FCC Test Report

Report No.:	RF190516E01-1
FCC ID:	PY319200447
Test Model:	CAX80
Received Date:	May 16, 2019
Test Date:	May 25 to July 12, 2019
Issued Date:	Aug. 06, 2019
Applicant:	NETGEAR, Inc.
Address:	350 East Plumeria Drive San Jose, CA 95134
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

Testing Laboratory
2022

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF190516E01-1	Original release.	Aug. 06, 2019

1 Certificate of Conformity

Product:	Nighthawk CAX8 AX6000 WiFi Cable Router
Brand:	NETGEAR
Test Model:	CAX80
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	May 25 to July 12, 2019
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013

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

Prepared by : Wendy Wu , **Date:** Aug. 06, 2019

Wendy Wu / Specialist

Approved by : , **Date:** Aug. 06, 2019

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -15.85dB at 0.34922MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5148.70MHz, 5148.80MHz, 5650.98MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	4.9 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	4.9 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Nighthawk CAX8 AX6000 WiFi Cable Router
Brand	NETGEAR
Test Model	CAX80
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	19Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT20/40 mode 1024QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2401.9Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462GHz **5GHz:** 5.18~ 5.24GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	**Non-Beamforming Mode:** **2.4GHz:** 995.416mW **5.18 ~ 5.24GHz:** 980.958mW **5.745 ~ 5.825GHz:** 995.687mW **Beamforming Mode:** **2.4GHz:** 984.493mW **5.18 ~ 5.24GHz:** 980.958mW **5.745 ~ 5.825GHz:** 966.147mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ45 cable x 1 (Shielded, 1.8m)

Note:

1. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN 5GHz
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

2. The EUT must be supplied power adapter and following different models could be chosen as following table:

No.	Brand	Model No.	P/N	Spec.
1	NETGEAR	2ABS060K 1 NJ	332-11468-01	Input: 100-120Vac, 1.7A, 50/60Hz Output: 19V, 3.16A DC Output cable: Unshielded, 1.85m
2	NETGEAR	AD2003F10	332-11480-01	Input: 100-120Vac, 1.5A, 50/60Hz Output: 19V, 3.16A DC Output cable: Unshielded, 1.85m
3	NETGEAR	ADS-65MI-19B 19060EPC-L ADS-65MI-19B 19060EPCU-L	332-11066-01	Input: 100-120Vac, 1.5A, 50/60Hz Output: 19V, 3.16A DC Output cable: Unshielded, 1.85m
Note: From the above adapters, the AC Power Conducted Emissions worst case was found in **Adapter 3;** the Radiated Emissions worst case was found in **Adapter 2**. Therefore only the test data of the mode was recorded in this report.				

3. The antennas provided to the EUT, please refer to the following table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4~2.4835	5.97	PIFA	i-pex(MHF)
5.15~5.25	5.91		
5.25~5.35	6.34		
5.47~5.725	6.05		
5.725~5.85	6.13		
Note: More detailed information, please refer to opearating description.			

Frequency Range (GHz)	Antenna Net Gain (dBi)	Antenna Type	Connector Type	Cable Length (mm)
5.15~5.85	1.67 (RX only)	PCB	i-pex(MHF)	260

4. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
Receiver Mode	-	1RX

Note:
1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and non-beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
42	5210 MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

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.

Non-Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6Mb/s
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6Mb/s
802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDMA	BPSK	MCS0
802.11ax (HE80)		155	155	OFDMA	BPSK	MCS0

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.

Non-Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	5180-5240 5745-5825	36 to 48 149 to 165	165	OFDMA	BPSK	MCS0

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.

Non-Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	5180-5240 5745-5825	36 to 48 149 to 165	165	OFDMA	BPSK	MCS0

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.

Non-Beamforming Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate Parameter**
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		36 to 48	36, 40, 48	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		42	42	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		155	155	OFDM	BPSK	MCS0
802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDMA	BPSK	MCS0
802.11ax (HE80)		155	155	OFDMA	BPSK	MCS0
Beamforming Mode (output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate Parameter**
802.11ac (VHT20)	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	MCS0
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (VHT80)		42	42	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11ac (VHT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ac (VHT80)		155	155	OFDM	BPSK	MCS0
802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDMA	BPSK	MCS0
802.11ax (HE80)		155	155	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	22deg. C, 64%RH	120Vac, 60Hz	Ryan Du
RE<1G	22deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.063 ms/2.095 ms = 0.985

802.11ac (VHT20): Duty cycle = 1.926 ms/1.961 ms = 0.982

802.11ac (VHT40): Duty cycle = 0.951 ms/0.982 ms = 0.968, Duty factor = 10 * log (1/Duty cycle) = 0.14

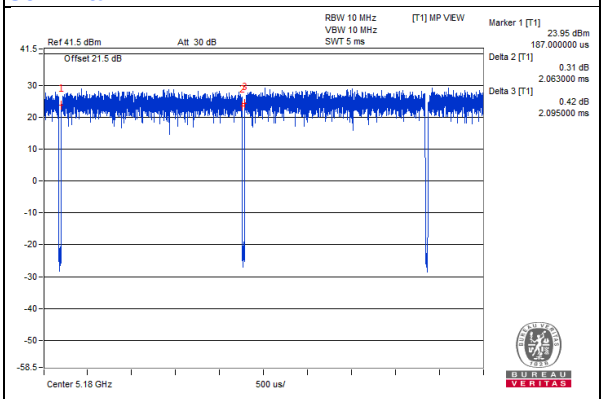
802.11ac (VHT80): Duty cycle = 0.461 ms/0.49 ms = 0.941, Duty factor = 10 * log (1/Duty cycle) = 0.26

802.11ax (HE20): Duty cycle = 1.486 ms/1.52 ms = 0.978, Duty factor = 10 * log (1/Duty cycle) = 0.10

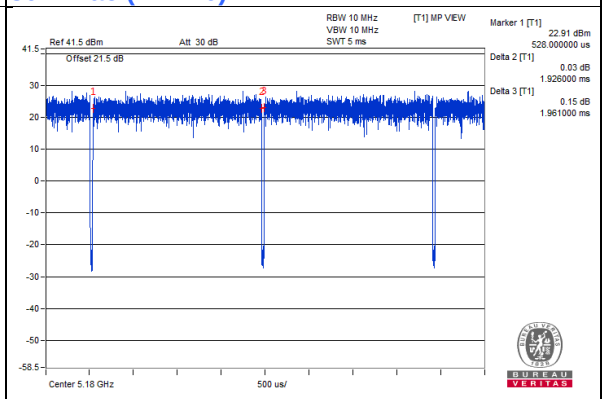
802.11ax (HE40): Duty cycle = 0.77 ms/0.804 ms = 0.958, Duty factor = 10 * log (1/Duty cycle) = 0.19

802.11ax (HE80): Duty cycle = 0.401 ms/0.433 ms = 0.926, Duty factor = 10 * log (1/Duty cycle) = 0.33

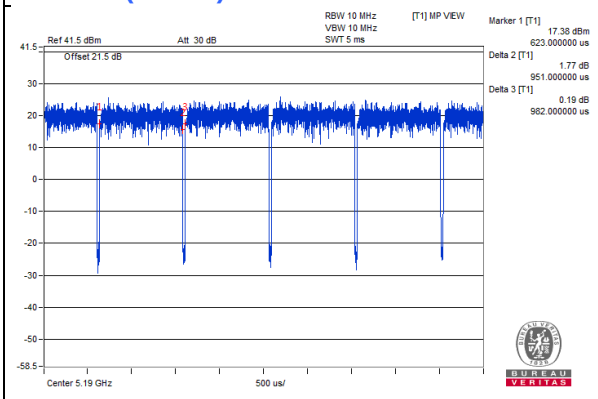
802.11a



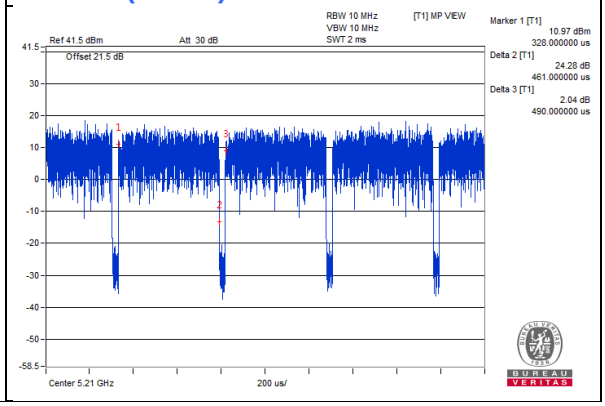
802.11ac (VHT20)



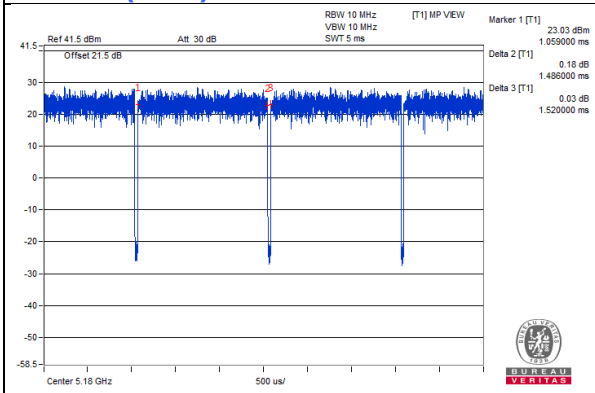
802.11ac (VHT40)



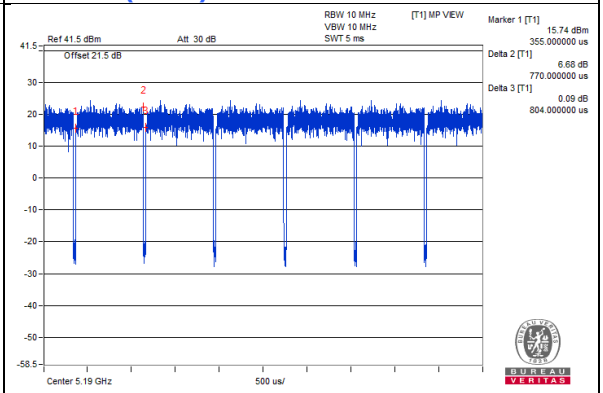
802.11ac (VHT80)



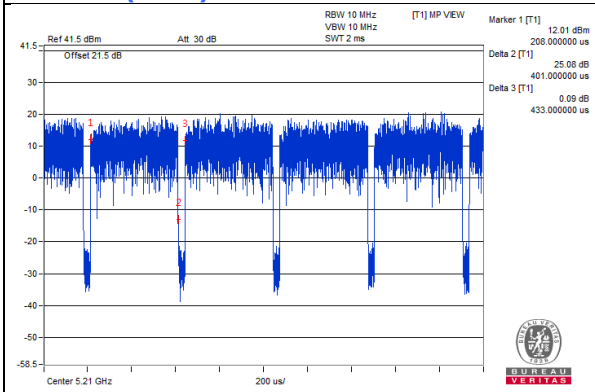
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



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.

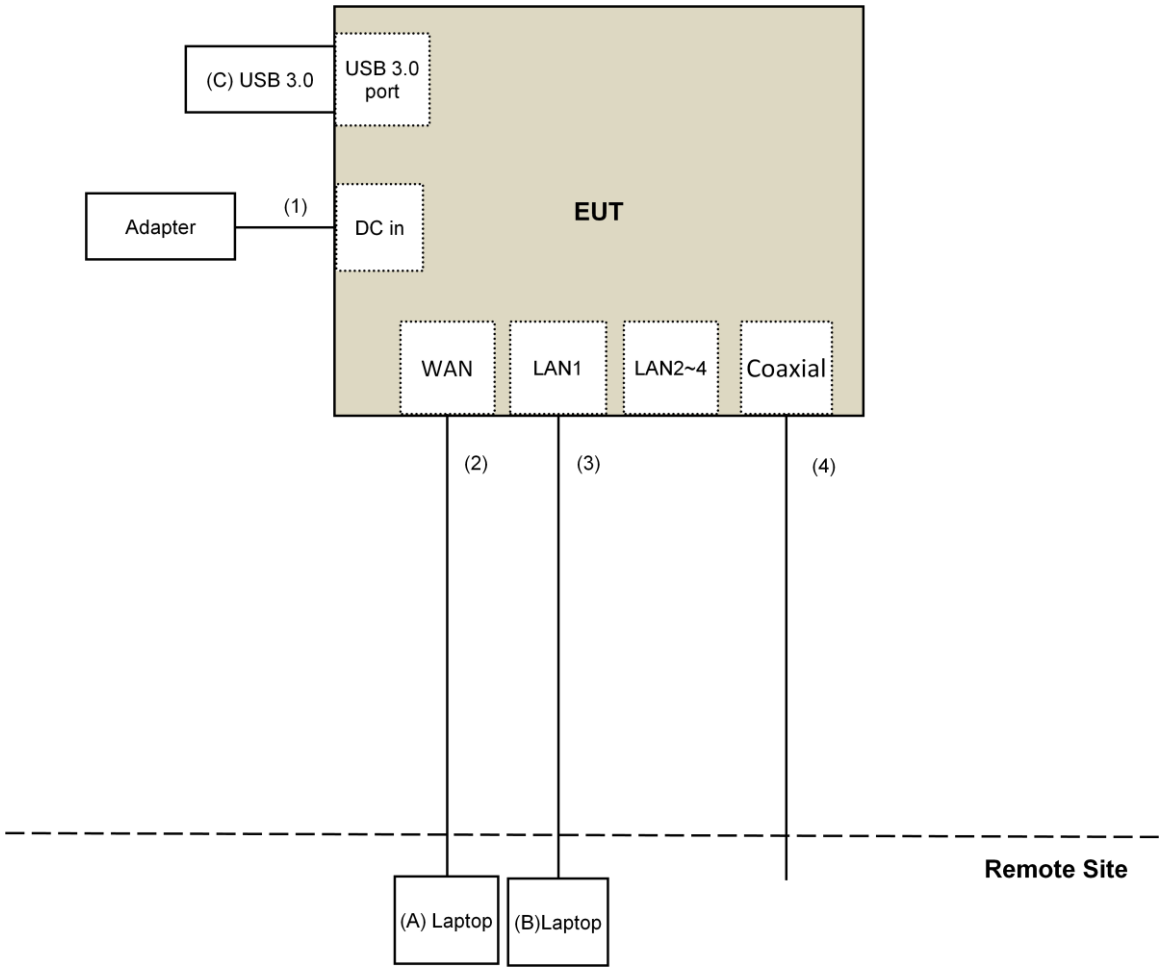
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Lenovo	81A4	YD02YN2A	PD93165NGU	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	USB Disk	SanDisk(32GB)	NA	NA	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.85	Yes	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	Coaxial Cable	1	10	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

Note:

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

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

4.1.2 Test Instruments

For OOBE test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 05, 2018	July 04, 2019
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980385	Aug. 16, 2018	Aug. 15, 2019
RF Cable	EMC104-SM-SM-1200	160923	Jan. 28, 2019	Jan. 27, 2020
RF Cable	104 RF cable	131215	Jan. 10, 2019	Jan. 09, 2020
RF Cable	EMC104-SM-SM-6000	180418	May 03, 2019	May 02, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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 966 Chamber No. 4.
3. Tested Date: May 25, 2019

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	July 12, 2018	July 11, 2019
Pre-Amplifier EMCI	EMC001340	980142	Jan. 25, 2019	Jan. 24, 2020
Loop Antenna Electro-Metrics	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Oct. 30, 2018	Oct. 29, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 22, 2018	Nov. 21, 2019
RF Cable	8D	966-4-1	Mar. 19, 2019	Mar. 18, 2020
RF Cable	8D	966-4-2	Mar. 19, 2019	Mar. 18, 2020
RF Cable	8D	966-4-3	Mar. 19, 2019	Mar. 18, 2020
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 27, 2018	Sep. 26, 2019
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980385	Aug. 16, 2018	Aug. 15, 2019
RF Cable	EMC104-SM-SM-1200	160923	Jan. 28, 2019	Jan. 27, 2020
RF Cable	104 RF cable	131215	Jan. 10, 2019	Jan. 09, 2020
RF Cable	EMC104-SM-SM-6000	180418	May 03, 2019	May 02, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 09, 2019	Jan. 08, 2020
True RMS Clamp Meter FLUKE	325	31130711WS	May 21, 2019	May 20, 2020
Spectrum Analyzer R&S	FSV40	100964	June 04, 2019	June 03, 2020
Power meter Anritsu	ML2495A	1014008	May 13, 2019	May 12, 2020
Power sensor Anritsu	MA2411B	0917122	May 13, 2019	May 12, 2020

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 966 Chamber No. 4.
3. Tested Date: July 05 to 09, 2019

4.1.3 Test Procedure

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 detects 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:

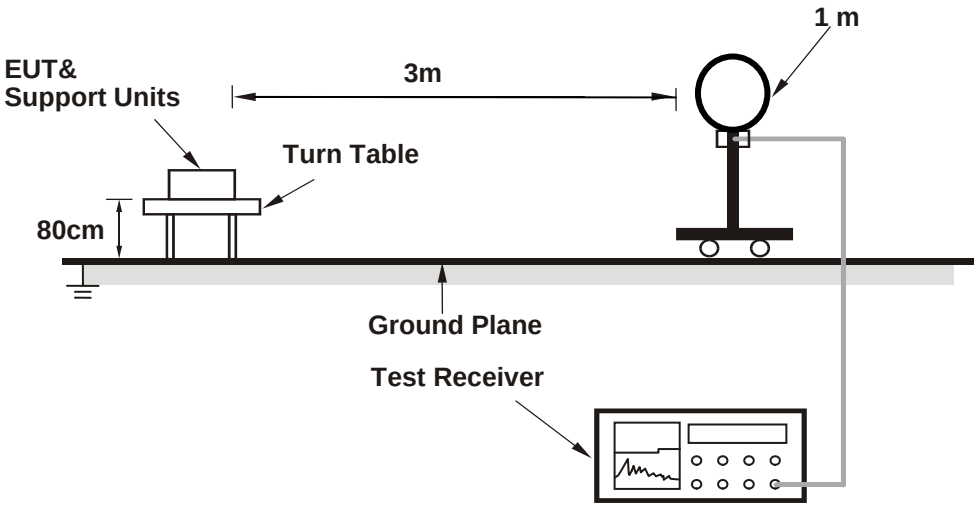
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

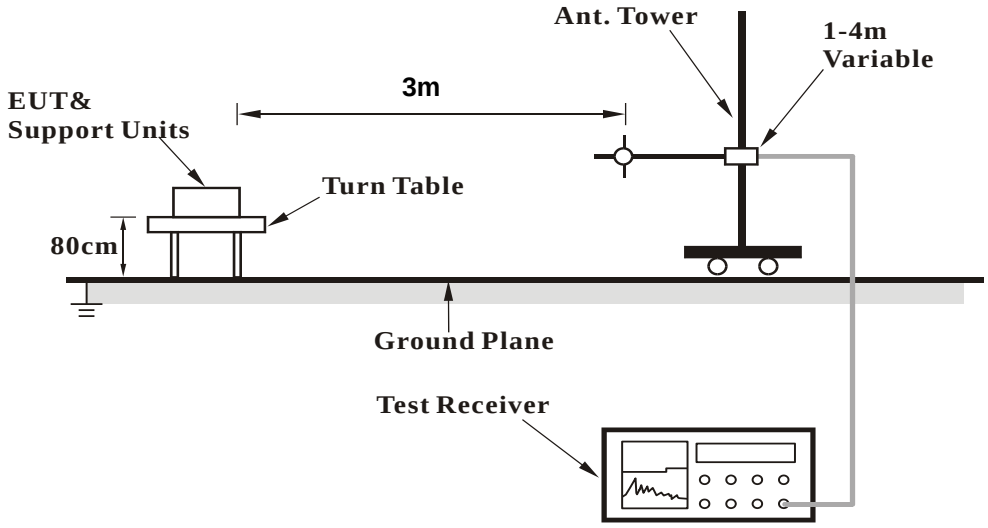
No deviation.

4.1.5 Test Setup

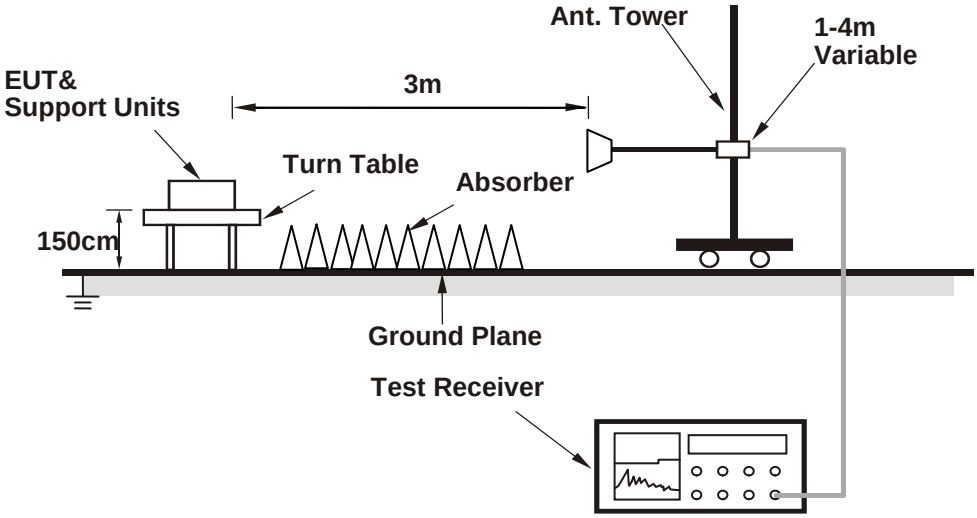
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (Mtool [v3.1.0.3] has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.4 PK	74.0	-7.6	1.53 H	317	62.9	3.5
2	5150.00	50.8 AV	54.0	-3.2	1.53 H	317	47.3	3.5
3	*5180.00	118.4 PK			1.53 H	317	115.0	3.4
4	*5180.00	107.9 AV			1.53 H	317	104.5	3.4
5	#10360.00	44.2 PK	68.2	-24.0	1.65 H	343	31.1	13.1
6	15540.00	46.6 PK	74.0	-27.4	2.15 H	109	33.0	13.6
7	15540.00	36.2 AV	54.0	-17.8	2.15 H	109	22.6	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	71.6 PK	74.0	-2.4	1.65 V	252	68.1	3.5
2	5150.00	53.6 AV	54.0	-0.4	1.65 V	252	50.1	3.5
3	*5180.00	118.3 PK			1.65 V	252	114.9	3.4
4	*5180.00	109.5 AV			1.65 V	252	106.1	3.4
5	#10360.00	44.5 PK	68.2	-23.7	1.79 V	118	31.4	13.1
6	15540.00	47.2 PK	74.0	-26.8	1.35 V	112	33.6	13.6
7	15540.00	36.3 AV	54.0	-17.7	1.35 V	112	22.7	13.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.7 PK	74.0	-10.3	1.56 H	287	60.2	3.5
2	5150.00	48.3 AV	54.0	-5.7	1.56 H	287	44.8	3.5
3	*5200.00	118.5 PK			1.56 H	287	115.1	3.4
4	*5200.00	108.8 AV			1.56 H	287	105.4	3.4
5	#10400.00	48.5 PK	68.2	-19.7	1.66 H	334	35.1	13.4
6	15600.00	46.5 PK	74.0	-27.5	2.10 H	120	33.1	13.4
7	15600.00	35.4 AV	54.0	-18.6	2.10 H	120	22.0	13.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.6 PK	74.0	-4.4	1.66 V	254	66.1	3.5
2	5150.00	51.5 AV	54.0	-2.5	1.66 V	254	48.0	3.5
3	*5200.00	119.4 PK			1.66 V	254	116.0	3.4
4	*5200.00	110.4 AV			1.66 V	254	107.0	3.4
5	#10400.00	45.3 PK	68.2	-22.9	1.80 V	102	31.9	13.4
6	15600.00	47.2 PK	74.0	-26.8	1.31 V	108	33.8	13.4
7	15600.00	36.3 AV	54.0	-17.7	1.31 V	108	22.9	13.4

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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	118.2 PK			1.58 H	317	115.2	3.0
2	*5240.00	108.5 AV			1.58 H	317	105.5	3.0
3	5350.00	62.8 PK	74.0	-11.2	1.58 H	317	59.5	3.3
4	5350.00	47.2 AV	54.0	-6.8	1.58 H	317	43.9	3.3
5	#10480.00	44.3 PK	68.2	-23.9	1.63 H	320	30.8	13.5
6	15720.00	46.8 PK	74.0	-27.2	2.12 H	106	34.0	12.8
7	15720.00	36.0 AV	54.0	-18.0	2.12 H	106	23.2	12.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	120.5 PK			1.65 V	257	117.5	3.0
2	*5240.00	110.8 AV			1.65 V	257	107.8	3.0
3	5350.00	60.4 PK	74.0	-13.6	1.65 V	257	57.1	3.3
4	5350.00	48.0 AV	54.0	-6.0	1.65 V	257	44.7	3.3
5	#10480.00	45.1 PK	68.2	-23.1	1.83 V	117	31.6	13.5
6	15720.00	47.7 PK	74.0	-26.3	1.40 V	86	34.9	12.8
7	15720.00	36.8 AV	54.0	-17.2	1.40 V	86	24.0	12.8

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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.13	59.9 PK	68.2	-8.3	1.57 H	285	56.3	3.6
2	*5745.00	118.2 PK			1.57 H	285	114.3	3.9
3	*5745.00	108.9 AV			1.57 H	285	105.0	3.9
4	#5989.49	56.3 PK	68.2	-11.9	1.57 H	285	51.9	4.4
5	11490.00	58.0 PK	74.0	-16.0	2.15 H	44	43.8	14.2
6	11490.00	44.2 AV	54.0	-9.8	2.15 H	44	30.0	14.2
7	#17235.00	58.6 PK	68.2	-9.6	2.26 H	328	41.3	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5641.27	63.2 PK	68.2	-5.0	1.68 V	260	59.6	3.6
2	*5745.00	120.3 PK			1.68 V	260	116.4	3.9
3	*5745.00	111.6 AV			1.68 V	260	107.7	3.9
4	#5960.77	58.8 PK	68.2	-9.4	1.68 V	260	54.4	4.4
5	11490.00	51.9 PK	74.0	-22.1	1.50 V	273	37.7	14.2
6	11490.00	41.3 AV	54.0	-12.7	1.50 V	273	27.1	14.2
7	#17235.00	53.2 PK	68.2	-15.0	1.66 V	121	35.9	17.3

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5635.51	60.0 PK	68.2	-8.2	1.58 H	291	56.4	3.6
2	*5785.00	116.5 PK			1.58 H	291	112.5	4.0
3	*5785.00	108.0 AV			1.58 H	291	104.0	4.0
4	#5952.81	57.2 PK	68.2	-11.0	1.58 H	291	52.8	4.4
5	11570.00	58.2 PK	74.0	-15.8	2.19 H	51	44.0	14.2
6	11570.00	44.4 AV	54.0	-9.6	2.19 H	51	30.2	14.2
7	#17355.00	58.7 PK	68.2	-9.5	2.31 H	319	41.0	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5623.80	60.3 PK	68.2	-7.9	1.68 V	259	56.6	3.7
2	*5785.00	120.3 PK			1.68 V	259	116.3	4.0
3	*5785.00	111.8 AV			1.68 V	259	107.8	4.0
4	#5924.82	59.3 PK	68.3	-9.0	1.68 V	259	55.1	4.2
5	11570.00	52.1 PK	74.0	-21.9	1.52 V	282	37.9	14.2
6	11570.00	41.2 AV	54.0	-12.8	1.52 V	282	27.0	14.2
7	#17355.00	53.2 PK	68.2	-15.0	1.69 V	111	35.5	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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.29	58.0 PK	68.2	-10.2	1.56 H	290	54.3	3.7
2	*5825.00	117.6 PK			1.56 H	290	113.4	4.2
3	*5825.00	108.4 AV			1.56 H	290	104.2	4.2
4	#5987.94	58.3 PK	68.2	-9.9	1.56 H	290	53.9	4.4
5	11650.00	57.8 PK	74.0	-16.2	2.24 H	52	43.9	13.9
6	11650.00	44.3 AV	54.0	-9.7	2.24 H	52	30.4	13.9
7	#17475.00	59.0 PK	68.2	-9.2	2.28 H	328	40.2	18.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5583.82	59.5 PK	68.2	-8.7	1.66 V	259	55.8	3.7
2	*5825.00	119.3 PK			1.66 V	259	115.1	4.2
3	*5825.00	111.4 AV			1.66 V	259	107.2	4.2
4	#5937.53	59.8 PK	68.2	-8.4	1.66 V	259	55.5	4.3
5	11650.00	52.2 PK	74.0	-21.8	1.52 V	284	38.3	13.9
6	11650.00	41.6 AV	54.0	-12.4	1.52 V	284	27.7	13.9
7	#17475.00	53.0 PK	68.2	-15.2	1.71 V	122	34.2	18.8

REMARKS:

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

802.11ax (HE20)

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

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	5149.20	70.1 PK	74.0	-3.9	1.65 H	253	66.6	3.5
2	5149.20	51.5 AV	54.0	-2.5	1.65 H	253	48.0	3.5
3	5150.00	67.5 PK	74.0	-6.5	1.65 H	253	64.0	3.5
4	5150.00	49.8 AV	54.0	-4.2	1.65 H	253	46.3	3.5
5	*5180.00	122.0 PK			1.65 H	253	118.6	3.4
6	*5180.00	109.2 AV			1.65 H	253	105.8	3.4
7	#10360.00	48.9 PK	68.2	-19.3	1.72 H	325	35.8	13.1
8	15540.00	47.3 PK	74.0	-26.7	2.07 H	105	33.7	13.6
9	15540.00	35.9 AV	54.0	-18.1	2.07 H	105	22.3	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5148.60	70.3 PK	74.0	-3.7	1.66 V	299	66.8	3.5
2	5148.60	52.7 AV	54.0	-1.3	1.66 V	299	49.2	3.5
3	5150.00	73.2 PK	74.0	-0.8	1.66 V	299	69.7	3.5
4	5150.00	53.7 AV	54.0	-0.3	1.66 V	299	50.2	3.5
5	*5180.00	121.7 PK			1.66 V	299	118.3	3.4
6	*5180.00	110.5 AV			1.66 V	299	107.1	3.4
7	#10360.00	44.6 PK	68.2	-23.6	1.74 V	128	31.5	13.1
8	15540.00	47.8 PK	74.0	-26.2	1.30 V	121	34.2	13.6
9	15540.00	36.6 AV	54.0	-17.4	1.30 V	121	23.0	13.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.1 PK	74.0	-9.9	1.58 H	272	60.6	3.5
2	5150.00	48.5 AV	54.0	-5.5	1.58 H	272	45.0	3.5
3	*5200.00	121.8 PK			1.58 H	272	118.4	3.4
4	*5200.00	109.2 AV			1.58 H	272	105.8	3.4
5	#10400.00	48.5 PK	68.2	-19.7	1.69 H	330	35.1	13.4
6	15600.00	46.7 PK	74.0	-27.3	2.08 H	133	33.3	13.4
7	15600.00	35.6 AV	54.0	-18.4	2.08 H	133	22.2	13.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.0 PK	74.0	-5.0	1.65 V	280	65.5	3.5
2	5150.00	52.2 AV	54.0	-1.8	1.65 V	280	48.7	3.5
3	*5200.00	121.9 PK			1.65 V	280	118.5	3.4
4	*5200.00	110.2 AV			1.65 V	280	106.8	3.4
5	#10400.00	44.6 PK	68.2	-23.6	1.71 V	143	31.2	13.4
6	15600.00	47.9 PK	74.0	-26.1	1.35 V	130	34.5	13.4
7	15600.00	36.7 AV	54.0	-17.3	1.35 V	130	23.3	13.4

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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	122.2 PK			1.56 H	301	119.2	3.0
2	*5240.00	109.5 AV			1.56 H	301	106.5	3.0
3	5350.00	63.0 PK	74.0	-11.0	1.56 H	301	59.7	3.3
4	5350.00	47.6 AV	54.0	-6.4	1.56 H	301	44.3	3.3
5	#10480.00	44.3 PK	68.2	-23.9	1.58 H	330	30.8	13.5
6	15720.00	47.2 PK	74.0	-26.8	2.15 H	110	34.4	12.8
7	15720.00	36.3 AV	54.0	-17.7	2.15 H	110	23.5	12.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	122.2 PK			1.69 V	281	119.2	3.0
2	*5240.00	110.1 AV			1.69 V	281	107.1	3.0
3	5350.00	61.1 PK	74.0	-12.9	1.69 V	281	57.8	3.3
4	5350.00	48.3 AV	54.0	-5.7	1.69 V	281	45.0	3.3
5	#10480.00	45.1 PK	68.2	-23.1	1.73 V	141	31.6	13.5
6	15720.00	48.3 PK	74.0	-25.7	1.27 V	132	35.5	12.8
7	15720.00	37.1 AV	54.0	-16.9	1.27 V	132	24.3	12.8

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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.49	62.1 PK	68.2	-6.1	1.65 H	282	58.5	3.6
2	*5745.00	118.2 PK			1.65 H	282	114.3	3.9
3	*5745.00	107.0 AV			1.65 H	282	103.1	3.9
4	#5965.78	56.4 PK	68.2	-11.8	1.65 H	282	52.0	4.4
5	11490.00	58.7 PK	74.0	-15.3	2.20 H	47	44.5	14.2
6	11490.00	44.7 AV	54.0	-9.3	2.20 H	47	30.5	14.2
7	#17235.00	59.4 PK	68.2	-8.8	2.31 H	333	42.1	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.58	62.2 PK	68.2	-6.0	1.16 V	262	58.6	3.6
2	*5745.00	120.0 PK			1.16 V	262	116.1	3.9
3	*5745.00	109.8 AV			1.16 V	262	105.9	3.9
4	#5961.52	59.3 PK	68.2	-8.9	1.16 V	262	54.9	4.4
5	11490.00	52.5 PK	74.0	-21.5	1.56 V	283	38.3	14.2
6	11490.00	41.7 AV	54.0	-12.3	1.56 V	283	27.5	14.2
7	#17235.00	53.5 PK	68.2	-14.7	1.62 V	110	36.2	17.3

REMARKS:

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

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

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	#5622.56	59.3 PK	68.2	-8.9	1.65 H	290	55.6	3.7
2	*5785.00	118.2 PK			1.65 H	290	114.2	4.0
3	*5785.00	106.6 AV			1.65 H	290	102.6	4.0
4	#5964.35	57.0 PK	68.2	-11.2	1.65 H	290	52.6	4.4
5	11570.00	58.3 PK	74.0	-15.7	2.16 H	66	44.1	14.2
6	11570.00	44.4 AV	54.0	-9.6	2.16 H	66	30.2	14.2
7	#17355.00	59.0 PK	68.2	-9.2	2.36 H	309	41.3	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.70	60.2 PK	68.2	-8.0	1.67 V	260	56.6	3.6
2	*5785.00	119.8 PK			1.67 V	260	115.8	4.0
3	*5785.00	110.2 AV			1.67 V	260	106.2	4.0
4	#5939.77	58.2 PK	68.2	-10.0	1.67 V	260	53.9	4.3
5	11570.00	52.1 PK	74.0	-21.9	1.47 V	262	37.9	14.2
6	11570.00	41.4 AV	54.0	-12.6	1.47 V	262	27.2	14.2
7	#17355.00	53.6 PK	68.2	-14.6	1.66 V	127	35.9	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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.06	58.5 PK	68.2	-9.7	1.66 H	291	54.9	3.6
2	*5825.00	117.2 PK			1.66 H	291	113.0	4.2
3	*5825.00	106.5 AV			1.66 H	291	102.3	4.2
4	#5922.10	63.6 PK	70.3	-6.7	1.66 H	291	59.4	4.2
5	11650.00	58.2 PK	74.0	-15.8	2.18 H	57	44.3	13.9
6	11650.00	44.3 AV	54.0	-9.7	2.18 H	57	30.4	13.9
7	#17475.00	59.1 PK	68.2	-9.1	2.26 H	331	40.3	18.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5584.70	60.2 PK	68.2	-8.0	1.66 V	257	56.5	3.7
2	*5825.00	120.4 PK			1.66 V	257	116.2	4.2
3	*5825.00	110.4 AV			1.66 V	257	106.2	4.2
4	#5923.41	67.2 PK	69.4	-2.2	1.66 V	257	63.0	4.2
5	11650.00	51.7 PK	74.0	-22.3	1.50 V	265	37.8	13.9
6	11650.00	40.9 AV	54.0	-13.1	1.50 V	265	27.0	13.9
7	#17475.00	53.0 PK	68.2	-15.2	1.64 V	118	34.2	18.8

REMARKS:

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

802.11ax (HE40)

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

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	5148.70	66.6 PK	74.0	-7.4	1.56 H	332	63.1	3.5
2	5148.70	51.0 AV	54.0	-3.0	1.56 H	332	47.5	3.5
3	5150.00	64.1 PK	74.0	-9.9	1.56 H	332	60.6	3.5
4	5150.00	49.3 AV	54.0	-4.7	1.56 H	332	45.8	3.5
5	*5190.00	112.4 PK			1.56 H	332	109.0	3.4
6	*5190.00	101.5 AV			1.56 H	332	98.1	3.4
7	#10380.00	44.0 PK	68.2	-24.2	1.62 H	347	30.7	13.3
8	15570.00	46.4 PK	74.0	-27.6	2.17 H	109	33.0	13.4
9	15570.00	35.9 AV	54.0	-18.1	2.17 H	109	22.5	13.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5148.70	67.1 PK	74.0	-6.9	1.69 V	298	63.6	3.5
2	5148.70	53.8 AV	54.0	-0.2	1.69 V	298	50.3	3.5
3	5150.00	64.8 PK	74.0	-9.2	1.69 V	298	61.3	3.5
4	5150.00	51.2 AV	54.0	-2.8	1.69 V	298	47.7	3.5
5	*5190.00	114.5 PK			1.69 V	298	111.1	3.4
6	*5190.00	104.2 AV			1.69 V	298	100.8	3.4
7	#10380.00	44.2 PK	68.2	-24.0	1.74 V	133	30.9	13.3
8	15570.00	47.3 PK	74.0	-26.7	1.40 V	104	33.9	13.4
9	15570.00	36.5 AV	54.0	-17.5	1.40 V	104	23.1	13.4

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. 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.

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

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	5148.70	65.8 PK	74.0	-8.2	1.55 H	345	62.3	3.5
2	5148.70	51.4 AV	54.0	-2.6	1.55 H	345	47.9	3.5
3	*5230.00	116.4 PK			1.55 H	345	113.3	3.1
4	*5230.00	105.1 AV			1.55 H	345	102.0	3.1
5	5350.00	58.7 PK	74.0	-15.3	1.55 H	345	55.4	3.3
6	5350.00	46.2 AV	54.0	-7.8	1.55 H	345	42.9	3.3
7	#10460.00	43.8 PK	68.2	-24.4	1.67 H	360	30.3	13.5
8	15690.00	46.7 PK	74.0	-27.3	2.12 H	112	33.8	12.9
9	15690.00	35.9 AV	54.0	-18.1	2.12 H	112	23.0	12.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5148.70	68.3 PK	74.0	-5.7	1.70 V	299	64.8	3.5
2	**5148.70**	**53.9 AV**	**54.0**	**-0.1**	**1.70 V**	**299**	**50.4**	**3.5**
3	*5230.00	119.2 PK			1.70 V	299	116.1	3.1
4	*5230.00	108.9 AV			1.70 V	299	105.8	3.1
5	5350.00	61.0 PK	74.0	-13.0	1.70 V	299	57.7	3.3
6	5350.00	48.7 AV	54.0	-5.3	1.70 V	299	45.4	3.3
7	#10460.00	45.0 PK	68.2	-23.2	1.79 V	127	31.5	13.5
8	15690.00	46.7 PK	74.0	-27.3	1.37 V	117	33.8	12.9
9	15690.00	35.9 AV	54.0	-18.1	1.37 V	117	23.0	12.9

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. 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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	66.8 PK	68.2	-1.4	1.73 H	291	63.2	3.6
2	*5755.00	115.6 PK			1.73 H	291	111.7	3.9
3	*5755.00	105.8 AV			1.73 H	291	101.9	3.9
4	#5933.15	58.8 PK	68.2	-9.4	1.73 H	291	54.5	4.3
5	11510.00	43.7 PK	74.0	-30.3	1.71 H	356	29.5	14.2
6	11510.00	33.0 AV	54.0	-21.0	1.71 H	356	18.8	14.2
7	#17265.00	47.3 PK	68.2	-20.9	2.09 H	109	30.1	17.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.41	67.4 PK	68.2	-0.8	1.66 V	281	63.8	3.6
2	*5755.00	118.3 PK			1.66 V	281	114.4	3.9
3	*5755.00	109.2 AV			1.66 V	281	105.3	3.9
4	#5928.88	60.9 PK	68.2	-7.3	1.66 V	281	56.7	4.2
5	11510.00	53.0 PK	74.0	-21.0	1.51 V	282	38.8	14.2
6	11510.00	42.0 AV	54.0	-12.0	1.51 V	282	27.8	14.2
7	#17265.00	53.0 PK	68.2	-15.2	1.63 V	104	35.8	17.2

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.24	61.0 PK	68.2	-7.2	1.65 H	296	57.4	3.6
2	*5795.00	116.1 PK			1.65 H	296	112.1	4.0
3	*5795.00	106.0 AV			1.65 H	296	102.0	4.0
4	#5923.53	65.4 PK	69.3	-3.9	1.65 H	296	61.2	4.2
5	11590.00	43.6 PK	74.0	-30.4	1.73 H	355	29.4	14.2
6	11590.00	33.1 AV	54.0	-20.9	1.73 H	355	18.9	14.2
7	#17385.00	46.3 PK	68.2	-21.9	2.09 H	99	28.5	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.05	62.0 PK	68.2	-6.2	1.65 V	278	58.4	3.6
2	*5795.00	118.8 PK			1.65 V	278	114.8	4.0
3	*5795.00	108.9 AV			1.65 V	278	104.9	4.0
4	#5926.05	67.3 PK	68.2	-0.9	1.65 V	278	63.1	4.2
5	11590.00	53.1 PK	74.0	-20.9	1.61 V	269	38.9	14.2
6	11590.00	42.2 AV	54.0	-11.8	1.61 V	269	28.0	14.2
7	#17385.00	53.4 PK	68.2	-14.8	1.68 V	115	35.6	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. 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.

802.11ax (HE80)

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

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	5148.80	66.2 PK	74.0	-7.8	1.56 H	333	62.7	3.5
2	5148.80	51.3 AV	54.0	-2.7	1.56 H	333	47.8	3.5
3	5150.00	64.2 PK	74.0	-9.8	1.56 H	333	60.7	3.5
4	5150.00	50.4 AV	54.0	-3.6	1.56 H	333	46.9	3.5
5	*5210.00	110.2 PK			1.56 H	333	106.9	3.3
6	*5210.00	100.5 AV			1.56 H	333	97.2	3.3
7	5350.00	57.1 PK	74.0	-16.9	1.56 H	333	53.8	3.3
8	5350.00	46.3 AV	54.0	-7.7	1.56 H	333	43.0	3.3
9	#10420.00	44.2 PK	68.2	-24.0	1.63 H	360	30.7	13.5
10	15630.00	46.3 PK	74.0	-27.7	2.12 H	100	33.1	13.2
11	15630.00	35.5 AV	54.0	-18.5	2.12 H	100	22.3	13.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5148.80	68.7 PK	74.0	-5.3	1.69 V	299	65.2	3.5
2	**5148.80**	**53.9 AV**	**54.0**	**-0.1**	**1.69 V**	**299**	**50.4**	**3.5**
3	5150.00	66.2 PK	74.0	-7.8	1.69 V	299	62.7	3.5
4	5150.00	51.5 AV	54.0	-2.5	1.69 V	299	48.0	3.5
5	*5210.00	112.3 PK			1.69 V	299	109.0	3.3
6	*5210.00	102.2 AV			1.69 V	299	98.9	3.3
7	5350.00	59.5 PK	74.0	-14.5	1.69 V	299	56.2	3.3
8	5350.00	48.4 AV	54.0	-5.6	1.69 V	299	45.1	3.3
9	#10420.00	44.5 PK	68.2	-23.7	1.70 V	118	31.0	13.5
10	15630.00	47.2 PK	74.0	-26.8	1.42 V	104	34.0	13.2
11	15630.00	36.3 AV	54.0	-17.7	1.42 V	104	23.1	13.2

REMARKS:

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

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

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	#5653.28	68.2 PK	70.6	-2.4	1.64 H	291	64.6	3.6
2	*5775.00	113.7 PK			1.64 H	296	109.8	3.9
3	*5775.00	103.7 AV			1.64 H	296	99.8	3.9
4	#5918.59	68.2 PK	72.9	-4.7	1.64 H	291	64.0	4.2
5	11550.00	44.0 PK	74.0	-30.0	1.63 H	360	29.8	14.2
6	11550.00	33.4 AV	54.0	-20.6	1.63 H	360	19.2	14.2
7	#17325.00	46.7 PK	68.2	-21.5	2.06 H	111	29.3	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	**#5650.98**	**68.8 PK**	**68.9**	**-0.1**	**1.76 V**	**279**	**65.2**	**3.6**
2	*5775.00	117.4 PK			1.76 V	279	113.5	3.9
3	*5775.00	107.0 AV			1.76 V	279	103.1	3.9
4	#5927.60	67.0 PK	68.2	-1.2	1.76 V	279	62.8	4.2
5	11550.00	44.6 PK	74.0	-29.4	1.78 V	126	30.4	14.2
6	11550.00	33.9 AV	54.0	-20.1	1.78 V	126	19.7	14.2
7	#17325.00	47.1 PK	68.2	-21.1	1.38 V	119	29.7	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. 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.

Below 1GHz Data:

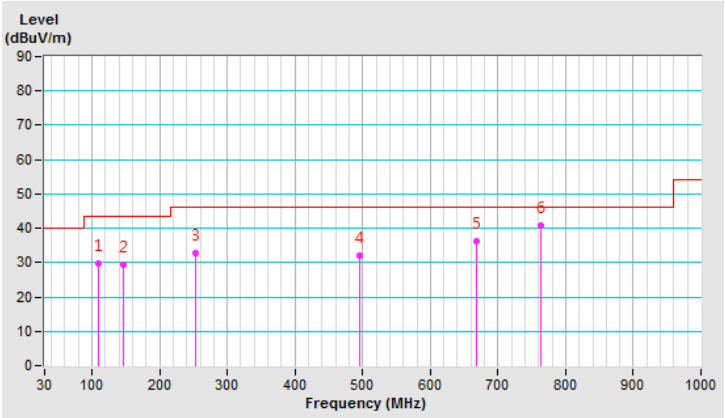
802.11ax (HE20)

CHANNEL	TX Channel 165	**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	109.44	29.7 QP	43.5	-13.8	1.24 H	80	40.4	-10.7
2	146.57	29.3 QP	43.5	-14.2	1.36 H	94	37.2	-7.9
3	253.34	32.8 QP	46.0	-13.2	1.77 H	73	41.4	-8.6
4	494.99	31.9 QP	46.0	-14.1	1.65 H	354	33.8	-1.9
5	667.97	36.1 QP	46.0	-9.9	1.88 H	262	34.5	1.6
6	764.29	40.8 QP	46.0	-5.2	2.44 H	20	37.1	3.7

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. 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.

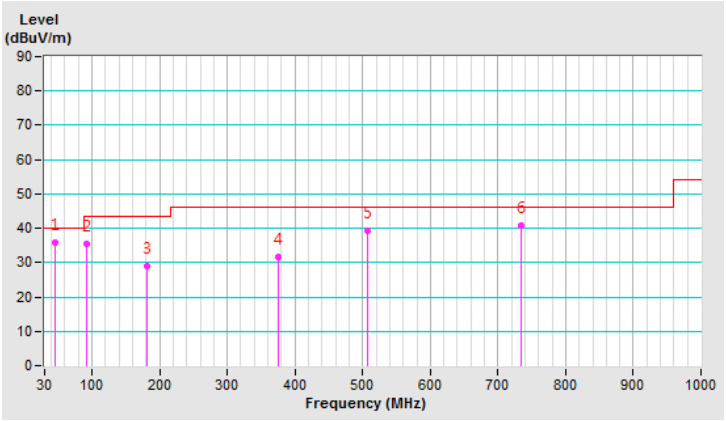


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	44.94	35.9 QP	40.0	-4.1	1.34 V	214	44.1	-8.2
2	92.61	35.3 QP	43.5	-8.2	2.01 V	281	48.2	-12.9
3	181.95	28.9 QP	43.5	-14.6	1.65 V	316	38.4	-9.5
4	375.37	31.5 QP	46.0	-14.5	1.77 V	222	36.4	-4.9
5	507.63	39.2 QP	46.0	-6.8	1.41 V	276	40.6	-1.4
6	734.51	40.8 QP	46.0	-5.2	2.10 V	24	37.5	3.3

REMARKS:

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2018	Oct. 23, 2019
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 22, 2018	Oct. 21, 2019
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 17, 2019	Mar. 16, 2020
50 ohms Terminator	N/A	3	Oct. 22, 2018	Oct. 21, 2019
RF Cable	5D-FB	COCCAB-001	Sep. 28, 2018	Sep. 27, 2019
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 14, 2019	Mar. 13, 2020
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: July 12, 2019

4.2.3 Test Procedure

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

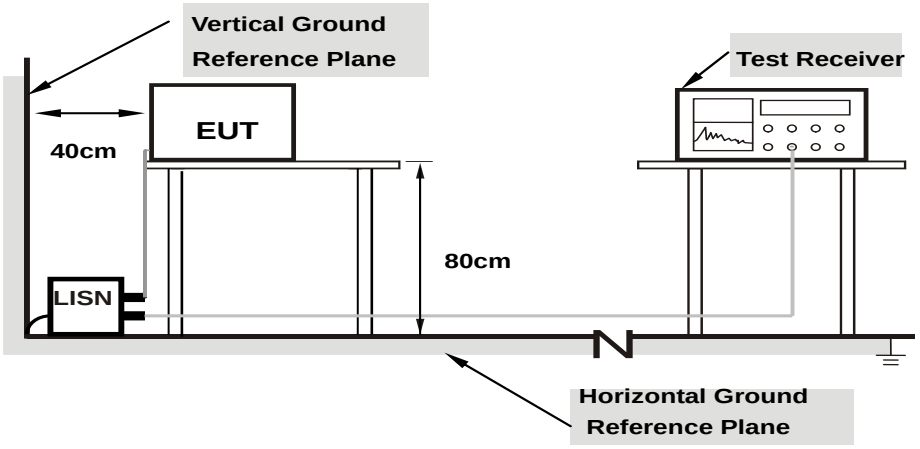
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

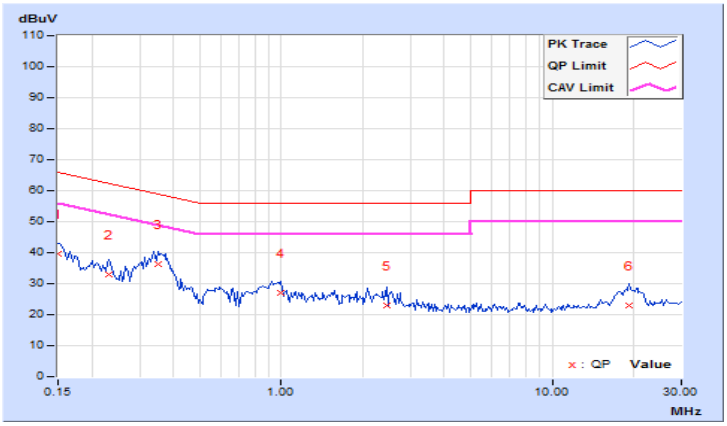
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.96	29.54	16.74	39.50	26.70	66.00	56.00	-26.50	-29.30
2	0.23203	9.97	22.97	17.17	32.94	27.14	62.38	52.38	-29.44	-25.24
3	**0.34922**	**9.98**	**26.37**	**23.15**	**36.35**	**33.13**	**58.98**	**48.98**	**-22.63**	**-15.85**
4	0.99766	10.04	17.01	8.56	27.05	18.60	56.00	46.00	-28.95	-27.40
5	2.44141	10.14	12.66	5.29	22.80	15.43	56.00	46.00	-33.20	-30.57
6	19.26563	11.31	11.50	5.35	22.81	16.66	60.00	50.00	-37.19	-33.34

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.

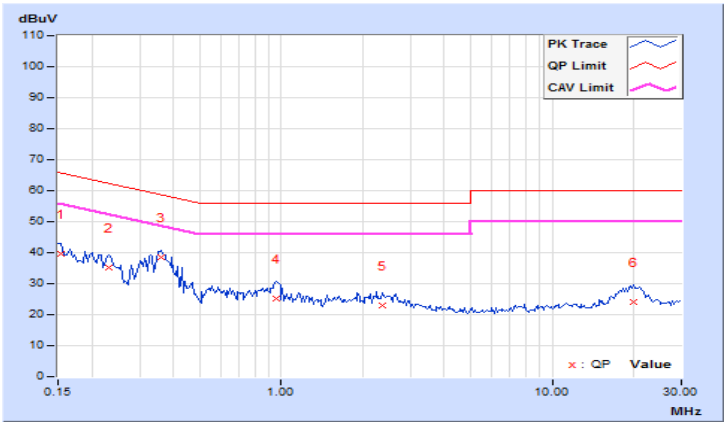


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.94	29.75	17.28	39.69	27.22	65.79	55.79	-26.10	-28.57
2	0.23203	9.95	25.24	18.56	35.19	28.51	62.38	52.38	-27.19	-23.87
3	0.36094	9.97	28.41	18.24	38.38	28.21	58.71	48.71	-20.33	-20.50
4	0.95859	10.02	15.29	7.07	25.31	17.09	56.00	46.00	-30.69	-28.91
5	2.35156	10.11	12.71	4.31	22.82	14.42	56.00	46.00	-33.18	-31.58
6	20.08984	11.09	12.96	6.91	24.05	18.00	60.00	50.00	-35.95	-32.00

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 ≦ 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)
		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

4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

Non-Beamforming Mode

802.11a

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	23.31	23.07	22.43	22.35	763.833	28.83	30.00	Pass
40	5200	24.34	24.21	23.32	23.43	970.353	29.87	30.00	Pass
48	5240	24.32	24.20	23.33	23.40	967.477	29.86	30.00	Pass
149	5745	24.06	24.21	23.44	24.07	994.386	29.98	30.00	Pass
157	5785	23.95	23.94	23.56	24.11	980.673	29.92	30.00	Pass
165	5825	23.92	23.97	23.48	24.04	972.42	29.88	30.00	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.51	22.15	21.74	21.91	646.815	28.11	30.00	Pass
40	5200	24.30	24.21	23.28	23.40	964.376	29.84	30.00	Pass
48	5240	24.28	21.18	23.25	23.36	827.256	29.18	30.00	Pass
149	5745	24.01	24.02	23.24	23.89	959.885	29.82	30.00	Pass
157	5785	23.78	23.94	23.26	24.05	952.456	29.79	30.00	Pass
165	5825	23.87	24.02	23.40	23.94	962.647	29.83	30.00	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	20.46	20.48	19.65	20.17	419.108	26.22	30.00	Pass
46	5230	24.01	23.98	23.54	23.43	948.04	29.77	30.00	Pass
151	5755	23.87	23.94	23.21	24.01	952.702	29.79	30.00	Pass
159	5795	23.92	24.05	23.25	24.05	966.147	29.85	30.00	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	20.84	20.74	20.12	20.14	445.994	26.49	30.00	Pass
155	5775	23.46	23.60	22.83	23.82	883.765	29.46	30.00	Pass

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.60	22.21	21.77	21.92	654.222	28.16	30.00	Pass
40	5200	24.32	24.22	23.30	23.42	968.219	29.86	30.00	Pass
48	5240	24.30	24.20	23.28	23.38	962.765	29.84	30.00	Pass
149	5745	24.16	24.20	23.39	24.02	994.263	29.98	30.00	Pass
157	5785	23.93	24.07	23.43	24.21	986.368	29.94	30.00	Pass
165	5825	24.01	24.16	23.58	24.07	995.687	29.98	30.00	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	20.69	20.75	19.86	20.43	443.306	26.47	30.00	Pass
46	5230	24.18	24.13	23.67	23.57	980.958	29.92	30.00	Pass
151	5755	23.88	23.99	23.23	24.06	960.015	29.82	30.00	Pass
159	5795	23.95	24.10	23.29	24.08	974.516	29.89	30.00	Pass

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	20.94	20.82	20.29	20.40	461.499	26.64	30.00	Pass
155	5775	23.62	23.80	23.04	24.00	922.588	29.65	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.51	22.15	21.74	21.91	646.815	28.11	30.00	Pass
40	5200	24.30	24.21	23.28	23.40	964.376	29.84	30.00	Pass
48	5240	24.28	21.18	23.25	23.36	827.256	29.18	30.00	Pass
149	5745	24.01	24.02	23.24	23.89	959.885	29.82	29.87	Pass
157	5785	23.78	23.94	23.26	24.05	952.456	29.79	29.87	Pass
165	5825	23.87	24.02	23.40	23.94	962.647	29.83	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	20.46	20.48	19.65	20.17	419.108	26.22	30.00	Pass
46	5230	24.01	23.98	23.54	23.43	948.04	29.77	30.00	Pass
151	5755	23.87	23.94	23.21	24.01	952.702	29.79	29.87	Pass
159	5795	23.92	24.05	23.25	24.05	966.147	29.85	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	20.84	20.74	20.12	20.14	445.994	26.49	30.00	Pass
155	5775	23.46	23.60	22.83	23.82	883.765	29.46	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.60	22.21	21.77	21.92	654.222	28.16	30.00	Pass
40	5200	24.32	24.22	23.30	23.42	968.219	29.86	30.00	Pass
48	5240	24.30	24.20	23.28	23.38	962.765	29.84	30.00	Pass
149	5745	23.91	23.95	23.14	23.77	938.645	29.73	29.87	Pass
157	5785	23.68	23.82	23.18	23.96	931.193	29.69	29.87	Pass
165	5825	23.76	23.91	23.33	23.82	939.99	29.73	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	20.69	20.75	19.86	20.43	443.306	26.47	30.00	Pass
46	5230	24.18	24.13	23.67	23.57	980.958	29.92	30.00	Pass
151	5755	23.88	23.99	23.23	24.06	960.015	29.82	29.87	Pass
159	5795	23.70	23.85	23.04	23.83	920.002	29.64	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

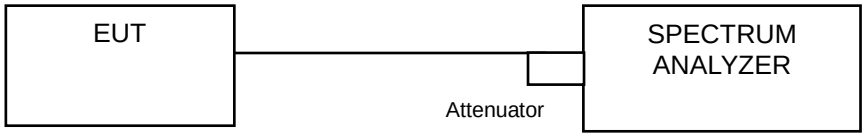
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	20.94	20.82	20.29	20.40	461.499	26.64	30.00	Pass
155	5775	23.62	23.80	23.04	24.00	922.588	29.65	29.87	Pass

Note: 1. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power limit shall not be reduced.
2. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

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	Chain 2	Chain 3
36	5180	17.04	16.92	16.92	16.92
40	5200	17.04	17.04	17.04	16.92
48	5240	16.92	17.04	16.92	16.92
149	5745	17.16	17.04	17.04	17.04
157	5785	17.04	17.28	17.16	17.04
165	5825	17.04	17.16	16.92	17.16

802.11ax (HE20)

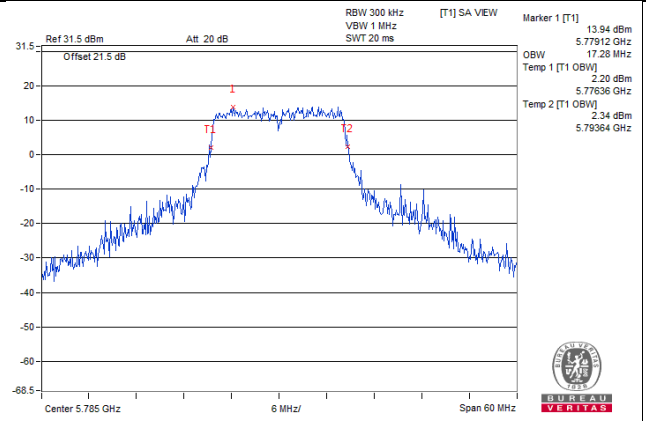
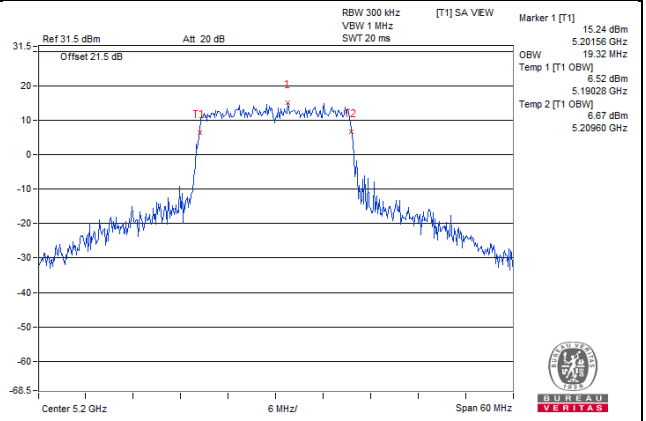
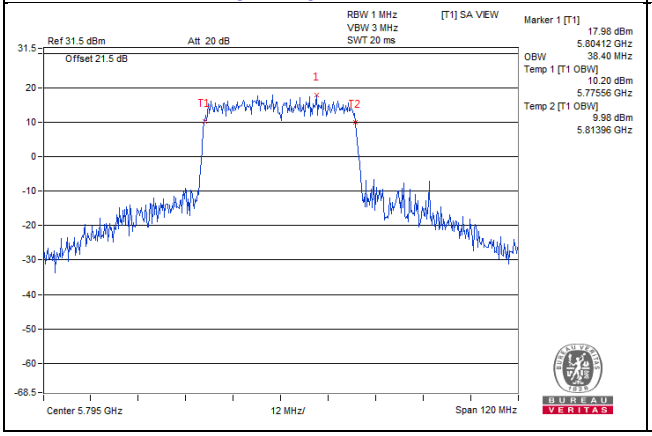
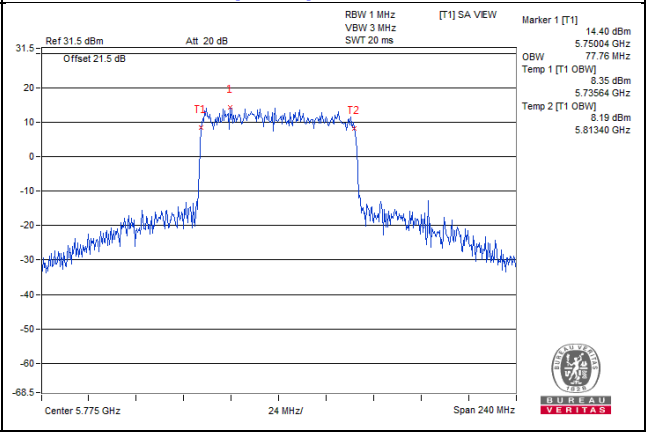
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	19.08	19.08	19.08	19.08
40	5200	19.08	19.32	19.20	19.08
48	5240	19.08	19.08	19.08	18.12
149	5745	19.20	19.20	18.00	19.32
157	5785	19.20	19.20	19.20	19.32
165	5825	19.20	19.08	19.20	19.20

802.11ax (HE40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	37.68	37.68	37.92
46	5230	36.48	38.16	37.92	37.92
151	5755	38.16	36.96	38.16	37.92
159	5795	38.40	38.16	37.92	38.16

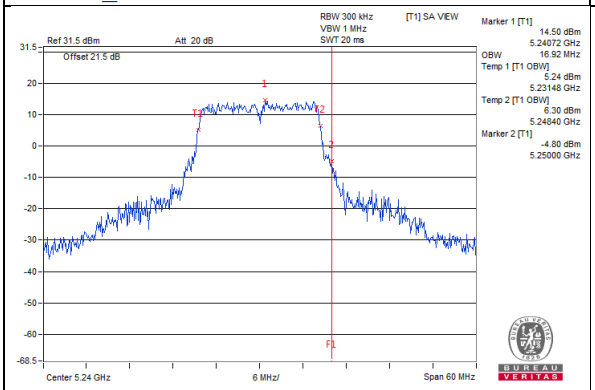
802.11ax (HE80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.28	77.28	77.28	77.76
155	5775	77.76	77.28	77.28	77.28

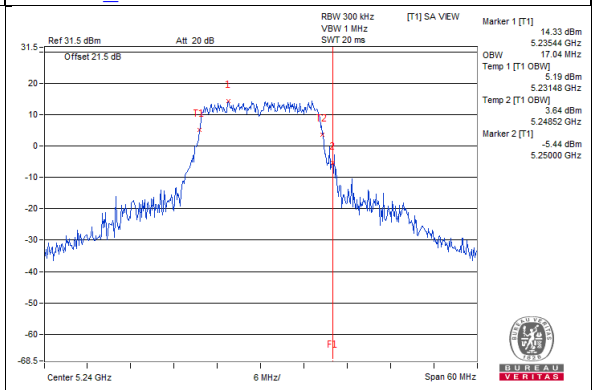
Spectrum Plot of Max. Value	
802.11a_Chain 1 / CH157	**802.11ax (HE20)_Chain 1 / CH40**
	
802.11ax (HE40)_Chain 0 / CH159	**802.11ax (HE80)_Chain 0 / CH155**
	

Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

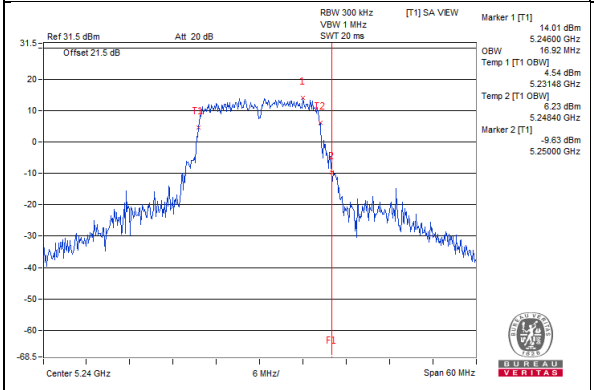
802.11a_Chain 0 / CH48



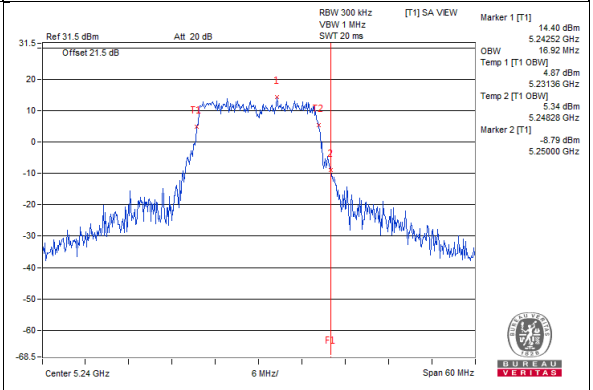
802.11a_Chain 1 / CH48



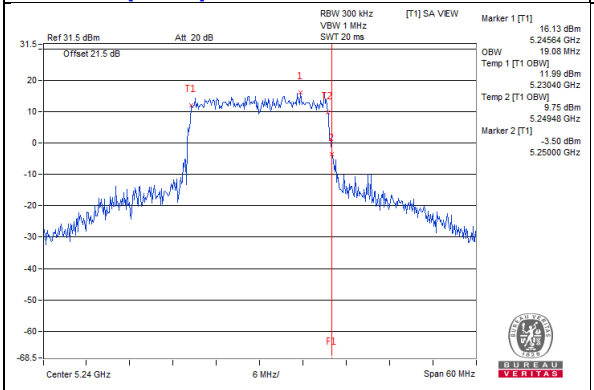
802.11a_Chain 2 / CH48



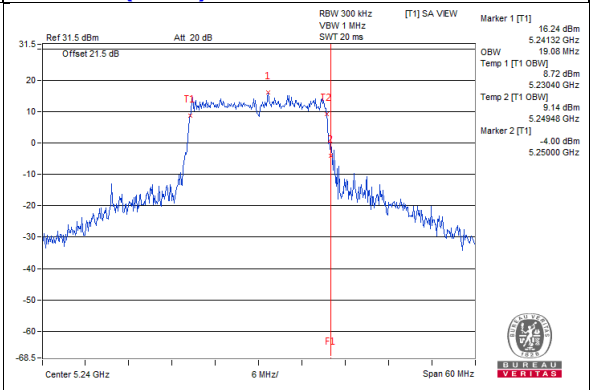
802.11a_Chain 3 / CH48



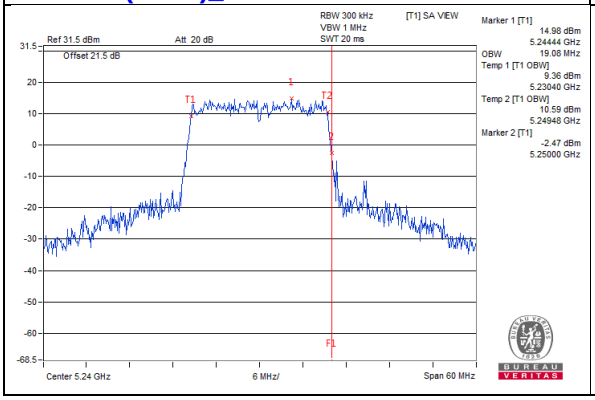
802.11ax (HE20)_Chain 0 / CH48



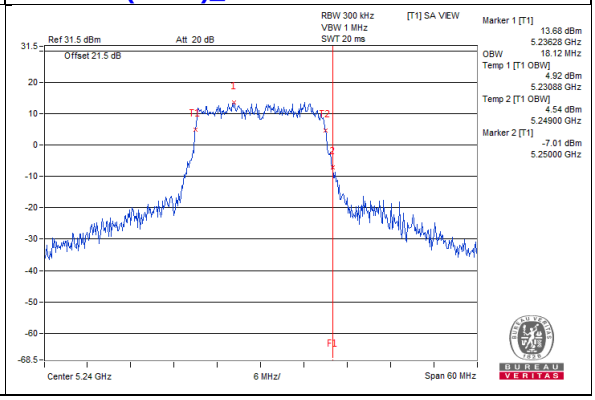
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

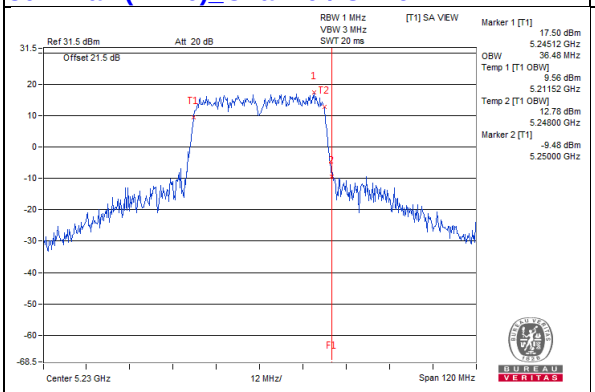


802.11ax (HE20)_Chain 3 / CH48

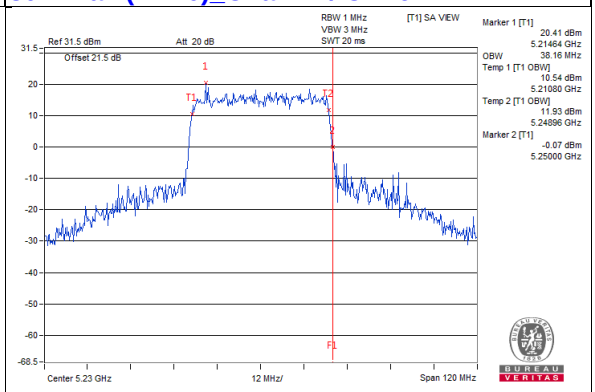


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

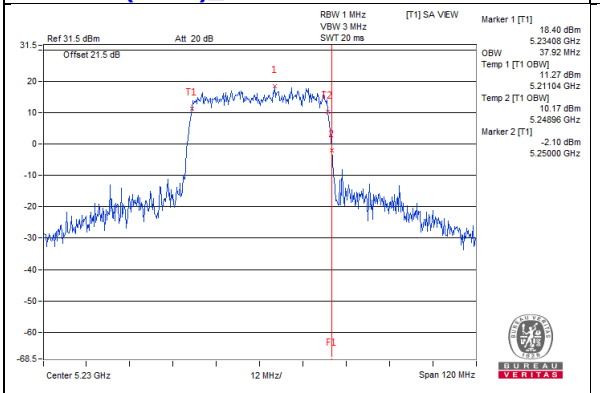
802.11ax (HE40)_Chain 0 / CH46



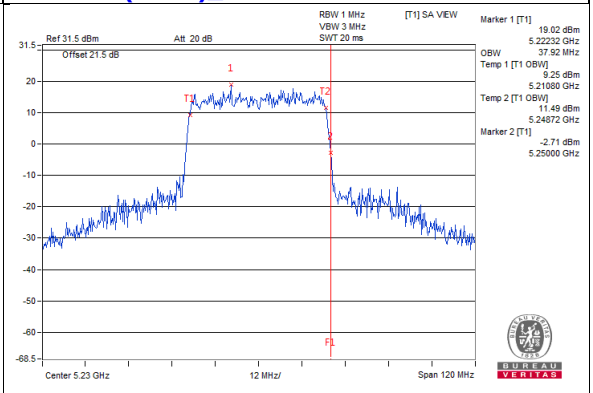
802.11ax (HE40)_Chain 1 / CH46



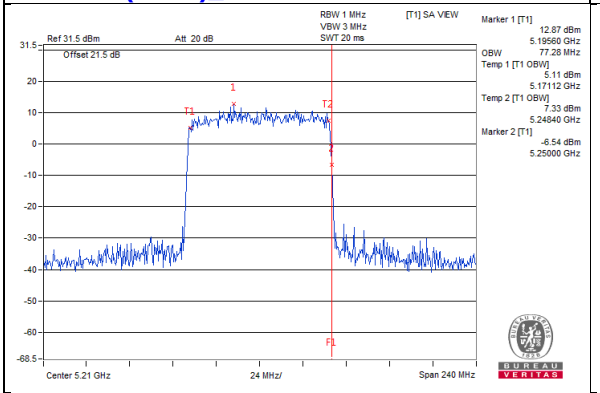
802.11ax (HE40)_Chain 2 / CH46



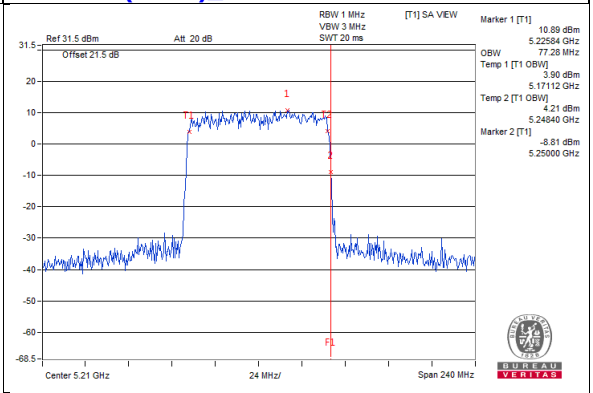
802.11ax (HE40)_Chain 3 / CH46



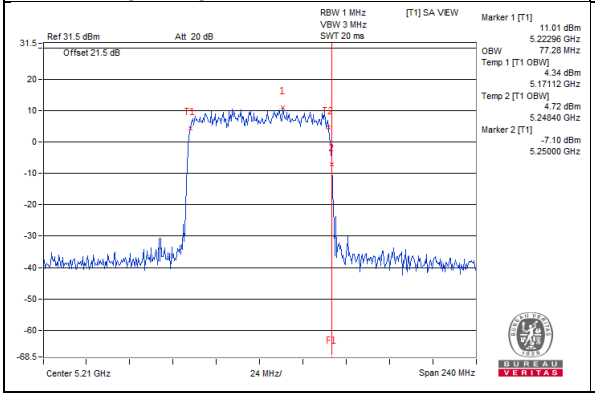
802.11ax (HE80)_Chain 0 / CH42



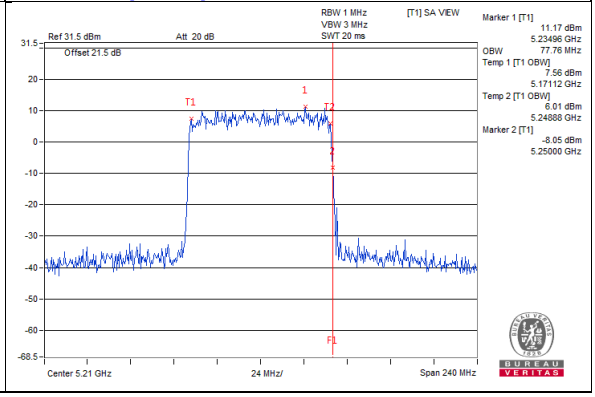
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42

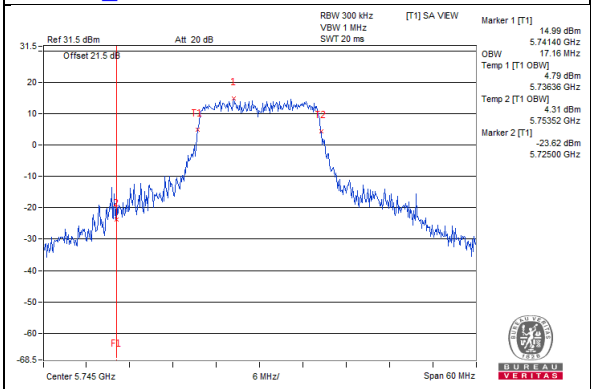


802.11ax (HE80)_Chain 3 / CH42

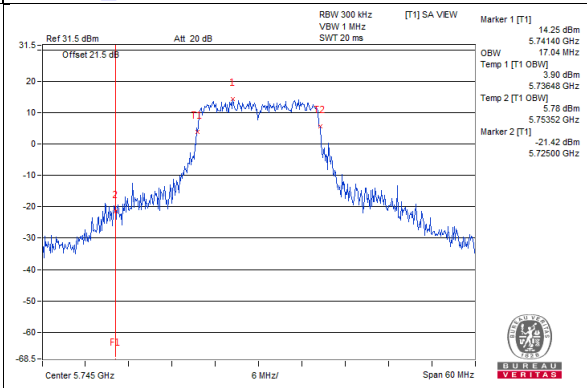


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

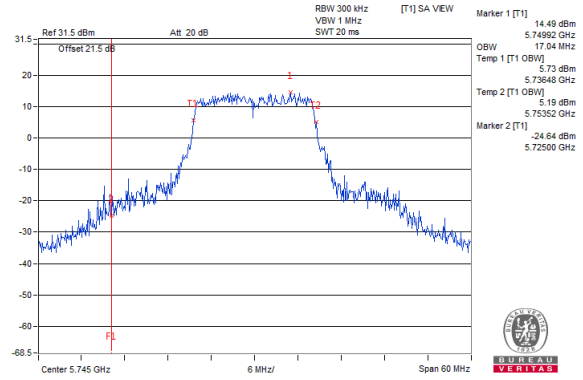
802.11a_Chain 0 / CH149



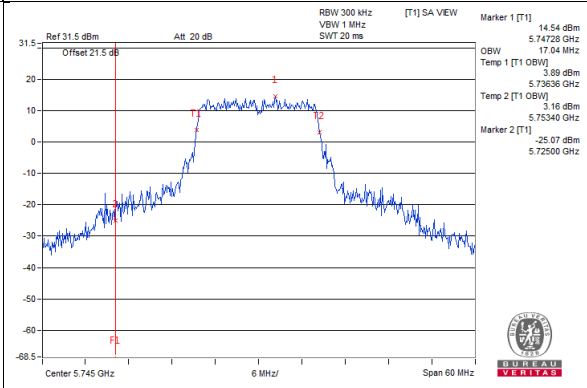
802.11a_Chain 1 / CH149



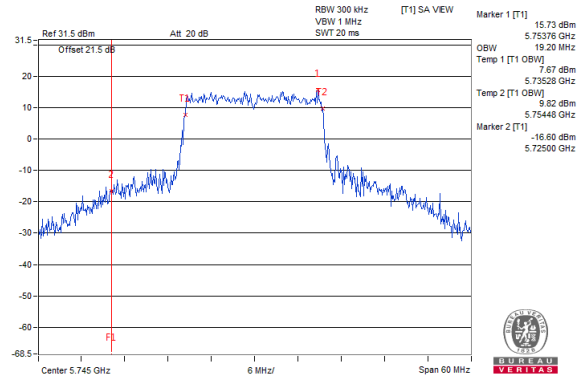
802.11a_Chain 2 / CH149



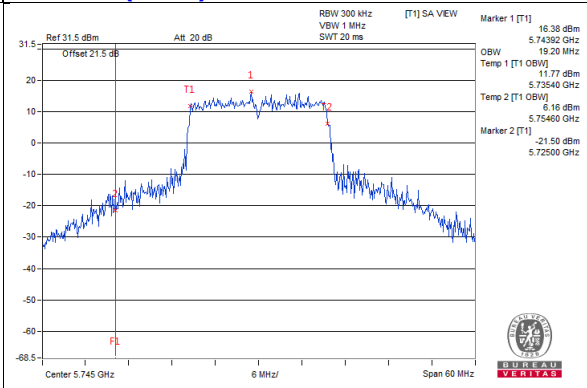
802.11a_Chain 3 / CH149



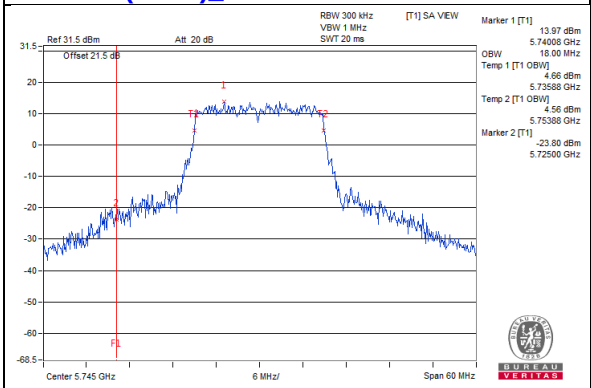
802.11ax (HE20)_Chain 0 / CH149



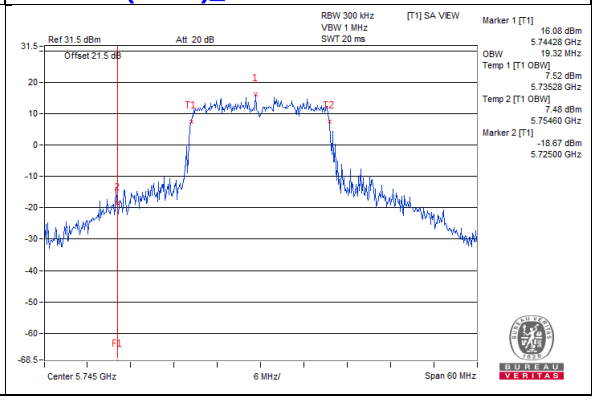
802.11ax (HE20)_Chain 1 / CH149



802.11ax (HE20)_Chain 2 / CH149

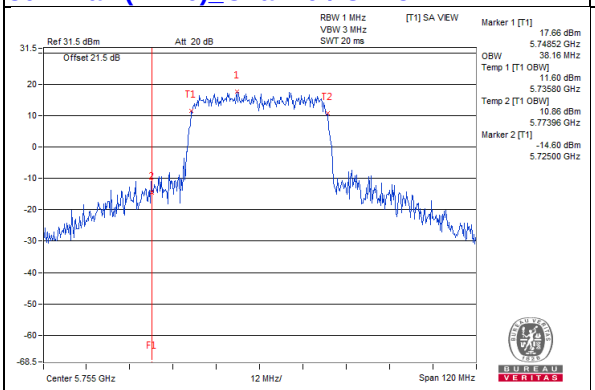


802.11ax (HE20)_Chain 3 / CH149

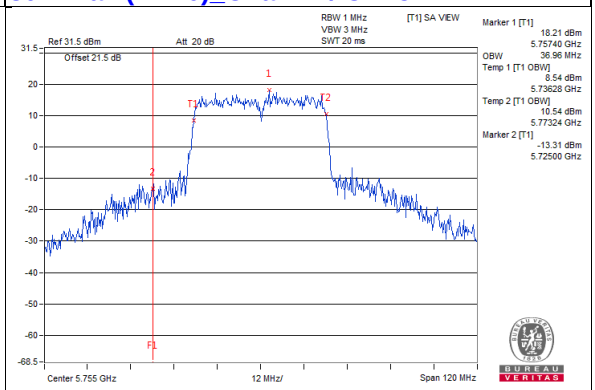


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

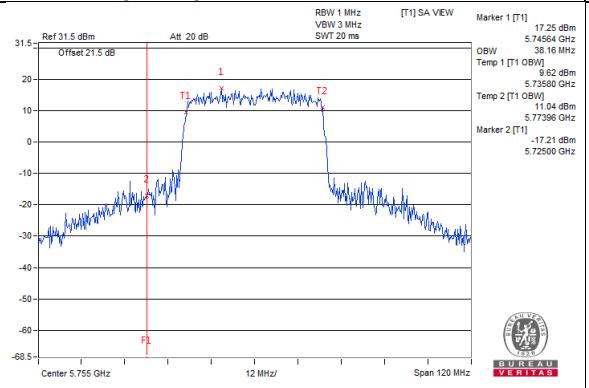
802.11ax (HE40)_Chain 0 / CH151



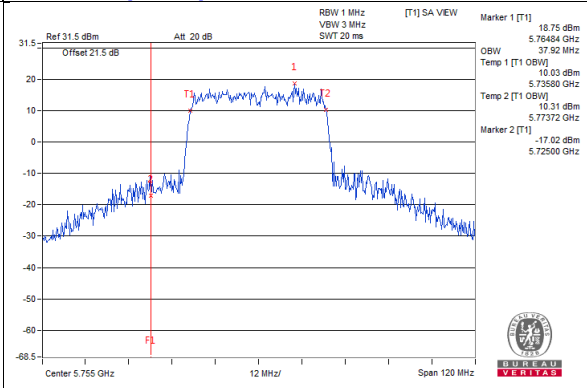
802.11ax (HE40)_Chain 1 / CH151



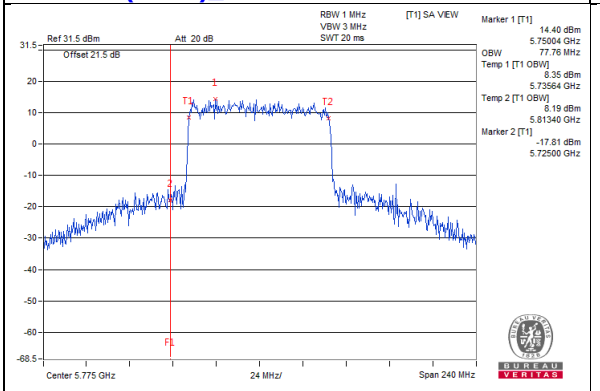
802.11ax (HE40)_Chain 2 / CH151



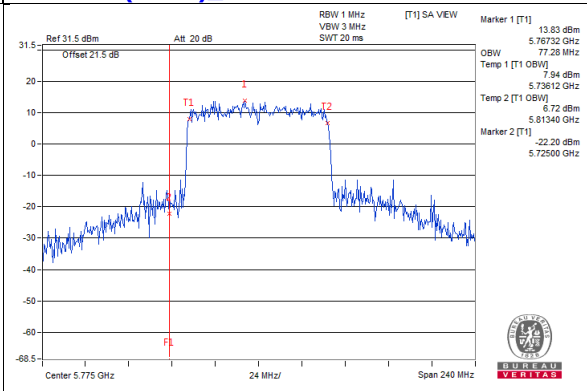
802.11ax (HE40)_Chain 3 / CH151



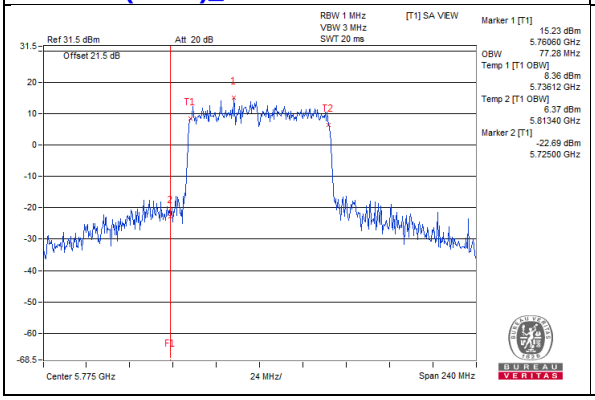
802.11ax (HE80)_Chain 0 / CH155



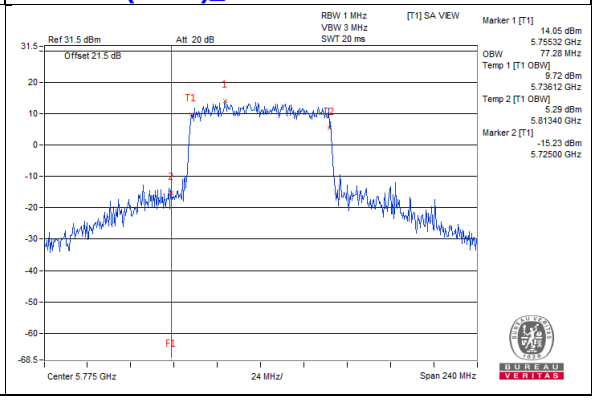
802.11ax (HE80)_Chain 1 / CH155



802.11ax (HE80)_Chain 2 / CH155



802.11ax (HE80)_Chain 3 / CH155

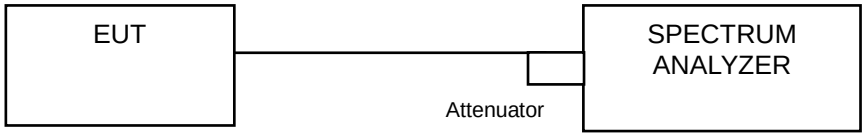


4.5 Peak Power Spectral Density Measurement

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	
		Client device	11dBm/ MHz
U-NII-2A			11dBm/ MHz
U-NII-2C			11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For 802.11a:

For U-NII-1:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, 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

For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, 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 (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)
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

For other modulation:

For U-NII-1:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, 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/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 ≥ 1 MHz, 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 (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)
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/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

For U-NII-1:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	9.54	9.15	8.75	8.23	14.97	17.00	Pass
40	5200	10.08	10.41	9.95	9.20	15.95	17.00	Pass
48	5240	10.79	10.55	10.46	9.06	16.29	17.00	Pass

Note: 1. Method 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. The directional gain = 5.91dBi < 6dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.34	8.72	7.97	8.55	0.10	14.52	17.00	Pass
40	5200	9.84	9.91	8.98	9.33	0.10	15.65	17.00	Pass
48	5240	10.29	10.01	9.70	9.12	0.10	15.92	17.00	Pass

Note: 1. Method 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. The directional gain = 5.91dBi < 6dBi, so the power density limit shall not be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

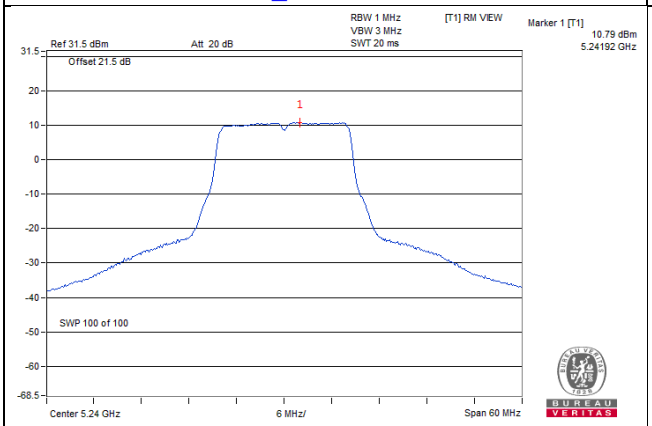
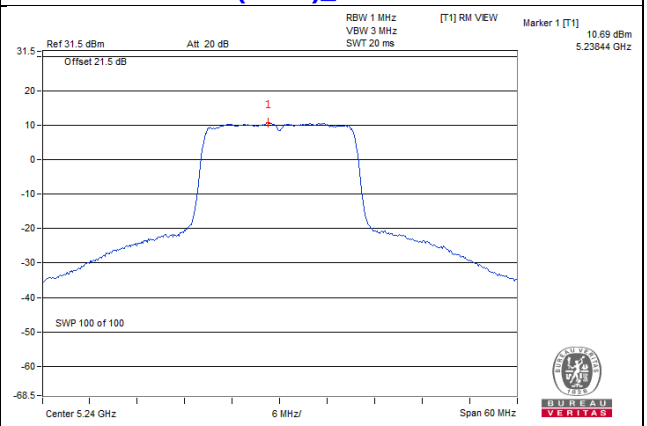
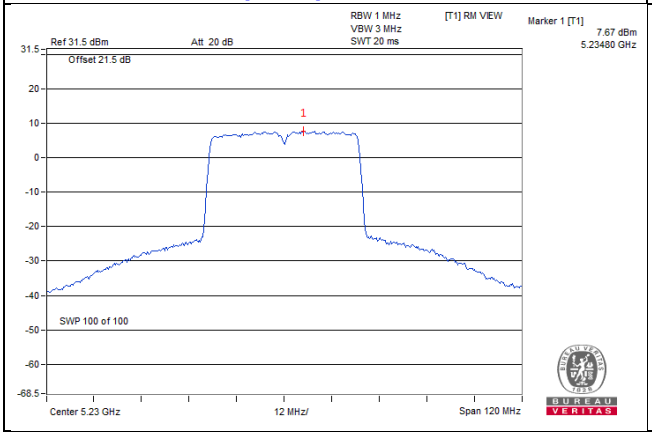
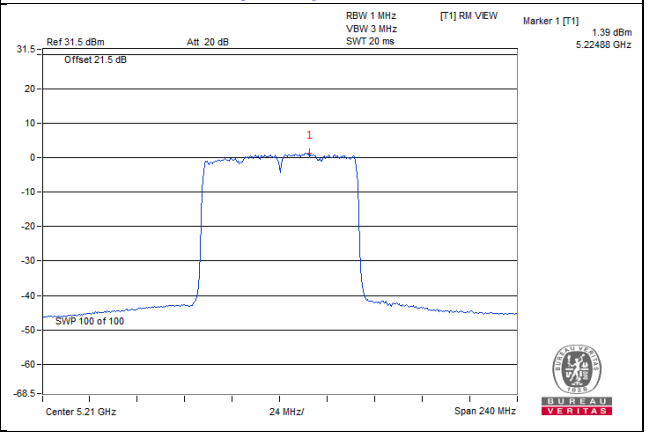
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	3.58	3.75	2.91	2.79	0.19	9.49	17.00	Pass
46	5230	7.23	7.37	7.10	5.53	0.19	13.08	17.00	Pass

Note: 1. Method 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. The directional gain = 5.91dBi < 6dBi, so the power density limit shall not be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	1.05	1.06	0.63	-0.15	0.33	7.03	17.00	Pass

Note: 1. Method 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. The directional gain = 5.91dBi < 6dBi, so the power density limit shall not be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH48	**802.11ax (HE20)_Chain 0 / CH48**
	
802.11ax (HE40)_Chain 1 / CH46	**802.11ax (HE80)_Chain 1 / CH42**
	

For U-NII-3:

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300kHz)				Total PSD		Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		Chain 0	Chain 1	Chain 2	Chain 3	mW/ 300kHz	dBm/ 300kHz			
149	5745	2.52	2.16	2.25	1.96	6.68	8.25	10.47	29.87	Pass
157	5785	2.40	2.38	2.33	1.88	6.7193	8.27	10.49	29.87	Pass
165	5825	2.46	2.59	1.67	2.01	6.635	8.22	10.44	29.87	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6.13dBi > 6dBi, so the power density limit shall be reduced to 30-(6.13-6) = 29.87dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD With Duty Factor		Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		Chain 0	Chain 1	Chain 2	Chain 3		mW/300 kHz	dBm/300kHz			
149	5745	1.73	1.74	1.62	0.83	0.10	5.774	7.61	9.83	29.87	Pass
157	5785	1.75	1.50	0.92	1.01	0.10	5.5303	7.43	9.65	29.87	Pass
165	5825	1.51	1.26	0.82	1.28	0.10	5.4243	7.34	9.56	29.87	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6.13dBi > 6dBi, so the power density limit shall be reduced to 30-(6.13-6) = 29.87dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD With Duty Factor		Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		Chain 0	Chain 1	Chain 2	Chain 3		mW/300 kHz	dBm/300kHz			
151	5755	-1.55	-1.54	-2.21	-2.31	0.19	2.7043	4.32	6.54	29.87	Pass
159	5795	-1.77	-1.88	-2.23	-2.17	0.19	2.6303	4.20	6.42	29.87	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6.13dBi > 6dBi, so the power density limit shall be reduced to 30-(6.13-6) = 29.87dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

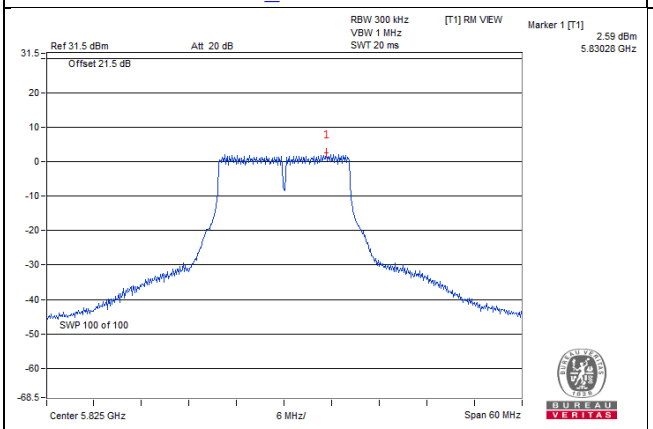
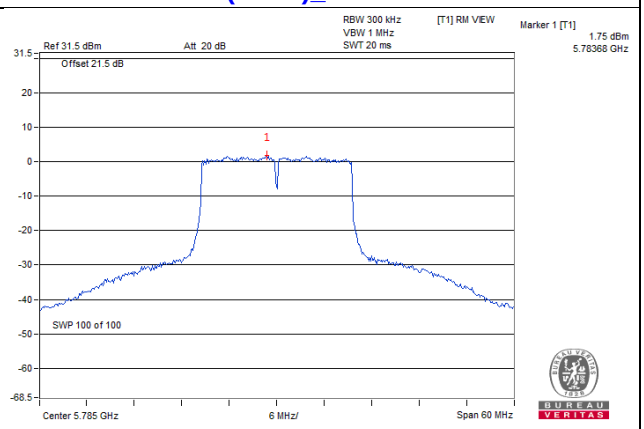
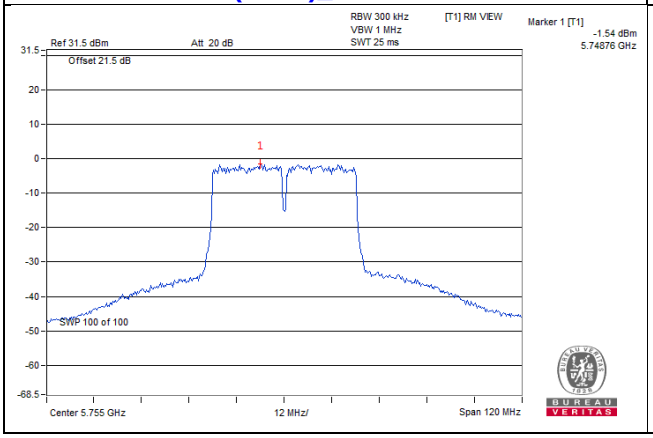
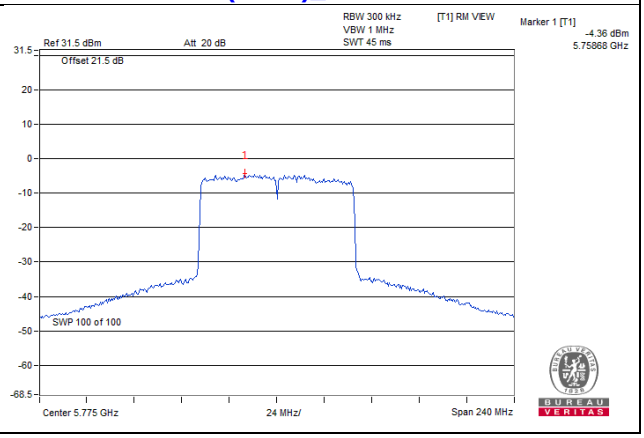
802.11ax (HE80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD With Duty Factor		Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		Chain 0	Chain 1	Chain 2	Chain 3		mW/300 kHz	dBm/300kHz			
155	5775	-4.36	-4.60	-5.41	-4.63	0.33	1.4526	1.62	3.84	29.87	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. The directional gain = 6.13dBi > 6dBi, so the power density limit shall be reduced to 30-(6.13-6) = 29.87dBm.

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

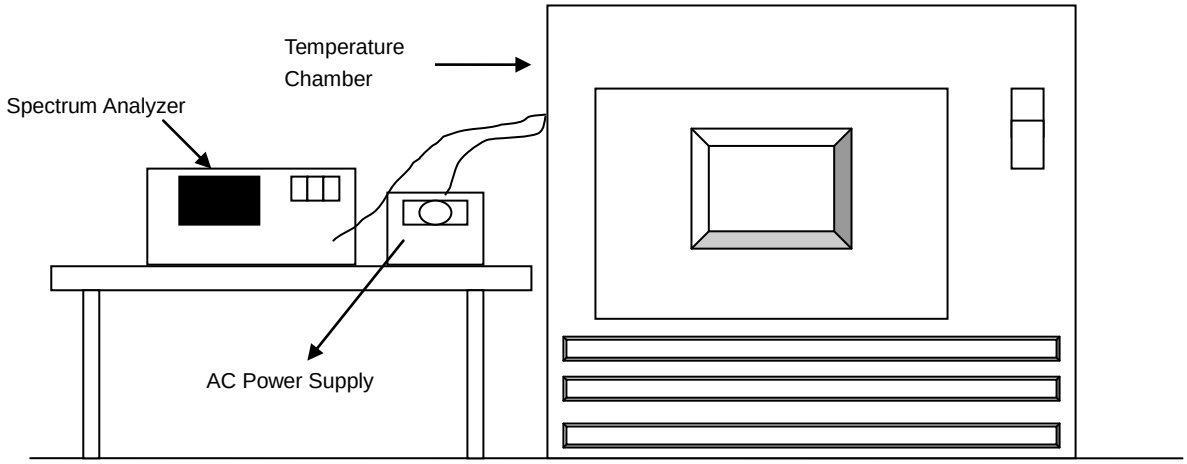
Spectrum Plot of Worst Value	
802.11a_Chain 1 / CH165	**802.11ax (HE20)_Chain 0 / CH157**
	
802.11ax (HE40)_Chain 1 / CH151	**802.11ax (HE80)_Chain 0 / CH155**
	

4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. 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.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
f. 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. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5179.9783	PASS	5179.9769	PASS	5179.9804	PASS	5179.9809	PASS
40	120	5179.9766	PASS	5179.9793	PASS	5179.9778	PASS	5179.9776	PASS
30	120	5179.9939	PASS	5179.9921	PASS	5179.9937	PASS	5179.996	PASS
20	120	5180.0137	PASS	5180.0131	PASS	5180.0122	PASS	5180.0155	PASS
10	120	5179.9884	PASS	5179.9898	PASS	5179.9876	PASS	5179.9864	PASS
0	120	5179.9897	PASS	5179.9891	PASS	5179.9895	PASS	5179.9876	PASS
-10	120	5180.0219	PASS	5180.0207	PASS	5180.0225	PASS	5180.023	PASS
-20	120	5180.0049	PASS	5180.0025	PASS	5180.0051	PASS	5180.0029	PASS
-30	120	5180.0237	PASS	5180.0236	PASS	5180.0259	PASS	5180.0221	PASS

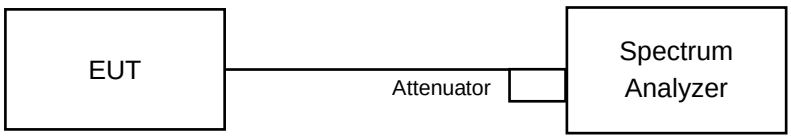
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5180.0137	PASS	5180.0131	PASS	5180.0116	PASS	5180.0159	PASS
	120	5180.0137	PASS	5180.0131	PASS	5180.0122	PASS	5180.0155	PASS
	102	5180.0145	PASS	5180.0126	PASS	5180.013	PASS	5180.0153	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

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.45	16.45	16.42	16.46	0.5	Pass
157	5785	16.46	16.47	16.46	16.46	0.5	Pass
165	5825	16.45	16.46	16.46	16.43	0.5	Pass

802.11ax (HE20)

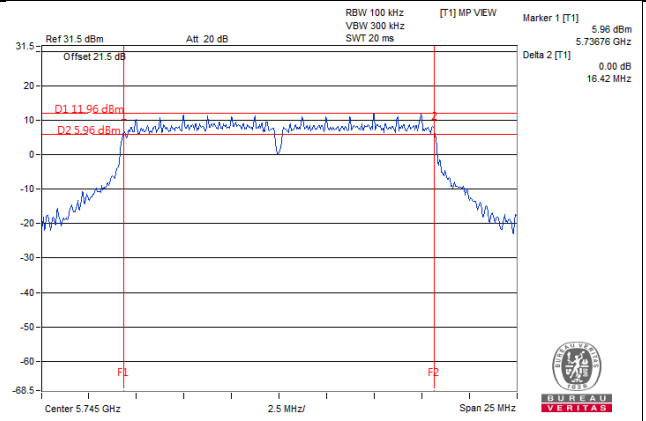
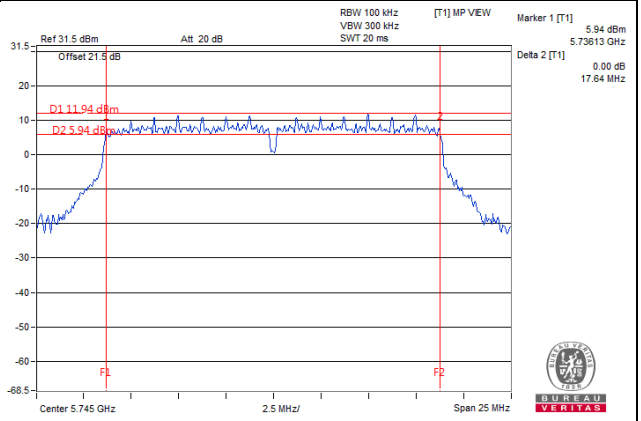
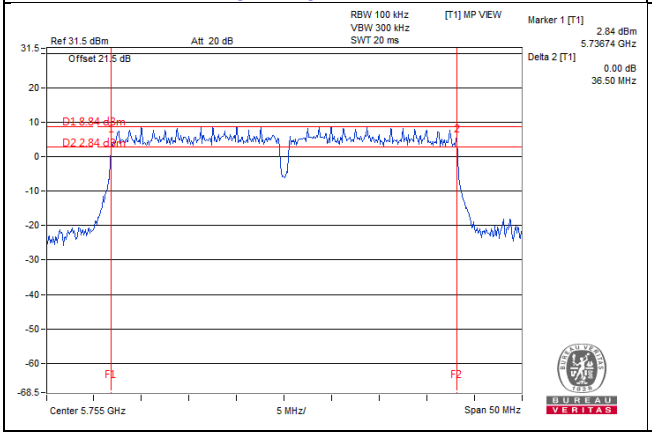
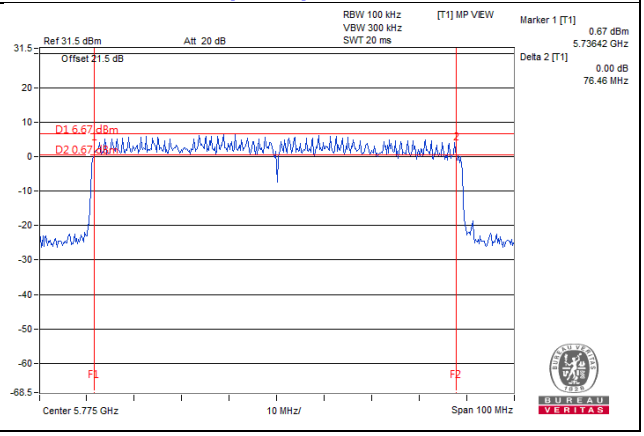
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	19.04	19.05	17.64	19.11	0.5	Pass
157	5785	19.07	19.04	19.00	19.13	0.5	Pass
165	5825	19.07	18.94	19.00	19.04	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	37.70	36.50	37.61	37.67	0.5	Pass
159	5795	37.71	37.85	37.52	37.68	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.46	76.62	77.23	76.64	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 2 / CH149	**802.11ax (HE20)_Chain 2 / CH149**
	
802.11ax (HE40)_Chain 1 / CH151	**802.11ax (HE80)_Chain 0 / CH155**
	

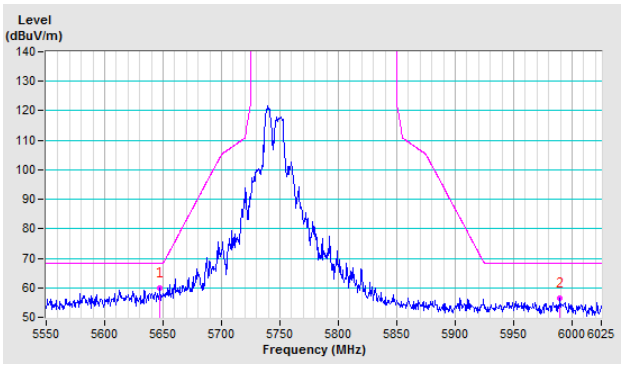
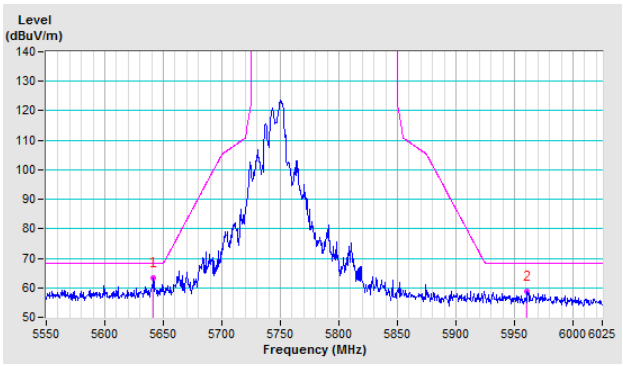
5 Pictures of Test Arrangements

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

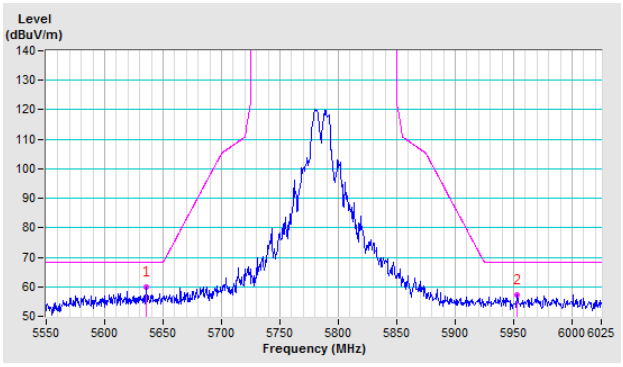
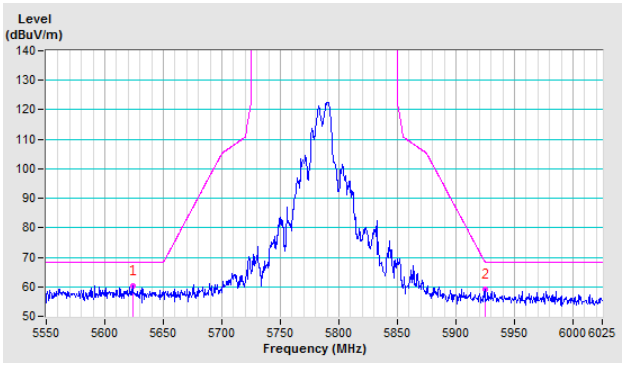
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a

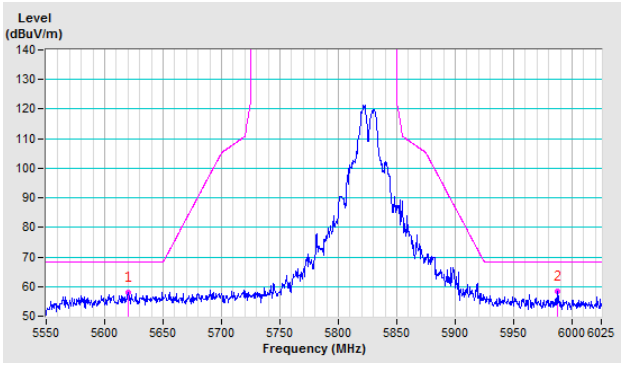
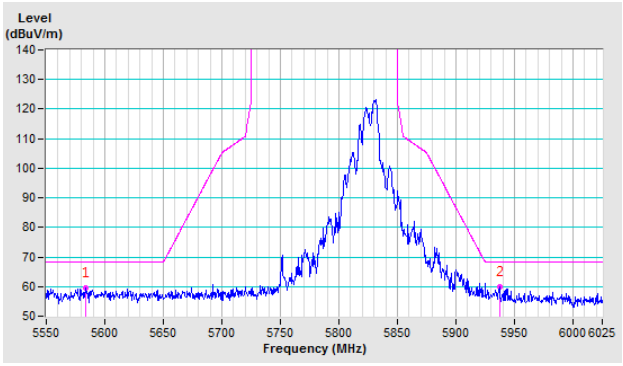
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

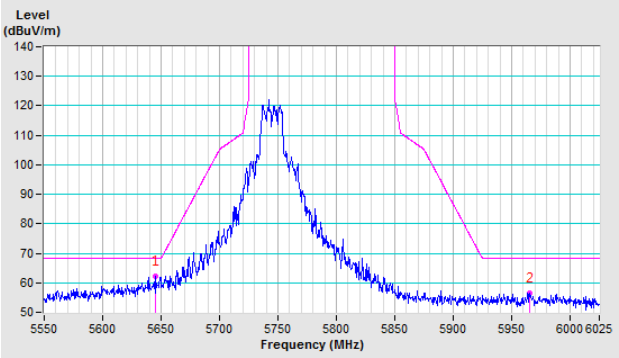
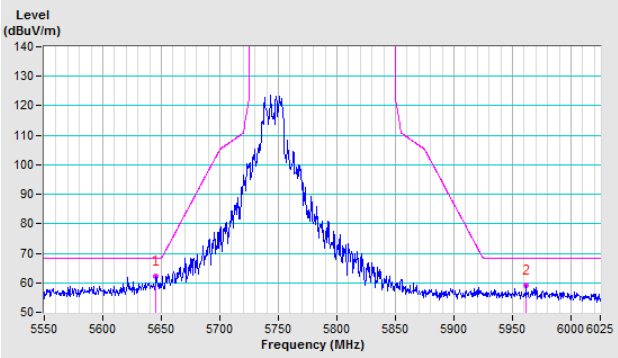
Horizontal	Vertical
	

CH 165 5825 MHz

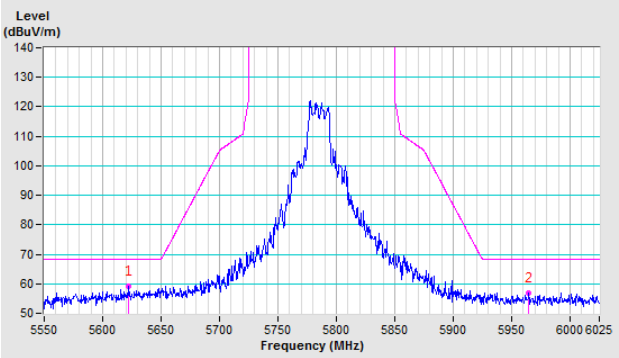
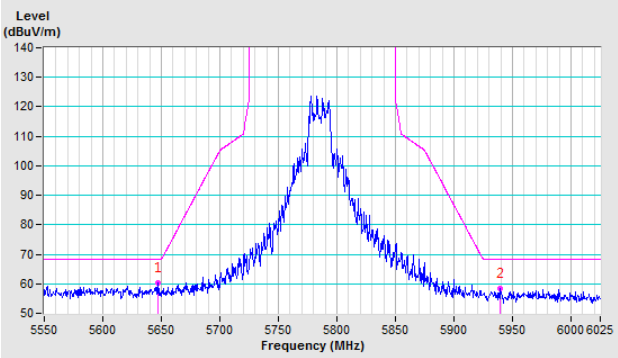
Horizontal	Vertical
	

802.11ac (VHT20)

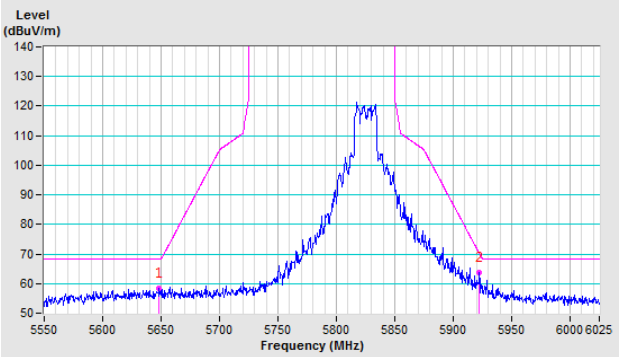
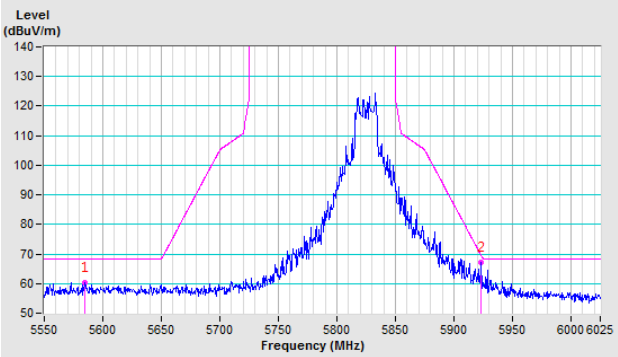
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

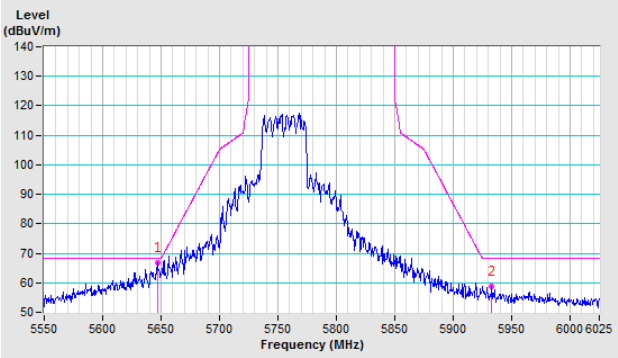
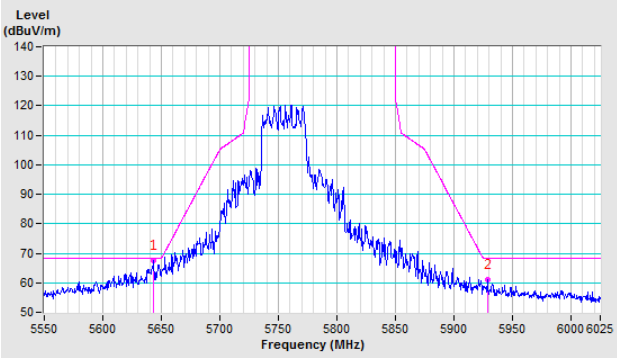
Horizontal	Vertical
	

CH 165 5825 MHz

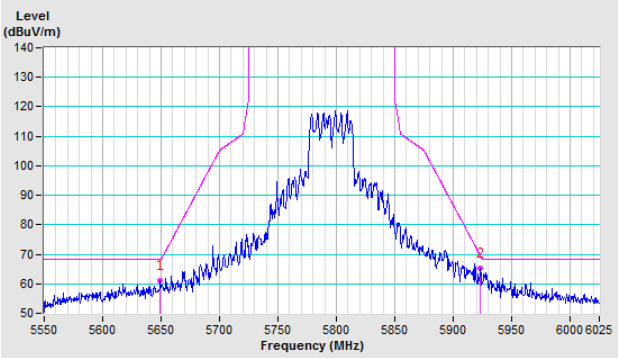
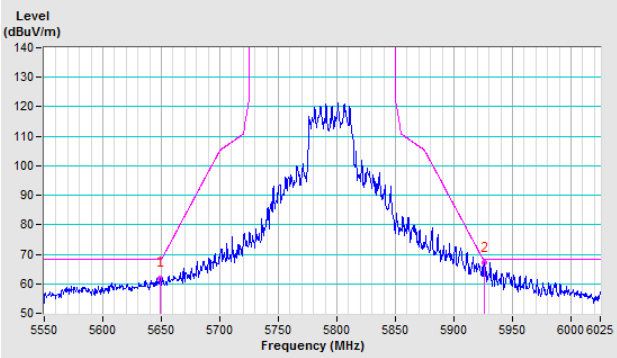
Horizontal	Vertical
	

802.11ac (VHT40)

CH 151 5755 MHz

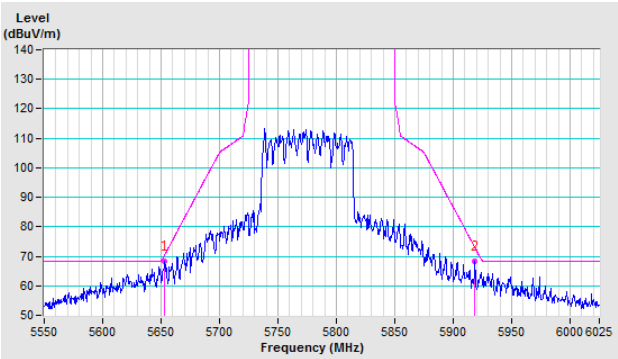
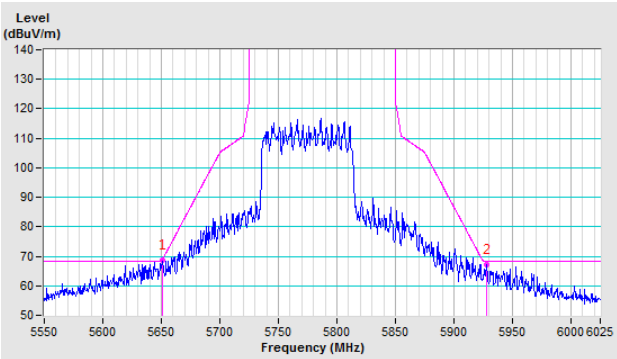
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ac (VHT80)

CH 155 5775 MHz

Horizontal	Vertical
	

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:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

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.

--- END ---