

FCC Test Report

Report No.: RF171229C02C-1

FCC ID: RC6-APH50C

Test Model: APH50c, APH51c

Received Date: Jun. 14, 2018

Test Date: Jun. 20 ~ Jul. 04, 2018 and Nov. 28 ~ Nov. 29, 2018

Issued Date: Dec. 05, 2018

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF171229C02C-1	Original release	Dec. 05, 2018

1 Certificate of Conformity

Product: Indoor Access Point

Brand: Amigo

Test Model: APH50c, APH51c

Sample Status: Engineering sample

Applicant: Amigo Technology Inc.

Test Date: Jun. 20 ~ Jul. 04, 2018 and Nov. 28 ~ Nov. 29, 2018

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

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

Prepared by : Celine Chou , **Date:** Dec. 05, 2018
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 05, 2018
Bruce Chen / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.42dB at 0.48594MHz.
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 -1.3dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	For APH50c Antenna connector is IPEX not a standard connector. For APH51c Antenna connector is SMA. (The device is professionally installed)

*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) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 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	Indoor Access Point
Brand	Amigo
Test Model	APH50c, APH51c
Model Difference	Refer to Note for more details
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter) 48 or 54Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 177.487mW 5745 ~ 5825MHz: 226.567mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter
Cable Supplied	NA

Note:

1. The following models are provided to this EUT.

Brand	Model	Description
Amigo	APH50c	WLAN and BT LE Internal Antenna
Amigo	APH51c	WLAN External Antenna, BT LE Internal Antenna

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

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

* The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for V20MHz / V40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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

For Model: APH50c (Internal Antenna)

Antenna Type	Connector	P/N	Gain(dBi)	
			2.4-2.5GHz	5.15-5.825GHz
PIFA	IPEX	ALA150-052020-02	2.44	-
		ALA150-052020-03	1.98	-
		ALX17M-092XX3-00	-	2.86
		ALX17M-092XX3-01	-	3.74

For Model: APH51c (External Antenna)

Antenna Type	Connector	Gain(dBi)					
		2.4GHz	2.42GHz	2.45GHz	2.47GHz	2.483GHz	
Dipole	SMA	2.41	2.68	2.53	2.82	2.78	
		5.15GHz	5.25GHz	5.35GHz	5.55GHz	5.75GHz	5.825GHz
		3.97	4.27	4.13	4.28	4.56	4.73

5. The EUT uses following adapter and POE.

Adapter	
Brand	Shenzhen SOY Technology Co. LTD
Model	SOY-1200125US
Input	100-240Vac, 50/60Hz, 0.6A
Output	12Vdc, 1.25A
Power Line	1.5m power cable without core attached on adapter

POE (For support unit only)	
Brand	CERIO
Model	POE-MG30
Input	100-240Vac, 50-60Hz, 1.5A
Output	48Vdc, 0.5A

POE's Adapter (For support unit only)	
Brand	Shenzhen SOY Technology Co. LTD
Model	ZZU1588-050480-2A
Input	100-240Vac, 50-60Hz, 1.5A
Output	48Vdc, 0.5A
Power Line	1.5m power cable without core attached on adapter

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	√	√	√	-	Model: APH50c Powered by Adapter
B	-	√	√	-	Model: APH50c Powered by POE
C	√	√	√	√	Model: APH51c Powered by Adapter
D	-	√	√	-	Model: APH51c Powered by POE

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
 RE<1G: Radiated Emission below 1GHz
 PLC: Power Line Conducted Emission
 APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane for test mode A and B & X-plane for test mode C and D.**
2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
A, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0
C, D	802.11n (HT20)	5180-5240	36 to 48	165	OFDM	6.5
	802.11n (HT20)	5745-5825	149 to 165		OFDM	6.5

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0
C, D	802.11n (HT20)	5180-5240	36 to 48	165	OFDM	6.5
	802.11n (HT20)	5745-5825	149 to 165		OFDM	6.5

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	23 deg. C, 66% RH	120Vac, 60Hz	Adiar Peng
RE<1G	23 deg. C, 66% RH	120Vac, 60Hz	Adiar Peng
	22 deg. C, 66% RH	48Vdc	
PLC	21 deg. C, 66% RH	120Vac, 60Hz	Willy Cheng
	22 deg. C, 66% RH	48Vdc	Adiar Peng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Alan Wu

3.3 Duty Cycle of Test Signal

802.11n (HT20): Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

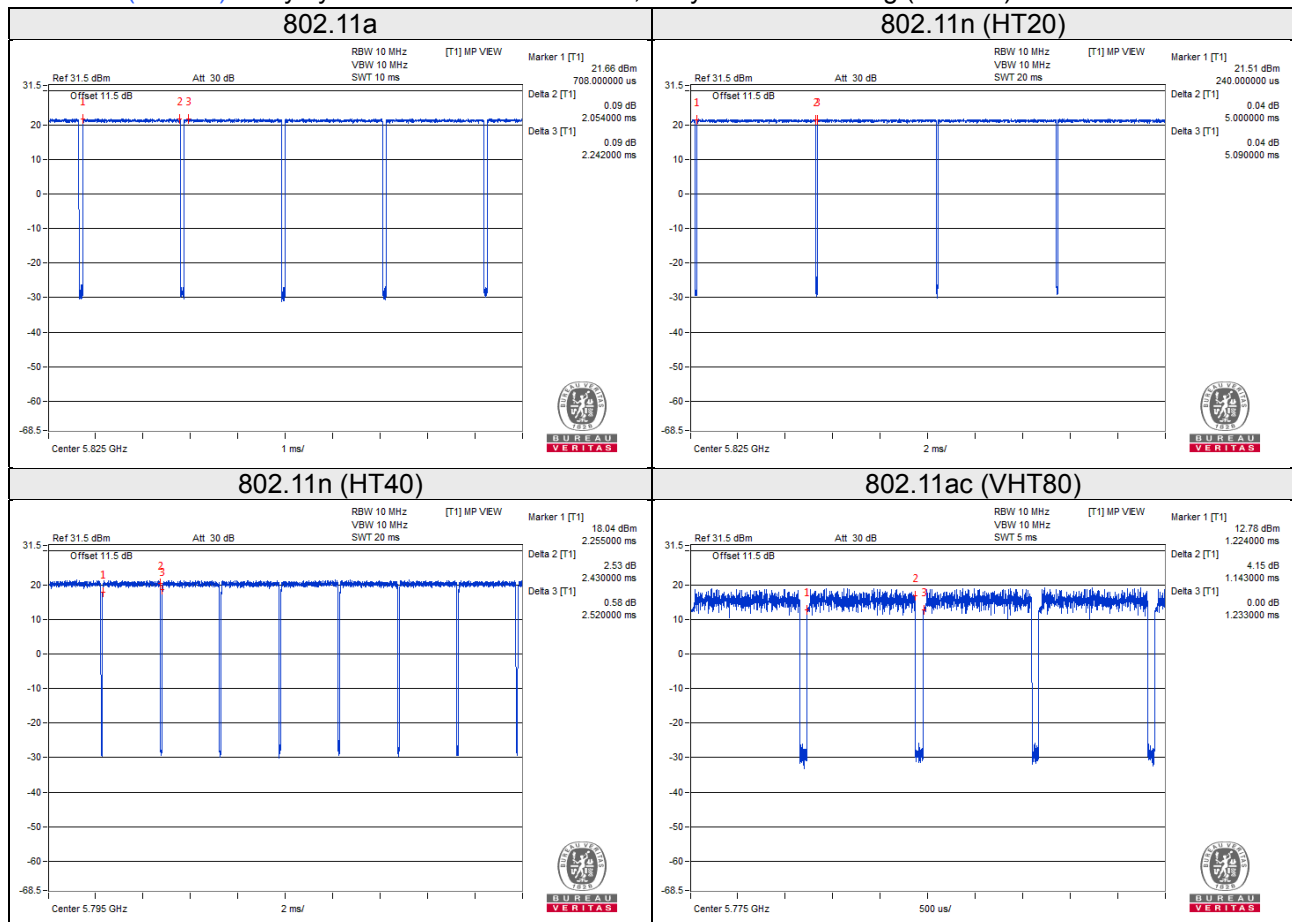
802.11a, 802.11n (HT40), 802.11ac (VHT80): Duty cycle of test signal is $< 98\%$, duty factor is required.

802.11a: Duty cycle = $2.054/2.242 = 0.916$, Duty factor = $10 * \log(1/0.916) = 0.38$

802.11n (HT20): Duty cycle = $5.000/5.090 = 0.982$

802.11n (HT40): Duty cycle = $2.430/2.520 = 0.964$, Duty factor = $10 * \log(1/0.964) = 0.16$

802.11ac (VHT80): Duty cycle = $1.143/1.233 = 0.927$, Duty factor = $10 * \log(1/0.927) = 0.33$



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	1HC2XM1	FCC DoC Approved	-
B.	USB Flash	HP	v250W	01	NA	-
C.	Load	NA	NA	NA	NA	-
D.	POE	Shenzhen SOY Technology Co. LTD	ZZU1588-050480-2A	NA	NA	Provided by client

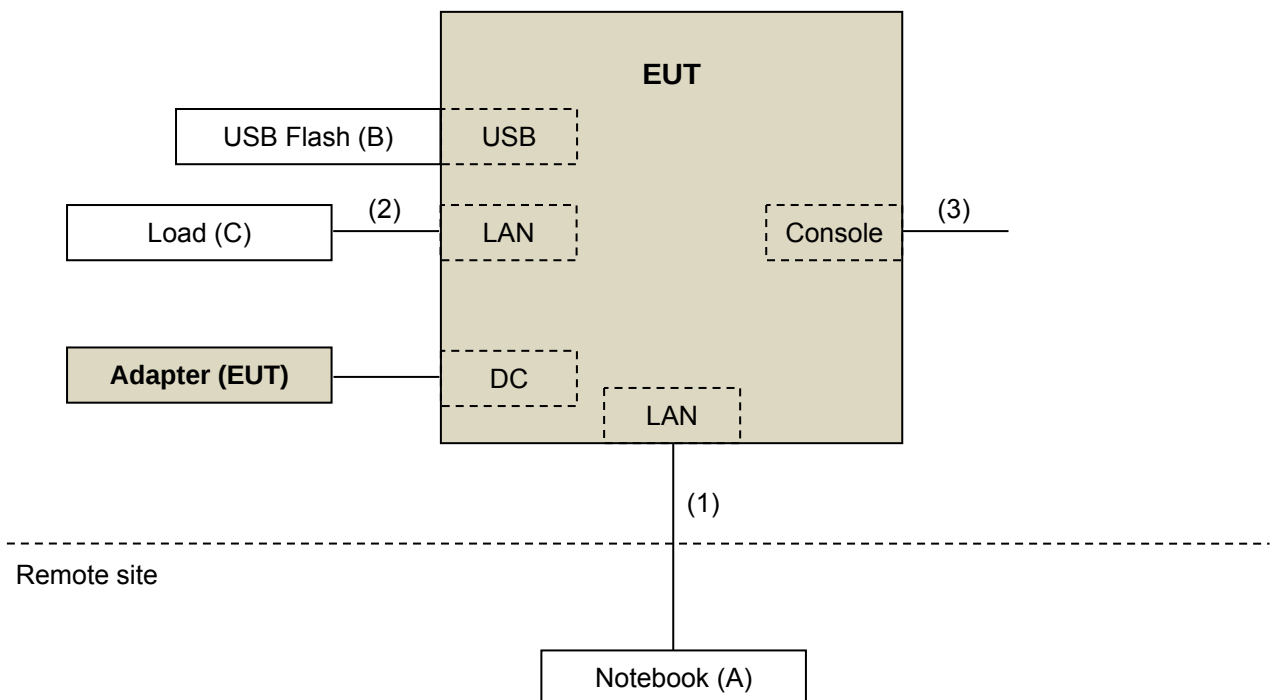
Note:

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

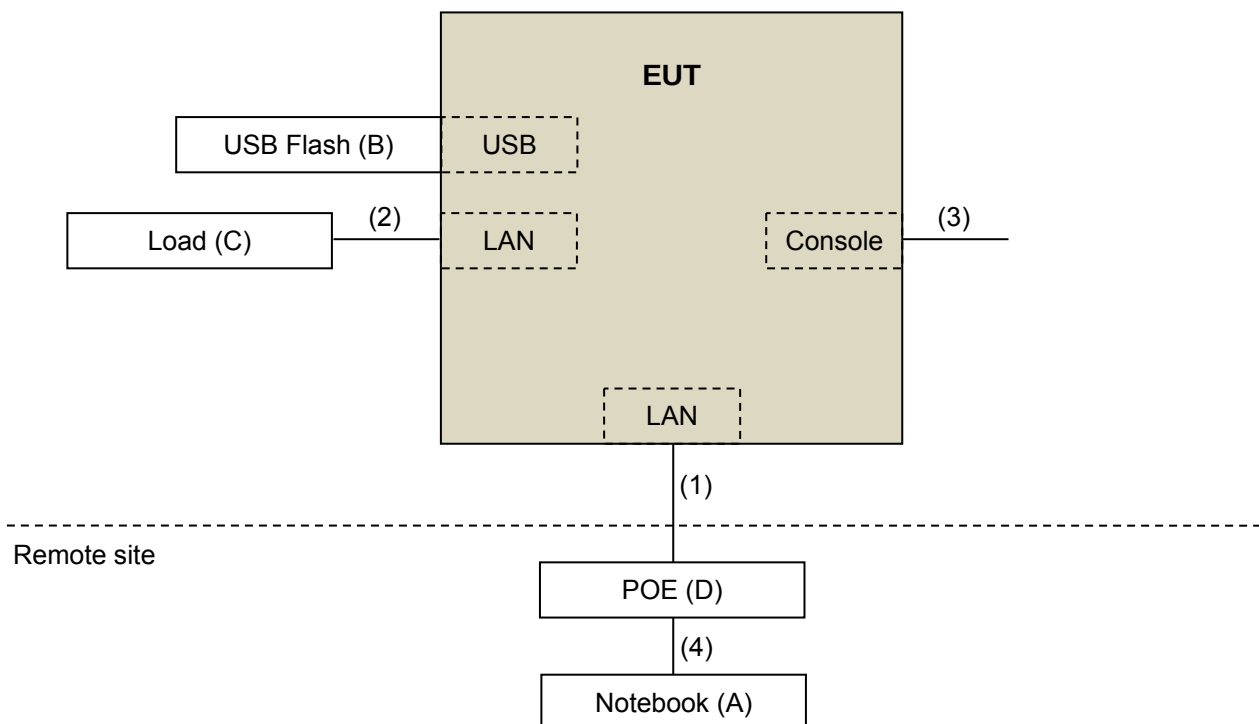
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45, Cat5e	1	3	N	0	-
2.	RJ45, Cat5e	1	1.8	N	0	-
3.	Console	1	1.8	N	0	-
4.	RJ45, Cat5e	1	1.8	N	0	-

3.4.1 Configuration of System under Test

Test Mode A, C



Test Mode B, D



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 v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

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

Limits of unwanted emission out of the restricted bands

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

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Dec. 12, 2017	Dec. 11, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Dec. 01, 2017	Nov. 30, 2018
HORN Antenna SCHWARZBECK	BBHA 9120 D	209	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2017	Aug. 20, 2018
			Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Apr. 03, 2018	Apr. 02, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2017	Aug. 20, 2018
			Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2017	Aug. 20, 2018
			Aug. 21, 2018	Aug. 20, 2019
RF signal cable WOKEN	8D-FB	Cable-CH3-01	Aug. 21, 2017	Aug. 20, 2018
			Aug. 21, 2018	Aug. 20, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	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
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2017	Nov. 13, 2018
			Nov. 14, 2018	Nov. 13, 2019
High Speed Peak Power Meter	ML2495A	1232003	Dec. 29, 2017	Dec. 28, 2018
Power Sensor	MA2411B	1207333	Dec. 28, 2017	Dec. 27, 2018

- Note: 1. The calibration interval of the above test instruments is 12/24 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 Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
5. The IC Site Registration No. is 7450F-3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

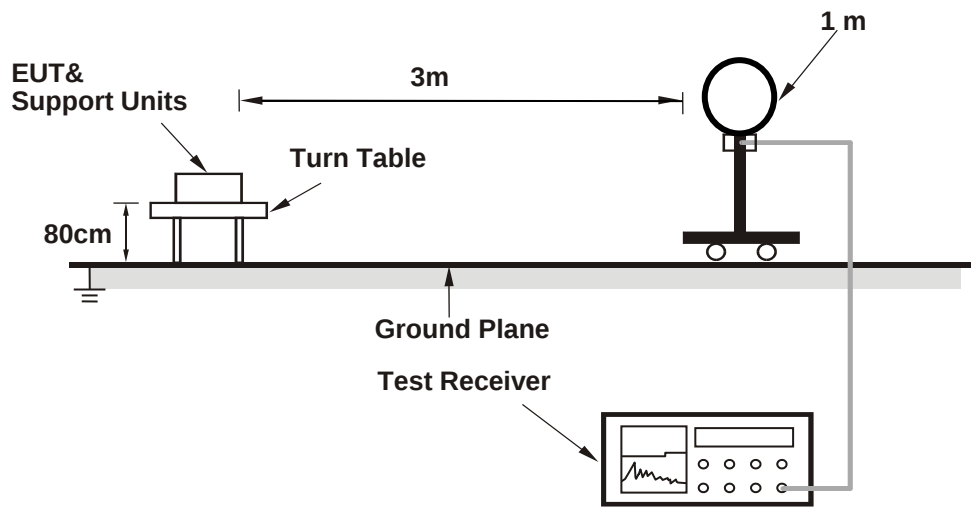
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

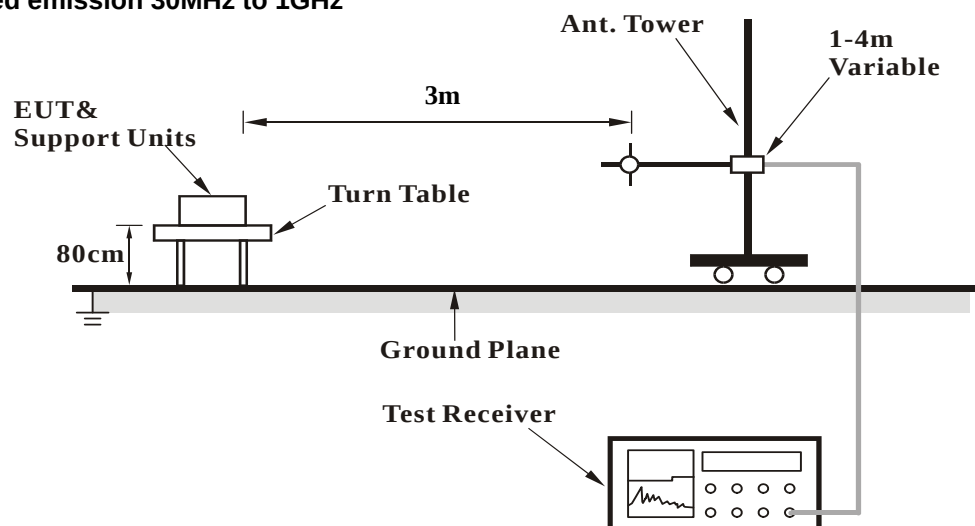
No deviation.

4.1.5 Test Setup

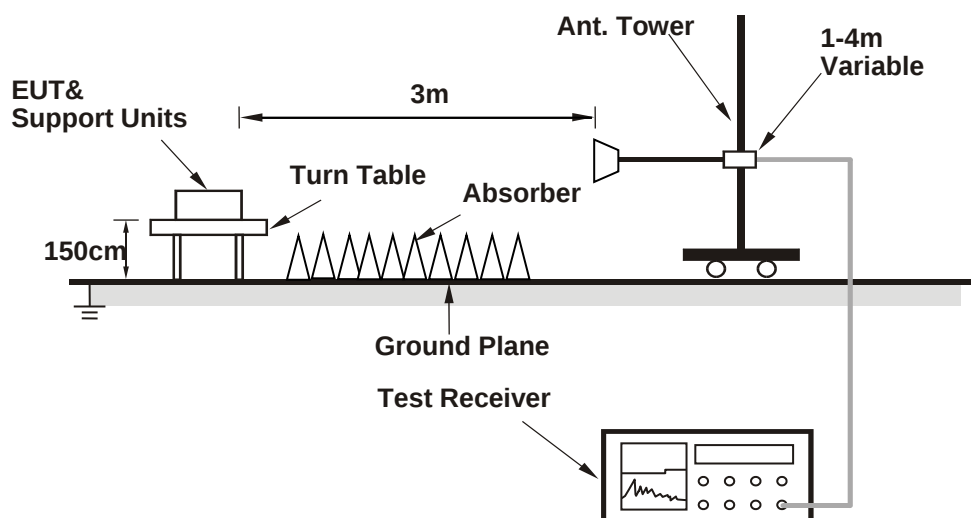
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- 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 data:

Test Mode A

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	66.5 PK	74.0	-7.5	2.50 H	289	62.6	3.9
2	5150.00	52.3 AV	54.0	-1.7	2.58 H	289	48.4	3.9
3	*5180.00	112.2 PK			2.61 H	288	72.6	39.6
4	*5180.00	101.5 AV			2.61 H	288	61.9	39.6
5	#10360.00	53.8 PK	74.0	-20.2	2.52 H	318	38.0	15.8
6	#10360.00	40.8 AV	54.0	-13.2	2.52 H	318	25.0	15.8
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	64.5 PK	74.0	-9.5	2.13 V	154	60.6	3.9
2	5150.00	49.9 AV	54.0	-4.1	2.13 V	154	46.0	3.9
3	*5180.00	109.1 PK			2.11 V	155	69.5	39.6
4	*5180.00	98.8 AV			2.11 V	155	59.2	39.6
5	#10360.00	53.3 PK	74.0	-20.7	2.29 V	280	37.5	15.8
6	#10360.00	40.1 AV	54.0	-13.9	2.29 V	280	24.3	15.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	66.2 PK	74.0	-7.8	2.79 H	287	62.3	3.9
2	5150.00	50.7 AV	54.0	-3.3	2.79 H	287	46.8	3.9
3	*5200.00	115.2 PK			2.73 H	287	75.6	39.6
4	*5200.00	104.4 AV			2.73 H	287	64.8	39.6
5	#10400.00	54.4 PK	74.0	-19.6	2.69 H	322	38.5	15.9
6	#10400.00	41.6 AV	54.0	-12.4	2.69 H	322	25.7	15.9
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	63.8 PK	74.0	-10.2	2.05 V	153	59.9	3.9
2	5150.00	47.9 AV	54.0	-6.1	2.05 V	153	44.0	3.9
3	*5200.00	112.8 PK			1.98 V	151	73.2	39.6
4	*5200.00	101.2 AV			1.98 V	151	61.6	39.6
5	#10400.00	53.8 PK	74.0	-20.2	2.19 V	270	37.9	15.9
6	#10400.00	41.0 AV	54.0	-13.0	2.19 V	270	25.1	15.9

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) – Pre-Amplifier 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	114.3 PK			2.58 H	286	74.9	39.4
2	*5240.00	103.3 AV			2.58 H	286	63.9	39.4
3	5350.00	55.8 PK	74.0	-18.2	2.70 H	291	51.8	4.0
4	5350.00	42.4 AV	54.0	-11.6	2.70 H	291	38.4	4.0
5	#10480.00	54.7 PK	74.0	-19.3	2.60 H	331	38.0	16.7
6	#10480.00	41.4 AV	54.0	-12.6	2.60 H	331	24.7	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.6 PK			1.89 V	153	72.2	39.4
2	*5240.00	100.2 AV			1.89 V	153	60.8	39.4
3	5350.00	55.0 PK	74.0	-19.0	2.14 V	160	51.0	4.0
4	5350.00	42.0 AV	54.0	-12.0	2.14 V	160	38.0	4.0
5	#10480.00	54.1 PK	74.0	-19.9	2.26 V	281	37.4	16.7
6	#10480.00	40.8 AV	54.0	-13.2	2.26 V	281	24.1	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5633.33	54.7 PK	68.2	-13.5	1.60 H	50	50.2	4.5
2	*5745.00	116.1 PK			1.60 H	50	76.0	40.1
3	*5745.00	104.4 AV			1.60 H	50	64.3	40.1
4	#5965.38	55.3 PK	68.2	-12.9	1.60 H	50	50.1	5.2
5	11490.00	55.4 PK	74.0	-18.6	2.25 H	328	37.8	17.6
6	11490.00	41.6 AV	54.0	-12.4	2.25 H	328	24.0	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.05	58.9 PK	68.2	-9.3	2.65 V	184	54.4	4.5
2	*5745.00	112.6 PK			2.65 V	184	72.5	40.1
3	*5745.00	100.8 AV			2.65 V	184	60.7	40.1
4	#5987.18	60.5 PK	68.2	-7.7	2.65 V	184	55.2	5.3
5	11490.00	54.7 PK	74.0	-19.3	2.30 V	299	37.1	17.6
6	11490.00	40.9 AV	54.0	-13.1	2.30 V	299	23.3	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5621.79	54.5 PK	68.2	-13.7	1.82 H	296	50.0	4.5
2	*5785.00	116.4 PK			1.82 H	296	76.1	40.3
3	*5785.00	104.8 AV			1.82 H	296	64.5	40.3
4	#5926.92	55.2 PK	68.2	-13.0	1.82 H	296	50.0	5.2
5	11570.00	55.8 PK	74.0	-18.2	2.26 H	318	37.9	17.9
6	11570.00	42.2 AV	54.0	-11.8	2.26 H	318	24.3	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	#5602.56	58.0 PK	68.2	-10.2	2.60 V	182	53.5	4.5
2	*5785.00	113.5 PK			2.60 V	182	73.2	40.3
3	*5785.00	102.1 AV			2.60 V	182	61.8	40.3
4	#5950.64	59.9 PK	68.2	-8.3	2.60 V	182	54.7	5.2
5	11570.00	55.4 PK	74.0	-18.6	2.19 V	287	37.5	17.9
6	11570.00	41.9 AV	54.0	-12.1	2.19 V	287	24.0	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) – Pre-Amplifier 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 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	#5621.79	54.2 PK	68.2	-14.0	1.90 H	298	49.7	4.5
2	*5825.00	116.3 PK			1.90 H	298	75.8	40.5
3	*5825.00	104.9 AV			1.90 H	298	64.4	40.5
4	#5932.69	54.9 PK	68.2	-13.3	1.90 H	298	49.7	5.2
5	11650.00	55.0 PK	74.0	-19.0	2.41 H	339	37.5	17.5
6	11650.00	41.6 AV	54.0	-12.4	2.41 H	339	24.1	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5611.54	58.3 PK	68.2	-9.9	2.65 V	177	53.8	4.5
2	*5825.00	112.9 PK			2.65 V	177	72.4	40.5
3	*5825.00	101.8 AV			2.65 V	177	61.3	40.5
4	#5958.33	59.5 PK	68.2	-8.7	2.65 V	177	54.3	5.2
5	11650.00	54.6 PK	74.0	-19.4	2.28 V	289	37.1	17.5
6	11650.00	41.3 AV	54.0	-12.7	2.28 V	289	23.8	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	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	68.1 PK	74.0	-5.9	1.70 H	290	64.2	3.9
2	5150.00	52.7 AV	54.0	-1.3	1.70 H	290	48.8	3.9
3	*5180.00	112.8 PK			2.60 H	291	73.2	39.6
4	*5180.00	101.8 AV			2.60 H	291	62.2	39.6
5	#10360.00	54.0 PK	74.0	-20.0	2.60 H	335	38.2	15.8
6	#10360.00	40.8 AV	54.0	-13.2	2.60 H	335	25.0	15.8
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	65.8 PK	74.0	-8.2	2.13 V	159	61.9	3.9
2	5150.00	51.0 AV	54.0	-3.0	2.13 V	159	47.1	3.9
3	*5180.00	109.4 PK			1.85 V	151	69.8	39.6
4	*5180.00	98.6 AV			1.85 V	151	59.0	39.6
5	#10360.00	53.9 PK	74.0	-20.1	2.10 V	256	38.1	15.8
6	#10360.00	40.4 AV	54.0	-13.6	2.10 V	256	24.6	15.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	66.7 PK	74.0	-7.3	1.64 H	290	62.8	3.9
2	5150.00	50.4 AV	54.0	-3.6	1.64 H	290	46.5	3.9
3	*5200.00	115.6 PK			2.48 H	284	76.0	39.6
4	*5200.00	104.5 AV			2.48 H	284	64.9	39.6
5	#10400.00	53.6 PK	74.0	-20.4	2.49 H	322	37.7	15.9
6	#10400.00	40.7 AV	54.0	-13.3	2.49 H	322	24.8	15.9
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	65.3 PK	74.0	-8.7	2.51 V	150	61.4	3.9
2	5150.00	49.1 AV	54.0	-4.9	2.51 V	150	45.2	3.9
3	*5200.00	111.9 PK			1.89 V	151	72.3	39.6
4	*5200.00	100.9 AV			1.89 V	151	61.3	39.6
5	#10400.00	53.5 PK	74.0	-20.5	2.03 V	254	37.6	15.9
6	#10400.00	40.2 AV	54.0	-13.8	2.03 V	254	24.3	15.9

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) – Pre-Amplifier 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	114.4 PK			2.66 H	286	75.0	39.4
2	*5240.00	103.0 AV			2.66 H	286	63.6	39.4
3	5350.00	55.3 PK	74.0	-18.7	1.70 H	288	51.3	4.0
4	5350.00	42.1 AV	54.0	-11.9	1.70 H	288	38.1	4.0
5	#10480.00	54.4 PK	74.0	-19.6	2.61 H	331	37.7	16.7
6	#10480.00	41.4 AV	54.0	-12.6	2.61 H	331	24.7	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.4 PK			1.92 V	153	72.0	39.4
2	*5240.00	100.0 AV			1.92 V	153	60.6	39.4
3	5350.00	55.5 PK	74.0	-18.5	2.19 V	166	51.5	4.0
4	5350.00	42.4 AV	54.0	-11.6	2.19 V	166	38.4	4.0
5	#10480.00	54.2 PK	74.0	-19.8	2.22 V	259	37.5	16.7
6	#10480.00	41.0 AV	54.0	-13.0	2.22 V	259	24.3	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5608.33	54.0 PK	68.2	-14.2	1.80 H	288	49.5	4.5
2	*5745.00	114.7 PK			1.80 H	288	74.6	40.1
3	*5745.00	103.7 AV			1.80 H	288	63.6	40.1
4	#5952.56	55.4 PK	68.2	-12.8	1.80 H	288	50.2	5.2
5	11490.00	55.1 PK	74.0	-18.9	2.41 H	333	37.5	17.6
6	11490.00	41.5 AV	54.0	-12.5	2.41 H	333	23.9	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5609.62	59.4 PK	68.2	-8.8	2.03 V	184	54.9	4.5
2	*5745.00	112.1 PK			2.03 V	184	72.0	40.1
3	*5745.00	100.8 AV			2.03 V	184	60.7	40.1
4	#5947.44	60.2 PK	68.2	-8.0	2.03 V	184	55.0	5.2
5	11490.00	54.8 PK	74.0	-19.2	2.19 V	291	37.2	17.6
6	11490.00	41.2 AV	54.0	-12.8	2.19 V	291	23.6	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5627.56	54.3 PK	68.2	-13.9	1.98 H	287	49.8	4.5
2	*5785.00	116.1 PK			1.98 H	287	75.8	40.3
3	*5785.00	105.1 AV			1.98 H	287	64.8	40.3
4	#5985.90	55.2 PK	68.2	-13.0	1.98 H	287	49.9	5.3
5	11570.00	55.5 PK	74.0	-18.5	2.39 H	340	37.6	17.9
6	11570.00	42.0 AV	54.0	-12.0	2.39 H	340	24.1	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	#5652.56	58.3 PK	70.1	-11.8	1.91 V	148	53.7	4.6
2	*5785.00	113.8 PK			1.91 V	148	73.5	40.3
3	*5785.00	102.5 AV			1.91 V	148	62.2	40.3
4	#5947.44	60.2 PK	68.2	-8.0	1.91 V	148	55.0	5.2
5	11570.00	55.0 PK	74.0	-19.0	2.22 V	305	37.1	17.9
6	11570.00	41.4 AV	54.0	-12.6	2.22 V	305	23.5	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) – Pre-Amplifier 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 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	#5610.26	54.6 PK	68.2	-13.6	2.02 H	291	50.1	4.5
2	*5825.00	116.5 PK			2.02 H	291	76.0	40.5
3	*5825.00	105.3 AV			2.02 H	291	64.8	40.5
4	#5929.49	56.1 PK	68.2	-12.1	2.02 H	291	50.9	5.2
5	11650.00	55.4 PK	74.0	-18.6	2.22 H	322	37.9	17.5
6	11650.00	41.6 AV	54.0	-12.4	2.22 H	322	24.1	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5619.23	58.0 PK	68.2	-10.2	1.91 V	138	53.5	4.5
2	*5825.00	113.8 PK			1.91 V	138	73.3	40.5
3	*5825.00	102.6 AV			1.91 V	138	62.1	40.5
4	#5954.49	59.9 PK	68.2	-8.3	1.91 V	138	54.7	5.2
5	11650.00	54.9 PK	74.0	-19.1	2.18 V	282	37.4	17.5
6	11650.00	41.0 AV	54.0	-13.0	2.18 V	282	23.5	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	69.0 PK	74.0	-5.0	2.50 H	287	65.1	3.9
2	5150.00	52.3 AV	54.0	-1.7	2.50 H	287	48.4	3.9
3	*5190.00	105.8 PK			2.46 H	289	66.2	39.6
4	*5190.00	95.4 AV			2.46 H	289	55.8	39.6
5	#10380.00	53.9 PK	74.0	-20.1	2.69 H	313	38.0	15.9
6	#10380.00	40.4 AV	54.0	-13.6	2.69 H	313	24.5	15.9
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	62.3 PK	74.0	-11.7	2.76 V	163	58.4	3.9
2	5150.00	47.1 AV	54.0	-6.9	2.76 V	163	43.2	3.9
3	*5190.00	102.5 PK			1.89 V	135	62.9	39.6
4	*5190.00	92.9 AV			1.89 V	135	53.3	39.6
5	#10380.00	53.6 PK	74.0	-20.4	2.08 V	288	37.7	15.9
6	#10380.00	40.2 AV	54.0	-13.8	2.08 V	288	24.3	15.9

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) – Pre-Amplifier 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 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	*5230.00	111.3 PK			2.46 H	283	71.9	39.4
2	*5230.00	100.6 AV			2.46 H	283	61.2	39.4
3	5350.00	61.0 PK	74.0	-13.0	1.05 H	288	57.0	4.0
4	5350.00	46.6 AV	54.0	-7.4	1.05 H	288	42.6	4.0
5	#10460.00	53.6 PK	74.0	-20.4	2.66 H	340	37.2	16.4
6	#10460.00	40.5 AV	54.0	-13.5	2.66 H	340	24.1	16.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	108.5 PK			1.96 V	150	69.1	39.4
2	*5230.00	97.8 AV			1.96 V	150	58.4	39.4
3	5350.00	57.4 PK	74.0	-16.6	1.90 V	151	53.4	4.0
4	5350.00	44.6 AV	54.0	-9.4	1.90 V	151	40.6	4.0
5	#10460.00	53.4 PK	74.0	-20.6	2.41 V	269	37.0	16.4
6	#10460.00	40.4 AV	54.0	-13.6	2.41 V	269	24.0	16.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 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	#5636.54	55.0 PK	68.2	-13.2	2.13 H	295	50.5	4.5
2	*5755.00	111.1 PK			2.13 H	295	71.0	40.1
3	*5755.00	100.8 AV			2.13 H	295	60.7	40.1
4	#5941.67	55.7 PK	68.2	-12.5	2.13 H	295	50.6	5.1
5	11510.00	55.1 PK	74.0	-18.9	2.31 H	339	37.5	17.6
6	11510.00	41.4 AV	54.0	-12.6	2.31 H	339	23.8	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5615.38	59.1 PK	68.2	-9.1	1.80 V	144	54.6	4.5
2	*5755.00	109.7 PK			1.80 V	144	69.6	40.1
3	*5755.00	99.3 AV			1.80 V	144	59.2	40.1
4	#5944.23	61.0 PK	68.2	-7.2	1.80 V	144	55.8	5.2
5	11510.00	54.7 PK	74.0	-19.3	2.29 V	303	37.1	17.6
6	11510.00	41.0 AV	54.0	-13.0	2.29 V	303	23.4	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5623.72	54.1 PK	68.2	-14.1	1.50 H	302	49.6	4.5
2	*5795.00	113.0 PK			1.50 H	302	72.7	40.3
3	*5795.00	102.0 AV			1.50 H	302	61.7	40.3
4	#5930.13	56.4 PK	68.2	-11.8	1.50 H	302	51.2	5.2
5	11590.00	55.6 PK	74.0	-18.4	2.33 H	333	37.7	17.9
6	11590.00	42.1 AV	54.0	-11.9	2.33 H	333	24.2	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	#5637.18	59.2 PK	68.2	-9.0	2.11 V	183	54.7	4.5
2	*5795.00	110.8 PK			2.11 V	183	70.5	40.3
3	*5795.00	99.7 AV			2.11 V	183	59.4	40.3
4	#5933.97	61.0 PK	68.2	-7.2	2.11 V	183	55.8	5.2
5	11590.00	55.1 PK	74.0	-18.9	2.21 V	309	37.2	17.9
6	11590.00	41.7 AV	54.0	-12.3	2.21 V	309	23.8	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) – Pre-Amplifier 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	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	66.0 PK	74.0	-8.0	2.52 H	286	62.1	3.9
2	5150.00	52.3 AV	54.0	-1.7	2.52 H	286	48.4	3.9
3	*5210.00	103.1 PK			2.70 H	287	63.6	39.5
4	*5210.00	92.8 AV			2.70 H	287	53.3	39.5
5	5350.00	55.6 PK	74.0	-18.4	2.61 H	290	51.6	4.0
6	5350.00	42.8 AV	54.0	-11.2	2.61 H	290	38.8	4.0
7	#10420.00	53.5 PK	74.0	-20.5	1.91 H	331	37.5	16.0
8	#10420.00	40.2 AV	54.0	-13.8	1.91 H	331	24.2	16.0
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	1.12 V	125	59.3	3.9
2	5150.00	48.4 AV	54.0	-5.6	1.12 V	125	44.5	3.9
3	*5210.00	99.9 PK			2.29 V	150	60.4	39.5
4	*5210.00	89.8 AV			2.29 V	150	50.3	39.5
5	5350.00	55.0 PK	74.0	-19.0	2.13 V	137	51.0	4.0
6	5350.00	42.3 AV	54.0	-11.7	2.13 V	137	38.3	4.0
7	#10420.00	52.7 PK	74.0	-21.3	2.28 V	276	36.7	16.0
8	#10420.00	39.5 AV	54.0	-14.5	2.28 V	276	23.5	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit
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 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	#5641.67	56.9 PK	68.2	-11.3	1.49 H	282	52.3	4.6
2	#5650.00	66.5 PK	68.2	-1.7	1.27 H	284	61.9	4.6
3	*5775.00	106.1 PK			1.49 H	282	65.9	40.2
4	*5775.00	95.9 AV			1.49 H	282	55.7	40.2
5	#5925.00	59.2 PK	68.2	-9.0	1.51 H	279	54.0	5.2
6	#5945.51	55.3 PK	68.2	-12.9	1.49 H	282	50.1	5.2
7	11550.00	55.3 PK	74.0	-18.7	2.09 H	319	37.5	17.8
8	11550.00	41.6 AV	54.0	-12.4	2.09 H	319	23.8	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	#5647.44	59.4 PK	68.2	-8.8	1.85 V	161	54.8	4.6
2	#5650.00	59.9 PK	68.2	-8.3	2.08 V	163	55.3	4.6
3	*5775.00	104.8 PK			1.89 V	155	64.6	40.2
4	*5775.00	94.2 AV			1.89 V	155	54.0	40.2
5	#5925.00	59.2 PK	68.2	-9.0	1.85 V	161	54.0	5.2
6	#5971.79	60.7 PK	68.2	-7.5	1.85 V	161	55.4	5.3
7	11550.00	54.9 PK	74.0	-19.1	2.21 V	304	37.1	17.8
8	11550.00	41.2 AV	54.0	-12.8	2.21 V	304	23.4	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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

Test Mode C

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	57.9 PK	74.0	-16.1	2.81 H	144	54.0	3.9
2	5150.00	43.6 AV	54.0	-10.4	2.81 H	144	39.7	3.9
3	*5180.00	105.6 PK			2.80 H	151	66.0	39.6
4	*5180.00	95.5 AV			2.80 H	151	55.9	39.6
5	#10360.00	56.8 PK	74.0	-17.2	2.11 H	258	41.0	15.8
6	#10360.00	43.8 AV	54.0	-10.2	2.11 H	258	28.0	15.8
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	67.4 PK	74.0	-6.6	1.90 V	56	63.5	3.9
2	5150.00	52.3 AV	54.0	-1.7	1.90 V	56	48.4	3.9
3	*5180.00	113.5 PK			1.99 V	44	73.9	39.6
4	*5180.00	103.0 AV			1.99 V	44	63.4	39.6
5	#10360.00	57.0 PK	74.0	-17.0	1.50 V	111	41.2	15.8
6	#10360.00	44.0 AV	54.0	-10.0	1.50 V	111	28.2	15.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	58.4 PK	74.0	-15.6	2.77 H	149	54.5	3.9
2	5150.00	43.9 AV	54.0	-10.1	2.77 H	149	40.0	3.9
3	*5200.00	108.1 PK			2.80 H	149	68.5	39.6
4	*5200.00	97.7 AV			2.80 H	149	58.1	39.6
5	#10400.00	57.1 PK	74.0	-16.9	1.97 H	254	41.2	15.9
6	#10400.00	44.0 AV	54.0	-10.0	1.97 H	254	28.1	15.9
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	67.8 PK	74.0	-6.2	1.89 V	56	63.9	3.9
2	5150.00	52.5 AV	54.0	-1.5	1.89 V	56	48.6	3.9
3	*5200.00	117.6 PK			1.87 V	41	78.0	39.6
4	*5200.00	106.2 AV			1.87 V	41	66.6	39.6
5	#10400.00	57.4 PK	74.0	-16.6	1.59 V	123	41.5	15.9
6	#10400.00	44.3 AV	54.0	-9.7	1.59 V	123	28.4	15.9

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) – Pre-Amplifier 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	109.6 PK			2.75 H	145	70.2	39.4
2	*5240.00	98.4 AV			2.75 H	145	59.0	39.4
3	5350.00	55.1 PK	74.0	-18.9	2.91 H	155	51.1	4.0
4	5350.00	42.5 AV	54.0	-11.5	2.91 H	155	38.5	4.0
5	#10400.00	56.9 PK	74.0	-17.1	2.02 H	269	41.0	15.9
6	#10400.00	44.1 AV	54.0	-9.9	2.02 H	269	28.2	15.9
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	*5240.00	118.0 PK			1.82 V	35	78.6	39.4
2	*5240.00	107.5 AV			1.82 V	35	68.1	39.4
3	5350.00	56.5 PK	74.0	-17.5	1.91 V	45	52.5	4.0
4	5350.00	42.5 AV	54.0	-11.5	1.91 V	45	38.5	4.0
5	#10480.00	58.2 PK	74.0	-15.8	1.59 V	129	41.5	16.7
6	#10480.00	45.0 AV	54.0	-9.0	1.59 V	129	28.3	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5632.00	57.0 PK	68.2	-11.2	1.81 H	196	52.5	4.5
2	*5745.00	107.3 PK			1.81 H	196	67.2	40.1
3	*5745.00	96.3 AV			1.81 H	196	56.2	40.1
4	#5985.60	56.7 PK	68.2	-11.5	1.81 H	196	51.4	5.3
5	11490.00	58.7 PK	74.0	-15.3	2.02 H	263	41.1	17.6
6	11490.00	46.6 AV	54.0	-7.4	2.02 H	263	29.0	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5635.20	56.9 PK	68.2	-11.3	1.58 V	156	52.4	4.5
2	*5745.00	117.8 PK			1.58 V	156	77.7	40.1
3	*5745.00	106.9 AV			1.58 V	156	66.8	40.1
4	#5934.40	56.9 PK	68.2	-11.3	1.58 V	156	51.7	5.2
5	11490.00	59.3 PK	74.0	-14.7	1.12 V	27	41.7	17.6
6	11490.00	47.1 AV	54.0	-6.9	1.12 V	27	29.5	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5636.00	56.7 PK	68.2	-11.5	1.80 H	197	52.2	4.5
2	*5785.00	107.7 PK			1.80 H	197	67.4	40.3
3	*5785.00	96.3 AV			1.80 H	197	56.0	40.3
4	#5968.00	57.8 PK	68.2	-10.4	1.80 H	197	52.5	5.3
5	11570.00	58.9 PK	74.0	-15.1	2.16 H	258	41.0	17.9
6	11570.00	46.6 AV	54.0	-7.4	2.16 H	258	28.7	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	#5638.40	56.8 PK	68.2	-11.4	1.74 V	174	52.3	4.5
2	*5785.00	117.8 PK			1.74 V	174	77.5	40.3
3	*5785.00	106.4 AV			1.74 V	174	66.1	40.3
4	#5968.80	56.3 PK	68.2	-11.9	1.74 V	174	51.0	5.3
5	11570.00	59.2 PK	74.0	-14.8	1.08 V	31	41.3	17.9
6	11570.00	46.9 AV	54.0	-7.1	1.08 V	31	29.0	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) – Pre-Amplifier 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 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	#5628.80	56.1 PK	68.2	-12.1	2.14 H	134	51.6	4.5
2	*5825.00	107.7 PK			2.14 H	134	67.2	40.5
3	*5825.00	96.3 AV			2.14 H	134	55.8	40.5
4	#5929.60	56.0 PK	68.2	-12.2	2.14 H	134	50.8	5.2
5	11650.00	58.9 PK	74.0	-15.1	1.99 H	265	41.4	17.5
6	11650.00	46.5 AV	54.0	-7.5	1.99 H	265	29.0	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.20	57.5 PK	68.2	-10.7	1.74 V	156	53.0	4.5
2	*5825.00	118.8 PK			1.74 V	156	78.3	40.5
3	*5825.00	107.5 AV			1.74 V	156	67.0	40.5
4	#5933.60	57.8 PK	68.2	-10.4	1.74 V	156	52.6	5.2
5	11650.00	59.3 PK	74.0	-14.7	1.09 V	40	41.8	17.5
6	11650.00	46.8 AV	54.0	-7.2	1.09 V	40	29.3	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	59.1 PK	74.0	-14.9	2.00 H	354	55.2	3.9
2	5150.00	45.4 AV	54.0	-8.6	2.00 H	354	41.5	3.9
3	*5180.00	106.1 PK			2.03 H	360	66.5	39.6
4	*5180.00	95.5 AV			2.03 H	360	55.9	39.6
5	#10360.00	57.1 PK	74.0	-16.9	2.52 H	229	41.3	15.8
6	#10360.00	43.4 AV	54.0	-10.6	2.52 H	229	27.6	15.8
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	1.82 V	324	63.8	3.9
2	5150.00	52.4 AV	54.0	-1.6	1.82 V	324	48.5	3.9
3	*5180.00	114.5 PK			1.91 V	48	74.9	39.6
4	*5180.00	103.1 AV			1.91 V	48	63.5	39.6
5	#10360.00	57.6 PK	74.0	-16.4	2.31 V	216	41.8	15.8
6	#10360.00	44.1 AV	54.0	-9.9	2.31 V	216	28.3	15.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	59.1 PK	74.0	-14.9	1.64 H	12	55.2	3.9
2	5150.00	45.3 AV	54.0	-8.7	1.64 H	12	41.4	3.9
3	*5200.00	109.8 PK			1.98 H	0	70.2	39.6
4	*5200.00	98.7 AV			1.98 H	0	59.1	39.6
5	#10400.00	57.1 PK	74.0	-16.9	2.31 H	269	41.2	15.9
6	#10400.00	43.7 AV	54.0	-10.3	2.31 H	269	27.8	15.9
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	67.9 PK	74.0	-6.1	1.82 V	325	64.0	3.9
2	5150.00	52.4 AV	54.0	-1.6	1.82 V	325	48.5	3.9
3	*5200.00	117.5 PK			2.06 V	51	77.9	39.6
4	*5200.00	106.5 AV			2.06 V	51	66.9	39.6
5	#10400.00	59.0 PK	74.0	-15.0	1.72 V	118	43.1	15.9
6	#10400.00	44.6 AV	54.0	-9.4	1.72 V	118	28.7	15.9

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) – Pre-Amplifier 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	110.2 PK			1.70 H	356	70.8	39.4
2	*5240.00	99.0 AV			1.70 H	356	59.6	39.4
3	5350.00	55.7 PK	74.0	-18.3	1.00 H	213	51.7	4.0
4	5350.00	42.3 AV	54.0	-11.7	1.00 H	213	38.3	4.0
5	#10480.00	58.1 PK	74.0	-15.9	2.62 H	194	41.4	16.7
6	#10480.00	44.6 AV	54.0	-9.4	2.62 H	194	27.9	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	117.5 PK			2.20 V	57	78.1	39.4
2	*5240.00	106.3 AV			2.20 V	57	66.9	39.4
3	5350.00	56.4 PK	74.0	-17.6	1.61 V	324	52.4	4.0
4	5350.00	43.0 AV	54.0	-11.0	1.61 V	324	39.0	4.0
5	#10480.00	59.3 PK	74.0	-14.7	1.78 V	202	42.6	16.7
6	#10480.00	45.1 AV	54.0	-8.9	1.78 V	202	28.4	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5640.80	57.2 PK	68.2	-11.0	2.16 H	137	52.7	4.5
2	*5745.00	106.9 PK			2.16 H	137	66.8	40.1
3	*5745.00	95.9 AV			2.16 H	137	55.8	40.1
4	#5953.60	56.8 PK	68.2	-11.4	2.16 H	137	51.6	5.2
5	11490.00	58.8 PK	74.0	-15.2	2.14 H	255	41.2	17.6
6	11490.00	46.5 AV	54.0	-7.5	2.14 H	255	28.9	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5614.40	56.1 PK	68.2	-12.1	1.70 V	154	51.6	4.5
2	*5745.00	117.2 PK			1.70 V	154	77.1	40.1
3	*5745.00	106.3 AV			1.70 V	154	66.2	40.1
4	#5945.60	56.6 PK	68.2	-11.6	1.70 V	154	51.4	5.2
5	11490.00	59.4 PK	74.0	-14.6	1.06 V	30	41.8	17.6
6	11490.00	46.9 AV	54.0	-7.1	1.06 V	30	29.3	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5602.40	56.0 PK	68.2	-12.2	1.98 H	194	51.5	4.5
2	*5785.00	106.9 PK			1.98 H	194	66.6	40.3
3	*5785.00	95.8 AV			1.98 H	194	55.5	40.3
4	#5952.00	56.1 PK	68.2	-12.1	1.98 H	194	50.9	5.2
5	11570.00	58.9 PK	74.0	-15.1	2.09 H	259	41.0	17.9
6	11570.00	46.1 AV	54.0	-7.9	2.09 H	259	28.2	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	#5628.00	56.6 PK	68.2	-11.6	1.65 V	152	52.1	4.5
2	*5785.00	117.0 PK			1.65 V	152	76.7	40.3
3	*5785.00	106.0 AV			1.65 V	152	65.7	40.3
4	#5966.40	56.4 PK	68.2	-11.8	1.65 V	152	51.2	5.2
5	11570.00	59.2 PK	74.0	-14.8	1.10 V	37	41.3	17.9
6	11570.00	46.7 AV	54.0	-7.3	1.10 V	37	28.8	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) – Pre-Amplifier 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 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	#5613.60	56.2 PK	68.2	-12.0	1.94 H	194	51.7	4.5
2	*5825.00	107.4 PK			1.94 H	194	66.9	40.5
3	*5825.00	96.3 AV			1.94 H	194	55.8	40.5
4	#5977.60	56.3 PK	68.2	-11.9	1.94 H	194	51.0	5.3
5	11650.00	58.7 PK	74.0	-15.3	2.00 H	266	41.2	17.5
6	11650.00	45.9 AV	54.0	-8.1	2.00 H	266	28.4	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	55.9 PK	68.2	-12.3	1.71 V	153	51.3	4.6
2	*5825.00	118.2 PK			1.71 V	153	77.7	40.5
3	*5825.00	106.7 AV			1.71 V	153	66.2	40.5
4	#5932.80	57.9 PK	68.2	-10.3	1.71 V	153	52.7	5.2
5	11650.00	59.1 PK	74.0	-14.9	1.08 V	40	41.6	17.5
6	11650.00	46.6 AV	54.0	-7.4	1.08 V	40	29.1	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	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	60.5 PK	74.0	-13.5	2.34 H	359	56.6	3.9
2	5150.00	46.6 AV	54.0	-7.4	2.34 H	359	42.7	3.9
3	*5190.00	100.6 PK			1.99 H	0	61.0	39.6
4	*5190.00	90.4 AV			1.99 H	0	50.8	39.6
5	#10380.00	56.7 PK	74.0	-17.3	1.99 H	264	40.8	15.9
6	#10380.00	43.4 AV	54.0	-10.6	1.99 H	264	27.5	15.9
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	68.1 PK	74.0	-5.9	1.47 V	184	64.2	3.9
2	5150.00	52.3 AV	54.0	-1.7	1.47 V	184	48.4	3.9
3	*5190.00	107.8 PK			1.67 V	323	68.2	39.6
4	*5190.00	97.3 AV			1.67 V	323	57.7	39.6
5	#10380.00	57.9 PK	74.0	-16.1	1.93 V	195	42.0	15.9
6	#10380.00	44.1 AV	54.0	-9.9	1.93 V	195	28.2	15.9

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) – Pre-Amplifier 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 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	59.1 PK	74.0	-14.9	1.81 H	2	55.2	3.9
2	5150.00	45.9 AV	54.0	-8.1	1.81 H	2	42.0	3.9
3	*5230.00	106.5 PK			1.74 H	1	67.1	39.4
4	*5230.00	95.8 AV			1.74 H	1	56.4	39.4
5	5350.00	55.3 PK	74.0	-18.7	1.97 H	342	51.3	4.0
6	5350.00	42.4 AV	54.0	-11.6	1.97 H	342	38.4	4.0
7	#10460.00	57.4 PK	74.0	-16.6	2.53 H	284	41.0	16.4
8	#10460.00	44.1 AV	54.0	-9.9	2.53 H	284	27.7	16.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.3 PK	74.0	-6.7	2.07 V	59	63.4	3.9
2	5150.00	52.3 AV	54.0	-1.7	2.07 V	59	48.4	3.9
3	*5230.00	113.6 PK			1.97 V	47	74.2	39.4
4	*5230.00	103.4 AV			1.97 V	47	64.0	39.4
5	5350.00	59.0 PK	74.0	-15.0	1.96 V	44	55.0	4.0
6	5350.00	45.0 AV	54.0	-9.0	1.96 V	44	41.0	4.0
7	#10460.00	57.6 PK	74.0	-16.4	1.83 V	236	41.2	16.4
8	#10460.00	44.3 AV	54.0	-9.7	1.83 V	236	27.9	16.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 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	#5616.00	55.9 PK	68.2	-12.3	1.93 H	135	51.4	4.5
2	*5755.00	112.8 PK			1.93 H	135	72.7	40.1
3	*5755.00	92.6 AV			1.93 H	135	52.5	40.1
4	#5982.40	56.4 PK	68.2	-11.8	1.93 H	135	51.1	5.3
5	11510.00	58.9 PK	74.0	-15.1	2.14 H	260	41.3	17.6
6	11510.00	46.3 AV	54.0	-7.7	2.14 H	260	28.7	17.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5642.40	61.0 PK	68.2	-7.2	1.87 V	154	56.4	4.6
2	*5755.00	114.1 PK			1.87 V	154	74.0	40.1
3	*5755.00	103.6 AV			1.87 V	154	63.5	40.1
4	#5963.20	56.7 PK	68.2	-11.5	1.87 V	154	51.5	5.2
5	11510.00	59.5 PK	74.0	-14.5	1.12 V	40	41.9	17.6
6	11510.00	46.8 AV	54.0	-7.2	1.12 V	40	29.2	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5611.20	56.0 PK	68.2	-12.2	2.22 H	136	51.5	4.5
2	*5795.00	102.3 PK			2.22 H	136	62.0	40.3
3	*5795.00	92.2 AV			2.22 H	136	51.9	40.3
4	#5983.20	56.2 PK	68.2	-12.0	2.22 H	136	50.9	5.3
5	11590.00	59.1 PK	74.0	-14.9	2.13 H	257	41.2	17.9
6	11590.00	46.9 AV	54.0	-7.1	2.13 H	257	29.0	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	#5644.00	59.2 PK	68.2	-9.0	1.77 V	177	54.6	4.6
2	*5795.00	114.1 PK			1.77 V	177	73.8	40.3
3	*5795.00	103.5 AV			1.77 V	177	63.2	40.3
4	#5929.60	59.4 PK	68.2	-8.8	1.77 V	177	54.2	5.2
5	11590.00	59.9 PK	74.0	-14.1	1.02 V	48	42.0	17.9
6	11590.00	47.4 AV	54.0	-6.6	1.02 V	48	29.5	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) – Pre-Amplifier 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	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	61.1 PK	74.0	-12.9	1.78 H	359	57.2	3.9
2	5150.00	46.6 AV	54.0	-7.4	1.78 H	359	42.7	3.9
3	*5210.00	97.8 PK			1.76 H	2	58.3	39.5
4	*5210.00	87.7 AV			1.76 H	2	48.2	39.5
5	5350.00	55.0 PK	74.0	-19.0	2.01 H	344	51.0	4.0
6	5350.00	42.2 AV	54.0	-11.8	2.01 H	344	38.2	4.0
7	#10420.00	56.9 PK	74.0	-17.1	1.76 H	233	40.9	16.0
8	#10420.00	43.5 AV	54.0	-10.5	1.76 H	233	27.5	16.0
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	65.4 PK	74.0	-8.6	1.60 V	183	61.5	3.9
2	5150.00	52.2 AV	54.0	-1.8	1.60 V	183	48.3	3.9
3	*5210.00	105.7 PK			1.96 V	47	66.2	39.5
4	*5210.00	95.4 AV			1.96 V	47	55.9	39.5
5	5350.00	56.1 PK	74.0	-17.9	2.21 V	183	52.1	4.0
6	5350.00	42.9 AV	54.0	-11.1	2.21 V	183	38.9	4.0
7	#10420.00	57.8 PK	74.0	-16.2	1.88 V	216	41.8	16.0
8	#10420.00	44.0 AV	54.0	-10.0	1.88 V	216	28.0	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit
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 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	#5641.60	57.9 PK	68.2	-10.3	1.71 H	198	53.4	4.5
2	#5650.00	56.8 PK	68.2	-11.4	2.01 H	191	52.2	4.6
3	*5775.00	98.4 PK			1.71 H	198	58.2	40.2
4	*5775.00	88.1 AV			1.71 H	198	47.9	40.2
5	#5925.00	56.3 PK	68.2	-11.9	2.04 H	195	51.1	5.2
6	#5976.80	57.5 PK	68.2	-10.7	1.71 H	198	52.2	5.3
7	11550.00	58.9 PK	74.0	-15.1	1.91 H	253	41.1	17.8
8	11550.00	46.5 AV	54.0	-7.5	1.91 H	253	28.7	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	#5626.40	63.2 PK	68.2	-5.0	1.81 V	158	58.7	4.5
2	#5650.00	66.7 PK	68.2	-1.5	1.78 V	173	62.1	4.6
3	*5775.00	109.8 PK			1.81 V	158	69.6	40.2
4	*5775.00	99.2 AV			1.81 V	158	59.0	40.2
5	#5925.00	65.9 PK	68.2	-2.3	1.66 V	169	60.7	5.2
6	#5927.20	62.7 PK	68.2	-5.5	1.81 V	158	57.5	5.2
7	11550.00	59.3 PK	74.0	-14.7	1.10 V	46	41.5	17.8
8	11550.00	46.9 AV	54.0	-7.1	1.10 V	46	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) – Pre-Amplifier 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:

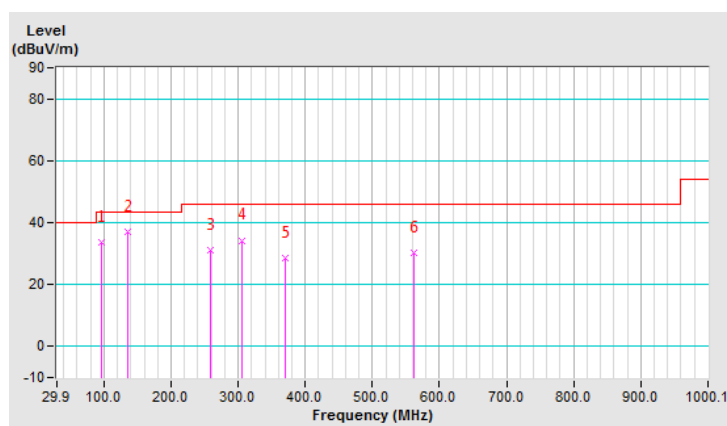
802.11a

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	96.01	33.8 QP	43.5	-9.7	1.99 H	301	47.8	-14.0
2	134.89	37.0 QP	43.5	-6.5	1.99 H	245	46.9	-9.9
3	259.33	31.0 QP	46.0	-15.0	1.00 H	83	39.7	-8.7
4	305.99	34.3 QP	46.0	-11.7	1.00 H	143	41.2	-6.9
5	370.15	28.5 QP	46.0	-17.5	1.00 H	138	34.2	-5.7
6	562.64	30.3 QP	46.0	-15.7	1.99 H	6	32.0	-1.7

Remarks:

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

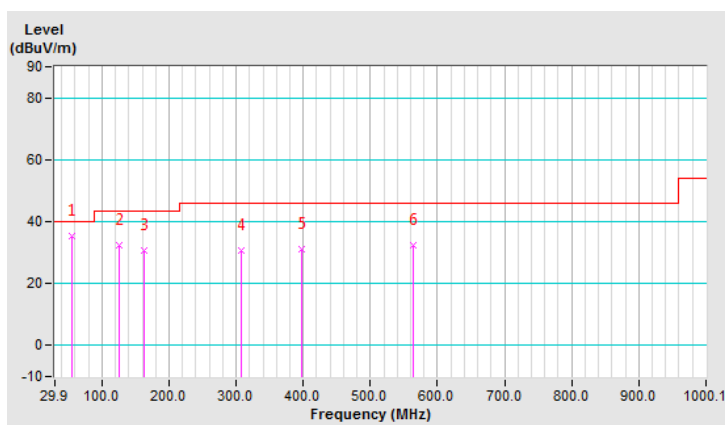


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	55.18	35.3 QP	40.0	-4.7	1.00 V	16	44.7	-9.4
2	125.17	32.4 QP	43.5	-11.1	1.00 V	16	43.3	-10.9
3	162.11	30.5 QP	43.5	-13.0	1.00 V	313	39.3	-8.8
4	307.93	30.7 QP	46.0	-15.3	1.50 V	267	37.6	-6.9
5	397.37	31.2 QP	46.0	-14.8	1.50 V	333	36.4	-5.2
6	564.58	32.5 QP	46.0	-13.5	1.00 V	308	34.1	-1.6

Remarks:

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

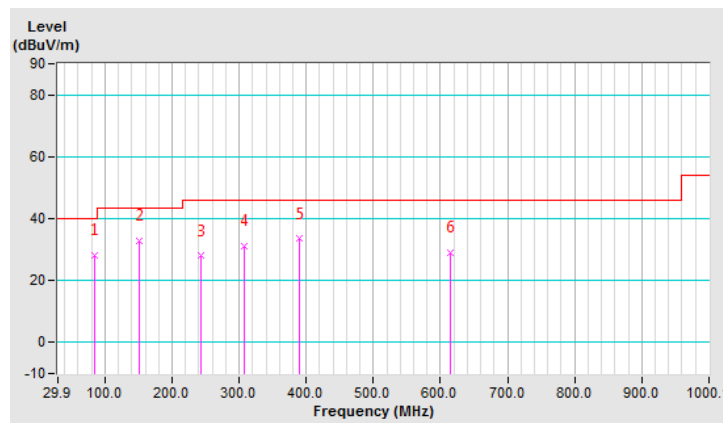


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	84.34	28.0 QP	40.0	-12.0	1.99 H	126	42.4	-14.4
2	150.45	33.0 QP	43.5	-10.5	1.99 H	251	42.1	-9.1
3	243.77	27.9 QP	46.0	-18.1	1.00 H	232	37.3	-9.4
4	307.93	31.0 QP	46.0	-15.0	1.00 H	136	38.1	-7.1
5	389.59	33.4 QP	46.0	-12.6	1.00 H	117	39.1	-5.7
6	615.13	28.8 QP	46.0	-17.2	1.00 H	337	29.6	-0.8

Remarks:

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

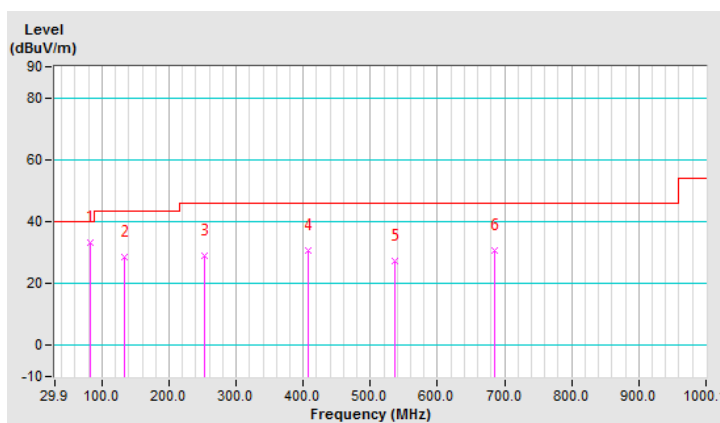


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	82.40	33.2 QP	40.0	-6.8	1.00 V	169	47.5	-14.3
2	132.95	28.5 QP	43.5	-15.0	1.00 V	15	38.7	-10.2
3	253.49	29.1 QP	46.0	-16.9	2.00 V	198	38.2	-9.1
4	407.09	30.5 QP	46.0	-15.5	1.00 V	15	36.0	-5.5
5	537.36	27.4 QP	46.0	-18.6	1.00 V	131	30.5	-3.1
6	685.13	30.7 QP	46.0	-15.3	1.51 V	163	30.6	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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report



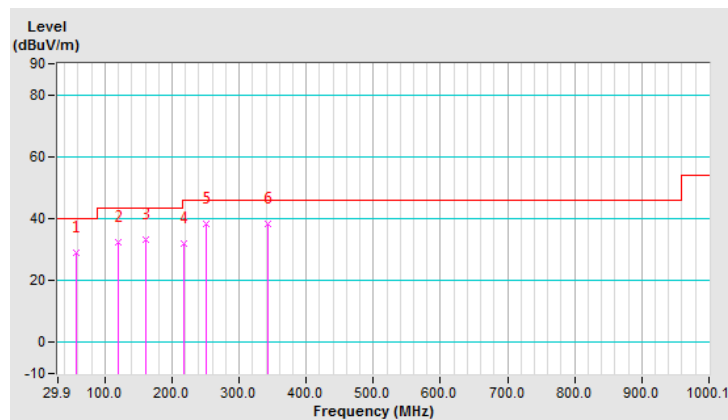
802.11n (HT20)

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C		

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	28.8 QP	40.0	-11.2	1.99 H	250	38.3	-9.5
2	119.34	32.5 QP	43.5	-11.0	1.49 H	244	43.9	-11.4
3	160.17	33.2 QP	43.5	-10.3	1.49 H	109	41.9	-8.7
4	218.50	32.0 QP	46.0	-14.0	1.49 H	243	43.0	-11.0
5	251.55	38.1 QP	46.0	-7.9	1.00 H	348	47.1	-9.0
6	342.93	38.3 QP	46.0	-7.7	1.00 H	43	44.6	-6.3

Remarks:

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

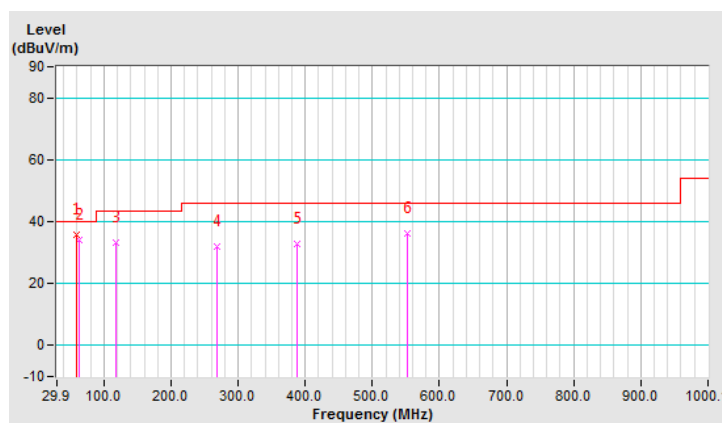


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C		

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	59.38	35.8 QP	40.0	-4.2	1.00 V	18	45.4	-9.6
2	62.95	34.1 QP	40.0	-5.9	1.00 V	16	44.2	-10.1
3	117.39	33.4 QP	43.5	-10.1	1.00 V	35	45.0	-11.6
4	269.05	31.8 QP	46.0	-14.2	1.00 V	44	40.0	-8.2
5	387.65	33.0 QP	46.0	-13.0	1.00 V	264	38.4	-5.4
6	552.91	36.1 QP	46.0	-9.9	1.00 V	81	38.0	-1.9

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

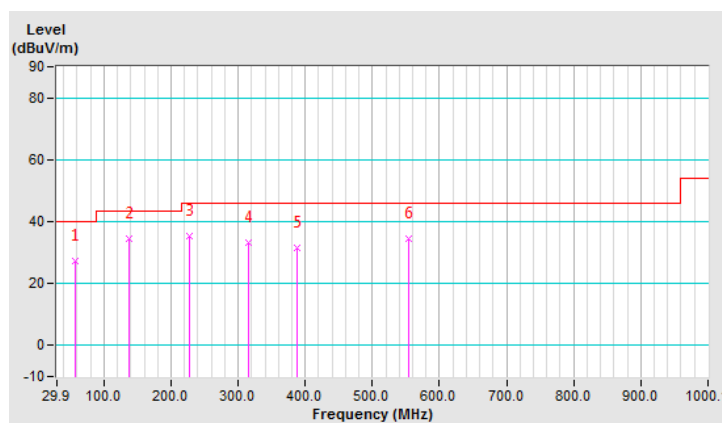


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	D		

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	27.4 QP	40.0	-12.6	2.00 H	21	37.5	-10.1
2	136.84	34.7 QP	43.5	-8.8	2.00 H	72	44.7	-10.0
3	228.22	35.4 QP	46.0	-10.6	1.49 H	227	45.9	-10.5
4	315.71	33.3 QP	46.0	-12.7	1.00 H	228	40.3	-7.0
5	387.65	31.7 QP	46.0	-14.3	1.00 H	232	37.5	-5.8
6	554.86	34.4 QP	46.0	-11.6	1.49 H	81	37.1	-2.7

Remarks:

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

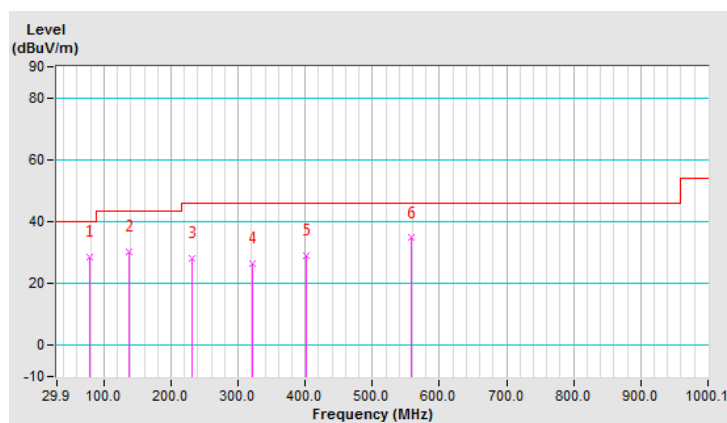


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	D		

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	78.51	28.7 QP	40.0	-11.3	2.00 V	129	42.4	-13.7
2	136.84	30.3 QP	43.5	-13.2	1.00 V	234	40.3	-10.0
3	232.11	28.0 QP	46.0	-18.0	1.00 V	318	38.2	-10.2
4	321.54	26.6 QP	46.0	-19.4	2.00 V	292	33.5	-6.9
5	401.26	29.1 QP	46.0	-16.9	2.00 V	153	34.6	-5.5
6	558.75	34.7 QP	46.0	-11.3	1.00 V	89	37.3	-2.6

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 08, 2018	Feb. 07, 2019
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
			Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 06, 2018	Mar. 05, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
			Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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

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

3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

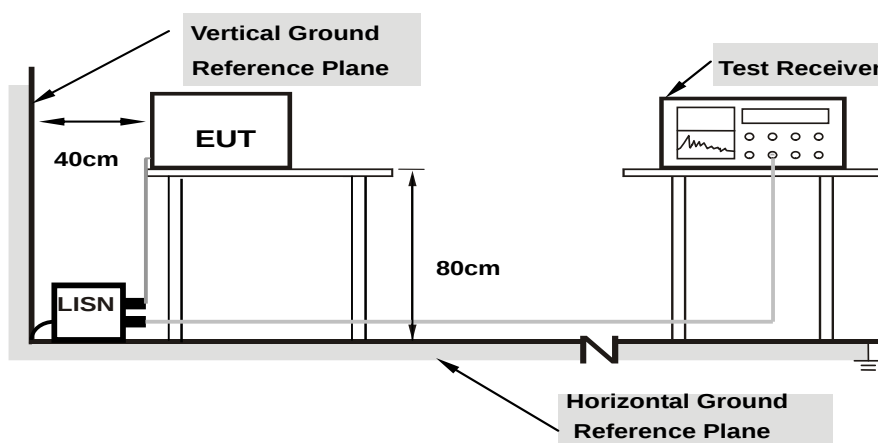
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Worst-case data:

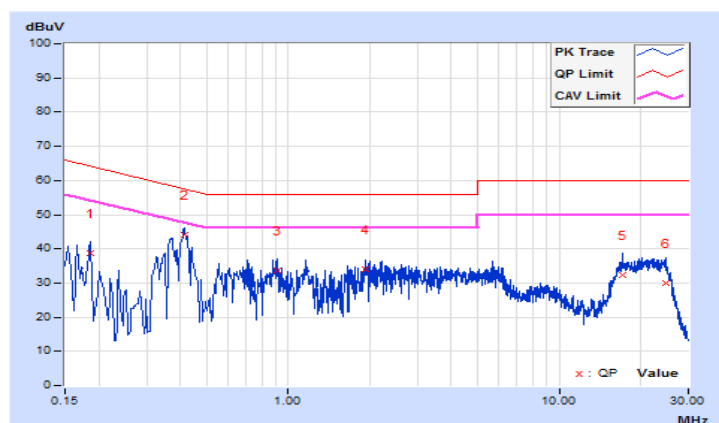
802.11a

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	0.18519	9.73	29.09	16.77	38.82	26.50	64.25	54.25	-25.43	-27.75
2	0.41233	9.76	34.41	24.27	44.17	34.03	57.60	47.60	-13.43	-13.57
3	0.91636	9.72	23.89	13.88	33.61	23.60	56.00	46.00	-22.39	-22.40
4	1.93687	9.77	24.33	14.21	34.10	23.98	56.00	46.00	-21.90	-22.02
5	17.20933	9.96	22.53	16.26	32.49	26.22	60.00	50.00	-27.51	-23.78
6	24.86120	10.01	19.91	10.30	29.92	20.31	60.00	50.00	-30.08	-29.69

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.

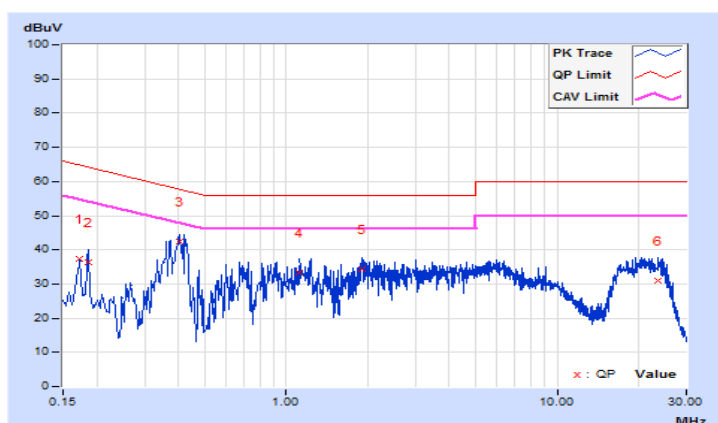


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.17346	9.73	27.69	13.35	37.42	23.08	64.79	54.79	-27.37	-31.71
2	0.18519	9.73	26.72	11.67	36.45	21.40	64.25	54.25	-27.80	-32.85
3	0.40415	9.76	32.59	23.15	42.35	32.91	57.77	47.77	-15.42	-14.86
4	1.12359	9.76	23.73	13.34	33.49	23.10	56.00	46.00	-22.51	-22.90
5	1.91341	9.76	24.48	14.37	34.24	24.13	56.00	46.00	-21.76	-21.87
6	23.55526	10.14	20.87	13.81	31.01	23.95	60.00	50.00	-28.99	-26.05

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.

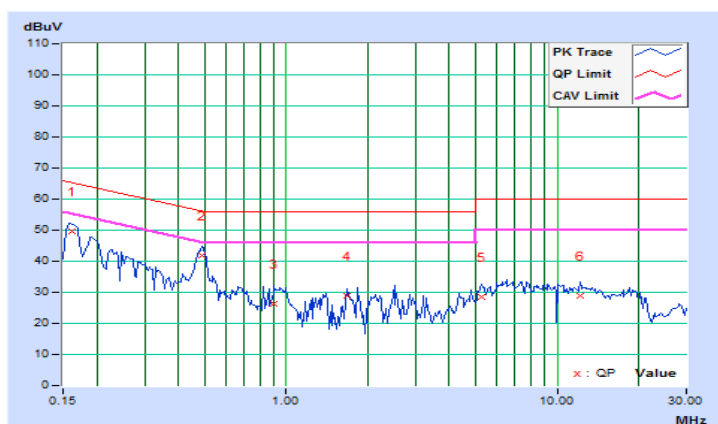


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16172	9.67	39.88	28.00	49.55	37.67	65.38	55.38	-15.83	-17.71
2	0.48594	9.66	32.25	26.16	41.91	35.82	56.24	46.24	-14.33	-10.42
3	0.90000	9.65	16.77	10.64	26.42	20.29	56.00	46.00	-29.58	-25.71
4	1.67188	9.67	19.06	14.05	28.73	23.72	56.00	46.00	-27.27	-22.28
5	5.27734	9.76	18.78	12.55	28.54	22.31	60.00	50.00	-31.46	-27.69
6	12.15234	9.87	18.89	14.30	28.76	24.17	60.00	50.00	-31.24	-25.83

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.

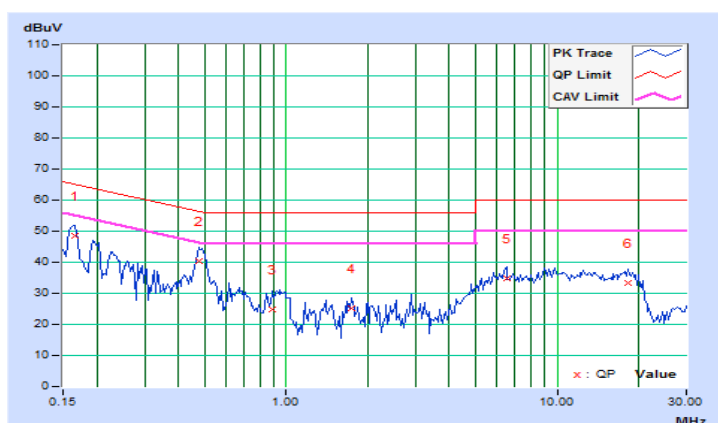


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16562	9.68	38.97	27.23	48.65	36.91	65.18	55.18	-16.53	-18.27
2	0.47422	9.67	30.80	22.90	40.47	32.57	56.44	46.44	-15.97	-13.87
3	0.88438	9.65	15.27	12.58	24.92	22.23	56.00	46.00	-31.08	-23.77
4	1.75000	9.67	15.57	9.36	25.24	19.03	56.00	46.00	-30.76	-26.97
5	6.51172	9.78	25.15	20.09	34.93	29.87	60.00	50.00	-25.07	-20.13
6	18.29688	9.99	23.51	18.55	33.50	28.54	60.00	50.00	-26.50	-21.46

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.



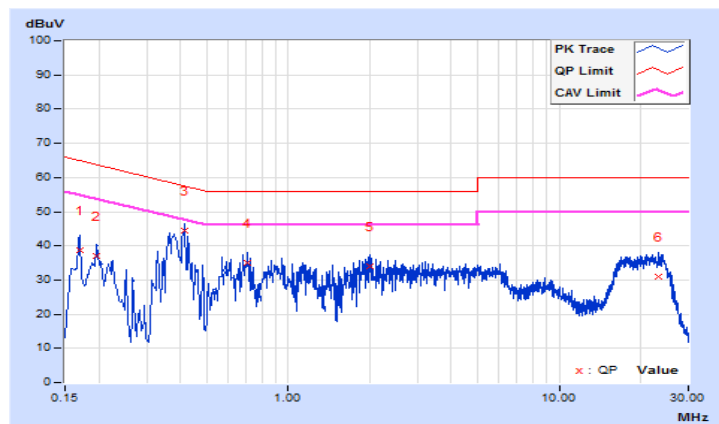
802.11n (HT20)

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

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	0.16955	9.73	29.08	18.10	38.81	27.83	64.98	54.98	-26.17	-27.15
2	0.19692	9.73	27.32	15.54	37.05	25.27	63.74	53.74	-26.69	-28.47
3	0.41588	9.76	34.63	24.63	44.39	34.39	57.53	47.53	-13.14	-13.14
4	0.70913	9.74	25.23	14.36	34.97	24.10	56.00	46.00	-21.03	-21.90
5	1.99161	9.77	24.11	13.92	33.88	23.69	56.00	46.00	-22.12	-22.31
6	23.30893	10.00	21.13	14.29	31.13	24.29	60.00	50.00	-28.87	-25.71

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.

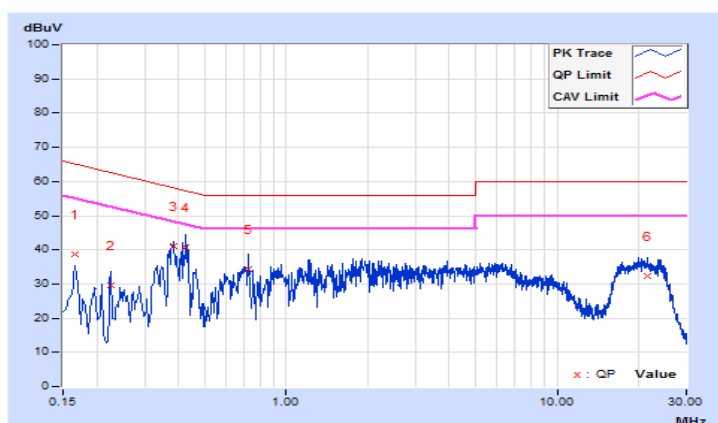


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

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	0.16569	9.73	28.83	13.63	38.56	23.36	65.17	55.17	-26.61	-31.81
2	0.22429	9.74	19.92	7.35	29.66	17.09	62.66	52.66	-33.00	-35.57
3	0.38460	9.76	31.35	21.70	41.11	31.46	58.18	48.18	-17.07	-16.72
4	0.42761	9.76	31.07	20.56	40.83	30.32	57.30	47.30	-16.47	-16.98
5	0.72086	9.76	24.65	12.42	34.41	22.18	56.00	46.00	-21.59	-23.82
6	21.59635	10.13	22.22	16.43	32.35	26.56	60.00	50.00	-27.65	-23.44

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.

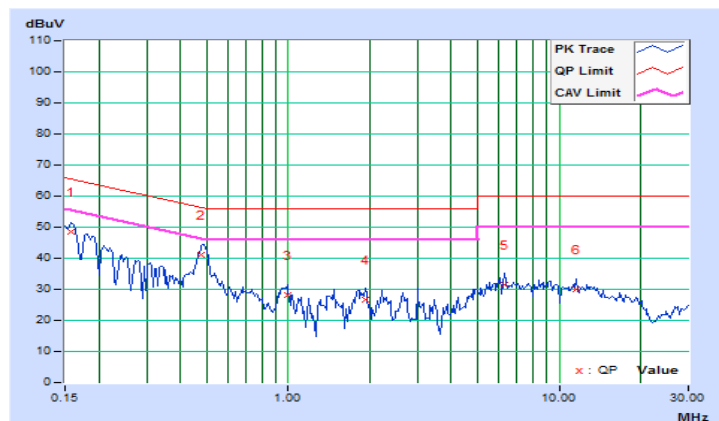


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	D		

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	0.15781	9.67	38.91	26.40	48.58	36.07	65.58	55.58	-17.00	-19.51
2	0.47813	9.66	31.44	24.56	41.10	34.22	56.37	46.37	-15.27	-12.15
3	0.98984	9.65	18.65	12.29	28.30	21.94	56.00	46.00	-27.70	-24.06
4	1.91797	9.68	17.13	11.15	26.81	20.83	56.00	46.00	-29.19	-25.17
5	6.26172	9.78	21.67	16.68	31.45	26.46	60.00	50.00	-28.55	-23.54
6	11.50391	9.86	20.04	15.29	29.90	25.15	60.00	50.00	-30.10	-24.85

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.

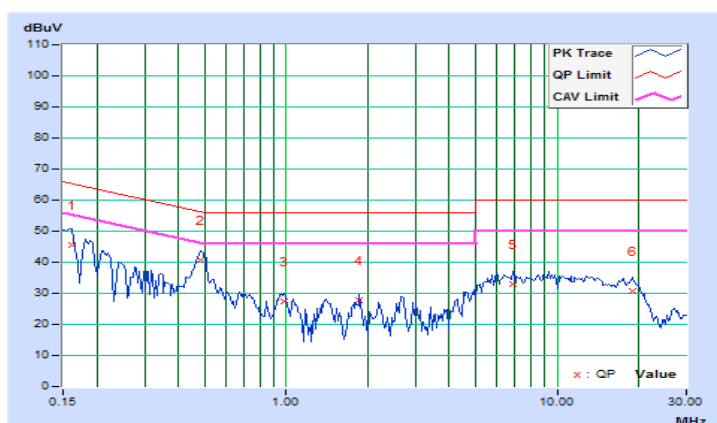


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	D		

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	0.16172	9.68	35.98	19.97	45.66	29.65	65.38	55.38	-19.72	-25.73
2	0.48203	9.67	31.17	24.33	40.84	34.00	56.30	46.30	-15.46	-12.30
3	0.98594	9.65	17.70	11.43	27.35	21.08	56.00	46.00	-28.65	-24.92
4	1.86328	9.68	18.13	14.11	27.81	23.79	56.00	46.00	-28.19	-22.21
5	6.88672	9.79	22.99	16.58	32.78	26.37	60.00	50.00	-27.22	-23.63
6	19.09766	10.00	20.77	15.07	30.77	25.07	60.00	50.00	-29.23	-24.93

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} ;

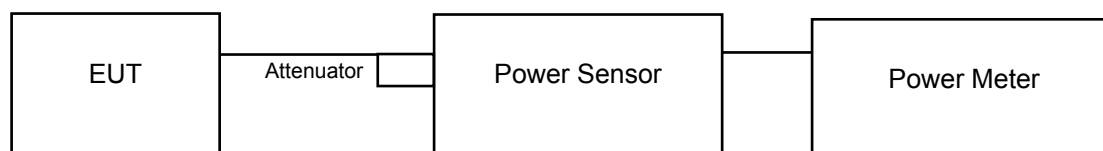
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

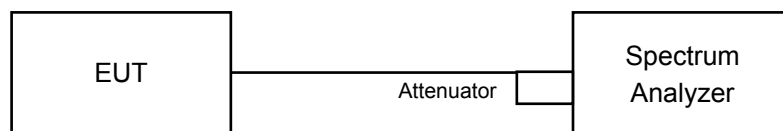
4.3.2 Test Setup

For Power Output

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



802.11ac (VHT80)



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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 and set the detector to average. 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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	16.10	16.21	82.521	19.17	30.00	Pass
40	5200	19.24	19.71	177.487	22.49	30.00	Pass
48	5240	18.16	18.65	138.746	21.42	30.00	Pass
149	5745	20.33	20.32	215.542	23.34	30.00	Pass
157	5785	20.31	20.14	210.675	23.24	30.00	Pass
165	5825	20.66	20.31	223.812	23.50	30.00	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	15.97	16.19	81.128	19.09	30.00	Pass
40	5200	19.22	19.52	173.096	22.38	30.00	Pass
48	5240	18.12	18.59	137.140	21.37	30.00	Pass
149	5745	20.05	20.15	204.672	23.11	30.00	Pass
157	5785	20.13	20.13	206.078	23.14	30.00	Pass
165	5825	20.73	20.21	223.258	23.49	30.00	Pass

802.11n (HT40)

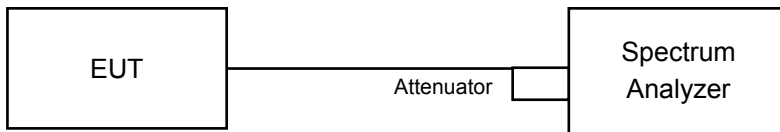
Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.35	13.47	43.860	16.42	30.00	Pass
46	5230	18.41	18.87	146.433	21.66	30.00	Pass
151	5755	19.78	20.32	202.707	23.07	30.00	Pass
159	5795	20.66	20.42	226.567	23.55	30.00	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	14.02	14.03	50.528	17.04	30.00	Pass
155	5775	18.65	18.53	144.567	21.60	30.00	Pass

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.80	17.16
40	5200	29.52	35.16
48	5240	18.70	18.96
149	5745	31.92	32.04
157	5785	31.68	30.96
165	5825	34.80	34.32

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	31.20	31.32
48	5240	18.84	18.84
149	5745	33.72	32.40
157	5785	32.64	32.28
165	5825	37.08	36.96

802.11n (HT40)

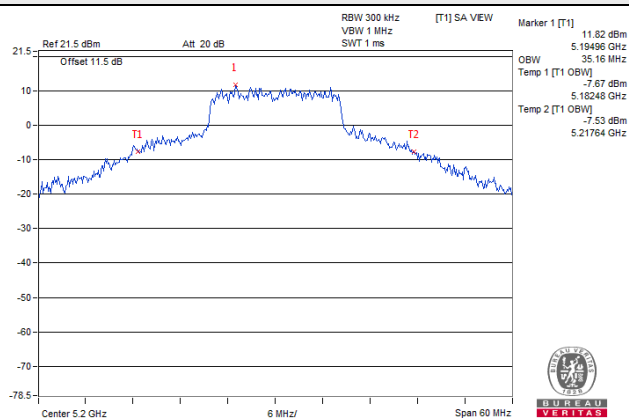
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	37.92	39.00
151	5755	44.76	43.44
159	5795	49.20	48.96

802.11ac (VHT80)

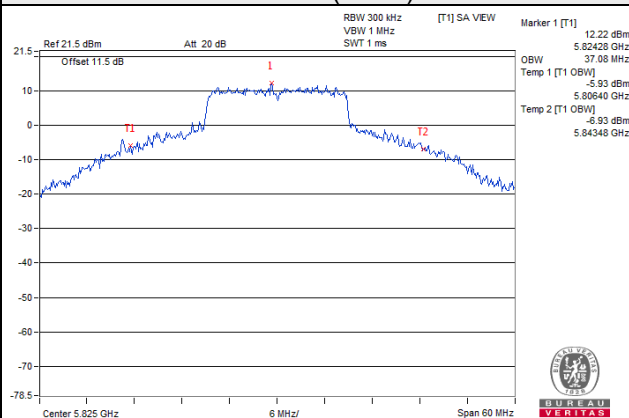
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.08	75.84
155	5775	76.56	78.24

Spectrum Plot of Worst Value

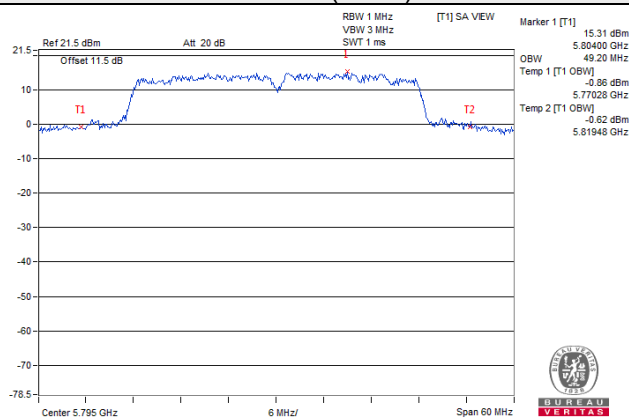
802.11a



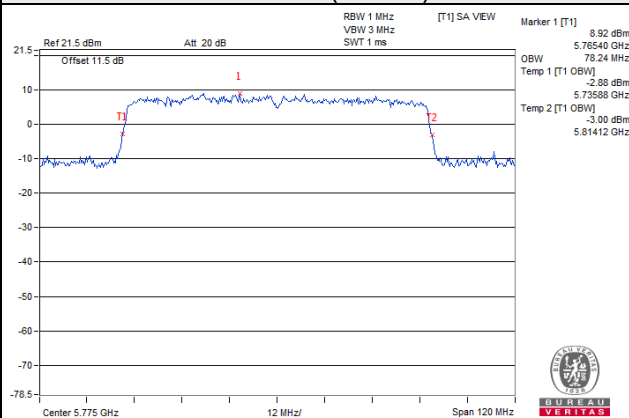
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

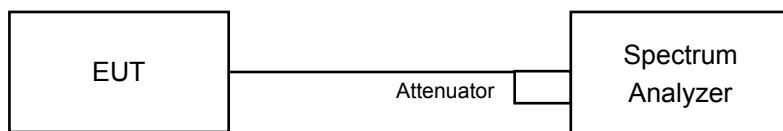


4.5 Peak Power Spectral Density Measurement

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	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A			11dBm/ MHz
U-NII-2C			11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Duty cycle of test signal is > 98%

Using method SA-1

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW ≥ 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

Duty cycle of test signal is < 98%

Using method SA-2

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

For U-NII-3 band:

Duty cycle of test signal is > 98%

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

Duty cycle of test signal is < 98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. 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 4.3.6.

4.5.7 Test Results

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	3.37	2.73	0.38	6.45	15.26	Pass
40	5200	6.63	6.09	0.38	9.76	15.26	Pass
48	5240	4.97	4.08	0.38	7.94	15.26	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 = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(7.74-6) = 15.26\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	2.86	2.77	5.83	15.26	Pass
40	5200	6.07	5.87	8.98	15.26	Pass
48	5240	4.46	3.66	7.09	15.26	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 = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(7.74-6) = 15.26\text{dBm}$.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-2.51	-2.97	0.16	0.43	15.26	Pass
46	5230	2.55	2.20	0.16	5.55	15.26	Pass

Note:

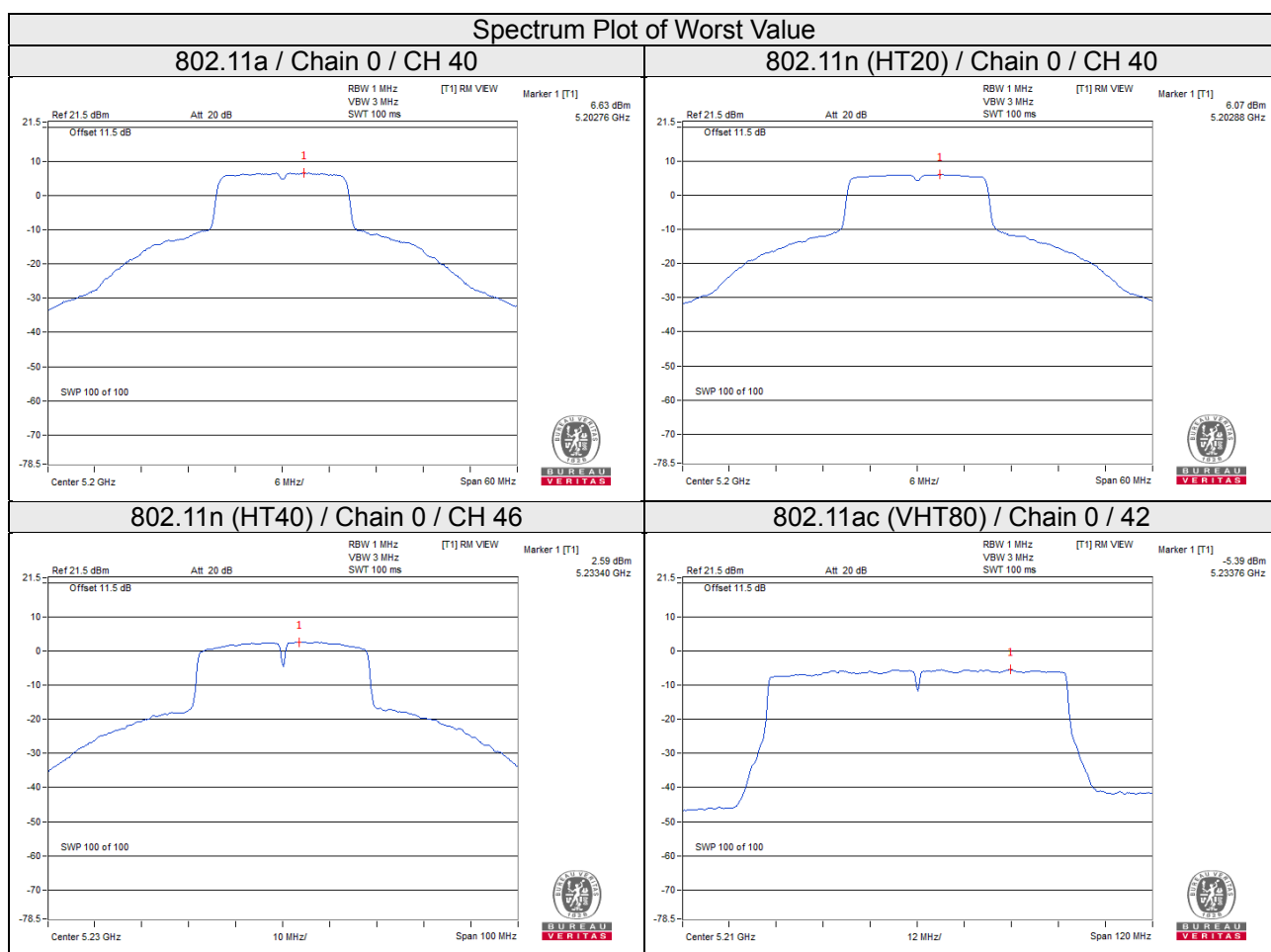
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(7.74-6) = 15.26\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-5.43	-6.10	0.33	-2.41	15.26	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 = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (7.74 - 6) = 15.26\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-0.84	1.38	3.01	0.38	4.77	28.26	Pass
	157	5785	-1.08	1.14	3.01	0.38	4.53	28.26	Pass
	165	5825	-0.71	1.51	3.01	0.38	4.90	28.26	Pass
1	149	5745	-1.46	0.76	3.01	0.38	4.15	28.26	Pass
	157	5785	-1.41	0.81	3.01	0.38	4.20	28.26	Pass
	165	5825	-1.10	1.12	3.01	0.38	4.51	28.26	Pass

Note:

1. Directional gain = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(7.74-6) = 28.26\text{dBm}$.
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	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-1.16	1.06	3.01	4.07	28.26	Pass
	157	5785	-1.65	0.57	3.01	3.58	28.26	Pass
	165	5825	-1.35	0.87	3.01	3.88	28.26	Pass
1	149	5745	-1.75	0.47	3.01	3.48	28.26	Pass
	157	5785	-1.76	0.46	3.01	3.47	28.26	Pass
	165	5825	-1.45	0.77	3.01	3.78	28.26	Pass

Note: Directional gain = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(7.74-6) = 28.26\text{dBm}$.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-4.65	-2.43	3.01	0.16	0.74	28.26	Pass
	159	5795	-4.14	-1.92	3.01	0.16	1.25	28.26	Pass
1	151	5755	-5.06	-2.84	3.01	0.16	0.33	28.26	Pass
	159	5795	-4.43	-2.21	3.01	0.16	0.96	28.26	Pass

Note:

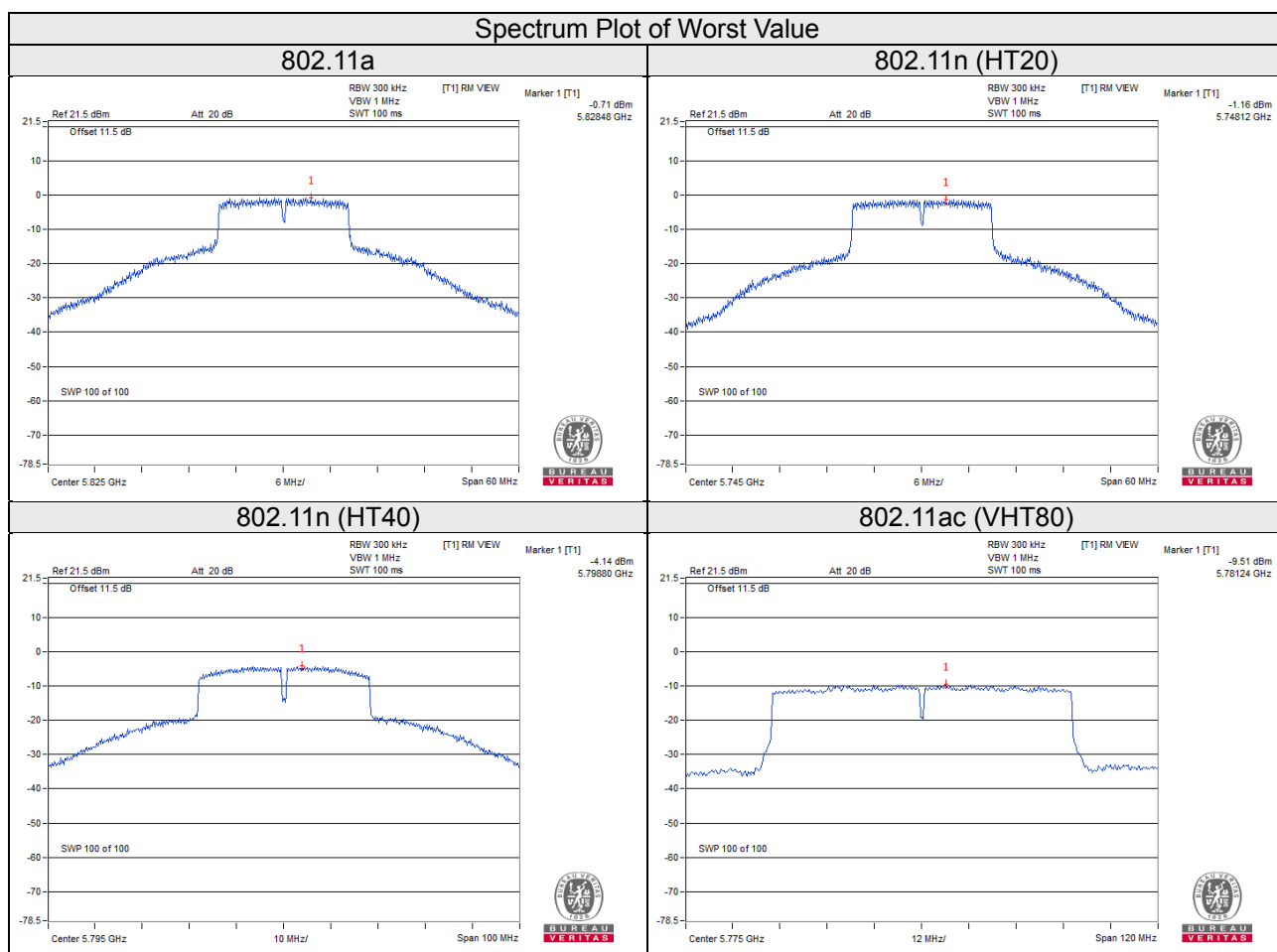
1. Directional gain = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(7.74-6) = 28.26\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-9.51	-7.29	3.01	0.33	-3.95	28.26	Pass
1	155	5775	-10.37	-8.15	3.01	0.33	-4.81	28.26	Pass

Note:

- Directional gain = $4.73\text{dBi} + 10\log(2) = 7.74\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (7.74 - 6) = 28.26\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

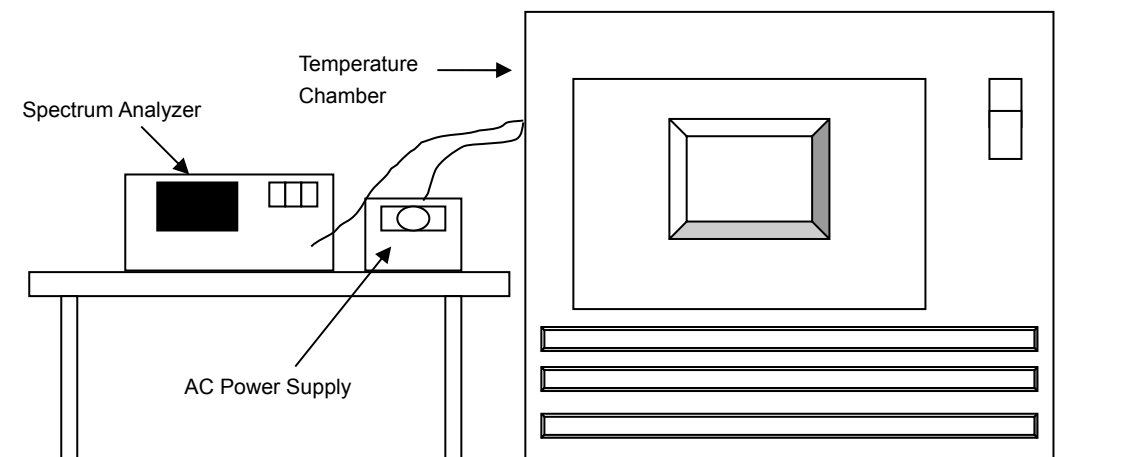


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 11, 2018	Jun. 10, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 30, 2017 Jun. 29, 2018	Jun. 29, 2018 Jun. 28, 2019
AC Power Supply Extech	CFW-105	E000603	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.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step 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.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
45	120	5180.0218	Pass	5180.019	Pass	5180.021	Pass	5180.0221	Pass
40	120	5179.9837	Pass	5179.9848	Pass	5179.9839	Pass	5179.9841	Pass
30	120	5179.9877	Pass	5179.9878	Pass	5179.9861	Pass	5179.9862	Pass
20	120	5180.014	Pass	5180.0118	Pass	5180.0138	Pass	5180.0131	Pass
10	120	5180.0195	Pass	5180.0166	Pass	5180.0165	Pass	5180.0152	Pass
0	120	5180.012	Pass	5180.014	Pass	5180.0126	Pass	5180.0133	Pass

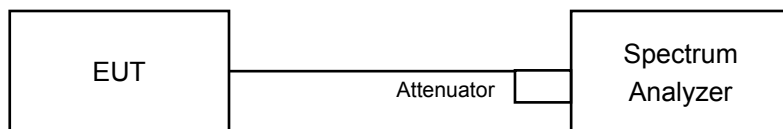
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0165	Pass	5180.0167	Pass	5180.0165	Pass	5180.0134	Pass
	120	5180.0168	Pass	5180.0161	Pass	5180.0171	Pass	5180.0142	Pass
	102	5180.0169	Pass	5180.0166	Pass	5180.0164	Pass	5180.0149	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.37	16.33	0.5	Pass
157	5785	16.38	16.39	0.5	Pass
165	5825	16.38	16.36	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.64	17.62	0.5	Pass
157	5785	17.60	17.63	0.5	Pass
165	5825	17.65	17.64	0.5	Pass

802.11n (HT40)

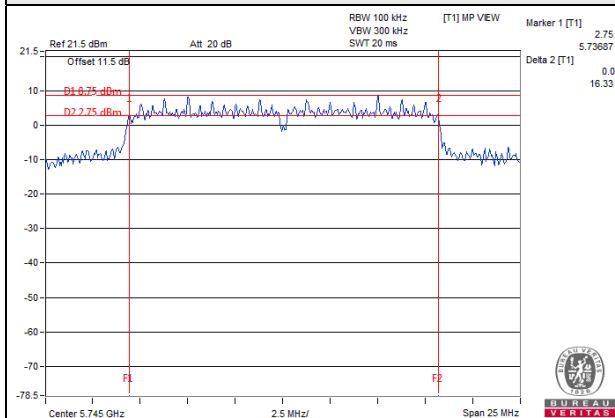
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.25	35.16	0.5	Pass
159	5795	33.95	35.16	0.5	Pass

802.11ac (VHT80)

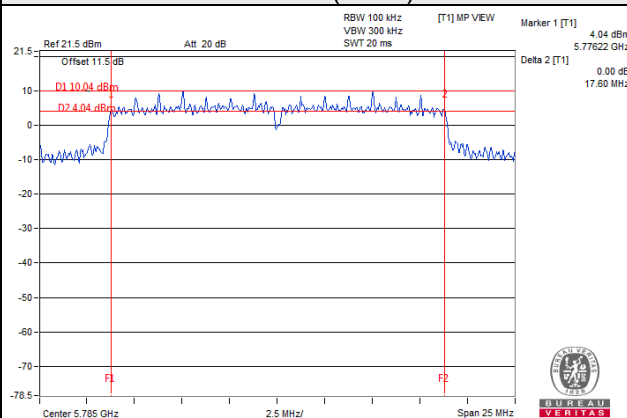
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.40	75.32	0.5	Pass

Spectrum Plot of Worst Value

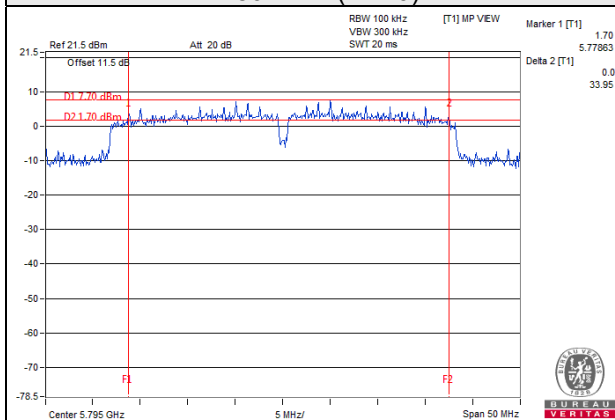
802.11a



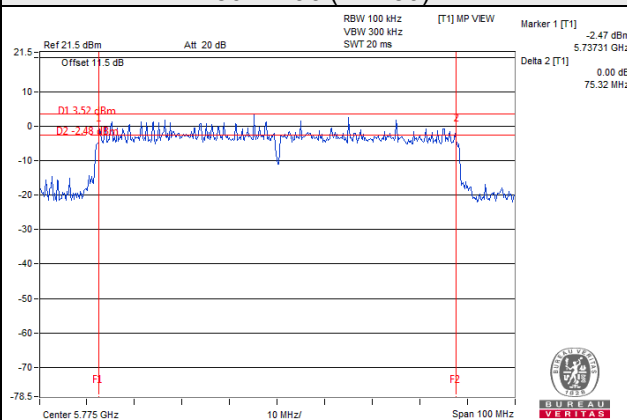
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



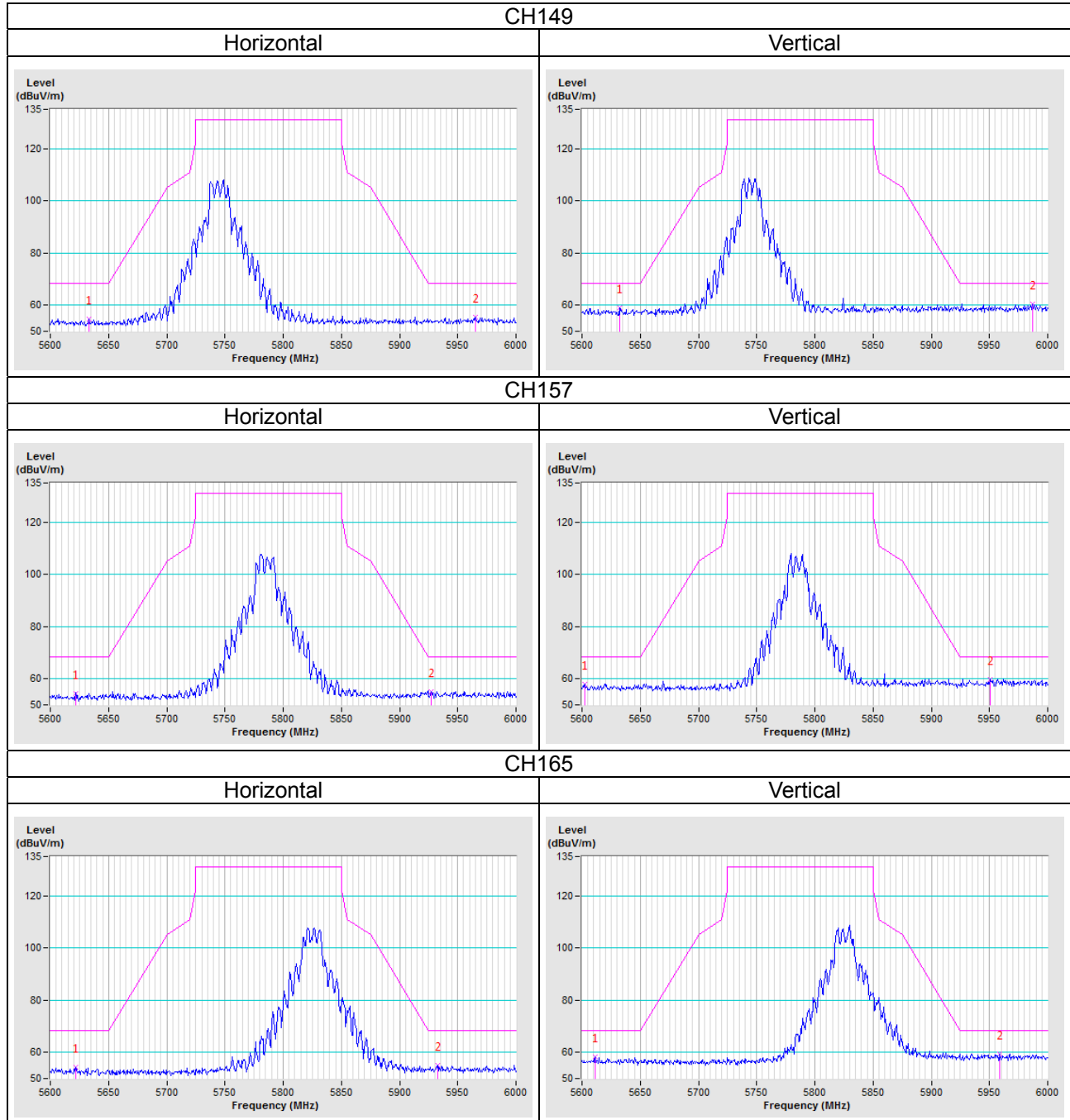
5 Pictures of Test Arrangements

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

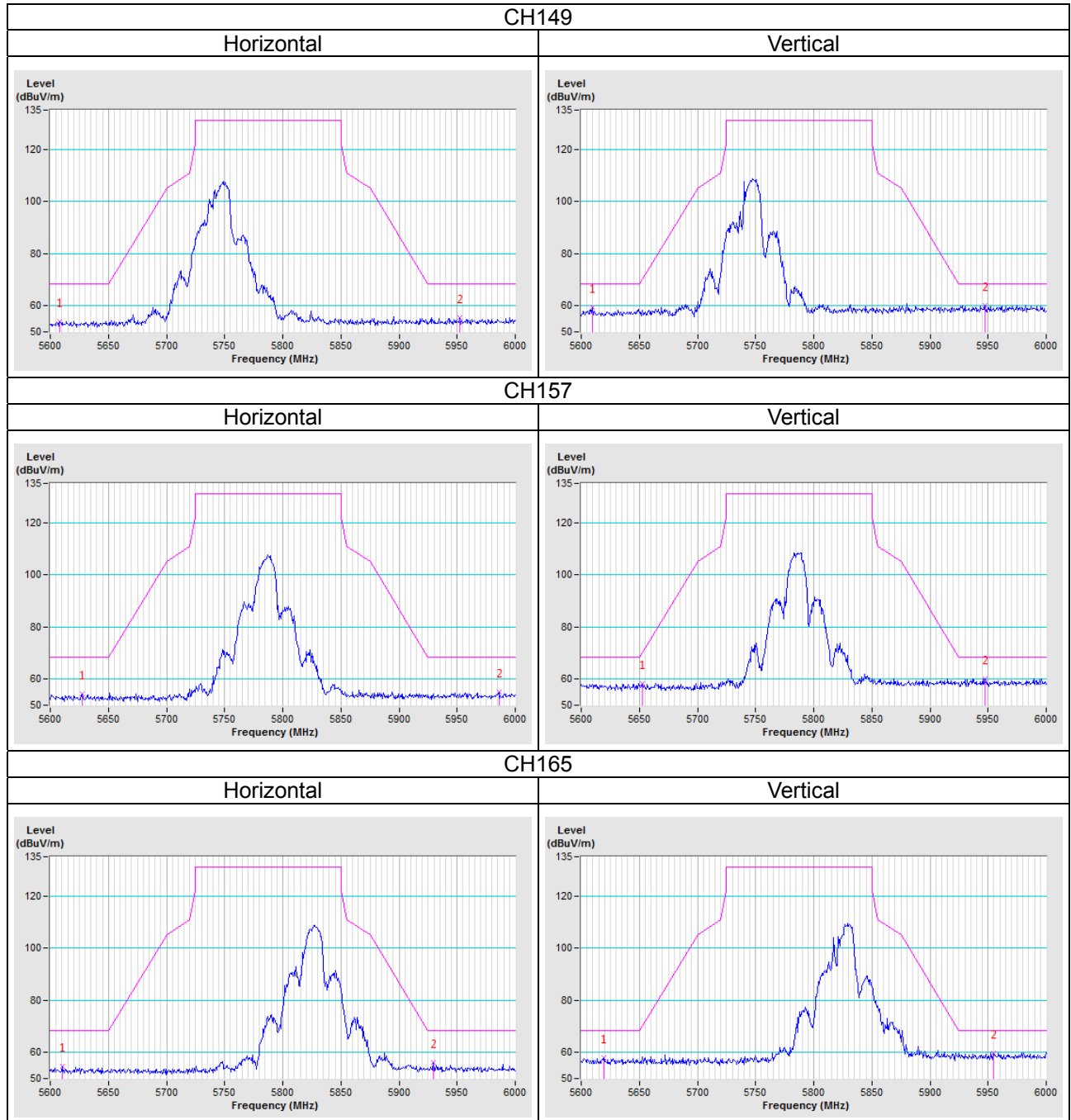
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Test Mode A

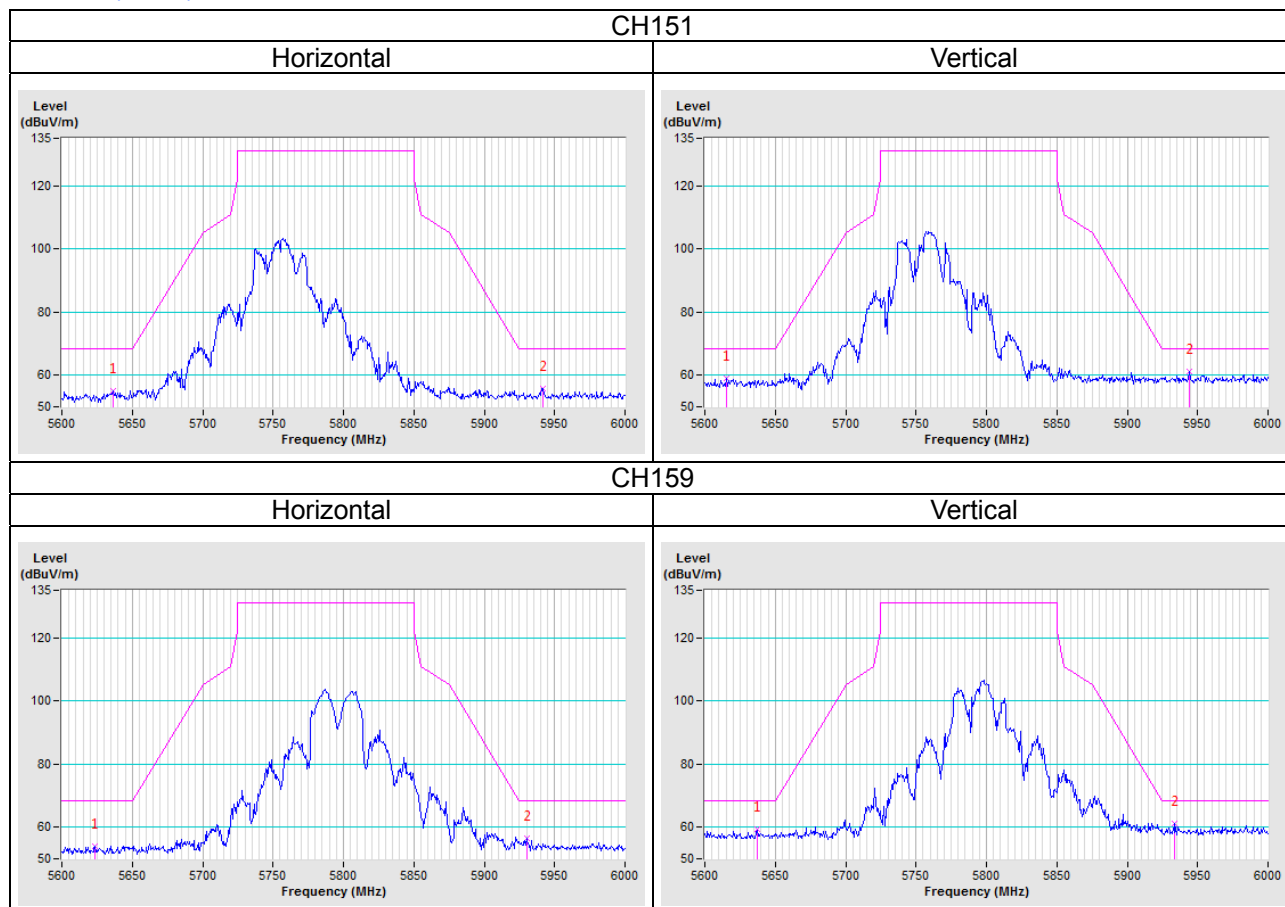
802.11a



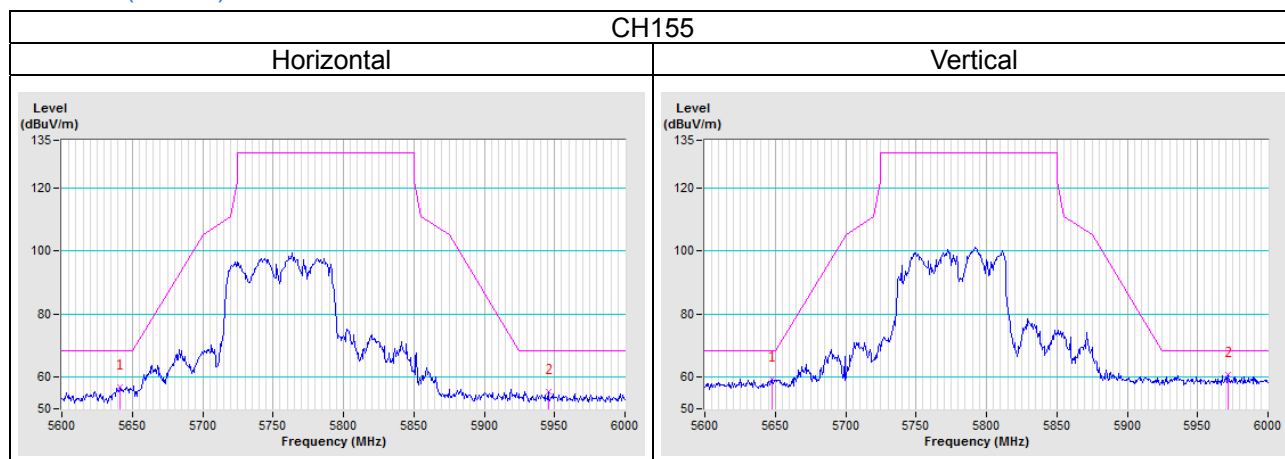
802.11n (HT20)



802.11n (HT40)

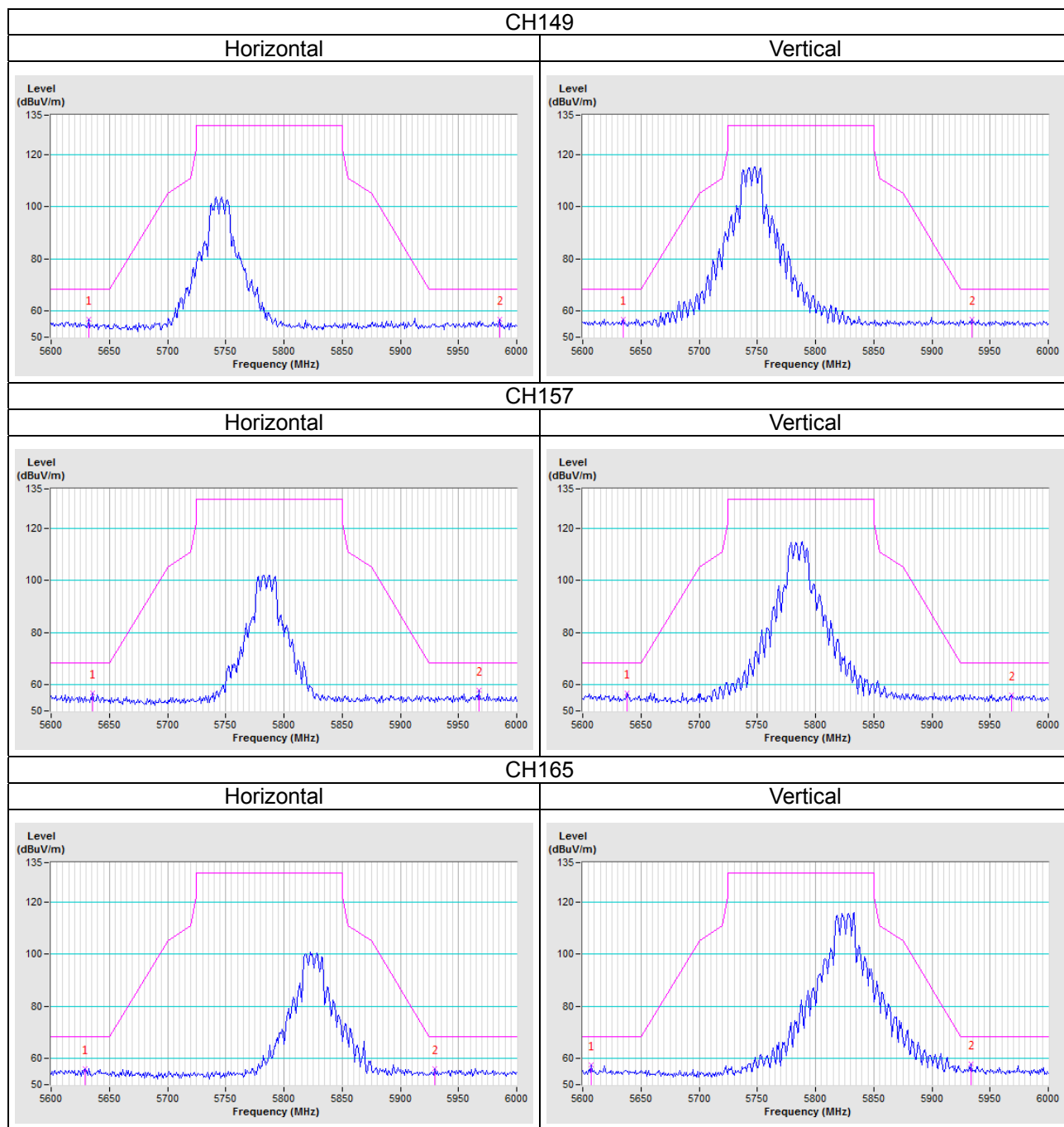


802.11ac (VHT80)

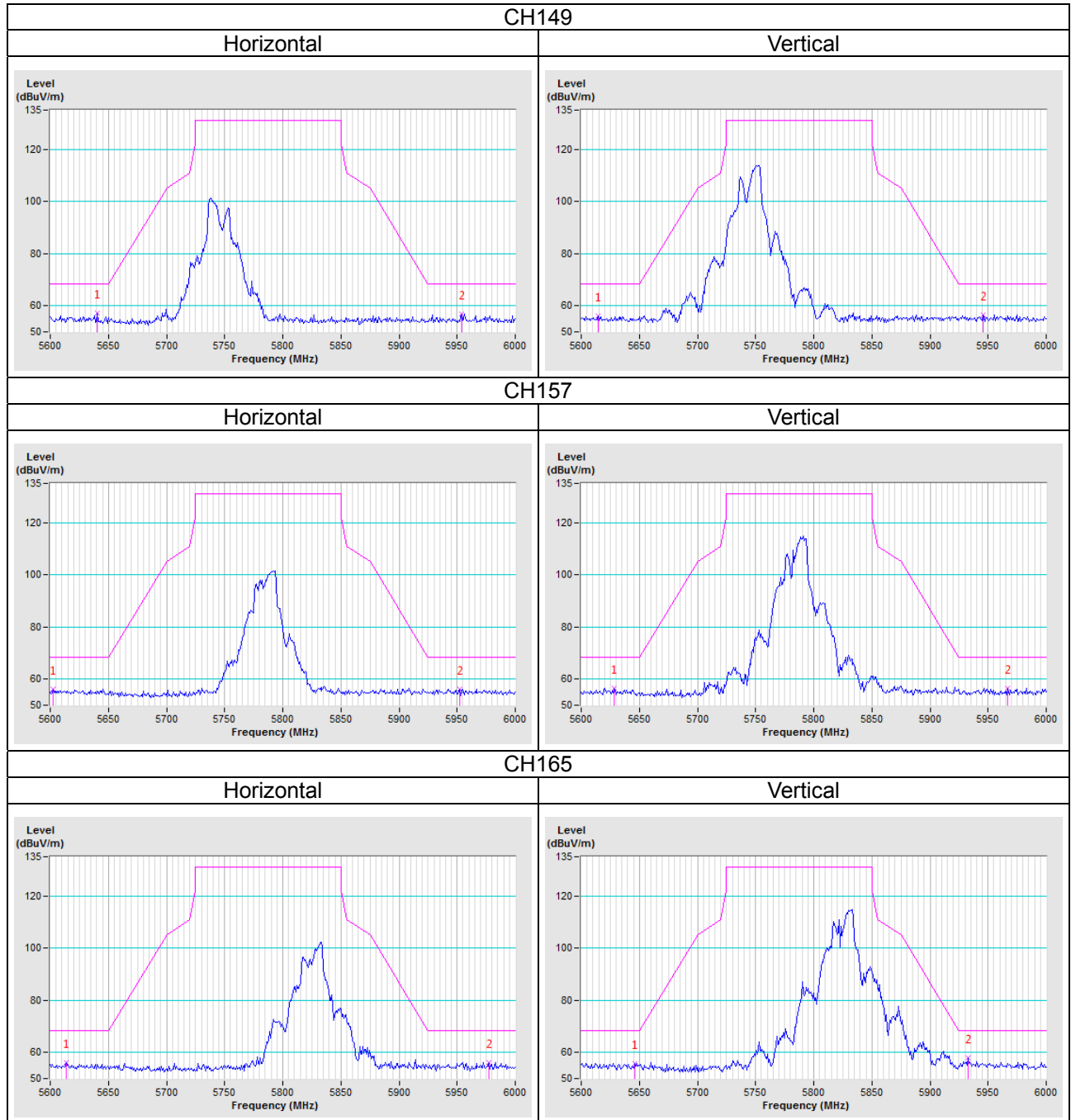


Test Mode C

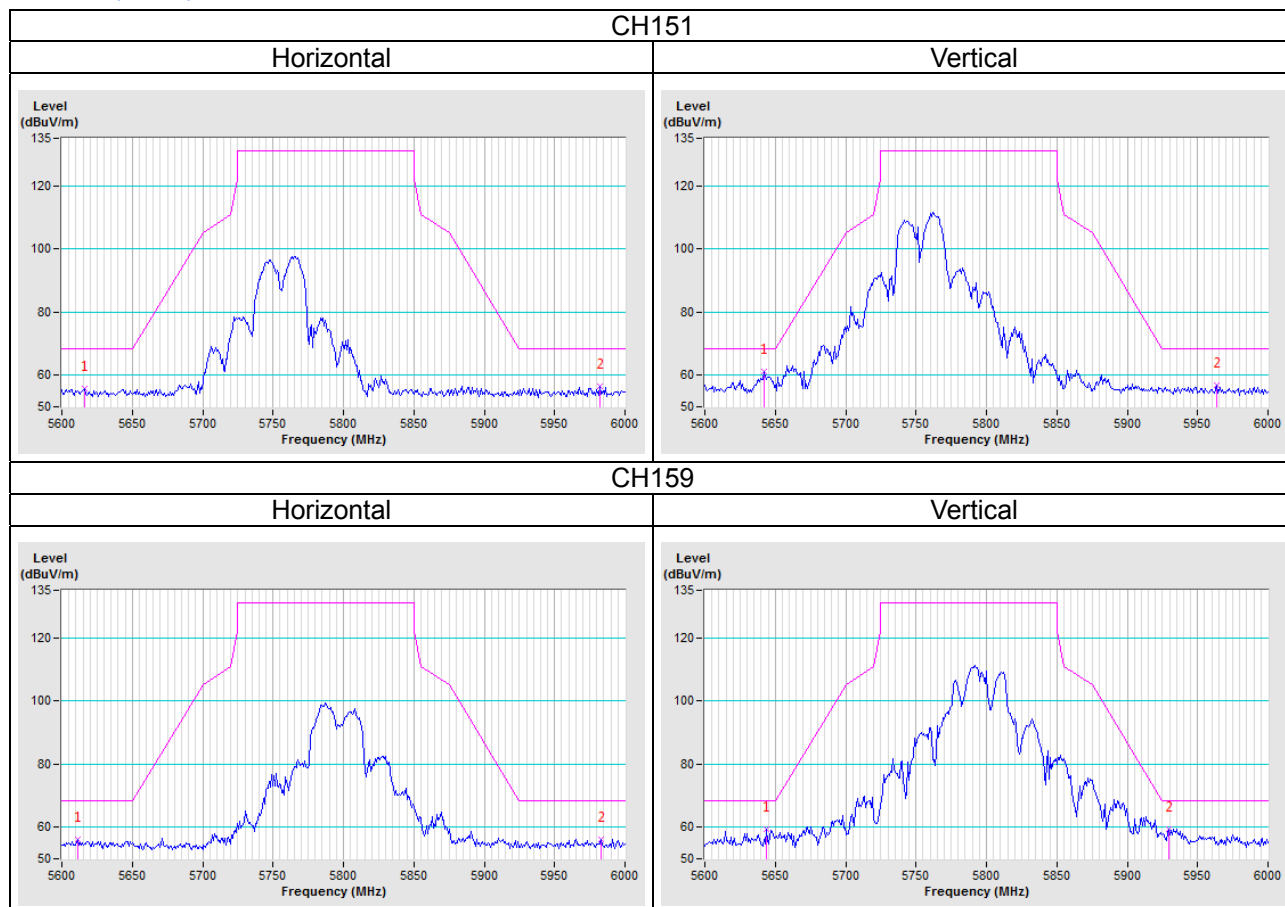
802.11a



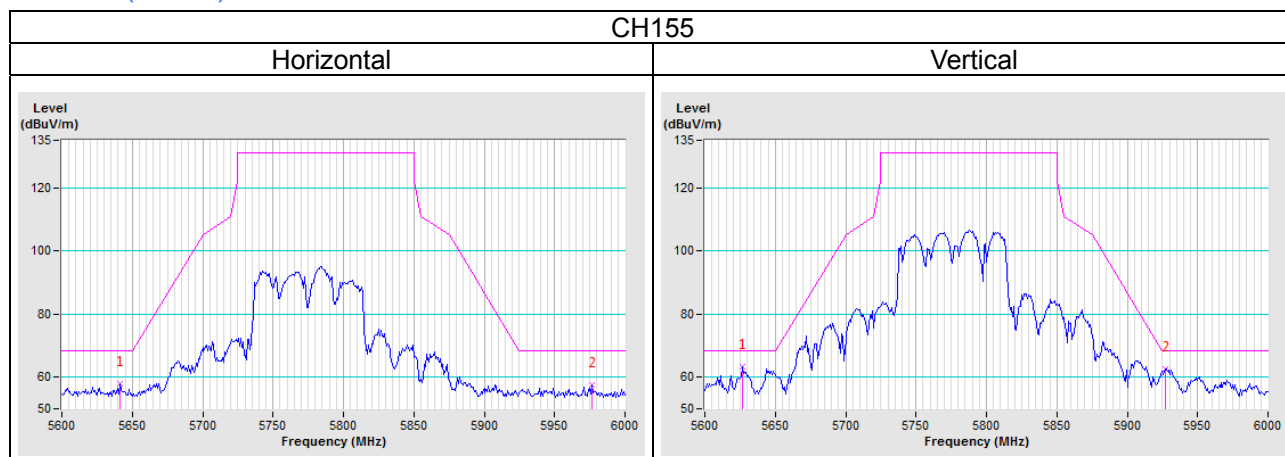
802.11n (HT20)



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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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

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Web Site: www.bureauveritas-adt.com

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

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