

FCC Test Report

Report No.: RFBCIB-WTW-P22020171-3

FCC ID: HFS-WAVE1

Test Model: Emerge Wave-1

Received Date: Feb. 11, 2022

Test Date: Feb. 26, 2022 ~ Mar. 21, 2022

Issued Date: Apr. 20, 2022

Applicant: Quanta Computer Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number: 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RFBCIB-WTW-P22020171-3	Original Release	Apr. 20, 2022

1 Certificate of Conformity

Product: Emerge Wave-1

Brand: Emerge

Test Model: Emerge Wave-1

Sample Status: Engineering Sample

Applicant: Quanta Computer Inc.

Test Date: Feb. 26, 2022 ~ Mar. 21, 2022

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 : Vera Huang, **Date:** Apr. 20, 2022
Vera Huang / Specialist

Approved by : Jeremy Lin, **Date:** Apr. 20, 2022
Jeremy Lin / 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)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -20.63 dB at 0.36600 MHz.
15.407(b) (1/2/3/4(i/ii)/ 9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.89 dB at 5350.00 MHz.
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)	6 dB 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	No antenna connector is used.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
- 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	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Emerge Wave-1
Brand	Emerge
Test Model	Emerge Wave-1
Status of EUT	Engineering Sample
Power Supply Rating	19 Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 867 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 8 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 3 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	26.969 mW for 5180 ~ 5240 MHz 26.878 mW for 5260 ~ 5320 MHz 27.436 mW for 5500 ~ 5700 MHz 28.059 mW for 5745 ~ 5825 MHz
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	N/A

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two 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 HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	FSP Group	FSP120-ABBU3	I/P: 100-240 Vac, 50-60 Hz, 1.4 A O/P: 19 Vdc, 6.32 A, 120W 0.9m AC cable w/o core 1.4m DC cable with 1 core

3. The antenna information is listed as below.

Ant. Type	Dipole Antenna					
Frequency (MHz)	2400	2440	2480	5150	5550	5850
Peak Gain (dBi) Main Ant	3.7	3.8	3.8	1.3	2.2	3.7
Peak Gain (dBi) Aux. Ant.	3.2	3.1	2.5	2.5	2.3	2.5

4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	116	5580
104	5520	132	5660
108	5540	136	5680
112	5560	140	5700

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	134	5670
110	5550		

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
106	5530

For 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1 GHz):

- ☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106	106	OFDM	BPSK	29.3
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1 GHz):

- ☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5745-5825	802.11a	149 to 165	149	OFDM	BPSK	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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5745-5825	802.11a	149 to 165	149	OFDM	BPSK	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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106	106	OFDM	BPSK	29.3
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 61 % RH	120 Vac, 60 Hz	Charles Hsiao
RE<1G	25 deg. C, 61 % RH	120 Vac, 60 Hz	Karl Lee
PLC	22 deg. C, 60 % RH	120 Vac, 60 Hz	Thomas Cheng
APCM	25 deg. C, 60 % RH	120 Vac, 60 Hz	Gary Lin

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

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

802.11a: Duty cycle = $1.327/1.49 = 0.891$, Duty factor = $10 * \log(1/0.891) = 0.50$

802.11n (HT20): Duty cycle = $1.58/2.112 = 0.748$, Duty factor = $10 * \log(1/0.748) = 1.26$

802.11n (HT40): Duty cycle = $0.75/1.055 = 0.711$, Duty factor = $10 * \log(1/0.711) = 1.48$

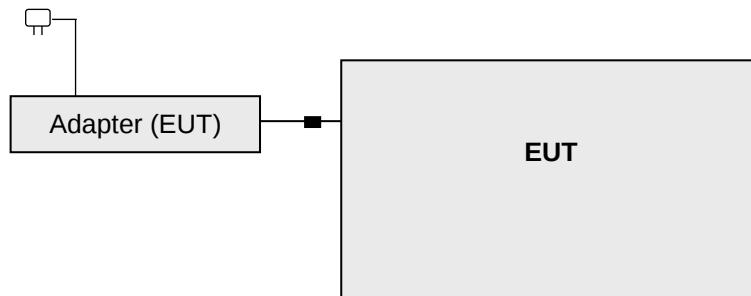
802.11ac (VHT80): Duty cycle = $0.163/0.191 = 0.853$, Duty factor = $10 * \log(1/0.853) = 0.69$



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, 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 20 dB under any condition of modulation.

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	☒ 15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	☐ 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

^{*1} beyond 75 MHz or more above of the band edge.

^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Sep. 01, 2021	Aug. 31, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 12, 2021	Apr. 11, 2022
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 14, 2021	Nov. 13, 2022
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 14, 2021	Nov. 13, 2022
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
Loop Antenna	EM-6879	269	Sep. 16, 2021	Sep. 15, 2022
Preamplifier Agilent	310N	187226	Jun. 17, 2021	Jun. 16, 2022
Preamplifier Agilent	83017A	MY39501357	Jun. 17, 2021	Jun. 16, 2022
Preamplifier EMCI	EMC 184045	980116	Oct. 05, 2021	Oct. 04, 2022
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 17, 2021	Jun. 16, 2022
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 17, 2021	Jun. 16, 2022
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100979	Mar. 29, 2021	Mar. 28, 2022
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/ MY55190007/MY55210005	Jul. 12, 2021	Jul. 11, 2022

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 HsinTien Chamber 1.

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

- 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 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) 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 detected 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:

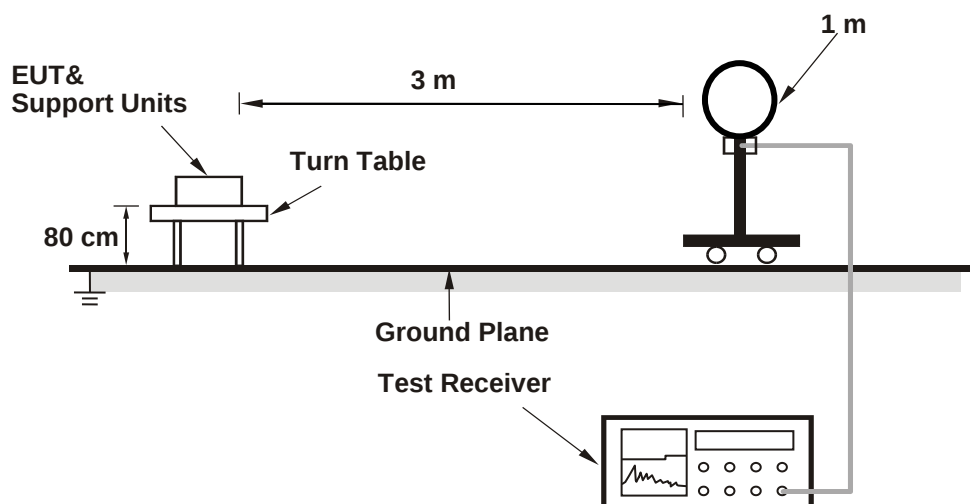
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
(11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ;
11n (HT40): RBW = 1 MHz, VBW = 3 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 10 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

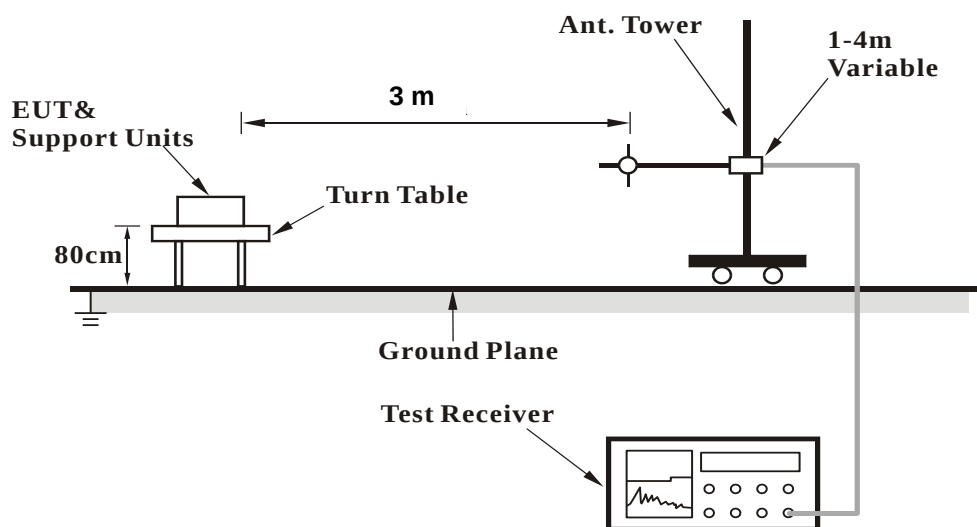
No deviation.

4.1.5 Test Setup

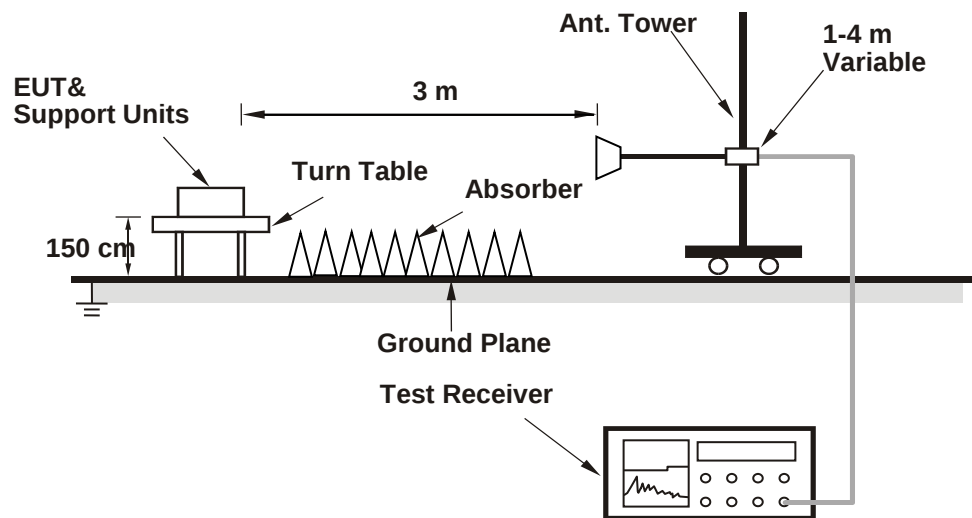
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data :

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.86 PK	74.00	-15.14	1.00 H	202	49.11	9.75
2	5150.00	48.77 AV	54.00	-5.23	1.00 H	202	39.02	9.75
3	*5180.00	106.38 PK			1.00 H	202	65.10	41.28
4	*5180.00	99.65 AV			1.00 H	202	58.37	41.28
5	#10360.00	56.32 PK	68.20	-11.88	1.25 H	252	41.25	15.07

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.66 PK	74.00	-15.34	1.94 V	352	48.91	9.75
2	5150.00	48.59 AV	54.00	-5.41	1.94 V	352	38.84	9.75
3	*5180.00	102.21 PK			1.94 V	352	60.93	41.28
4	*5180.00	95.55 AV			1.94 V	352	54.27	41.28
5	#10360.00	56.25 PK	68.20	-11.95	1.54 V	44	41.18	15.07

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	105.54 PK			1.00 H	202	64.18	41.36
2	*5200.00	98.59 AV			1.00 H	202	57.23	41.36
3	#10400.00	56.15 PK	68.20	-12.05	1.25 H	216	41.08	15.07
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	101.44 PK			1.94 V	352	60.08	41.36
2	*5200.00	94.59 AV			1.94 V	352	53.23	41.36
3	#10400.00	56.00 PK	68.20	-12.20	1.42 V	215	40.93	15.07

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	105.50 PK			1.00 H	202	64.12	41.38
2	*5240.00	98.33 AV			1.00 H	202	56.95	41.38
3	5350.00	58.69 PK	74.00	-15.31	1.00 H	202	48.94	9.75
4	5350.00	48.80 AV	54.00	-5.20	1.00 H	202	39.05	9.75
5	#10480.00	56.16 PK	68.20	-12.04	1.34 H	148	40.98	15.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	101.15 PK			1.94 V	352	59.77	41.38
2	*5240.00	94.53 AV			1.94 V	352	53.15	41.38
3	5350.00	58.86 PK	74.00	-15.14	1.94 V	352	49.11	9.75
4	5350.00	48.77 AV	54.00	-5.23	1.94 V	352	39.02	9.75
5	#10480.00	56.03 PK	68.20	-12.17	1.24 V	141	40.85	15.18

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.72 PK	74.00	-15.28	1.34 H	198	48.97	9.75
2	5150.00	49.03 AV	54.00	-4.97	1.34 H	198	39.28	9.75
3	*5260.00	107.86 PK			1.34 H	198	66.50	41.36
4	*5260.00	101.31 AV			1.34 H	198	59.95	41.36
5	#10520.00	54.87 PK	68.20	-13.33	2.53 H	104	39.72	15.15
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.13 PK	74.00	-14.87	2.04 V	359	49.38	9.75
2	5150.00	48.94 AV	54.00	-5.06	2.04 V	359	39.19	9.75
3	*5260.00	103.97 PK			2.25 V	359	62.61	41.36
4	*5260.00	97.06 AV			2.25 V	359	55.70	41.36
5	#10520.00	54.76 PK	68.20	-13.44	1.63 V	244	39.61	15.15

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	108.38 PK			1.42 H	193	67.08	41.30
2	*5300.00	101.41 AV			1.42 H	193	60.11	41.30
3	10600.00	54.28 PK	74.00	-19.72	1.47 H	121	39.36	14.92
4	10600.00	44.65 AV	54.00	-9.35	1.47 H	121	29.73	14.92
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	103.97 PK			2.25 V	359	62.67	41.30
2	*5300.00	97.75 AV			2.25 V	359	56.45	41.30
3	#10400.00	54.50 PK	68.20	-13.70	1.26 V	49	39.43	15.07
4	#10400.00	44.70 AV	54.00	-9.30	1.26 V	49	29.63	15.07

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	107.76 PK			1.37 H	203	66.46	41.30
2	*5320.00	100.89 AV			1.37 H	203	59.59	41.30
3	5350.00	66.37 PK	74.00	-7.63	1.18 H	183	56.62	9.75
4	5350.00	52.11 AV	54.00	-1.89	1.18 H	183	42.36	9.75
5	10640.00	54.55 PK	74.00	-19.45	1.12 H	169	39.45	15.10
6	10640.00	44.93 AV	54.00	-9.07	1.12 H	169	29.83	15.10
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	103.45 PK			2.47 V	0	62.15	41.30
2	*5320.00	97.27 AV			2.47 V	0	55.97	41.30
3	5350.00	60.56 PK	74.00	-13.44	2.41 V	14	50.81	9.75
4	5350.00	49.50 AV	54.00	-4.50	2.41 V	14	39.75	9.75
5	10640.00	54.72 PK	74.00	-19.28	1.85 V	147	39.62	15.10
6	10640.00	45.14 AV	54.00	-8.86	1.85 V	147	30.04	15.10

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.74 PK	74.00	-14.26	1.07 H	182	50.10	9.64
2	5460.00	49.19 AV	54.00	-4.81	1.07 H	182	39.55	9.64
3	#5470.00	61.11 PK	68.20	-7.09	1.08 H	44	51.55	9.56
4	*5500.00	108.53 PK			1.26 H	199	67.28	41.25
5	*5500.00	101.35 AV			1.26 H	199	60.10	41.25
6	11000.00	55.38 PK	74.00	-18.62	2.36 H	181	39.61	15.77
7	11000.00	45.88 AV	54.00	-8.12	2.36 H	181	30.11	15.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.81 PK	74.00	-15.19	2.36 V	351	49.17	9.64
2	5460.00	48.92 AV	54.00	-5.08	2.36 V	351	39.28	9.64
3	#5470.00	59.12 PK	68.20	-9.08	2.46 V	293	49.56	9.56
4	*5500.00	102.23 PK			2.45 V	359	60.98	41.25
5	*5500.00	95.61 AV			2.45 V	359	54.36	41.25
6	11000.00	54.98 PK	74.00	-19.02	1.82 V	56	39.21	15.77
7	11000.00	45.44 AV	54.00	-8.56	1.82 V	56	29.67	15.77

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	108.49 PK			1.24 H	184	67.22	41.27
2	*5580.00	101.28 AV			1.24 H	184	60.01	41.27
3	11160.00	55.07 PK	74.00	-18.93	2.27 H	164	39.26	15.81
4	11160.00	45.36 AV	54.00	-8.64	2.27 H	164	29.55	15.81
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	102.09 PK			2.47 V	356	60.82	41.27
2	*5580.00	95.51 AV			2.47 V	356	54.24	41.27
3	11600.00	54.89 PK	74.00	-19.11	1.25 V	272	39.47	15.42
4	11600.00	45.30 AV	54.00	-8.70	1.25 V	272	29.88	15.42

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	108.42 PK			1.66 H	189	66.92	41.50
2	*5700.00	101.51 AV			1.66 H	189	60.01	41.50
3	#5725.00	62.39 PK	68.20	-5.81	1.49 H	203	52.29	10.10
4	11400.00	54.87 PK	74.00	-19.13	1.29 H	62	39.54	15.33
5	11400.00	45.24 AV	54.00	-8.76	1.29 H	62	29.91	15.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	102.98 PK			1.96 V	39	61.48	41.50
2	*5700.00	96.60 AV			1.96 V	39	55.10	41.50
3	#5725.00	60.12 PK	68.20	-8.08	1.88 V	57	50.02	10.10
4	#5725.00	49.14 AV	54.00	-4.86	1.88 V	57	39.04	10.10
5	11400.00	54.98 PK	74.00	-19.02	1.39 V	204	39.65	15.33
6	11400.00	45.47 AV	54.00	-8.53	1.39 V	204	30.14	15.33

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5745.00	105.24 PK			1.00 H	202	63.65	41.59
2	*5745.00	98.58 AV			1.00 H	202	56.99	41.59
3	11490.00	56.32 PK	74.00	-17.68	1.42 H	215	40.41	15.91
4	11490.00	48.22 AV	54.00	-5.78	1.42 H	215	32.31	15.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5745.00	100.54 PK			1.97 V	357	58.95	41.59
2	*5745.00	93.60 AV			1.97 V	357	52.01	41.59
3	11490.00	56.25 PK	74.00	-17.75	1.42 V	215	40.34	15.91
4	11490.00	48.36 AV	54.00	-5.64	1.42 V	215	32.45	15.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	103.32 PK			1.00 H	202	61.67	41.65
2	*5785.00	96.55 AV			1.00 H	202	54.90	41.65
3	11570.00	56.25 PK	74.00	-17.75	1.21 H	115	40.66	15.59
4	11570.00	48.55 AV	54.00	-5.45	1.21 H	115	32.96	15.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	98.55 PK			2.03 V	358	56.90	41.65
2	*5785.00	91.42 AV			2.03 V	358	49.77	41.65
3	11570.00	56.34 PK	74.00	-17.66	1.22 V	185	40.75	15.59
4	11570.00	48.32 AV	54.00	-5.68	1.22 V	185	32.73	15.59

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	102.33 PK			1.36 H	196	60.63	41.70
2	*5825.00	95.48 AV			1.36 H	196	53.78	41.70
3	11650.00	56.41 PK	74.00	-17.59	1.32 H	262	40.51	15.90
4	11650.00	48.49 AV	54.00	-5.51	1.32 H	262	32.59	15.90
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	97.35 PK			2.03 V	272	55.65	41.70
2	*5825.00	90.25 AV			2.03 V	272	48.55	41.70
3	11650.00	56.26 PK	74.00	-17.74	1.24 V	141	40.36	15.90
4	11650.00	48.54 AV	54.00	-5.46	1.24 V	141	32.64	15.90

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	60.21 PK	74.00	-13.79	1.00 H	202	50.46	9.75
2	5150.00	49.55 AV	54.00	-4.45	1.00 H	202	39.80	9.75
3	*5180.00	105.54 PK			1.00 H	202	64.26	41.28
4	*5180.00	98.59 AV			1.00 H	202	57.31	41.28
5	#10360.00	56.22 PK	68.20	-11.98	1.43 H	326	41.15	15.07

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.84 PK	74.00	-14.16	1.94 V	352	50.09	9.75
2	5150.00	49.22 AV	54.00	-4.78	1.94 V	352	39.47	9.75
3	*5180.00	101.14 PK			1.94 V	352	59.86	41.28
4	*5180.00	94.53 AV			1.94 V	352	53.25	41.28
5	#10360.00	56.00 PK	68.20	-12.20	1.05 V	241	40.93	15.07

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	104.44 PK			1.00 H	202	63.08	41.36
2	*5200.00	97.44 AV			1.00 H	202	56.08	41.36
3	#10400.00	56.19 PK	68.20	-12.01	1.35 H	155	41.12	15.07
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	100.25 PK			1.94 V	352	58.89	41.36
2	*5200.00	93.88 AV			1.94 V	352	52.52	41.36
3	#10400.00	56.09 PK	68.20	-12.11	1.44 V	154	41.02	15.07

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	104.15 PK			1.00 H	202	62.77	41.38
2	*5240.00	97.41 AV			1.00 H	202	56.03	41.38
3	5350.00	59.64 PK	74.00	-14.36	1.00 H	202	49.89	9.75
4	5350.00	49.44 AV	54.00	-4.56	1.00 H	202	39.69	9.75
5	#10480.00	56.23 PK	68.20	-11.97	1.32 H	21	41.05	15.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	100.29 PK			1.94 V	352	58.91	41.38
2	*5240.00	93.64 AV			1.94 V	352	52.26	41.38
3	5350.00	59.14 PK	74.00	-14.86	1.94 V	352	49.39	9.75
4	5350.00	49.24 AV	54.00	-4.76	1.94 V	352	39.49	9.75
5	#10480.00	56.11 PK	68.20	-12.09	1.24 V	144	40.93	15.18

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.70 PK	74.00	-15.30	1.35 H	172	48.95	9.75
2	5150.00	49.03 AV	54.00	-4.97	1.35 H	172	39.28	9.75
3	*5260.00	108.24 PK			1.34 H	198	66.88	41.36
4	*5260.00	99.91 AV			1.34 H	198	58.55	41.36
5	#10520.00	54.97 PK	68.20	-13.23	1.15 H	216	39.82	15.15
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.98 PK	74.00	-15.02	2.09 V	352	49.23	9.75
2	5150.00	48.92 AV	54.00	-5.08	2.09 V	352	39.17	9.75
3	*5260.00	103.96 PK			2.25 V	359	62.60	41.36
4	*5260.00	96.61 AV			2.25 V	359	55.25	41.36
5	#10520.00	54.47 PK	68.20	-13.73	1.82 V	131	39.32	15.15

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	108.05 PK			1.42 H	103	66.75	41.30
2	*5300.00	99.69 AV			1.42 H	103	58.39	41.30
3	10600.00	54.33 PK	74.00	-19.67	1.71 H	55	39.41	14.92
4	10600.00	44.76 AV	54.00	-9.24	1.71 H	55	29.84	14.92
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	104.01 PK			2.25 V	359	62.71	41.30
2	*5300.00	96.69 AV			2.25 V	359	55.39	41.30
3	10600.00	54.48 PK	74.00	-19.52	2.53 V	108	39.56	14.92
4	10600.00	44.73 AV	54.00	-9.27	2.53 V	108	29.81	14.92

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.42 PK			1.37 H	203	67.12	41.30
2	*5320.00	99.52 AV			1.37 H	203	58.22	41.30
3	5350.00	58.70 PK	74.00	-15.30	1.34 H	258	48.95	9.75
4	5350.00	49.39 AV	54.00	-4.61	1.34 H	258	39.64	9.75
5	10640.00	54.73 PK	74.00	-19.27	1.87 H	204	39.63	15.10
6	10640.00	45.02 AV	54.00	-8.98	1.87 H	204	29.92	15.10
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	103.87 PK			2.47 V	0	62.57	41.30
2	*5320.00	96.89 AV			2.47 V	0	55.59	41.30
3	5350.00	59.21 PK	74.00	-14.79	2.28 V	72	49.46	9.75
4	5350.00	49.24 AV	54.00	-4.76	2.28 V	72	39.49	9.75
5	10640.00	54.34 PK	74.00	-19.66	2.86 V	105	39.24	15.10
6	10640.00	44.73 AV	54.00	-9.27	2.86 V	105	29.63	15.10

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.12 PK	74.00	-14.88	1.26 H	199	49.48	9.64
2	5460.00	49.55 AV	54.00	-4.45	1.26 H	199	39.91	9.64
3	#5470.00	62.26 PK	68.20	-5.94	1.26 H	199	52.70	9.56
4	*5500.00	107.45 PK			1.26 H	199	66.20	41.25
5	*5500.00	100.94 AV			1.26 H	199	59.69	41.25
6	11000.00	57.06 PK	74.00	-16.94	1.42 H	197	41.29	15.77
7	11000.00	48.54 AV	54.00	-5.46	1.42 H	197	32.77	15.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.88 PK	74.00	-15.12	2.45 V	359	49.24	9.64
2	5460.00	48.94 AV	54.00	-5.06	2.45 V	359	39.30	9.64
3	#5470.00	60.32 PK	68.20	-7.88	2.45 V	359	50.76	9.56
4	*5500.00	101.10 PK			2.45 V	359	59.85	41.25
5	*5500.00	94.53 AV			2.45 V	359	53.28	41.25
6	11000.00	56.85 PK	74.00	-17.15	1.75 V	194	41.08	15.77
7	11000.00	45.41 AV	54.00	-8.59	1.75 V	194	29.64	15.77

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	106.28 PK			1.26 H	200	65.01	41.27
2	*5580.00	99.85 AV			1.26 H	200	58.58	41.27
3	11160.00	56.93 PK	74.00	-17.07	1.23 H	326	41.12	15.81
4	11160.00	45.46 AV	54.00	-8.54	1.23 H	326	29.65	15.81
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	100.31 PK			2.45 V	359	59.04	41.27
2	*5580.00	93.65 AV			2.45 V	359	52.38	41.27
3	11160.00	56.81 PK	74.00	-17.19	1.05 V	241	41.00	15.81
4	11160.00	45.43 AV	54.00	-8.57	1.05 V	241	29.62	15.81

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	107.41 PK			1.66 H	189	65.91	41.50
2	*5700.00	100.25 AV			1.66 H	189	58.75	41.50
3	#5725.00	60.29 PK	68.20	-7.91	1.66 H	189	50.19	10.10
4	11400.00	57.14 PK	74.00	-16.86	1.05 H	104	41.81	15.33
5	11400.00	48.55 AV	54.00	-5.45	1.05 H	104	33.22	15.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	101.21 PK			1.96 V	39	59.71	41.50
2	*5700.00	94.58 AV			1.96 V	39	53.08	41.50
3	#5725.00	60.32 PK	68.20	-7.88	1.96 V	39	50.22	10.10
4	11400.00	56.94 PK	74.00	-17.06	1.05 V	241	41.61	15.33
5	11400.00	45.41 AV	54.00	-8.59	1.05 V	241	30.08	15.33

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5745.00	104.41 PK			1.00 H	202	62.82	41.59
2	*5745.00	97.59 AV			1.00 H	202	56.00	41.59
3	11490.00	56.29 PK	74.00	-17.71	1.14 H	174	40.38	15.91
4	11490.00	48.60 AV	54.00	-5.40	1.14 H	174	32.69	15.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5745.00	99.64 PK			1.97 V	357	58.05	41.59
2	*5745.00	92.15 AV			1.97 V	357	50.56	41.59
3	11490.00	56.17 PK	74.00	-17.83	1.22 V	215	40.26	15.91
4	11490.00	48.55 AV	54.00	-5.45	1.22 V	215	32.64	15.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11n (HT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	103.65 PK			1.00 H	202	62.00	41.65
2	*5785.00	96.55 AV			1.00 H	202	54.90	41.65
3	11570.00	56.26 PK	74.00	-17.74	1.04 H	241	40.67	15.59
4	11570.00	48.43 AV	54.00	-5.57	1.04 H	241	32.84	15.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	98.88 PK			2.03 V	358	57.23	41.65
2	*5785.00	91.70 AV			2.03 V	358	50.05	41.65
3	11570.00	56.04 PK	74.00	-17.96	1.52 V	155	40.45	15.59
4	11570.00	48.33 AV	54.00	-5.67	1.52 V	155	32.74	15.59

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11n (HT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	103.32 PK			1.00 H	202	61.62	41.70
2	*5825.00	96.55 AV			1.00 H	202	54.85	41.70
3	11650.00	56.15 PK	74.00	-17.85	1.45 H	188	40.25	15.90
4	11650.00	48.41 AV	54.00	-5.59	1.45 H	188	32.51	15.90
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	98.36 PK			2.03 V	272	56.66	41.70
2	*5825.00	91.29 AV			2.03 V	272	49.59	41.70
3	11650.00	56.07 PK	74.00	-17.93	1.04 V	14	40.17	15.90
4	11650.00	48.39 AV	54.00	-5.61	1.04 V	14	32.49	15.90

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11n (HT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	61.34 PK	74.00	-12.66	1.49 H	190	51.59	9.75
2	5150.00	50.54 AV	54.00	-3.46	1.49 H	190	40.79	9.75
3	*5190.00	101.15 PK			1.49 H	190	59.83	41.32
4	*5190.00	94.55 AV			1.49 H	190	53.23	41.32
5	5350.00	59.74 PK	74.00	-14.26	1.49 H	190	49.99	9.75
6	5350.00	49.53 AV	54.00	-4.47	1.49 H	190	39.78	9.75
7	#10380.00	56.30 PK	68.20	-11.90	1.21 H	1	41.24	15.06
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.32 PK	74.00	-14.68	1.97 V	354	49.57	9.75
2	5150.00	49.55 AV	54.00	-4.45	1.97 V	354	39.80	9.75
3	*5190.00	96.55 PK			1.97 V	354	55.23	41.32
4	*5190.00	89.40 AV			1.97 V	354	48.08	41.32
5	5350.00	59.30 PK	74.00	-14.70	1.97 V	354	49.55	9.75
6	5350.00	49.44 AV	54.00	-4.56	1.97 V	354	39.69	9.75
7	#10380.00	55.99 PK	68.20	-12.21	1.56 V	64	40.93	15.06

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.38 PK	74.00	-14.62	1.49 H	190	49.63	9.75
2	5150.00	49.44 AV	54.00	-4.56	1.49 H	190	39.69	9.75
3	*5230.00	101.25 PK			1.49 H	190	59.88	41.37
4	*5230.00	94.53 AV			1.49 H	190	53.16	41.37
5	5350.00	59.20 PK	74.00	-14.80	1.49 H	190	49.45	9.75
6	5350.00	49.22 AV	54.00	-4.78	1.49 H	190	39.47	9.75
7	#10460.00	56.13 PK	68.20	-12.07	1.24 H	144	40.98	15.15
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.41 PK	74.00	-14.59	1.97 V	354	49.66	9.75
2	5150.00	49.33 AV	54.00	-4.67	1.97 V	354	39.58	9.75
3	*5230.00	96.40 PK			1.97 V	354	55.03	41.37
4	*5230.00	89.38 AV			1.97 V	354	48.01	41.37
5	5350.00	59.36 PK	74.00	-14.64	1.97 V	354	49.61	9.75
6	5350.00	49.28 AV	54.00	-4.72	1.97 V	354	39.53	9.75
7	#10460.00	55.94 PK	68.20	-12.26	1.45 V	154	40.79	15.15

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 54 : 5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.71 PK	74.00	-15.29	1.23 H	211	48.96	9.75
2	5150.00	49.29 AV	54.00	-4.71	1.23 H	211	39.54	9.75
3	*5270.00	103.93 PK			1.28 H	198	62.58	41.35
4	*5270.00	94.70 AV			1.28 H	198	53.35	41.35
5	5350.00	58.88 PK	74.00	-15.12	1.52 H	192	49.13	9.75
6	5350.00	49.69 AV	54.00	-4.31	1.52 H	192	39.94	9.75
7	#10540.00	54.64 PK	68.20	-13.56	2.09 H	142	39.55	15.09
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.56 PK	74.00	-14.44	2.33 V	4	49.81	9.75
2	5150.00	49.59 AV	54.00	-4.41	2.33 V	4	39.84	9.75
3	*5270.00	98.38 PK			2.25 V	359	57.03	41.35
4	*5270.00	91.41 AV			2.25 V	359	50.06	41.35
5	5350.00	58.04 PK	74.00	-15.96	2.08 V	323	48.29	9.75
6	5350.00	49.56 AV	54.00	-4.44	2.08 V	323	39.81	9.75
7	#10540.00	54.79 PK	68.20	-13.41	2.56 V	172	39.70	15.09

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 62 : 5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.56 PK	74.00	-15.44	1.24 H	177	48.81	9.75
2	5150.00	49.50 AV	54.00	-4.50	1.24 H	177	39.75	9.75
3	*5310.00	103.18 PK			1.37 H	203	61.88	41.30
4	*5310.00	95.19 AV			1.37 H	203	53.89	41.30
5	5350.00	59.93 PK	74.00	-14.07	1.52 H	201	50.18	9.75
6	5350.00	50.19 AV	54.00	-3.81	1.52 H	201	40.44	9.75
7	10620.00	54.34 PK	74.00	-19.66	1.29 H	222	39.34	15.00
8	10620.00	44.87 AV	54.00	-9.13	1.29 H	222	29.87	15.00
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.39 PK	74.00	-14.61	2.31 V	24	49.64	9.75
2	5150.00	49.07 AV	54.00	-4.93	2.31 V	24	39.32	9.75
3	*5310.00	99.42 PK			2.47 V	0	58.12	41.30
4	*5310.00	91.27 AV			2.47 V	0	49.97	41.30
5	5350.00	59.39 PK	74.00	-14.61	2.51 V	47	49.64	9.75
6	5350.00	49.91 AV	54.00	-4.09	2.51 V	47	40.16	9.75
7	10620.00	54.41 PK	74.00	-19.59	1.53 V	222	39.41	15.00
8	10620.00	44.85 AV	54.00	-9.15	1.53 V	222	29.85	15.00

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 102 : 5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.21 PK	74.00	-12.79	1.25 H	201	51.57	9.64
2	5460.00	50.32 AV	54.00	-3.68	1.25 H	201	40.68	9.64
3	#5470.00	64.42 PK	68.20	-3.78	1.25 H	201	54.86	9.56
4	*5510.00	102.41 PK			1.29 H	199	61.16	41.25
5	*5510.00	95.55 AV			1.29 H	199	54.30	41.25
6	#5725.00	59.64 PK	68.20	-8.56	1.29 H	199	49.54	10.10
7	11020.00	57.05 PK	74.00	-16.95	1.42 H	154	41.36	15.69
8	11020.00	45.68 AV	54.00	-8.32	1.42 H	154	29.99	15.69
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.87 PK	74.00	-15.13	2.45 V	359	49.23	9.64
2	5460.00	48.96 AV	54.00	-5.04	2.45 V	359	39.32	9.64
3	#5470.00	59.64 PK	68.20	-8.56	2.45 V	359	50.08	9.56
4	*5510.00	95.54 PK			2.45 V	359	54.29	41.25
5	*5510.00	88.67 AV			2.45 V	359	47.42	41.25
6	#5725.00	59.63 PK	68.20	-8.57	2.45 V	359	49.53	10.10
7	11020.00	56.78 PK	74.00	-17.22	1.32 V	152	41.09	15.69
8	11020.00	45.53 AV	54.00	-8.47	1.32 V	152	29.84	15.69

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 110 : 5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	102.23 PK			1.28 H	195	60.96	41.27
2	*5550.00	95.54 AV			1.28 H	195	54.27	41.27
3	11100.00	57.06 PK	74.00	-16.94	1.25 H	252	41.68	15.38
4	11100.00	45.60 AV	54.00	-8.40	1.25 H	252	30.22	15.38
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	95.67 PK			2.50 V	30	54.40	41.27
2	*5550.00	88.14 AV			2.50 V	30	46.87	41.27
3	11100.00	56.85 PK	74.00	-17.15	1.41 V	145	41.47	15.38
4	11100.00	45.57 AV	54.00	-8.43	1.41 V	145	30.19	15.38

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 134 : 5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.87 PK	74.00	-15.13	1.70 H	188	49.23	9.64
2	5460.00	48.89 AV	54.00	-5.11	1.70 H	188	39.25	9.64
3	#5470.00	59.32 PK	68.20	-8.88	1.70 H	188	49.76	9.56
4	*5670.00	101.14 PK			1.70 H	188	59.74	41.40
5	*5670.00	94.30 AV			1.70 H	188	52.90	41.40
6	#5725.00	59.80 PK	68.20	-8.40	1.70 H	188	49.70	10.10
7	11340.00	56.97 PK	74.00	-17.03	1.35 H	155	41.27	15.70
8	11340.00	45.62 AV	54.00	-8.38	1.35 H	155	29.92	15.70
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.78 PK	74.00	-15.22	2.46 V	41	49.14	9.64
2	5460.00	48.88 AV	54.00	-5.12	2.46 V	41	39.24	9.64
3	#5470.00	59.00 PK	68.20	-9.20	2.46 V	41	49.44	9.56
4	*5670.00	95.34 PK			2.46 V	41	53.94	41.40
5	*5670.00	88.41 AV			2.46 V	41	47.01	41.40
6	#5725.00	59.05 PK	68.20	-9.15	2.46 V	41	48.95	10.10
7	11340.00	57.04 PK	74.00	-16.96	1.53 V	326	41.34	15.70
8	11340.00	45.62 AV	54.00	-8.38	1.53 V	326	29.92	15.70

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 151 : 5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5755.00	100.25 PK			1.49 H	190	58.64	41.61
2	*5755.00	93.85 AV			1.49 H	190	52.24	41.61
3	11510.00	56.29 PK	74.00	-17.71	1.41 H	104	40.37	15.92
4	11510.00	48.68 AV	54.00	-5.32	1.41 H	104	32.76	15.92
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5755.00	95.55 PK			1.75 V	155	53.94	41.61
2	*5755.00	88.74 AV			1.75 V	155	47.13	41.61
3	11510.00	56.12 PK	74.00	-17.88	1.10 V	141	40.20	15.92
4	11510.00	48.66 AV	54.00	-5.34	1.10 V	141	32.74	15.92

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11n (HT40)	Channel	CH 159 : 5795 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5795.00	101.24 PK			1.49 H	190	59.58	41.66
2	*5795.00	94.45 AV			1.49 H	190	52.79	41.66
3	11590.00	56.25 PK	74.00	-17.75	1.02 H	215	40.77	15.48
4	11590.00	48.70 AV	54.00	-5.30	1.02 H	215	33.22	15.48
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5795.00	96.55 PK			1.75 V	155	54.89	41.66
2	*5795.00	89.57 AV			1.75 V	155	47.91	41.66
3	11590.00	56.22 PK	74.00	-17.78	1.51 V	75	40.74	15.48
4	11590.00	48.63 AV	54.00	-5.37	1.51 V	75	33.15	15.48

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.

RF Mode	TX 802.11ac (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.54 PK	74.00	-14.46	1.49 H	186	49.79	9.75
2	5150.00	50.55 AV	54.00	-3.45	1.49 H	186	40.80	9.75
3	*5210.00	95.55 PK			1.49 H	186	54.19	41.36
4	*5210.00	88.75 AV			1.49 H	186	47.39	41.36
5	5350.00	59.33 PK	74.00	-14.67	1.49 H	186	49.58	9.75
6	5350.00	50.11 AV	54.00	-3.89	1.49 H	186	40.36	9.75
7	#10420.00	56.28 PK	68.20	-11.92	1.48 H	57	41.18	15.10
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.53 PK	74.00	-14.47	1.75 V	82	49.78	9.75
2	5150.00	50.22 AV	54.00	-3.78	1.75 V	82	40.47	9.75
3	*5210.00	90.54 PK			1.75 V	82	49.18	41.36
4	*5210.00	83.77 AV			1.75 V	82	42.41	41.36
5	5350.00	59.20 PK	74.00	-14.80	1.75 V	82	49.45	9.75
6	5350.00	49.88 AV	54.00	-4.12	1.75 V	82	40.13	9.75
7	#10420.00	56.08 PK	68.20	-12.12	1.55 V	54	40.98	15.10

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 58 : 5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.48 PK	74.00	-14.52	1.41 H	214	49.73	9.75
2	5150.00	49.61 AV	54.00	-4.39	1.41 H	214	39.86	9.75
3	*5290.00	96.66 PK			1.40 H	203	55.34	41.32
4	*5290.00	89.71 AV			1.40 H	203	48.39	41.32
5	5350.00	59.42 PK	74.00	-14.58	1.29 H	253	49.67	9.75
6	5350.00	50.58 AV	54.00	-3.42	1.29 H	253	40.83	9.75
7	#10580.00	54.61 PK	68.20	-13.59	2.25 H	84	39.63	14.98
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.95 PK	74.00	-15.05	2.24 V	17	49.20	9.75
2	5150.00	49.91 AV	54.00	-4.09	2.24 V	17	40.16	9.75
3	*5290.00	94.16 PK			2.47 V	3	52.84	41.32
4	*5290.00	86.12 AV			2.47 V	3	44.80	41.32
5	5350.00	59.19 PK	74.00	-14.81	2.42 V	102	49.44	9.75
6	5350.00	50.36 AV	54.00	-3.64	2.42 V	102	40.61	9.75
7	#10580.00	54.51 PK	68.20	-13.69	1.54 V	112	39.53	14.98

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 106 : 5530 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.24 PK	74.00	-13.76	1.82 H	195	50.60	9.64
2	5460.00	50.24 AV	54.00	-3.76	1.82 H	195	40.60	9.64
3	#5470.00	61.34 PK	68.20	-6.86	1.82 H	195	51.78	9.56
4	*5530.00	96.64 PK			1.81 H	194	55.38	41.26
5	*5530.00	89.42 AV			1.81 H	194	48.16	41.26
6	#5725.00	59.45 PK	68.20	-8.75	1.81 H	194	49.35	10.10
7	11060.00	57.21 PK	74.00	-16.79	1.54 H	145	41.68	15.53
8	11060.00	48.77 AV	54.00	-5.23	1.54 H	145	33.24	15.53
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.88 PK	74.00	-15.12	2.45 V	359	49.24	9.64
2	5460.00	49.06 AV	54.00	-4.94	2.45 V	359	39.42	9.64
3	#5470.00	59.24 PK	68.20	-8.96	2.45 V	359	49.68	9.56
4	*5530.00	90.58 PK			2.45 V	359	49.32	41.26
5	*5530.00	83.47 AV			2.45 V	359	42.21	41.26
6	#5725.00	59.33 PK	68.20	-8.87	2.45 V	359	49.23	10.10
7	11060.00	56.99 PK	74.00	-17.01	1.22 V	185	41.46	15.53
8	11060.00	45.66 AV	54.00	-8.34	1.22 V	185	30.13	15.53

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5775.00	95.54 PK			1.49 H	186	53.91	41.63
2	*5775.00	88.17 AV			1.49 H	186	46.54	41.63
3	11550.00	56.22 PK	74.00	-17.78	1.04 H	151	40.52	15.70
4	11550.00	48.75 AV	54.00	-5.25	1.04 H	151	33.05	15.70
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5775.00	90.26 PK			1.75 V	251	48.63	41.63
2	*5775.00	83.70 AV			1.75 V	251	42.07	41.63
3	11550.00	56.14 PK	74.00	-17.86	1.05 V	88	40.44	15.70
4	11550.00	48.66 AV	54.00	-5.34	1.05 V	88	32.96	15.70

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

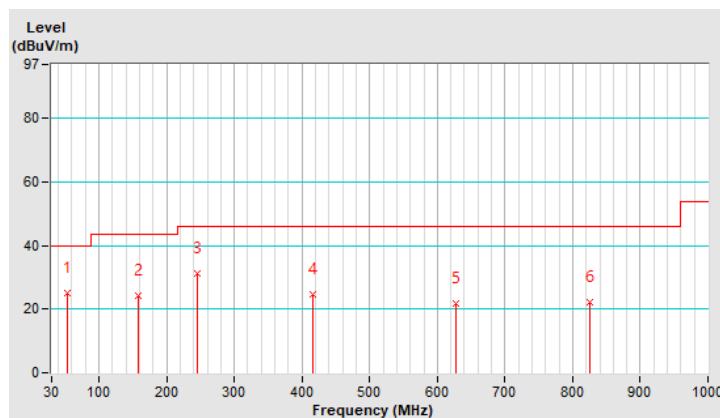
Below 1 GHz Worst-Case Data:

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	52.34	24.90 QP	40.00	-15.10	1.77 H	121	42.14	-17.24
2	158.12	24.28 QP	43.50	-19.22	2.35 H	198	40.86	-16.58
3	246.29	31.18 QP	46.00	-14.82	2.32 H	82	49.06	-17.88
4	416.28	24.82 QP	46.00	-21.18	1.11 H	256	37.91	-13.09
5	628.47	21.79 QP	46.00	-24.21	1.16 H	154	30.54	-8.75
6	826.23	22.25 QP	46.00	-23.75	1.27 H	197	28.00	-5.75

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
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.

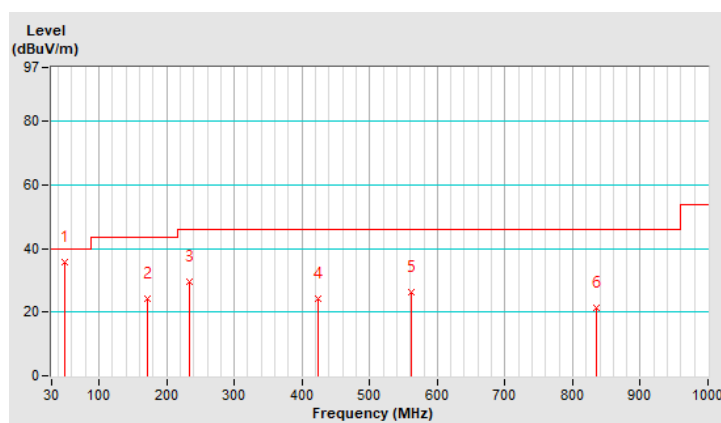


RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.74	35.61 QP	40.00	-4.39	1.53 V	181	52.82	-17.21
2	171.50	24.27 QP	43.50	-19.23	2.36 V	152	41.41	-17.14
3	233.74	29.46 QP	46.00	-16.54	1.35 V	9	48.26	-18.80
4	423.63	24.23 QP	46.00	-21.77	1.72 V	36	37.07	-12.84
5	561.92	26.12 QP	46.00	-19.88	2.04 V	199	36.33	-10.21
6	834.20	21.47 QP	46.00	-24.53	2.83 V	112	27.09	-5.62

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
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 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Dec. 20, 2021	Dec. 19, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Feb. 17, 2022	Feb. 16, 2023
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 2.
 3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

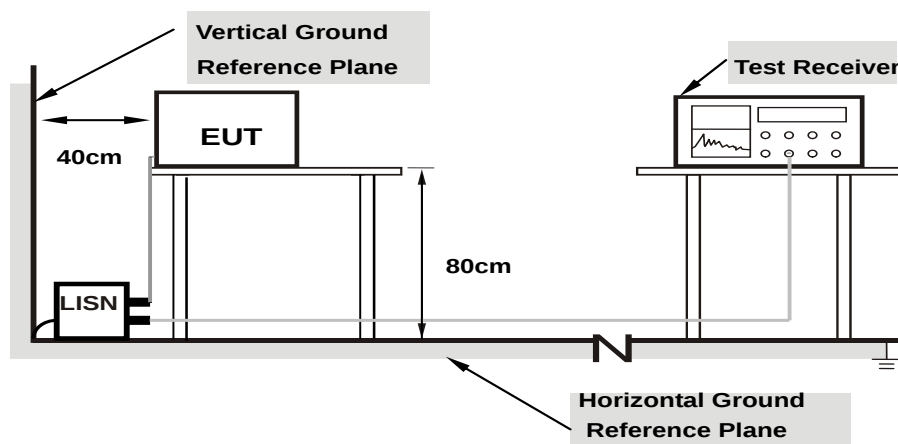
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



- Note:**
- 1.Support units were connected to second LISN.
 - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

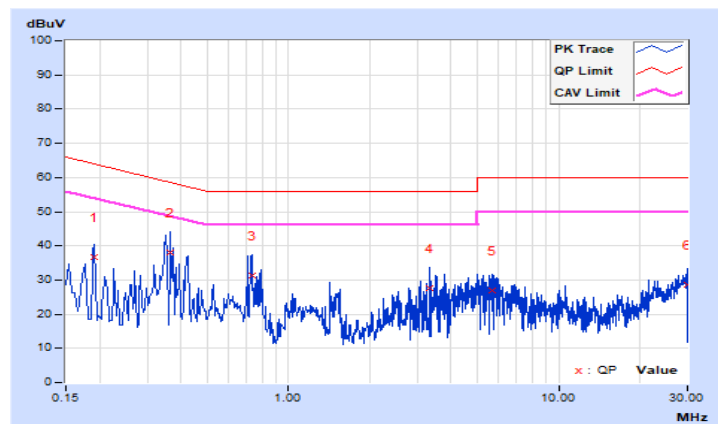
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22 °C, 60% RH
Tested by	Thomas Cheng		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19000	10.14	26.61	2.26	36.75	12.40	64.04	54.04	-27.29	-41.64
2	0.36600	10.16	27.80	8.19	37.96	18.35	58.59	48.59	-20.63	-30.24
3	0.73000	10.18	21.16	3.26	31.34	13.44	56.00	46.00	-24.66	-32.56
4	3.33000	10.24	17.44	9.13	27.68	19.37	56.00	46.00	-28.32	-26.63
5	5.65400	10.26	16.51	7.69	26.77	17.95	60.00	50.00	-33.23	-32.05
6	29.89800	10.06	18.48	10.33	28.54	20.39	60.00	50.00	-31.46	-29.61

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

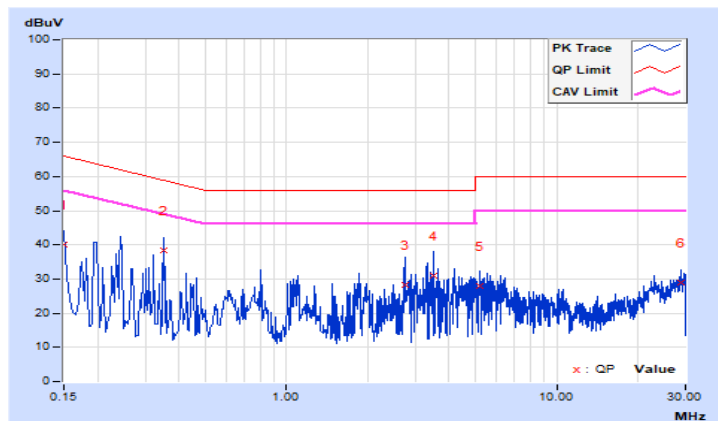


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22 °C, 60% RH
Tested by	Thomas Cheng		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.14	29.88	12.90	40.02	23.04	66.00	56.00	-25.98	-32.96
2	0.35000	10.17	28.09	5.78	38.26	15.95	58.96	48.96	-20.70	-33.01
3	2.74200	10.24	18.20	7.28	28.44	17.52	56.00	46.00	-27.56	-28.48
4	3.51400	10.26	20.62	8.33	30.88	18.59	56.00	46.00	-25.12	-27.41
5	5.20600	10.29	17.78	8.40	28.07	18.69	60.00	50.00	-31.93	-31.31
6	29.02200	10.23	18.84	5.59	29.07	15.82	60.00	50.00	-30.93	-34.18

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	✓	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A		✓	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C		✓	250 mW (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 $N_{ANT} \leq 4$;

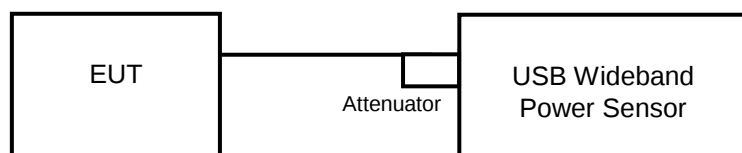
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

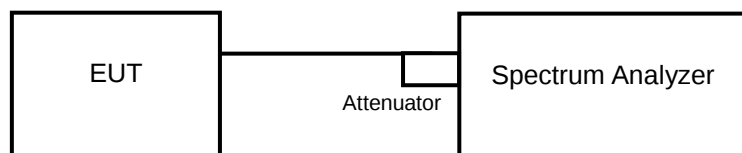
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Results

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.35	11.04	26.352	14.21	24	Pass
40	5200	11.56	11.02	26.969	14.31	24	Pass
48	5240	11.53	10.94	26.640	14.26	24	Pass
52	5260	11.37	10.94	26.125	14.17	24	Pass
60	5300	11.41	11.04	26.541	14.24	24	Pass
64	5320	11.42	11.03	26.544	14.24	24	Pass
100	5500	11.45	11.04	26.669	14.26	24	Pass
116	5580	11.46	11.08	26.819	14.28	24	Pass
140	5700	11.56	11.12	27.264	14.36	24	Pass
149	5745	11.76	11.16	28.059	14.48	30	Pass
157	5785	11.75	11.12	27.904	14.46	30	Pass
165	5825	11.46	10.91	26.327	14.20	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log(21.77) = 24.38 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(21.59) = 24.34 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(21.73) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(21.79) = 24.38 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(21.68) = 24.36 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(21.83) = 24.39 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log(21.49) = 24.32 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(21.54) = 24.33 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(21.47) = 24.32 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(21.55) = 24.33 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(21.72) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(21.59) = 24.34 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.36	11.07	26.471	14.23	24	Pass
40	5200	11.40	11.19	26.956	14.31	24	Pass
48	5240	11.35	11.07	26.440	14.22	24	Pass
52	5260	11.36	11.07	26.471	14.23	24	Pass
60	5300	11.39	11.05	26.507	14.23	24	Pass
64	5320	11.46	11.10	26.878	14.29	24	Pass
100	5500	11.45	11.12	26.906	14.30	24	Pass
116	5580	11.47	11.13	27.000	14.31	24	Pass
140	5700	11.53	11.21	27.436	14.38	24	Pass
149	5745	11.60	11.25	27.790	14.44	30	Pass
157	5785	11.33	11.01	26.201	14.18	30	Pass
165	5825	11.67	11.18	27.811	14.44	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (21.80) = 24.38 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (22.00) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (21.98) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (21.65) = 24.35 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (21.46) = 24.32 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.73) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (21.61) = 24.35 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (21.72) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (21.71) = 24.37 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.04	10.23	23.250	13.66	24	Pass
46	5230	11.21	10.39	24.153	13.83	24	Pass
54	5270	11.21	10.39	24.153	13.83	24	Pass
62	5310	11.23	10.36	24.138	13.83	24	Pass
102	5510	11.29	10.42	24.474	13.89	24	Pass
110	5550	11.36	10.45	24.769	13.94	24	Pass
134	5670	11.45	10.48	25.132	14.00	24	Pass
151	5755	11.29	10.42	24.474	13.89	30	Pass
159	5795	11.16	10.28	23.728	13.75	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (41.58) = 27.19 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.49) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (41.79) = 27.21 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (41.49) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (41.24) = 27.15 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.38) = 27.17 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (41.52) = 27.18 \text{ dBm} > 24 \text{ dBm}$.

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	7.86	7.52	11.759	10.70	24	Pass
40	5200	7.94	7.61	11.991	10.79	24	Pass
48	5240	7.92	7.59	11.936	10.77	24	Pass
52	5260	7.85	7.46	11.667	10.67	24	Pass
60	5300	7.86	7.48	11.707	10.68	24	Pass
64	5320	7.92	7.51	11.831	10.73	24	Pass
100	5500	7.90	7.52	11.815	10.72	24	Pass
116	5580	7.94	7.53	11.885	10.75	24	Pass
140	5700	7.96	7.55	11.94	10.77	24	Pass
149	5745	7.97	7.61	12.034	10.80	30	Pass
157	5785	7.98	7.59	12.022	10.80	30	Pass
165	5825	7.67	7.38	11.318	10.54	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (21.80) = 24.38 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (22.00) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (21.98) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (21.99) = 24.42 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (21.65) = 24.35 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (21.46) = 24.32 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.73) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (21.61) = 24.35 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (21.72) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (21.71) = 24.37 \text{ dBm} > 24 \text{ dBm}$.

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	6.95	6.61	9.536	9.79	24	Pass
46	5230	6.87	6.54	9.372	9.72	24	Pass
54	5270	6.93	6.58	9.482	9.77	24	Pass
62	5310	6.95	6.60	9.525	9.79	24	Pass
102	5510	6.92	6.61	9.502	9.78	24	Pass
110	5550	6.95	6.58	9.504	9.78	24	Pass
134	5670	6.94	6.62	9.535	9.79	24	Pass
151	5755	6.93	6.58	9.482	9.77	30	Pass
159	5795	6.76	6.42	9.128	9.60	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (41.58) = 27.19 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.49) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (41.79) = 27.21 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (41.49) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (41.24) = 27.15 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.38) = 27.17 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (41.46) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (41.52) = 27.18 \text{ dBm} > 24 \text{ dBm}$.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	7.01	6.63	9.626	9.83	24	Pass
58	5290	7.04	6.59	9.619	9.83	24	Pass
106	5530	7.02	6.62	9.627	9.83	24	Pass
155	5775	6.92	6.48	9.367	9.72	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (82.32) = 30.16 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (82.41) = 30.16 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (82.96) = 30.19 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (82.31) = 30.15 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:
802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.77	21.49
60	5300	21.59	21.54
64	5320	21.73	21.47
100	5500	21.79	21.55
116	5580	21.68	21.72
140	5700	21.83	21.59

802.11n (HT20)

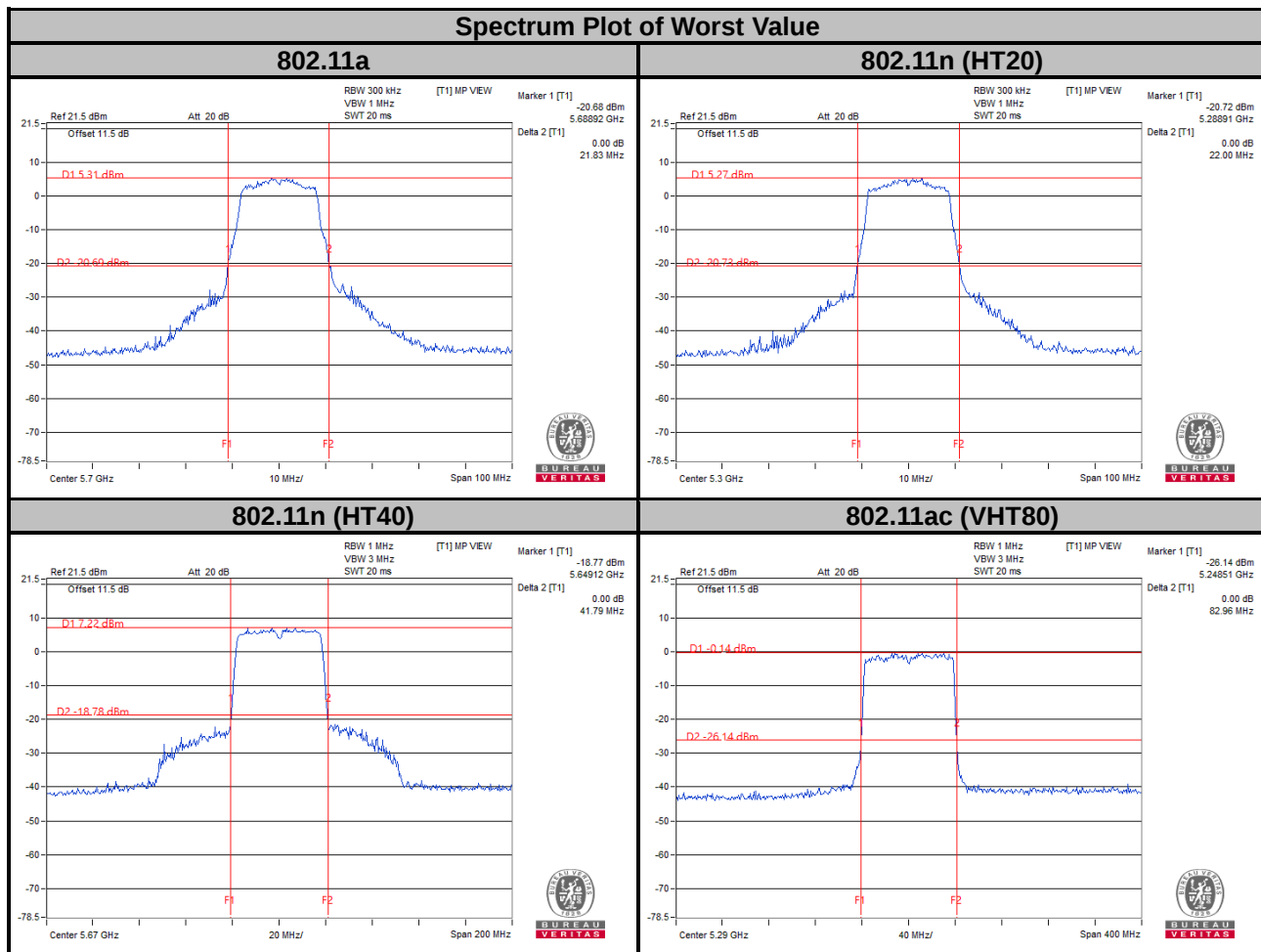
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.80	21.65
60	5300	22.00	21.46
64	5320	21.99	21.73
100	5500	21.98	21.61
116	5580	21.99	21.72
140	5700	21.99	21.71

802.11n (HT40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.58	41.49
62	5310	41.46	41.24
102	5510	41.49	41.38
110	5550	41.46	41.46
134	5670	41.79	41.52

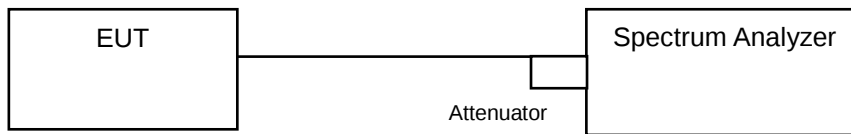
802.11ac (VHT80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.32	82.96
106	5530	82.41	82.31



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.80
40	5200	16.92	16.68
48	5240	16.92	16.68
52	5260	16.92	16.68
60	5300	16.92	16.80
64	5320	16.92	16.68
100	5500	16.92	16.92
116	5580	17.04	16.80
140	5700	16.92	16.80
149	5745	17.04	16.95
157	5785	16.92	16.80
165	5825	16.87	16.92

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.00	17.88
40	5200	18.00	17.88
48	5240	18.12	17.88
52	5260	18.00	17.88
60	5300	18.00	17.88
64	5320	18.00	17.88
100	5500	18.12	17.88
116	5580	18.00	17.88
140	5700	18.12	17.88
149	5745	18.09	17.91
157	5785	18.12	17.88
165	5825	17.88	17.88

802.11n (HT40)

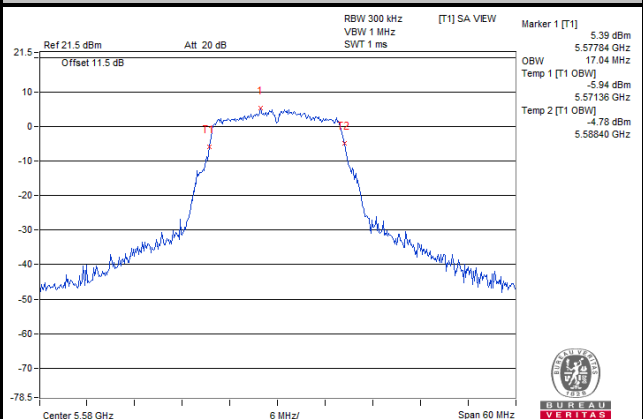
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.60	36.60
46	5230	36.96	36.60
54	5270	36.84	36.60
62	5310	36.72	36.60
102	5510	36.72	36.84
110	5550	36.84	36.72
134	5670	36.84	36.72
151	5755	36.69	36.69
159	5795	36.72	36.60

802.11ac (VHT80)

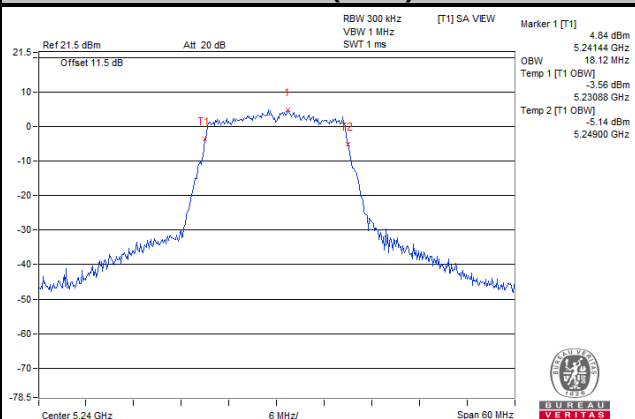
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.56	76.80
58	5290	76.18	76.32
106	5530	76.32	76.56
155	5775	76.00	76.00

Spectrum Plot of Worst Value

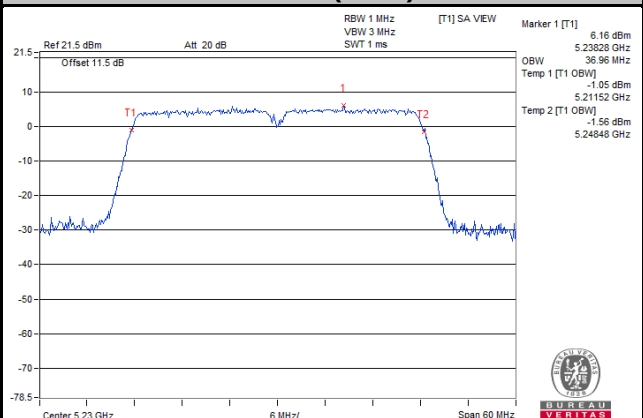
802.11a



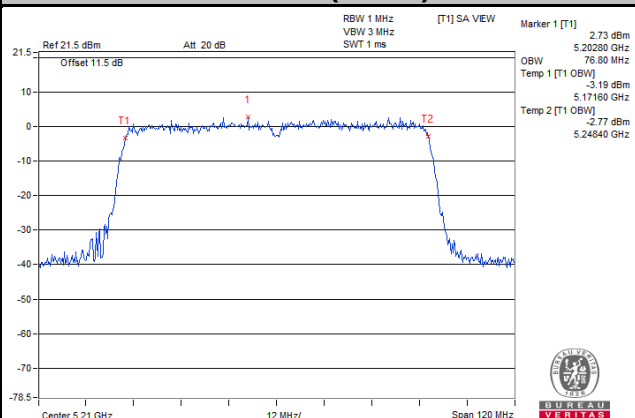
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

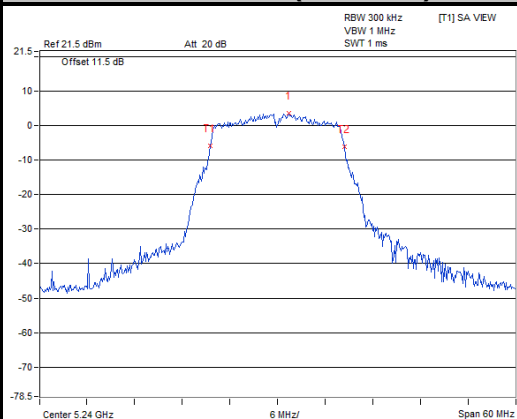


Chain 0

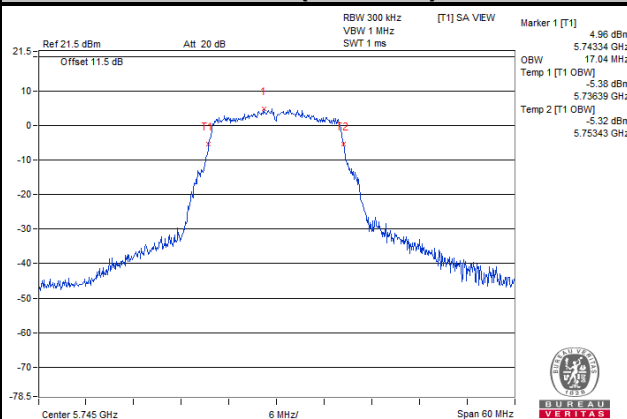
Spectrum Plot for Nearby DFS Band

802.11a

Ch 48 (5240 MHz)

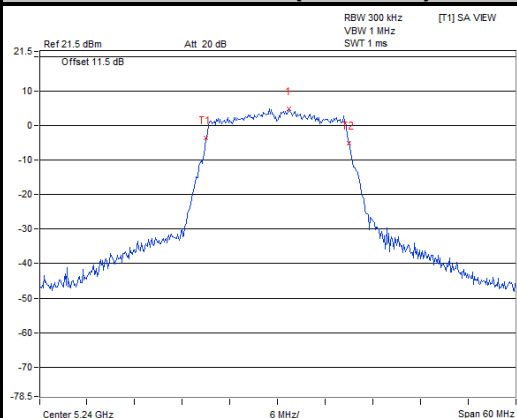


Ch 149 (5745 MHz)

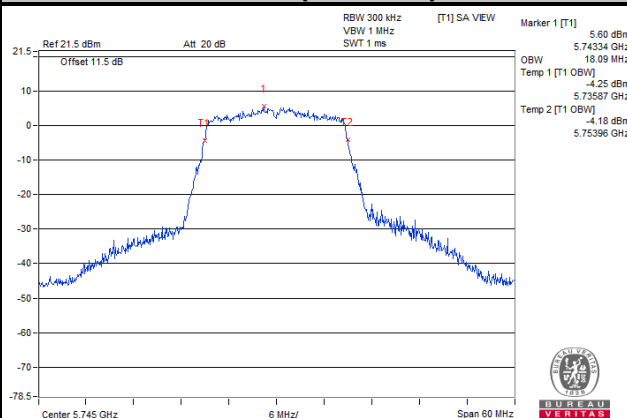


802.11n (HT20)

Ch 48 (5240 MHz)

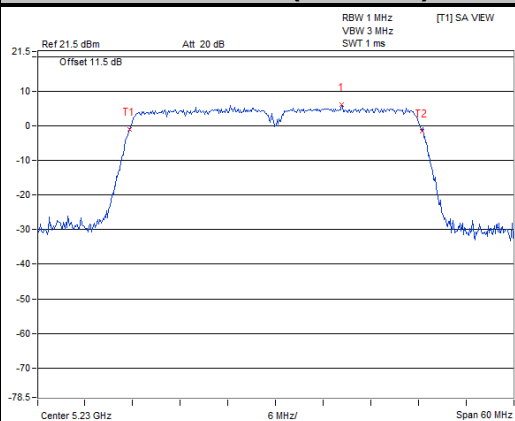


Ch 149 (5745 MHz)

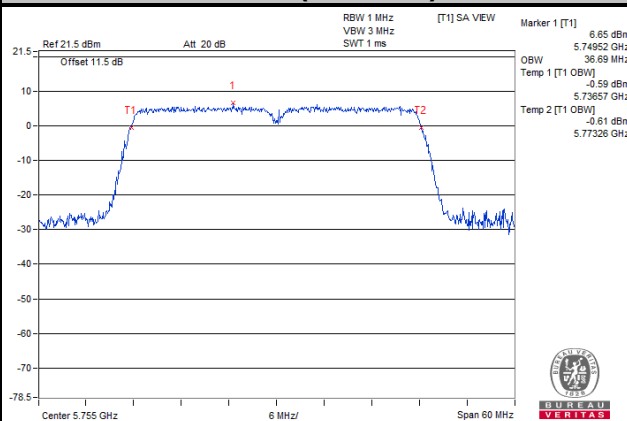


802.11n (HT40)

Ch 46 (5230 MHz)

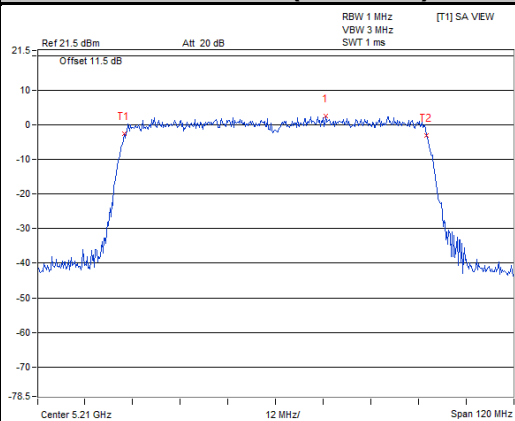


Ch 151 (5755 MHz)

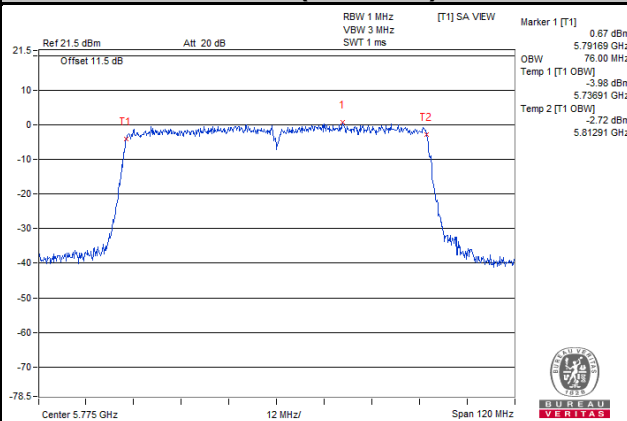


802.11ac (VHT80)

Ch 42 (5210 MHz)



Ch 155 (5775 MHz)

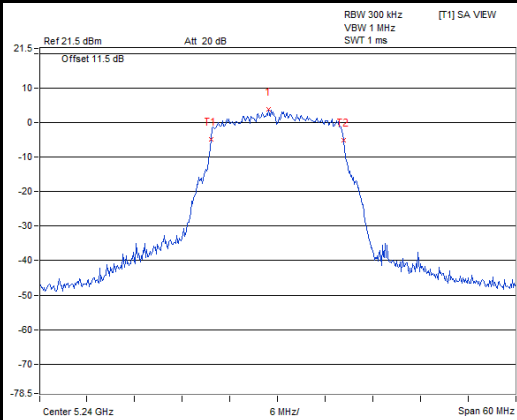


Chain 1

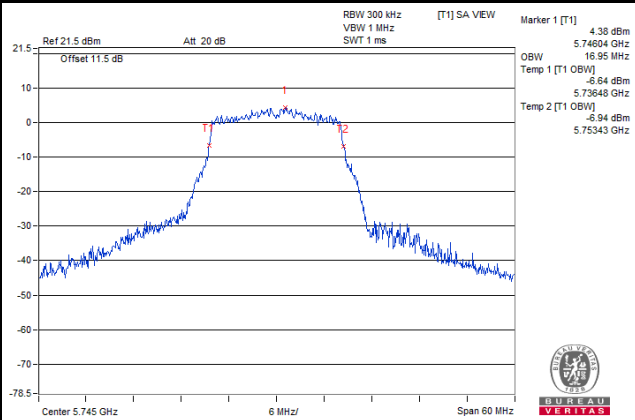
Spectrum Plot for Nearby DFS Band

802.11a

Ch 48 (5240 MHz)

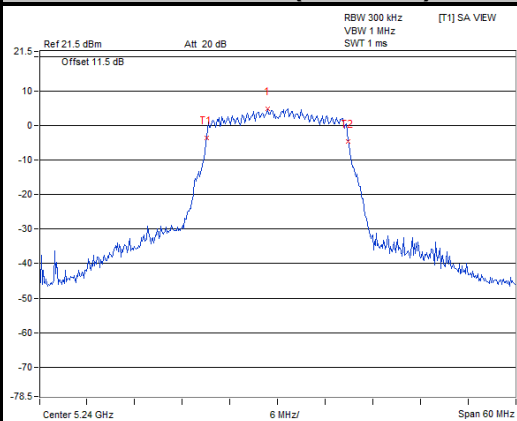


Ch 149 (5745 MHz)

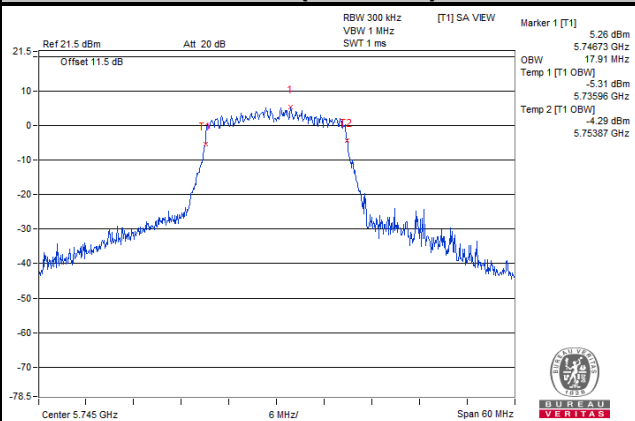


802.11n (HT20)

Ch 48 (5240 MHz)

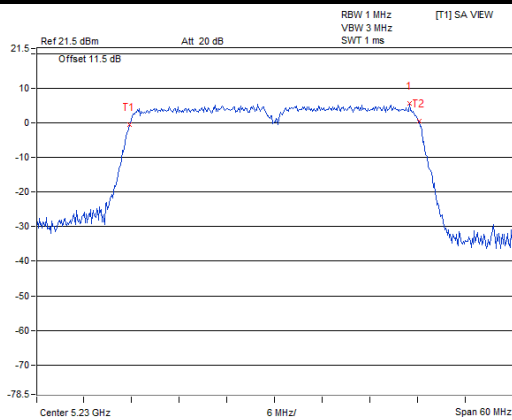


Ch 149 (5745 MHz)

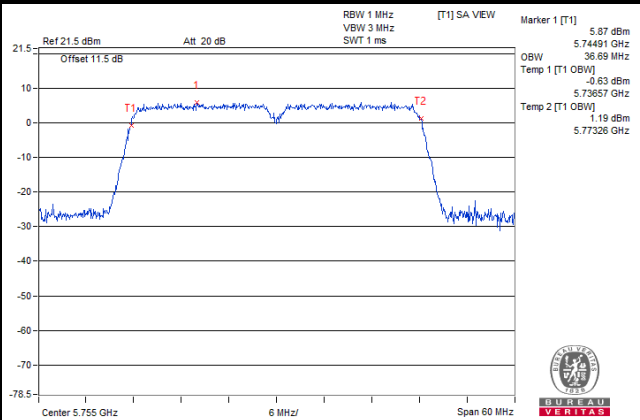


802.11n (HT40)

Ch 46 (5230 MHz)

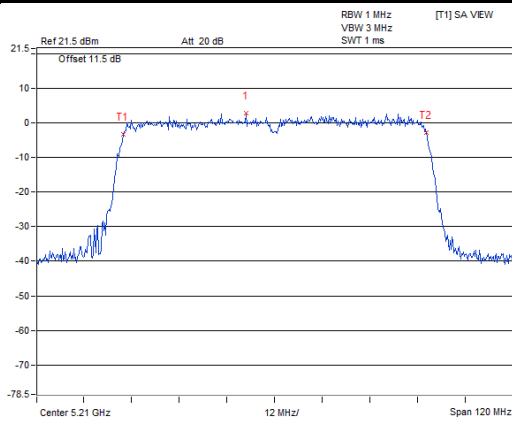


Ch 151 (5755 MHz)

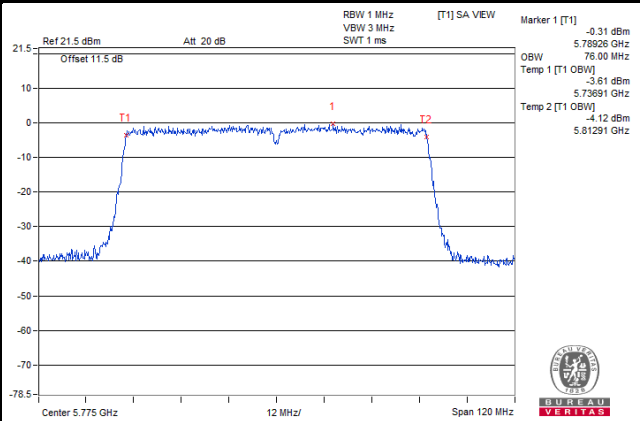


802.11ac (VHT80)

Ch 42 (5210 MHz)



Ch 155 (5775 MHz)

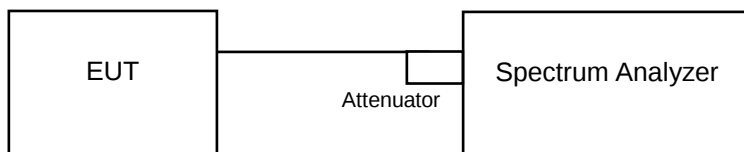


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Using method SA-2

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

※ For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$.
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. 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

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

4.5.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band 802.11a

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.17	-1.59	0.50	2.14	11	Pass
40	5200	-1.06	-1.52	0.50	2.23	11	Pass
48	5240	-1.02	-1.67	0.50	2.18	11	Pass
52	5260	-1.23	-1.56	0.50	2.12	11	Pass
60	5300	-1.24	-1.47	0.50	2.16	11	Pass
64	5320	-1.17	-1.54	0.50	2.16	11	Pass
100	5500	-1.08	-1.58	0.50	2.19	11	Pass
116	5580	-1.11	-1.55	0.50	2.19	11	Pass
140	5700	-1.04	-1.49	0.50	2.25	11	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For U-NII-1 Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.

For U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.

U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.26 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.

3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.16	-1.48	1.26	2.95	11	Pass
40	5200	-1.15	-1.48	1.26	2.96	11	Pass
48	5240	-1.21	-1.60	1.26	2.87	11	Pass
52	5260	-1.20	-1.48	1.26	2.93	11	Pass
60	5300	-1.12	-1.53	1.26	2.95	11	Pass
64	5320	-1.21	-1.43	1.26	2.95	11	Pass
100	5500	-1.17	-1.52	1.26	2.93	11	Pass
116	5580	-1.19	-1.55	1.26	2.90	11	Pass
140	5700	-1.13	-1.44	1.26	2.99	11	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1 Band:**
 $\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
For U-NII-2A Band:
 $\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
U-NII-2C Band:
 $\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.26 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-4.64	-5.40	1.48	-0.51	11	Pass
46	5230	-4.43	-5.21	1.48	-0.31	11	Pass
54	5270	-4.47	-5.36	1.48	-0.40	11	Pass
62	5310	-4.44	-5.34	1.48	-0.38	11	Pass
102	5510	-4.35	-5.24	1.48	-0.28	11	Pass
110	5550	-4.28	-5.20	1.48	-0.23	11	Pass
134	5670	-4.19	-5.24	1.48	-0.19	11	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1 Band:**

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] = 4.93 \text{ dBi} < 6 \text{ dBi}$$
 so the limit no need to be reduced.
For U-NII-2A Band:

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] = 4.93 \text{ dBi} < 6 \text{ dBi}$$
 so the limit no need to be reduced.
U-NII-2C Band:

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] = 5.26 \text{ dBi} < 6 \text{ dBi}$$
 so the limit no need to be reduced.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

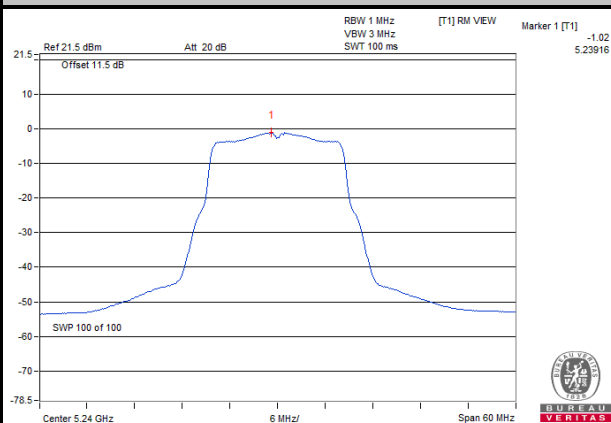
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-11.43	-11.98	0.69	-8.00	11	Pass
58	5290	-11.37	-11.88	0.69	-7.92	11	Pass
106	5530	-11.44	-11.90	0.69	-7.96	11	Pass

Note:

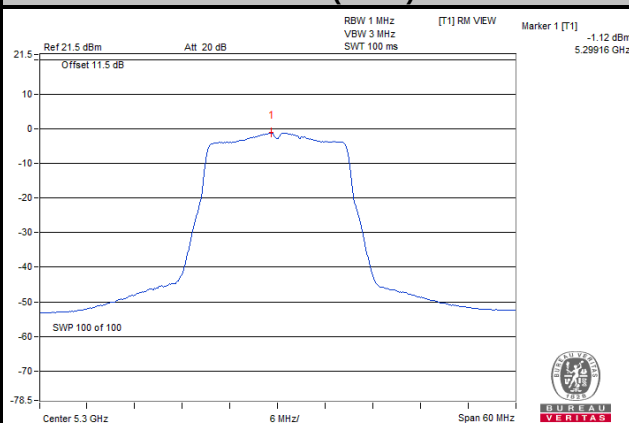
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1 Band:**
 Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
For U-NII-2A Band:
 Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.93 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
U-NII-2C Band:
 Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.26 \text{ dBi} < 6 \text{ dBi}$, so the limit no need to be reduced.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

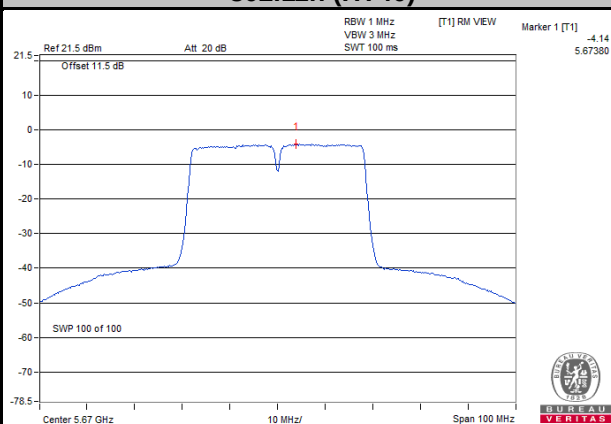
802.11a



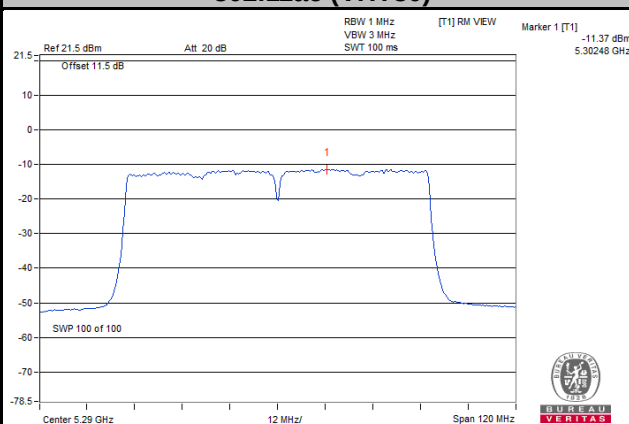
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

802.11a

TX Chain	Channel	Frequency (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	149	5745	-8.05	-5.83	3.01	0.5	-2.32	29.87	Pass
	157	5785	-8.15	-5.93	3.01	0.5	-2.42	29.87	Pass
	165	5825	-8.29	-6.07	3.01	0.5	-2.56	29.87	Pass
1	149	5745	-8.71	-6.49	3.01	0.5	-2.98	29.87	Pass
	157	5785	-8.63	-6.41	3.01	0.5	-2.9	29.87	Pass
	165	5825	-8.85	-6.63	3.01	0.5	-3.12	29.87	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 6.13 > 6$ dBi, so the power density limit shall be reduced to $30 - (6.13 - 6) = 29.87$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	149	5745	-8.11	-5.89	3.01	1.26	-1.62	29.87	Pass
	157	5785	-8.47	-6.25	3.01	1.26	-1.98	29.87	Pass
	165	5825	-8.15	-5.93	3.01	1.26	-1.66	29.87	Pass
1	149	5745	-8.46	-6.24	3.01	1.26	-1.97	29.87	Pass
	157	5785	-8.72	-6.5	3.01	1.26	-2.23	29.87	Pass
	165	5825	-8.59	-6.37	3.01	1.26	-2.1	29.87	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 6.13 > 6$ dBi, so the power density limit shall be reduced to $30 - (6.13 - 6) = 29.87$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	151	5755	-13.25	-11.03	3.01	1.48	-6.54	29.87	Pass
	159	5795	-13.18	-10.96	3.01	1.48	-6.47	29.87	Pass
1	151	5755	-13.73	-11.51	3.01	1.48	-7.02	29.87	Pass
	159	5795	-13.9	-11.68	3.01	1.48	-7.19	29.87	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 6.13 > 6$ dBi, so the power density limit shall be reduced to $30 - (6.13 - 6) = 29.87$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

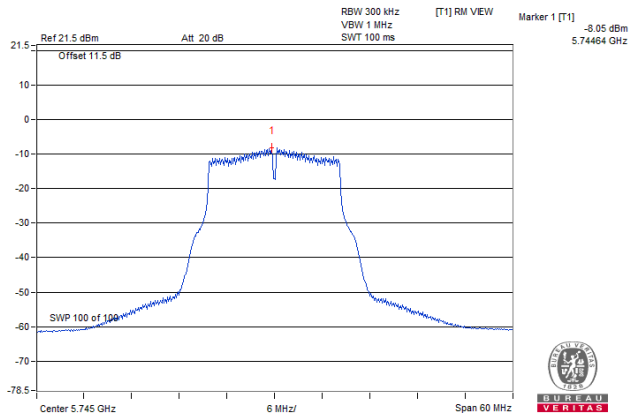
TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	155	5775	-20.47	-18.25	3.01	0.69	-14.55	29.87	Pass
1	155	5775	-21.03	-18.81	3.01	0.69	-15.11	29.87	Pass

Note:

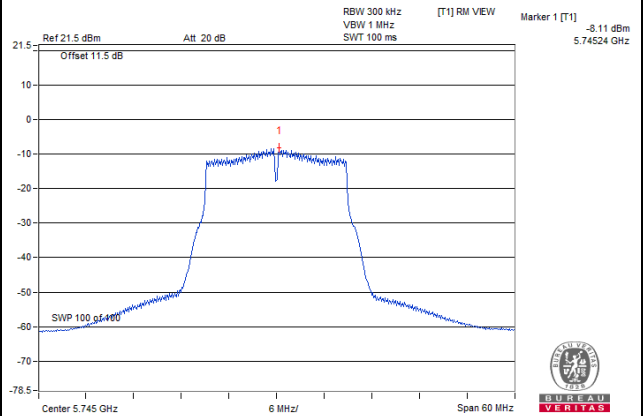
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 6.13 > 6$ dBi, so the power density limit shall be reduced to $30 - (6.13 - 6) = 29.87$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

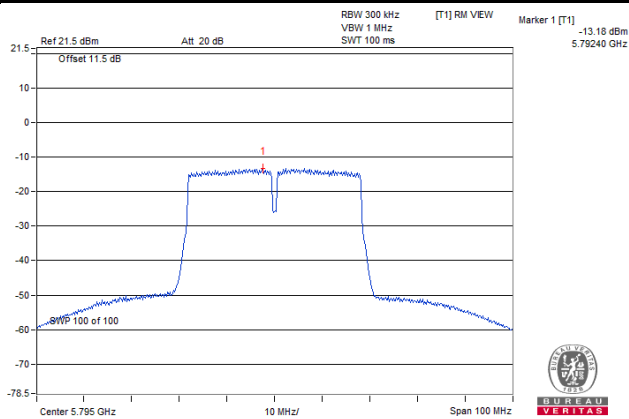
802.11a



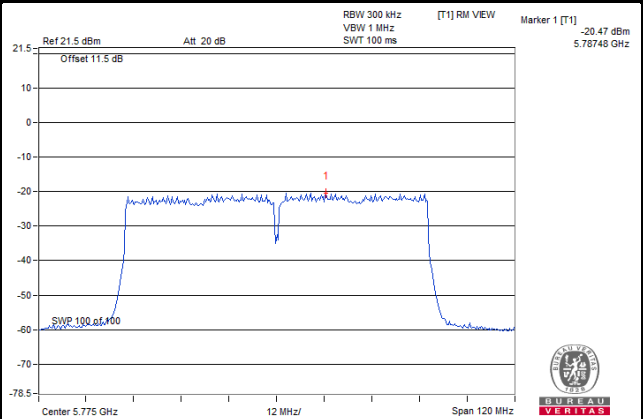
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

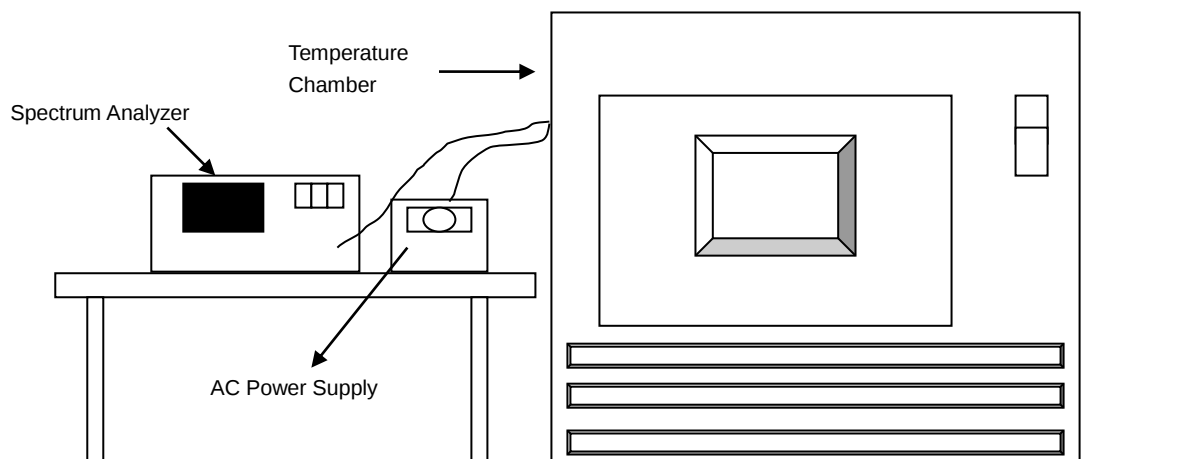


4.6 Frequency Stability

4.6.1 Limit 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 (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
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
40	120	5179.9788	Pass	5179.9779	Pass	5179.978	Pass	5179.9739	Pass
30	120	5180.003	Pass	5180.003	Pass	5179.9998	Pass	5180.0027	Pass
20	120	5179.991	Pass	5179.9898	Pass	5179.9875	Pass	5179.9868	Pass
10	120	5179.9973	Pass	5180	Pass	5180	Pass	5179.9987	Pass
0	120	5180.0081	Pass	5180.0099	Pass	5180.0098	Pass	5180.0083	Pass

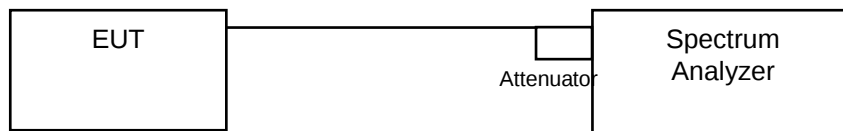
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9852	Pass	5179.9882	Pass	5179.9886	Pass	5179.9847	Pass
	120	5179.991	Pass	5179.9898	Pass	5179.9875	Pass	5179.9868	Pass
	102	5179.9845	Pass	5179.986	Pass	5179.9832	Pass	5179.9876	Pass

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.35	16.35	0.5	Pass
157	5785	16.37	16.37	0.5	Pass
165	5825	16.34	16.37	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.57	17.63	0.5	Pass
157	5785	17.58	17.64	0.5	Pass
165	5825	17.57	17.62	0.5	Pass

802.11n (HT40)

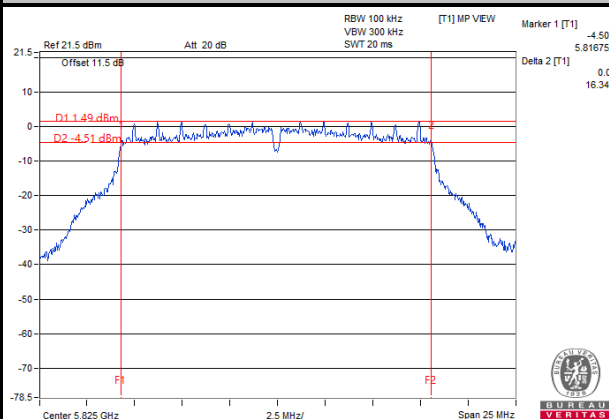
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.41	36.44	0.5	Pass
159	5795	36.40	36.43	0.5	Pass

802.11ac (VHT80)

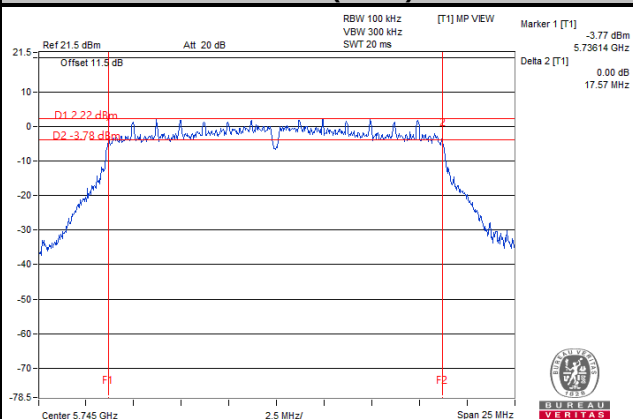
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.66	76.58	0.5	Pass

Spectrum Plot of Worst Value

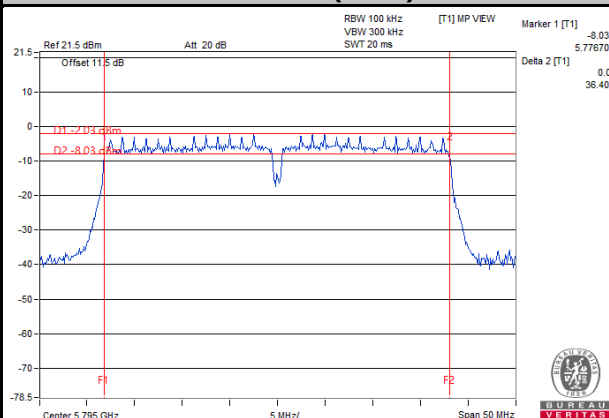
802.11a



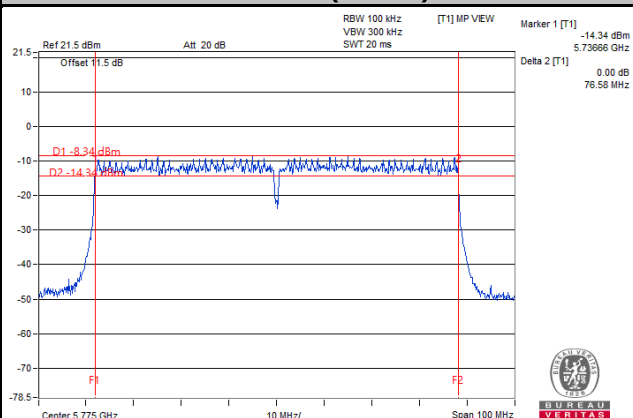
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

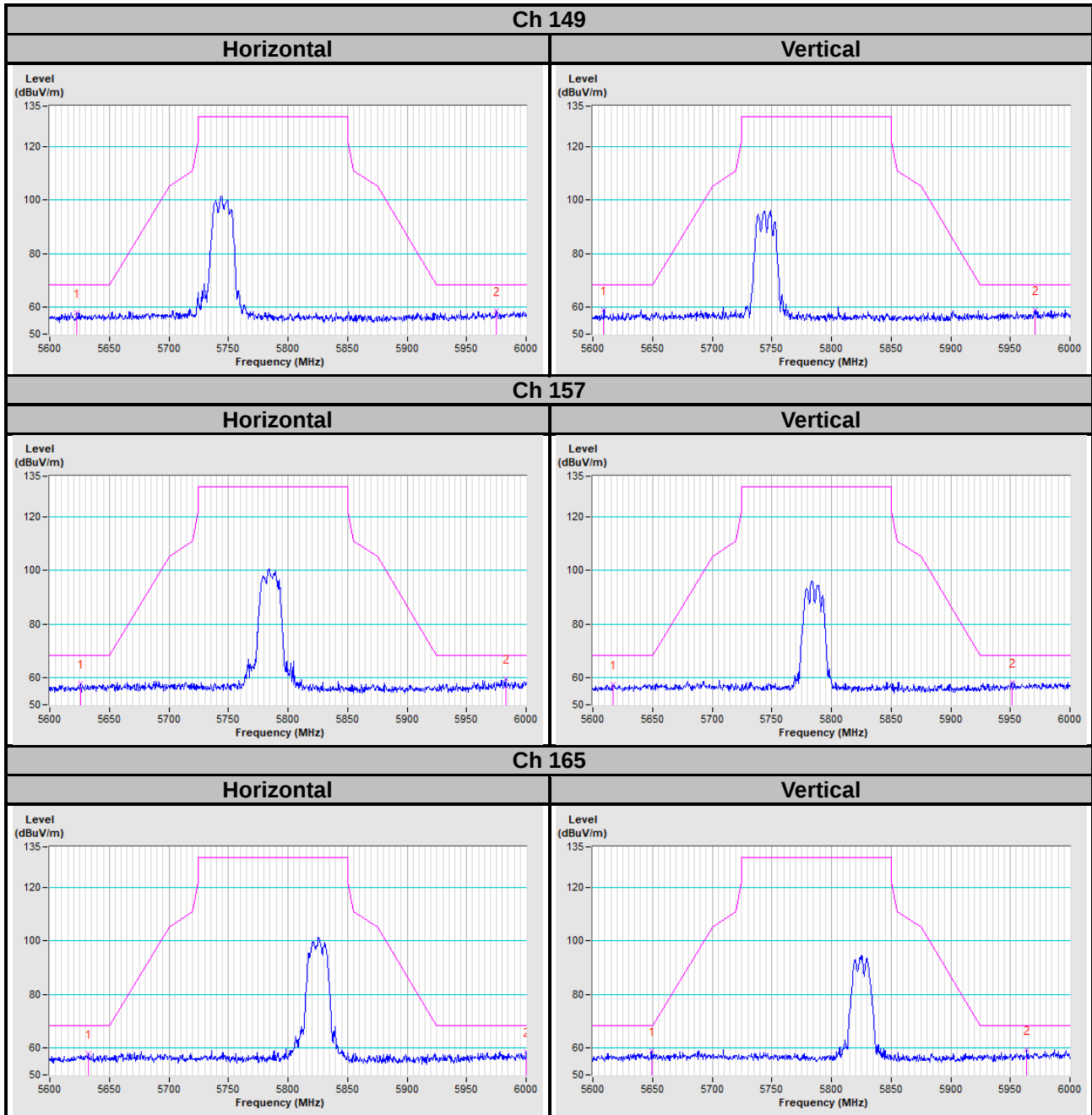


5 Pictures of Test Arrangements

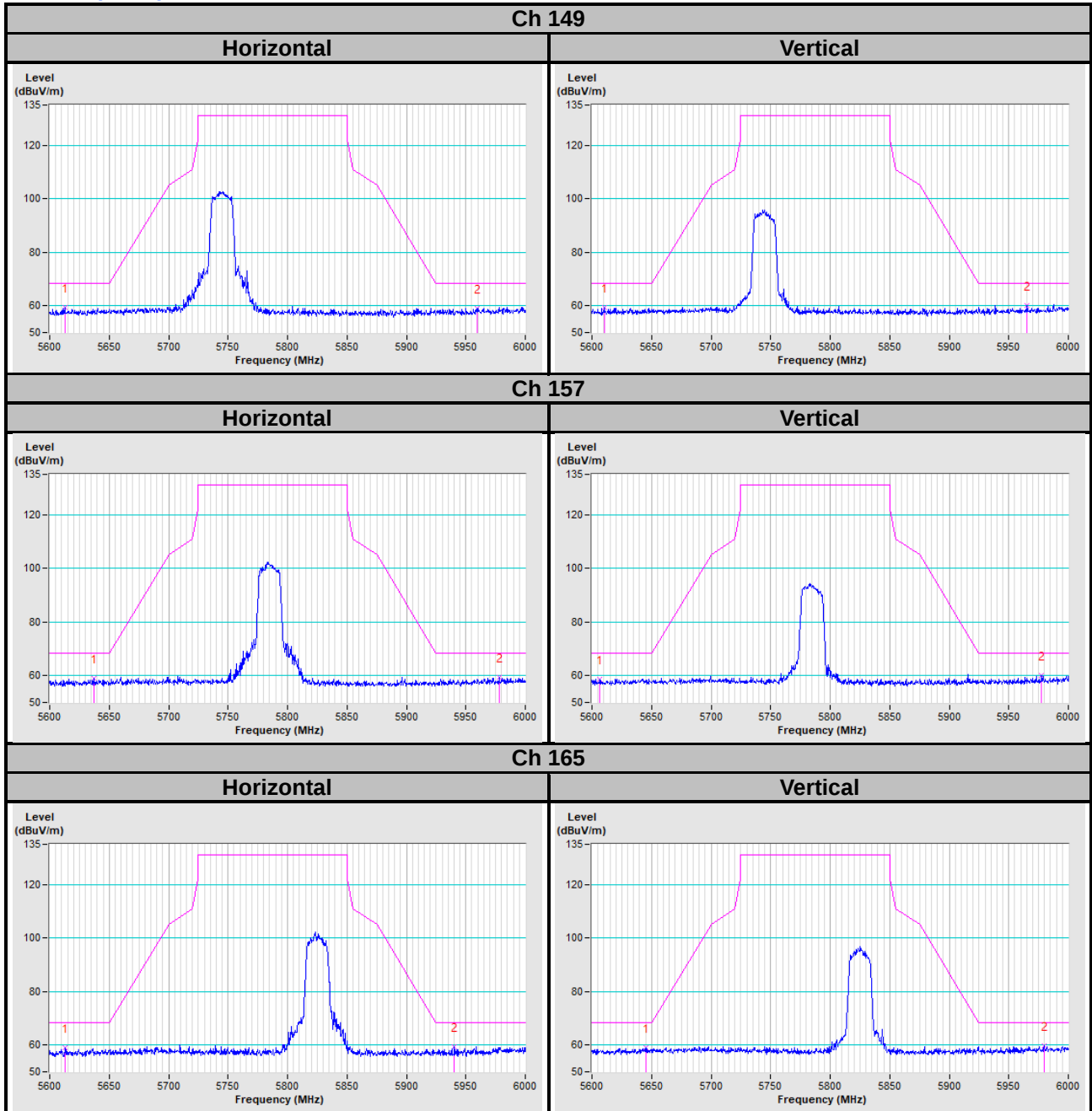
Please refer to the attached file (Test Setup Photo).

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

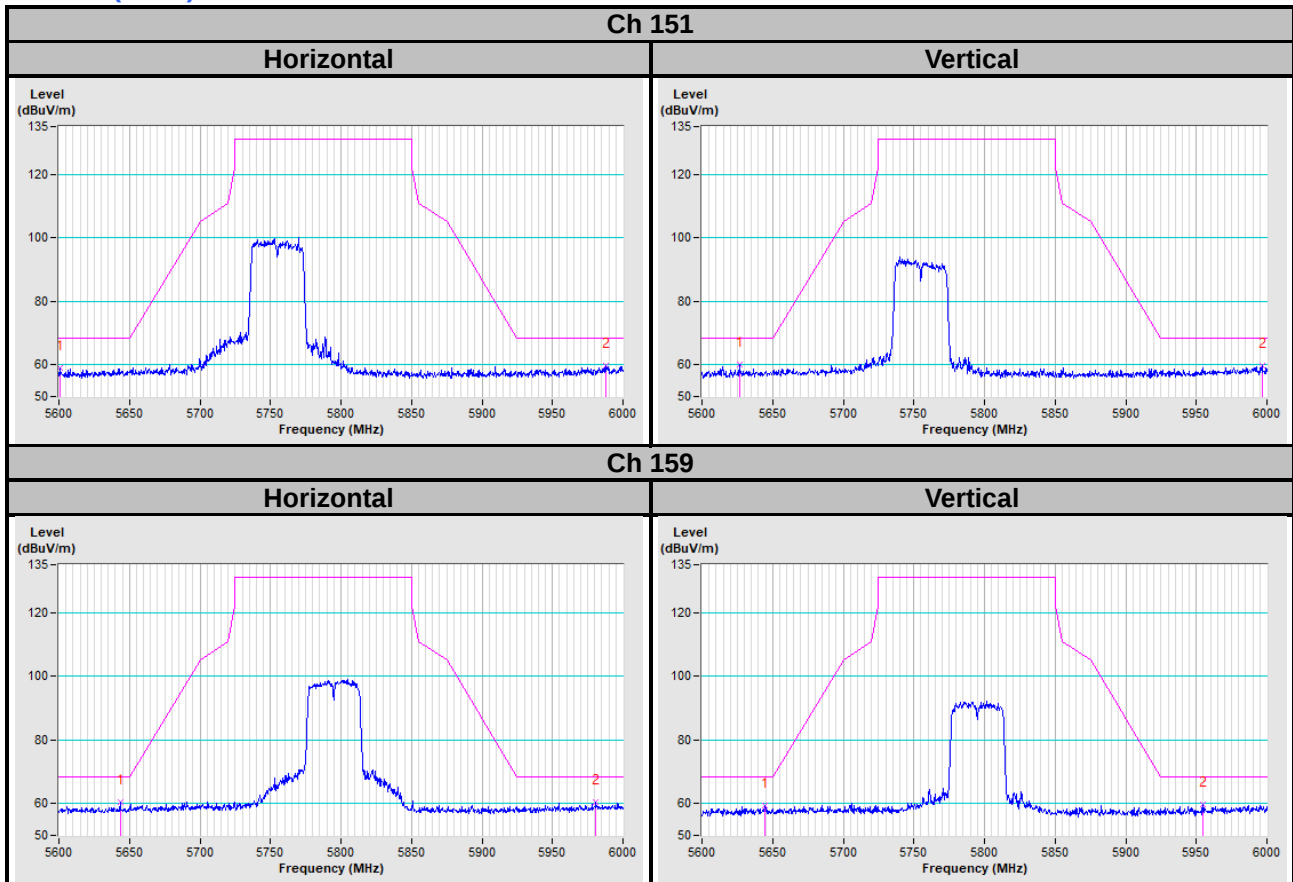
802.11a



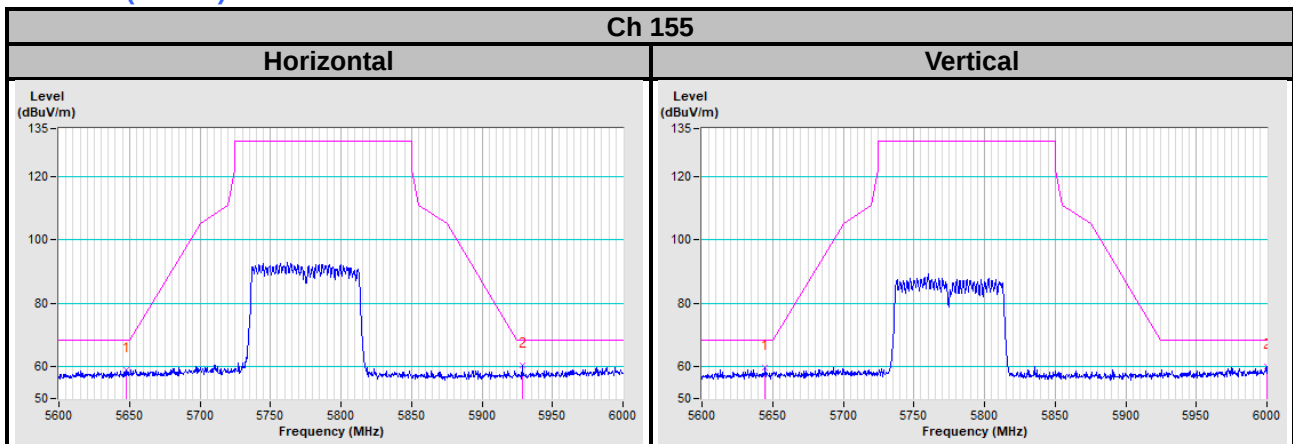
802.11n (HT20)



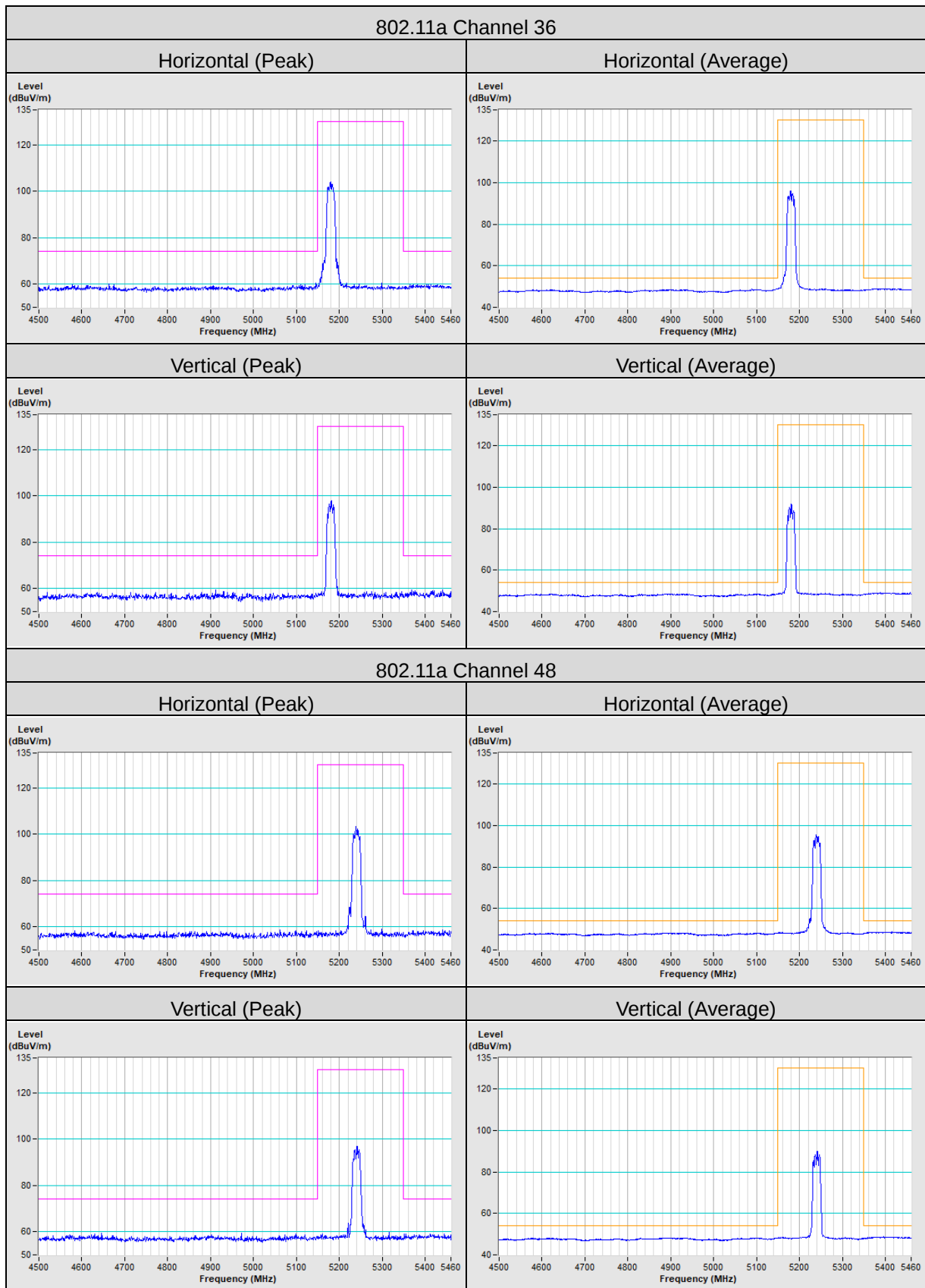
802.11n (HT40)

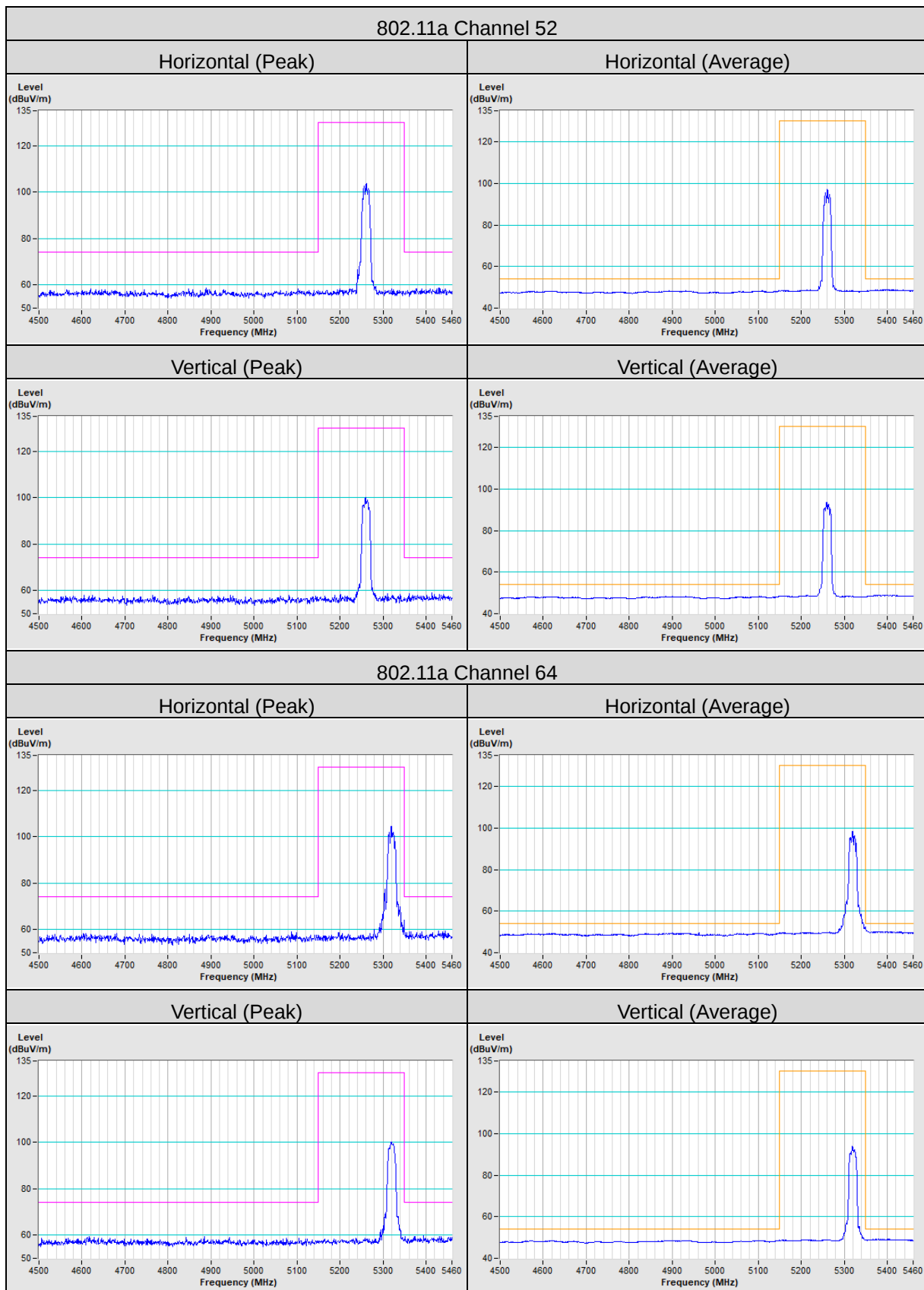


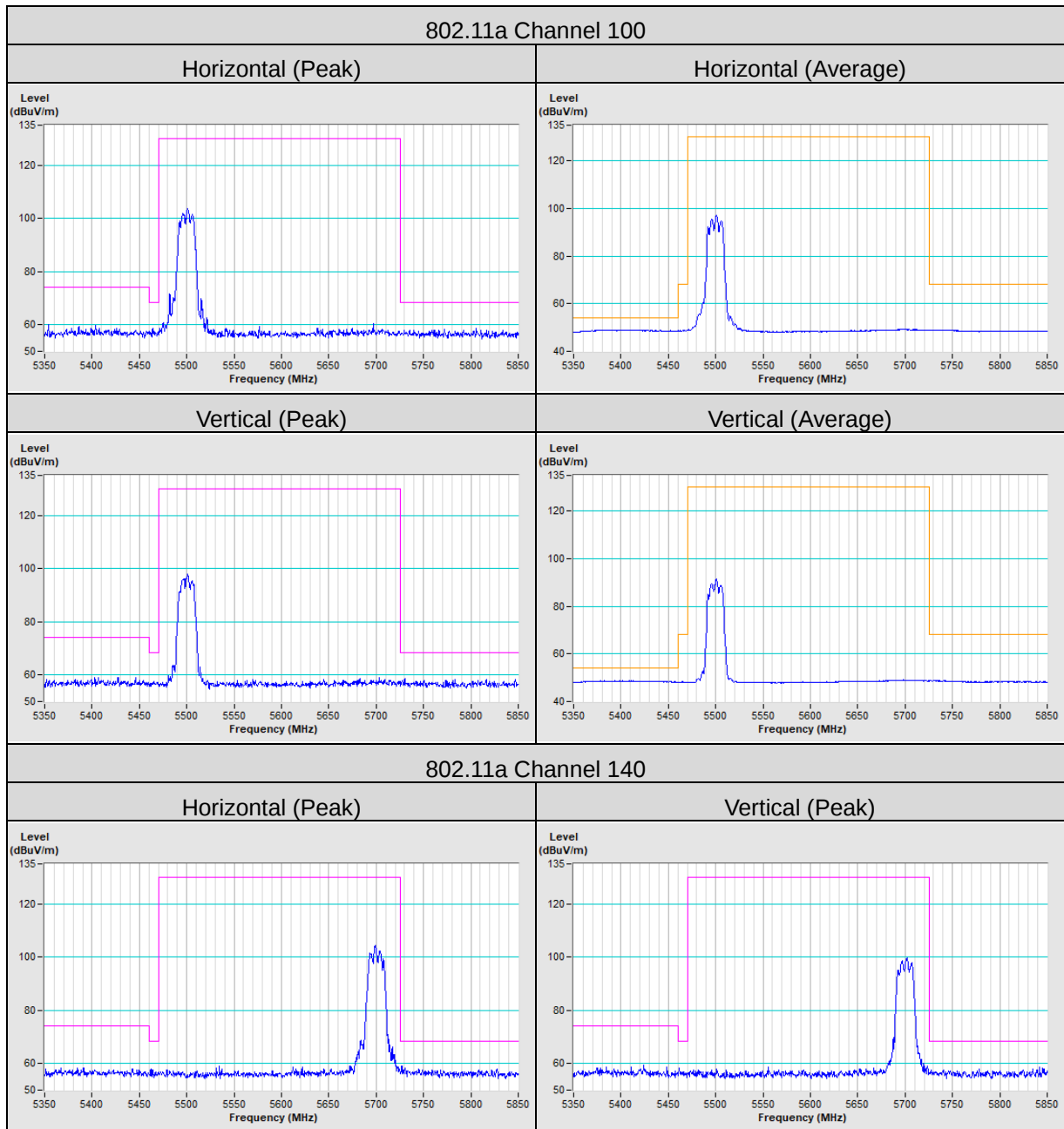
802.11ac (VHT80)

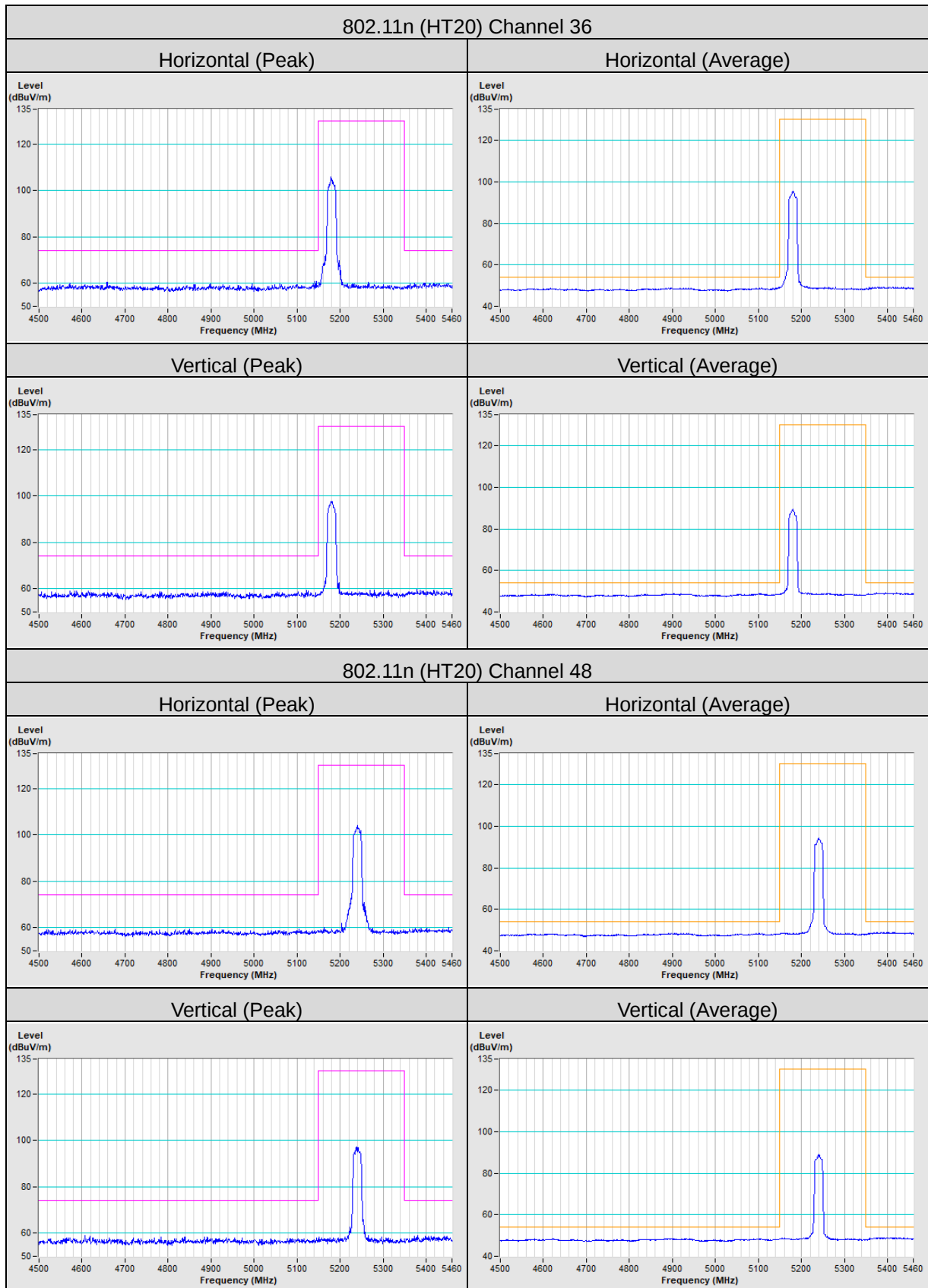


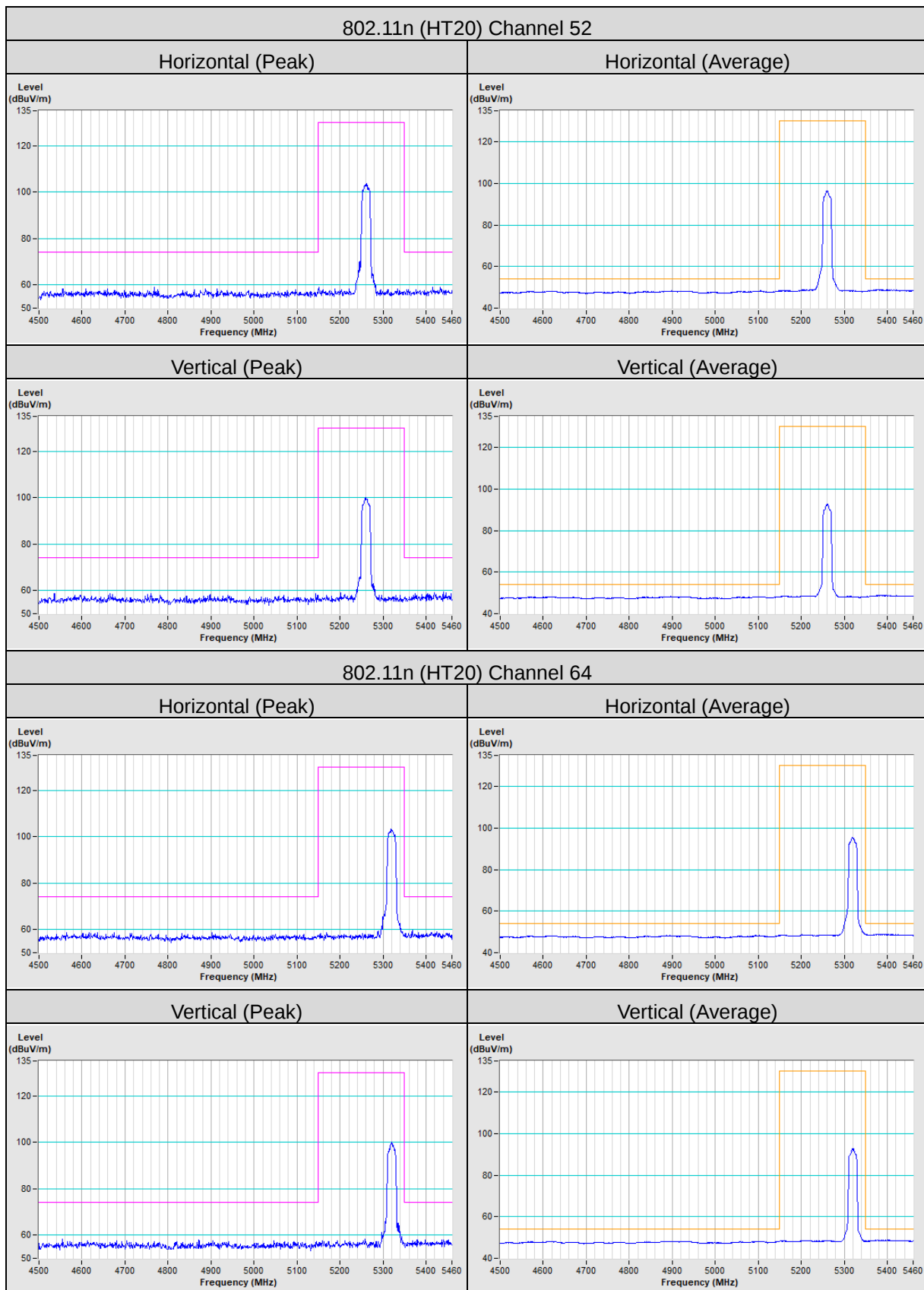
Annex B- Band Edge Measurement

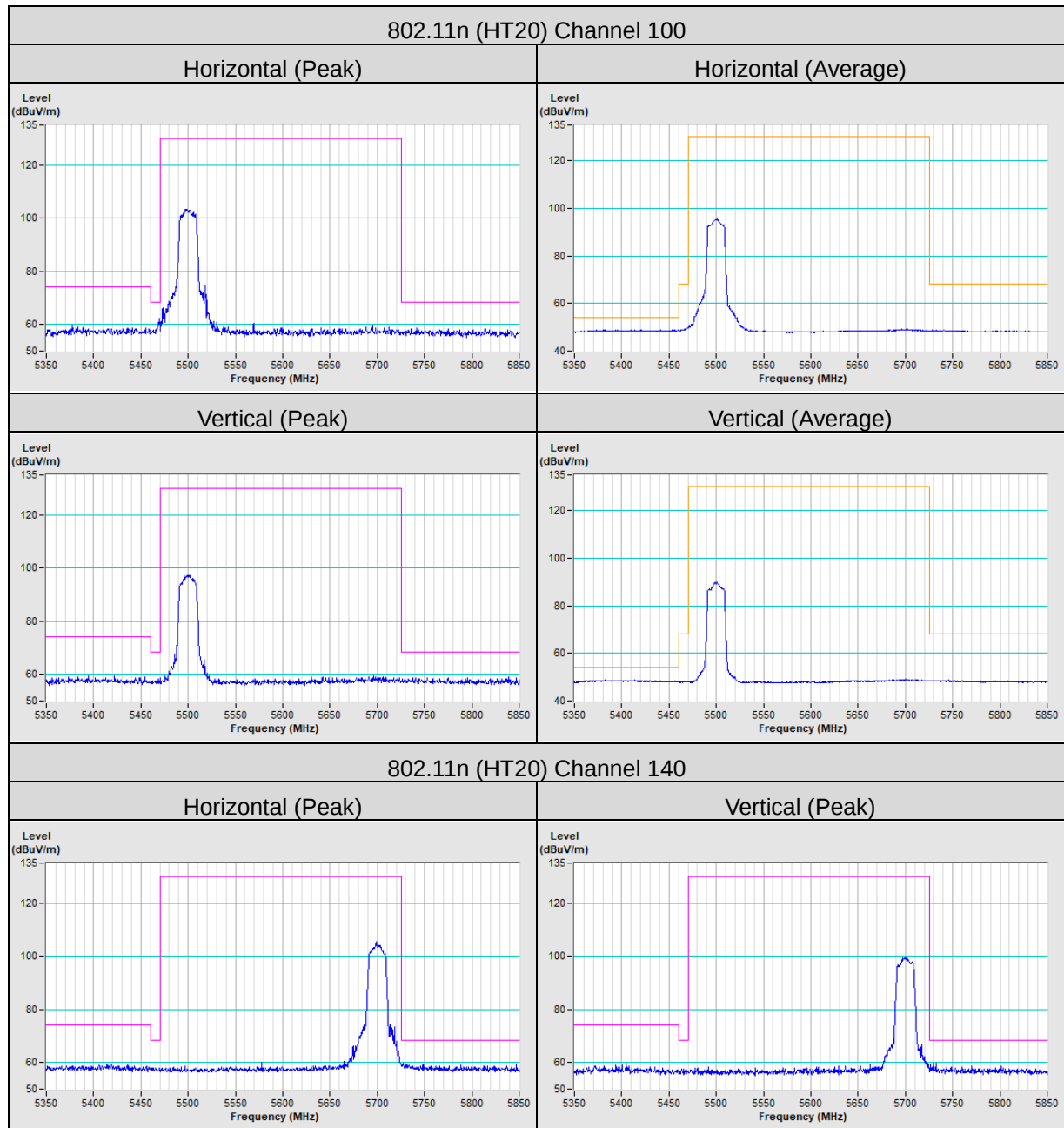


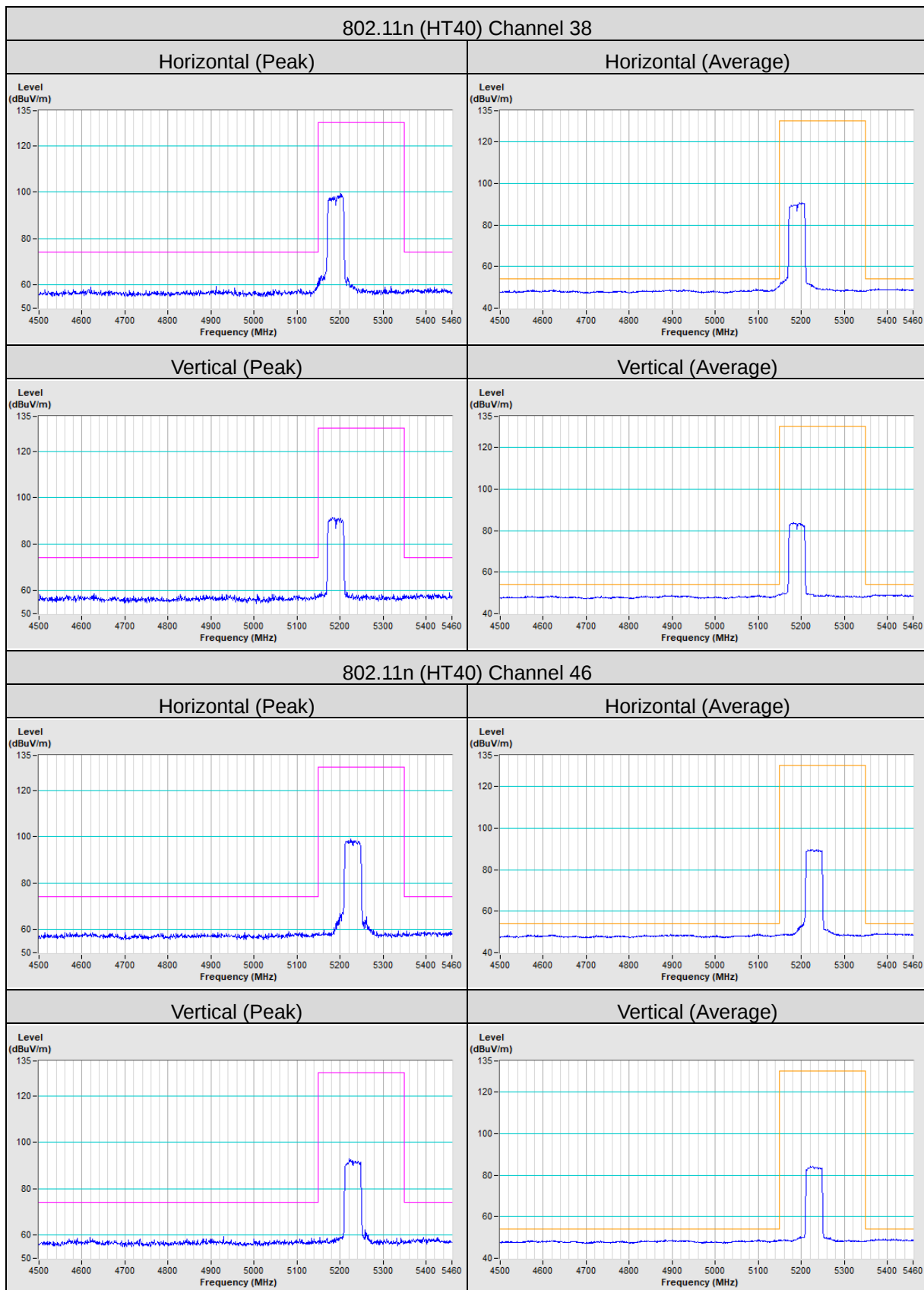


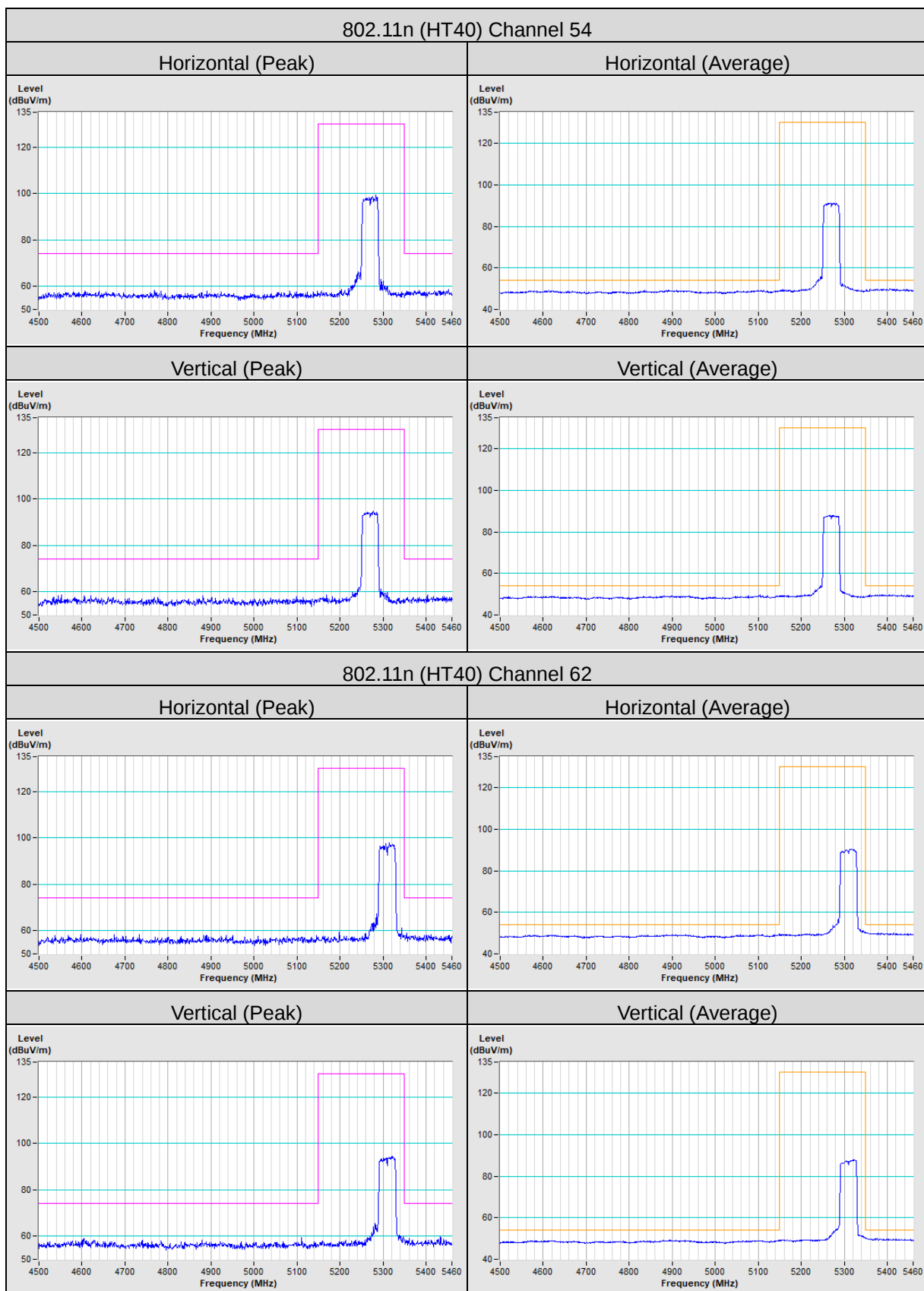


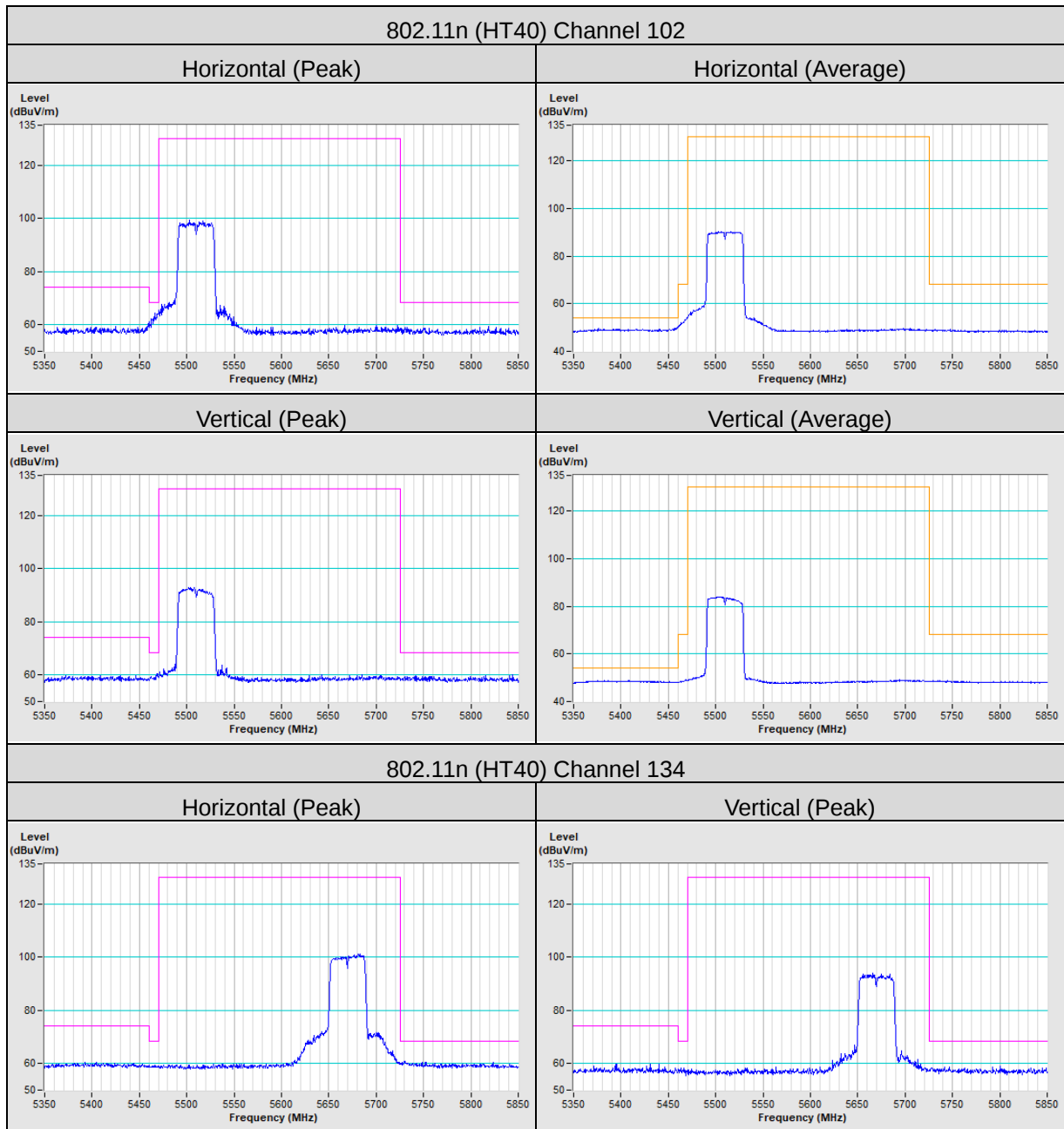


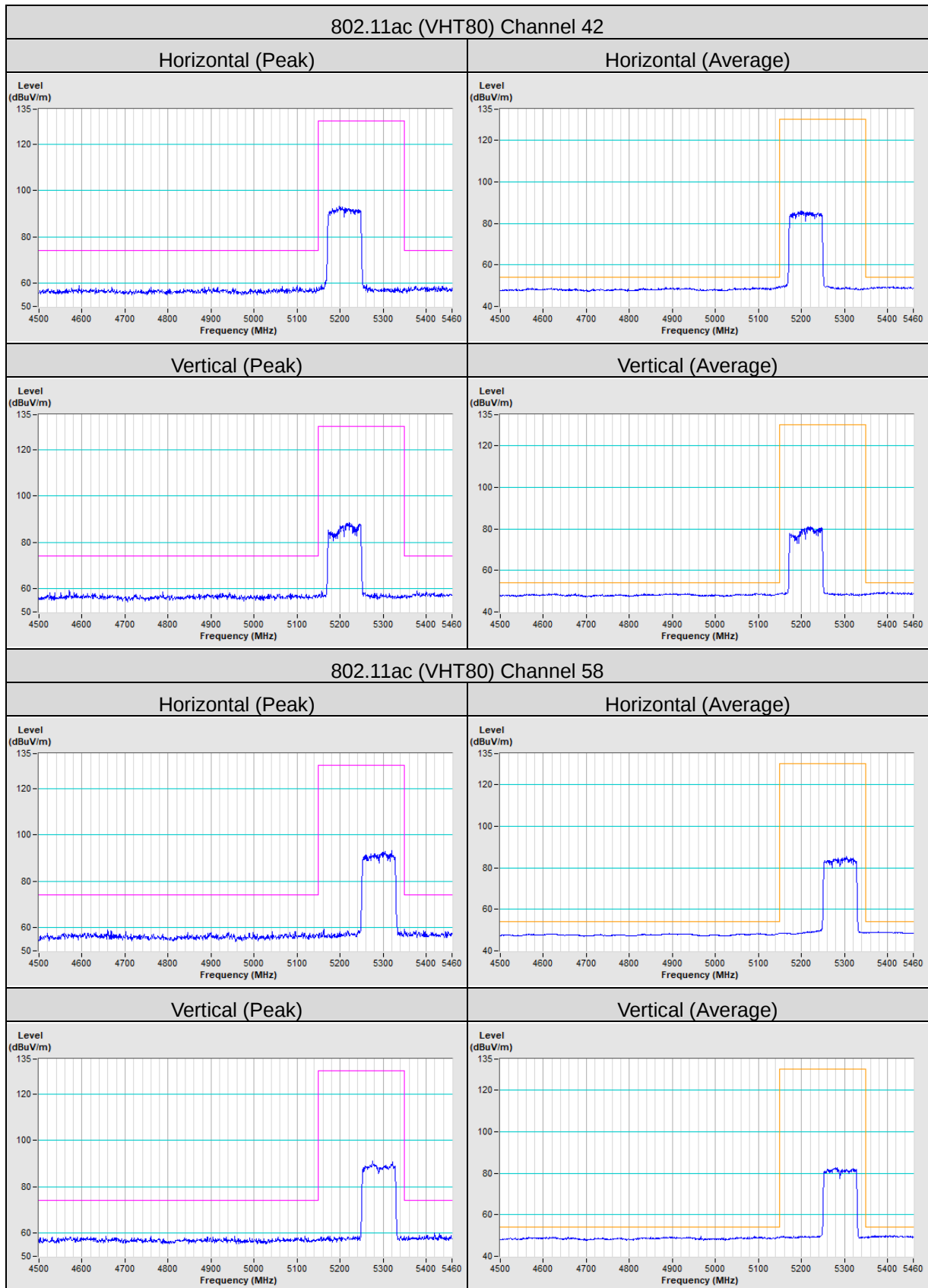


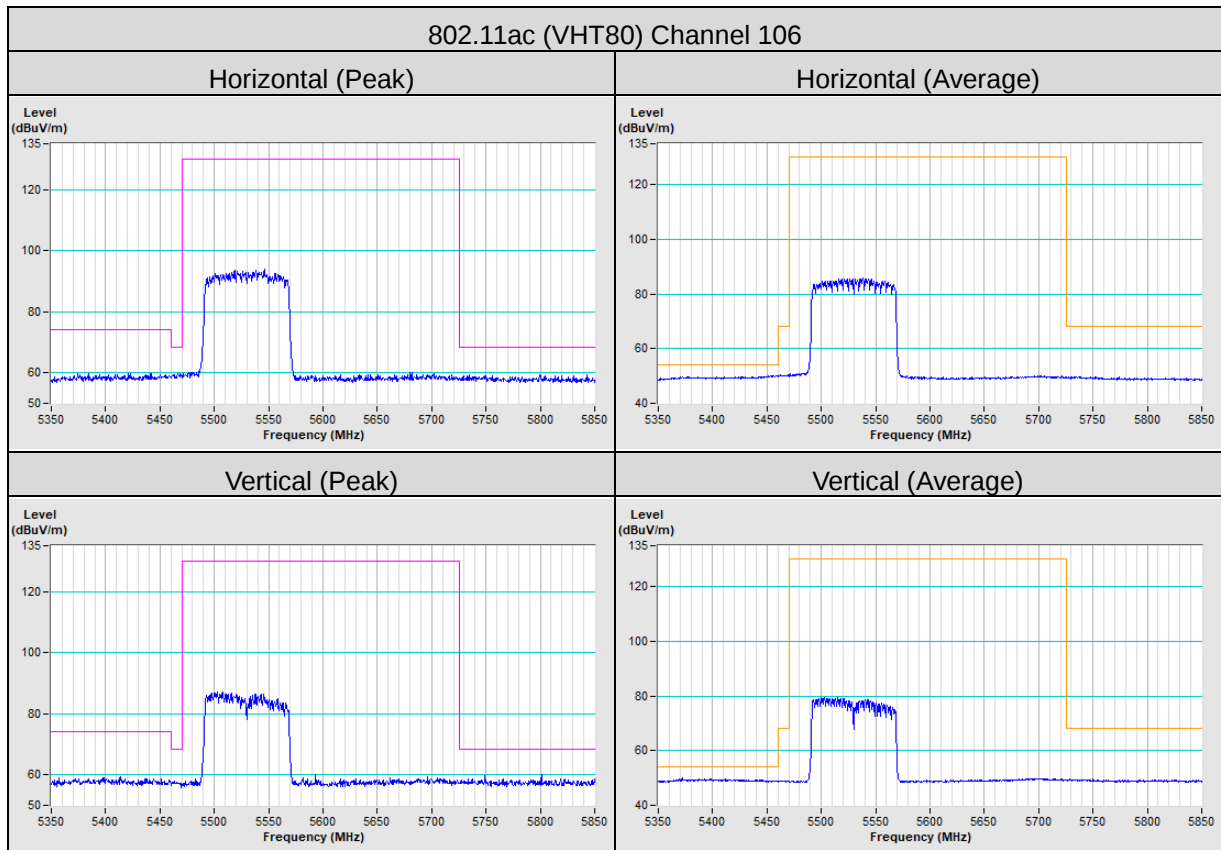












Appendix – Information of the Testing Laboratories

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 according to ISO/IEC 17025.

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

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Tel: 886-2-26052180

Fax: 886-2-26051924

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Tel: 886-3-3183232

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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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