FCC Test Report

Report No.:	RFBDYS-WTW-P20110432-1
FCC ID:	TVE-4617T111266
Test Model:	FAP-432F
Series Model:	FortiAP 432Fxxxxxx, FAP-432Fxxxxxx, FORTIAP-432Fxxxxxx (Where "x" can be used as "A-Z", or "0-9", or “-", or blank for software changes or marketing purposes only)
Received Date:	Nov. 13, 2020
Test Date:	Nov. 20, 2020 ~ Jan. 28, 2021
Issued Date:	Feb. 09, 2021
Applicant:	Fortinet, Inc.
Address:	899 Kifer Road Sunnyvale, CA 94086 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBDYS-WTW-P20110432-1	Original Release	Feb. 09, 2021

1 Certificate of Conformity

Product:	Secured Wireless Access Point
Brand:	Fortinet
Test Model:	FAP-432F
Series Model:	FortiAP 432Fxxxxxx, FAP-432Fxxxxxx, FORTIAP-432Fxxxxxx (Where "x" can be used as "A-Z", or "0-9", or “-", or blank for software changes or marketing purposes only)
Sample Status:	Engineering Sample
Applicant:	Fortinet, Inc.
Test Date:	Nov. 20, 2020 ~ Jan. 28, 2021
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Feb. 09, 2021

Gina Liu / Specialist

Approved by : _____ , **Date:** Feb. 09, 2021

Dylan Chiou / 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 -13.40dB at 0.52984MHz.
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 -0.02dB at 5150MHz.
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	EUT uses standard N connector (but subject to professional installation).

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. For U-NII-1 band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Secured Wireless Access Point
Brand	Fortinet
Test Model	FAP-432F
Series Model	FortiAP 432Fxxxxxx, FAP-432Fxxxxxx, FORTIAP-432Fxxxxxx (Where "x" can be used as "A-Z", or "0-9", or “-", or blank for software changes or marketing purposes only)
Model Difference	Refer to note
Sample Status	Engineering sample
Power Supply Rating	54Vdc from POE
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 600Mbps 802.11ac (VHT20/40): up to 800Mbps 802.11ax: up to 4803.9Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5G traffic radio (Radio 2): 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 Scanning radio (Radio 3): 5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1

Output Power	5G traffic radio (Radio 2): CDD Mode: 5180 ~ 5240MHz: 224.044mW (Outdoor Access Point) 5180 ~ 5240MHz: 472.552mW (Indoor Access Point) 5745 ~ 5825MHz: 755.239mW Beamforming Mode: 5180 ~ 5240MHz: 55.601mW (Outdoor Access Point) 5180 ~ 5240MHz: 186.432mW (Indoor Access Point) 5745 ~ 5825MHz: 186.94mW Scanning radio (Radio 3): CDD Mode: 5180 ~ 5240MHz: 42.267mW (Outdoor Access Point) 5180 ~ 5240MHz: 42.267mW (Indoor Access Point) 5745 ~ 5825MHz: 69.024mW
Antenna Type	Refer to note
Antenna Connector	N-type Plug
Accessory Device	POE
Cable Supplied	NA

Note:

1. The following models are provided to this EUT. The model FAP-432F was chosen for final test.

Brand	Model	Description
Fortinet	FAP-432F	Series model for marketing purpose
	FortiAP 432Fxxxxxx, FAP-432Fxxxxxx, FORTIAP-432Fxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)	

2. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Radio	Modulation Mode	Beamforming Mode	TX Function
5G traffic radio (Radio 2)	802.11a	Not Support	4TX
	802.11n (HT20)	Not Support	4TX
	802.11n (HT40)	Not Support	4TX
	802.11ac (VHT20)	Support	4TX
	802.11ac (VHT40)	Support	4TX
	802.11ac (VHT80)	Support	4TX
	802.11ax (HE20)	Support	4TX
	802.11ax (HE40)	Support	4TX
	802.11ax (HE80)	Support	4TX
Scanning radio (Radio 3)	802.11a	Not Support	1TX
	802.11n (HT20)	Not Support	1TX
	802.11n (HT40)	Not Support	1TX
	802.11ac (VHT20)	Not Support	1TX
	802.11ac (VHT40)	Not Support	1TX
	802.11ac (VHT80)	Not Support	1TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80 on 802.11ac mode and HE20/HE40/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, 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. The EUT consumes power from the following POEs.

POE	
Brand	SENAO
Model	PIN060-54PR
Input Power	100-240Vac, 50-60Hz, 1.5A
Output Power	54V, 1.11A

4. The following antennas were provided to the EUT.

Antenna Type	Dipole
Frequency (MHz)	Gain (dBi)
2400	5.1
2450	5.0
2500	5.5
4900	6.1
5150	6.5
5250	6.4
5350	6.7
5450	7.2
5550	6.6
5650	6.6
5750	7.0
5850	6.9

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

5. The EUT will install at outdoor area, the highest antenna gain from the horizon above 30 degrees as below, for more detail information please refer to antenna specification and user manual.

Item	Antenna gain	Antenna install degree
Radio 2 Band 1	-2.59 dBi	
Radio 3 Band 1	-2.59 dBi	

* Due to device Will restriced installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from XY and YZ Plane (antenna specification of 30~150 dug and 210~330 dug)
* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

6. The simultaneous operation mode was determined by client.

No	Mode
1	2G traffic radio (Radio 1) + 5GHz traffic radio (Radio 2) + 5G Scanning radio (Radio 3) + BLE
2	2G traffic radio (Radio 1) + 5GHz traffic radio (Radio 2) + 5G Scanning radio (Radio 3) + Zigbee
3	5GHz traffic radio (Radio 2) + 2G Scanning radio (Radio 3) + BLE
4	5GHz traffic radio (Radio 2) + 2G Scanning radio (Radio 3) + Zigbee

* 5GHz traffic radio (Radio 2) and 5G Scanning radio (Radio 3) cannot transmit in the same band at same time. 2G traffic radio (Radio 1) and 2G Scanning radio (Radio 3) cannot transmit at same time.
* Zigbee and BT technologies cannot transmit at same time.
* Spurious emission of the simultaneous operation has been evaluated and no non-compliance was found.

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	
-	√	√	√	√	-

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 had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
2. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst 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)	Remark
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 2
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 3
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5	
	802.11ac (VHT80)		42	42	OFDM	29.3	
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5	
	802.11ac (VHT80)		155	155	OFDM	29.3	

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11ax (HE80)	5180-5240	42	42	OFDMA	MCS0	Radio 1
		5745-5825	155				
-	802.11ac (VHT80)	5180-5240	42	155	OFDM	29.3	Radio 3
		5745-5825	155				

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)	Remark
-	802.11ax (HE80)	5180-5240	42	42	OFDMA	MCS0	Radio 1
		5745-5825	155				
-	802.11ac (VHT80)	5180-5240	42	155	OFDM	29.3	Radio 3
		5745-5825	155				

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)	Remark
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 1
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5	
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5	
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5	
	802.11ac (VHT80)		42	42	OFDM	29.3	
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5	
	802.11ac (VHT80)		155	155	OFDM	29.3	
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 3
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5	
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5	
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5	
	802.11ac (VHT80)		42	42	OFDM	29.3	
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5	
	802.11ac (VHT80)		155	155	OFDM	29.3	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 67% RH	54Vdc	Adair Peng Titan Hsu
RE<1G	23 deg. C, 67% RH	54Vdc	Titan Hsu
PLC	23 deg. C, 67% RH	54Vdc	Greg Lin
APCM	25 deg. C, 60% RH	54Vdc	Ivan Tseng

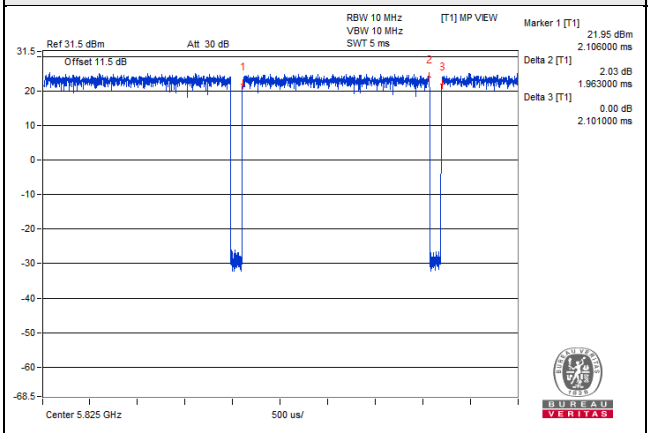
3.3 Duty Cycle of Test Signal

5G traffic radio (Radio 2)

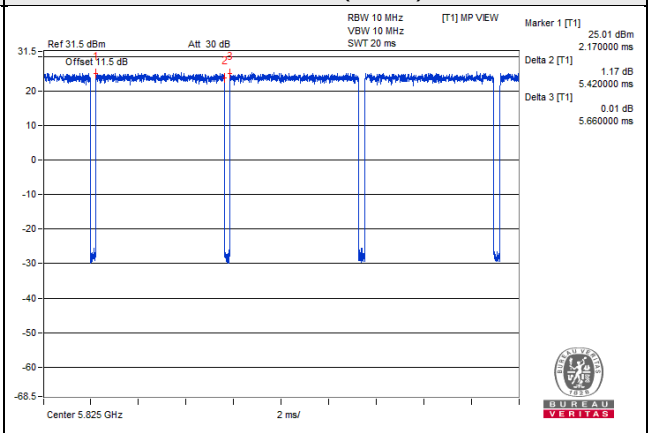
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.963/2.101 = 0.934, Duty factor = 10 * log (1/0.934) = 0.30
802.11ax (HE20): Duty cycle = 5.42/5.66 = 0.958, Duty factor = 10 * log (1/0.958) = 0.19
802.11ax (HE40): Duty cycle = 5.362/6.462 = 0.830, Duty factor = 10 * log (1/0.830) = 0.81
802.11ax (HE80): Duty cycle = 5.4/5.788 = 0.933, Duty factor = 10 * log (1/0.933) = 0.30

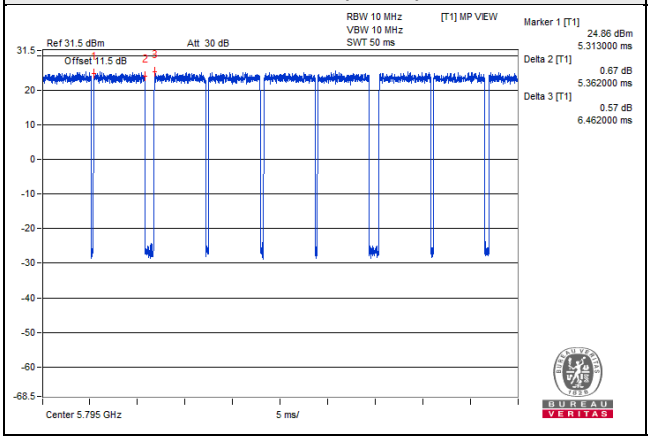
802.11a



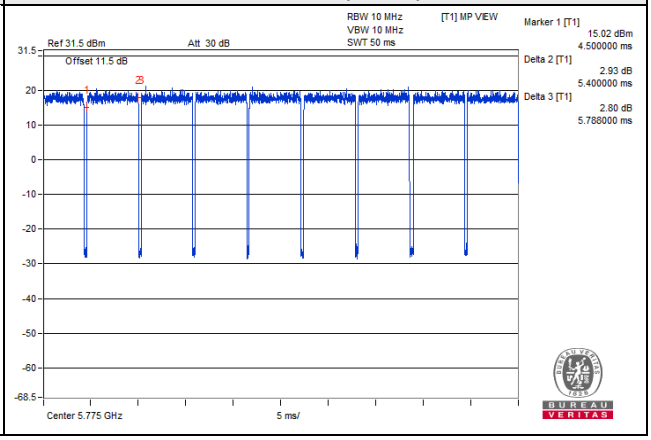
802.11ax (HE20)



802.11ax (HE40)



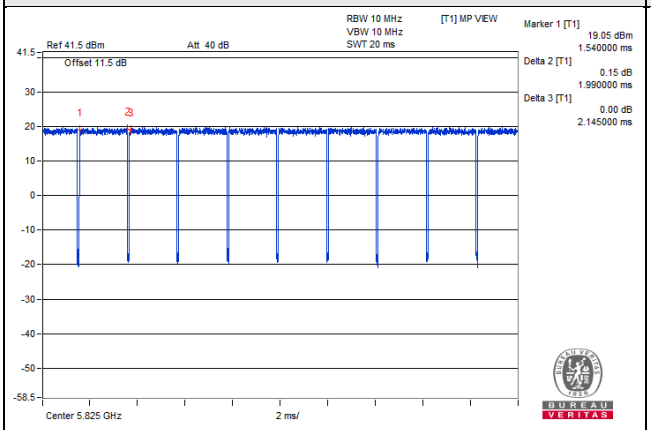
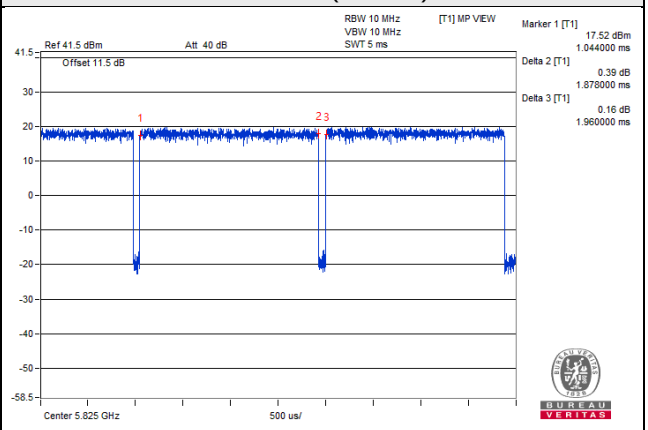
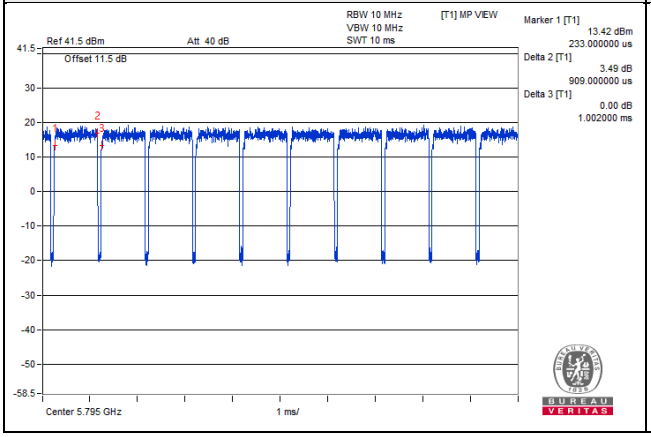
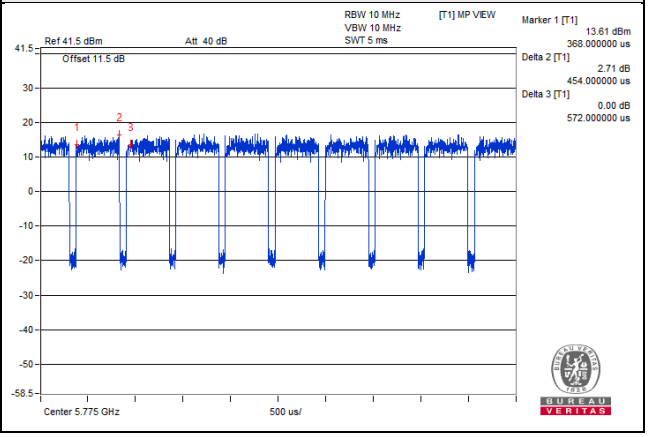
802.11ax (HE80)



Scanning radio (Radio 3)

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

802.11a: Duty cycle = 1.99/2.145 = 0.928, Duty factor = 10 * log (1/0.928) = 0.33
802.11ac (VHT20): Duty cycle = 1.878/1.96 = 0.958, Duty factor = 10 * log (1/0.958) = 0.19
802.11ac (VHT40): Duty cycle = 0.909/1.002 = 0.907, Duty factor = 10 * log (1/0.907) = 0.42
802.11ac (VHT80): Duty cycle = 0.454/0.572 = 0.794, Duty factor = 10 * log (1/0.794) = 1.00

802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

3.4 Description of Support Units

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

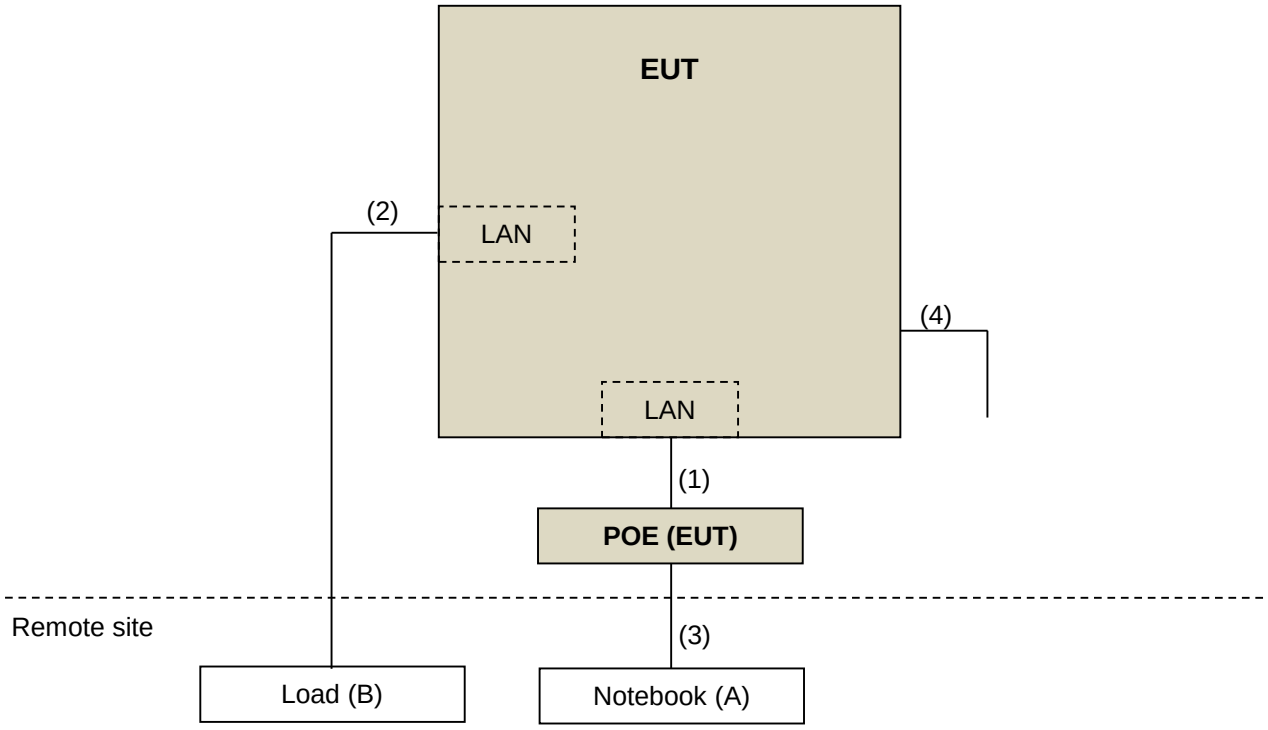
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN	1	1.5	N	0	RJ45, Cat5e
2.	LAN	1	1.5	N	0	RJ45, Cat5e
3.	LAN	1	6	N	0	RJ45, Cat5e
4.	Console	1	1.5	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

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

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

References Test Guidance:
KDB 789033 D02 General UNII Test 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 ROHDE & SCHWARZ	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 24, 2019	Nov. 23, 2020
			Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 24, 2019	Nov. 23, 2020
			Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 23, 2020	Mar. 22, 2021
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 13, 2020	Jul. 12, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

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.
   5G traffic radio (Radio 2)
   (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE40): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE80): RBW = 1MHz, VBW = 1kHz)
   Scanning radio (Radio 3)
   (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT20): RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)

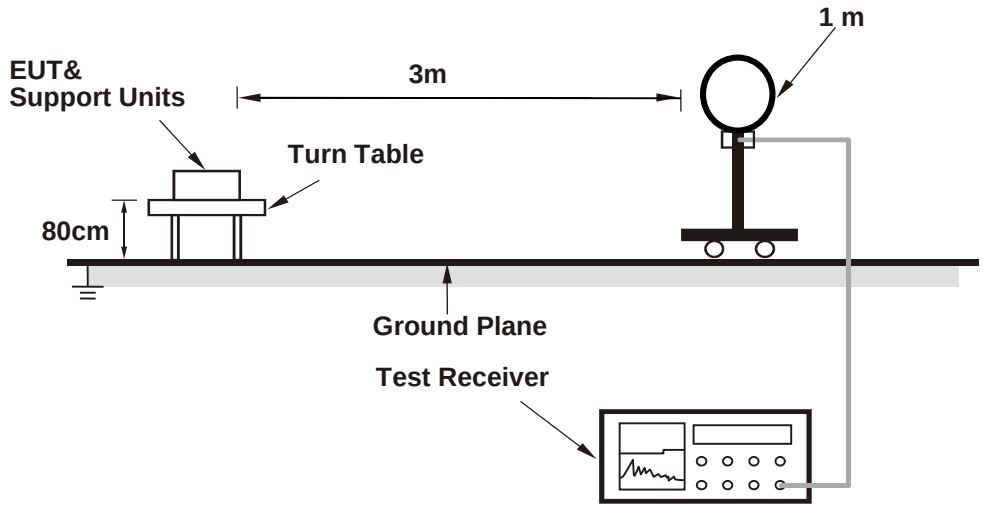
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

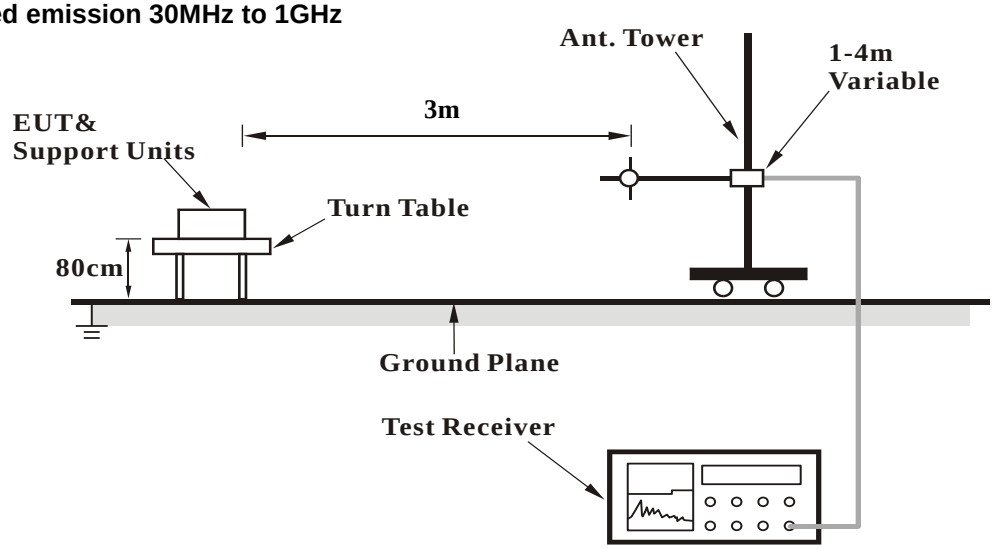
No deviation.

4.1.5 Test Setup

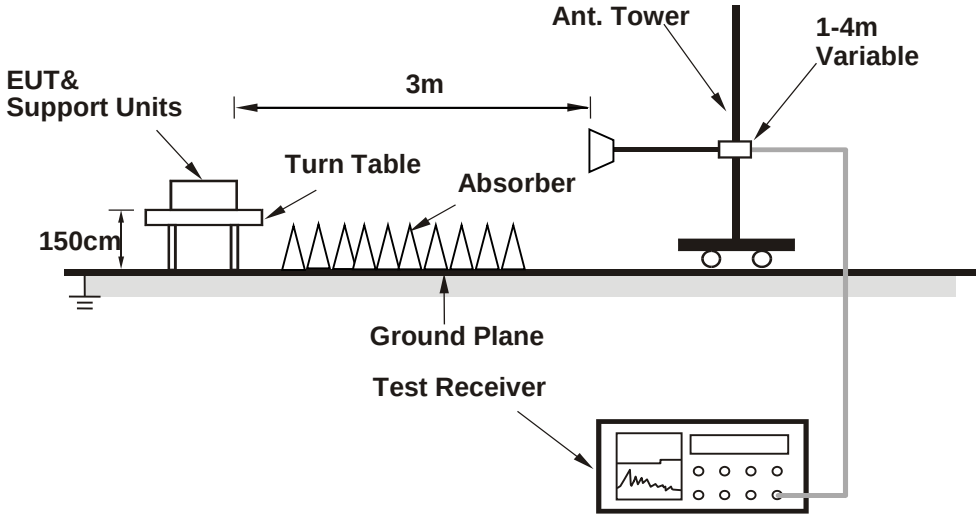
For Radiated emission below 30MHz



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.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable 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".

4.1.7 Test Results

Above 1GHz data:

5G traffic radio (Radio 2)

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.6 PK	74.0	-16.4	2.10 H	232	51.1	6.5
2	5150.00	45.4 AV	54.0	-8.6	2.10 H	232	38.9	6.5
3	*5180.00	104.0 PK			2.06 H	229	61.9	42.1
4	*5180.00	93.6 AV			2.06 H	229	51.5	42.1
5	#10360.00	58.7 PK	68.2	-9.5	1.66 H	49	42.1	16.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	68.1 PK	74.0	-5.9	1.65 V	176	61.6	6.5
2	5150.00	52.8 AV	54.0	-1.2	1.65 V	176	46.3	6.5
3	*5180.00	122.9 PK			1.66 V	155	80.8	42.1
4	*5180.00	112.9 AV			1.66 V	155	70.8	42.1
5	#10360.00	57.7 PK	68.2	-10.5	2.06 V	318	41.1	16.6

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	106.5 PK			2.10 H	163	64.4	42.1
2	*5200.00	97.0 AV			2.10 H	163	54.9	42.1
3	#10400.00	59.0 PK	68.2	-9.2	2.10 H	163	42.1	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	129.5 PK			1.85 V	165	87.4	42.1
2	*5200.00	119.3 AV			1.85 V	165	77.2	42.1
3	#10400.00	59.2 PK	68.2	-9.0	2.11 V	323	42.3	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	109.3 PK			1.84 H	222	67.4	41.9
2	*5240.00	99.3 AV			1.84 H	222	57.4	41.9
3	5350.00	57.4 PK	74.0	-16.6	1.86 H	228	51.1	6.3
4	5350.00	45.7 AV	54.0	-8.3	1.86 H	228	39.4	6.3
5	#10480.00	59.7 PK	68.2	-8.5	1.59 H	46	42.2	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	128.9 PK			1.82 V	167	87.0	41.9
2	*5240.00	118.4 AV			1.82 V	167	76.5	41.9
3	5350.00	61.5 PK	74.0	-12.5	1.90 V	153	55.2	6.3
4	5350.00	48.4 AV	54.0	-5.6	1.90 V	153	42.1	6.3
5	#10480.00	59.3 PK	68.2	-8.9	2.11 V	322	41.8	17.5

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.82	57.5 PK	68.2	-10.7	1.52 H	312	51.3	6.2
2	*5745.00	106.8 PK			1.52 H	312	64.8	42.0
3	*5745.00	97.0 AV			1.52 H	312	55.0	42.0
4	#5999.36	59.5 PK	68.2	-8.7	1.52 H	312	52.6	6.9
5	11490.00	60.3 PK	74.0	-13.7	1.79 H	53	42.3	18.0
6	11490.00	47.0 AV	54.0	-7.0	1.79 H	53	29.0	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.87	62.8 PK	68.2	-5.4	1.89 V	162	56.6	6.2
2	*5745.00	128.3 PK			1.89 V	162	86.3	42.0
3	*5745.00	118.2 AV			1.89 V	162	76.2	42.0
4	#5931.41	60.9 PK	68.2	-7.3	1.89 V	162	53.9	7.0
5	11490.00	59.5 PK	74.0	-14.5	1.91 V	333	41.5	18.0
6	11490.00	46.0 AV	54.0	-8.0	1.91 V	333	28.0	18.0

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5628.85	57.3 PK	68.2	-10.9	1.53 H	307	51.2	6.1
2	*5785.00	106.1 PK			1.53 H	307	64.2	41.9
3	*5785.00	96.1 AV			1.53 H	307	54.2	41.9
4	#5971.79	57.8 PK	68.2	-10.4	1.53 H	307	50.9	6.9
5	11570.00	60.7 PK	74.0	-13.3	1.88 H	60	43.1	17.6
6	11570.00	46.8 AV	54.0	-7.2	1.88 H	60	29.2	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5639.10	61.2 PK	68.2	-7.0	1.89 V	171	55.0	6.2
2	*5785.00	128.1 PK			1.89 V	171	86.2	41.9
3	*5785.00	117.8 AV			1.89 V	171	75.9	41.9
4	#5984.62	59.7 PK	68.2	-8.5	1.89 V	171	52.8	6.9
5	11570.00	59.6 PK	74.0	-14.4	2.03 V	350	42.0	17.6
6	11570.00	45.9 AV	54.0	-8.1	2.03 V	350	28.3	17.6

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.15	57.2 PK	68.2	-11.0	2.17 H	166	51.0	6.2
2	*5825.00	106.2 PK			2.17 H	166	64.0	42.2
3	*5825.00	97.0 AV			2.17 H	166	54.8	42.2
4	#5979.49	58.9 PK	68.2	-9.3	2.17 H	166	52.0	6.9
5	11650.00	60.7 PK	74.0	-13.3	1.90 H	74	43.0	17.7
6	11650.00	47.5 AV	54.0	-6.5	1.90 H	74	29.8	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5633.33	63.8 PK	68.2	-4.4	1.89 V	166	57.6	6.2
2	*5825.00	129.1 PK			1.90 V	166	86.9	42.2
3	*5825.00	119.5 AV			1.90 V	166	77.3	42.2
4	#5925.00	64.4 PK	68.2	-3.8	1.89 V	166	57.4	7.0
5	11650.00	59.7 PK	74.0	-14.3	1.87 V	329	42.0	17.7
6	11650.00	46.6 AV	54.0	-7.4	1.87 V	329	28.9	17.7

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 36：5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.4 PK	74.0	-16.6	1.82 H	226	50.9	6.5
2	5150.00	45.8 AV	54.0	-8.2	1.82 H	226	39.3	6.5
3	*5180.00	105.3 PK			1.94 H	231	63.2	42.1
4	*5180.00	92.9 AV			1.94 H	231	50.8	42.1
5	#10360.00	58.8 PK	68.2	-9.4	1.56 H	48	42.2	16.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	2.14 V	171	59.4	6.5
2	5150.00	52.9 AV	54.0	-1.1	2.14 V	171	46.4	6.5
3	*5180.00	128.1 PK			1.93 V	171	86.0	42.1
4	*5180.00	114.8 AV			1.93 V	171	72.7	42.1
5	#10360.00	58.4 PK	68.2	-9.8	2.15 V	321	41.8	16.6

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 40：5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	112.9 PK			1.96 H	230	70.8	42.1
2	*5200.00	99.5 AV			1.96 H	230	57.4	42.1
3	#10400.00	59.0 PK	68.2	-9.2	1.62 H	51	42.1	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	132.5 PK			1.86 V	173	90.4	42.1
2	*5200.00	118.2 AV			1.86 V	173	76.1	42.1
3	#10400.00	59.0 PK	68.2	-9.2	2.16 V	321	42.1	16.9

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 48：5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	112.2 PK			1.80 H	232	70.3	41.9
2	*5240.00	98.6 AV			1.80 H	232	56.7	41.9
3	5350.00	57.5 PK	74.0	-16.5	1.83 H	229	51.2	6.3
4	5350.00	45.2 AV	54.0	-8.8	1.83 H	229	38.9	6.3
5	#10480.00	59.5 PK	68.2	-8.7	1.63 H	51	42.0	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	131.2 PK			1.88 V	163	89.3	41.9
2	*5240.00	118.0 AV			1.88 V	163	76.1	41.9
3	5350.00	61.6 PK	74.0	-12.4	1.65 V	174	55.3	6.3
4	5350.00	48.4 AV	54.0	-5.6	1.65 V	174	42.1	6.3
5	#10480.00	59.7 PK	68.2	-8.5	2.01 V	309	42.2	17.5

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 149：5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5620.51	56.8 PK	68.2	-11.4	2.36 H	352	50.7	6.1
2	*5745.00	109.7 PK			2.36 H	352	67.7	42.0
3	*5745.00	96.0 AV			2.36 H	352	54.0	42.0
4	#5937.82	58.3 PK	68.2	-9.9	2.36 H	352	51.3	7.0
5	11490.00	60.2 PK	74.0	-13.8	1.92 H	54	42.2	18.0
6	11490.00	47.5 AV	54.0	-6.5	1.92 H	54	29.5	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.44	63.0 PK	68.2	-5.2	1.90 V	165	56.8	6.2
2	*5745.00	132.0 PK			1.90 V	165	90.0	42.0
3	*5745.00	118.9 AV			1.90 V	165	76.9	42.0
4	#5937.82	61.0 PK	68.2	-7.2	1.90 V	165	54.0	7.0
5	11490.00	59.3 PK	74.0	-14.7	2.10 V	350	41.3	18.0
6	11490.00	46.7 AV	54.0	-7.3	2.10 V	350	28.7	18.0

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 157：5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.82	57.6 PK	68.2	-10.6	2.50 H	343	51.4	6.2
2	*5785.00	109.6 PK			2.50 H	343	67.7	41.9
3	*5785.00	96.4 AV			2.50 H	343	54.5	41.9
4	#5943.59	58.5 PK	68.2	-9.7	2.50 H	343	51.5	7.0
5	11570.00	60.8 PK	74.0	-13.2	1.95 H	71	43.2	17.6
6	11570.00	46.6 AV	54.0	-7.4	1.95 H	71	29.0	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5632.05	61.5 PK	68.2	-6.7	1.85 V	170	55.3	6.2
2	*5785.00	133.5 PK			1.85 V	170	91.6	41.9
3	*5785.00	119.6 AV			1.85 V	170	77.7	41.9
4	#5971.79	61.9 PK	68.2	-6.3	1.85 V	170	55.0	6.9
5	11570.00	59.6 PK	74.0	-14.4	2.07 V	345	42.0	17.6
6	11570.00	46.3 AV	54.0	-7.7	2.07 V	345	28.7	17.6

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 165：5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5609.62	57.8 PK	68.2	-10.4	2.50 H	341	51.7	6.1
2	*5825.00	109.4 PK			2.50 H	341	67.2	42.2
3	*5825.00	96.0 AV			2.50 H	341	53.8	42.2
4	#5996.15	58.8 PK	68.2	-9.4	2.50 H	341	51.9	6.9
5	11650.00	60.7 PK	74.0	-13.3	1.90 H	62	43.0	17.7
6	11650.00	46.9 AV	54.0	-7.1	1.90 H	62	29.2	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.62	63.8 PK	68.2	-4.4	2.05 V	158	57.6	6.2
2	*5825.00	131.6 PK			2.05 V	158	89.4	42.2
3	*5825.00	118.1 AV			2.05 V	158	75.9	42.2
4	#5925.64	62.0 PK	68.2	-6.2	2.05 V	158	55.0	7.0
5	11650.00	59.7 PK	74.0	-14.3	2.05 V	339	42.0	17.7
6	11650.00	46.1 AV	54.0	-7.9	2.05 V	339	28.4	17.7

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 38：5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.5 PK	74.0	-16.5	1.72 H	215	51.0	6.5
2	5150.00	44.7 AV	54.0	-9.3	1.72 H	215	38.2	6.5
3	*5190.00	99.6 PK			1.69 H	226	57.5	42.1
4	*5190.00	86.2 AV			1.69 H	226	44.1	42.1
5	#10380.00	58.7 PK	68.2	-9.5	1.59 H	48	41.9	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.8 PK	74.0	-7.2	2.03 V	164	60.2	6.6
2	5150.00	53.7 AV	54.0	-0.3	2.03 V	164	47.1	6.6
3	*5190.00	120.8 PK			1.85 V	173	78.7	42.1
4	*5190.00	108.6 AV			1.85 V	173	66.5	42.1
5	#10380.00	58.8 PK	74.0	-15.2	2.13 V	323	42.7	16.1

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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 46：5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.4 PK	74.0	-16.6	1.62 H	182	50.9	6.5
2	5150.00	44.6 AV	54.0	-9.4	1.62 H	182	38.1	6.5
3	*5230.00	108.9 PK			1.58 H	181	67.0	41.9
4	*5230.00	95.1 AV			1.58 H	181	53.2	41.9
5	#10460.00	59.3 PK	68.2	-8.9	1.59 H	55	42.0	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.3 PK	74.0	-6.7	1.93 V	150	60.8	6.5
2	5150.00	52.5 AV	54.0	-1.5	1.93 V	150	46.0	6.5
3	*5230.00	129.1 PK			1.84 V	171	87.2	41.9
4	*5230.00	116.4 AV			1.84 V	171	74.5	41.9
5	#10460.00	59.4 PK	68.2	-8.8	2.11 V	323	42.1	17.3

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 151：5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.44	57.0 PK	68.2	-11.2	2.51 H	203	50.8	6.2
2	*5755.00	105.6 PK			2.51 H	203	63.6	42.0
3	*5755.00	92.7 AV			2.51 H	203	50.7	42.0
4	#5966.03	58.7 PK	68.2	-9.5	2.51 H	203	51.7	7.0
5	11510.00	60.6 PK	74.0	-13.4	1.92 H	60	42.7	17.9
6	11510.00	47.4 AV	54.0	-6.6	1.92 H	60	29.5	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.41	64.7 PK	68.2	-3.5	1.82 V	167	58.5	6.2
2	*5755.00	130.5 PK			1.82 V	167	88.5	42.0
3	*5755.00	117.7 AV			1.82 V	167	75.7	42.0
4	#5929.49	61.7 PK	68.2	-6.5	1.82 V	167	54.7	7.0
5	11510.00	59.7 PK	74.0	-14.3	2.10 V	347	41.8	17.9
6	11510.00	46.4 AV	54.0	-7.6	2.10 V	347	28.5	17.9

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 159：5795 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5612.82	57.3 PK	68.2	-10.9	2.49 H	161	51.2	6.1
2	*5795.00	108.2 PK			2.49 H	161	66.2	42.0
3	*5795.00	95.5 AV			2.49 H	161	53.5	42.0
4	#5950.00	58.2 PK	68.2	-10.0	2.49 H	161	51.2	7.0
5	11590.00	60.5 PK	74.0	-13.5	1.82 H	70	43.0	17.5
6	11590.00	47.0 AV	54.0	-7.0	1.82 H	70	29.5	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5610.90	61.0 PK	68.2	-7.2	1.81 V	160	54.9	6.1
2	*5795.00	127.7 PK			1.81 V	160	85.7	42.0
3	*5795.00	114.8 AV			1.81 V	160	72.8	42.0
4	#5976.28	60.9 PK	68.2	-7.3	1.81 V	160	54.0	6.9
5	11590.00	59.4 PK	74.0	-14.6	1.99 V	334	41.9	17.5
6	11590.00	45.9 AV	54.0	-8.1	1.99 V	334	28.4	17.5

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 42：5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.0 PK	74.0	-17.0	1.62 H	186	50.5	6.5
2	5150.00	44.7 AV	54.0	-9.3	1.62 H	186	38.2	6.5
3	*5210.00	97.0 PK			1.58 H	182	54.9	42.1
4	*5210.00	84.5 AV			1.58 H	182	42.4	42.1
5	5350.00	57.3 PK	74.0	-16.7	1.66 H	190	51.1	6.2
6	5350.00	45.3 AV	54.0	-8.7	1.66 H	190	39.1	6.2
7	#10420.00	59.3 PK	68.2	-8.9	1.53 H	42	42.2	17.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.5 PK	74.0	-6.5	1.98 V	170	60.9	6.6
2	**5150.00**	**53.98 AV**	**54.0**	**-0.02**	**1.98 V**	**170**	**47.4**	**6.6**
3	*5210.00	119.9 PK			1.70 V	170	77.8	42.1
4	*5210.00	108.7 AV			1.70 V	170	66.6	42.1
5	5350.00	59.5 PK	74.0	-14.6	1.82 V	169	53.1	6.4
6	5350.00	47.3 AV	54.0	-6.7	1.82 V	169	40.9	6.4
7	#10420.00	59.4 PK	68.2	-8.8	2.13 V	308	42.2	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.

RF Mode	TX 802.11ax (HE80)	Channel	CH 155：5775 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5626.92	57.4 PK	68.2	-10.8	2.16 H	212	51.3	6.1
2	#5650.00	56.7 PK	68.2	-11.5	2.03 H	222	50.6	6.1
3	*5775.00	99.1 PK			2.16 H	212	57.1	42.0
4	*5775.00	87.7 AV			2.16 H	212	45.7	42.0
5	#5925.00	58.3 PK	68.2	-9.9	2.22 H	220	51.3	7.0
6	#5954.49	59.1 PK	68.2	-9.1	2.16 H	212	52.1	7.0
7	11550.00	61.1 PK	74.0	-12.9	1.85 H	77	43.3	17.8
8	11550.00	47.7 AV	54.0	-6.3	1.85 H	77	29.9	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.87	63.6 PK	68.2	-4.6	1.83 V	159	57.4	6.2
2	#5650.00	66.5 PK	68.2	-1.7	1.82 V	159	60.4	6.1
3	*5775.00	122.3 PK			1.83 V	159	80.3	42.0
4	*5775.00	109.5 AV			1.83 V	159	67.5	42.0
5	#5925.00	61.3 PK	68.2	-6.9	1.76 V	166	54.3	7.0
6	#5944.23	59.8 PK	68.2	-8.4	1.83 V	159	52.8	7.0
7	11550.00	60.1 PK	74.0	-13.9	1.97 V	353	42.3	17.8
8	11550.00	46.9 AV	54.0	-7.1	1.97 V	353	29.1	17.8

Remarks:

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

Scanning radio (Radio 3)

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	57.6 PK	74.0	-16.4	1.33 H	215	51.6	6.0
2	5000.00	44.5 AV	54.0	-9.5	1.33 H	215	38.5	6.0
3	*5180.00	96.8 PK			1.32 H	204	54.6	42.2
4	*5180.00	86.4 AV			1.32 H	204	44.2	42.2
5	#10360.00	57.7 PK	68.2	-10.5	1.99 H	112	41.0	16.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	60.8 PK	74.0	-13.2	1.68 V	169	54.8	6.0
2	5000.00	51.2 AV	54.0	-2.8	1.68 V	169	45.2	6.0
3	*5180.00	116.0 PK			1.77 V	172	73.8	42.2
4	*5180.00	105.8 AV			1.77 V	172	63.6	42.2
5	#10360.00	57.5 PK	68.2	-10.7	1.55 V	73	40.8	16.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	97.9 PK			1.50 H	107	55.8	42.1
2	*5200.00	88.0 AV			1.50 H	107	45.9	42.1
3	5350.00	58.8 PK	74.0	-15.2	1.61 H	119	52.4	6.4
4	5350.00	44.5 AV	54.0	-9.5	1.61 H	119	38.1	6.4
5	#10400.00	58.7 PK	68.2	-9.5	2.01 H	123	41.8	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	116.8 PK			1.78 V	170	74.7	42.1
2	*5200.00	106.7 AV			1.78 V	170	64.6	42.1
3	5350.00	64.1 PK	74.0	-9.9	1.64 V	175	57.7	6.4
4	5350.00	52.6 AV	54.0	-1.4	1.64 V	175	46.2	6.4
5	#10400.00	57.1 PK	68.2	-11.1	1.65 V	88	40.2	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	97.3 PK			1.63 H	115	55.3	42.0
2	*5240.00	87.4 AV			1.63 H	115	45.4	42.0
3	5402.00	58.2 PK	74.0	-15.8	1.72 H	123	51.7	6.5
4	5402.00	44.8 AV	54.0	-9.2	1.72 H	123	38.3	6.5
5	#10480.00	59.2 PK	68.2	-9.0	1.87 H	118	41.5	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	115.6 PK			1.81 V	167	73.6	42.0
2	*5240.00	105.7 AV			1.81 V	167	63.7	42.0
3	5402.00	60.9 PK	74.0	-13.1	1.78 V	172	54.4	6.5
4	5402.00	49.0 AV	54.0	-5.0	1.78 V	172	42.5	6.5
5	#10480.00	59.0 PK	68.2	-9.2	1.45 V	79	41.3	17.7

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.60	57.3 PK	68.2	-10.9	1.47 H	40	51.0	6.3
2	*5745.00	97.5 PK			1.47 H	40	55.3	42.2
3	*5745.00	87.8 AV			1.47 H	40	45.6	42.2
4	#5980.80	58.4 PK	68.2	-9.8	1.47 H	40	51.2	7.2
5	11490.00	58.9 PK	74.0	-15.1	1.99 H	162	40.6	18.3
6	11490.00	45.8 AV	54.0	-8.2	1.99 H	162	27.5	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.60	57.2 PK	68.2	-11.0	1.55 V	350	50.9	6.3
2	*5745.00	117.5 PK			1.55 V	350	75.3	42.2
3	*5745.00	107.4 AV			1.55 V	350	65.2	42.2
4	#5984.80	58.0 PK	68.2	-10.2	1.50 V	355	50.8	7.2
5	11490.00	58.4 PK	74.0	-15.6	1.80 V	249	40.1	18.3
6	11490.00	45.2 AV	54.0	-8.8	1.80 V	249	26.9	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.00	56.4 PK	68.2	-11.8	1.14 H	148	50.1	6.3
2	*5785.00	97.7 PK			1.14 H	148	55.5	42.2
3	*5785.00	88.3 AV			1.14 H	148	46.1	42.2
4	#5938.80	58.3 PK	68.2	-9.9	1.14 H	148	51.0	7.3
5	11570.00	58.5 PK	74.0	-15.5	2.00 H	159	40.5	18.0
6	11570.00	46.0 AV	54.0	-8.0	2.00 H	159	28.0	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5630.40	60.9 PK	68.2	-7.3	1.54 V	348	54.7	6.2
2	*5785.00	116.6 PK			1.54 V	348	74.4	42.2
3	*5785.00	106.3 AV			1.54 V	348	64.1	42.2
4	#5950.40	58.4 PK	68.2	-9.8	1.54 V	348	51.1	7.3
5	11570.00	59.0 PK	74.0	-15.0	1.75 V	213	41.0	18.0
6	11570.00	45.8 AV	54.0	-8.2	1.75 V	213	27.8	18.0

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.60	56.7 PK	68.2	-11.5	1.03 H	149	50.4	6.3
2	*5825.00	96.8 PK			1.03 H	149	54.5	42.3
3	*5825.00	87.4 AV			1.03 H	149	45.1	42.3
4	#5944.40	58.8 PK	68.2	-9.4	1.03 H	149	51.5	7.3
5	11650.00	59.0 PK	74.0	-15.0	2.10 H	167	41.0	18.0
6	11650.00	45.8 AV	54.0	-8.2	2.10 H	167	27.8	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.00	59.5 PK	68.2	-8.7	1.59 V	350	53.2	6.3
2	*5825.00	113.7 PK			1.59 V	350	71.4	42.3
3	*5825.00	104.5 AV			1.59 V	350	62.2	42.3
4	#5980.40	58.7 PK	68.2	-9.5	1.59 V	350	51.5	7.2
5	11650.00	58.5 PK	74.0	-15.5	1.62 V	244	40.5	18.0
6	11650.00	45.4 AV	54.0	-8.6	1.62 V	244	27.4	18.0

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	57.9 PK	74.0	-16.1	1.65 H	93	51.9	6.0
2	5000.00	44.9 AV	54.0	-9.1	1.65 H	93	38.9	6.0
3	*5180.00	97.0 PK			1.57 H	52	54.8	42.2
4	*5180.00	86.7 AV			1.57 H	52	44.5	42.2
5	#10360.00	57.8 PK	68.2	-10.4	1.93 H	127	41.1	16.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	62.1 PK	74.0	-11.9	1.89 V	169	56.1	6.0
2	5000.00	49.9 AV	54.0	-4.1	1.89 V	169	43.9	6.0
3	*5180.00	115.7 PK			1.76 V	167	73.5	42.2
4	*5180.00	105.9 AV			1.76 V	167	63.7	42.2
5	#10360.00	57.0 PK	68.2	-11.2	1.57 V	79	40.3	16.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	95.3 PK			1.40 H	116	53.2	42.1
2	*5200.00	85.3 AV			1.40 H	116	43.2	42.1
3	5350.00	57.2 PK	74.0	-16.8	1.55 H	92	50.8	6.4
4	5350.00	43.9 AV	54.0	-10.1	1.55 H	92	37.5	6.4
5	#10400.00	58.2 PK	68.2	-10.0	1.99 H	131	41.3	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	115.6 PK			1.63 V	172	73.5	42.1
2	*5200.00	106.0 AV			1.63 V	172	63.9	42.1
3	5350.00	64.0 PK	74.0	-10.0	1.67 V	172	57.6	6.4
4	5350.00	52.0 AV	54.0	-2.0	1.67 V	172	45.6	6.4
5	#10400.00	57.7 PK	68.2	-10.5	1.68 V	77	40.8	16.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	95.1 PK			1.42 H	117	53.1	42.0
2	*5240.00	85.3 AV			1.42 H	117	43.3	42.0
3	5350.00	57.2 PK	74.0	-16.8	1.50 H	116	50.8	6.4
4	5350.00	43.4 AV	54.0	-10.6	1.50 H	116	37.0	6.4
5	#10480.00	58.9 PK	68.2	-9.3	1.88 H	135	41.2	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	114.9 PK			1.70 V	163	72.9	42.0
2	*5240.00	105.2 AV			1.70 V	163	63.2	42.0
3	5350.00	60.9 PK	74.0	-13.1	1.79 V	169	54.5	6.4
4	5350.00	49.1 AV	54.0	-4.9	1.79 V	169	42.7	6.4
5	#10480.00	58.5 PK	68.2	-9.7	1.78 V	91	40.8	17.7

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5608.80	56.0 PK	68.2	-12.2	1.10 H	151	49.8	6.2
2	*5745.00	98.1 PK			1.10 H	151	55.9	42.2
3	*5745.00	88.0 AV			1.10 H	151	45.8	42.2
4	#5952.80	58.0 PK	68.2	-10.2	1.10 H	151	50.7	7.3
5	11490.00	59.1 PK	74.0	-14.9	2.03 H	149	40.8	18.3
6	11490.00	45.8 AV	54.0	-8.2	2.03 H	149	27.5	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.60	57.1 PK	68.2	-11.1	1.52 V	351	50.8	6.3
2	*5745.00	116.9 PK			1.52 V	351	74.7	42.2
3	*5745.00	106.8 AV			1.52 V	351	64.6	42.2
4	#5975.20	57.6 PK	68.2	-10.6	1.52 V	351	50.4	7.2
5	11490.00	58.9 PK	74.0	-15.1	1.62 V	200	40.6	18.3
6	11490.00	45.6 AV	54.0	-8.4	1.62 V	200	27.3	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5611.20	57.3 PK	68.2	-10.9	1.14 H	148	51.1	6.2
2	*5785.00	98.0 PK			1.14 H	148	55.8	42.2
3	*5785.00	87.8 AV			1.14 H	148	45.6	42.2
4	#5939.20	58.7 PK	68.2	-9.5	1.14 H	148	51.4	7.3
5	11570.00	59.0 PK	74.0	-15.0	2.03 H	167	41.0	18.0
6	11570.00	45.6 AV	54.0	-8.4	2.03 H	167	27.6	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5633.60	59.9 PK	68.2	-8.3	1.42 V	346	53.6	6.3
2	*5785.00	115.6 PK			1.42 V	346	73.4	42.2
3	*5785.00	106.1 AV			1.42 V	346	63.9	42.2
4	#5952.80	57.4 PK	68.2	-10.8	1.42 V	346	50.1	7.3
5	11570.00	58.5 PK	74.0	-15.5	1.77 V	213	40.5	18.0
6	11570.00	45.1 AV	54.0	-8.9	1.77 V	213	27.1	18.0

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.20	56.5 PK	68.2	-11.7	1.08 H	148	50.2	6.3
2	*5825.00	96.9 PK			1.08 H	148	54.6	42.3
3	*5825.00	86.8 AV			1.08 H	148	44.5	42.3
4	#5936.40	58.1 PK	68.2	-10.1	1.08 H	148	50.8	7.3
5	11650.00	58.8 PK	74.0	-15.2	2.00 H	171	40.8	18.0
6	11650.00	45.6 AV	54.0	-8.4	2.00 H	171	27.6	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.40	60.4 PK	68.2	-7.8	1.45 V	348	54.1	6.3
2	*5825.00	114.8 PK			1.45 V	348	72.5	42.3
3	*5825.00	104.6 AV			1.45 V	348	62.3	42.3
4	#5988.40	57.7 PK	68.2	-10.5	1.45 V	348	50.5	7.2
5	11650.00	59.0 PK	74.0	-15.0	1.59 V	233	41.0	18.0
6	11650.00	45.5 AV	54.0	-8.5	1.59 V	233	27.5	18.0

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.32 H	113	50.0	6.6
2	5150.00	43.7 AV	54.0	-10.3	1.32 H	113	37.1	6.6
3	*5190.00	93.3 PK			1.37 H	114	51.2	42.1
4	*5190.00	82.5 AV			1.37 H	114	40.4	42.1
5	#10380.00	58.7 PK	68.2	-9.5	1.88 H	112	41.9	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.67 V	342	58.5	7.3
2	5150.00	52.8 AV	54.0	-1.2	1.67 V	342	45.5	7.3
3	*5190.00	114.7 PK			1.53 V	351	72.0	42.7
4	*5190.00	104.4 AV			1.53 V	351	61.7	42.7
5	#10380.00	57.5 PK	68.2	-10.7	1.68 V	100	40.8	16.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	56.0 PK	74.0	-18.0	1.39 H	120	50.0	6.0
2	5000.00	43.2 AV	54.0	-10.8	1.39 H	120	37.2	6.0
3	*5230.00	92.8 PK			1.46 H	117	50.8	42.0
4	*5230.00	82.3 AV			1.46 H	117	40.3	42.0
5	5350.00	59.5 PK	74.0	-14.5	1.39 H	120	53.1	6.4
6	5350.00	46.6 AV	54.0	-7.4	1.39 H	120	40.2	6.4
7	#10460.00	58.4 PK	68.2	-9.8	1.86 H	123	41.0	17.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5000.00	61.0 PK	74.0	-13.0	1.37 V	161	55.0	6.0
2	5000.00	51.7 AV	54.0	-2.3	1.37 V	161	45.7	6.0
3	*5230.00	113.5 PK			1.49 V	166	71.5	42.0
4	*5230.00	102.8 AV			1.49 V	166	60.8	42.0
5	5350.00	61.2 PK	74.0	-12.8	1.37 V	161	54.8	6.4
6	5350.00	51.9 AV	54.0	-2.1	1.37 V	161	45.5	6.4
7	#10460.00	58.7 PK	68.2	-9.5	1.49 V	95	41.3	17.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5612.40	56.2 PK	68.2	-12.0	1.00 H	150	50.0	6.2
2	*5755.00	95.0 PK			1.00 H	150	52.7	42.3
3	*5755.00	84.6 AV			1.00 H	150	42.3	42.3
4	#5952.00	58.6 PK	68.2	-9.6	1.00 H	150	51.3	7.3
5	11510.00	59.1 PK	74.0	-14.9	1.99 H	172	40.9	18.2
6	11510.00	45.7 AV	54.0	-8.3	1.99 H	172	27.5	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5607.20	57.9 PK	68.2	-10.3	1.58 V	349	51.7	6.2
2	*5755.00	114.1 PK			1.58 V	349	71.8	42.3
3	*5755.00	103.7 AV			1.58 V	349	61.4	42.3
4	#5941.20	58.0 PK	68.2	-10.2	1.58 V	349	50.7	7.3
5	11510.00	58.8 PK	74.0	-15.2	1.69 V	210	40.6	18.2
6	11510.00	45.7 AV	54.0	-8.3	1.69 V	210	27.5	18.2

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.20	56.6 PK	68.2	-11.6	1.12 H	150	50.3	6.3
2	*5795.00	94.4 PK			1.12 H	150	52.2	42.2
3	*5795.00	84.4 AV			1.12 H	150	42.2	42.2
4	#5963.60	58.1 PK	68.2	-10.1	1.12 H	150	50.8	7.3
5	11590.00	58.3 PK	74.0	-15.7	1.87 H	160	40.5	17.8
6	11590.00	44.9 AV	54.0	-9.1	1.87 H	160	27.1	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.80	59.3 PK	68.2	-8.9	1.56 V	347	53.0	6.3
2	*5795.00	113.5 PK			1.56 V	347	71.3	42.2
3	*5795.00	102.9 AV			1.56 V	347	60.7	42.2
4	#5949.60	58.1 PK	68.2	-10.1	1.56 V	347	50.8	7.3
5	11590.00	59.3 PK	74.0	-14.7	1.87 V	251	41.5	17.8
6	11590.00	45.1 AV	54.0	-8.9	1.87 V	251	27.3	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.7 PK	74.0	-17.3	1.46 H	117	50.1	6.6
2	5150.00	44.4 AV	54.0	-9.6	1.46 H	117	37.8	6.6
3	*5210.00	83.0 PK			1.48 H	115	41.0	42.0
4	*5210.00	73.0 AV			1.48 H	115	31.0	42.0
5	5350.00	56.7 PK	74.0	-17.3	1.42 H	116	50.3	6.4
6	5350.00	44.6 AV	54.0	-9.4	1.42 H	116	38.2	6.4
7	#10420.00	58.2 PK	68.2	-10.0	1.79 H	135	41.0	17.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.9 PK	74.0	-7.1	1.54 V	171	60.3	6.6
2	5150.00	53.6 AV	54.0	-0.4	1.54 V	171	47.0	6.6
3	*5210.00	103.2 PK			1.54 V	168	61.2	42.0
4	*5210.00	92.8 AV			1.54 V	168	50.8	42.0
5	5350.00	59.4 PK	74.0	-14.6	1.56 V	162	53.0	6.4
6	5350.00	47.0 AV	54.0	-7.0	1.56 V	162	40.6	6.4
7	#10420.00	59.7 PK	68.2	-8.5	1.61 V	111	42.5	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	57.5 PK	68.2	-10.7	1.02 H	152	51.2	6.3
2	*5775.00	93.6 PK			1.00 H	149	51.4	42.2
3	*5775.00	82.4 AV			1.00 H	149	40.2	42.2
4	#5925.00	59.7 PK	68.2	-8.5	1.00 H	153	52.4	7.3
5	11550.00	58.3 PK	74.0	-15.7	1.99 H	156	40.2	18.1
6	11550.00	45.2 AV	54.0	-8.8	1.99 H	156	27.1	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	68.0 PK	68.2	-0.2	1.54 V	352	61.7	6.3
2	*5775.00	112.3 PK			1.59 V	346	70.1	42.2
3	*5775.00	102.2 AV			1.59 V	346	60.0	42.2
4	#5925.00	63.2 PK	68.2	-5.0	1.53 V	341	55.9	7.3
5	11550.00	59.8 PK	74.0	-14.2	1.78 V	231	41.7	18.1
6	11550.00	47.6 AV	54.0	-6.4	1.78 V	231	29.5	18.1

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.

Below 1GHz Worst-Case Data:

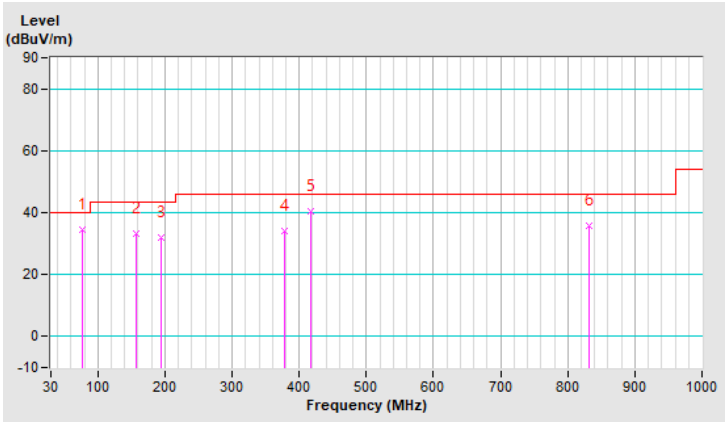
5G traffic radio (Radio 2)

RF Mode	TX 802.11ax (HE80)	Channel	CH 42：5210 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	77.80	34.6 QP	40.0	-5.4	1.00 H	52	47.4	-12.8
2	157.93	33.4 QP	43.5	-10.1	1.50 H	217	41.8	-8.4
3	194.48	31.9 QP	43.5	-11.6	1.50 H	7	43.1	-11.2
4	378.64	34.0 QP	46.0	-12.0	1.00 H	172	39.0	-5.0
5	418.00	40.5 QP	46.0	-5.5	1.50 H	280	44.6	-4.1
6	831.30	35.6 QP	46.0	-10.4	1.50 H	7	31.1	4.5

Remarks:

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

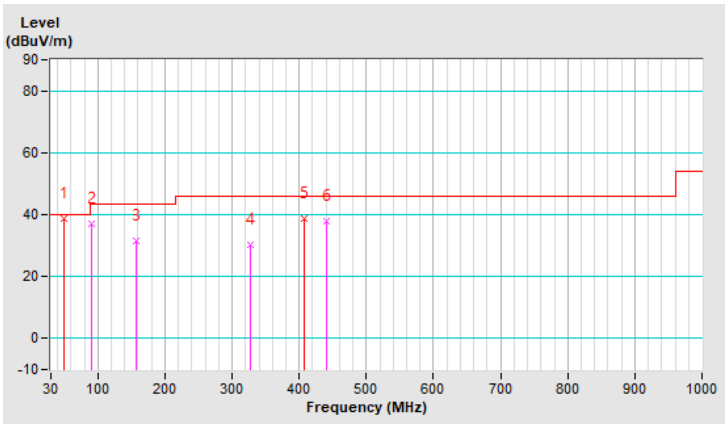


RF Mode	TX 802.11ax (HE80)	Channel	CH 42：5210 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	50.16	38.6 QP	40.0	-1.4	1.00 V	6	47.7	-9.1
2	90.45	37.0 QP	43.5	-6.5	1.48 V	124	51.4	-14.4
3	157.93	31.4 QP	43.5	-12.1	1.00 V	112	39.8	-8.4
4	326.62	30.2 QP	46.0	-15.8	1.00 V	78	36.0	-5.8
5	408.00	38.7 QP	46.0	-7.3	1.00 V	6	43.3	-4.6
6	440.49	37.9 QP	46.0	-8.1	1.48 V	185	41.4	-3.5

Remarks:

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



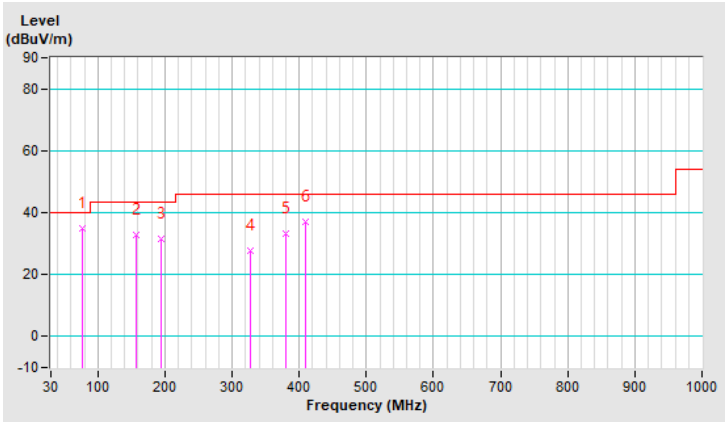
Scanning radio (Radio 3)

RF Mode	TX 802.11ac (VHT80)	Channel	CH 155：5775 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	77.80	34.8 QP	40.0	-5.2	1.49 H	204	47.6	-12.8
2	157.93	32.6 QP	43.5	-10.9	1.49 H	206	41.0	-8.4
3	194.48	31.4 QP	43.5	-12.1	1.49 H	14	42.6	-11.2
4	326.62	27.6 QP	46.0	-18.4	1.00 H	37	33.4	-5.8
5	380.04	33.4 QP	46.0	-12.6	1.00 H	262	38.4	-5.0
6	409.57	36.9 QP	46.0	-9.1	1.49 H	307	41.4	-4.5

Remarks:

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

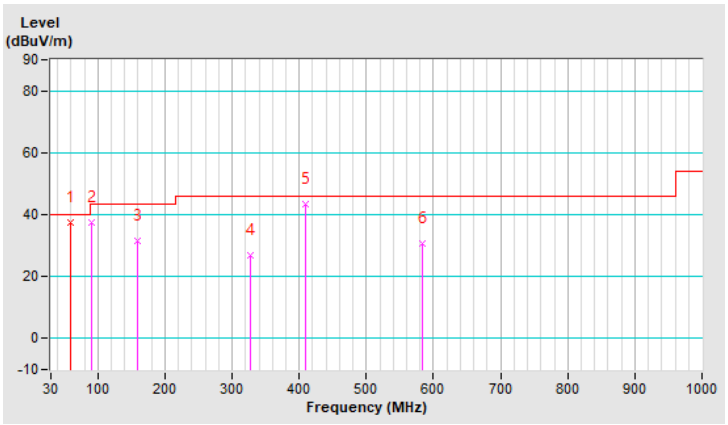


RF Mode	TX 802.11ac (VHT80)	Channel	CH 155：5775 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	59.85	37.3 QP	40.0	-2.7	1.00 V	4	46.7	-9.4
2	90.45	37.3 QP	43.5	-6.2	1.01 V	110	51.7	-14.4
3	159.33	31.5 QP	43.5	-12.0	1.01 V	106	39.8	-8.3
4	326.62	26.9 QP	46.0	-19.1	1.01 V	117	32.7	-5.8
5	409.57	43.6 QP	46.0	-2.4	1.01 V	11	48.1	-4.5
6	583.88	30.7 QP	46.0	-15.3	1.01 V	140	31.0	-0.3

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 17, 2020	Feb. 16, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
V-LISN SCHWARZBECK (EUT)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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

4.2.3 Test Procedures

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.

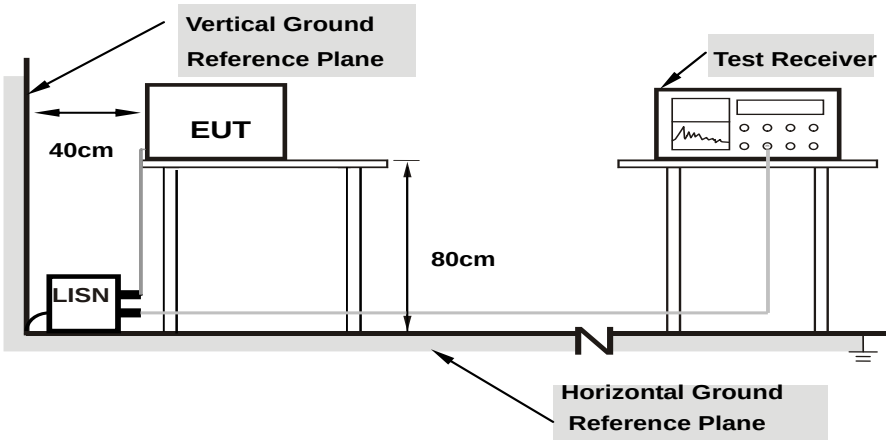
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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:

5G traffic radio (Radio 2)

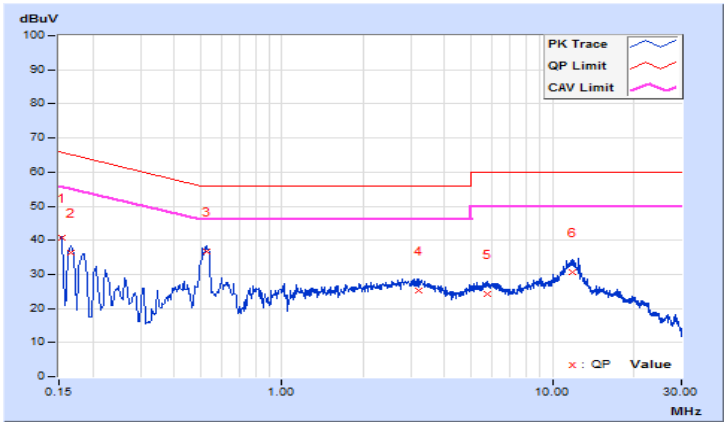
802.11ax (HE80)

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Greg Lin	**Test Date**	2020/12/16

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15400	0.08	40.69	27.96	40.77	28.04	65.78	55.78	-25.01	-27.74
2	0.16600	0.09	36.18	21.78	36.27	21.87	65.16	55.16	-28.89	-33.29
3	0.52567	0.13	36.47	31.47	36.60	31.60	56.00	46.00	-19.40	-14.40
4	3.21000	0.22	25.18	19.72	25.40	19.94	56.00	46.00	-30.60	-26.06
5	5.73000	0.27	23.81	18.16	24.08	18.43	60.00	50.00	-35.92	-31.57
6	11.82200	0.35	30.34	25.25	30.69	25.60	60.00	50.00	-29.31	-24.40

Remarks:

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

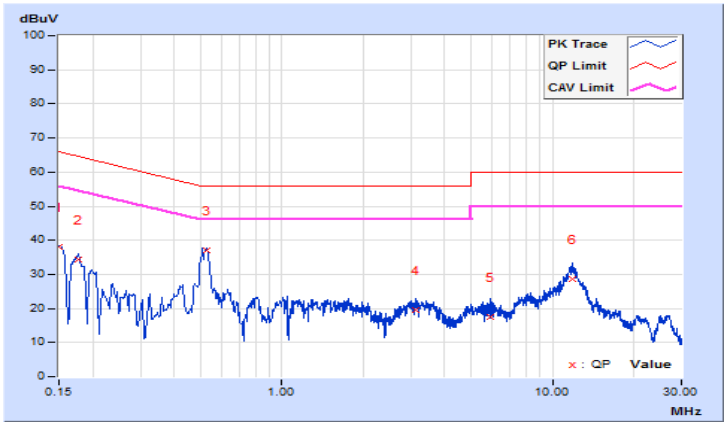


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Greg Lin	**Test Date**	2020/12/16

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	0.07	38.06	26.01	38.13	26.08	66.00	56.00	-27.87	-29.92
2	0.17754	0.08	34.12	21.77	34.20	21.85	64.60	54.60	-30.40	-32.75
3	0.52567	0.11	36.80	32.04	36.91	32.15	56.00	46.00	-19.09	-13.85
4	3.12200	0.21	19.33	12.75	19.54	12.96	56.00	46.00	-36.46	-33.04
5	5.88200	0.28	17.29	10.46	17.57	10.74	60.00	50.00	-42.43	-39.26
6	11.89800	0.42	28.21	22.71	28.63	23.13	60.00	50.00	-31.37	-26.87

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



Scanning radio (Radio 3)

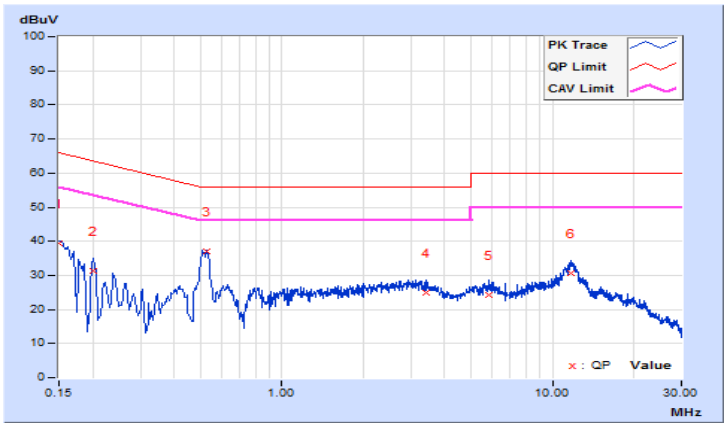
802.11ac (VHT80)

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Greg Lin	**Test Date**	2020/12/16

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	0.08	39.19	27.35	39.27	27.43	66.00	56.00	-26.73	-28.57
2	0.20148	0.10	31.23	19.12	31.33	19.22	63.55	53.55	-32.22	-34.33
3	**0.52984**	**0.13**	**36.80**	**32.47**	**36.93**	**32.60**	**56.00**	**46.00**	**-19.07**	**-13.40**
4	3.41000	0.23	24.56	19.24	24.79	19.47	56.00	46.00	-31.21	-26.53
5	5.82200	0.27	23.95	18.08	24.22	18.35	60.00	50.00	-35.78	-31.65
6	11.71400	0.35	30.33	25.10	30.68	25.45	60.00	50.00	-29.32	-24.55

Remarks:

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

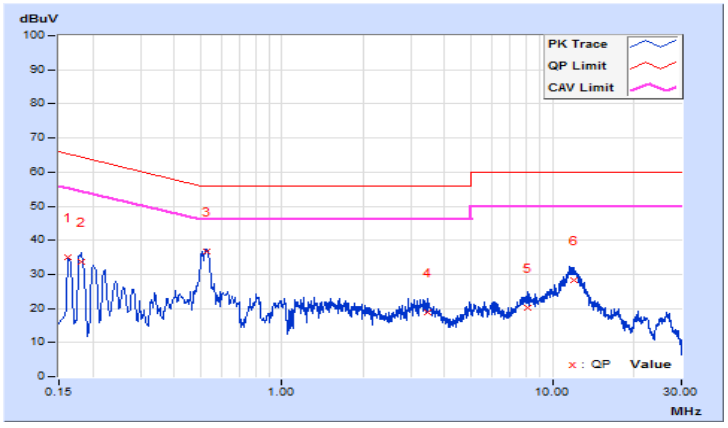


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Greg Lin	**Test Date**	2020/12/16

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16200	0.07	34.82	21.14	34.89	21.21	65.36	55.36	-30.47	-34.15
2	0.18133	0.08	33.55	20.23	33.63	20.31	64.42	54.42	-30.79	-34.11
3	0.52567	0.11	36.46	31.67	36.57	31.78	56.00	46.00	-19.43	-14.22
4	3.46200	0.22	18.54	12.62	18.76	12.84	56.00	46.00	-37.24	-33.16
5	8.05400	0.33	19.73	14.22	20.06	14.55	60.00	50.00	-39.94	-35.45
6	11.94200	0.42	27.93	22.59	28.35	23.01	60.00	50.00	-31.65	-26.99

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)

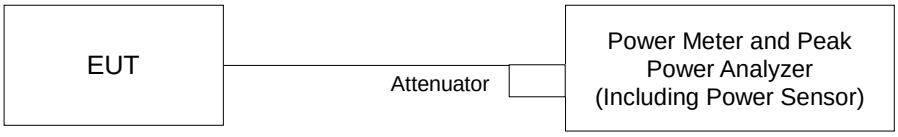
*B is the 26 dB emission bandwidth in megahertz

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

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

5G traffic radio (Radio 2)

CDD Mode (For U-NII-1 Band - Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	17.35	17.36	17.52	17.48	221.245	23.45	28.80	-2.59	20.86	21.00	Pass
40	5200	17.42	17.28	17.26	17.23	214.72	23.32	28.80	-2.59	20.73	21.00	Pass
48	5240	17.37	17.23	17.29	17.25	214.088	23.31	28.80	-2.59	20.72	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	17.10	17.13	17.07	17.03	204.327	23.10	28.80	-2.59	20.51	21.00	Pass
40	5200	17.22	16.88	17.00	16.67	198.046	22.97	28.80	-2.59	20.38	21.00	Pass
48	5240	17.01	17.12	16.86	16.84	198.592	22.98	28.80	-2.59	20.39	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
38	5190	15.21	15.24	15.11	15.23	132.386	21.22	28.80	-2.59	18.63	21.00	Pass
46	5230	16.80	17.05	16.94	16.87	196.634	22.94	28.80	-2.59	20.35	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	17.28	17.30	17.30	17.29	214.442	23.31	28.80	-2.59	20.72	21.00	Pass
40	5200	17.42	16.97	17.15	16.85	205.279	23.12	28.80	-2.59	20.53	21.00	Pass
48	5240	16.97	17.20	17.04	16.91	201.928	23.05	28.80	-2.59	20.46	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
38	5190	15.32	15.39	15.25	15.42	136.965	21.37	28.80	-2.59	18.78	21.00	Pass
46	5230	17.08	17.21	17.02	17.09	205.17	23.12	28.80	-2.59	20.53	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
42	5210	15.35	15.51	15.39	15.55	140.326	21.47	28.80	-2.59	18.88	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	17.52	17.48	17.52	17.41	224.044	23.50	28.80	-2.59	20.91	21.00	Pass
40	5200	17.52	17.22	17.31	17.01	213.278	23.29	28.80	-2.59	20.70	21.00	Pass
48	5240	17.22	17.43	17.24	17.13	212.666	23.28	28.80	-2.59	20.69	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
38	5190	15.47	15.51	15.38	15.56	141.29	21.50	28.80	-2.59	18.91	21.00	Pass
46	5230	17.18	17.32	17.25	17.19	211.639	23.26	28.80	-2.59	20.67	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
42	5210	15.51	15.66	15.41	15.78	144.974	21.61	28.80	-2.59	19.02	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

CDD Mode (For U-NII-1 Band - Indoor Access Point)

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.35	17.36	17.52	17.48	221.245	23.45	28.80	Pass
40	5200	17.42	17.28	17.26	17.23	214.72	23.32	28.80	Pass
48	5240	17.37	17.23	17.29	17.25	214.088	23.31	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	18.02	18.08	17.98	18.01	253.703	24.04	28.80	Pass
40	5200	17.93	17.61	17.74	18.29	246.646	23.92	28.80	Pass
48	5240	17.71	17.88	17.79	18.35	248.905	23.96	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	15.21	15.24	15.11	15.23	132.386	21.22	28.80	Pass
46	5230	20.26	20.40	20.20	20.35	428.923	26.32	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	18.05	18.13	18.00	18.05	255.761	24.08	28.80	Pass
40	5200	18.01	17.65	17.77	18.32	249.213	23.97	28.80	Pass
48	5240	17.75	17.95	17.83	18.41	251.956	24.01	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	15.32	15.39	15.25	15.42	136.965	21.37	28.80	Pass
46	5230	20.38	20.48	20.45	20.45	442.665	26.46	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	15.35	15.51	15.39	15.55	140.326	21.47	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	18.11	18.16	18.03	18.08	257.98	24.12	28.80	Pass
40	5200	18.06	17.70	17.81	18.35	251.644	24.01	28.80	Pass
48	5240	17.80	18.00	17.88	18.43	254.391	24.06	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	15.47	15.51	15.38	15.56	141.29	21.50	28.80	Pass
46	5230	20.61	20.88	20.77	20.63	472.552	26.74	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	15.51	15.66	15.41	15.78	144.974	21.61	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

CDD Mode (For U-NII-3 Band)

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.91	22.67	22.73	22.65	751.937	28.76	28.80	Pass
157	5785	22.79	22.68	22.78	22.79	755.239	28.78	28.80	Pass
165	5825	22.53	22.64	22.88	22.67	741.73	28.70	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.30	22.55	22.54	22.33	700.186	28.45	28.80	Pass
157	5785	22.31	22.40	22.66	22.16	692.935	28.41	28.80	Pass
165	5825	22.28	22.47	22.53	22.26	692.976	28.41	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.43	21.85	22.70	22.08	675.738	28.30	28.80	Pass
159	5795	22.64	22.85	21.83	22.00	687.301	28.37	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.44	22.65	22.58	22.51	718.837	28.57	28.80	Pass
157	5785	22.65	22.46	22.86	22.27	722.127	28.59	28.80	Pass
165	5825	22.37	22.62	22.64	22.43	714.032	28.54	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.50	22.07	22.74	22.25	694.705	28.42	28.80	Pass
159	5795	22.79	22.97	22.00	22.22	713.475	28.53	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	19.62	19.62	19.55	19.46	361.709	25.58	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	22.69	22.81	22.83	22.61	751.022	28.76	28.80	Pass
157	5785	22.75	22.63	22.97	22.52	748.398	28.74	28.80	Pass
165	5825	22.62	22.83	22.83	22.63	749.775	28.75	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	22.71	22.21	22.96	22.49	728.095	28.62	28.80	Pass
159	5795	23.01	23.17	22.22	22.36	746.389	28.73	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	19.79	19.77	19.73	19.61	375.505	25.75	28.80	Pass

Note: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.

Beamforming Mode (For U-NII-1 Band - Outdoor Access Point)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	11.45	11.39	11.36	11.34	55.028	17.41	22.78	3.43	20.84	21.00	Pass
40	5200	11.40	11.08	11.22	10.91	52.202	17.18	22.78	3.43	20.61	21.00	Pass
48	5240	11.13	11.24	11.15	11.00	51.897	17.15	22.78	3.43	20.58	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
38	5190	11.41	11.43	11.31	11.43	55.155	17.42	22.78	3.43	20.85	21.00	Pass
46	5230	11.09	11.25	11.19	11.08	52.164	17.17	22.78	3.43	20.60	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
42	5210	11.01	11.08	10.84	11.23	50.849	17.06	22.78	3.43	20.49	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
36	5180	11.48	11.43	11.45	11.36	55.601	17.45	22.78	3.43	20.88	21.00	Pass
40	5200	11.43	11.15	11.27	10.95	52.773	17.22	22.78	3.43	20.65	21.00	Pass
48	5240	11.18	11.36	11.19	11.05	52.687	17.22	22.78	3.43	20.65	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
38	5190	11.43	11.48	11.34	11.45	55.538	17.45	22.78	3.43	20.88	21.00	Pass
46	5230	11.13	11.27	11.22	11.13	52.584	17.21	22.78	3.43	20.64	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Directional Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3							
42	5210	11.05	11.13	10.89	11.26	51.347	17.11	22.78	3.43	20.54	21.00	Pass

Note:
1. Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. Beamforming gain = 6.02dBi
4. EIRP = average power + (-2.59dBi) + beamforming gain (6.02dBi).

Beamforming Mode (For U-NII-1 Band - Indoor Access Point)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.33	16.49	16.41	16.28	173.733	22.40	22.78	Pass
40	5200	16.50	16.77	16.38	16.42	179.506	22.54	22.78	Pass
48	5240	16.65	16.51	16.44	16.26	177.332	22.49	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	13.48	13.47	13.15	12.98	85.032	19.30	22.78	Pass
46	5230	16.53	16.60	16.27	15.99	172.77	22.37	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	13.98	13.85	13.75	13.71	96.48	19.84	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.53	16.62	16.56	16.55	181.373	22.59	22.78	Pass
40	5200	16.56	16.91	16.64	16.62	186.432	22.71	22.78	Pass
48	5240	16.68	16.65	16.48	16.22	179.139	22.53	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	13.62	13.66	13.25	13.22	88.366	19.46	22.78	Pass
46	5230	16.73	16.72	16.44	16.16	179.447	22.54	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	14.19	14.01	13.99	13.89	100.971	20.04	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

Beamforming Mode (For U-NII-3 Band)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	16.20	16.17	16.58	16.01	168.488	22.27	22.78	Pass
157	5785	16.32	16.05	16.45	16.09	167.928	22.25	22.78	Pass
165	5825	16.59	16.31	16.45	16.60	178.226	22.51	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	15.79	15.98	15.74	15.78	152.901	21.84	22.78	Pass
159	5795	15.65	15.71	15.64	15.45	145.686	21.63	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	16.48	16.46	16.75	16.26	178.304	22.51	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	16.44	16.42	16.87	16.16	177.854	22.50	22.78	Pass
157	5785	16.63	16.21	16.67	16.16	175.565	22.44	22.78	Pass
165	5825	16.77	16.53	16.66	16.82	186.94	22.72	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	16.02	16.12	15.97	16.04	160.636	22.06	22.78	Pass
159	5795	16.50	16.66	16.49	16.32	178.434	22.51	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	16.69	16.59	16.89	16.37	184.486	22.66	22.78	Pass

Note: Directional gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the power limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.

Scanning radio (Radio 3)

For U-NII-1 Band - Outdoor Access Point

802.11a

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
36	5180	42.267	16.26	28.80	-2.59	13.67	21.00	Pass
40	5200	40.365	16.06	28.80	-2.59	13.47	21.00	Pass
48	5240	40.272	16.05	28.80	-2.59	13.46	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for NANT ≤ 4).

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
36	5180	41.02	16.13	28.80	-2.59	13.54	21.00	Pass
40	5200	40.179	16.04	28.80	-2.59	13.45	21.00	Pass
48	5240	39.355	15.95	28.80	-2.59	13.36	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for NANT ≤ 4).

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
38	5190	36.728	15.65	28.80	-2.59	13.06	21.00	Pass
46	5230	34.198	15.34	28.80	-2.59	12.75	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for NANT ≤ 4).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Ant. Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
42	5210	8.017	9.04	28.80	-2.59	6.45	21.00	Pass

Note:
1. Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 30 - (7.2 - 6) = 28.80dBm.
2. Antenna gain = -2.59dBi (above 30 degrees from the horizon).
3. EIRP = average power + (-2.59dBi) + array gain = (0 dB (i.e., no array gain) for NANT ≤ 4).

For U-NII-1 Band - Indoor Access Point

802.11a

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	42.267	16.26	28.80	Pass
40	5200	40.365	16.06	28.80	Pass
48	5240	40.272	16.05	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	41.02	16.13	28.80	Pass
40	5200	40.179	16.04	28.80	Pass
48	5240	39.355	15.95	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	36.728	15.65	28.80	Pass
46	5230	34.198	15.34	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	8.017	9.04	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

For U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
149	5745	69.024	18.39	28.80	Pass
157	5785	60.117	17.79	28.80	Pass
165	5825	51.05	17.08	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
149	5745	64.714	18.11	28.80	Pass
157	5785	61.376	17.88	28.80	Pass
165	5825	49.204	16.92	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
151	5755	59.841	17.77	28.80	Pass
159	5795	53.088	17.25	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

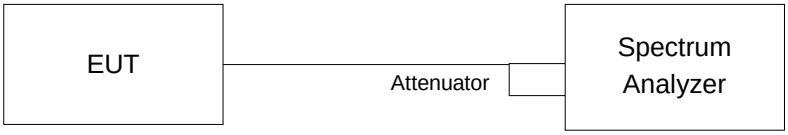
802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
155	5775	57.81	17.62	28.80	Pass

Note: Antenna Gain 7.2 dBi >6dBi, so the power density limit shall be reduced to 30-(7.2-6)=28.80 dBm

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

5G traffic radio (Radio 2)

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.44	16.44	16.44	16.44
40	5200	16.44	16.44	16.44	16.44
48	5240	16.44	16.44	16.44	16.44
149	5745	16.56	16.56	16.56	16.56
157	5785	16.56	16.56	16.56	16.56
165	5825	16.68	16.44	16.56	16.56

802.11ax (HE20)

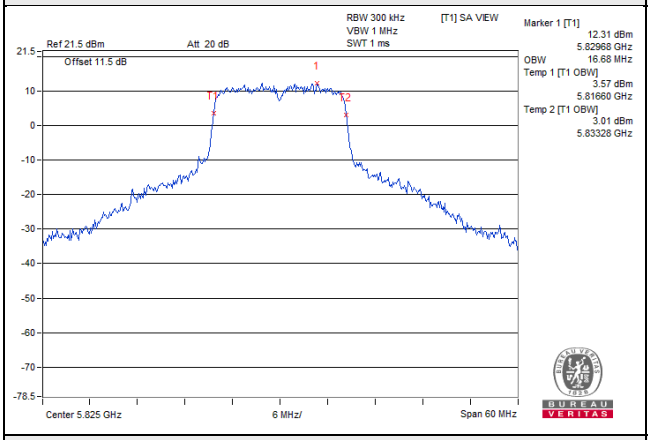
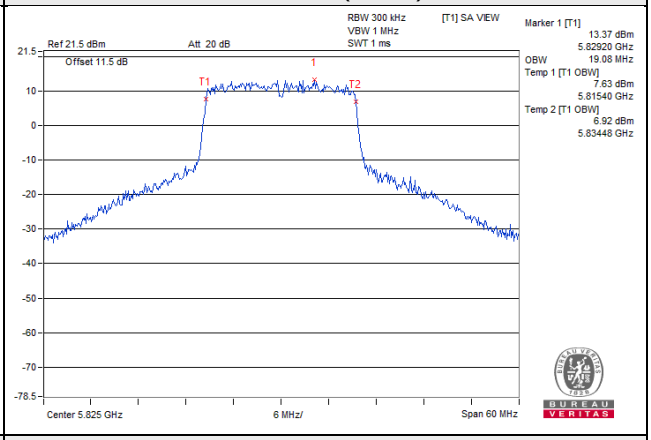
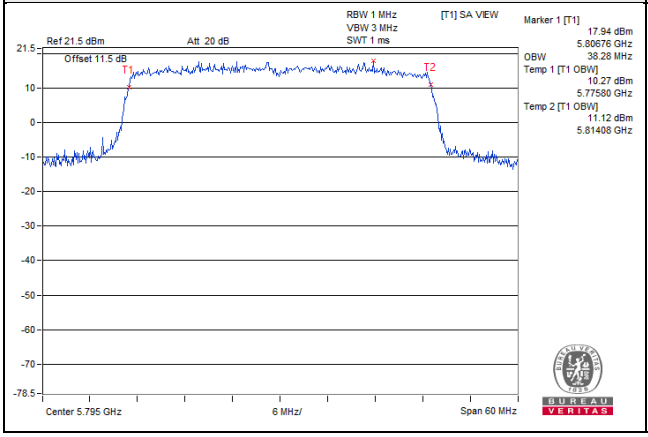
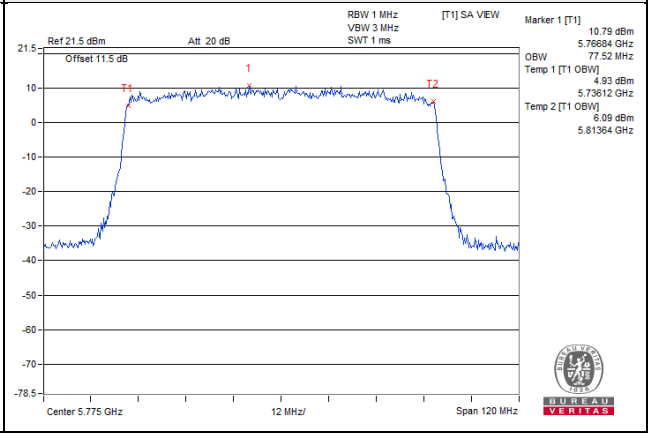
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	19.08	18.96	19.08
40	5200	18.96	18.96	19.08	19.08
48	5240	18.96	18.96	19.08	18.96
149	5745	19.08	19.08	18.96	19.08
157	5785	19.08	19.08	18.96	19.08
165	5825	19.08	19.08	19.08	18.96

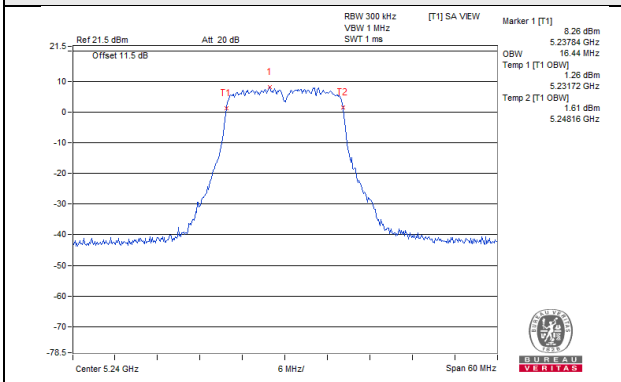
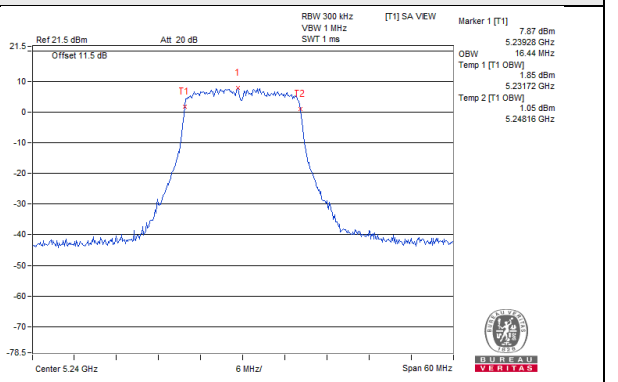
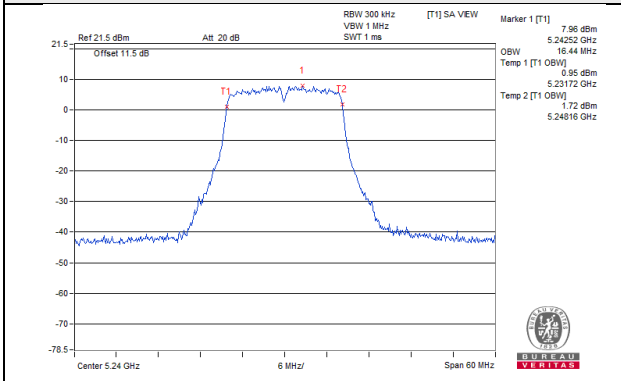
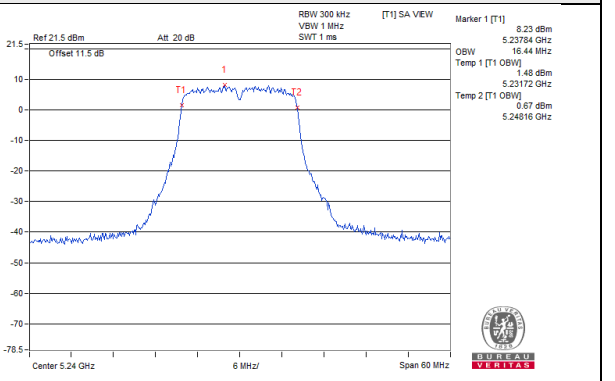
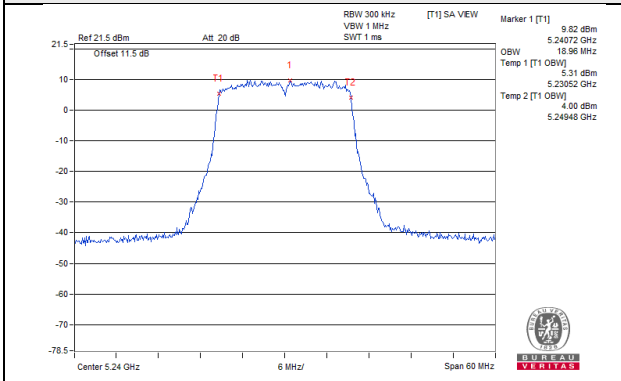
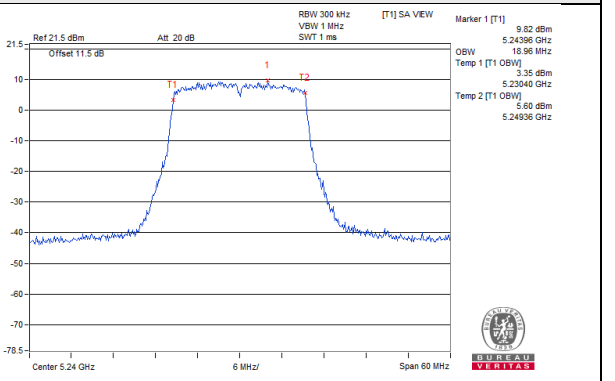
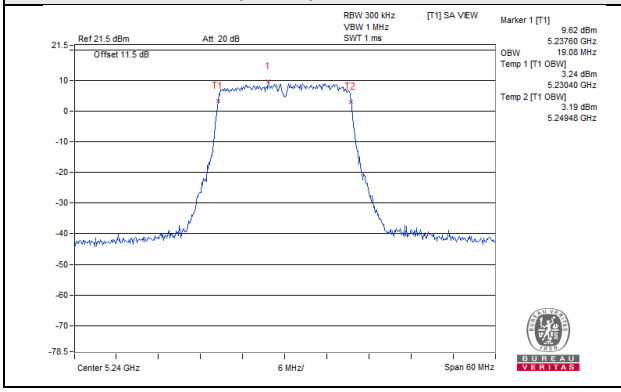
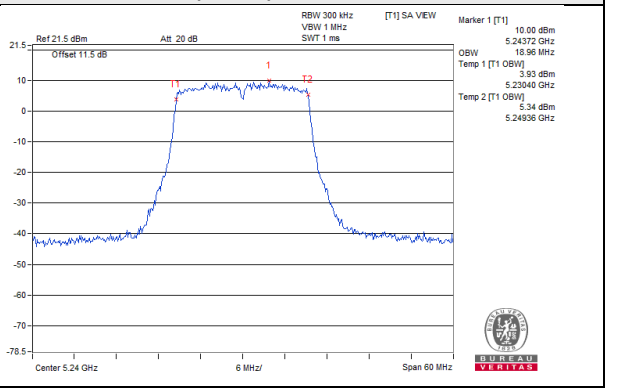
802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	38.04	38.16	38.04	38.04
46	5230	38.00	38.04	37.92	38.04
151	5755	38.04	38.16	38.16	38.16
159	5795	38.28	38.16	38.16	38.16

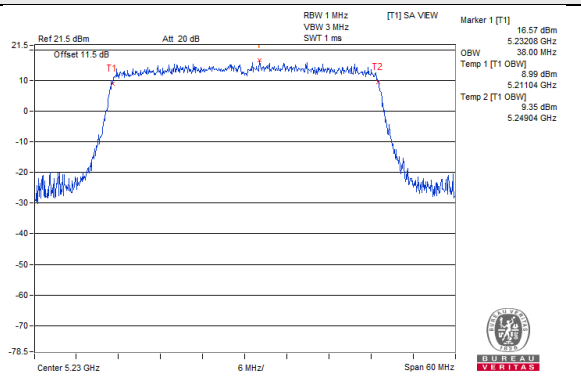
802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.28	77.04	77.04	77.28
155	5775	77.28	77.04	77.28	77.52

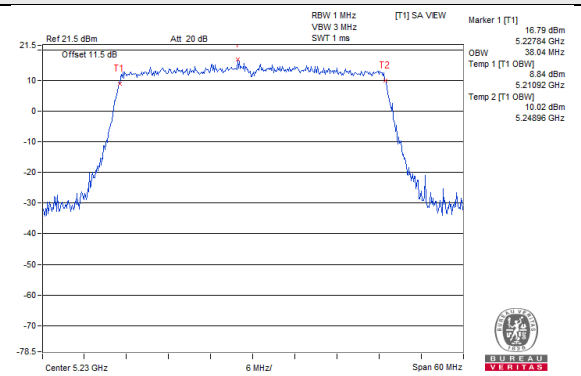
Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 48	802.11a / Chain 1 / CH 48
	
802.11a / Chain 2 / CH 48	802.11a / Chain 3 / CH 48
	
802.11ax (HE20) / Chain 0 / CH 48	802.11ax (HE20) / Chain 1 / CH 48
	
802.11ax (HE20) / Chain 2 / CH 48	802.11ax (HE20) / Chain 3 / CH 48
	

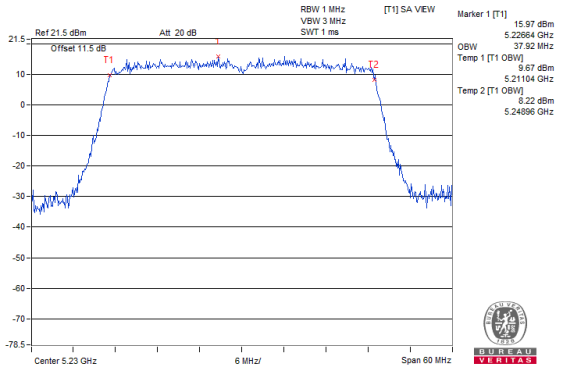
802.11ax (HE40) / Chain 0 / CH 46



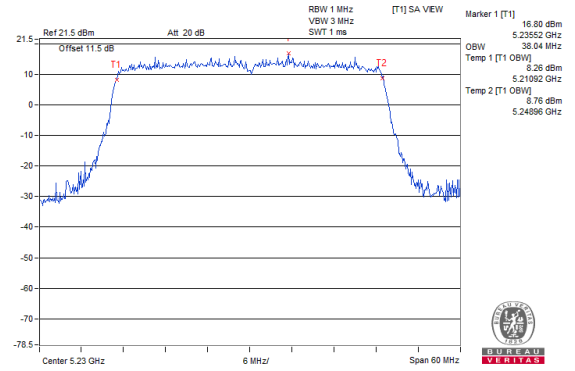
802.11ax (HE40) / Chain 1 / CH 46



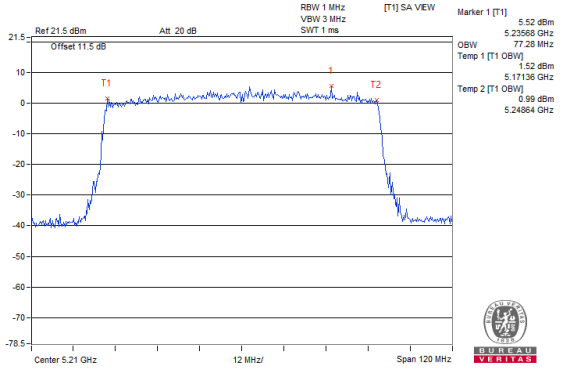
802.11ax (HE40) / Chain 2 / CH 46



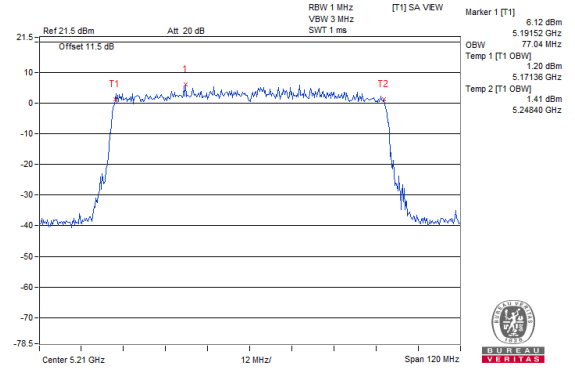
802.11ax (HE40) / Chain 3 / CH 46



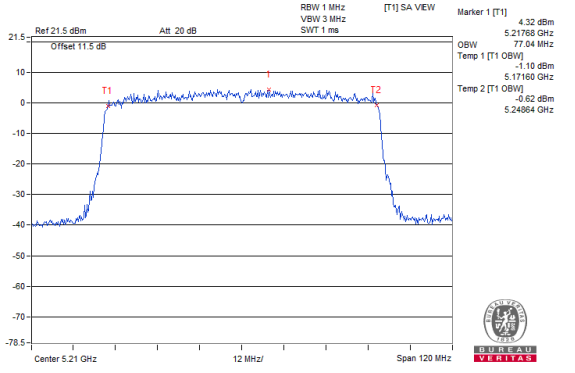
802.11ax (HE80) / Chain 0 / CH 42



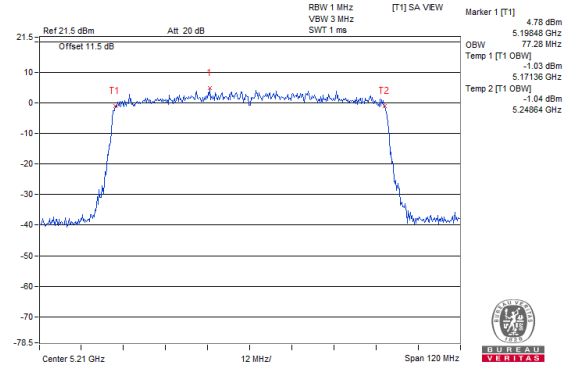
802.11ax (HE80) / Chain 1 / CH 42



802.11ax (HE80) / Chain 2 / CH 42

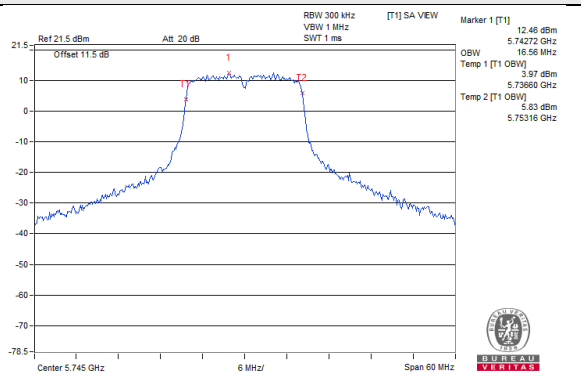


802.11ax (HE80) / Chain 3 / CH 42

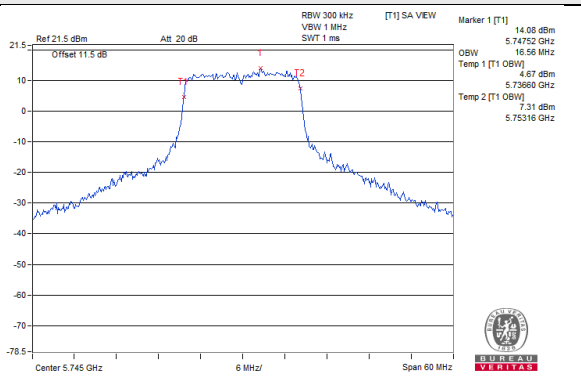


Spectrum Plot for near By DFS Band

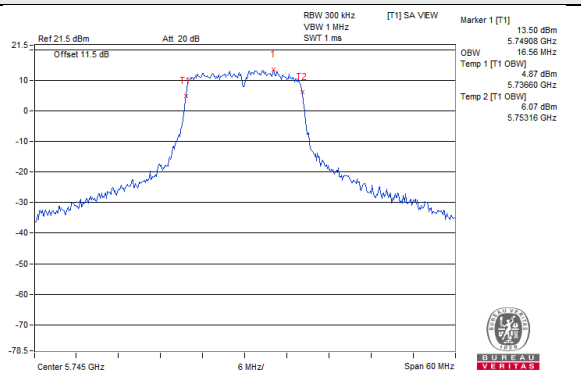
802.11a / Chain 0 / CH 149



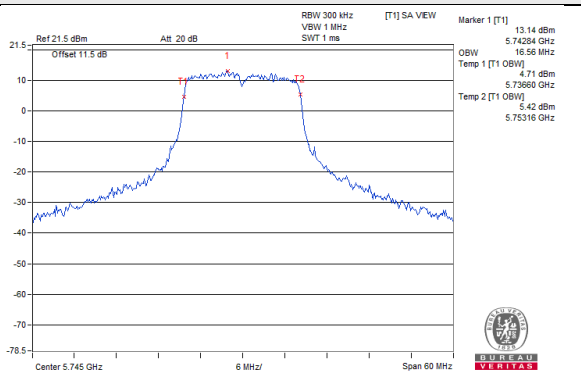
802.11a / Chain 1 / CH 149



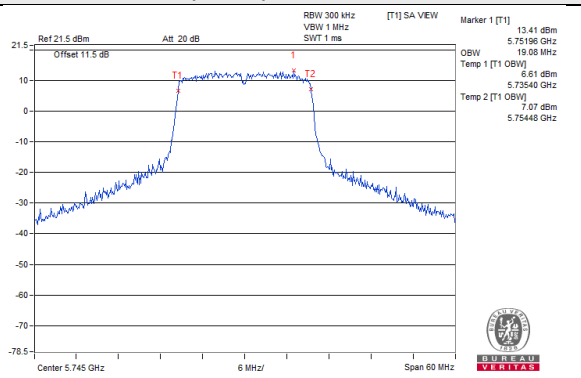
802.11a / Chain 2 / CH 149



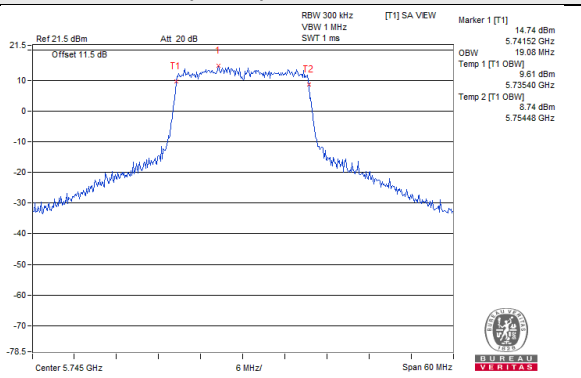
802.11a / Chain 3 / CH 149



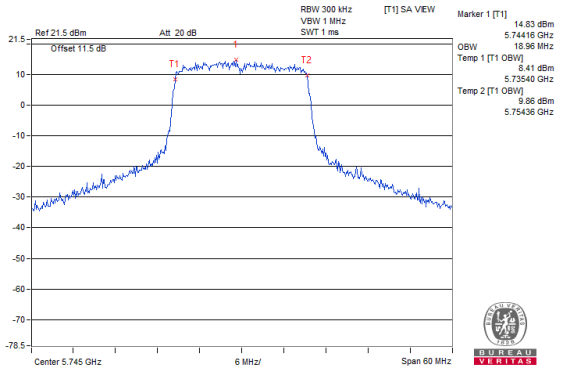
802.11ax (HE20) / Chain 0 / CH 149



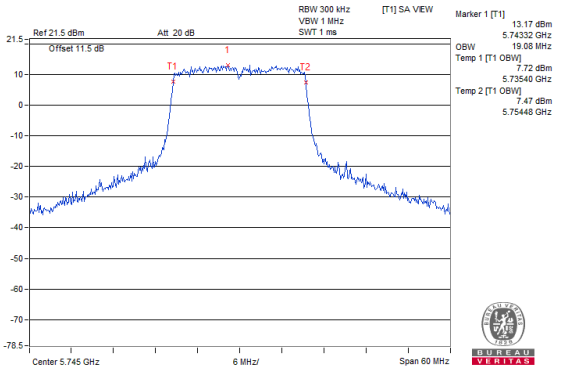
802.11ax (HE20) / Chain 1 / CH 149



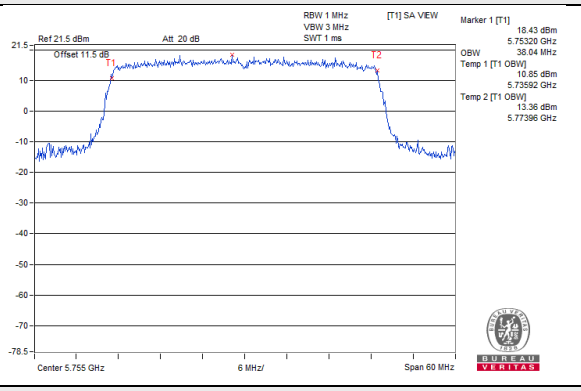
802.11ax (HE20) / Chain 2 / CH 149



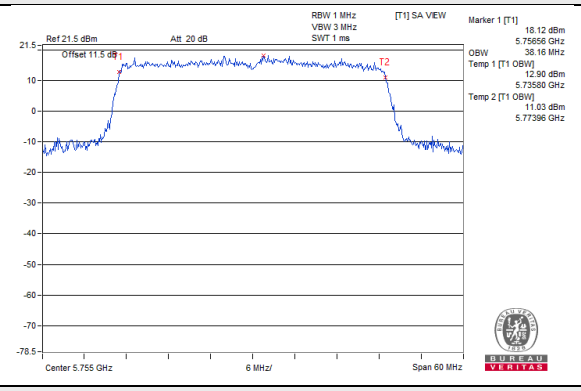
802.11ax (HE20) / Chain 3 / CH 149



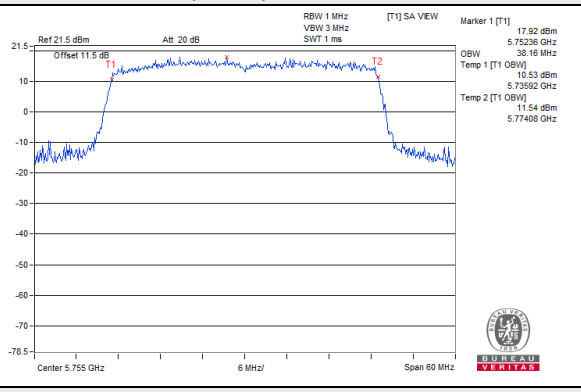
802.11ax (HE40) / Chain 0 / CH 151



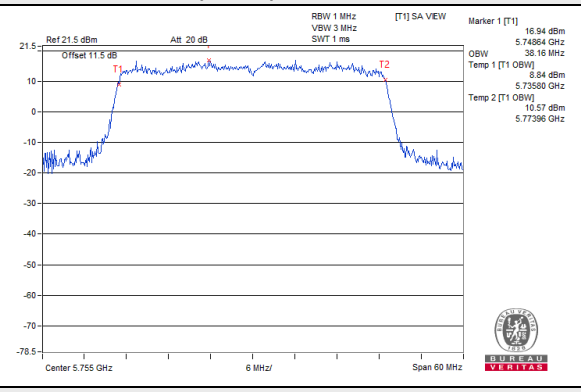
802.11ax (HE40) / Chain 1 / CH 151



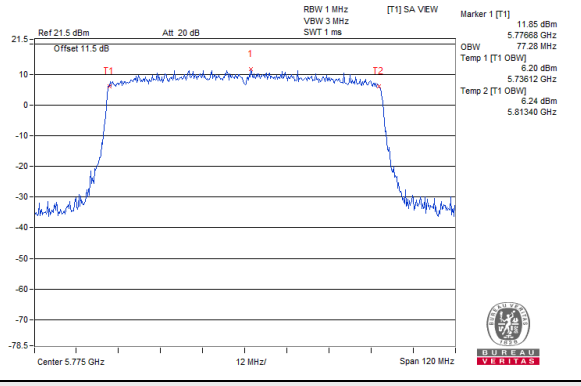
802.11ax (HE40) / Chain 2 / CH 151



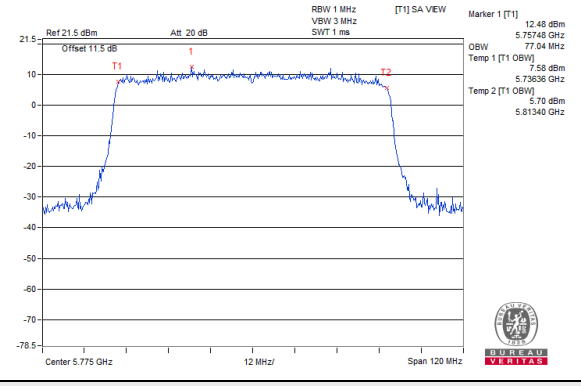
802.11ax (HE40) / Chain 3 / CH 151



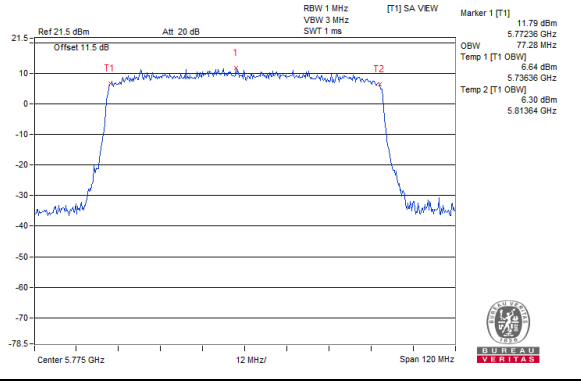
802.11ax (HE80) / Chain 0 / CH 155



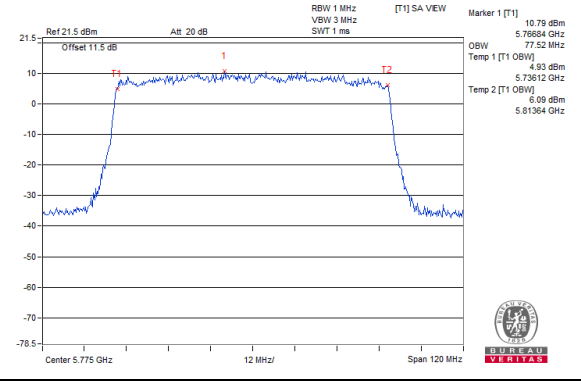
802.11ax (HE80) / Chain 1 / CH 155



802.11ax (HE80) / Chain 2 / CH 155



802.11ax (HE80) / Chain 3 / CH 155



Scanning radio (Radio 3)

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.16
40	5200	17.04
48	5240	17.52
149	5745	17.28
157	5785	17.28
165	5825	17.16

802.11ac (VHT20)

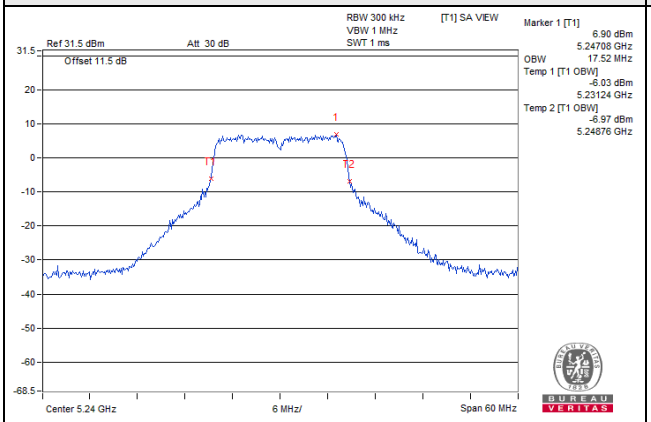
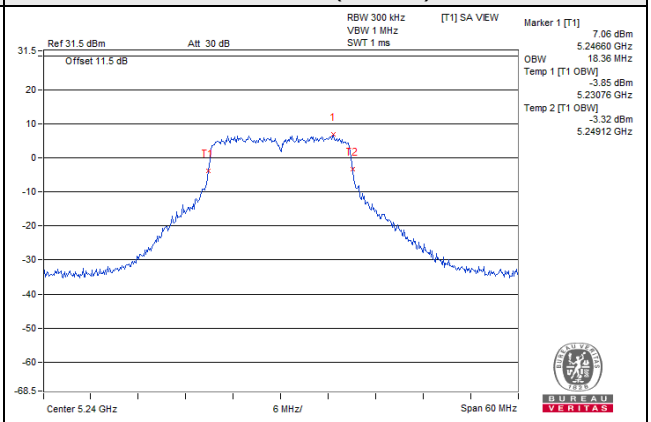
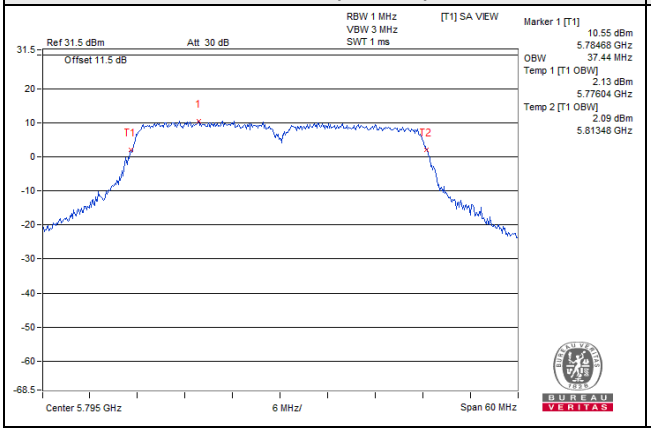
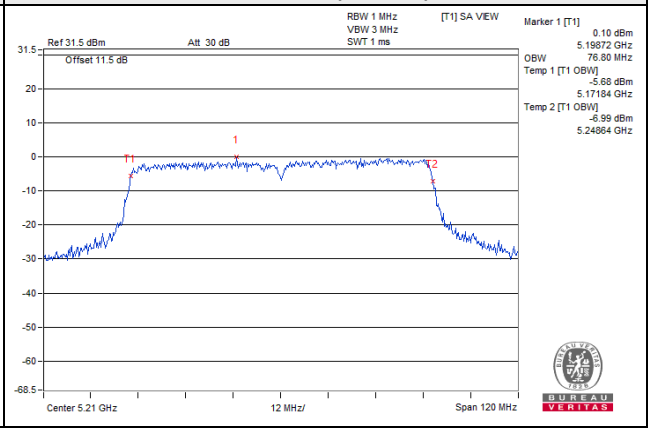
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.12
40	5200	18.12
48	5240	18.36
149	5745	18.24
157	5785	18.24
165	5825	18.24

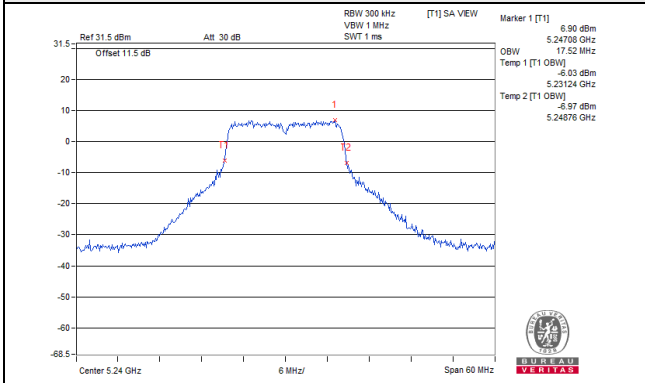
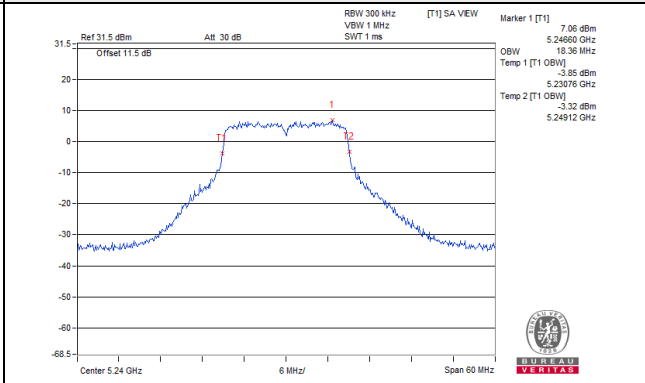
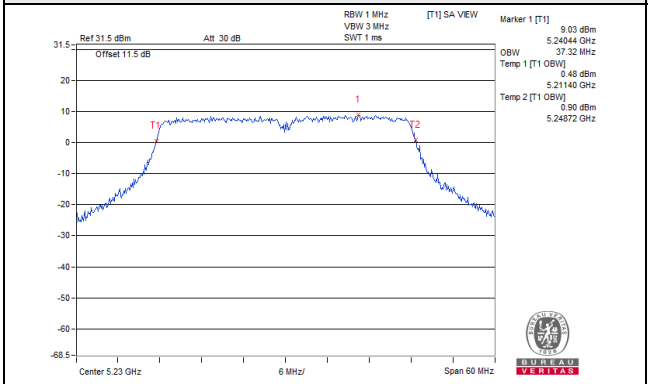
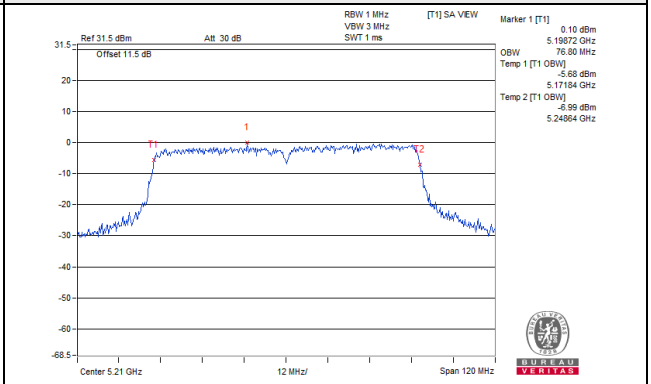
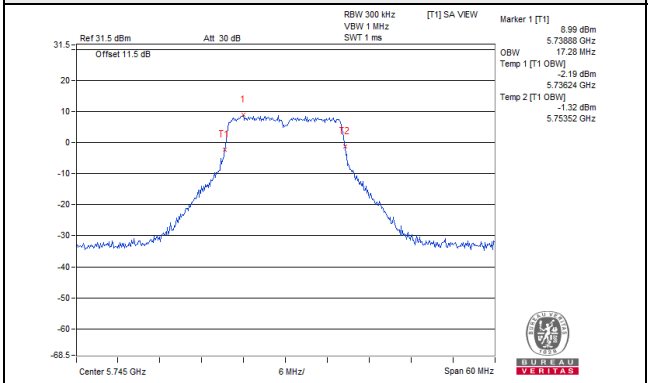
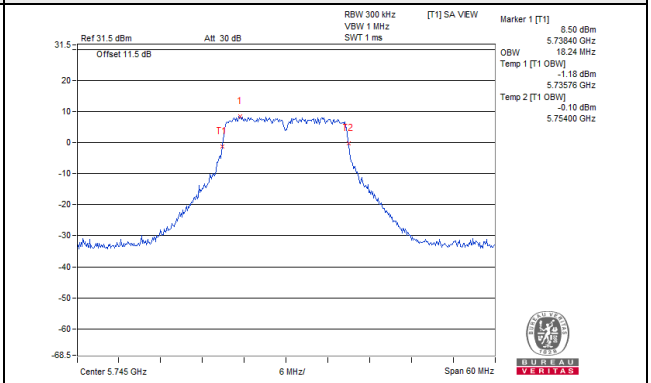
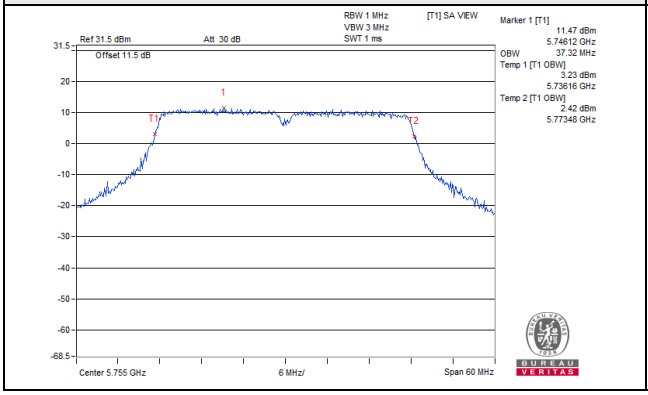
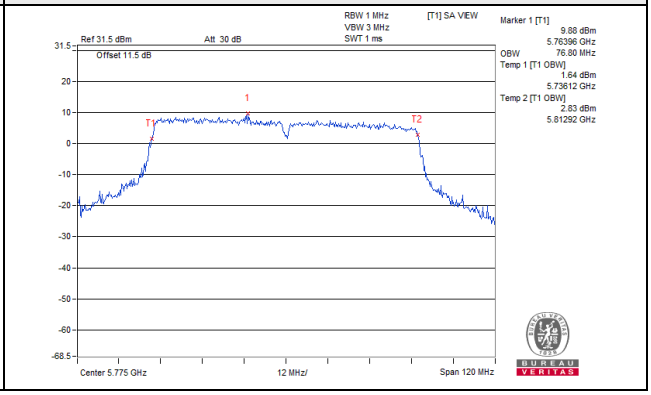
802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	37.32
46	5230	37.32
151	5755	37.32
159	5795	37.44

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
42	5210	76.80
155	5775	76.80

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

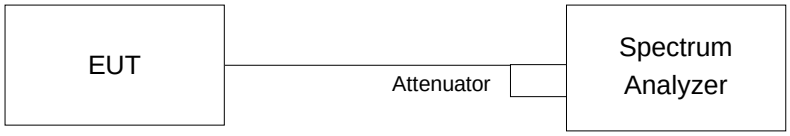
Spectrum Plot for near By DFS Band	
802.11a / CH 48	802.11ac (VHT20) / CH 48
	
802.11ac (VHT40) / CH 46	802.11ac (VHT80) / CH 42
	
802.11a / CH 149	802.11ac (VHT20) / CH 149
	
802.11ac (VHT40) / CH 151	802.11ac (VHT80) / CH 155
	

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 (increasing) 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

5G traffic radio (Radio 2)

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	Chain 2	Chain 3				
36	5180	3.26	3.31	3.39	3.25	0.30	9.62	9.78	Pass
40	5200	3.18	3.47	3.28	3.45	0.30	9.66	9.78	Pass
48	5240	3.22	3.32	3.48	3.34	0.30	9.66	9.78	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 17 - (13.22 - 6) = 9.78dBm.
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	Chain 2	Chain 3				
36	5180	2.61	3.47	3.42	3.21	0.19	9.40	9.78	Pass
40	5200	2.92	3.28	2.84	3.33	0.19	9.31	9.78	Pass
48	5240	3.10	3.00	3.25	3.19	0.19	9.34	9.78	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 17 - (13.22 - 6) = 9.78dBm.
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	Chain 2	Chain 3				
38	5190	-3.13	-2.54	-2.95	-3.63	0.81	3.79	9.78	Pass
46	5230	2.73	3.39	1.90	2.19	0.81	9.42	9.78	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 17 - (13.22 - 6) = 9.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

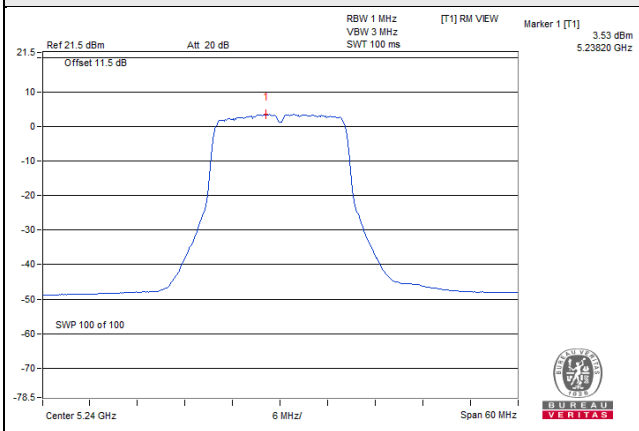
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-4.59	-4.67	-4.07	-4.11	0.30	1.97	9.78	Pass

Note:

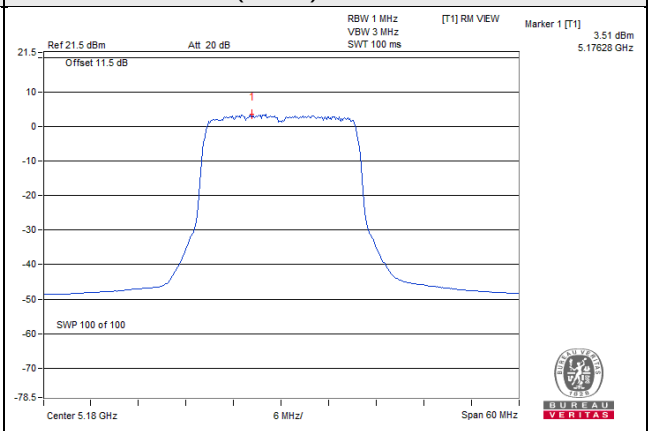
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 17 - (13.22 - 6) = 9.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

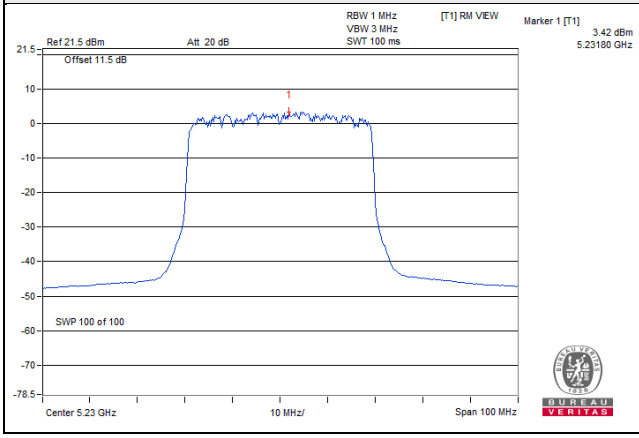
802.11a / Chain 2 / CH 48



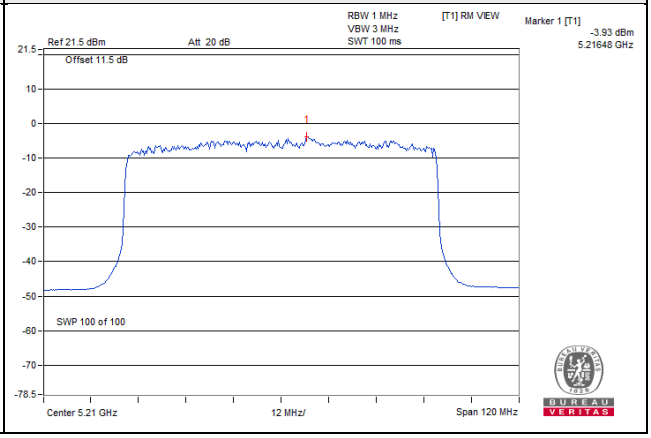
802.11ax (HE20) / Chain 1 / CH 36



802.11ax (HE40) / Chain 1 / CH 46



802.11ax (HE80) / Chain 2 / 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/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-0.75	1.47	6.02	0.3	7.79	22.78	Pass
	157	5785	-0.62	1.6	6.02	0.3	7.92	22.78	Pass
	165	5825	-0.76	1.46	6.02	0.3	7.78	22.78	Pass
1	149	5745	0.43	2.65	6.02	0.3	8.97	22.78	Pass
	157	5785	0.35	2.57	6.02	0.3	8.89	22.78	Pass
	165	5825	0.48	2.7	6.02	0.3	9.02	22.78	Pass
2	149	5745	0.74	2.96	6.02	0.3	9.28	22.78	Pass
	157	5785	0.21	2.43	6.02	0.3	8.75	22.78	Pass
	165	5825	0.32	2.54	6.02	0.3	8.86	22.78	Pass
3	149	5745	-0.21	2.01	6.02	0.3	8.33	22.78	Pass
	157	5785	-0.08	2.14	6.02	0.3	8.46	22.78	Pass
	165	5825	-0.22	2	6.02	0.3	8.32	22.78	Pass

Note:

1. Method E) 2) c) 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 = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
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/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-2.16	0.06	6.02	0.19	6.27	22.78	Pass
	157	5785	-2.01	0.21	6.02	0.19	6.42	22.78	Pass
	165	5825	-1.92	0.3	6.02	0.19	6.51	22.78	Pass
1	149	5745	-0.74	1.48	6.02	0.19	7.69	22.78	Pass
	157	5785	-0.83	1.39	6.02	0.19	7.6	22.78	Pass
	165	5825	-0.86	1.36	6.02	0.19	7.57	22.78	Pass
2	149	5745	-1.56	0.66	6.02	0.19	6.87	22.78	Pass
	157	5785	-1.61	0.61	6.02	0.19	6.82	22.78	Pass
	165	5825	-1.68	0.54	6.02	0.19	6.75	22.78	Pass
3	149	5745	-1.54	0.68	6.02	0.19	6.89	22.78	Pass
	157	5785	-1.35	0.87	6.02	0.19	7.08	22.78	Pass
	165	5825	-1.42	0.8	6.02	0.19	7.01	22.78	Pass

Note:
1. Method E) 2) c) 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 = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

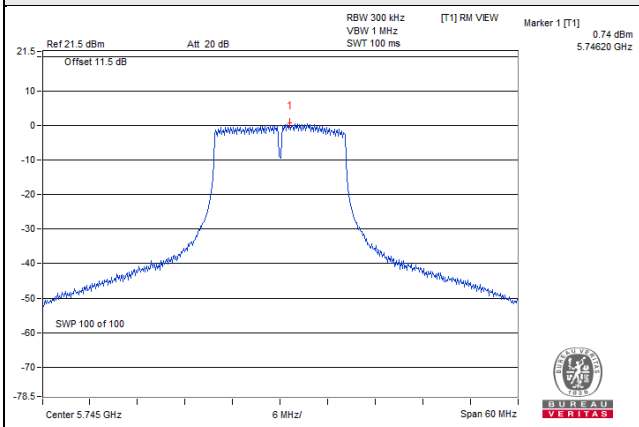
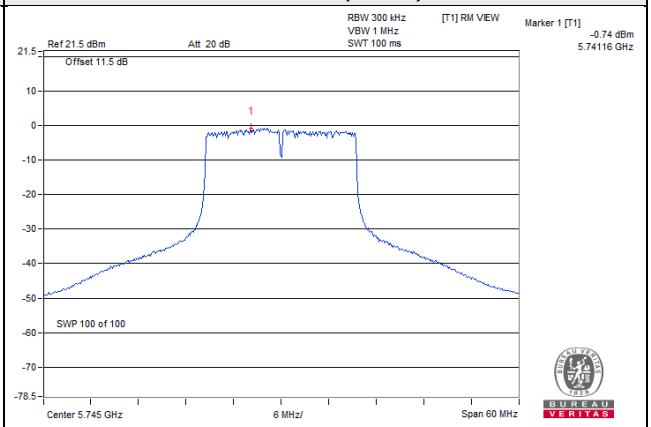
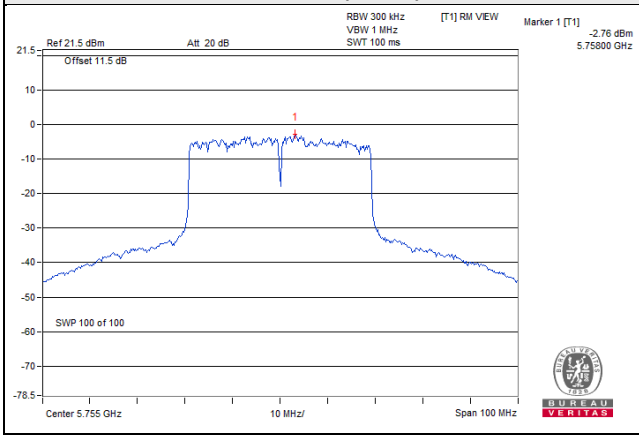
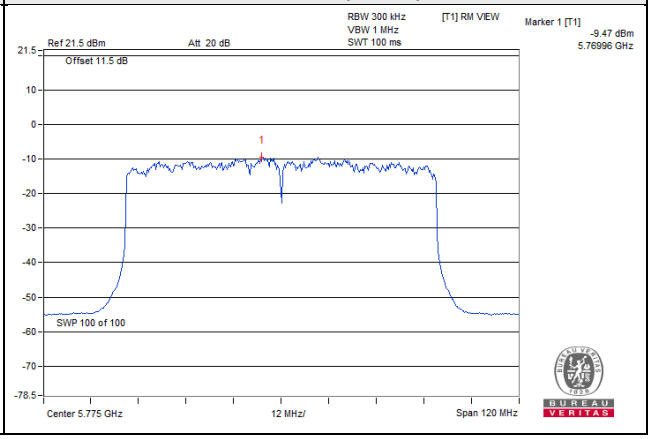
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-4.06	-1.84	6.02	0.81	4.99	22.78	Pass
	159	5795	-3.87	-1.65	6.02	0.81	5.18	22.78	Pass
1	151	5755	-2.76	-0.54	6.02	0.81	6.29	22.78	Pass
	159	5795	-3.21	-0.99	6.02	0.81	5.84	22.78	Pass
2	151	5755	-3.78	-1.56	6.02	0.81	5.27	22.78	Pass
	159	5795	-3.52	-1.3	6.02	0.81	5.53	22.78	Pass
3	151	5755	-3.38	-1.16	6.02	0.81	5.67	22.78	Pass
	159	5795	-4.11	-1.89	6.02	0.81	4.94	22.78	Pass

Note:
1. Method E) 2) c) 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 = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
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	-10.06	-7.84	6.02	0.3	-1.52	22.78	Pass
1	155	5775	-9.6	-7.38	6.02	0.3	-1.06	22.78	Pass
2	155	5775	-9.47	-7.25	6.02	0.3	-0.93	22.78	Pass
3	155	5775	-10.11	-7.89	6.02	0.3	-1.57	22.78	Pass

Note:
1. Method E) 2) c) 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 = 7.2 dBi + 10log(4) = 13.22dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.22 - 6) = 22.78dBm.
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)
	

Scanning radio (Radio 3)

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	2.94	0.33	3.27	15.80	Pass
40	5200	2.74	0.33	3.07	15.80	Pass
48	5240	2.44	0.33	2.76	15.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 17-(7.2-6) = 15.8 dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	2.57	0.19	2.76	15.80	Pass
40	5200	2.38	0.19	2.56	15.80	Pass
48	5240	2.11	0.19	2.30	15.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 17-(7.2-6) = 15.8 dBm.

802.11ac (VHT40)

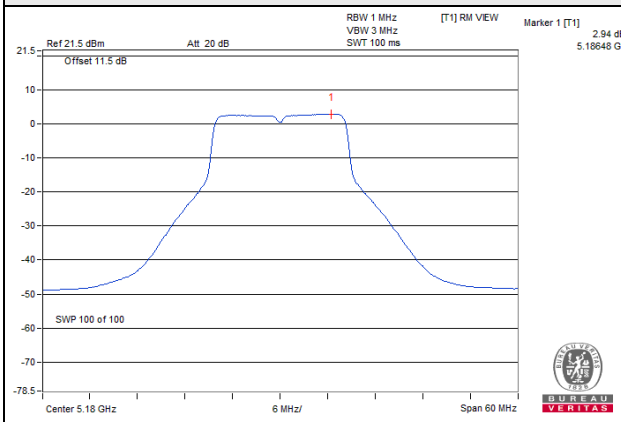
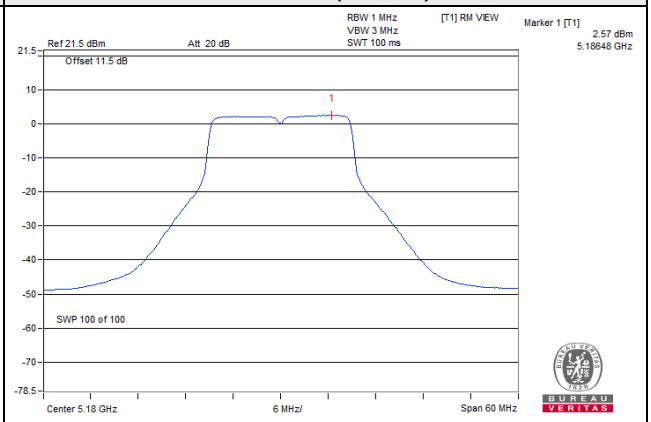
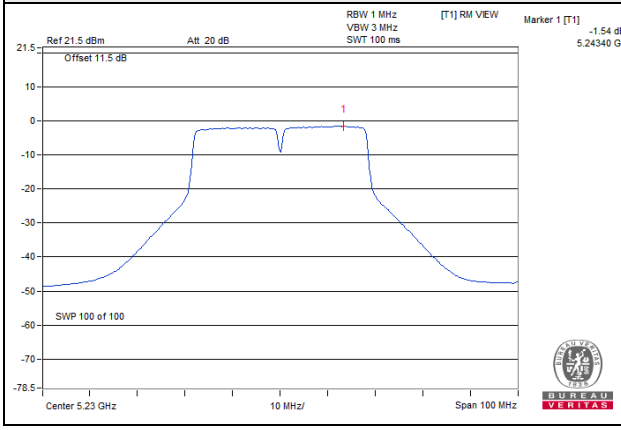
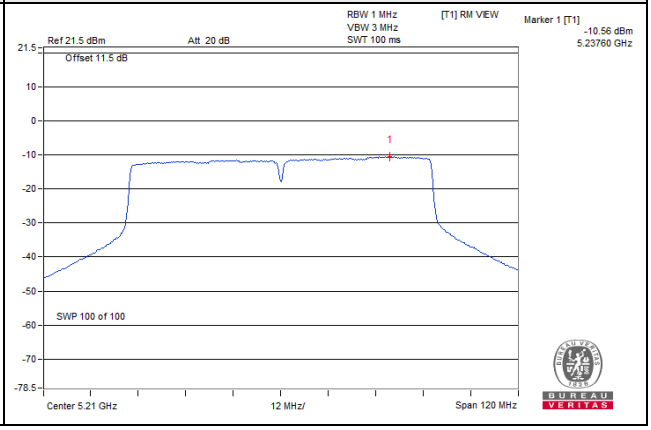
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-0.72	0.42	-0.30	15.80	Pass
46	5230	-1.54	0.42	-1.12	15.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 17-(7.2-6) = 15.8 dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
42	5210	-10.56	1.00	-9.56	15.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 17-(7.2-6) = 15.8 dBm.

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

For U-NII-3 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-3.8	-1.58	0.33	-1.25	28.80	Pass
157	5785	-4.49	-2.27	0.33	-1.94	28.80	Pass
165	5825	-5.22	-3	0.33	-2.67	28.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.2-6) = 28.80 dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-4.24	-2.02	0.19	-1.83	28.80	Pass
157	5785	-4.8	-2.58	0.19	-2.39	28.80	Pass
165	5825	-6.42	-4.2	0.19	-4.01	28.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.2-6) = 28.80 dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
151	5755	-7.79	-5.57	0.42	-5.15	28.80	Pass
159	5795	-8.53	-6.31	0.42	-5.89	28.80	Pass

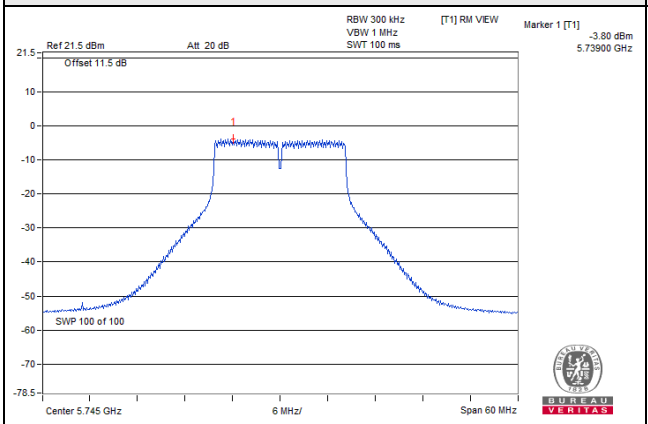
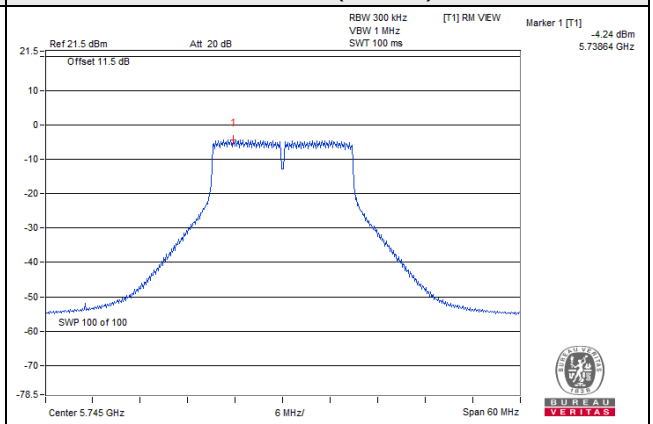
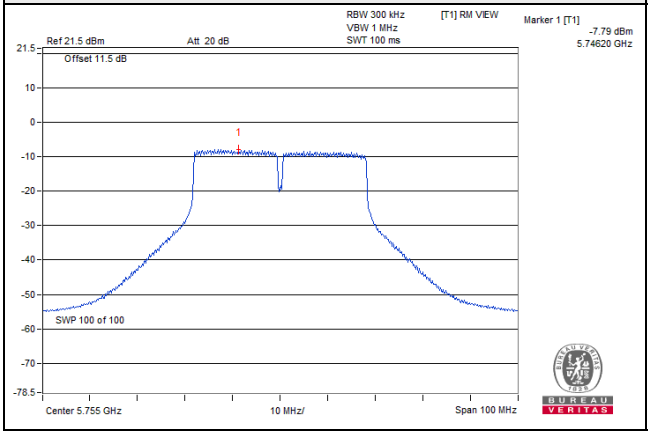
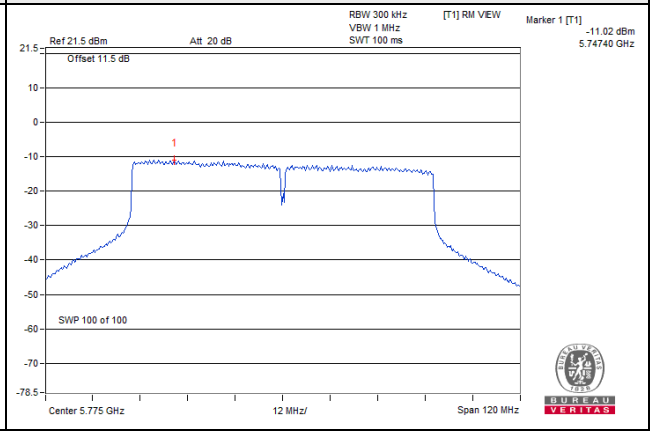
Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.2-6) = 28.80 dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
155	5775	-11.02	-8.8	1.00	-7.8	28.80	Pass

Note:
1. Refer to section 3.3 for duty cycle spectrum plot.
2. Antenna Gain 7.2 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.2-6) = 28.80 dBm.

.

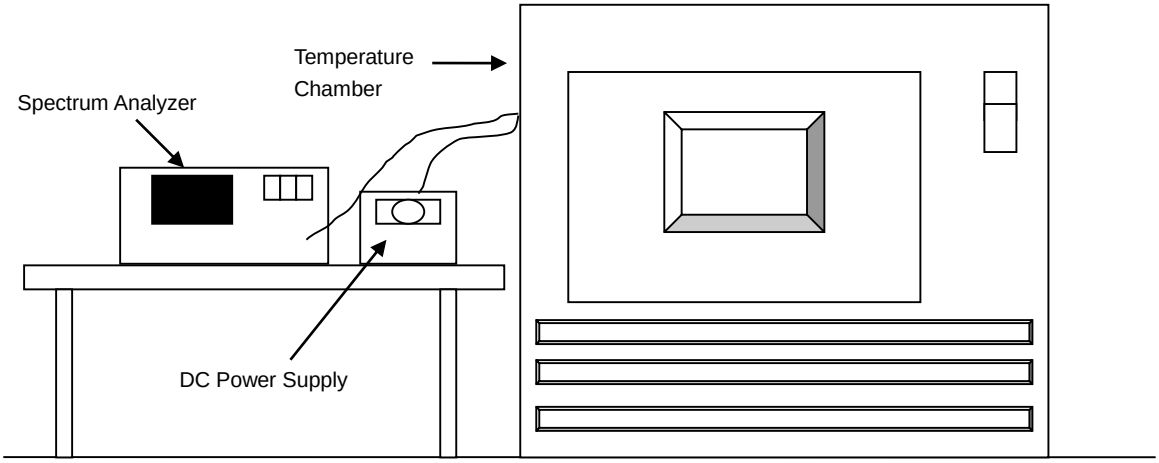
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

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	100040	Sep. 16, 2020	Sep. 15, 2021
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2020	May 31, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
DC Power Supply TOPWARD	6306A	727263	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 DC 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 every 10 degrees reduction until the lowest temperature achieved.

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

5G traffic radio (Radio 2)

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
60	54	5180.0252	PASS	5180.0225	PASS	5180.0216	PASS	5180.0235	PASS
50	54	5180.0124	PASS	5180.0101	PASS	5180.0116	PASS	5180.0124	PASS
40	54	5179.9884	PASS	5179.984	PASS	5179.988	PASS	5179.9842	PASS
30	54	5179.9785	PASS	5179.9759	PASS	5179.9765	PASS	5179.9773	PASS
20	54	5180.0246	PASS	5180.0249	PASS	5180.0232	PASS	5180.0241	PASS
10	54	5179.999	PASS	5179.9956	PASS	5179.9973	PASS	5179.9964	PASS
0	54	5180.0086	PASS	5180.0099	PASS	5180.0092	PASS	5180.0077	PASS
-10	54	5180.0248	PASS	5180.0253	PASS	5180.0254	PASS	5180.0227	PASS
-20	54	5179.9782	PASS	5179.9789	PASS	5179.9759	PASS	5179.976	PASS
-30	54	5179.9841	PASS	5179.9799	PASS	5179.9834	PASS	5179.9841	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	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	62.1	5180.0238	PASS	5180.0246	PASS	5180.0231	PASS	5180.024	PASS
	54	5180.0246	PASS	5180.0249	PASS	5180.0232	PASS	5180.0241	PASS
	45.9	5180.0245	PASS	5180.0258	PASS	5180.0239	PASS	5180.0234	PASS

Scanning radio (Radio 3)

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
60	54	5179.9722	PASS	5179.9759	PASS	5179.9746	PASS	5179.9731	PASS
50	54	5179.9811	PASS	5179.9802	PASS	5179.9834	PASS	5179.9822	PASS
40	54	5180.0091	PASS	5180.0059	PASS	5180.0042	PASS	5180.0075	PASS
30	54	5179.9804	PASS	5179.9832	PASS	5179.9841	PASS	5179.9821	PASS
20	54	5180.0204	PASS	5180.0202	PASS	5180.0181	PASS	5180.0156	PASS
10	54	5179.9986	PASS	5179.9974	PASS	5179.9984	PASS	5179.9975	PASS
0	54	5180.0005	PASS	5179.9956	PASS	5179.9962	PASS	5179.9966	PASS
-10	54	5179.9813	PASS	5179.9806	PASS	5179.9798	PASS	5179.9828	PASS
-20	54	5179.9987	PASS	5179.9941	PASS	5179.9947	PASS	5179.9949	PASS
-30	54	5180.0206	PASS	5180.0209	PASS	5180.0169	PASS	5180.0175	PASS

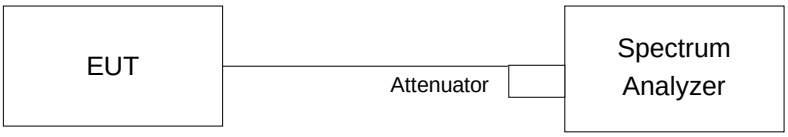
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	62.1	5180.0208	PASS	5180.0212	PASS	5180.019	PASS	5180.0157	PASS
	54	5180.0204	PASS	5180.0202	PASS	5180.0181	PASS	5180.0156	PASS
	45.9	5180.0194	PASS	5180.0194	PASS	5180.0173	PASS	5180.0152	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

5G traffic radio (Radio 2)

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.36	16.33	16.08	16.34	0.50	Pass
157	5785	16.37	16.36	16.37	16.34	0.50	Pass
165	5825	16.37	16.32	16.38	16.03	0.50	Pass

802.11ax (HE20)

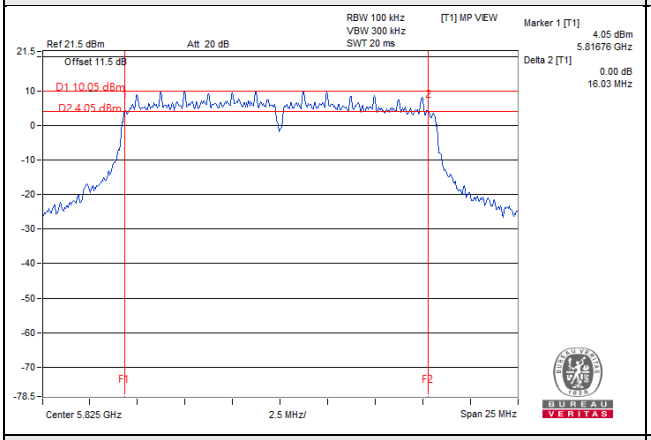
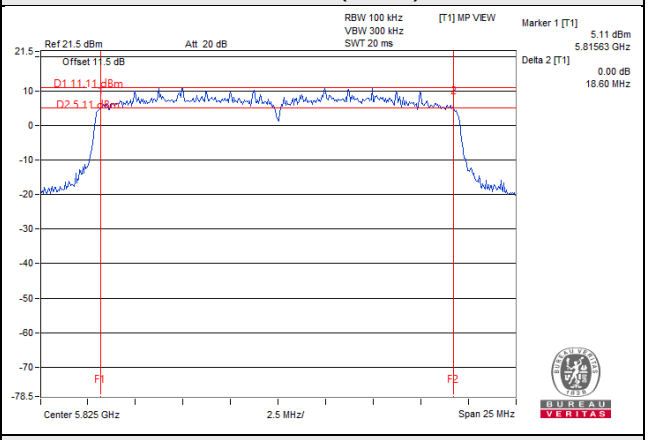
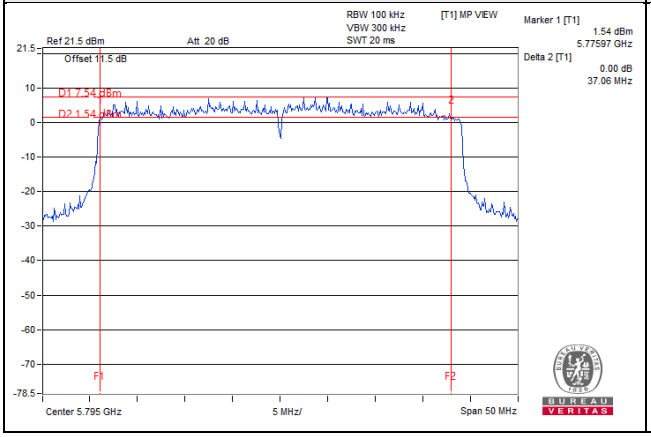
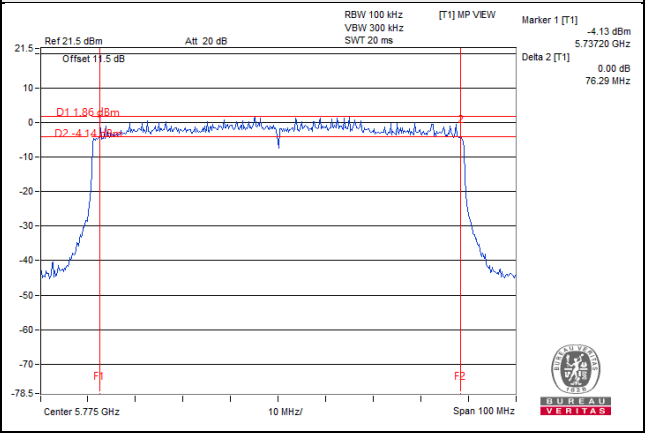
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	18.92	19.01	18.86	19.01	0.50	Pass
157	5785	18.99	19.02	18.87	18.79	0.50	Pass
165	5825	18.91	18.60	18.88	19.01	0.50	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	38.12	37.52	37.72	37.87	0.50	Pass
159	5795	37.99	37.89	37.61	37.06	0.50	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	77.95	76.49	76.29	77.49	0.50	Pass

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

Scanning radio (Radio 3)

802.11a

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.37	0.50	Pass
157	5785	16.42	0.50	Pass
165	5825	16.37	0.50	Pass

802.11ac (VHT20)

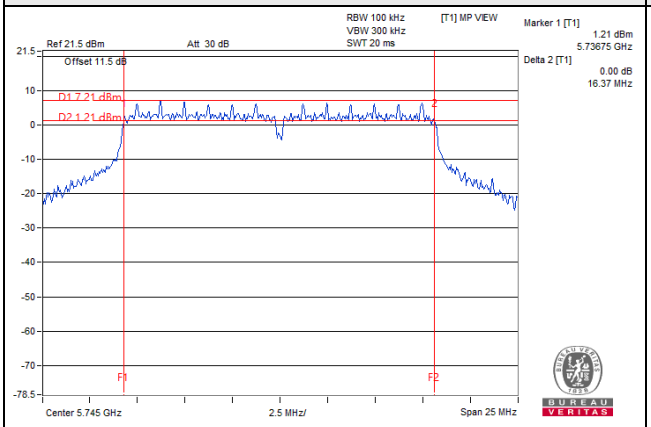
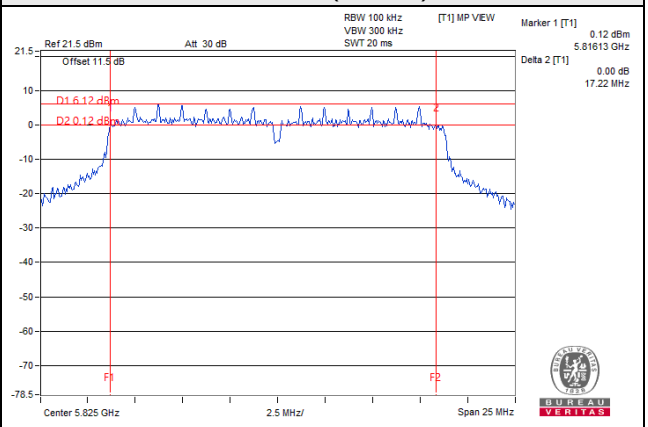
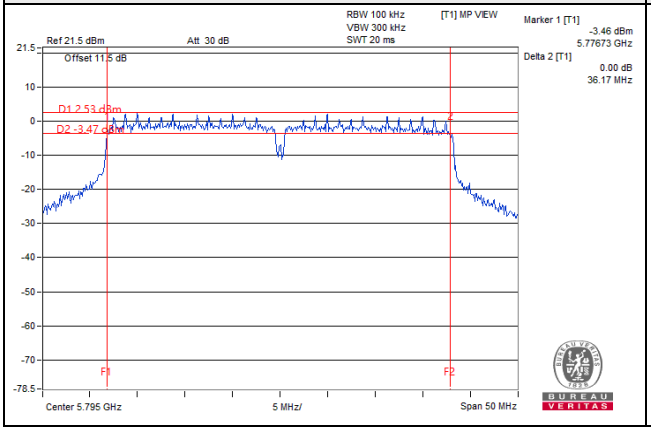
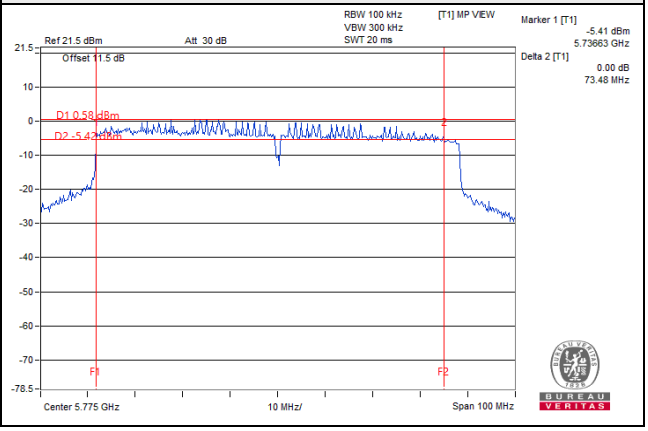
Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.62	0.50	Pass
157	5785	17.62	0.50	Pass
165	5825	17.22	0.50	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.40	0.50	Pass
159	5795	36.17	0.50	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	73.48	0.50	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

5 Pictures of Test Arrangements

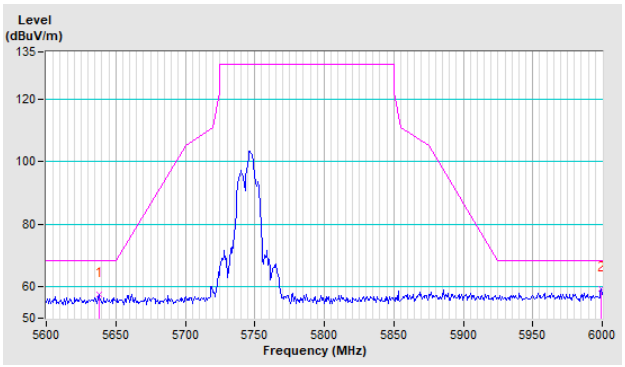
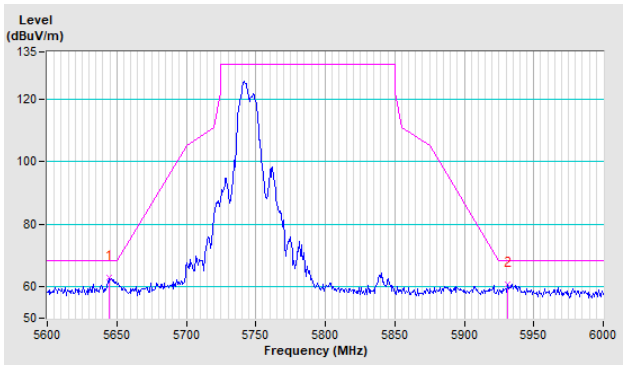
Please refer to the attached file (Test Setup Photo).

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

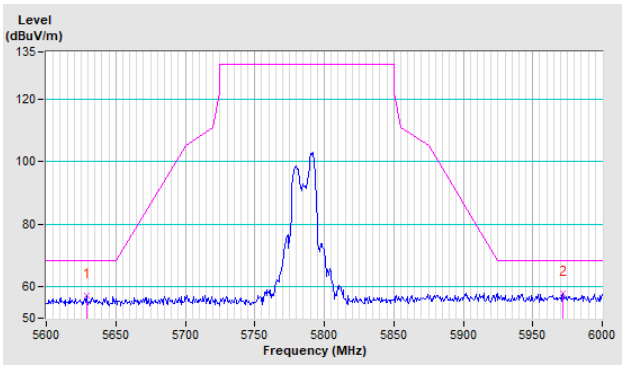
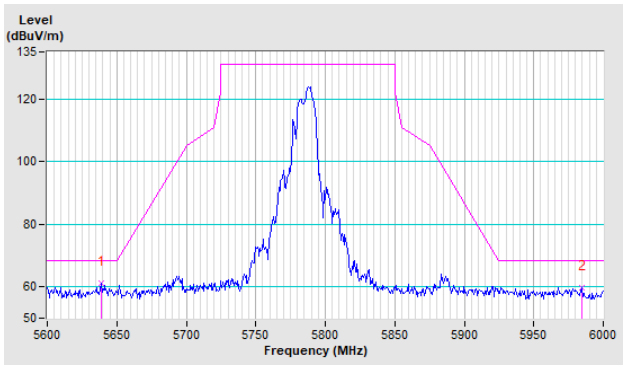
5G traffic radio (Radio 2)

802.11a

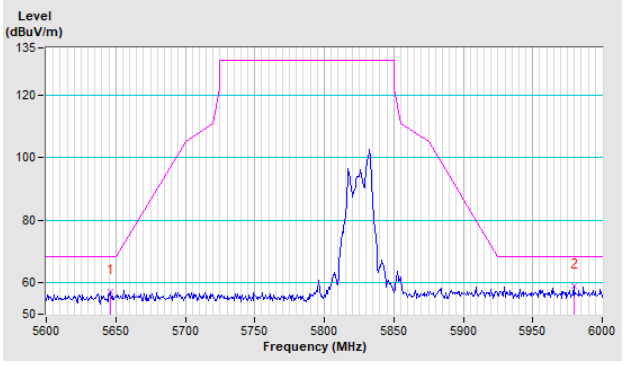
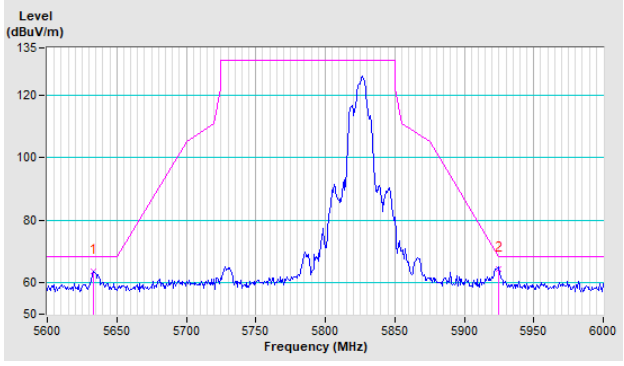
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

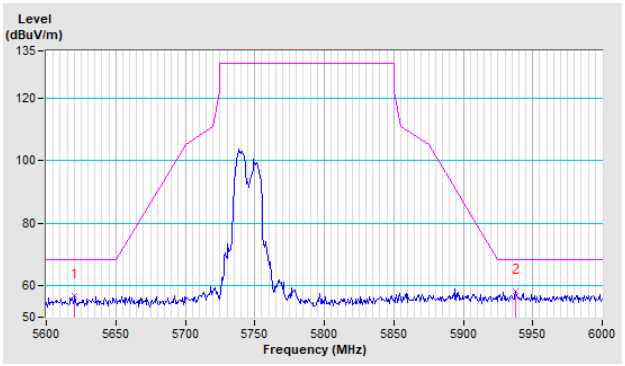
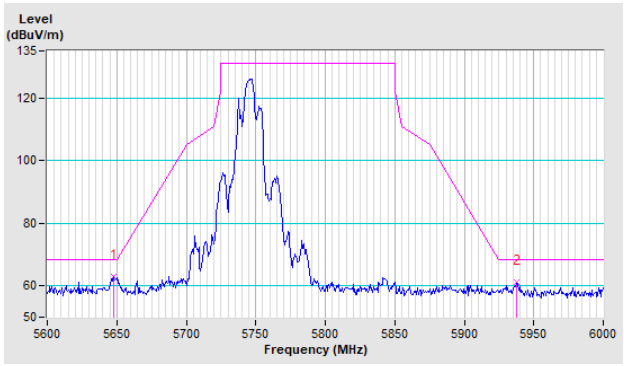
Horizontal	Vertical
	

CH 165 5825 MHz

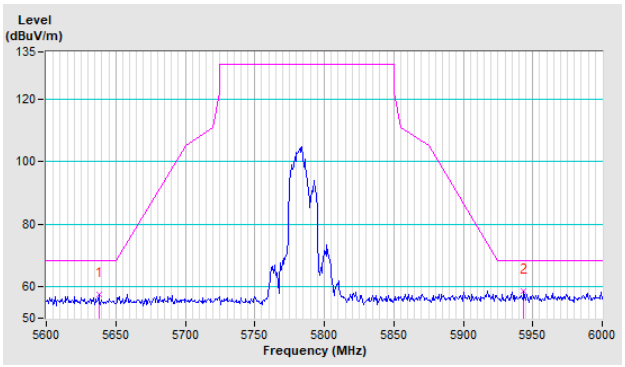
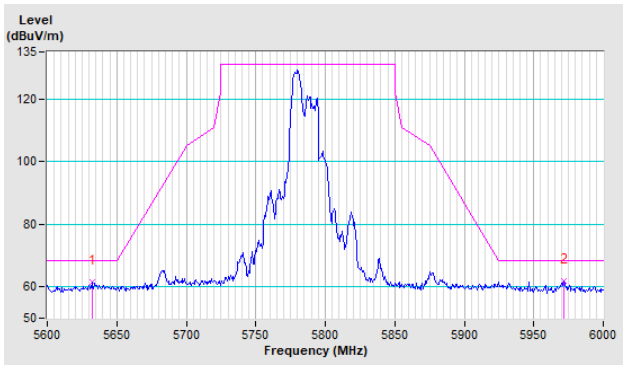
Horizontal	Vertical
	

802.11ax (HE20)

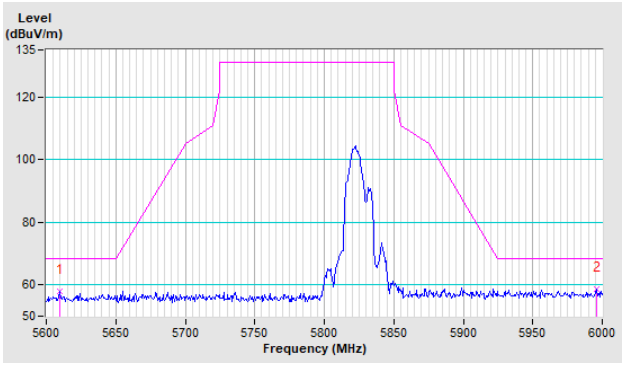
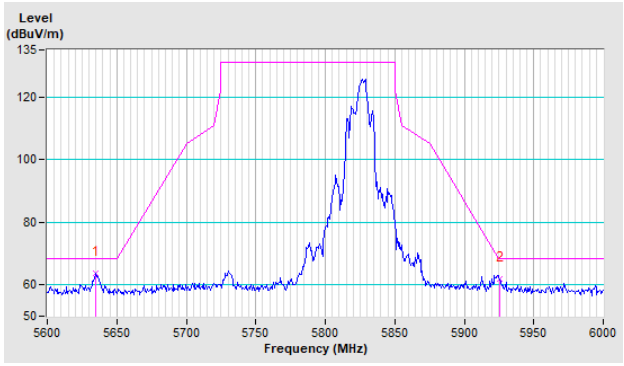
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

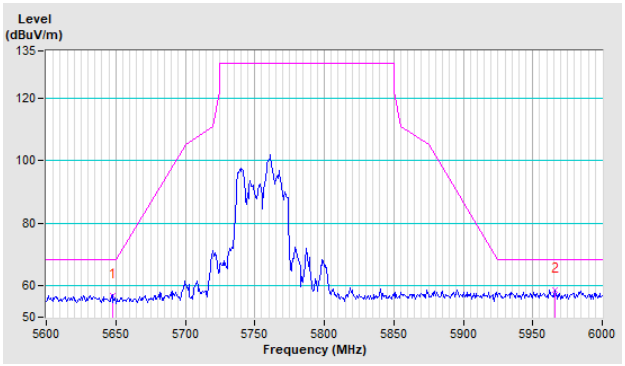
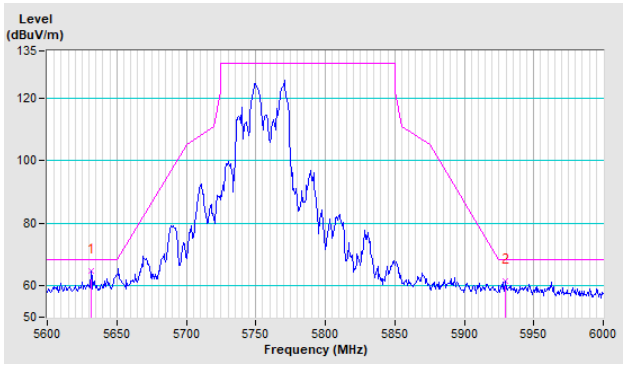
Horizontal	Vertical
	

CH 165 5825 MHz

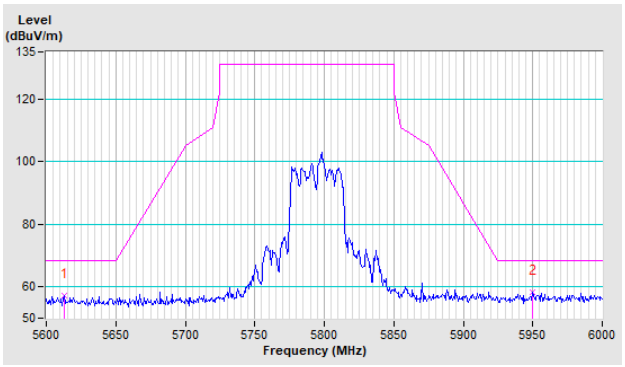
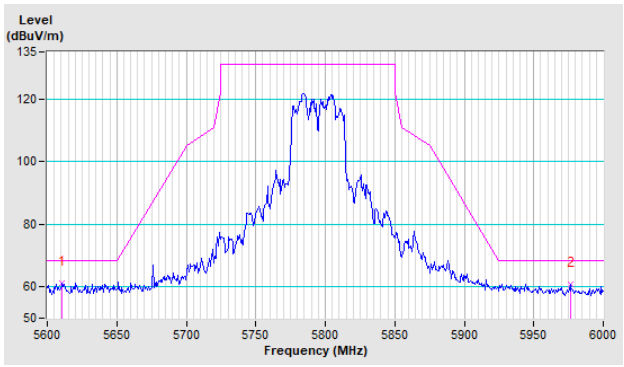
Horizontal	Vertical
	

802.11ax (HE40)

CH 151 5755 MHz

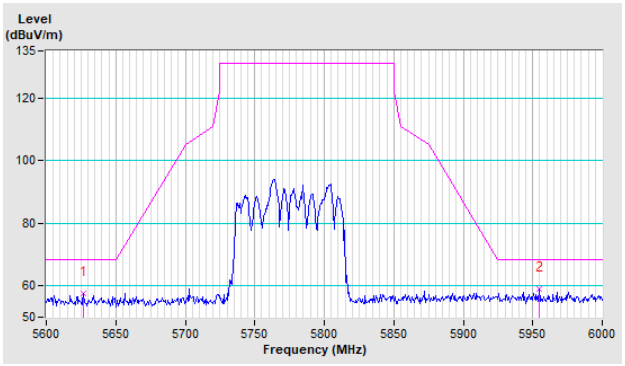
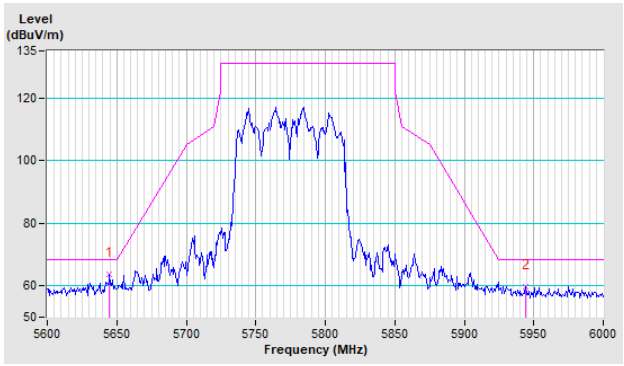
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ax (HE80)

CH 155 5775 MHz

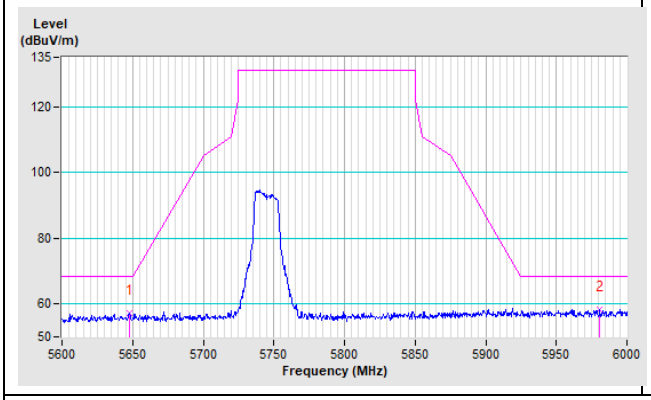
Horizontal	Vertical
	

Scanning radio (Radio 3)

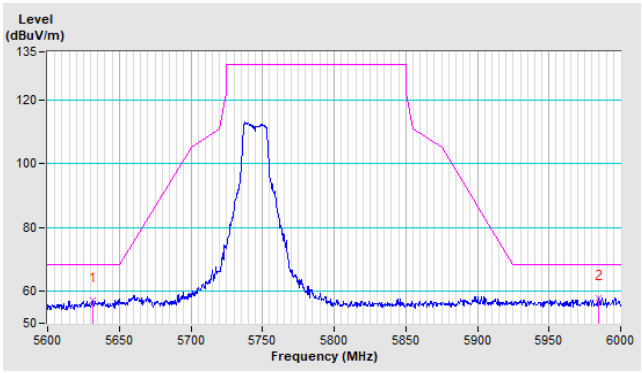
802.11a

CH 149 5745 MHz

Horizontal

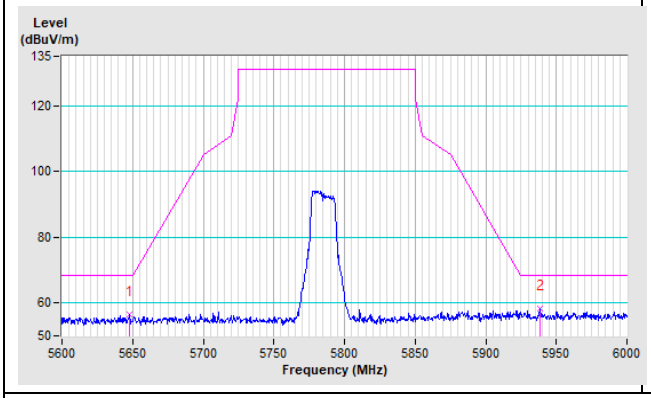


Vertical

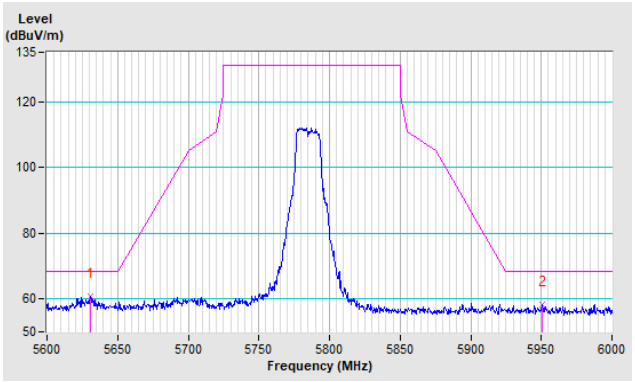


CH 157 5785 MHz

Horizontal

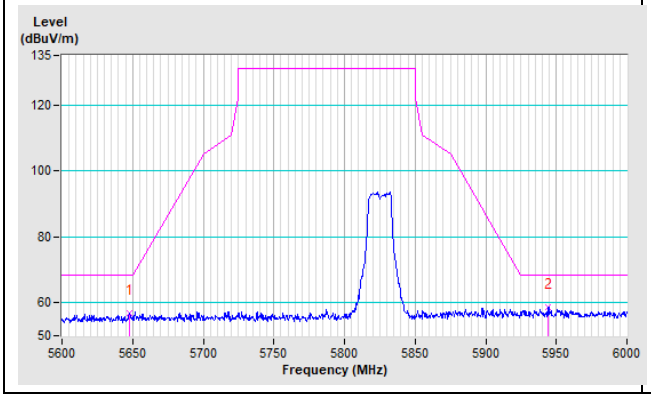


Vertical

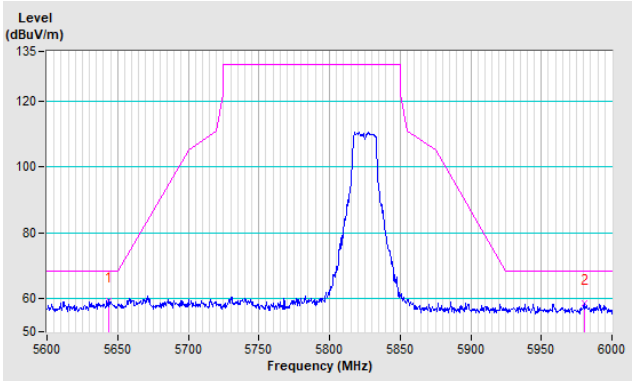


CH 165 5825 MHz

Horizontal

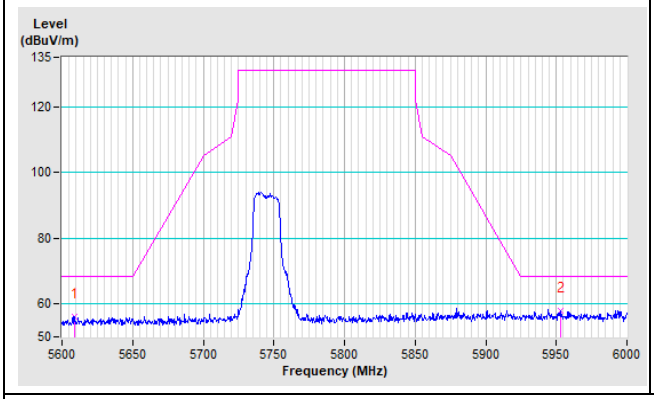
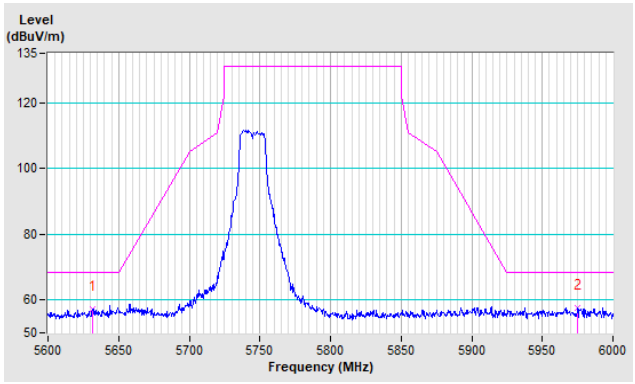


Vertical

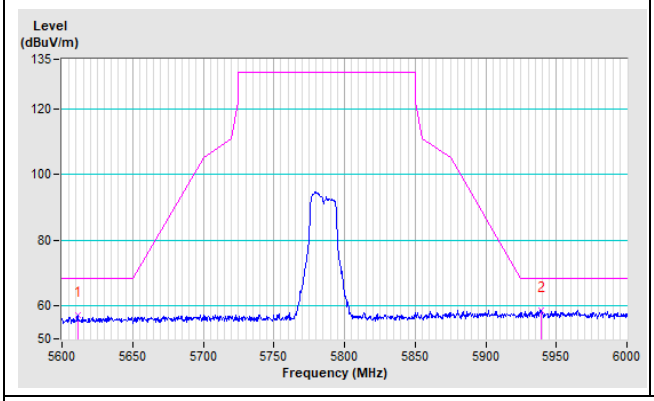
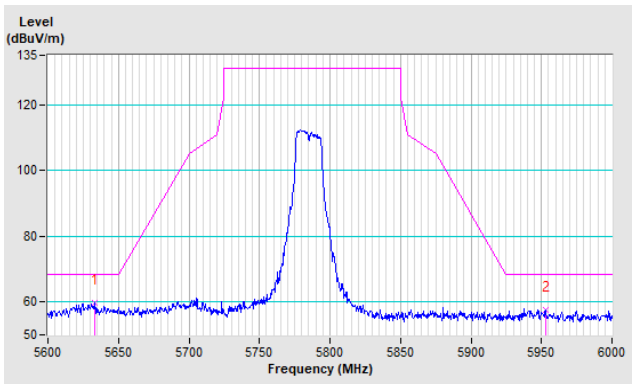


802.11n (HT20)

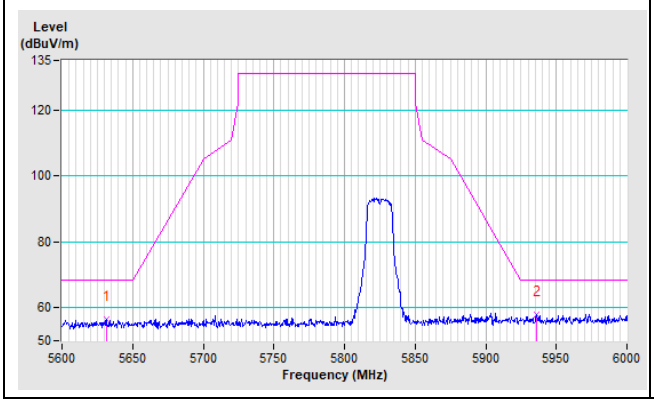
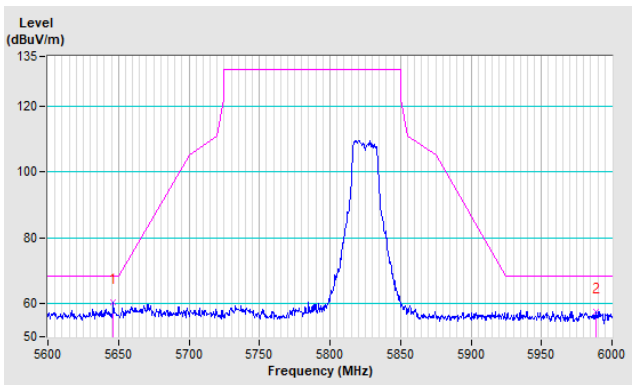
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

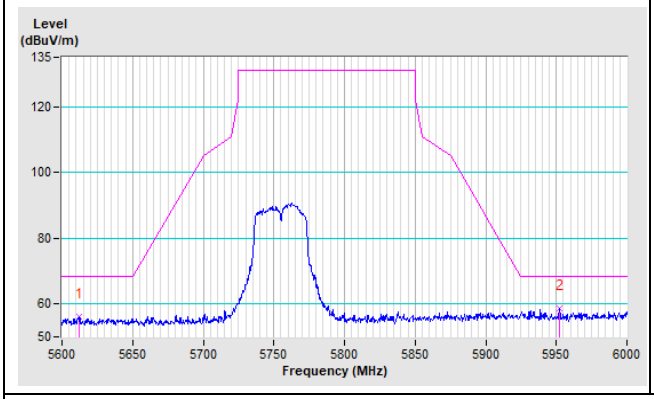
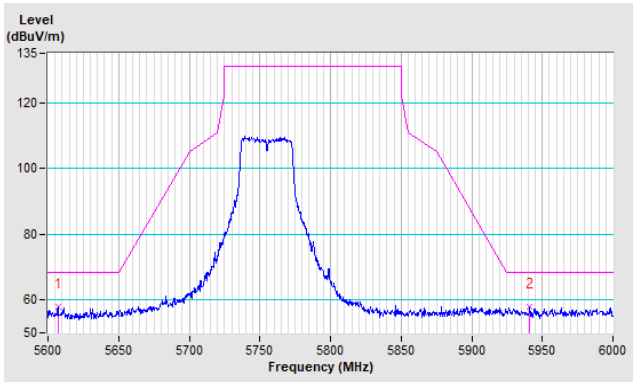
Horizontal	Vertical
	

CH 165 5825 MHz

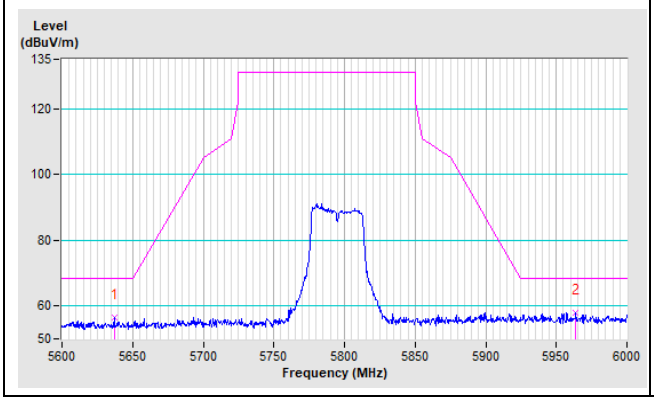
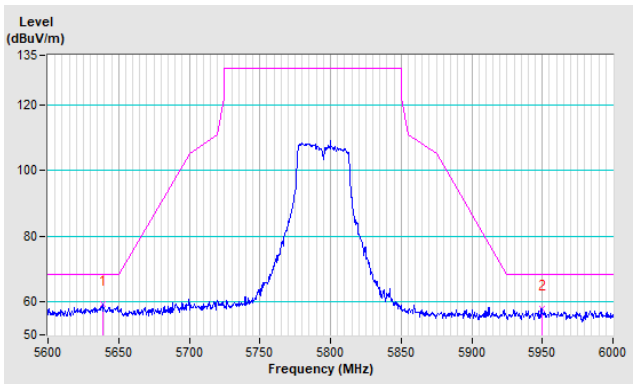
Horizontal	Vertical
	

802.11n (HT40)

CH 151 5755 MHz

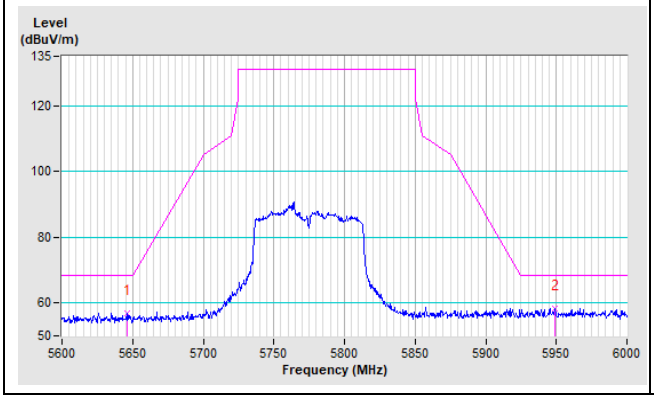
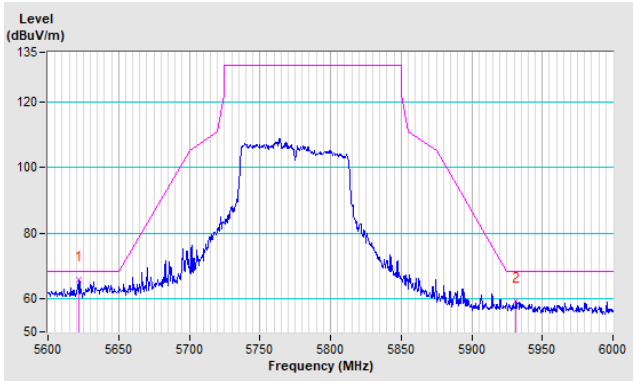
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ac (VHT80)

CH 155 5775 MHz

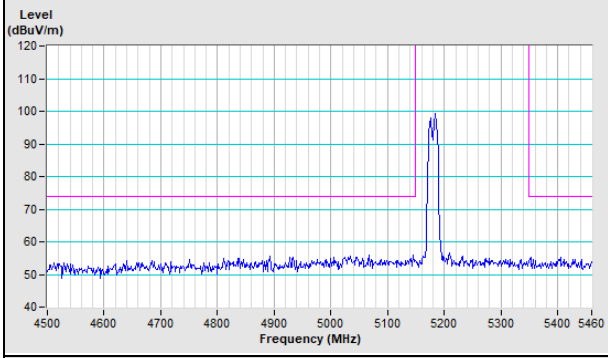
Horizontal	Vertical
	

Annex B - Band Edge Measurement

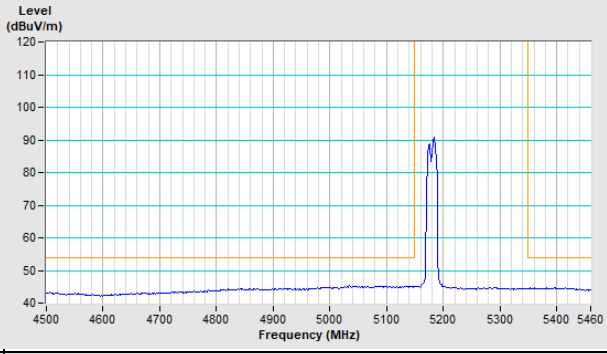
5G traffic radio (Radio 2)

802.11a Channel 36

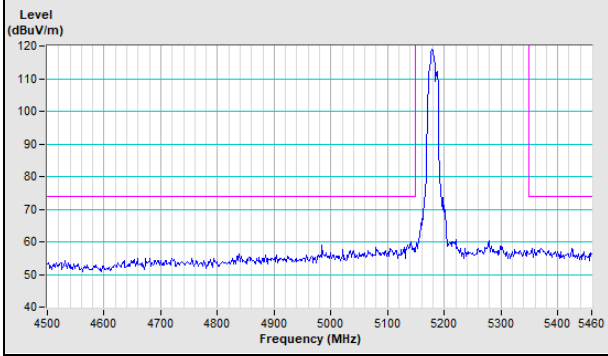
Horizontal (Peak)



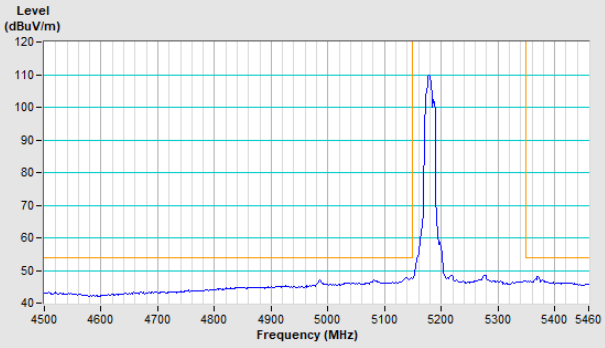
Horizontal (Average)



Vertical (Peak)

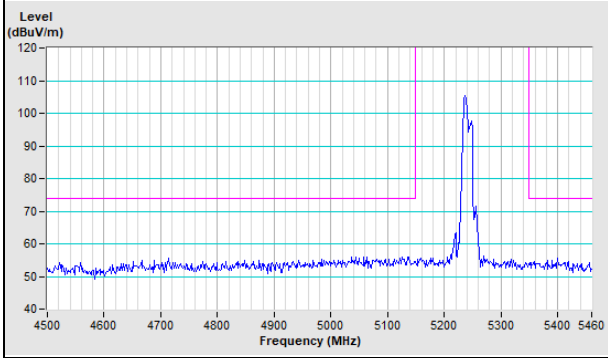


Vertical (Average)

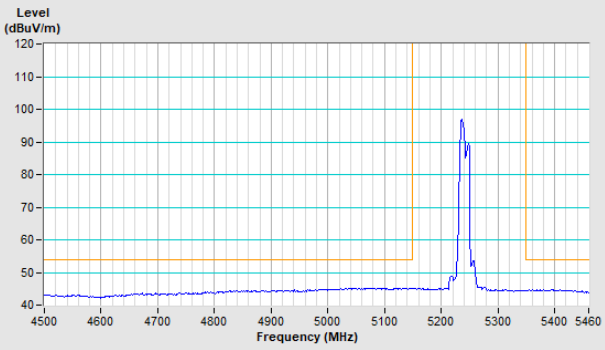


802.11a Channel 48

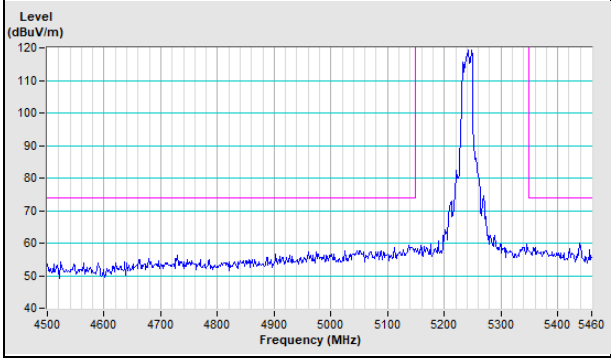
Horizontal (Peak)



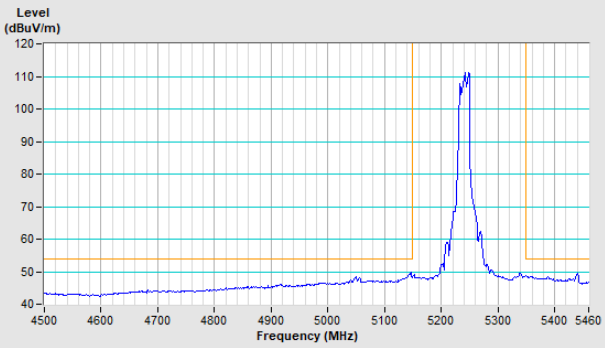
Horizontal (Average)



Vertical (Peak)

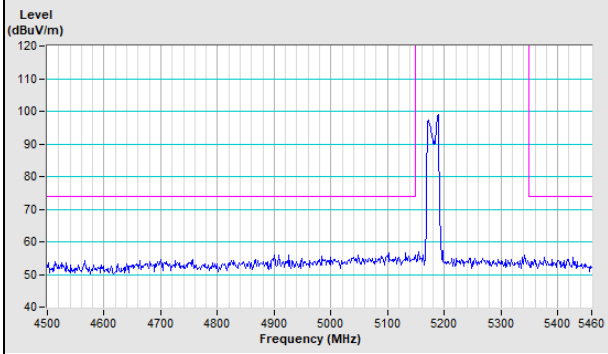


Vertical (Average)

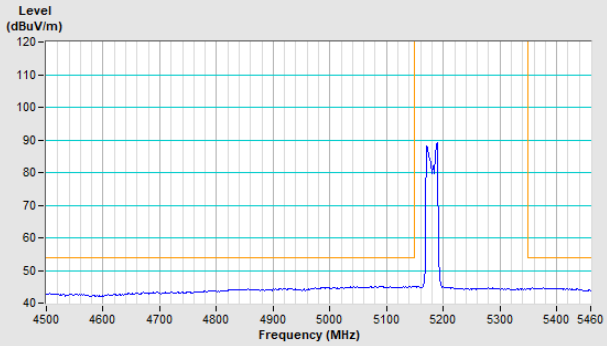


802.11ax (HE20) Channel 36

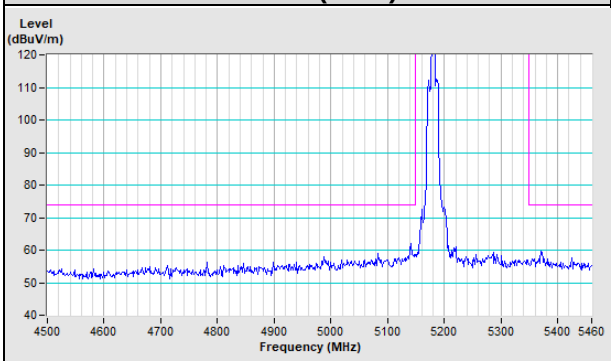
Horizontal (Peak)



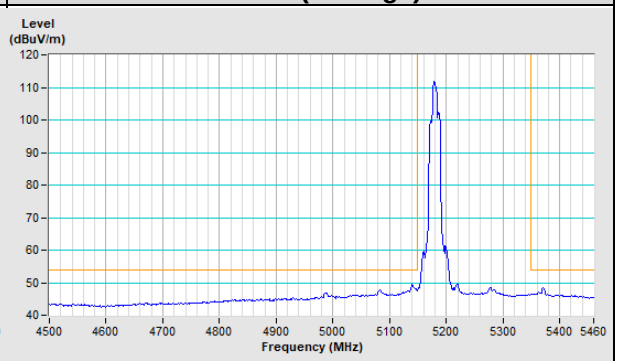
Horizontal (Average)



Vertical (Peak)

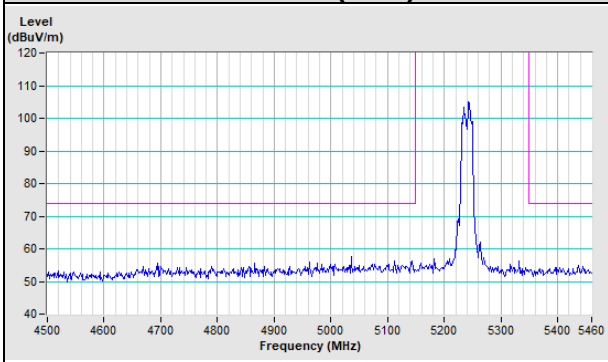


Vertical (Average)

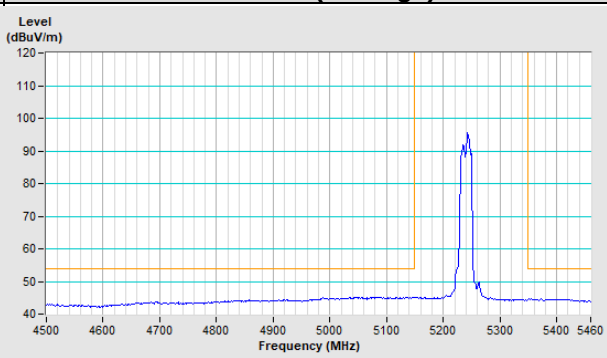


802.11ax (HE20) Channel 48

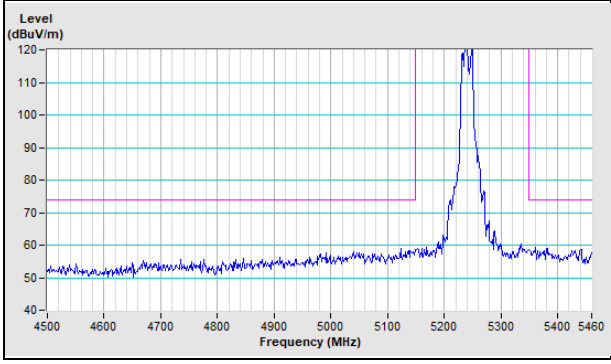
Horizontal (Peak)



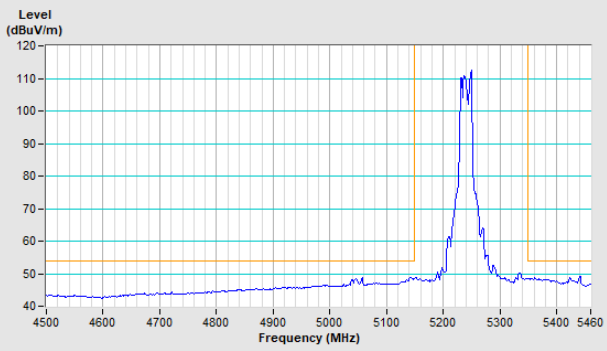
Horizontal (Average)



Vertical (Peak)

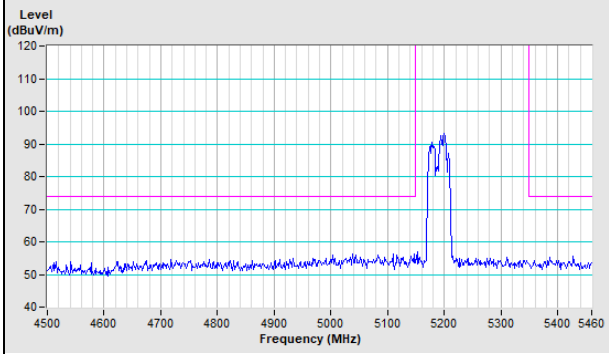


Vertical (Average)

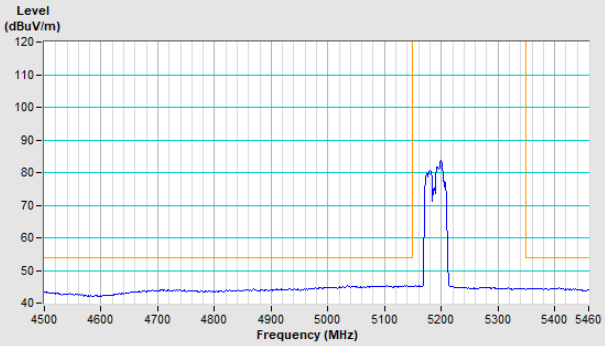


802.11ax (HE40) Channel 38

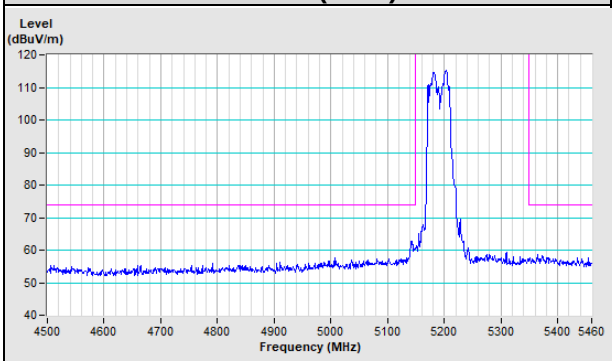
Horizontal (Peak)



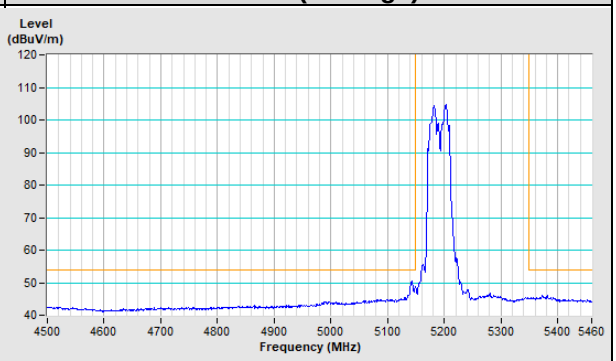
Horizontal (Average)



Vertical (Peak)

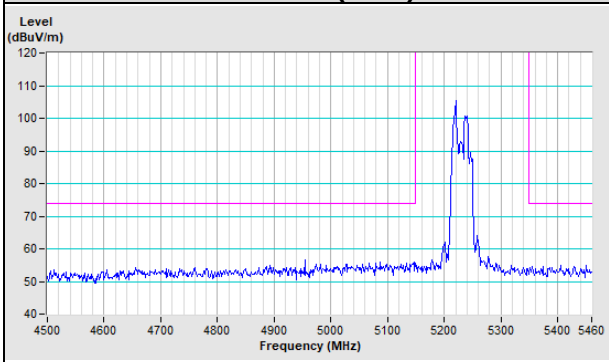


Vertical (Average)

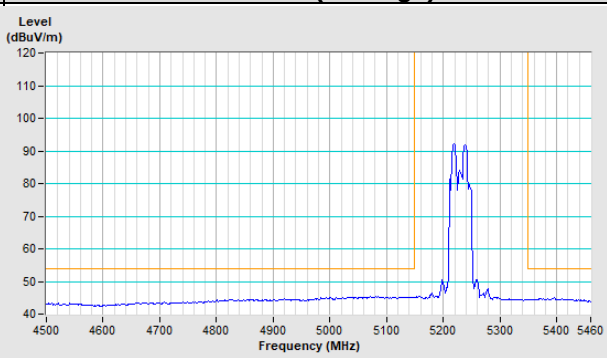


802.11ax (HE40) Channel 46

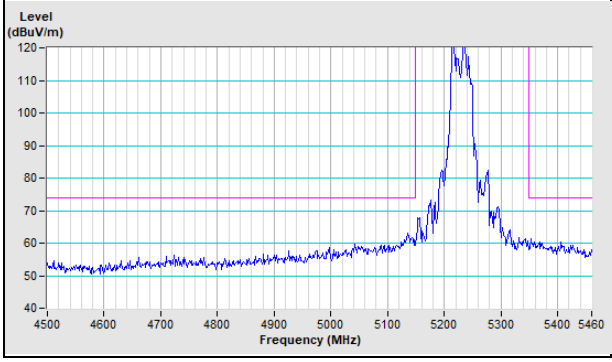
Horizontal (Peak)



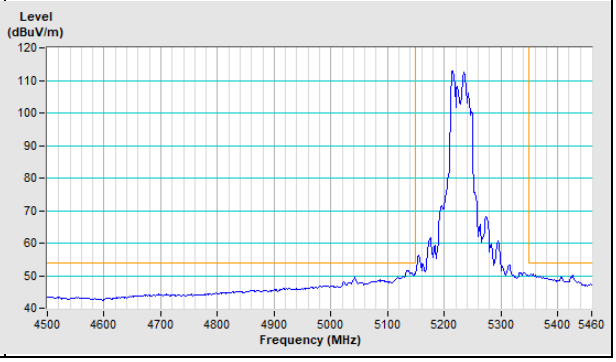
Horizontal (Average)

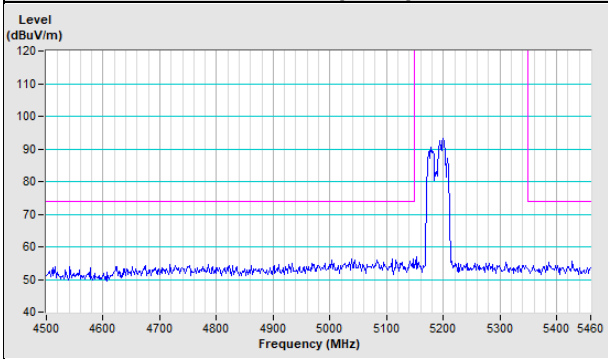
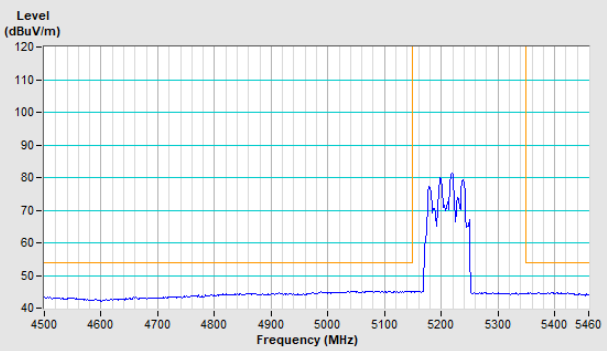
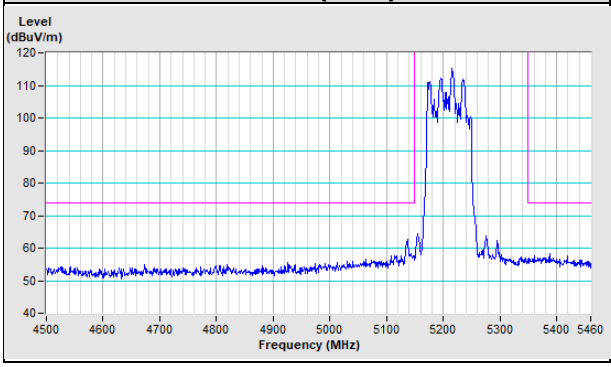
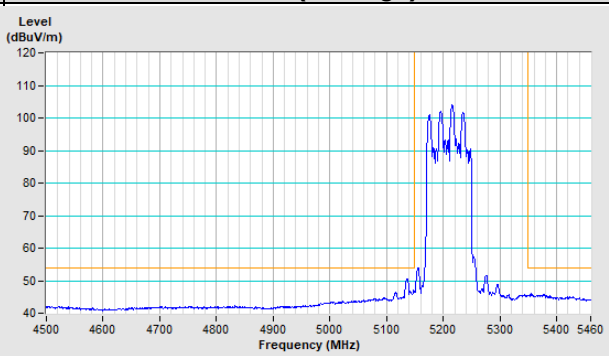


Vertical (Peak)



Vertical (Average)

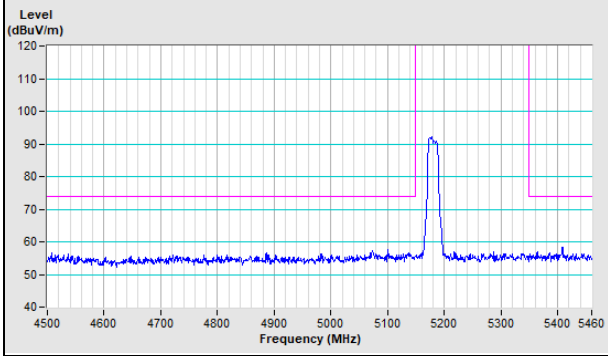


802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

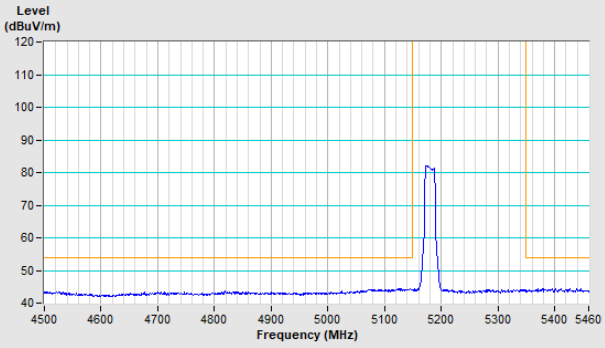
Scanning radio (Radio 3)

802.11a Channel 36

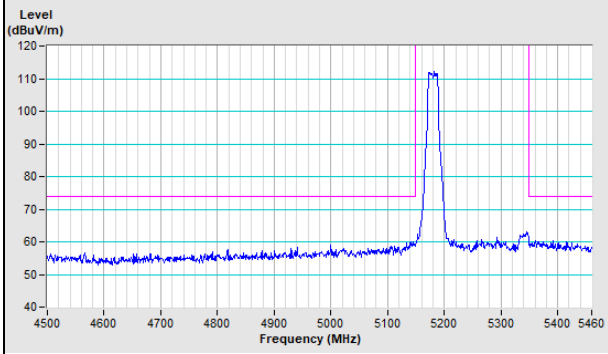
Horizontal (Peak)



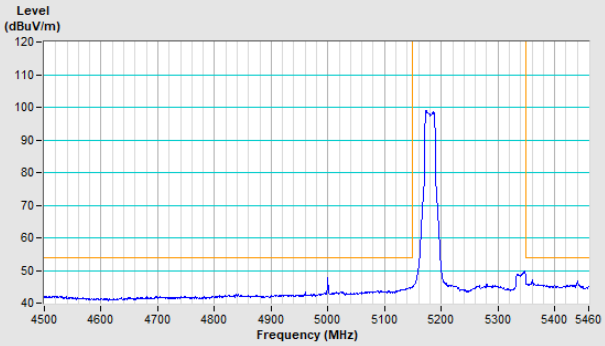
Horizontal (Average)



Vertical (Peak)

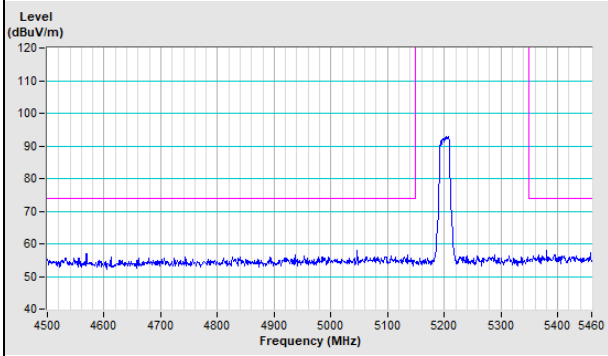


Vertical (Average)

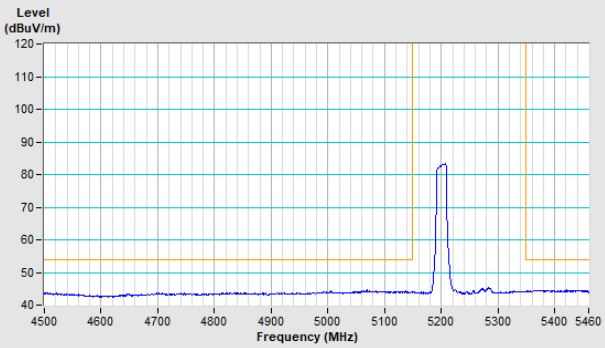


802.11a Channel 40

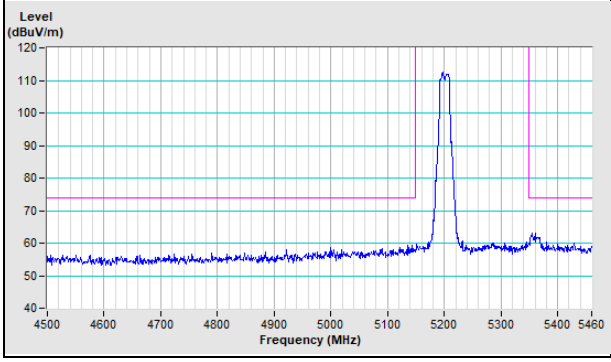
Horizontal (Peak)



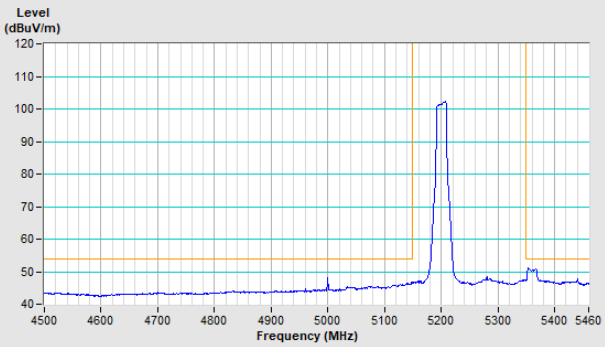
Horizontal (Average)

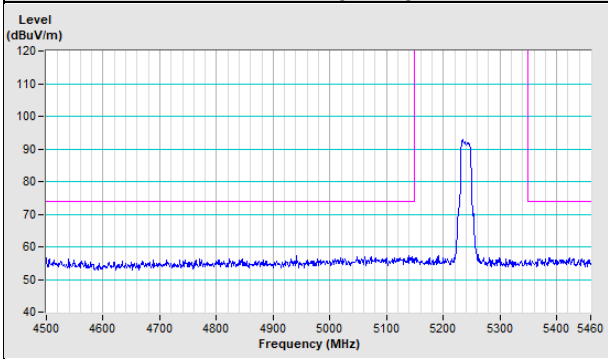
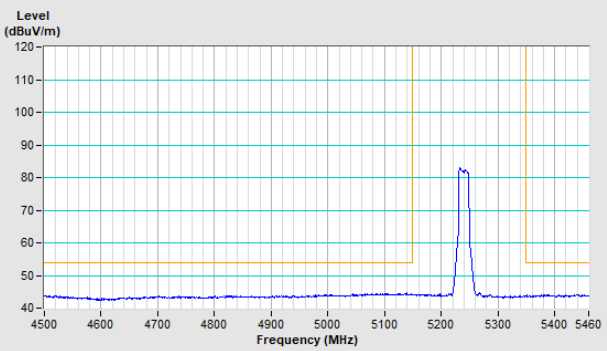
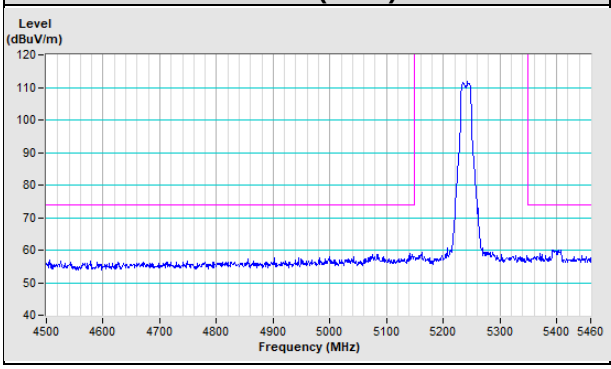
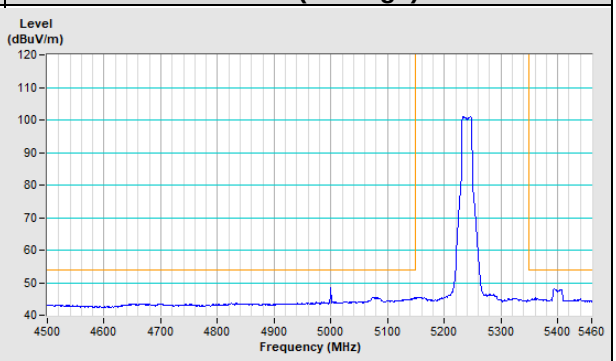


Vertical (Peak)



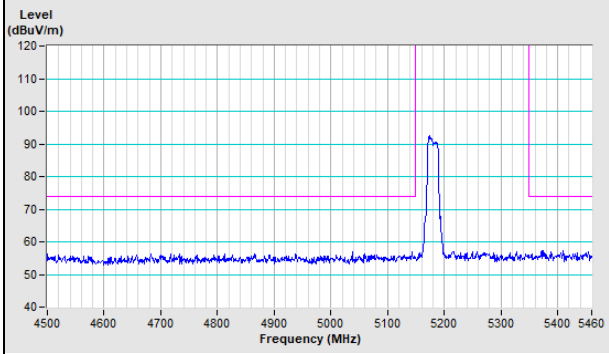
Vertical (Average)



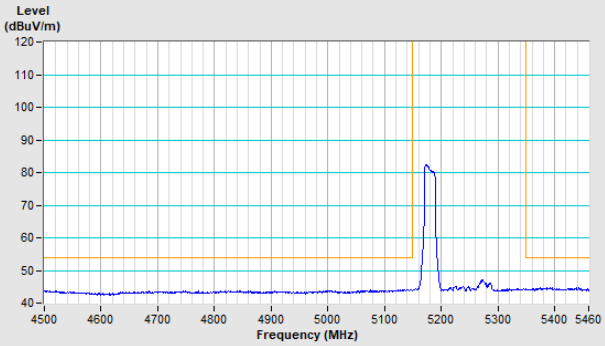
802.11a Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11n (HT20) Channel 36

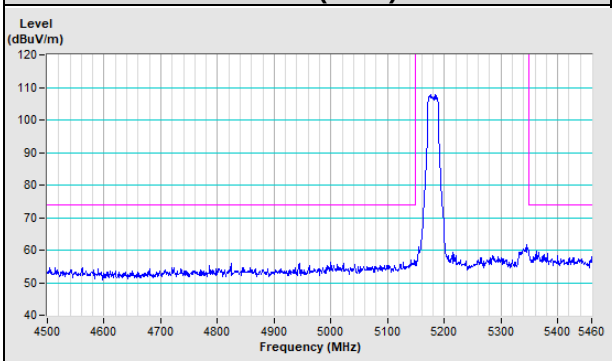
Horizontal (Peak)



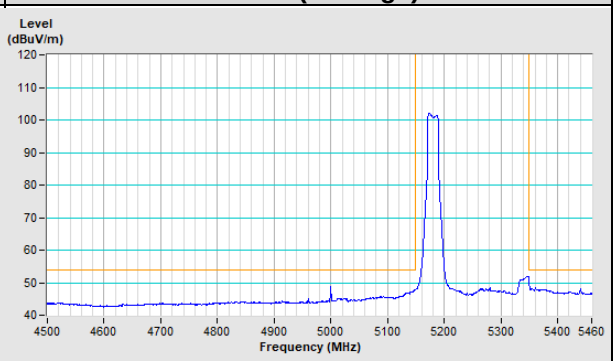
Horizontal (Average)



Vertical (Peak)

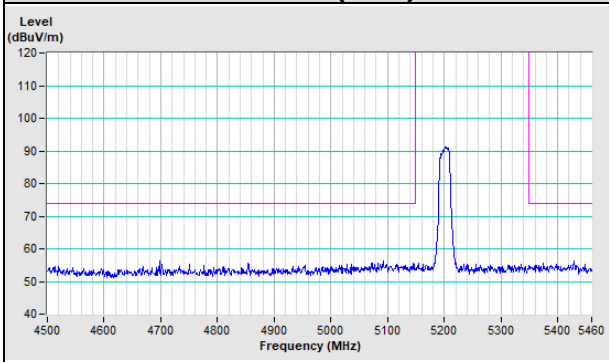


Vertical (Average)

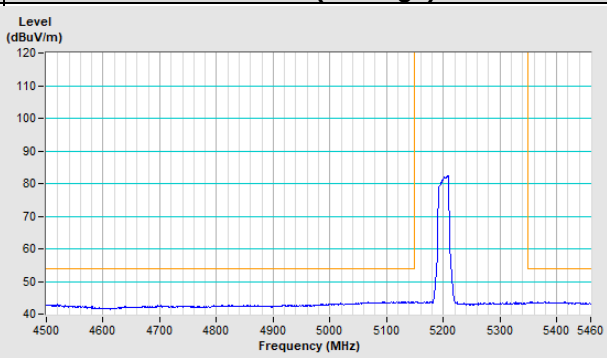


802.11n (HT20) Channel 40

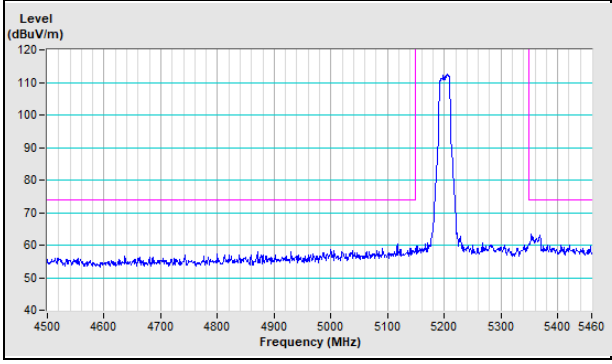
Horizontal (Peak)



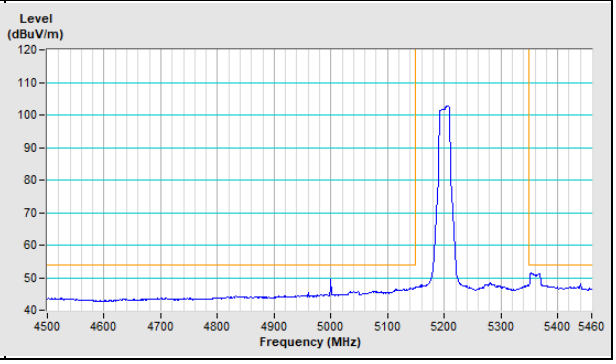
Horizontal (Average)

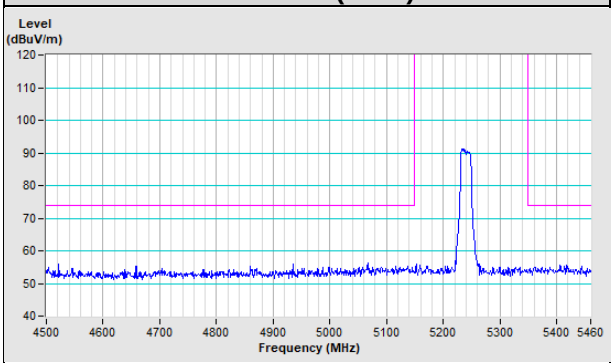
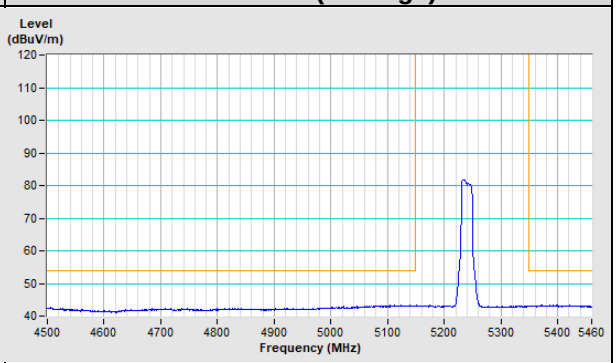
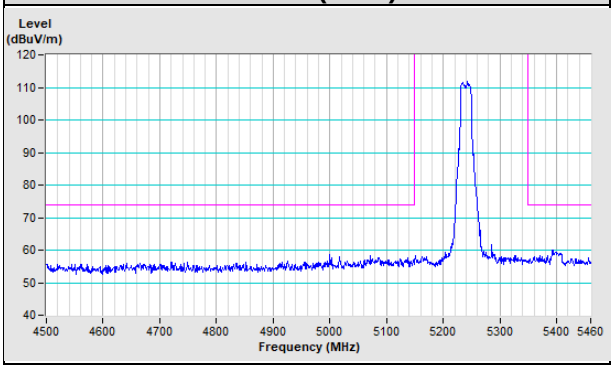
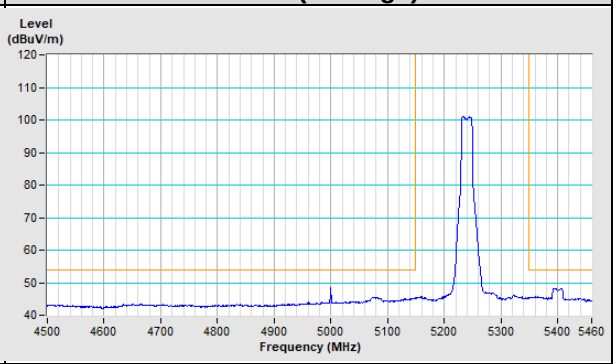


Vertical (Peak)



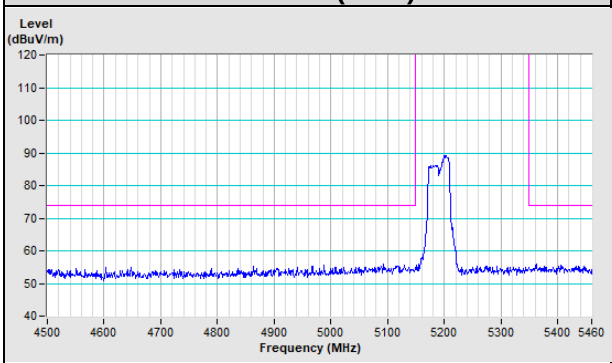
Vertical (Average)



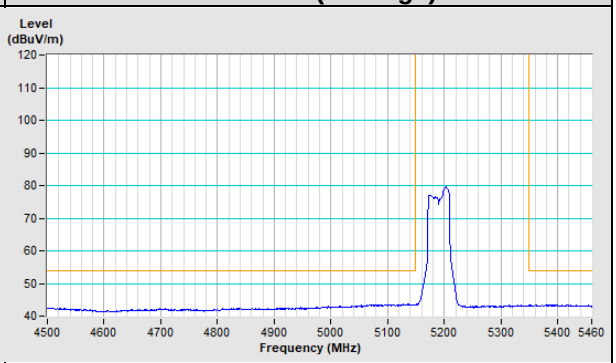
802.11n (HT20) Channel 48	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

802.11n (HT40) Channel 38

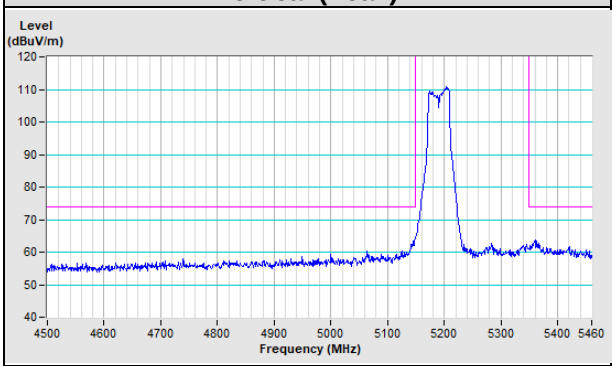
Horizontal (Peak)



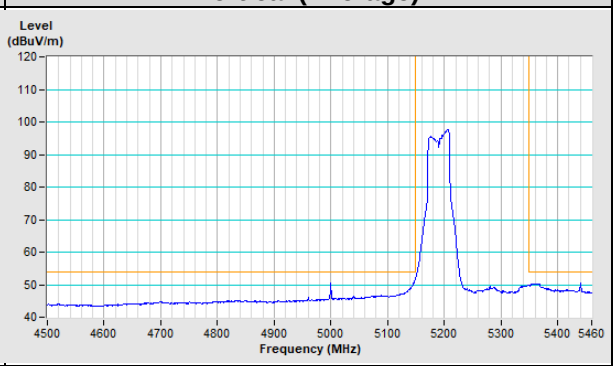
Horizontal (Average)



Vertical (Peak)

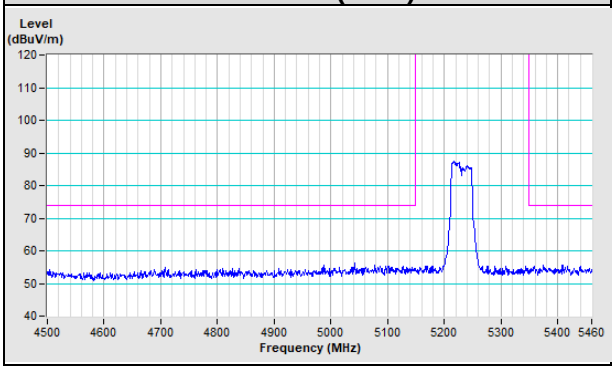


Vertical (Average)

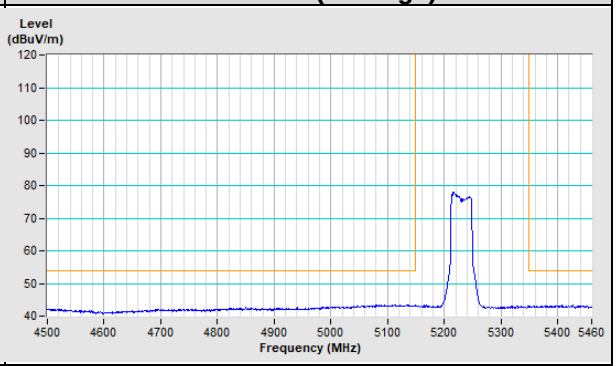


802.11n (HT40) Channel 46

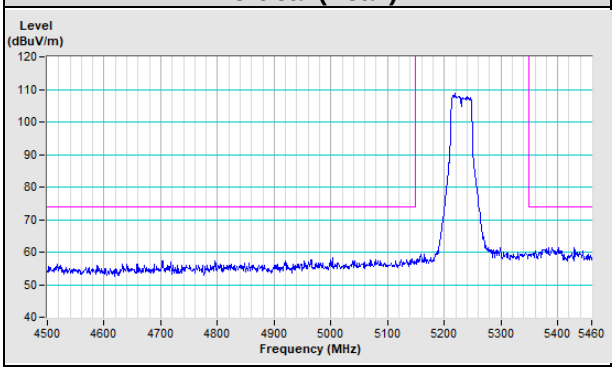
Horizontal (Peak)



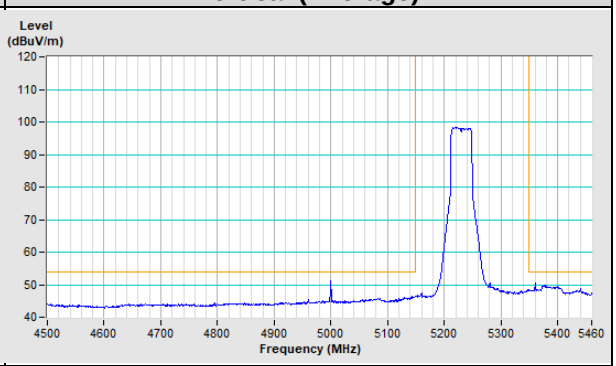
Horizontal (Average)

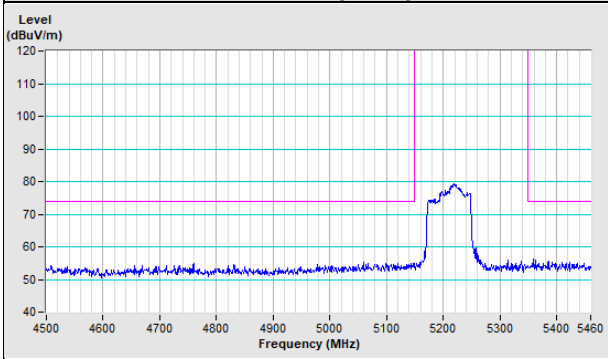
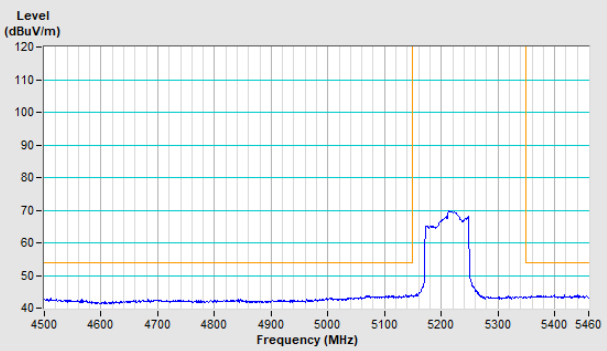
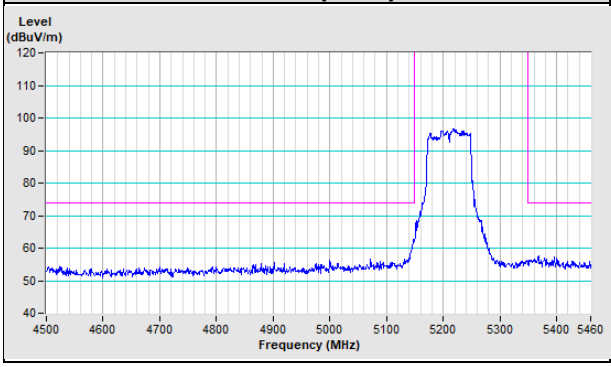
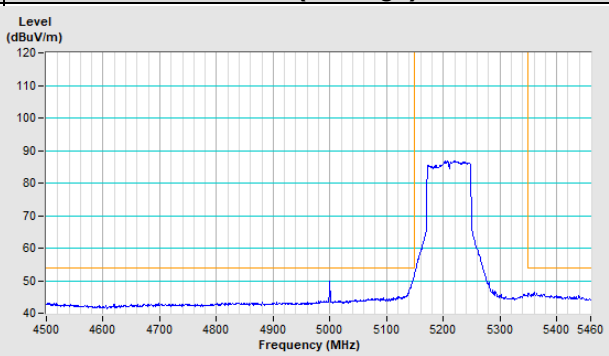


Vertical (Peak)



Vertical (Average)



802.11ac (VHT80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

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.

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

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