FCC Test Report

Report No.:	RF190516E01A-1
FCC ID:	PY319200447
Test Model:	CAX80
Received Date:	July 05, 2019
Test Date:	July 05 to Sep. 09, 2019
Issued Date:	Oct. 14, 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.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF190516E01A-1	Original release.	Oct. 14, 2019

1 Certificate of Conformity

Product:	Nighthawk AX8 AX6000 WiFi Cable Modem Router
Brand:	NETGEAR
Test Model:	CAX80
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	July 05 to Sep. 09, 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 : _____ , **Date:** Oct. 14, 2019

Wendy Wu / Specialist

Approved by : _____ , **Date:** Oct. 14, 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 -14.16dB 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 5352.90MHz, 5351.10MHz, 5457.00MHz, 5352.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex(MHF) not a standard connector.

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	9kHz ~ 30MHz	3.0 dB
	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 AX8 AX6000 WiFi Cable Modem 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, 5.26 ~ 5.32GHz, 5.5 ~ 5.72GHz, 5.745 ~ 5.825GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 25 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 12 802.11ac (VHT80), 802.11ax (HE80): 6 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	**Non-Beamforming Mode:** **2.4GHz:** 995.416mW **5.18 ~ 5.24GHz:** 980.958mW **5.26 ~ 5.32GHz:** 243.146mW **5.5 ~ 5.72GHz:** 249.113mW **5.745 ~ 5.825GHz:** 995.687mW **Beamforming Mode:** **2.4GHz:** 984.493mW **5.18 ~ 5.24GHz:** 980.958mW **5.26 ~ 5.32GHz:** 230.19mW **5.5 ~ 5.72GHz:** 244.509mW **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. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF190516E01-1 as the following:
   - ◆ Add DFS band <5.26 ~ 5.32GHz, 5.5 ~ 5.72GHz>
   - ◆ Add shielding and absorber on the bottom side of CPU.
   - ◆ Change product name.
2. According to above condition, for U-NII-1 & 3, only Conducted Emissions and Radiated Emissions (below 1GHz) need to be performed, for U-NII-2A & 2C, all test items need to be performed. And all data weres verified to meet the requirements.
3. 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.		

4. 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.				

5. 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

6. 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
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

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, 160MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 160MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

7. 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 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290 MHz

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
50	5250 MHz

FOR 5500 ~ 5720MHz

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
114	5570 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	
1	√	√	√	√	U-NII-2A & U-NII-2C
2	-	√	√	-	U-NII-1 & U-NII-3

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	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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
802.11ax (HE40)	5260-5320 5500-5720	54 to 62 102 to 142	62	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
802.11ax (HE40)	5260-5320 5500-5720	54 to 62 102 to 142	62	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	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		106 to 138	106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT160)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT160)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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	Andy Ho
PLC	23deg. C, 76%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 65%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

802.11ac (VHT160): Duty cycle = 0.252 ms/0.281 ms = 0.897, Duty factor = 10 * log (1/Duty cycle) = 0.47

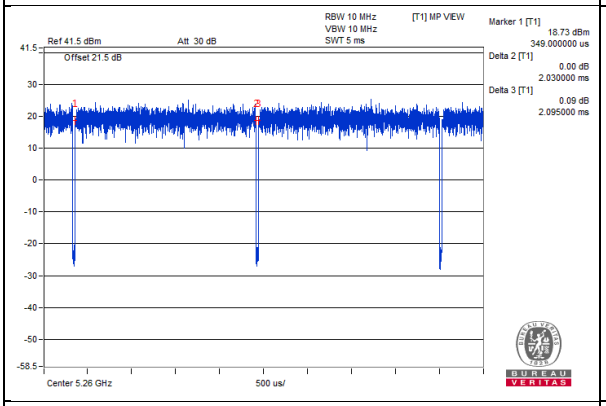
802.11ax (HE20): Duty cycle = 1.486 ms/1.52 ms = 0.978, Duty factor = 10 * log (1/Duty cycle) = 0.10

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

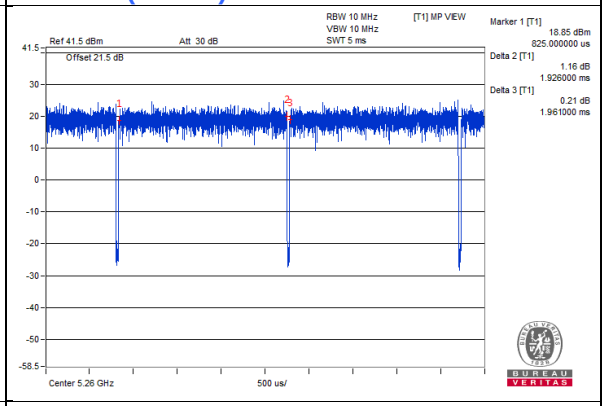
802.11ax (HE80): Duty cycle = 0.401 ms/0.433 ms = 0.926, Duty factor = 10 * log (1/Duty cycle) = 0.33

802.11ax (HE160): Duty cycle = 0.231 ms/0.264 ms = 0.875, Duty factor = 10 * log (1/Duty cycle) = 0.58

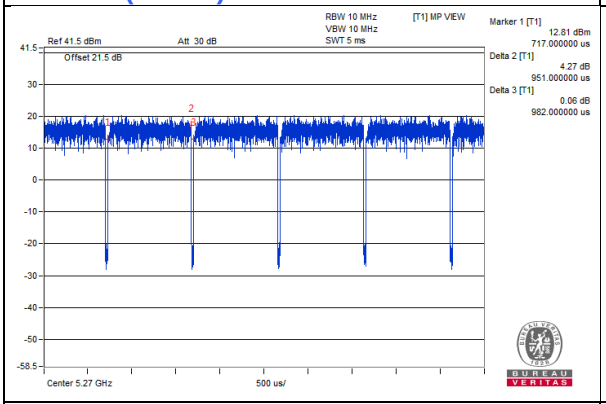
802.11a



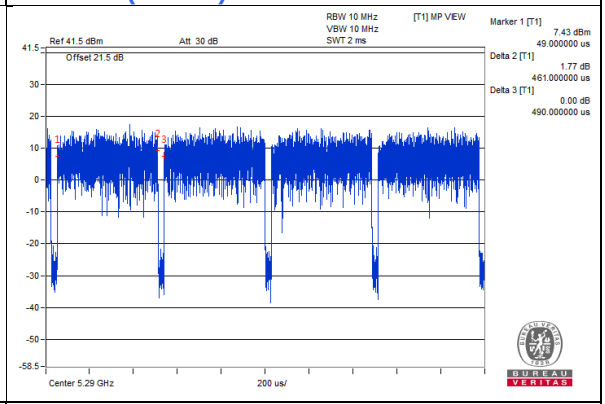
802.11ac (VHT20)



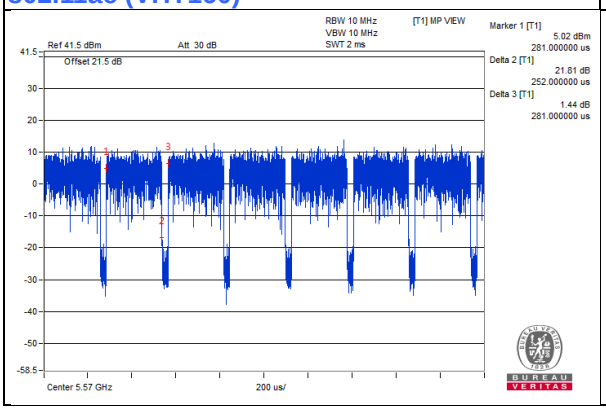
802.11ac (VHT40)



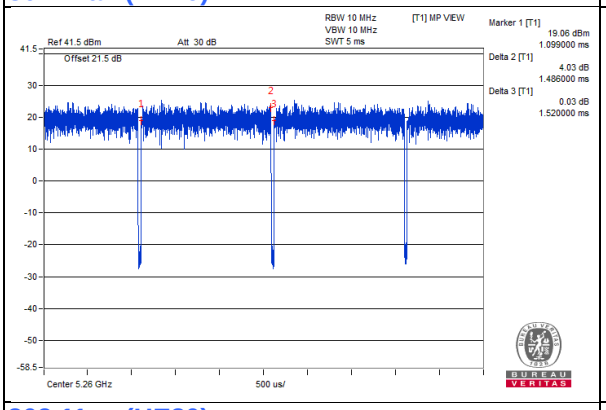
802.11ac (VHT80)



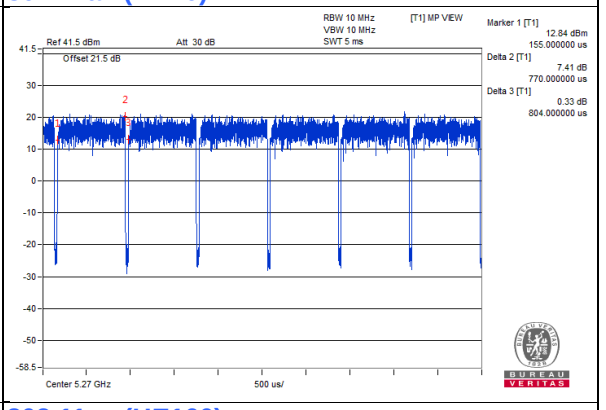
802.11ac (VHT160)



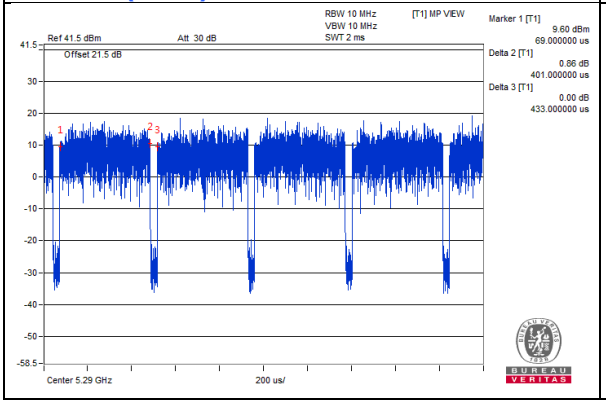
802.11ax (HE20)



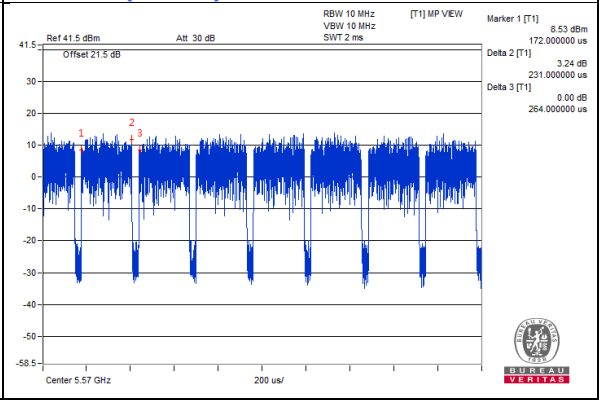
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)



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.

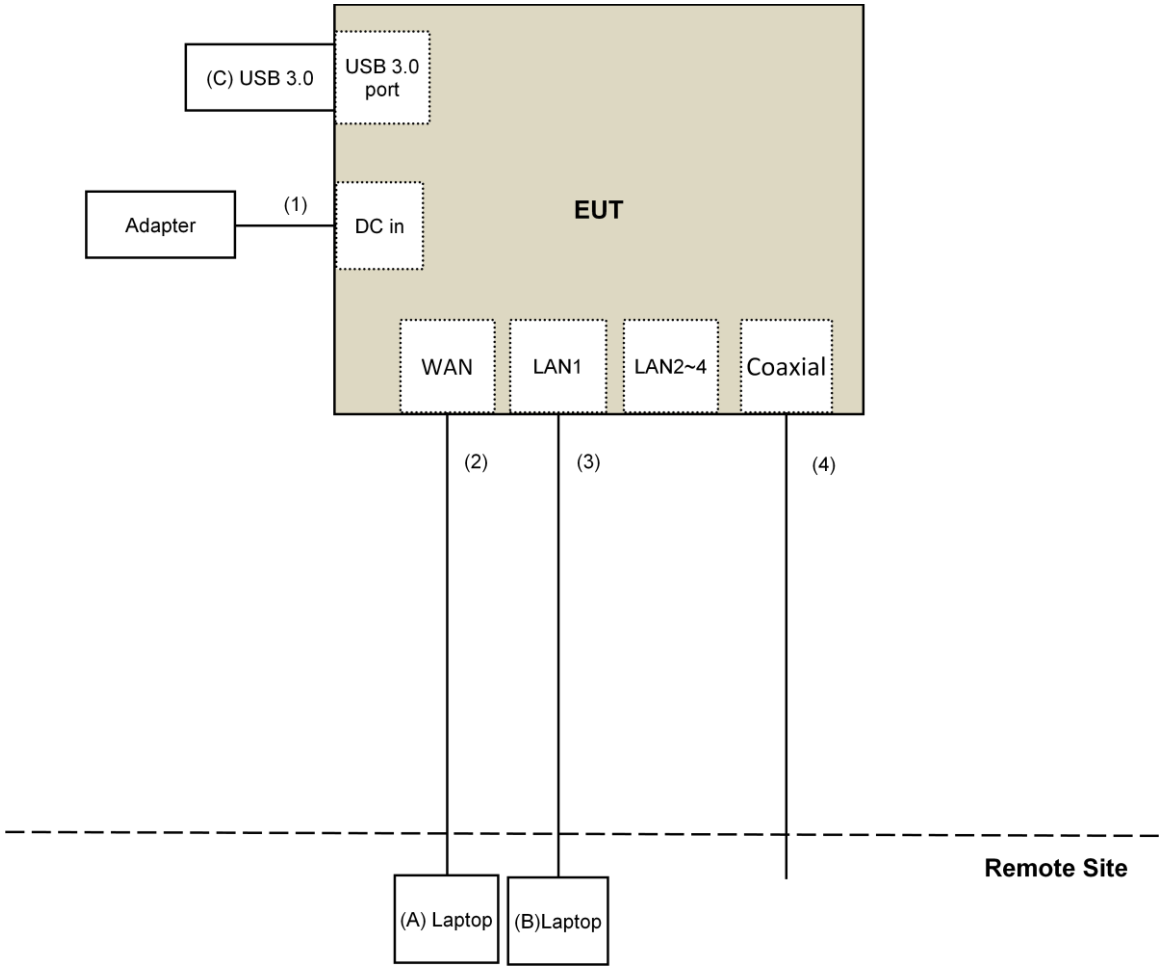
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Lenovo	81A4	YD02YN2A	PD93165NGU	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	USB Disk	SanDisk(32GB)	NA	NA	NA	Provided by Lab

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 below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 30, 2019	May 29, 2020
Loop Antenna Electro-Metrics	EM-6879	264	Jan. 22, 2019	Jan. 21, 2020
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
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. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Sep. 09, 2019

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
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
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
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

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. Loop antenna was used for all emissions below 30 MHz.
4. 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:

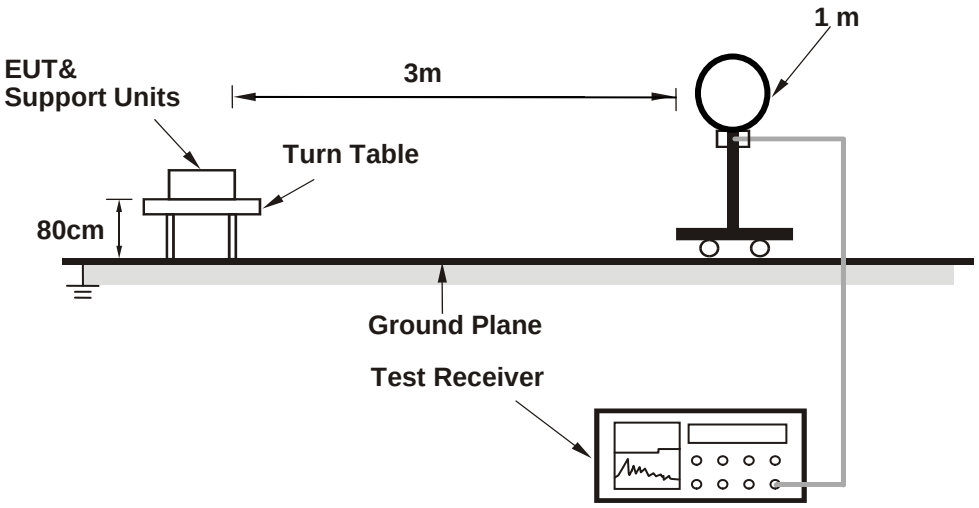
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

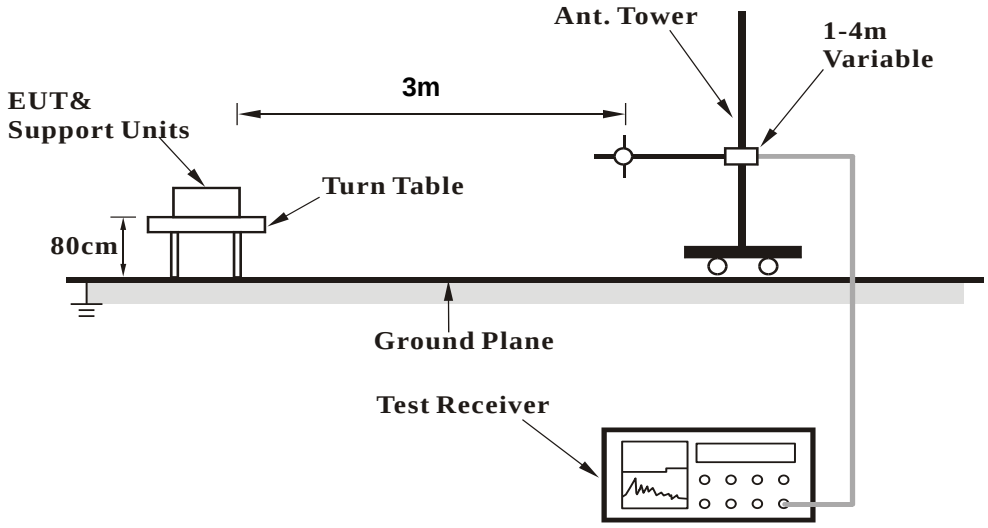
No deviation.

4.1.5 Test Setup

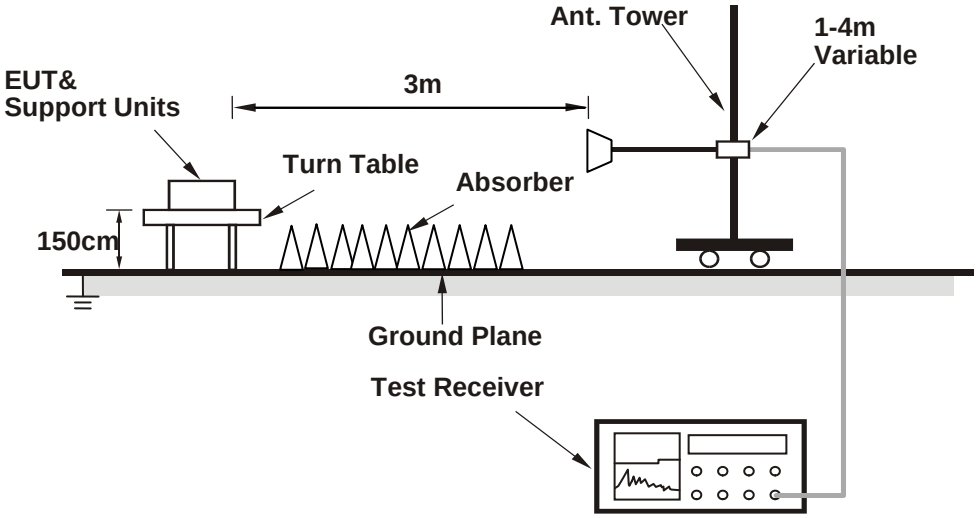
For Radiated emission below 30MHz



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 (Mode 1)

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 52	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	62.2 PK	74.0	-11.8	1.57 H	303	58.7	3.5
2	5150.00	46.9 AV	54.0	-7.1	1.57 H	303	43.4	3.5
3	*5260.00	112.4 PK			1.57 H	303	109.4	3.0
4	*5260.00	100.9 AV			1.57 H	303	97.9	3.0
5	#10520.00	44.6 PK	68.2	-23.6	1.71 H	344	30.9	13.7
6	15780.00	46.8 PK	74.0	-27.2	2.07 H	114	33.9	12.9
7	15780.00	36.0 AV	54.0	-18.0	2.07 H	114	23.1	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	5150.00	62.1 PK	74.0	-11.9	1.73 V	271	58.6	3.5
2	5150.00	46.6 AV	54.0	-7.4	1.73 V	271	43.1	3.5
3	*5260.00	114.4 PK			1.73 V	271	111.4	3.0
4	*5260.00	104.1 AV			1.73 V	271	101.1	3.0
5	#10520.00	44.8 PK	68.2	-23.4	1.85 V	120	31.1	13.7
6	15780.00	47.7 PK	74.0	-26.3	1.35 V	108	34.8	12.9
7	15780.00	36.7 AV	54.0	-17.3	1.35 V	108	23.8	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 60	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	*5300.00	112.7 PK			1.59 H	307	109.6	3.1
2	*5300.00	101.3 AV			1.59 H	307	98.2	3.1
3	10600.00	44.4 PK	74.0	-29.6	1.65 H	344	30.8	13.6
4	10600.00	33.6 AV	54.0	-20.4	1.65 H	344	20.0	13.6
5	15900.00	46.5 PK	74.0	-27.5	2.07 H	111	33.2	13.3
6	15900.00	35.9 AV	54.0	-18.1	2.07 H	111	22.6	13.3
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	*5300.00	114.0 PK			1.62 V	265	110.9	3.1
2	*5300.00	103.9 AV			1.62 V	265	100.8	3.1
3	10600.00	45.2 PK	74.0	-28.8	1.82 V	108	31.6	13.6
4	10600.00	34.1 AV	54.0	-19.9	1.82 V	108	20.5	13.6
5	15900.00	47.9 PK	74.0	-26.1	1.39 V	88	34.6	13.3
6	15900.00	37.2 AV	54.0	-16.8	1.39 V	88	23.9	13.3

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.

CHANNEL	TX Channel 64	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	*5320.00	112.1 PK			1.60 H	310	108.9	3.2
2	*5320.00	100.9 AV			1.60 H	310	97.7	3.2
3	5350.00	61.9 PK	74.0	-12.1	1.60 H	310	58.6	3.3
4	5350.00	46.6 AV	54.0	-7.4	1.60 H	310	43.3	3.3
5	10640.00	44.4 PK	74.0	-29.6	1.65 H	335	30.7	13.7
6	10640.00	33.9 AV	54.0	-20.1	1.65 H	335	20.2	13.7
7	15960.00	46.8 PK	74.0	-27.2	2.12 H	111	33.3	13.5
8	15960.00	36.1 AV	54.0	-17.9	2.12 H	111	22.6	13.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.3 PK			1.68 V	255	111.1	3.2
2	*5320.00	104.2 AV			1.68 V	255	101.0	3.2
3	5350.00	67.2 PK	74.0	-6.8	1.68 V	255	63.9	3.3
4	5350.00	50.0 AV	54.0	-4.0	1.68 V	255	46.7	3.3
5	10640.00	45.2 PK	74.0	-28.8	1.80 V	110	31.5	13.7
6	10640.00	34.3 AV	54.0	-19.7	1.80 V	110	20.6	13.7
7	15960.00	47.5 PK	74.0	-26.5	1.35 V	97	34.0	13.5
8	15960.00	36.7 AV	54.0	-17.3	1.35 V	97	23.2	13.5

REMARKS:

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

CHANNEL	TX Channel 100	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	5460.00	60.0 PK	74.0	-14.0	1.56 H	308	56.3	3.7
2	5460.00	45.2 AV	54.0	-8.8	1.56 H	308	41.5	3.7
3	#5470.00	63.0 PK	68.2	-5.2	1.56 H	308	59.3	3.7
4	*5500.00	112.6 PK			1.56 H	308	109.0	3.6
5	*5500.00	101.4 AV			1.56 H	308	97.8	3.6
6	11000.00	44.5 PK	74.0	-29.5	1.65 H	334	30.1	14.4
7	11000.00	34.2 AV	54.0	-19.8	1.65 H	334	19.8	14.4
8	#16500.00	46.9 PK	68.2	-21.3	2.11 H	113	31.3	15.6
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	5460.00	61.8 PK	74.0	-12.2	1.71 V	257	58.1	3.7
2	5460.00	46.7 AV	54.0	-7.3	1.71 V	257	43.0	3.7
3	#5470.00	65.1 PK	68.2	-3.1	1.71 V	257	61.4	3.7
4	*5500.00	114.9 PK			1.71 V	257	111.3	3.6
5	*5500.00	104.7 AV			1.71 V	257	101.1	3.6
6	11000.00	52.0 PK	74.0	-22.0	1.54 V	267	37.6	14.4
7	11000.00	41.3 AV	54.0	-12.7	1.54 V	267	26.9	14.4
8	#16500.00	53.3 PK	68.2	-14.9	1.66 V	114	37.7	15.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 116	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	*5580.00	112.6 PK			1.52 H	304	108.9	3.7
2	*5580.00	101.9 AV			1.52 H	304	98.2	3.7
3	11160.00	44.3 PK	74.0	-29.7	1.59 H	335	30.3	14.0
4	11160.00	33.6 AV	54.0	-20.4	1.59 H	335	19.6	14.0
5	#16740.00	46.9 PK	68.2	-21.3	2.16 H	111	29.8	17.1
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	*5580.00	114.9 PK			1.71 V	256	111.2	3.7
2	*5580.00	104.8 AV			1.71 V	256	101.1	3.7
3	11160.00	52.1 PK	74.0	-21.9	1.56 V	269	38.1	14.0
4	11160.00	41.3 AV	54.0	-12.7	1.56 V	269	27.3	14.0
5	#16740.00	53.0 PK	68.2	-15.2	1.70 V	116	35.9	17.1

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 140	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	*5700.00	112.7 PK			1.52 H	305	108.8	3.9
2	*5700.00	101.8 AV			1.52 H	305	97.9	3.9
3	#5725.00	64.0 PK	68.2	-4.2	1.52 H	305	60.2	3.8
4	11400.00	44.1 PK	74.0	-29.9	1.65 H	335	29.9	14.2
5	11400.00	33.5 AV	54.0	-20.5	1.65 H	335	19.3	14.2
6	#17100.00	46.8 PK	68.2	-21.4	2.09 H	113	29.9	16.9
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	*5700.00	114.4 PK			1.68 V	257	110.5	3.9
2	*5700.00	104.5 AV			1.68 V	257	100.6	3.9
3	#5725.00	66.5 PK	68.2	-1.7	1.68 V	257	62.7	3.8
4	11400.00	52.0 PK	74.0	-22.0	1.51 V	292	37.8	14.2
5	11400.00	41.0 AV	54.0	-13.0	1.51 V	292	26.8	14.2
6	#17100.00	52.7 PK	68.2	-15.5	1.67 V	99	35.8	16.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 144	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	*5720.00	112.4 PK			1.55 H	294	108.5	3.9
2	*5720.00	101.5 AV			1.55 H	294	97.6	3.9
3	#5850.00	50.9 PK	68.2	-17.3	1.55 H	294	46.6	4.3
4	11440.00	44.2 PK	74.0	-29.8	1.68 H	321	30.0	14.2
5	11440.00	33.9 AV	54.0	-20.1	1.68 H	321	19.7	14.2
6	#17160.00	46.8 PK	68.2	-21.4	2.17 H	125	29.6	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	*5720.00	114.9 PK			1.67 V	251	111.0	3.9
2	*5720.00	104.6 AV			1.67 V	251	100.7	3.9
3	#5850.00	51.2 PK	68.2	-17.0	1.67 V	251	46.9	4.3
4	11440.00	52.5 PK	74.0	-21.5	1.57 V	276	38.3	14.2
5	11440.00	41.4 AV	54.0	-12.6	1.57 V	276	27.2	14.2
6	#17160.00	52.6 PK	68.2	-15.6	1.73 V	117	35.4	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.

802.11ax (HE20)

CHANNEL	TX Channel 52	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	62.4 PK	74.0	-11.6	1.57 H	316	58.9	3.5
2	5150.00	47.0 AV	54.0	-7.0	1.57 H	316	43.5	3.5
3	*5260.00	113.1 PK			1.57 H	316	110.1	3.0
4	*5260.00	101.4 AV			1.57 H	316	98.4	3.0
5	#10520.00	45.3 PK	68.2	-22.9	1.66 H	358	31.6	13.7
6	15780.00	46.9 PK	74.0	-27.1	2.08 H	100	34.0	12.9
7	15780.00	36.0 AV	54.0	-18.0	2.08 H	100	23.1	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	5150.00	62.1 PK	74.0	-11.9	1.68 V	269	58.6	3.5
2	5150.00	46.9 AV	54.0	-7.1	1.68 V	269	43.4	3.5
3	*5260.00	113.9 PK			1.68 V	269	110.9	3.0
4	*5260.00	103.8 AV			1.68 V	269	100.8	3.0
5	#10520.00	45.0 PK	68.2	-23.2	1.82 V	129	31.3	13.7
6	15780.00	47.3 PK	74.0	-26.7	1.41 V	113	34.4	12.9
7	15780.00	36.4 AV	54.0	-17.6	1.41 V	113	23.5	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 60	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	*5300.00	113.2 PK			1.55 H	305	110.1	3.1
2	*5300.00	101.6 AV			1.55 H	305	98.5	3.1
3	10600.00	43.7 PK	74.0	-30.3	1.64 H	329	30.1	13.6
4	10600.00	33.2 AV	54.0	-20.8	1.64 H	329	19.6	13.6
5	15900.00	46.9 PK	74.0	-27.1	2.12 H	108	33.6	13.3
6	15900.00	36.2 AV	54.0	-17.8	2.12 H	108	22.9	13.3
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	*5300.00	114.1 PK			1.59 V	270	111.0	3.1
2	*5300.00	104.1 AV			1.59 V	270	101.0	3.1
3	10600.00	45.3 PK	74.0	-28.7	1.82 V	117	31.7	13.6
4	10600.00	34.0 AV	54.0	-20.0	1.82 V	117	20.4	13.6
5	15900.00	48.4 PK	74.0	-25.6	1.44 V	89	35.1	13.3
6	15900.00	37.4 AV	54.0	-16.6	1.44 V	89	24.1	13.3

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.

CHANNEL	TX Channel 64	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	*5320.00	113.4 PK			1.54 H	316	110.2	3.2
2	*5320.00	102.1 AV			1.54 H	316	98.9	3.2
3	5350.00	62.0 PK	74.0	-12.0	1.54 H	316	58.7	3.3
4	5350.00	46.7 AV	54.0	-7.3	1.54 H	316	43.4	3.3
5	10640.00	43.9 PK	74.0	-30.1	1.60 H	338	30.2	13.7
6	10640.00	33.5 AV	54.0	-20.5	1.60 H	338	19.8	13.7
7	15960.00	46.6 PK	74.0	-27.4	2.14 H	97	33.1	13.5
8	15960.00	36.1 AV	54.0	-17.9	2.14 H	97	22.6	13.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.6 PK			1.68 V	280	111.4	3.2
2	*5320.00	104.5 AV			1.68 V	280	101.3	3.2
3	5350.00	66.8 PK	74.0	-7.2	1.68 V	280	63.5	3.3
4	5350.00	52.3 AV	54.0	-1.7	1.68 V	280	49.0	3.3
5	10640.00	45.2 PK	74.0	-28.8	1.82 V	103	31.5	13.7
6	10640.00	34.0 AV	54.0	-20.0	1.82 V	103	20.3	13.7
7	15960.00	48.7 PK	74.0	-25.3	1.45 V	103	35.2	13.5
8	15960.00	37.6 AV	54.0	-16.4	1.45 V	103	24.1	13.5

REMARKS:

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

CHANNEL	TX Channel 100	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	5460.00	59.9 PK	74.0	-14.1	1.60 H	322	56.2	3.7
2	5460.00	45.7 AV	54.0	-8.3	1.60 H	322	42.0	3.7
3	#5470.00	61.9 PK	68.2	-6.3	1.60 H	322	58.2	3.7
4	*5500.00	113.5 PK			1.60 H	322	109.9	3.6
5	*5500.00	102.2 AV			1.60 H	322	98.6	3.6
6	11000.00	44.3 PK	74.0	-29.7	1.62 H	326	29.9	14.4
7	11000.00	33.8 AV	54.0	-20.2	1.62 H	326	19.4	14.4
8	#16500.00	46.9 PK	68.2	-21.3	2.16 H	114	31.3	15.6
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	5460.00	64.2 PK	74.0	-9.8	1.59 V	258	60.5	3.7
2	5460.00	47.6 AV	54.0	-6.4	1.59 V	258	43.9	3.7
3	#5470.00	66.1 PK	68.2	-2.1	1.59 V	258	62.4	3.7
4	*5500.00	116.3 PK			1.59 V	258	112.7	3.6
5	*5500.00	105.6 AV			1.59 V	258	102.0	3.6
6	11000.00	45.3 PK	74.0	-28.7	1.85 V	108	30.9	14.4
7	11000.00	33.9 AV	54.0	-20.1	1.85 V	108	19.5	14.4
8	#16500.00	48.5 PK	68.2	-19.7	1.49 V	101	32.9	15.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 116	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	*5580.00	113.6 PK			1.57 H	307	109.9	3.7
2	*5580.00	102.1 AV			1.57 H	307	98.4	3.7
3	11160.00	44.2 PK	74.0	-29.8	1.59 H	327	30.2	14.0
4	11160.00	33.9 AV	54.0	-20.1	1.59 H	327	19.9	14.0
5	#16740.00	47.0 PK	68.2	-21.2	2.18 H	104	29.9	17.1
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	*5580.00	115.6 PK			1.54 V	279	111.9	3.7
2	*5580.00	105.1 AV			1.54 V	279	101.4	3.7
3	11160.00	44.8 PK	74.0	-29.2	1.81 V	121	30.8	14.0
4	11160.00	33.7 AV	54.0	-20.3	1.81 V	121	19.7	14.0
5	#16740.00	48.6 PK	68.2	-19.6	1.39 V	93	31.5	17.1

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 140	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	*5700.00	113.3 PK			1.53 H	292	109.4	3.9
2	*5700.00	101.9 AV			1.53 H	292	98.0	3.9
3	#5725.00	64.3 PK	68.2	-3.9	1.53 H	292	60.5	3.8
4	11400.00	44.1 PK	74.0	-29.9	1.66 H	327	29.9	14.2
5	11400.00	33.6 AV	54.0	-20.4	1.66 H	327	19.4	14.2
6	#17100.00	46.7 PK	68.2	-21.5	2.10 H	125	29.8	16.9
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	*5700.00	116.5 PK			1.69 V	258	112.6	3.9
2	*5700.00	105.0 AV			1.69 V	258	101.1	3.9
3	#5725.00	68.0 PK	68.2	-0.2	1.69 V	258	64.2	3.8
4	11400.00	45.1 PK	74.0	-28.9	1.84 V	135	30.9	14.2
5	11400.00	34.1 AV	54.0	-19.9	1.84 V	135	19.9	14.2
6	#17100.00	48.0 PK	68.2	-20.2	1.44 V	81	31.1	16.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 144	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	*5720.00	112.6 PK			1.52 H	288	108.7	3.9
2	*5720.00	101.9 AV			1.52 H	288	98.0	3.9
3	#5850.00	50.3 PK	68.2	-17.9	1.52 H	288	46.0	4.3
4	11440.00	44.1 PK	74.0	-29.9	1.63 H	332	29.9	14.2
5	11440.00	33.7 AV	54.0	-20.3	1.63 H	332	19.5	14.2
6	#17160.00	46.8 PK	68.2	-21.4	2.21 H	123	29.6	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	*5720.00	114.7 PK			1.67 V	250	110.8	3.9
2	*5720.00	104.2 AV			1.67 V	250	100.3	3.9
3	#5850.00	51.1 PK	68.2	-17.1	1.67 V	250	46.8	4.3
4	11440.00	52.3 PK	74.0	-21.7	1.60 V	267	38.1	14.2
5	11440.00	41.0 AV	54.0	-13.0	1.60 V	267	26.8	14.2
6	#17160.00	52.1 PK	68.2	-16.1	1.75 V	114	34.9	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.

802.11ax (HE40)

CHANNEL	TX Channel 54	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	58.3 PK	74.0	-15.7	1.55 H	341	54.8	3.5
2	5150.00	44.3 AV	54.0	-9.7	1.55 H	341	40.8	3.5
3	*5270.00	108.2 PK			1.55 H	341	105.2	3.0
4	*5270.00	97.6 AV			1.55 H	341	94.6	3.0
5	#10540.00	43.8 PK	68.2	-24.4	1.64 H	351	30.1	13.7
6	15810.00	46.9 PK	74.0	-27.1	2.17 H	103	33.8	13.1
7	15810.00	35.9 AV	54.0	-18.1	2.17 H	103	22.8	13.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.4 PK	74.0	-12.6	1.67 V	245	57.9	3.5
2	5150.00	48.9 AV	54.0	-5.1	1.67 V	245	45.4	3.5
3	*5270.00	110.2 PK			1.67 V	245	107.2	3.0
4	*5270.00	100.1 AV			1.67 V	245	97.1	3.0
5	#10540.00	45.0 PK	68.2	-23.2	1.85 V	131	31.3	13.7
6	15810.00	46.6 PK	74.0	-27.4	1.40 V	122	33.5	13.1
7	15810.00	35.8 AV	54.0	-18.2	1.40 V	122	22.7	13.1

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.6 PK			1.59 H	333	105.4	3.2
2	*5310.00	97.9 AV			1.59 H	333	94.7	3.2
3	5350.00	62.8 PK	74.0	-11.2	1.59 H	333	59.5	3.3
4	5350.00	49.2 AV	54.0	-4.8	1.59 H	333	45.9	3.3
5	5352.90	64.2 PK	74.0	-9.8	1.59 H	333	60.9	3.3
6	5352.90	50.5 AV	54.0	-3.5	1.59 H	333	47.2	3.3
7	10620.00	43.9 PK	74.0	-30.1	1.73 H	360	30.3	13.6
8	10620.00	33.5 AV	54.0	-20.5	1.73 H	360	19.9	13.6
9	15930.00	47.3 PK	74.0	-26.7	2.12 H	97	34.0	13.3
10	15930.00	36.3 AV	54.0	-17.7	2.12 H	97	23.0	13.3
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	*5310.00	110.5 PK			1.67 V	258	107.3	3.2
2	*5310.00	100.4 AV			1.67 V	258	97.2	3.2
3	5350.00	65.2 PK	74.0	-8.8	1.67 V	258	61.9	3.3
4	5350.00	51.1 AV	54.0	-2.9	1.67 V	258	47.8	3.3
5	5352.90	67.7 PK	74.0	-6.3	1.67 V	258	64.4	3.3
6	**5352.90**	**53.9 AV**	**54.0**	**-0.1**	**1.67 V**	**258**	**50.6**	**3.3**
7	10620.00	44.5 PK	74.0	-29.5	1.89 V	121	30.9	13.6
8	10620.00	33.6 AV	54.0	-20.4	1.89 V	121	20.0	13.6
9	15930.00	46.4 PK	74.0	-27.6	1.39 V	117	33.1	13.3
10	15930.00	35.4 AV	54.0	-18.6	1.39 V	117	22.1	13.3

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.

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5457.70	61.4 PK	74.0	-12.6	1.54 H	338	57.7	3.7
2	5457.70	49.3 AV	54.0	-4.7	1.54 H	338	45.6	3.7
3	#5470.00	64.2 PK	68.2	-4.0	1.54 H	338	60.5	3.7
4	*5510.00	110.1 PK			1.54 H	338	106.5	3.6
5	*5510.00	99.5 AV			1.54 H	338	95.9	3.6
6	11020.00	43.6 PK	74.0	-30.4	1.63 H	360	29.3	14.3
7	11020.00	33.1 AV	54.0	-20.9	1.63 H	360	18.8	14.3
8	#16530.00	46.5 PK	68.2	-21.7	2.15 H	106	30.8	15.7
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	5457.70	64.5 PK	74.0	-9.5	1.74 V	259	60.8	3.7
2	5457.70	52.1 AV	54.0	-1.9	1.74 V	259	48.4	3.7
3	#5470.00	67.8 PK	68.2	-0.4	1.74 V	259	64.1	3.7
4	*5510.00	112.8 PK			1.74 V	259	109.2	3.6
5	*5510.00	102.2 AV			1.74 V	259	98.6	3.6
6	11020.00	44.9 PK	74.0	-29.1	1.79 V	143	30.6	14.3
7	11020.00	33.8 AV	54.0	-20.2	1.79 V	143	19.5	14.3
8	#16530.00	46.2 PK	68.2	-22.0	1.46 V	112	30.5	15.7

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 110	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	*5550.00	110.1 PK			1.51 H	332	106.4	3.7
2	*5550.00	99.4 AV			1.51 H	332	95.7	3.7
3	11100.00	43.8 PK	74.0	-30.2	1.63 H	359	29.6	14.2
4	11100.00	32.9 AV	54.0	-21.1	1.63 H	359	18.7	14.2
5	#16650.00	46.4 PK	68.2	-21.8	2.09 H	125	29.9	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	112.5 PK			1.68 V	250	108.8	3.7
2	*5550.00	102.1 AV			1.68 V	250	98.4	3.7
3	11100.00	44.8 PK	74.0	-29.2	1.75 V	150	30.6	14.2
4	11100.00	33.4 AV	54.0	-20.6	1.75 V	150	19.2	14.2
5	#16650.00	45.7 PK	68.2	-22.5	1.51 V	113	29.2	16.5

REMARKS:

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

CHANNEL	TX Channel 134	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	*5670.00	109.7 PK			1.52 H	359	106.0	3.7
2	*5670.00	99.3 AV			1.52 H	359	95.6	3.7
3	#5725.00	63.5 PK	68.2	-4.7	1.52 H	359	59.7	3.8
4	11340.00	43.4 PK	74.0	-30.6	1.71 H	355	29.3	14.1
5	11340.00	32.8 AV	54.0	-21.2	1.71 H	355	18.7	14.1
6	#17010.00	47.1 PK	68.2	-21.1	2.11 H	107	30.0	17.1
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	*5670.00	113.1 PK			1.74 V	262	109.4	3.7
2	*5670.00	102.2 AV			1.74 V	262	98.5	3.7
3	#5725.00	66.2 PK	68.2	-2.0	1.74 V	262	62.4	3.8
4	11340.00	45.0 PK	74.0	-29.0	1.80 V	130	30.9	14.1
5	11340.00	33.7 AV	54.0	-20.3	1.80 V	130	19.6	14.1
6	#17010.00	46.5 PK	68.2	-21.7	1.49 V	122	29.4	17.1

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 142	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	*5710.00	109.2 PK			1.53 H	335	105.3	3.9
2	*5710.00	99.0 AV			1.53 H	335	95.1	3.9
3	#5850.00	50.2 PK	68.2	-18.0	1.53 H	335	45.9	4.3
4	11420.00	43.7 PK	74.0	-30.3	1.73 H	360	29.6	14.1
5	11420.00	32.9 AV	54.0	-21.1	1.73 H	360	18.8	14.1
6	#17130.00	47.2 PK	68.2	-21.0	2.07 H	99	30.1	17.1
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	*5710.00	112.9 PK			1.73 V	268	109.0	3.9
2	*5710.00	102.4 AV			1.73 V	268	98.5	3.9
3	#5850.00	51.5 PK	68.2	-16.7	1.73 V	268	47.2	4.3
4	11420.00	45.0 PK	74.0	-29.0	1.85 V	117	30.9	14.1
5	11420.00	33.7 AV	54.0	-20.3	1.85 V	117	19.6	14.1
6	#17130.00	46.7 PK	68.2	-21.5	1.43 V	123	29.6	17.1

REMARKS:

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

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CHANNEL	TX Channel 58	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	56.2 PK	74.0	-17.8	1.53 H	330	52.7	3.5
2	5150.00	46.8 AV	54.0	-7.2	1.53 H	330	43.3	3.5
3	*5290.00	108.2 PK			1.53 H	330	105.1	3.1
4	*5290.00	98.0 AV			1.53 H	330	94.9	3.1
5	5350.00	63.2 PK	74.0	-10.8	1.53 H	330	59.9	3.3
6	5350.00	49.8 AV	54.0	-4.2	1.53 H	330	46.5	3.3
7	5351.10	65.8 PK	74.0	-8.2	1.53 H	330	62.5	3.3
8	5351.10	52.1 AV	54.0	-1.9	1.53 H	330	48.8	3.3
9	#10580.00	43.7 PK	68.2	-24.5	1.70 H	360	30.1	13.6
10	15870.00	46.5 PK	74.0	-27.5	2.09 H	119	33.3	13.2
11	15870.00	35.5 AV	54.0	-18.5	2.09 H	119	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	5150.00	58.2 PK	74.0	-15.8	1.68 V	282	54.7	3.5
2	5150.00	48.1 AV	54.0	-5.9	1.68 V	282	44.6	3.5
3	*5290.00	111.7 PK			1.68 V	282	108.6	3.1
4	*5290.00	101.0 AV			1.68 V	282	97.9	3.1
5	5350.00	65.0 PK	74.0	-9.0	1.68 V	282	61.7	3.3
6	5350.00	51.1 AV	54.0	-2.9	1.68 V	282	47.8	3.3
7	5351.10	67.2 PK	74.0	-6.8	1.68 V	282	63.9	3.3
8	**5351.10**	**53.9 AV**	**54.0**	**-0.1**	**1.68 V**	**282**	**50.6**	**3.3**
9	#10580.00	44.7 PK	68.2	-23.5	1.76 V	148	31.1	13.6
10	15870.00	46.9 PK	74.0	-27.1	1.44 V	112	33.7	13.2
11	15870.00	36.0 AV	54.0	-18.0	1.44 V	112	22.8	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 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5457.00	63.8 PK	74.0	-10.2	1.58 H	359	60.1	3.7
2	5457.00	51.6 AV	54.0	-2.4	1.58 H	359	47.9	3.7
3	#5470.00	64.1 PK	68.2	-4.1	1.58 H	359	60.4	3.7
4	*5530.00	107.9 PK			1.58 H	359	104.2	3.7
5	*5530.00	97.8 AV			1.58 H	359	94.1	3.7
6	11060.00	44.0 PK	74.0	-30.0	1.63 H	359	29.7	14.3
7	11060.00	33.5 AV	54.0	-20.5	1.63 H	359	19.2	14.3
8	#16590.00	47.2 PK	68.2	-21.0	2.16 H	127	31.3	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5457.00	65.2 PK	74.0	-8.8	1.62 V	258	61.5	3.7
2	**5457.00**	**53.9 AV**	**54.0**	**-0.1**	**1.62 V**	**258**	**50.2**	**3.7**
3	#5470.00	66.7 PK	68.2	-1.5	1.62 V	258	63.0	3.7
4	*5530.00	112.2 PK			1.62 V	258	108.5	3.7
5	*5530.00	102.0 AV			1.62 V	258	98.3	3.7
6	11060.00	43.9 PK	74.0	-30.1	1.69 V	125	29.6	14.3
7	11060.00	33.2 AV	54.0	-20.8	1.69 V	125	18.9	14.3
8	#16590.00	47.1 PK	68.2	-21.1	1.38 V	97	31.2	15.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 122	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	*5610.00	108.2 PK			1.59 H	332	104.5	3.7
2	*5610.00	98.2 AV			1.59 H	332	94.5	3.7
3	#5725.00	65.1 PK	68.2	-3.1	1.59 H	332	61.3	3.8
4	11220.00	43.9 PK	74.0	-30.1	1.69 H	355	30.1	13.8
5	11220.00	33.3 AV	54.0	-20.7	1.69 H	355	19.5	13.8
6	#16830.00	47.0 PK	68.2	-21.2	2.17 H	103	29.7	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	*5610.00	110.3 PK			1.72 V	256	106.6	3.7
2	*5610.00	100.1 AV			1.72 V	256	96.4	3.7
3	#5725.00	67.8 PK	68.2	-0.4	1.72 V	256	64.0	3.8
4	11220.00	44.1 PK	74.0	-29.9	1.69 V	131	30.3	13.8
5	11220.00	33.1 AV	54.0	-20.9	1.69 V	131	19.3	13.8
6	#16830.00	46.8 PK	68.2	-21.4	1.46 V	105	29.5	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 138	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	*5690.00	107.8 PK			1.61 H	337	103.9	3.9
2	*5690.00	98.1 AV			1.61 H	337	94.2	3.9
3	#5850.00	50.8 PK	68.2	-17.4	1.61 H	337	46.5	4.3
4	11380.00	43.5 PK	74.0	-30.5	1.72 H	351	29.3	14.2
5	11380.00	33.0 AV	54.0	-21.0	1.72 H	351	18.8	14.2
6	#17070.00	46.3 PK	68.2	-21.9	2.16 H	123	29.2	17.1
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	*5690.00	110.2 PK			1.72 V	254	106.3	3.9
2	*5690.00	99.9 AV			1.72 V	254	96.0	3.9
3	#5850.00	51.6 PK	68.2	-16.6	1.72 V	254	47.3	4.3
4	11380.00	44.0 PK	74.0	-30.0	1.80 V	143	29.8	14.2
5	11380.00	33.5 AV	54.0	-20.5	1.80 V	143	19.3	14.2
6	#17070.00	47.5 PK	68.2	-20.7	1.43 V	119	30.4	17.1

REMARKS:

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

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CHANNEL	TX Channel 50	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	5136.00	64.0 PK	74.0	-10.0	1.49 H	332	60.5	3.5
2	5136.00	50.2 AV	54.0	-3.8	1.49 H	332	46.7	3.5
3	5150.00	62.2 PK	74.0	-11.8	1.49 H	332	58.7	3.5
4	5150.00	48.6 AV	54.0	-5.4	1.49 H	332	45.1	3.5
5	*5250.00	108.8 PK			1.49 H	332	105.9	2.9
6	*5250.00	97.4 AV			1.49 H	332	94.5	2.9
7	5350.00	62.5 PK	74.0	-11.5	1.49 H	332	59.2	3.3
8	5350.00	49.4 AV	54.0	-4.6	1.49 H	332	46.1	3.3
9	5352.00	64.5 PK	74.0	-9.5	1.49 H	332	61.2	3.3
10	5352.00	51.8 AV	54.0	-2.2	1.49 H	332	48.5	3.3
11	#10500.00	43.2 PK	68.2	-25.0	1.63 H	360	29.5	13.7
12	15750.00	46.7 PK	74.0	-27.3	2.09 H	109	33.8	12.9
13	15750.00	35.9 AV	54.0	-18.1	2.09 H	109	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	5136.00	66.3 PK	74.0	-7.7	1.66 V	256	62.8	3.5
2	5136.00	52.4 AV	54.0	-1.6	1.66 V	256	48.9	3.5
3	5150.00	64.2 PK	74.0	-9.8	1.66 V	256	60.7	3.5
4	5150.00	50.2 AV	54.0	-3.8	1.66 V	256	46.7	3.5
5	*5250.00	110.7 PK			1.66 V	256	107.8	2.9
6	*5250.00	99.2 AV			1.66 V	256	96.3	2.9
7	5350.00	64.8 PK	74.0	-9.2	1.66 V	256	61.5	3.3
8	5350.00	51.6 AV	54.0	-2.4	1.66 V	256	48.3	3.3
9	5352.00	66.8 PK	74.0	-7.2	1.66 V	256	63.5	3.3
10	**5352.00**	**53.9 AV**	**54.0**	**-0.1**	**1.66 V**	**256**	**50.6**	**3.3**
11	#10500.00	44.2 PK	68.2	-24.0	1.70 V	145	30.5	13.7
12	15750.00	47.4 PK	74.0	-26.6	1.36 V	89	34.5	12.9
13	15750.00	36.8 AV	54.0	-17.2	1.36 V	89	23.9	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 114	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	5453.10	64.5 PK	74.0	-9.5	1.59 H	331	60.8	3.7
2	5453.10	51.5 AV	54.0	-2.5	1.59 H	331	47.8	3.7
3	#5470.00	64.2 PK	68.2	-4.0	1.59 H	331	60.5	3.7
4	*5570.00	107.8 PK			1.59 H	331	104.1	3.7
5	*5570.00	96.5 AV			1.59 H	331	92.8	3.7
6	#5725.00	60.2 PK	68.2	-8.0	1.59 H	331	56.4	3.8
7	11140.00	43.5 PK	74.0	-30.5	1.67 H	360	29.5	14.0
8	11140.00	33.0 AV	54.0	-21.0	1.67 H	360	19.0	14.0
9	#16710.00	47.0 PK	68.2	-21.2	2.09 H	112	30.0	17.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5453.10	66.9 PK	74.0	-7.1	1.68 V	260	63.2	3.7
2	5453.10	53.6 AV	54.0	-0.4	1.68 V	260	49.9	3.7
3	#5470.00	66.1 PK	68.2	-2.1	1.68 V	260	62.4	3.7
4	*5570.00	109.8 PK			1.68 V	260	106.1	3.7
5	*5570.00	98.7 AV			1.68 V	260	95.0	3.7
6	#5725.00	62.0 PK	68.2	-6.2	1.68 V	260	58.2	3.8
7	11140.00	44.4 PK	74.0	-29.6	1.69 V	138	30.4	14.0
8	11140.00	33.6 AV	54.0	-20.4	1.69 V	138	19.6	14.0
9	#16710.00	47.8 PK	68.2	-20.4	1.45 V	110	30.8	17.0

REMARKS:

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

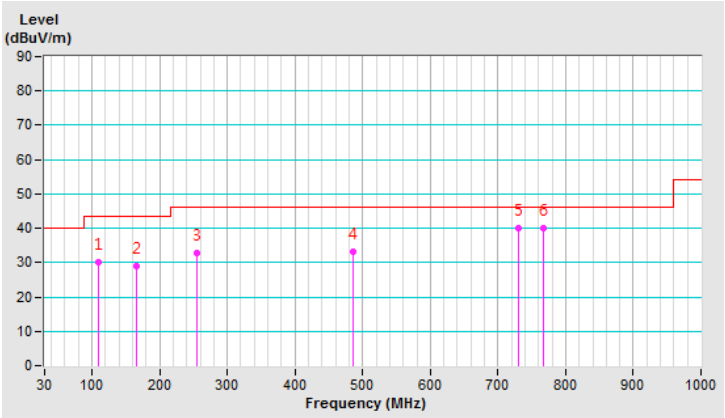
802.11ax (HE40)

CHANNEL	TX Channel 62	**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	110.02	30.0 QP	43.5	-13.5	1.62 H	164	40.7	-10.7
2	165.90	29.0 QP	43.5	-14.5	1.40 H	111	37.2	-8.2
3	254.60	32.9 QP	46.0	-13.1	1.50 H	117	41.5	-8.6
4	486.40	33.1 QP	46.0	-12.9	1.77 H	171	35.1	-2.0
5	729.55	39.9 QP	46.0	-6.1	1.99 H	224	37.0	2.9
6	766.90	40.0 QP	46.0	-6.0	2.55 H	360	36.2	3.8

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 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.

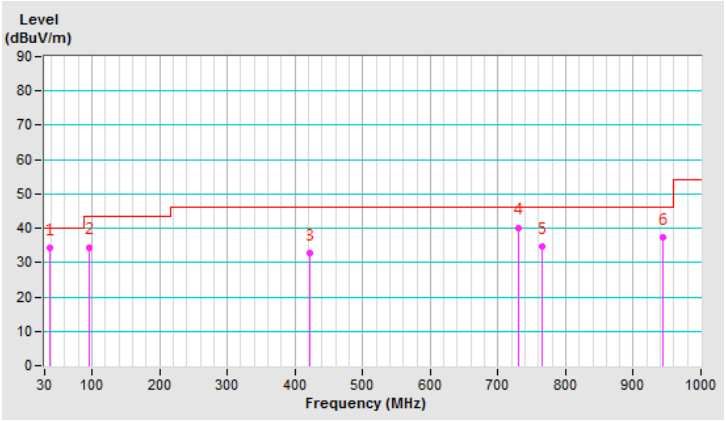


CHANNEL	TX Channel 62	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	37.50	34.2 QP	40.0	-5.8	1.98 V	211	43.0	-8.8
2	95.00	34.5 QP	43.5	-9.0	1.40 V	310	47.2	-12.7
3	421.80	32.7 QP	46.0	-13.3	1.50 V	250	36.2	-3.5
4	730.00	40.2 QP	46.0	-5.8	1.77 V	155	37.2	3.0
5	765.90	34.8 QP	46.0	-11.2	1.99 V	40	31.1	3.7
6	944.00	37.5 QP	46.0	-8.5	1.00 V	155	30.7	6.8

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 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.



4.1.8 Test Results (Mode 2)

Below 1GHz Data:

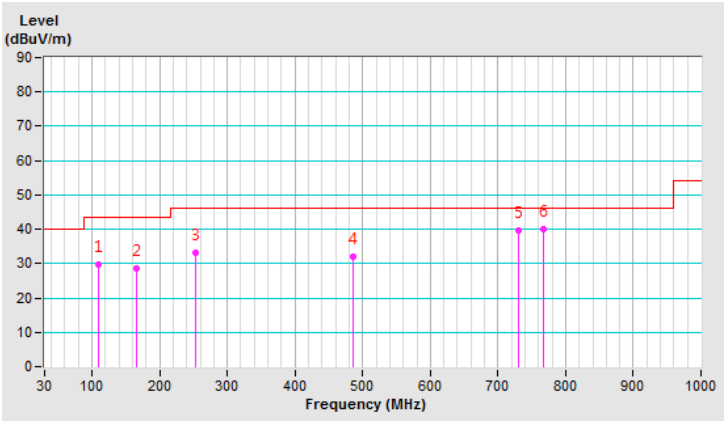
802.11ax (HE20)

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	110.10	29.8 QP	43.5	-13.7	1.14 H	157	40.5	-10.7
2	165.00	28.5 QP	43.5	-15.0	1.44 H	270	36.7	-8.2
3	253.00	33.0 QP	46.0	-13.0	1.50 H	111	41.6	-8.6
4	485.70	32.0 QP	46.0	-14.0	1.80 H	199	34.0	-2.0
5	730.00	39.5 QP	46.0	-6.5	1.90 H	216	36.5	3.0
6	766.40	40.0 QP	46.0	-6.0	2.41 H	0	36.2	3.8

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 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.

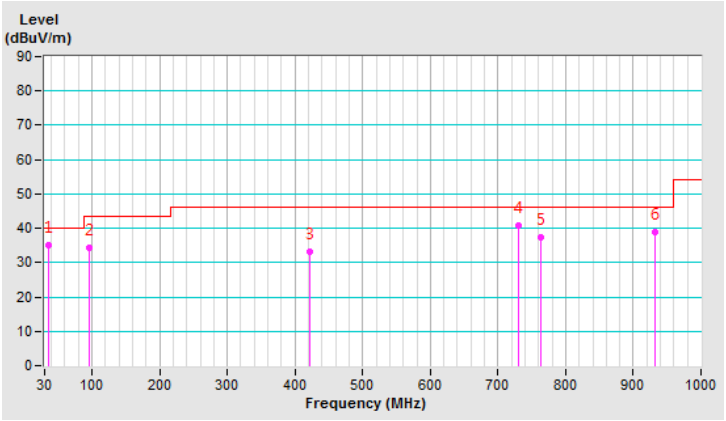


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	36.70	34.9 QP	40.0	-5.1	1.80 V	130	43.8	-8.9
2	95.00	34.2 QP	43.5	-9.3	1.52 V	307	46.9	-12.7
3	422.17	33.0 QP	46.0	-13.0	1.33 V	264	36.4	-3.4
4	730.53	40.8 QP	46.0	-5.2	1.88 V	17	37.8	3.0
5	763.51	37.3 QP	46.0	-8.7	1.52 V	40	33.6	3.7
6	932.90	39.0 QP	46.0	-7.0	1.04 V	80	32.3	6.7

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.



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: Sep. 06, 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.

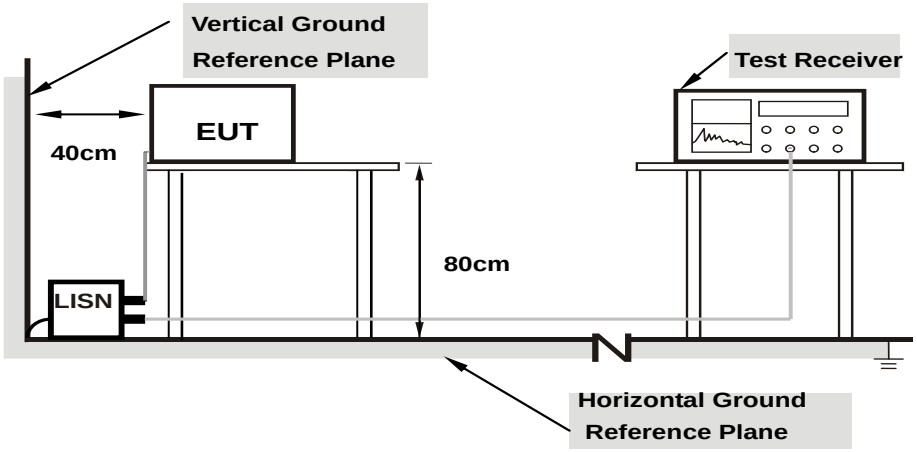
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

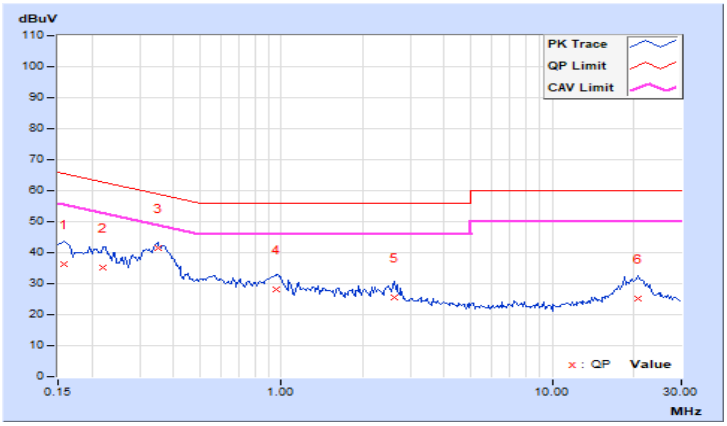
4.2.7 Test Results (Mode 1)

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	0.15781	9.97	26.32	17.00	36.29	26.97	65.58	55.58	-29.29	-28.61
2	0.22031	9.98	25.26	19.00	35.24	28.98	62.81	52.81	-27.57	-23.83
3	0.34922	9.99	31.48	21.20	41.47	31.19	58.98	48.98	-17.51	-17.79
4	0.96250	10.04	17.97	6.66	28.01	16.70	56.00	46.00	-27.99	-29.30
5	2.60156	10.17	15.31	4.45	25.48	14.62	56.00	46.00	-30.52	-31.38
6	20.88281	11.40	13.81	8.13	25.21	19.53	60.00	50.00	-34.79	-30.47

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.

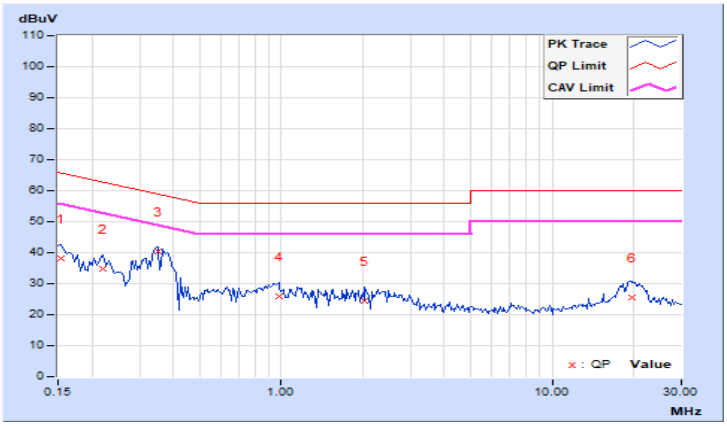


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	9.95	28.30	16.73	38.25	26.68	65.79	55.79	-27.54	-29.11
2	0.22031	9.96	24.70	16.32	34.66	26.28	62.81	52.81	-28.15	-26.53
3	0.34922	9.97	30.47	24.43	40.44	34.40	58.98	48.98	-18.54	-14.58
4	0.98203	10.02	15.87	6.42	25.89	16.44	56.00	46.00	-30.11	-29.56
5	2.03125	10.10	14.37	6.55	24.47	16.65	56.00	46.00	-31.53	-29.35
6	19.73438	11.09	14.33	8.49	25.42	19.58	60.00	50.00	-34.58	-30.42

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.



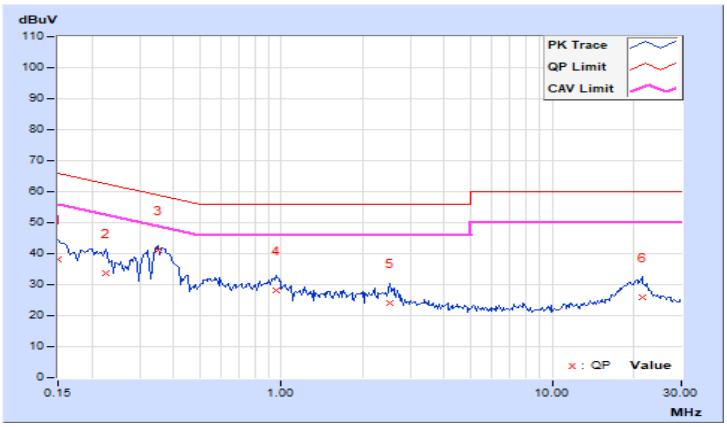
4.2.8 Test Results (Mode 2)

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	9.97	28.29	18.20	38.26	28.17	66.00	56.00	-27.74	-27.83
2	0.22422	9.98	23.67	18.84	33.65	28.82	62.66	52.66	-29.01	-23.84
3	**0.34922**	**9.99**	**31.07**	**24.83**	**41.06**	**34.82**	**58.98**	**48.98**	**-17.92**	**-14.16**
4	0.95469	10.04	18.07	5.07	28.11	15.11	56.00	46.00	-27.89	-30.89
5	2.51563	10.16	13.74	4.58	23.90	14.74	56.00	46.00	-32.10	-31.26
6	21.51953	11.42	14.64	8.56	26.06	19.98	60.00	50.00	-33.94	-30.02

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.

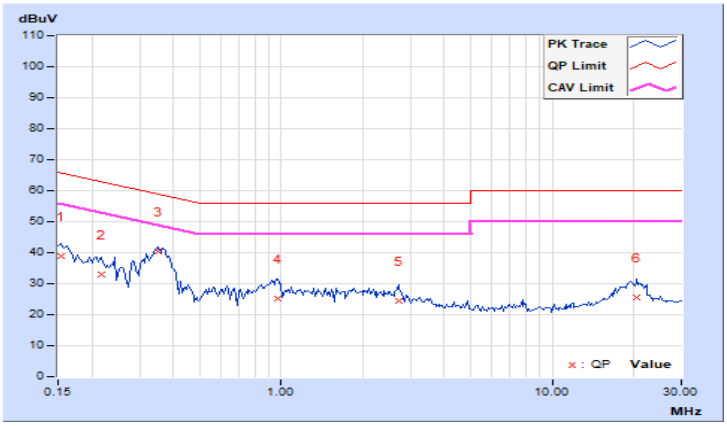


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	9.95	28.90	16.73	38.85	26.68	65.79	55.79	-26.94	-29.11
2	0.21641	9.96	22.90	16.27	32.86	26.23	62.96	52.96	-30.10	-26.73
3	0.34922	9.97	30.45	24.49	40.42	34.46	58.98	48.98	-18.56	-14.52
4	0.97422	10.02	15.07	10.04	25.09	20.06	56.00	46.00	-30.91	-25.94
5	2.70313	10.14	14.41	4.84	24.55	14.98	56.00	46.00	-31.45	-31.02
6	20.44922	11.11	14.46	8.05	25.57	19.16	60.00	50.00	-34.43	-30.84

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,

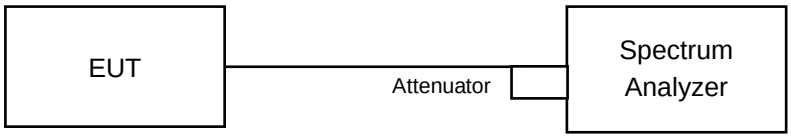
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

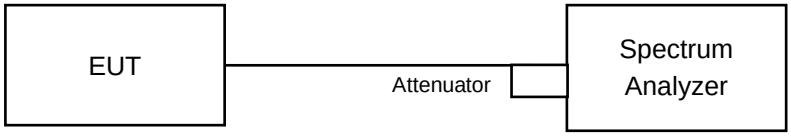
FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:



For other channels:

FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

For 802.11a, 802.11ac (VHT20):

Method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Set trigger to free run (duty cycle ≥ 98 percent)
7. Detector = RMS.
8. Trace average at least 100 traces in power averaging mode
9. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

For other modulation:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

For other channels:

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.

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating 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				
52	5260	17.71	17.77	17.13	17.36	224.953	23.52	24.00	Pass
60	5300	17.68	17.52	17.22	17.33	221.906	23.46	24.00	Pass
64	5320	17.66	17.55	17.21	17.30	221.535	23.45	24.00	Pass
100	5500	18.10	18.12	17.56	17.68	245.058	23.89	24.00	Pass
116	5580	18.11	18.22	17.66	17.62	247.243	23.93	24.00	Pass
140	5700	17.66	17.65	17.11	17.02	218.309	23.39	24.00	Pass
*144 (U-NII-2C Band)	5720	14.46	14.30	13.69	13.99	103.289	20.14	23.00	Pass
*144 (U-NII-3 Band)	5720	8.75	8.28	7.69	7.66	25.938	14.14	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	129.227	21.11
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	18.22	18.18	17.62	17.55	246.835	23.92

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.68	21.90	21.76	21.88
60	5300	21.71	21.92	21.78	21.62
64	5320	21.66	22.02	21.58	21.71
100	5500	21.52	21.77	21.69	21.98
116	5580	23.13	23.22	22.88	22.97
140	5700	21.72	22.05	21.73	21.91
144 (U-NII-2C Band)	5720	15.87	15.87	15.87	16.01

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.68	24.36 > 24
60	5300	21.62	24.34 > 24
64	5320	21.58	24.34 > 24
100	5500	21.52	24.32 > 24
116	5580	22.88	24.59 > 24
140	5700	21.72	24.36 > 24
144 (U-NII-2C Band)	5720	15.87	23 < 24

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				
52	5260	17.66	17.72	17.23	17.32	224.297	23.51	24.00	Pass
60	5300	17.64	17.48	17.22	17.33	220.85	23.44	24.00	Pass
64	5320	17.70	17.70	17.26	17.30	224.682	23.52	24.00	Pass
100	5500	18.10	18.08	17.52	17.62	243.138	23.86	24.00	Pass
116	5580	17.02	18.18	17.62	17.56	230.942	23.64	24.00	Pass
140	5700	17.62	17.66	17.05	17.06	217.67	23.38	24.00	Pass
*144 (U-NII-2C Band)	5720	14.99	13.83	13.93	13.35	102.049	20.09	23.00	Pass
*144 (U-NII-3 Band)	5720	9.31	8.07	8.19	7.68	27.396	14.38	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	129.445	21.12
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	18.22	18.10	17.65	17.55	246.034	23.91

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.04	21.81	21.80	21.84
60	5300	21.94	21.71	21.60	21.62
64	5320	21.96	21.71	21.44	21.55
100	5500	21.92	21.67	21.62	21.86
116	5580	23.53	23.29	23.04	23.33
140	5700	21.97	21.75	21.62	21.90
144 (U-NII-2C Band)	5720	15.96	15.85	15.93	16.02

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.80	24.38 > 24
60	5300	21.60	24.34 > 24
64	5320	21.44	24.31 > 24
100	5500	21.62	24.34 > 24
116	5580	23.04	24.62 > 24
140	5700	21.62	24.34 > 24
144 (U-NII-2C Band)	5720	15.85	23 < 24

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				
54	5270	17.83	17.90	17.38	17.60	234.58	23.70	24.00	Pass
62	5310	17.81	17.95	17.32	17.51	233.083	23.68	24.00	Pass
102	5510	18.07	18.02	17.18	17.38	234.45	23.70	24.00	Pass
110	5550	18.09	17.86	17.04	17.36	230.543	23.63	24.00	Pass
134	5670	18.00	17.95	17.33	17.86	240.638	23.81	24.00	Pass
*142 (U-NII-2C Band)	5710	14.15	14.42	14.03	15.14	115.262	20.62	24.00	Pass
*142 (U-NII-3 Band)	5710	3.64	3.93	3.40	4.87	10.368	10.16	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	125.63	20.99
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	17.87	17.98	17.39	18.23	245.396	23.90

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.80	41.84	41.68	41.34
62	5310	41.81	41.74	41.41	41.35
102	5510	41.96	41.69	41.78	41.36
110	5550	41.76	41.59	41.36	41.30
134	5670	41.71	41.81	41.67	41.39
142 (U-NII-2C Band)	5710	35.84	35.78	35.72	35.63

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.34	27.16 > 24
62	5310	41.35	27.16 > 24
102	5510	41.36	27.16 > 24
110	5550	41.30	27.15 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.63	26.51 > 24

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				
58	5290	17.65	17.75	17.03	17.32	222.193	23.47	24.00	Pass
106	5530	17.46	17.78	16.79	17.04	214.033	23.30	24.00	Pass
122	5610	17.77	17.48	17.32	17.36	224.218	23.51	24.00	Pass
*138 (U-NII-2C Band)	5690	14.62	14.72	14.08	15.01	123.194	20.91	24.00	Pass
*138 (U-NII-3 Band)	5690	0.04	0.69	-0.49	0.87	4.5669	6.60	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	127.7609	21.06
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	17.81	17.85	17.19	17.85	234.663	23.70

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	82.69	82.42	82.53	82.46
106	5530	83.31	82.58	82.65	82.74
122	5610	82.92	82.51	82.72	82.82
138 (U-NII-2C Band)	5690	76.22	76.28	76.30	76.42

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.42	30.16 > 24
106	5530	82.58	30.16 > 24
122	5610	82.51	30.16 > 24
138 (U-NII-2C Band)	5690	76.22	29.82 > 24

802.11ac (VHT160)

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				
*50 (U-NII-1 Band)	5250	12.87	12.27	12.29	12.57	79.444	19.00	30.00	Pass
*50 (U-NII-2A Band)	5250	12.87	12.27	12.29	12.57	79.444	19.00	24.00	Pass
114	5570	17.83	17.58	16.76	17.38	220.08	23.43	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
50	5250	158.888	22.01
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	18.92	19.02	18.61	18.83	306.777	24.87

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-2A Band)	5250	163.75	165.50	163.80	162.94
114	5570	163.80	165.21	163.09	163.55

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	162.94	33.12 > 24
114	5570	163.09	33.12 > 24

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				
52	5260	17.69	17.75	17.26	17.39	226.354	23.55	24.00	Pass
60	5300	17.66	17.50	17.25	17.35	221.992	23.46	24.00	Pass
64	5320	17.72	17.72	17.29	17.33	225.967	23.54	24.00	Pass
100	5500	18.11	18.10	17.55	17.66	244.509	23.88	24.00	Pass
116	5580	17.05	18.20	17.68	17.60	232.926	23.67	24.00	Pass
140	5700	17.63	17.68	17.10	17.09	219.011	23.40	24.00	Pass
*144 (U-NII-2C Band)	5720	14.63	14.11	13.64	13.41	102.137	20.09	22.99	Pass
*144 (U-NII-3 Band)	5720	9.28	8.86	7.89	8.17	29.537	14.70	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	131.674	21.2
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	18.23	18.12	17.66	17.59	247.147	23.93

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.05	21.91	22.04	21.73
60	5300	21.83	21.76	21.94	21.81
64	5320	21.95	21.74	21.82	21.73
100	5500	22.02	21.61	21.85	21.90
116	5580	23.55	23.41	23.29	23.55
140	5700	22.07	21.74	21.92	22.00
144 (U-NII-2C Band)	5720	16.00	15.92	15.84	15.92

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.73	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.73	24.37 > 24
100	5500	21.61	24.34 > 24
116	5580	23.29	24.67 > 24
140	5700	21.74	24.37 > 24
144 (U-NII-2C Band)	5720	15.84	22.99 < 24

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				
54	5270	18.01	18.02	17.55	17.74	242.942	23.86	24.00	Pass
62	5310	17.99	18.16	17.47	17.70	243.146	23.86	24.00	Pass
102	5510	18.22	18.14	17.31	17.51	241.728	23.83	24.00	Pass
110	5550	18.26	17.98	17.19	17.59	239.566	23.79	24.00	Pass
134	5670	18.16	18.08	17.47	18.03	249.113	23.96	24.00	Pass
*142 (U-NII-2C Band)	5710	14.78	14.70	14.43	14.73	122.19	20.87	24.00	Pass
*142 (U-NII-3 Band)	5710	4.84	4.18	4.51	5.00	12.168	10.85	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	134.358	21.28
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	17.92	18.03	17.51	18.32	249.761	23.98

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.68	41.59	41.65	41.66
62	5310	41.66	41.63	41.47	41.86
102	5510	41.68	41.49	41.78	41.75
110	5550	41.61	41.58	41.81	41.60
134	5670	41.67	41.53	41.72	41.64
142 (U-NII-2C Band)	5710	35.87	35.83	36.01	35.82

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.59	27.18 > 24
62	5310	41.47	27.17 > 24
102	5510	41.49	27.17 > 24
110	5550	41.58	27.18 > 24
134	5670	41.53	27.18 > 24
142 (U-NII-2C Band)	5710	35.82	26.54 > 24

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				
58	5290	17.74	17.82	17.26	17.56	230.19	23.62	24.00	Pass
106	5530	17.66	17.92	16.98	17.14	221.938	23.46	24.00	Pass
122	5610	17.87	17.61	17.48	17.50	231.122	23.64	24.00	Pass
*138 (U-NII-2C Band)	5690	15.21	14.61	14.49	14.40	127.154	21.04	24.00	Pass
*138 (U-NII-3 Band)	5690	1.18	1.06	0.59	1.25	5.472	7.38	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	132.626	21.23
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	17.95	17.94	17.35	18.01	242.169	23.84

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	82.87	83.47	83.12	82.58
106	5530	83.27	83.50	83.06	82.55
122	5610	83.13	83.17	82.82	82.76
138 (U-NII-2C Band)	5690	76.52	76.28	76.47	76.47

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.58	30.16 > 24
106	5530	82.55	30.16 > 24
122	5610	82.76	30.17 > 24
138 (U-NII-2C Band)	5690	76.28	29.82 > 24

802.11ax (HE160)

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				
*50 (U-NII-1 Band)	5250	12.77	12.70	12.83	12.78	86.512	19.37	30.00	Pass
*50 (U-NII-2A Band)	5250	12.77	12.70	12.83	12.78	86.512	19.37	24.00	Pass
114	5570	17.94	17.74	16.87	17.49	226.405	23.55	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
50	5250	173.024	22.38
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	19.31	19.36	18.86	19.04	328.689	25.17

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-2A Band)	5250	163.26	163.20	163.62	163.15
114	5570	163.59	162.99	163.38	163.45

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	163.15	33.12 > 24
114	5570	162.99	33.12 > 24

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				
52	5260	17.66	17.72	17.23	17.32	224.297	23.51	23.66	Pass
60	5300	17.64	17.48	17.22	17.33	220.85	23.44	23.66	Pass
64	5320	17.70	17.70	17.26	17.30	224.682	23.52	23.66	Pass
100	5500	18.10	18.08	17.52	17.62	243.138	23.86	23.95	Pass
116	5580	17.02	18.18	17.62	17.56	230.942	23.64	23.95	Pass
140	5700	17.62	17.66	17.05	17.06	217.67	23.38	23.95	Pass
*144 (U-NII-2C Band)	5720	14.99	13.83	13.93	13.35	102.049	20.09	22.95	Pass
*144 (U-NII-3 Band)	5720	9.31	8.07	8.19	7.68	27.396	14.38	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.34-6)”.
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.05-6)”.
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	129.445	21.12
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	18.22	18.10	17.65	17.55	246.034	23.91

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.04	21.81	21.80	21.84
60	5300	21.94	21.71	21.60	21.62
64	5320	21.96	21.71	21.44	21.55
100	5500	21.92	21.67	21.62	21.86
116	5580	23.53	23.29	23.04	23.33
140	5700	21.97	21.75	21.62	21.90
144 (U-NII-2C Band)	5720	15.96	15.85	15.93	16.02

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>				
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)	
52	5260	21.80	24.38	> 24
60	5300	21.60	24.34	> 24
64	5320	21.44	24.31	> 24
100	5500	21.62	24.34	> 24
116	5580	23.04	24.62	> 24
140	5700	21.62	24.34	> 24
144 (U-NII-2C Band)	5720	15.85	23	< 24

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				
54	5270	17.60	17.67	17.15	17.37	222.479	23.47	23.66	Pass
62	5310	17.58	17.72	17.09	17.28	221.06	23.45	23.66	Pass
102	5510	18.07	18.02	17.18	17.38	234.45	23.70	23.95	Pass
110	5550	18.09	17.86	17.04	17.36	230.543	23.63	23.95	Pass
134	5670	18.00	17.95	17.33	17.86	240.638	23.81	23.95	Pass
*142 (U-NII-2C Band)	5710	14.15	14.42	14.03	15.14	115.262	20.62	23.95	Pass
*142 (U-NII-3 Band)	5710	3.64	3.93	3.40	4.87	10.368	10.16	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.34-6)".
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.05-6)".
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	125.63	20.99
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	17.87	17.98	17.39	18.23	245.396	23.90

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.80	41.84	41.68	41.34
62	5310	41.81	41.74	41.41	41.35
102	5510	41.96	41.69	41.78	41.36
110	5550	41.76	41.59	41.36	41.30
134	5670	41.71	41.81	41.67	41.39
142 (U-NII-2C Band)	5710	35.84	35.78	35.72	35.63

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.34	27.16 > 24
62	5310	41.35	27.16 > 24
102	5510	41.36	27.16 > 24
110	5550	41.30	27.15 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.63	26.51 > 24

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				
58	5290	17.65	17.75	17.03	17.32	222.193	23.47	23.66	Pass
106	5530	17.46	17.78	16.79	17.04	214.033	23.30	23.95	Pass
122	5610	17.77	17.48	17.32	17.36	224.218	23.51	23.95	Pass
*138 (U-NII-2C Band)	5690	14.62	14.72	14.08	15.01	123.194	20.91	23.95	Pass
*138 (U-NII-3 Band)	5690	0.04	0.69	-0.49	0.87	4.5669	6.60	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.34-6)”.
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.05-6)”.
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	127.7609	21.06
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	17.81	17.85	17.19	17.85	234.663	23.70

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	82.69	82.42	82.53	82.46
106	5530	83.31	82.58	82.65	82.74
122	5610	82.92	82.51	82.72	82.82
138 (U-NII-2C Band)	5690	76.22	76.28	76.30	76.42

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.42	30.16 > 24
106	5530	82.58	30.16 > 24
122	5610	82.51	30.16 > 24
138 (U-NII-2C Band)	5690	76.22	29.82 > 24

802.11ac (VHT160)

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				
*50 (U-NII-1 Band)	5250	12.87	12.27	12.29	12.57	79.444	19.00	30.00	Pass
*50 (U-NII-2A Band)	5250	12.87	12.27	12.29	12.57	79.444	19.00	23.66	Pass
114	5570	17.83	17.58	16.76	17.38	220.08	23.43	23.95	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.
1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.34-6)".
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.05-6)".

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
50	5250	158.888	22.01
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	18.92	19.02	18.61	18.83	306.777	24.87

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-2A Band)	5250	163.75	165.50	163.80	162.94
114	5570	163.80	165.21	163.09	163.55

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	162.94	33.12 > 24
114	5570	163.09	33.12 > 24

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				
52	5260	17.69	17.75	17.26	17.39	226.354	23.55	23.66	Pass
60	5300	17.66	17.50	17.25	17.35	221.992	23.46	23.66	Pass
64	5320	17.72	17.72	17.29	17.33	225.967	23.54	23.66	Pass
100	5500	18.11	18.10	17.55	17.66	244.509	23.88	23.95	Pass
116	5580	17.05	18.20	17.68	17.60	232.926	23.67	23.95	Pass
140	5700	17.63	17.68	17.10	17.09	219.011	23.40	23.95	Pass
*144 (U-NII-2C Band)	5720	14.63	14.11	13.64	13.41	102.274	20.10	22.94	Pass
*144 (U-NII-3 Band)	5720	9.28	8.86	7.89	8.17	29.576	14.71	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.34-6)”.
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.05-6)”.
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	131.85	21.2
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	18.23	18.12	17.66	17.59	247.147	23.93

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.05	21.91	22.04	21.73
60	5300	21.83	21.76	21.94	21.81
64	5320	21.95	21.74	21.82	21.73
100	5500	22.02	21.61	21.85	21.90
116	5580	23.55	23.41	23.29	23.55
140	5700	22.07	21.74	21.92	22.00
144 (U-NII-2C Band)	5720	16.00	15.92	15.84	15.92

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.73	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.73	24.37 > 24
100	5500	21.61	24.34 > 24
116	5580	23.29	24.67 > 24
140	5700	21.74	24.37 > 24
144 (U-NII-2C Band)	5720	15.84	22.99 < 24

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				
54	5270	17.76	17.77	17.30	17.49	229.353	23.61	23.66	Pass
62	5310	17.74	17.91	17.22	17.45	229.544	23.61	23.66	Pass
102	5510	18.22	18.14	17.31	17.51	241.728	23.83	23.95	Pass
110	5550	18.26	17.98	17.19	17.59	239.566	23.79	23.95	Pass
134	5670	17.91	17.83	17.22	17.78	235.178	23.71	23.95	Pass
*142 (U-NII-2C Band)	5710	14.56	14.34	14.07	14.39	113.632	20.56	23.95	Pass
*142 (U-NII-3 Band)	5710	4.65	3.90	4.10	4.30	11.112	10.46	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.34-6)".
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.05-6)".
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	124.744	20.96
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	17.67	17.78	17.26	18.07	235.79	23.73

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.68	41.59	41.65	41.66
62	5310	41.66	41.63	41.47	41.86
102	5510	41.68	41.49	41.78	41.75
110	5550	41.61	41.58	41.81	41.60
134	5670	41.67	41.53	41.72	41.64
142 (U-NII-2C Band)	5710	35.87	35.83	36.01	35.82

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.59	27.18 > 24
62	5310	41.47	27.17 > 24
102	5510	41.49	27.17 > 24
110	5550	41.58	27.18 > 24
134	5670	41.53	27.18 > 24
142 (U-NII-2C Band)	5710	35.82	26.54 > 24

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				
58	5290	17.74	17.82	17.26	17.56	230.19	23.62	23.66	Pass
106	5530	17.66	17.92	16.98	17.14	221.938	23.46	23.95	Pass
122	5610	17.87	17.61	17.48	17.50	231.122	23.64	23.95	Pass
*138 (U-NII-2C Band)	5690	15.21	14.61	14.49	14.40	127.475	21.05	23.95	Pass
*138 (U-NII-3 Band)	5690	1.18	1.06	0.59	1.25	5.486	7.39	29.87	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.34-6)”.
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (6.05-6)”.
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	132.961	21.24
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	17.95	17.94	17.35	18.01	242.169	23.84

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	82.87	83.47	83.12	82.58
106	5530	83.27	83.50	83.06	82.55
122	5610	83.13	83.17	82.82	82.76
138 (U-NII-2C Band)	5690	76.52	76.28	76.47	76.47

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.58	30.16 > 24
106	5530	82.55	30.16 > 24
122	5610	82.76	30.17 > 24
138 (U-NII-2C Band)	5690	76.28	29.82 > 24

802.11ax (HE160)

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				
*50 (U-NII-1 Band)	5250	12.77	12.70	12.83	12.78	86.512	19.37	30.00	Pass
*50 (U-NII-2A Band)	5250	12.77	12.70	12.83	12.78	86.512	19.37	23.66	Pass
114	5570	17.94	17.74	16.87	17.49	226.405	23.55	23.95	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.
1. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.34-6)".
2. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.05-6)".
3. For U-NII-3: The directional gain = 6.13dBi > 6dBi, so the power limit shall be reduced to 30-(6.13-6) = 29.87dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
50	5250	173.024	22.38
Note: The total power was calculated through formula and record the value for reference only.			

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

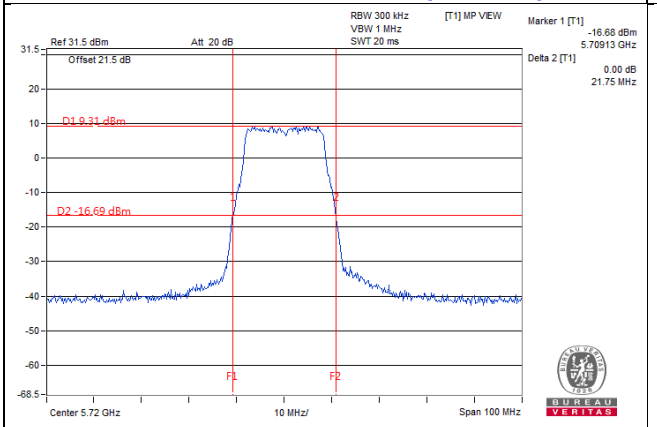
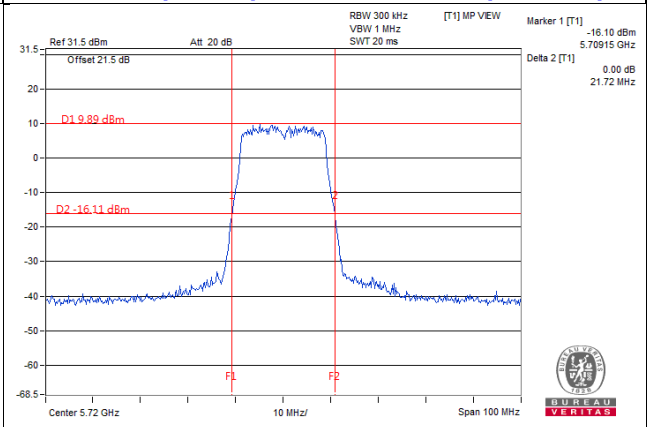
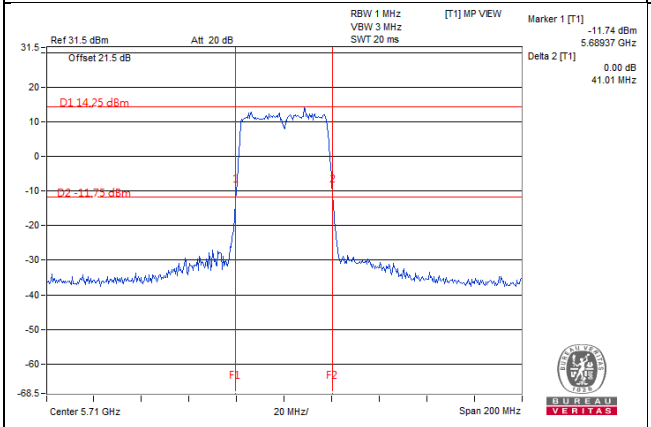
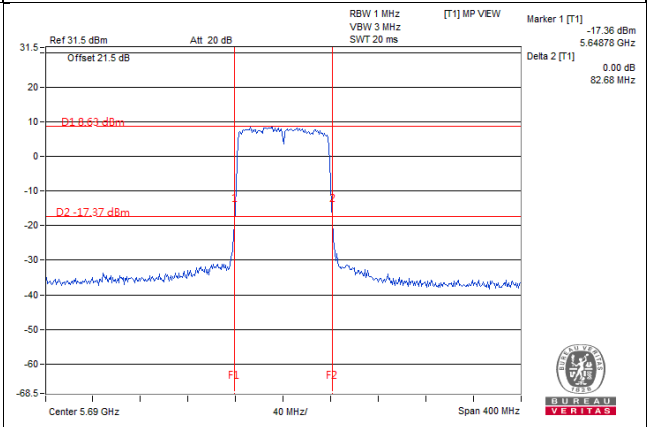
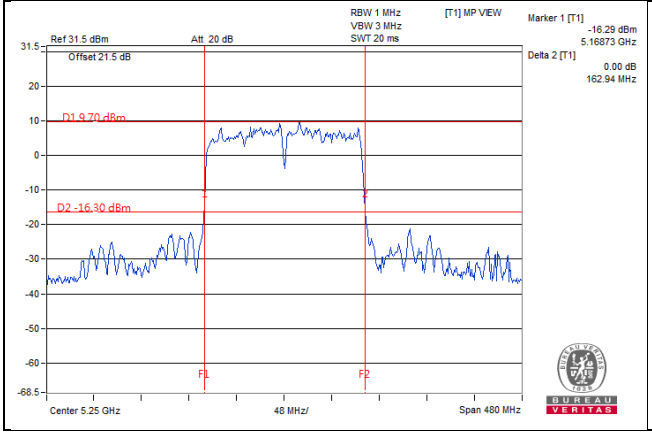
Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	19.31	19.36	18.86	19.04	328.689	25.17

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-2A Band)	5250	163.26	163.20	163.62	163.15
114	5570	163.59	162.99	163.38	163.45

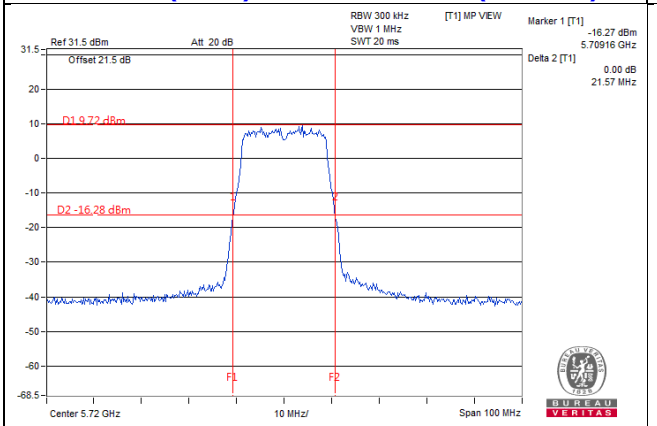
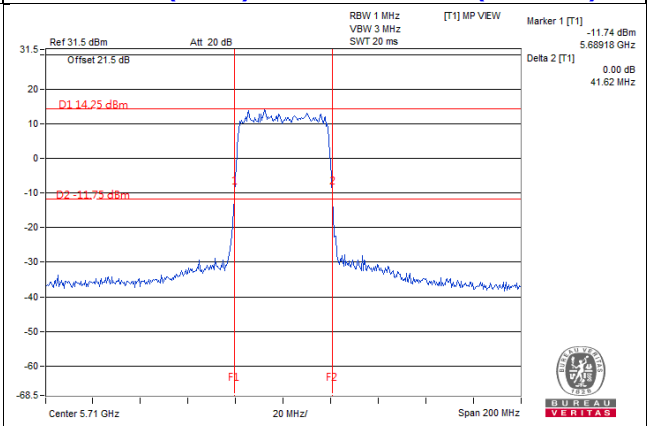
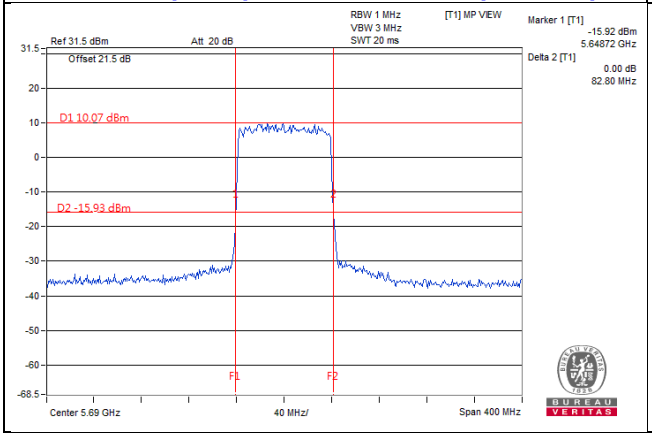
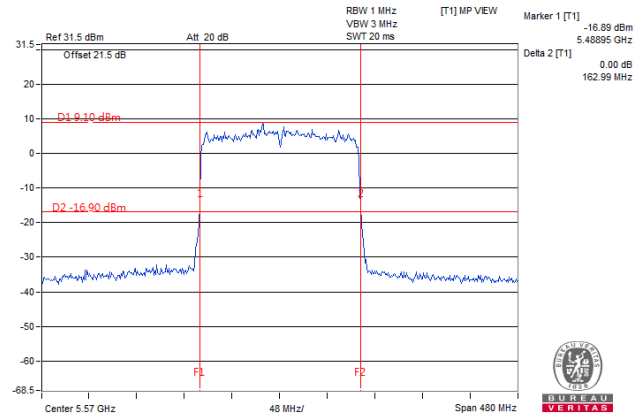
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	163.15	33.12 > 24
114	5570	162.99	33.12 > 24

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-2C)	**802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C)**
	
802.11ac (VHT40)_Chain 3 / CH142 (U-NII-2C)	**802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C)**
	
802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A)	
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1
For CH50 (U-NII-2A) = Marker 1 + Delta 2 – 5250MHz

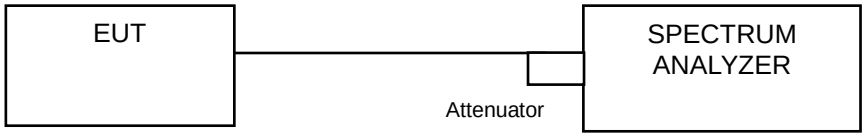
Spectrum Plot of Worst Value	
802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C)	**802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C)**
	
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C)	**802.11ax (HE160)_Chain 1 / CH114**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

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
52	5260	16.92	16.80	16.68	16.80
60	5300	16.92	16.92	16.68	16.80
64	5320	17.16	16.92	16.56	17.04
100	5500	16.92	16.68	17.16	16.80
116	5580	16.92	16.92	16.80	16.80
140	5700	16.92	16.80	16.92	16.92
144 (U-NII-2C Band)	5720	13.52	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.40	3.40	3.40	3.28

802.11ax (HE20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	18.00	19.08	19.08	17.88
60	5300	18.96	19.08	18.96	18.96
64	5320	18.96	19.08	19.08	19.20
100	5500	18.12	19.08	19.20	19.08
116	5580	19.08	19.20	19.08	19.08
140	5700	18.12	18.96	19.08	19.08
144 (U-NII-2C Band)	5720	14.60	14.60	14.00	14.60
144 (U-NII-3 Band)	5720	4.48	4.36	3.88	4.60

802.11ax (HE40)

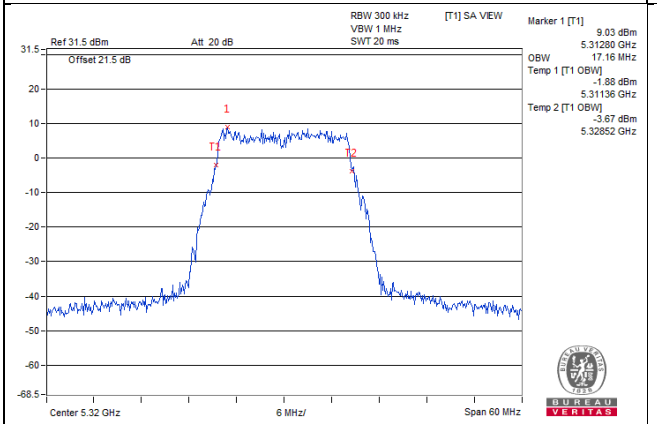
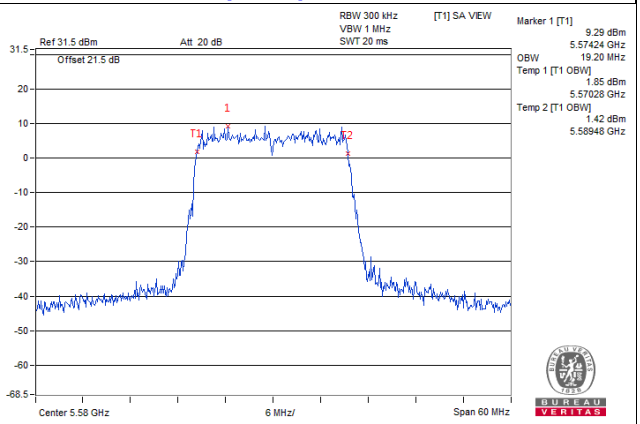
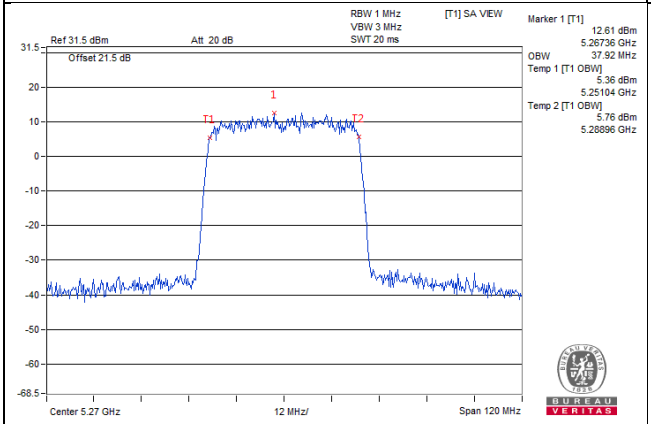
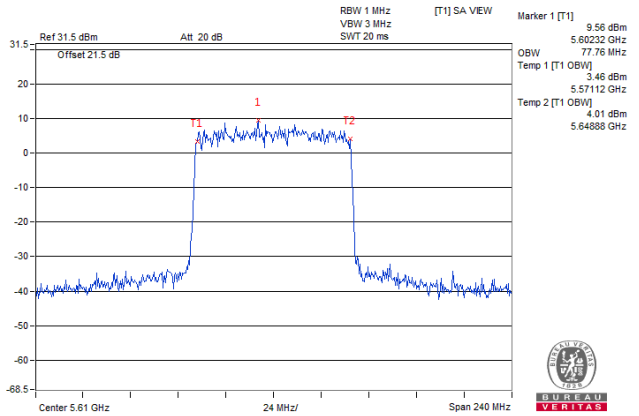
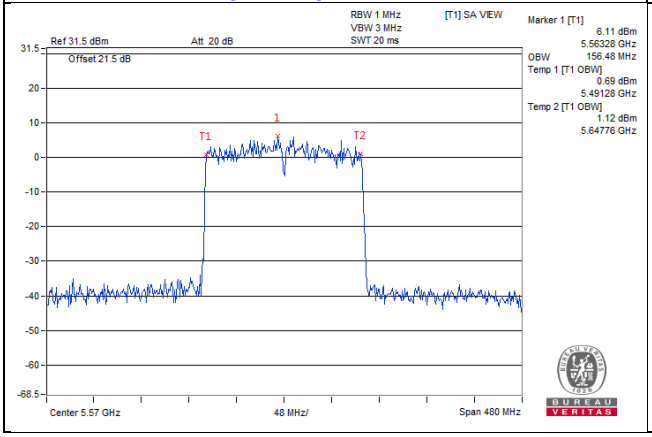
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	37.92	37.68	37.68	37.68
62	5310	37.92	37.92	37.92	37.92
102	5510	37.68	36.96	37.92	37.92
110	5550	37.68	37.68	37.92	37.92
134	5670	37.92	36.72	37.68	37.68
142 (U-NII-2C Band)	5710	33.96	33.48	33.96	34.20
142 (U-NII-3 Band)	5710	3.72	3.00	3.72	3.72

802.11ax (HE80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	77.28	77.28	77.28
106	5530	77.28	77.28	77.28	76.80
122	5610	76.80	77.28	77.28	77.76
138 (U-NII-2C Band)	5690	73.88	73.88	73.88	73.88
138 (U-NII-3 Band)	5690	3.40	3.40	3.40	3.40

802.11ax (HE160)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1 Band)	5250	155.52	155.52	154.56	154.56
50 (U-NII-2A Band)	5250	155.52	155.52	154.56	154.56
114	5570	154.56	156.48	154.56	155.52

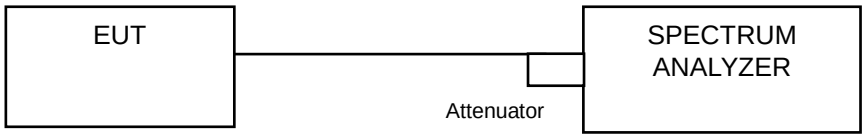
Spectrum Plot of Max. Value	
802.11a_Chain 0 / CH64	**802.11ax (HE20)_Chain 1 / CH116**
	
802.11ax (HE40)_Chain 0 / CH54	**802.11ax (HE80)_Chain 3 / CH122**
	
802.11ax (HE160)_Chain 1 / CH114	
	

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

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

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 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-2A, U-NII-2C:

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			
52	5260	4.39	4.53	4.39	3.63	10.27	10.66	Pass
60	5300	4.51	3.93	4.51	4.13	10.30	10.66	Pass
64	5320	4.26	3.57	4.69	4.27	10.24	10.66	Pass
100	5500	3.99	5.24	4.71	3.94	10.52	10.95	Pass
116	5580	4.45	5.11	4.93	4.37	10.75	10.95	Pass
140	5700	2.82	3.44	3.47	3.09	9.23	10.95	Pass
144 (U-NII-2C Band)	5720	3.81	4.06	3.98	3.53	9.87	10.95	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. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power density limit shall be reduced to 11-(6.34-6) = 10.66dBm.
3. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95dBm.

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				
52	5260	3.69	4.11	3.75	3.27	0.10	9.84	10.66	Pass
60	5300	4.20	2.99	3.11	4.65	0.10	9.92	10.66	Pass
64	5320	4.43	3.31	4.05	5.01	0.10	10.36	10.66	Pass
100	5500	3.93	3.01	3.95	4.12	0.10	9.89	10.95	Pass
116	5580	3.11	3.59	3.18	3.85	0.10	9.56	10.95	Pass
140	5700	3.65	3.33	2.99	2.70	0.10	9.30	10.95	Pass
144 (U-NII-2C Band)	5720	4.41	3.67	3.20	2.69	0.10	9.66	10.95	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. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power density limit shall be reduced to 11-(6.34-6) = 10.66dBm.
3. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95dBm.
4. 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				
54	5270	1.37	0.87	1.27	-0.07	0.19	7.11	10.66	Pass
62	5310	1.55	0.99	0.92	1.52	0.19	7.47	10.66	Pass
102	5510	1.43	1.41	0.52	0.79	0.19	7.27	10.95	Pass
110	5550	1.83	1.58	0.77	0.92	0.19	7.51	10.95	Pass
134	5670	0.94	0.98	0.87	-0.04	0.19	6.92	10.95	Pass
142 (U-NII-2C Band)	5710	0.86	1.18	0.38	0.70	0.19	7.00	10.95	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. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power density limit shall be reduced to 11-(6.34-6) = 10.66dBm.
3. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

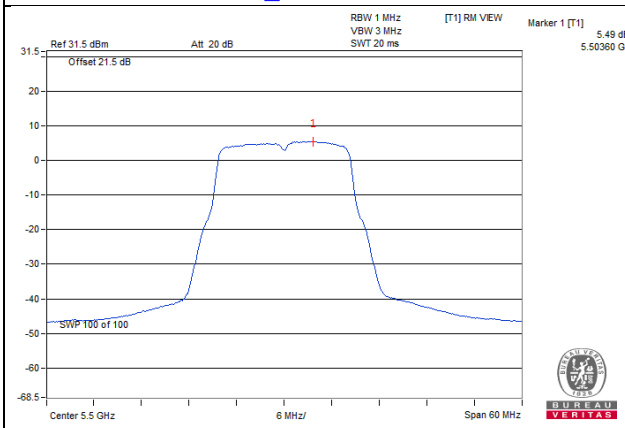
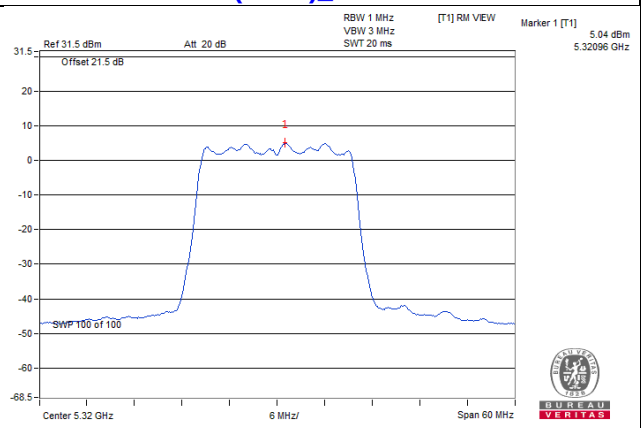
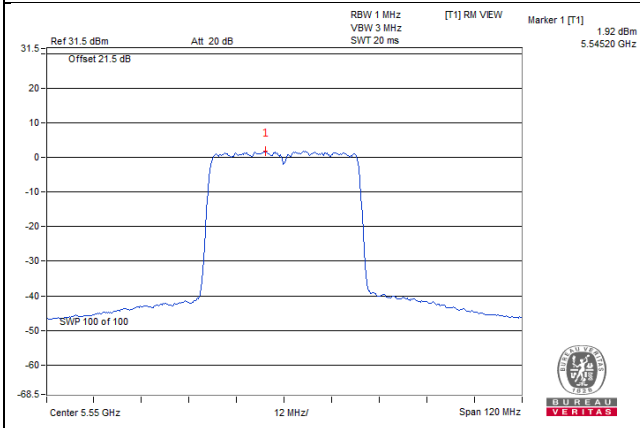
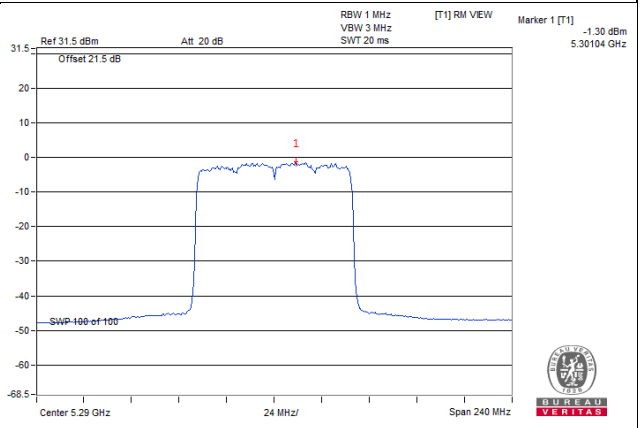
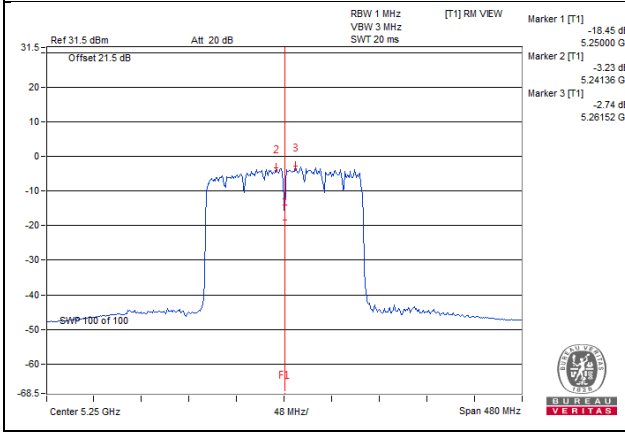
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-1.30	-2.64	-3.06	-1.49	0.33	4.29	10.66	Pass
106	5530	-1.87	-1.36	-2.63	-2.73	0.33	4.24	10.95	Pass
122	5610	-1.64	-1.74	-1.32	-2.44	0.33	4.58	10.95	Pass
138 (U-NII-2C Band)	5690	-1.63	-2.57	-2.30	-2.98	0.33	4.01	10.95	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. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power density limit shall be reduced to 11-(6.34-6) = 10.66dBm.
3. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE160)

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				
50 (U-NII-1 Band)	5250	-3.56	-3.76	-4.47	-2.74	0.58	3.01	17.00	Pass
50 (U-NII-2A Band)	5250	-3.56	-3.76	-4.47	-2.74	0.58	3.01	10.66	Pass
114	5570	-4.64	-5.02	-4.94	-5.11	0.58	1.68	10.95	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. For U-NII-1: The directional gain = 5.91dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2A: The directional gain = 6.34dBi > 6dBi, so the power density limit shall be reduced to 11-(6.34-6) = 10.66dBm.
4. For U-NII-2C: The directional gain = 6.05dBi > 6dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 1 / CH100	**802.11ax (HE20)_Chain 3 / CH64**
	
802.11ax (HE40)_Chain 0 / CH110	**802.11ax (HE80)_Chain 0 / CH58**
	
802.11ax (HE160)_Chain 3 / CH50 (U-NII-1)	
	

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			
144 (U-NII-3 Band)	5720	-3.67	-4.15	-4.64	-5.00	1.4739	1.68	3.90	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			
144 (U-NII-3 Band)	5720	-5.06	-5.55	-5.17	-6.06	0.10	1.1685	0.68	2.90	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)

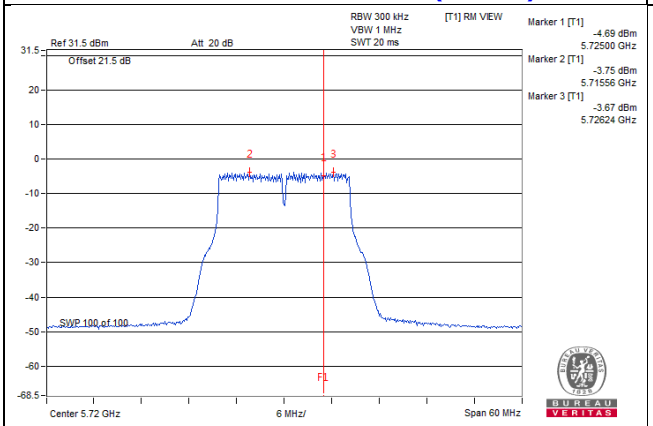
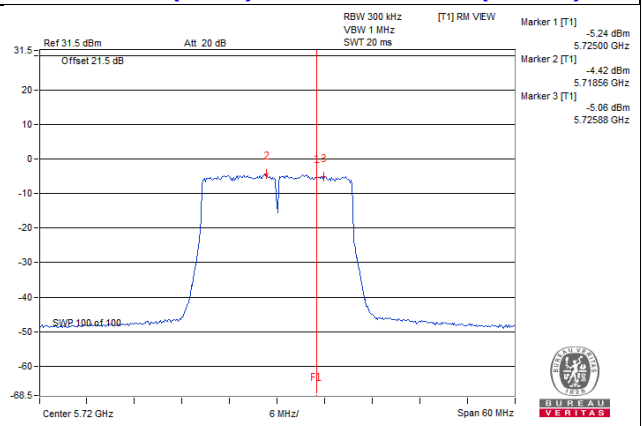
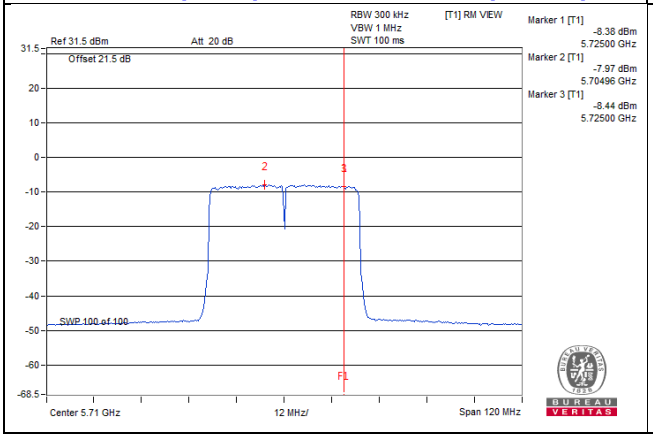
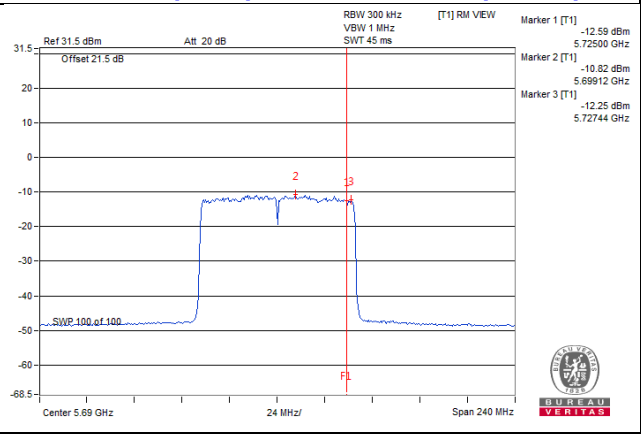
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD With Duty Factor		Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		Chain 0	Chain 1	Chain 2	Chain 3		mW/300 kHz	dBm/300kHz			
142 (U-NII-3 Band)	5710	-8.74	-8.84	-8.96	-8.44	0.19	0.5582	-2.53	-0.31	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			
138 (U-NII-3 Band)	5690	-12.41	-12.25	-12.82	-12.28	0.33	0.2466	-6.08	-3.86	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.

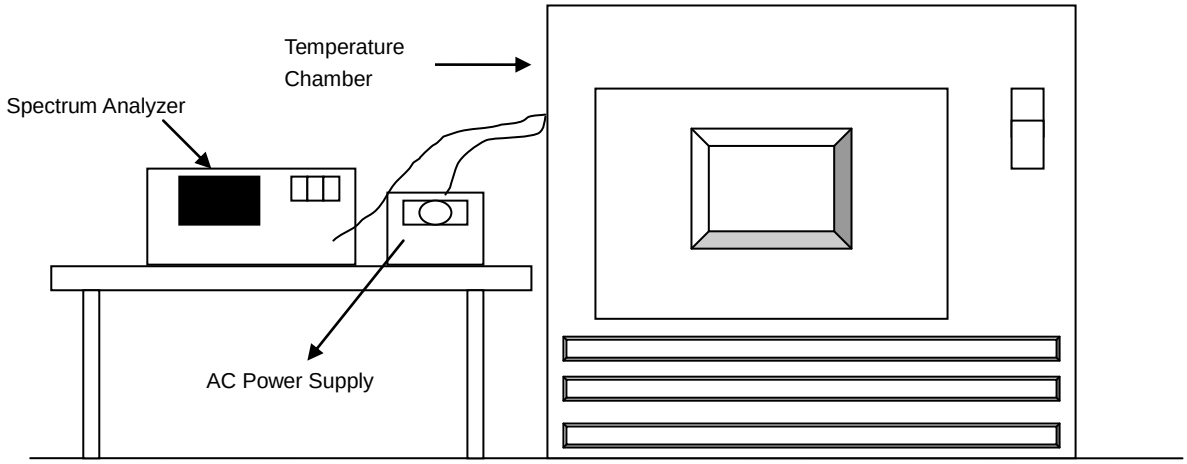
Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-3)	**802.11ax (HE20)_Chain 0 / CH144 (U-NII-3)**
	
802.11ax (HE40)_Chain 3 / CH142 (U-NII-3)	**802.11ax (HE80)_Chain 1 / CH138 (U-NII-3)**
	

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: 5260 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	5259.981	PASS	5259.9804	PASS	5259.9774	PASS	5259.9779	PASS
40	120	5260.0062	PASS	5260.0095	PASS	5260.0078	PASS	5260.0091	PASS
30	120	5259.9786	PASS	5259.9784	PASS	5259.9817	PASS	5259.9803	PASS
20	120	5260.0172	PASS	5260.0189	PASS	5260.0176	PASS	5260.0181	PASS
10	120	5260.027	PASS	5260.0253	PASS	5260.0233	PASS	5260.0228	PASS
0	120	5259.9734	PASS	5259.9737	PASS	5259.9777	PASS	5259.9767	PASS
-10	120	5259.9842	PASS	5259.9808	PASS	5259.9853	PASS	5259.9842	PASS
-20	120	5260.0098	PASS	5260.0124	PASS	5260.012	PASS	5260.0097	PASS
-30	120	5259.9975	PASS	5259.9971	PASS	5259.9962	PASS	5259.998	PASS

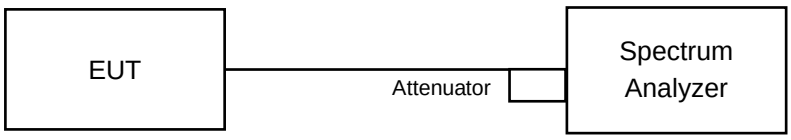
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0179	PASS	5260.0188	PASS	5260.0186	PASS	5260.0187	PASS
	120	5260.0172	PASS	5260.0189	PASS	5260.0176	PASS	5260.0181	PASS
	102	5260.0173	PASS	5260.0188	PASS	5260.0168	PASS	5260.0175	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		
144 (U-NII-3 Band)	5720	3.18	3.18	3.16	3.17	0.5	Pass

802.11ax (HE20)

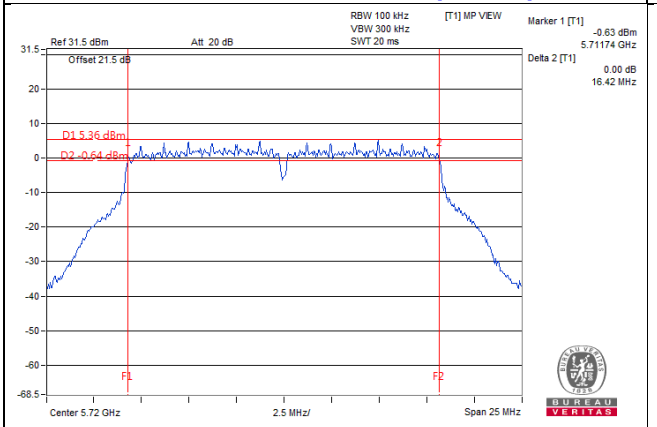
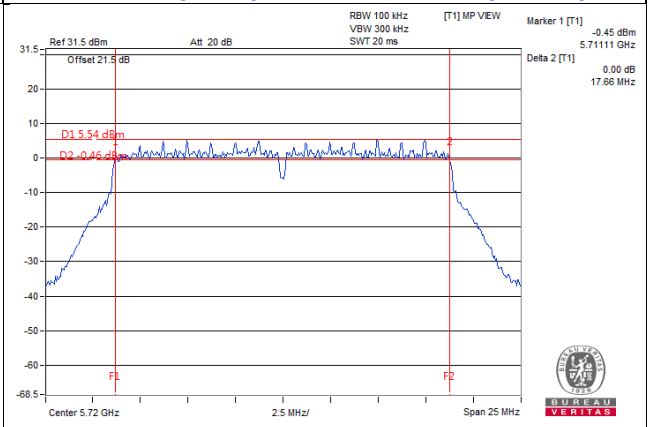
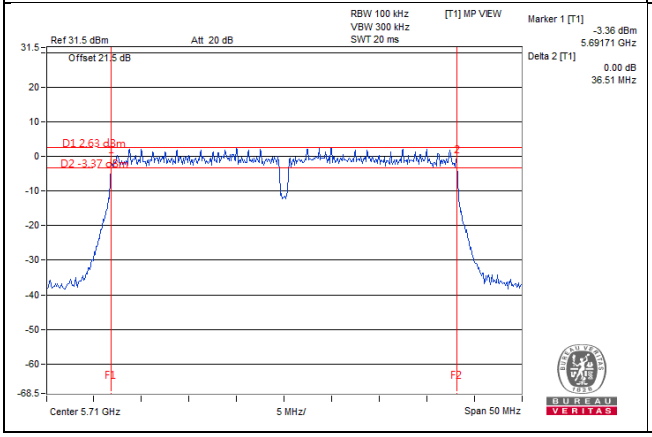
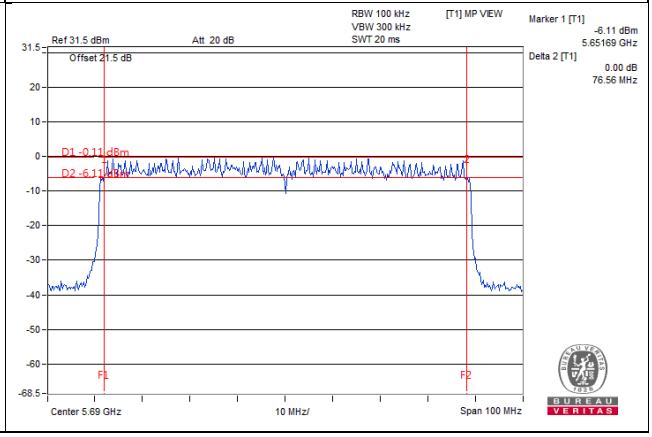
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3 Band)	5720	4.45	4.50	3.77	4.55	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142 (U-NII-3 Band)	5710	3.78	3.22	3.73	3.78	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		
138 (U-NII-3 Band)	5690	3.41	3.53	3.25	3.84	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 2 / CH144 (U-NII-3)	**802.11ax (HE20)_Chain 2 / CH144 (U-NII-3)**
	
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3)	**802.11ax (HE80)_Chain 2 / CH138 (U-NII-3)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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