FCC Test Report

Report No.:	RF191129E09-1
FCC ID:	PY319400470
Test Model:	RBR750
Series Model:	RBS750
Received Date:	Nov. 29, 2019
Test Date:	Jan. 08 ~ Jan. 13, 2020
Issued Date:	Jan. 14, 2020
Applicant:	NETGEAR, INC.
Address:	350 East Plumeria Drive, San Jose, CA 95134, USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number(1):	788550 / TW0003
Test Location (2):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan.
FCC Registration / Designation Number(2):	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF191129E09-1	Original release	Jan. 14, 2020

1 Certificate of Conformity

Product:	Orbi Router, Orbi Satellite
Brand:	NETGEAR
Test Model:	RBR750
Series Model:	RBS750
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Jan. 08 ~ Jan. 13, 2020
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Pettie Chen , **Date:** Jan. 14, 2020

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jan. 14, 2020

Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -6.02dB at 24.99609MHz.
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 5144.90, 5648.12MHz.
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 not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.0 dB
	30MHz ~ 1GHz	4.9 dB
Radiated Emissions above 1 GHz	1 GHz ~ 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	Orbi Router, Orbi Satellite
Brand	NETGEAR
Test Model	RBR750
Series Model	RBS750
Model Difference	Refer to Note for more details
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to MCS31 802.11ac (VHT20/40/80): up to MCS9 802.11ax: up to MCS11
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1
Output Power	CDD Mode: 5180 ~ 5240MHz: 693.591mW 5745 ~ 5825MHz: 984.884mW Beamforming Mode: 5180 ~ 5240MHz: 693.591mW 5745 ~ 5825MHz: 801.871mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter
Cable Supplied	1.8m non-shielded RJ45 cable without core

Note:

1. All models are electrically identical except software firmware. Model: RBR750 is the representative for final test.

Brand	Product Name	Model	Difference
NETGEAR	Orbi Router	RBR750	Function: Master WAN port*1; LAN port*3
	Orbi Satellite	RBS750	Function: Master + Client LAN port*2

2. The EUT uses following adapters.

Adapter 1	
Brand	NETGEAR
Model	2ABL030F1 NJ
P/N	332-10948-01
Input Power	100-120Vac, 50/60Hz, 1.0A
Output Power	12.0V, 2.5A
Power Cable	1.8m non-shielded power cable without core

Adapter 2	
Brand	NETGEAR
Model	AD2067F10
P/N	332-11509-01
Input Power	100-120Vac, 50/60Hz, 1.0A
Output Power	12.0V, 2.5A
Power Cable	1.8m non-shielded power cable without core

Adapter 3	
Brand	NETGEAR
Model	AD2067M20
P/N	332-11074-01
Input Power	100-240Vac, 50/60Hz, 1.0A
Output Power	12.0V, 2.5A
Power Cable	1.8m non-shielded power cable without core

*After pre-testing, Adapter 3 is the worst case for the final tests.

3. The EUT uses following antennas.

Antenna Type	Dipole	
Antenna Connector	i-pex(MHF)	
Directional Gain (dBi)		
2.4GHz Band	5GHz U-NII-1	5GHz U-NII-3
5.46	5.67	6.94

4. Spurious emission of the simultaneous operation (WLAN 2.4GHz and 5.0GHz) has been evaluated and no non-compliance was found.

3. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitter and 4 receivers.

Modulation Mode	TX Function		Beamforming
	5180 ~ 5240MHz	5745 ~ 5825MHz	
802.11a	2TX	4TX	Not Support
802.11n (HT20)	2TX	4TX	Support
802.11n (HT40)	2TX	4TX	Support
802.11ac (VHT20)	2TX	4TX	Support
802.11ac (VHT40)	2TX	4TX	Support
802.11ac (VHT80)	2TX	4TX	Support
802.11ax (HE20)	2TX	4TX	Support
802.11ax (HE40)	2TX	4TX	Support
802.11ax (HE80)	2TX	4TX	Support

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode and HE20/HE40 on 802.11ax mode. The bandwidth and modulation are similar for VHT80 on 802.11ac mode and HE80 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n/ac/ax, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

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	5210MHz

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

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

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	Power from adapter 3

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:

1. The EUT is designed to be positioned on the X-plane only.
2. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	2TX
-	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	2TX
-	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	2TX
-	802.11ax (HE80)		42	42	OFDMA	MCS0	2TX
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	4TX
-	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	4TX
-	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	4TX
-	802.11ax (HE80)		155	155	OFDMA	MCS0	4TX

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11ax (HE40)	5180-5240	38 to 46	151	OFDMA	MCS0	2TX
		5745-5825	151 to 159				4TX

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11ax (HE40)	5180-5240	38 to 46	151	OFDMA	MCS0	2TX
		5745-5825	151 to 159				4TX

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	2TX
-	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0	2TX
-	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0	2TX
-	802.11ac (VHT80)		42	42	OFDM	MCS0	2TX
-	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	2TX
-	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	2TX
-	802.11ax (HE80)		42	42	OFDMA	MCS0	2TX
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	4TX
-	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0	4TX
-	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0	4TX
-	802.11ac (VHT80)		155	155	OFDM	MCS0	4TX
-	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	4TX
-	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	4TX
-	802.11ax (HE80)		155	155	OFDMA	MCS0	4TX

*802.11n (VHT20), 802.11n (VHT40), 802.11n (VHT80) are for Conducted Output Power Measurement only.

Test Condition:

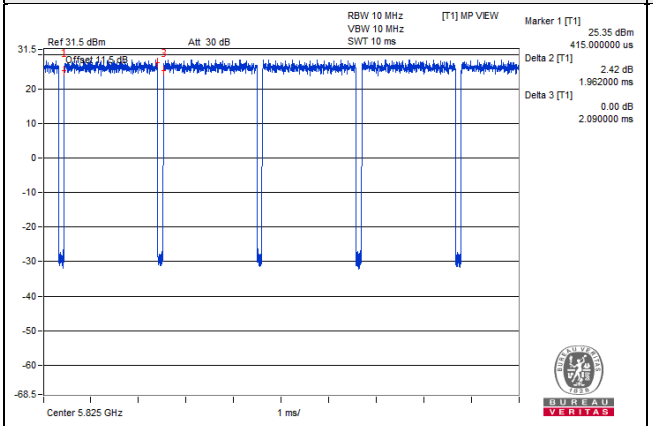
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	22 deg. C, 67% RH	120Vac, 60Hz	Kevin Ko
RE<1G	22 deg. C, 67% RH	120Vac, 60Hz	Kevin Ko
PLC	23 deg. C, 76% RH	120Vac, 60Hz	Andy Ho
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Alan Wu

3.3 Duty Cycle of Test Signal

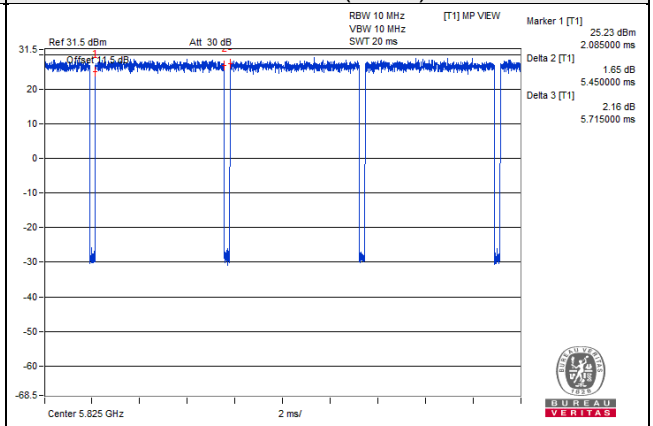
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.962/2.09 = 0.938, Duty factor = 10 * log (1/0.938) = 0.28
802.11ax (HE20): Duty cycle = 5.45/5.715 = 0.953, Duty factor = 10 * log (1/0.953) = 0.21
802.11ax (HE40): Duty cycle = 5.445/5.715 = 0.953, Duty factor = 10 * log (1/0.953) = 0.21
802.11ax (HE80): Duty cycle = 5.425/5.720 = 0.949, Duty factor = 10 * log (1/0.949) = 0.23

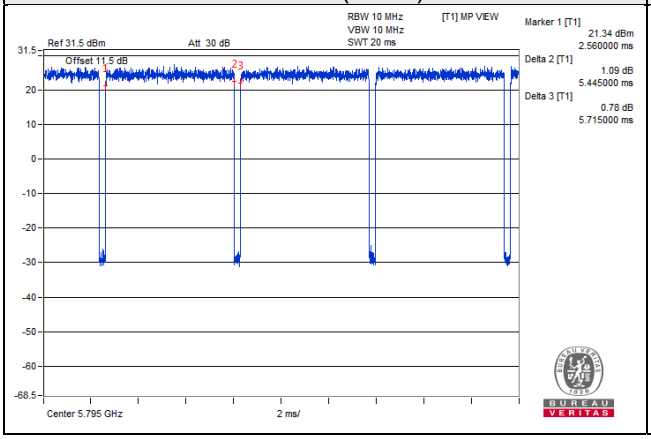
802.11a



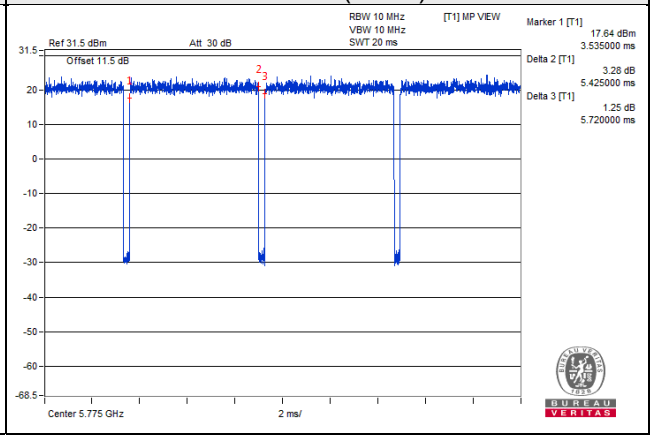
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



3.4 Description of Support Units

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

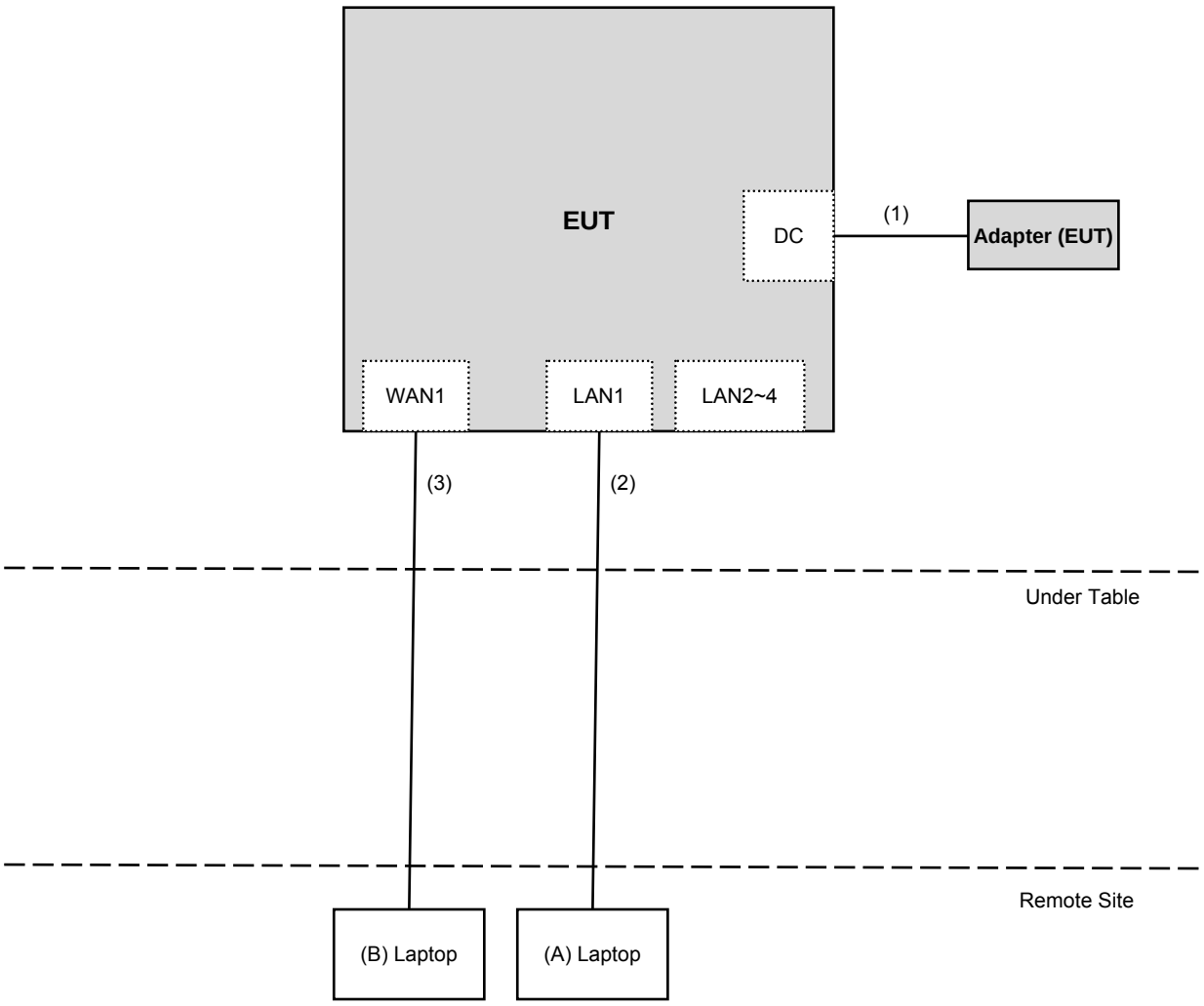
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC Approved	-
B.	Laptop	DELL	E5430	GM1SKV1	FCC DoC Approved	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.8	N	0	Accessory of EUT
2.	RJ45 cable	1	10	N	0	-
3.	RJ45 cable	1	10	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

Test standard:

FCC Part 15, Subpart E (15.407)
ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" 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="5">*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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 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. 23, 2019	Oct. 22, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 11, 2019	Nov. 10, 2020
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. 26, 2019	Sep. 25, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980385	Aug. 15, 2019	Aug. 14, 2020
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
			Jan. 09, 2020	Jan. 08, 2021
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. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Hsinchu 966 Chamber No. 4.

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

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

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

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.

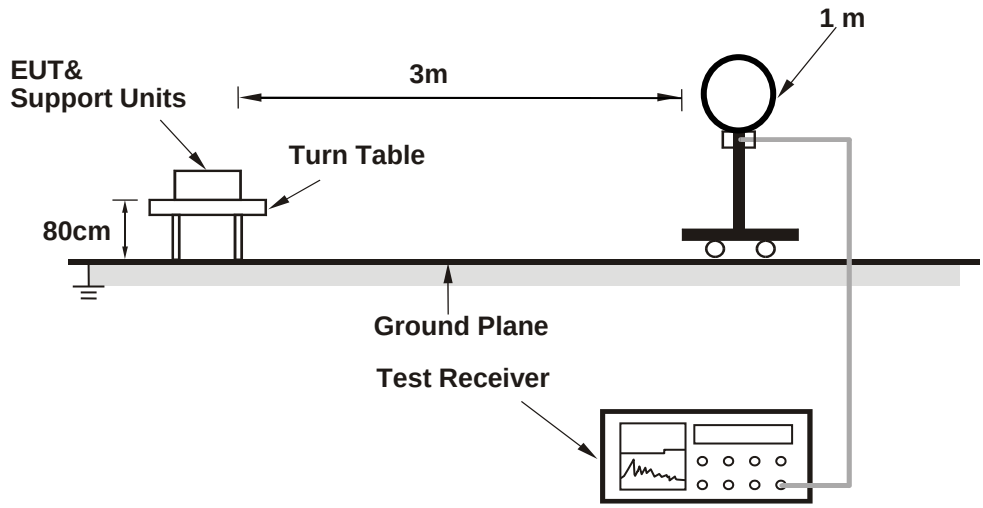
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

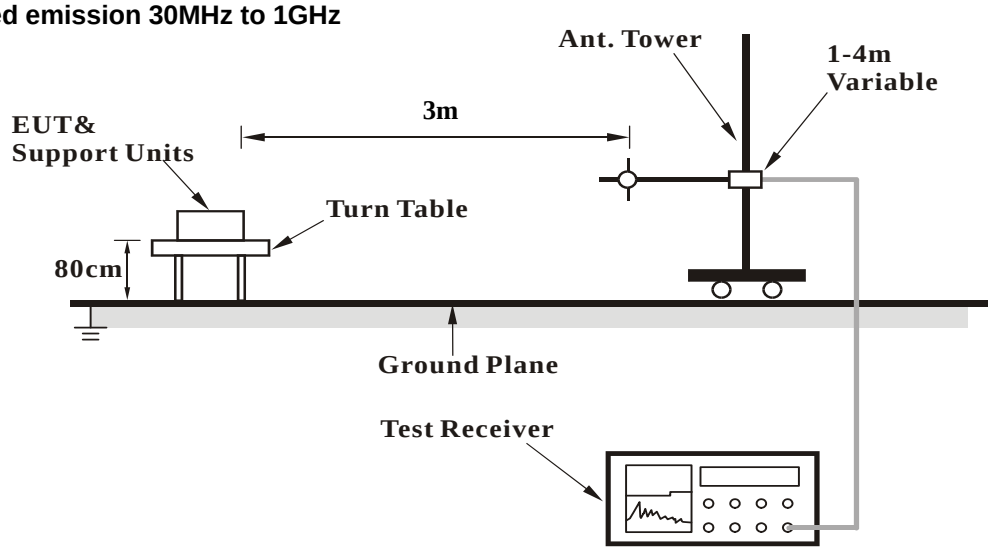
No deviation.

4.1.5 Test Setup

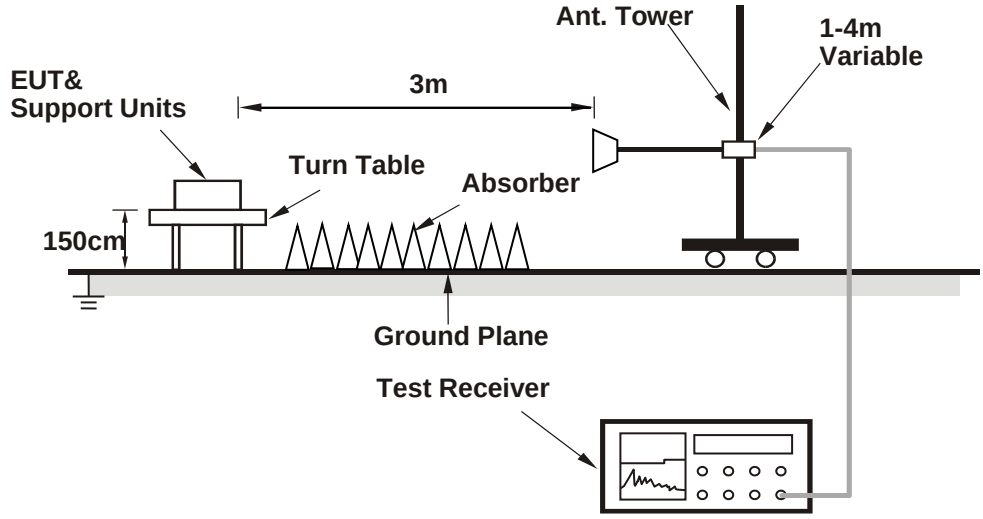
For Radiated emission below 30MHz



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 Conditions

a. Placed the EUT on the testing table and power from notebook.
b. Prepared 2 notebooks to act as a communication partner.
c. The communication partner connected with EUT via RJ45 cables and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.4 PK	74.0	-14.6	1.50 H	44	56.3	3.1
2	5150.00	44.5 AV	54.0	-9.5	1.50 H	44	41.4	3.1
3	*5180.00	108.3 PK			1.50 H	44	105.2	3.1
4	*5180.00	99.7 AV			1.50 H	44	96.6	3.1
5	#10360.00	49.7 PK	68.2	-18.5	1.50 H	253	36.8	12.9
6	15540.00	49.0 PK	74.0	-25.0	2.48 H	138	35.7	13.3
7	15540.00	36.2 AV	54.0	-17.8	2.48 H	138	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	5150.00	62.2 PK	74.0	-11.8	1.43 V	8	59.1	3.1
2	5150.00	53.6 AV	54.0	-0.4	1.43 V	8	50.5	3.1
3	*5180.00	118.7 PK			1.43 V	8	115.6	3.1
4	*5180.00	109.7 AV			1.43 V	8	106.6	3.1
5	#10360.00	56.6 PK	68.2	-11.6	3.23 V	211	43.7	12.9
6	15540.00	47.2 PK	74.0	-26.8	2.16 V	347	33.9	13.3
7	15540.00	36.5 AV	54.0	-17.5	2.16 V	347	23.2	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.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5144.90	66.5 PK	74.0	-7.5	2.48 H	29	63.4	3.1
2	5144.90	48.7 AV	54.0	-5.3	2.48 H	29	45.6	3.1
3	5150.00	53.2 PK	74.0	-20.8	2.48 H	29	50.1	3.1
4	5150.00	42.5 AV	54.0	-11.5	2.48 H	29	39.4	3.1
5	*5200.00	116.8 PK			2.48 H	29	113.8	3.0
6	*5200.00	109.2 AV			2.48 H	29	106.2	3.0
7	#10400.00	49.7 PK	68.2	-18.5	1.98 H	235	36.6	13.1
8	15600.00	48.8 PK	74.0	-25.2	1.20 H	301	35.7	13.1
9	15600.00	35.5 AV	54.0	-18.5	1.20 H	301	22.4	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	5144.90	72.1 PK	74.0	-1.9	1.57 V	354	69.0	3.1
2	**5144.90**	**53.9 AV**	**54.0**	**-0.1**	**1.57 V**	**354**	**50.8**	**3.1**
3	5150.00	60.5 PK	74.0	-13.5	1.57 V	354	57.4	3.1
4	5150.00	49.4 AV	54.0	-4.6	1.57 V	354	46.3	3.1
5	*5200.00	124.5 PK			1.57 V	354	121.5	3.0
6	*5200.00	115.2 AV			1.57 V	354	112.2	3.0
7	#10400.00	55.9 PK	68.2	-12.3	2.43 V	67	42.8	13.1
8	15600.00	47.2 PK	74.0	-26.8	1.10 V	90	34.1	13.1
9	15600.00	36.4 AV	54.0	-17.6	1.10 V	90	23.3	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 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.0 PK	74.0	-27.0	1.62 H	75	43.9	3.1
2	5150.00	35.9 AV	54.0	-18.1	1.62 H	75	32.8	3.1
3	*5240.00	117.0 PK			1.62 H	75	114.1	2.9
4	*5240.00	106.5 AV			1.62 H	75	103.6	2.9
5	5350.00	47.3 PK	74.0	-26.7	1.62 H	75	44.2	3.1
6	5350.00	36.7 AV	54.0	-17.3	1.62 H	75	33.6	3.1
7	#10480.00	49.0 PK	68.2	-19.2	1.85 H	156	35.8	13.2
8	15720.00	48.4 PK	74.0	-25.6	2.69 H	348	35.7	12.7
9	15720.00	36.7 AV	54.0	-17.3	2.69 H	348	24.0	12.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.49 V	350	51.8	3.1
2	5150.00	42.8 AV	54.0	-11.2	1.49 V	350	39.7	3.1
3	*5240.00	123.0 PK			1.49 V	350	120.1	2.9
4	*5240.00	114.0 AV			1.49 V	350	111.1	2.9
5	5350.00	54.9 PK	74.0	-19.1	1.49 V	350	51.8	3.1
6	5350.00	41.7 AV	54.0	-12.3	1.49 V	350	38.6	3.1
7	#10480.00	56.6 PK	68.2	-11.6	1.62 V	212	43.4	13.2
8	15720.00	46.8 PK	74.0	-27.2	1.24 V	175	34.1	12.7
9	15720.00	35.9 AV	54.0	-18.1	1.24 V	175	23.2	12.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5605.55	55.7 PK	68.2	-12.5	1.62 H	188	52.0	3.7
2	*5745.00	123.9 PK			1.62 H	188	120.3	3.6
3	*5745.00	112.7 AV			1.62 H	188	109.1	3.6
4	#5941.64	51.9 PK	68.2	-16.3	1.62 H	188	47.4	4.5
5	11490.00	48.7 PK	74.0	-25.3	1.31 H	65	35.0	13.7
6	11490.00	42.4 AV	54.0	-11.6	1.31 H	65	28.7	13.7
7	#17235.00	48.6 PK	68.2	-19.6	1.57 H	73	31.8	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.49	57.0 PK	68.2	-11.2	1.50 V	82	53.2	3.8
2	*5745.00	125.8 PK			1.50 V	82	122.2	3.6
3	*5745.00	114.4 AV			1.50 V	82	110.8	3.6
4	#5934.43	53.0 PK	68.2	-15.2	1.50 V	82	48.5	4.5
5	11490.00	55.9 PK	74.0	-18.1	2.39 V	282	42.2	13.7
6	11490.00	45.9 AV	54.0	-8.1	2.39 V	282	32.2	13.7
7	#17235.00	46.9 PK	68.2	-21.3	2.17 V	264	30.1	16.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5638.22	55.2 PK	68.2	-13.0	1.74 H	196	51.5	3.7
2	*5785.00	122.5 PK			1.74 H	196	118.8	3.7
3	*5785.00	114.2 AV			1.74 H	196	110.5	3.7
4	#5928.72	52.9 PK	68.2	-15.3	1.74 H	196	48.5	4.4
5	11570.00	50.4 PK	74.0	-23.6	1.23 H	200	36.9	13.5
6	11570.00	42.4 AV	54.0	-11.6	1.23 H	200	28.9	13.5
7	#17355.00	48.5 PK	68.2	-19.7	1.28 H	330	31.3	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	#5599.19	56.4 PK	68.2	-11.8	1.55 V	81	52.7	3.7
2	*5785.00	125.7 PK			1.55 V	81	122.0	3.7
3	*5785.00	116.7 AV			1.55 V	81	113.0	3.7
4	#5936.07	52.1 PK	68.2	-16.1	1.55 V	81	47.6	4.5
5	11570.00	56.5 PK	74.0	-17.5	1.38 V	191	43.0	13.5
6	11570.00	45.3 AV	54.0	-8.7	1.38 V	191	31.8	13.5
7	#17355.00	47.5 PK	68.2	-20.7	2.05 V	18	30.3	17.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5636.43	54.1 PK	68.2	-14.1	1.67 H	188	50.4	3.7
2	*5825.00	121.5 PK			1.67 H	188	117.5	4.0
3	*5825.00	112.3 AV			1.67 H	188	108.3	4.0
4	#5925.74	56.0 PK	68.2	-12.2	1.67 H	188	51.7	4.3
5	11650.00	49.4 PK	74.0	-24.6	2.25 H	181	36.1	13.3
6	11650.00	42.1 AV	54.0	-11.9	2.25 H	181	28.8	13.3
7	#17475.00	49.1 PK	68.2	-19.1	1.15 H	14	30.8	18.3
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	#5589.08	56.0 PK	68.2	-12.2	1.56 V	87	52.3	3.7
2	*5825.00	124.8 PK			1.56 V	87	120.8	4.0
3	*5825.00	115.8 AV			1.56 V	87	111.8	4.0
4	#5928.71	54.0 PK	68.2	-14.2	1.56 V	87	49.6	4.4
5	11650.00	56.9 PK	74.0	-17.1	1.94 V	328	43.6	13.3
6	11650.00	45.5 AV	54.0	-8.5	1.94 V	328	32.2	13.3
7	#17475.00	46.8 PK	68.2	-21.4	1.64 V	343	28.5	18.3

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.

802.11ax (HE20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.9 PK	74.0	-16.1	1.24 H	173	54.8	3.1
2	5150.00	47.9 AV	54.0	-6.1	1.24 H	173	44.8	3.1
3	*5180.00	113.7 PK			1.24 H	173	110.6	3.1
4	*5180.00	102.2 AV			1.24 H	173	99.1	3.1
5	#10360.00	50.0 PK	68.2	-18.2	1.69 H	38	37.1	12.9
6	15540.00	49.1 PK	74.0	-24.9	1.06 H	254	35.8	13.3
7	15540.00	36.5 AV	54.0	-17.5	1.06 H	254	23.2	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	5150.00	65.1 PK	74.0	-8.9	1.45 V	352	62.0	3.1
2	5150.00	53.6 AV	54.0	-0.4	1.45 V	352	50.5	3.1
3	*5180.00	120.7 PK			1.45 V	352	117.6	3.1
4	*5180.00	109.2 AV			1.45 V	352	106.1	3.1
5	#10360.00	57.0 PK	68.2	-11.2	1.58 V	350	44.1	12.9
6	15540.00	47.3 PK	74.0	-26.7	1.30 V	159	34.0	13.3
7	15540.00	36.2 AV	54.0	-17.8	1.30 V	159	22.9	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.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	1.92 H	304	58.9	3.1
2	5150.00	46.1 AV	54.0	-7.9	1.92 H	304	43.0	3.1
3	*5200.00	118.1 PK			1.92 H	304	115.1	3.0
4	*5200.00	105.5 AV			1.92 H	304	102.5	3.0
5	#10400.00	48.6 PK	68.2	-19.6	1.68 H	98	35.5	13.1
6	15600.00	48.8 PK	74.0	-25.2	2.70 H	164	35.7	13.1
7	15600.00	36.1 AV	54.0	-17.9	2.70 H	164	23.0	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	67.6 PK	74.0	-6.4	1.50 V	354	64.5	3.1
2	5150.00	53.6 AV	54.0	-0.4	1.50 V	354	50.5	3.1
3	*5200.00	124.8 PK			1.50 V	354	121.8	3.0
4	*5200.00	112.9 AV			1.50 V	354	109.9	3.0
5	#10400.00	57.6 PK	68.2	-10.6	1.64 V	305	44.5	13.1
6	15600.00	47.3 PK	74.0	-26.7	2.22 V	258	34.2	13.1
7	15600.00	37.0 AV	54.0	-17.0	2.22 V	258	23.9	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 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.7 PK	74.0	-27.3	1.82 H	10	43.6	3.1
2	5150.00	35.7 AV	54.0	-18.3	1.82 H	10	32.6	3.1
3	*5240.00	118.4 PK			1.82 H	10	115.5	2.9
4	*5240.00	106.9 AV			1.82 H	10	104.0	2.9
5	5350.00	45.0 PK	74.0	-29.0	1.82 H	10	41.9	3.1
6	5350.00	35.4 AV	54.0	-18.6	1.82 H	10	32.3	3.1
7	#10480.00	49.9 PK	68.2	-18.3	1.63 H	358	36.7	13.2
8	15720.00	48.4 PK	74.0	-25.6	2.17 H	262	35.7	12.7
9	15720.00	36.4 AV	54.0	-17.6	2.17 H	262	23.7	12.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.9 PK	74.0	-20.1	1.46 V	354	50.8	3.1
2	5150.00	42.4 AV	54.0	-11.6	1.46 V	354	39.3	3.1
3	*5240.00	125.3 PK			1.46 V	354	122.4	2.9
4	*5240.00	113.6 AV			1.46 V	354	110.7	2.9
5	5350.00	52.7 PK	74.0	-21.3	1.46 V	354	49.6	3.1
6	5350.00	41.7 AV	54.0	-12.3	1.46 V	354	38.6	3.1
7	#10480.00	56.3 PK	68.2	-11.9	2.24 V	167	43.1	13.2
8	15720.00	47.1 PK	74.0	-26.9	1.85 V	313	34.4	12.7
9	15720.00	36.7 AV	54.0	-17.3	1.85 V	313	24.0	12.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.95	56.1 PK	68.2	-12.1	1.22 H	183	52.3	3.8
2	*5745.00	125.4 PK			1.22 H	183	121.8	3.6
3	*5745.00	114.9 AV			1.22 H	183	111.3	3.6
4	#5936.14	53.8 PK	68.2	-14.4	1.22 H	183	49.3	4.5
5	11490.00	48.7 PK	74.0	-25.3	2.57 H	88	35.0	13.7
6	11490.00	42.0 AV	54.0	-12.0	2.57 H	88	28.3	13.7
7	#17235.00	48.3 PK	68.2	-19.9	2.42 H	162	31.5	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5642.38	58.1 PK	68.2	-10.1	1.53 V	87	54.3	3.8
2	*5745.00	126.7 PK			1.53 V	87	123.1	3.6
3	*5745.00	115.5 AV			1.53 V	87	111.9	3.6
4	#5933.66	53.0 PK	68.2	-15.2	1.53 V	87	48.5	4.5
5	11490.00	55.6 PK	74.0	-18.4	1.93 V	225	41.9	13.7
6	11490.00	46.4 AV	54.0	-7.6	1.93 V	225	32.7	13.7
7	#17235.00	46.6 PK	68.2	-21.6	1.01 V	228	29.8	16.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5593.80	54.1 PK	68.2	-14.1	1.76 H	164	50.4	3.7
2	*5785.00	125.0 PK			1.76 H	164	121.3	3.7
3	*5785.00	112.6 AV			1.76 H	164	108.9	3.7
4	#5935.85	51.9 PK	68.2	-16.3	1.76 H	164	47.4	4.5
5	11570.00	49.1 PK	74.0	-24.9	1.35 H	128	35.6	13.5
6	11570.00	42.6 AV	54.0	-11.4	1.35 H	128	29.1	13.5
7	#17355.00	48.4 PK	68.2	-19.8	1.59 H	167	31.2	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	#5589.25	56.8 PK	68.2	-11.4	1.52 V	85	53.1	3.7
2	*5785.00	128.3 PK			1.52 V	85	124.6	3.7
3	*5785.00	115.9 AV			1.52 V	85	112.2	3.7
4	#5925.00	53.0 PK	68.2	-15.2	1.52 V	85	48.7	4.3
5	11570.00	55.4 PK	74.0	-18.6	2.42 V	278	41.9	13.5
6	11570.00	45.2 AV	54.0	-8.8	2.42 V	278	31.7	13.5
7	#17355.00	47.5 PK	68.2	-20.7	2.63 V	27	30.3	17.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5610.08	54.2 PK	68.2	-14.0	1.56 H	175	50.5	3.7
2	*5825.00	125.6 PK			1.56 H	175	121.6	4.0
3	*5825.00	113.6 AV			1.56 H	175	109.6	4.0
4	#5930.48	55.9 PK	68.2	-12.3	1.56 H	175	51.4	4.5
5	11650.00	48.6 PK	74.0	-25.4	2.07 H	253	35.3	13.3
6	11650.00	41.5 AV	54.0	-12.5	2.07 H	253	28.2	13.3
7	#17475.00	49.5 PK	68.2	-18.7	2.49 H	349	31.2	18.3
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	#5582.59	56.1 PK	68.2	-12.1	1.50 V	87	52.4	3.7
2	*5825.00	126.2 PK			1.50 V	87	122.2	4.0
3	*5825.00	115.9 AV			1.50 V	87	111.9	4.0
4	#5928.14	56.4 PK	68.2	-11.8	1.50 V	87	52.1	4.3
5	11650.00	55.4 PK	74.0	-18.6	2.25 V	340	42.1	13.3
6	11650.00	46.2 AV	54.0	-7.8	2.25 V	340	32.9	13.3
7	#17475.00	46.2 PK	68.2	-22.0	2.32 V	327	27.9	18.3

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.

802.11ax (HET40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.9 PK	74.0	-10.1	1.21 H	90	60.8	3.1
2	5150.00	47.4 AV	54.0	-6.6	1.21 H	90	44.3	3.1
3	*5190.00	112.0 PK			1.21 H	90	108.9	3.1
4	*5190.00	100.2 AV			1.21 H	90	97.1	3.1
5	#10380.00	49.7 PK	68.2	-18.5	1.73 H	110	36.7	13.0
6	15570.00	49.5 PK	74.0	-24.5	2.35 H	356	36.3	13.2
7	15570.00	36.3 AV	54.0	-17.7	2.35 H	356	23.1	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	68.9 PK	74.0	-5.1	1.53 V	353	65.8	3.1
2	5150.00	53.7 AV	54.0	-0.3	1.53 V	353	50.6	3.1
3	*5190.00	117.3 PK			1.53 V	353	114.2	3.1
4	*5190.00	105.6 AV			1.53 V	353	102.5	3.1
5	#10380.00	56.0 PK	68.2	-12.2	1.38 V	72	43.0	13.0
6	15570.00	47.7 PK	74.0	-26.3	2.61 V	187	34.5	13.2
7	15570.00	37.0 AV	54.0	-17.0	2.61 V	187	23.8	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 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.72 H	140	59.6	3.1
2	5150.00	47.2 AV	54.0	-6.8	1.72 H	140	44.1	3.1
3	*5230.00	116.1 PK			1.72 H	140	113.2	2.9
4	*5230.00	103.2 AV			1.72 H	140	100.3	2.9
5	5350.00	49.5 PK	74.0	-24.5	1.72 H	140	46.4	3.1
6	5350.00	37.0 AV	54.0	-17.0	1.72 H	140	33.9	3.1
7	#10460.00	50.5 PK	68.2	-17.7	1.46 H	154	37.3	13.2
8	15690.00	48.5 PK	74.0	-25.5	2.54 H	212	35.7	12.8
9	15690.00	35.8 AV	54.0	-18.2	2.54 H	212	23.0	12.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.6 PK	74.0	-5.4	1.47 V	353	65.5	3.1
2	5150.00	53.7 AV	54.0	-0.3	1.47 V	353	50.6	3.1
3	*5230.00	122.1 PK			1.47 V	353	119.2	2.9
4	*5230.00	110.1 AV			1.47 V	353	107.2	2.9
5	5350.00	56.0 PK	74.0	-18.0	1.47 V	353	52.9	3.1
6	5350.00	44.1 AV	54.0	-9.9	1.47 V	353	41.0	3.1
7	#10460.00	56.3 PK	68.2	-11.9	1.83 V	225	43.1	13.2
8	15690.00	46.6 PK	74.0	-27.4	1.71 V	178	33.8	12.8
9	15690.00	37.2 AV	54.0	-16.8	1.71 V	178	24.4	12.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.02	67.5 PK	68.2	-0.7	1.36 H	193	63.7	3.8
2	*5755.00	120.6 PK			1.36 H	193	117.0	3.6
3	*5755.00	110.7 AV			1.36 H	193	107.1	3.6
4	#5926.66	55.1 PK	68.2	-13.1	1.36 H	193	50.8	4.3
5	11510.00	49.9 PK	74.0	-24.1	2.01 H	350	36.3	13.6
6	11510.00	42.0 AV	54.0	-12.0	2.01 H	350	28.4	13.6
7	#17265.00	49.1 PK	68.2	-19.1	1.62 H	318	32.2	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	#5642.91	67.8 PK	68.2	-0.4	1.71 V	90	64.0	3.8
2	*5755.00	122.6 PK			1.71 V	90	119.0	3.6
3	*5755.00	112.5 AV			1.71 V	90	108.9	3.6
4	#5924.59	55.7 PK	68.5	-12.8	1.71 V	90	51.4	4.3
5	11510.00	57.2 PK	74.0	-16.8	1.45 V	58	43.6	13.6
6	11510.00	45.8 AV	54.0	-8.2	1.45 V	58	32.2	13.6
7	#17265.00	47.1 PK	68.2	-21.1	1.12 V	352	30.2	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 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5642.99	62.0 PK	68.2	-6.2	1.43 H	192	58.2	3.8
2	*5795.00	122.3 PK			1.43 H	192	118.6	3.7
3	*5795.00	111.6 AV			1.43 H	192	107.9	3.7
4	#5937.96	63.4 PK	68.2	-4.8	1.43 H	192	58.9	4.5
5	11590.00	49.9 PK	74.0	-24.1	2.12 H	298	36.3	13.6
6	11590.00	41.5 AV	54.0	-12.5	2.12 H	298	27.9	13.6
7	#17385.00	49.5 PK	68.2	-18.7	1.13 H	249	32.3	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	#5645.11	63.1 PK	68.2	-5.1	1.68 V	83	59.3	3.8
2	*5795.00	125.6 PK			1.68 V	83	121.9	3.7
3	*5795.00	113.5 AV			1.68 V	83	109.8	3.7
4	#5924.35	64.8 PK	68.7	-3.9	1.68 V	83	60.5	4.3
5	11590.00	56.9 PK	74.0	-17.1	2.28 V	96	43.3	13.6
6	11590.00	46.7 AV	54.0	-7.3	2.28 V	96	33.1	13.6
7	#17385.00	46.9 PK	68.2	-21.3	2.25 V	303	29.7	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 (HE80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.4 PK	74.0	-14.6	1.05 H	290	56.3	3.1
2	5150.00	45.6 AV	54.0	-8.4	1.05 H	290	42.5	3.1
3	*5210.00	106.9 PK			1.05 H	290	103.9	3.0
4	*5210.00	96.7 AV			1.05 H	290	93.7	3.0
5	5350.00	47.0 PK	74.0	-27.0	1.05 H	290	43.9	3.1
6	5350.00	34.1 AV	54.0	-19.9	1.05 H	290	31.0	3.1
7	#10420.00	49.7 PK	68.2	-18.5	1.75 H	265	36.5	13.2
8	15630.00	49.0 PK	74.0	-25.0	1.38 H	40	36.0	13.0
9	15630.00	36.6 AV	54.0	-17.4	1.38 H	40	23.6	13.0
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	5150.00	65.3 PK	74.0	-8.7	1.50 V	348	62.2	3.1
2	5150.00	53.6 AV	54.0	-0.4	1.50 V	348	50.5	3.1
3	*5210.00	113.9 PK			1.50 V	348	110.9	3.0
4	*5210.00	102.0 AV			1.50 V	348	99.0	3.0
5	5350.00	53.3 PK	74.0	-20.7	1.50 V	348	50.2	3.1
6	5350.00	40.9 AV	54.0	-13.1	1.50 V	348	37.8	3.1
7	#10420.00	56.5 PK	68.2	-11.7	1.51 V	150	43.3	13.2
8	15630.00	47.5 PK	74.0	-26.5	1.01 V	210	34.5	13.0
9	15630.00	36.9 AV	54.0	-17.1	1.01 V	210	23.9	13.0

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.34	66.2 PK	68.2	-2.0	1.40 H	176	62.4	3.8
2	*5775.00	115.8 PK			1.40 H	176	112.1	3.7
3	*5775.00	104.9 AV			1.40 H	176	101.2	3.7
4	#5927.02	58.6 PK	68.2	-9.6	1.40 H	176	54.3	4.3
5	11550.00	57.0 PK	74.0	-17.0	1.96 H	110	43.4	13.6
6	11550.00	46.1 AV	54.0	-7.9	1.96 H	110	32.5	13.6
7	#17325.00	47.2 PK	68.2	-21.0	1.99 H	155	30.2	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	**#5648.12**	**68.1 PK**	**68.2**	**-0.1**	**1.65 V**	**92**	**64.3**	**3.8**
2	*5775.00	116.3 PK			1.65 V	92	112.6	3.7
3	*5775.00	106.6 AV			1.65 V	92	102.9	3.7
4	#5933.08	57.2 PK	68.2	-11.0	1.65 V	92	52.7	4.5
5	11550.00	55.5 PK	74.0	-18.5	2.19 V	282	41.9	13.6
6	11550.00	45.2 AV	54.0	-8.8	2.19 V	282	31.6	13.6
7	#17325.00	47.2 PK	68.2	-21.0	1.34 V	136	30.2	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 Worst-Case Data:

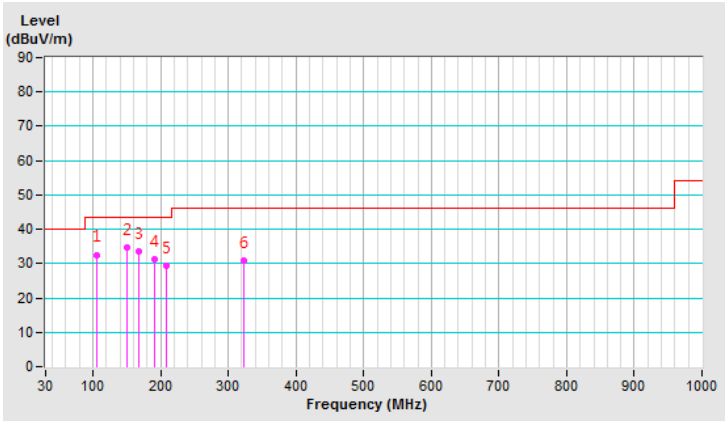
802.11ax (HE40)

CHANNEL	TX Channel 151	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	104.76	32.6 QP	43.5	-10.9	2.00 H	58	43.9	-11.3
2	150.72	34.7 QP	43.5	-8.8	2.00 H	267	42.4	-7.7
3	168.30	33.4 QP	43.5	-10.1	3.00 H	17	41.5	-8.1
4	191.72	31.4 QP	43.5	-12.1	2.00 H	111	42.0	-10.6
5	208.29	29.3 QP	43.5	-14.2	1.00 H	279	40.2	-10.9
6	322.55	30.7 QP	46.0	-15.3	1.00 H	31	36.8	-6.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report

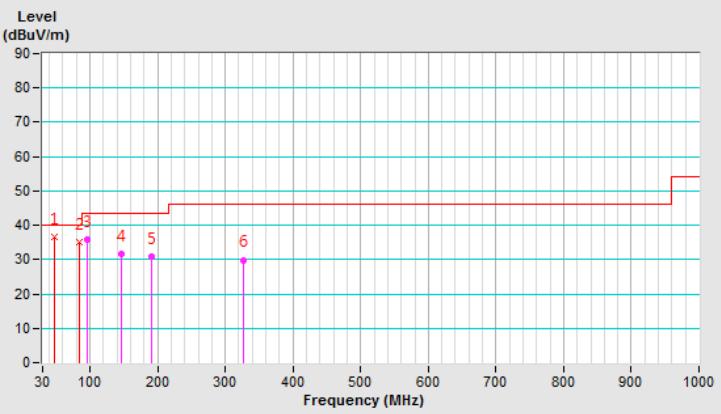


CHANNEL	TX Channel 151	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	47.46	36.7 QP	40.0	-3.3	1.00 V	133	44.5	-7.8
2	84.83	35.1 QP	40.0	-4.9	2.00 V	48	48.7	-13.6
3	96.88	35.8 QP	43.5	-7.7	1.00 V	13	48.5	-12.7
4	146.18	31.7 QP	43.5	-11.8	2.00 V	0	39.4	-7.7
5	191.63	30.7 QP	43.5	-12.8	1.00 V	316	41.3	-10.6
6	326.43	29.9 QP	46.0	-16.1	2.00 V	36	35.9	-6.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report



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.	Cal. Date	Cal. Due
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 17, 2019	Mar. 16, 2020
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
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 is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Hsinchu Conduction 1.

4.2.3 Test Procedures

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.

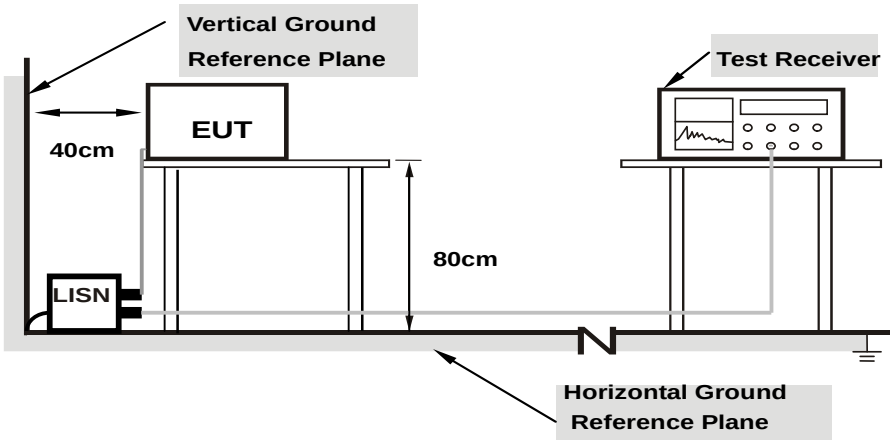
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

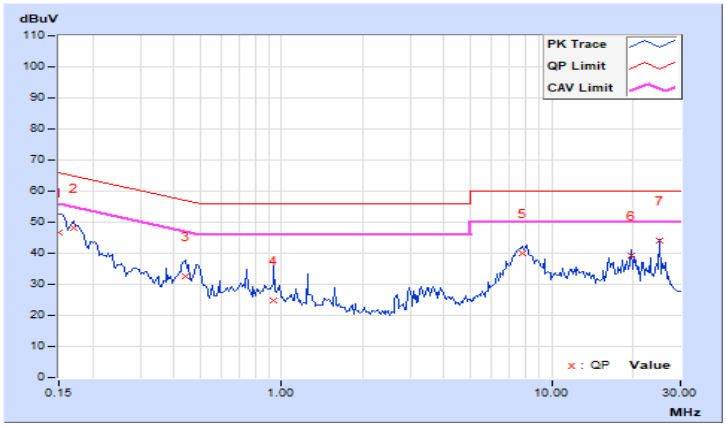
802.11ax (HE40)

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.99	36.72	20.01	46.71	30.00	66.00	56.00	-19.29	-26.00
2	0.16953	9.99	38.16	26.90	48.15	36.89	64.98	54.98	-16.83	-18.09
3	0.43906	10.00	22.72	15.89	32.72	25.89	57.08	47.08	-24.36	-21.19
4	0.93906	10.04	14.85	9.44	24.89	19.48	56.00	46.00	-31.11	-26.52
5	7.79688	10.51	29.61	23.92	40.12	34.43	60.00	50.00	-19.88	-15.57
6	19.70703	11.35	27.85	23.99	39.20	35.34	60.00	50.00	-20.80	-14.66
7	25.00000	11.55	32.38	31.52	43.93	43.07	60.00	50.00	-16.07	-6.93

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.

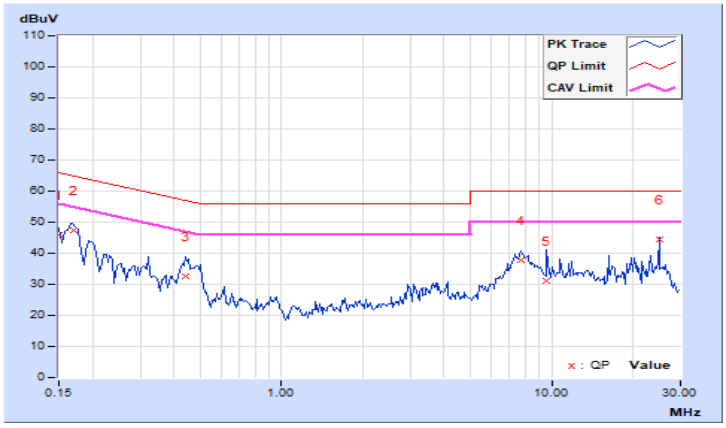


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.15000	9.99	35.96	20.37	45.95	30.36	66.00	56.00	-20.05	-25.64
2	0.16953	9.99	37.53	26.47	47.52	36.46	64.98	54.98	-17.46	-18.52
3	0.43906	10.01	22.63	15.89	32.64	25.90	57.08	47.08	-24.44	-21.18
4	7.70703	10.44	27.24	21.51	37.68	31.95	60.00	50.00	-22.32	-18.05
5	9.62109	10.56	20.64	14.87	31.20	25.43	60.00	50.00	-28.80	-24.57
6	**24.99609**	**11.23**	**33.15**	**32.75**	**44.38**	**43.98**	**60.00**	**50.00**	**-15.62**	**-6.02**

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.



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)
		Mobile and Portable client device	250mW (24 dBm)
U-NII-2A			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

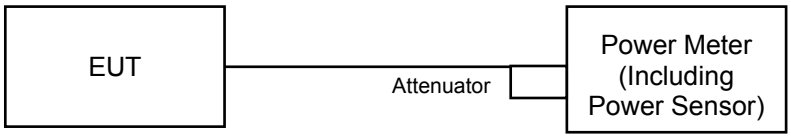
*B is the 26 dB emission bandwidth in megahertz

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

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

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

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	22.17	22.60	346.786	25.40	30.00	Pass
40	5200	25.25	25.49	688.962	28.38	30.00	Pass
48	5240	25.45	25.26	686.490	28.37	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	22.01	22.63	342.086	25.34	30.00	Pass
40	5200	25.06	25.26	656.365	28.17	30.00	Pass
48	5240	25.21	24.83	635.983	28.03	30.00	Pass

802.11ac (VHT 40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	19.50	20.20	193.838	22.87	30.00	Pass
46	5230	24.51	24.81	585.179	27.67	30.00	Pass

802.11ac (VHT 80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	19.01	19.42	167.114	22.23	30.00	Pass

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	22.24	22.84	359.803	25.56	30.00	Pass
40	5200	25.32	25.48	**693.591**	28.41	30.00	Pass
48	5240	25.55	25.10	682.516	28.34	30.00	Pass

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	19.83	20.45	207.078	23.16	30.00	Pass
46	5230	24.72	25.13	622.320	27.94	30.00	Pass

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	19.24	19.67	176.629	22.47	30.00	Pass

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.80	23.33	23.52	24.50	912.567	29.60	30.00	Pass
157	5785	23.30	23.73	23.37	24.35	939.384	29.73	30.00	Pass
165	5825	23.45	23.59	23.70	24.55	969.394	29.87	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.58	22.97	23.76	24.11	874.603	29.42	30.00	Pass
157	5785	23.11	23.43	23.14	24.11	888.632	29.49	30.00	Pass
165	5825	23.27	23.25	23.91	24.01	921.478	29.64	30.00	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.93	23.54	24.00	24.25	939.542	29.73	30.00	Pass
159	5795	22.73	23.46	23.93	24.06	911.174	29.60	30.00	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	21.84	22.16	22.85	22.79	700.054	28.45	30.00	Pass

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.81	23.24	24.06	24.39	931.320	29.69	30.00	Pass
157	5785	23.41	23.77	23.46	24.39	954.121	29.80	30.00	Pass
165	5825	23.55	23.56	24.11	24.33	982.101	29.92	30.00	Pass

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	23.11	23.75	24.16	24.51	**984.884**	29.93	30.00	Pass
159	5795	23.05	23.74	24.22	24.33	973.689	29.88	30.00	Pass

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.11	22.42	23.10	23.10	745.485	28.72	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	22.01	22.63	342.086	25.34	30.00	Pass
40	5200	25.06	25.26	656.365	28.17	30.00	Pass
48	5240	25.21	24.83	635.983	28.03	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ac (VHT 40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	19.50	20.20	193.838	22.87	30.00	Pass
46	5230	24.51	24.81	585.179	27.67	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ac (VHT 80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	19.01	19.42	167.114	22.23	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	22.24	22.84	359.803	25.56	30.00	Pass
40	5200	25.32	25.48	**693.591**	28.41	30.00	Pass
48	5240	25.55	25.10	682.516	28.34	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	19.83	20.45	207.078	23.16	30.00	Pass
46	5230	24.72	25.13	622.320	27.94	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	19.24	19.67	176.629	22.47	30.00	Pass

Note: Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.05	22.49	23.21	23.62	777.299	28.91	29.06	Pass
157	5785	22.38	22.73	23.24	23.19	779.793	28.92	29.06	Pass
165	5825	22.60	22.62	23.16	23.13	777.383	28.91	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.15	22.63	23.03	23.68	781.545	28.93	29.06	Pass
159	5795	22.33	22.69	23.22	23.25	778.025	28.91	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.01	22.31	23.00	23.02	729.458	28.63	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.19	22.63	23.38	23.70	801.002	29.04	29.06	Pass
157	5785	22.39	22.87	23.38	23.31	799.082	29.03	29.06	Pass
165	5825	22.74	22.76	23.29	23.26	**801.871**	29.04	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.17	22.76	23.18	23.75	798.722	29.02	29.06	Pass
159	5795	22.38	22.82	23.30	23.34	793.978	29.00	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

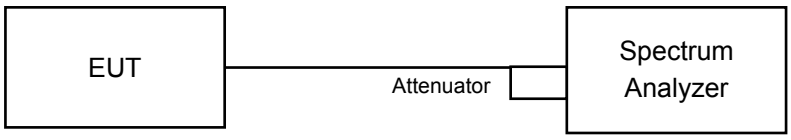
802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.19	22.50	23.18	23.18	758.578	28.80	29.06	Pass

Note: Directional gain = 6.94dBi > 6dBi, so the power limit shall be reduced to 30-(6.94-6) = 29.06dBm.

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.44
40	5200	22.56	17.28
48	5240	17.40	16.80

802.11ax (HE20)

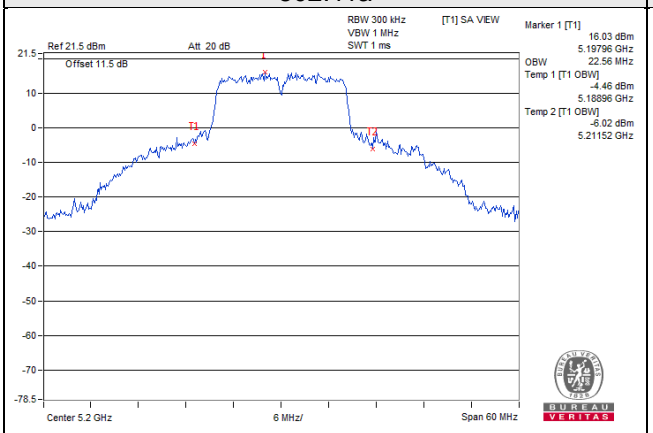
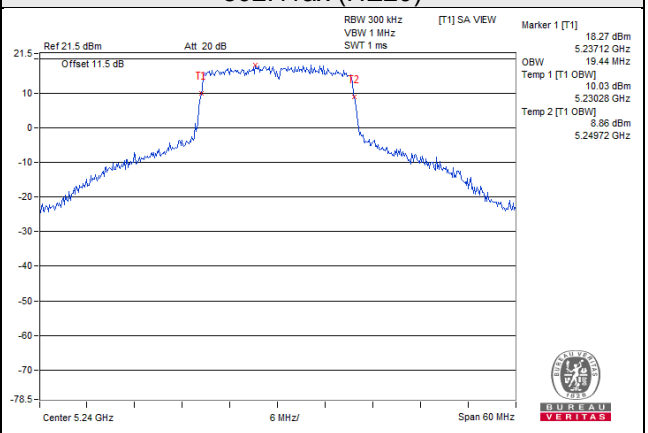
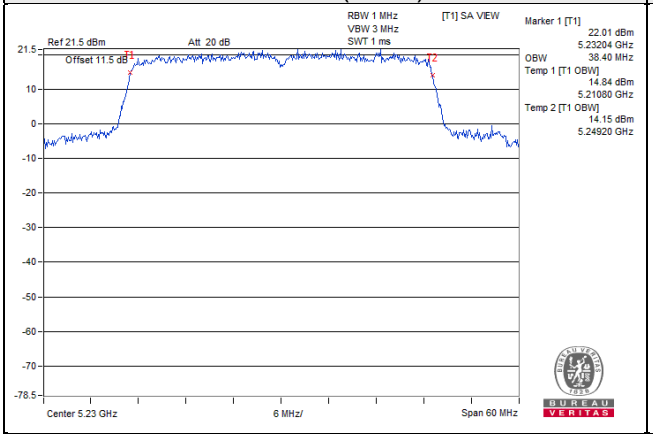
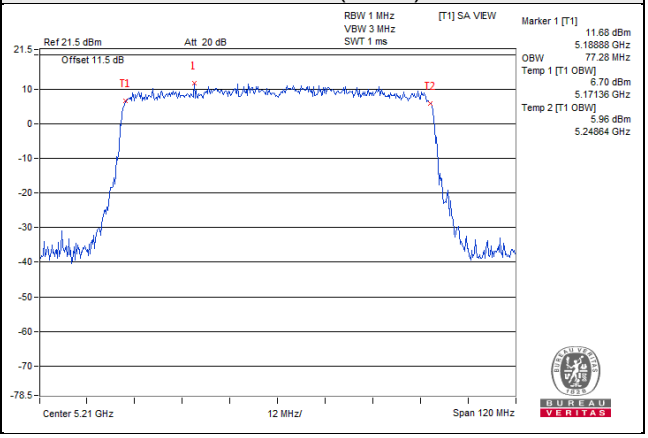
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.96	18.96
40	5200	19.44	19.32
48	5240	19.44	19.20

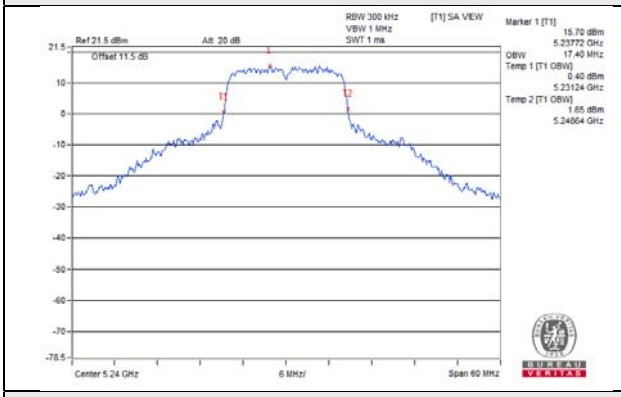
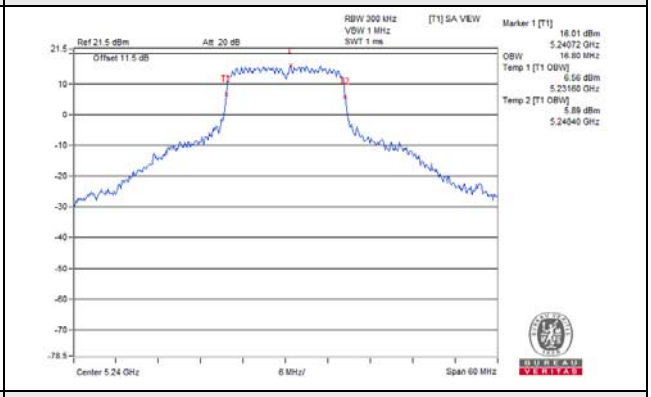
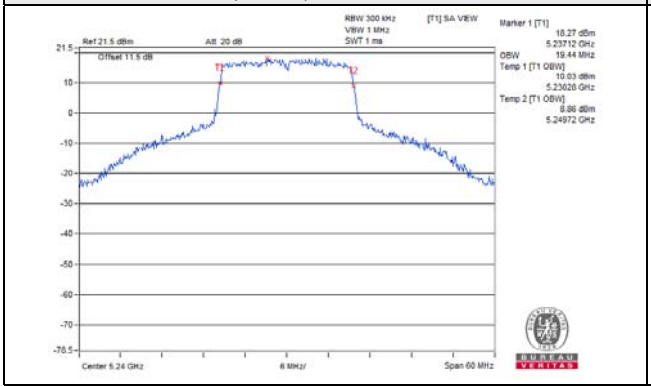
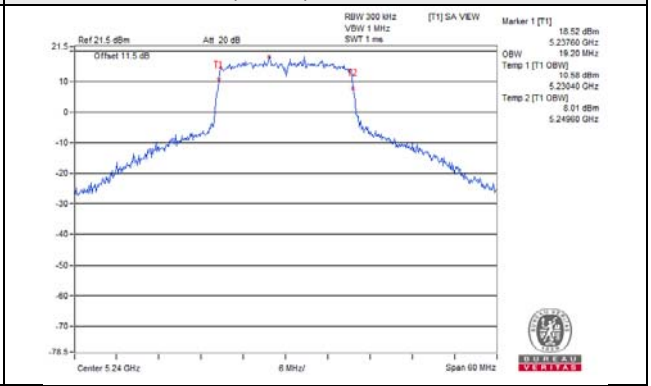
802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	38.04	38.04
46	5230	38.40	38.16

802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.28	77.04

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 48	802.11a / Chain 1 / CH 48
	
802.11n (HT20) / Chain 0 / CH 48	802.11n (HT20) / Chain 1 / CH 48
	
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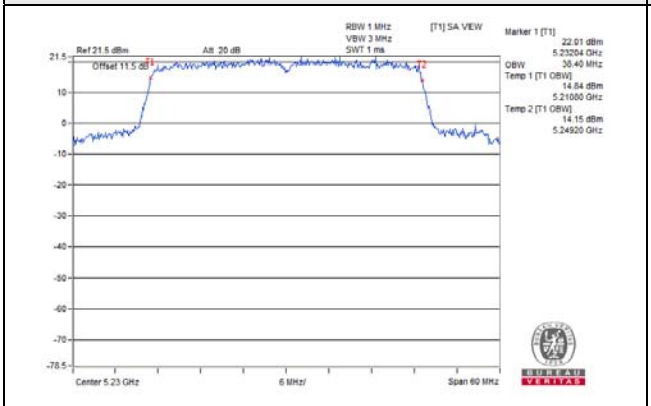	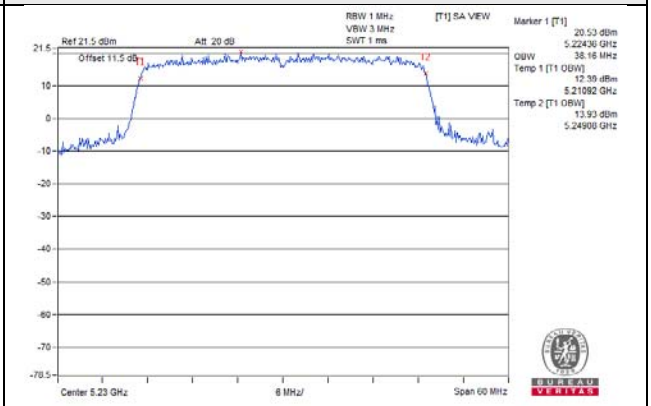
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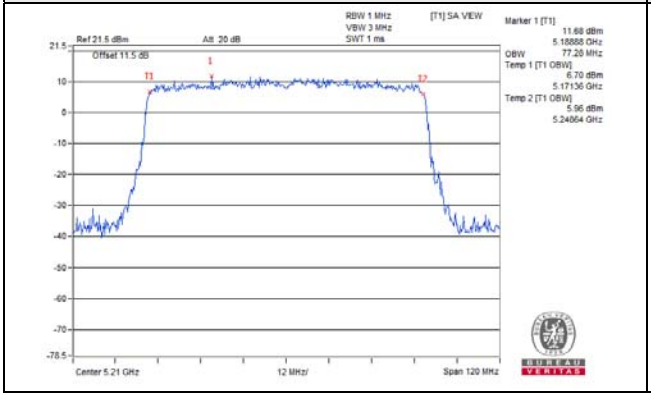
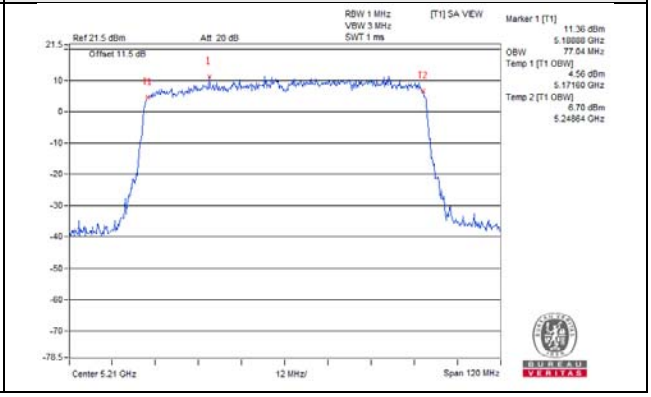
	

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
149	5745	16.52	16.52	16.43	16.52
157	5785	16.56	16.68	16.44	16.68
165	5825	16.44	16.44	16.44	16.56

802.11ax (HE20)

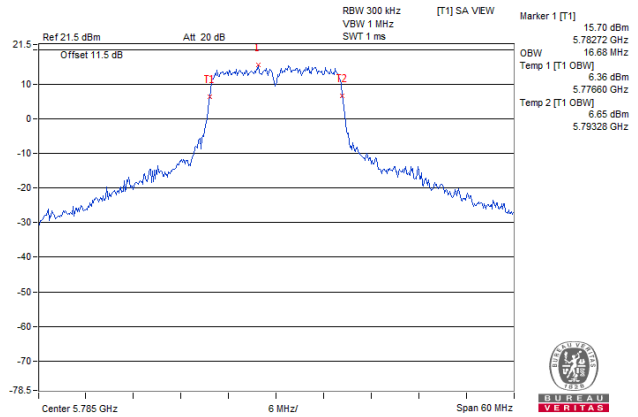
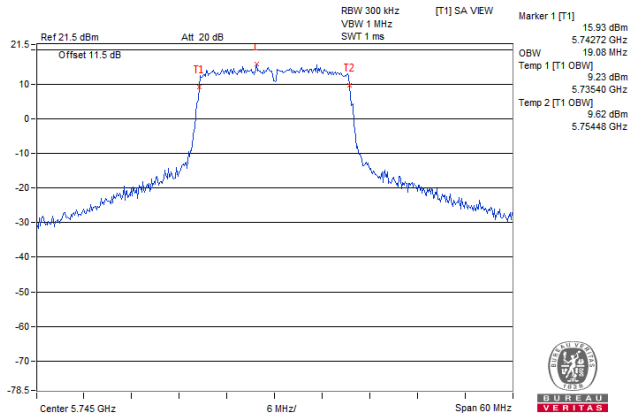
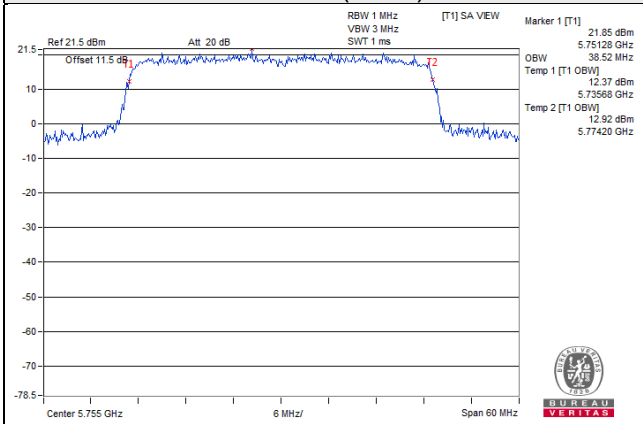
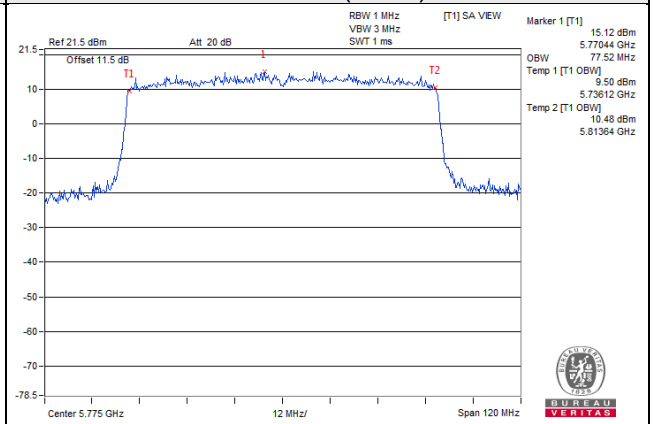
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
149	5745	19.08	19.08	18.96	18.96
157	5785	19.08	19.08	18.96	19.08
165	5825	18.96	19.08	19.08	19.08

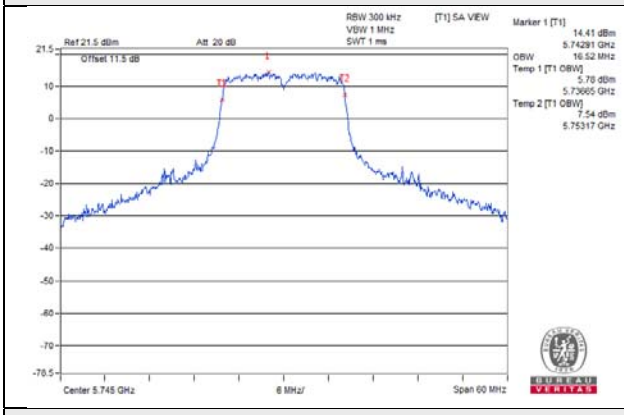
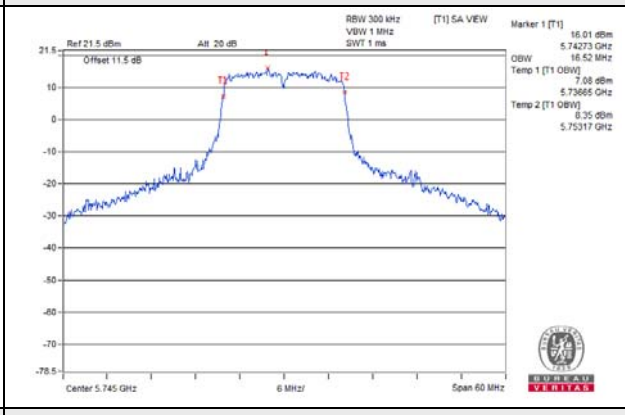
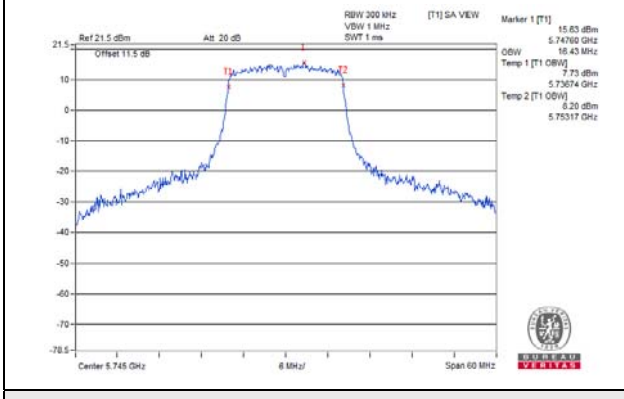
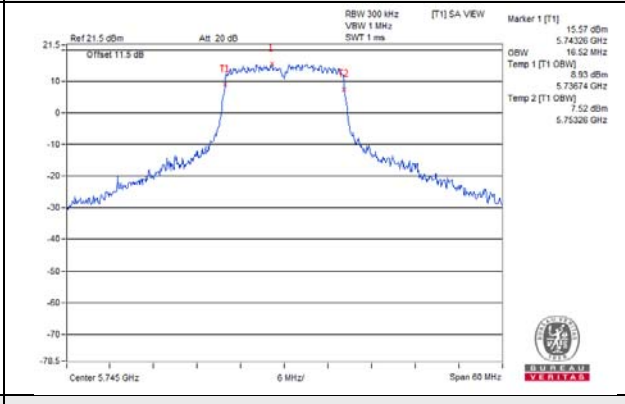
802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
151	5755	38.16	38.28	38.16	38.52
159	5795	38.16	38.04	38.16	38.16

802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
155	5775	77.52	77.28	77.52	77.52

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 149	802.11a / Chain 1 / CH 149
	
802.11a / Chain 2 / CH 149	802.11a / Chain 3 / CH 149
	
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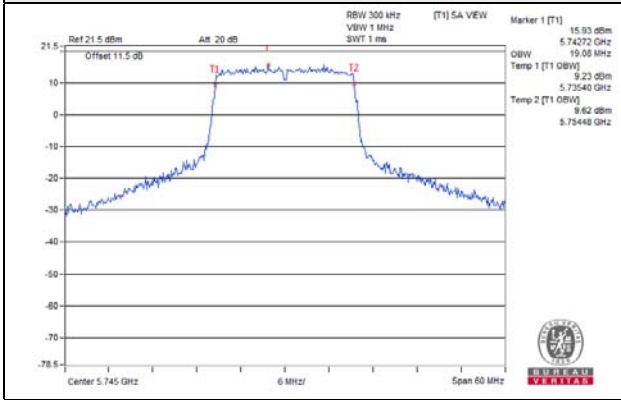
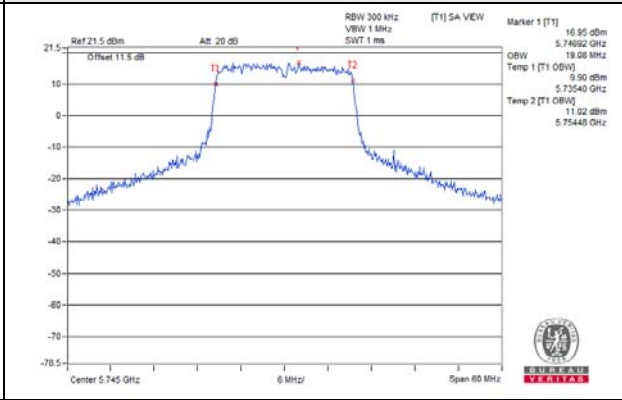
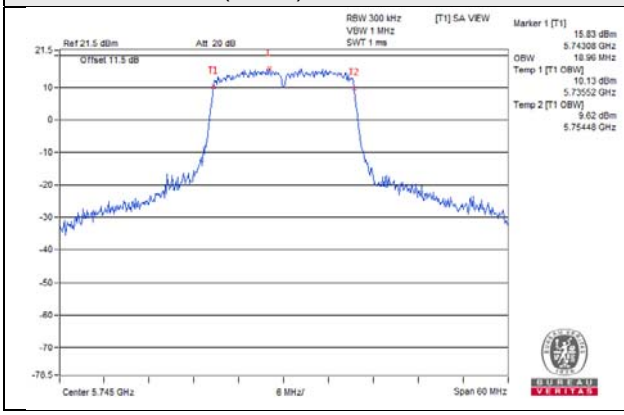
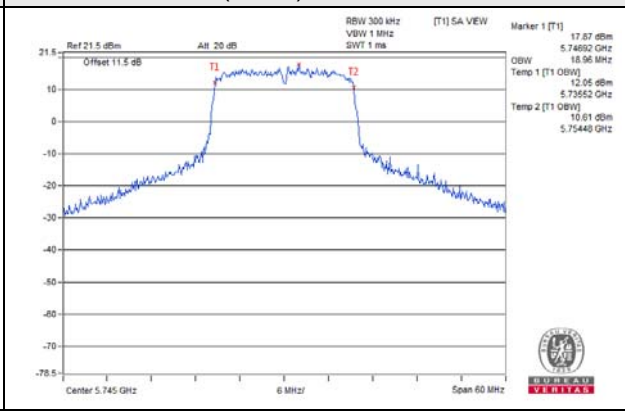
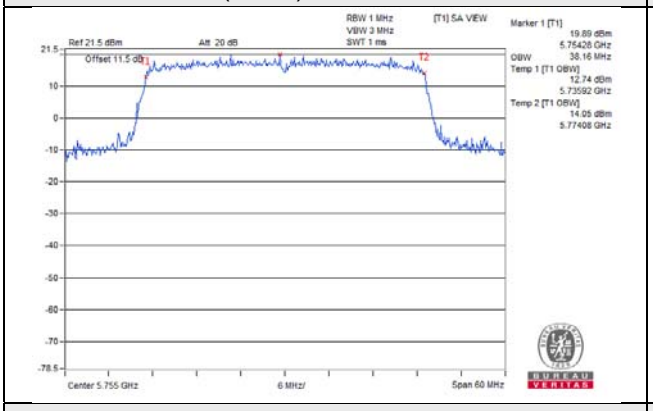
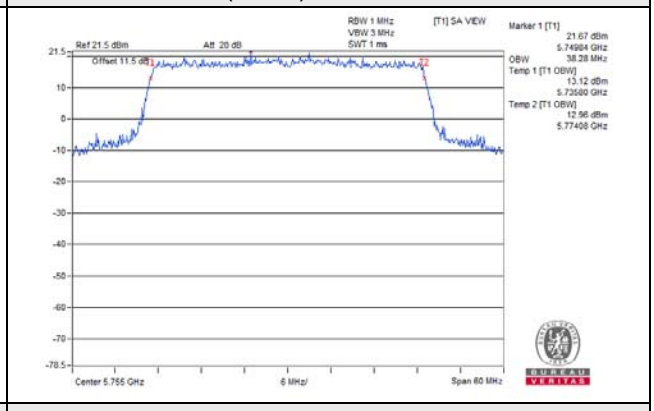
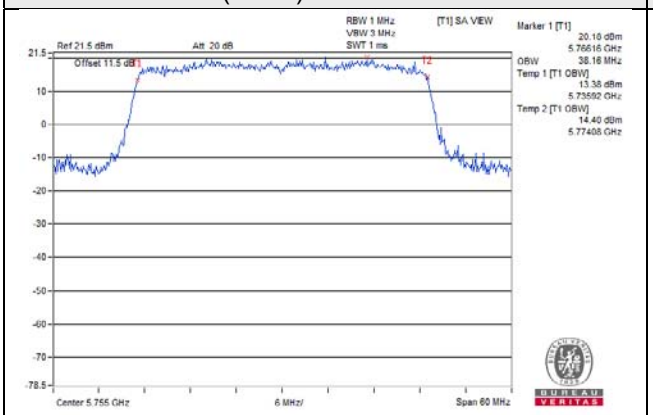
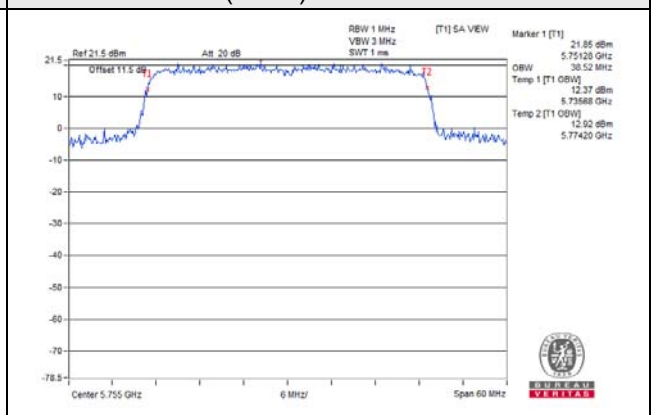
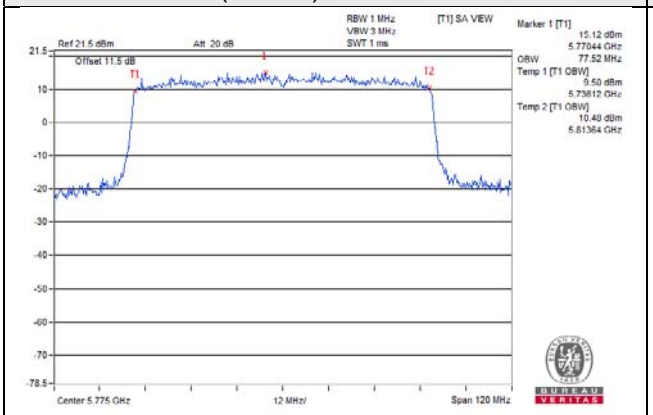
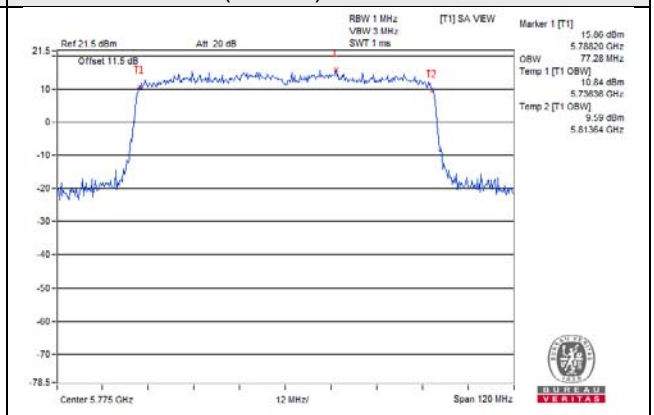
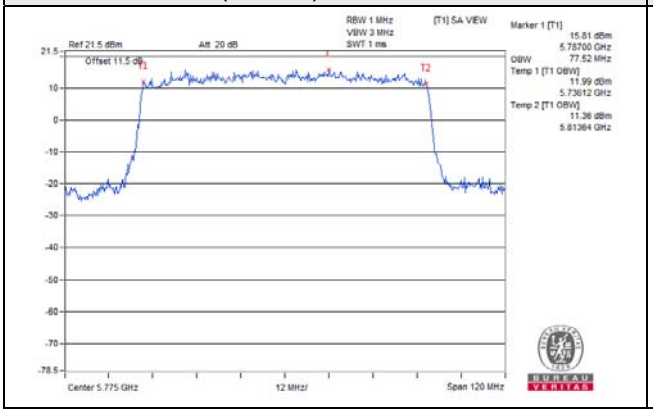
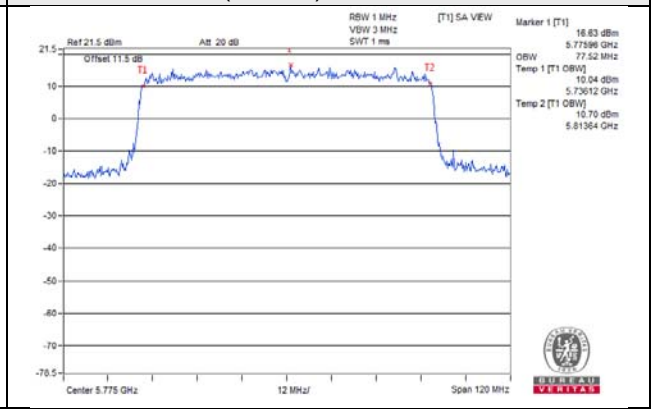
	
802.11n (HT20) / Chain 2 / CH 149	802.11n (HT20) / Chain 3 / CH 149
	

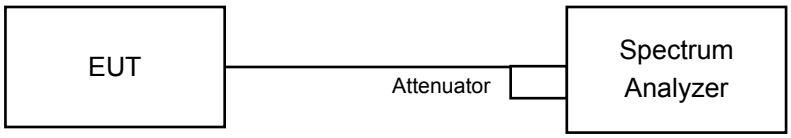
802.11n (HT40) / Chain 0 / CH 151	802.11n (HT40) / Chain 1 / CH 151
	
802.11n (HT40) / Chain 2 / CH 151	802.11n (HT40) / Chain 3 / CH 151
	
802.11ac (VHT80) / Chain 0 / CH 155	802.11ac (VHT80) / Chain 1 / CH 155
	
802.11ac (VHT80) / Chain 2 / CH 155	802.11ac (VHT80) / Chain 3 / CH 155
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.54	8.74	0.28	11.93	17.00	Pass
40	5200	11.63	11.90	0.28	15.06	17.00	Pass
48	5240	10.85	11.33	0.28	14.39	17.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.55	8.16	0.21	11.58	17.00	Pass
40	5200	11.34	11.17	0.21	14.48	17.00	Pass
48	5240	11.91	10.61	0.21	14.53	17.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	3.52	3.12	0.21	6.54	17.00	Pass
46	5230	8.28	6.96	0.21	10.89	17.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

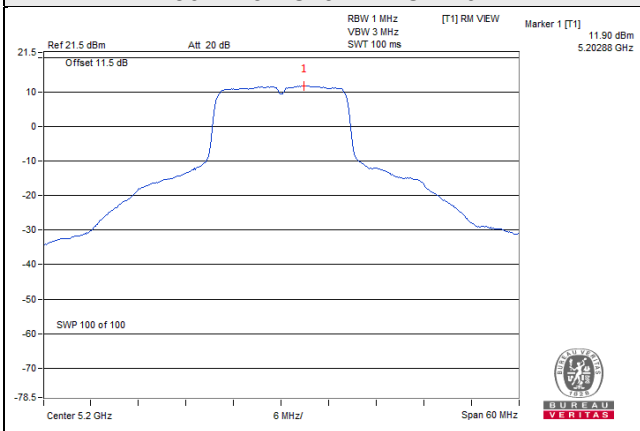
802.11ax (HE80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-0.40	-0.35	0.23	2.87	17.00	Pass

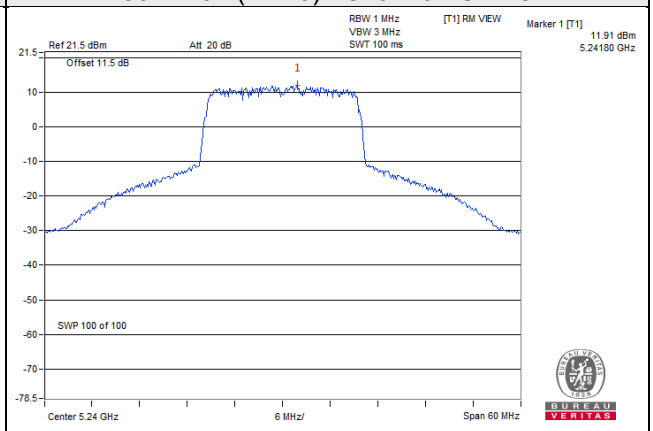
Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.67dBi < 6dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

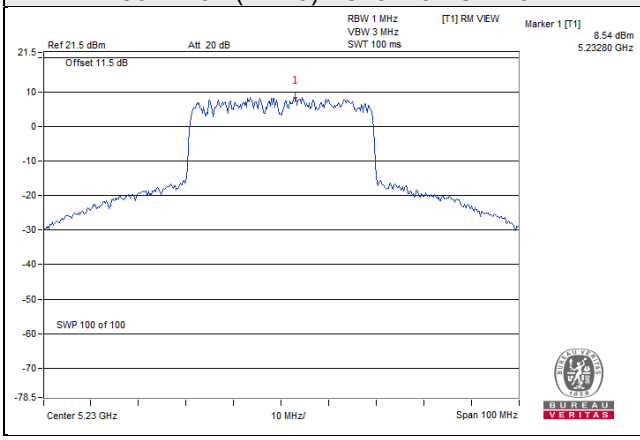
802.11a / Chain 1 / CH 40



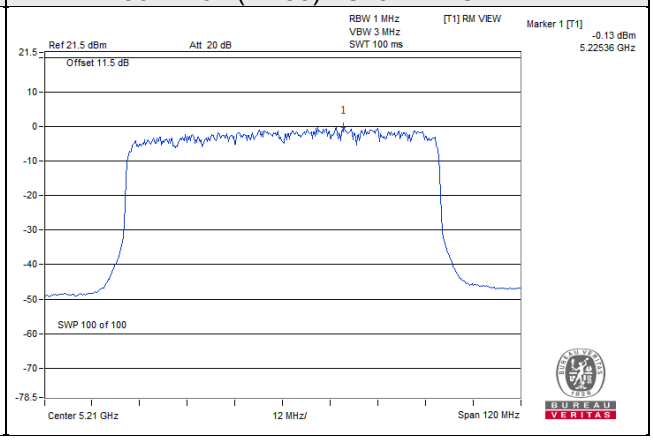
802.11ax (HE20) / Chain 0 / CH 48



802.11ax (HE40) / Chain 0 / CH 46



802.11ax (HE80) / Chain 1 / CH 42



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	1.24	3.46	6.02	0.28	9.76	29.06	Pass
	157	5785	1.35	3.57	6.02	0.28	9.87	29.06	Pass
	165	5825	1.71	3.93	6.02	0.28	10.23	29.06	Pass
1	149	5745	2.52	4.74	6.02	0.28	11.04	29.06	Pass
	157	5785	2.12	4.34	6.02	0.28	10.64	29.06	Pass
	165	5825	2.21	4.43	6.02	0.28	10.73	29.06	Pass
2	149	5745	2.16	4.38	6.02	0.28	10.68	29.06	Pass
	157	5785	2.39	4.61	6.02	0.28	10.91	29.06	Pass
	165	5825	2.77	4.99	6.02	0.28	11.29	29.06	Pass
3	149	5745	2.71	4.93	6.02	0.28	11.23	29.06	Pass
	157	5785	2.93	5.15	6.02	0.28	11.45	29.06	Pass
	165	5825	2.94	5.16	6.02	0.28	11.46	29.06	Pass

Note:
1. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 6.94dBi > 6dBi, so the power density limit shall be reduced to 30-(6.94-6) = 29.06dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-0.08	2.14	6.02	0.21	8.37	29.06	Pass
	157	5785	0.17	2.39	6.02	0.21	8.62	29.06	Pass
	165	5825	0.28	2.50	6.02	0.21	8.73	29.06	Pass
1	149	5745	1.39	3.61	6.02	0.21	9.84	29.06	Pass
	157	5785	1.21	3.43	6.02	0.21	9.66	29.06	Pass
	165	5825	1.01	3.23	6.02	0.21	9.46	29.06	Pass
2	149	5745	0.55	2.77	6.02	0.21	9.00	29.06	Pass
	157	5785	0.87	3.09	6.02	0.21	9.32	29.06	Pass
	165	5825	1.14	3.36	6.02	0.21	9.59	29.06	Pass
3	149	5745	1.35	3.57	6.02	0.21	9.80	29.06	Pass
	157	5785	1.33	3.55	6.02	0.21	9.78	29.06	Pass
	165	5825	1.55	3.77	6.02	0.21	10.00	29.06	Pass

Note:
1. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 6.94dBi > 6dBi, so the power density limit shall be reduced to 30-(6.94-6) = 29.06dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

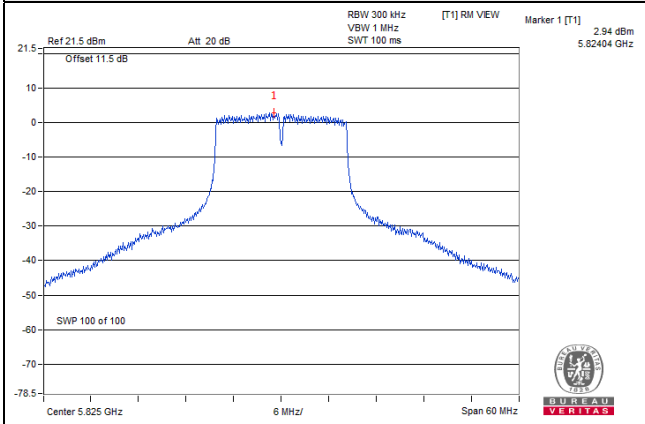
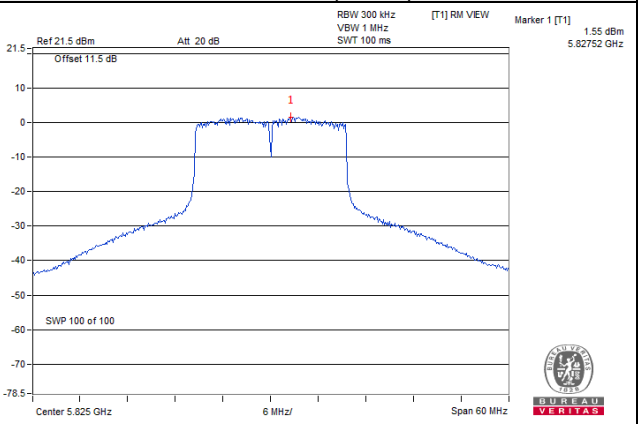
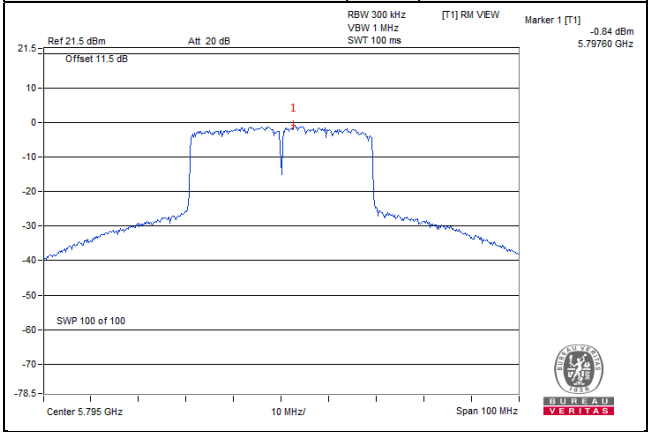
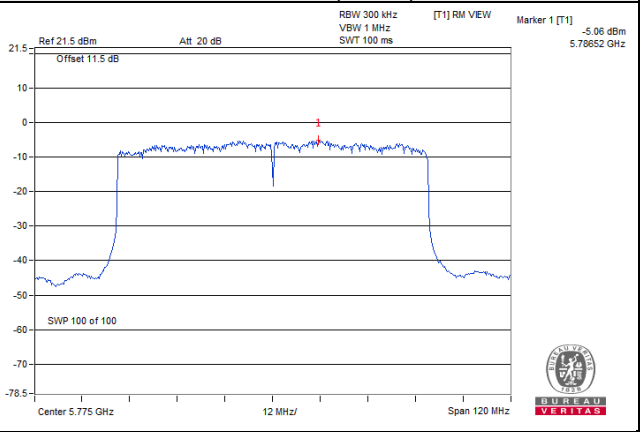
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-2.19	0.03	6.02	0.21	6.26	29.06	Pass
	159	5795	-2.13	0.09	6.02	0.21	6.32	29.06	Pass
1	151	5755	-0.87	1.35	6.02	0.21	7.58	29.06	Pass
	159	5795	-1.46	0.76	6.02	0.21	6.99	29.06	Pass
2	151	5755	-1.08	1.14	6.02	0.21	7.37	29.06	Pass
	159	5795	-1.13	1.09	6.02	0.21	7.32	29.06	Pass
3	151	5755	-1.68	0.54	6.02	0.21	6.77	29.06	Pass
	159	5795	-0.84	1.38	6.02	0.21	7.61	29.06	Pass

Note:
1. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 6.94dBi > 6dBi, so the power density limit shall be reduced to 30-(6.94-6) = 29.06dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-6.38	-4.16	6.02	0.23	2.09	29.06	Pass
1	155	5775	-5.39	-3.17	6.02	0.23	3.08	29.06	Pass
2	155	5775	-5.06	-2.84	6.02	0.23	3.41	29.06	Pass
3	155	5775	-5.08	-2.86	6.02	0.23	3.39	29.06	Pass

Note:
1. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 6.94dBi > 6dBi, so the power density limit shall be reduced to 30-(6.94-6) = 29.06dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

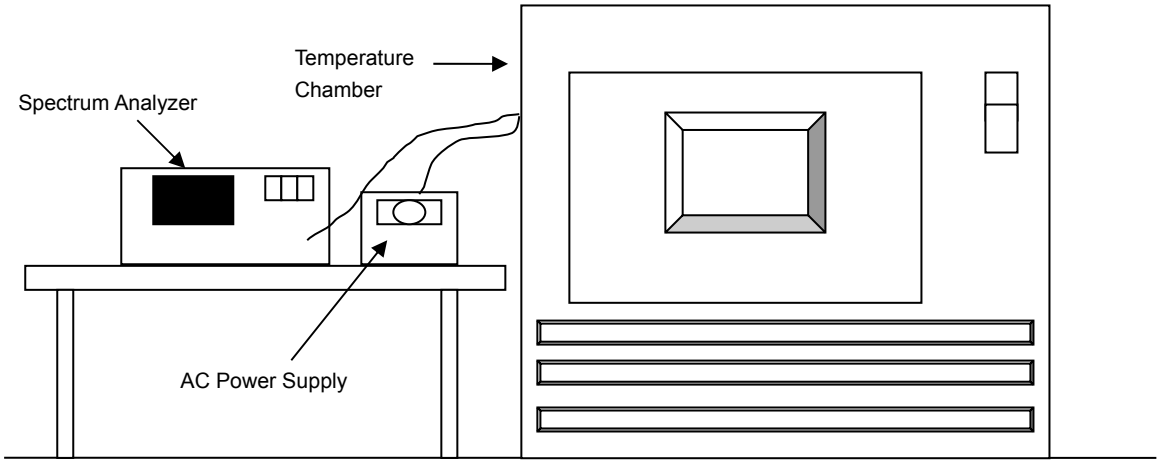
Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2019	Jun. 11, 2020
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
Digital Multimeter Fluke	87-III	70360742	Jun. 27, 2019	Jun. 26, 2020
AC Power Supply Extech	CFW-105	E000603	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.

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.

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: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5179.9812	Pass	5179.9780	Pass	5179.9789	Pass	5179.9796	Pass
40	120	5180.0224	Pass	5180.0206	Pass	5180.0250	Pass	5180.0250	Pass
30	120	5179.9958	Pass	5179.9960	Pass	5179.9943	Pass	5179.9936	Pass
20	120	5180.0053	Pass	5180.0011	Pass	5180.0031	Pass	5180.0052	Pass
10	120	5180.0091	Pass	5180.0098	Pass	5180.0071	Pass	5180.0101	Pass
0	120	5179.9854	Pass	5179.9829	Pass	5179.9861	Pass	5179.9837	Pass
-10	120	5180.0269	Pass	5180.0278	Pass	5180.0261	Pass	5180.0240	Pass
-20	120	5180.0231	Pass	5180.0229	Pass	5180.0217	Pass	5180.0230	Pass
-30	120	5179.9996	Pass	5180.0005	Pass	5180.0024	Pass	5180.0022	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0051	Pass	5180.0010	Pass	5180.0032	Pass	5180.0057	Pass
	120	5180.0053	Pass	5180.0011	Pass	5180.0031	Pass	5180.0052	Pass
	102	5180.0043	Pass	5180.0006	Pass	5180.0034	Pass	5180.0042	Pass

Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5744.9754	Pass	5744.9761	Pass	5744.9754	Pass	5744.9720	Pass
40	120	5745.0203	Pass	5745.0215	Pass	5745.0188	Pass	5745.0235	Pass
30	120	5744.9977	Pass	5744.9941	Pass	5744.9972	Pass	5744.9951	Pass
20	120	5744.9778	Pass	5744.9775	Pass	5744.9801	Pass	5744.9807	Pass
10	120	5745.0163	Pass	5745.0132	Pass	5745.0155	Pass	5745.0165	Pass
0	120	5744.9878	Pass	5744.9837	Pass	5744.9878	Pass	5744.9826	Pass
-10	120	5744.9859	Pass	5744.9832	Pass	5744.9861	Pass	5744.9831	Pass
-20	120	5744.9785	Pass	5744.9808	Pass	5744.9797	Pass	5744.9799	Pass
-30	120	5745.0147	Pass	5745.0135	Pass	5745.0157	Pass	5745.0176	Pass

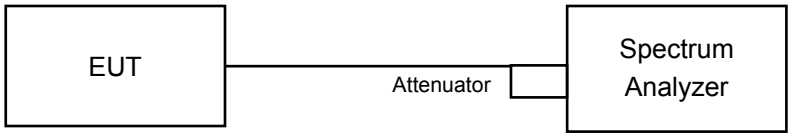
Frequency Stability Versus Voltage									
Operating Frequency: 5745MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5744.9774	Pass	5744.9782	Pass	5744.9808	Pass	5744.9806	Pass
	120	5744.9778	Pass	5744.9775	Pass	5744.9801	Pass	5744.9807	Pass
	102	5744.9769	Pass	5744.9766	Pass	5744.9792	Pass	5744.9808	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

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	15.57	15.48	15.54	15.96	0.5	Pass
157	5785	15.59	15.74	15.40	15.69	0.5	Pass
165	5825	15.93	15.34	15.39	15.96	0.5	Pass

802.11ax (HE20)

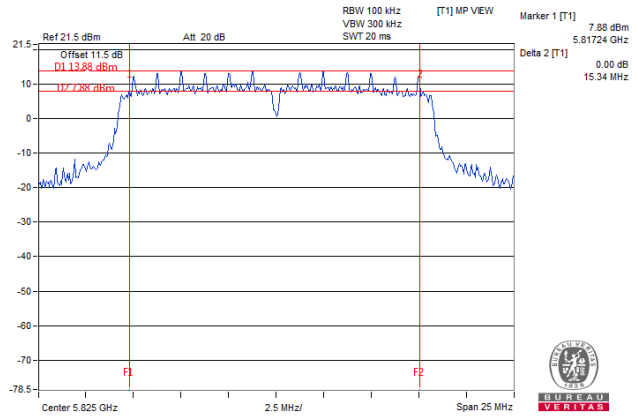
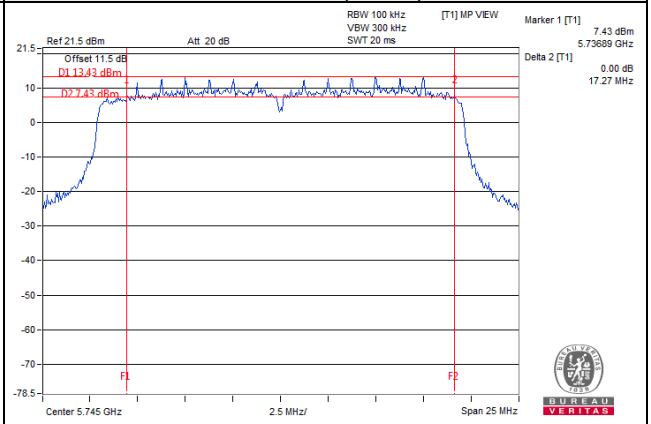
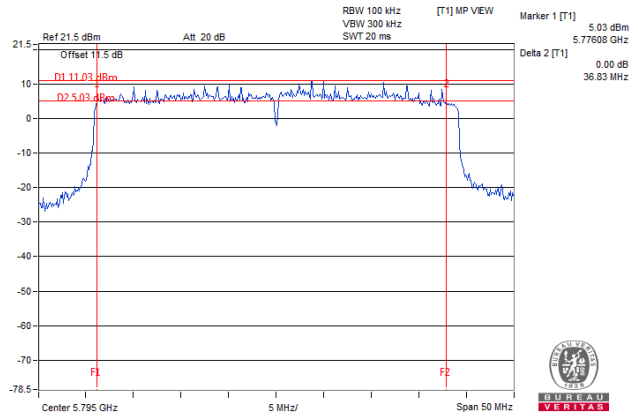
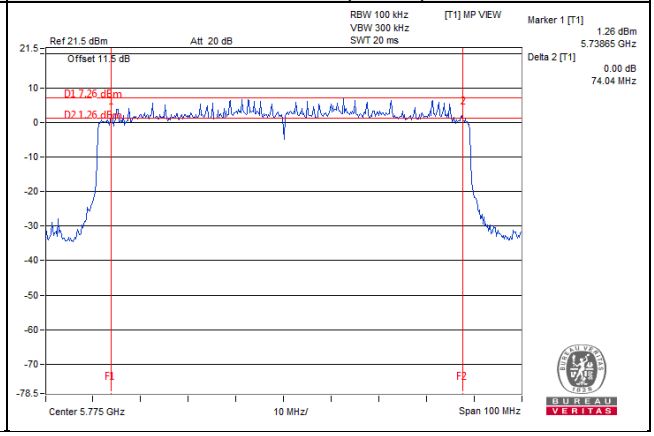
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	18.86	18.49	17.27	18.39	0.5	Pass
157	5785	18.48	18.23	17.71	17.88	0.5	Pass
165	5825	18.66	18.66	17.86	18.43	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	37.58	37.85	37.78	37.73	0.5	Pass
159	5795	38.05	37.69	36.83	37.52	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.78	74.31	74.04	77.39	0.5	Pass

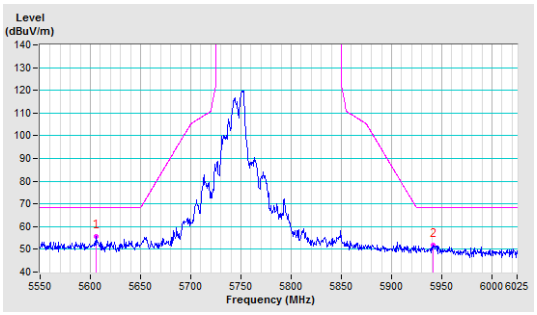
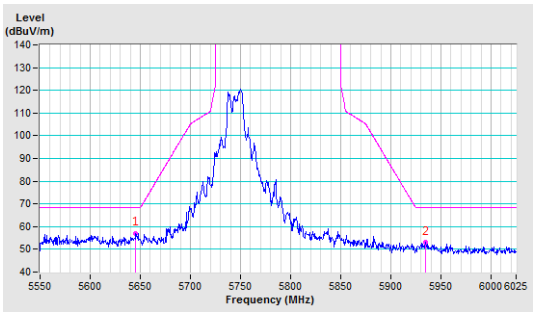
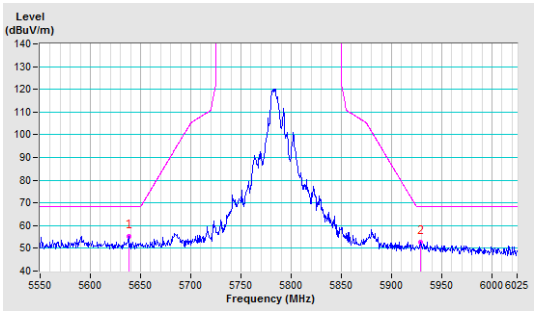
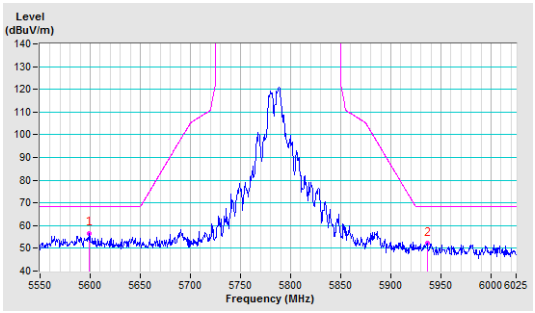
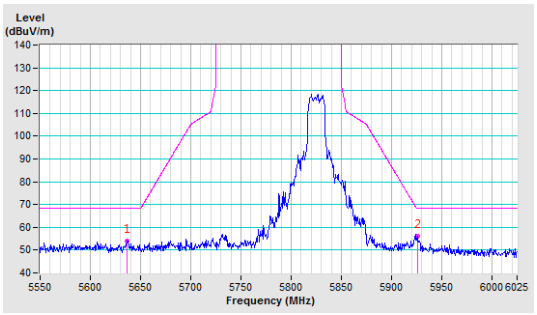
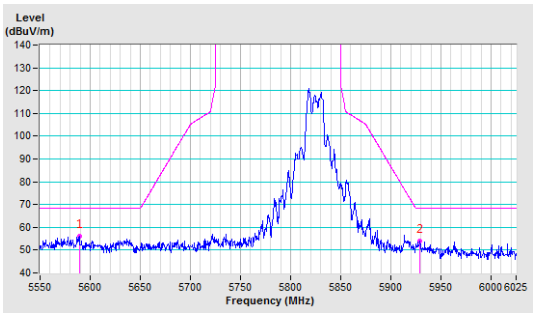
Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

5 Pictures of Test Arrangements

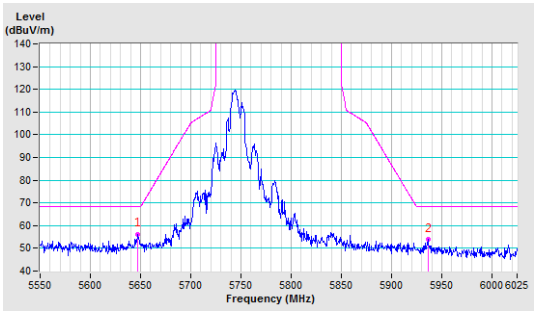
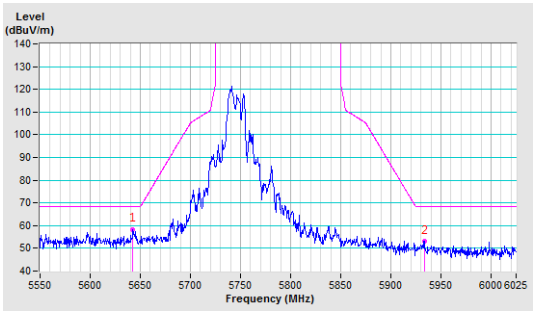
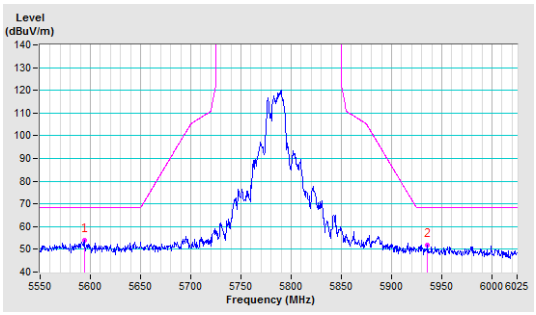
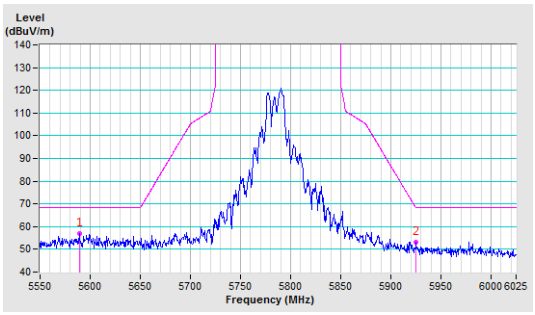
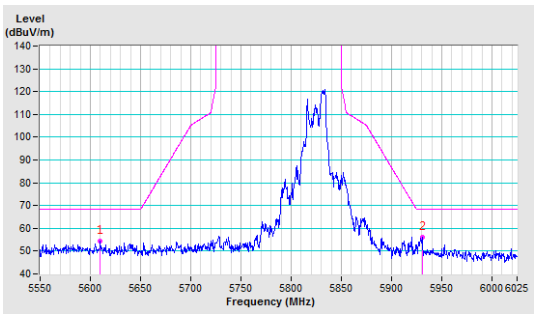
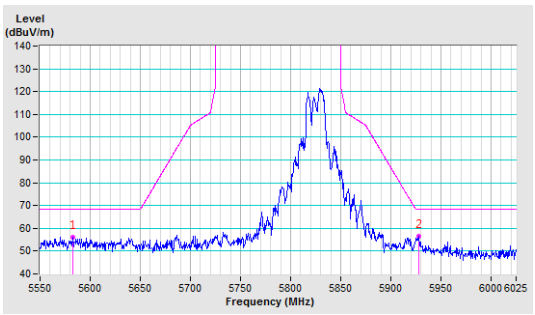
Please refer to the attached file (Test Setup Photo).

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

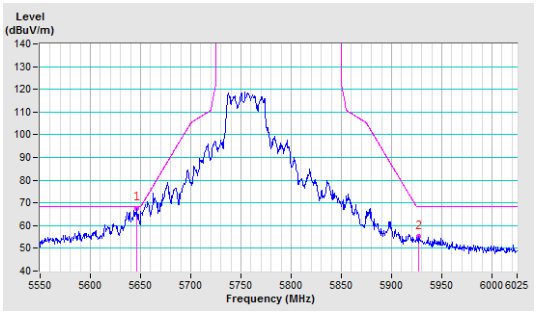
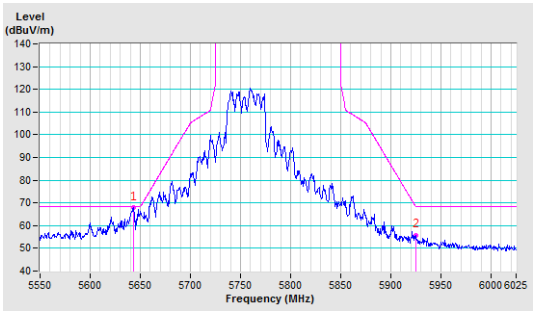
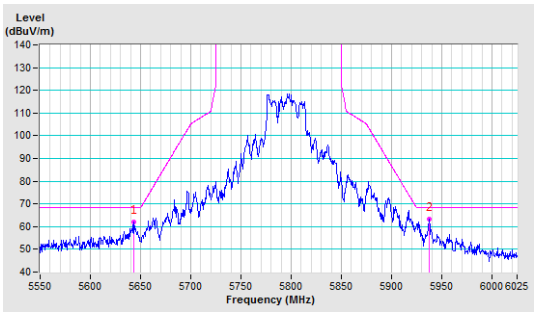
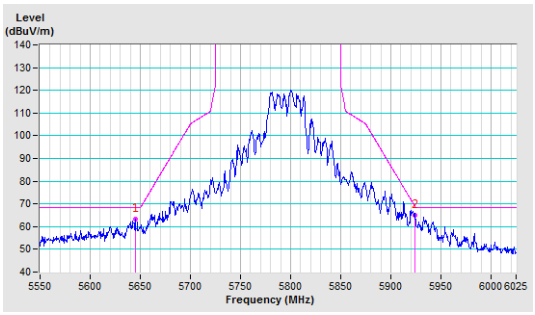
802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

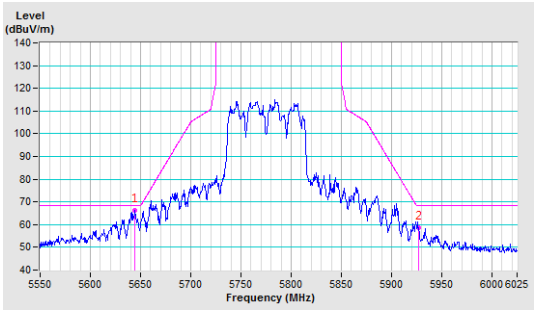
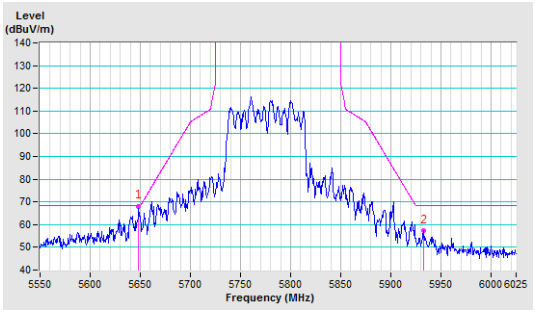
802.11ax (HE20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11ax (HE40)

CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ax (HE80)

CH155	
Horizontal	Vertical
	

Appendix – Information of the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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