

FCC Test Report

Report No.: RF181219C02-1

FCC ID: 2ANBG-OR100

Regulatory Model: APOR100

Marketing Model: APOR100-B18, APOR100-X00, APOR100-C23, APOR100-C18

Received Date: Dec. 20, 2018

Test Date: Jan. 21 ~ Feb. 19, 2019 (For all tests except AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A, C)
May 29 ~ Jun. 06, 2019 (For AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A, C)

Issued Date: Jun. 11, 2019

Applicant: KeyWest Networks, Inc.

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

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

FCC Registration / Designation Number: 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF181219C02-1	Original release.	Jun. 11, 2019

1 Certificate of Conformity

Product: Outdoor Wireless Radios

Brand: KeyWest Radios

Regulatory Model: APOR100

Marketing Model: APOR100-B18, APOR100-X00, APOR100-C23, APOR100-C18

Sample Status: Engineering sample

Applicant: KeyWest Networks, Inc.

Test Date: Jan. 21 ~ Feb. 19, 2019 (For all tests except AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A, C)

May 29 ~ Jun. 06, 2019 (For AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A, C)

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 : Pettie Chen, **Date:** Jun. 11, 2019
Pettie Chen / Senior Specialist

Approved by : Bruce Chen, **Date:** Jun. 11, 2019
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 -2.76dB at 1.87125MHz.
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 -0.2dB at 5650.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is IPEX not standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Outdoor Wireless Radios
Brand	KeyWest Radios
Regulatory Model	APOR100
Marketing Model	APOR100-B18, APOR100-X00, APOR100-C23, APOR100-C18
Model Difference	Refer to note for more details
Sample Status	Engineering sample
Power Supply Rating	48Vdc (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 867Mbps
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	Test Mode A 5180 ~ 5240MHz: 56.324mW 5745 ~ 5825MHz: 62.519mW Test Mode B 5180 ~ 5240MHz: 324.944mW 5745 ~ 5825MHz: 383.957mW Test Mode C 5180 ~ 5240MHz: 34.958mW 5745 ~ 5825MHz: 846.559mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	PoE
Cable Supplied	NA

Note:

1. All models are listed as below.

Brand	Regulatory Model	Marketing Model	Remark
KeyWest Radios	APOR100	APOR100-B18	18dBi 2x2 V&H Polarized Sector antenna (For outdoor only)
		APOR100-X00	10dBi 2x2 V&H Polarized Omni antenna (For outdoor only)
		APOR100-C23	23dBi 2x2 V&H Polarized panel antenna (For P to P only)
		APOR100-C18	18dBi 2x2 V&H Polarized panel antenna (For P to P only)

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

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

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

3. The EUT is powered by the following PoE.

Brand	Powertron Electronics Corp.
Model	POE1024-480T1A050
Input Power	100-240Vac~50-60Hz 1.0A
Output Power	+48Vdc / 0.50A

4. The following antennas were provided to the EUT.

Ant. No.	Marketing Model	Antenna Type	Antenna vender	Antenna PN	Antenna Gain	Connector
1	APOR100-B18	Sector antenna	MARS	MA-WC56-DP17	18dBi	i-pex(MHF)
2	APOR100-X00	Omni antenna	MARS	MA-WO56-DP10	10dBi	i-pex(MHF)
3	APOR100-C23	Panel antenna	MARS	MA-WA56-DP23	23dBi	i-pex(MHF)
4	APOR100-C18	Panel antenna	MTI	MT-485053-CVH-B- ICD_KW	18dBi	i-pex(MHF)

*For Ant. 3 and Ant. 4: Ant. 3 was the worst for the final tests.

5. The EUT will install at outdoor area, the highest antenna gain from the horizon above 30 degrees as below, for more detail information please refer to antenna specification and user manual

Antenna No.	Antenna gain	Antenna install degree
1	0.77dBi	

Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from E-Plane antenna specification of 30-150° degrees, for H-Plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.

2	-4.88dBi	
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Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from E-Plane antenna specification of -60-60° degrees, for H-Plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

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

2 channels are provided for 802.11n (HT40):

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	√	√	√	√	Marketing Model: APOR100-B18
B	√	√	√	√	Marketing Model: APOR100-X00
C	√	√	√	√	Marketing Model: APOR100-C23

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

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

Note:

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

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B, 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, B, C	802.11a	5745-5845	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, C	802.11a	5180-5240	36 to 48	36	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0

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, C	802.11a	5180-5240	36 to 48	36	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0

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)
A, B, 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, B, C	802.11a	5745-5845	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	25deg. C, 66%RH	48Vdc	Han Wu
RE<1G	22deg. C, 68%RH	48Vdc	Greg Lin
PLC	25deg. C, 75%RH 20deg. C, 60%RH	48Vdc	Greg Lin Jones Chang Pon Tsai
APCM	25deg. C, 60%RH	48Vdc	Alan Wu

3.3 Duty Cycle of Test Signal

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

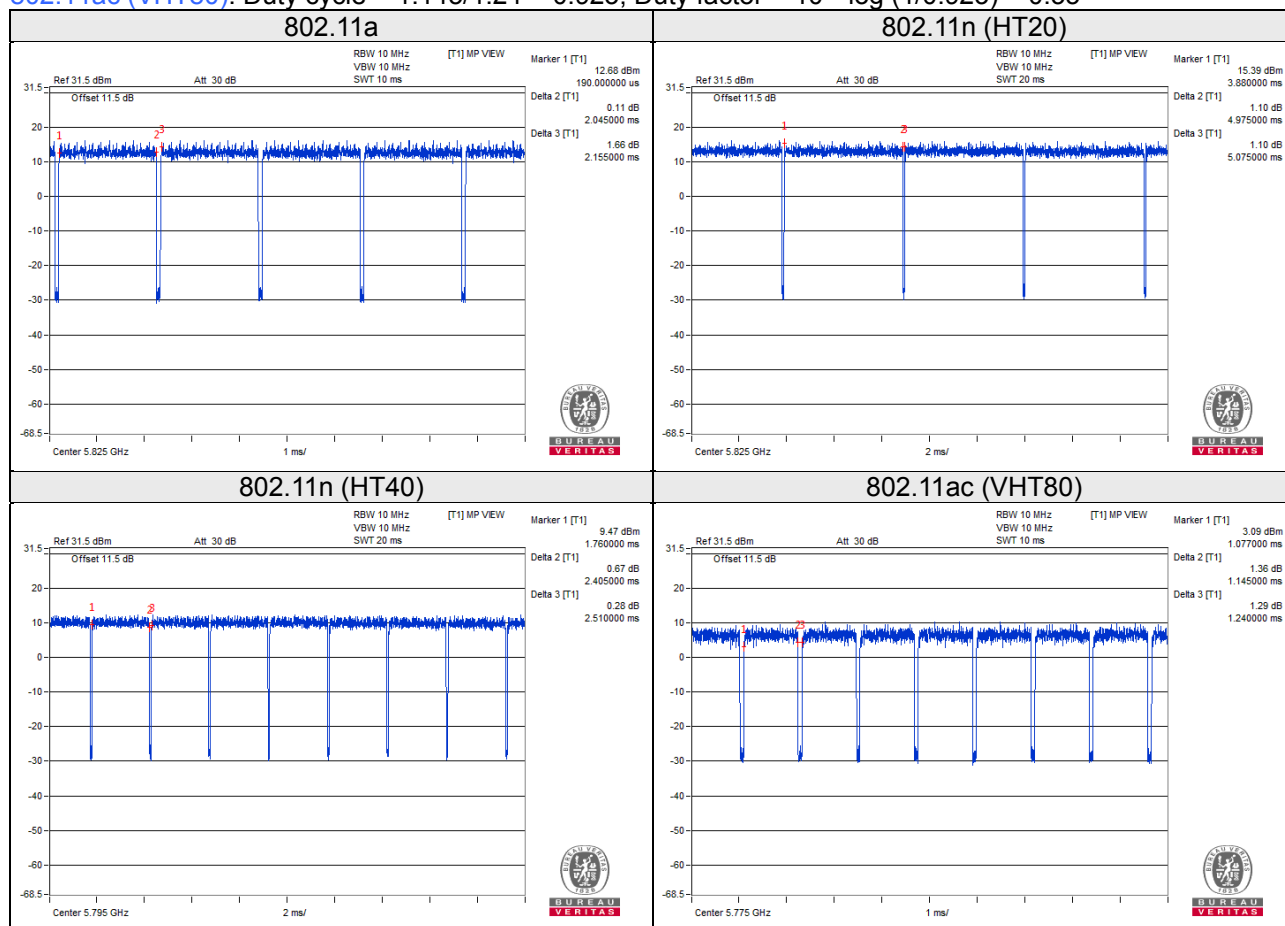
Duty cycle of test signal is ≥ 98%, duty factor is not required.

802.11a: Duty cycle = 2.045/2.155 = 0.949, Duty factor = $10 \cdot \log(1/0.949) = 0.23$

802.11n (HT20): Duty cycle = 4.975/5.075 = 0.98

802.11n (HT40): Duty cycle = 2.405/2.51 = 0.958, Duty factor = $10 \cdot \log(1/0.958) = 0.19$

802.11ac (VHT80): Duty cycle = 1.145/1.24 = 0.923, Duty factor = $10 \cdot \log(1/0.923) = 0.35$



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	Lenovo	80Q7	PF0KUGU6	FCC DoC Approved	-

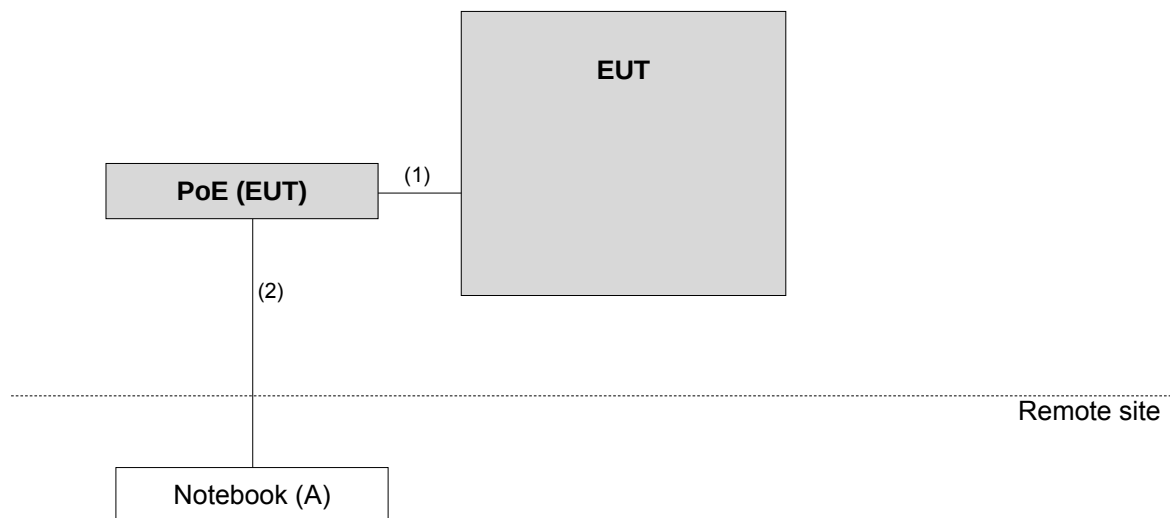
Note:

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.

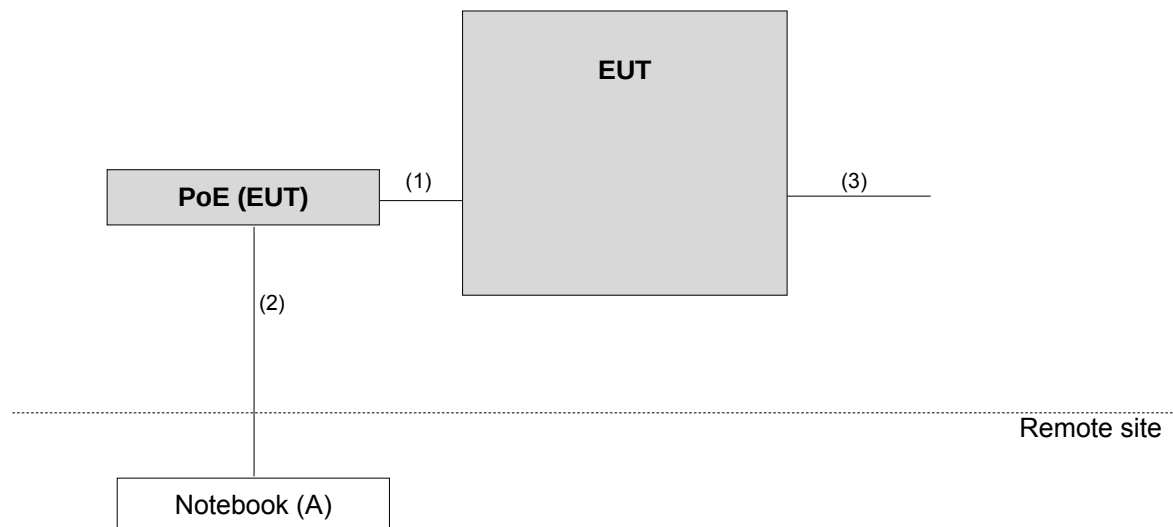
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	1	1	N	0	-
2.	RJ45 Cable	1	10	N	0	-
3.	Ground Cable	1	1.81	N	0	Provided by client

3.4.1 Configuration of System under Test

For all tests except AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A



For AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A



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:

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

4.1.2 Test Instruments

Test Date: Jan. 21 ~ Feb. 19, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 11, 2018	Apr. 10, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A01638	Feb. 22, 2018	Feb. 21, 2019
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9- (250795/4)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 17, 2018	Jul. 16, 2019

- Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 9.
 3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
 4. The IC Site Registration No. is 7450F-9.

Test Date: May 29 ~ Jun. 06, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190 004/MY55190007/MY55 210005	Jul. 17, 2018	Jul. 16, 2019

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

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

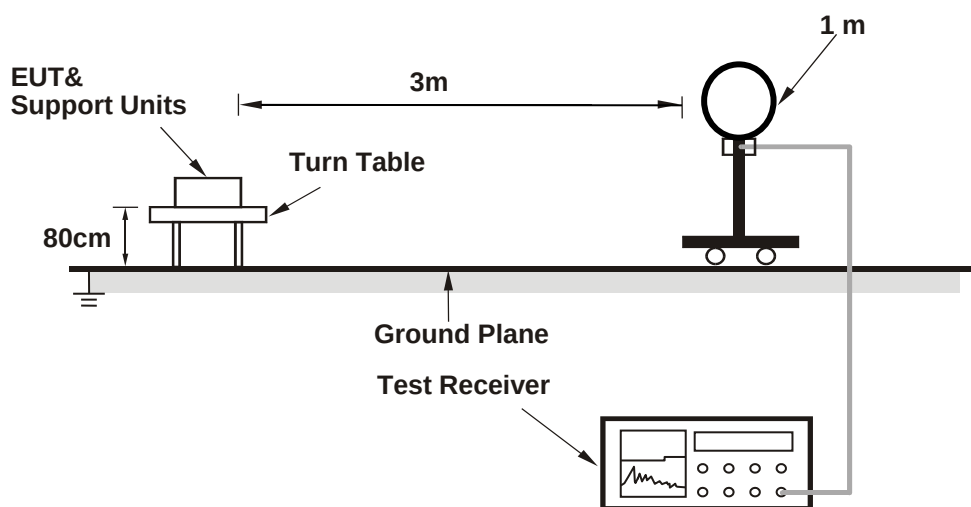
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

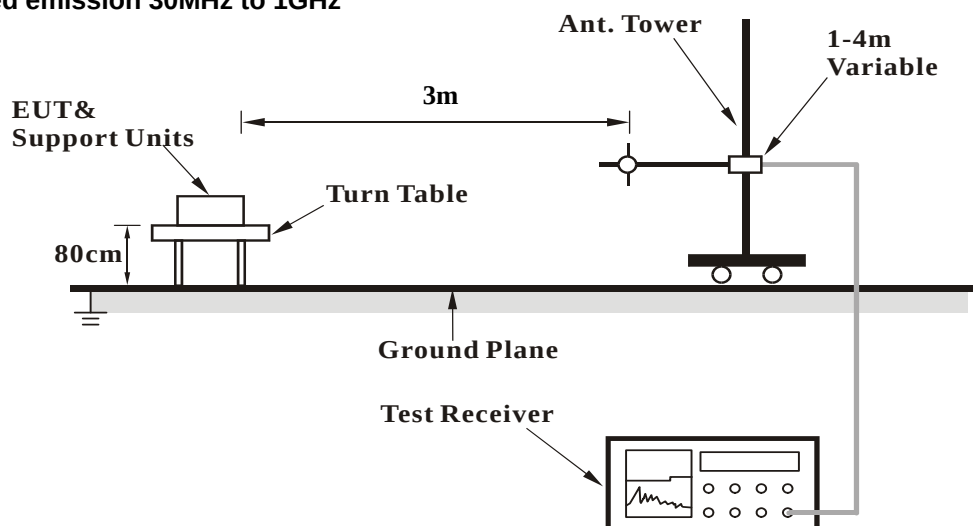
No deviation.

4.1.5 Test Setup

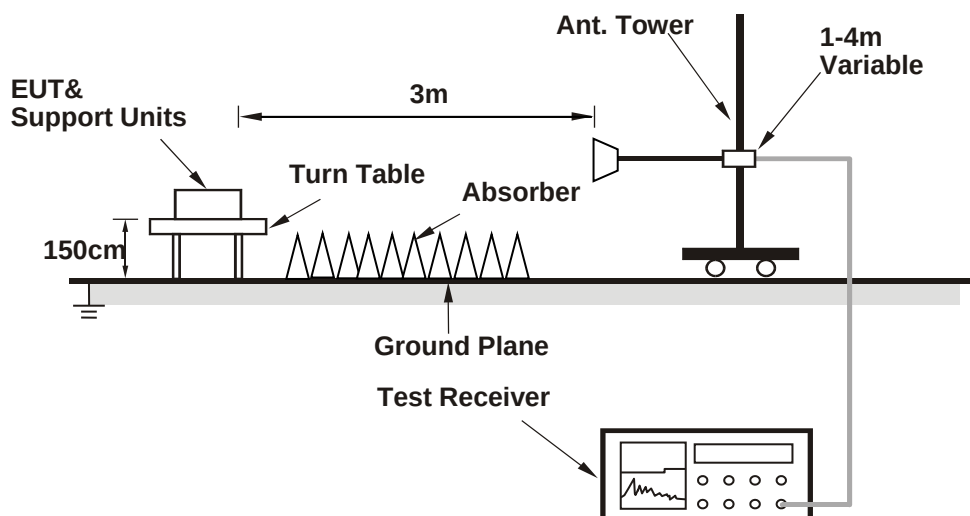
For Radiated emission below 30MHz



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	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	58.2 PK	74.0	-15.8	1.58 H	5	56.3	1.9
2	5150.00	46.5 AV	54.0	-7.5	1.58 H	5	44.6	1.9
3	*5180.00	119.4 PK			1.60 H	8	80.7	38.7
4	*5180.00	108.3 AV			1.60 H	8	69.6	38.7
5	#10360.00	54.2 PK	68.2	-14.0	1.69 H	243	39.8	14.4
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	58.8 PK	74.0	-15.2	1.57 V	9	56.9	1.9
2	5150.00	47.1 AV	54.0	-6.9	1.57 V	9	45.2	1.9
3	*5180.00	120.1 PK			1.62 V	12	81.4	38.7
4	*5180.00	109.4 AV			1.62 V	12	70.7	38.7
5	#10360.00	54.7 PK	68.2	-13.5	1.52 V	229	40.3	14.4

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 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	*5200.00	119.5 PK			1.60 H	9	80.9	38.6
2	*5200.00	108.7 AV			1.60 H	9	70.1	38.6
3	#10400.00	54.5 PK	68.2	-13.7	1.68 H	239	39.8	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	120.4 PK			1.62 V	10	81.8	38.6
2	*5200.00	109.9 AV			1.62 V	10	71.3	38.6
3	#10400.00	55.0 PK	68.2	-13.2	1.55 V	231	40.3	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.2 PK			1.59 H	13	80.7	38.5
2	*5240.00	108.1 AV			1.59 H	13	69.6	38.5
3	5350.00	57.2 PK	74.0	-16.8	1.56 H	359	55.6	1.6
4	5350.00	45.3 AV	54.0	-8.7	1.56 H	359	43.7	1.6
5	#10480.00	54.8 PK	68.2	-13.4	1.72 H	243	40.2	14.6
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	*5240.00	120.5 PK			1.60 V	8	82.0	38.5
2	*5240.00	110.2 AV			1.60 V	8	71.7	38.5
3	5350.00	58.0 PK	74.0	-16.0	1.53 V	358	56.4	1.6
4	5350.00	46.8 AV	54.0	-7.2	1.53 V	358	45.2	1.6
5	#10480.00	55.0 PK	68.2	-13.2	1.47 V	228	40.4	14.6

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 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	#5636.80	56.0 PK	68.2	-12.2	1.54 H	14	53.7	2.3
2	*5745.00	120.2 PK			1.54 H	14	80.9	39.3
3	*5745.00	109.3 AV			1.54 H	14	70.0	39.3
4	#5928.00	56.7 PK	68.2	-11.5	1.54 H	14	53.5	3.2
5	11490.00	54.5 PK	74.0	-19.5	1.76 H	218	39.5	15.0
6	11490.00	41.1 AV	54.0	-12.9	1.76 H	218	26.1	15.0
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	#5644.00	58.3 PK	68.2	-9.9	1.44 V	5	56.0	2.3
2	*5745.00	120.7 PK			1.44 V	5	81.4	39.3
3	*5745.00	110.7 AV			1.44 V	5	71.4	39.3
4	#5942.40	58.8 PK	68.2	-9.4	1.44 V	5	55.6	3.2
5	11490.00	55.3 PK	74.0	-18.7	1.57 V	246	40.3	15.0
6	11490.00	41.8 AV	54.0	-12.2	1.57 V	246	26.8	15.0

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 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	#5628.00	55.7 PK	68.2	-12.5	1.50 H	2	53.5	2.2
2	*5785.00	120.2 PK			1.50 H	2	80.7	39.5
3	*5785.00	109.0 AV			1.50 H	2	69.5	39.5
4	#5951.20	56.8 PK	68.2	-11.4	1.50 H	2	53.6	3.2
5	11570.00	54.3 PK	74.0	-19.7	1.71 H	228	39.5	14.8
6	11570.00	41.0 AV	54.0	-13.0	1.71 H	228	26.2	14.8
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	#5604.00	57.6 PK	68.2	-10.6	1.46 V	6	55.4	2.2
2	*5785.00	120.7 PK			1.46 V	6	81.2	39.5
3	*5785.00	110.6 AV			1.46 V	6	71.1	39.5
4	#5925.60	58.6 PK	68.2	-9.6	1.46 V	6	55.4	3.2
5	11570.00	55.2 PK	74.0	-18.8	1.48 V	245	40.4	14.8
6	11570.00	41.7 AV	54.0	-12.3	1.48 V	245	26.9	14.8

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 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	#5632.00	55.3 PK	68.2	-12.9	1.53 H	7	53.1	2.2
2	*5825.00	120.0 PK			1.53 H	7	80.3	39.7
3	*5825.00	109.0 AV			1.53 H	7	69.3	39.7
4	#5964.00	57.0 PK	68.2	-11.2	1.53 H	7	53.7	3.3
5	11650.00	54.5 PK	74.0	-19.5	1.66 H	231	39.7	14.8
6	11650.00	40.9 AV	54.0	-13.1	1.66 H	231	26.1	14.8
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	#5624.80	56.3 PK	68.2	-11.9	1.41 V	8	54.1	2.2
2	*5825.00	121.0 PK			1.41 V	8	81.3	39.7
3	*5825.00	111.0 AV			1.41 V	8	71.3	39.7
4	#5944.80	59.6 PK	68.2	-8.6	1.41 V	8	56.4	3.2
5	11650.00	55.0 PK	74.0	-19.0	1.52 V	257	40.2	14.8
6	11650.00	41.5 AV	54.0	-12.5	1.52 V	257	26.7	14.8

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

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	57.3 PK	74.0	-16.7	1.62 H	6	55.4	1.9
2	5150.00	45.5 AV	54.0	-8.5	1.62 H	6	43.6	1.9
3	*5180.00	120.1 PK			1.59 H	18	81.4	38.7
4	*5180.00	108.6 AV			1.59 H	18	69.9	38.7
5	#10360.00	54.7 PK	68.2	-13.5	1.70 H	237	40.3	14.4
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	58.7 PK	74.0	-15.3	1.59 V	5	56.8	1.9
2	5150.00	46.8 AV	54.0	-7.2	1.59 V	5	44.9	1.9
3	*5180.00	121.1 PK			1.59 V	13	82.4	38.7
4	*5180.00	109.4 AV			1.59 V	13	70.7	38.7
5	#10360.00	55.2 PK	68.2	-13.0	1.59 V	230	40.8	14.4

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 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	*5200.00	119.9 PK			1.61 H	16	81.3	38.6
2	*5200.00	108.2 AV			1.61 H	16	69.6	38.6
3	#10400.00	54.8 PK	68.2	-13.4	1.69 H	238	40.1	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	121.1 PK			1.61 V	11	82.5	38.6
2	*5200.00	109.7 AV			1.61 V	11	71.1	38.6
3	#10400.00	55.1 PK	68.2	-13.1	1.51 V	232	40.4	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.5 PK			1.59 H	16	81.0	38.5
2	*5240.00	107.8 AV			1.59 H	16	69.3	38.5
3	5350.00	57.1 PK	74.0	-16.9	1.64 H	358	55.5	1.6
4	5350.00	45.2 AV	54.0	-8.8	1.64 H	358	43.6	1.6
5	#10480.00	54.8 PK	68.2	-13.4	1.72 H	241	40.2	14.6
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	*5240.00	121.2 PK			1.60 V	10	82.7	38.5
2	*5240.00	109.6 AV			1.60 V	10	71.1	38.5
3	5350.00	58.3 PK	74.0	-15.7	1.63 V	356	56.7	1.6
4	5350.00	46.5 AV	54.0	-7.5	1.63 V	356	44.9	1.6
5	#10480.00	55.1 PK	68.2	-13.1	1.55 V	234	40.5	14.6

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 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	#5626.40	56.1 PK	68.2	-12.1	1.52 H	1	53.9	2.2
2	*5745.00	121.2 PK			1.52 H	1	81.9	39.3
3	*5745.00	109.2 AV			1.52 H	1	69.9	39.3
4	#5931.20	56.2 PK	68.2	-12.0	1.52 H	1	53.0	3.2
5	11490.00	55.2 PK	74.0	-18.8	1.67 H	229	40.2	15.0
6	11490.00	41.2 AV	54.0	-12.8	1.67 H	229	26.2	15.0
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	#5641.60	58.8 PK	68.2	-9.4	1.50 V	8	56.5	2.3
2	*5745.00	122.6 PK			1.50 V	8	83.3	39.3
3	*5745.00	110.9 AV			1.50 V	8	71.6	39.3
4	#5928.00	58.1 PK	68.2	-10.1	1.50 V	8	54.9	3.2
5	11490.00	55.4 PK	74.0	-18.6	1.52 V	254	40.4	15.0
6	11490.00	41.8 AV	54.0	-12.2	1.52 V	254	26.8	15.0

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 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	#5644.00	55.7 PK	68.2	-12.5	1.51 H	6	53.4	2.3
2	*5785.00	121.1 PK			1.51 H	6	81.6	39.5
3	*5785.00	109.3 AV			1.51 H	6	69.8	39.5
4	#5940.00	58.1 PK	68.2	-10.1	1.51 H	6	54.9	3.2
5	11570.00	54.4 PK	74.0	-19.6	1.69 H	218	39.6	14.8
6	11570.00	41.1 AV	54.0	-12.9	1.69 H	218	26.3	14.8
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	#5605.60	56.5 PK	68.2	-11.7	1.49 V	7	54.3	2.2
2	*5785.00	122.5 PK			1.49 V	7	83.0	39.5
3	*5785.00	111.0 AV			1.49 V	7	71.5	39.5
4	#5959.20	59.0 PK	68.2	-9.2	1.49 V	7	55.8	3.2
5	11570.00	55.1 PK	74.0	-18.9	1.43 V	249	40.3	14.8
6	11570.00	41.5 AV	54.0	-12.5	1.43 V	249	26.7	14.8

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 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	#5616.00	54.9 PK	68.2	-13.3	1.52 H	6	52.7	2.2
2	*5825.00	121.4 PK			1.52 H	6	81.7	39.7
3	*5825.00	109.7 AV			1.52 H	6	70.0	39.7
4	#5958.40	56.9 PK	68.2	-11.3	1.52 H	6	53.7	3.2
5	11650.00	54.4 PK	74.0	-19.6	1.77 H	224	39.6	14.8
6	11650.00	40.9 AV	54.0	-13.1	1.77 H	224	26.1	14.8
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	#5622.40	56.4 PK	68.2	-11.8	1.50 V	5	54.2	2.2
2	*5825.00	122.7 PK			1.50 V	5	83.0	39.7
3	*5825.00	111.2 AV			1.50 V	5	71.5	39.7
4	#5928.80	58.8 PK	68.2	-9.4	1.50 V	5	55.6	3.2
5	11650.00	55.0 PK	74.0	-19.0	1.62 V	254	40.2	14.8
6	11650.00	41.4 AV	54.0	-12.6	1.62 V	254	26.6	14.8

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

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	61.4 PK	74.0	-12.6	1.54 H	7	59.5	1.9
2	5150.00	49.6 AV	54.0	-4.4	1.54 H	7	47.7	1.9
3	*5190.00	116.8 PK			1.61 H	12	78.2	38.6
4	*5190.00	106.0 AV			1.61 H	12	67.4	38.6
5	#10380.00	54.7 PK	68.2	-13.5	1.72 H	239	40.1	14.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.56 V	8	60.8	1.9
2	5150.00	51.0 AV	54.0	-3.0	1.56 V	8	49.1	1.9
3	*5190.00	118.2 PK			1.62 V	10	79.6	38.6
4	*5190.00	107.3 AV			1.62 V	10	68.7	38.6
5	#10380.00	55.0 PK	68.2	-13.2	1.54 V	234	40.4	14.6

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 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	116.2 PK			1.62 H	17	77.7	38.5
2	*5230.00	105.7 AV			1.62 H	17	67.2	38.5
3	5350.00	54.0 PK	74.0	-20.0	1.59 H	356	52.4	1.6
4	5350.00	43.8 AV	54.0	-10.2	1.59 H	356	42.2	1.6
5	#10460.00	54.4 PK	68.2	-13.8	1.68 H	242	39.8	14.6
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	*5230.00	118.2 PK			1.63 V	13	79.7	38.5
2	*5230.00	107.2 AV			1.63 V	13	68.7	38.5
3	5350.00	56.4 PK	74.0	-17.6	1.60 V	357	54.8	1.6
4	5350.00	44.8 AV	54.0	-9.2	1.60 V	357	43.2	1.6
5	#10460.00	55.1 PK	68.2	-13.1	1.51 V	231	40.5	14.6

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 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	#5633.60	55.9 PK	68.2	-12.3	1.54 H	2	53.6	2.3
2	*5755.00	117.7 PK			1.54 H	2	78.3	39.4
3	*5755.00	107.0 AV			1.54 H	2	67.6	39.4
4	#5936.80	57.6 PK	68.2	-10.6	1.54 H	2	54.4	3.2
5	11510.00	54.5 PK	74.0	-19.5	1.72 H	216	39.6	14.9
6	11510.00	41.1 AV	54.0	-12.9	1.72 H	216	26.2	14.9
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	#5648.00	58.5 PK	68.2	-9.7	1.51 V	8	56.2	2.3
2	*5755.00	118.6 PK			1.51 V	8	79.2	39.4
3	*5755.00	108.3 AV			1.51 V	8	68.9	39.4
4	#5959.20	58.1 PK	68.2	-10.1	1.51 V	8	54.9	3.2
5	11510.00	55.3 PK	74.0	-18.7	1.63 V	255	40.4	14.9
6	11510.00	41.3 AV	54.0	-12.7	1.63 V	255	26.4	14.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.00	55.3 PK	68.2	-12.9	1.49 H	1	53.1	2.2
2	*5795.00	117.9 PK			1.49 H	1	78.4	39.5
3	*5795.00	107.3 AV			1.49 H	1	67.8	39.5
4	#5925.60	57.7 PK	68.2	-10.5	1.49 H	1	54.5	3.2
5	11590.00	54.5 PK	74.0	-19.5	1.78 H	223	39.7	14.8
6	11590.00	41.2 AV	54.0	-12.8	1.78 H	223	26.4	14.8
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	56.7 PK	68.2	-11.5	1.52 V	9	54.5	2.2
2	*5795.00	118.9 PK			1.52 V	9	79.4	39.5
3	*5795.00	108.1 AV			1.52 V	9	68.6	39.5
4	#5927.20	58.5 PK	68.2	-9.7	1.52 V	9	55.3	3.2
5	11590.00	55.1 PK	74.0	-18.9	1.52 V	242	40.3	14.8
6	11590.00	41.3 AV	54.0	-12.7	1.52 V	242	26.5	14.8

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	1.61 H	18	61.6	1.9
2	5150.00	50.2 AV	54.0	-3.8	1.61 H	18	48.3	1.9
3	*5210.00	112.9 PK			1.59 H	11	74.4	38.5
4	*5210.00	101.8 AV			1.59 H	11	63.3	38.5
5	5350.00	58.3 PK	74.0	-15.7	1.53 H	358	56.7	1.6
6	5350.00	46.1 AV	54.0	-7.9	1.53 H	358	44.5	1.6
7	#10420.00	54.9 PK	68.2	-13.3	1.71 H	237	40.2	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.2 PK	74.0	-9.8	1.60 V	7	62.3	1.9
2	5150.00	51.8 AV	54.0	-2.2	1.60 V	7	49.9	1.9
3	*5210.00	114.1 PK			1.61 V	13	75.6	38.5
4	*5210.00	103.1 AV			1.61 V	13	64.6	38.5
5	5350.00	58.6 PK	74.0	-15.4	1.56 V	359	57.0	1.6
6	5350.00	46.3 AV	54.0	-7.7	1.56 V	359	44.7	1.6
7	#10420.00	55.1 PK	68.2	-13.1	1.55 V	232	40.4	14.7

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 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	#5640.00	56.6 PK	68.2	-11.6	1.52 H	2	54.3	2.3
2	*5775.00	114.9 PK			1.52 H	2	75.5	39.4
3	*5775.00	103.8 AV			1.52 H	2	64.4	39.4
4	#5926.40	58.5 PK	68.2	-9.7	1.52 H	2	55.3	3.2
5	11550.00	54.8 PK	74.0	-19.2	1.74 H	226	39.9	14.9
6	11550.00	41.3 AV	54.0	-12.7	1.74 H	226	26.4	14.9
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	#5648.80	58.5 PK	68.2	-9.7	1.49 V	7	56.2	2.3
2	*5775.00	115.6 PK			1.49 V	7	76.2	39.4
3	*5775.00	104.5 AV			1.49 V	7	65.1	39.4
4	#5939.20	61.7 PK	68.2	-6.5	1.49 V	7	58.5	3.2
5	11550.00	55.4 PK	74.0	-18.6	1.61 V	253	40.5	14.9
6	11550.00	41.5 AV	54.0	-12.5	1.61 V	253	26.6	14.9

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

Test Mode B

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	68.0 PK	74.0	-6.0	1.75 H	125	66.1	1.9
2	5150.00	53.5 AV	54.0	-0.5	1.75 H	125	51.6	1.9
3	*5180.00	119.0 PK			1.87 H	120	80.3	38.7
4	*5180.00	107.8 AV			1.87 H	120	69.1	38.7
5	#10360.00	54.4 PK	68.2	-13.8	1.77 H	231	40.0	14.4
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	64.9 PK	74.0	-9.1	1.90 V	34	63.0	1.9
2	5150.00	49.7 AV	54.0	-4.3	1.90 V	34	47.8	1.9
3	*5180.00	117.0 PK			1.94 V	41	78.3	38.7
4	*5180.00	106.5 AV			1.94 V	41	67.8	38.7
5	#10360.00	54.1 PK	68.2	-14.1	1.48 V	244	39.7	14.4

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 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	*5200.00	120.5 PK			2.00 H	102	81.9	38.6
2	*5200.00	109.8 AV			2.00 H	102	71.2	38.6
3	#10400.00	55.3 PK	68.2	-12.9	1.63 H	238	40.6	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	118.9 PK			2.03 V	38	80.3	38.6
2	*5200.00	108.4 AV			2.03 V	38	69.8	38.6
3	#10400.00	54.9 PK	68.2	-13.3	1.47 V	254	40.2	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	121.6 PK			1.97 H	108	83.1	38.5
2	*5240.00	110.9 AV			1.97 H	108	72.4	38.5
3	5350.00	55.3 PK	74.0	-18.7	2.03 H	120	53.7	1.6
4	5350.00	42.9 AV	54.0	-11.1	2.03 H	120	41.3	1.6
5	#10480.00	55.4 PK	68.2	-12.8	1.66 H	235	40.8	14.6
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	*5240.00	120.2 PK			1.93 V	52	81.7	38.5
2	*5240.00	109.6 AV			1.93 V	52	71.1	38.5
3	5350.00	54.4 PK	74.0	-19.6	2.02 V	44	52.8	1.6
4	5350.00	42.5 AV	54.0	-11.5	2.02 V	44	40.9	1.6
5	#10480.00	54.9 PK	68.2	-13.3	1.52 V	231	40.3	14.6

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 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	#5634.40	54.8 PK	68.2	-13.4	1.84 H	97	52.5	2.3
2	*5745.00	119.7 PK			1.84 H	98	80.4	39.3
3	*5745.00	108.8 AV			1.84 H	98	69.5	39.3
4	#5944.00	55.1 PK	68.2	-13.1	1.84 H	97	51.9	3.2
5	11490.00	57.3 PK	74.0	-16.7	1.76 H	238	42.3	15.0
6	11490.00	43.7 AV	54.0	-10.3	1.76 H	238	28.7	15.0
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	#5645.60	55.2 PK	68.2	-13.0	1.93 V	37	52.9	2.3
2	*5745.00	119.8 PK			1.93 V	37	80.5	39.3
3	*5745.00	109.0 AV			1.93 V	37	69.7	39.3
4	#5973.60	55.3 PK	68.2	-12.9	1.93 V	37	52.0	3.3
5	11490.00	55.6 PK	74.0	-18.4	1.55 V	251	40.6	15.0
6	11490.00	42.1 AV	54.0	-11.9	1.55 V	251	27.1	15.0

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 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	#5629.60	55.0 PK	68.2	-13.2	1.92 H	126	52.8	2.2
2	*5785.00	120.1 PK			1.92 H	126	80.6	39.5
3	*5785.00	109.1 AV			1.92 H	126	69.6	39.5
4	#5950.40	56.2 PK	68.2	-12.0	1.92 H	126	53.0	3.2
5	11570.00	56.6 PK	74.0	-17.4	1.74 H	237	41.8	14.8
6	11570.00	42.5 AV	54.0	-11.5	1.74 H	237	27.7	14.8
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	#5635.20	54.9 PK	68.2	-13.3	2.08 V	42	52.6	2.3
2	*5785.00	119.6 PK			2.08 V	42	80.1	39.5
3	*5785.00	108.9 AV			2.08 V	42	69.4	39.5
4	#5950.40	55.4 PK	68.2	-12.8	2.08 V	42	52.2	3.2
5	11570.00	54.6 PK	74.0	-19.4	1.52 V	239	39.8	14.8
6	11570.00	41.5 AV	54.0	-12.5	1.52 V	239	26.7	14.8

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 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	#5636.00	54.3 PK	68.2	-13.9	1.88 H	126	52.0	2.3
2	*5825.00	120.0 PK			1.88 H	126	80.3	39.7
3	*5825.00	109.1 AV			1.88 H	126	69.4	39.7
4	#5932.80	55.3 PK	68.2	-12.9	1.88 H	126	52.1	3.2
5	11650.00	56.5 PK	74.0	-17.5	1.79 H	242	41.7	14.8
6	11650.00	42.2 AV	54.0	-11.8	1.79 H	242	27.4	14.8
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	#5620.00	54.5 PK	68.2	-13.7	1.86 V	43	52.3	2.2
2	*5825.00	119.6 PK			1.86 V	43	79.9	39.7
3	*5825.00	108.9 AV			1.86 V	43	69.2	39.7
4	#5924.00	55.8 PK	68.9	-13.1	1.86 V	43	52.6	3.2
5	11650.00	55.4 PK	74.0	-18.6	1.59 V	246	40.6	14.8
6	11650.00	41.6 AV	54.0	-12.4	1.59 V	246	26.8	14.8

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

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	69.1 PK	74.0	-4.9	1.80 H	145	67.2	1.9
2	5150.00	52.7 AV	54.0	-1.3	1.80 H	145	50.8	1.9
3	*5180.00	118.4 PK			1.93 H	118	79.7	38.7
4	*5180.00	107.7 AV			1.93 H	118	69.0	38.7
5	#10360.00	56.7 PK	68.2	-11.5	1.67 H	238	42.3	14.4
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	63.4 PK	74.0	-10.6	1.99 V	49	61.5	1.9
2	5150.00	48.6 AV	54.0	-5.4	1.99 V	49	46.7	1.9
3	*5180.00	116.8 PK			1.86 V	42	78.1	38.7
4	*5180.00	106.3 AV			1.86 V	42	67.6	38.7
5	#10360.00	55.7 PK	68.2	-12.5	1.41 V	225	41.3	14.4

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	120.4 PK			1.94 H	128	81.8	38.6
2	*5200.00	109.9 AV			1.94 H	128	71.3	38.6
3	#10400.00	57.0 PK	68.2	-11.2	1.73 H	232	42.3	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	119.0 PK			1.91 V	49	80.4	38.6
2	*5200.00	108.6 AV			1.91 V	49	70.0	38.6
3	#10400.00	56.1 PK	68.2	-12.1	1.54 V	238	41.4	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	121.0 PK			1.94 H	110	82.5	38.5
2	*5240.00	110.8 AV			1.94 H	110	72.3	38.5
3	5350.00	56.4 PK	74.0	-17.6	2.03 H	122	54.8	1.6
4	5350.00	43.4 AV	54.0	-10.6	2.03 H	122	41.8	1.6
5	#10480.00	57.3 PK	68.2	-10.9	1.77 H	243	42.7	14.6
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	*5240.00	119.6 PK			1.97 V	48	81.1	38.5
2	*5240.00	109.3 AV			1.97 V	48	70.8	38.5
3	5350.00	54.8 PK	74.0	-19.2	2.03 V	54	53.2	1.6
4	5350.00	42.9 AV	54.0	-11.1	2.03 V	54	41.3	1.6
5	#10480.00	55.7 PK	68.2	-12.5	1.57 V	229	41.1	14.6

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 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	#5626.40	54.9 PK	68.2	-13.3	1.84 H	97	52.7	2.2
2	*5745.00	119.1 PK			1.84 H	97	79.8	39.3
3	*5745.00	108.4 AV			1.84 H	97	69.1	39.3
4	#5967.20	54.6 PK	68.2	-13.6	1.87 H	97	51.3	3.3
5	11490.00	56.6 PK	74.0	-17.4	1.68 H	234	41.6	15.0
6	11490.00	42.3 AV	54.0	-11.7	1.68 H	234	27.3	15.0
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	#5621.60	55.1 PK	68.2	-13.1	1.96 V	41	52.9	2.2
2	*5745.00	119.6 PK			1.96 V	41	80.3	39.3
3	*5745.00	109.1 AV			1.96 V	41	69.8	39.3
4	#5940.00	55.5 PK	68.2	-12.7	1.96 V	41	52.3	3.2
5	11490.00	57.2 PK	74.0	-16.8	1.54 V	241	42.2	15.0
6	11490.00	43.3 AV	54.0	-10.7	1.54 V	241	28.3	15.0

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 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	#5642.40	53.9 PK	68.2	-14.3	1.78 H	137	51.6	2.3
2	*5785.00	119.1 PK			1.78 H	137	79.6	39.5
3	*5785.00	107.9 AV			1.78 H	137	68.4	39.5
4	#5944.80	55.7 PK	68.2	-12.5	1.78 H	137	52.5	3.2
5	11570.00	55.5 PK	74.0	-18.5	1.84 H	211	40.7	14.8
6	11570.00	41.6 AV	54.0	-12.4	1.84 H	211	26.8	14.8
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	#5640.80	56.8 PK	68.2	-11.4	2.01 V	41	54.5	2.3
2	*5785.00	118.8 PK			2.01 V	41	79.3	39.5
3	*5785.00	108.4 AV			2.01 V	41	68.9	39.5
4	#5926.40	55.5 PK	68.2	-12.7	2.01 V	41	52.3	3.2
5	11570.00	56.4 PK	74.0	-17.6	1.50 V	233	41.6	14.8
6	11570.00	42.2 AV	54.0	-11.8	1.50 V	233	27.4	14.8

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 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	#5625.60	53.2 PK	68.2	-15.0	1.77 H	136	51.0	2.2
2	*5825.00	119.3 PK			1.77 H	136	79.6	39.7
3	*5825.00	108.3 AV			1.77 H	136	68.6	39.7
4	#6000.00	54.2 PK	68.2	-14.0	1.77 H	136	51.0	3.2
5	11650.00	56.0 PK	74.0	-18.0	1.77 H	216	41.2	14.8
6	11650.00	41.9 AV	54.0	-12.1	1.77 H	216	27.1	14.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5619.20	55.0 PK	68.2	-13.2	1.91 V	40	52.8	2.2
2	*5825.00	119.9 PK			1.91 V	40	80.2	39.7
3	*5825.00	109.0 AV			1.91 V	40	69.3	39.7
4	#5964.00	56.2 PK	68.2	-12.0	1.91 V	40	52.9	3.3
5	11650.00	56.5 PK	74.0	-17.5	1.69 V	226	41.7	14.8
6	11650.00	42.3 AV	54.0	-11.7	1.69 V	226	27.5	14.8

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

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	1.82 H	147	67.1	1.9
2	5150.00	52.8 AV	54.0	-1.2	1.82 H	147	50.9	1.9
3	*5190.00	114.5 PK			1.86 H	142	75.9	38.6
4	*5190.00	104.3 AV			1.86 H	142	65.7	38.6
5	#10380.00	57.1 PK	68.2	-11.1	1.61 H	237	42.5	14.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.1 PK	74.0	-7.9	1.94 V	43	64.2	1.9
2	5150.00	49.7 AV	54.0	-4.3	1.94 V	43	47.8	1.9
3	*5190.00	113.2 PK			1.84 V	55	74.6	38.6
4	*5190.00	102.9 AV			1.84 V	55	64.3	38.6
5	#10380.00	55.8 PK	68.2	-12.4	1.43 V	224	41.2	14.6

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 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	118.0 PK			1.98 H	104	79.5	38.5
2	*5230.00	107.9 AV			1.98 H	104	69.4	38.5
3	5350.00	56.8 PK	74.0	-17.2	1.97 H	118	55.2	1.6
4	5350.00	44.2 AV	54.0	-9.8	1.97 H	118	42.6	1.6
5	#10460.00	56.2 PK	68.2	-12.0	1.52 H	223	41.6	14.6
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	*5230.00	116.6 PK			1.87 V	53	78.1	38.5
2	*5230.00	106.5 AV			1.87 V	53	68.0	38.5
3	5350.00	55.0 PK	74.0	-19.0	1.81 V	47	53.4	1.6
4	5350.00	42.9 AV	54.0	-11.1	1.81 V	47	41.3	1.6
5	#10460.00	56.1 PK	68.2	-12.1	1.52 V	236	41.5	14.6

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 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	#5649.60	54.2 PK	68.2	-14.0	1.82 H	96	51.9	2.3
2	*5755.00	116.1 PK			1.82 H	96	76.7	39.4
3	*5755.00	106.0 AV			1.82 H	96	66.6	39.4
4	#5974.40	54.7 PK	68.2	-13.5	1.82 H	96	51.4	3.3
5	11510.00	55.5 PK	74.0	-18.5	1.84 H	212	40.6	14.9
6	11510.00	41.4 AV	54.0	-12.6	1.84 H	212	26.5	14.9
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	#5648.00	57.0 PK	68.2	-11.2	1.94 V	43	54.7	2.3
2	*5755.00	116.6 PK			1.94 V	43	77.2	39.4
3	*5755.00	106.5 AV			1.94 V	43	67.1	39.4
4	#5962.40	55.9 PK	68.2	-12.3	1.94 V	43	52.6	3.3
5	11510.00	56.3 PK	74.0	-17.7	1.66 V	235	41.4	14.9
6	11510.00	42.1 AV	54.0	-11.9	1.66 V	235	27.2	14.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	53.5 PK	68.2	-14.7	1.87 H	133	51.2	2.3
2	*5795.00	115.8 PK			1.87 H	133	76.3	39.5
3	*5795.00	105.7 AV			1.87 H	133	66.2	39.5
4	#5933.60	54.9 PK	68.2	-13.3	1.87 H	133	51.7	3.2
5	11590.00	55.7 PK	74.0	-18.3	1.82 H	214	40.9	14.8
6	11590.00	41.4 AV	54.0	-12.6	1.82 H	214	26.6	14.8
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	#5640.00	54.1 PK	68.2	-14.1	1.90 V	45	51.8	2.3
2	*5795.00	116.4 PK			1.90 V	45	76.9	39.5
3	*5795.00	106.3 AV			1.90 V	45	66.8	39.5
4	#5929.60	55.9 PK	68.2	-12.3	1.90 V	45	52.7	3.2
5	11590.00	56.4 PK	74.0	-17.6	1.63 V	232	41.6	14.8
6	11590.00	42.2 AV	54.0	-11.8	1.63 V	232	27.4	14.8

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

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	68.0 PK	74.0	-6.0	1.86 H	141	66.1	1.9
2	5150.00	52.6 AV	54.0	-1.4	1.86 H	141	50.7	1.9
3	*5210.00	111.1 PK			1.83 H	130	72.6	38.5
4	*5210.00	100.4 AV			1.83 H	130	61.9	38.5
5	5350.00	59.9 PK	74.0	-14.1	1.94 H	115	58.3	1.6
6	5350.00	46.1 AV	54.0	-7.9	1.94 H	115	44.5	1.6
7	#10420.00	57.1 PK	68.2	-11.1	1.75 H	244	42.4	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.3 PK	74.0	-8.7	1.93 V	59	63.4	1.9
2	5150.00	49.7 AV	54.0	-4.3	1.93 V	59	47.8	1.9
3	*5210.00	109.7 PK			1.90 V	51	71.2	38.5
4	*5210.00	99.1 AV			1.90 V	51	60.6	38.5
5	5350.00	56.0 PK	74.0	-18.0	1.84 V	41	54.4	1.6
6	5350.00	43.3 AV	54.0	-10.7	1.84 V	41	41.7	1.6
7	#10420.00	56.4 PK	68.2	-11.8	1.47 V	225	41.7	14.7

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 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	#5643.20	63.9 PK	68.2	-4.3	1.89 H	106	61.6	2.3
2	#5650.00	66.8 PK	68.2	-1.4	1.83 H	96	64.6	2.2
3	*5775.00	111.7 PK			1.89 H	106	72.3	39.4
4	*5775.00	101.6 AV			1.89 H	106	62.2	39.4
5	#5924.80	63.8 PK	68.3	-4.5	1.89 H	106	60.6	3.2
6	#5925.00	66.0 PK	68.2	-2.2	1.82 H	113	62.8	3.2
7	11550.00	55.7 PK	74.0	-18.3	1.79 H	218	40.8	14.9
8	11550.00	41.7 AV	54.0	-12.3	1.79 H	218	26.8	14.9
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	#5645.60	66.8 PK	68.2	-1.4	1.97 V	45	64.5	2.3
2	#5650.00	68.0 PK	68.2	-0.2	1.96 V	43	65.8	2.2
3	*5775.00	112.5 PK			1.97 V	45	73.1	39.4
4	*5775.00	102.4 AV			1.97 V	45	63.0	39.4
5	#5925.00	67.1 PK	68.2	-1.1	2.01 V	54	63.9	3.2
6	#5933.60	64.4 PK	68.2	-3.8	1.97 V	45	61.2	3.2
7	11550.00	56.4 PK	74.0	-17.6	1.68 V	247	41.5	14.9
8	11550.00	42.1 AV	54.0	-11.9	1.68 V	247	27.2	14.9

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

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	61.9 PK	74.0	-12.1	1.62 H	6	60.8	1.1
2	5150.00	52.4 AV	54.0	-1.6	1.62 H	6	51.3	1.1
3	*5180.00	119.9 PK			1.66 H	9	81.9	38.0
4	*5180.00	109.0 AV			1.66 H	9	71.0	38.0
5	#10360.00	53.3 PK	68.2	-14.9	1.58 H	227	39.7	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.2 PK	74.0	-11.8	1.57 V	5	61.1	1.1
2	5150.00	52.9 AV	54.0	-1.1	1.57 V	5	51.8	1.1
3	*5180.00	120.5 PK			1.46 V	9	82.5	38.0
4	*5180.00	109.6 AV			1.46 V	9	71.6	38.0
5	#10360.00	53.8 PK	68.2	-14.4	1.58 V	211	40.2	13.6

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 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	62.7 PK	74.0	-11.3	1.65 H	7	61.6	1.1
2	5150.00	51.8 AV	54.0	-2.2	1.65 H	7	50.7	1.1
3	*5200.00	121.0 PK			1.49 H	9	83.1	37.9
4	*5200.00	110.5 AV			1.49 H	9	72.6	37.9
5	#10400.00	53.5 PK	68.2	-14.7	1.61 H	233	39.7	13.8
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	63.4 PK	74.0	-10.6	1.61 V	4	62.3	1.1
2	5150.00	52.6 AV	54.0	-1.4	1.61 V	4	51.5	1.1
3	*5200.00	121.5 PK			1.46 V	6	83.6	37.9
4	*5200.00	110.9 AV			1.46 V	6	73.0	37.9
5	#10400.00	54.2 PK	68.2	-14.0	1.48 V	251	40.4	13.8

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 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	5150.00	62.2 PK	74.0	-11.8	1.57 H	9	61.1	1.1
2	5150.00	52.0 AV	54.0	-2.0	1.57 H	9	50.9	1.1
3	*5240.00	121.4 PK			1.53 H	6	83.7	37.7
4	*5240.00	110.6 AV			1.53 H	6	72.9	37.7
5	5350.00	57.7 PK	74.0	-16.3	1.58 H	4	56.8	0.9
6	5350.00	48.8 AV	54.0	-5.2	1.58 H	4	47.9	0.9
7	#10480.00	53.3 PK	68.2	-14.9	1.65 H	233	39.6	13.7
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	5136.20	62.7 PK	74.0	-11.3	1.53 V	4	61.6	1.1
2	5136.20	52.7 AV	54.0	-1.3	1.53 V	4	51.6	1.1
3	*5240.00	121.7 PK			1.48 V	5	84.0	37.7
4	*5240.00	111.1 AV			1.48 V	5	73.4	37.7
5	5424.10	58.9 PK	74.0	-15.1	1.52 V	5	57.7	1.2
6	5424.10	50.0 AV	54.0	-4.0	1.52 V	5	48.8	1.2
7	#10480.00	53.9 PK	68.2	-14.3	1.57 V	242	40.2	13.7

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	#5648.80	65.2 PK	68.2	-3.0	1.77 H	7	63.6	1.6
2	*5745.00	135.7 PK			1.77 H	7	97.2	38.5
3	*5745.00	125.3 AV			1.77 H	7	86.8	38.5
4	#5941.60	63.5 PK	68.2	-4.7	1.77 H	7	61.1	2.4
5	11490.00	54.3 PK	74.0	-19.7	1.82 H	6	40.4	13.9
6	11490.00	40.8 AV	54.0	-13.2	1.82 H	6	26.9	13.9
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	#5648.80	65.3 PK	68.2	-2.9	1.77 V	7	63.7	1.6
2	*5745.00	136.0 PK			1.77 V	7	97.5	38.5
3	*5745.00	125.9 AV			1.77 V	7	87.4	38.5
4	#5985.60	62.9 PK	68.2	-5.3	1.77 V	7	60.4	2.5
5	11490.00	54.3 PK	74.0	-19.7	1.55 V	193	40.4	13.9
6	11490.00	41.3 AV	54.0	-12.7	1.55 V	193	27.4	13.9

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 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	#5640.00	62.8 PK	68.2	-5.4	1.61 H	9	61.2	1.6
2	*5785.00	135.9 PK			1.61 H	9	97.2	38.7
3	*5785.00	125.8 AV			1.61 H	9	87.1	38.7
4	#5926.40	63.9 PK	68.2	-4.3	1.61 H	9	61.5	2.4
5	11570.00	53.2 PK	74.0	-20.8	1.76 H	5	39.4	13.8
6	11570.00	41.9 AV	54.0	-12.1	1.76 H	5	28.1	13.8
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	#5644.00	62.9 PK	68.2	-5.3	1.68 V	7	61.3	1.6
2	*5785.00	136.2 PK			1.68 V	7	97.5	38.7
3	*5785.00	126.1 AV			1.68 V	7	87.4	38.7
4	#5948.80	63.0 PK	68.2	-5.2	1.68 V	7	60.6	2.4
5	11570.00	54.6 PK	74.0	-19.4	1.62 V	189	40.8	13.8
6	11570.00	40.9 AV	54.0	-13.1	1.62 V	189	27.1	13.8

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 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	#5602.40	62.7 PK	68.2	-5.5	1.77 H	8	61.3	1.4
2	*5825.00	136.4 PK			1.77 H	8	97.6	38.8
3	*5825.00	125.9 AV			1.77 H	8	87.1	38.8
4	#5930.40	64.1 PK	68.2	-4.1	1.77 H	8	61.7	2.4
5	11650.00	53.6 PK	74.0	-20.4	1.75 H	11	39.8	13.8
6	11650.00	41.9 AV	54.0	-12.1	1.75 H	11	28.1	13.8
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	#5641.60	62.7 PK	68.2	-5.5	1.64 V	6	61.1	1.6
2	*5825.00	136.8 PK			1.62 V	8	98.0	38.8
3	*5825.00	126.2 AV			1.62 V	8	87.4	38.8
4	#5927.20	66.5 PK	68.2	-1.7	1.64 V	6	64.1	2.4
5	11650.00	52.9 PK	74.0	-21.1	1.52 V	187	39.1	13.8
6	11650.00	40.3 AV	54.0	-13.7	1.52 V	187	26.5	13.8

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

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	62.3 PK	74.0	-11.7	1.51 H	5	61.2	1.1
2	5150.00	52.0 AV	54.0	-2.0	1.51 H	5	50.9	1.1
3	*5180.00	120.1 PK			1.55 H	9	82.1	38.0
4	*5180.00	108.7 AV			1.55 H	9	70.7	38.0
5	#10360.00	53.2 PK	68.2	-15.0	1.64 H	229	39.6	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.0 PK	74.0	-11.0	1.49 V	3	61.9	1.1
2	5150.00	52.8 AV	54.0	-1.2	1.49 V	3	51.7	1.1
3	*5180.00	120.8 PK			1.54 V	7	82.8	38.0
4	*5180.00	109.4 AV			1.54 V	7	71.4	38.0
5	#10360.00	53.7 PK	68.2	-14.5	1.66 V	238	40.1	13.6

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 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	60.9 PK	74.0	-13.1	1.43 H	6	59.8	1.1
2	5150.00	52.0 AV	54.0	-2.0	1.43 H	6	50.9	1.1
3	*5200.00	121.0 PK			1.49 H	7	83.1	37.9
4	*5200.00	110.4 AV			1.49 H	7	72.5	37.9
5	#10400.00	53.5 PK	68.2	-14.7	1.58 H	236	39.7	13.8
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	61.7 PK	74.0	-12.3	1.47 V	3	60.6	1.1
2	5150.00	52.7 AV	54.0	-1.3	1.47 V	3	51.6	1.1
3	*5200.00	121.6 PK			1.54 V	4	83.7	37.9
4	*5200.00	111.0 AV			1.54 V	4	73.1	37.9
5	#10400.00	54.3 PK	68.2	-13.9	1.55 V	242	40.5	13.8

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 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	5150.00	62.0 PK	74.0	-12.0	1.57 H	8	60.9	1.1
2	5150.00	51.7 AV	54.0	-2.3	1.57 H	8	50.6	1.1
3	*5240.00	121.8 PK			1.55 H	7	84.1	37.7
4	*5240.00	110.5 AV			1.55 H	7	72.8	37.7
5	5350.00	58.7 PK	74.0	-15.3	1.54 H	5	57.8	0.9
6	5350.00	48.7 AV	54.0	-5.3	1.54 H	5	47.8	0.9
7	#10480.00	53.3 PK	68.2	-14.9	1.63 H	238	39.6	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.9 PK	74.0	-11.1	1.54 V	4	61.8	1.1
2	5150.00	52.6 AV	54.0	-1.4	1.54 V	4	51.5	1.1
3	*5240.00	122.5 PK			1.52 V	5	84.8	37.7
4	*5240.00	111.4 AV			1.52 V	5	73.7	37.7
5	5350.00	59.6 PK	74.0	-14.4	1.58 V	3	58.7	0.9
6	5350.00	49.5 AV	54.0	-4.5	1.58 V	3	48.6	0.9
7	#10480.00	54.1 PK	68.2	-14.1	1.57 V	243	40.4	13.7

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	#5646.40	63.5 PK	68.2	-4.7	1.68 H	8	61.9	1.6
2	*5745.00	136.4 PK			1.68 H	8	97.9	38.5
3	*5745.00	125.5 AV			1.68 H	8	87.0	38.5
4	#5957.60	63.0 PK	68.2	-5.2	1.68 H	8	60.6	2.4
5	11490.00	54.8 PK	74.0	-19.2	1.86 H	3	40.9	13.9
6	11490.00	42.2 AV	54.0	-11.8	1.86 H	3	28.3	13.9
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	65.7 PK	68.2	-2.5	1.67 V	7	64.1	1.6
2	*5745.00	136.7 PK			1.67 V	7	98.2	38.5
3	*5745.00	125.8 AV			1.67 V	7	87.3	38.5
4	#5928.80	62.7 PK	68.2	-5.5	1.67 V	7	60.3	2.4
5	11490.00	54.0 PK	74.0	-20.0	1.57 V	191	40.1	13.9
6	11490.00	40.5 AV	54.0	-13.5	1.57 V	191	26.6	13.9

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 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	#5631.20	62.7 PK	68.2	-5.5	1.63 H	6	61.3	1.4
2	*5785.00	136.2 PK			1.73 H	6	97.5	38.7
3	*5785.00	125.3 AV			1.73 H	6	86.6	38.7
4	#5952.80	63.7 PK	68.2	-4.5	1.63 H	6	61.3	2.4
5	11570.00	54.0 PK	74.0	-20.0	1.82 H	4	40.2	13.8
6	11570.00	41.6 AV	54.0	-12.4	1.82 H	4	27.8	13.8
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	#5636.00	62.8 PK	68.2	-5.4	1.62 V	8	61.3	1.5
2	*5785.00	136.5 PK			1.62 V	8	97.8	38.7
3	*5785.00	125.8 AV			1.62 V	8	87.1	38.7
4	#5936.80	62.3 PK	68.2	-5.9	1.62 V	8	59.9	2.4
5	11570.00	54.5 PK	74.0	-19.5	1.62 V	195	40.7	13.8
6	11570.00	40.7 AV	54.0	-13.3	1.62 V	195	26.9	13.8

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 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	#5612.00	62.1 PK	68.2	-6.1	1.69 H	4	60.7	1.4
2	*5825.00	136.4 PK			1.69 H	4	97.6	38.8
3	*5825.00	125.4 AV			1.69 H	4	86.6	38.8
4	#5927.20	63.9 PK	68.2	-4.3	1.69 H	4	61.5	2.4
5	11650.00	54.3 PK	74.0	-19.7	1.78 H	4	40.5	13.8
6	11650.00	40.5 AV	54.0	-13.5	1.78 H	4	26.7	13.8
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	#5624.80	63.0 PK	68.2	-5.2	1.64 V	8	61.6	1.4
2	*5825.00	136.6 PK			1.64 V	8	97.8	38.8
3	*5825.00	125.7 AV			1.64 V	8	86.9	38.8
4	#5928.00	66.0 PK	68.2	-2.2	1.64 V	8	63.6	2.4
5	11650.00	54.3 PK	74.0	-19.7	1.67 V	195	40.5	13.8
6	11650.00	40.6 AV	54.0	-13.4	1.67 V	195	26.8	13.8

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

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	61.7 PK	74.0	-12.3	1.52 H	2	60.6	1.1
2	5150.00	51.8 AV	54.0	-2.2	1.52 H	2	50.7	1.1
3	*5190.00	115.9 PK			1.53 H	9	78.0	37.9
4	*5190.00	106.7 AV			1.53 H	9	68.8	37.9
5	#10380.00	53.5 PK	68.2	-14.7	1.58 H	239	39.7	13.8
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	63.2 PK	74.0	-10.8	1.50 V	4	62.1	1.1
2	5150.00	52.7 AV	54.0	-1.3	1.50 V	4	51.6	1.1
3	*5190.00	116.6 PK			1.55 V	6	78.7	37.9
4	*5190.00	107.4 AV			1.55 V	6	69.5	37.9
5	#10380.00	54.0 PK	68.2	-14.2	1.54 V	245	40.2	13.8

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 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	60.0 PK	74.0	-14.0	1.52 H	3	58.9	1.1
2	5150.00	51.7 AV	54.0	-2.3	1.52 H	3	50.6	1.1
3	*5230.00	117.3 PK			1.48 H	8	79.6	37.7
4	*5230.00	107.9 AV			1.48 H	8	70.2	37.7
5	5350.00	58.3 PK	74.0	-15.7	1.49 H	7	57.4	0.9
6	5350.00	48.6 AV	54.0	-5.4	1.49 H	7	47.7	0.9
7	#10460.00	53.5 PK	68.2	-14.7	1.62 H	239	39.8	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.0 PK	74.0	-13.0	1.55 V	5	59.9	1.1
2	5150.00	52.6 AV	54.0	-1.4	1.55 V	5	51.5	1.1
3	*5230.00	117.9 PK			1.51 V	4	80.2	37.7
4	*5230.00	108.5 AV			1.51 V	4	70.8	37.7
5	5350.00	59.1 PK	74.0	-14.9	1.47 V	4	58.2	0.9
6	5350.00	49.4 AV	54.0	-4.6	1.47 V	4	48.5	0.9
7	#10460.00	54.0 PK	68.2	-14.2	1.53 V	244	40.3	13.7

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 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	#5644.00	65.6 PK	68.2	-2.6	1.59 H	9	64.0	1.6
2	*5755.00	130.5 PK			1.59 H	9	91.9	38.6
3	*5755.00	120.9 AV			1.59 H	9	82.3	38.6
4	#5977.60	63.2 PK	68.2	-5.0	1.59 H	9	60.7	2.5
5	11510.00	53.2 PK	74.0	-20.8	1.82 H	8	39.3	13.9
6	11510.00	40.6 AV	54.0	-13.4	1.82 H	8	26.7	13.9
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	#5648.00	67.2 PK	68.2	-1.0	1.62 V	9	65.6	1.6
2	*5755.00	130.4 PK			1.62 V	9	91.8	38.6
3	*5755.00	121.1 AV			1.62 V	9	82.5	38.6
4	#5950.40	62.7 PK	68.2	-5.5	1.62 V	9	60.3	2.4
5	11510.00	54.5 PK	74.0	-19.5	1.58 V	189	40.6	13.9
6	11510.00	40.4 AV	54.0	-13.6	1.58 V	189	26.5	13.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	63.7 PK	68.2	-4.5	1.66 H	8	62.1	1.6
2	*5795.00	131.6 PK			1.66 H	8	92.9	38.7
3	*5795.00	122.0 AV			1.66 H	8	83.3	38.7
4	#5932.00	67.1 PK	68.2	-1.1	1.66 H	8	64.7	2.4
5	11590.00	54.1 PK	74.0	-19.9	1.90 H	2	40.3	13.8
6	11590.00	40.3 AV	54.0	-13.7	1.90 H	2	26.5	13.8
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	#5648.00	64.8 PK	68.2	-3.4	1.66 V	8	63.2	1.6
2	*5795.00	131.6 PK			1.66 V	8	92.9	38.7
3	*5795.00	121.9 AV			1.66 V	8	83.2	38.7
4	#5926.40	66.8 PK	68.2	-1.4	1.66 V	8	64.4	2.4
5	11510.00	54.3 PK	74.0	-19.7	1.52 V	187	40.4	13.9
6	11510.00	40.6 AV	54.0	-13.4	1.52 V	187	26.7	13.9

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	64.3 PK	74.0	-9.7	1.48 H	3	63.2	1.1
2	5150.00	52.2 AV	54.0	-1.8	1.48 H	3	51.1	1.1
3	*5210.00	113.3 PK			1.57 H	7	75.5	37.8
4	*5210.00	103.4 AV			1.57 H	7	65.6	37.8
5	5350.00	59.1 PK	74.0	-14.9	1.51 H	6	58.2	0.9
6	5350.00	48.7 AV	54.0	-5.3	1.51 H	6	47.8	0.9
7	#10420.00	53.6 PK	68.2	-14.6	1.66 H	238	39.8	13.8
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	64.8 PK	74.0	-9.2	1.52 V	5	63.7	1.1
2	5150.00	52.7 AV	54.0	-1.3	1.52 V	5	51.6	1.1
3	*5210.00	114.1 PK			1.53 V	4	76.3	37.8
4	*5210.00	104.2 AV			1.53 V	4	66.4	37.8
5	5350.00	59.8 PK	74.0	-14.2	1.56 V	5	58.9	0.9
6	5350.00	49.4 AV	54.0	-4.6	1.56 V	5	48.5	0.9
7	#10420.00	54.3 PK	68.2	-13.9	1.59 V	242	40.5	13.8

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 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	#5642.40	66.8 PK	68.2	-1.4	1.64 H	9	65.2	1.6
2	*5775.00	123.0 PK			1.64 H	9	84.4	38.6
3	*5775.00	112.8 AV			1.64 H	9	74.2	38.6
4	#5930.40	66.9 PK	68.2	-1.3	1.64 H	9	64.5	2.4
5	11550.00	54.1 PK	74.0	-19.9	1.90 H	9	40.3	13.8
6	11550.00	41.0 AV	54.0	-13.0	1.90 H	9	27.2	13.8
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	#5646.40	67.2 PK	68.2	-1.0	1.66 V	8	65.6	1.6
2	*5775.00	122.9 PK			1.66 V	8	84.3	38.6
3	*5775.00	113.1 AV			1.66 V	8	74.5	38.6
4	#5924.80	65.6 PK	68.3	-2.7	1.66 V	8	63.2	2.4
5	11550.00	54.7 PK	74.0	-19.3	1.52 V	190	40.9	13.8
6	11550.00	40.9 AV	54.0	-13.1	1.52 V	190	27.1	13.8

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:

Test Mode A

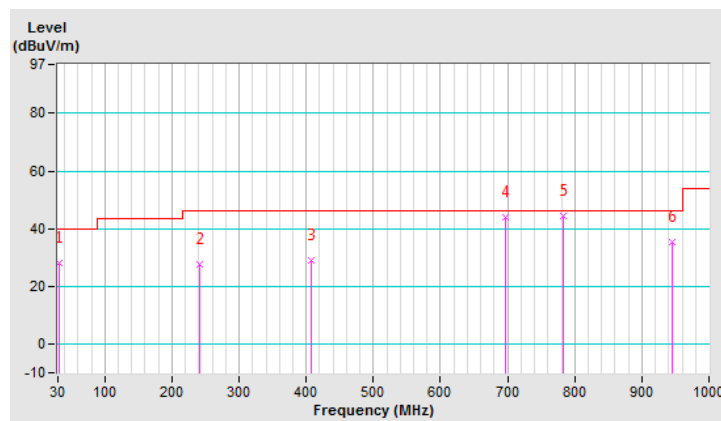
802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.91	28.3 PK	40.0	-11.7	1.25 H	348	39.4	-11.1
2	240.49	27.7 PK	46.0	-18.3	1.50 H	169	37.7	-10.0
3	408.30	29.0 PK	46.0	-17.0	2.00 H	139	35.1	-6.1
4	696.39	43.8 PK	46.0	-2.2	1.50 H	160	44.6	-0.8
5	783.69	44.5 PK	46.0	-1.5	1.25 H	180	42.9	1.6
6	945.68	35.2 PK	46.0	-10.8	1.00 H	12	31.0	4.2

Remarks:

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

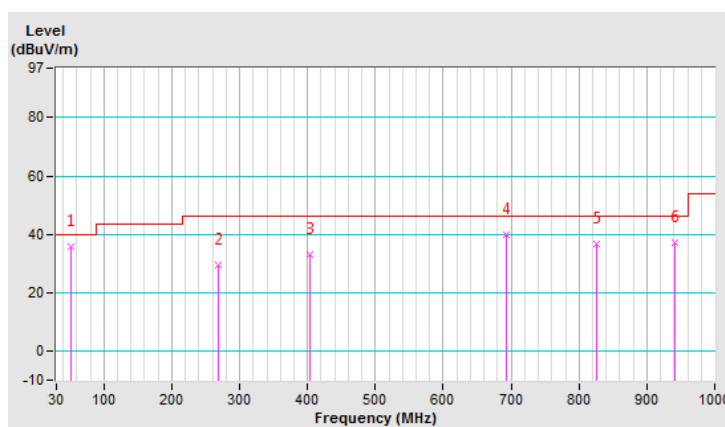


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.34	35.6 PK	40.0	-4.4	1.50 V	10	45.5	-9.9
2	268.62	29.5 PK	46.0	-16.5	1.25 V	155	38.3	-8.8
3	403.45	33.1 PK	46.0	-12.9	1.25 V	155	39.3	-6.2
4	692.51	40.0 PK	46.0	-6.0	1.00 V	181	40.8	-0.8
5	826.37	36.5 PK	46.0	-9.5	1.50 V	120	34.4	2.1
6	941.80	37.2 PK	46.0	-8.8	1.00 V	67	33.1	4.1

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



Test Mode B

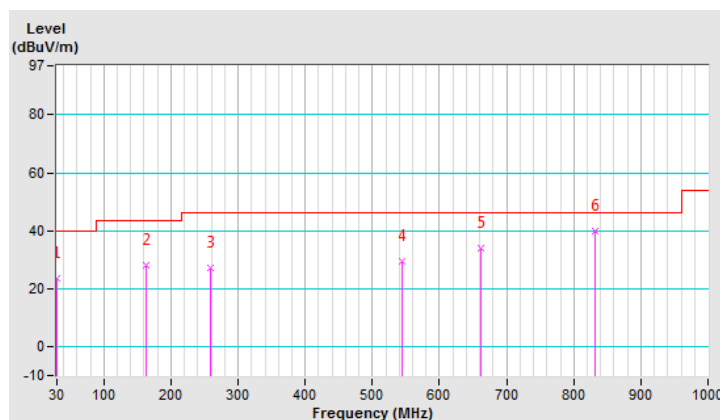
802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.97	23.7 QP	40.0	-16.3	1.25 H	249	35.1	-11.4
2	162.89	28.3 QP	43.5	-15.2	1.50 H	120	37.6	-9.3
3	257.95	27.2 QP	46.0	-18.8	1.25 H	345	36.6	-9.4
4	545.07	29.4 QP	46.0	-16.6	1.00 H	214	33.3	-3.9
5	661.47	34.1 QP	46.0	-11.9	1.25 H	256	35.3	-1.2
6	831.22	40.0 QP	46.0	-6.0	1.50 H	22	37.8	2.2

Remarks:

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

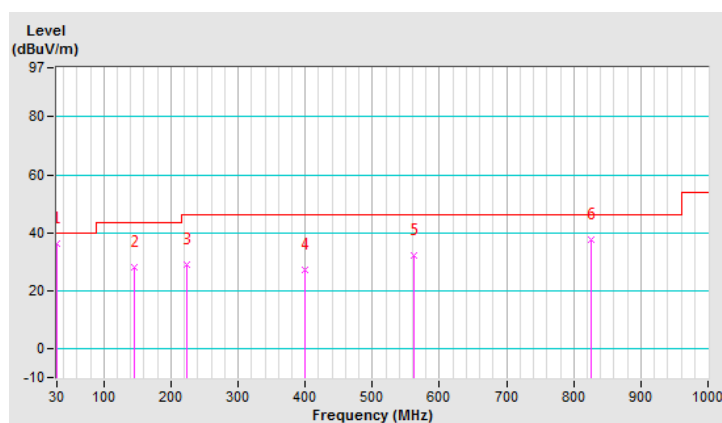


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	36.1 QP	40.0	-3.9	1.50 V	1	47.3	-11.2
2	144.46	28.0 QP	43.5	-15.5	1.50 V	305	37.6	-9.6
3	224.00	29.2 QP	46.0	-16.8	1.25 V	199	40.3	-11.1
4	399.57	27.0 QP	46.0	-19.0	1.00 V	120	33.3	-6.3
5	562.53	32.0 QP	46.0	-14.0	1.00 V	169	35.5	-3.5
6	826.37	37.4 QP	46.0	-8.6	1.50 V	272	35.3	2.1

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



Test Mode C

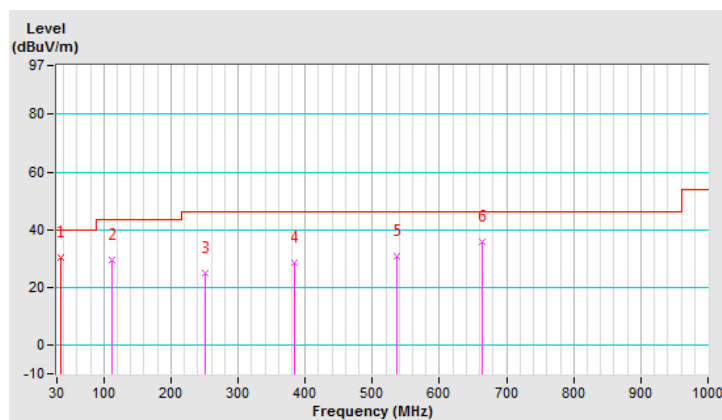
802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	36.79	30.3 QP	40.0	-9.7	1.25 H	321	40.8	-10.5
2	112.45	29.5 PK	43.5	-14.0	1.00 H	198	41.7	-12.2
3	251.16	24.9 PK	46.0	-21.1	1.25 H	339	34.6	-9.7
4	384.05	28.5 PK	46.0	-17.5	1.25 H	173	35.0	-6.5
5	536.34	30.7 PK	46.0	-15.3	1.50 H	197	34.7	-4.0
6	663.41	35.7 PK	46.0	-10.3	1.50 H	201	36.7	-1.0

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 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

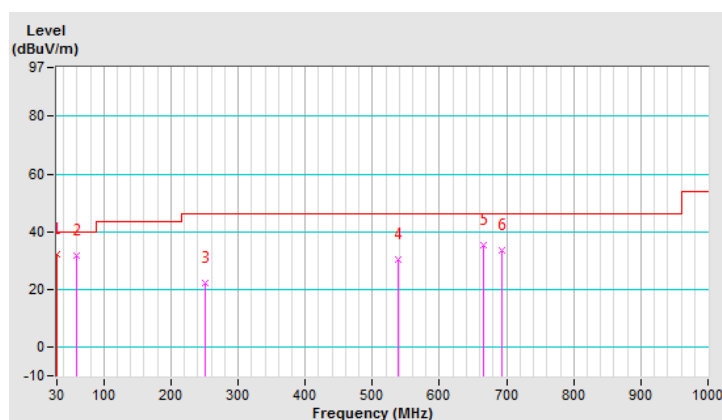


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	32.2 QP	40.0	-7.8	1.50 V	178	43.4	-11.2
2	59.10	31.7 PK	40.0	-8.3	1.00 V	91	42.0	-10.3
3	251.16	22.4 PK	46.0	-23.6	1.25 V	357	32.1	-9.7
4	539.25	30.2 PK	46.0	-15.8	1.25 V	199	34.2	-4.0
5	666.32	35.4 PK	46.0	-10.6	1.00 V	214	36.4	-1.0
6	692.51	33.7 PK	46.0	-12.3	1.50 V	222	34.5	-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



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

Test Date: Jan. 21 ~ Feb. 19, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
			Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Conf_ 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.

Test Date: May 29 ~ Jun. 06, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 14, 2019	Feb. 13, 2020
RF signal cable Woken	5D-FB	Cable-cond2-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 30, 2019	Jan. 29, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 13, 2018	Aug. 12, 2019
Software ADT	BV ADT_Conf_ 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 2.
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

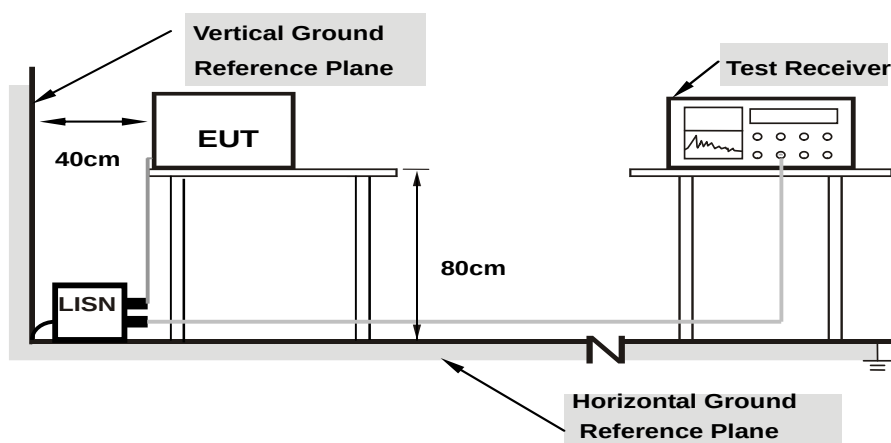
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Test Mode A

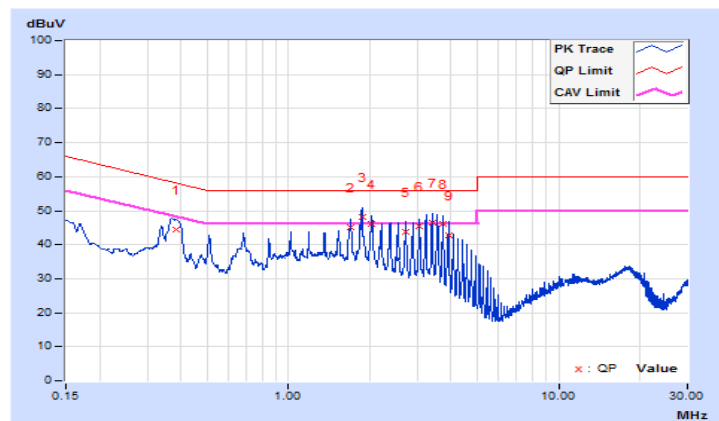
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.38260	10.07	34.34	25.83	44.41	35.90	58.22	48.22	-13.81	-12.32
2	1.70069	10.09	35.09	29.58	45.18	39.67	56.00	46.00	-10.82	-6.33
3	1.87125	10.09	38.11	33.15	48.20	43.24	56.00	46.00	-7.80	-2.76
4	2.03934	10.09	36.16	29.49	46.25	39.58	56.00	46.00	-9.75	-6.42
5	2.71950	10.11	33.68	27.47	43.79	37.58	56.00	46.00	-12.21	-8.42
6	3.05925	10.12	35.21	29.26	45.33	39.38	56.00	46.00	-10.67	-6.62
7	3.39900	10.13	36.43	31.07	46.56	41.20	56.00	46.00	-9.44	-4.80
8	3.73875	10.14	35.84	29.86	45.98	40.00	56.00	46.00	-10.02	-6.00
9	3.90750	10.15	32.73	27.10	42.88	37.25	56.00	46.00	-13.12	-8.75

Remarks:

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

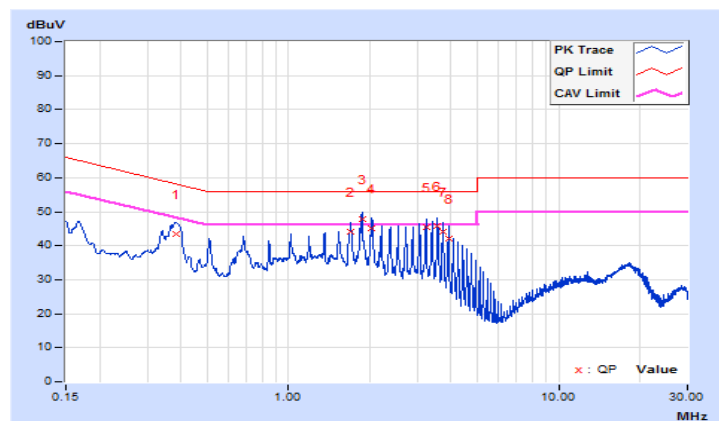


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.38260	10.13	33.38	25.12	43.51	35.25	58.22	48.22	-14.71	-12.97
2	1.70250	10.15	33.92	28.02	44.07	38.17	56.00	46.00	-11.93	-7.83
3	1.87125	10.15	37.62	32.38	47.77	42.53	56.00	46.00	-8.23	-3.47
4	2.04000	10.15	34.94	28.73	45.09	38.88	56.00	46.00	-10.91	-7.12
5	3.23048	10.19	35.12	29.54	45.31	39.73	56.00	46.00	-10.69	-6.27
6	3.57000	10.20	35.64	29.94	45.84	40.14	56.00	46.00	-10.16	-5.86
7	3.74100	10.21	34.04	28.13	44.25	38.34	56.00	46.00	-11.75	-7.66
8	3.90975	10.22	31.85	25.90	42.07	36.12	56.00	46.00	-13.93	-9.88

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.



Test Mode B

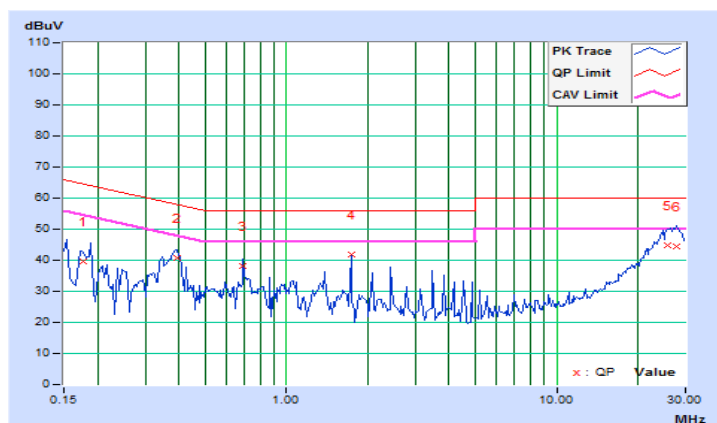
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17762	9.67	30.09	18.79	39.76	28.46	64.60	54.60	-24.84	-26.14
2	0.39219	9.66	31.24	25.44	40.90	35.10	58.02	48.02	-17.12	-12.92
3	0.69297	9.66	28.47	26.72	38.13	36.38	56.00	46.00	-17.87	-9.62
4	1.73438	9.67	32.28	31.43	41.95	41.10	56.00	46.00	-14.05	-4.90
5	25.80469	9.92	34.95	29.74	44.87	39.66	60.00	50.00	-15.13	-10.34
6	27.97266	9.92	34.67	29.32	44.59	39.24	60.00	50.00	-15.41	-10.76

Remarks:

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

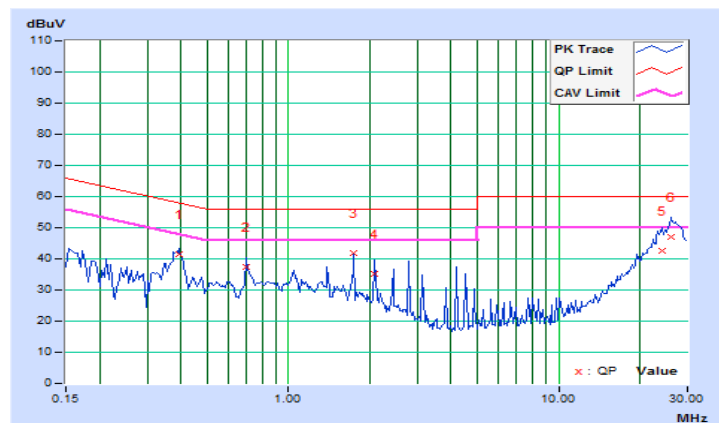


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.39219	9.67	31.95	25.90	41.62	35.57	58.02	48.02	-16.40	-12.45
2	0.69688	9.66	27.72	24.76	37.38	34.42	56.00	46.00	-18.62	-11.58
3	1.73450	9.67	32.34	31.41	42.01	41.08	56.00	46.00	-13.99	-4.92
4	2.08232	9.68	25.39	24.86	35.07	34.54	56.00	46.00	-20.93	-11.46
5	24.06641	10.03	32.69	27.35	42.72	37.38	60.00	50.00	-17.28	-12.62
6	26.01953	10.03	36.87	31.80	46.90	41.83	60.00	50.00	-13.10	-8.17

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.



Test Mode C

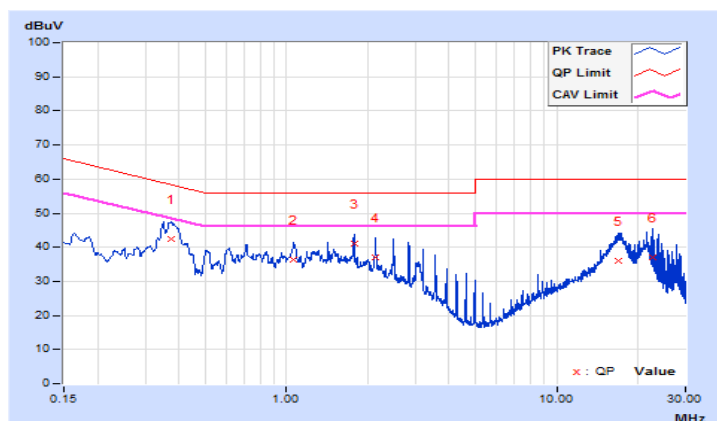
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.37263	10.07	32.25	21.05	42.32	31.12	58.44	48.44	-16.12	-17.32
2	1.06577	10.08	26.41	19.49	36.49	29.57	56.00	46.00	-19.51	-16.43
3	1.77675	10.09	31.07	29.88	41.16	39.97	56.00	46.00	-14.84	-6.03
4	2.13225	10.09	26.86	22.91	36.95	33.00	56.00	46.00	-19.05	-13.00
5	16.93050	10.45	25.74	18.92	36.19	29.37	60.00	50.00	-23.81	-20.63
6	22.74836	10.46	26.74	24.83	37.20	35.29	60.00	50.00	-22.80	-14.71

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.

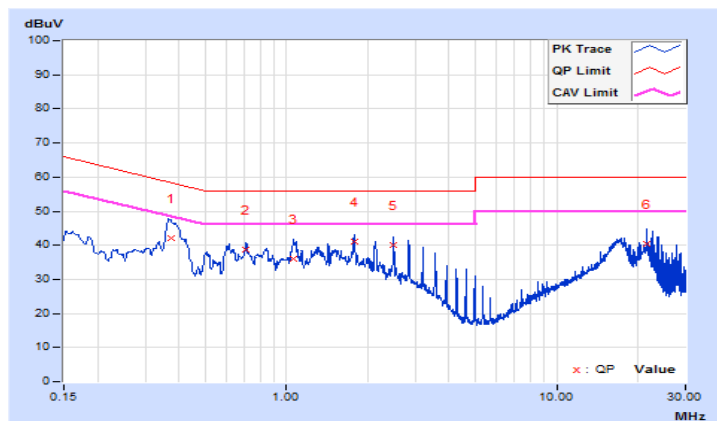


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.37263	10.13	31.82	20.82	41.95	30.95	58.44	48.44	-16.49	-17.49
2	0.71025	10.14	28.70	23.11	38.84	33.25	56.00	46.00	-17.16	-12.75
3	1.06350	10.14	25.80	18.60	35.94	28.74	56.00	46.00	-20.06	-17.26
4	1.77675	10.15	30.93	29.84	41.08	39.99	56.00	46.00	-14.92	-6.01
5	2.48740	10.17	29.73	28.20	39.90	38.37	56.00	46.00	-16.10	-7.63
6	21.67932	10.63	29.79	26.18	40.42	36.81	60.00	50.00	-19.58	-13.19

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	√ (For Test Mode A, B)	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≤ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	√ (For Test Mode C)	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} ;

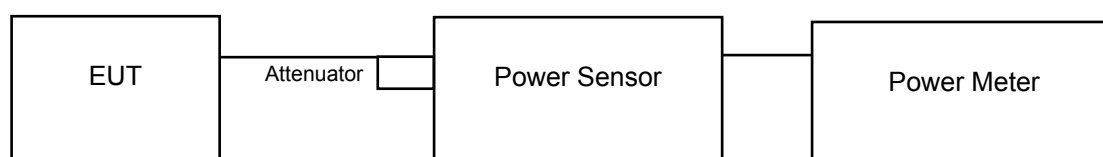
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

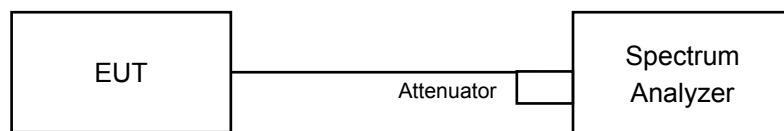
4.3.2 Test Setup

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 Average Power Measurement

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

For U-NII-1 Band (Outdoor Access Point)

Test Mode A

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	11.60	10.94	26.871	14.29	18.00	0.77	15.06	21.00	Pass
40	5200	11.89	11.08	28.276	14.51	18.00	0.77	15.28	21.00	Pass
48	5240	11.80	10.91	27.467	14.39	18.00	0.77	15.16	21.00	Pass

Note:

1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to $30-(18-6) = 18\text{dBm}$.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	11.82	11.11	28.117	14.49	18.00	0.77	15.26	21.00	Pass
40	5200	11.96	11.14	28.706	14.58	18.00	0.77	15.35	21.00	Pass
48	5240	11.52	10.78	26.158	14.18	18.00	0.77	14.95	21.00	Pass

Note:

1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to $30-(18-6) = 18\text{dBm}$.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	14.24	13.58	49.349	16.93	18.00	0.77	17.70	21.00	Pass
46	5230	14.76	13.98	54.926	17.40	18.00	0.77	18.17	21.00	Pass

Note:

1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to $30-(18-6) = 18\text{dBm}$.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	14.86	14.10	56.324	17.51	18.00	0.77	18.28	21.00	Pass

Note:

1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to $30-(18-6) = 18\text{dBm}$.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

For U-NII-1 Band (Outdoor Access Point)

Test Mode B

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	19.72	19.74	187.945	22.74	26.00	-4.88	17.86	21.00	Pass
40	5200	19.89	19.18	180.293	22.56	26.00	-4.88	17.68	21.00	Pass
48	5240	19.90	18.72	172.197	22.36	26.00	-4.88	17.48	21.00	Pass

Note:

1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	19.91	19.61	189.360	22.77	26.00	-4.88	17.89	21.00	Pass
40	5200	19.60	18.80	167.059	22.23	26.00	-4.88	17.35	21.00	Pass
48	5240	20.08	19.15	184.083	22.65	26.00	-4.88	17.77	21.00	Pass

Note:

1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	20.01	19.88	197.506	22.96	26.00	-4.88	18.08	21.00	Pass
46	5230	22.36	21.84	324.944	25.12	26.00	-4.88	20.24	21.00	Pass

Note:

1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	19.64	19.54	181.995	22.60	26.00	-4.88	17.72	21.00	Pass

Note:

1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Fixed point-to-point Access Point)

Test Mode C

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	10.71	10.68	23.471	13.71	30.00	Pass
40	5200	11.49	11.09	26.946	14.30	30.00	Pass
48	5240	12.11	12.14	32.623	15.14	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

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	10.92	10.90	24.662	13.92	30.00	Pass
40	5200	11.78	11.79	30.167	14.80	30.00	Pass
48	5240	12.39	12.46	34.958	15.44	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

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	10.45	10.51	22.338	13.49	30.00	Pass
46	5230	11.48	11.47	28.088	14.49	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

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	10.57	10.48	22.571	13.54	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

For U-NII-3 Band

Test Mode A

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	14.52	15.09	60.599	17.82	18.00	Pass
157	5785	14.62	14.88	59.734	17.76	18.00	Pass
165	5825	14.73	14.66	58.959	17.71	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
149	5745	14.36	15.04	59.205	17.72	18.00	Pass
157	5785	14.67	14.91	60.283	17.80	18.00	Pass
165	5825	14.81	14.69	59.713	17.76	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
151	5755	14.61	15.23	62.250	17.94	18.00	Pass
159	5795	14.74	15.15	62.519	17.96	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
155	5775	14.43	15.03	59.575	17.75	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

Test Mode B

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	22.38	22.81	363.967	25.61	26.00	Pass
157	5785	22.41	22.83	366.048	25.64	26.00	Pass
165	5825	22.63	22.52	361.880	25.59	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
149	5745	22.41	22.90	369.165	25.67	26.00	Pass
157	5785	22.54	22.71	366.111	25.64	26.00	Pass
165	5825	22.95	22.57	377.959	25.77	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
151	5755	22.51	23.05	380.075	25.80	26.00	Pass
159	5795	22.53	22.96	376.758	25.76	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
155	5775	22.49	23.15	383.957	25.84	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

Test Mode C

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	26.16	26.37	846.559	29.28	30.00	Pass
157	5785	25.68	25.62	734.582	28.66	30.00	Pass
165	5825	25.91	25.17	718.794	28.57	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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				
149	5745	25.47	26.51	800.084	29.03	30.00	Pass
157	5785	25.73	26.00	772.218	28.88	30.00	Pass
165	5825	25.96	25.64	760.895	28.81	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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				
151	5755	23.96	24.34	520.530	27.16	30.00	Pass
159	5795	24.97	24.88	621.661	27.94	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

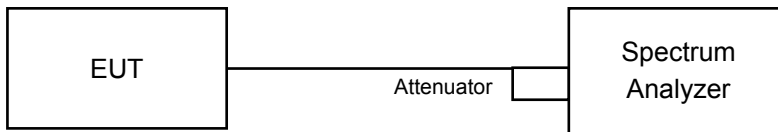
802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
155	5775	19.28	19.80	180.222	22.56	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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

Test Mode A

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.32	16.56
40	5200	16.32	16.44
48	5240	16.32	16.44
149	5745	16.56	16.56
157	5785	16.56	16.44
165	5825	16.32	16.44

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.52	17.64
48	5240	17.52	17.64
149	5745	17.76	17.64
157	5785	17.64	17.64
165	5825	17.64	17.64

802.11n (HT40)

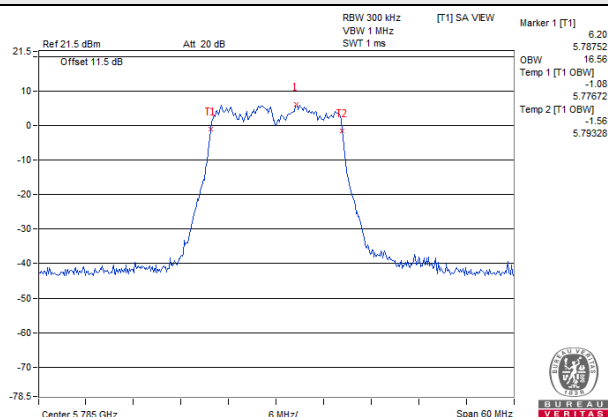
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	36.12	36.12
151	5755	36.00	36.00
159	5795	36.12	35.88

802.11ac (VHT80)

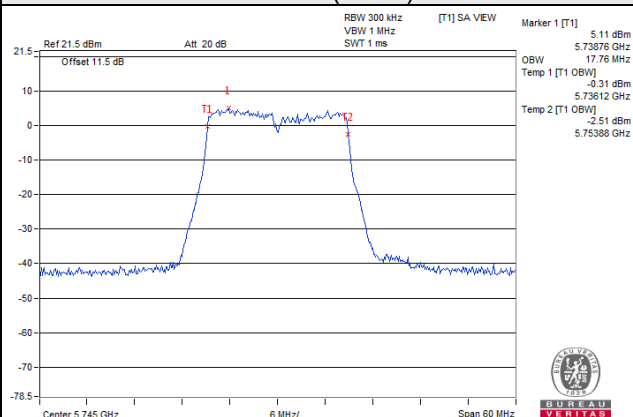
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
155	5775	75.84	75.60

Spectrum Plot of Worst Value

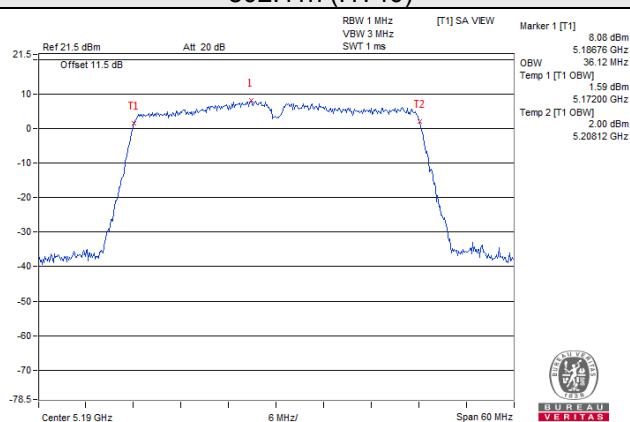
802.11a



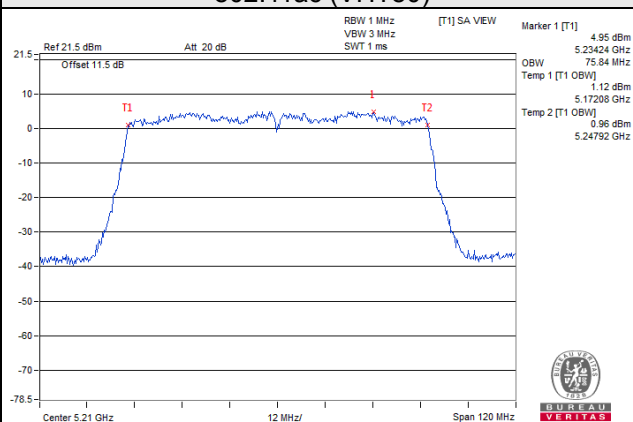
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode B

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.44
40	5200	16.44	16.32
48	5240	16.44	16.44
149	5745	16.56	16.56
157	5785	16.56	16.56
165	5825	16.56	16.56

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.52	17.64
40	5200	17.64	17.64
48	5240	17.52	17.52
149	5745	17.64	17.64
157	5785	17.64	17.64
165	5825	17.64	17.64

802.11n (HT40)

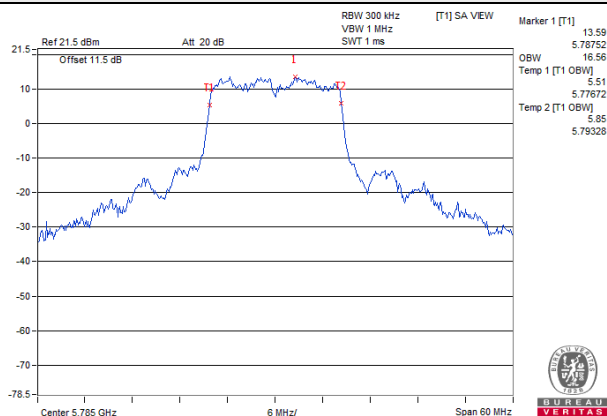
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.24
46	5230	36.36	36.36
151	5755	36.12	36.00
159	5795	36.36	36.24

802.11ac (VHT80)

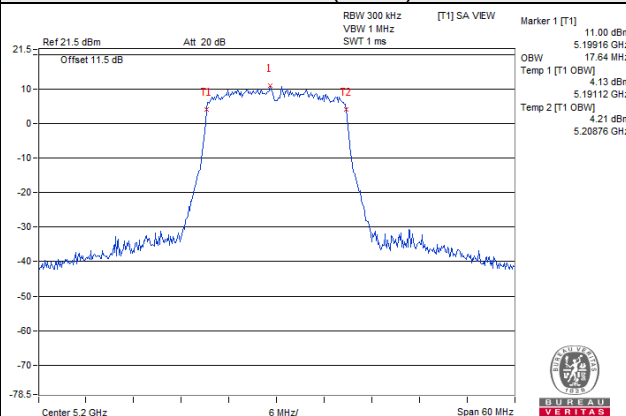
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
155	5775	76.08	76.08

Spectrum Plot of Worst Value

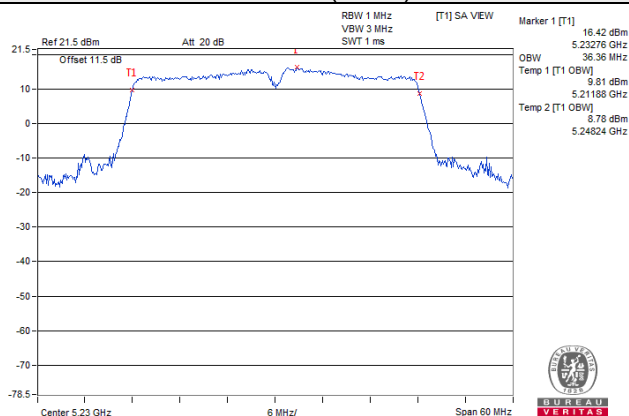
802.11a



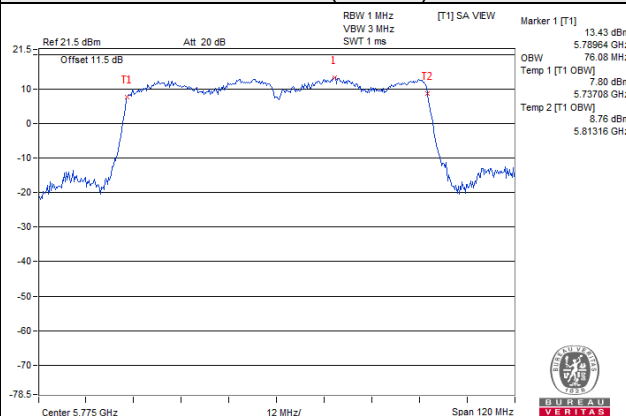
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.32	16.32
40	5200	16.32	16.32
48	5240	16.32	16.32
149	5745	26.61	27.48
157	5785	26.04	25.44
165	5825	29.28	24.36

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.52	17.64
48	5240	17.52	17.52
149	5745	22.92	28.92
157	5785	26.28	27.60
165	5825	28.44	26.52

802.11n (HT40)

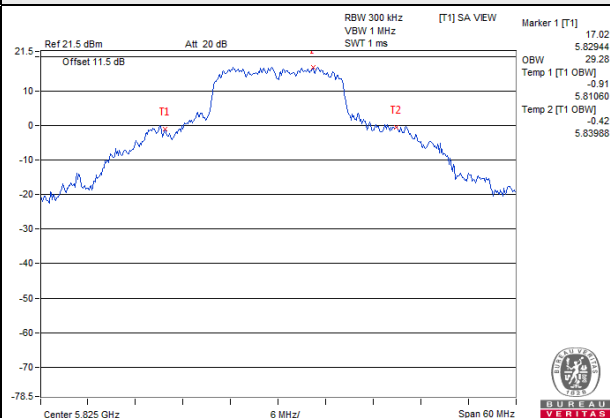
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	36.12	36.24
151	5755	36.48	36.72
159	5795	38.28	37.32

802.11ac (VHT80)

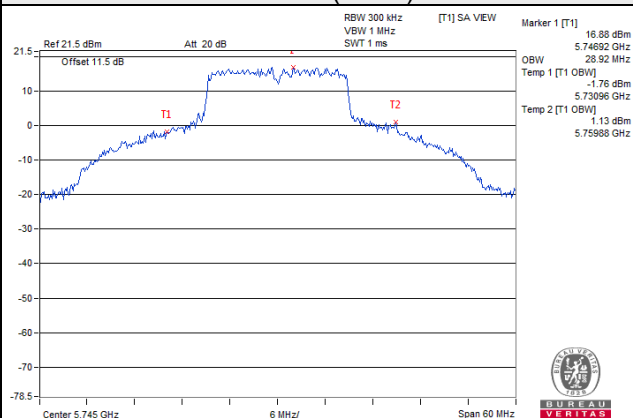
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.56	75.84
155	5775	75.84	75.84

Spectrum Plot of Worst Value

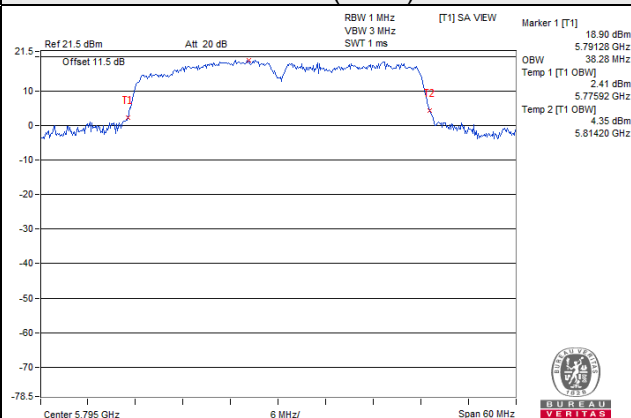
802.11a



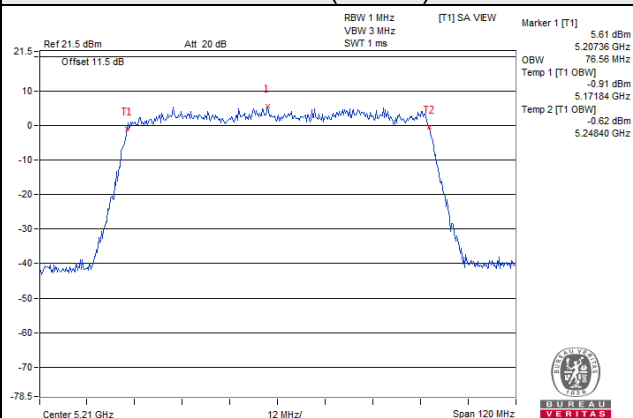
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

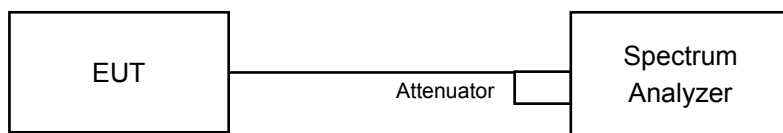


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1	√ (For Test Mode A, B)	Outdoor Access Point	17dBm/ MHz
	√ (For Test Mode C)	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 $\geq 98\%$

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 $10 \log (1/\text{duty cycle})$

For U-NII-3 band:

Duty cycle of test signal is $\geq 98\%$

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW ≥ 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 ≥ 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 (Outdoor Access Point)

Test Mode A

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	-1.25	-1.97	0.23	1.65	1.99	Pass
40	5200	-1.32	-1.82	0.23	1.68	1.99	Pass
48	5240	-1.22	-1.56	0.23	1.85	1.99	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 = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(21.01-6) = 1.99\text{dBm}$.
3. 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	-1.52	-1.53	1.49	1.99	Pass
40	5200	-1.27	-1.73	1.52	1.99	Pass
48	5240	-1.47	-1.41	1.57	1.99	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 = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(21.01-6) = 1.99\text{dBm}$.

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	-1.49	-1.57	0.19	1.67	1.99	Pass
46	5230	-1.15	-1.32	0.19	1.97	1.99	Pass

Note:

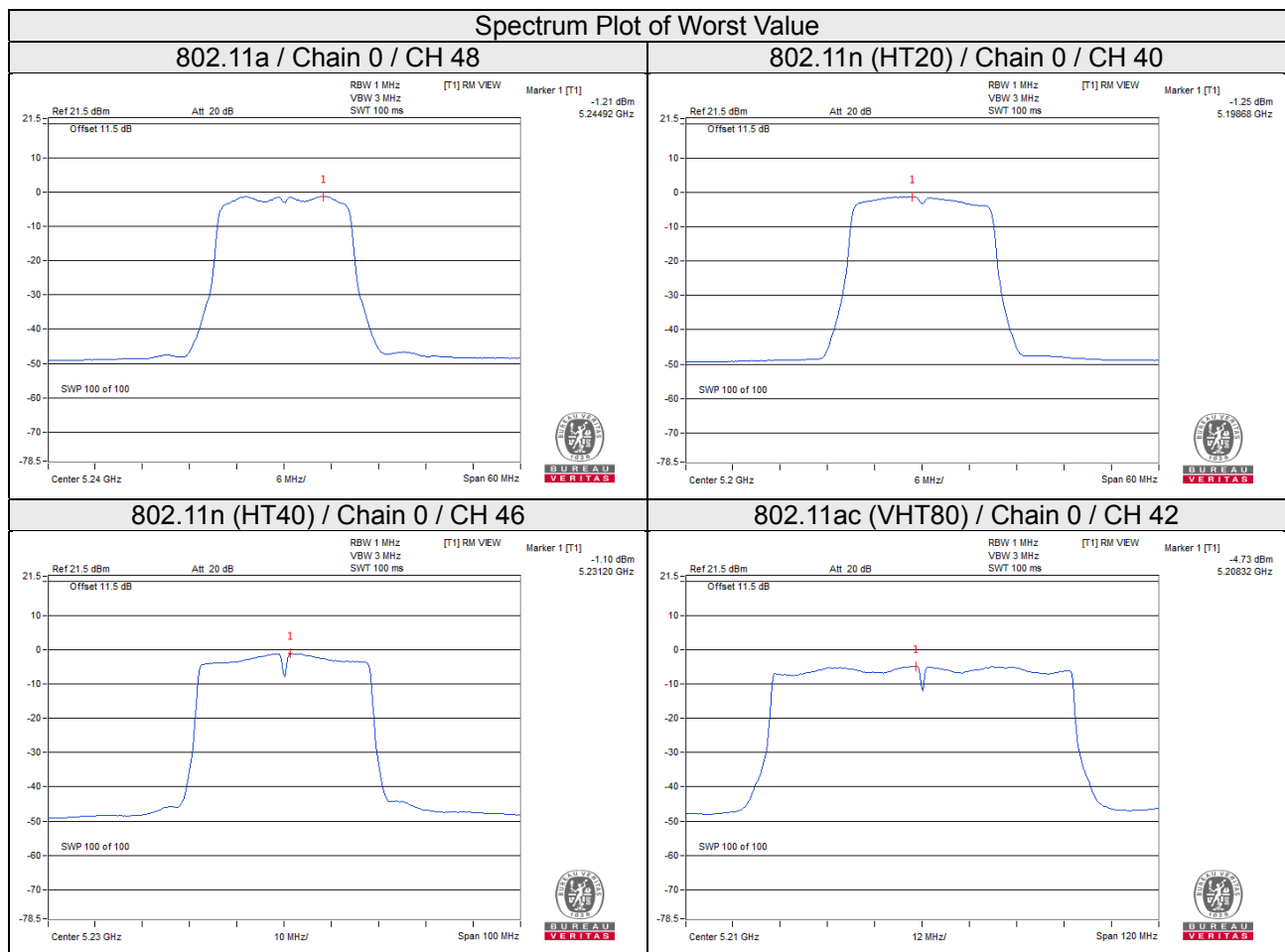
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(21.01-6) = 1.99\text{dBm}$.
3. 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	-4.83	-5.64	0.35	-1.86	1.99	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 = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(21.01-6) = 1.99\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-1 Band (Outdoor Access Point)

Test Mode B

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	6.84	6.29	0.23	9.81	9.99	Pass
40	5200	6.85	6.46	0.23	9.90	9.99	Pass
48	5240	6.55	6.51	0.23	9.77	9.99	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(13.01-6) = 9.99\text{dBm}$.
- 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	6.77	6.80	9.80	9.99	Pass
40	5200	6.61	6.55	9.59	9.99	Pass
48	5240	6.61	6.62	9.63	9.99	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(13.01-6) = 9.99\text{dBm}$.

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	4.20	4.19	0.19	7.40	9.99	Pass
46	5230	6.57	6.61	0.19	9.79	9.99	Pass

Note:

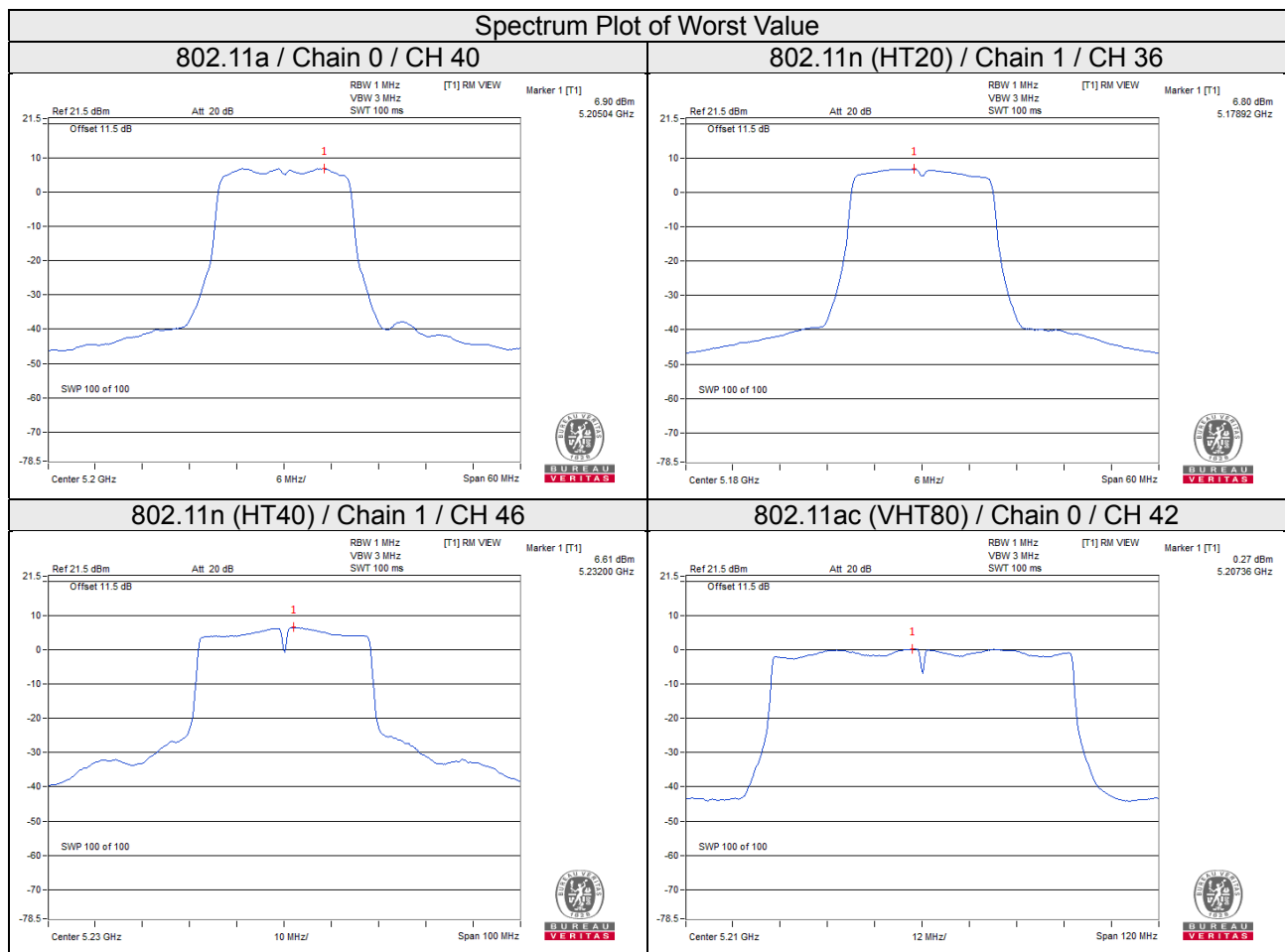
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(13.01-6) = 9.99\text{dBm}$.
- 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	0.26	0.13	0.35	3.56	9.99	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (13.01 - 6) = 9.99\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-1 Band (Fixed point-to-point Access Point)

Test Mode C

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	-2.00	-1.96	0.23	1.26	13.99	Pass
40	5200	-1.37	-1.37	0.23	1.87	13.99	Pass
48	5240	-0.36	-0.38	0.23	2.87	13.99	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 = $23.0\text{dBi} + 10\log(2) = 26.01\text{dBi} > 23\text{dBi}$, so the power density limit shall be reduced to $17-(26.01-23) = 13.99\text{dBm}$.
3. 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	-2.20	-2.25	0.79	13.99	Pass
40	5200	-1.37	-1.38	1.64	13.99	Pass
48	5240	-0.30	-0.28	2.72	13.99	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 = $23.0\text{dBi} + 10\log(2) = 26.01\text{dBi} > 23\text{dBi}$, so the power density limit shall be reduced to $17-(26.01-23) = 13.99\text{dBm}$.

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	-5.15	-5.10	0.19	-1.92	13.99	Pass
46	5230	-3.82	-3.81	0.19	-0.61	13.99	Pass

Note:

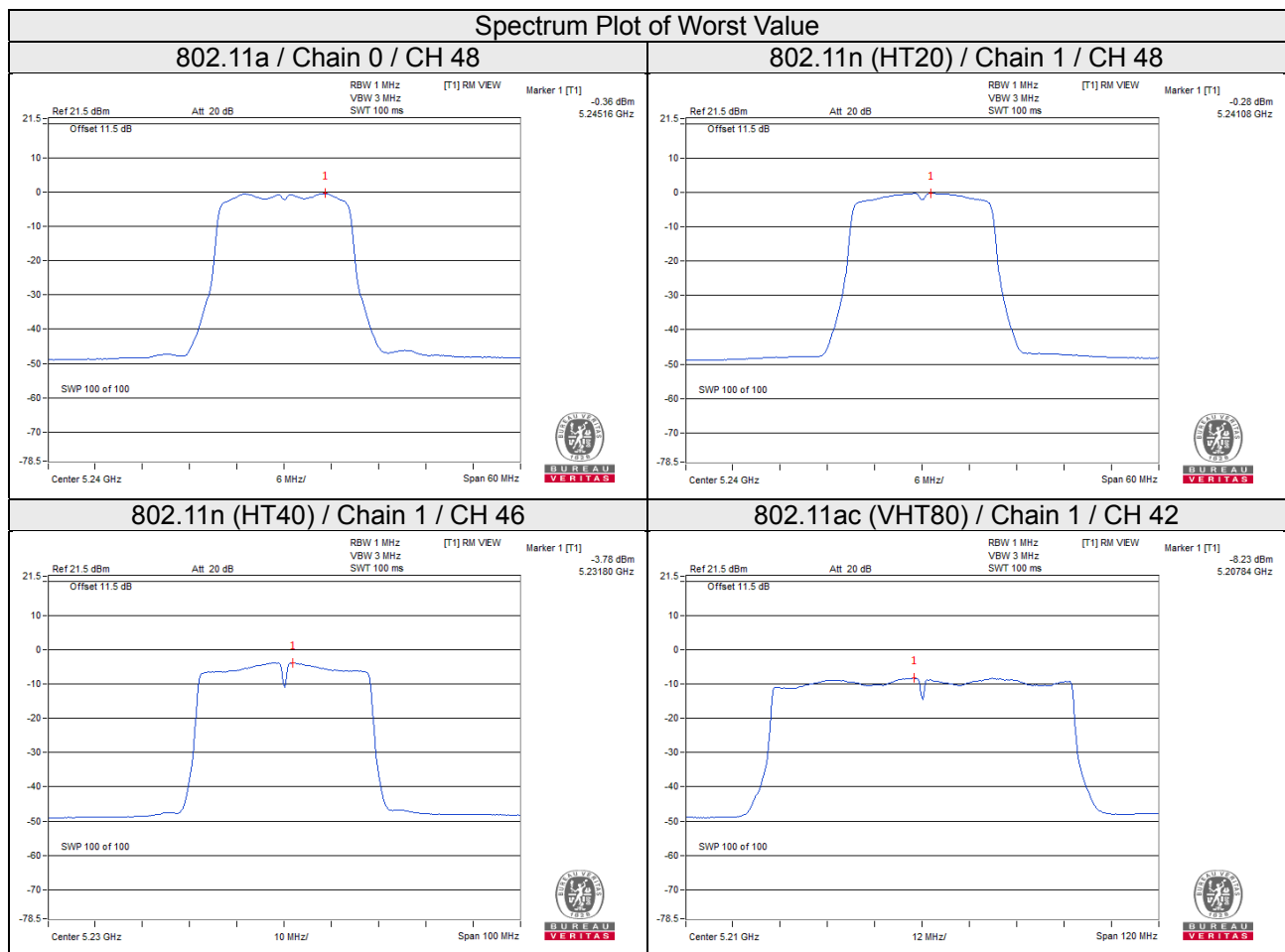
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $23.0\text{dBi} + 10\log(2) = 26.01\text{dBi} > 23\text{dBi}$, so the power density limit shall be reduced to $17-(26.01-23) = 13.99\text{dBm}$.
3. 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	-8.27	-8.27	0.35	-4.91	13.99	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 = $23.0\text{dBi} + 10\log(2) = 26.01\text{dBi} > 23\text{dBi}$, so the power density limit shall be reduced to $17 - (26.01 - 23) = 13.99\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band (Outdoor Access Point)

Test Mode A

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	-6.54	-4.32	3.01	0.23	-1.08	14.99	Pass
	157	5785	-6.28	-4.06	3.01	0.23	-0.82	14.99	Pass
	165	5825	-6.27	-4.05	3.01	0.23	-0.81	14.99	Pass
1	149	5745	-6.63	-4.41	3.01	0.23	-1.17	14.99	Pass
	157	5785	-6.64	-4.42	3.01	0.23	-1.18	14.99	Pass
	165	5825	-7.09	-4.87	3.01	0.23	-1.63	14.99	Pass

Note:

1. Directional gain = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(21.01-6) = 14.99\text{dBm}$.
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	-7.03	-4.81	3.01	-1.80	14.99	Pass
	157	5785	-6.47	-4.25	3.01	-1.24	14.99	Pass
	165	5825	-6.19	-3.97	3.01	-0.96	14.99	Pass
1	149	5745	-6.75	-4.53	3.01	-1.52	14.99	Pass
	157	5785	-6.97	-4.75	3.01	-1.74	14.99	Pass
	165	5825	-6.71	-4.49	3.01	-1.48	14.99	Pass

Note:

1. Directional gain = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(21.01-6) = 14.99\text{dBm}$.

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	-9.93	-7.71	3.01	0.19	-4.51	14.99	Pass
	159	5795	-9.50	-7.28	3.01	0.19	-4.08	14.99	Pass
1	151	5755	-10.01	-7.79	3.01	0.19	-4.59	14.99	Pass
	159	5795	-10.03	-7.81	3.01	0.19	-4.61	14.99	Pass

Note:

1. Directional gain = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(21.01-6) = 14.99\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

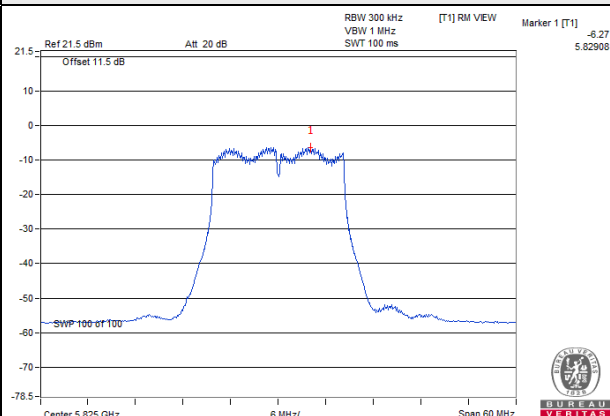
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-13.55	-11.33	3.01	0.35	-7.97	14.99	Pass
1	155	5775	-13.61	-11.39	3.01	0.35	-8.03	14.99	Pass

Note:

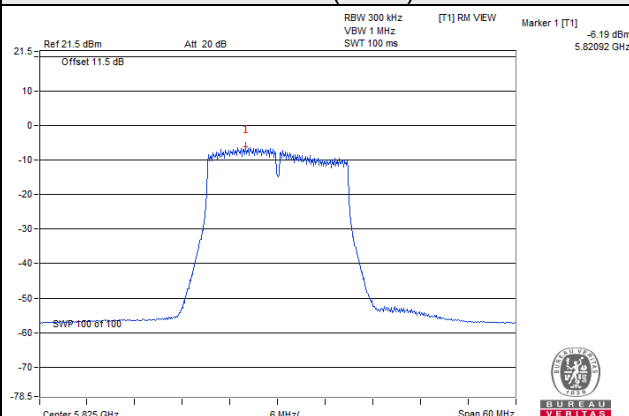
1. Directional gain = $18\text{dBi} + 10\log(2) = 21.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(21.01-6) = 14.99\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

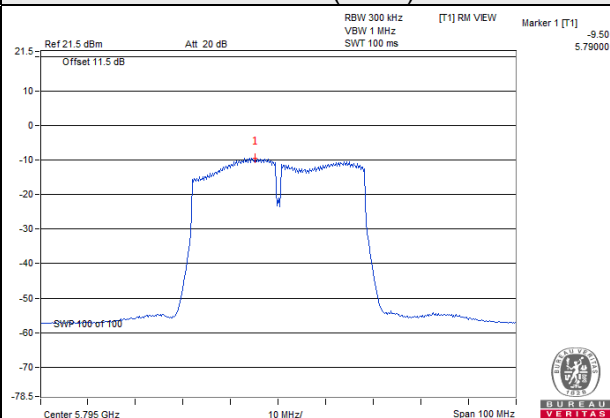
802.11a



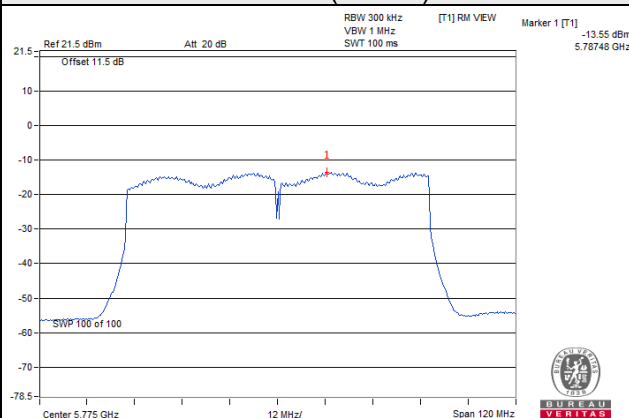
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 band (Outdoor Access Point)

Test Mode B

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	1.10	3.32	3.01	0.23	6.56	22.99	Pass
	157	5785	1.16	3.38	3.01	0.23	6.62	22.99	Pass
	165	5825	1.58	3.80	3.01	0.23	7.04	22.99	Pass
1	149	5745	1.11	3.33	3.01	0.23	6.57	22.99	Pass
	157	5785	1.30	3.52	3.01	0.23	6.76	22.99	Pass
	165	5825	1.56	3.78	3.01	0.23	7.02	22.99	Pass

Note:

1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.
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	0.55	2.77	3.01	5.78	22.99	Pass
	157	5785	1.16	3.38	3.01	6.39	22.99	Pass
	165	5825	1.39	3.61	3.01	6.62	22.99	Pass
1	149	5745	0.80	3.02	3.01	6.03	22.99	Pass
	157	5785	1.07	3.29	3.01	6.30	22.99	Pass
	165	5825	1.55	3.77	3.01	6.78	22.99	Pass

Note:

1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.

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	-2.14	0.08	3.01	0.19	3.28	22.99	Pass
	159	5795	-1.80	0.42	3.01	0.19	3.62	22.99	Pass
1	151	5755	-2.12	0.10	3.01	0.19	3.30	22.99	Pass
	159	5795	-1.71	0.51	3.01	0.19	3.71	22.99	Pass

Note:

1. Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (13.01 - 6) = 22.99\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

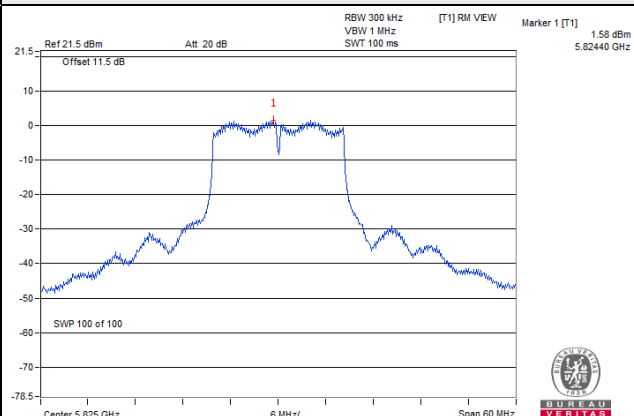
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-5.73	-3.51	3.01	0.35	-0.15	22.99	Pass
1	155	5775	-5.83	-3.61	3.01	0.35	-0.25	22.99	Pass

Note:

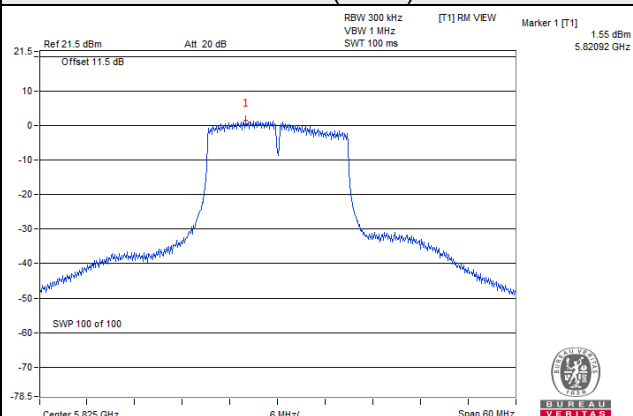
1. Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (13.01 - 6) = 22.99\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

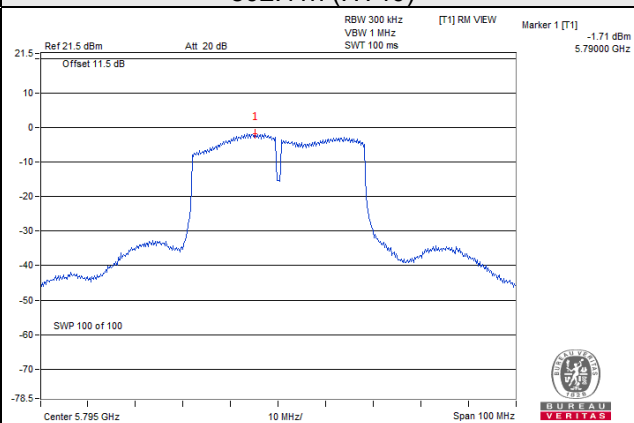
802.11a



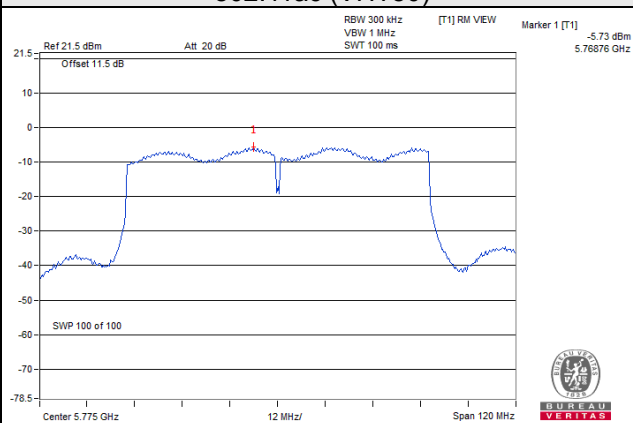
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 band (Fixed point-to-point Access Point)

Test Mode C

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	4.80	7.02	3.01	0.23	10.26	30.00	Pass
	157	5785	4.29	6.51	3.01	0.23	9.75	30.00	Pass
	165	5825	4.54	6.76	3.01	0.23	10.00	30.00	Pass
1	149	5745	4.53	6.75	3.01	0.23	9.99	30.00	Pass
	157	5785	3.76	5.98	3.01	0.23	9.22	30.00	Pass
	165	5825	3.60	5.82	3.01	0.23	9.06	30.00	Pass

Note:

1. The EUT is a point-to-point device, so the power density limit no need to reduce.
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	3.76	5.98	3.01	8.99	30.00	Pass
	157	5785	4.07	6.29	3.01	9.30	30.00	Pass
	165	5825	4.13	6.35	3.01	9.36	30.00	Pass
1	149	5745	3.90	6.12	3.01	9.13	30.00	Pass
	157	5785	3.80	6.02	3.01	9.03	30.00	Pass
	165	5825	3.45	5.67	3.01	8.68	30.00	Pass

Note:

1. The EUT is a point-to-point device, so the power density limit no need to reduce.

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	-0.48	1.74	3.01	0.19	4.94	30.00	Pass
	159	5795	0.52	2.74	3.01	0.19	5.94	30.00	Pass
1	151	5755	-0.78	1.44	3.01	0.19	4.64	30.00	Pass
	159	5795	-0.17	2.05	3.01	0.19	5.25	30.00	Pass

Note:

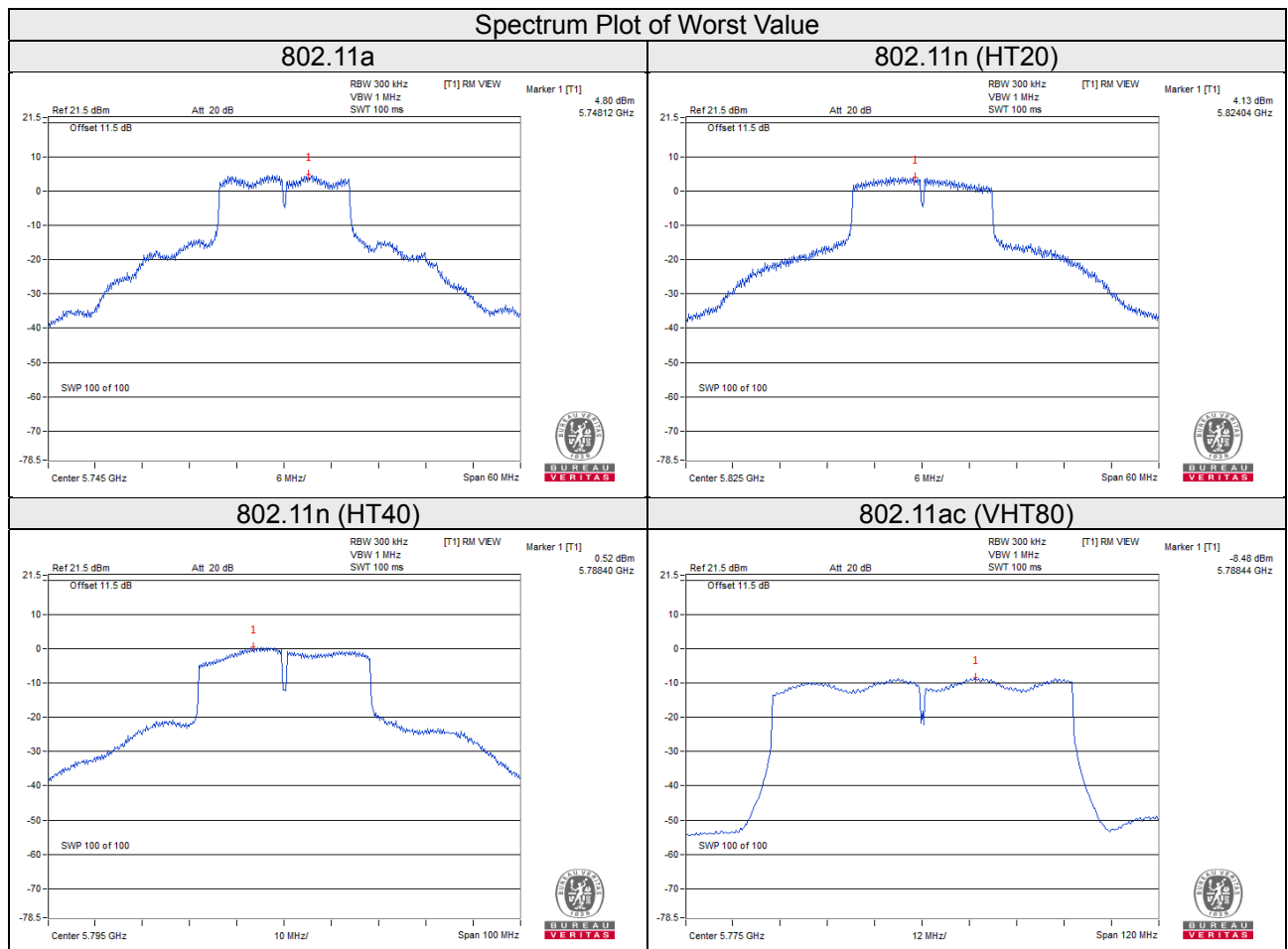
1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. Refer to section 3.3 for duty cycle spectrum plot.

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	-8.48	-6.26	3.01	0.35	-2.90	30.00	Pass
1	155	5775	-8.75	-6.53	3.01	0.35	-3.17	30.00	Pass

Note:

1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. Refer to section 3.3 for duty cycle spectrum plot.

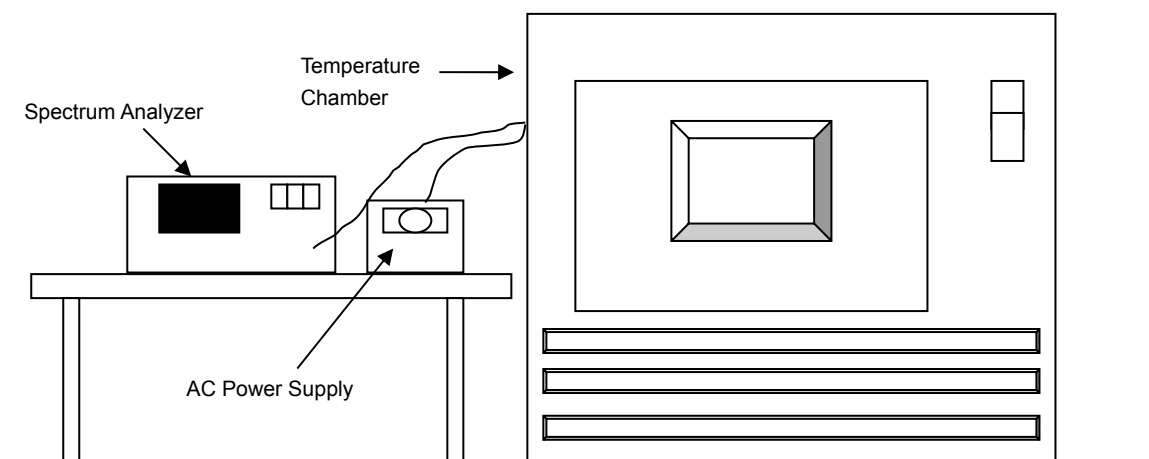


4.6 Frequency Stability

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

Refer to section 4.1.2 to get information of above instrument.

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

Test Mode A

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
65	120	5179.9726	PASS	5179.9728	PASS	5179.9724	PASS	5179.9766	PASS
60	120	5180.0122	PASS	5180.0110	PASS	5180.0079	PASS	5180.0107	PASS
50	120	5179.9773	PASS	5179.9755	PASS	5179.9756	PASS	5179.9770	PASS
40	120	5179.9798	PASS	5179.9828	PASS	5179.9810	PASS	5179.9826	PASS
30	120	5180.0056	PASS	5180.0072	PASS	5180.0055	PASS	5180.0050	PASS
20	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
10	120	5179.9950	PASS	5179.9946	PASS	5179.9925	PASS	5179.9937	PASS
0	120	5180.0206	PASS	5180.0173	PASS	5180.0172	PASS	5180.0187	PASS
-10	120	5180.0032	PASS	5180.0020	PASS	5180.0033	PASS	5180.0046	PASS
-20	120	5179.9790	PASS	5179.9817	PASS	5179.9788	PASS	5179.9817	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9970	PASS	5179.9994	PASS	5180.0013	PASS	5180.0003	PASS
	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
	102	5179.9961	PASS	5179.9998	PASS	5180.0013	PASS	5180.0015	PASS

Test Mode B

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
65	120	5179.9726	PASS	5179.9728	PASS	5179.9724	PASS	5179.9766	PASS
60	120	5180.0122	PASS	5180.0110	PASS	5180.0079	PASS	5180.0107	PASS
50	120	5179.9773	PASS	5179.9755	PASS	5179.9756	PASS	5179.9770	PASS
40	120	5179.9798	PASS	5179.9828	PASS	5179.9810	PASS	5179.9826	PASS
30	120	5180.0056	PASS	5180.0072	PASS	5180.0055	PASS	5180.0050	PASS
20	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
10	120	5179.9950	PASS	5179.9946	PASS	5179.9925	PASS	5179.9937	PASS
0	120	5180.0206	PASS	5180.0173	PASS	5180.0172	PASS	5180.0187	PASS
-10	120	5180.0032	PASS	5180.0020	PASS	5180.0033	PASS	5180.0046	PASS
-20	120	5179.9790	PASS	5179.9817	PASS	5179.9788	PASS	5179.9817	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9970	PASS	5179.9994	PASS	5180.0013	PASS	5180.0003	PASS
	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
	102	5179.9961	PASS	5179.9998	PASS	5180.0013	PASS	5180.0015	PASS

Test Mode C

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
65	120	5179.9726	PASS	5179.9728	PASS	5179.9724	PASS	5179.9766	PASS
60	120	5180.0122	PASS	5180.0110	PASS	5180.0079	PASS	5180.0107	PASS
50	120	5179.9773	PASS	5179.9755	PASS	5179.9756	PASS	5179.9770	PASS
40	120	5179.9798	PASS	5179.9828	PASS	5179.9810	PASS	5179.9826	PASS
30	120	5180.0056	PASS	5180.0072	PASS	5180.0055	PASS	5180.0050	PASS
20	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
10	120	5179.9950	PASS	5179.9946	PASS	5179.9925	PASS	5179.9937	PASS
0	120	5180.0206	PASS	5180.0173	PASS	5180.0172	PASS	5180.0187	PASS
-10	120	5180.0032	PASS	5180.0020	PASS	5180.0033	PASS	5180.0046	PASS
-20	120	5179.9790	PASS	5179.9817	PASS	5179.9788	PASS	5179.9817	PASS

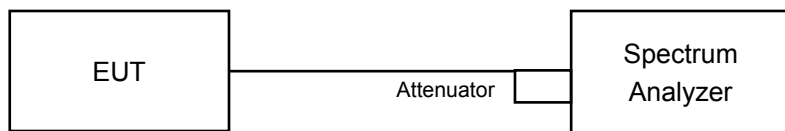
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9970	PASS	5179.9994	PASS	5180.0013	PASS	5180.0003	PASS
	120	5179.9968	PASS	5180.0002	PASS	5180.0012	PASS	5180.0011	PASS
	102	5179.9961	PASS	5179.9998	PASS	5180.0013	PASS	5180.0015	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

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

Test Mode A

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.43	16.44	0.5	Pass
157	5785	16.40	16.45	0.5	Pass
165	5825	16.03	16.45	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.66	17.65	0.5	Pass
157	5785	17.25	17.65	0.5	Pass
165	5825	17.22	17.65	0.5	Pass

802.11n (HT40)

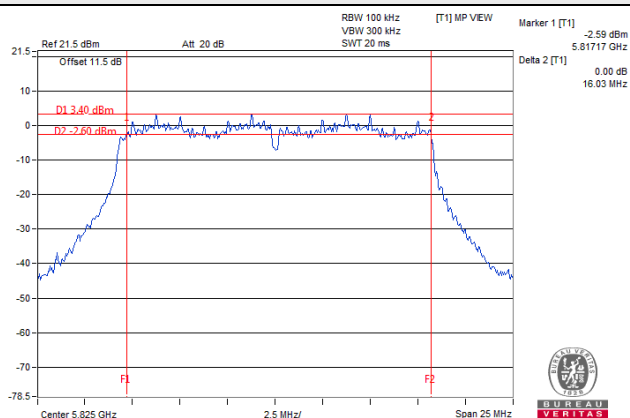
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.30	35.32	0.5	Pass
159	5795	35.80	35.31	0.5	Pass

802.11ac (VHT80)

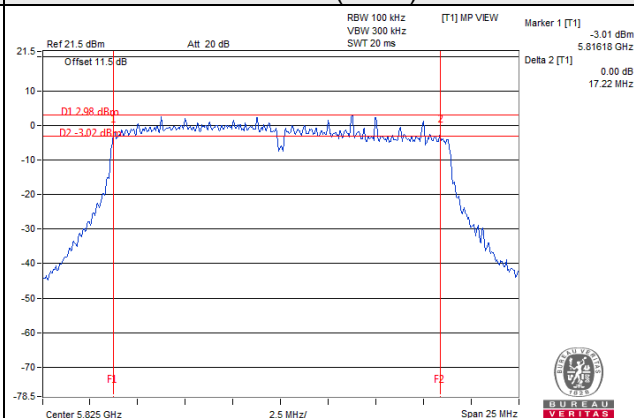
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.06	76.09	0.5	Pass

Spectrum Plot of Worst Value

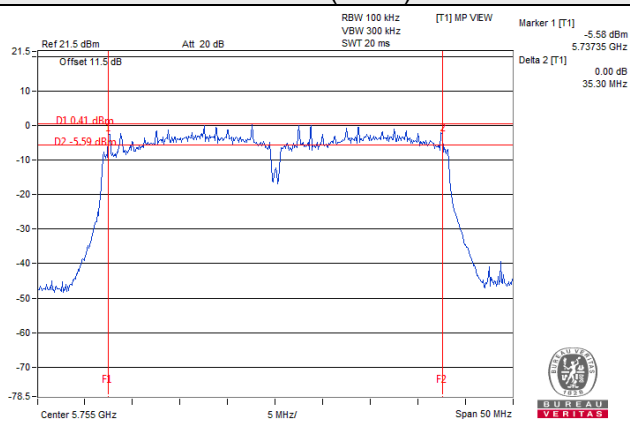
802.11a



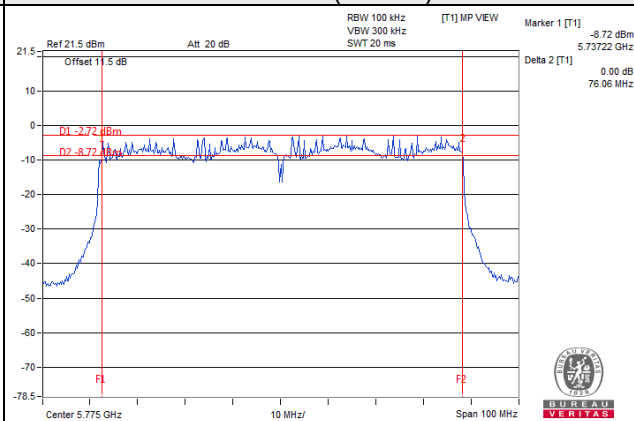
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode B

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.43	16.42	0.5	Pass
157	5785	16.13	16.14	0.5	Pass
165	5825	16.07	15.98	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.63	17.64	0.5	Pass
157	5785	17.57	17.25	0.5	Pass
165	5825	16.38	16.39	0.5	Pass

802.11n (HT40)

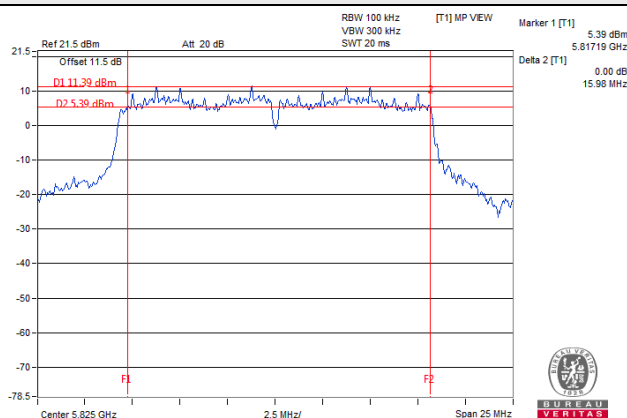
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.26	35.28	0.5	Pass
159	5795	35.26	35.29	0.5	Pass

802.11ac (VHT80)

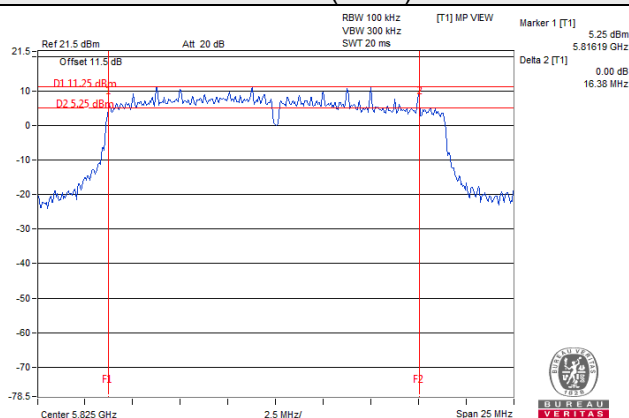
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.00	75.99	0.5	Pass

Spectrum Plot of Worst Value

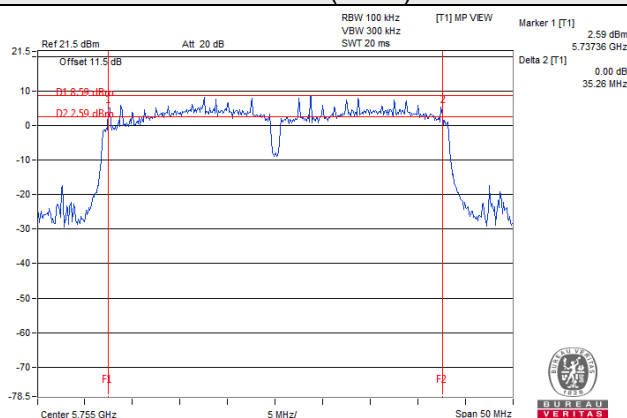
802.11a



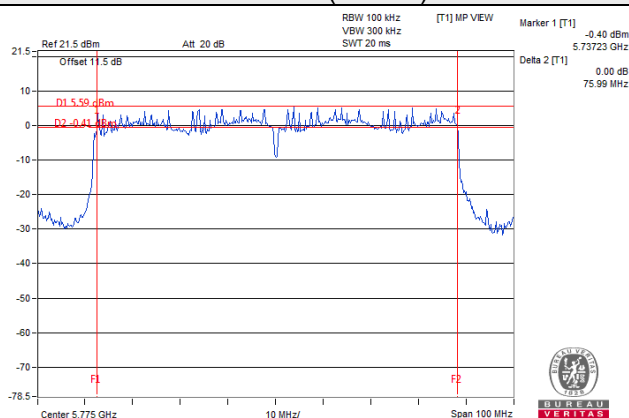
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.35	16.39	0.5	Pass
157	5785	15.98	16.39	0.5	Pass
165	5825	15.16	16.40	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.62	17.64	0.5	Pass
157	5785	17.65	17.63	0.5	Pass
165	5825	16.00	17.64	0.5	Pass

802.11n (HT40)

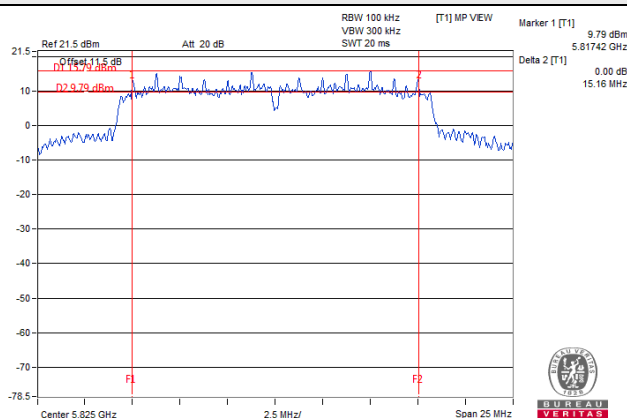
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.24	35.22	0.5	Pass
159	5795	35.85	35.24	0.5	Pass

802.11ac (VHT80)

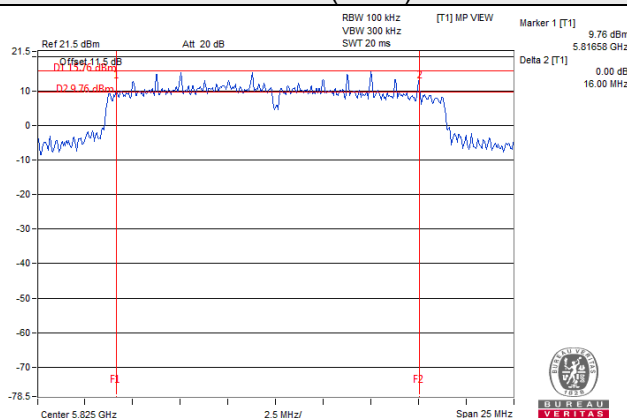
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.03	76.05	0.5	Pass

Spectrum Plot of Worst Value

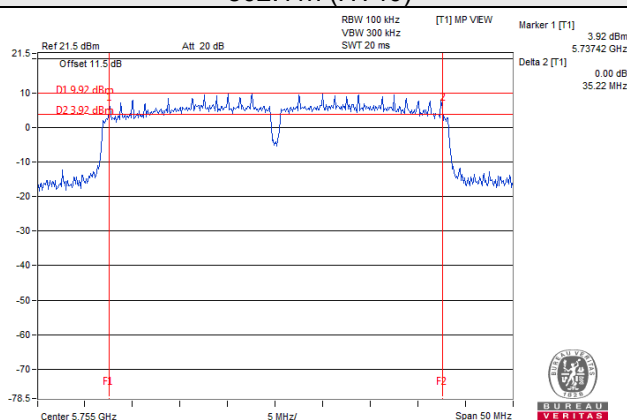
802.11a



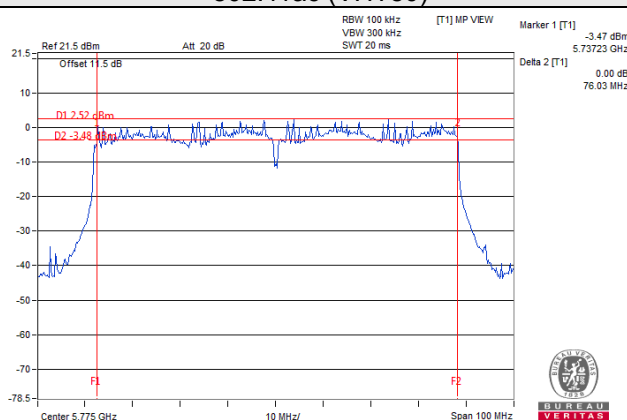
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



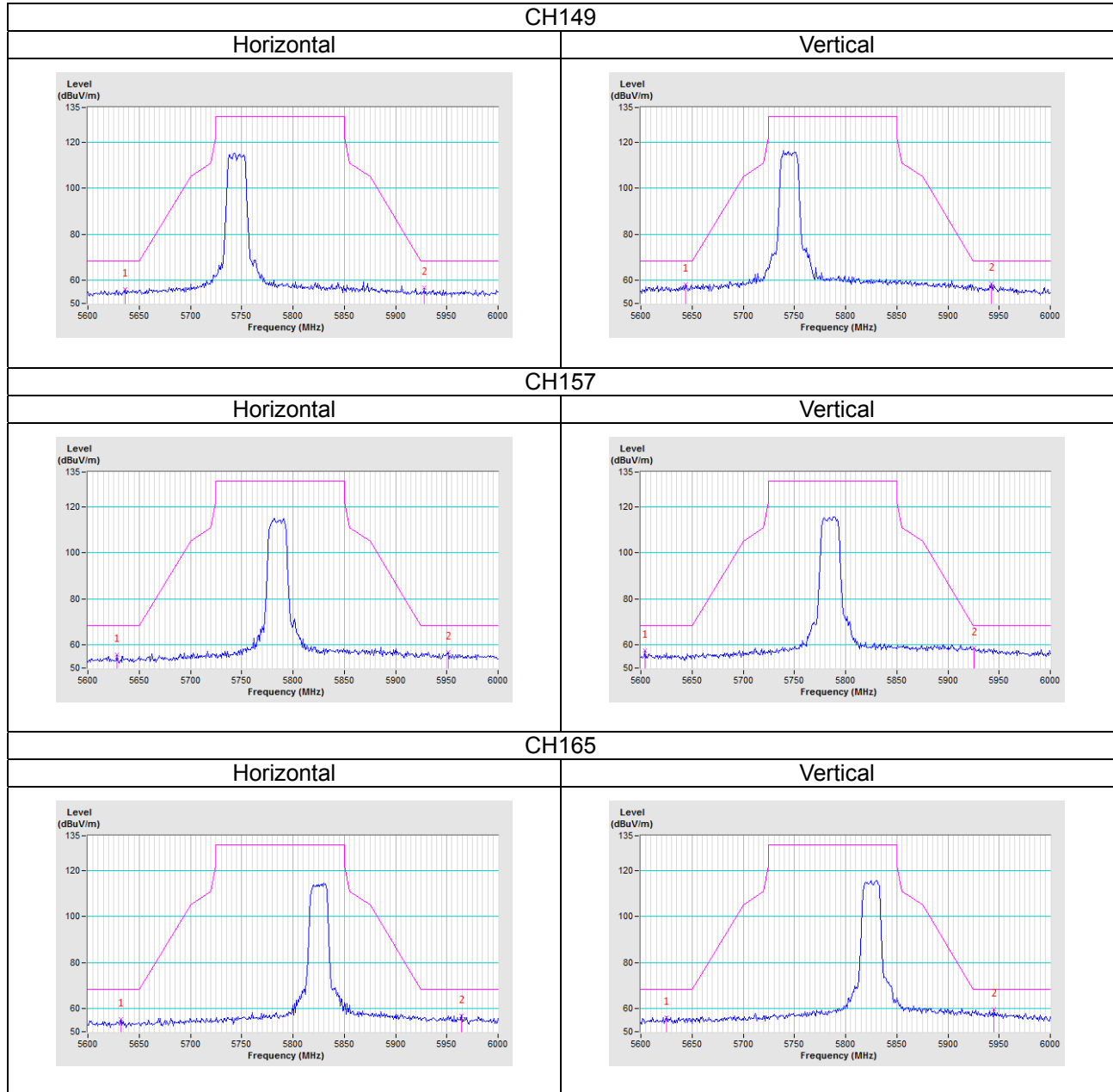
5 Pictures of Test Arrangements

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

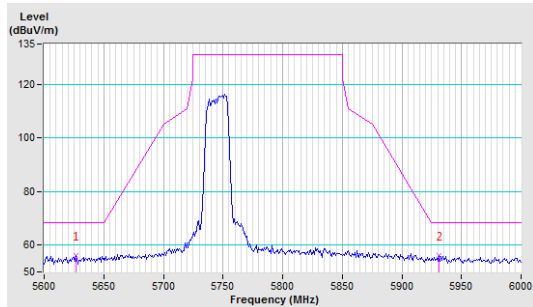
802.11a



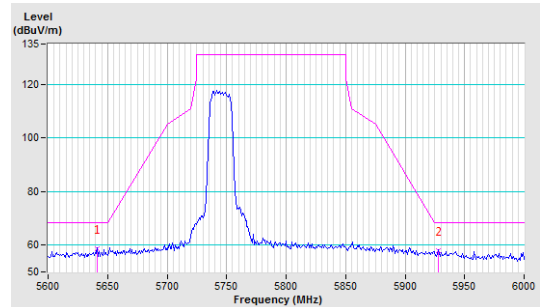
802.11n (HT20)

CH149

Horizontal

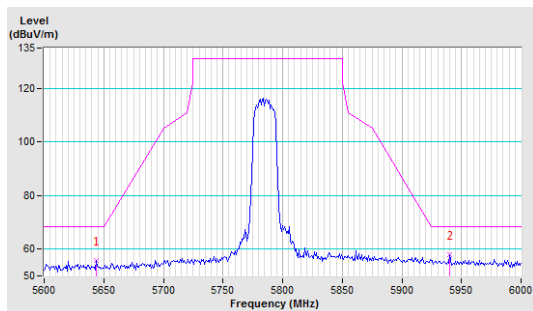


Vertical

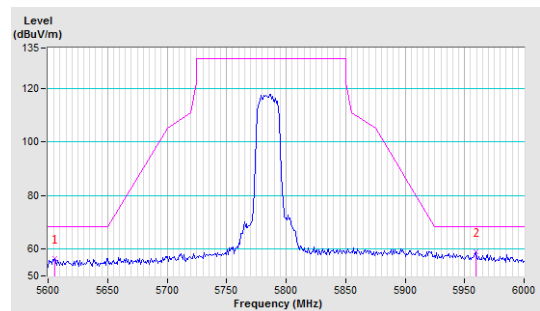


CH157

Horizontal

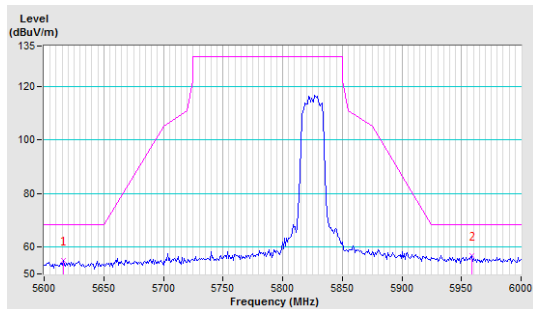


Vertical

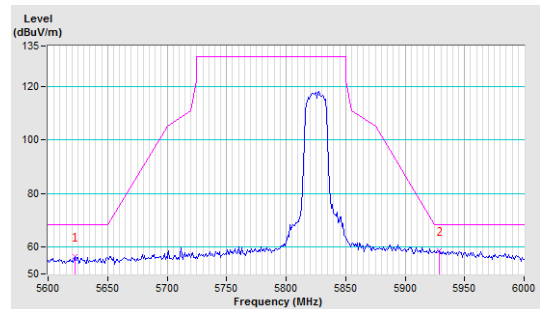


CH165

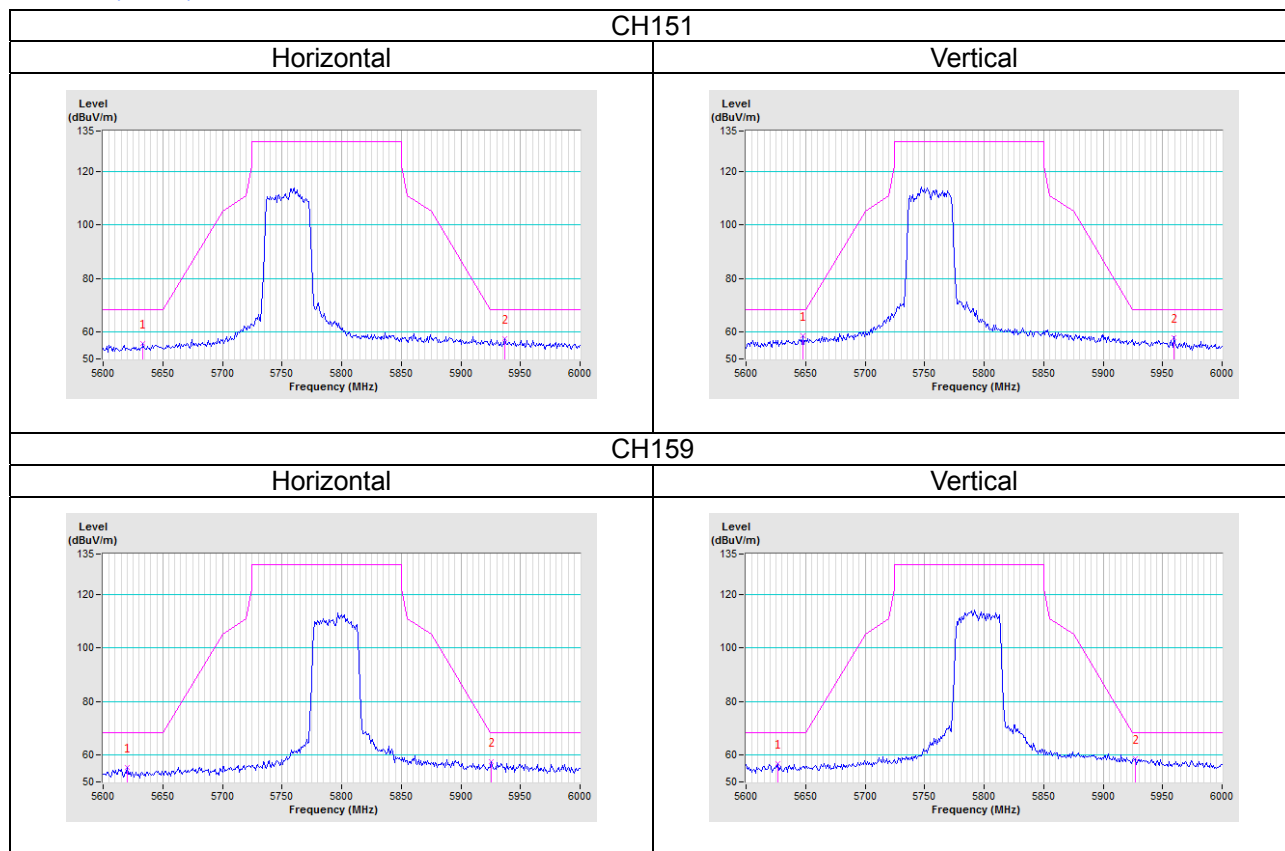
Horizontal



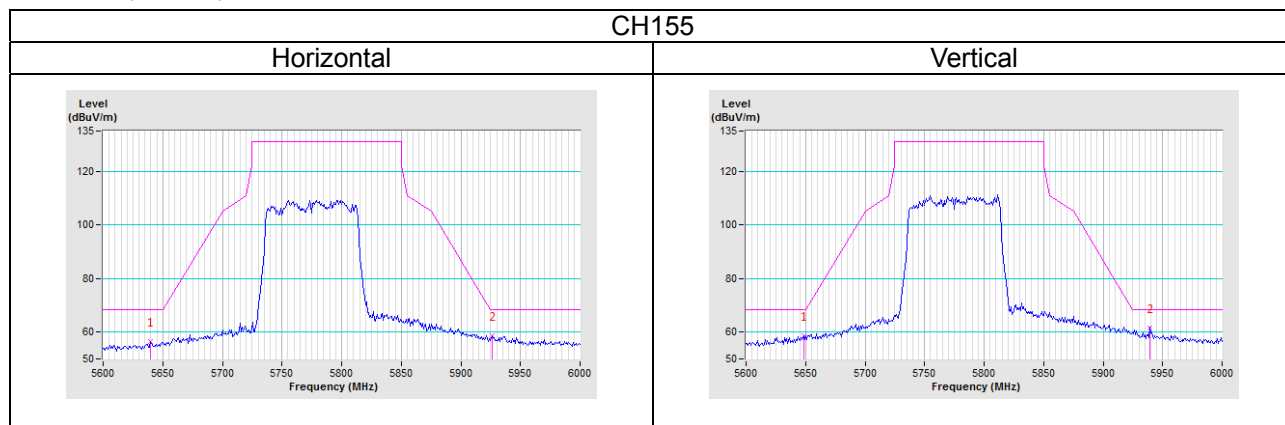
Vertical



802.11n (HT40)



802.11ac (VHT80)

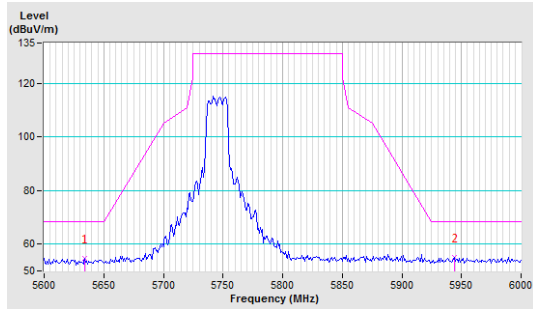


Test Mode B

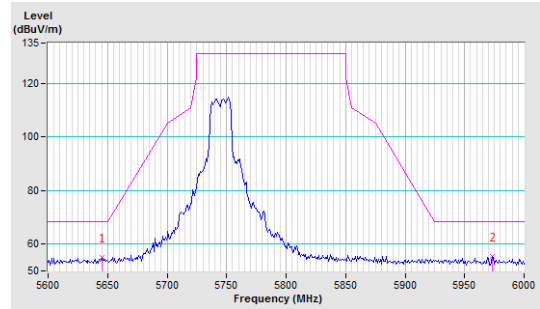
802.11a

CH149

Horizontal

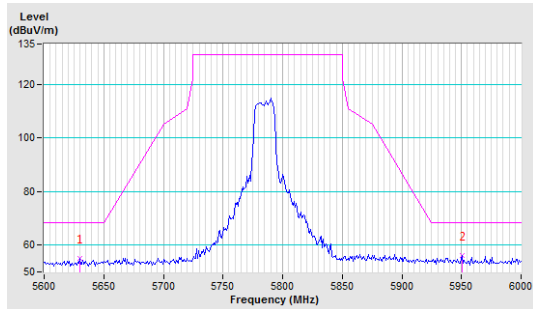


Vertical

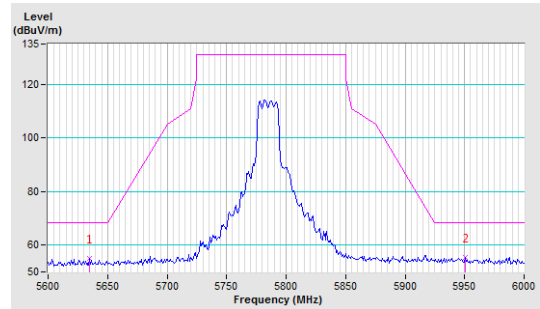


CH157

Horizontal

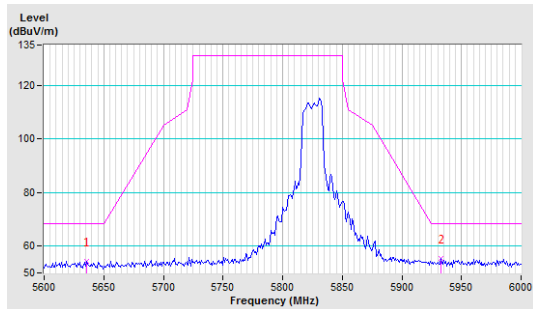


Vertical

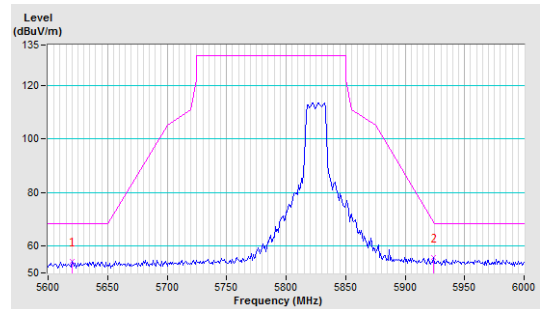


CH165

Horizontal



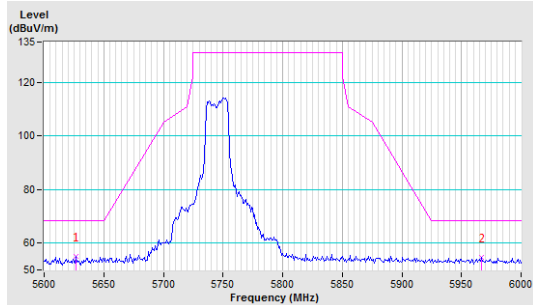
Vertical



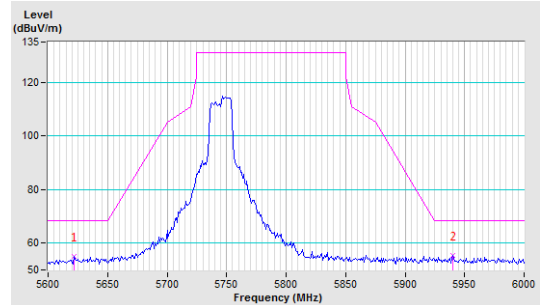
802.11n (HT20)

CH149

Horizontal

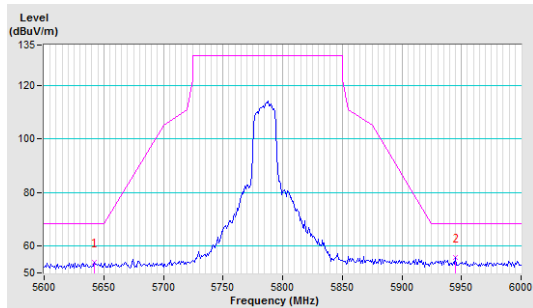


Vertical

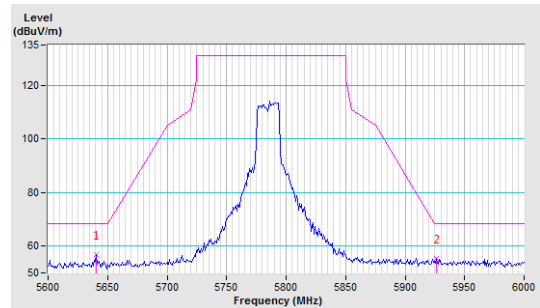


CH157

Horizontal

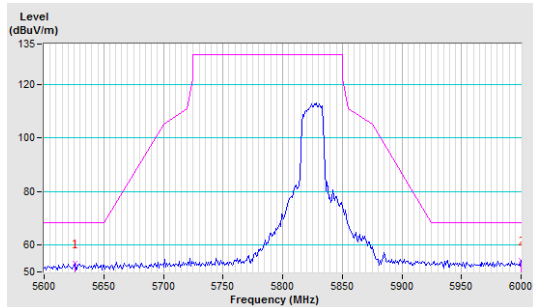


Vertical

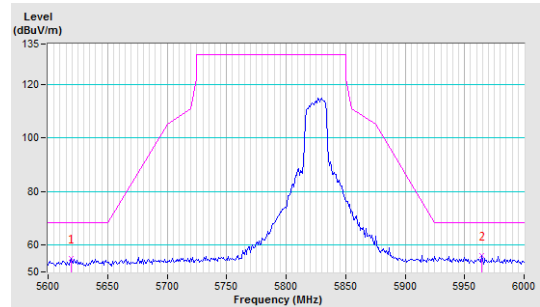


CH165

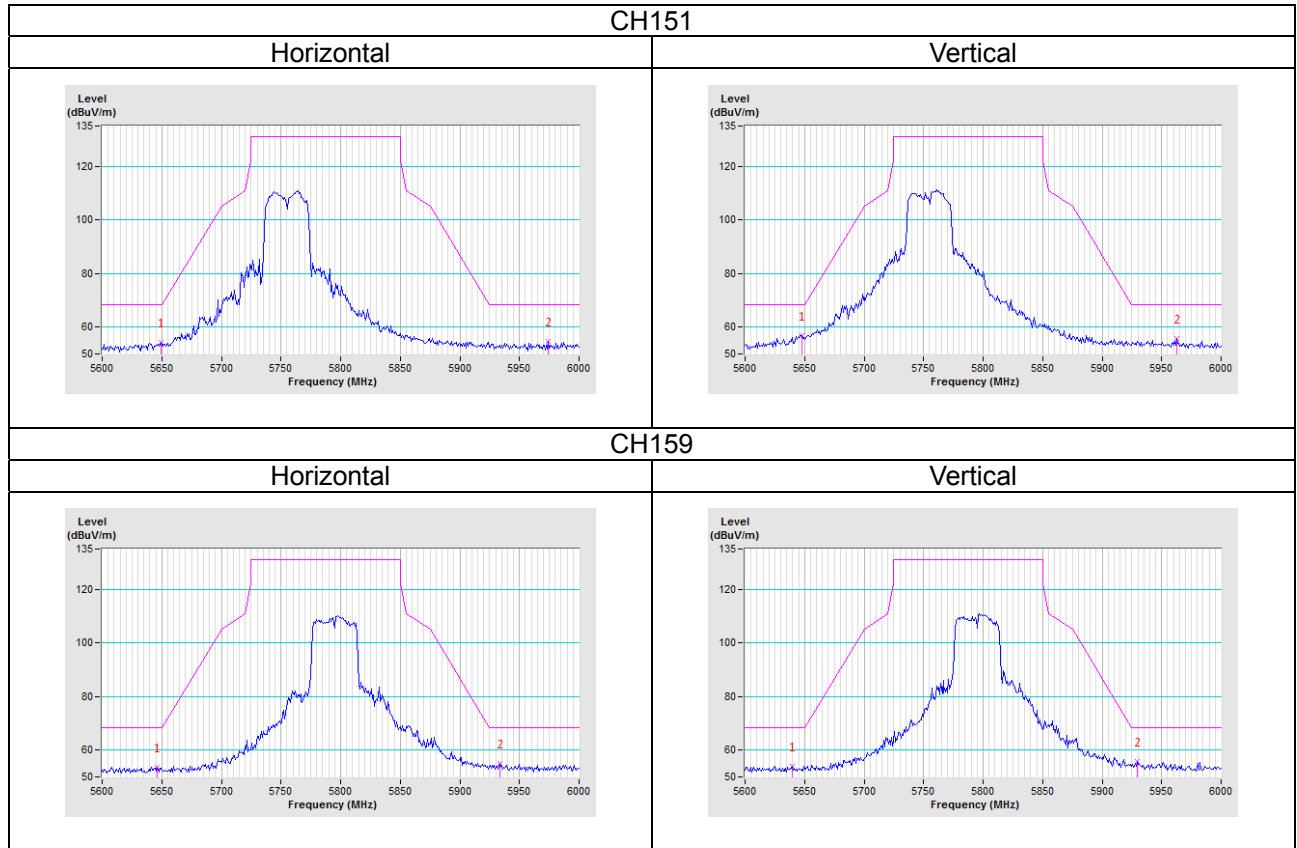
Horizontal



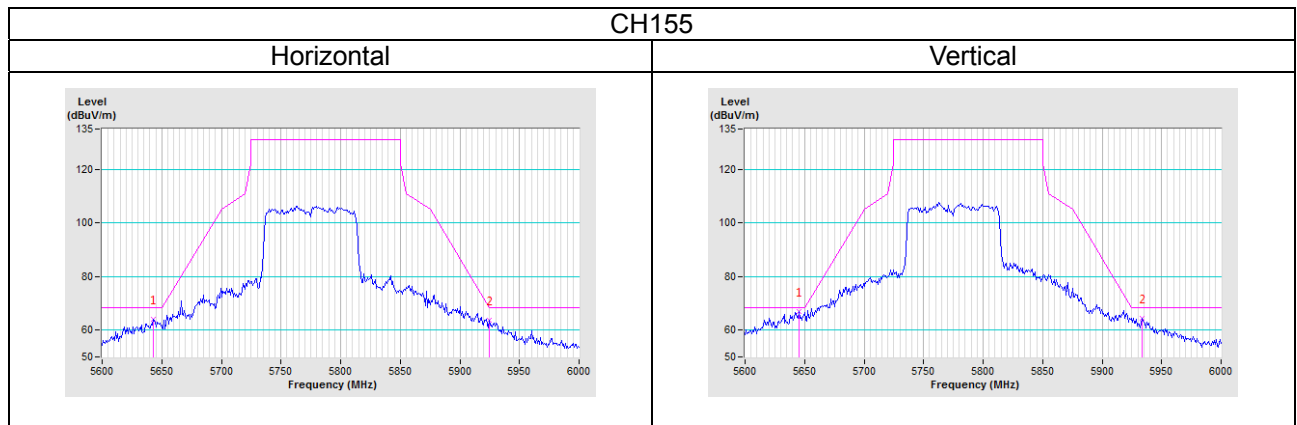
Vertical



802.11n (HT40)



802.11ac (VHT80)

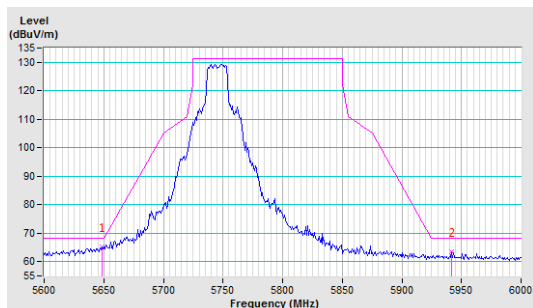


Test Mode C

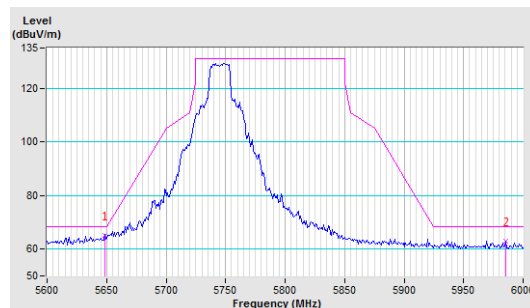
802.11a

CH149

Horizontal

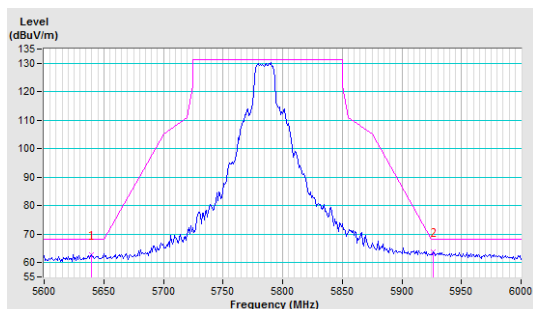


Vertical

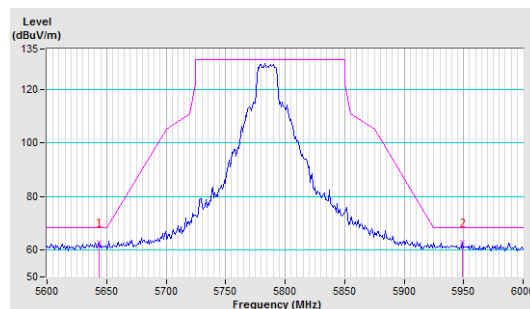


CH157

Horizontal

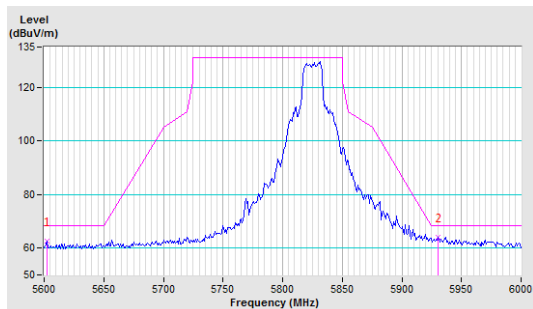


Vertical

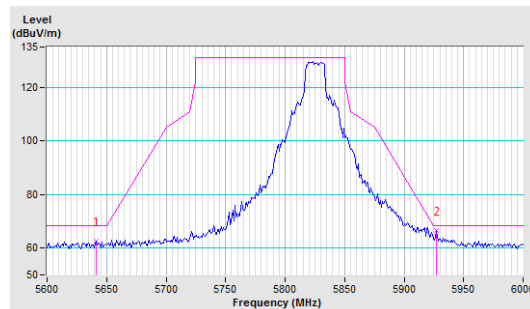


CH165

Horizontal



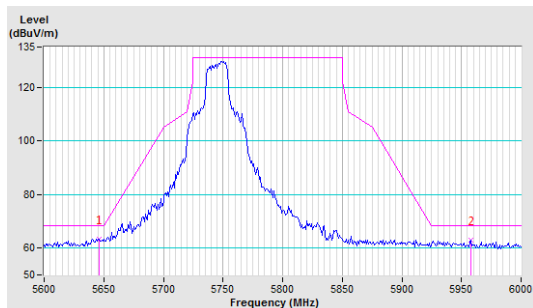
Vertical



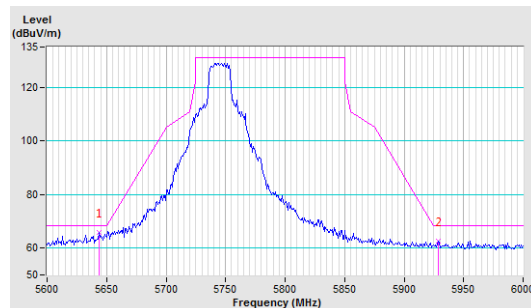
802.11n (HT20)

CH149

Horizontal

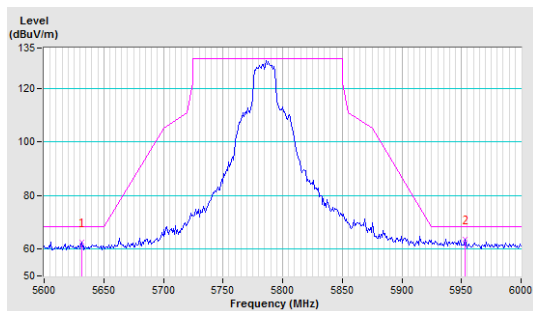


Vertical

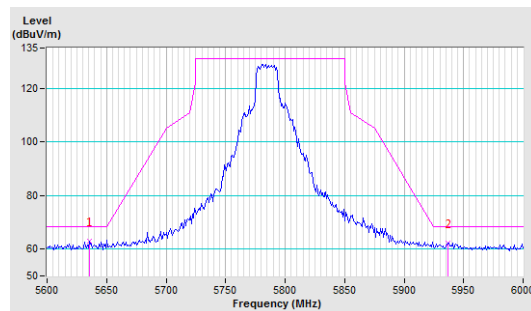


CH157

Horizontal

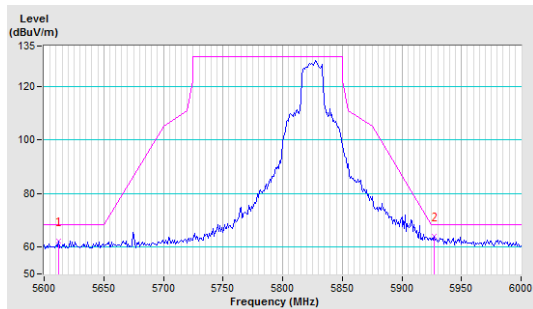


Vertical

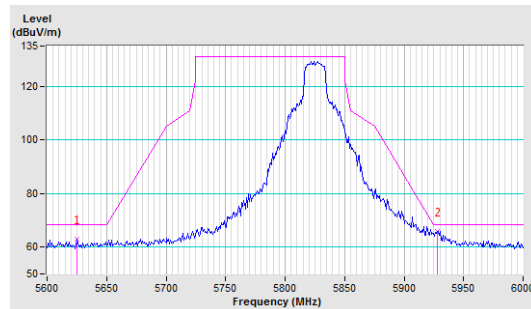


CH165

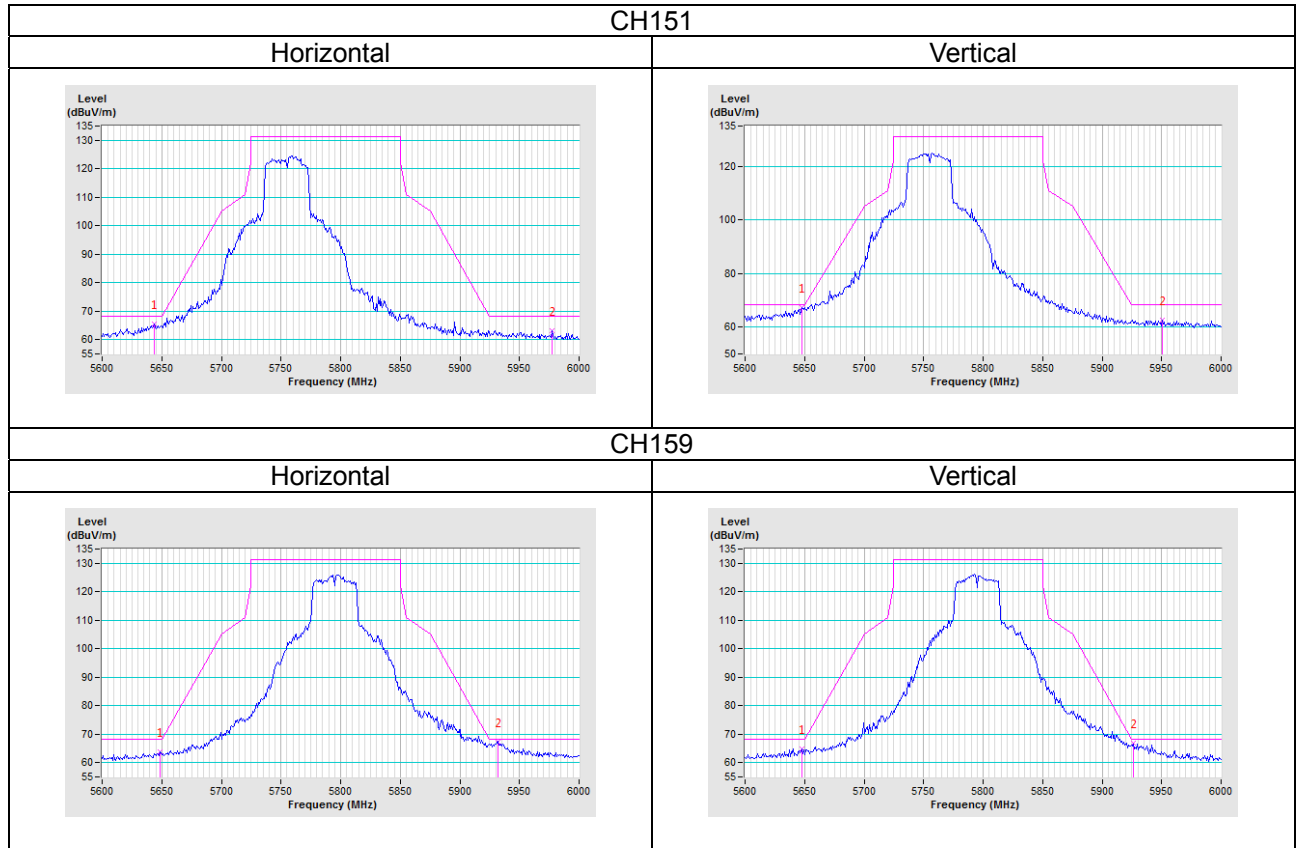
Horizontal



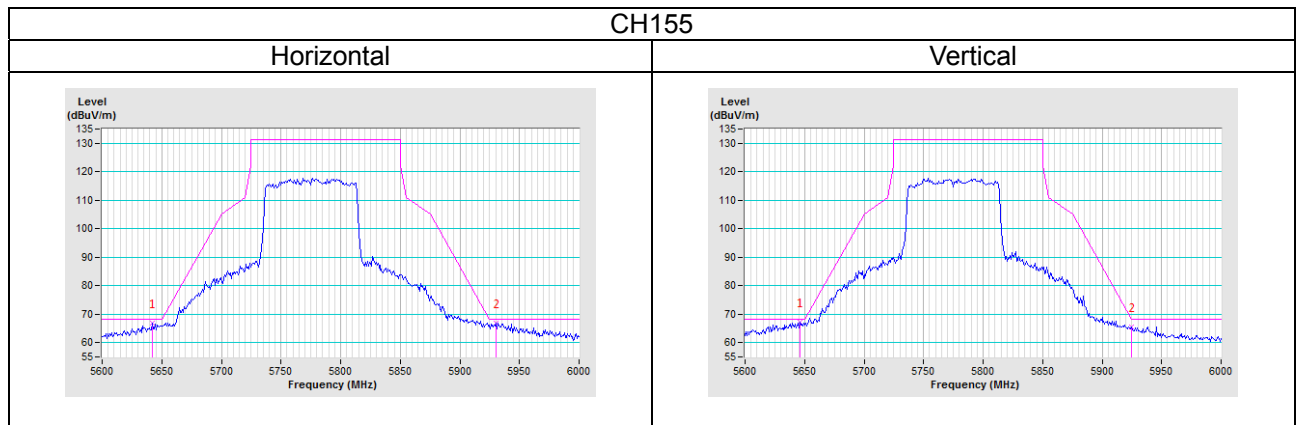
Vertical



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of the Testing Laboratories

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

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

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Email: service.adt@tw.bureauveritas.com

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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