

FCC Test Report

Report No.: RFBCWK-WTW-P20090194-1

FCC ID: MSQ-USB8C00

Test Model: USB-AC58

Received Date: Sep. 09, 2020

Test Date: Feb. 02 ~ Feb. 25, 2021

Issued Date: Jun. 18, 2021

Applicant: ASUSTeK Computer INC.

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

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33383, TAIWAN

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBCWK-WTW-P20090194-1	Original release.	Jun. 18, 2021

1 Certificate of Conformity

Product: Wireless-AC 1300 Dual-band USB Adapter

Brand: ASUS

Test Model: USB-AC58

Sample Status: Engineering sample

Applicant: ASUSTeK Computer INC.

Test Date: Feb. 02 ~ Feb. 25, 2021

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 : *Polly Chien* , **Date:** Jun. 18, 2021
Polly Chien / Specialist

Approved by : *Bruce Chen* , **Date:** Jun. 18, 2021
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.17dB at 0.15687MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.2dB at 5649.20MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is Reverse SMA not a standard connector.

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 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) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless-AC 1300 Dual-band USB Adapter
Brand	ASUS
Test Model	USB-AC58
Sample Status	Engineering sample
Power Supply rating	5.0Vdc (Host equipment or adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180~5240MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180~5240MHz: 65.485mW 5745~5825MHz: 65.936mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Cable Supplied	0.95m shielded USB cable without core

Note:

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

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

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80 on 802.11ac mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. The following antenna was provided to the EUT.

Ant. Type	Dipole	
Connector Type	Reverse SMA	
Frequency	2.4GHz	5GHz
Antenna Gain(dBi)	2.07	3.61

* 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.

3. WLAN 2.4GHz & WLAN 5GHz technology cannot transmit at same time.

3.2 Description of Test Modes

5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane.
2. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst fundamental frequency emission level.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (VHT20)	5180-5240	36 to 48	40	OFDM	7.2

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11ac (VHT20)	5180-5240	36 to 48	40	OFDM	7.2

Output Power Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3

Bandwidth, Power Spectral Density and Conducted Out of Band Emission Measurement:

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

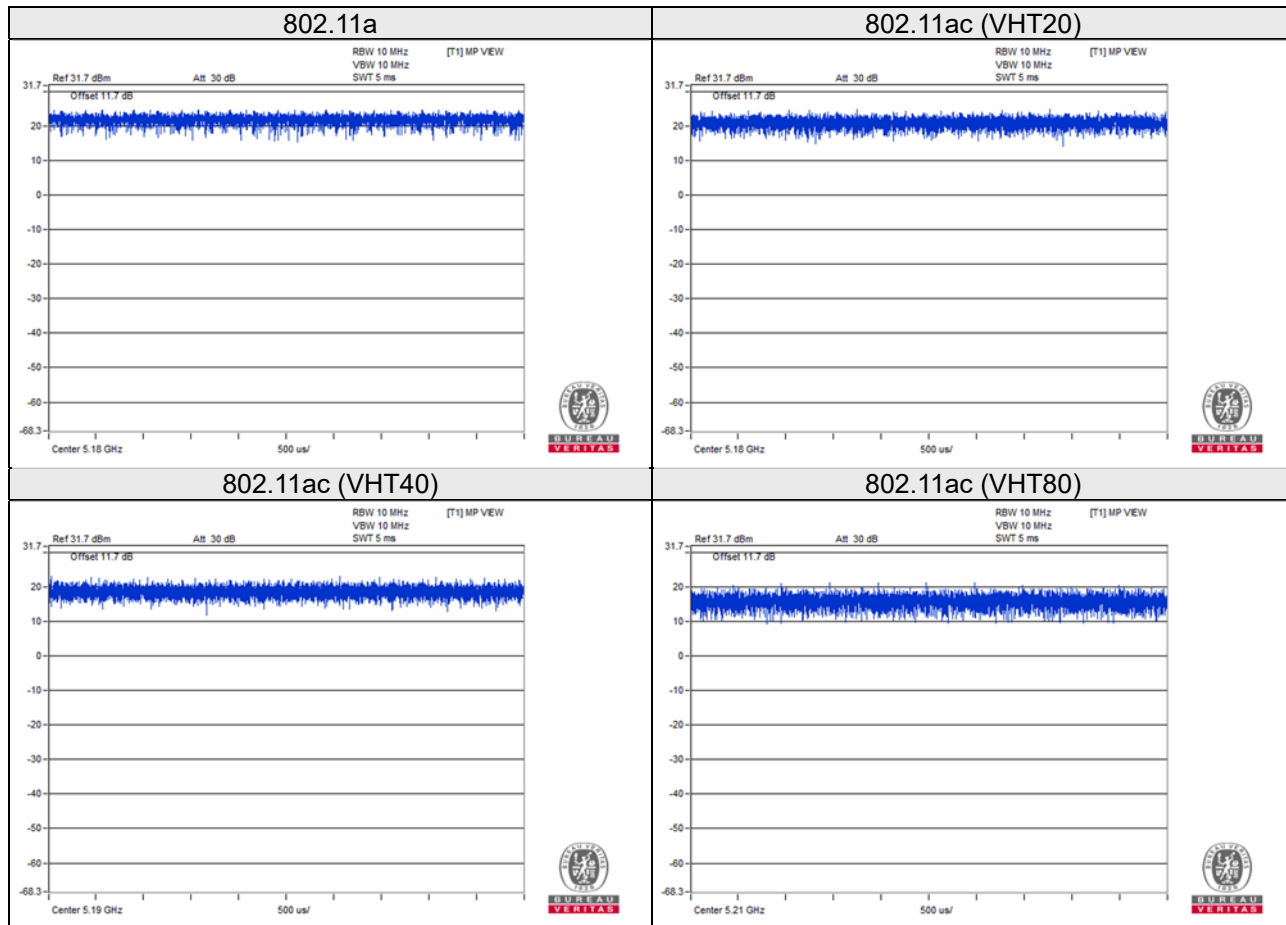
EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested by
RE \geq 1G	22 deg. C, 68% RH	120Vac, 60Hz	Greg Chen
RE $<$ 1G	22 deg. C, 68% RH	120Vac, 60Hz	Rex Wang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Rex Wang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Gavin Wu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.



3.4 Description of Support Units

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

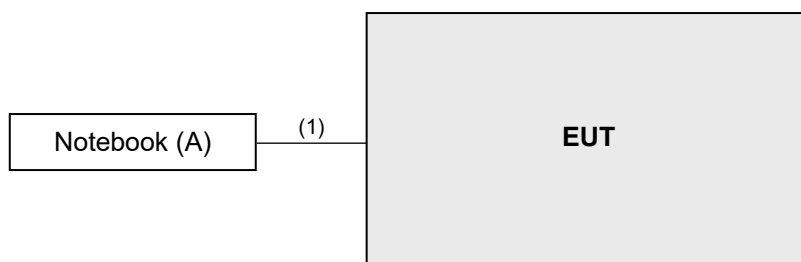
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	ASUS	P2420L	FCNXCV16385351D	FCC DoC Approved	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	0.95	Y	0	Accessory of EUT

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 08, 2020	Jun. 07, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 18, 2020	Feb. 17, 2021
			Feb. 17, 2021	Feb. 16, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8 000	CABLE-CH9-02 (248780+171006)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 08, 2020	Jun. 07, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519000 4/MY55190007/MY55210 005	Jul. 13, 2020	Jul. 12, 2021
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

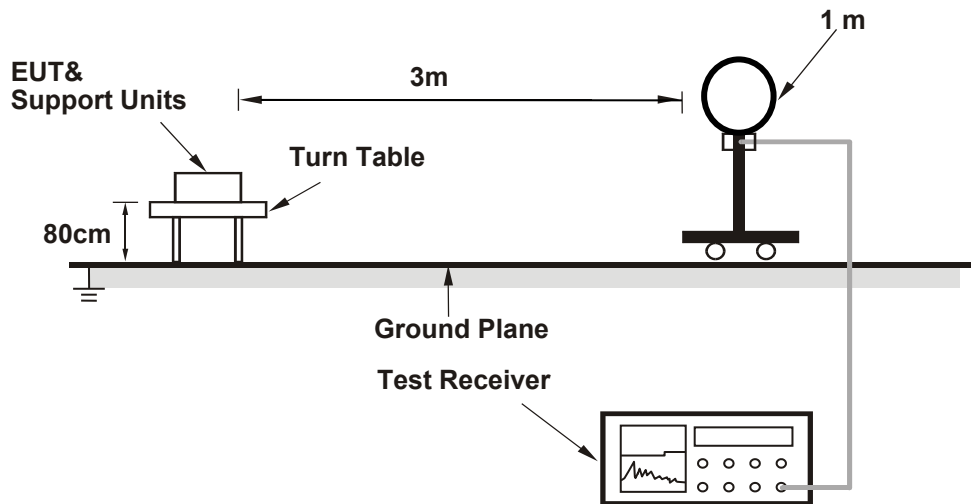
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

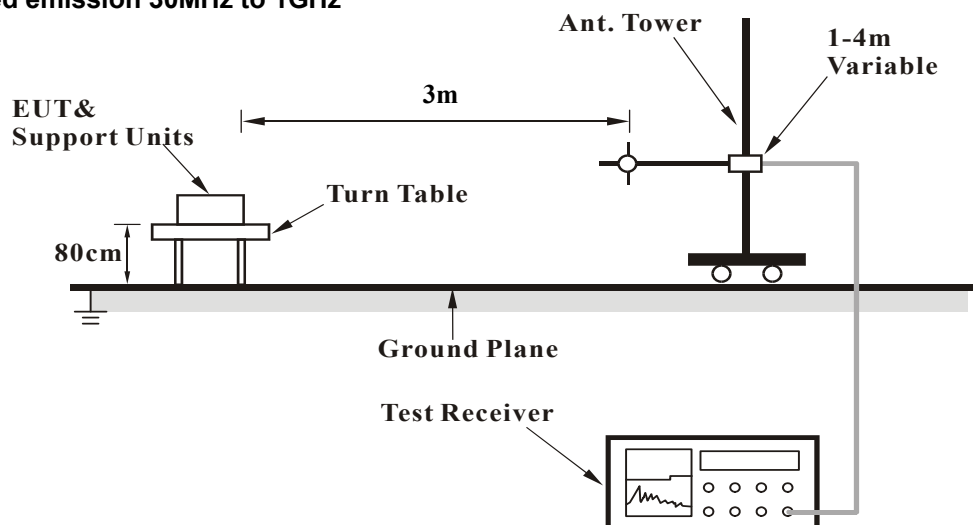
No deviation.

4.1.5 Test Setup

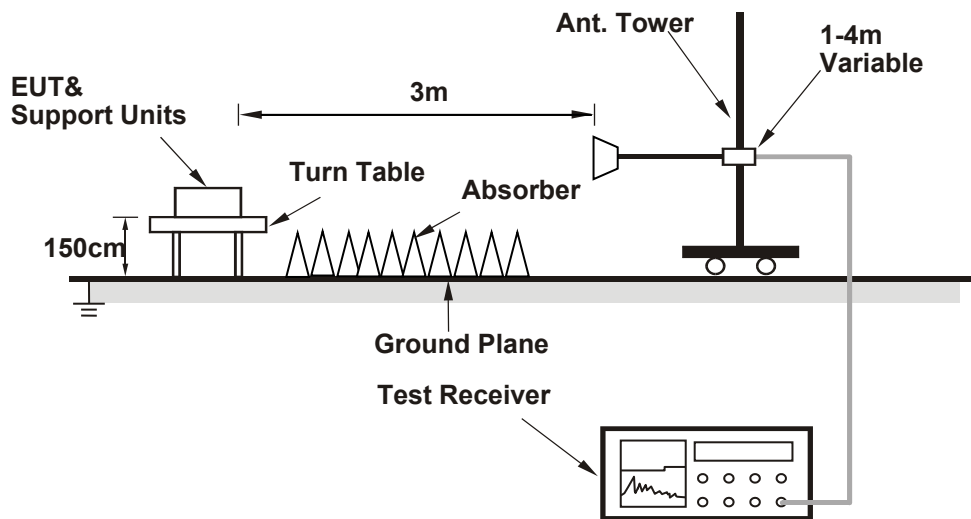
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

Mode A

- Placed the EUT on the testing table.
- Set the EUT under transmission condition continuously at specific channel frequency.

Mode B

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via USB cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	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	58.7 PK	74.0	-15.3	2.53 H	87	56.5	2.2
2	5150.00	43.8 AV	54.0	-10.2	2.53 H	87	41.6	2.2
3	*5180.00	104.2 PK			2.53 H	87	67.8	36.4
4	*5180.00	94.1 AV			2.53 H	87	57.7	36.4
5	#10360.00	60.9 PK	68.2	-7.3	3.83 H	162	45.7	15.2
6	15540.00	64.7 PK	74.0	-9.3	2.51 H	139	46.8	17.9
7	15540.00	51.1 AV	54.0	-2.9	2.51 H	139	33.2	17.9
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	69.3 PK	74.0	-4.7	1.86 V	189	67.1	2.2
2	5150.00	52.5 AV	54.0	-1.5	1.86 V	189	50.3	2.2
3	*5180.00	115.0 PK			1.86 V	189	78.6	36.4
4	*5180.00	105.1 AV			1.86 V	189	68.7	36.4
5	#10360.00	61.5 PK	68.2	-6.7	1.81 V	221	46.3	15.2
6	15540.00	62.4 PK	74.0	-11.6	2.40 V	5	44.5	17.9
7	15540.00	49.0 AV	54.0	-5.0	2.40 V	5	31.1	17.9

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	105.3 PK			2.49 H	92	68.9	36.4
2	*5200.00	95.3 AV			2.49 H	92	58.9	36.4
3	#10400.00	61.7 PK	68.2	-6.5	3.87 H	157	46.5	15.2
4	15600.00	65.2 PK	74.0	-8.8	2.57 H	131	47.5	17.7
5	15600.00	51.5 AV	54.0	-2.5	2.57 H	131	33.8	17.7

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	116.6 PK			1.80 V	186	80.2	36.4
2	*5200.00	106.6 AV			1.80 V	186	70.2	36.4
3	#10400.00	63.2 PK	68.2	-5.0	1.83 V	225	48.0	15.2
4	15600.00	63.7 PK	74.0	-10.3	2.48 V	8	46.0	17.7
5	15600.00	49.7 AV	54.0	-4.3	2.48 V	8	32.0	17.7

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	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	104.0 PK			2.48 H	103	67.7	36.3
2	*5240.00	94.0 AV			2.48 H	103	57.7	36.3
3	5350.00	51.6 PK	74.0	-22.4	2.48 H	103	49.6	2.0
4	5350.00	38.2 AV	54.0	-15.8	2.48 H	103	36.2	2.0
5	#10480.00	56.2 PK	68.2	-12.0	3.84 H	166	41.1	15.1
6	15720.00	63.8 PK	74.0	-10.2	2.60 H	130	46.9	16.9
7	15720.00	51.1 AV	54.0	-2.9	2.60 H	130	34.2	16.9

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	115.9 PK			1.88 V	182	79.6	36.3
2	*5240.00	105.9 AV			1.88 V	182	69.6	36.3
3	5350.00	53.9 PK	74.0	-20.1	1.88 V	182	51.9	2.0
4	5350.00	41.1 AV	54.0	-12.9	1.88 V	182	39.1	2.0
5	#10480.00	62.8 PK	68.2	-5.4	1.81 V	225	47.7	15.1
6	15720.00	60.4 PK	74.0	-13.6	2.41 V	5	43.5	16.9
7	15720.00	47.9 AV	54.0	-6.1	2.41 V	5	31.0	16.9

Remarks:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5637.60	51.4 PK	68.2	-16.8	3.22 H	109	48.7	2.7
2	*5745.00	102.8 PK			3.23 H	109	65.5	37.3
3	*5745.00	92.7 AV			3.23 H	109	55.4	37.3
4	#5938.80	52.1 PK	68.2	-16.1	3.22 H	109	48.6	3.5
5	11490.00	59.9 PK	74.0	-14.1	3.60 H	294	44.1	15.8
6	11490.00	46.9 AV	54.0	-7.1	3.60 H	294	31.1	15.8

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	#5630.40	51.3 PK	68.2	-16.9	3.04 V	96	48.6	2.7
2	*5745.00	110.1 PK			3.04 V	96	72.8	37.3
3	*5745.00	100.7 AV			3.04 V	96	63.4	37.3
4	#5978.00	52.4 PK	68.2	-15.8	3.04 V	96	49.0	3.4
5	11490.00	64.5 PK	74.0	-9.5	2.07 V	223	48.7	15.8
6	11490.00	51.7 AV	54.0	-2.3	2.07 V	223	35.9	15.8

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5626.00	50.1 PK	68.2	-18.1	3.38 H	109	47.4	2.7
2	*5785.00	103.5 PK			3.38 H	109	66.0	37.5
3	*5785.00	93.4 AV			3.38 H	109	55.9	37.5
4	#5960.00	51.1 PK	68.2	-17.1	3.08 H	109	47.6	3.5
5	11570.00	60.8 PK	74.0	-13.2	3.61 H	294	45.4	15.4
6	11570.00	47.5 AV	54.0	-6.5	3.61 H	294	32.1	15.4

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	#5627.20	51.5 PK	68.2	-16.7	2.91 V	89	48.8	2.7
2	*5785.00	112.8 PK			2.91 V	89	75.3	37.5
3	*5785.00	103.3 AV			2.91 V	89	65.8	37.5
4	#5983.20	52.1 PK	68.2	-16.1	2.91 V	89	48.7	3.4
5	11570.00	65.1 PK	74.0	-8.9	2.07 V	219	49.7	15.4
6	11570.00	51.5 AV	54.0	-2.5	2.07 V	219	36.1	15.4

Remarks:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5647.60	51.2 PK	68.2	-17.0	3.23 H	113	48.4	2.8
2	*5825.00	101.6 PK			3.23 H	113	64.0	37.6
3	*5825.00	92.6 AV			3.23 H	113	55.0	37.6
4	#5946.80	52.3 PK	68.2	-15.9	3.23 H	113	48.8	3.5
5	11650.00	61.7 PK	74.0	-12.3	3.60 H	292	46.2	15.5
6	11650.00	48.1 AV	54.0	-5.9	3.60 H	292	32.6	15.5

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	#5634.40	51.8 PK	68.2	-16.4	2.93 V	94	49.1	2.7
2	*5825.00	110.5 PK			2.93 V	94	72.9	37.6
3	*5825.00	100.1 AV			2.93 V	94	62.5	37.6
4	#5936.80	52.6 PK	68.2	-15.6	2.93 V	94	49.1	3.5
5	11650.00	65.6 PK	74.0	-8.4	2.01 V	221	50.1	15.5
6	11650.00	51.7 AV	54.0	-2.3	2.01 V	221	36.2	15.5

Remarks:

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

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CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	57.4 PK	74.0	-16.6	2.76 H	100	55.2	2.2
2	5150.00	42.9 AV	54.0	-11.1	2.76 H	100	40.7	2.2
3	*5180.00	103.6 PK			2.76 H	100	67.2	36.4
4	*5180.00	93.5 AV			2.76 H	100	57.1	36.4
5	#10360.00	61.8 PK	68.2	-6.4	3.56 H	163	46.6	15.2
6	15540.00	62.1 PK	74.0	-11.9	2.61 H	128	44.2	17.9
7	15540.00	49.8 AV	54.0	-4.2	2.61 H	128	31.9	17.9

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	70.3 PK	74.0	-3.7	1.87 V	175	68.1	2.2
2	5150.00	52.7 AV	54.0	-1.3	1.87 V	175	50.5	2.2
3	*5180.00	115.7 PK			1.87 V	175	79.3	36.4
4	*5180.00	105.3 AV			1.87 V	175	68.9	36.4
5	#10360.00	61.4 PK	68.2	-6.8	1.82 V	22	46.2	15.2
6	15540.00	61.8 PK	74.0	-12.2	2.38 V	12	43.9	17.9
7	15540.00	48.6 AV	54.0	-5.4	2.38 V	12	30.7	17.9

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	104.0 PK			2.43 H	91	67.6	36.4
2	*5200.00	94.2 AV			2.43 H	91	57.8	36.4
3	#10400.00	59.6 PK	68.2	-8.6	3.78 H	140	44.4	15.2
4	15600.00	60.5 PK	74.0	-13.5	2.44 H	132	42.8	17.7
5	15600.00	48.1 AV	54.0	-5.9	2.44 H	132	30.4	17.7

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	117.1 PK			1.88 V	176	80.7	36.4
2	*5200.00	107.0 AV			1.88 V	176	70.6	36.4
3	#10400.00	61.2 PK	68.2	-7.0	2.04 V	225	46.0	15.2
4	15600.00	58.9 PK	74.0	-15.1	2.50 V	6	41.2	17.7
5	15600.00	47.6 AV	54.0	-6.4	2.50 V	6	29.9	17.7

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	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	104.1 PK			2.52 H	94	67.8	36.3
2	*5240.00	95.0 AV			2.52 H	94	58.7	36.3
3	5350.00	51.0 PK	74.0	-23.0	2.52 H	94	49.0	2.0
4	5350.00	38.5 AV	54.0	-15.5	2.52 H	94	36.5	2.0
5	#10480.00	60.5 PK	68.2	-7.7	3.92 H	155	45.4	15.1
6	15720.00	63.2 PK	74.0	-10.8	2.58 H	131	46.3	16.9
7	15720.00	51.4 AV	54.0	-2.6	2.58 H	131	34.5	16.9

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	116.8 PK			1.87 V	172	80.5	36.3
2	*5240.00	106.7 AV			1.87 V	172	70.4	36.3
3	5350.00	53.4 PK	74.0	-20.6	1.87 V	172	51.4	2.0
4	5350.00	40.2 AV	54.0	-13.8	1.87 V	172	38.2	2.0
5	#10480.00	60.7 PK	68.2	-7.5	1.81 V	226	45.6	15.1
6	15720.00	60.0 PK	74.0	-14.0	2.49 V	10	43.1	16.9
7	15720.00	47.9 AV	54.0	-6.1	2.49 V	10	31.0	16.9

Remarks:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5635.60	51.2 PK	68.2	-17.0	3.26 H	112	48.5	2.7
2	*5745.00	102.0 PK			3.26 H	112	64.7	37.3
3	*5745.00	91.7 AV			3.26 H	112	54.4	37.3
4	#5966.80	52.4 PK	68.2	-15.8	3.26 H	112	49.0	3.4
5	11490.00	60.4 PK	74.0	-13.6	3.63 H	294	44.6	15.8
6	11490.00	48.4 AV	54.0	-5.6	3.63 H	294	32.6	15.8

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	#5642.40	52.8 PK	68.2	-15.4	2.96 V	95	50.0	2.8
2	*5745.00	111.1 PK			2.96 V	95	73.8	37.3
3	*5745.00	101.1 AV			2.96 V	95	63.8	37.3
4	#5970.80	52.9 PK	68.2	-15.3	2.96 V	95	49.5	3.4
5	11490.00	64.7 PK	74.0	-9.3	2.24 V	237	48.9	15.8
6	11490.00	51.6 AV	54.0	-2.4	2.24 V	237	35.8	15.8

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5608.80	48.4 PK	68.2	-19.8	3.05 H	107	45.7	2.7
2	*5785.00	100.5 PK			3.05 H	107	63.0	37.5
3	*5785.00	91.0 AV			3.05 H	107	53.5	37.5
4	#5941.20	50.3 PK	68.2	-17.9	3.05 H	107	46.8	3.5
5	11570.00	60.0 PK	74.0	-14.0	3.58 H	296	44.6	15.4
6	11570.00	48.3 AV	54.0	-5.7	3.58 H	296	32.9	15.4

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	#5627.20	51.8 PK	68.2	-16.4	3.16 V	92	49.1	2.7
2	*5785.00	110.7 PK			3.16 V	92	73.2	37.5
3	*5785.00	100.7 AV			3.16 V	92	63.2	37.5
4	#5948.80	52.8 PK	68.2	-15.4	3.16 V	92	49.3	3.5
5	11570.00	64.2 PK	74.0	-9.8	2.04 V	242	48.8	15.4
6	11570.00	51.2 AV	54.0	-2.8	2.04 V	242	35.8	15.4

Remarks:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5602.00	52.6 PK	68.2	-15.6	3.09 H	108	49.9	2.7
2	*5825.00	102.7 PK			3.09 H	108	65.1	37.6
3	*5825.00	93.0 AV			3.09 H	108	55.4	37.6
4	#5941.60	51.6 PK	68.2	-16.6	3.09 H	108	48.1	3.5
5	11650.00	60.1 PK	74.0	-13.9	3.59 H	288	44.6	15.5
6	11650.00	48.7 AV	54.0	-5.3	3.59 H	288	33.2	15.5

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	#5648.80	52.7 PK	68.2	-15.5	3.00 V	96	49.9	2.8
2	*5825.00	110.5 PK			3.00 V	96	72.9	37.6
3	*5825.00	100.1 AV			3.00 V	96	62.5	37.6
4	#5955.60	51.9 PK	68.2	-16.3	3.00 V	96	48.4	3.5
5	11650.00	64.3 PK	74.0	-9.7	2.23 V	229	48.8	15.5
6	11650.00	51.7 AV	54.0	-2.3	2.23 V	229	36.2	15.5

Remarks:

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

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CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	60.6 PK	74.0	-13.4	2.49 H	101	58.4	2.2
2	5150.00	43.7 AV	54.0	-10.3	2.49 H	101	41.5	2.2
3	*5190.00	97.9 PK			2.49 H	101	61.5	36.4
4	*5190.00	88.7 AV			2.49 H	101	52.3	36.4
5	#10380.00	57.9 PK	68.2	-10.3	3.70 H	150	42.7	15.2
6	15570.00	59.3 PK	74.0	-14.7	2.61 H	131	41.5	17.8
7	15570.00	47.5 AV	54.0	-6.5	2.61 H	131	29.7	17.8

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	69.7 PK	74.0	-4.3	1.88 V	170	67.5	2.2
2	5150.00	52.2 AV	54.0	-1.8	1.88 V	170	50.0	2.2
3	*5190.00	109.7 PK			1.88 V	170	73.3	36.4
4	*5190.00	99.8 AV			1.88 V	170	63.4	36.4
5	#10380.00	57.2 PK	68.2	-11.0	1.91 V	225	42.0	15.2
6	15570.00	59.9 PK	74.0	-14.1	2.41 V	5	42.1	17.8
7	15570.00	47.3 AV	54.0	-6.7	2.41 V	5	29.5	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	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	54.3 PK	74.0	-19.7	2.47 H	101	52.1	2.2
2	5150.00	42.2 AV	54.0	-11.8	2.47 H	101	40.0	2.2
3	*5230.00	101.7 PK			2.47 H	101	65.4	36.3
4	*5230.00	91.6 AV			2.47 H	101	55.3	36.3
5	5350.00	51.4 PK	74.0	-22.6	2.47 H	101	49.4	2.0
6	5350.00	39.3 AV	54.0	-14.7	2.47 H	101	37.3	2.0
7	#10460.00	58.4 PK	68.2	-9.8	3.43 H	162	43.3	15.1
8	15690.00	62.6 PK	74.0	-11.4	2.64 H	127	45.6	17.0
9	15690.00	49.8 AV	54.0	-4.2	2.64 H	127	32.8	17.0

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	65.1 PK	74.0	-8.9	2.03 V	175	62.9	2.2
2	5150.00	51.5 AV	54.0	-2.5	2.03 V	175	49.3	2.2
3	*5230.00	112.5 PK			2.03 V	175	76.2	36.3
4	*5230.00	103.5 AV			2.03 V	175	67.2	36.3
5	5350.00	57.0 PK	74.0	-17.0	2.03 V	175	55.0	2.0
6	5350.00	42.5 AV	54.0	-11.5	2.03 V	175	40.5	2.0
7	#10460.00	59.6 PK	68.2	-8.6	1.71 V	227	44.5	15.1
8	15690.00	59.7 PK	74.0	-14.3	2.39 V	7	42.7	17.0
9	15690.00	48.1 AV	54.0	-5.9	2.39 V	7	31.1	17.0

Remarks:

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

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5624.40	49.5 PK	68.2	-18.7	2.95 H	131	46.8	2.7
2	*5755.00	98.9 PK			2.95 H	131	61.6	37.3
3	*5755.00	89.5 AV			2.95 H	131	52.2	37.3
4	#5943.60	50.7 PK	68.2	-17.5	2.95 H	131	47.2	3.5
5	11510.00	60.3 PK	74.0	-13.7	3.66 H	295	44.7	15.6
6	11510.00	48.2 AV	54.0	-5.8	3.66 H	295	32.6	15.6

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	#5640.40	56.1 PK	68.2	-12.1	3.03 V	94	53.3	2.8
2	*5755.00	108.1 PK			3.03 V	94	70.8	37.3
3	*5755.00	98.2 AV			3.03 V	94	60.9	37.3
4	#5950.80	51.2 PK	68.2	-17.0	3.03 V	94	47.7	3.5
5	11510.00	64.4 PK	74.0	-9.6	2.22 V	238	48.8	15.6
6	11510.00	51.4 AV	54.0	-2.6	2.22 V	238	35.8	15.6

Remarks:

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

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	#5642.00	49.5 PK	68.2	-18.7	3.15 H	114	46.7	2.8
2	*5795.00	99.4 PK			3.15 H	114	61.8	37.6
3	*5795.00	89.2 AV			3.15 H	114	51.6	37.6
4	#5963.60	51.8 PK	68.2	-16.4	3.15 H	114	48.3	3.5
5	11590.00	64.5 PK	74.0	-9.5	2.28 H	239	49.1	15.4
6	11590.00	51.4 AV	54.0	-2.6	2.28 H	239	36.0	15.4

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	#5637.60	51.8 PK	68.2	-16.4	3.14 V	96	49.1	2.7
2	*5795.00	108.2 PK			3.14 V	96	70.6	37.6
3	*5795.00	98.3 AV			3.14 V	96	60.7	37.6
4	#5928.00	52.7 PK	68.2	-15.5	3.14 V	96	49.3	3.4
5	11590.00	60.6 PK	74.0	-13.4	3.61 V	293	45.2	15.4
6	11590.00	48.5 AV	54.0	-5.5	3.61 V	293	33.1	15.4

Remarks:

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

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CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	57.1 PK	74.0	-16.9	2.46 H	103	54.9	2.2
2	5150.00	43.6 AV	54.0	-10.4	2.46 H	103	41.4	2.2
3	*5210.00	95.0 PK			2.46 H	103	58.6	36.4
4	*5210.00	87.6 AV			2.46 H	103	51.2	36.4
5	5350.00	51.0 PK	74.0	-23.0	2.46 H	103	49.0	2.0
6	5350.00	40.9 AV	54.0	-13.1	2.46 H	103	38.9	2.0
7	#10420.00	56.3 PK	68.2	-11.9	3.79 H	166	41.1	15.2
8	15630.00	58.8 PK	74.0	-15.2	2.50 H	98	41.4	17.4
9	15630.00	49.2 AV	54.0	-4.8	2.50 H	98	31.8	17.4

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	69.2 PK	74.0	-4.8	1.91 V	172	67.0	2.2
2	5150.00	52.6 AV	54.0	-1.4	1.91 V	172	50.4	2.2
3	*5210.00	107.3 PK			1.91 V	172	70.9	36.4
4	*5210.00	98.5 AV			1.91 V	172	62.1	36.4
5	5350.00	53.8 PK	74.0	-20.2	1.91 V	172	51.8	2.0
6	5350.00	42.7 AV	54.0	-11.3	1.91 V	172	40.7	2.0
7	#10420.00	56.8 PK	68.2	-11.4	1.84 V	219	41.6	15.2
8	15630.00	59.3 PK	74.0	-14.7	2.41 V	5	41.9	17.4
9	15630.00	49.0 AV	54.0	-5.0	2.41 V	5	31.6	17.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	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	#5629.20	56.8 PK	68.2	-11.4	3.26 H	108	54.1	2.7
2	*5775.00	98.7 PK			3.26 H	108	61.2	37.5
3	*5775.00	90.0 AV			3.26 H	108	52.5	37.5
4	#5933.60	53.2 PK	68.2	-15.0	3.26 H	108	49.7	3.5
5	11550.00	57.4 PK	74.0	-16.6	3.57 H	310	41.8	15.6
6	11550.00	48.0 AV	54.0	-6.0	3.57 H	310	32.4	15.6

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	#5649.20	67.0 PK	68.2	-1.2	3.19 V	93	64.2	2.8
2	*5775.00	106.8 PK			3.19 V	93	69.3	37.5
3	*5775.00	98.4 AV			3.19 V	93	60.9	37.5
4	#5927.20	58.0 PK	68.2	-10.2	3.19 V	93	54.6	3.4
5	11550.00	61.4 PK	74.0	-12.6	2.25 V	232	45.8	15.6
6	11550.00	51.2 AV	54.0	-2.8	2.25 V	232	35.6	15.6

Remarks:

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

Below 1GHz Worst-Case

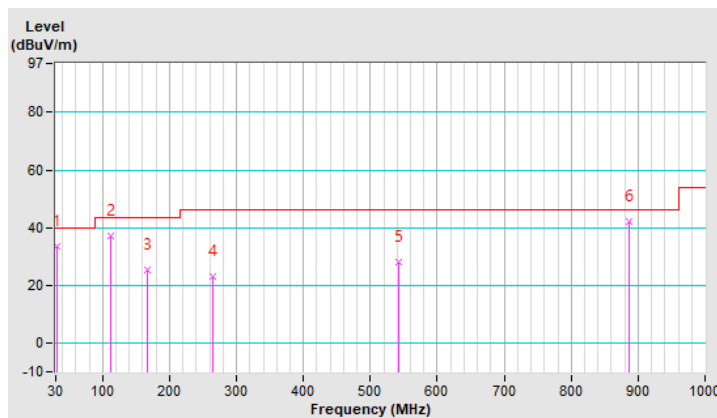
802.11ac (VHT20)

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	33.7 QP	40.0	-6.3	1.00 H	7	44.0	-10.3
2	112.45	37.1 QP	43.5	-6.4	2.00 H	293	48.5	-11.4
3	167.74	25.5 QP	43.5	-18.0	1.00 H	18	34.0	-8.5
4	263.77	23.1 QP	46.0	-22.9	1.50 H	289	31.1	-8.0
5	543.13	28.3 QP	46.0	-17.7	1.00 H	30	30.2	-1.9
6	886.51	42.0 QP	46.0	-4.0	1.25 H	5	37.5	4.5

Remarks:

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

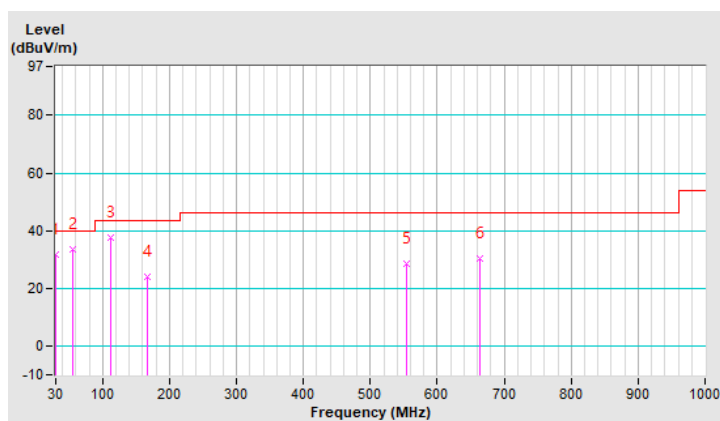


CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	31.8 QP	40.0	-8.2	1.25 V	145	42.1	-10.3
2	56.19	33.4 QP	40.0	-6.6	1.00 V	267	42.4	-9.0
3	112.45	37.8 QP	43.5	-5.7	2.00 V	119	49.2	-11.4
4	167.74	23.9 QP	43.5	-19.6	1.50 V	13	32.4	-8.5
5	554.77	28.4 QP	46.0	-17.6	1.25 V	202	30.2	-1.8
6	664.38	30.5 QP	46.0	-15.5	1.00 V	210	30.0	0.5

Remarks:

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

4.2.2 Test Instruments

Tested date: Feb. 19, 2021

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Jan. 06, 2021	Jan. 05, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 18, 2021	Jan. 17, 2022
V-LISN SCHWARZBECK (Peripheral)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
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 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

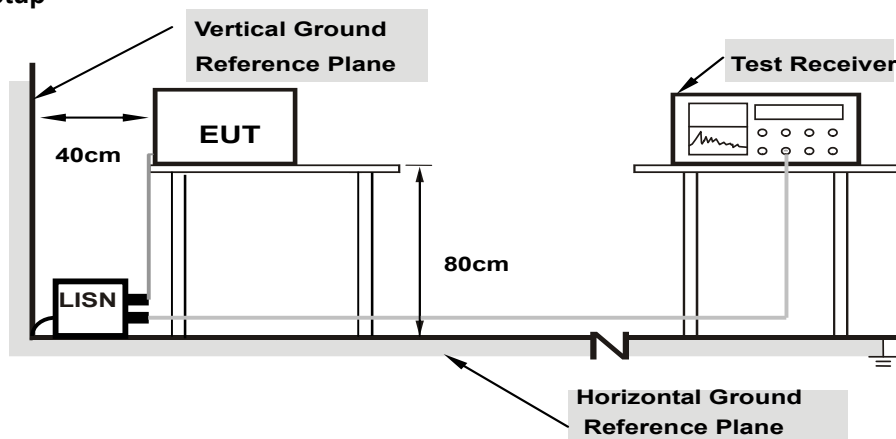
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

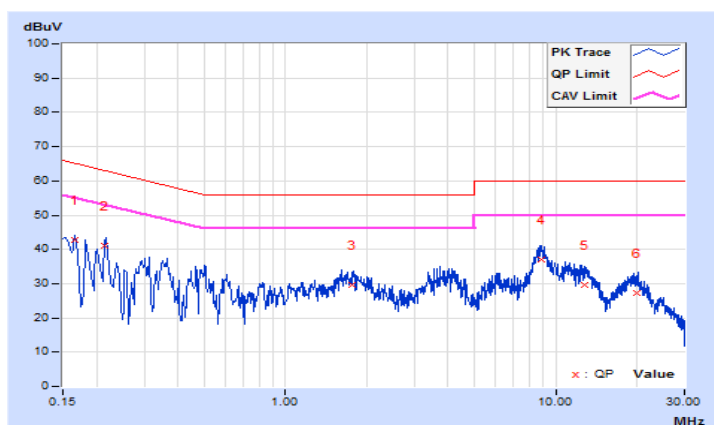
802.11ac (VHT20)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16535	10.07	32.79	16.29	42.86	26.36	65.19
2	0.21294	10.08	30.89	16.12	40.97	26.20	63.09	53.09	-22.12	-26.89
3	1.75800	10.16	19.60	9.22	29.76	19.38	56.00	46.00	-26.24	-26.62
4	8.81800	10.30	26.64	19.93	36.94	30.23	60.00	50.00	-23.06	-19.77
5	12.76600	10.35	19.19	12.27	29.54	22.62	60.00	50.00	-30.46	-27.38
6	19.90200	10.45	16.74	8.76	27.19	19.21	60.00	50.00	-32.81	-30.79

REMARKS:

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

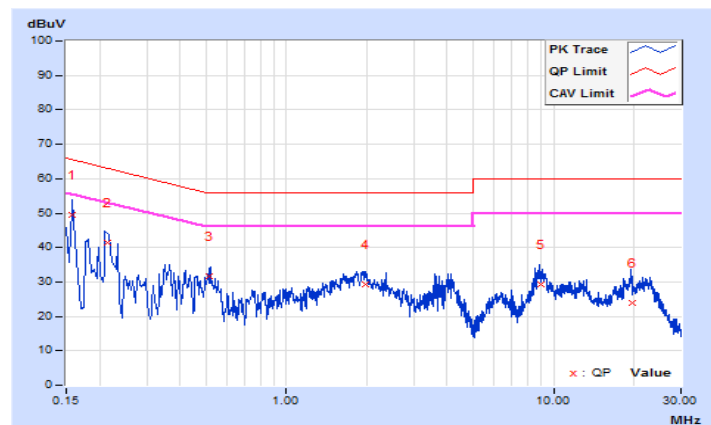


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15687	10.08	39.38	23.86	49.46	33.94	65.63
2	0.21400	10.08	31.22	16.48	41.30	26.56	63.05	53.05	-21.75	-26.49
3	0.51200	10.11	21.58	7.94	31.69	18.05	56.00	46.00	-24.31	-27.95
4	1.96600	10.17	19.11	9.28	29.28	19.45	56.00	46.00	-26.72	-26.55
5	8.95063	10.38	18.76	11.61	29.14	21.99	60.00	50.00	-30.86	-28.01
6	19.64600	10.64	13.22	6.05	23.86	16.69	60.00	50.00	-36.14	-33.31

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1	-	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	-	Fixed point-to-point Access Point	1 Watt (30 dBm)
	-	Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	-		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	-		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

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

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

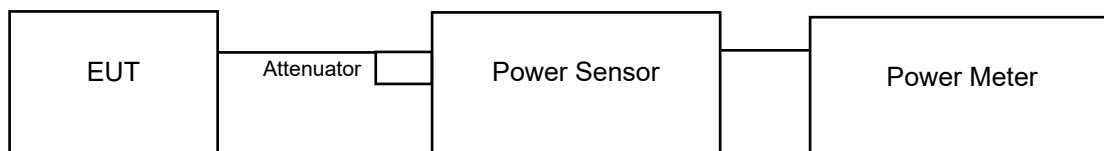
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

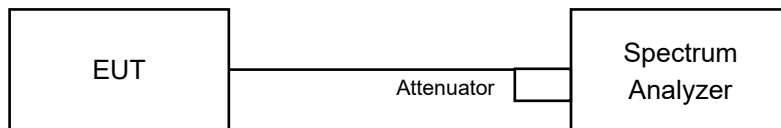
4.3.2 Test Setup

For Power Output

802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40)



802.11ac (VHT80)



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40)

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

For 802.11ac (VHT80)

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.08	15.12	64.719	18.11	24.00	Pass
40	5200	15.04	15.13	64.499	18.10	24.00	Pass
48	5240	15.09	15.08	64.496	18.10	24.00	Pass
149	5745	15.09	15.17	65.170	18.14	30.00	Pass
157	5785	15.06	15.18	65.024	18.13	30.00	Pass
165	5825	15.10	15.16	65.169	18.14	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.98	15.18	64.438	18.09	24.00	Pass
40	5200	14.99	15.20	64.663	18.11	24.00	Pass
48	5240	14.99	15.16	64.360	18.09	24.00	Pass
149	5745	15.04	15.13	64.499	18.10	30.00	Pass
157	5785	15.11	15.08	64.645	18.11	30.00	Pass
165	5825	15.03	15.09	64.127	18.07	30.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.91	15.23	64.317	18.08	24.00	Pass
46	5230	15.02	15.18	64.730	18.11	24.00	Pass
151	5755	15.07	15.11	64.571	18.10	30.00	Pass
159	5795	15.04	15.13	64.499	18.10	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.00	15.22	64.889	18.12	24.00	Pass
40	5200	15.01	15.24	65.115	18.14	24.00	Pass
48	5240	15.01	15.23	65.038	18.13	24.00	Pass
149	5745	15.09	15.17	65.170	18.14	30.00	Pass
157	5785	15.14	15.13	65.242	18.15	30.00	Pass
165	5825	15.08	15.17	65.096	18.14	30.00	Pass

802.11ac (VHT40)

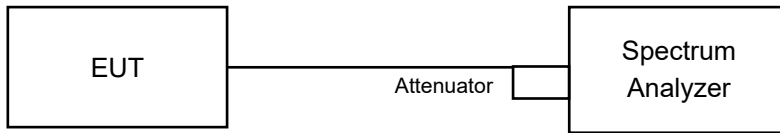
Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.95	15.28	64.990	18.13	24.00	Pass
46	5230	15.06	15.20	65.176	18.14	24.00	Pass
151	5755	15.11	15.16	65.243	18.15	30.00	Pass
159	5795	15.08	15.17	65.096	18.14	30.00	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	15.05	15.25	65.485	18.16	24.00	Pass
155	5775	15.09	15.27	65.936	18.19	30.00	Pass

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.92
40	5200	16.80	16.80
48	5240	16.92	16.80
149	5745	16.86	16.68
157	5785	17.16	17.16
165	5825	17.04	16.80

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.88	17.76
40	5200	17.82	17.70
48	5240	17.82	17.70
149	5745	18.00	17.76
157	5785	18.00	17.76
165	5825	17.88	17.76

802.11ac (VHT40)

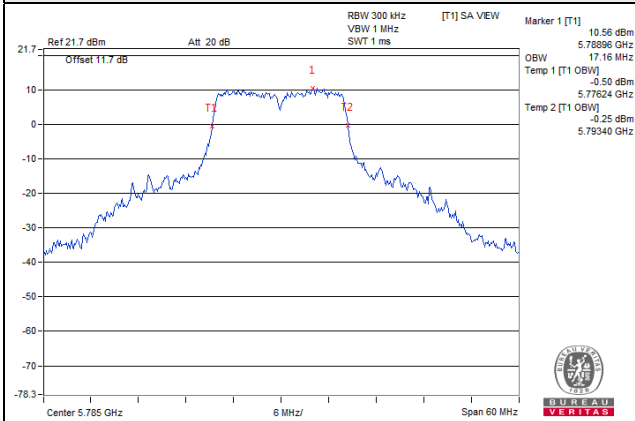
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.20	36.96
46	5230	37.68	37.20
151	5755	37.80	37.32
159	5795	37.68	37.20

802.11ac (VHT80)

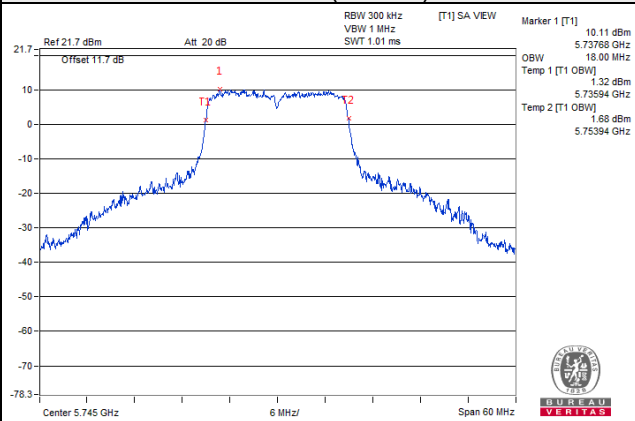
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.32	75.84
155	5775	76.80	76.08

Spectrum Plot of Worst Value

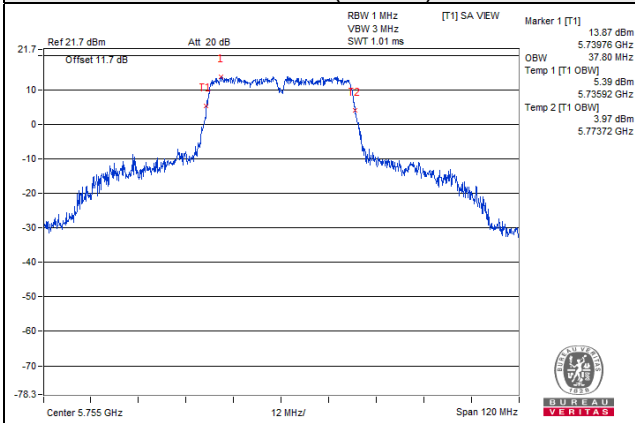
802.11a



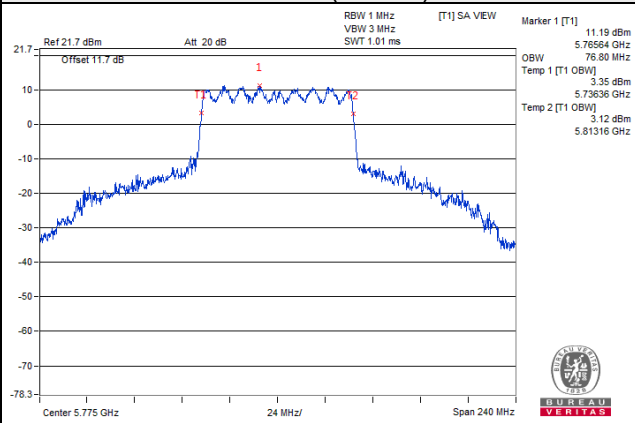
802.11ac (VHT20)



802.11ac (VHT40)

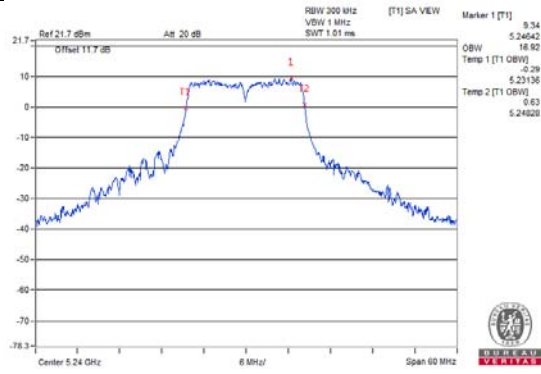


802.11ac (VHT80)

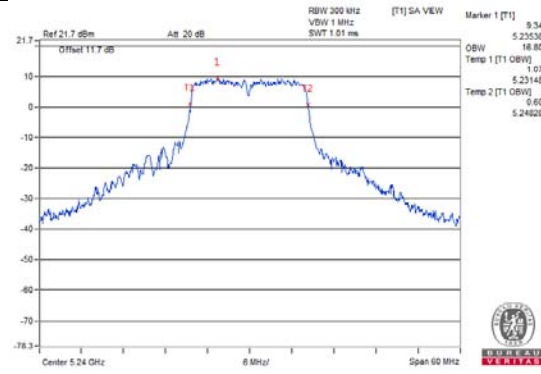


Spectrum Plot for near By DFS Band

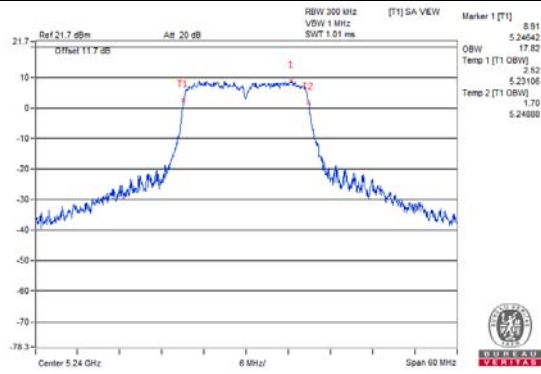
802.11a / Chain 0 / CH 48



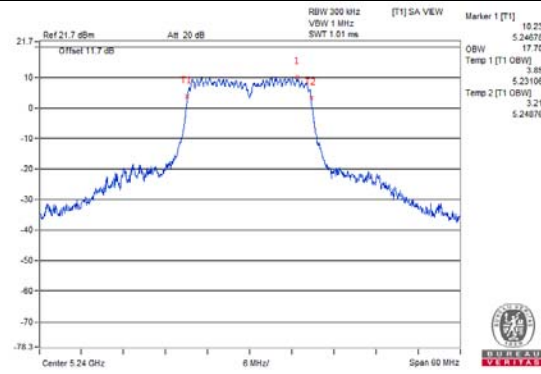
802.11a / Chain 1 / CH 48



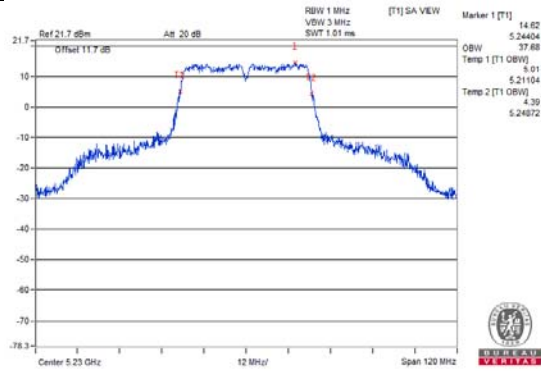
802.11ac (VHT20) / Chain 0 / CH 48



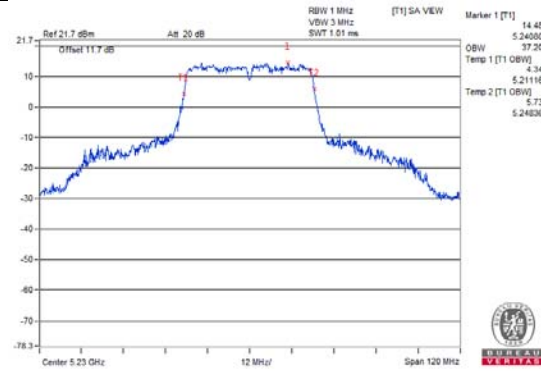
802.11ac (VHT20) / Chain 1 / CH 48



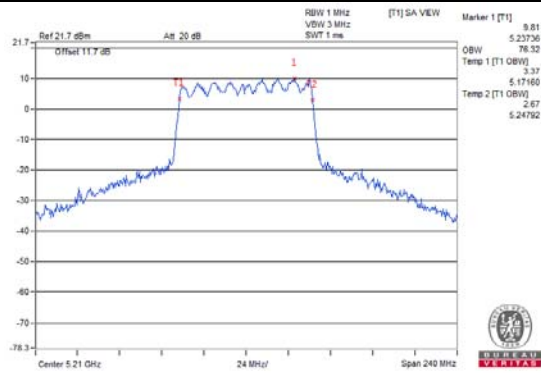
802.11ac (VHT40) / Chain 0 / CH 46



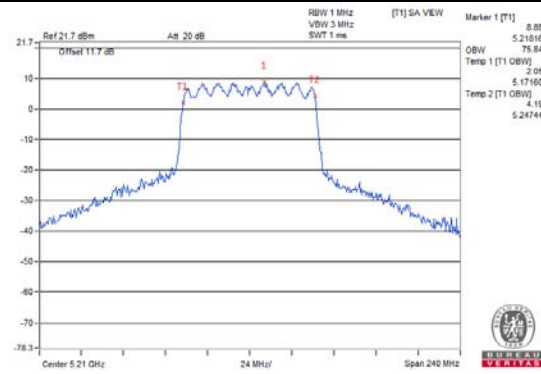
802.11ac (VHT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42

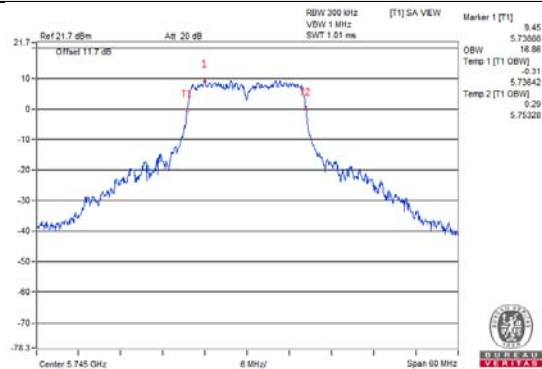


802.11ac (VHT80) / Chain 1 / CH 42

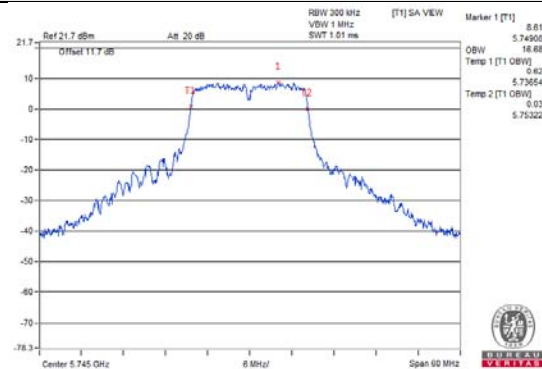


Spectrum Plot for near By DFS Band

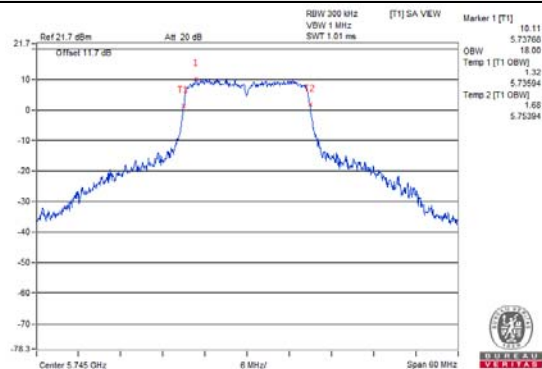
802.11a / Chain 0 / CH 149



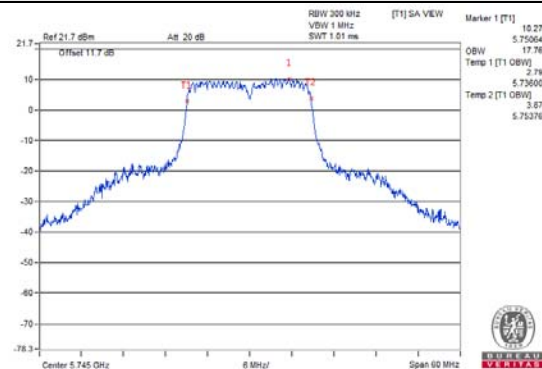
802.11a / Chain 1 / CH 149



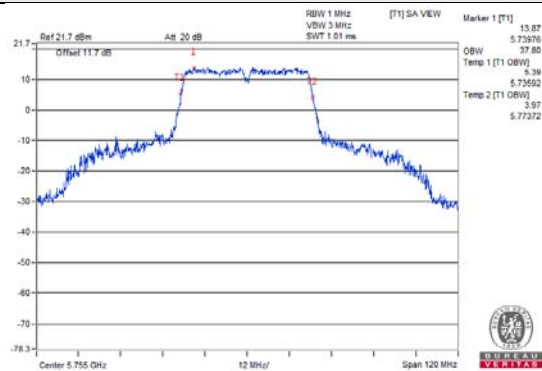
802.11ac (VHT20) / Chain 0 / CH 149



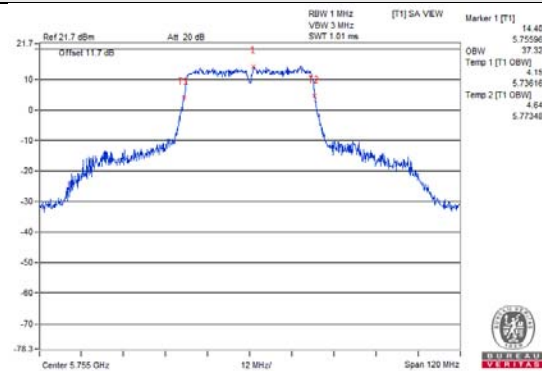
802.11ac (VHT20) / Chain 1 / CH 149



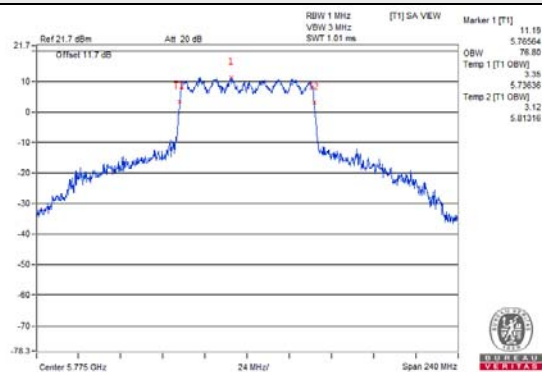
802.11ac (VHT40) / Chain 0 / CH 151



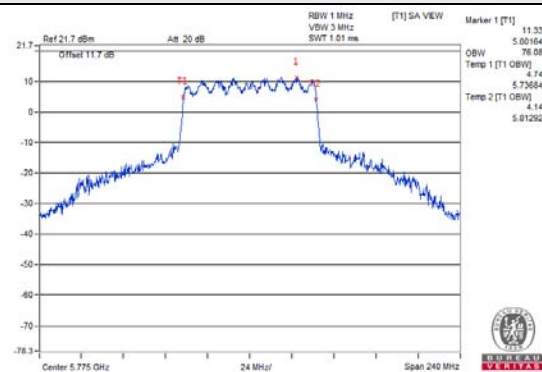
802.11ac (VHT40) / Chain 1 / CH 151



802.11ac (VHT80) / Chain 0 / CH 155



802.11ac (VHT80) / Chain 1 / CH 155

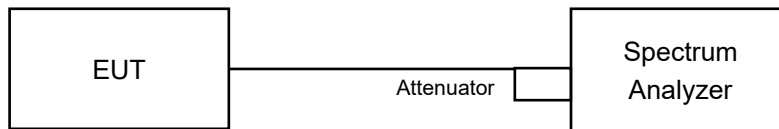


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Duty cycle of test signal is > 98%

Using method SA-1

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

For U-NII-3 band:

Duty cycle of test signal is > 98%

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	7.17	7.29	10.24	10.38	Pass
40	5200	6.99	7.34	10.18	10.38	Pass
48	5240	7.17	7.15	10.17	10.38	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.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (6.62 - 6) = 10.38\text{dBm}$.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	7.04	7.30	10.18	10.38	Pass
40	5200	7.15	7.33	10.25	10.38	Pass
48	5240	7.13	7.32	10.24	10.38	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.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (6.62 - 6) = 10.38\text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
38	5190	3.38	2.41	5.93	10.38	Pass
46	5230	6.14	5.47	8.87	10.38	Pass

Note:

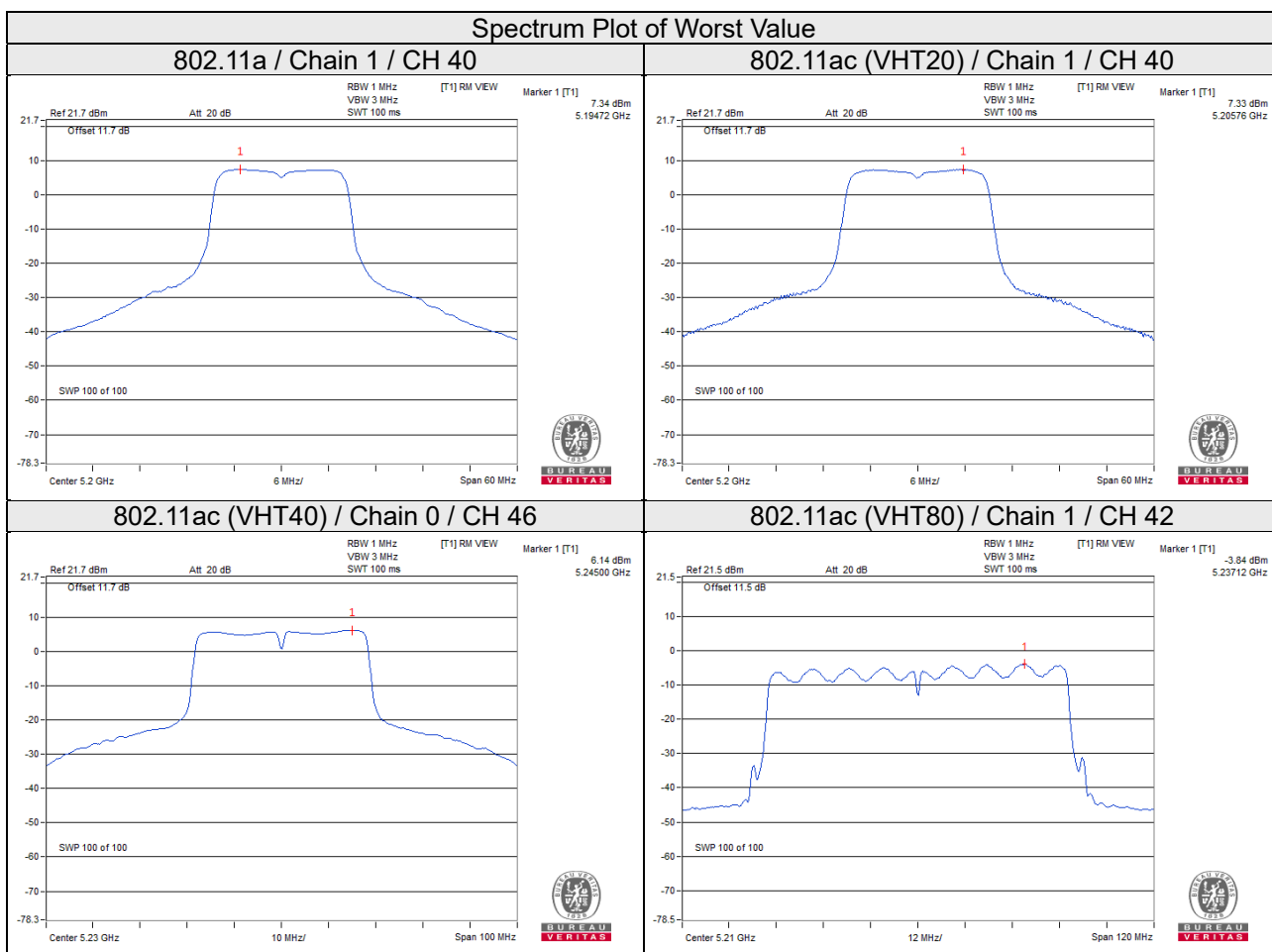
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (6.62 - 6) = 10.38\text{dBm}$.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
42	5210	-4.15	-3.84	-0.98	10.38	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.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11-(6.62-6) = 10.38\text{dBm}$.



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	1.65	3.87	3.01	6.88	29.38	Pass
	157	5785	2.96	5.18	3.01	8.19	29.38	Pass
	165	5825	2.46	4.68	3.01	7.69	29.38	Pass
1	149	5745	1.14	3.36	3.01	6.37	29.38	Pass
	157	5785	3.12	5.34	3.01	8.35	29.38	Pass
	165	5825	2.62	4.84	3.01	7.85	29.38	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30 - (6.62 - 6) = 29.38\text{dBm}$.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	2.70	4.92	3.01	7.93	29.38	Pass
	157	5785	2.48	4.70	3.01	7.71	29.38	Pass
	165	5825	2.28	4.50	3.01	7.51	29.38	Pass
1	149	5745	2.09	4.31	3.01	7.32	29.38	Pass
	157	5785	1.74	3.96	3.01	6.97	29.38	Pass
	165	5825	1.87	4.09	3.01	7.10	29.38	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30 - (6.62 - 6) = 29.38\text{dBm}$.

802.11ac (VHT40)

TX chain	Chan.	Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	151	5755	-4.57	-2.35	3.01	0.66	29.38	Pass
	159	5795	-4.71	-2.49	3.01	0.52	29.38	Pass
1	151	5755	-4.73	-2.51	3.01	0.50	29.38	Pass
	159	5795	-4.87	-2.65	3.01	0.36	29.38	Pass

Note:

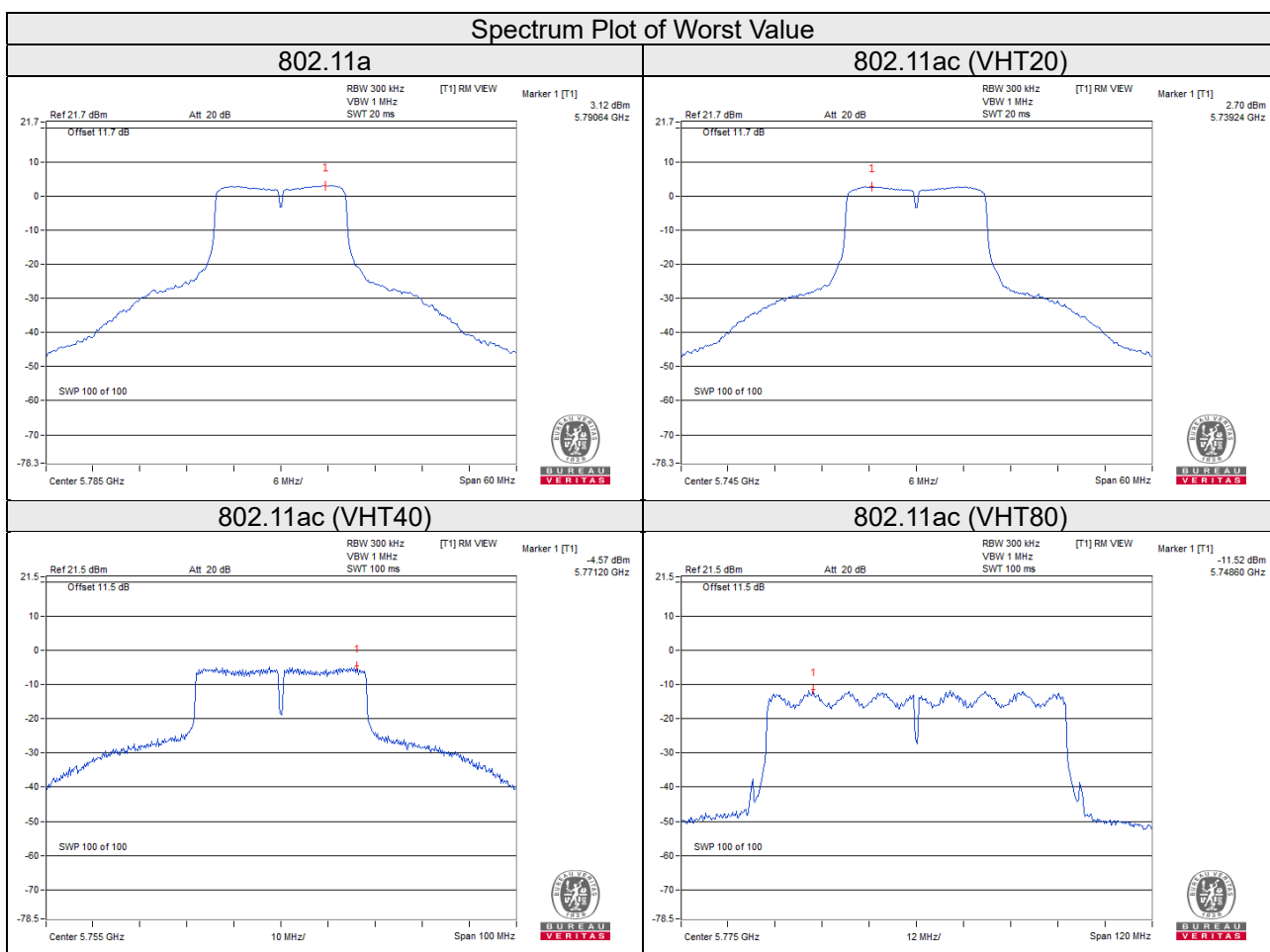
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30 - (6.62 - 6) = 29.38\text{dBm}$.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	155	5775	-11.52	-9.30	3.01	-6.29	29.38	Pass
1	155	5775	-11.53	-9.31	3.01	-6.30	29.38	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Max. Directional Gain = $3.61\text{dBi} + 10\log(2) = 6.62\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30 - (6.62 - 6) = 29.38\text{dBm}$.

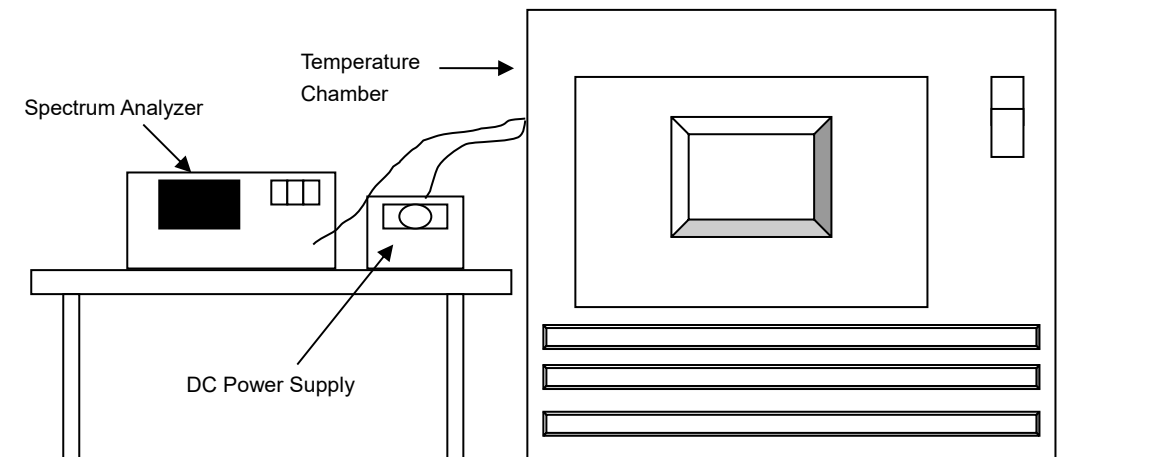


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Tested date: Feb. 20, 2021

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2020	May 30, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
DC Power Supply Topward	6306A	727263	NA	NA

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC 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: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	5	5179.9773	PASS	5179.9751	PASS	5179.9763	PASS	5179.9767	PASS
30	5	5180.0220	PASS	5180.0196	PASS	5180.0212	PASS	5180.0173	PASS
20	5	5180.0214	PASS	5180.0197	PASS	5180.0215	PASS	5180.0212	PASS
10	5	5179.9924	PASS	5179.9915	PASS	5179.9894	PASS	5179.9917	PASS
0	5	5179.9870	PASS	5179.9888	PASS	5179.9912	PASS	5179.9898	PASS

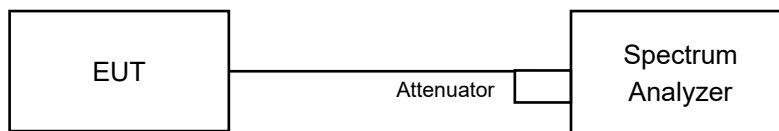
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	5.75	5180.0224	PASS	5180.0198	PASS	5180.0212	PASS	5180.0206	PASS
	5	5180.0214	PASS	5180.0197	PASS	5180.0215	PASS	5180.0212	PASS
	4.25	5180.0209	PASS	5180.0189	PASS	5180.0221	PASS	5180.0209	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.58	16.49	0.5	Pass
157	5785	16.58	16.58	0.5	Pass
165	5825	16.57	16.52	0.5	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.66	17.63	0.5	Pass
157	5785	17.73	17.70	0.5	Pass
165	5825	17.73	17.70	0.5	Pass

802.11ac (VHT40)

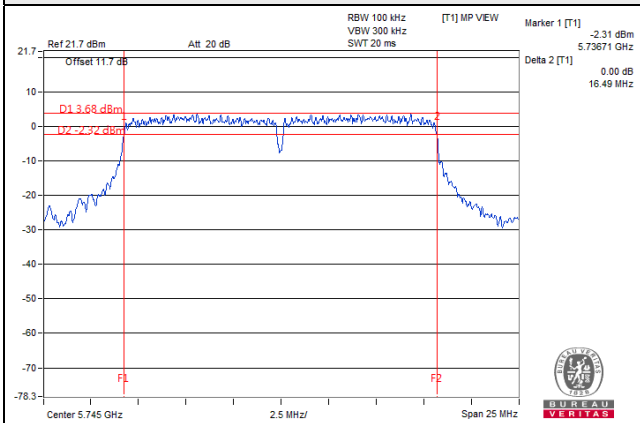
Chan.	Freq. (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.61	36.42	0.5	Pass
159	5795	36.69	36.53	0.5	Pass

802.11ac (VHT80)

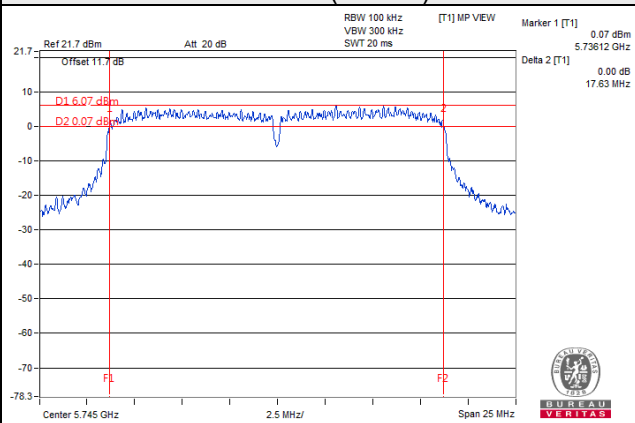
Chan.	Freq. (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.67	76.41	0.5	Pass

Spectrum Plot of Worst Value

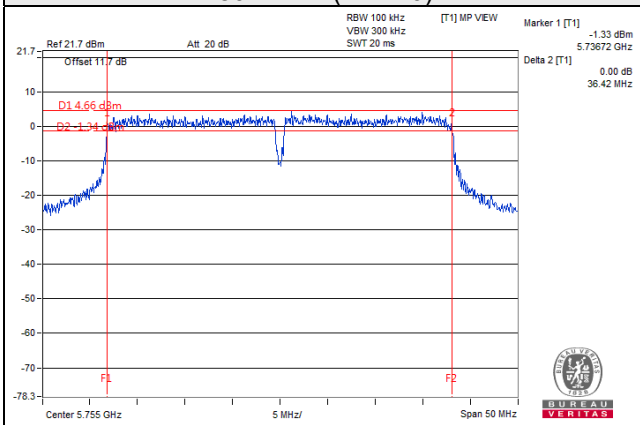
802.11a



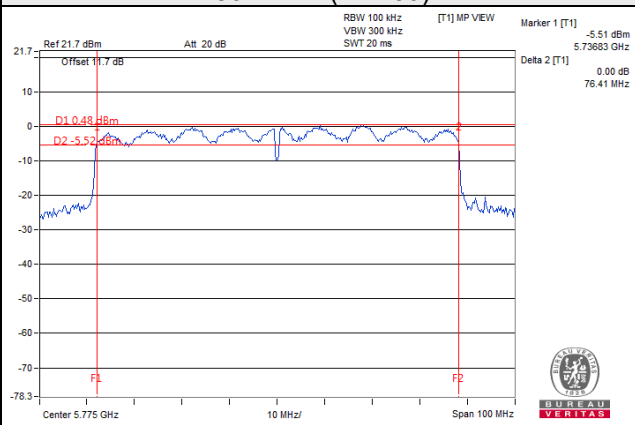
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

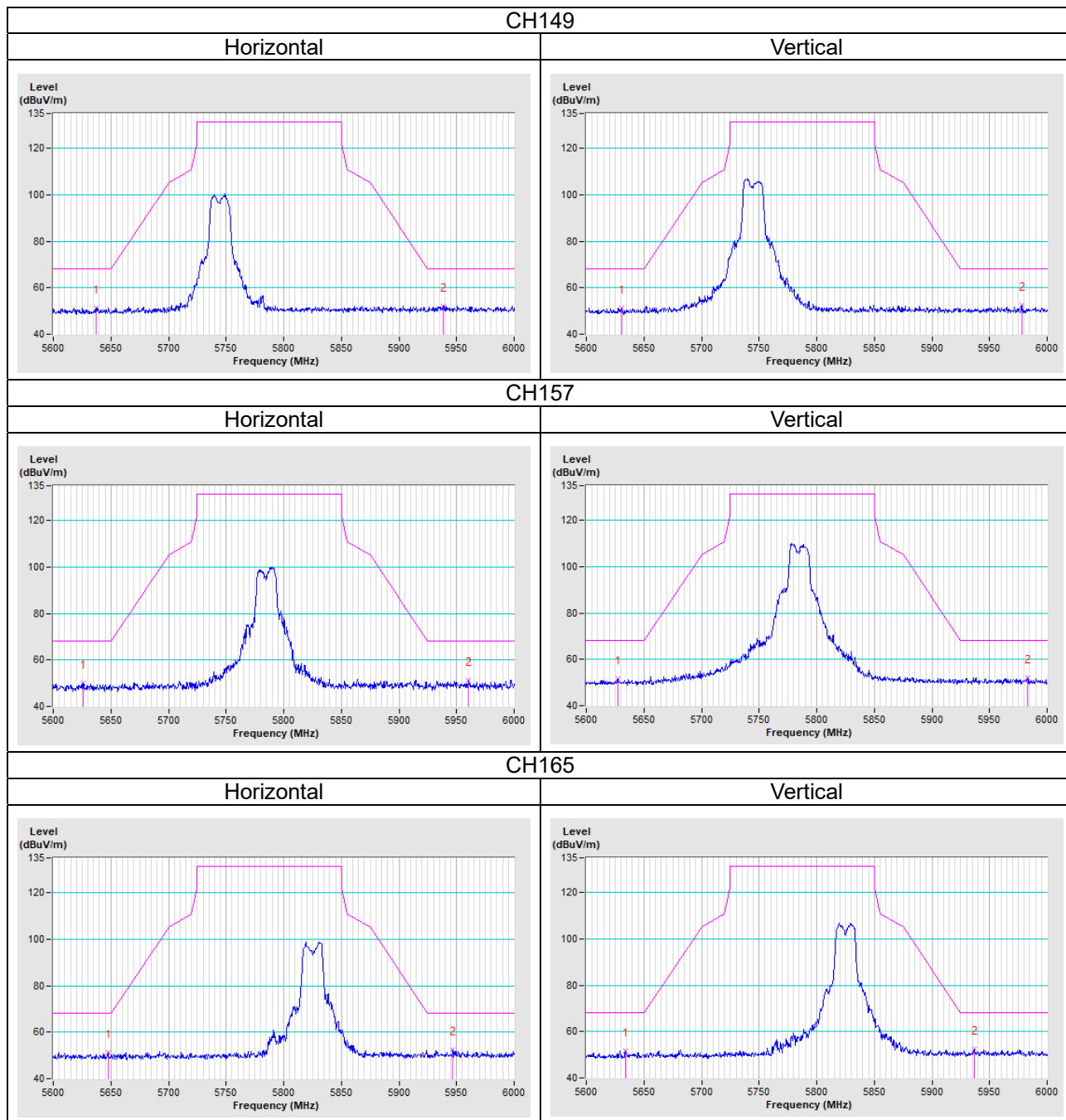


5 Pictures of Test Arrangements

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

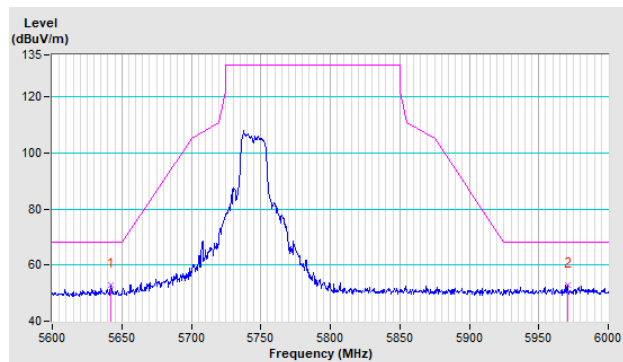
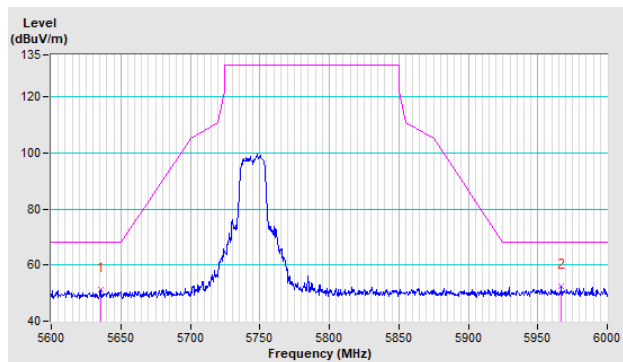


802.11ac (VHT20)

CH149

Horizontal

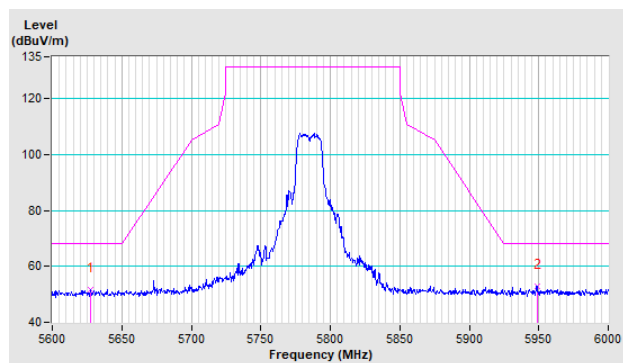
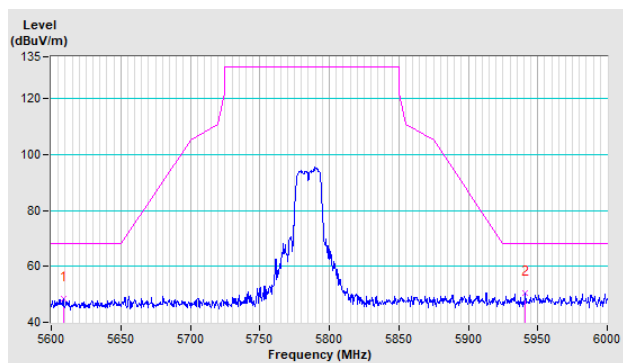
Vertical



CH157

Horizontal

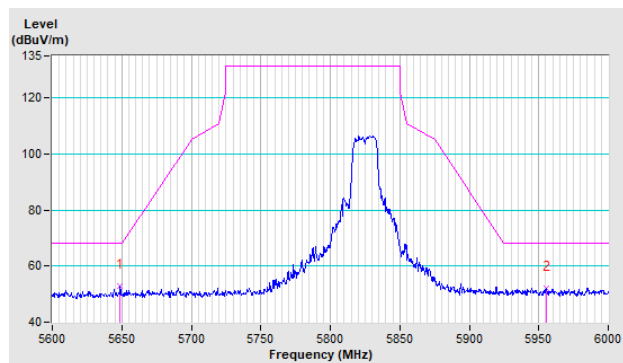
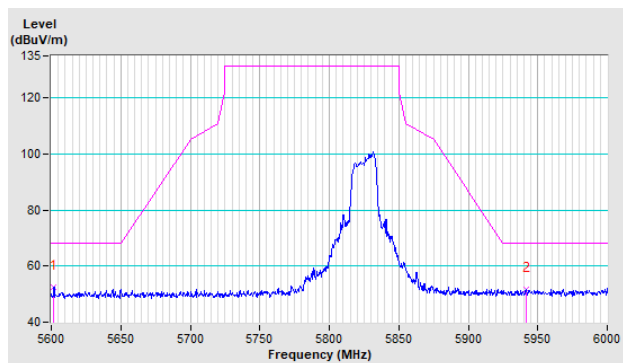
Vertical



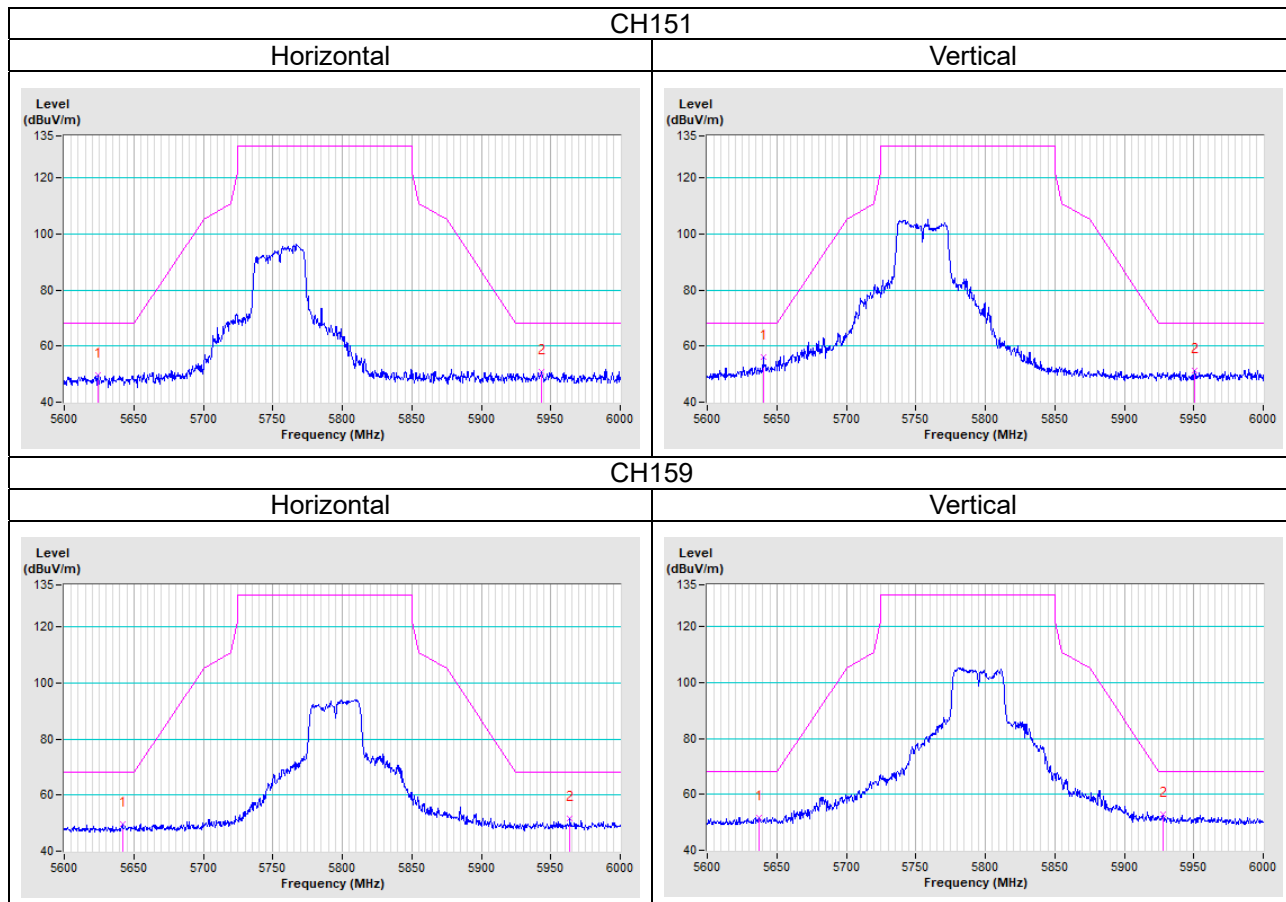
CH165

Horizontal

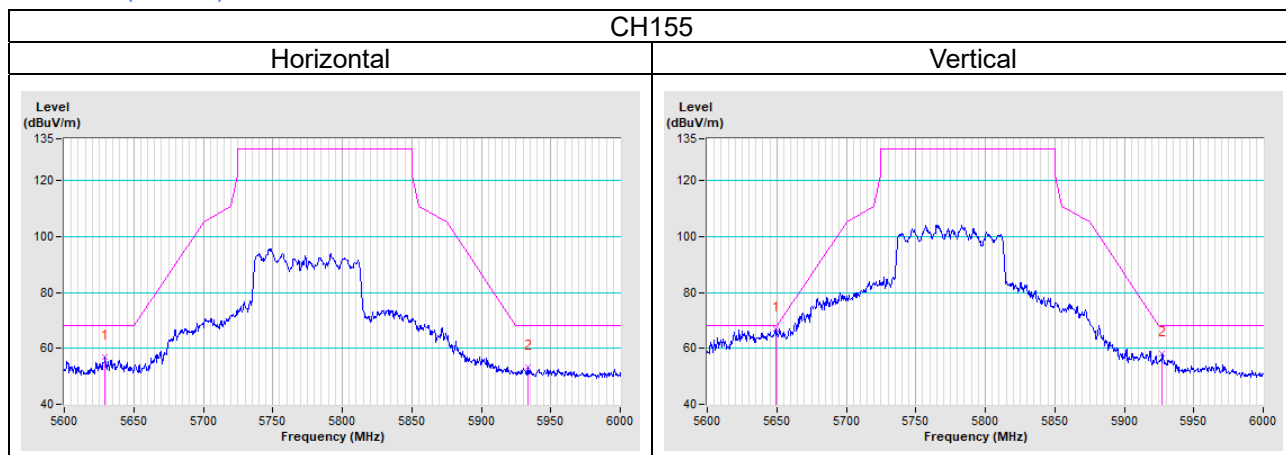
Vertical



802.11ac (VHT40)

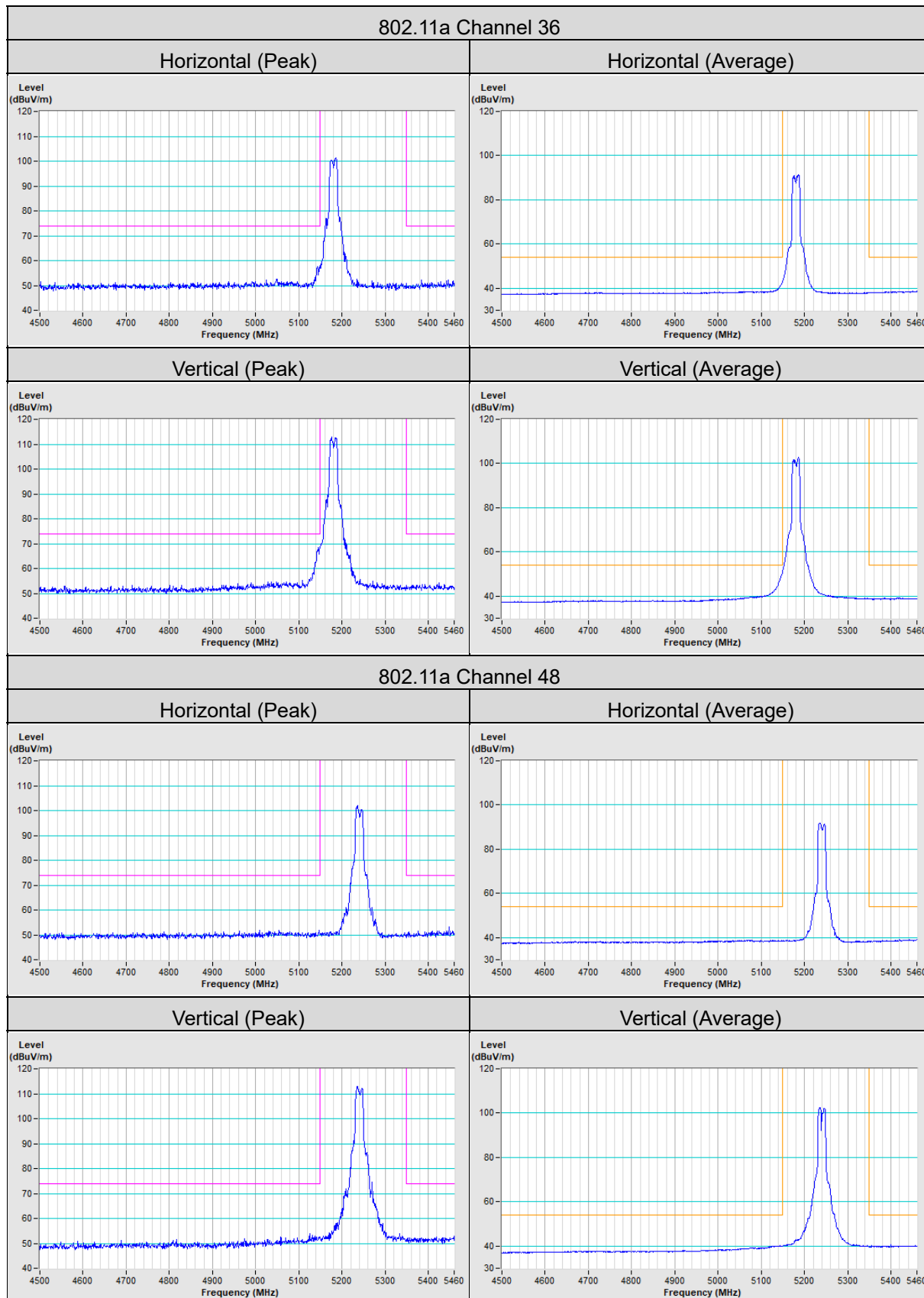


802.11ac (VHT80)

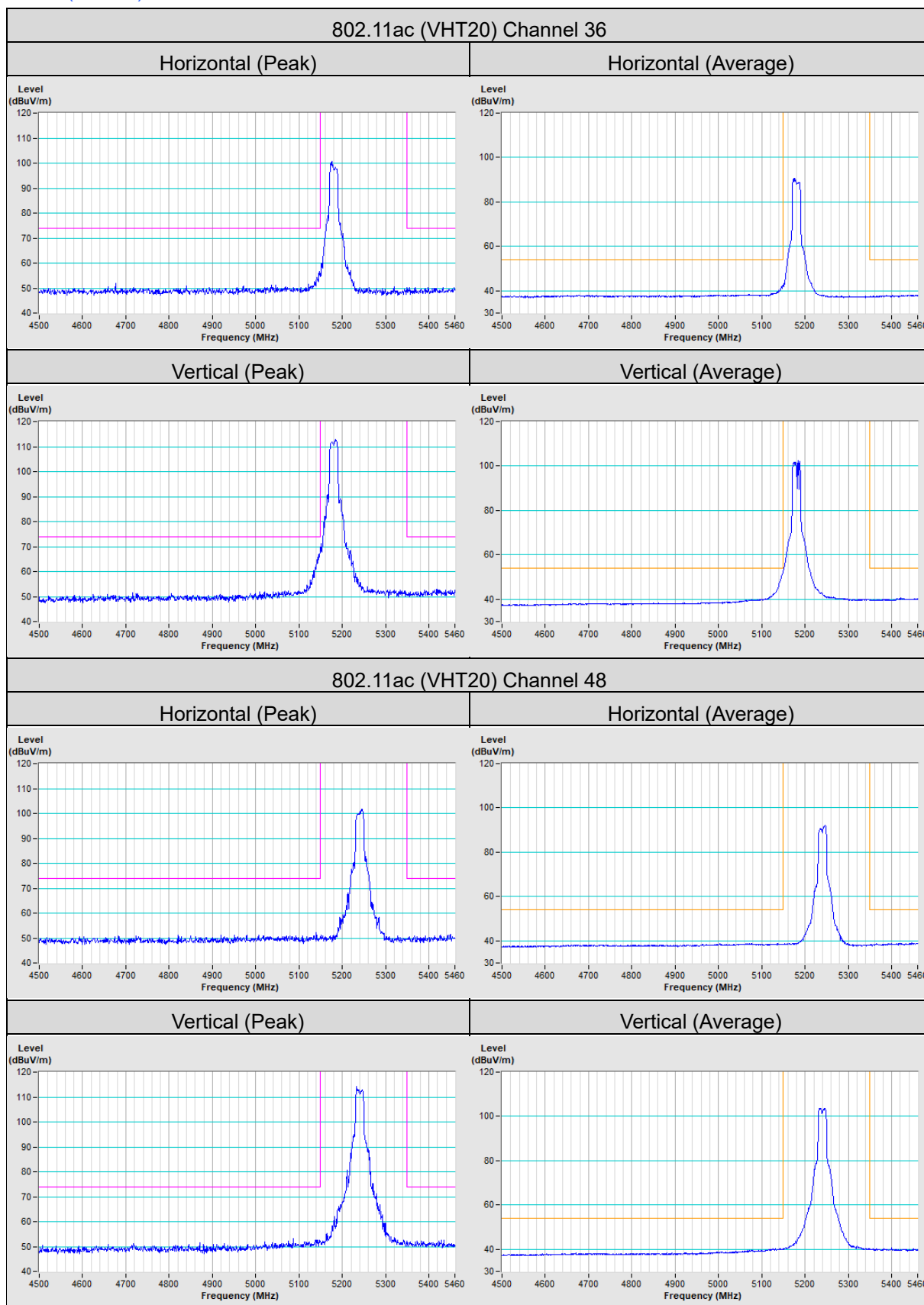


Annex B- Band Edge Measurement

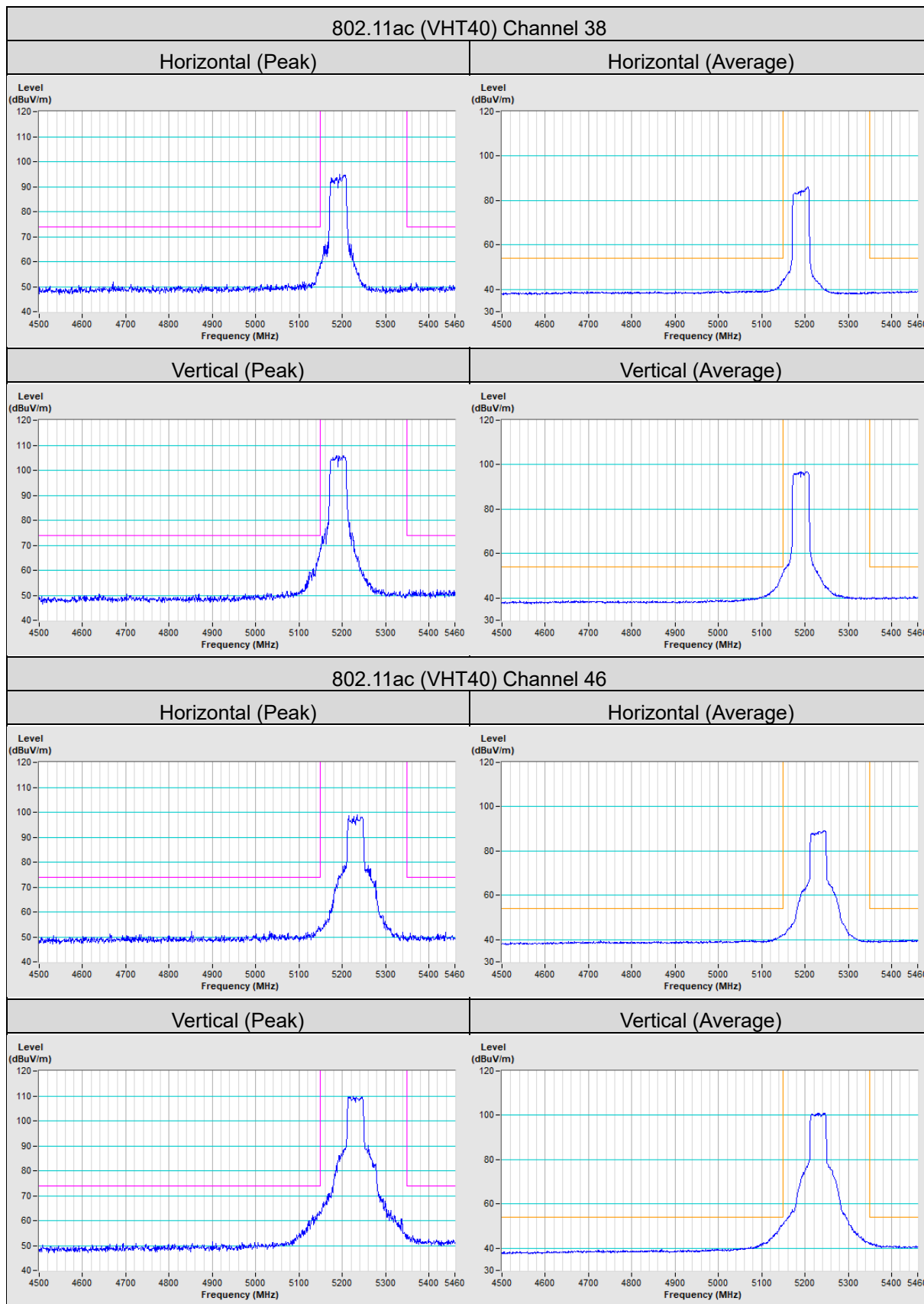
802.11a



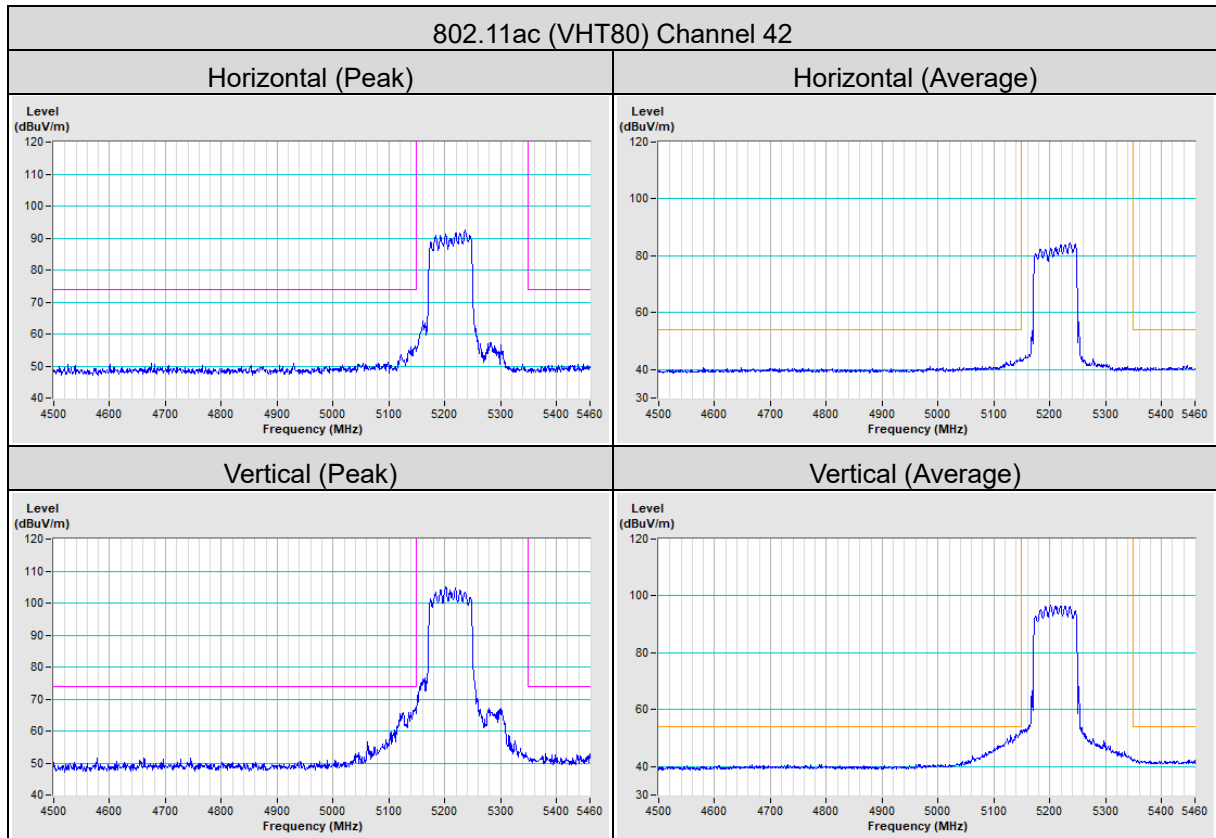
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Appendix – Information of the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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