50.9	7.1
2	*5785.00	119.1 PK			2.31 V	332	78.5	40.6
3	*5785.00	108.7 AV			2.31 V	332	68.1	40.6
4	#5965.60	59.0 PK	68.2	-9.2	2.31 V	332	51.2	7.8
5	11570.00	59.5 PK	74.0	-14.5	2.19 V	304	40.8	18.7
6	11570.00	46.7 AV	54.0	-7.3	2.19 V	304	28.0	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	59.3 PK	68.2	-8.9	1.63 H	289	52.2	7.1
2	*5825.00	119.0 PK			1.63 H	289	78.4	40.6
3	*5825.00	108.4 AV			1.63 H	289	67.8	40.6
4	#5941.60	58.8 PK	68.2	-9.4	1.63 H	289	51.1	7.7
5	11650.00	58.7 PK	74.0	-15.3	1.54 H	248	39.5	19.2
6	11650.00	46.7 AV	54.0	-7.3	1.54 H	248	27.5	19.2
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	#5624.00	58.7 PK	68.2	-9.5	2.84 V	336	51.6	7.1
2	*5825.00	118.0 PK			2.84 V	336	77.4	40.6
3	*5825.00	107.8 AV			2.84 V	336	67.2	40.6
4	#5972.00	58.5 PK	68.2	-9.7	2.84 V	336	50.6	7.9
5	11650.00	60.1 PK	74.0	-13.9	2.28 V	218	40.9	19.2
6	11650.00	46.4 AV	54.0	-7.6	2.28 V	218	27.2	19.2

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

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

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	65.7 PK	74.0	-8.3	1.90 H	268	59.7	6.0
2	5150.00	52.7 AV	54.0	-1.3	1.90 H	268	46.7	6.0
3	*5190.00	109.9 PK			1.57 H	272	70.5	39.4
4	*5190.00	100.6 AV			1.57 H	272	61.2	39.4
5	#10380.00	59.0 PK	74.0	-15.0	1.45 H	54	41.3	17.7
6	#10380.00	46.5 AV	54.0	-7.5	1.45 H	54	28.8	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	5150.00	66.2 PK	74.0	-7.8	2.36 V	339	60.2	6.0
2	5150.00	52.6 AV	54.0	-1.4	2.36 V	339	46.6	6.0
3	*5190.00	111.5 PK			2.45 V	349	72.1	39.4
4	*5190.00	101.8 AV			2.45 V	349	62.4	39.4
5	#10380.00	59.8 PK	74.0	-14.2	2.65 V	239	42.1	17.7
6	#10380.00	46.7 AV	54.0	-7.3	2.65 V	239	29.0	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	64.8 PK	74.0	-9.2	1.39 H	290	58.8	6.0
2	5150.00	49.5 AV	54.0	-4.5	1.39 H	290	43.5	6.0
3	*5230.00	115.0 PK			1.44 H	279	75.4	39.6
4	*5230.00	105.6 AV			1.44 H	279	66.0	39.6
5	#10460.00	59.6 PK	74.0	-14.4	2.24 H	196	41.1	18.5
6	#10460.00	46.9 AV	54.0	-7.1	2.24 H	196	28.4	18.5
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	58.0 PK	74.0	-16.0	2.92 V	333	52.0	6.0
2	5150.00	52.5 AV	54.0	-1.5	2.92 V	333	46.5	6.0
3	*5230.00	116.6 PK			2.50 V	345	77.0	39.6
4	*5230.00	107.1 AV			2.50 V	345	67.5	39.6
5	#10460.00	60.6 PK	74.0	-13.4	2.81 V	266	42.1	18.5
6	#10460.00	46.9 AV	54.0	-7.1	2.81 V	266	28.4	18.5

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5644.00	63.3 PK	68.2	-4.9	3.05 H	291	56.2	7.1
2	#5648.00	64.3 PK	68.2	-3.9	2.86 H	292	57.2	7.1
3	*5755.00	116.1 PK			3.05 H	291	75.5	40.6
4	*5755.00	106.1 AV			3.05 H	291	65.5	40.6
5	#5988.00	60.0 PK	68.2	-8.2	3.05 H	291	52.1	7.9
6	11510.00	60.7 PK	74.0	-13.3	2.78 H	196	42.0	18.7
7	11510.00	47.8 AV	54.0	-6.2	2.78 H	196	29.1	18.7
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	#5648.00	65.9 PK	68.2	-2.3	2.64 V	340	58.8	7.1
2	#5648.00	63.8 PK	68.2	-4.4	2.66 V	333	56.7	7.1
3	*5755.00	117.2 PK			2.54 V	347	76.6	40.6
4	*5755.00	107.6 AV			2.54 V	347	67.0	40.6
5	#5971.20	59.4 PK	68.2	-8.8	2.66 V	333	51.6	7.8
6	11510.00	60.1 PK	74.0	-13.9	1.99 V	256	41.4	18.7
7	11510.00	47.1 AV	54.0	-6.9	1.99 V	256	28.4	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5605.60	57.4 PK	68.2	-10.8	1.76 H	291	50.3	7.1
2	*5795.00	117.1 PK			1.76 H	291	76.5	40.6
3	*5795.00	107.4 AV			1.76 H	291	66.8	40.6
4	#5930.40	60.8 PK	68.2	-7.4	1.76 H	291	53.1	7.7
5	11590.00	60.0 PK	74.0	-14.0	2.77 H	187	41.2	18.8
6	11590.00	47.2 AV	54.0	-6.8	2.77 H	187	28.4	18.8
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	#5619.20	58.6 PK	68.2	-9.6	2.55 V	336	51.5	7.1
2	*5795.00	116.3 PK			2.55 V	336	75.7	40.6
3	*5795.00	106.5 AV			2.55 V	336	65.9	40.6
4	#5968.80	58.9 PK	68.2	-9.3	2.55 V	336	51.1	7.8
5	11590.00	59.7 PK	74.0	-14.3	2.77 V	310	40.9	18.8
6	11590.00	47.0 AV	54.0	-7.0	2.77 V	310	28.2	18.8

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

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

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	64.8 PK	74.0	-9.2	1.79 H	278	58.8	6.0
2	5150.00	50.7 AV	54.0	-3.3	1.79 H	278	44.7	6.0
3	*5210.00	105.0 PK			1.73 H	270	65.5	39.5
4	*5210.00	94.8 AV			1.73 H	270	55.3	39.5
5	#10420.00	59.6 PK	74.0	-14.4	2.17 H	224	41.7	17.9
6	#10420.00	46.7 AV	54.0	-7.3	2.17 H	224	28.8	17.9
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	64.4 PK	74.0	-9.6	2.46 V	348	58.4	6.0
2	5150.00	52.7 AV	54.0	-1.3	2.46 V	348	46.7	6.0
3	*5210.00	106.4 PK			2.42 V	346	66.9	39.5
4	*5210.00	96.8 AV			2.42 V	346	57.3	39.5
5	#10420.00	60.6 PK	74.0	-13.4	2.21 V	250	42.7	17.9
6	#10420.00	46.8 AV	54.0	-7.2	2.21 V	250	28.9	17.9

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5647.20	63.1 PK	68.2	-5.1	2.81 H	288	56.0	7.1
2	#5650.00	66.7 PK	68.2	-1.5	2.87 H	302	59.6	7.1
3	*5775.00	108.2 PK			2.81 H	288	67.6	40.6
4	*5775.00	98.3 AV			2.81 H	288	57.7	40.6
5	#5925.00	62.5 PK	68.2	-5.7	3.16 H	349	54.8	7.7
6	#5965.60	60.4 PK	68.2	-7.8	2.81 H	288	52.6	7.8
7	11550.00	60.5 PK	74.0	-13.5	2.60 H	190	41.9	18.6
8	11550.00	47.4 AV	54.0	-6.6	2.60 H	190	28.8	18.6
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	#5643.20	66.2 PK	68.2	-2.0	2.24 V	346	59.1	7.1
2	#5650.00	66.8 PK	68.2	-1.4	2.22 V	352	59.7	7.1
3	*5775.00	110.1 PK			2.24 V	346	69.5	40.6
4	*5775.00	100.2 AV			2.24 V	346	59.6	40.6
5	#5925.00	64.1 PK	68.2	-4.1	2.20 V	355	56.4	7.7
6	#5941.60	61.2 PK	68.2	-7.0	2.24 V	346	53.5	7.7
7	11550.00	60.9 PK	74.0	-13.1	1.90 V	260	42.3	18.6
8	11550.00	47.5 AV	54.0	-6.5	1.90 V	260	28.9	18.6

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 2: Beamforming Mode

802.11n (HT20)

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

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	65.3 PK	74.0	-8.7	1.86 H	262	59.3	6.0
2	5150.00	48.8 AV	54.0	-5.2	1.86 H	262	42.8	6.0
3	*5180.00	114.5 PK			1.88 H	294	75.1	39.4
4	*5180.00	104.8 AV			1.88 H	294	65.4	39.4
5	#10360.00	60.1 PK	74.0	-13.9	1.25 H	206	42.3	17.8
6	#10360.00	46.6 AV	54.0	-7.4	1.25 H	206	28.8	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	5150.00	66.7 PK	74.0	-7.3	2.66 V	335	60.7	6.0
2	5150.00	49.0 AV	54.0	-5.0	2.66 V	335	43.0	6.0
3	*5180.00	118.5 PK			2.28 V	347	79.1	39.4
4	*5180.00	105.7 AV			2.28 V	347	66.3	39.4
5	#10360.00	59.8 PK	74.0	-14.2	2.19 V	231	42.0	17.8
6	#10360.00	46.5 AV	54.0	-7.5	2.19 V	231	28.7	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	121.6 PK			1.42 H	280	82.1	39.5
2	*5200.00	110.3 AV			1.42 H	280	70.8	39.5
3	#10400.00	59.4 PK	74.0	-14.6	1.64 H	246	41.7	17.7
4	#10400.00	46.2 AV	54.0	-7.8	1.64 H	246	28.5	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	*5200.00	122.8 PK			2.55 V	346	83.3	39.5
2	*5200.00	110.2 AV			2.55 V	346	70.7	39.5
3	#10400.00	58.6 PK	74.0	-15.4	1.69 V	344	40.9	17.7
4	#10400.00	46.0 AV	54.0	-8.0	1.69 V	344	28.3	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	121.8 PK			1.28 H	282	82.2	39.6
2	*5240.00	110.0 AV			1.28 H	282	70.4	39.6
3	5350.00	57.2 PK	74.0	-16.8	1.46 H	229	50.7	6.5
4	5350.00	44.8 AV	54.0	-9.2	1.46 H	229	38.3	6.5
5	#10480.00	59.0 PK	74.0	-15.0	2.26 H	320	40.3	18.7
6	#10480.00	46.2 AV	54.0	-7.8	2.26 H	320	27.5	18.7
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	*5240.00	120.9 PK			2.62 V	323	81.3	39.6
2	*5240.00	108.2 AV			2.62 V	323	68.6	39.6
3	5350.00	59.3 PK	74.0	-14.7	2.14 V	295	52.8	6.5
4	5350.00	46.1 AV	54.0	-7.9	2.14 V	295	39.6	6.5
5	#10480.00	59.8 PK	74.0	-14.2	1.76 V	169	41.1	18.7
6	#10480.00	46.3 AV	54.0	-7.7	1.76 V	169	27.6	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5615.20	59.3 PK	68.2	-8.9	1.69 H	277	52.2	7.1
2	*5745.00	123.2 PK			1.69 H	277	82.7	40.5
3	*5745.00	110.4 AV			1.69 H	277	69.9	40.5
4	#5964.00	60.0 PK	68.2	-8.2	1.69 H	277	52.2	7.8
5	11490.00	61.0 PK	74.0	-13.0	1.54 H	301	42.3	18.7
6	11490.00	47.7 AV	54.0	-6.3	1.54 H	301	29.0	18.7
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	#5647.20	59.5 PK	68.2	-8.7	2.46 V	332	52.4	7.1
2	*5745.00	121.0 PK			2.46 V	332	80.5	40.5
3	*5745.00	110.4 AV			2.46 V	332	69.9	40.5
4	#5934.40	60.0 PK	68.2	-8.2	2.46 V	332	52.3	7.7
5	11490.00	63.5 PK	74.0	-10.5	2.25 V	358	44.8	18.7
6	11490.00	50.2 AV	54.0	-3.8	2.25 V	358	31.5	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5606.40	58.8 PK	68.2	-9.4	1.80 H	291	51.7	7.1
2	*5785.00	122.6 PK			1.80 H	291	82.0	40.6
3	*5785.00	110.5 AV			1.80 H	291	69.9	40.6
4	#5968.00	60.1 PK	68.2	-8.1	1.80 H	291	52.3	7.8
5	11570.00	60.6 PK	74.0	-13.4	2.30 H	69	41.9	18.7
6	11570.00	47.9 AV	54.0	-6.1	2.30 H	69	29.2	18.7
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	#5614.40	59.3 PK	68.2	-8.9	2.44 V	335	52.2	7.1
2	*5785.00	122.5 PK			2.44 V	335	81.9	40.6
3	*5785.00	110.1 AV			2.44 V	335	69.5	40.6
4	#5930.40	60.9 PK	68.2	-7.3	2.44 V	335	53.2	7.7
5	11570.00	65.4 PK	74.0	-8.6	1.33 V	347	46.7	18.7
6	11570.00	51.4 AV	54.0	-2.6	1.33 V	347	32.7	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	#5612.80	60.0 PK	68.2	-8.2	1.87 H	291	52.9	7.1
2	*5825.00	121.1 PK			1.87 H	291	80.5	40.6
3	*5825.00	109.6 AV			1.87 H	291	69.0	40.6
4	#5966.40	59.9 PK	68.2	-8.3	1.87 H	291	52.1	7.8
5	11650.00	60.8 PK	74.0	-13.2	2.33 H	71	41.6	19.2
6	11650.00	47.7 AV	54.0	-6.3	2.33 H	71	28.5	19.2
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	#5651.20	59.0 PK	69.1	-10.1	2.29 V	333	51.9	7.1
2	*5825.00	120.9 PK			2.29 V	333	80.3	40.6
3	*5825.00	108.3 AV			2.29 V	333	67.7	40.6
4	#5945.60	59.8 PK	68.2	-8.4	2.29 V	333	52.1	7.7
5	11650.00	64.0 PK	74.0	-10.0	1.24 V	346	44.8	19.2
6	11650.00	50.9 AV	54.0	-3.1	1.24 V	346	31.7	19.2

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

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

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	69.3 PK	74.0	-4.7	1.90 H	255	63.3	6.0
2	5150.00	47.4 AV	54.0	-6.6	1.90 H	255	41.4	6.0
3	*5190.00	110.8 PK			1.82 H	271	71.4	39.4
4	*5190.00	98.3 AV			1.82 H	271	58.9	39.4
5	#10380.00	59.1 PK	74.0	-14.9	1.69 H	254	41.4	17.7
6	#10380.00	45.8 AV	54.0	-8.2	1.69 H	254	28.1	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	5150.00	70.9 PK	74.0	-3.1	2.48 V	8	64.9	6.0
2	5150.00	48.0 AV	54.0	-6.0	2.48 V	8	42.0	6.0
3	*5190.00	112.8 PK			2.56 V	358	73.4	39.4
4	*5190.00	100.6 AV			2.56 V	358	61.2	39.4
5	#10380.00	59.0 PK	74.0	-15.0	1.68 V	154	41.3	17.7
6	#10380.00	44.9 AV	54.0	-9.1	1.68 V	154	27.2	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	63.5 PK	74.0	-10.5	1.91 H	283	57.5	6.0
2	5150.00	46.5 AV	54.0	-7.5	1.91 H	283	40.5	6.0
3	*5230.00	117.1 PK			1.29 H	275	77.5	39.6
4	*5230.00	105.5 AV			1.29 H	275	65.9	39.6
5	#10460.00	59.7 PK	74.0	-14.3	2.24 H	158	41.2	18.5
6	#10460.00	46.5 AV	54.0	-7.5	2.24 H	158	28.0	18.5
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	67.3 PK	74.0	-6.7	2.33 V	347	61.3	6.0
2	5150.00	47.1 AV	54.0	-6.9	2.33 V	347	41.1	6.0
3	*5230.00	116.7 PK			2.42 V	334	77.1	39.6
4	*5230.00	104.8 AV			2.42 V	334	65.2	39.6
5	#10460.00	60.0 PK	74.0	-14.0	1.68 V	22	41.5	18.5
6	#10460.00	46.4 AV	54.0	-7.6	1.68 V	22	27.9	18.5

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	60.0 PK	68.2	-8.2	1.81 H	291	52.9	7.1
2	*5755.00	118.5 PK			1.81 H	291	77.9	40.6
3	*5755.00	108.2 AV			1.81 H	291	67.6	40.6
4	#5970.40	60.0 PK	68.2	-8.2	1.81 H	291	52.2	7.8
5	11510.00	59.9 PK	74.0	-14.1	1.99 H	19	41.2	18.7
6	11510.00	46.6 AV	54.0	-7.4	1.99 H	19	27.9	18.7
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	#5648.00	60.9 PK	68.2	-7.3	2.48 V	322	53.8	7.1
2	*5755.00	118.6 PK			2.48 V	322	78.0	40.6
3	*5755.00	106.9 AV			2.48 V	322	66.3	40.6
4	#5931.20	60.3 PK	68.2	-7.9	2.48 V	322	52.6	7.7
5	11510.00	59.9 PK	74.0	-14.1	1.99 V	19	41.2	18.7
6	11510.00	46.6 AV	54.0	-7.4	1.99 V	19	27.9	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5605.60	59.1 PK	68.2	-9.1	1.84 H	285	52.0	7.1
2	*5795.00	119.2 PK			1.84 H	285	78.6	40.6
3	*5795.00	106.9 AV			1.84 H	285	66.3	40.6
4	#5956.80	60.0 PK	68.2	-8.2	1.84 H	285	52.3	7.7
5	11590.00	60.7 PK	74.0	-13.3	2.20 H	22	41.9	18.8
6	11590.00	46.9 AV	54.0	-7.1	2.20 H	22	28.1	18.8
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	#5612.80	58.9 PK	68.2	-9.3	2.23 V	330	51.8	7.1
2	*5795.00	119.8 PK			2.23 V	330	79.2	40.6
3	*5795.00	105.5 AV			2.23 V	330	64.9	40.6
4	#5980.80	59.8 PK	68.2	-8.4	2.23 V	330	51.9	7.9
5	11590.00	60.3 PK	74.0	-13.7	2.35 V	359	41.5	18.8
6	11590.00	47.2 AV	54.0	-6.8	2.35 V	359	28.4	18.8

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

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

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	63.7 PK	74.0	-10.3	2.04 H	274	57.7	6.0
2	5150.00	47.4 AV	54.0	-6.6	2.04 H	274	41.4	6.0
3	*5210.00	104.6 PK			2.04 H	283	65.1	39.5
4	*5210.00	93.2 AV			2.04 H	283	53.7	39.5
5	#10420.00	59.1 PK	74.0	-14.9	2.22 H	310	41.2	17.9
6	#10420.00	46.2 AV	54.0	-7.8	2.22 H	310	28.3	17.9
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	63.2 PK	74.0	-10.8	2.21 V	328	57.2	6.0
2	5150.00	47.2 AV	54.0	-6.8	2.21 V	328	41.2	6.0
3	*5210.00	106.9 PK			2.44 V	1	67.4	39.5
4	*5210.00	94.6 AV			2.44 V	1	55.1	39.5
5	#10420.00	59.3 PK	74.0	-14.7	1.46 V	22	41.4	17.9
6	#10420.00	46.3 AV	54.0	-7.7	1.46 V	22	28.4	17.9

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5638.40	72.8 PK	74.0	-1.2	1.67 H	294	65.7	7.1
2	#5638.40	50.1 AV	54.0	-3.9	1.67 H	294	43.0	7.1
3	#5638.40	71.6 PK	74.0	-2.4	1.67 H	294	64.5	7.1
4	*5775.00	111.1 PK			1.67 H	294	70.5	40.6
5	*5775.00	100.3 AV			1.67 H	294	59.7	40.6
6	#5930.40	66.0 PK	74.0	-8.0	1.67 H	294	58.3	7.7
7	11550.00	59.1 PK	74.0	-14.9	1.54 H	227	40.5	18.6
8	11550.00	46.5 AV	54.0	-7.5	1.54 H	227	27.9	18.6
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	#5634.40	65.6 PK	74.0	-8.4	2.40 V	337	58.5	7.1
2	#5638.40	69.8 PK	74.0	-4.2	2.40 V	342	62.7	7.1
3	#5638.40	50.3 AV	54.0	-3.7	2.40 V	342	43.2	7.1
4	*5775.00	109.2 PK			2.40 V	337	68.6	40.6
5	*5775.00	97.4 AV			2.40 V	337	56.8	40.6
6	#5928.80	65.9 PK	74.0	-8.1	2.40 V	337	58.2	7.7
7	11550.00	59.9 PK	74.0	-14.1	1.65 V	216	41.3	18.6
8	11550.00	46.4 AV	54.0	-7.6	1.65 V	216	27.8	18.6

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 3: CDD Mode

802.11a

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

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	58.2 PK	74.0	-15.8	1.74 H	334	52.2	6.0
2	5150.00	45.1 AV	54.0	-8.9	1.74 H	334	39.1	6.0
3	*5180.00	104.7 PK			2.69 H	30	65.3	39.4
4	*5180.00	94.4 AV			2.69 H	30	55.0	39.4
5	#10360.00	60.3 PK	74.0	-13.7	2.05 H	59	42.5	17.8
6	#10360.00	46.9 AV	54.0	-7.1	2.05 H	59	29.1	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	5150.00	67.7 PK	74.0	-6.3	2.20 V	42	61.7	6.0
2	5150.00	52.5 AV	54.0	-1.5	2.20 V	42	46.5	6.0
3	*5180.00	113.7 PK			2.01 V	40	74.3	39.4
4	*5180.00	103.7 AV			2.01 V	40	64.3	39.4
5	#10360.00	59.6 PK	74.0	-14.4	2.06 V	237	41.8	17.8
6	#10360.00	47.0 AV	54.0	-7.0	2.06 V	237	29.2	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	107.5 PK			1.00 H	105	68.0	39.5
2	*5200.00	96.8 AV			1.00 H	105	57.3	39.5
3	#10400.00	59.6 PK	74.0	-14.4	1.76 H	234	41.9	17.7
4	#10400.00	46.6 AV	54.0	-7.4	1.76 H	234	28.9	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	*5200.00	115.2 PK			2.38 V	42	75.7	39.5
2	*5200.00	105.1 AV			2.38 V	42	65.6	39.5
3	#10400.00	59.3 PK	74.0	-14.7	1.86 V	248	41.6	17.7
4	#10400.00	46.6 AV	54.0	-7.4	1.86 V	248	28.9	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	106.9 PK			1.16 H	103	67.3	39.6
2	*5240.00	96.3 AV			1.16 H	103	56.7	39.6
3	5350.00	58.0 PK	74.0	-16.0	1.08 H	111	51.5	6.5
4	5350.00	44.7 AV	54.0	-9.3	1.08 H	111	38.2	6.5
5	#10480.00	60.2 PK	74.0	-13.8	1.84 H	126	41.5	18.7
6	#10480.00	47.3 AV	54.0	-6.7	1.84 H	126	28.6	18.7
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	*5240.00	115.4 PK			2.03 V	43	75.8	39.6
2	*5240.00	104.9 AV			2.03 V	43	65.3	39.6
3	5350.00	58.2 PK	74.0	-15.8	2.62 V	55	51.7	6.5
4	5350.00	45.0 AV	54.0	-9.0	2.62 V	55	38.5	6.5
5	#10480.00	60.3 PK	74.0	-13.7	2.02 V	91	41.6	18.7
6	#10480.00	47.8 AV	54.0	-6.2	2.02 V	91	29.1	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5619.20	57.1 PK	68.2	-11.1	1.00 H	54	50.0	7.1
2	*5745.00	105.9 PK			1.00 H	54	65.4	40.5
3	*5745.00	95.8 AV			1.00 H	54	55.3	40.5
4	#5947.20	57.8 PK	68.2	-10.4	1.00 H	54	50.1	7.7
5	11490.00	60.4 PK	74.0	-13.6	1.89 H	156	41.7	18.7
6	11490.00	47.2 AV	54.0	-6.8	1.89 H	156	28.5	18.7
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	#5624.00	58.1 PK	68.2	-10.1	1.05 V	55	51.0	7.1
2	*5745.00	115.4 PK			1.05 V	55	74.9	40.5
3	*5745.00	105.0 AV			1.05 V	55	64.5	40.5
4	#5961.60	58.5 PK	68.2	-9.7	1.05 V	55	50.7	7.8
5	11490.00	60.9 PK	74.0	-13.1	2.03 V	1	42.2	18.7
6	11490.00	48.1 AV	54.0	-5.9	2.03 V	1	29.4	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5621.60	56.8 PK	68.2	-11.4	1.02 H	56	49.7	7.1
2	*5785.00	106.5 PK			1.02 H	56	65.9	40.6
3	*5785.00	96.0 AV			1.02 H	56	55.4	40.6
4	#5926.40	58.6 PK	68.2	-9.6	1.02 H	56	50.9	7.7
5	11570.00	60.6 PK	74.0	-13.4	2.02 H	56	41.9	18.7
6	11570.00	47.5 AV	54.0	-6.5	2.02 H	56	28.8	18.7
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	#5640.00	58.1 PK	68.2	-10.1	1.08 V	53	51.0	7.1
2	*5785.00	114.9 PK			1.08 V	53	74.3	40.6
3	*5785.00	105.0 AV			1.08 V	53	64.4	40.6
4	#5994.40	58.8 PK	68.2	-9.4	1.08 V	53	50.9	7.9
5	11570.00	60.9 PK	74.0	-13.1	2.12 V	306	42.2	18.7
6	11570.00	48.0 AV	54.0	-6.0	2.12 V	306	29.3	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	#5627.20	56.8 PK	68.2	-11.4	1.08 H	55	49.7	7.1
2	*5825.00	115.7 PK			1.08 H	55	75.1	40.6
3	*5825.00	105.3 AV			1.08 H	55	64.7	40.6
4	#5972.80	58.4 PK	68.2	-9.8	1.08 H	55	50.5	7.9
5	11650.00	60.4 PK	74.0	-13.6	1.85 H	274	41.2	19.2
6	11650.00	47.0 AV	54.0	-7.0	1.85 H	274	27.8	19.2
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	#5627.20	57.8 PK	68.2	-10.4	1.11 V	55	50.7	7.1
2	*5825.00	114.8 PK			1.11 V	55	74.2	40.6
3	*5825.00	104.4 AV			1.11 V	55	63.8	40.6
4	#5988.00	59.4 PK	68.2	-8.8	1.11 V	55	51.5	7.9
5	11650.00	60.1 PK	74.0	-13.9	1.65 V	120	40.9	19.2
6	11650.00	47.3 AV	54.0	-6.7	1.65 V	120	28.1	19.2

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

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

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	60.9 PK	74.0	-13.1	1.00 H	107	54.9	6.0
2	5150.00	45.8 AV	54.0	-8.2	1.00 H	107	39.8	6.0
3	*5180.00	103.8 PK			1.04 H	104	64.4	39.4
4	*5180.00	93.7 AV			1.04 H	104	54.3	39.4
5	#10360.00	59.5 PK	74.0	-14.5	2.14 H	99	41.7	17.8
6	#10360.00	46.8 AV	54.0	-7.2	2.14 H	99	29.0	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	5150.00	68.1 PK	74.0	-5.9	2.70 V	35	62.1	6.0
2	5150.00	52.7 AV	54.0	-1.3	2.70 V	35	46.7	6.0
3	*5180.00	112.7 PK			2.58 V	38	73.3	39.4
4	*5180.00	102.8 AV			2.58 V	38	63.4	39.4
5	#10360.00	59.4 PK	74.0	-14.6	1.73 V	190	41.6	17.8
6	#10360.00	46.8 AV	54.0	-7.2	1.73 V	190	29.0	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	107.2 PK			1.00 H	105	67.7	39.5
2	*5200.00	96.6 AV			1.00 H	105	57.1	39.5
3	#10400.00	59.1 PK	74.0	-14.9	1.36 H	233	41.4	17.7
4	#10400.00	46.4 AV	54.0	-7.6	1.36 H	233	28.7	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	*5200.00	115.6 PK			2.77 V	41	76.1	39.5
2	*5200.00	105.0 AV			2.77 V	41	65.5	39.5
3	#10400.00	60.1 PK	74.0	-13.9	2.05 V	66	42.4	17.7
4	#10400.00	47.3 AV	54.0	-6.7	2.05 V	66	29.6	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	106.3 PK			1.16 H	104	66.7	39.6
2	*5240.00	96.0 AV			1.16 H	104	56.4	39.6
3	5350.00	58.0 PK	74.0	-16.0	1.18 H	99	51.5	6.5
4	5350.00	44.7 AV	54.0	-9.3	1.18 H	99	38.2	6.5
5	#10480.00	60.4 PK	74.0	-13.6	1.73 H	214	41.7	18.7
6	#10480.00	47.3 AV	54.0	-6.7	1.73 H	214	28.6	18.7
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	*5240.00	115.2 PK			1.90 V	44	75.6	39.6
2	*5240.00	104.4 AV			1.90 V	44	64.8	39.6
3	5350.00	57.3 PK	74.0	-16.7	2.06 V	125	50.8	6.5
4	5350.00	45.2 AV	54.0	-8.8	2.06 V	125	38.7	6.5
5	#10480.00	61.3 PK	74.0	-12.7	2.34 V	154	42.6	18.7
6	#10480.00	48.0 AV	54.0	-6.0	2.34 V	154	29.3	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	57.2 PK	68.2	-11.0	1.00 H	56	50.1	7.1
2	*5745.00	105.7 PK			1.00 H	56	65.2	40.5
3	*5745.00	95.5 AV			1.00 H	56	55.0	40.5
4	#5968.00	58.3 PK	68.2	-9.9	1.00 H	56	50.5	7.8
5	11490.00	60.0 PK	74.0	-14.0	2.01 H	269	41.3	18.7
6	11490.00	46.9 AV	54.0	-7.1	2.01 H	269	28.2	18.7
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	#5623.20	57.7 PK	68.2	-10.5	1.14 V	53	50.6	7.1
2	*5745.00	114.9 PK			1.14 V	53	74.4	40.5
3	*5745.00	104.6 AV			1.14 V	53	64.1	40.5
4	#5977.60	60.0 PK	68.2	-8.2	1.14 V	53	52.1	7.9
5	11490.00	60.2 PK	74.0	-13.8	1.58 V	26	41.5	18.7
6	11490.00	46.7 AV	54.0	-7.3	1.58 V	26	28.0	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5636.00	57.1 PK	68.2	-11.1	1.05 H	55	50.0	7.1
2	*5785.00	105.8 PK			1.05 H	55	65.2	40.6
3	*5785.00	95.6 AV			1.05 H	55	55.0	40.6
4	#5972.00	57.7 PK	68.2	-10.5	1.05 H	55	49.8	7.9
5	11570.00	60.2 PK	74.0	-13.8	2.56 H	330	41.5	18.7
6	11570.00	47.0 AV	54.0	-7.0	2.56 H	330	28.3	18.7
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	#5608.80	58.2 PK	68.2	-10.0	1.10 V	53	51.1	7.1
2	*5785.00	114.5 PK			1.10 V	53	73.9	40.6
3	*5785.00	104.1 AV			1.10 V	53	63.5	40.6
4	#5956.80	58.4 PK	68.2	-9.8	1.10 V	53	50.7	7.7
5	11570.00	60.9 PK	74.0	-13.1	2.12 V	306	42.2	18.7
6	11570.00	48.0 AV	54.0	-6.0	2.12 V	306	29.3	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	#5635.20	57.2 PK	68.2	-11.0	1.07 H	55	50.1	7.1
2	*5825.00	105.8 PK			1.07 H	55	65.2	40.6
3	*5825.00	94.8 AV			1.07 H	55	54.2	40.6
4	#5958.40	58.2 PK	68.2	-10.0	1.07 H	55	50.5	7.7
5	11650.00	60.2 PK	74.0	-13.8	2.41 H	269	41.0	19.2
6	11650.00	47.0 AV	54.0	-7.0	2.41 H	269	27.8	19.2
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	#5635.20	57.6 PK	68.2	-10.6	1.12 V	55	50.5	7.1
2	*5825.00	114.7 PK			1.12 V	55	74.1	40.6
3	*5825.00	104.1 AV			1.12 V	55	63.5	40.6
4	#5996.80	59.6 PK	68.2	-8.6	1.12 V	55	51.7	7.9
5	11650.00	60.2 PK	74.0	-13.8	2.41 V	269	41.0	19.2
6	11650.00	47.0 AV	54.0	-7.0	2.41 V	269	27.8	19.2

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

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

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	58.6 PK	74.0	-15.4	1.19 H	105	52.6	6.0
2	5150.00	46.0 AV	54.0	-8.0	1.19 H	105	40.0	6.0
3	*5190.00	95.9 PK			1.00 H	106	56.5	39.4
4	*5190.00	85.9 AV			1.00 H	106	46.5	39.4
5	#10380.00	59.4 PK	74.0	-14.6	1.17 H	98	41.7	17.7
6	#10380.00	46.7 AV	54.0	-7.3	1.17 H	98	29.0	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	5150.00	65.8 PK	74.0	-8.2	2.19 V	40	59.8	6.0
2	5150.00	52.9 AV	54.0	-1.1	2.19 V	40	46.9	6.0
3	*5190.00	104.8 PK			2.19 V	40	65.4	39.4
4	*5190.00	94.6 AV			2.19 V	40	55.2	39.4
5	#10380.00	59.5 PK	74.0	-14.5	2.75 V	264	41.8	17.7
6	#10380.00	46.6 AV	54.0	-7.4	2.75 V	264	28.9	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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	59.3 PK	74.0	-14.7	1.19 H	104	53.3	6.0
2	5150.00	45.9 AV	54.0	-8.1	1.19 H	104	39.9	6.0
3	*5230.00	102.6 PK			1.21 H	105	63.0	39.6
4	*5230.00	92.8 AV			1.21 H	105	53.2	39.6
5	#10460.00	60.9 PK	74.0	-13.1	1.58 H	266	42.4	18.5
6	#10460.00	46.8 AV	54.0	-7.2	1.58 H	266	28.3	18.5
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	66.3 PK	74.0	-7.7	2.45 V	40	60.3	6.0
2	5150.00	52.4 AV	54.0	-1.6	2.45 V	40	46.4	6.0
3	*5230.00	111.2 PK			2.14 V	44	71.6	39.6
4	*5230.00	101.1 AV			2.14 V	44	61.5	39.6
5	#10460.00	59.8 PK	74.0	-14.2	2.39 V	132	41.3	18.5
6	#10460.00	47.0 AV	54.0	-7.0	2.39 V	132	28.5	18.5

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5635.20	57.3 PK	68.2	-10.9	1.00 H	54	50.2	7.1
2	*5755.00	103.5 PK			1.00 H	54	62.9	40.6
3	*5755.00	92.8 AV			1.00 H	54	52.2	40.6
4	#5953.60	58.4 PK	68.2	-9.8	1.00 H	54	50.7	7.7
5	11510.00	60.0 PK	74.0	-14.0	1.58 H	301	41.3	18.7
6	11510.00	46.8 AV	54.0	-7.2	1.58 H	301	28.1	18.7
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	#5631.20	57.7 PK	68.2	-10.5	1.12 V	52	50.6	7.1
2	*5755.00	112.0 PK			1.12 V	52	71.4	40.6
3	*5755.00	101.8 AV			1.12 V	52	61.2	40.6
4	#5951.20	58.0 PK	68.2	-10.2	1.12 V	52	50.3	7.7
5	11510.00	59.9 PK	74.0	-14.1	1.89 V	144	41.2	18.7
6	11510.00	46.8 AV	54.0	-7.2	1.89 V	144	28.1	18.7

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5637.60	57.7 PK	68.2	-10.5	1.04 H	54	50.6	7.1
2	*5795.00	102.9 PK			1.04 H	54	62.3	40.6
3	*5795.00	92.7 AV			1.04 H	54	52.1	40.6
4	#5952.80	58.0 PK	68.2	-10.2	1.04 H	54	50.3	7.7
5	11590.00	59.6 PK	74.0	-14.4	1.96 H	236	40.8	18.8
6	11590.00	47.1 AV	54.0	-6.9	1.96 H	236	28.3	18.8
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	#5628.80	57.9 PK	68.2	-10.3	1.05 V	55	50.8	7.1
2	*5795.00	111.8 PK			1.05 V	55	71.2	40.6
3	*5795.00	101.2 AV			1.05 V	55	60.6	40.6
4	#5963.20	58.3 PK	68.2	-9.9	1.05 V	55	50.5	7.8
5	11590.00	61.3 PK	74.0	-12.7	2.51 V	236	42.5	18.8
6	11590.00	47.8 AV	54.0	-6.2	2.51 V	236	29.0	18.8

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

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

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	59.8 PK	74.0	-14.2	1.20 H	105	53.8	6.0
2	5150.00	46.2 AV	54.0	-7.8	1.20 H	105	40.2	6.0
3	*5210.00	91.9 PK			1.00 H	103	52.4	39.5
4	*5210.00	79.9 AV			1.00 H	103	40.4	39.5
5	#10420.00	59.2 PK	74.0	-14.8	1.66 H	285	41.3	17.9
6	#10420.00	46.8 AV	54.0	-7.2	1.66 H	285	28.9	17.9
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	65.9 PK	74.0	-8.1	2.18 V	39	59.9	6.0
2	5150.00	52.6 AV	54.0	-1.4	2.18 V	39	46.6	6.0
3	*5210.00	99.5 PK			2.06 V	43	60.0	39.5
4	*5210.00	88.0 AV			2.06 V	43	48.5	39.5
5	#10420.00	59.4 PK	74.0	-14.6	1.89 V	165	41.5	17.9
6	#10420.00	46.5 AV	54.0	-7.5	1.89 V	165	28.6	17.9

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5645.60	57.9 PK	68.2	-10.3	1.00 H	56	50.8	7.1
2	#5648.00	62.0 PK	68.2	-6.2	1.02 H	52	54.9	7.1
3	*5775.00	97.6 PK			1.00 H	56	57.0	40.6
4	*5775.00	86.8 AV			1.00 H	56	46.2	40.6
5	#5943.20	58.4 PK	68.2	-9.8	1.00 H	56	50.7	7.7
6	11550.00	59.9 PK	74.0	-14.1	1.58 H	255	41.3	18.6
7	11550.00	46.6 AV	54.0	-7.4	1.58 H	255	28.0	18.6
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	#5647.20	64.7 PK	68.2	-3.5	1.05 V	53	57.6	7.1
2	#5648.00	67.1 PK	68.2	-1.1	1.05 V	54	60.0	7.1
3	*5775.00	107.7 PK			1.05 V	53	67.1	40.6
4	*5775.00	95.6 AV			1.05 V	53	55.0	40.6
5	#5958.40	65.1 PK	68.2	-3.1	1.05 V	53	57.4	7.7
6	11550.00	59.9 PK	74.0	-14.1	2.54 V	117	41.3	18.6
7	11550.00	46.8 AV	54.0	-7.2	2.54 V	117	28.2	18.6

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Worst-Case Data:

Radio 2: CDD Mode

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	57.12	32.9 QP	40.0	-7.1	2.00 H	95	47.5	-14.6
2	125.17	33.7 QP	43.5	-9.8	1.49 H	275	49.8	-16.1
3	389.59	34.3 QP	46.0	-11.7	1.00 H	5	44.5	-10.2
4	624.85	38.8 QP	46.0	-7.2	1.00 H	155	43.5	-4.7
5	751.23	41.3 QP	46.0	-4.7	1.00 H	354	43.5	-2.2
6	875.67	41.3 QP	46.0	-4.7	1.49 H	5	41.4	-0.1
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	38.80	37.3 QP	40.0	-2.7	1.00 V	7	52.5	-15.2
2	387.65	36.8 QP	46.0	-9.2	1.50 V	139	47.0	-10.2
3	500.42	34.4 QP	46.0	-11.6	1.01 V	275	42.3	-7.9
4	624.85	40.5 QP	46.0	-5.5	1.50 V	205	45.2	-4.7
5	751.23	37.5 QP	46.0	-8.5	1.50 V	264	39.7	-2.2
6	875.67	36.8 QP	46.0	-9.2	1.50 V	291	36.9	-0.1

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	B		

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	57.12	29.8 QP	40.0	-10.2	2.00 H	260	44.4	-14.6
2	374.04	36.9 QP	46.0	-9.1	1.00 H	124	47.4	-10.5
3	500.42	35.1 QP	46.0	-10.9	2.00 H	132	43.0	-7.9
4	624.85	41.2 QP	46.0	-4.8	1.49 H	148	45.9	-4.7
5	751.23	40.2 QP	46.0	-5.8	1.00 H	333	42.4	-2.2
6	875.67	41.6 QP	46.0	-4.4	1.49 H	16	41.7	-0.1
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	29.90	35.6 QP	40.0	-4.4	1.01 V	227	51.9	-16.3
2	249.60	28.3 QP	46.0	-17.7	2.00 V	187	42.3	-14.0
3	389.59	37.7 QP	46.0	-8.3	1.50 V	166	47.9	-10.2
4	624.85	42.5 QP	46.0	-3.5	1.01 V	3	47.2	-4.7
5	751.23	37.2 QP	46.0	-8.8	1.50 V	175	39.4	-2.2
6	875.67	37.4 QP	46.0	-8.6	1.50 V	299	37.5	-0.1

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Radio 3: CDD Mode

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	37.68	30.9 QP	40.0	-9.1	1.99 H	80	46.2	-15.3
2	125.17	31.9 QP	43.5	-11.6	1.50 H	262	48.0	-16.1
3	389.59	37.8 QP	46.0	-8.2	1.00 H	147	48.0	-10.2
4	624.85	37.8 QP	46.0	-8.2	1.00 H	142	42.5	-4.7
5	751.23	41.5 QP	46.0	-4.5	1.00 H	337	43.7	-2.2
6	875.67	41.5 QP	46.0	-4.5	1.50 H	14	41.6	-0.1
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	39.49	39.0 QP	40.0	-1.0	1.00 V	15	54.2	-15.2
2	387.65	40.4 QP	46.0	-5.6	1.01 V	15	50.6	-10.2
3	500.42	32.1 QP	46.0	-13.9	2.00 V	185	40.0	-7.9
4	624.85	39.6 QP	46.0	-6.4	1.01 V	356	44.3	-4.7
5	751.23	37.4 QP	46.0	-8.6	2.00 V	190	39.6	-2.2
6	875.67	36.5 QP	46.0	-9.5	1.01 V	15	36.6	-0.1

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	B		

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	57.12	30.7 QP	40.0	-9.3	2.00 H	283	45.3	-14.6
2	249.60	31.4 QP	46.0	-14.6	1.00 H	244	45.4	-14.0
3	389.59	38.9 QP	46.0	-7.1	2.00 H	153	49.1	-10.2
4	624.85	40.9 QP	46.0	-5.1	1.50 H	152	45.6	-4.7
5	751.23	41.0 QP	46.0	-5.0	1.00 H	346	43.2	-2.2
6	875.67	41.5 QP	46.0	-4.5	1.50 H	331	41.6	-0.1
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	29.90	36.0 QP	40.0	-4.0	1.01 V	235	52.3	-16.3
2	249.60	28.1 QP	46.0	-17.9	2.00 V	184	42.1	-14.0
3	389.59	42.7 QP	46.0	-3.3	1.50 V	307	52.9	-10.2
4	500.42	37.1 QP	46.0	-8.9	1.01 V	99	45.0	-7.9
5	624.85	42.5 QP	46.0	-3.5	1.01 V	6	47.2	-4.7
6	875.67	38.4 QP	46.0	-7.6	1.50 V	297	38.5	-0.1

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

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	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100220	Nov. 13, 2015	Nov. 12, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	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-2040.

4.2.3 Test Procedures

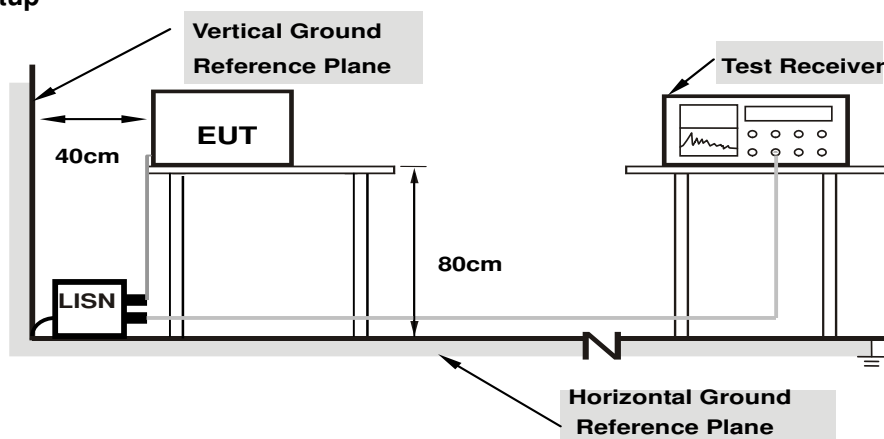
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

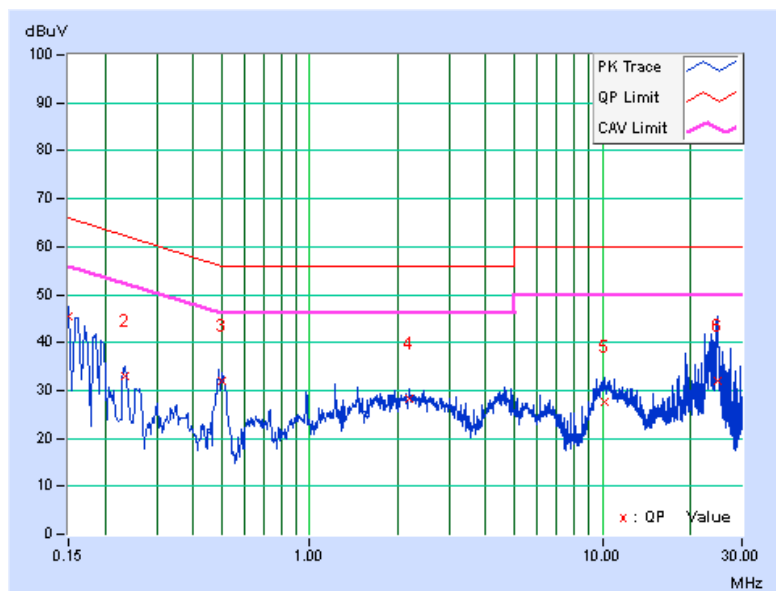
Radio 2: CDD Mode

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.07	35.55	22.15	45.62	32.22	66.00	56.00	-20.38	-23.78
2	0.23289	10.09	22.87	10.92	32.96	21.01	62.35	52.35	-29.39	-31.34
3	0.50200	10.19	21.73	16.38	31.92	26.57	56.00	46.00	-24.08	-19.43
4	2.19800	10.38	17.89	13.78	28.27	24.16	56.00	46.00	-27.73	-21.84
5	10.12600	10.78	16.69	11.64	27.47	22.42	60.00	50.00	-32.53	-27.58
6	24.73000	11.72	20.39	12.72	32.11	24.44	60.00	50.00	-27.89	-25.56

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.

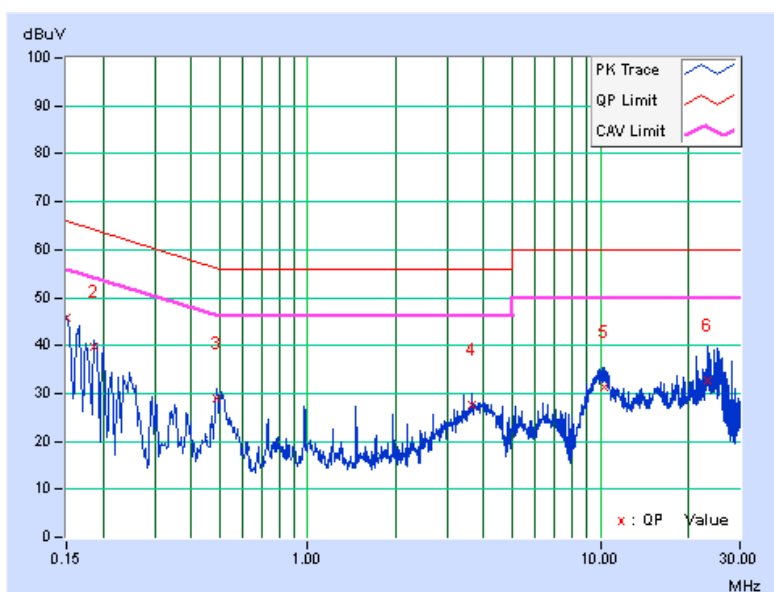


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	10.08	35.65	20.94	45.73	31.02	66.00	56.00	-20.27	-24.98
2	0.18617	10.08	29.55	14.23	39.63	24.31	64.21	54.21	-24.58	-29.90
3	0.48957	10.25	18.58	14.06	28.83	24.31	56.18	46.18	-27.35	-21.87
4	3.65800	10.56	17.03	12.61	27.59	23.17	56.00	46.00	-28.41	-22.83
5	10.30200	10.87	20.40	15.67	31.27	26.54	60.00	50.00	-28.73	-23.46
6	23.32200	11.81	20.80	11.01	32.61	22.82	60.00	50.00	-27.39	-27.18

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.

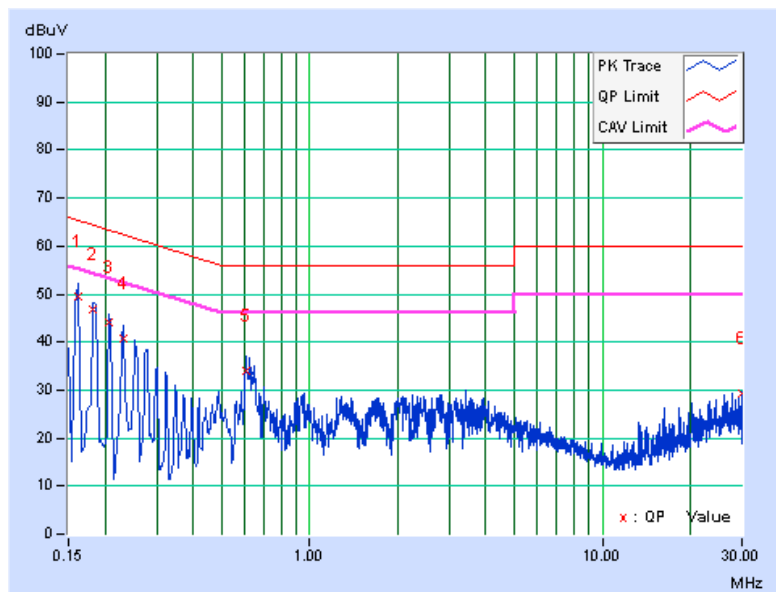


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16190	10.08	39.47	22.00	49.55	32.08	65.37	55.37	-15.82	-23.29
2	0.18228	10.08	36.72	18.57	46.80	28.65	64.38	54.38	-17.58	-25.73
3	0.20631	10.08	33.86	16.72	43.94	26.80	63.35	53.35	-19.41	-26.55
4	0.23000	10.09	30.71	14.62	40.80	24.71	62.45	52.45	-21.65	-27.74
5	0.60603	10.21	23.84	15.69	34.05	25.90	56.00	46.00	-21.95	-20.10
6	29.91800	12.06	17.07	11.17	29.13	23.23	60.00	50.00	-30.87	-26.77

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.

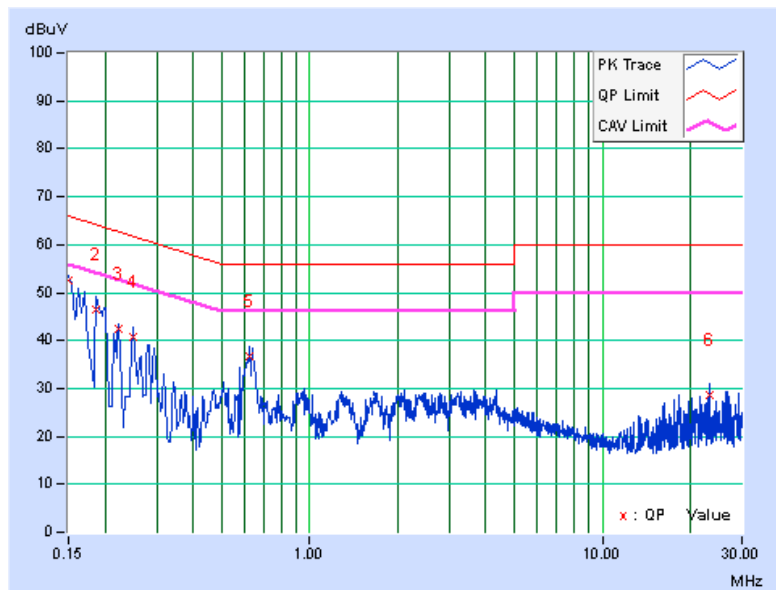


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	10.08	42.28	23.37	52.36	33.45	66.00	56.00	-13.64	-22.55
2	0.18600	10.08	36.35	18.95	46.43	29.03	64.21	54.21	-17.78	-25.18
3	0.22211	10.10	32.46	16.83	42.56	26.93	62.74	52.74	-20.18	-25.81
4	0.25006	10.12	30.59	15.73	40.71	25.85	61.76	51.76	-21.05	-25.91
5	0.62200	10.26	26.50	18.40	36.76	28.66	56.00	46.00	-19.24	-17.34
6	23.13000	11.79	16.70	14.37	28.49	26.16	60.00	50.00	-31.51	-23.84

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.



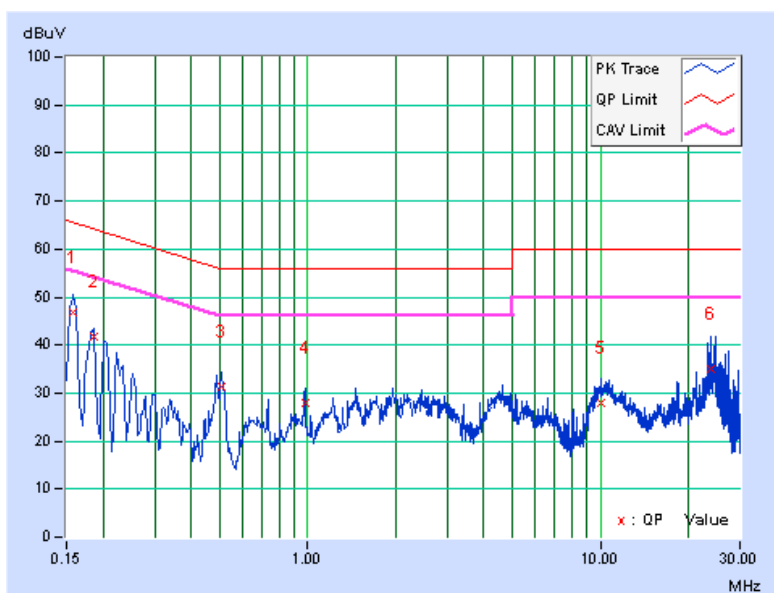
Radio 3: CDD Mode

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	10.08	36.61	22.93	46.69	33.01	65.57	55.57	-18.88	-22.56
2	0.18568	10.08	31.52	17.08	41.60	27.16	64.23	54.23	-22.63	-27.07
3	0.51000	10.19	21.22	16.71	31.41	26.90	56.00	46.00	-24.59	-19.10
4	0.97800	10.29	17.75	15.29	28.04	25.58	56.00	46.00	-27.96	-20.42
5	10.03800	10.77	17.23	12.14	28.00	22.91	60.00	50.00	-32.00	-27.09
6	23.91400	11.67	23.23	15.75	34.90	27.42	60.00	50.00	-25.10	-22.58

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.

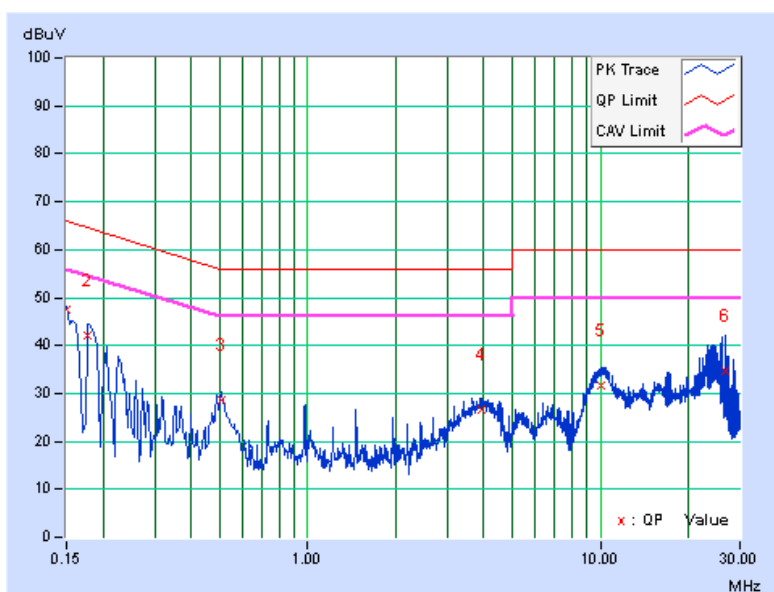


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	10.08	37.30	22.23	47.38	32.31	66.00	56.00	-18.62	-23.69
2	0.17801	10.08	32.12	17.14	42.20	27.22	64.58	54.58	-22.38	-27.36
3	0.50600	10.25	18.24	13.66	28.49	23.91	56.00	46.00	-27.51	-22.09
4	3.90600	10.58	16.07	11.49	26.65	22.07	56.00	46.00	-29.35	-23.93
5	10.07800	10.86	20.78	15.70	31.64	26.56	60.00	50.00	-28.36	-23.44
6	26.59000	12.03	22.52	18.06	34.55	30.09	60.00	50.00	-25.45	-19.91

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.

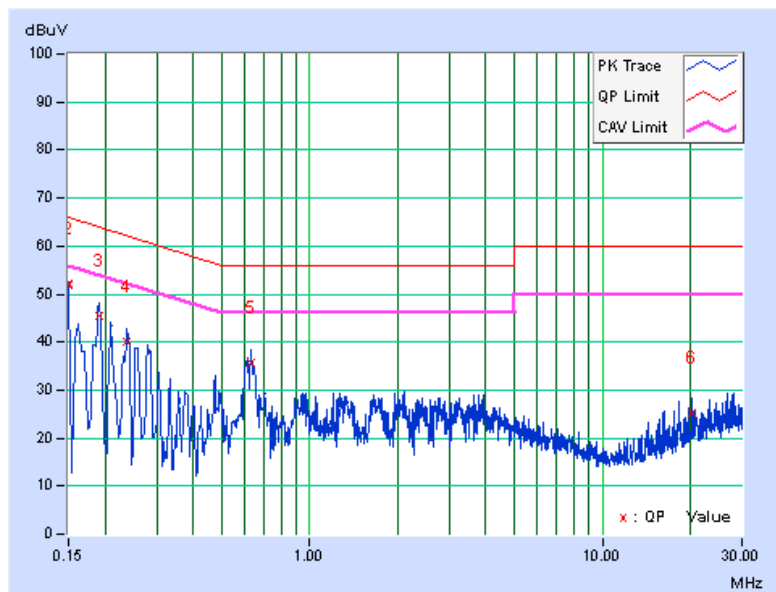


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	10.07	41.71	22.83	51.78	32.90	66.00	56.00	-14.22	-23.10
2	0.15000	10.07	42.12	22.84	52.19	32.91	66.00	56.00	-13.81	-23.09
3	0.19013	10.08	35.44	18.26	45.52	28.34	64.03	54.03	-18.51	-25.69
4	0.23800	10.10	30.02	13.46	40.12	23.56	62.17	52.17	-22.05	-28.61
5	0.63379	10.22	25.53	17.19	35.75	27.41	56.00	46.00	-20.25	-18.59
6	20.25800	11.44	13.78	11.03	25.22	22.47	60.00	50.00	-34.78	-27.53

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.

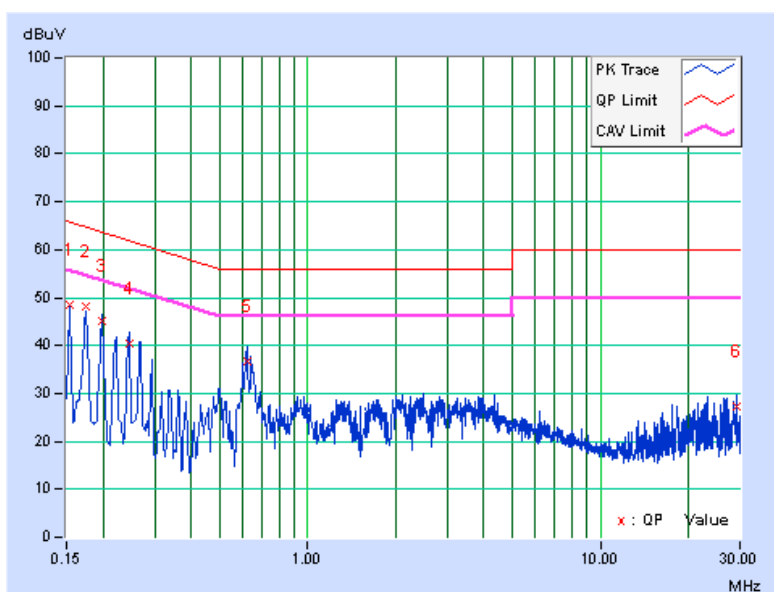


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.15400	10.08	38.35	20.55	48.43	30.63	65.78	55.78	-17.35	-25.15
2	0.17400	10.08	38.03	20.53	48.11	30.61	64.77	54.77	-16.66	-24.16
3	0.19800	10.08	35.02	18.13	45.10	28.21	63.69	53.69	-18.59	-25.48
4	0.24600	10.12	30.35	15.42	40.47	25.54	61.89	51.89	-21.42	-26.35
5	0.62200	10.26	26.60	18.47	36.86	28.73	56.00	46.00	-19.14	-17.27
6	29.23400	12.22	15.05	12.36	27.27	24.58	60.00	50.00	-32.73	-25.42

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} ;

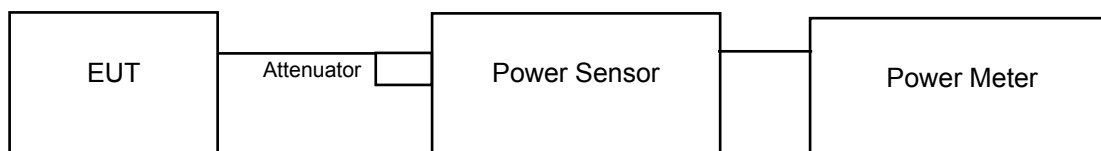
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

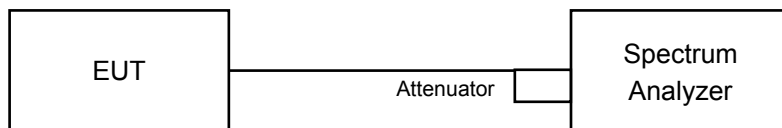
4.3.2 Test Setup

For Power Output Measurement

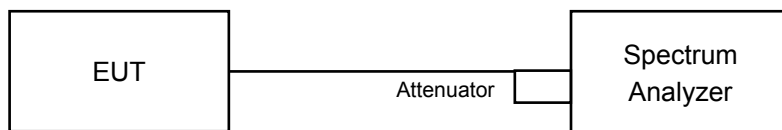
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80)



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

For 802.11a, 802.11n (HT20), 802.11n (HT40)

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

For 802.11ac (VHT80)

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz.
- d. Set VBW $\geq$ 3 MHz
- e. Number of points in sweep $\geq$ 2 Span / RBW.
- f. Sweep time $\leq$ (number of points in sweep) * T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS.
- i. Trace mode = max hold.
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

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:

Radio 2: CDD Mode

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	19.52	19.30	174.650	22.42	30	Pass
40	5200	23.45	23.33	436.587	26.40	30	Pass
48	5240	23.18	23.08	411.206	26.14	30	Pass
149	5745	23.50	23.47	446.203	26.50	30	Pass
157	5785	22.95	22.94	394.031	25.96	30	Pass
165	5825	22.81	22.56	371.287	25.70	30	Pass

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	19.44	19.62	179.524	22.54	30	Pass
40	5200	23.31	23.33	429.567	26.33	30	Pass
48	5240	23.11	23.26	416.480	26.20	30	Pass
149	5745	23.43	23.36	437.063	26.41	30	Pass
157	5785	23.02	23.08	403.683	26.06	30	Pass
165	5825	22.65	22.60	366.047	25.64	30	Pass

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	17.17	17.15	103.999	20.17	30	Pass
46	5230	22.25	22.31	338.096	25.29	30	Pass
151	5755	23.87	23.64	474.987	26.77	30	Pass
159	5795	23.38	23.14	423.834	26.27	30	Pass

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	14.78	14.98	61.538	17.89	30	Pass
155	5775	17.83	18.36	129.223	21.11	30	Pass

Radio 2: Beamforming Mode

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	19.49	19.47	177.432	22.49	27.46	Pass
40	5200	23.01	23.10	404.160	26.07	27.46	Pass
48	5240	22.87	22.94	390.431	25.92	27.46	Pass
149	5745	23.18	23.21	417.381	26.21	27.46	Pass
157	5785	22.79	23.10	394.282	25.96	27.46	Pass
165	5825	22.28	22.53	348.105	25.42	27.46	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.

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	16.51	16.61	90.585	19.57	27.46	Pass
46	5230	22.28	23.33	384.322	25.85	27.46	Pass
151	5755	23.44	23.96	469.686	26.72	27.46	Pass
159	5795	22.91	23.35	411.706	26.15	27.46	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.

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	14.56	14.34	55.740	17.46	27.46	Pass
155	5775	17.00	17.31	103.946	20.17	27.46	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.

Radio 3: CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	27.797	14.44	30	Pass
40	5200	54.954	17.40	30	Pass
48	5240	38.905	15.90	30	Pass
149	5745	46.989	16.72	30	Pass
157	5785	52.240	17.18	30	Pass
165	5825	48.641	16.87	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	26.242	14.19	30	Pass
40	5200	52.000	17.16	30	Pass
48	5240	31.623	15.00	30	Pass
149	5745	43.351	16.37	30	Pass
157	5785	48.978	16.90	30	Pass
165	5825	45.082	16.54	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	8.690	9.39	30	Pass
46	5230	44.566	16.49	30	Pass
151	5755	47.863	16.80	30	Pass
159	5795	48.978	16.90	30	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	3.793	5.79	30	Pass
155	5775	24.604	13.91	30	Pass

26dB Bandwidth:

Radio 2: CDD Mode

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	19.40	19.11	Pass
40	5200	33.27	29.54	Pass
48	5240	34.38	33.75	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.25	20.23	Pass
40	5200	30.13	30.74	Pass
48	5240	33.38	34.01	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	40.67	40.88	Pass
46	5230	57.80	59.59	Pass

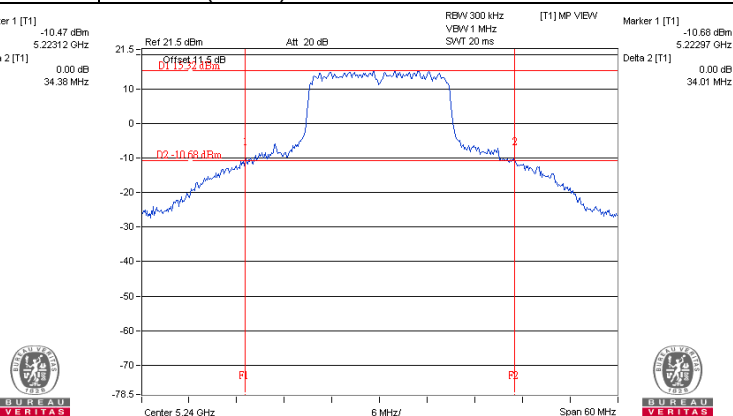
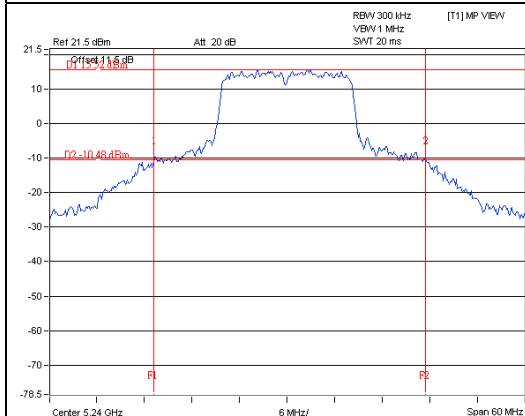
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	84.08	83.67	Pass

Spectrum Plot of Worst Value

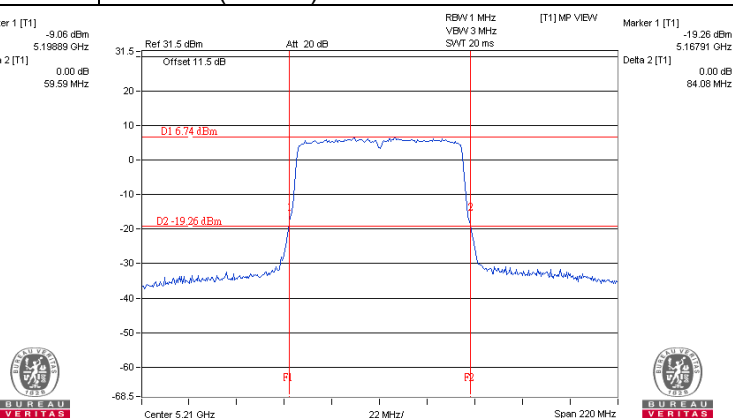
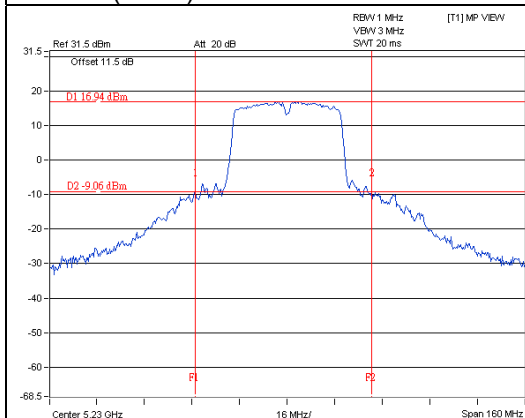
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Radio 2: Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.38	20.51	Pass
40	5200	29.36	31.83	Pass
48	5240	27.40	35.41	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	40.85	41.05	Pass
46	5230	52.65	62.93	Pass

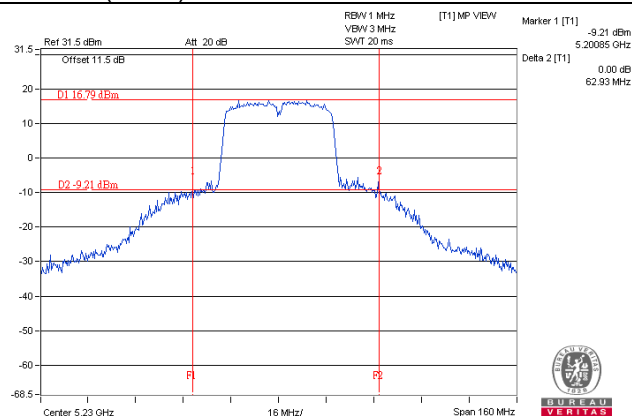
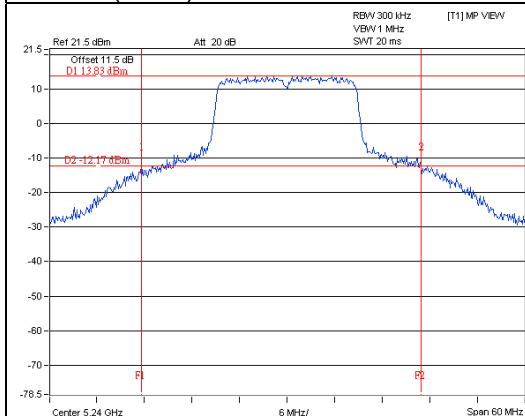
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	83.44	83.99	Pass

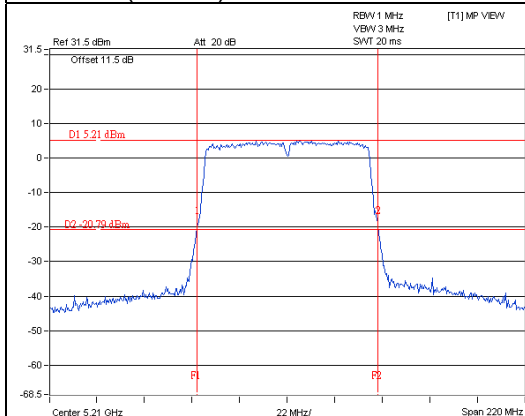
Spectrum Plot of Worst Value

802.11n (HT20)

802.11n (HT40)



802.11ac (VHT80)



Radio 3: CDD Mode

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	29.95	Pass
40	5200	38.90	Pass
48	5240	38.94	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	31.74	Pass
40	5200	42.31	Pass
48	5240	41.89	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
38	5190	51.04	Pass
46	5230	69.64	Pass

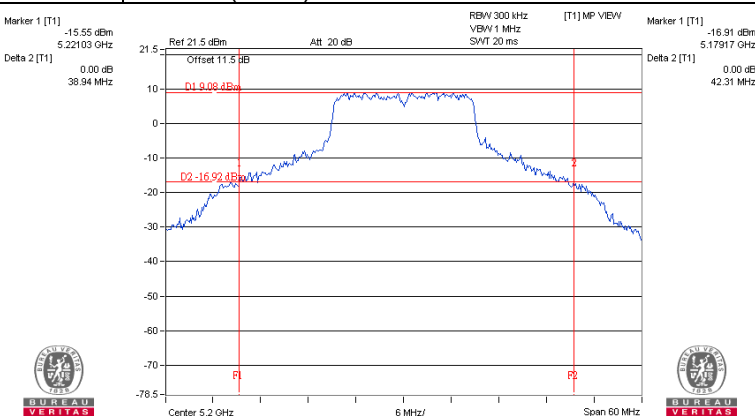
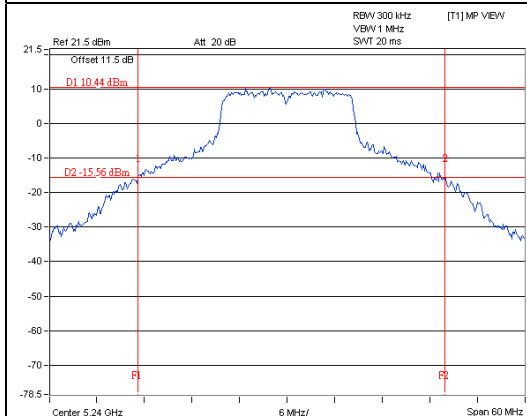
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
42	5210	100.77	Pass

Spectrum Plot of Worst Value

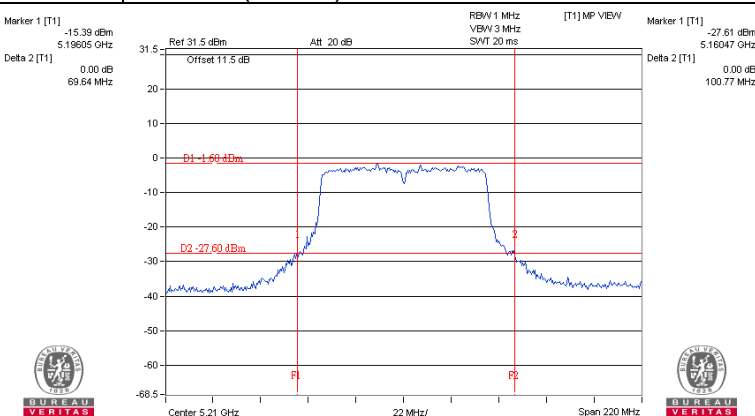
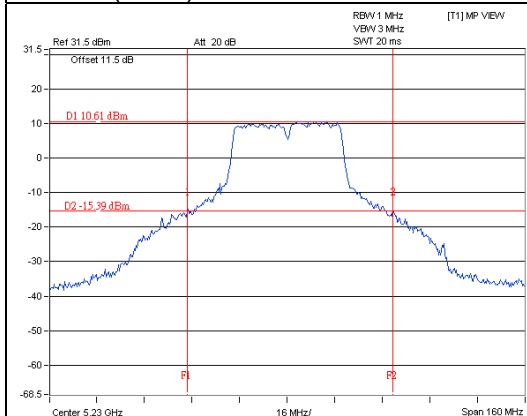
802.11a

802.11n (HT20)



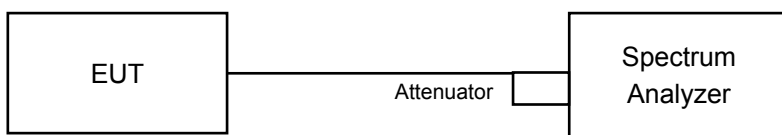
802.11n (HT40)

802.11ac (VHT80)



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 Sample. 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

Radio 2: CDD Mode

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.44
40	5200	16.80	16.68
48	5240	16.92	16.92
149	5745	18.69	24.69
157	5785	17.40	22.68
165	5825	16.92	20.52

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.88	17.88
48	5240	17.88	18.12
149	5745	20.04	25.68
157	5785	18.36	23.40
165	5825	17.88	21.48

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	36.24	36.24
151	5755	37.80	37.56
159	5795	37.08	37.20

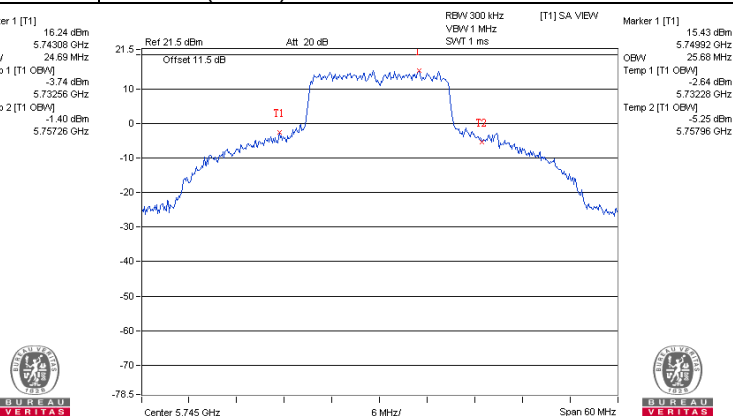
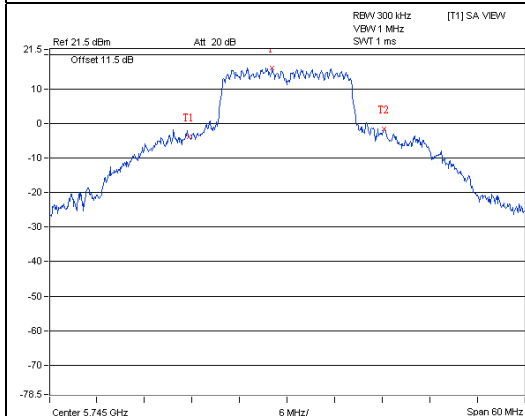
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	76.08
155	5775	75.84	75.84

Spectrum Plot of Worst Value

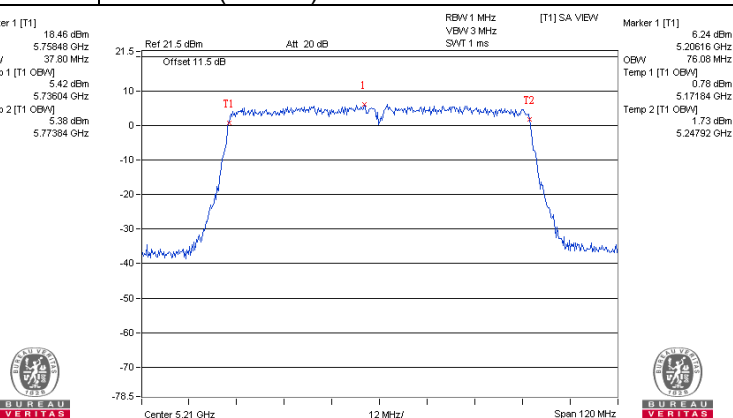
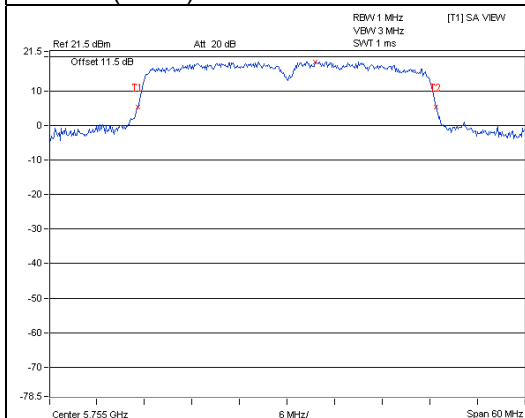
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Radio 2: Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.64	18.76
40	5200	18.68	18.88
48	5240	18.88	19.00
149	5745	18.88	18.76
157	5785	18.76	18.76
165	5825	18.76	18.76

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.12
46	5230	36.36	36.48
151	5755	36.60	36.60
159	5795	36.48	36.48

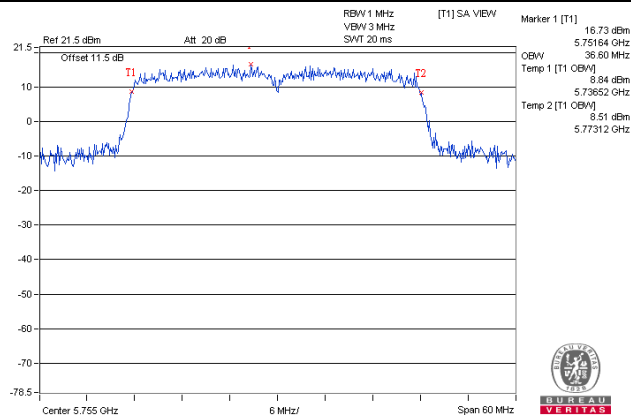
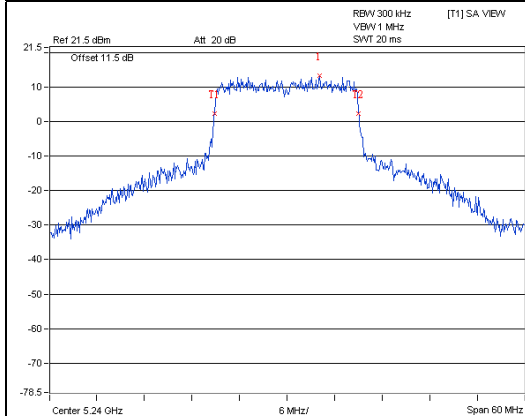
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
155	5775	75.84	75.84

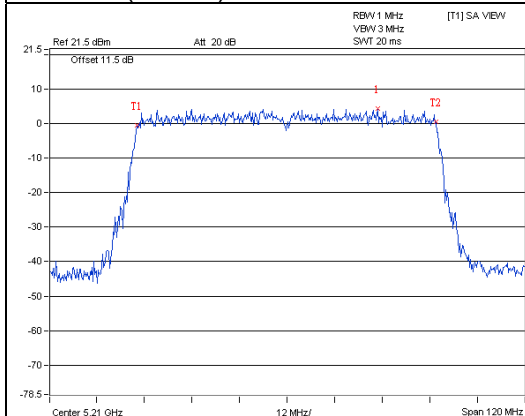
Spectrum Plot of Worst Value

802.11n (HT20)

802.11n (HT40)



802.11ac (VHT80)



Radio 3: CDD Mode

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.24
40	5200	23.40
48	5240	19.65
149	5745	20.78
157	5785	24.24
165	5825	25.08

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.84
40	5200	23.76
48	5240	19.21
149	5745	21.48
157	5785	25.80
165	5825	25.56

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	37.20
46	5230	37.80
151	5755	38.76
159	5795	39.96

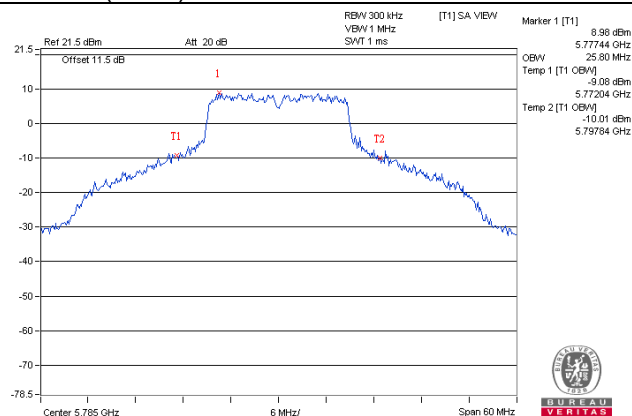
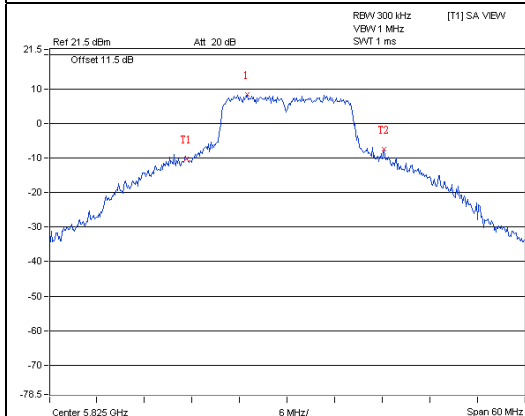
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
42	5210	76.32
155	5775	77.04

Spectrum Plot of Worst Value

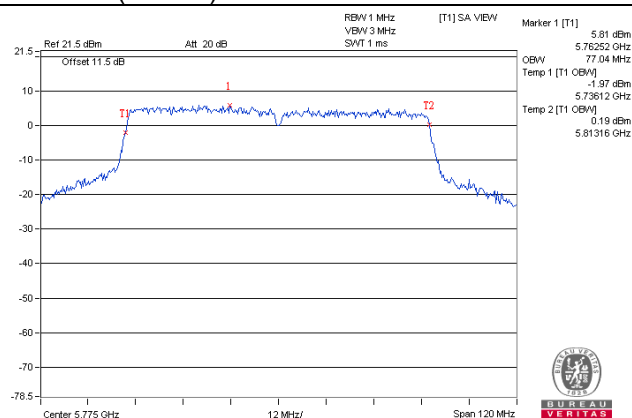
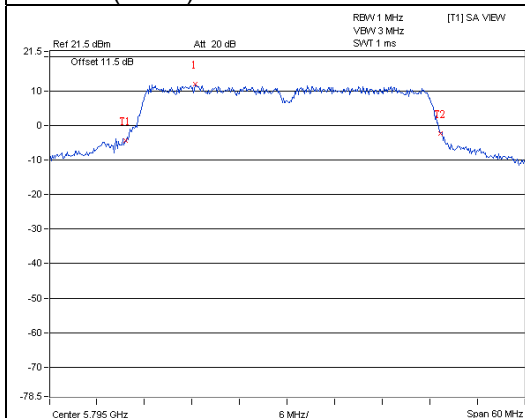
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

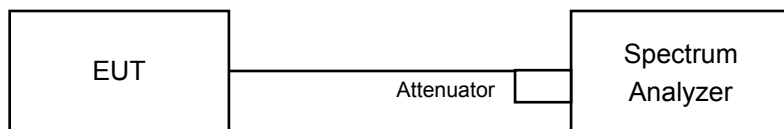


4.5 Peak Power Spectral Density Measurement

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	11dBm/ MHz
		Mobile and Portable client device	
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 band:

Using method SA-1, Duty cycle >98%:

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

Using method SA-2, Duty cycle <98%

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

For U-NII-3 band:

Duty cycle >98%

- 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value

Duty cycle <98%

- 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

For U-NII-1 Band

Radio 2: CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	6.97	6.60	9.80	0.24	10.04	14.46	Pass
40	5200	10.90	10.70	13.82	0.24	14.06	14.46	Pass
48	5240	10.91	10.65	13.80	0.24	14.04	14.46	Pass

Note:

- Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	6.78	6.66	9.73	0.09	9.82	14.46	Pass
40	5200	10.56	10.69	13.64	0.09	13.73	14.46	Pass
48	5240	10.43	10.72	13.59	0.09	13.68	14.46	Pass

Note:

- Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	1.58	1.70	4.65	0.25	4.90	14.46	Pass
46	5230	6.87	6.77	9.83	0.25	10.08	14.46	Pass

Note:

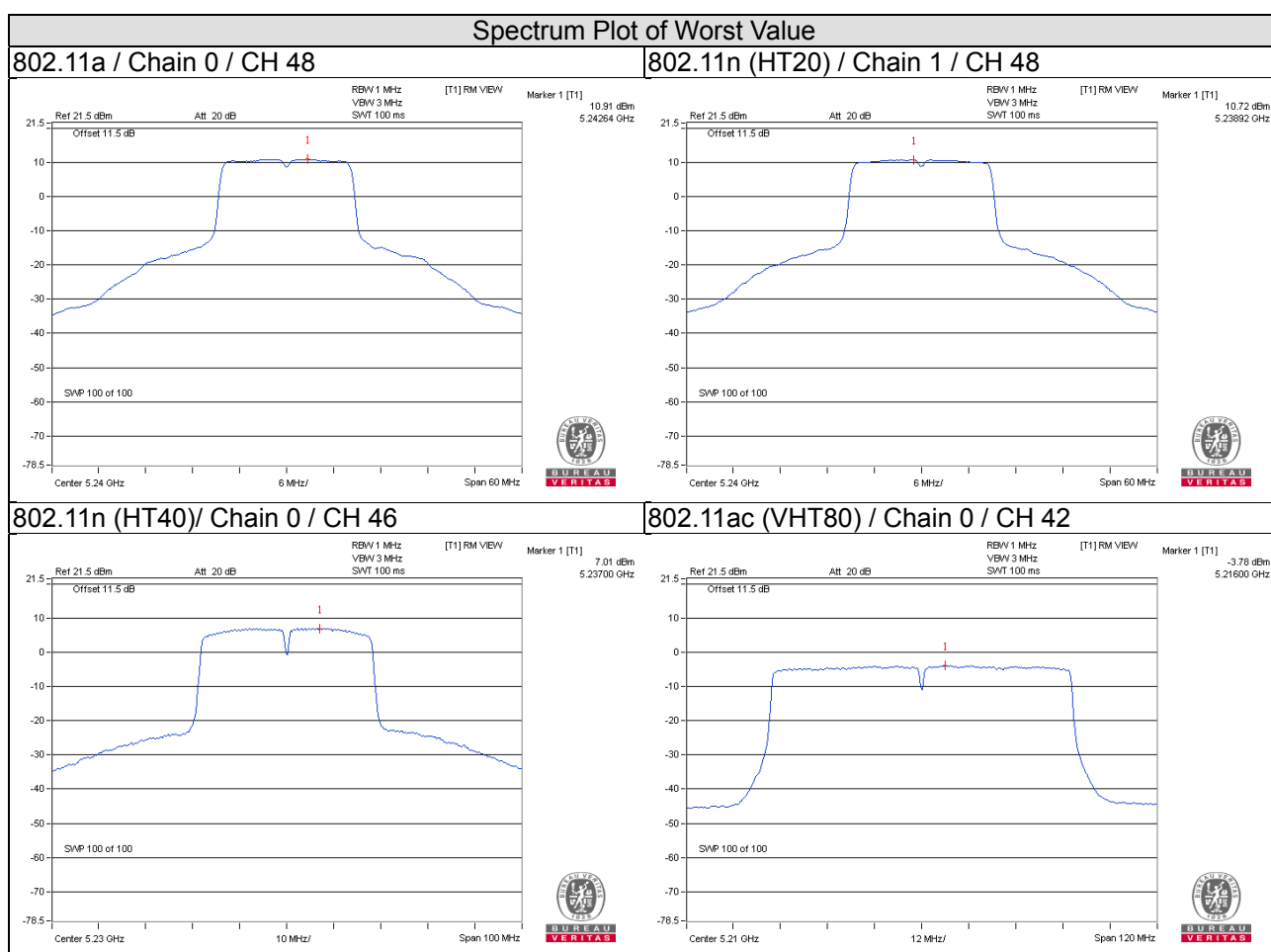
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-3.78	-4.28	-1.02	0.70	-0.32	14.46	Pass

Note:

1. Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (8.54 - 6) = 14.46 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



Radio 2: Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	5.24	4.73	8.00	14.46	Pass
40	5200	9.29	8.23	11.80	14.46	Pass
48	5240	9.05	8.31	11.71	14.46	Pass

Note:

- Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-0.36	-0.52	2.57	0.22	2.79	14.46	Pass
46	5230	5.55	5.31	8.44	0.22	8.66	14.46	Pass

Note:

- Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-6.06	-6.20	-3.12	0.36	-2.76	14.46	Pass

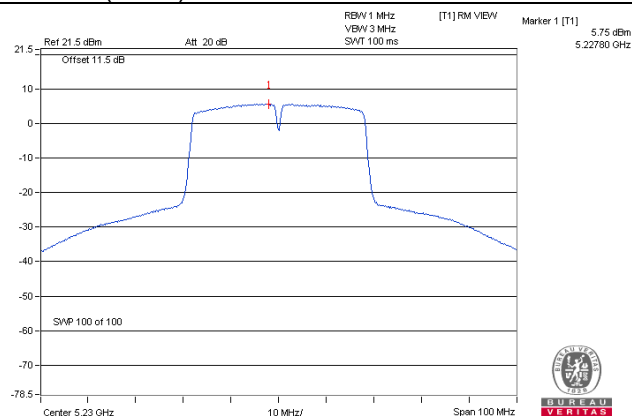
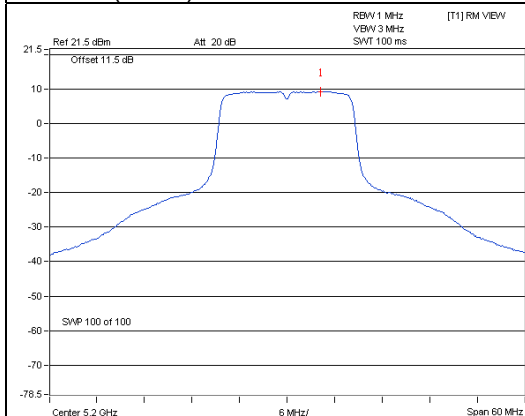
Note:

- Method 1 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(8.54-6) = 14.46\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

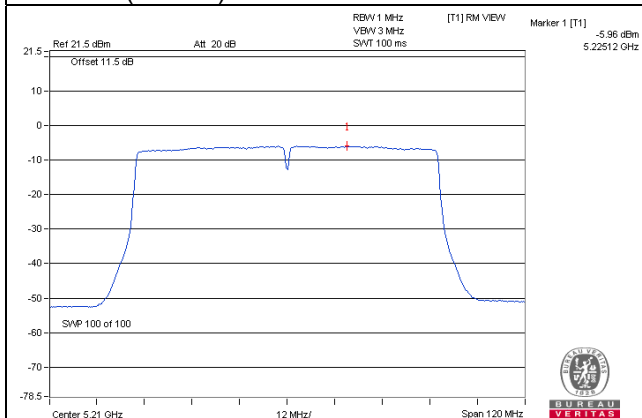
Spectrum Plot of Worst Value

802.11n (HT20) / Chain 0 / CH 40

802.11n (HT40)/ Chain 0 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42



Radio 3: CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm)	Duty factor	PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
36	5180	1.82	0.21	2.03	17	Pass
40	5200	4.77	0.21	4.98	17	Pass
48	5240	5.24	0.21	5.45	17	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm)	Duty factor	PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
36	5180	1.45	0.28	1.73	17	Pass
40	5200	4.40	0.28	4.68	17	Pass
48	5240	3.71	0.28	3.99	17	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm)	Duty factor	PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
38	5190	-6.52	0.75	-5.77	17	Pass
46	5230	-0.38	0.75	0.37	17	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

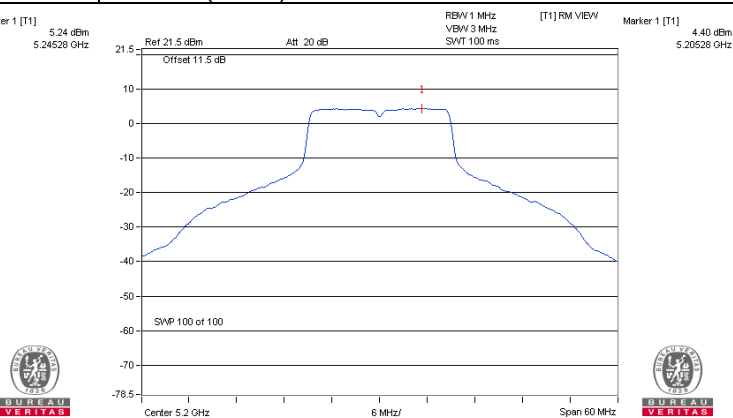
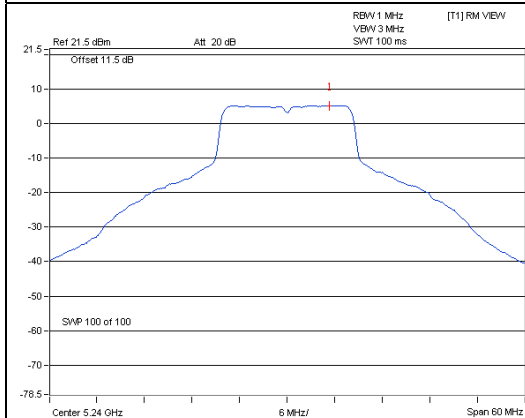
Chan.	Freq. (MHz)	PSD w/o duty factor (dBm)	Duty factor	PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
42	5210	-15.04	1.48	-13.56	17	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

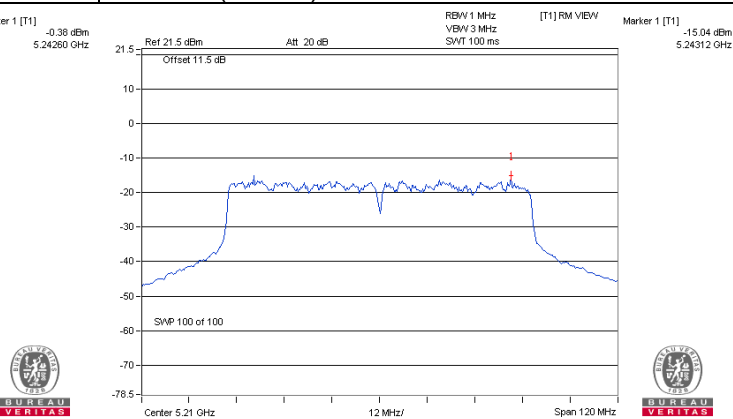
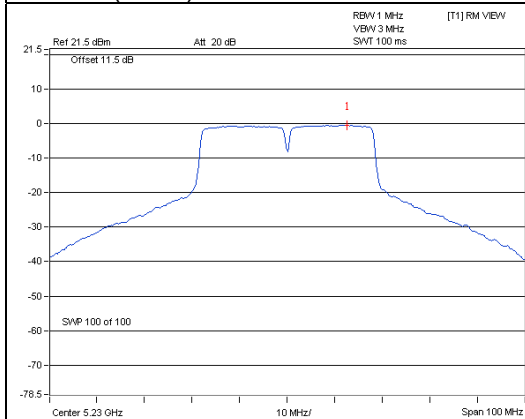
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



For U-NII-3 Band

Radio 2: CDD Mode

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	2.76	4.98	3.01	0.24	8.23	27.46	Pass
	157	5785	2.26	4.48	3.01	0.24	7.73	27.46	Pass
	165	5825	1.65	3.87	3.01	0.24	7.12	27.46	Pass
1	149	5745	2.97	5.19	3.01	0.24	8.44	27.46	Pass
	157	5785	2.42	4.64	3.01	0.24	7.89	27.46	Pass
	165	5825	1.96	4.18	3.01	0.24	7.43	27.46	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	2.53	4.75	3.01	0.09	7.85	27.46	Pass
	157	5785	1.99	4.21	3.01	0.09	7.31	27.46	Pass
	165	5825	1.56	3.78	3.01	0.09	6.88	27.46	Pass
1	149	5745	2.41	4.63	3.01	0.09	7.73	27.46	Pass
	157	5785	2.09	4.31	3.01	0.09	7.41	27.46	Pass
	165	5825	1.96	4.18	3.01	0.09	7.28	27.46	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-0.47	1.75	3.01	0.25	5.01	27.46	Pass
	159	5795	-0.87	1.35	3.01	0.25	4.61	27.46	Pass
1	151	5755	-1.16	1.06	3.01	0.25	4.32	27.46	Pass
	159	5795	-1.54	0.68	3.01	0.25	3.94	27.46	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

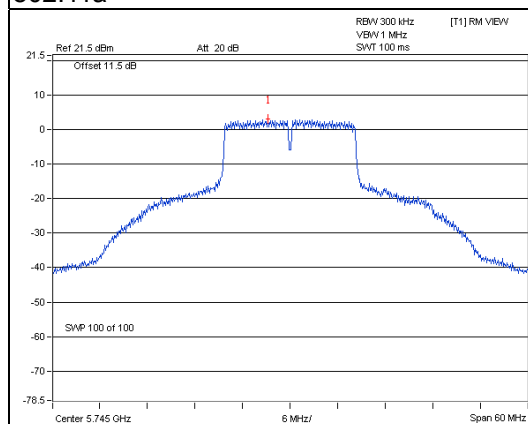
TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-9.74	-7.52	3.01	0.70	-3.81	27.46	Pass
1	155	5775	-9.19	-6.97	3.01	0.70	-3.26	27.46	Pass

Note:

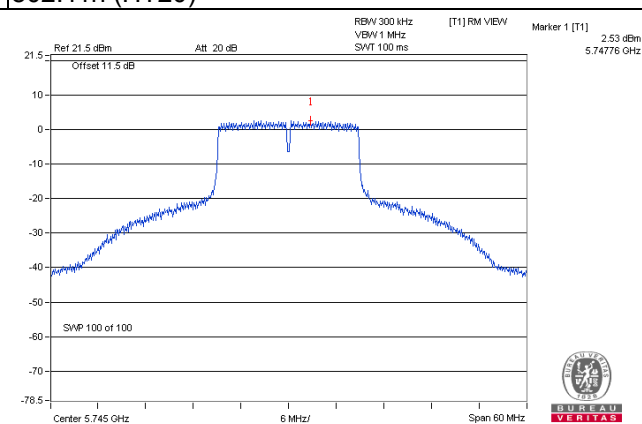
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

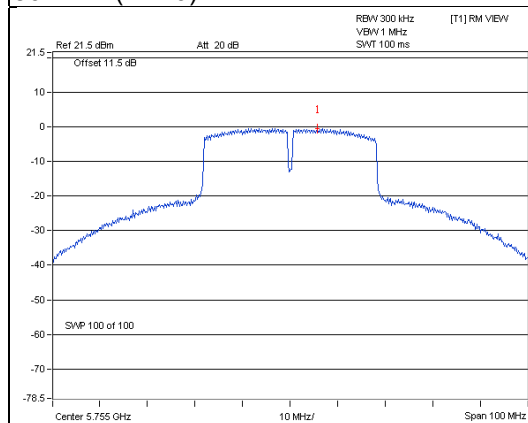
802.11a



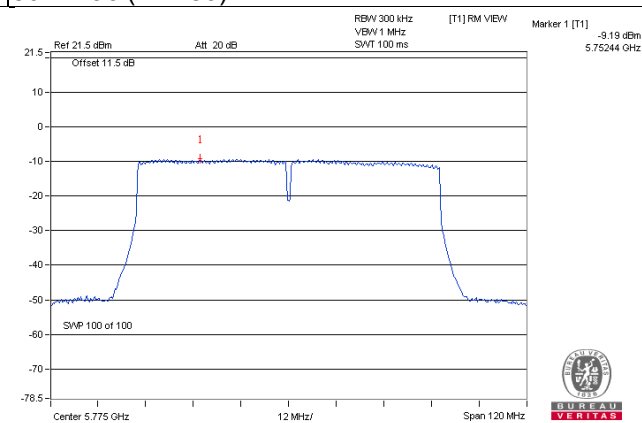
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Radio 2: Beamforming Mode

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	0.66	2.88	3.01	5.89	27.46	Pass
	157	5785	0.11	2.33	3.01	5.34	27.46	Pass
	165	5825	-0.36	1.86	3.01	4.87	27.46	Pass
1	149	5745	0.72	2.94	3.01	5.95	27.46	Pass
	157	5785	0.64	2.86	3.01	5.87	27.46	Pass
	165	5825	0.25	2.47	3.01	5.48	27.46	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-2.25	-0.03	3.01	0.22	3.20	27.46	Pass
	159	5795	-2.80	-0.58	3.01	0.22	2.65	27.46	Pass
1	151	5755	-2.02	0.20	3.01	0.22	3.43	27.46	Pass
	159	5795	-2.39	-0.17	3.01	0.22	3.06	27.46	Pass

Note:

- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-12.42	-10.20	3.01	0.36	-6.83	27.46	Pass
1	155	5775	-11.97	-9.75	3.01	0.36	-6.38	27.46	Pass

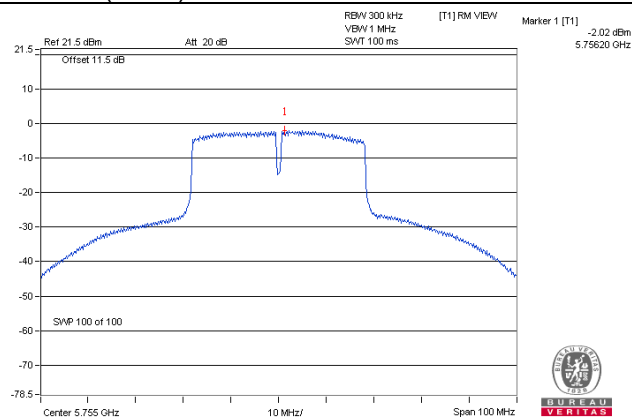
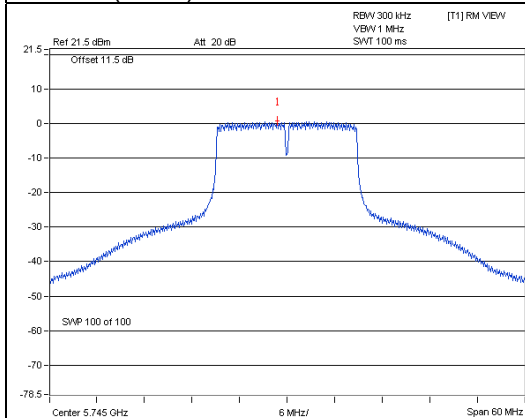
Note:

- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.54 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

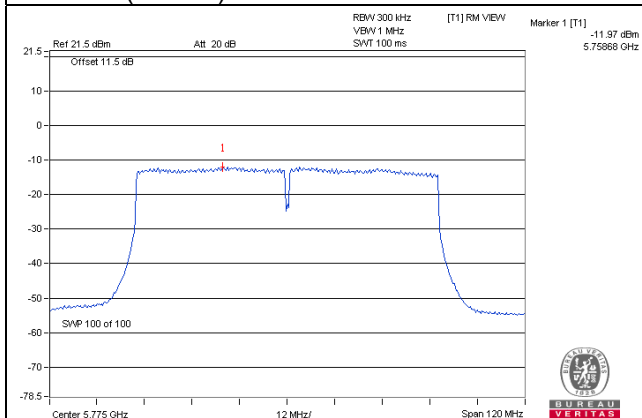
Spectrum Plot of Worst Value

802.11n (HT20)

802.11n (HT40)



802.11ac (VHT80)



Radio 3: CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
149	5745	-4.53	-2.31	0.21	-2.10	30	Pass
157	5785	-3.61	-1.39	0.21	-1.18	30	Pass
165	5825	-3.94	-1.72	0.21	-1.51	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
149	5745	-5.09	-2.87	0.28	-2.59	30	Pass
157	5785	-4.18	-1.96	0.28	-1.68	30	Pass
165	5825	-4.48	-2.26	0.28	-1.98	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
151	5755	-7.63	-5.41	0.75	-4.66	30	Pass
159	5795	-7.49	-5.27	0.75	-4.52	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

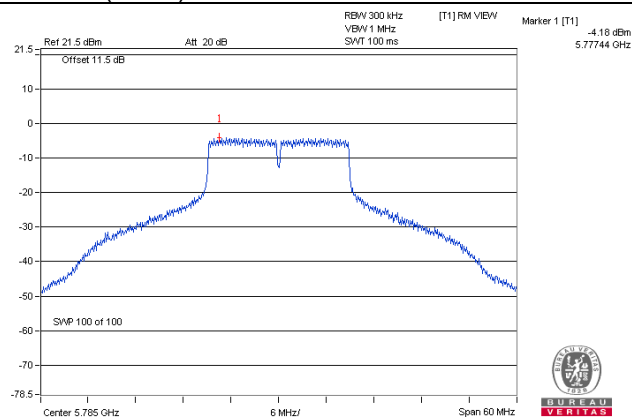
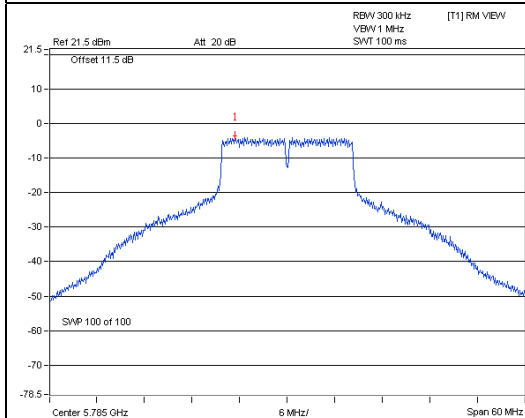
Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
155	5775	-13.68	-11.46	1.48	-9.98	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

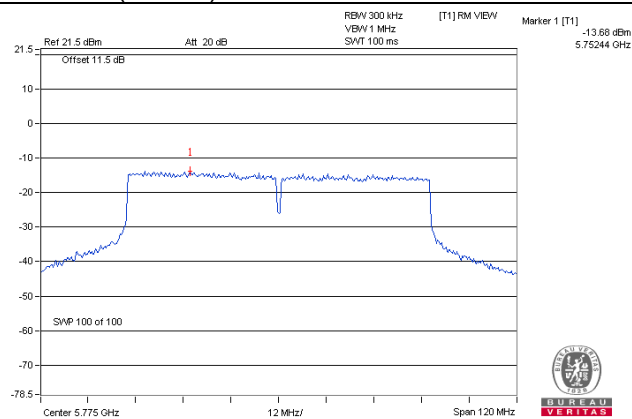
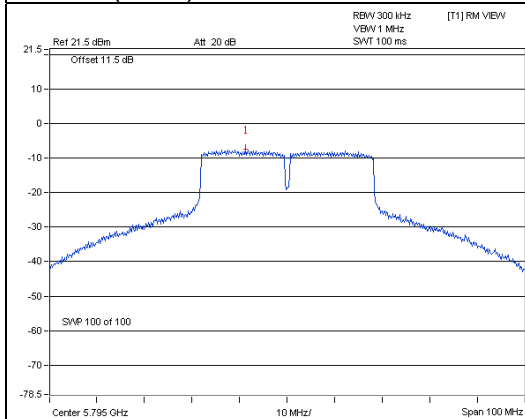
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

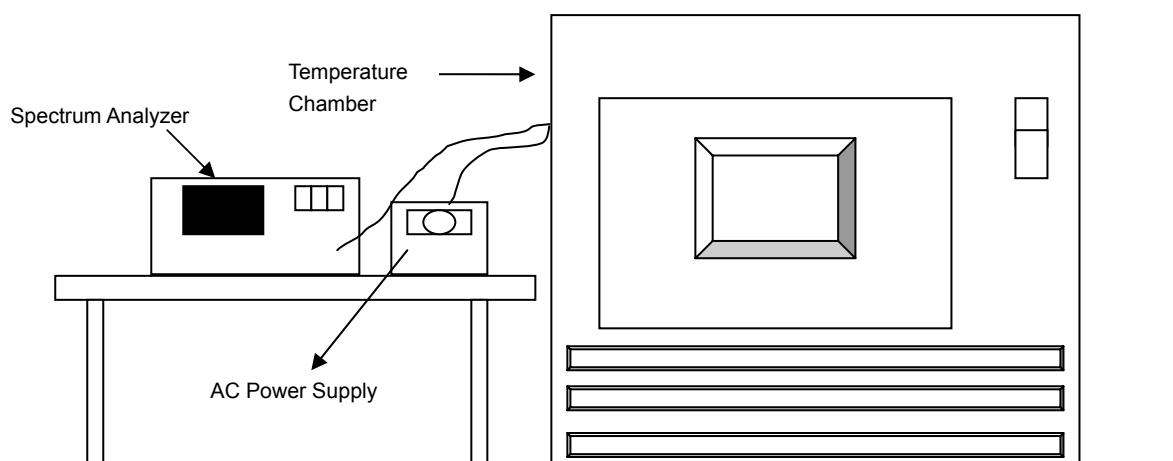


4.6 Frequency Stability

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 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 2 and 3 with the temperature chamber set to the lowest temperature.
- 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.

4.6.4 Deviation from Test Standard

No deviation.

4.6.5 EUT Operating Condition

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

4.6.6 Test Results

Radio 2: CDD Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
50	120	5239.9836	-0.00031	5239.9854	-0.00028	5239.9844	-0.00030	5239.9829	-0.00033
40	120	5239.9984	-0.00003	5240.0031	0.00006	5240.001	0.00002	5240.0022	0.00004
30	120	5239.9799	-0.00038	5239.9778	-0.00042	5239.9801	-0.00038	5239.9805	-0.00037
20	120	5240.0053	0.00010	5240.0085	0.00016	5240.0065	0.00012	5240.0076	0.00015
10	120	5239.9911	-0.00017	5239.9911	-0.00017	5239.9878	-0.00023	5239.9898	-0.00019
0	120	5240.013	0.00025	5240.0112	0.00021	5240.015	0.00029	5240.0135	0.00026
-10	120	5239.9777	-0.00043	5239.9789	-0.00040	5239.9789	-0.00040	5239.9794	-0.00039
-20	120	5239.9943	-0.00011	5239.992	-0.00015	5239.9942	-0.00011	5239.9932	-0.00013
-30	120	5239.9884	-0.00022	5239.9861	-0.00027	5239.9843	-0.00030	5239.9875	-0.00024

Frequency Stability Versus Voltage									
Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
20	138	5240.0044	0.00008	5240.0075	0.00014	5240.0064	0.00012	5240.0077	0.00015
	120	5240.0053	0.00010	5240.0085	0.00016	5240.0065	0.00012	5240.0076	0.00015
	102	5240.0052	0.00010	5240.0093	0.00018	5240.0061	0.00012	5240.0086	0.00016

Radio 2: Beamforming Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
50	120	5179.9888	-0.00022	5179.9876	-0.00024	5179.988	-0.00023	5179.9901	-0.00019
40	120	5179.9943	-0.00011	5179.9974	-0.00005	5179.9973	-0.00005	5179.9954	-0.00009
30	120	5179.9731	-0.00052	5179.9771	-0.00044	5179.9744	-0.00049	5179.9766	-0.00045
20	120	5179.9938	-0.00012	5179.9934	-0.00013	5179.9944	-0.00011	5179.9944	-0.00011
10	120	5180.018	0.00035	5180.0176	0.00034	5180.0183	0.00035	5180.0164	0.00032
0	120	5179.979	-0.00041	5179.9789	-0.00041	5179.9803	-0.00038	5179.9779	-0.00043
-10	120	5180.002	0.00004	5180.003	0.00006	5180.0009	0.00002	5180.0052	0.00010
-20	120	5180.0255	0.00049	5180.0231	0.00045	5180.0231	0.00045	5180.0261	0.00050
-30	120	5180.0173	0.00033	5180.0179	0.00035	5180.0153	0.00030	5180.0183	0.00035

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
20	138	5179.9941	-0.00011	5179.9939	-0.00012	5179.9953	-0.00009	5179.995	-0.00010
	120	5179.9938	-0.00012	5179.9934	-0.00013	5179.9944	-0.00011	5179.9944	-0.00011
	102	5179.9941	-0.00011	5179.9934	-0.00013	5179.9948	-0.00010	5179.9937	-0.00012

Radio 3: CDD Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
50	120	5239.994	-0.00011	5239.992	-0.00015	5239.9912	-0.00017	5239.9953	-0.00009
40	120	5239.985	-0.00029	5239.9832	-0.00032	5239.9823	-0.00034	5239.9865	-0.00026
30	120	5240.0109	0.00021	5240.012	0.00023	5240.0134	0.00026	5240.0103	0.00020
20	120	5240.0195	0.00037	5240.0154	0.00029	5240.0156	0.00030	5240.0157	0.00030
10	120	5239.9829	-0.00033	5239.9804	-0.00037	5239.983	-0.00032	5239.9815	-0.00035
0	120	5239.9937	-0.00012	5239.9933	-0.00013	5239.9931	-0.00013	5239.9914	-0.00016
-10	120	5240.0024	0.00005	5240.002	0.00004	5240.0032	0.00006	5240.0046	0.00009
-20	120	5239.9859	-0.00027	5239.9851	-0.00028	5239.9865	-0.00026	5239.9859	-0.00027
-30	120	5239.9766	-0.00045	5239.9779	-0.00042	5239.9806	-0.00037	5239.9757	-0.00046

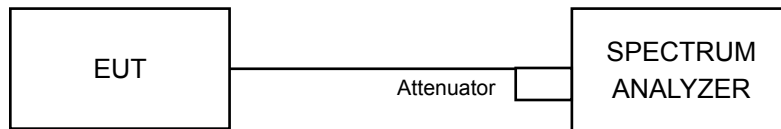
Frequency Stability Versus Voltage									
Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)	Measured Frequency(MHz)	Frequency Drift (%)
20	138	5240.0201	0.00038	5240.0161	0.00031	5240.0158	0.00030	5240.0158	0.00030
	120	5240.0195	0.00037	5240.0154	0.00029	5240.0156	0.00030	5240.0157	0.00030
	102	5240.0199	0.00038	5240.0146	0.00028	5240.015	0.00029	5240.0153	0.00029

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

MEASUREMENT PROCEDURE REF

- 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

Radio 2: CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.36	16.36	0.5	Pass
157	5785	16.38	16.36	0.5	Pass
165	5825	16.38	16.38	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.63	17.62	0.5	Pass
157	5785	17.63	17.62	0.5	Pass
165	5825	17.63	17.59	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.34	35.24	0.5	Pass
159	5795	35.22	35.24	0.5	Pass

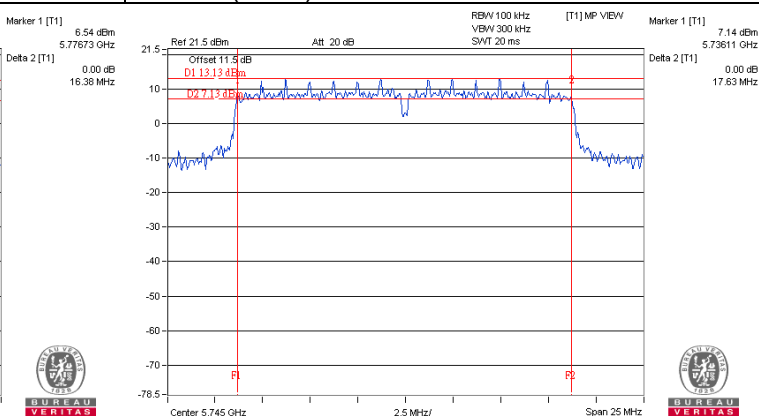
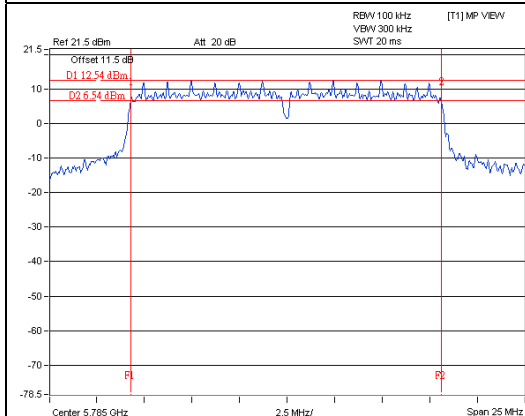
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.26	76.07	0.5	Pass

Spectrum Plot of Worst Value

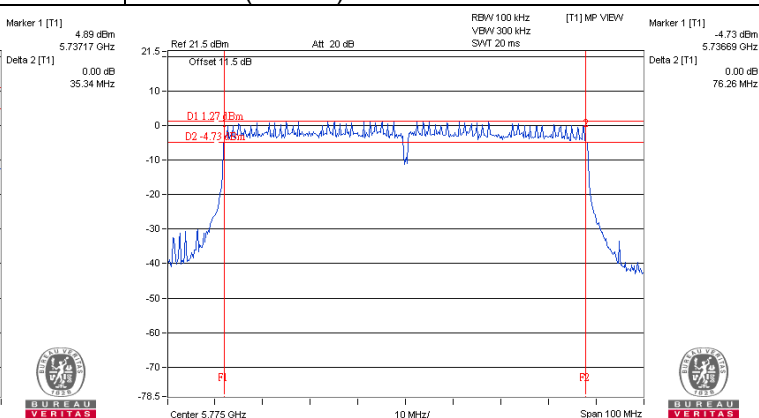
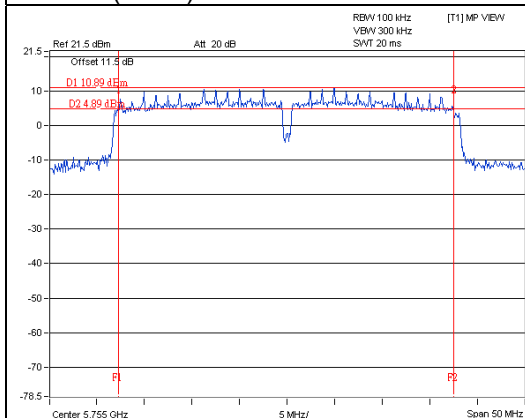
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Radio 2: Beamforming Mode

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.65	17.64	0.5	Pass
157	5785	17.64	17.63	0.5	Pass
165	5825	17.63	17.60	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.66	35.16	0.5	Pass
159	5795	35.24	35.57	0.5	Pass

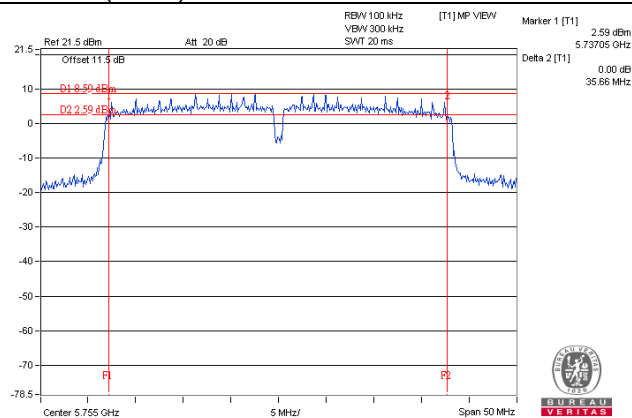
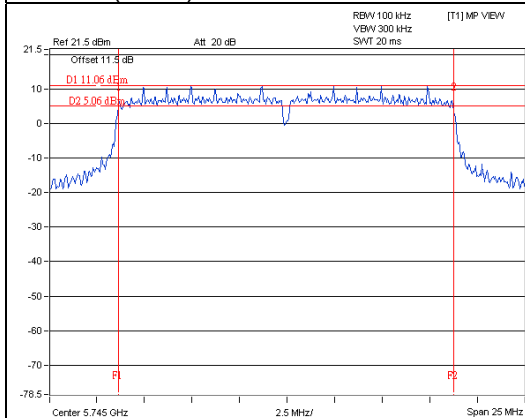
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.48	76.02	0.5	Pass

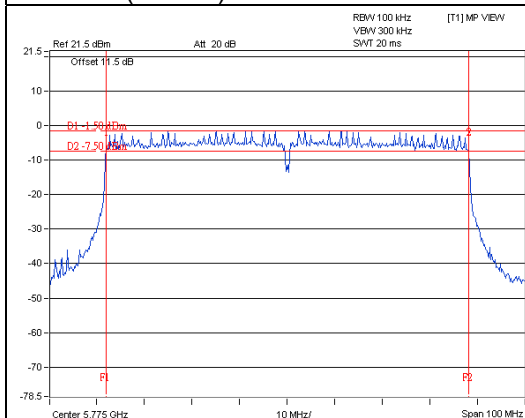
Spectrum Plot of Worst Value

802.11n (HT20)

802.11n (HT40)



802.11ac (VHT80)



Radio 3: CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.32	0.5	Pass
157	5785	16.36	0.5	Pass
165	5825	16.34	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.59	0.5	Pass
157	5785	17.59	0.5	Pass
165	5825	17.59	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.87	0.5	Pass
159	5795	35.91	0.5	Pass

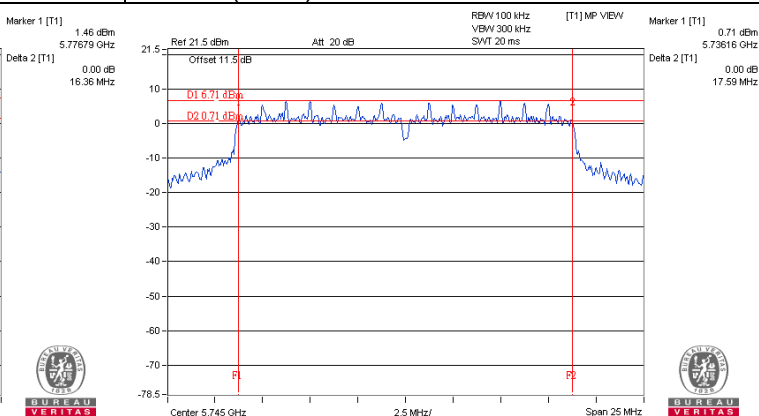
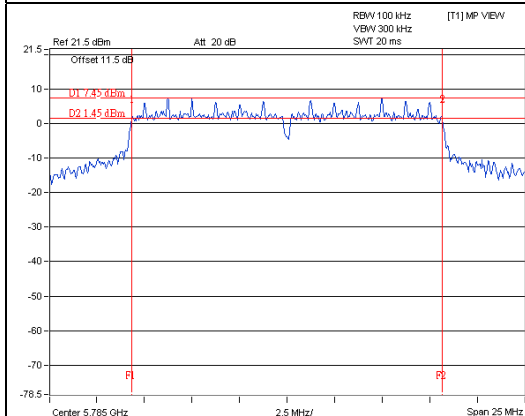
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.79	0.5	Pass

Spectrum Plot of Worst Value

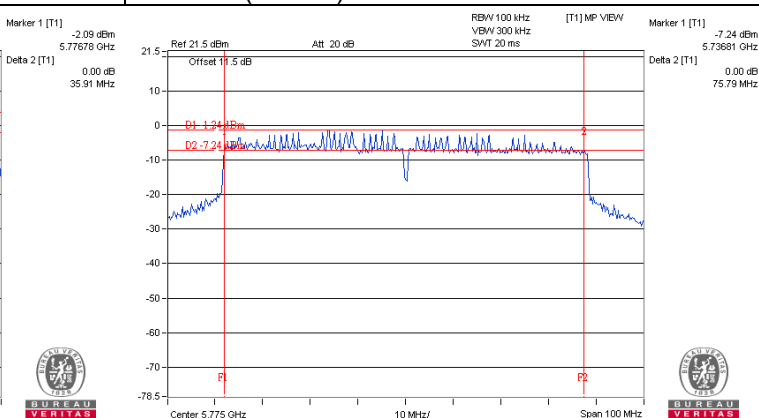
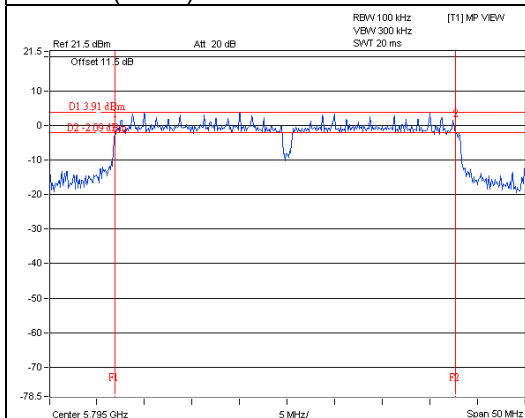
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



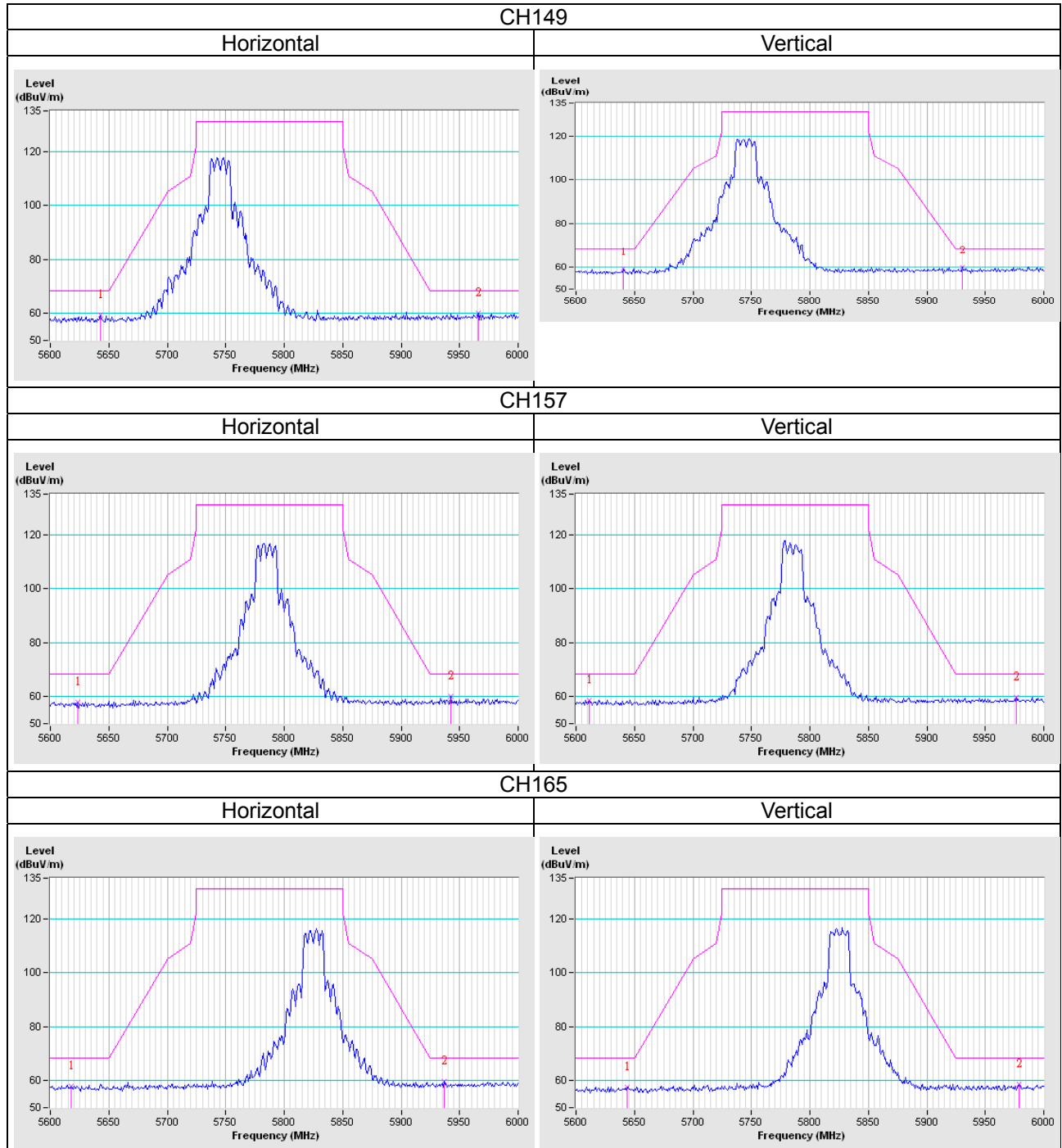
5 Pictures of Test Arrangements

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

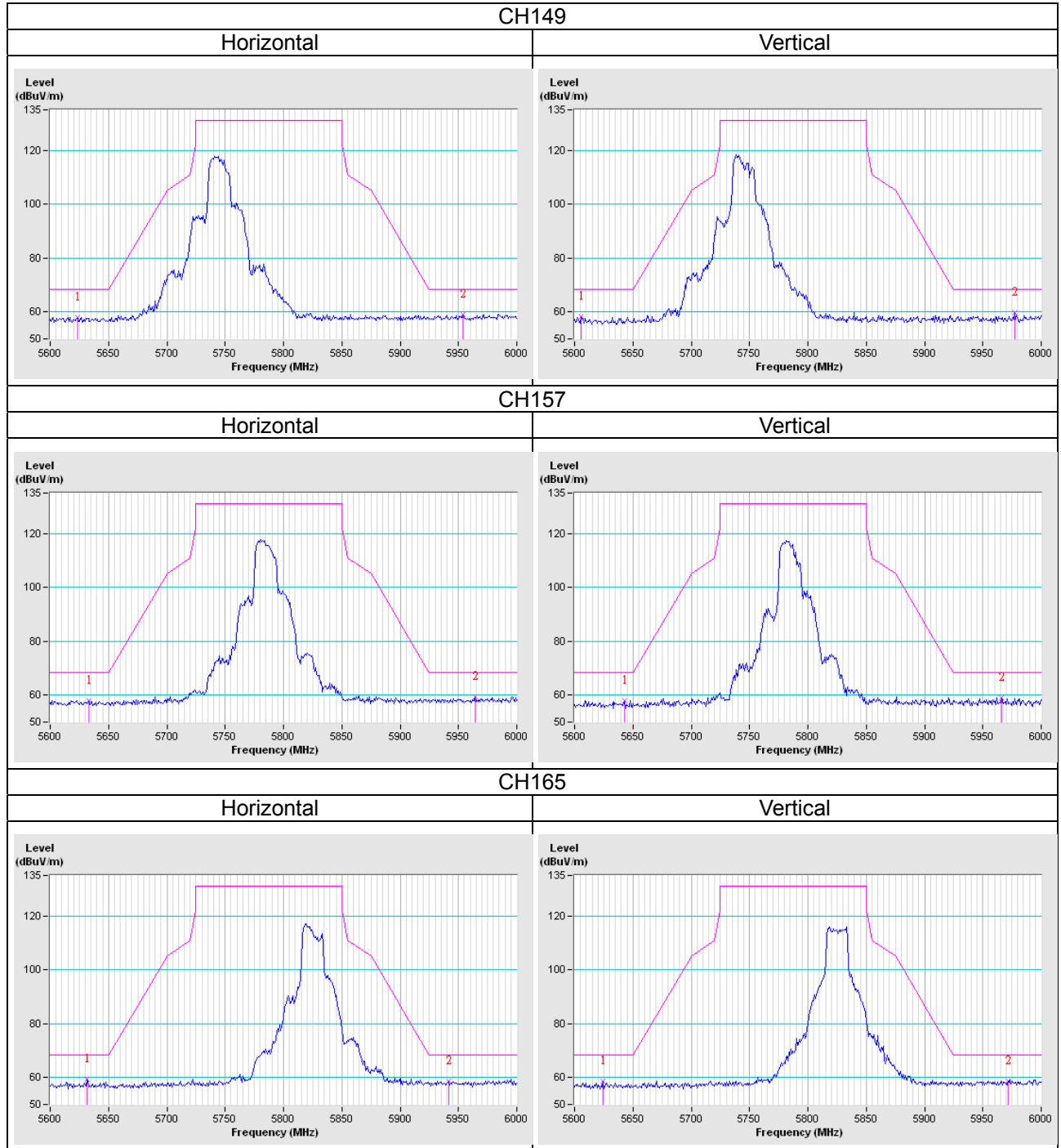
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Radio 1: CDD Mode

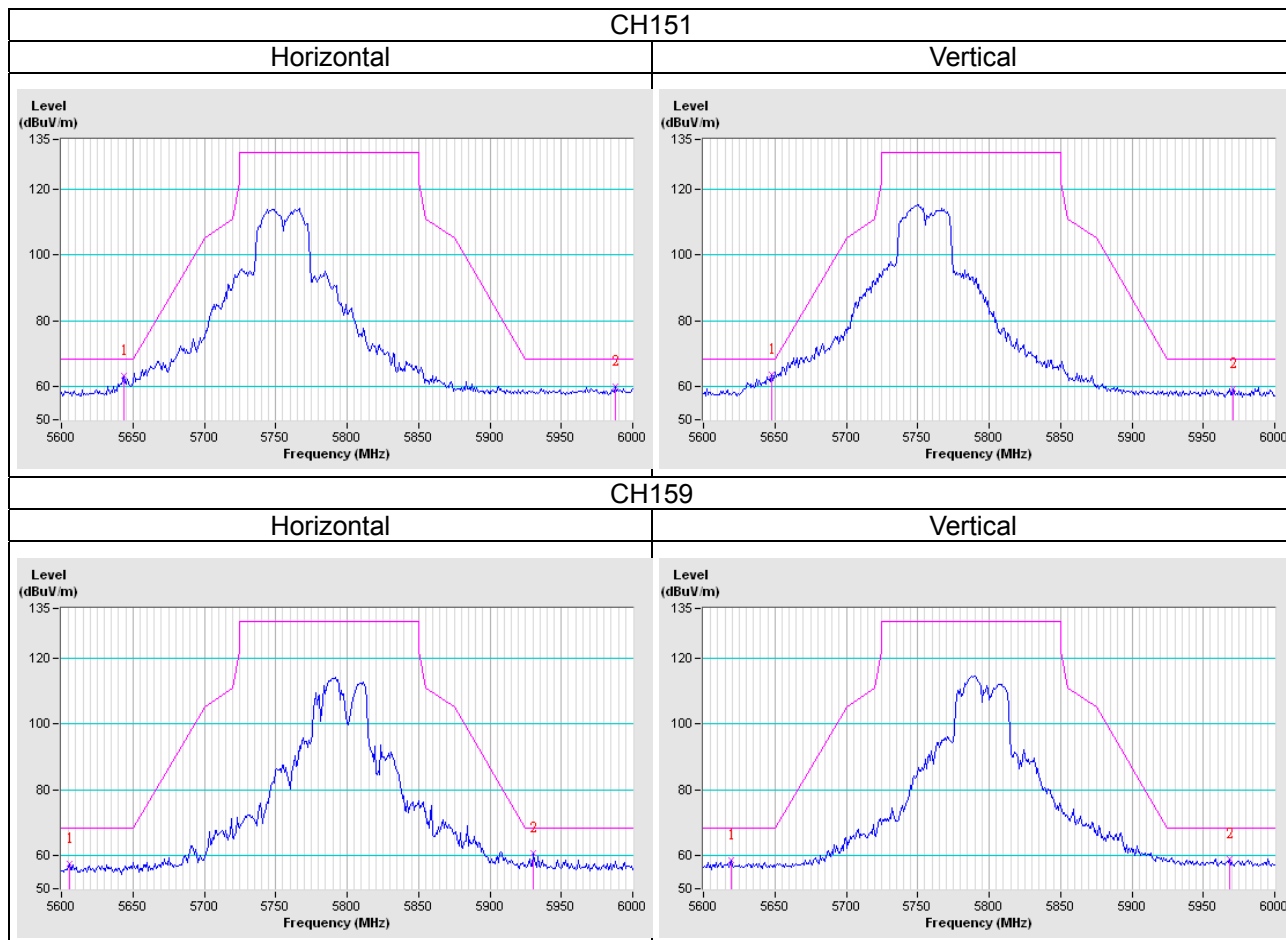
802.11a



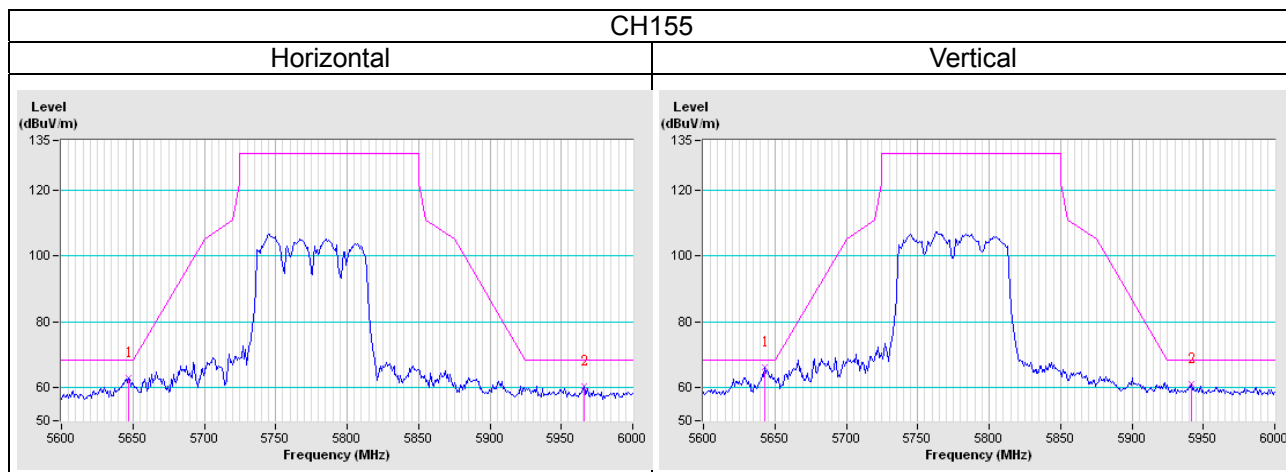
802.11n (HT20)



802.11n (HT40)

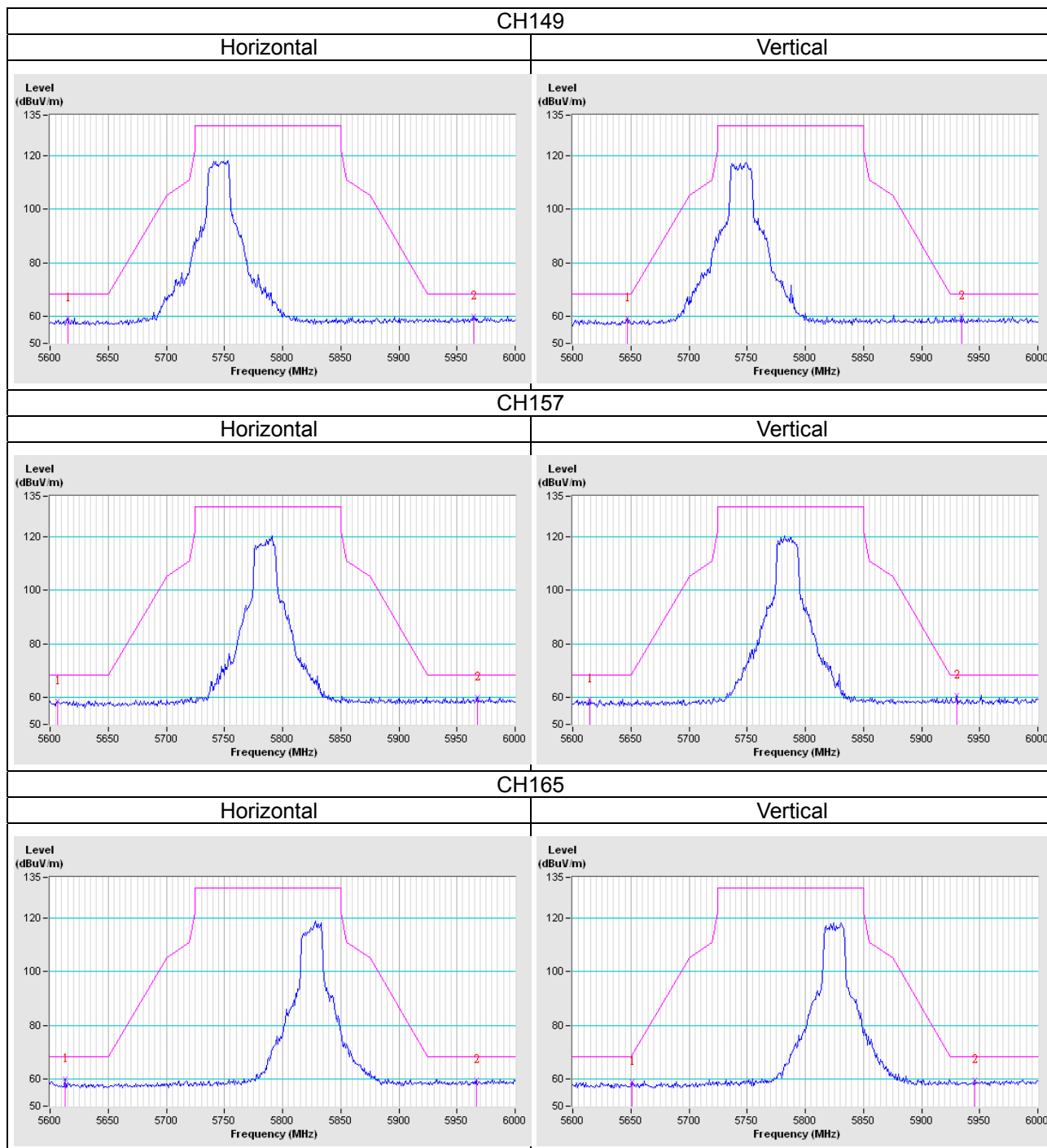


802.11ac (VHT80)

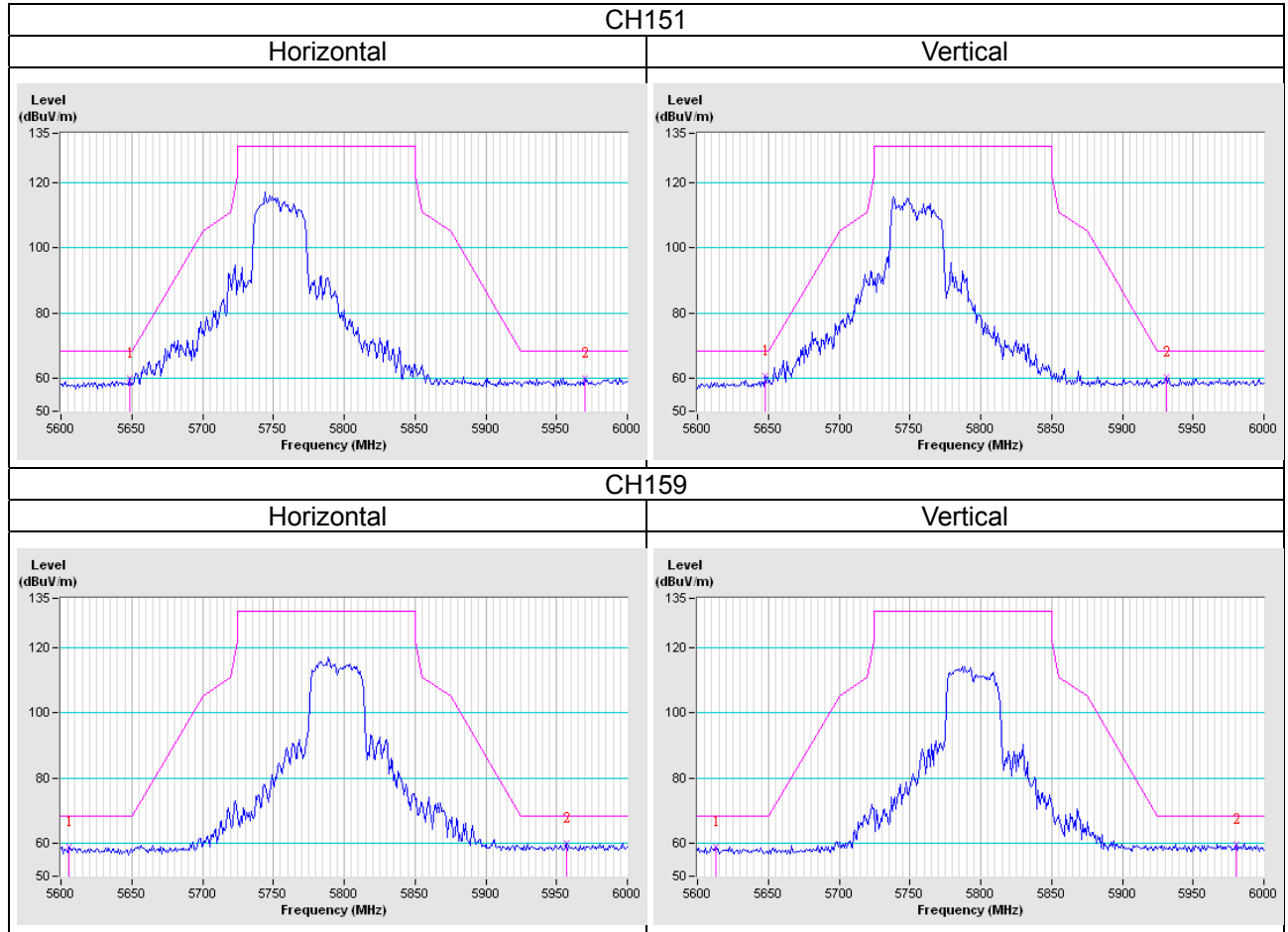


Radio 2: Beamforming Mode

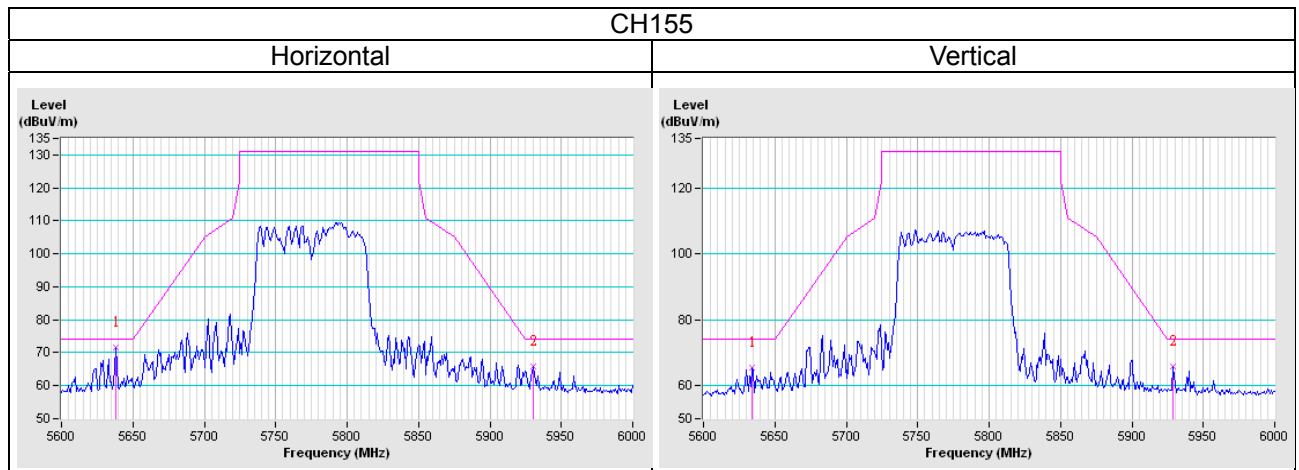
802.11n (HT20)



802.11n (HT40)

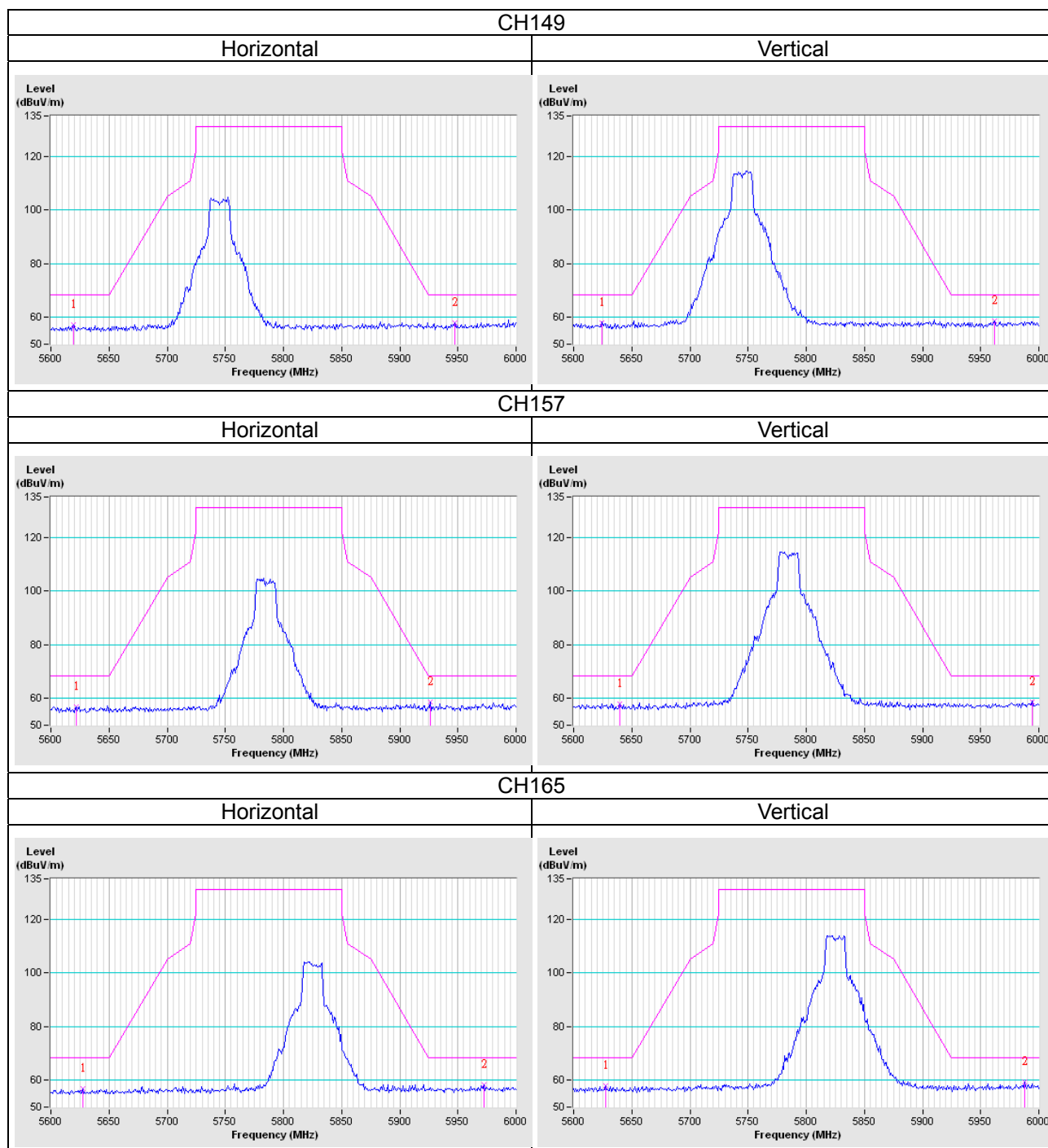


802.11ac (VHT80)

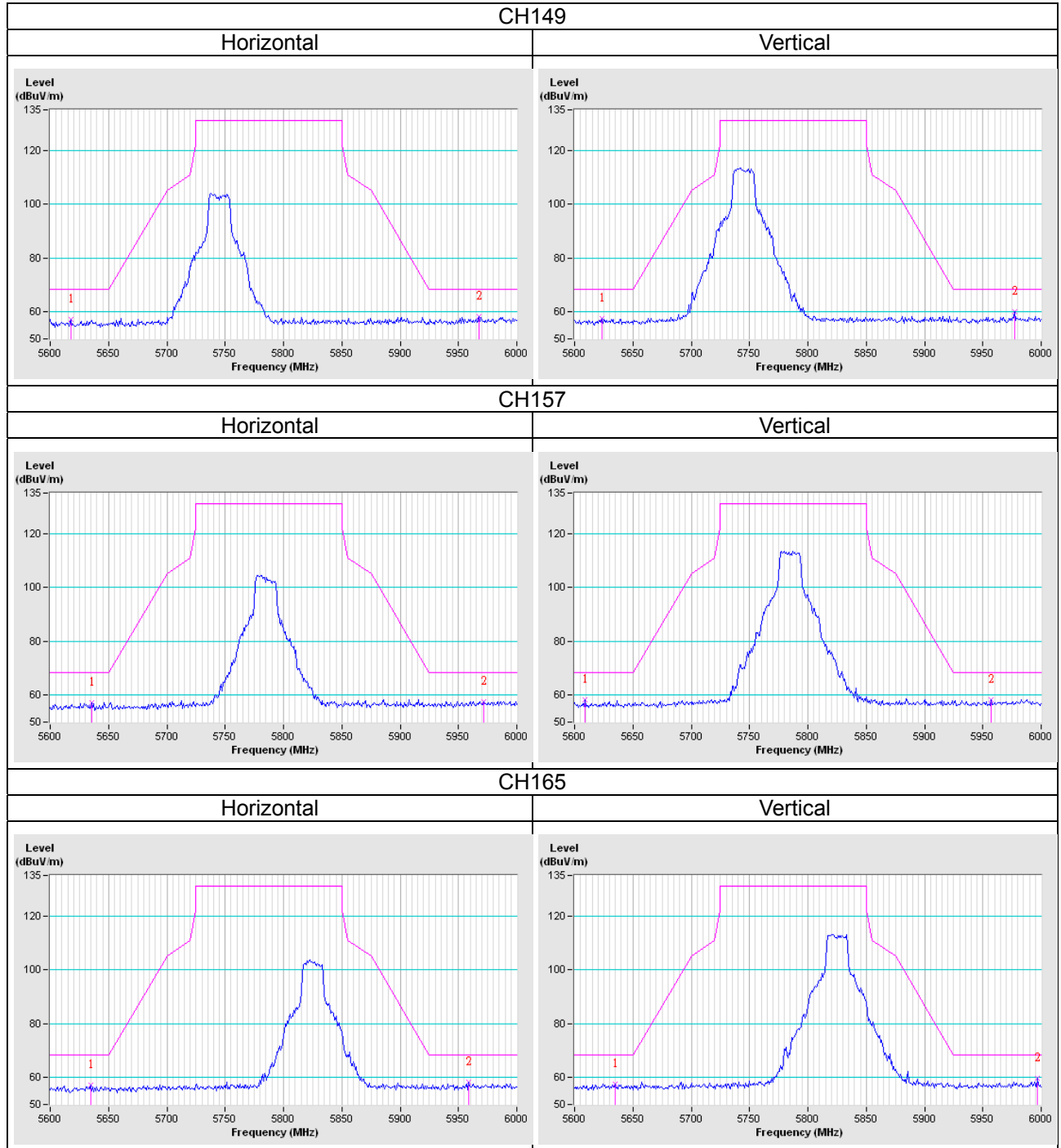


Radio 3: CDD Mode

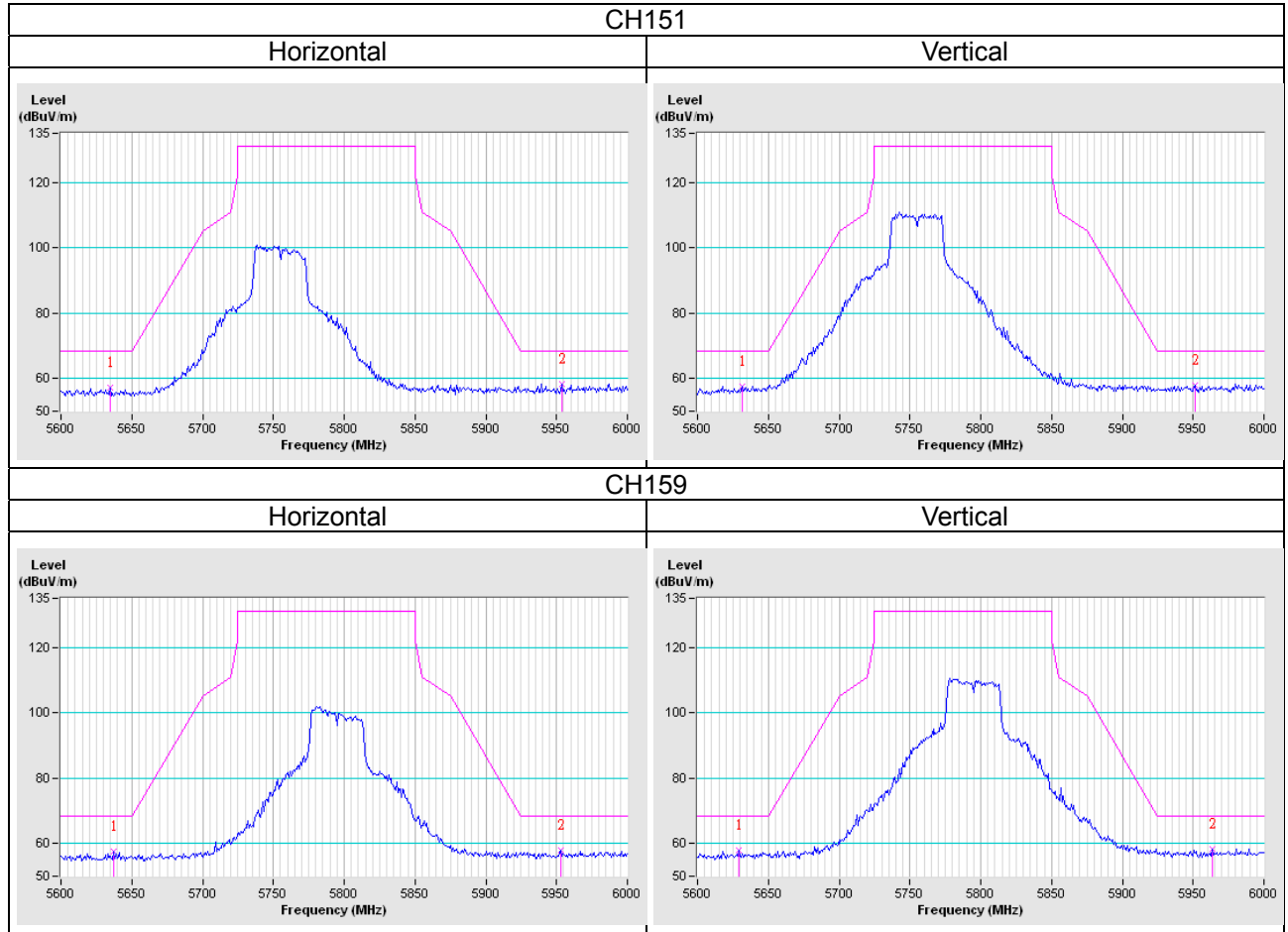
802.11a



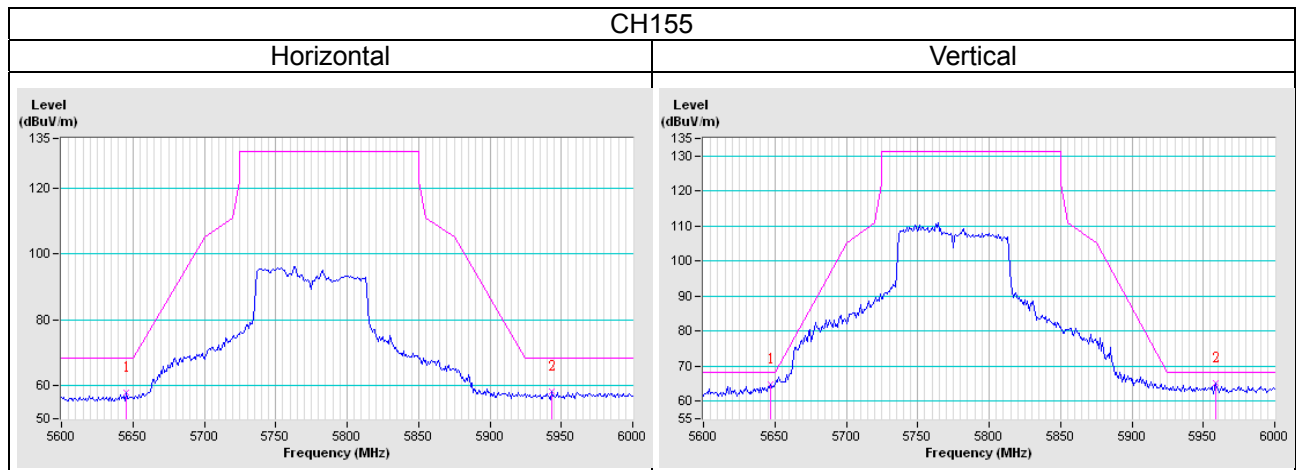
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



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

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