

FCC Test Report (WLAN)

Report No.: RFBAOZ-WTW-P20090314-1

FCC ID: WT8DNWAP840E

Test Model: AP840E

Received Date: Sep. 16, 2020

Test Date: Sep. 22 to Nov. 03, 2020

Issued Date: Jan. 22, 2021

Applicant: Datto, Inc.

Address: 101 Merritt 7, Norwalk, CT 06851 USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBAOZ-WTW-P20090314-1	Original release.	Jan. 22, 2021

1 Certificate of Conformity

Product: WiFi6 outdoor-indoor (IP55) Access Point

Brand: datto

Test Model: AP840E

Sample Status: Engineering sample

Applicant: Datto, Inc.

Test Date: Sep. 22 to Nov. 03, 2020

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

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

Prepared by : Phoenix Huang, **Date:** Jan. 22, 2021
Phoenix Huang / Specialist

Approved by : Clark Lin, **Date:** Jan. 22, 2021
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.02 dB at 0.15391 MHz.
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 -0.2 dB at 5146.20 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is R-SMA not a standard connector.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB 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	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	WiFi6 outdoor-indoor (IP55) Access Point
Brand	datto
Test Model	AP840E
Status of EUT	Engineering sample
Power Supply Rating	48-54 Vdc / 0.5 A from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2401.9 Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462 GHz 5GHz: 5.18 ~ 5.24 GHz, 5.745 ~ 5.825 GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	Mode 1: Dipole Antenna (Outdoor/Indoor) CDD Mode: 2.4GHz: 682.775 mW 5.18 ~ 5.24GHz: 454.676 mW 5.745 ~ 5.825GHz: 825.623 mW Beamforming Mode: 2.4GHz: 415.579 mW 5.18 ~ 5.24GHz: 209.889 mW 5.745 ~ 5.825GHz: 215.222 mW Mode 2: Patch Antenna (Outdoor/Indoor) CDD Mode: 2.4GHz: 436.049 mW 5.18 ~ 5.24GHz: 482.55 mW 5.745 ~ 5.825GHz: 946.467 mW Beamforming Mode: 2.4GHz: 214.514 mW 5.18 ~ 5.24GHz: 248.144 mW 5.745 ~ 5.825GHz: 242.37 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3	Radio 4
WLAN 2.4GHz	WLAN 5GHz	Bluetooth	2.4G/5G Background Scanning (Rx only)

2. Simultaneously transmission condition.

Condition	Technology		
1	WLAN (2.4GHz)	WLAN (5GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

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

Ant. Set No.	RF Chain No.	Brand	Model No.	Ant. Net Gain (dBi)	Freq. Range (GHz)	Ant. Type	Connector Type	Cable Length
1	Chain 0 Chain 1 Chain 2 Chain 3	Nienyi	NYS4436	3.5 6.5	2.4~2.4835 5.15~5.85	Dipole	R-SMA	200 mm
2	Chain 0 Chain 1 Chain 2 Chain 3	TerraWave	M6060060M P1D43620	6 6	2.4~2.4835 5.15~5.85	Patch	R-SMA	914.4 mm (36" w/ connector)
3 (Background Ant)	-	Hong Lin	290-20458	6.45 4.5	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	140 mm
4 (BT Ant)	-	Hong Lin	290-20458	3.79	2.4~2.4835	PIFA	i-pex(MHF)	130 mm

4. The EUT incorporates a MIMO function:

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

Note:

1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
 2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
 3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)
-
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
 6. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

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

Channel	Frequency
42	5210 MHz

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	Dipole Antenna
2	√	√	√	√	Patch Antenna

Where **RE≥1G**: Radiated Emission above 1GHz
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

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

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

Radiated Emission Test (Below 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a (Mode 1)	5180-5240 5745-5825	36 to 48 149 to 165	149	OFDM	BPSK	6Mb/s
802.11ax (HE40) (Mode 2)	5180-5240 5745-5825	38 to 46 151 to 159	159	OFDMA	BPSK	MCS0

Power Line Conducted Emission Test:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a (Mode 1)	5180-5240 5745-5825	36 to 48 149 to 165	149	OFDM	BPSK	6Mb/s
802.11ax (HE40) (Mode 2)	5180-5240 5745-5825	38 to 46 151 to 159	159	OFDMA	BPSK	MCS0

Antenna Port Conducted Measurement:

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

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

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE _≥ 1G	25deg. C, 75%RH	120Vac, 60Hz	Eric Peng
RE _{<} 1G	25deg. C, 65%RH	120Vac, 60Hz	Carter Lin
PLC	25deg. C, 64%RH	120Vac, 60Hz	Sampson Chen
APCM	21deg. C, 60%RH	120Vac, 60Hz	Nick Chen

3.3 Duty Cycle of Test Signal

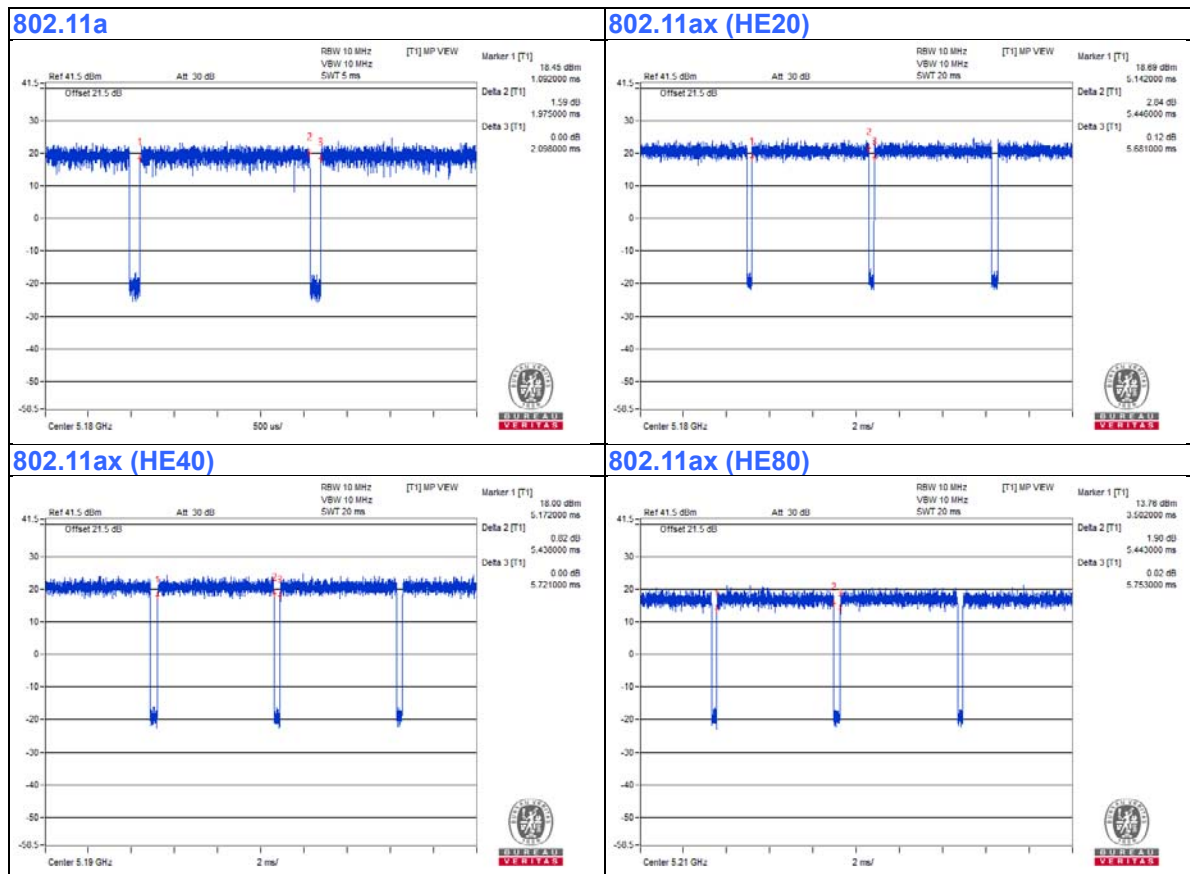
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11a: Duty cycle = 1.975 ms / 2.098 ms = 0.941, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.26 \text{ dB}$

802.11ax (HE20): Duty cycle = 5.446 ms / 5.681 ms = 0.959, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.18 \text{ dB}$

802.11ax (HE40): Duty cycle = 5.438 ms / 5.721 ms = 0.951, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.22 \text{ dB}$

802.11ax (HE80): Duty cycle = 5.443 ms / 5.753 ms = 0.946, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.24 \text{ dB}$



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.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab
B.	POE	PHIHONG	POE29U-560	NA	NA	Supplied by client
C.	Laptop	DELL	E5430	GM1SKV1	FCC DoC	Provided by Lab

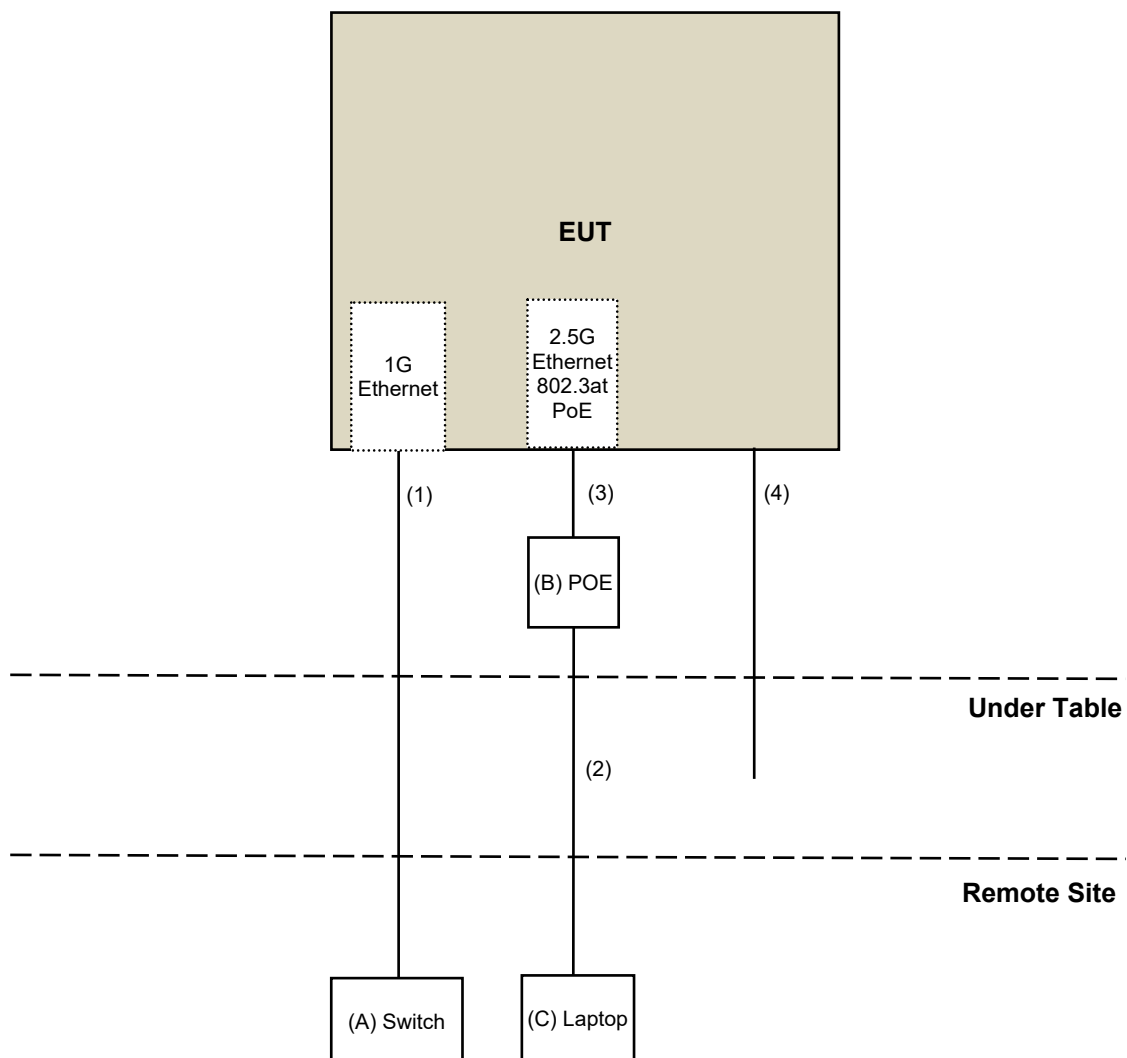
Note:

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

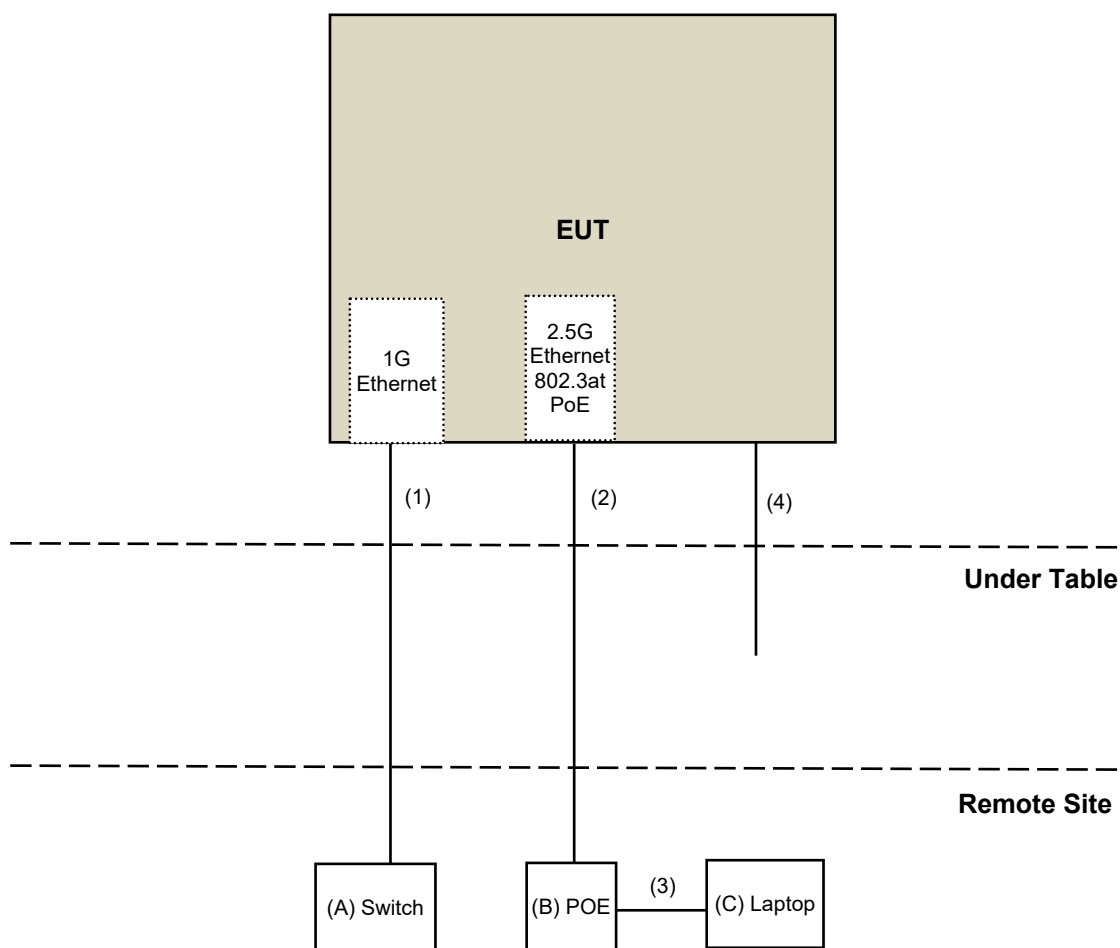
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	1	No	0	Provided by Lab
4.	GND Cable	1	3	No	0	Provided by Lab

3.4.1 Configuration of System under Test

AC Power Conducted Emissions test



Radiated Emissions 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:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK: 105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK: 122.2 (dBuV/m) ^{*4}
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK:122.2 (dBuV/m) ^{*4}
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

Note:

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

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

4.1.2 Test Instruments

For Radiated emission (below 1GHz) test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Oct. 23, 2019	Oct. 22, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-4-1	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-2	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-3	Mar. 18, 2020	Mar. 17, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 24, 2020	Sep. 23, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Oct. 15, 2020

For Radiated emission (Above 1GHz), Bandedge & OOB test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160923	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Sep. 22 to Oct. 20, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
True RMS Clamp Meter FLUKE	325	31130711WS	June 06, 2020	June 05, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Oct. 29 to Nov. 03, 2020

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

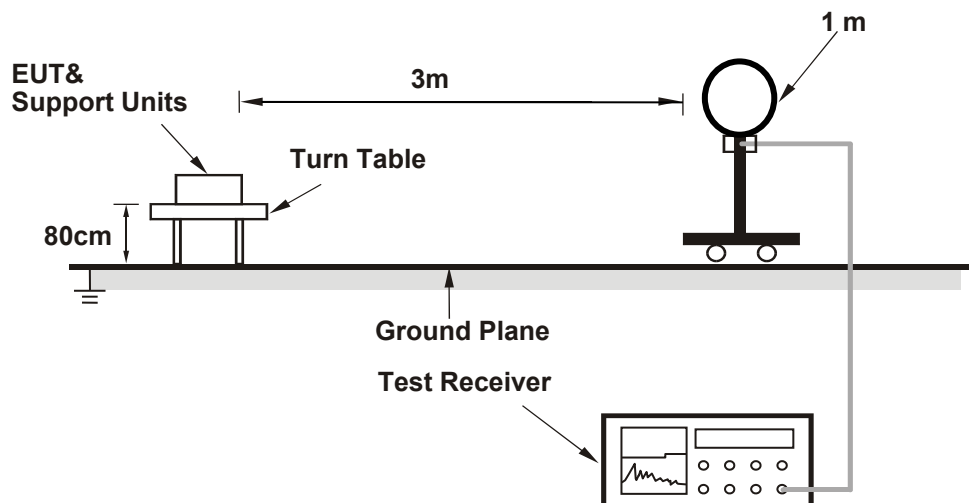
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

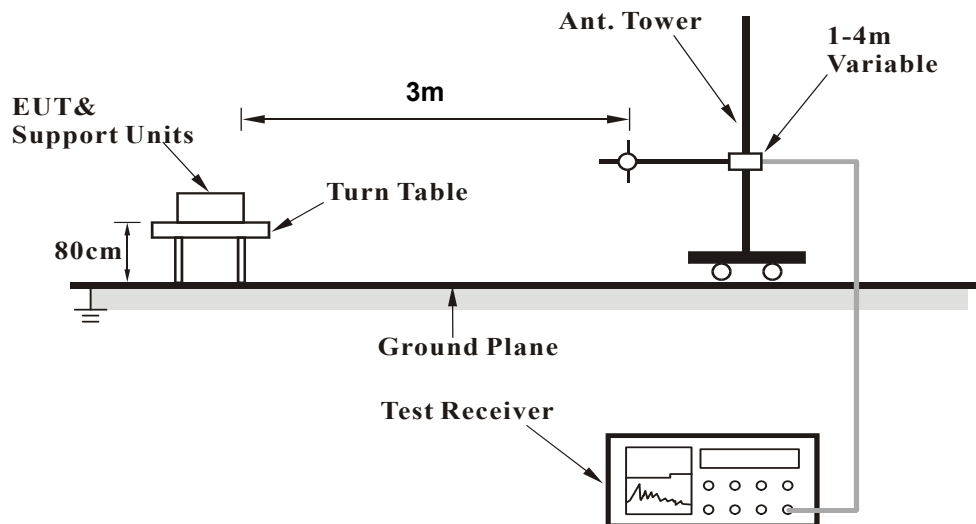
No deviation.

4.1.5 Test Setup

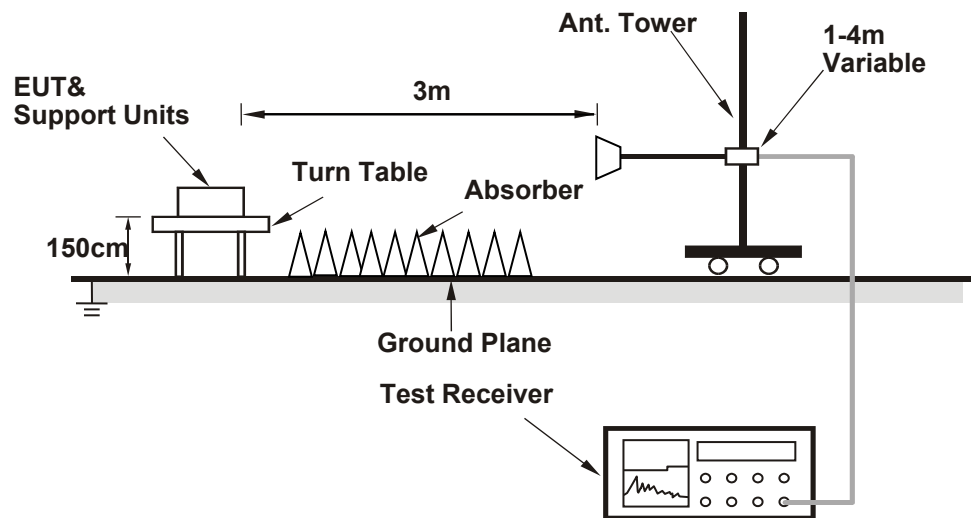
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- Connected the EUT with the Laptop which is placed on on remote site.
- Controlling software (QRCT_V 4.0.00156.0) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results (Mode 1)

Above 1GHz Data:

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	5147.20	53.5 PK	74.0	-20.5	3.17 H	207	52.8	0.7
2	5147.20	40.8 AV	54.0	-13.2	3.17 H	207	40.1	0.7
3	*5180.00	112.1 PK			3.17 H	207	111.4	0.7
4	*5180.00	102.9 AV			3.17 H	207	102.2	0.7
5	#10360.00	46.5 PK	68.2	-21.7	1.07 H	320	36.0	10.5
6	15540.00	44.5 PK	74.0	-29.5	1.04 H	328	32.5	12.0
7	15540.00	33.8 AV	54.0	-20.2	1.04 H	328	21.8	12.0
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	5146.80	66.1 PK	74.0	-7.9	2.95 V	265	65.4	0.7
2	5146.80	53.7 AV	54.0	-0.3	2.95 V	265	53.0	0.7
3	*5180.00	123.0 PK			2.95 V	265	122.3	0.7
4	*5180.00	115.1 AV			2.95 V	265	114.4	0.7
5	#10360.00	44.8 PK	68.2	-23.4	1.03 V	111	34.3	10.5
6	15540.00	43.6 PK	74.0	-30.4	1.02 V	167	31.6	12.0
7	15540.00	32.7 AV	54.0	-21.3	1.02 V	167	20.7	12.0

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 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	115.2 PK			3.50 H	29	114.6	0.6
2	*5200.00	105.6 AV			3.50 H	29	105.0	0.6
3	#10400.00	46.0 PK	68.2	-22.2	1.02 H	334	35.4	10.6
4	15600.00	44.3 PK	74.0	-29.7	1.05 H	338	32.0	12.3
5	15600.00	33.5 AV	54.0	-20.5	1.05 H	338	21.2	12.3
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	*5200.00	123.6 PK			2.87 V	267	123.0	0.6
2	*5200.00	116.3 AV			2.87 V	267	115.7	0.6
3	#10400.00	45.4 PK	68.2	-22.8	1.03 V	115	34.8	10.6
4	15600.00	44.1 PK	74.0	-29.9	1.03 V	156	31.8	12.3
5	15600.00	33.2 AV	54.0	-20.8	1.03 V	156	20.9	12.3

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 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	114.8 PK			3.46 H	19	114.2	0.6
2	*5240.00	105.3 AV			3.46 H	19	104.7	0.6
3	5435.80	51.6 PK	74.0	-22.4	3.46 H	19	50.7	0.9
4	5435.80	38.6 AV	54.0	-15.4	3.46 H	19	37.7	0.9
5	#10480.00	45.6 PK	68.2	-22.6	1.00 H	337	35.1	10.5
6	15720.00	43.9 PK	74.0	-30.1	1.04 H	346	32.6	11.3
7	15720.00	33.1 AV	54.0	-20.9	1.04 H	346	21.8	11.3
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	*5240.00	123.6 PK			2.88 V	266	123.0	0.6
2	*5240.00	116.2 AV			2.88 V	266	115.6	0.6
3	5432.20	55.6 PK	74.0	-18.4	2.88 V	266	54.7	0.9
4	5432.20	48.1 AV	54.0	-5.9	2.88 V	266	47.2	0.9
5	#10480.00	45.4 PK	68.2	-22.8	1.02 V	106	34.9	10.5
6	15720.00	43.9 PK	74.0	-30.1	1.00 V	157	32.6	11.3
7	15720.00	32.9 AV	54.0	-21.1	1.00 V	157	21.6	11.3

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 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	#5621.36	49.0 PK	68.2	-19.2	3.21 H	253	48.0	1.0
2	*5745.00	110.0 PK			3.21 H	253	108.6	1.4
3	*5745.00	101.2 AV			3.21 H	253	99.8	1.4
4	#5979.23	49.0 PK	68.2	-19.2	3.21 H	253	47.3	1.7
5	11490.00	51.0 PK	74.0	-23.0	2.07 H	193	39.2	11.8
6	11490.00	43.7 AV	54.0	-10.3	2.07 H	193	31.9	11.8
7	#17235.00	48.8 PK	68.2	-19.4	1.84 H	206	33.4	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.56	56.0 PK	68.2	-12.2	3.57 V	266	54.9	1.1
2	*5745.00	121.2 PK			3.57 V	266	119.8	1.4
3	*5745.00	114.0 AV			3.57 V	266	112.6	1.4
4	#5991.57	53.0 PK	68.2	-15.2	3.57 V	266	51.3	1.7
5	11490.00	49.6 PK	74.0	-24.4	3.94 V	286	37.8	11.8
6	11490.00	43.3 AV	54.0	-10.7	3.94 V	286	31.5	11.8
7	#17235.00	48.3 PK	68.2	-19.9	3.57 V	202	32.9	15.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5600.10	48.6 PK	68.2	-19.6	2.32 H	250	47.5	1.1
2	*5785.00	112.3 PK			2.32 H	250	110.8	1.5
3	*5785.00	103.4 AV			2.32 H	250	101.9	1.5
4	#5995.05	48.3 PK	68.2	-19.9	2.32 H	250	46.6	1.7
5	11570.00	50.7 PK	74.0	-23.3	2.12 H	208	39.2	11.5
6	11570.00	43.6 AV	54.0	-10.4	2.12 H	208	32.1	11.5
7	#17355.00	48.7 PK	68.2	-19.5	1.89 H	212	32.4	16.3
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	#5598.03	55.1 PK	68.2	-13.1	1.19 V	262	54.0	1.1
2	*5785.00	124.1 PK			1.19 V	262	122.6	1.5
3	*5785.00	115.8 AV			1.19 V	262	114.3	1.5
4	#5979.70	54.5 PK	68.2	-13.7	1.19 V	262	52.8	1.7
5	11570.00	50.4 PK	74.0	-23.6	3.97 V	281	38.9	11.5
6	11570.00	43.8 AV	54.0	-10.2	3.97 V	281	32.3	11.5
7	#17355.00	47.9 PK	68.2	-20.3	3.54 V	201	31.6	16.3

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 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	#5625.29	49.0 PK	68.2	-19.2	2.99 H	231	48.0	1.0
2	*5825.00	111.5 PK			2.99 H	231	109.8	1.7
3	*5825.00	102.1 AV			2.99 H	231	100.4	1.7
4	#6017.97	48.1 PK	68.2	-20.1	2.99 H	231	46.4	1.7
5	11650.00	50.4 PK	74.0	-23.6	2.15 H	201	39.1	11.3
6	11650.00	43.2 AV	54.0	-10.8	2.15 H	201	31.9	11.3
7	#17475.00	48.4 PK	68.2	-19.8	1.89 H	216	29.9	18.5
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	#5640.58	55.2 PK	68.2	-13.0	1.05 V	96	54.2	1.0
2	*5825.00	123.9 PK			1.05 V	96	122.2	1.7
3	*5825.00	115.5 AV			1.05 V	96	113.8	1.7
4	#5925.95	58.6 PK	68.2	-9.6	1.05 V	96	57.1	1.5
5	11650.00	50.7 PK	74.0	-23.3	3.95 V	277	39.4	11.3
6	11650.00	43.9 AV	54.0	-10.1	3.95 V	277	32.6	11.3
7	#17475.00	47.6 PK	68.2	-20.6	3.59 V	208	29.1	18.5

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 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	5146.10	55.4 PK	74.0	-18.6	1.81 H	2	54.7	0.7
2	5146.10	42.6 AV	54.0	-11.4	1.81 H	2	41.9	0.7
3	*5180.00	114.1 PK			1.81 H	2	113.4	0.7
4	*5180.00	102.2 AV			1.81 H	2	101.5	0.7
5	#10360.00	47.2 PK	68.2	-21.0	1.10 H	323	36.7	10.5
6	15540.00	44.2 PK	74.0	-29.8	1.04 H	343	32.2	12.0
7	15540.00	33.8 AV	54.0	-20.2	1.04 H	343	21.8	12.0
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	5149.00	65.5 PK	74.0	-8.5	3.10 V	270	64.8	0.7
2	5149.00	53.3 AV	54.0	-0.7	3.10 V	270	52.6	0.7
3	*5180.00	122.4 PK			3.10 V	270	121.7	0.7
4	*5180.00	111.2 AV			3.10 V	270	110.5	0.7
5	#10360.00	45.6 PK	68.2	-22.6	1.02 V	102	35.1	10.5
6	15540.00	44.4 PK	74.0	-29.6	1.03 V	141	32.4	12.0
7	15540.00	33.5 AV	54.0	-20.5	1.03 V	141	21.5	12.0

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 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	116.4 PK			3.81 H	35	115.8	0.6
2	*5200.00	105.0 AV			3.81 H	35	104.4	0.6
3	#10400.00	46.9 PK	68.2	-21.3	1.03 H	308	36.3	10.6
4	15600.00	44.7 PK	74.0	-29.3	1.02 H	340	32.4	12.3
5	15600.00	33.7 AV	54.0	-20.3	1.02 H	340	21.4	12.3
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	*5200.00	129.3 PK			1.05 V	92	128.7	0.6
2	*5200.00	116.7 AV			1.05 V	92	116.1	0.6
3	#10400.00	45.1 PK	68.2	-23.1	1.06 V	110	34.5	10.6
4	15600.00	44.3 PK	74.0	-29.7	1.04 V	141	32.0	12.3
5	15600.00	33.5 AV	54.0	-20.5	1.04 V	141	21.2	12.3

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 (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	116.2 PK			3.76 H	21	115.6	0.6
2	*5240.00	104.6 AV			3.76 H	21	104.0	0.6
3	5438.60	50.0 PK	74.0	-24.0	3.76 H	21	49.1	0.9
4	5438.60	38.9 AV	54.0	-15.1	3.76 H	21	38.0	0.9
5	#10480.00	46.4 PK	68.2	-21.8	1.06 H	322	35.9	10.5
6	15720.00	44.5 PK	74.0	-29.5	1.00 H	332	33.2	11.3
7	15720.00	33.8 AV	54.0	-20.2	1.00 H	332	22.5	11.3
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	*5240.00	129.6 PK			1.04 V	89	129.0	0.6
2	*5240.00	117.0 AV			1.04 V	89	116.4	0.6
3	5425.30	57.0 PK	74.0	-17.0	1.04 V	89	56.1	0.9
4	5425.30	47.4 AV	54.0	-6.6	1.04 V	89	46.5	0.9
5	#10480.00	45.1 PK	68.2	-23.1	1.03 V	108	34.6	10.5
6	15720.00	44.6 PK	74.0	-29.4	1.00 V	169	33.3	11.3
7	15720.00	33.6 AV	54.0	-20.4	1.00 V	169	22.3	11.3

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 (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	#5645.12	50.6 PK	68.2	-17.6	2.28 H	251	49.5	1.1
2	*5745.00	114.6 PK			2.28 H	251	113.2	1.4
3	*5745.00	102.8 AV			2.28 H	251	101.4	1.4
4	#6024.10	48.4 PK	68.2	-19.8	2.28 H	251	46.7	1.7
5	11490.00	44.2 PK	74.0	-29.8	2.16 H	203	32.4	11.8
6	11490.00	33.4 AV	54.0	-20.6	2.16 H	203	21.6	11.8
7	#17235.00	44.5 PK	68.2	-23.7	1.90 H	223	29.1	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.55	59.0 PK	68.2	-9.2	1.06 V	89	58.0	1.0
2	*5745.00	125.9 PK			1.06 V	89	124.5	1.4
3	*5745.00	116.1 AV			1.06 V	89	114.7	1.4
4	#5934.76	53.8 PK	68.2	-14.4	1.06 V	89	52.2	1.6
5	11490.00	49.6 PK	74.0	-24.4	3.97 V	301	37.8	11.8
6	11490.00	43.4 AV	54.0	-10.6	3.97 V	301	31.6	11.8
7	#17235.00	48.7 PK	68.2	-19.5	3.62 V	196	33.3	15.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5630.17	49.8 PK	68.2	-18.4	3.14 H	230	48.8	1.0
2	*5785.00	116.2 PK			3.14 H	230	114.7	1.5
3	*5785.00	103.5 AV			3.14 H	230	102.0	1.5
4	#5997.35	47.8 PK	68.2	-20.4	3.14 H	230	46.1	1.7
5	11570.00	44.0 PK	74.0	-30.0	2.18 H	213	32.5	11.5
6	11570.00	33.4 AV	54.0	-20.6	2.18 H	213	21.9	11.5
7	#17355.00	44.1 PK	68.2	-24.1	1.84 H	229	27.8	16.3
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	#5602.46	56.0 PK	68.2	-12.2	1.01 V	90	54.9	1.1
2	*5785.00	126.5 PK			1.01 V	90	125.0	1.5
3	*5785.00	116.2 AV			1.01 V	90	114.7	1.5
4	#5935.97	53.1 PK	68.2	-15.1	1.01 V	90	51.5	1.6
5	11570.00	49.2 PK	74.0	-24.8	3.97 V	287	37.7	11.5
6	11570.00	43.0 AV	54.0	-11.0	3.97 V	287	31.5	11.5
7	#17355.00	48.8 PK	68.2	-19.4	3.63 V	196	32.5	16.3

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 (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	#5631.41	48.4 PK	68.2	-19.8	2.70 H	232	47.4	1.0
2	*5825.00	114.8 PK			2.70 H	232	113.1	1.7
3	*5825.00	102.9 AV			2.70 H	232	101.2	1.7
4	#5960.59	49.2 PK	68.2	-19.0	2.70 H	232	47.5	1.7
5	11650.00	43.9 PK	74.0	-30.1	2.16 H	220	32.6	11.3
6	11650.00	33.3 AV	54.0	-20.7	2.16 H	220	22.0	11.3
7	#17475.00	44.4 PK	68.2	-23.8	1.85 H	229	25.9	18.5
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	#5627.05	56.4 PK	68.2	-11.8	1.00 V	89	55.4	1.0
2	*5825.00	126.7 PK			1.00 V	89	125.0	1.7
3	*5825.00	116.3 AV			1.00 V	89	114.6	1.7
4	#5927.60	56.8 PK	68.2	-11.4	1.00 V	89	55.3	1.5
5	11650.00	49.1 PK	74.0	-24.9	3.95 V	295	37.8	11.3
6	11650.00	43.1 AV	54.0	-10.9	3.95 V	295	31.8	11.3
7	#17475.00	48.9 PK	68.2	-19.3	3.58 V	196	30.4	18.5

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 (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	5145.30	62.4 PK	74.0	-11.6	3.95 H	359	61.7	0.7
2	5145.30	45.0 AV	54.0	-9.0	3.95 H	359	44.3	0.7
3	*5190.00	109.0 PK			3.95 H	359	108.3	0.7
4	*5190.00	97.8 AV			3.95 H	359	97.1	0.7
5	#10380.00	44.1 PK	68.2	-24.1	1.03 H	321	33.6	10.5
6	15570.00	44.4 PK	74.0	-29.6	1.10 H	342	32.1	12.3
7	15570.00	33.4 AV	54.0	-20.6	1.10 H	342	21.1	12.3
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	5146.20	66.4 PK	74.0	-7.6	3.78 V	261	65.7	0.7
2	5146.20	53.8 AV	54.0	-0.2	3.78 V	261	53.1	0.7
3	*5190.00	118.7 PK			3.78 V	261	118.0	0.7
4	*5190.00	106.4 AV			3.78 V	261	105.7	0.7
5	#10380.00	45.6 PK	68.2	-22.6	1.00 V	112	35.1	10.5
6	15570.00	44.7 PK	74.0	-29.3	1.00 V	174	32.4	12.3
7	15570.00	33.6 AV	54.0	-20.4	1.00 V	174	21.3	12.3

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 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	*5230.00	112.8 PK			2.50 H	198	112.2	0.6
2	*5230.00	101.4 AV			2.50 H	198	100.8	0.6
3	5351.60	52.6 PK	74.0	-21.4	2.50 H	198	52.0	0.6
4	5351.60	39.8 AV	54.0	-14.2	2.50 H	198	39.2	0.6
5	#10460.00	44.2 PK	68.2	-24.0	1.04 H	326	33.5	10.7
6	15690.00	44.8 PK	74.0	-29.2	1.02 H	341	33.4	11.4
7	15690.00	33.5 AV	54.0	-20.5	1.02 H	341	22.1	11.4
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	5149.50	66.9 PK	74.0	-7.1	1.05 V	89	66.2	0.7
2	5149.50	53.6 AV	54.0	-0.4	1.05 V	89	52.9	0.7
3	*5230.00	123.3 PK			1.05 V	89	122.7	0.6
4	*5230.00	114.5 AV			1.05 V	89	113.9	0.6
5	5350.00	59.6 PK	74.0	-14.4	1.05 V	89	59.0	0.6
6	5350.00	45.7 AV	54.0	-8.3	1.05 V	89	45.1	0.6
7	#10460.00	44.8 PK	68.2	-23.4	1.00 V	109	34.1	10.7
8	15690.00	44.1 PK	74.0	-29.9	1.00 V	164	32.7	11.4
9	15690.00	33.4 AV	54.0	-20.6	1.00 V	164	22.0	11.4

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 802.11ax (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	#5644.06	56.4 PK	68.2	-11.8	2.36 H	164	55.3	1.1
2	*5755.00	111.6 PK			2.36 H	164	110.2	1.4
3	*5755.00	99.8 AV			2.36 H	164	98.4	1.4
4	#5929.04	49.0 PK	68.2	-19.2	2.36 H	164	47.4	1.6
5	11510.00	43.9 PK	74.0	-30.1	2.20 H	223	32.3	11.6
6	11510.00	33.4 AV	54.0	-20.6	2.20 H	223	21.8	11.6
7	#17265.00	44.6 PK	68.2	-23.6	1.80 H	227	29.1	15.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.37	67.9 PK	68.2	-0.3	1.26 V	259	66.8	1.1
2	*5755.00	123.0 PK			1.26 V	259	121.6	1.4
3	*5755.00	112.1 AV			1.26 V	259	110.7	1.4
4	#5935.08	54.7 PK	68.2	-13.5	1.26 V	259	53.1	1.6
5	11510.00	44.2 PK	74.0	-29.8	3.89 V	273	32.6	11.6
6	11510.00	33.2 AV	54.0	-20.8	3.89 V	273	21.6	11.6
7	#17265.00	44.8 PK	68.2	-23.4	3.57 V	188	29.3	15.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5573.41	48.9 PK	68.2	-19.3	3.43 H	32	47.9	1.0
2	*5795.00	112.5 PK			3.43 H	32	111.0	1.5
3	*5795.00	100.5 AV			3.43 H	32	99.0	1.5
4	#5927.78	49.8 PK	68.2	-18.4	3.43 H	32	48.3	1.5
5	11590.00	43.9 PK	74.0	-30.1	2.14 H	228	32.4	11.5
6	11590.00	33.3 AV	54.0	-20.7	2.14 H	228	21.8	11.5
7	#17385.00	45.1 PK	68.2	-23.1	1.84 H	234	28.1	17.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.18	59.4 PK	68.3	-8.9	1.00 V	93	58.3	1.1
2	*5795.00	123.8 PK			1.00 V	93	122.3	1.5
3	*5795.00	114.5 AV			1.00 V	93	113.0	1.5
4	#5925.29	63.3 PK	68.2	-4.9	1.00 V	93	61.8	1.5
5	11590.00	44.1 PK	74.0	-29.9	3.88 V	297	32.6	11.5
6	11590.00	33.6 AV	54.0	-20.4	3.88 V	297	22.1	11.5
7	#17385.00	44.9 PK	68.2	-23.3	3.53 V	217	27.9	17.0

Remarks:

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

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	5133.20	56.8 PK	74.0	-17.2	2.35 H	197	56.0	0.8
2	5133.20	43.6 AV	54.0	-10.4	2.35 H	197	42.8	0.8
3	*5210.00	104.0 PK			2.35 H	197	103.3	0.7
4	*5210.00	93.5 AV			2.35 H	197	92.8	0.7
5	5351.60	50.6 PK	74.0	-23.4	2.35 H	197	50.0	0.6
6	5351.60	38.9 AV	54.0	-15.1	2.35 H	197	38.3	0.6
7	#10420.00	46.8 PK	68.2	-21.4	1.08 H	320	36.2	10.6
8	15630.00	44.6 PK	74.0	-29.4	1.06 H	329	32.6	12.0
9	15630.00	33.7 AV	54.0	-20.3	1.06 H	329	21.7	12.0

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	5138.30	65.3 PK	74.0	-8.7	3.98 V	261	64.6	0.7
2	5138.30	53.7 AV	54.0	-0.3	3.98 V	261	53.0	0.7
3	*5210.00	115.0 PK			3.98 V	261	114.3	0.7
4	*5210.00	103.5 AV			3.98 V	261	102.8	0.7
5	5354.20	55.1 PK	74.0	-18.9	3.98 V	261	54.5	0.6
6	5354.20	43.6 AV	54.0	-10.4	3.98 V	261	43.0	0.6
7	#10420.00	44.6 PK	68.2	-23.6	1.09 V	114	34.0	10.6
8	15630.00	45.0 PK	74.0	-29.0	1.00 V	185	33.0	12.0
9	15630.00	33.7 AV	54.0	-20.3	1.00 V	185	21.7	12.0

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 (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	#5647.01	57.3 PK	68.2	-10.9	1.84 H	164	56.2	1.1
2	*5775.00	103.7 PK			1.84 H	164	102.2	1.5
3	*5775.00	93.0 AV			1.84 H	164	91.5	1.5
4	#5989.02	49.8 PK	68.2	-18.4	1.84 H	164	48.1	1.7
5	11550.00	44.3 PK	74.0	-29.7	2.13 H	199	32.7	11.6
6	11550.00	33.6 AV	54.0	-20.4	2.13 H	199	22.0	11.6
7	#17325.00	44.8 PK	68.2	-23.4	1.87 H	224	29.0	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.59	67.8 PK	68.2	-0.4	1.00 V	89	66.7	1.1
2	*5775.00	117.9 PK			1.00 V	89	116.4	1.5
3	*5775.00	109.1 AV			1.00 V	89	107.6	1.5
4	#5925.25	65.8 PK	68.2	-2.4	1.00 V	89	64.3	1.5
5	11550.00	43.7 PK	74.0	-30.3	3.94 V	297	32.1	11.6
6	11550.00	33.1 AV	54.0	-20.9	3.94 V	297	21.5	11.6
7	#17325.00	44.7 PK	68.2	-23.5	3.58 V	190	28.9	15.8

Remarks:

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

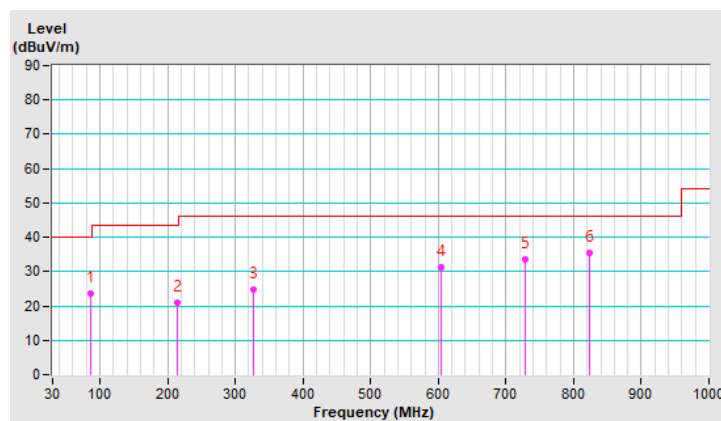
Below 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	9kHz ~ 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	85.94	23.5 QP	40.0	-16.5	2.00 H	47	37.2	-13.7
2	214.03	20.8 QP	43.5	-22.7	3.00 H	94	31.6	-10.8
3	326.89	24.8 QP	46.0	-21.2	2.00 H	280	30.5	-5.7
4	604.46	31.1 QP	46.0	-14.9	4.00 H	321	29.6	1.5
5	728.08	33.7 QP	46.0	-12.3	4.00 H	226	30.3	3.4
6	823.31	35.6 QP	46.0	-10.4	2.00 H	205	30.1	5.5

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.

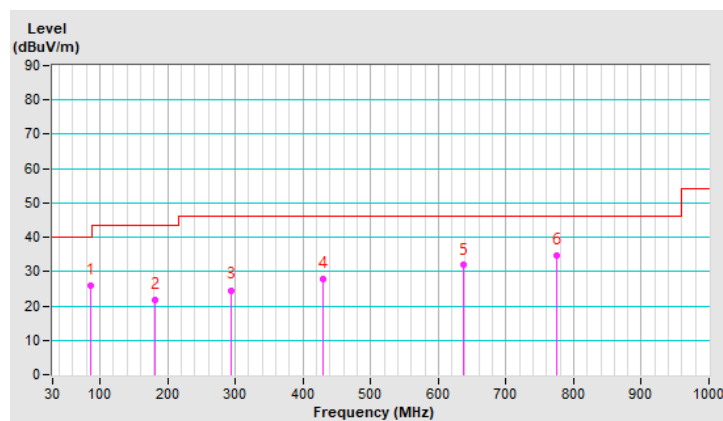


RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	85.92	25.8 QP	40.0	-14.2	2.00 V	26	39.4	-13.6
2	180.42	21.7 QP	43.5	-21.8	2.00 V	119	31.0	-9.3
3	293.09	24.6 QP	46.0	-21.4	3.00 V	154	31.4	-6.8
4	429.42	27.7 QP	46.0	-18.3	4.00 V	359	30.6	-2.9
5	637.73	31.8 QP	46.0	-14.2	3.00 V	152	29.5	2.3
6	774.21	34.7 QP	46.0	-11.3	3.00 V	36	29.9	4.8

Remarks:

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



4.1.8 Test Results (Mode 2)

Above 1GHz Data:

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	57.1 PK	74.0	-16.9	1.64 H	152	56.4	0.7
2	5150.00	49.8 AV	54.0	-4.2	1.64 H	152	49.1	0.7
3	*5180.00	118.3 PK			1.64 H	152	117.6	0.7
4	*5180.00	109.9 AV			1.64 H	152	109.2	0.7
5	#10360.00	46.5 PK	68.2	-21.7	2.09 H	360	36.0	10.5
6	15540.00	45.2 PK	74.0	-28.8	2.04 H	343	33.2	12.0
7	15540.00	34.4 AV	54.0	-19.6	2.04 H	343	22.4	12.0
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	5147.00	61.8 PK	74.0	-12.2	2.60 V	170	61.1	0.7
2	5147.00	53.5 AV	54.0	-0.5	2.60 V	170	52.8	0.7
3	*5180.00	119.2 PK			2.60 V	170	118.5	0.7
4	*5180.00	109.9 AV			2.60 V	170	109.2	0.7
5	#10360.00	47.1 PK	68.2	-21.1	3.05 V	360	36.6	10.5
6	15540.00	45.6 PK	74.0	-28.4	3.06 V	351	33.6	12.0
7	15540.00	35.3 AV	54.0	-18.7	3.06 V	351	23.3	12.0

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 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	5150.00	54.0 PK	74.0	-20.0	1.69 H	160	53.3	0.7
2	5150.00	43.2 AV	54.0	-10.8	1.69 H	160	42.5	0.7
3	*5200.00	121.1 PK			1.69 H	160	120.5	0.6
4	*5200.00	111.8 AV			1.69 H	160	111.2	0.6
5	#10400.00	46.1 PK	68.2	-22.1	2.07 H	360	35.5	10.6
6	15600.00	44.7 PK	74.0	-29.3	2.07 H	349	32.4	12.3
7	15600.00	34.2 AV	54.0	-19.8	2.07 H	349	21.9	12.3
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	61.0 PK	74.0	-13.0	2.31 V	176	60.3	0.7
2	5150.00	48.4 AV	54.0	-5.6	2.31 V	176	47.7	0.7
3	*5200.00	123.3 PK			2.31 V	176	122.7	0.6
4	*5200.00	114.3 AV			2.31 V	176	113.7	0.6
5	5398.87	57.4 PK	74.0	-16.6	2.31 V	176	56.6	0.8
6	5398.87	46.2 AV	54.0	-7.8	2.31 V	176	45.4	0.8
7	#10400.00	47.6 PK	68.2	-20.6	3.02 V	359	37.0	10.6
8	15600.00	45.3 PK	74.0	-28.7	3.02 V	337	33.0	12.3
9	15600.00	34.8 AV	54.0	-19.2	3.02 V	337	22.5	12.3

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 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	121.2 PK			1.70 H	154	120.6	0.6
2	*5240.00	112.2 AV			1.70 H	154	111.6	0.6
3	5434.30	54.5 PK	74.0	-19.5	1.70 H	154	53.6	0.9
4	5434.30	43.6 AV	54.0	-10.4	1.70 H	154	42.7	0.9
5	#10480.00	45.9 PK	68.2	-22.3	2.05 H	360	35.4	10.5
6	15720.00	44.8 PK	74.0	-29.2	2.05 H	349	33.5	11.3
7	15720.00	34.0 AV	54.0	-20.0	2.05 H	349	22.7	11.3
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	5043.50	55.4 PK	74.0	-18.6	2.77 V	168	54.4	1.0
2	5043.50	47.4 AV	54.0	-6.6	2.77 V	168	46.4	1.0
3	*5240.00	124.3 PK			2.77 V	168	123.7	0.6
4	*5240.00	114.1 AV			2.77 V	168	113.5	0.6
5	5426.50	54.1 PK	74.0	-19.9	2.77 V	168	53.2	0.9
6	5426.50	47.0 AV	54.0	-7.0	2.77 V	168	46.1	0.9
7	#10480.00	47.0 PK	68.2	-21.2	2.97 V	360	36.5	10.5
8	15720.00	45.2 PK	74.0	-28.8	3.05 V	341	33.9	11.3
9	15720.00	34.7 AV	54.0	-19.3	3.05 V	341	23.4	11.3

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 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	#5642.76	56.5 PK	68.2	-11.7	1.01 H	159	55.4	1.1
2	*5745.00	120.8 PK			1.01 H	159	119.4	1.4
3	*5745.00	111.3 AV			1.01 H	159	109.9	1.4
4	#5941.65	50.9 PK	68.2	-17.3	1.01 H	159	49.3	1.6
5	11490.00	54.4 PK	74.0	-19.6	3.43 H	348	42.6	11.8
6	11490.00	42.8 AV	54.0	-11.2	3.43 H	348	31.0	11.8
7	#17235.00	50.5 PK	68.2	-17.7	2.08 H	339	35.1	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.86	57.6 PK	68.2	-10.6	1.38 V	175	56.5	1.1
2	*5745.00	123.5 PK			1.38 V	175	122.1	1.4
3	*5745.00	114.8 AV			1.38 V	175	113.4	1.4
4	#5934.60	54.0 PK	68.2	-14.2	1.38 V	175	52.4	1.6
5	11490.00	55.6 PK	74.0	-18.4	2.49 V	19	43.8	11.8
6	11490.00	46.4 AV	54.0	-7.6	2.49 V	19	34.6	11.8
7	#17235.00	51.0 PK	68.2	-17.2	2.70 V	332	35.6	15.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5589.44	54.2 PK	68.2	-14.0	1.24 H	147	53.2	1.0
2	*5785.00	120.7 PK			1.24 H	147	119.2	1.5
3	*5785.00	112.2 AV			1.24 H	147	110.7	1.5
4	#5930.34	50.5 PK	68.2	-17.7	1.24 H	147	48.9	1.6
5	11570.00	54.3 PK	74.0	-19.7	3.48 H	354	42.8	11.5
6	11570.00	42.8 AV	54.0	-11.2	3.48 H	354	31.3	11.5
7	#17355.00	50.3 PK	68.2	-17.9	2.07 H	340	34.0	16.3
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	#5588.45	57.7 PK	68.2	-10.5	1.80 V	178	56.7	1.0
2	*5785.00	124.3 PK			1.80 V	178	122.8	1.5
3	*5785.00	114.2 AV			1.80 V	178	112.7	1.5
4	#5971.69	53.0 PK	68.2	-15.2	1.80 V	178	51.3	1.7
5	11570.00	55.8 PK	74.0	-18.2	2.43 V	7	44.3	11.5
6	11570.00	46.4 AV	54.0	-7.6	2.43 V	7	34.9	11.5
7	#17355.00	50.8 PK	68.2	-17.4	2.74 V	328	34.5	16.3

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 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	#5630.17	54.6 PK	68.2	-13.6	1.41 H	152	53.6	1.0
2	*5825.00	120.7 PK			1.41 H	152	119.0	1.7
3	*5825.00	111.9 AV			1.41 H	152	110.2	1.7
4	#5928.41	51.8 PK	68.2	-16.4	1.41 H	152	50.3	1.5
5	11650.00	55.0 PK	74.0	-19.0	3.47 H	353	43.7	11.3
6	11650.00	43.2 AV	54.0	-10.8	3.47 H	353	31.9	11.3
7	#17475.00	50.3 PK	68.2	-17.9	2.07 H	337	31.8	18.5
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	#5640.25	55.3 PK	68.2	-12.9	1.45 V	174	54.3	1.0
2	*5825.00	123.7 PK			1.45 V	174	122.0	1.7
3	*5825.00	114.1 AV			1.45 V	174	112.4	1.7
4	#5926.91	56.3 PK	68.2	-11.9	1.45 V	174	54.8	1.5
5	11650.00	56.0 PK	74.0	-18.0	2.39 V	9	44.7	11.3
6	11650.00	46.8 AV	54.0	-7.2	2.39 V	9	35.5	11.3
7	#17475.00	51.1 PK	68.2	-17.1	2.72 V	337	32.6	18.5

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 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	60.7 PK	74.0	-13.3	1.42 H	145	60.0	0.7
2	5150.00	48.4 AV	54.0	-5.6	1.42 H	145	47.7	0.7
3	*5180.00	120.2 PK			1.42 H	145	119.5	0.7
4	*5180.00	108.4 AV			1.42 H	145	107.7	0.7
5	#10360.00	46.9 PK	68.2	-21.3	2.05 H	360	36.4	10.5
6	15540.00	45.2 PK	74.0	-28.8	2.10 H	343	33.2	12.0
7	15540.00	34.4 AV	54.0	-19.6	2.10 H	343	22.4	12.0
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	5147.40	69.9 PK	74.0	-4.1	1.55 V	176	69.2	0.7
2	5147.40	53.3 AV	54.0	-0.7	1.55 V	176	52.6	0.7
3	*5180.00	126.4 PK			1.55 V	176	125.7	0.7
4	*5180.00	114.5 AV			1.55 V	176	113.8	0.7
5	#10360.00	47.6 PK	68.2	-20.6	3.09 V	360	37.1	10.5
6	15540.00	45.4 PK	74.0	-28.6	3.02 V	352	33.4	12.0
7	15540.00	35.1 AV	54.0	-18.9	3.02 V	352	23.1	12.0

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 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	5150.00	61.0 PK	74.0	-13.0	1.45 H	161	60.3	0.7
2	5150.00	48.7 AV	54.0	-5.3	1.45 H	161	48.0	0.7
3	*5200.00	120.5 PK			1.45 H	161	119.9	0.6
4	*5200.00	112.0 AV			1.45 H	161	111.4	0.6
5	5350.00	53.6 PK	74.0	-20.4	1.45 H	161	53.0	0.6
6	5350.00	43.4 AV	54.0	-10.6	1.45 H	161	42.8	0.6
7	#10400.00	46.2 PK	68.2	-22.0	2.06 H	360	35.6	10.6
8	15600.00	44.9 PK	74.0	-29.1	2.06 H	352	32.6	12.3
9	15600.00	34.0 AV	54.0	-20.0	2.06 H	352	21.7	12.3
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	5147.00	60.9 PK	74.0	-13.1	1.58 V	178	60.2	0.7
2	5147.00	48.9 AV	54.0	-5.1	1.58 V	178	48.2	0.7
3	*5200.00	125.5 PK			1.58 V	178	124.9	0.6
4	*5200.00	115.0 AV			1.58 V	178	114.4	0.6
5	5397.31	57.0 PK	74.0	-17.0	1.58 V	178	56.2	0.8
6	5397.31	46.3 AV	54.0	-7.7	1.58 V	178	45.5	0.8
7	#10400.00	47.0 PK	68.2	-21.2	2.99 V	360	36.4	10.6
8	15600.00	45.0 PK	74.0	-29.0	3.12 V	360	32.7	12.3
9	15600.00	34.9 AV	54.0	-19.1	3.12 V	360	22.6	12.3

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 (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	121.9 PK			1.55 H	142	121.3	0.6
2	*5240.00	111.0 AV			1.55 H	142	110.4	0.6
3	5436.70	53.0 PK	74.0	-21.0	1.55 H	142	52.1	0.9
4	5436.70	42.9 AV	54.0	-11.1	1.55 H	142	42.0	0.9
5	#10480.00	46.7 PK	68.2	-21.5	2.15 H	360	36.2	10.5
6	15720.00	46.0 PK	74.0	-28.0	2.06 H	346	34.7	11.3
7	15720.00	34.9 AV	54.0	-19.1	2.06 H	346	23.6	11.3
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	5043.10	57.0 PK	74.0	-17.0	2.49 V	180	56.0	1.0
2	5043.10	45.6 AV	54.0	-8.4	2.49 V	180	44.6	1.0
3	*5240.00	126.0 PK			2.49 V	180	125.4	0.6
4	*5240.00	115.0 AV			2.49 V	180	114.4	0.6
5	5426.47	58.5 PK	74.0	-15.5	2.49 V	180	57.6	0.9
6	5426.47	46.3 AV	54.0	-7.7	2.49 V	180	45.4	0.9
7	#10480.00	47.0 PK	68.2	-21.2	3.02 V	360	36.5	10.5
8	15720.00	45.2 PK	74.0	-28.8	3.06 V	355	33.9	11.3
9	15720.00	35.0 AV	54.0	-19.0	3.06 V	355	23.7	11.3

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 (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	#5640.33	55.3 PK	68.2	-12.9	1.31 H	152	54.3	1.0
2	*5745.00	123.7 PK			1.31 H	152	122.3	1.4
3	*5745.00	111.5 AV			1.31 H	152	110.1	1.4
4	#5939.30	52.9 PK	68.2	-15.3	1.31 H	152	51.3	1.6
5	11490.00	44.5 PK	74.0	-29.5	2.98 H	360	32.7	11.8
6	11490.00	33.5 AV	54.0	-20.5	2.98 H	360	21.7	11.8
7	#17235.00	44.8 PK	68.2	-23.4	3.00 H	326	29.4	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.03	58.7 PK	68.2	-9.5	1.64 V	179	57.6	1.1
2	*5745.00	125.6 PK			1.64 V	179	124.2	1.4
3	*5745.00	114.7 AV			1.64 V	179	113.3	1.4
4	#5935.82	53.1 PK	68.2	-15.1	1.64 V	179	51.5	1.6
5	11490.00	44.8 PK	74.0	-29.2	2.90 V	360	33.0	11.8
6	11490.00	33.7 AV	54.0	-20.3	2.90 V	360	21.9	11.8
7	#17235.00	45.8 PK	68.2	-22.4	3.01 V	308	30.4	15.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5599.25	55.5 PK	68.2	-12.7	1.00 H	151	54.4	1.1
2	*5785.00	123.3 PK			1.00 H	151	121.8	1.5
3	*5785.00	111.8 AV			1.00 H	151	110.3	1.5
4	#5926.22	51.0 PK	68.2	-17.2	1.00 H	151	49.5	1.5
5	11570.00	44.6 PK	74.0	-29.4	2.95 H	360	33.1	11.5
6	11570.00	33.5 AV	54.0	-20.5	2.95 H	360	22.0	11.5
7	#17355.00	45.5 PK	68.2	-22.7	3.01 H	312	29.2	16.3
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	#5600.42	57.4 PK	68.2	-10.8	1.53 V	181	56.3	1.1
2	*5785.00	125.7 PK			1.53 V	181	124.2	1.5
3	*5785.00	114.1 AV			1.53 V	181	112.6	1.5
4	#5968.53	53.9 PK	68.2	-14.3	1.53 V	181	52.2	1.7
5	11570.00	45.1 PK	74.0	-28.9	2.95 V	360	33.6	11.5
6	11570.00	34.2 AV	54.0	-19.8	2.95 V	360	22.7	11.5
7	#17355.00	45.2 PK	68.2	-23.0	3.05 V	327	28.9	16.3

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 (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	#5638.53	54.6 PK	68.2	-13.6	1.04 H	155	53.6	1.0
2	*5825.00	122.9 PK			1.04 H	155	121.2	1.7
3	*5825.00	112.0 AV			1.04 H	155	110.3	1.7
4	#5927.86	54.4 PK	68.2	-13.8	1.04 H	155	52.9	1.5
5	11650.00	45.0 PK	74.0	-29.0	2.98 H	356	33.7	11.3
6	11650.00	33.8 AV	54.0	-20.2	2.98 H	356	22.5	11.3
7	#17475.00	46.2 PK	68.2	-22.0	3.00 H	325	27.7	18.5
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	#5627.29	57.1 PK	68.2	-11.1	1.17 V	182	56.1	1.0
2	*5825.00	125.8 PK			1.17 V	182	124.1	1.7
3	*5825.00	114.1 AV			1.17 V	182	112.4	1.7
4	#5930.34	54.3 PK	68.2	-13.9	1.17 V	182	52.7	1.6
5	11650.00	44.1 PK	74.0	-29.9	2.97 V	360	32.8	11.3
6	11650.00	33.3 AV	54.0	-20.7	2.97 V	360	22.0	11.3
7	#17475.00	46.1 PK	68.2	-22.1	2.99 V	309	27.6	18.5

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 (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	56.7 PK	74.0	-17.3	1.38 H	153	56.0	0.7
2	5150.00	47.1 AV	54.0	-6.9	1.38 H	153	46.4	0.7
3	*5190.00	111.7 PK			1.38 H	153	111.0	0.7
4	*5190.00	101.2 AV			1.38 H	153	100.5	0.7
5	#10380.00	46.2 PK	68.2	-22.0	2.20 H	360	35.7	10.5
6	15570.00	46.1 PK	74.0	-27.9	2.07 H	360	33.8	12.3
7	15570.00	35.1 AV	54.0	-18.9	2.07 H	360	22.8	12.3
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	5147.50	61.5 PK	74.0	-12.5	1.69 V	174	60.8	0.7
2	5147.50	53.4 AV	54.0	-0.6	1.69 V	174	52.7	0.7
3	*5190.00	122.1 PK			1.69 V	174	121.4	0.7
4	*5190.00	112.5 AV			1.69 V	174	111.8	0.7
5	#10380.00	47.6 PK	68.2	-20.6	3.06 V	360	37.1	10.5
6	15570.00	45.7 PK	74.0	-28.3	3.03 V	343	33.4	12.3
7	15570.00	35.6 AV	54.0	-18.4	3.03 V	343	23.3	12.3

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 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	5149.40	60.1 PK	74.0	-13.9	1.46 H	145	59.4	0.7
2	5149.40	47.2 AV	54.0	-6.8	1.46 H	145	46.5	0.7
3	*5230.00	118.0 PK			1.46 H	145	117.4	0.6
4	*5230.00	108.5 AV			1.46 H	145	107.9	0.6
5	5355.20	54.7 PK	74.0	-19.3	1.46 H	145	54.1	0.6
6	5355.20	43.3 AV	54.0	-10.7	1.46 H	145	42.7	0.6
7	#10460.00	47.1 PK	68.2	-21.1	2.09 H	356	36.4	10.7
8	15690.00	45.8 PK	74.0	-28.2	2.03 H	341	34.4	11.4
9	15690.00	34.9 AV	54.0	-19.1	2.03 H	341	23.5	11.4
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	5149.70	60.7 PK	74.0	-13.3	2.16 V	183	60.0	0.7
2	5149.70	53.4 AV	54.0	-0.6	2.16 V	183	52.7	0.7
3	*5230.00	121.8 PK			2.16 V	183	121.2	0.6
4	*5230.00	113.5 AV			2.16 V	183	112.9	0.6
5	5350.00	58.5 PK	74.0	-15.5	2.16 V	183	57.9	0.6
6	5350.00	47.2 AV	54.0	-6.8	2.16 V	183	46.6	0.6
7	#10460.00	44.8 PK	68.2	-23.4	2.96 V	356	34.1	10.7
8	15690.00	45.0 PK	74.0	-29.0	3.09 V	327	33.6	11.4
9	15690.00	34.5 AV	54.0	-19.5	3.09 V	327	23.1	11.4

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 802.11ax (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	#5634.74	58.8 PK	68.2	-9.4	1.01 H	160	57.8	1.0
2	*5755.00	120.2 PK			1.01 H	160	118.8	1.4
3	*5755.00	109.5 AV			1.01 H	160	108.1	1.4
4	#5933.46	51.6 PK	68.2	-16.6	1.01 H	160	50.0	1.6
5	11510.00	44.6 PK	74.0	-29.4	2.94 H	360	33.0	11.6
6	11510.00	33.7 AV	54.0	-20.3	2.94 H	360	22.1	11.6
7	#17265.00	45.6 PK	68.2	-22.6	3.04 H	314	30.1	15.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.49	63.0 PK	68.2	-5.2	1.34 V	182	62.0	1.0
2	*5755.00	123.8 PK			1.34 V	182	122.4	1.4
3	*5755.00	114.4 AV			1.34 V	182	113.0	1.4
4	#5948.62	53.8 PK	68.2	-14.4	1.34 V	182	52.2	1.6
5	11510.00	45.2 PK	74.0	-28.8	2.94 V	346	33.6	11.6
6	11510.00	34.0 AV	54.0	-20.0	2.94 V	346	22.4	11.6
7	#17265.00	45.5 PK	68.2	-22.7	3.01 V	318	30.0	15.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5649.89	55.8 PK	68.2	-12.4	1.05 H	147	54.7	1.1
2	*5795.00	120.9 PK			1.05 H	147	119.4	1.5
3	*5795.00	109.9 AV			1.05 H	147	108.4	1.5
4	#5927.02	58.6 PK	68.2	-9.6	1.05 H	147	57.1	1.5
5	11590.00	44.8 PK	74.0	-29.2	2.94 H	359	33.3	11.5
6	11590.00	33.5 AV	54.0	-20.5	2.94 H	359	22.0	11.5
7	#17385.00	46.0 PK	68.2	-22.2	3.03 H	324	29.0	17.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5613.59	58.0 PK	68.2	-10.2	1.44 V	183	57.0	1.0
2	*5795.00	125.1 PK			1.44 V	183	123.6	1.5
3	*5795.00	114.3 AV			1.44 V	183	112.8	1.5
4	#5929.13	61.8 PK	68.2	-6.4	1.44 V	183	60.2	1.6
5	11590.00	44.2 PK	74.0	-29.8	2.91 V	350	32.7	11.5
6	11590.00	33.4 AV	54.0	-20.6	2.91 V	350	21.9	11.5
7	#17385.00	45.9 PK	68.2	-22.3	3.00 V	316	28.9	17.0

Remarks:

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

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	5148.90	54.2 PK	74.0	-19.8	1.46 H	145	53.5	0.7
2	5148.90	44.3 AV	54.0	-9.7	1.46 H	145	43.6	0.7
3	*5210.00	108.2 PK			1.46 H	145	107.5	0.7
4	*5210.00	97.0 AV			1.46 H	145	96.3	0.7
5	5359.00	51.0 PK	74.0	-23.0	1.46 H	145	50.3	0.7
6	5359.00	39.2 AV	54.0	-14.8	1.46 H	145	38.5	0.7
7	#10420.00	45.4 PK	68.2	-22.8	2.25 H	360	34.8	10.6
8	15630.00	46.1 PK	74.0	-27.9	2.01 H	360	34.1	12.0
9	15630.00	35.1 AV	54.0	-18.9	2.01 H	360	23.1	12.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.2 PK	74.0	-11.8	2.19 V	184	61.5	0.7
2	5150.00	53.5 AV	54.0	-0.5	2.19 V	184	52.8	0.7
3	*5210.00	113.0 PK			2.19 V	184	112.3	0.7
4	*5210.00	102.5 AV			2.19 V	184	101.8	0.7
5	5350.00	52.0 PK	74.0	-22.0	2.19 V	184	51.4	0.6
6	5350.00	41.6 AV	54.0	-12.4	2.19 V	184	41.0	0.6
7	#10420.00	47.2 PK	68.2	-21.0	3.03 V	360	36.6	10.6
8	15630.00	45.2 PK	74.0	-28.8	3.00 V	350	33.2	12.0
9	15630.00	35.2 AV	54.0	-18.8	3.00 V	350	23.2	12.0

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 (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	#5650.43	64.2 PK	68.5	-4.3	1.35 H	148	63.1	1.1
2	*5775.00	115.3 PK			1.34 H	148	113.8	1.5
3	*5775.00	104.0 AV			1.34 H	148	102.5	1.5
4	#5933.93	54.2 PK	68.2	-14.0	1.35 H	148	52.6	1.6
5	11550.00	44.0 PK	74.0	-30.0	2.96 H	360	32.4	11.6
6	11550.00	33.1 AV	54.0	-20.9	2.96 H	360	21.5	11.6
7	#17325.00	45.4 PK	68.2	-22.8	2.96 H	323	29.6	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.55	67.6 PK	68.2	-0.6	1.41 V	182	66.6	1.0
2	*5775.00	118.8 PK			1.41 V	182	117.3	1.5
3	*5775.00	108.9 AV			1.41 V	182	107.4	1.5
4	#5935.78	61.8 PK	68.2	-6.4	1.41 V	182	60.2	1.6
5	11550.00	44.7 PK	74.0	-29.3	2.94 V	356	33.1	11.6
6	11550.00	33.7 AV	54.0	-20.3	2.94 V	356	22.1	11.6
7	#17325.00	45.4 PK	68.2	-22.8	3.07 V	323	29.6	15.8

Remarks:

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

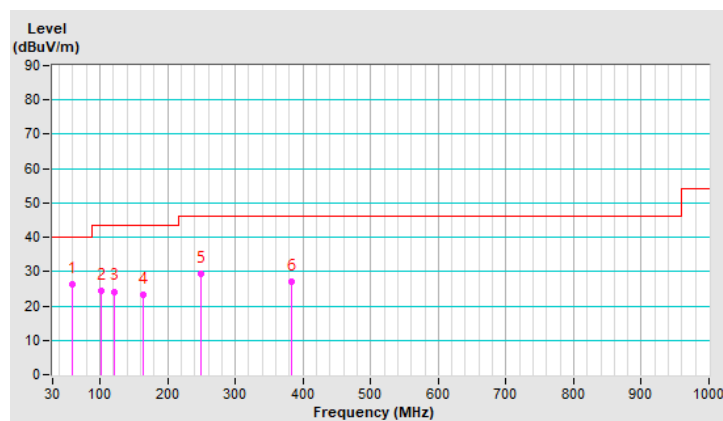
Below 1GHz Data:

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9kHz ~ 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	59.92	26.4 QP	40.0	-13.6	1.00 H	231	34.8	-8.4
2	101.78	24.5 QP	43.5	-19.0	2.00 H	74	36.2	-11.7
3	121.30	24.2 QP	43.5	-19.3	3.00 H	83	33.7	-9.5
4	163.06	23.3 QP	43.5	-20.2	2.00 H	200	30.9	-7.6
5	250.02	29.5 QP	46.0	-16.5	1.00 H	60	38.0	-8.5
6	383.86	27.0 QP	46.0	-19.0	3.00 H	135	31.3	-4.3

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.

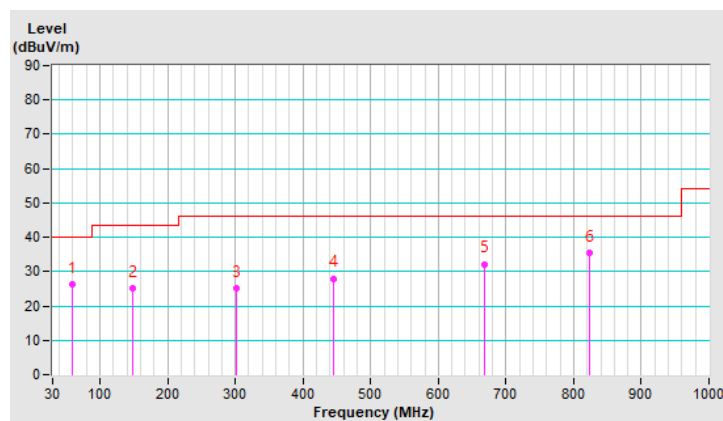


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	59.92	26.4 QP	40.0	-13.6	1.00 V	231	34.8	-8.4
2	149.16	25.2 QP	43.5	-18.3	4.00 V	316	32.8	-7.6
3	301.43	25.1 QP	46.0	-20.9	2.00 V	300	31.5	-6.4
4	444.68	28.0 QP	46.0	-18.0	3.00 V	360	30.4	-2.4
5	669.18	32.2 QP	46.0	-13.8	2.00 V	259	29.8	2.4
6	823.31	35.6 QP	46.0	-10.4	2.00 V	205	30.1	5.5

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: Oct. 12, 2020

4.2.3 Test Procedure

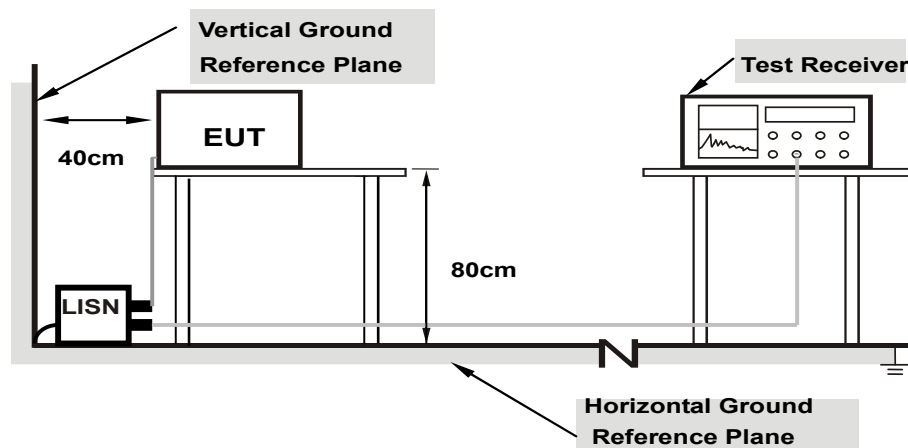
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

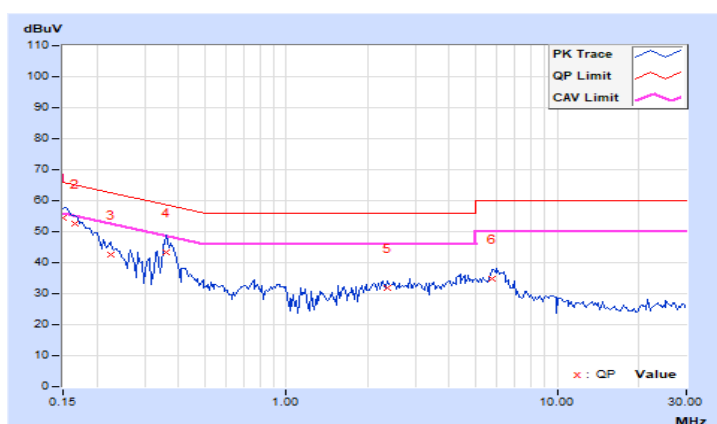
4.2.7 Test Results (Mode 1)

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	9.91	44.59	29.96	54.50	39.87	66.00	56.00	-11.50	-16.13
2	0.16562	9.92	42.62	25.75	52.54	35.67	65.18	55.18	-12.64	-19.51
3	0.22422	9.93	32.59	20.59	42.52	30.52	62.66	52.66	-20.14	-22.14
4	0.36094	9.95	33.55	25.87	43.50	35.82	58.71	48.71	-15.21	-12.89
5	2.35938	10.05	21.81	17.05	31.86	27.10	56.00	46.00	-24.14	-18.90
6	5.74219	10.21	24.66	20.21	34.87	30.42	60.00	50.00	-25.13	-19.58

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

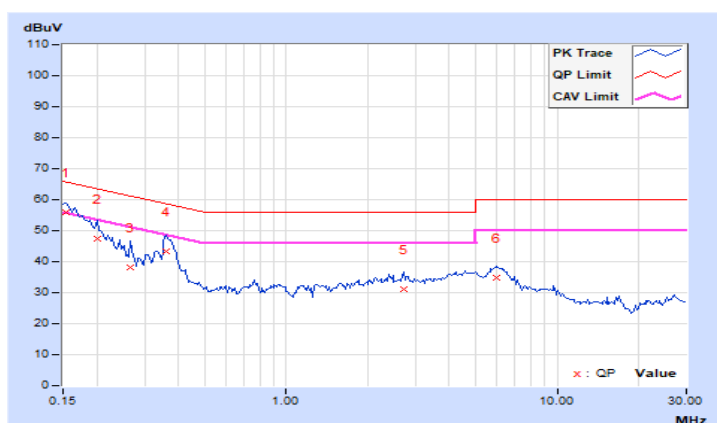


RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.15391	9.91	45.86	29.93	55.77	39.84	65.79	55.79	-10.02	-15.95
2	0.20078	9.93	37.65	21.99	47.58	31.92	63.58	53.58	-16.00	-21.66
3	0.26719	9.94	28.20	19.99	38.14	29.93	61.20	51.20	-23.06	-21.27
4	0.36094	9.95	33.52	25.61	43.47	35.56	58.71	48.71	-15.24	-13.15
5	2.71875	10.05	21.16	16.48	31.21	26.53	56.00	46.00	-24.79	-19.47
6	5.97656	10.18	24.70	20.35	34.88	30.53	60.00	50.00	-25.12	-19.47

Remarks:

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



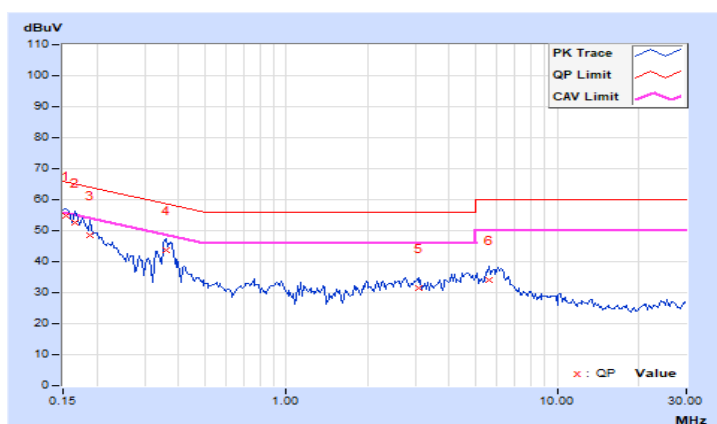
4.2.8 Test Results (Mode 2)

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.15391	9.91	45.05	29.23	54.96	39.14	65.79	55.79	-10.83	-16.65
2	0.16562	9.92	42.62	26.07	52.54	35.99	65.18	55.18	-12.64	-19.19
3	0.18906	9.93	38.44	22.70	48.37	32.63	64.08	54.08	-15.71	-21.45
4	0.36094	9.95	33.64	26.04	43.59	35.99	58.71	48.71	-15.12	-12.72
5	3.07031	10.08	21.53	16.20	31.61	26.28	56.00	46.00	-24.39	-19.72
6	5.61719	10.21	23.75	19.25	33.96	29.46	60.00	50.00	-26.04	-20.54

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

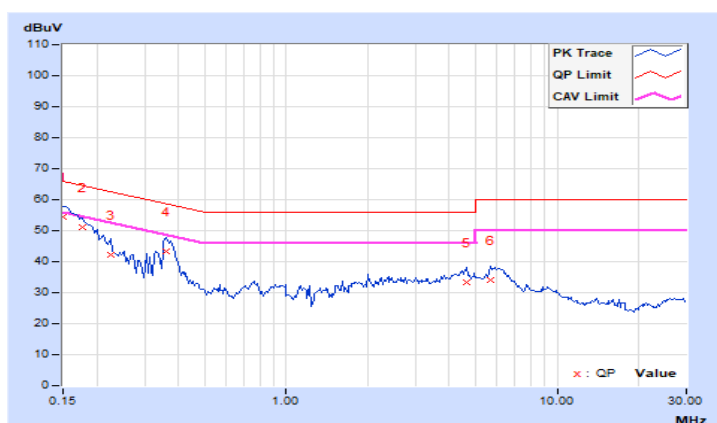


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	9.91	44.71	30.02	54.62	39.93	66.00	56.00	-11.38	-16.07
2	0.17734	9.92	41.28	24.88	51.20	34.80	64.61	54.61	-13.41	-19.81
3	0.22422	9.93	32.22	19.70	42.15	29.63	62.66	52.66	-20.51	-23.03
4	0.36094	9.95	33.28	24.63	43.23	34.58	58.71	48.71	-15.48	-14.13
5	4.63281	10.13	23.12	18.40	33.25	28.53	56.00	46.00	-22.75	-17.47
6	5.67188	10.17	23.96	19.32	34.13	29.49	60.00	50.00	-25.87	-20.51

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

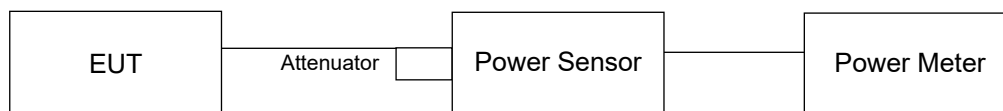
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

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

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

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results (Mode 1)

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	7.95	8.46	8.20	8.45	26.857	14.29	29.50	Pass
40	5200	8.01	8.47	8.11	8.92	27.625	14.41	29.50	Pass
48	5240	7.76	7.78	7.81	8.48	25.055	13.99	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30 - (6.5 - 6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.29	6.5	119.95	20.79	21	Pass
40	5200	14.41	6.5	123.31	20.91	21	Pass
48	5240	13.99	6.5	111.944	20.49	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125 mW(21 dBm) to compliance.

802.11ac (VHT20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	7.95	8.33	8.02	8.48	26.431	14.22	29.50	Pass
40	5200	7.93	8.16	8.09	8.40	26.115	14.17	29.50	Pass
48	5240	7.56	7.71	7.81	8.16	24.19	13.84	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30 - (6.5 - 6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.22	6.5	118.03	20.72	21	Pass
40	5200	14.17	6.5	116.681	20.67	21	Pass
48	5240	13.84	6.5	108.143	20.34	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125 mW(21 dBm) to compliance.

802.11ac (VHT40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	7.57	7.76	7.91	8.06	24.263	13.85	29.50	Pass
46	5230	7.72	7.85	7.69	8.38	24.772	13.94	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30 - (6.5 - 6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	13.85	6.5	108.39	20.35	21	Pass
46	5230	13.94	6.5	110.662	20.44	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125 mW(21 dBm) to compliance.

802.11ac (VHT80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	7.80	7.97	7.85	8.69	25.783	14.11	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30 - (6.5 - 6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.11	6.5	115.08	20.61	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125 mW(21 dBm) to compliance.

802.11ax (HE20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.17	8.55	8.25	8.76	27.923	14.46	29.50	Pass
40	5200	8.16	8.42	8.34	8.61	27.581	14.41	29.50	Pass
48	5240	7.86	7.93	8.04	8.45	25.684	14.10	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.46	6.5	124.74	20.96	21	Pass
40	5200	14.41	6.5	123.31	20.91	21	Pass
48	5240	14.10	6.5	114.815	20.60	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ax (HE40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	7.86	8.05	8.11	8.35	25.803	14.12	29.50	Pass
46	5230	7.92	8.14	7.91	8.66	26.236	14.19	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	14.12	6.5	115.35	20.62	21	Pass
46	5230	14.19	6.5	117.22	20.69	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ax (HE80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	8.01	8.20	8.08	8.93	27.174	14.34	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30 - (6.5 - 6) = 29.5$ dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.34	6.5	121.34	20.84	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

Beamforming Mode

802.11ac (VHT20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	1.96	1.48	0.98	3.13	6.285	7.98	23.48	Pass
40	5200	1.54	1.39	0.85	3.09	6.056	7.82	23.48	Pass
48	5240	1.79	1.61	0.88	3.05	6.202	7.93	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	7.98	12.52	112.20	20.50	21	Pass
40	5200	7.82	12.52	108.143	20.34	21	Pass
48	5240	7.93	12.52	110.917	20.45	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ac (VHT40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	2.15	1.82	1.25	3.34	6.652	8.23	23.48	Pass
46	5230	1.93	2.02	1.19	3.45	6.68	8.25	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	8.23	12.52	118.85	20.75	21	Pass
46	5230	8.25	12.52	119.399	20.77	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ac (VHT80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	1.87	1.58	1.14	3.43	6.48	8.12	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	8.12	12.52	115.88	20.64	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ax (HE20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.18	1.76	1.20	3.34	6.628	8.21	23.48	Pass
40	5200	1.75	1.67	1.07	3.29	6.378	8.05	23.48	Pass
48	5240	2.00	1.89	1.09	3.34	6.573	8.18	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	8.21	12.52	118.30	20.73	21	Pass
40	5200	8.05	12.52	114.025	20.57	21	Pass
48	5240	8.18	12.52	117.49	20.70	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ax (HE40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	2.35	2.02	1.55	3.60	7.03	8.47	23.48	Pass
46	5230	2.14	2.24	1.39	3.66	7.012	8.46	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (12.52 - 6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	8.47	12.52	125.60	20.99	21	Pass
46	5230	8.46	12.52	125.314	20.98	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

802.11ax (HE80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	2.07	1.86	1.34	3.71	6.856	8.36	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (12.52 - 6) = 23.48 \text{ dBm}$.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	8.36	12.52	122.46	20.88	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq 125\text{mW}(21 \text{ dBm})$ to compliance.

For U-NII-1 Band (Indoor mode) & U-NII-3 Band

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.14	16.95	17.12	17.26	206.039	23.14	29.50	Pass
40	5200	17.02	16.89	17.09	17.19	202.744	23.07	29.50	Pass
48	5240	17.11	16.94	17.03	17.28	204.758	23.11	29.50	Pass
149	5745	23.27	22.89	23.40	23.01	825.623	29.17	29.50	Pass
157	5785	22.63	22.78	23.50	23.01	796.76	29.01	29.50	Pass
165	5825	22.69	22.51	22.68	22.72	736.44	28.67	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.59	16.69	16.88	16.90	190	22.79	29.50	Pass
40	5200	16.74	16.71	16.85	17.19	194.865	22.90	29.50	Pass
48	5240	16.78	17.02	16.74	17.30	198.903	22.99	29.50	Pass
149	5745	22.56	22.09	22.73	22.88	723.698	28.60	29.50	Pass
157	5785	22.29	21.91	22.75	22.93	709.373	28.51	29.50	Pass
165	5825	22.04	22.17	21.96	22.81	672.794	28.28	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	19.20	18.93	19.50	19.48	339.18	25.30	29.50	Pass
46	5230	20.09	20.45	20.41	20.27	429.326	26.33	29.50	Pass
151	5755	22.63	22.45	23.22	22.41	743.098	28.71	29.50	Pass
159	5795	22.47	22.56	23.25	22.46	744.452	28.72	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	18.41	18.32	18.29	18.48	275.185	24.40	29.50	Pass
155	5775	20.40	20.25	21.06	20.41	453.118	26.56	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.89	16.99	17.18	17.10	202.394	23.06	29.50	Pass
40	5200	17.01	16.91	17.15	17.48	207.181	23.16	29.50	Pass
48	5240	17.03	17.22	17.03	17.50	209.889	23.22	29.50	Pass
149	5745	22.77	22.30	22.93	23.09	759.099	28.80	29.50	Pass
157	5785	22.50	22.11	23.00	23.13	745.498	28.72	29.50	Pass
165	5825	22.34	22.37	22.17	23.01	708.782	28.51	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	19.41	19.13	19.76	19.69	356.878	25.53	29.50	Pass
46	5230	20.37	20.66	20.62	20.57	454.676	26.58	29.50	Pass
151	5755	22.83	22.71	23.52	22.61	785.8	28.95	29.50	Pass
159	5795	22.74	22.83	23.46	22.76	790.417	28.98	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	18.61	18.62	18.49	18.78	291.53	24.65	29.50	Pass
155	5775	20.91	20.77	21.50	20.85	505.582	27.04	29.50	Pass

Note: The max. gain = 6.5 dBi > 6 dBi, so the power limit shall be reduced to $30-(6.5-6) = 29.5$ dBm.

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.59	16.69	16.88	16.90	190	22.79	23.48	Pass
40	5200	16.74	16.71	16.85	17.19	194.865	22.90	23.48	Pass
48	5240	16.78	17.02	16.74	17.30	198.903	22.99	23.48	Pass
149	5745	16.78	16.71	16.95	17.07	195.003	22.90	23.48	Pass
157	5785	16.48	16.74	16.82	17.24	192.72	22.85	23.48	Pass
165	5825	16.73	16.89	16.86	16.75	191.807	22.83	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (12.52 - 6) = 23.48 \text{ dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.54	16.52	16.37	16.75	180.622	22.57	23.48	Pass
46	5230	16.66	16.34	16.22	16.82	179.361	22.54	23.48	Pass
151	5755	16.85	16.93	17.18	16.89	198.839	22.99	23.48	Pass
159	5795	16.87	16.91	17.10	17.24	201.984	23.05	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (12.52 - 6) = 23.48 \text{ dBm}$.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	16.54	16.65	17.01	16.81	189.527	22.78	23.48	Pass
155	5775	16.72	17.04	17.19	17.23	202.776	23.07	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (12.52 - 6) = 23.48 \text{ dBm}$.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	16.89	16.99	17.18	17.10	202.394	23.06	23.48	Pass
40	5200	17.01	16.91	17.15	17.48	207.181	23.16	23.48	Pass
48	5240	17.03	17.22	17.03	17.50	209.889	23.22	23.48	Pass
149	5745	17.03	17.14	17.47	17.57	215.222	23.33	23.48	Pass
157	5785	16.72	16.98	17.07	17.49	203.916	23.09	23.48	Pass
165	5825	17.02	17.10	17.10	17.07	203.855	23.09	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.81	16.75	16.66	17.02	191.983	22.83	23.48	Pass
46	5230	16.93	16.58	16.48	17.03	189.745	22.78	23.48	Pass
151	5755	17.11	17.19	17.44	17.11	210.631	23.24	23.48	Pass
159	5795	17.13	17.12	17.39	17.48	213.968	23.30	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	16.82	16.90	17.23	17.09	201.075	23.03	23.48	Pass
155	5775	16.99	17.28	17.44	17.50	215.157	23.33	23.48	Pass

Note: The directional gain = $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.

4.3.8 Test Results (Mode 2)

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.77	8.94	8.31	9.36	30.774	14.88	30.00	Pass
40	5200	8.63	8.52	8.69	8.76	29.319	14.67	30.00	Pass
48	5240	8.69	8.88	8.73	9.38	31.257	14.95	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.88	6	122.46	20.88	21	Pass
40	5200	14.67	6	116.681	20.67	21	Pass
48	5240	14.95	6	124.451	20.95	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ac (VHT20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.07	8.25	8.45	8.56	27.272	14.36	30.00	Pass
40	5200	8.45	8.64	8.41	8.49	28.307	14.52	30.00	Pass
48	5240	8.46	8.56	7.92	9.08	28.478	14.55	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.36	6	108.64	20.36	21	Pass
40	5200	14.52	6	112.72	20.52	21	Pass
48	5240	14.55	6	113.501	20.55	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ac (VHT40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	7.57	7.76	7.91	8.06	24.263	13.85	30.00	Pass
46	5230	7.72	7.85	7.69	8.38	24.772	13.94	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	13.85	6	96.61	19.85	21	Pass
46	5230	13.94	6	98.628	19.94	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ac (VHT80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	8.65	8.59	8.39	9.11	29.605	14.71	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.71	6	117.76	20.71	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ax (HE20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.36	8.47	8.70	8.80	28.884	14.61	30.00	Pass
40	5200	8.68	8.88	8.68	8.75	29.984	14.77	30.00	Pass
48	5240	8.71	8.79	8.15	9.37	30.18	14.80	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	14.61	6	115.08	20.61	21	Pass
40	5200	14.77	6	119.399	20.77	21	Pass
48	5240	14.80	6	120.226	20.80	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ax (HE40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	7.86	8.05	8.11	8.35	25.803	14.12	30.00	Pass
46	5230	7.92	8.14	7.91	8.66	26.236	14.19	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	14.12	6	102.80	20.12	21	Pass
46	5230	14.19	6	104.472	20.19	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

802.11ax (HE80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	8.91	8.81	8.68	9.39	31.452	14.98	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.98	6	125.31	20.98	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p $\leq$ 125mW(21 dBm) to compliance.

Beamforming Mode

802.11ac (VHT20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.33	2.01	1.35	3.79	7.056	8.49	23.98	Pass
40	5200	2.05	1.93	1.18	3.45	6.688	8.25	23.98	Pass
48	5240	2.10	2.02	1.27	3.61	6.85	8.36	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	8.49	12.02	112.46	20.51	21	Pass
40	5200	8.25	12.02	106.414	20.27	21	Pass
48	5240	8.36	12.02	109.144	20.38	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

802.11ac (VHT40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	2.48	2.16	1.58	4.08	7.412	8.70	23.98	Pass
46	5230	2.35	2.17	1.47	3.89	7.218	8.58	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	8.70	12.02	118.03	20.72	21	Pass
46	5230	8.58	12.02	114.815	20.60	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

802.11ac (VHT80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	2.29	2.06	1.53	4.02	7.247	8.60	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	8.60	12.02	115.35	20.62	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

802.11ax (HE20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.55	2.22	1.61	4.07	7.468	8.73	23.98	Pass
40	5200	2.28	2.15	1.45	3.74	7.093	8.51	23.98	Pass
48	5240	2.33	2.24	1.48	3.83	7.206	8.58	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	8.73	12.02	118.85	20.75	21	Pass
40	5200	8.51	12.02	112.98	20.53	21	Pass
48	5240	8.58	12.02	114.815	20.60	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

802.11ax (HE40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	2.78	2.36	1.85	4.36	7.879	8.96	23.98	Pass
46	5230	2.65	2.47	1.74	4.10	7.67	8.85	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	8.96	12.02	125.31	20.98	21	Pass
46	5230	8.85	12.02	122.18	20.87	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

802.11ax (HE80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	2.50	2.35	1.83	4.23	7.669	8.85	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	8.85	12.02	122.18	20.87	21	Pass

*For device is outdoor access point and antenna at any elevation angle above 30 degrees as measured from the horizon, therefore Max. e.i.r.p ≤ 125mW(21 dBm) to compliance.

For U-NII-1 Band (Indoor mode) & U-NII-3 Band

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.63	17.75	18.02	17.93	242.983	23.86	30.00	Pass
40	5200	17.21	17.30	17.65	17.74	223.944	23.50	30.00	Pass
48	5240	17.35	17.52	17.28	17.95	226.649	23.55	30.00	Pass
149	5745	23.27	22.89	23.40	23.01	825.623	29.17	30.00	Pass
157	5785	22.63	22.78	23.50	23.01	796.76	29.01	30.00	Pass
165	5825	22.69	22.51	22.68	22.72	736.44	28.67	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.24	17.72	17.76	17.95	234.2	23.70	30.00	Pass
40	5200	17.37	17.61	17.58	18.04	233.212	23.68	30.00	Pass
48	5240	17.58	17.96	17.53	18.10	240.986	23.82	30.00	Pass
149	5745	22.56	22.09	22.73	22.88	723.698	28.60	30.00	Pass
157	5785	22.29	21.91	22.75	22.93	709.373	28.51	30.00	Pass
165	5825	22.04	22.17	21.96	22.81	672.794	28.28	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.54	16.52	16.37	16.75	180.622	22.57	30.00	Pass
46	5230	19.82	19.71	21.27	21.20	455.274	26.58	30.00	Pass
151	5755	22.96	22.84	24.45	23.37	885.888	29.47	30.00	Pass
159	5795	22.80	23.16	24.32	23.52	892.862	29.51	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.01	12.03	12.28	13.79	72.682	18.61	30.00	Pass
155	5775	20.61	20.47	21.30	20.62	476.751	26.78	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.54	17.92	18.04	18.18	248.144	23.95	30.00	Pass
40	5200	17.57	17.91	17.88	18.26	247.314	23.93	30.00	Pass
48	5240	17.87	18.18	17.83	18.30	255.283	24.07	30.00	Pass
149	5745	22.77	22.30	22.93	23.09	759.099	28.80	30.00	Pass
157	5785	22.50	22.11	23.00	23.13	745.498	28.72	30.00	Pass
165	5825	22.34	22.37	22.17	23.01	708.782	28.51	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.81	16.75	16.66	17.02	191.983	22.83	30.00	Pass
46	5230	20.02	20.01	21.49	21.49	482.55	26.84	30.00	Pass
151	5755	23.16	23.14	24.74	23.59	939.489	29.73	30.00	Pass
159	5795	23.00	23.36	24.62	23.81	946.467	29.76	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.21	12.23	13.58	14.08	81.73	19.12	30.00	Pass
155	5775	20.91	20.77	21.50	20.85	505.582	27.04	30.00	Pass

Note: The max. gain = 6 dBi, so the power limit shall not be reduced.

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.24	17.72	17.76	17.95	234.2	23.70	23.98	Pass
40	5200	17.37	17.61	17.58	18.04	233.212	23.68	23.98	Pass
48	5240	16.78	17.02	16.74	17.30	198.903	22.99	23.98	Pass
149	5745	16.78	16.71	16.95	17.07	195.003	22.90	23.98	Pass
157	5785	17.17	17.29	17.11	17.53	213.727	23.30	23.98	Pass
165	5825	17.18	17.56	17.04	17.48	215.814	23.34	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.54	16.52	16.37	16.75	180.622	22.57	23.98	Pass
46	5230	17.58	17.14	17.35	17.91	225.167	23.53	23.98	Pass
151	5755	17.36	17.25	17.74	17.41	222.049	23.46	23.98	Pass
159	5795	17.39	17.36	17.70	17.72	227.318	23.57	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.01	12.03	12.28	13.79	72.682	18.61	23.98	Pass
155	5775	17.27	17.46	17.55	17.54	222.692	23.48	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	17.54	17.92	18.04	18.18	248.144	23.95	23.98	Pass
40	5200	17.57	17.91	17.88	18.26	247.314	23.93	23.98	Pass
48	5240	17.03	17.22	17.03	17.50	209.889	23.22	23.98	Pass
149	5745	17.03	17.14	17.47	17.57	215.222	23.33	23.98	Pass
157	5785	17.40	17.57	17.36	17.75	226.118	23.54	23.98	Pass
165	5825	17.44	17.78	17.33	17.75	229.083	23.60	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.81	16.75	16.66	17.02	191.983	22.83	23.98	Pass
46	5230	17.85	17.41	17.53	18.12	237.522	23.76	23.98	Pass
151	5755	17.65	17.54	17.96	17.64	235.558	23.72	23.98	Pass
159	5795	17.77	17.65	17.91	17.96	242.37	23.84	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 dBm.

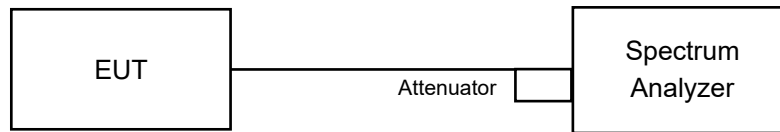
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.21	12.23	13.58	14.08	81.73	19.12	23.98	Pass
155	5775	17.55	17.75	17.79	17.77	236.41	23.74	23.98	Pass

Note: The directional gain = 6 dBi + 10log(4) = 12.02 dBi > 6dBi, so the power limit shall be reduced to 30-(12.02-6) = 23.98 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 SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Test Results (Mode 1)

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Channel	Frequency (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	16.56	16.44
48	5240	16.56	16.44	16.44	16.44

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	18.96	18.96	18.96
40	5200	18.96	18.96	18.96	18.96
48	5240	18.96	18.96	18.96	18.96

802.11ax (HE40)

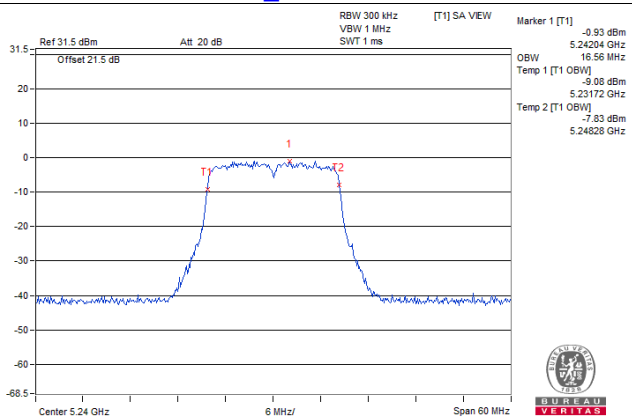
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	37.92	37.92	38.16
46	5230	37.92	37.92	37.92	38.40

802.11ax (HE80)

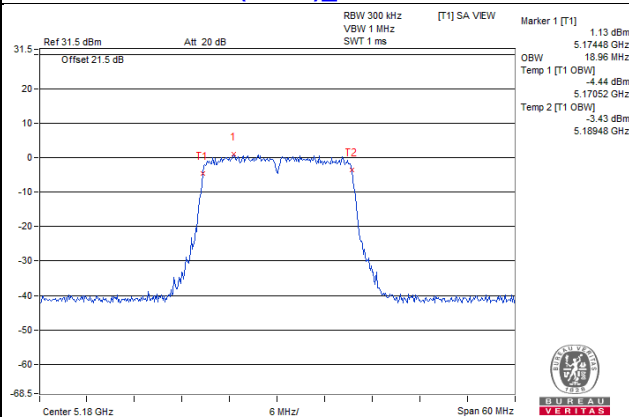
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.28	77.28	77.28	77.28

Spectrum Plot of Worst Value

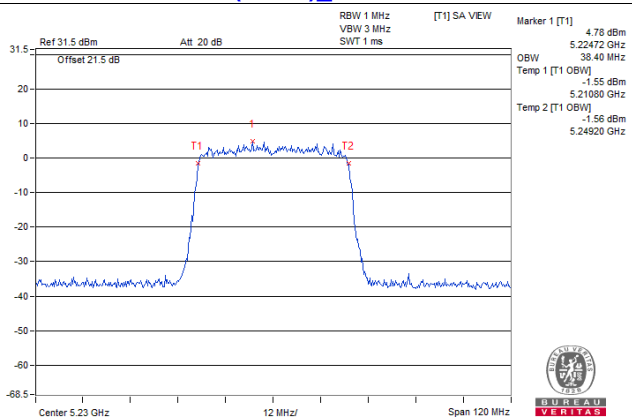
802.11a_Chain 0 / CH48



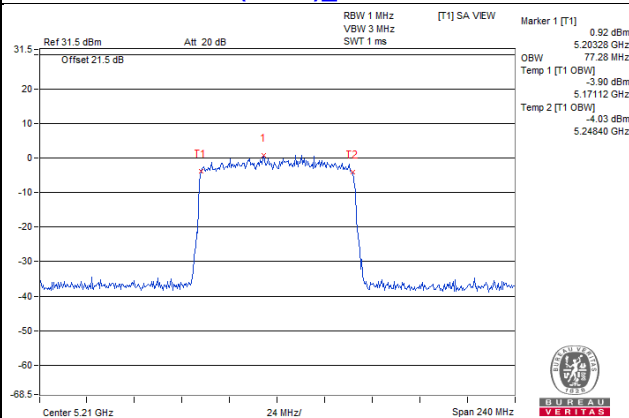
802.11ax (HE20)_Chain 0 / CH36



802.11ax (HE40)_Chain 3 / CH46

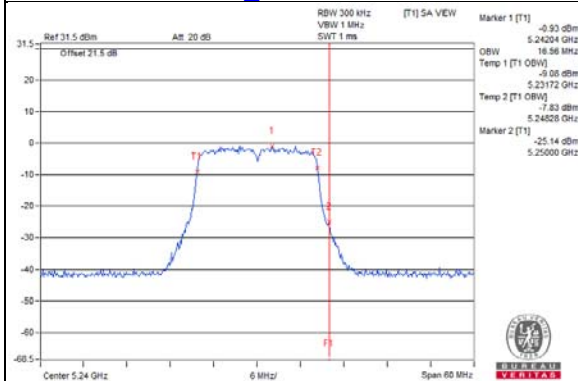


802.11ax (HE80)_Chain 0 / CH42

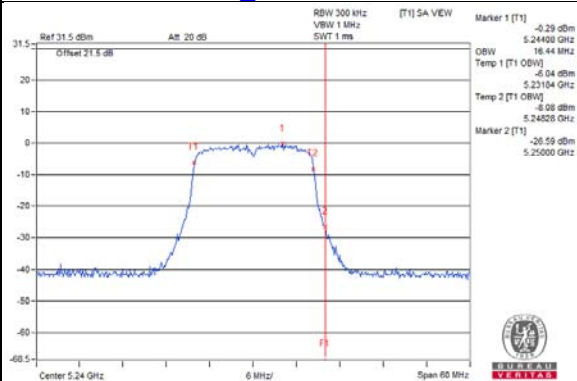


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

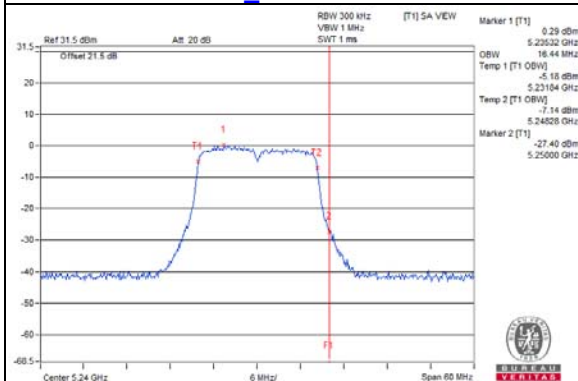
802.11a_Chain 0 / CH48



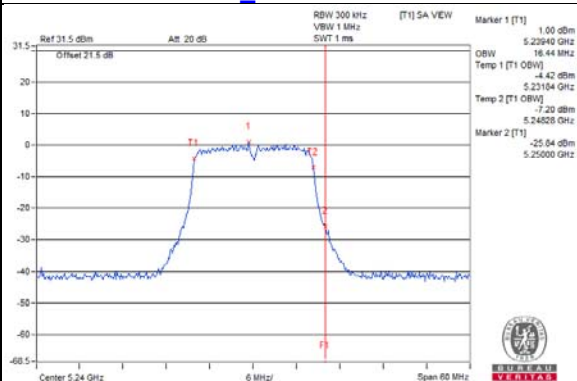
802.11a_Chain 1 / CH48



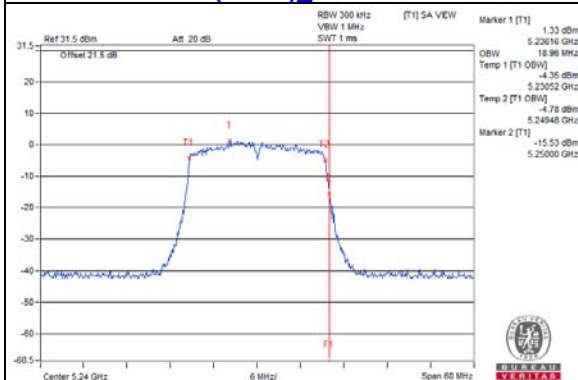
802.11a_Chain 2 / CH48



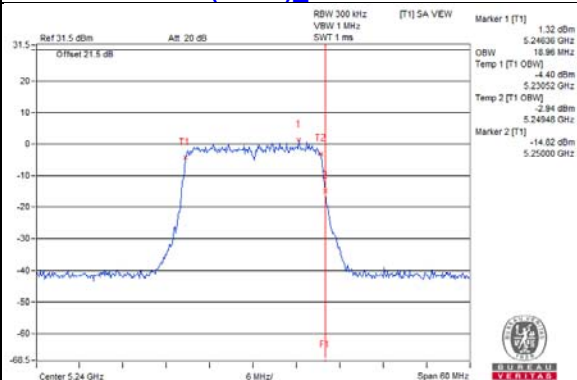
802.11a_Chain 3 / CH48



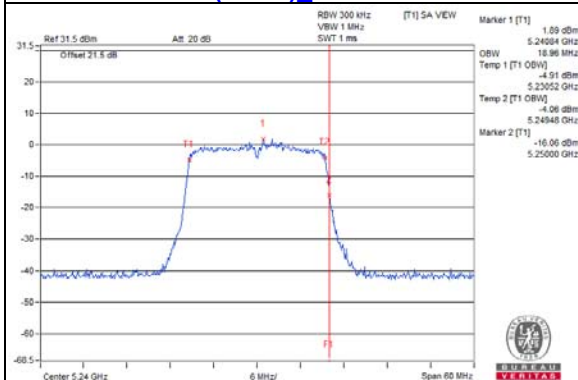
802.11ax (HE20)_Chain 0 / CH48



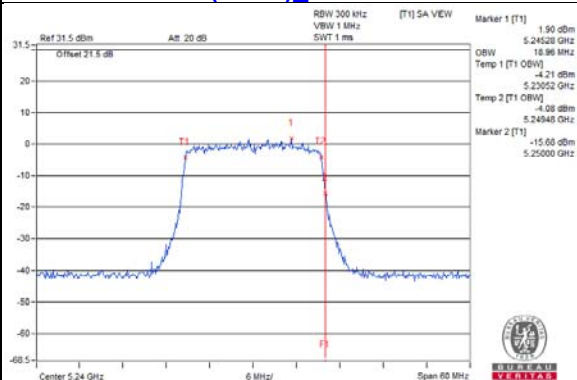
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

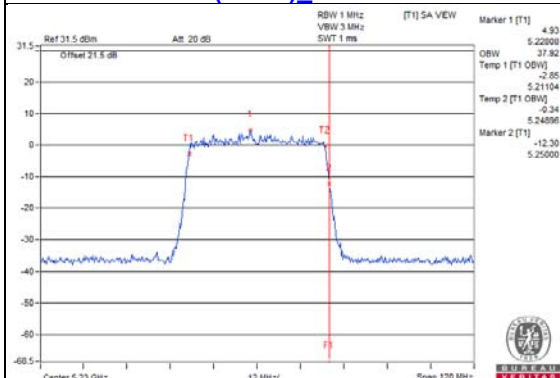


802.11ax (HE20)_Chain 3 / CH48

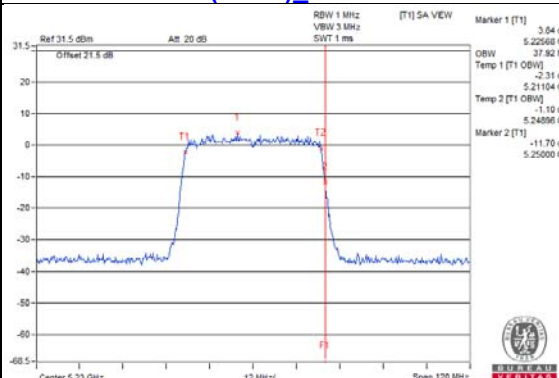


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

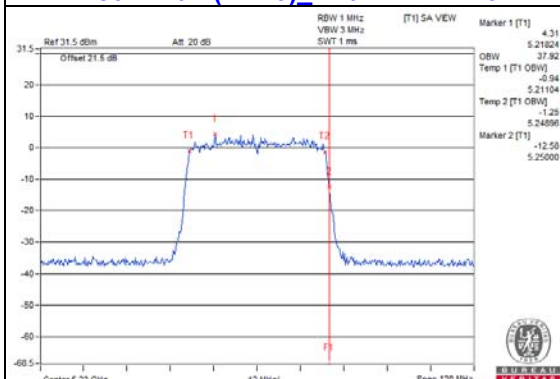
802.11ax (HE40)_Chain 0 / CH46



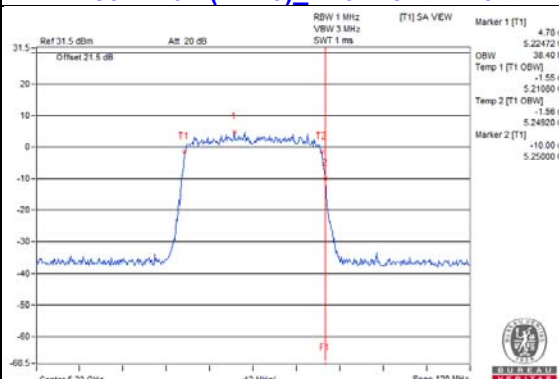
802.11ax (HE40)_Chain 1 / CH46



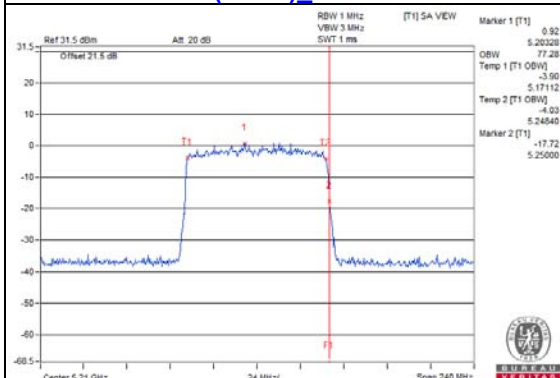
802.11ax (HE40)_Chain 2 / CH46



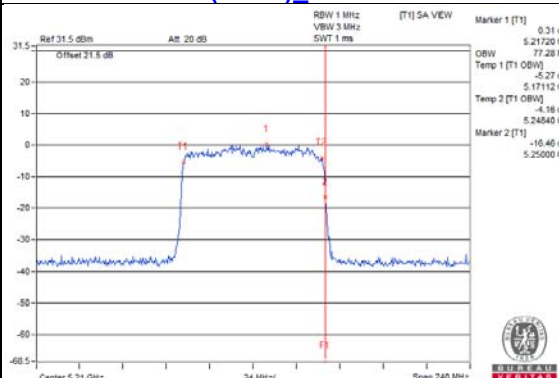
802.11ax (HE40)_Chain 3 / CH46



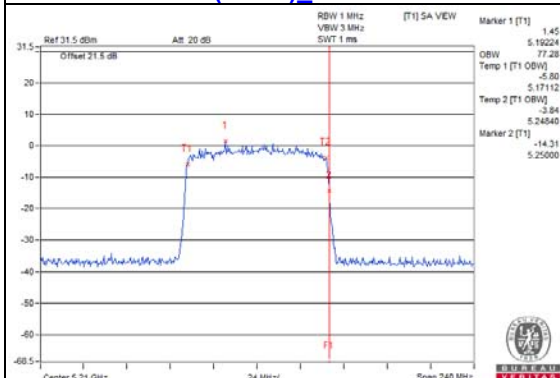
802.11ax (HE80)_Chain 0 / CH42



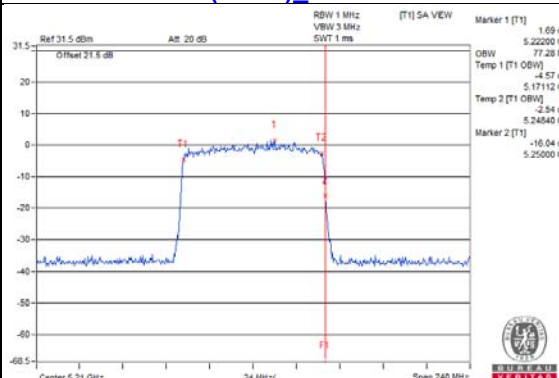
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42



802.11ax (HE80)_Chain 3 / CH42



For U-NII-1 Band (Indoor mode) & U-NII-3 Band

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.44	16.32	16.44	16.44
40	5200	16.44	16.32	16.44	16.44
48	5240	16.44	16.44	16.44	16.44
149	5745	16.56	16.56	16.68	16.56
157	5785	16.56	16.56	16.68	16.56
165	5825	16.56	16.8	16.56	16.56

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	18.96	18.96	18.96
40	5200	18.96	18.96	18.96	18.96
48	5240	18.96	18.96	18.96	18.96
149	5745	18.96	18.96	19.08	18.96
157	5785	18.96	18.96	19.08	18.96
165	5825	18.96	19.2	18.96	18.96

802.11ax (HE40)

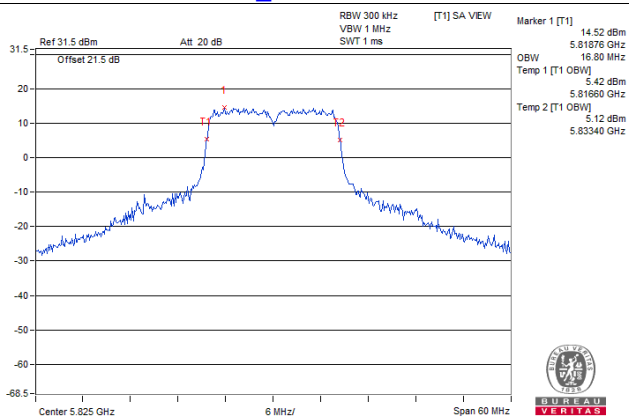
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	38.16	37.92	38.16	37.92
46	5230	38.64	37.92	38.16	37.92
151	5755	38.16	37.92	38.4	37.92
159	5795	38.16	38.4	38.4	38.16

802.11ax (HE80)

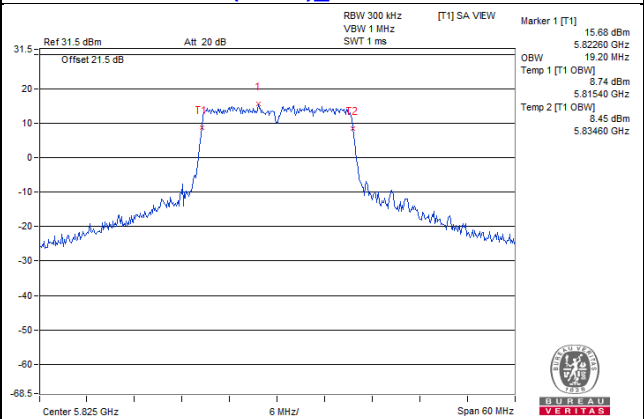
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	76.8	77.28	76.8	77.76
155	5775	77.28	77.28	77.28	76.8

Spectrum Plot of Worst Value

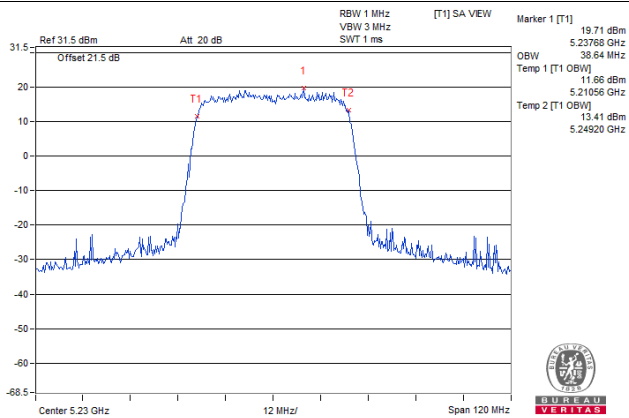
802.11a_Chain 1 / CH165



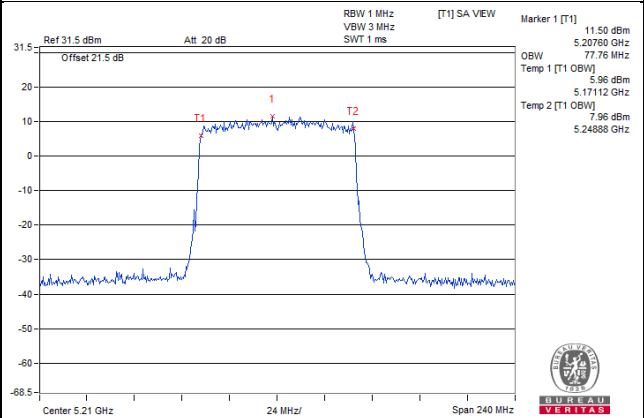
802.11ax (HE20)_Chain 1 / CH165



802.11ax (HE40)_Chain 0 / CH46

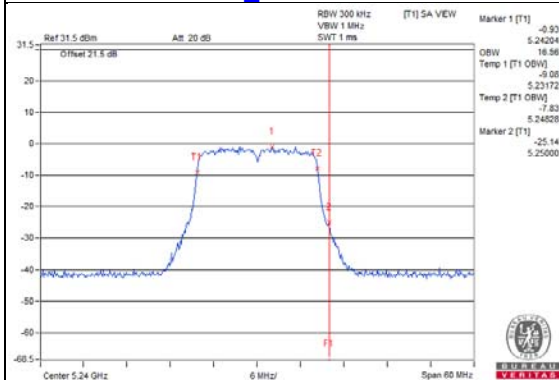


802.11ax (HE80)_Chain 3 / CH42

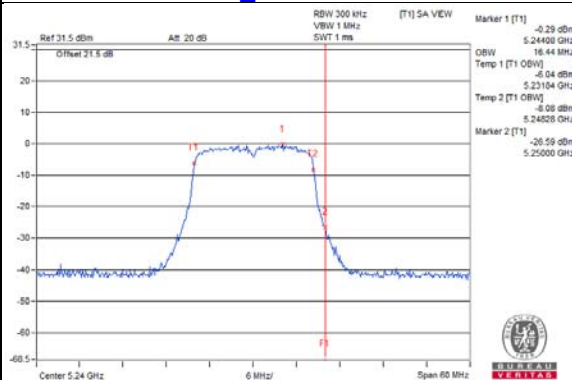


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

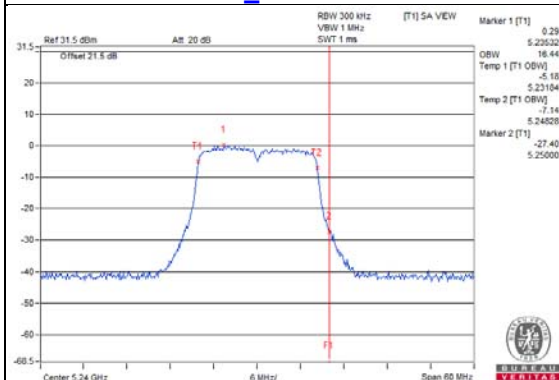
802.11a_Chain 0 / CH48



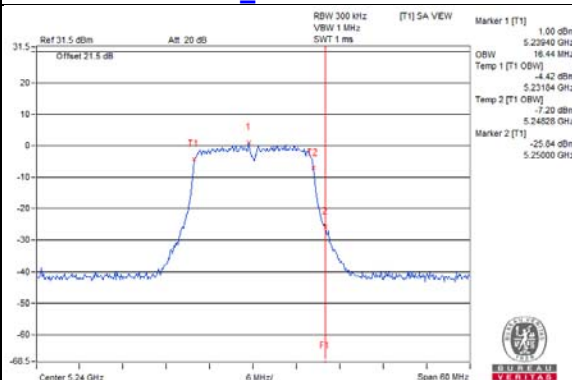
802.11a_Chain 1 / CH48



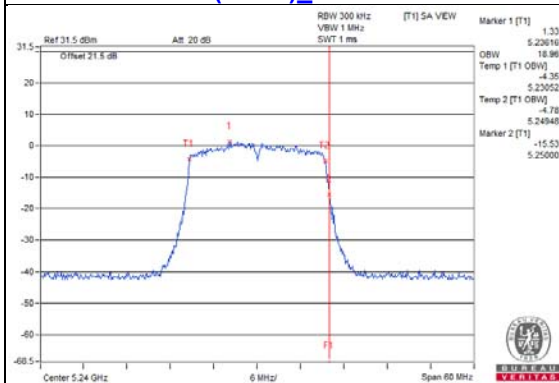
802.11a_Chain 2 / CH48



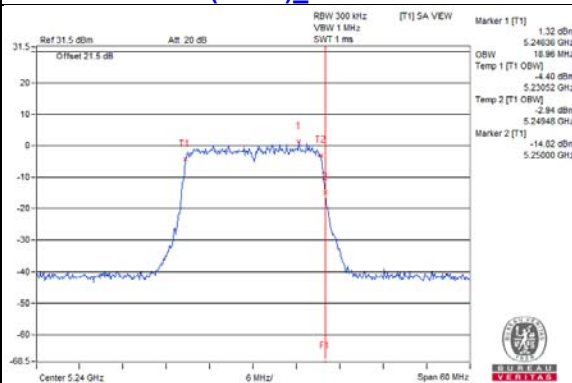
802.11a_Chain 3 / CH48



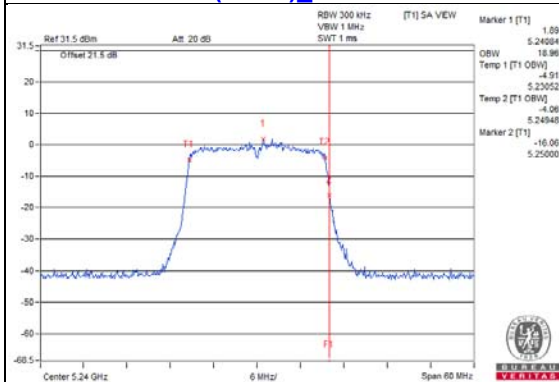
802.11ax (HE20)_Chain 0 / CH48



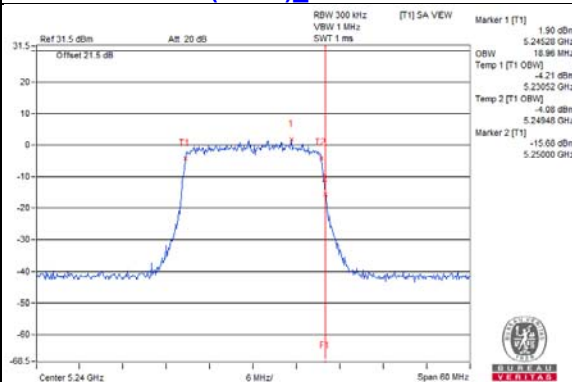
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

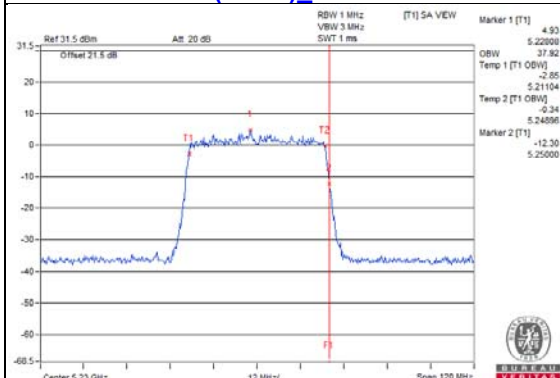


802.11ax (HE20)_Chain 3 / CH48

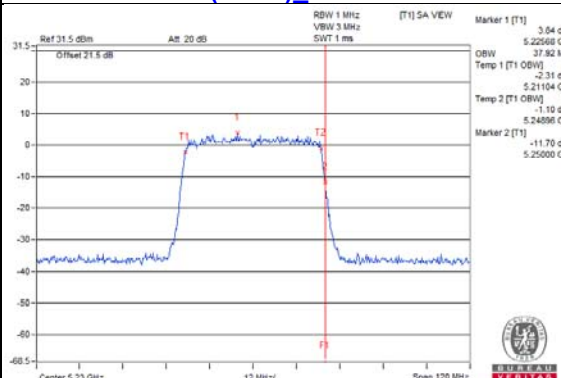


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

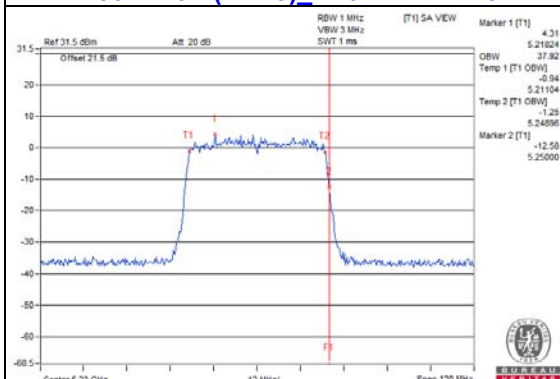
802.11ax (HE40)_Chain 0 / CH46



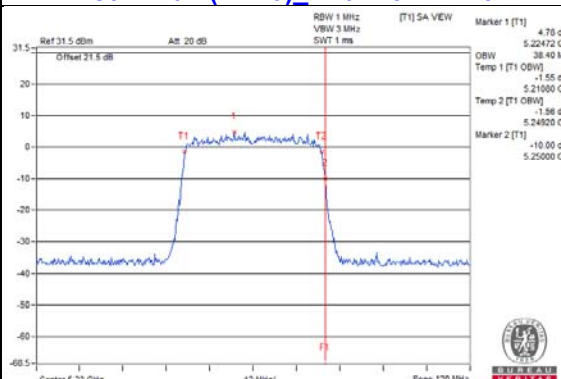
802.11ax (HE40)_Chain 1 / CH46



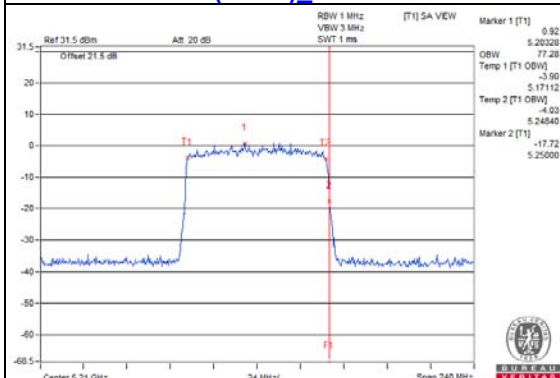
802.11ax (HE40)_Chain 2 / CH46



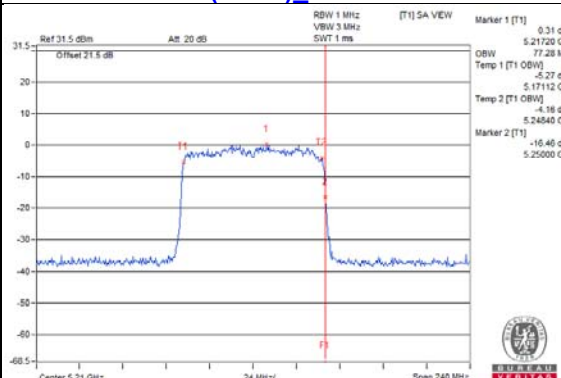
802.11ax (HE40)_Chain 3 / CH46



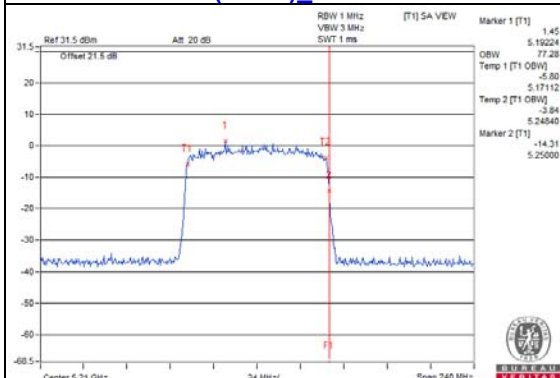
802.11ax (HE80)_Chain 0 / CH42



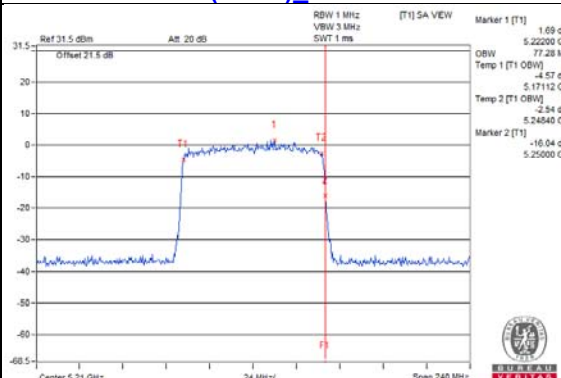
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42

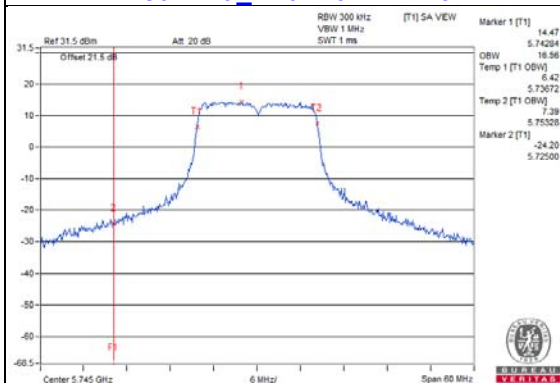


802.11ax (HE80)_Chain 3 / CH42

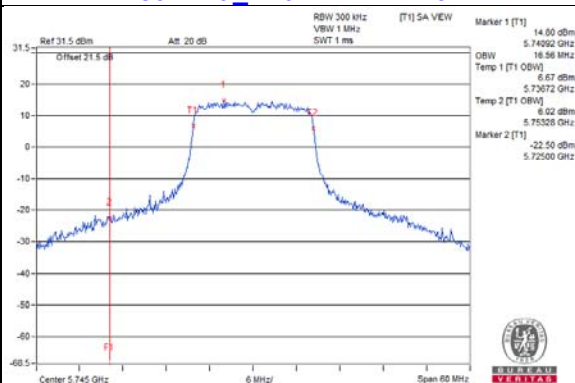


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)**

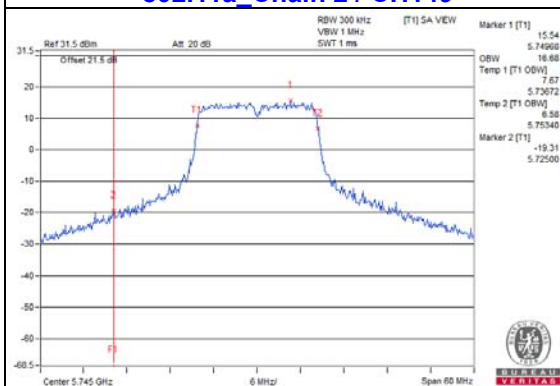
802.11a_Chain 0 / CH149



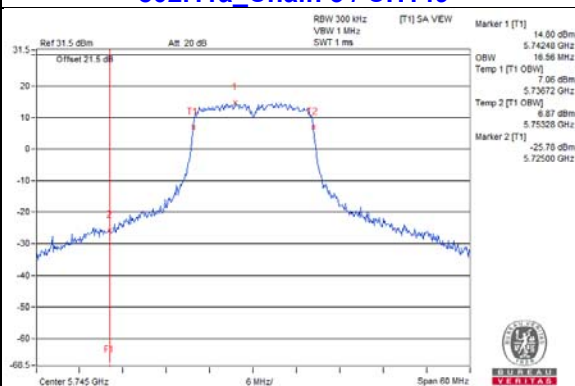
802.11a_Chain 1 / CH149



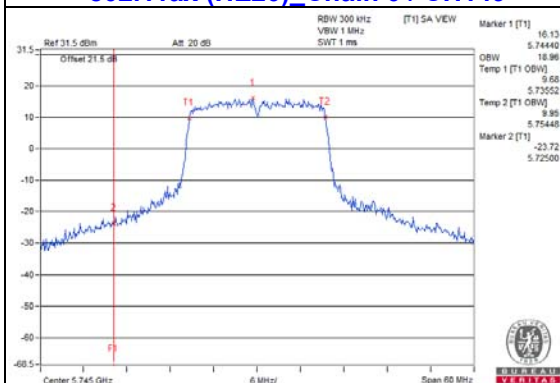
802.11a_Chain 2 / CH149



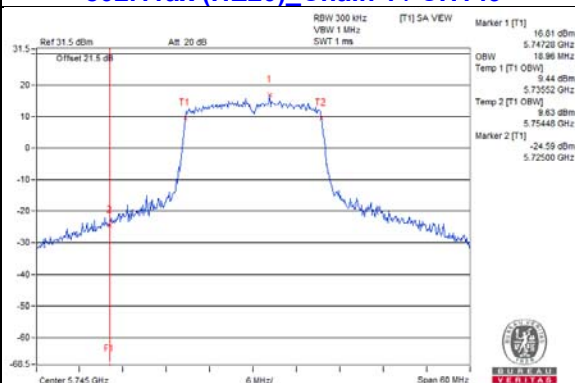
802.11a_Chain 3 / CH149



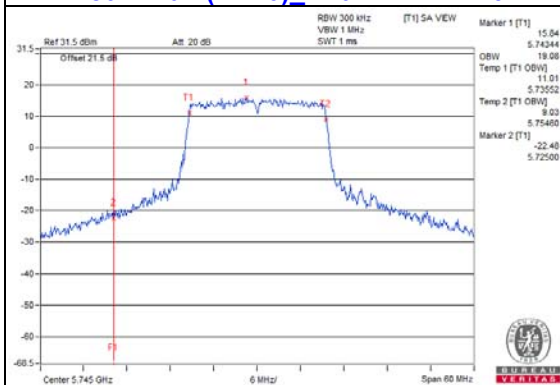
802.11ax (HE20)_Chain 0 / CH149



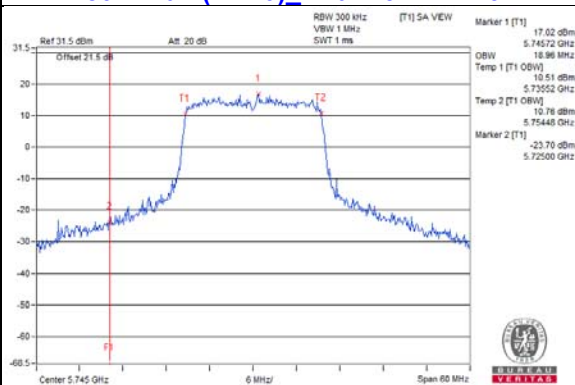
802.11ax (HE20)_Chain 1 / CH149



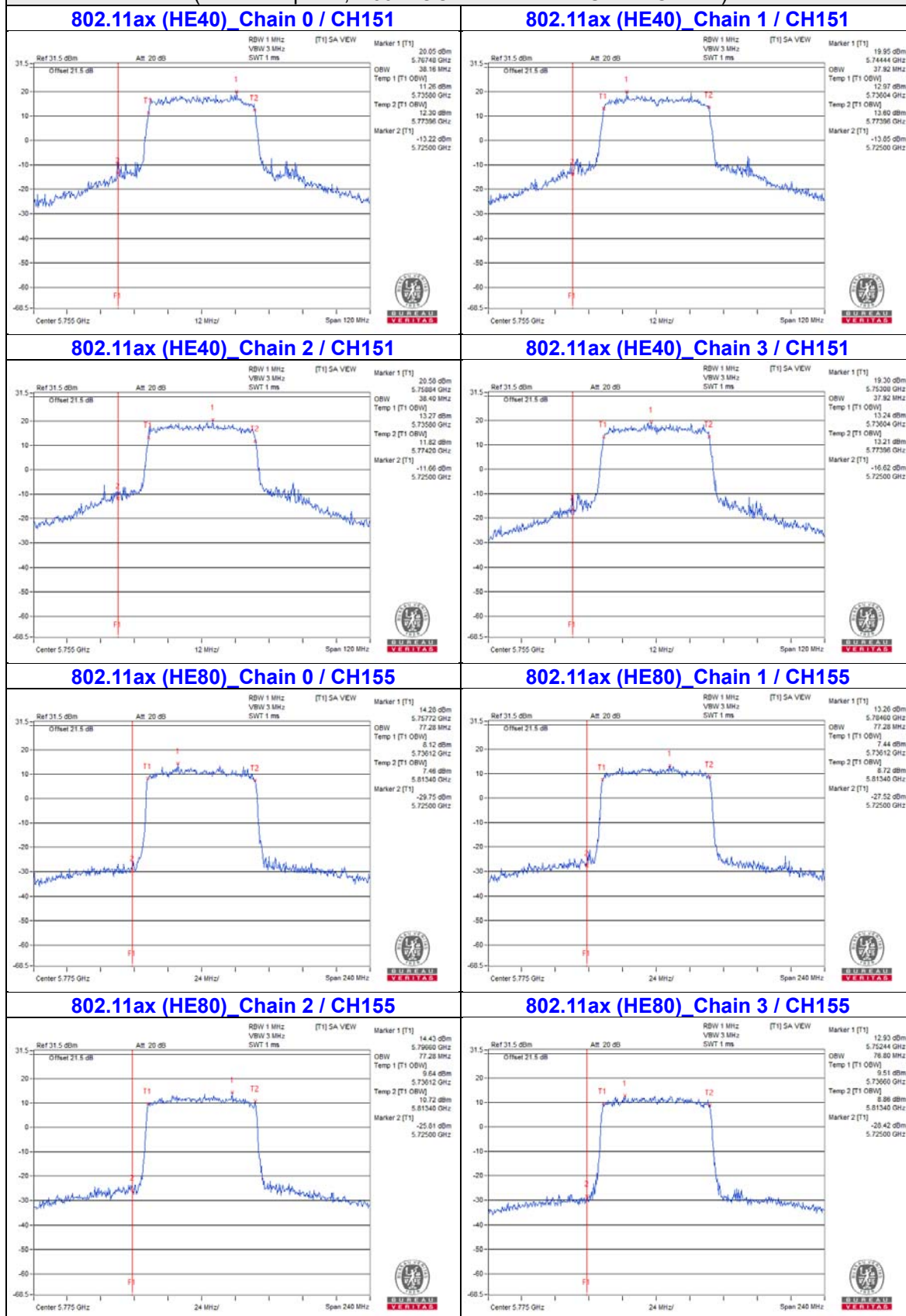
802.11ax (HE20)_Chain 2 / CH149



802.11ax (HE20)_Chain 3 / CH149



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



4.4.5 Test Results (Mode 2)

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Channel	Frequency (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	16.56	16.44	16.44
48	5240	16.44	16.56	16.44	16.44

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	18.96	18.96	18.96
40	5200	18.96	19.08	18.96	18.96
48	5240	18.96	18.96	18.96	18.96

802.11ax (HE40)

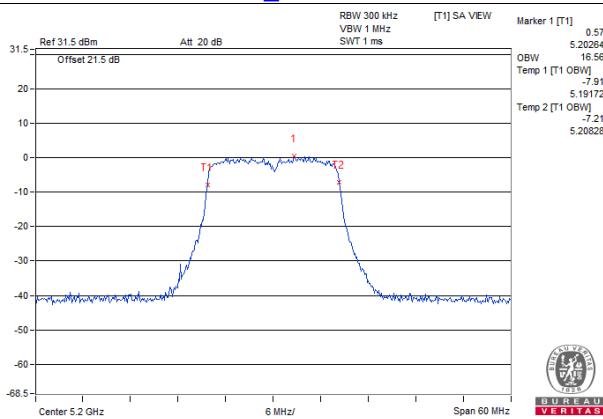
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	37.92	37.92	38.16
46	5230	37.92	37.92	37.92	38.40

802.11ax (HE80)

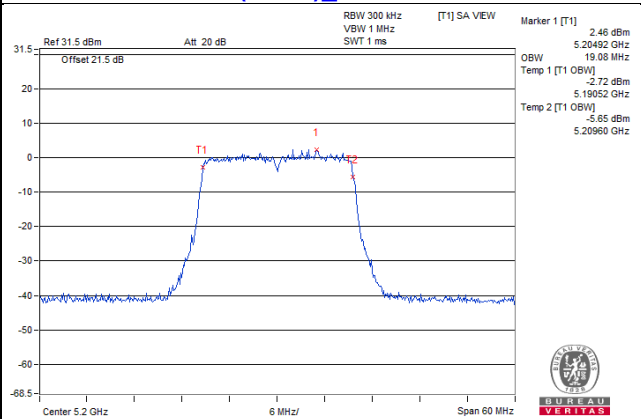
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.76	78.72	77.28	77.28

Spectrum Plot of Worst Value

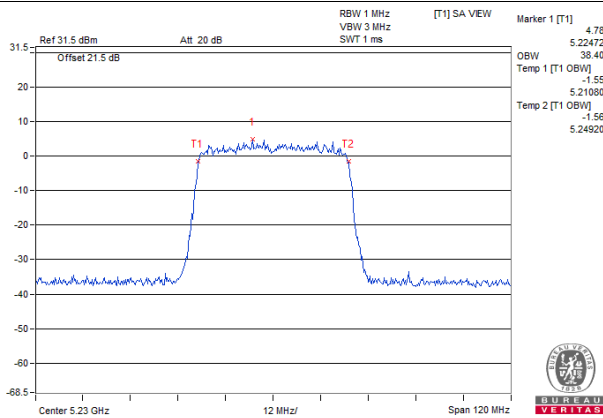
802.11a_Chain 1 / CH40



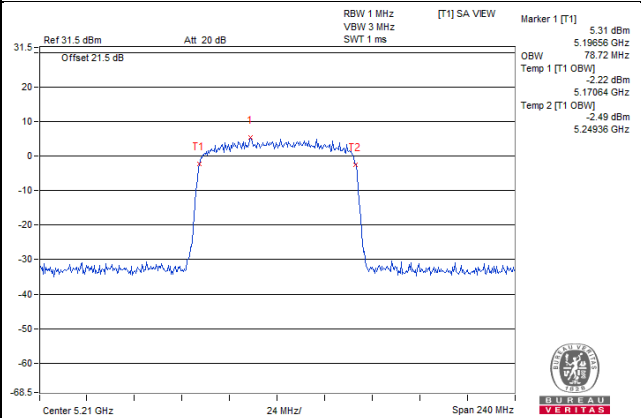
802.11ax (HE20)_Chain 1 / CH40



802.11ax (HE40)_Chain 3 / CH46

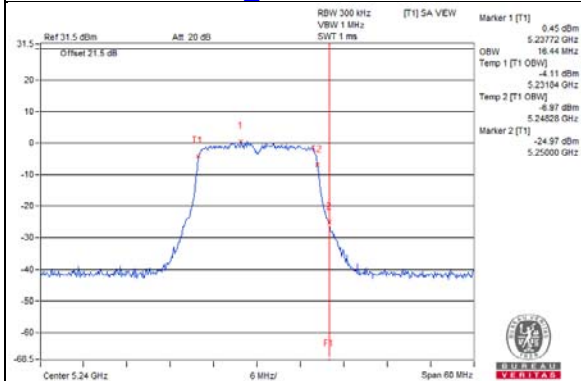


802.11ax (HE80)_Chain 1 / CH42

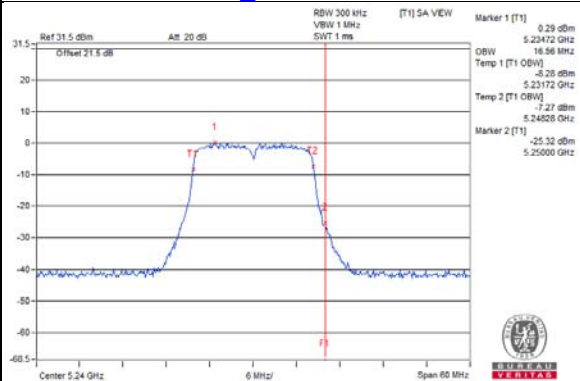


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

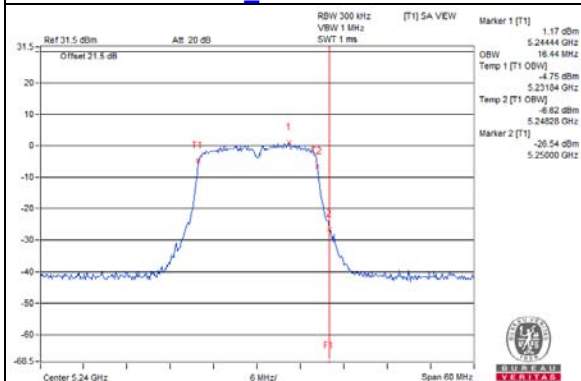
802.11a_Chain 0 / CH48



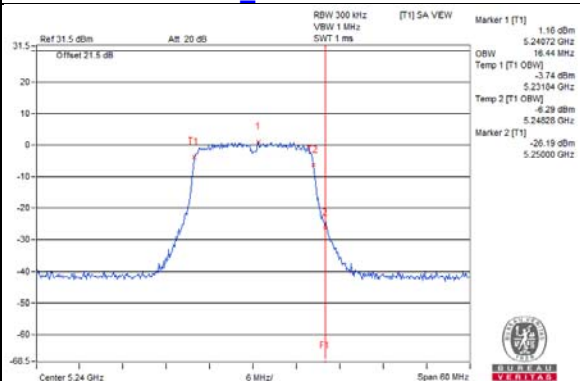
802.11a_Chain 1 / CH48



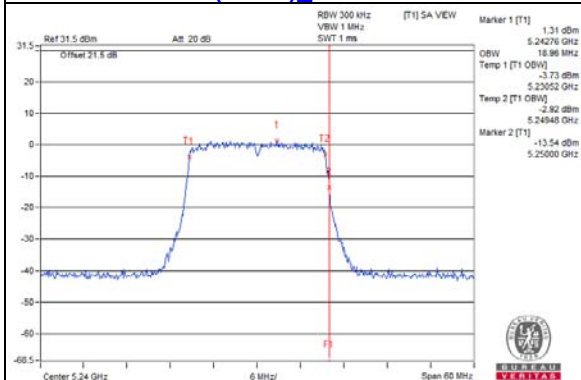
802.11a_Chain 2 / CH48



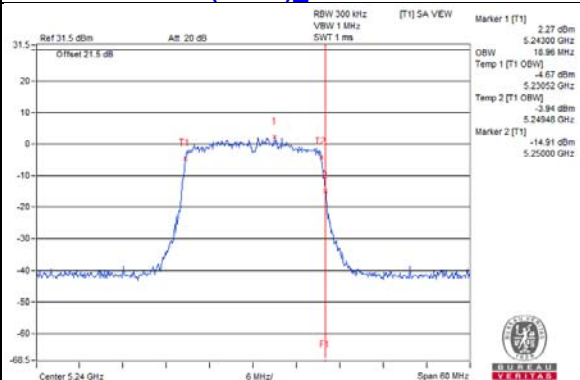
802.11a_Chain 3 / CH48



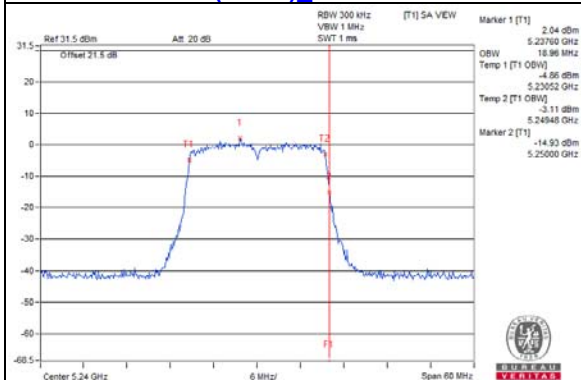
802.11ax (HE20)_Chain 0 / CH48



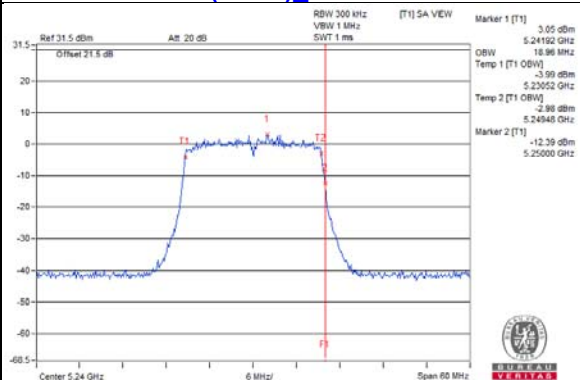
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

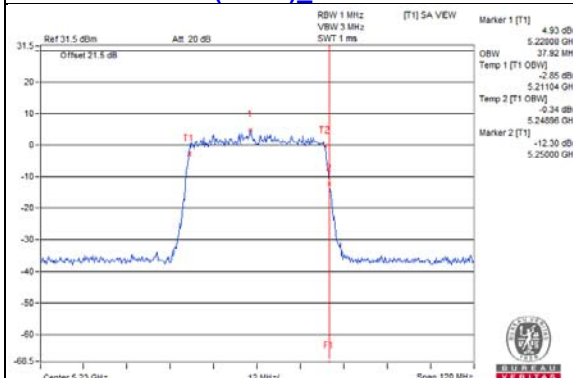


802.11ax (HE20)_Chain 3 / CH48

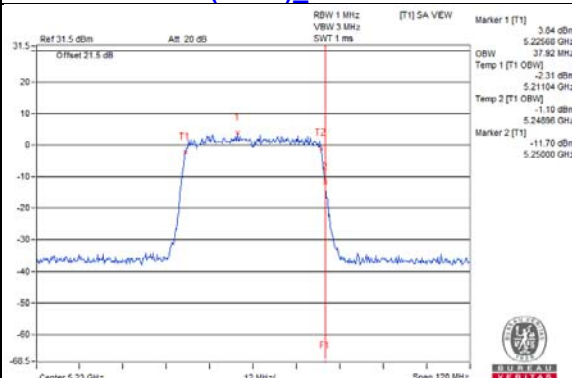


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

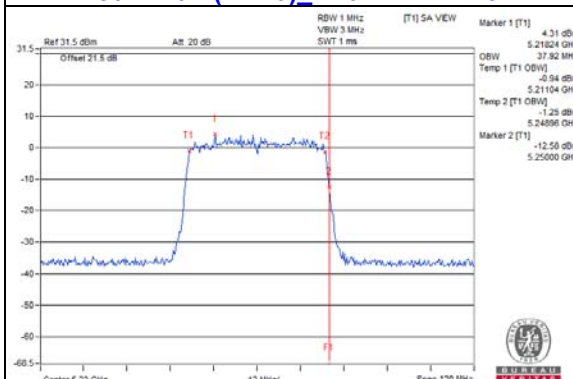
802.11ax (HE40)_Chain 0 / CH46



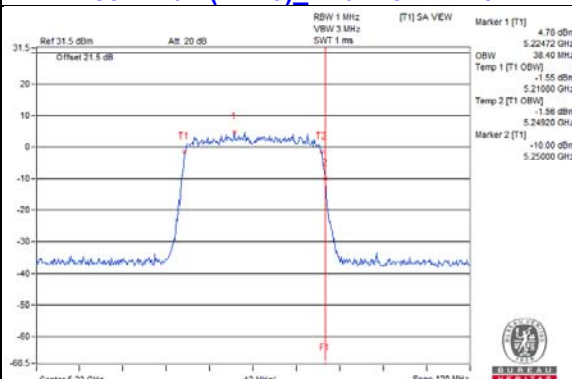
802.11ax (HE40)_Chain 1 / CH46



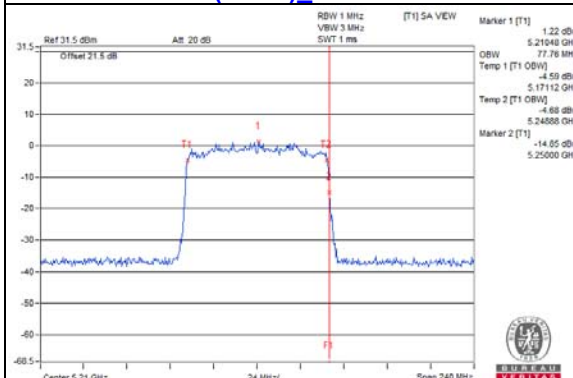
802.11ax (HE40)_Chain 2 / CH46



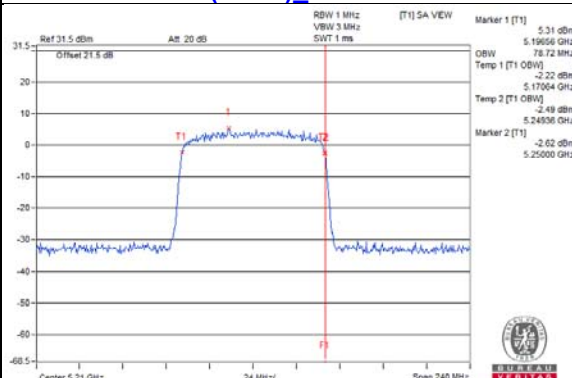
802.11ax (HE40)_Chain 3 / CH46



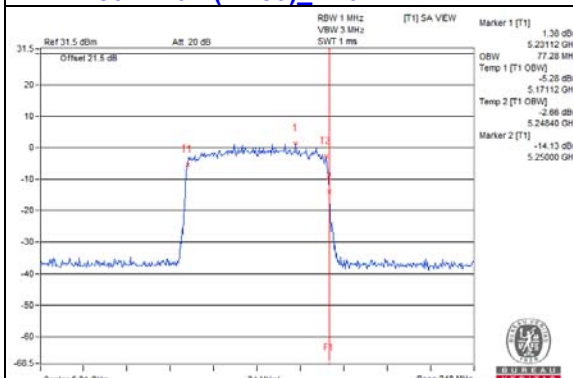
802.11ax (HE80)_Chain 0 / CH42



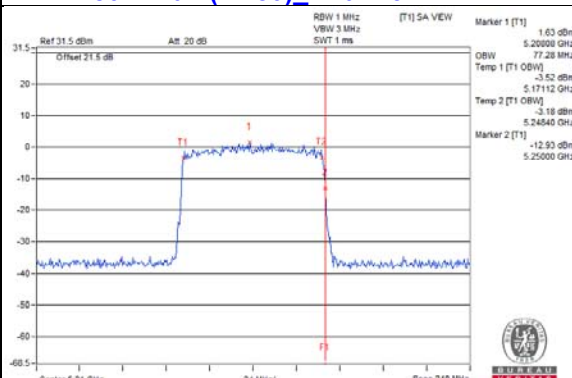
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42



802.11ax (HE80)_Chain 3 / CH42



For U-NII-1 Band (Indoor mode) & U-NII-3 Band

CDD Mode

802.11a

Channel	Frequency (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	16.56	16.44
149	5745	16.56	16.56	16.68	16.56
157	5785	16.56	16.56	16.68	16.56
165	5825	16.56	16.80	16.56	16.56

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	18.96	18.96	18.96
40	5200	18.96	18.96	18.96	18.96
48	5240	19.08	18.96	18.96	18.96
149	5745	18.96	18.96	19.08	18.96
157	5785	18.96	18.96	19.08	18.96
165	5825	18.96	19.20	18.96	18.96

802.11ax (HE40)

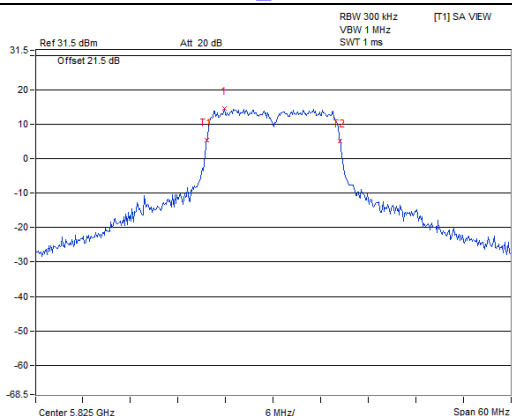
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	37.92	37.92	37.92
46	5230	37.92	38.16	37.92	37.92
151	5755	38.16	37.92	38.40	37.92
159	5795	38.40	38.40	38.40	38.40

802.11ax (HE80)

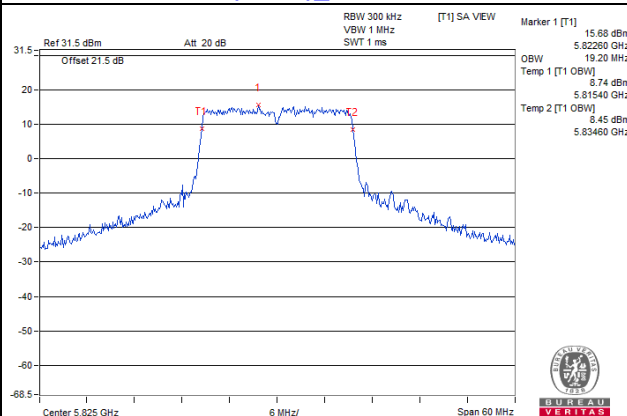
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.28	77.76	77.28	77.76
155	5775	77.28	77.28	77.28	76.80

Spectrum Plot of Worst Value

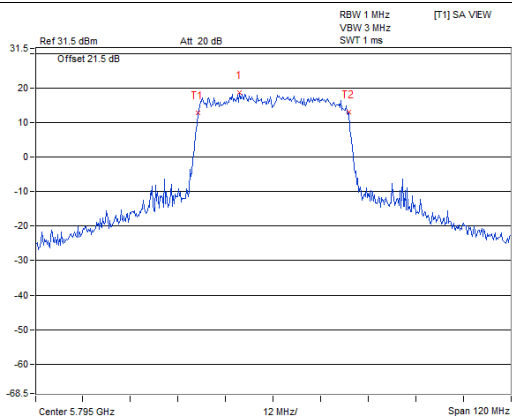
802.11a_Chain 1 / CH165



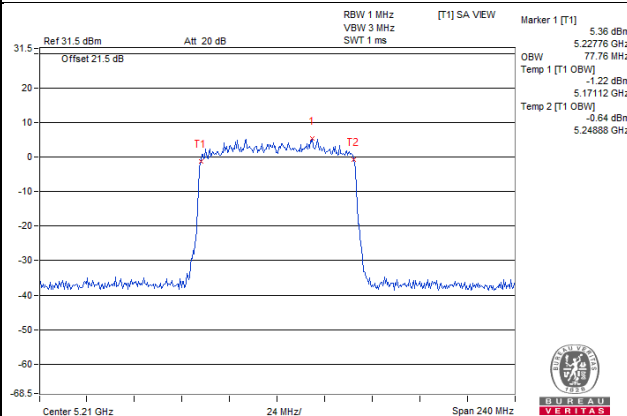
802.11ax (HE20)_Chain 1 / CH165



802.11ax (HE40)_Chain 0 / CH159

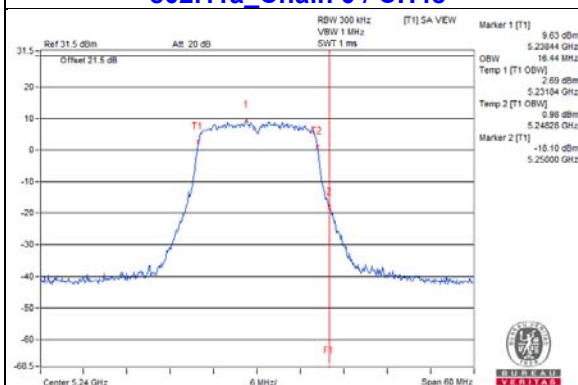


802.11ax (HE80)_Chain 1 / CH42

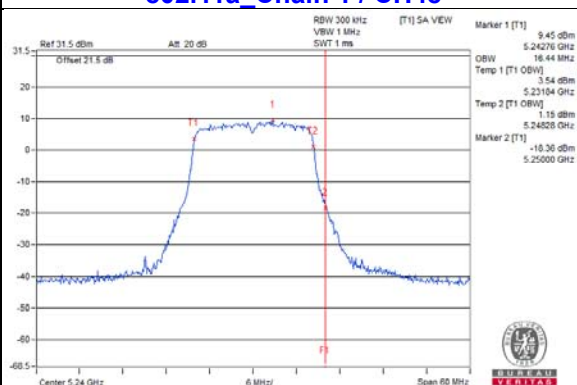


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

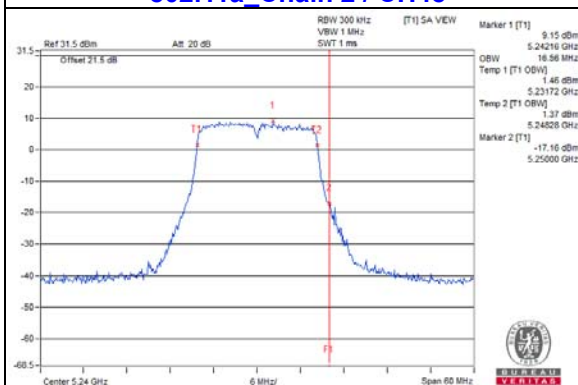
802.11a_Chain 0 / CH48



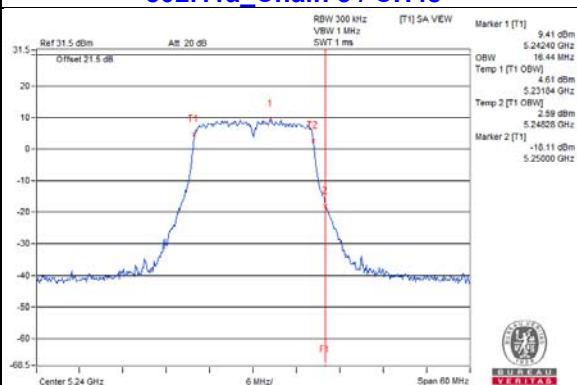
802.11a_Chain 1 / CH48



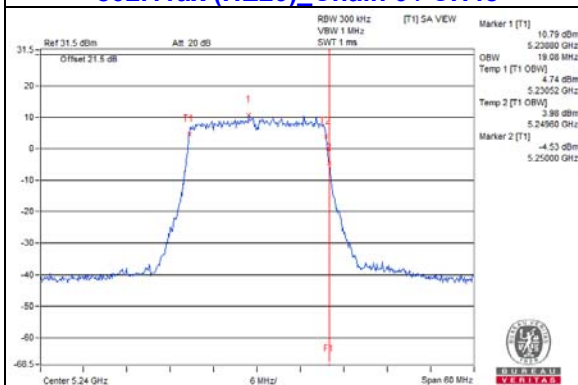
802.11a_Chain 2 / CH48



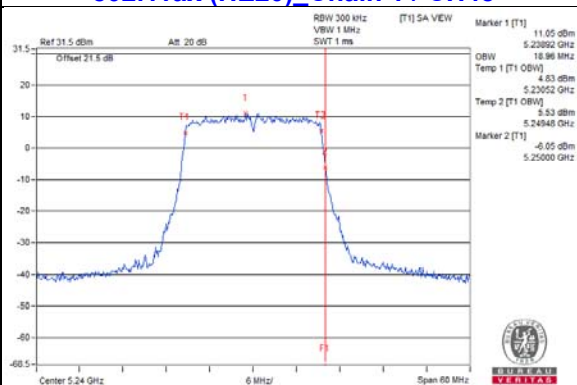
802.11a_Chain 3 / CH48



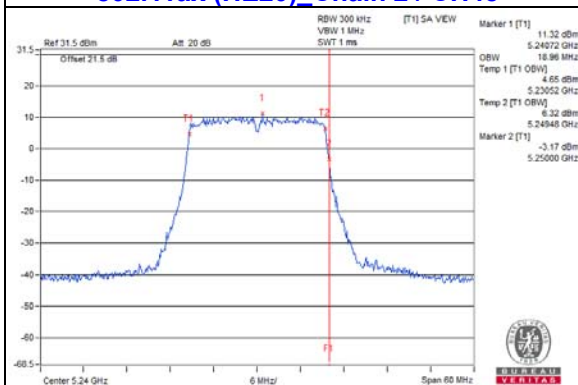
802.11ax (HE20)_Chain 0 / CH48



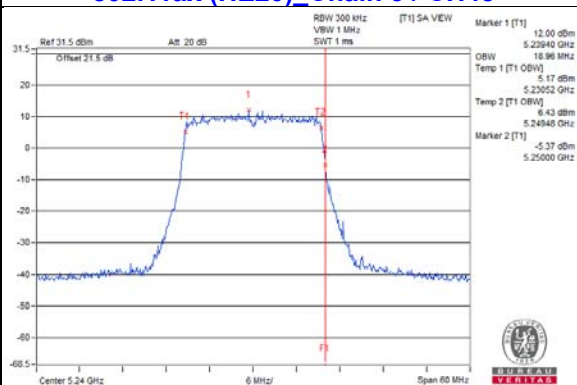
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

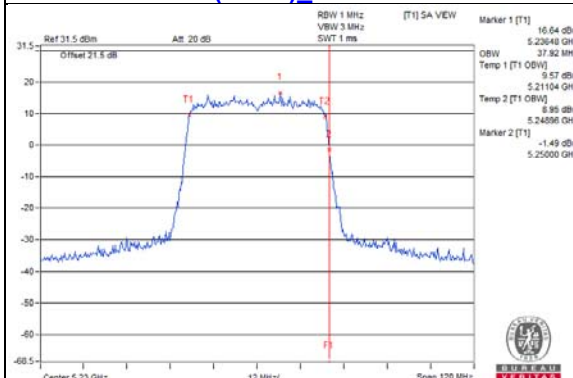


802.11ax (HE20)_Chain 3 / CH48

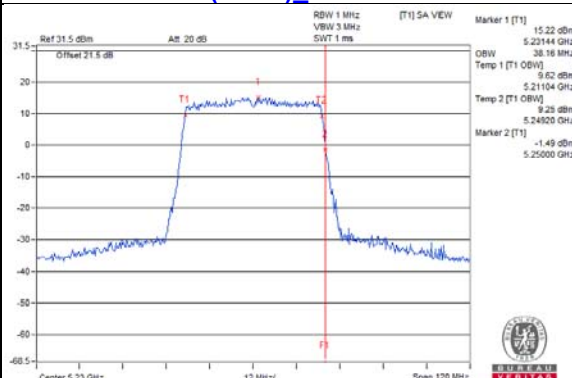


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

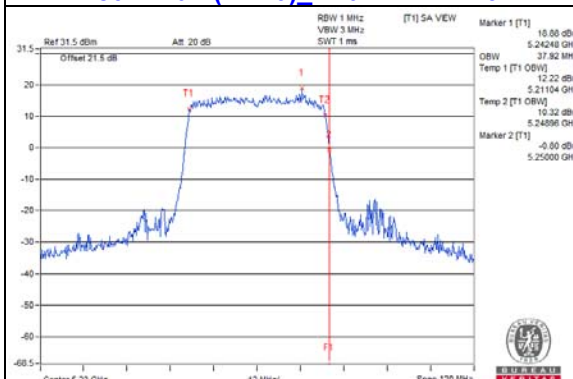
802.11ax (HE40)_Chain 0 / CH46



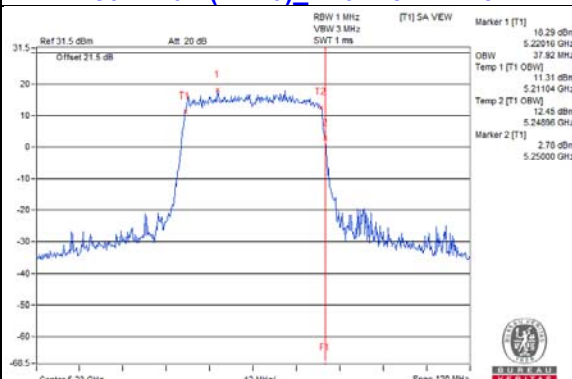
802.11ax (HE40)_Chain 1 / CH46



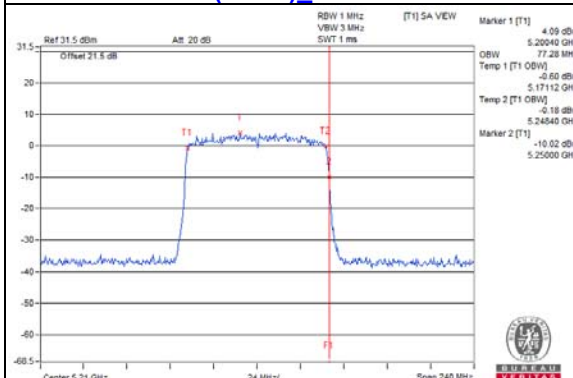
802.11ax (HE40)_Chain 2 / CH46



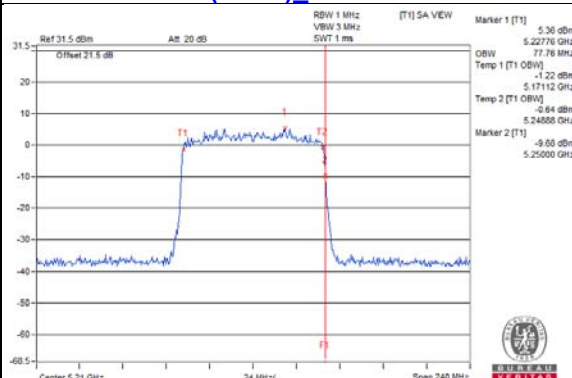
802.11ax (HE40)_Chain 3 / CH46



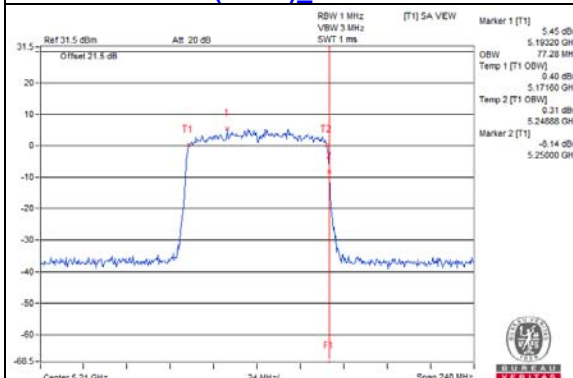
802.11ax (HE80)_Chain 0 / CH42



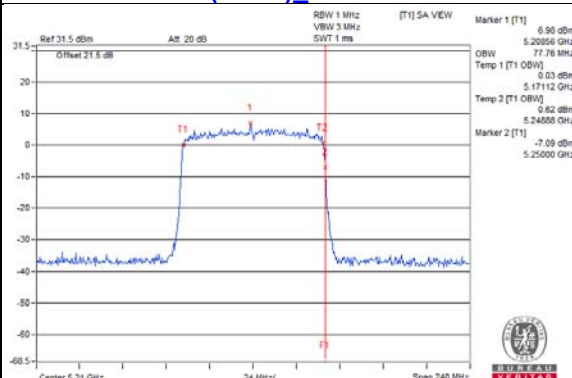
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42

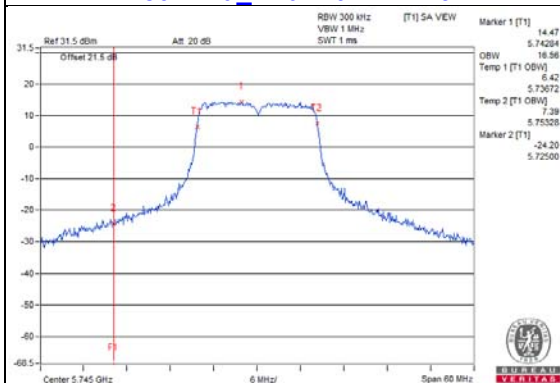


802.11ax (HE80)_Chain 3 / CH42

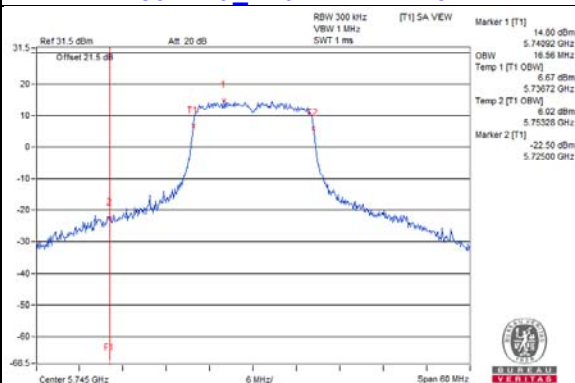


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

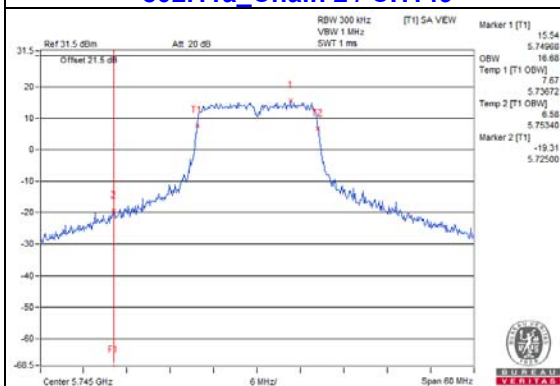
802.11a_Chain 0 / CH149



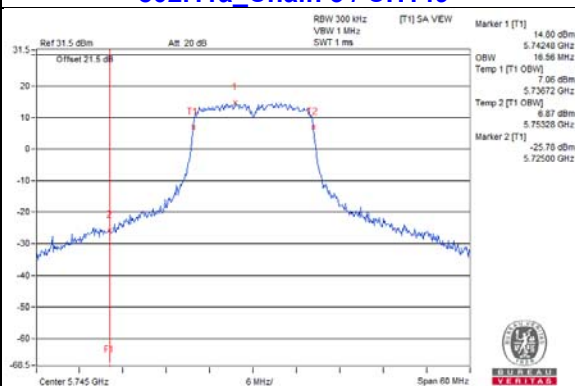
802.11a_Chain 1 / CH149



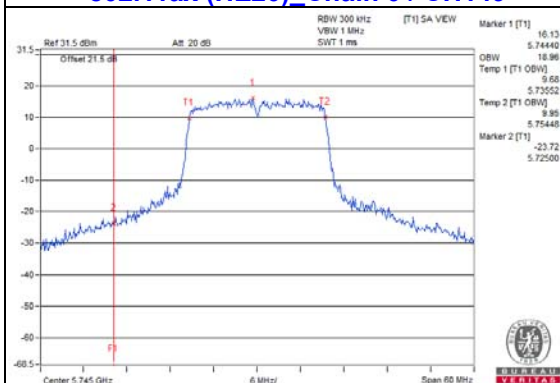
802.11a_Chain 2 / CH149



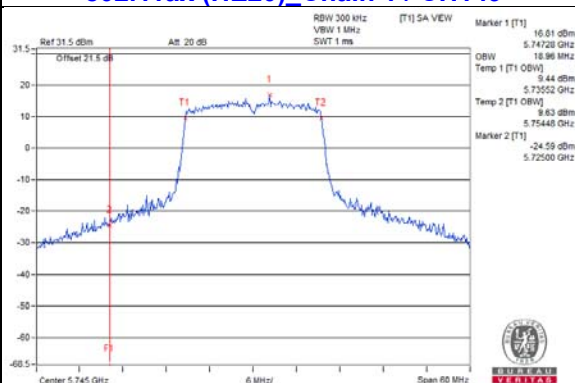
802.11a_Chain 3 / CH149



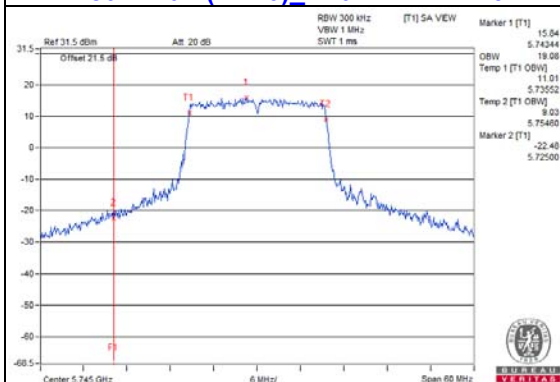
802.11ax (HE20)_Chain 0 / CH149



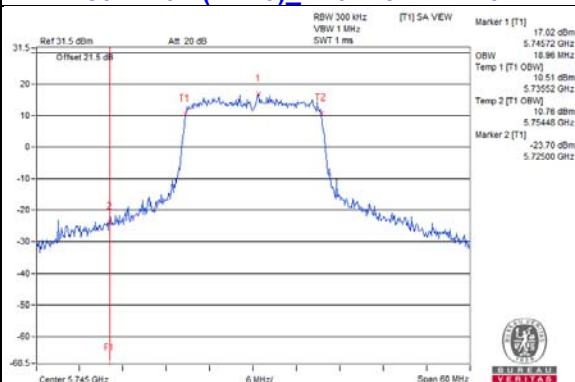
802.11ax (HE20)_Chain 1 / CH149



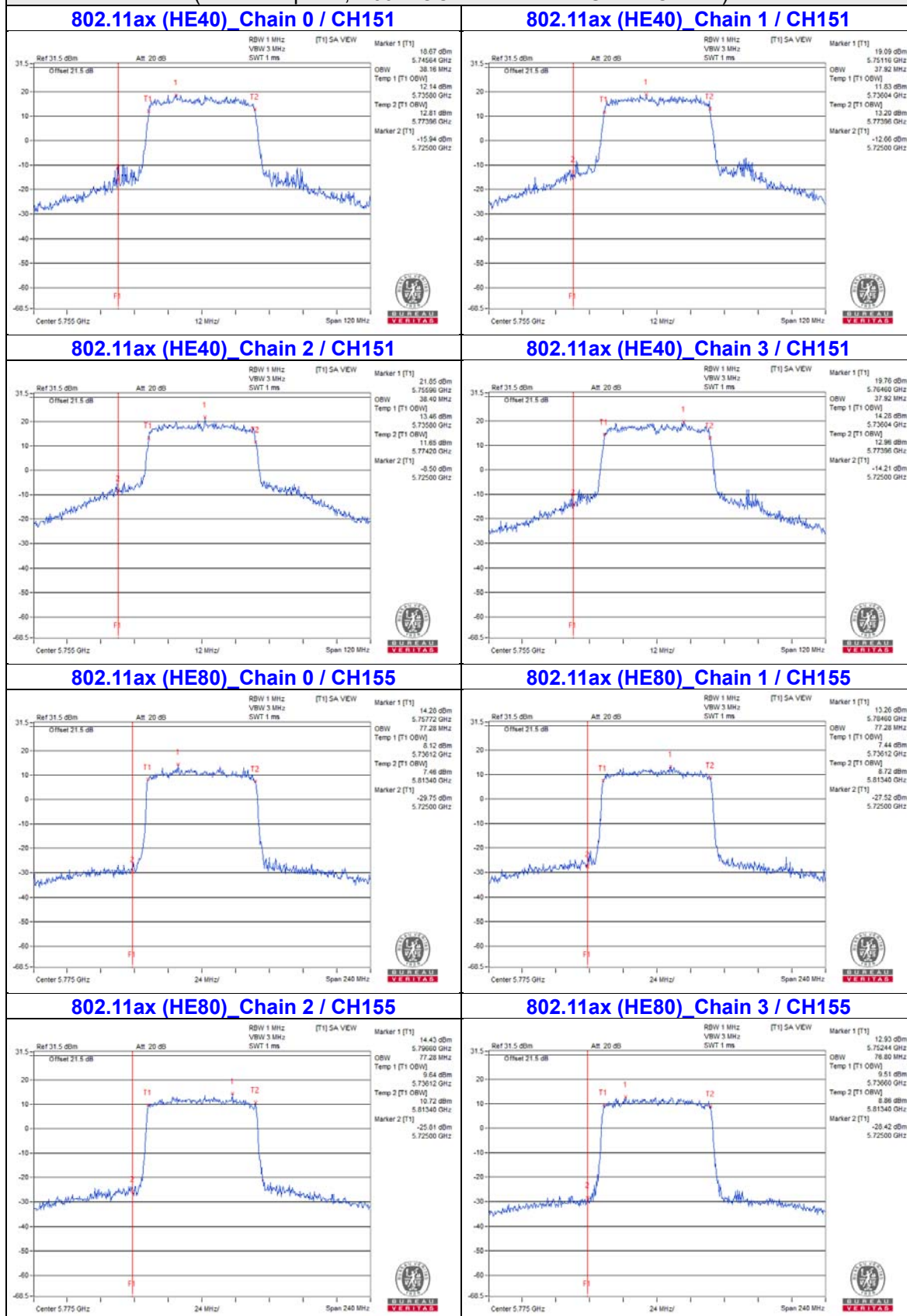
802.11ax (HE20)_Chain 2 / CH149



802.11ax (HE20)_Chain 3 / CH149



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

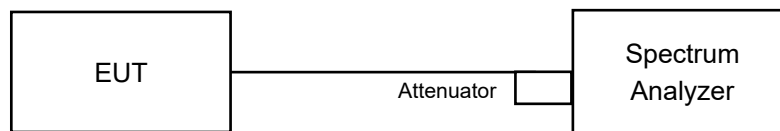


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For U-NII-1 band:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results (Mode 1) For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-5.07	-5.04	-6.42	-5.20	0.26	0.89	10.48	Pass
40	5200	-5.17	-5.49	-5.81	-4.30	0.26	1.13	10.48	Pass
48	5240	-6.53	-5.24	-4.88	-5.33	0.26	0.83	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.52 - 6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-7.78	-5.41	-5.74	-5.82	0.18	0.11	10.48	Pass
40	5200	-6.29	-6.55	-5.82	-5.42	0.18	0.21	10.48	Pass
48	5240	-5.59	-8.73	-5.69	-6.49	0.18	-0.25	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.52 - 6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-10.57	-9.73	-9.84	-8.65	0.22	-3.40	10.48	Pass
46	5230	-9.63	-10.54	-9.76	-8.64	0.22	-3.35	10.48	Pass

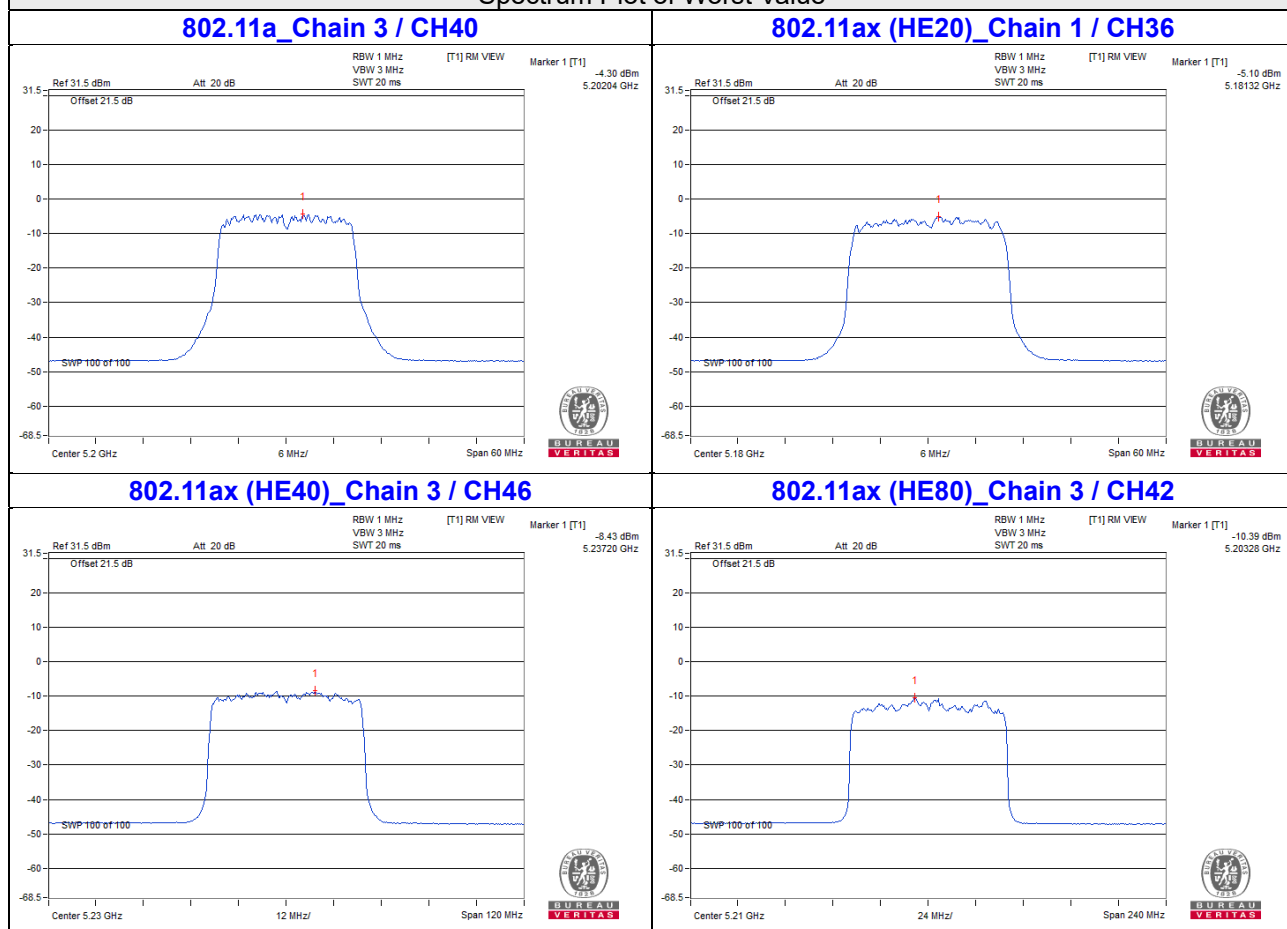
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.52 - 6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-11.11	-11.26	-11.41	-10.81	0.24	-4.88	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.52 - 6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value



For U-NII-1 Band (Indoor mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.54	3.22	2.68	3.08	0.26	9.17	10.48	Pass
40	5200	2.89	2.93	3.81	2.12	0.26	9.26	10.48	Pass
48	5240	2.45	3.44	3.30	3.24	0.26	9.41	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.52-6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.05	2.17	2.36	3.61	0.18	8.80	10.48	Pass
40	5200	2.80	1.90	2.84	3.38	0.18	8.97	10.48	Pass
48	5240	3.19	2.79	2.34	3.69	0.18	9.24	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.52-6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-2.10	1.95	1.11	2.32	0.22	7.36	10.48	Pass
46	5230	4.09	3.10	1.17	0.44	0.22	8.68	10.48	Pass

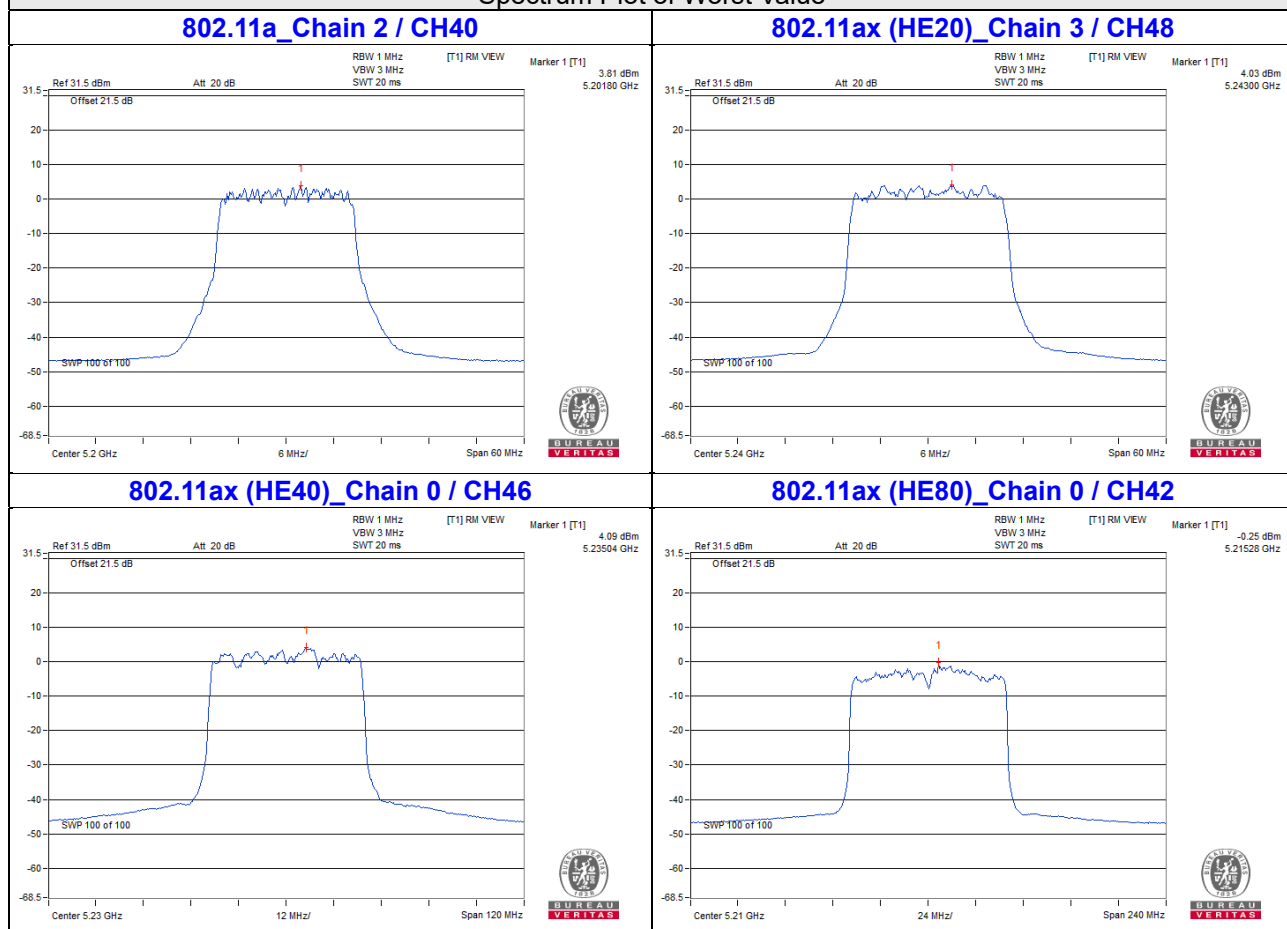
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.52-6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-0.25	-1.11	-1.25	-0.29	0.24	5.56	10.48	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.52-6) = 10.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value



For U-NII-3 band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	1.10	0.16	1.33	1.15	0.26	7.24	9.46	23.48	Pass
157	5785	1.23	1.06	0.84	0.76	0.26	7.26	9.48	23.48	Pass
165	5825	0.54	-0.13	0.24	1.44	0.26	6.85	9.07	23.48	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	0.08	-0.71	-0.13	-0.03	0.18	6.02	8.24	23.48	Pass
157	5785	-0.27	-0.83	0.20	-0.14	0.18	5.96	8.18	23.48	Pass
165	5825	-0.31	-0.72	0.08	-0.84	0.18	5.77	7.99	23.48	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

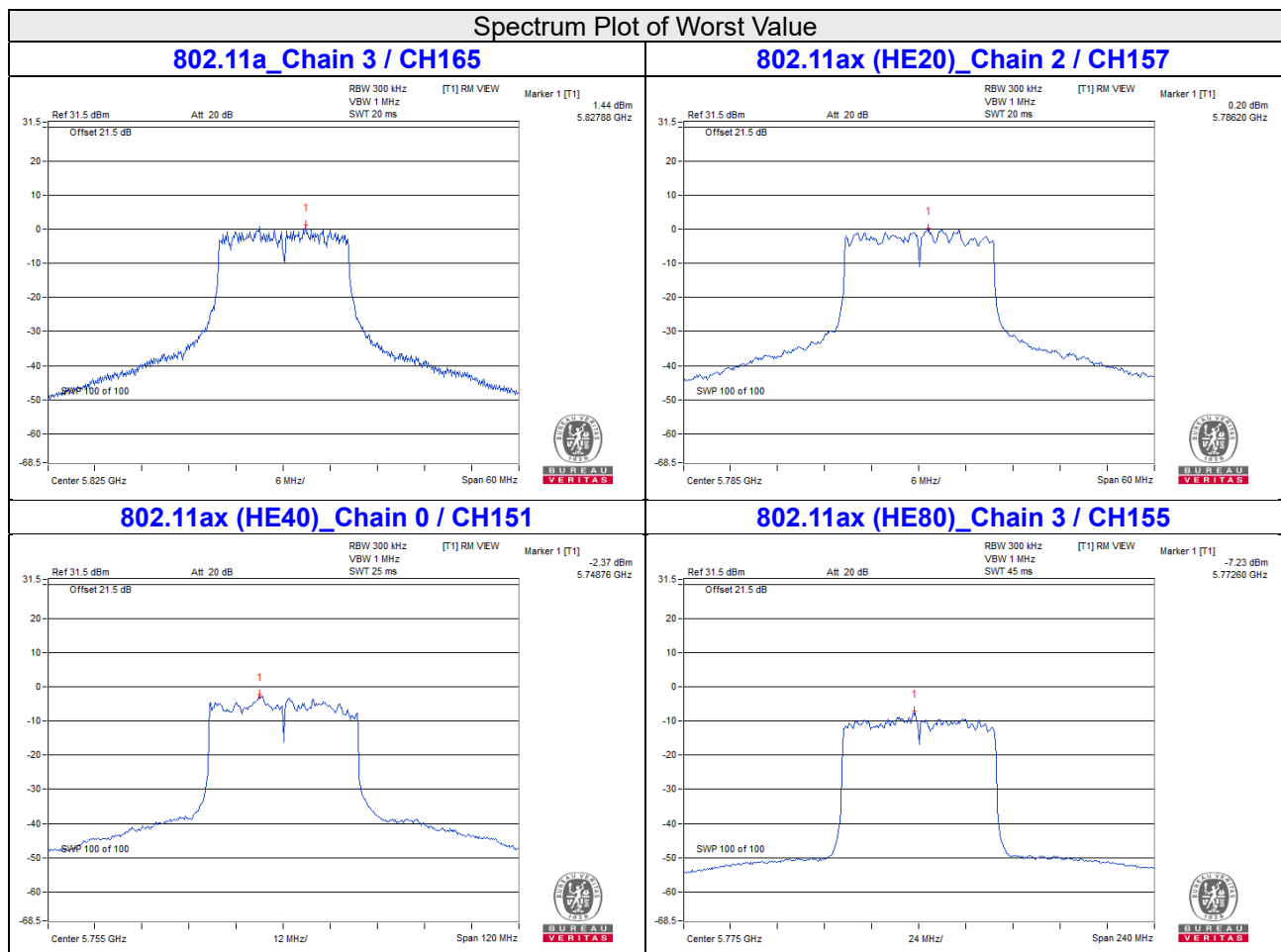
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
151	5755	-2.37	-3.34	-2.43	-2.97	0.22	3.48	5.70	23.48	Pass
159	5795	-2.73	-3.62	-2.47	-3.31	0.22	3.23	5.45	23.48	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
155	5775	-7.62	-7.58	-8.10	-7.23	0.24	-1.36	0.86	23.48	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain is $6.5 \text{ dBi} + 10\log(4) = 12.52 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(12.52-6) = 23.48 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



4.5.8 Test Results (Mode 2)

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-4.64	-5.16	-5.64	-3.90	0.26	1.50	10.98	Pass
40	5200	-4.70	-4.82	-6.37	-5.29	0.26	1.04	10.98	Pass
48	5240	-5.16	-4.72	-4.86	-4.96	0.26	1.36	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-5.15	-6.03	-5.96	-6.04	0.18	0.43	10.98	Pass
40	5200	-5.40	-5.34	-6.72	-5.47	0.18	0.51	10.98	Pass
48	5240	-5.39	-6.14	-5.71	-5.40	0.18	0.55	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

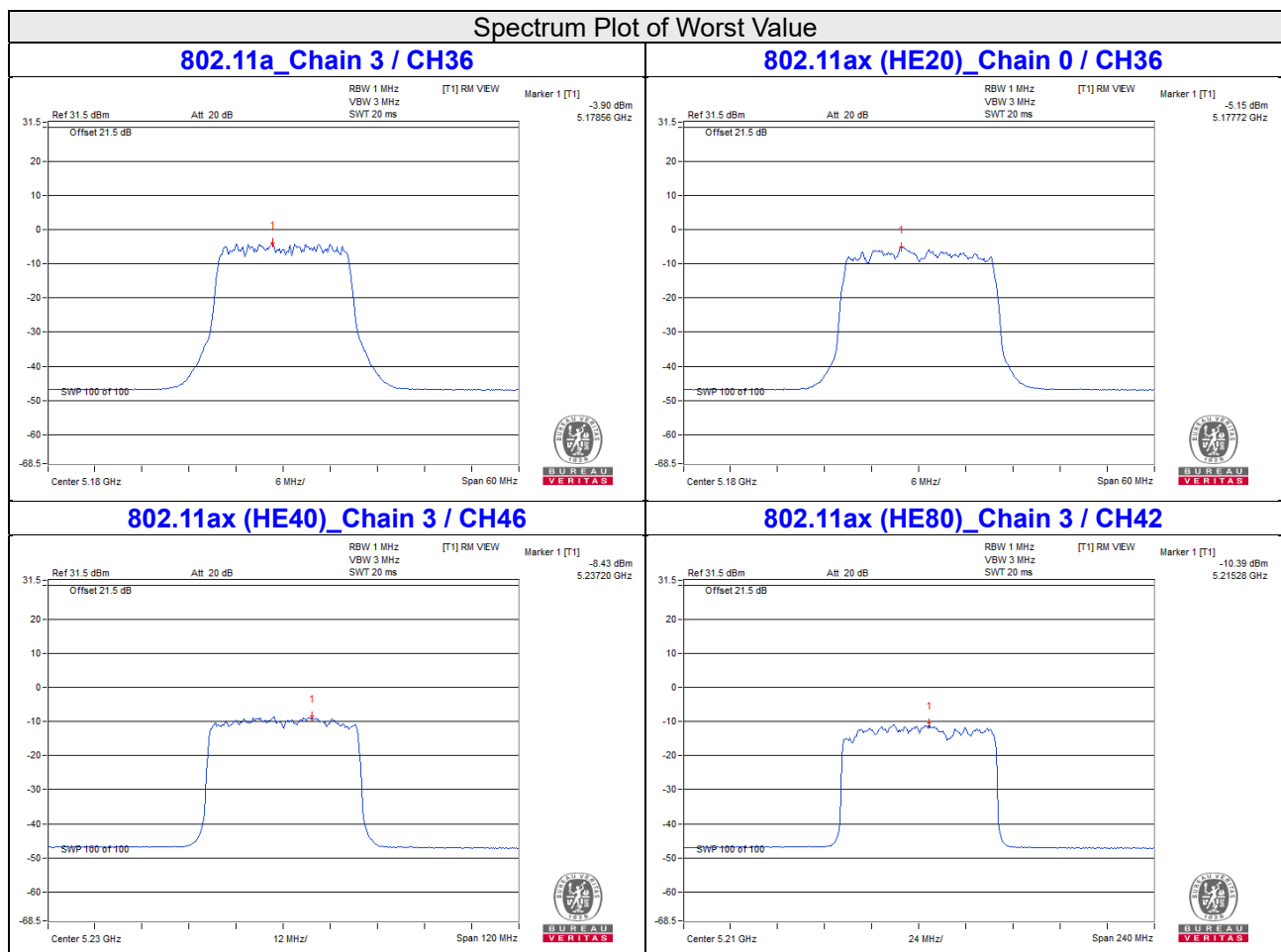
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-10.57	-9.73	-9.84	-8.65	0.22	-3.40	10.98	Pass
46	5230	-9.63	-10.54	-9.76	-8.64	0.22	-3.35	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-10.93	-10.90	-11.42	-10.39	0.24	-4.63	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.02 - 6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-1 Band (Indoor mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	1.94	4.03	4.52	3.21	0.26	9.81	10.98	Pass
40	5200	4.31	3.00	2.26	4.42	0.26	9.87	10.98	Pass
48	5240	3.81	4.22	3.48	2.65	0.26	9.86	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	3.98	2.17	3.63	3.49	0.18	9.57	10.98	Pass
40	5200	3.66	3.24	2.95	4.50	0.18	9.83	10.98	Pass
48	5240	1.62	3.51	4.49	3.46	0.18	9.59	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-1.67	-0.81	-4.36	-1.85	0.22	4.25	10.98	Pass
46	5230	1.80	1.05	3.10	3.64	0.22	8.76	10.98	Pass

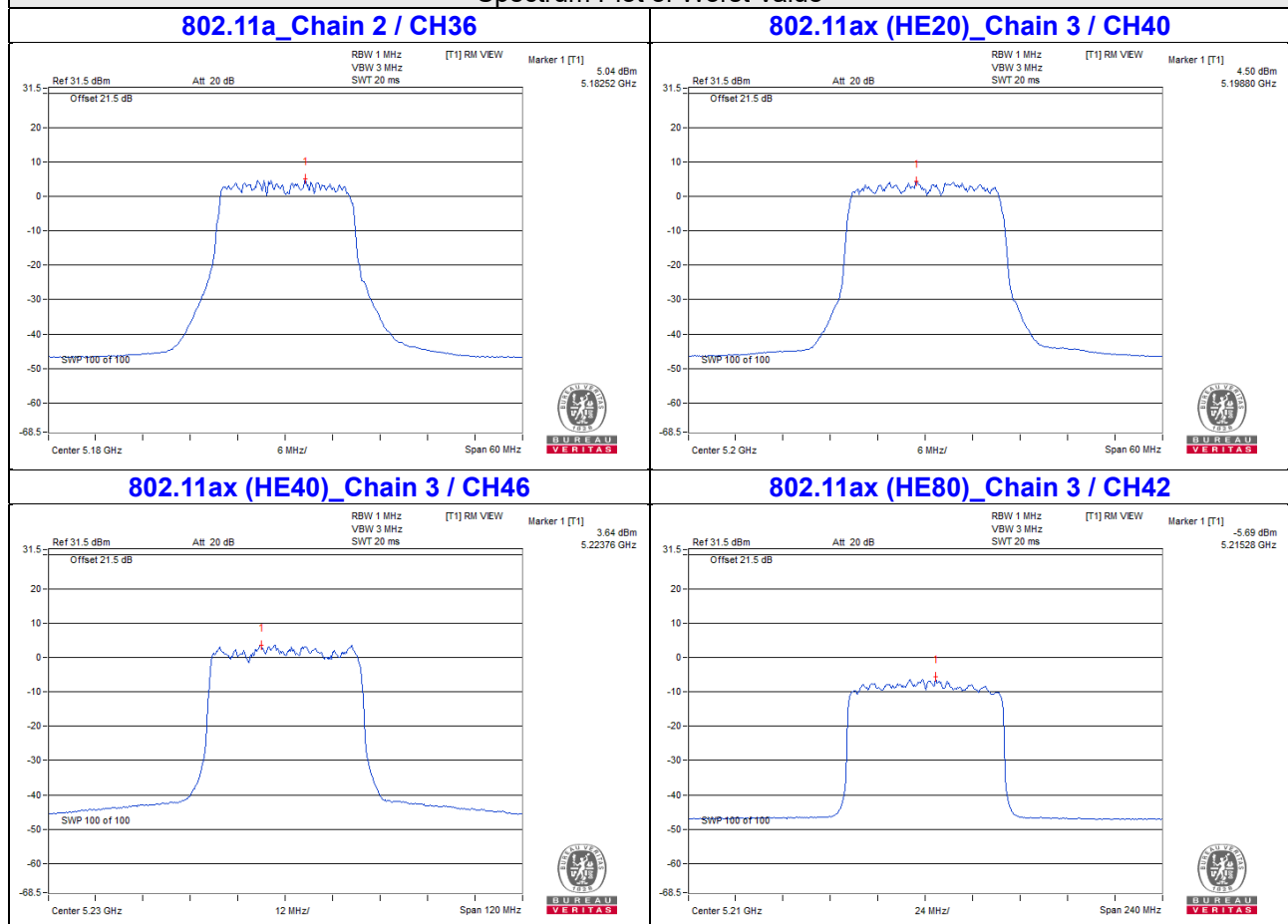
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(12.02-6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-7.03	-7.38	-6.37	-5.69	0.24	-0.31	10.98	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (12.02 - 6) = 10.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value



For U-NII-3 band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	1.10	0.16	1.33	1.15	0.26	7.24	9.46	23.98	Pass
157	5785	1.23	1.06	0.84	0.76	0.26	7.26	9.48	23.98	Pass
165	5825	0.54	-0.13	0.24	1.44	0.26	6.85	9.07	23.98	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 6 dBi + $10\log(4) = 12.02$ dBi > 6dBi, so the power density limit shall be reduced to $30-(12.02-6) = 23.98$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	0.08	-0.71	-0.13	-0.03	0.18	6.02	8.24	23.98	Pass
157	5785	-0.27	-0.83	0.20	-0.14	0.18	5.96	8.18	23.98	Pass
165	5825	-0.31	-0.72	0.08	-0.84	0.18	5.77	7.99	23.98	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 6 dBi + $10\log(4) = 12.02$ dBi > 6dBi, so the power density limit shall be reduced to $30-(12.02-6) = 23.98$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
151	5755	-3.16	-3.68	-0.74	-3.14	0.22	3.72	5.94	23.98	Pass
159	5795	-2.08	-3.23	-1.96	-2.02	0.22	3.95	6.17	23.98	Pass

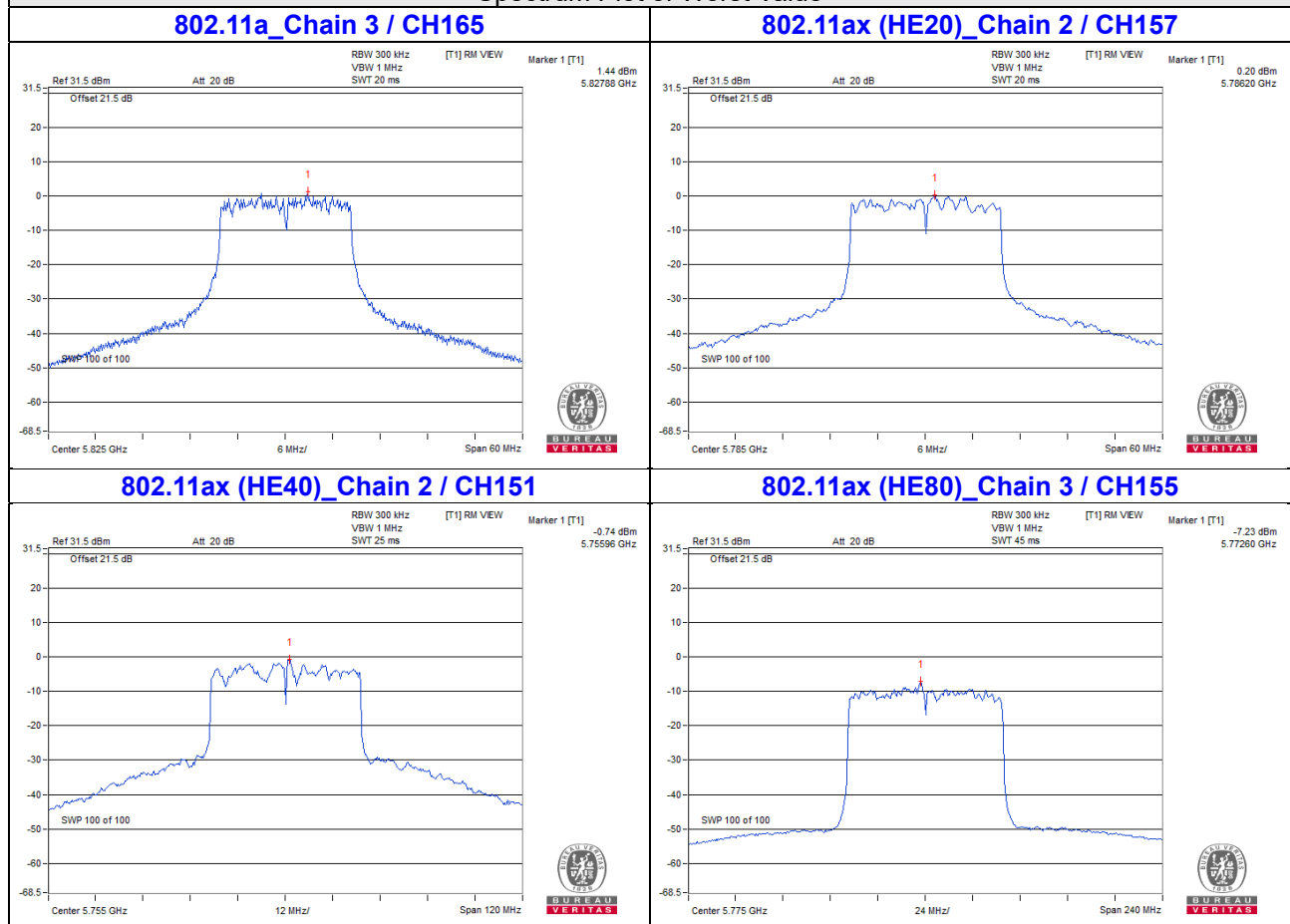
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 6 dBi + $10\log(4) = 12.02$ dBi > 6dBi, so the power density limit shall be reduced to $30-(12.02-6) = 23.98$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
155	5775	-7.62	-7.58	-8.10	-7.23	0.24	-1.36	0.86	23.98	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain is $6 \text{ dBi} + 10\log(4) = 12.02 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(12.02-6) = 23.98 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

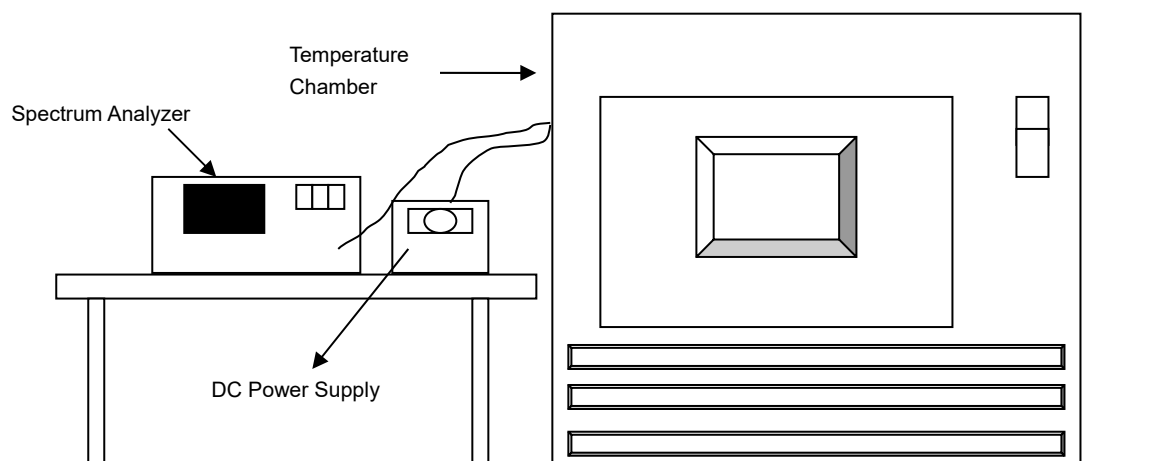


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	56	5179.9981	Pass	5179.999	Pass	5179.9999	Pass	5179.9999	Pass
30	56	5179.9837	Pass	5179.9833	Pass	5179.9827	Pass	5179.979	Pass
20	56	5180.0029	Pass	5180.0034	Pass	5180.0027	Pass	5180.0035	Pass
10	56	5179.9786	Pass	5179.9748	Pass	5179.9751	Pass	5179.9741	Pass
0	56	5179.995	Pass	5179.9937	Pass	5179.9939	Pass	5179.9928	Pass

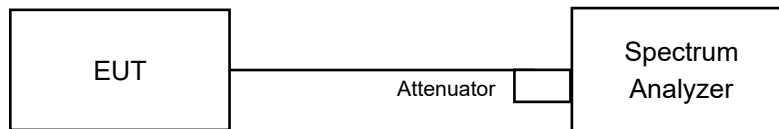
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	64.4	5180.0028	Pass	5180.0038	Pass	5180.0037	Pass	5180.0044	Pass
	56	5180.0029	Pass	5180.0034	Pass	5180.0027	Pass	5180.0035	Pass
	47.6	5180.0034	Pass	5180.0043	Pass	5180.0032	Pass	5180.0035	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

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results (Mode 1)

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	15.82	15.41	16.09	15.56	0.5	Pass
157	5785	15.23	15.22	15.82	15.23	0.5	Pass
165	5825	15.51	15.56	15.55	15.5	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	18.22	17.13	18.42	17.68	0.5	Pass
157	5785	17.7	16.51	18.27	18.58	0.5	Pass
165	5825	17.94	18.45	17.34	17.91	0.5	Pass

802.11ax (HE40)

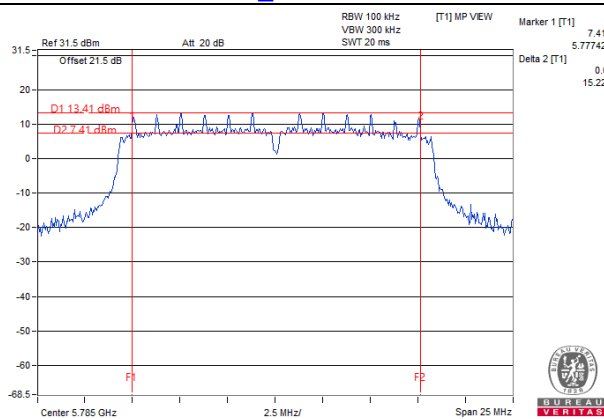
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.6	37.26	37.85	37.29	0.5	Pass
159	5795	36.54	35.73	37.54	37.29	0.5	Pass

802.11ax (HE80)

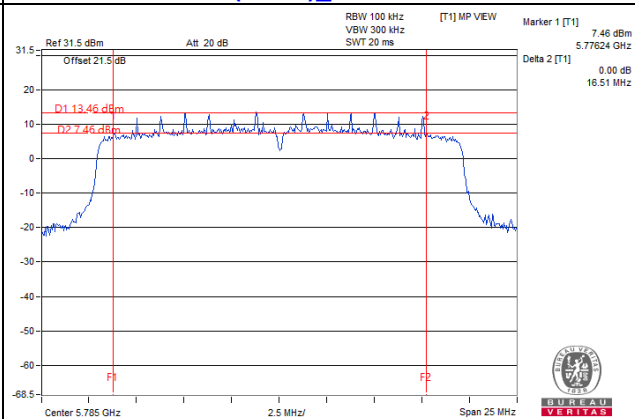
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.07	75.53	76.42	76.62	0.5	Pass

Spectrum Plot of Worst Value

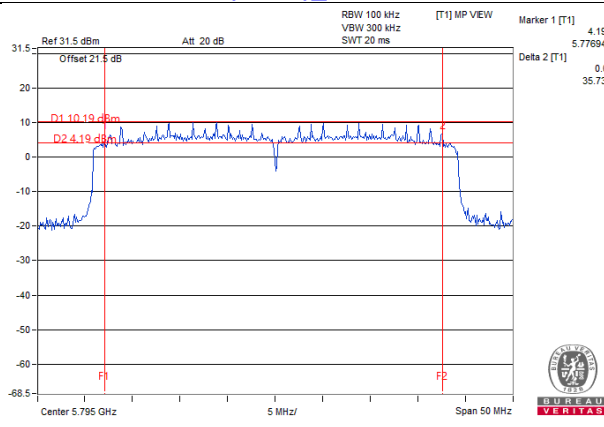
802.11a_Chain 1 / CH157



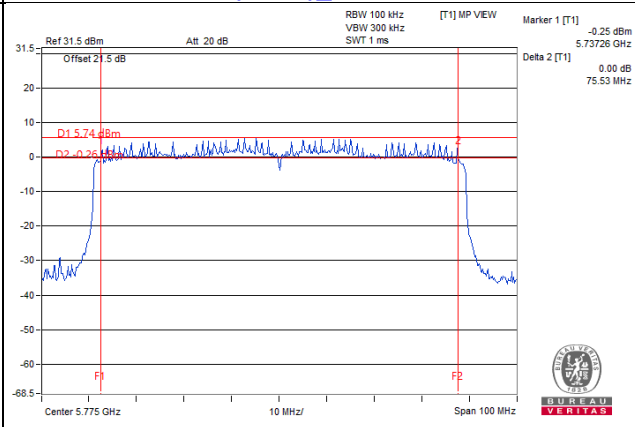
802.11ax (HE20)_Chain 1 / CH157



802.11ax (HE40)_Chain 1 / CH159



802.11ax (HE80)_Chain 1 / CH155



4.7.8 Test Results (Mode 2)

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	15.82	15.41	16.09	15.56	0.5	Pass
157	5785	15.23	15.22	15.82	15.23	0.5	Pass
165	5825	15.51	15.56	15.55	15.5	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	18.22	17.13	18.42	17.68	0.5	Pass
157	5785	17.7	16.51	18.27	18.58	0.5	Pass
165	5825	17.94	18.45	17.34	17.91	0.5	Pass

802.11ax (HE40)

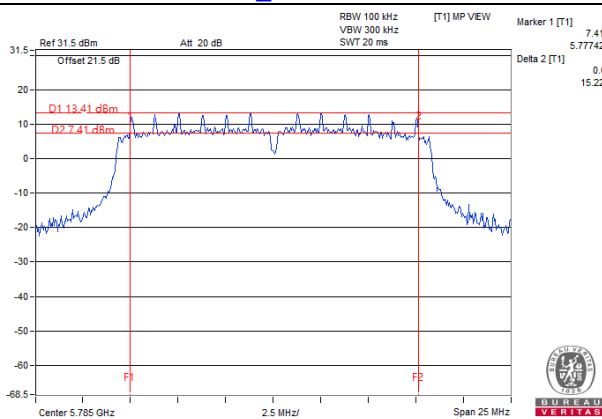
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.65	36.18	37.82	37.65	0.5	Pass
159	5795	37.46	36.76	36.68	37.38	0.5	Pass

802.11ax (HE80)

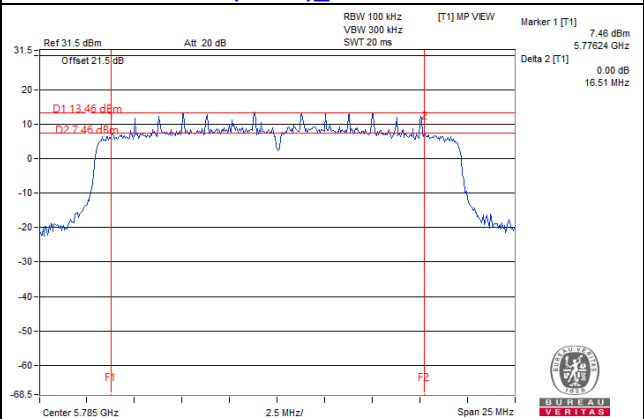
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.07	75.53	76.42	76.62	0.5	Pass

Spectrum Plot of Worst Value

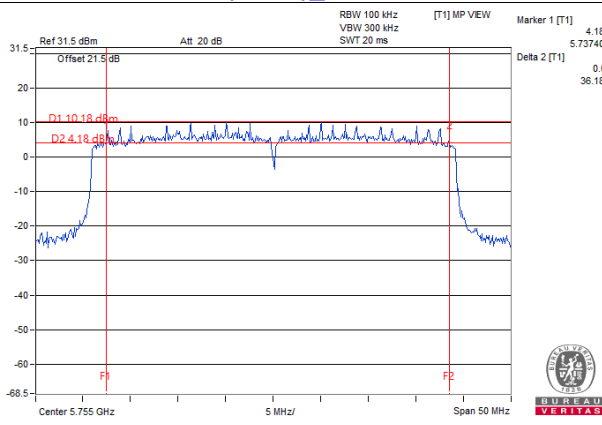
802.11a_Chain 1 / CH157



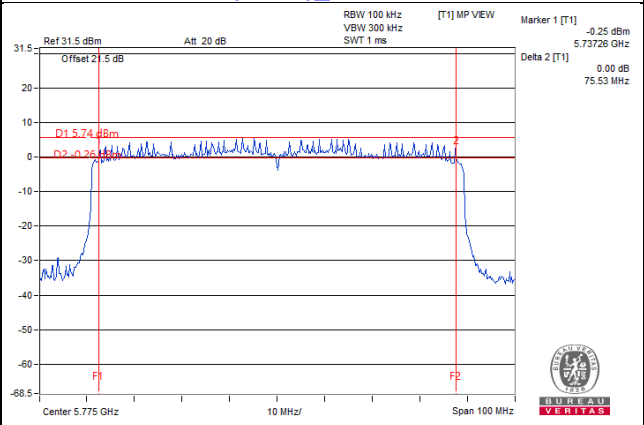
802.11ax (HE20)_Chain 1 / CH157



802.11ax (HE40)_Chain 1 / CH151



802.11ax (HE80)_Chain 1 / CH155



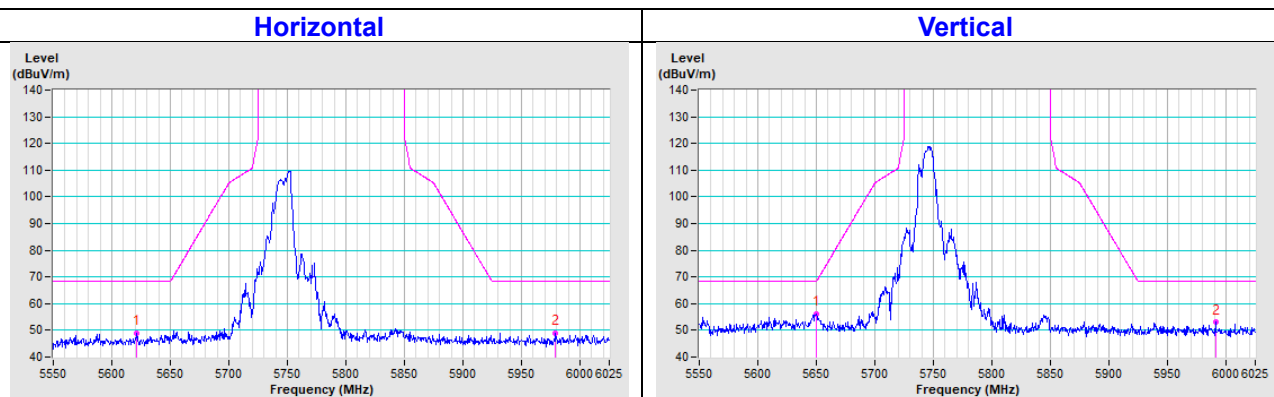
5 Pictures of Test Arrangements

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

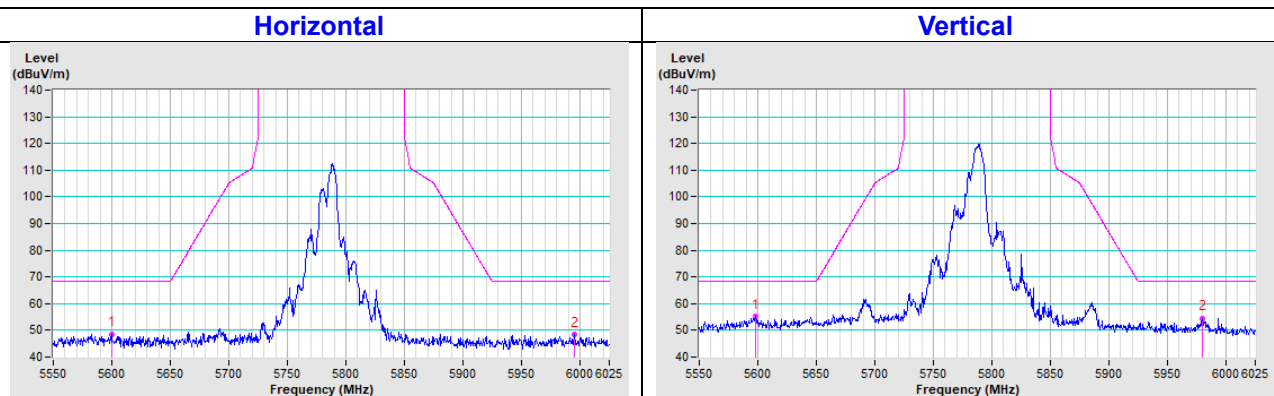
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Test Results (Mode 1)

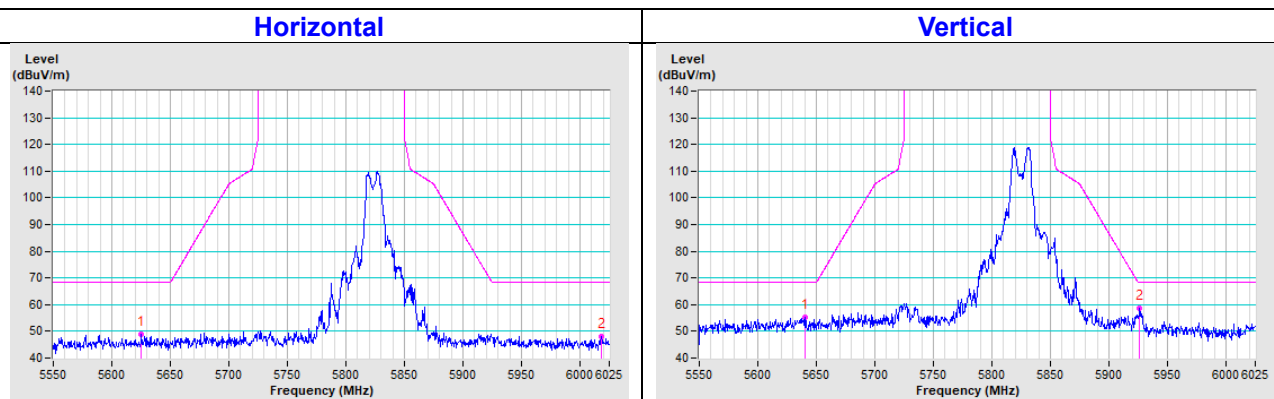
802.11a CH 149 : 5745 MHz



802.11a CH 157 : 5785 MHz

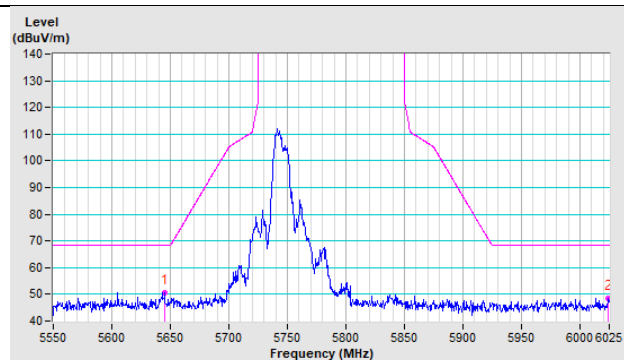


802.11a CH 165 : 5825 MHz

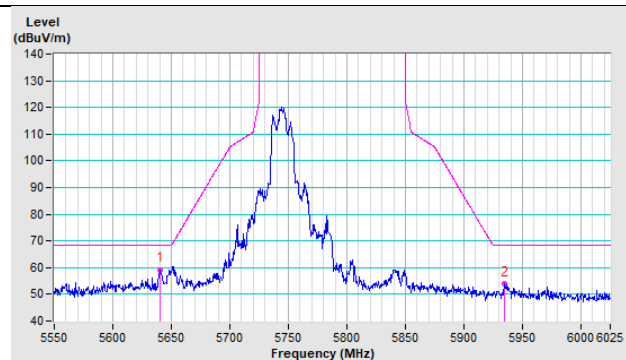


802.11ax (HE20) CH 149 : 5745 MHz

Horizontal

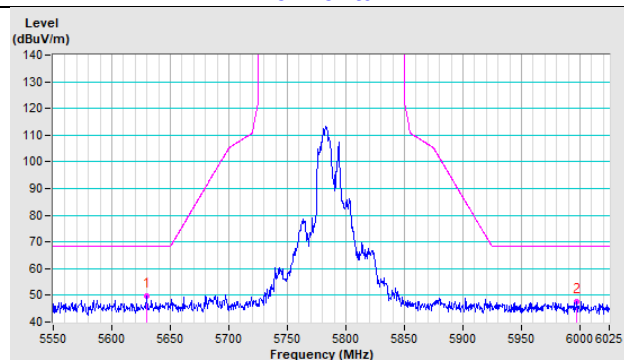


Vertical

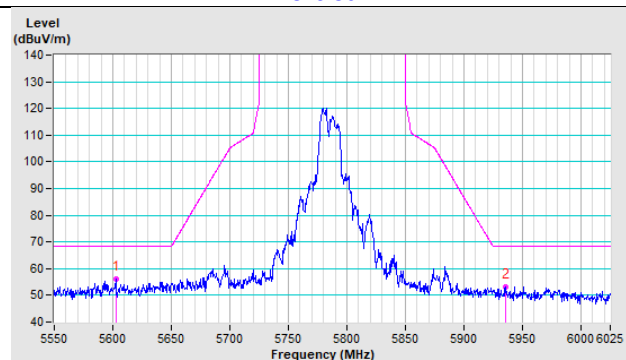


802.11ax (HE20) CH 157 : 5785 MHz

Horizontal

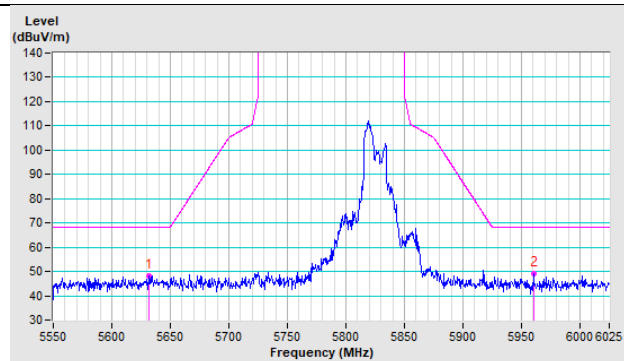


Vertical

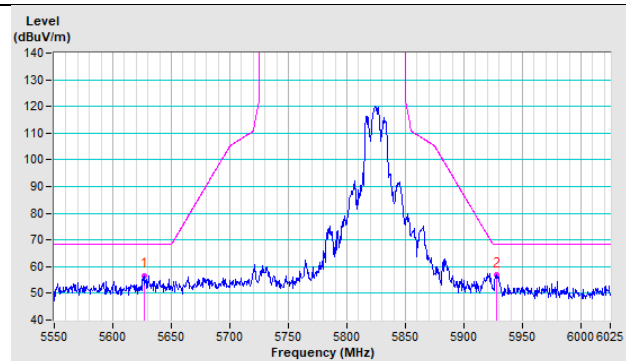


802.11ax (HE20) CH 165 : 5825 MHz

Horizontal

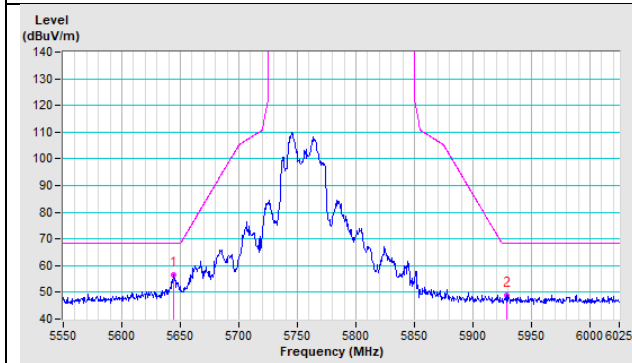


Vertical

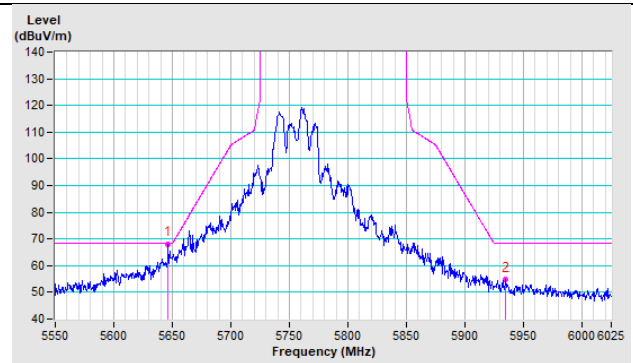


802.11ax (HE40) CH 151 : 5755 MHz

Horizontal

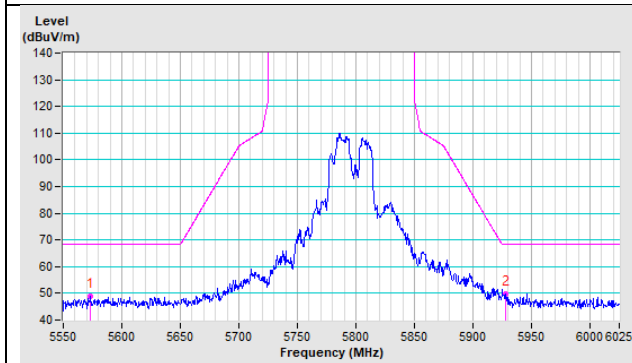


Vertical

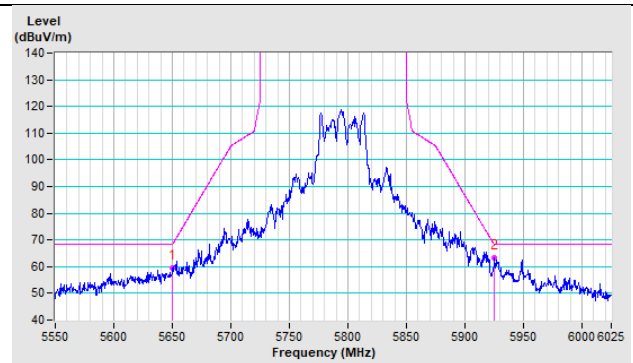


802.11ax (HE40) CH 159 : 5795 MHz

Horizontal

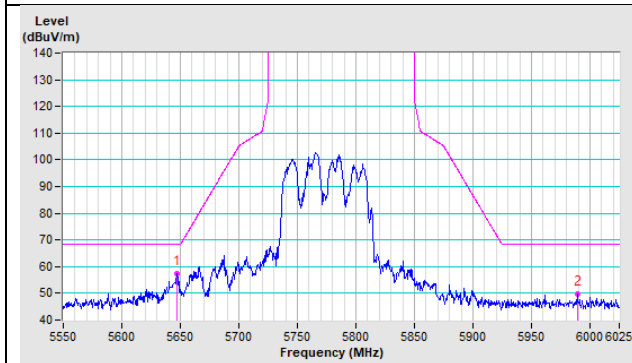


Vertical

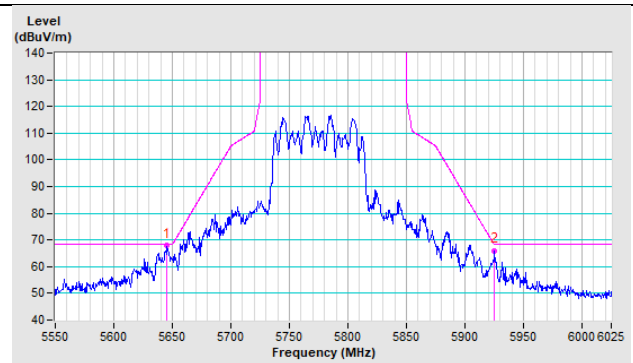


802.11ax (HE80) CH 155 : 5775 MHz

Horizontal



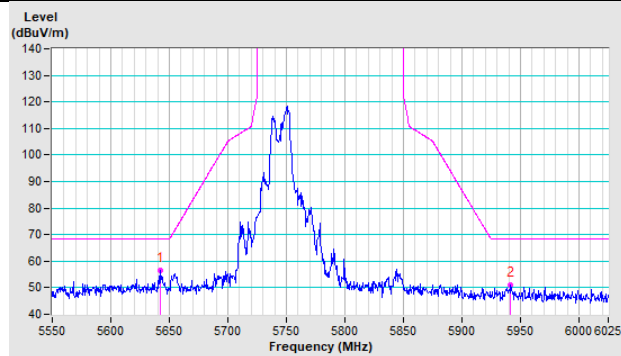
Vertical



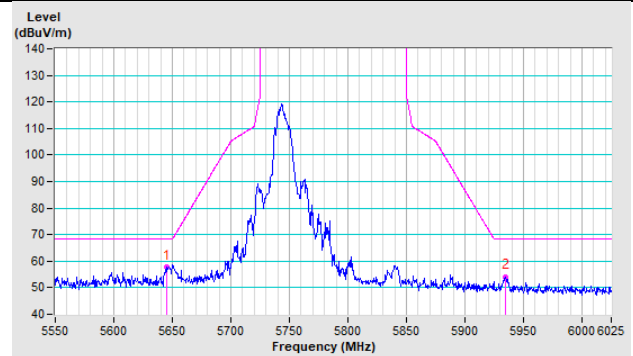
Test Results (Mode 2)

802.11a CH 149 : 5745 MHz

Horizontal

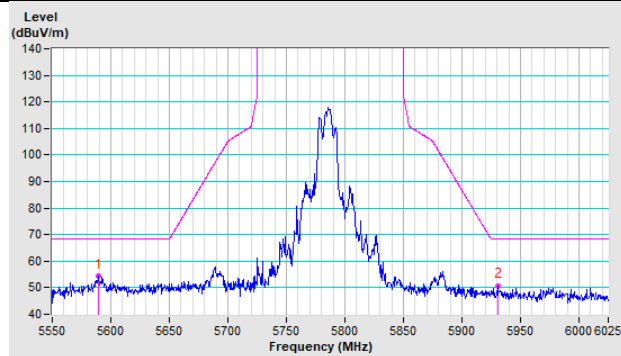


Vertical

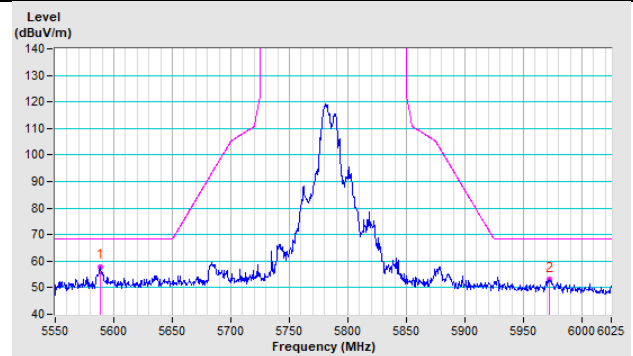


802.11a CH 157 : 5785 MHz

Horizontal

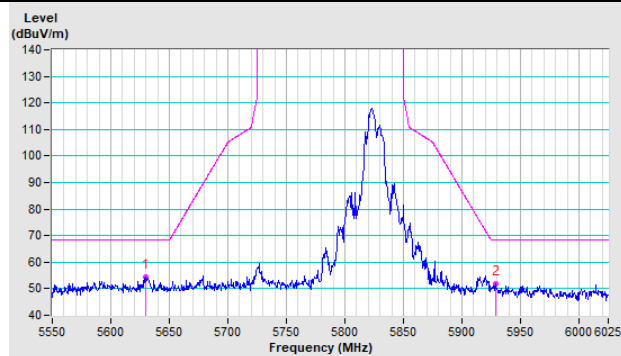


Vertical

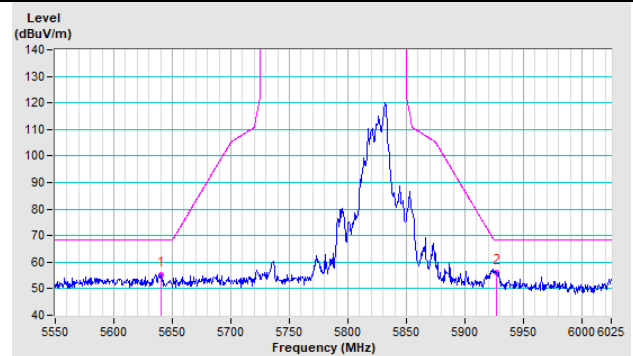


802.11a CH 165 : 5825 MHz

Horizontal

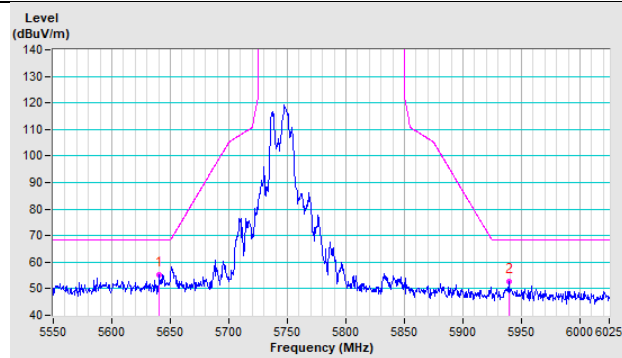


Vertical

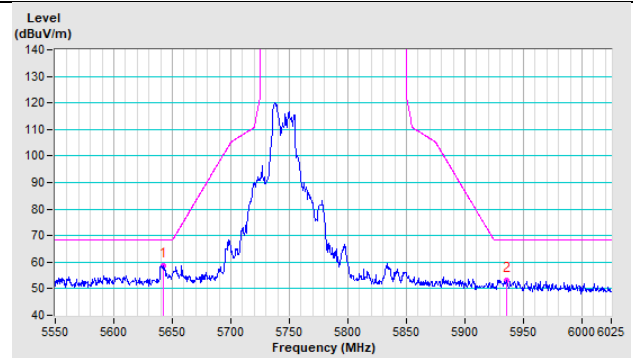


802.11ax (HE20) CH 149 : 5745 MHz

Horizontal

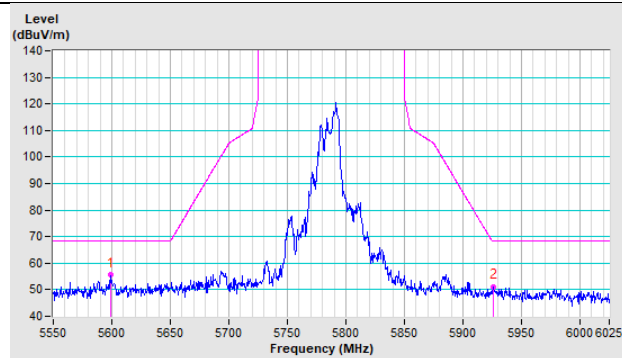


Vertical

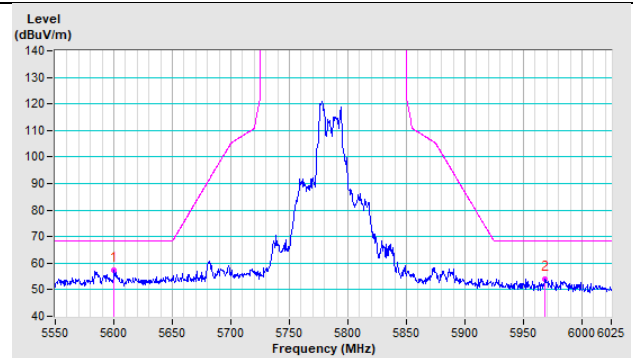


802.11ax (HE20) CH 157 : 5785 MHz

Horizontal

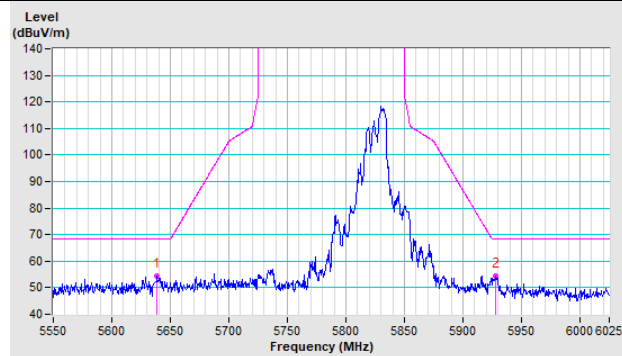


Vertical

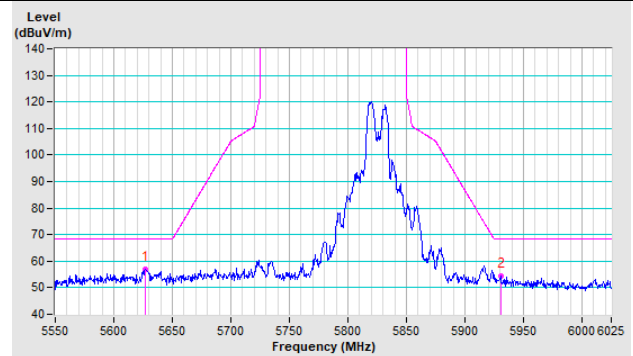


802.11ax (HE20) CH 165 : 5825 MHz

Horizontal

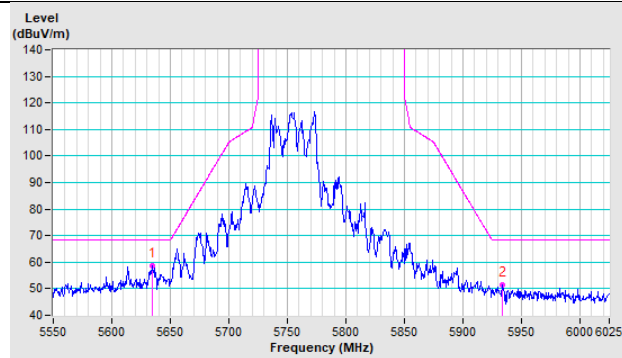


Vertical

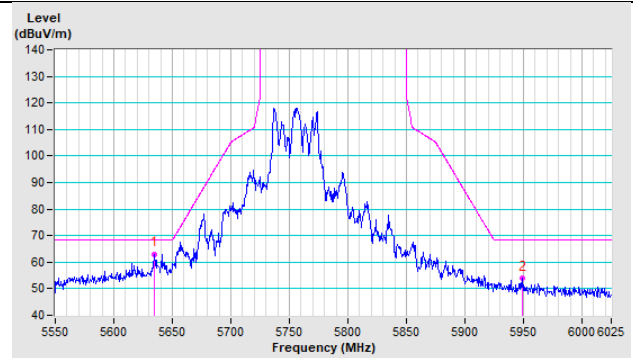


802.11ax (HE40) CH 151 : 5755 MHz

Horizontal

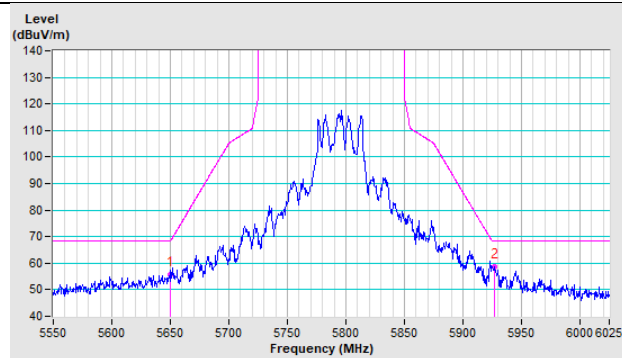


Vertical

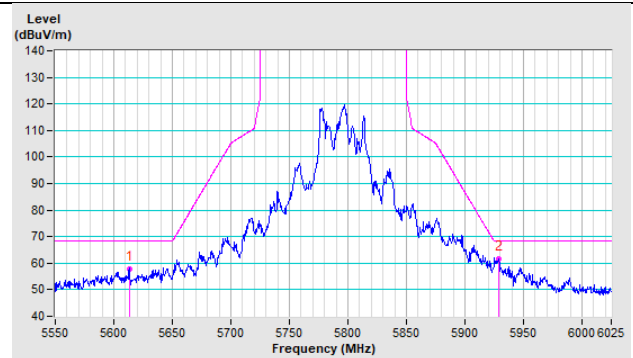


802.11ax (HE40) CH 159 : 5795 MHz

Horizontal

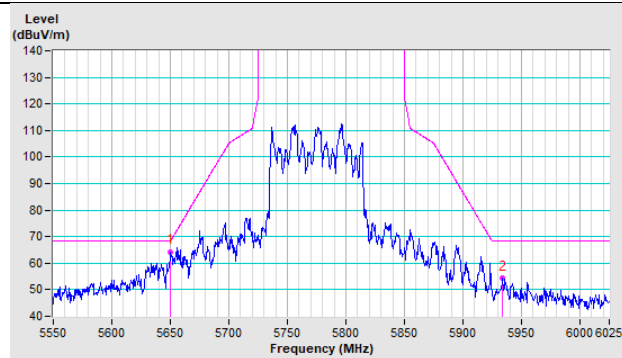


Vertical

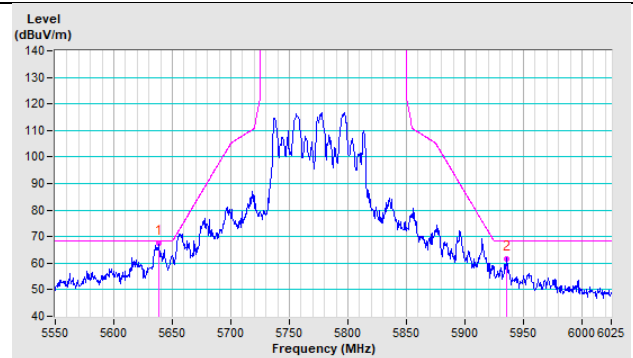


802.11ax (HE80) CH 155 : 5775 MHz

Horizontal

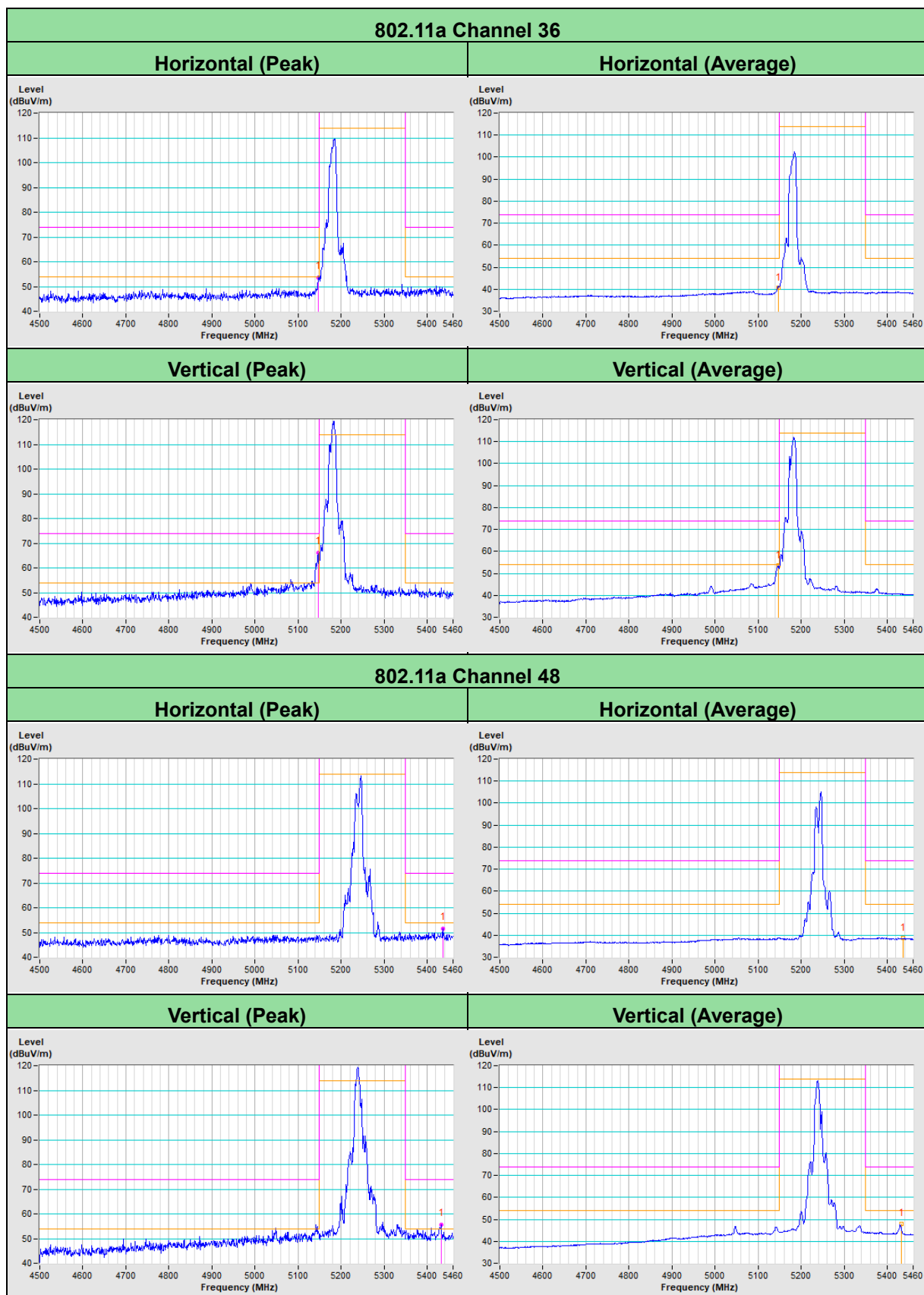


Vertical



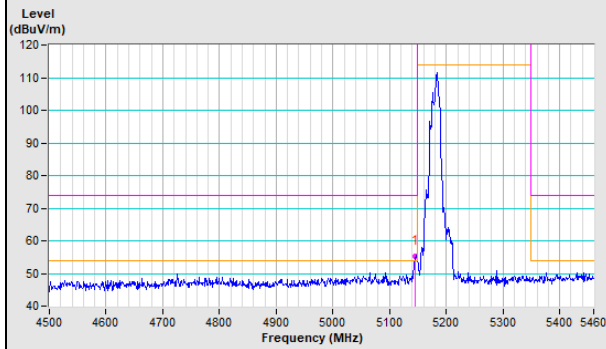
Annex B - Band-Edge Measurement (For U-NII-1 band)

Test Results (Mode 1)

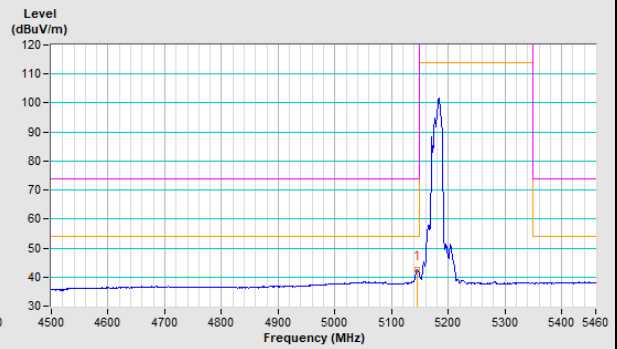


802.11ac (VHT20) Channel 36

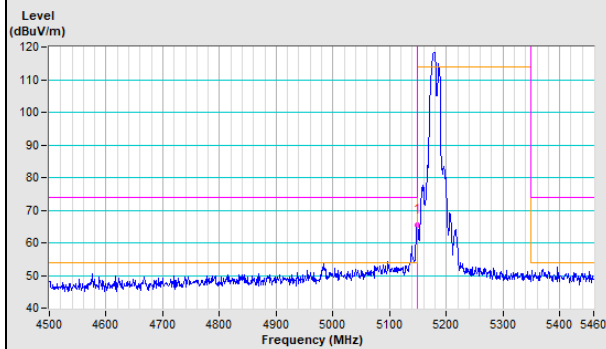
Horizontal (Peak)



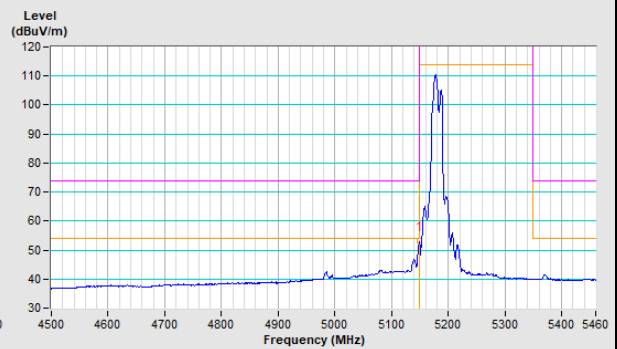
Horizontal (Average)



Vertical (Peak)

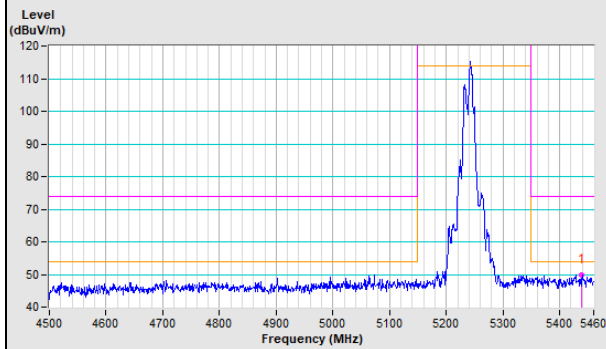


Vertical (Average)

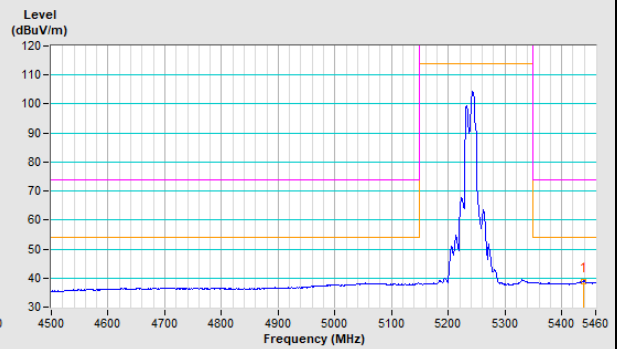


802.11ac (VHT20) Channel 48

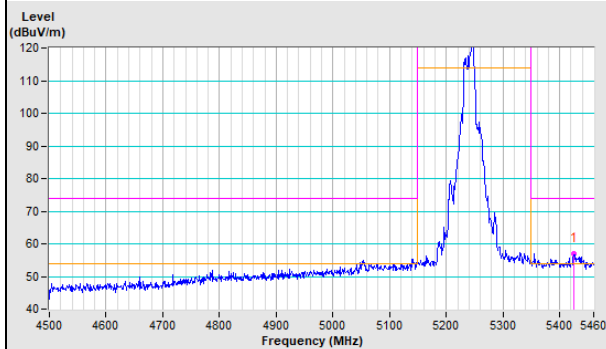
Horizontal (Peak)



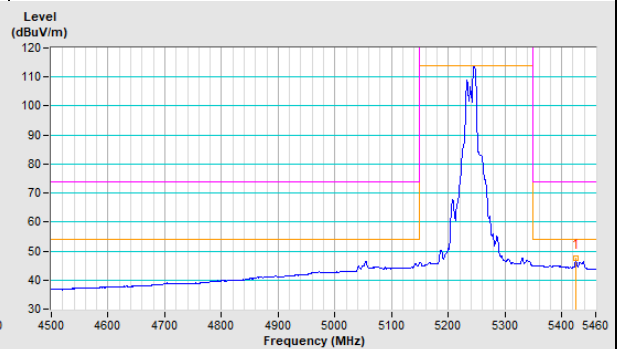
Horizontal (Average)

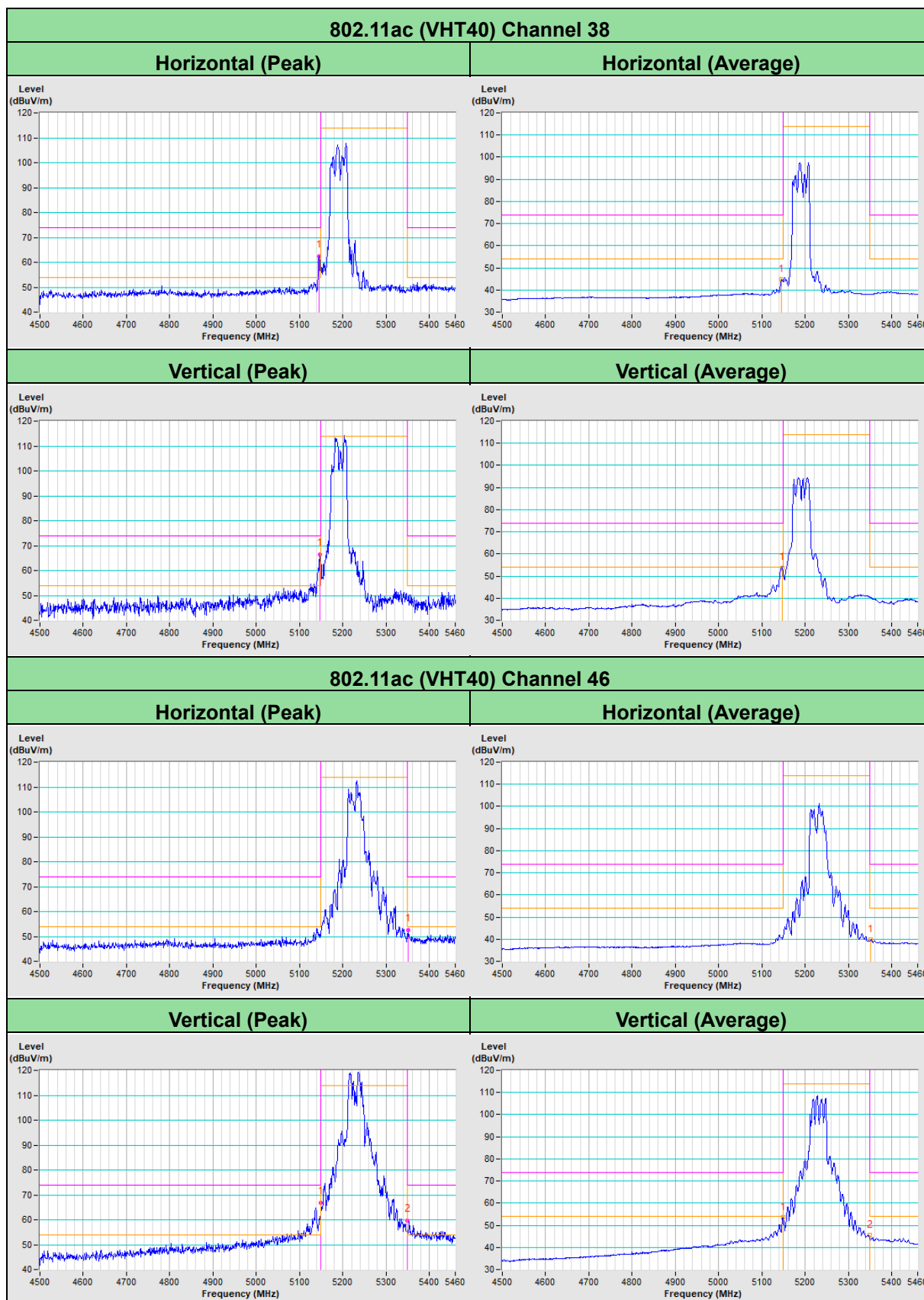


Vertical (Peak)



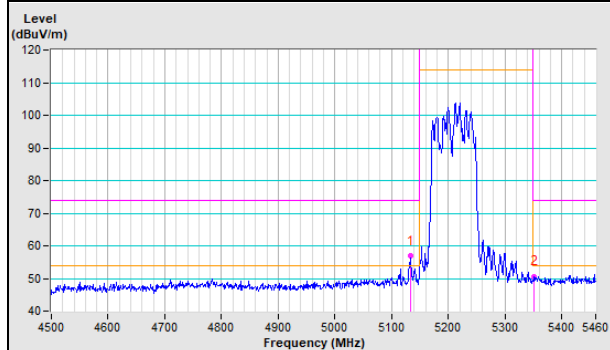
Vertical (Average)



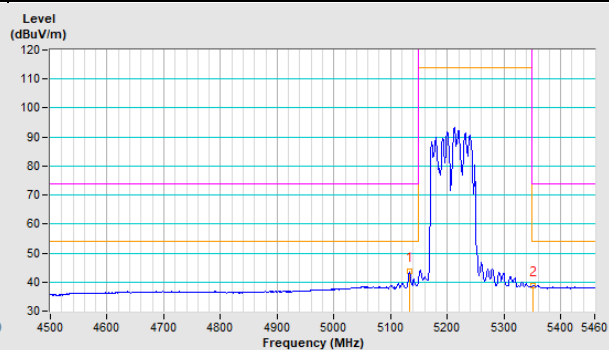


802.11ac (VHT80) Channel 42

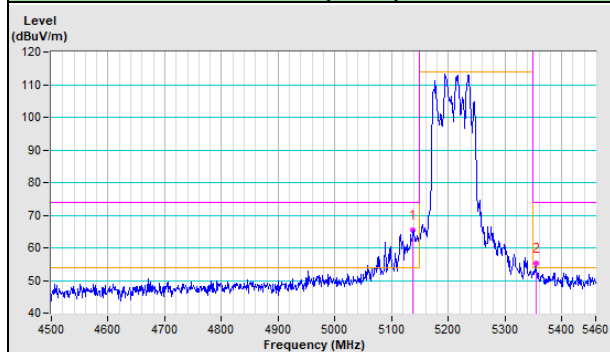
Horizontal (Peak)



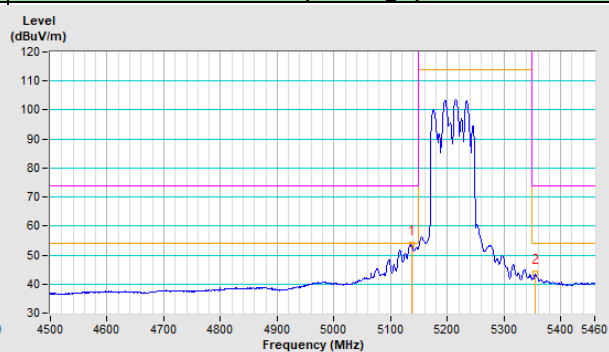
Horizontal (Average)



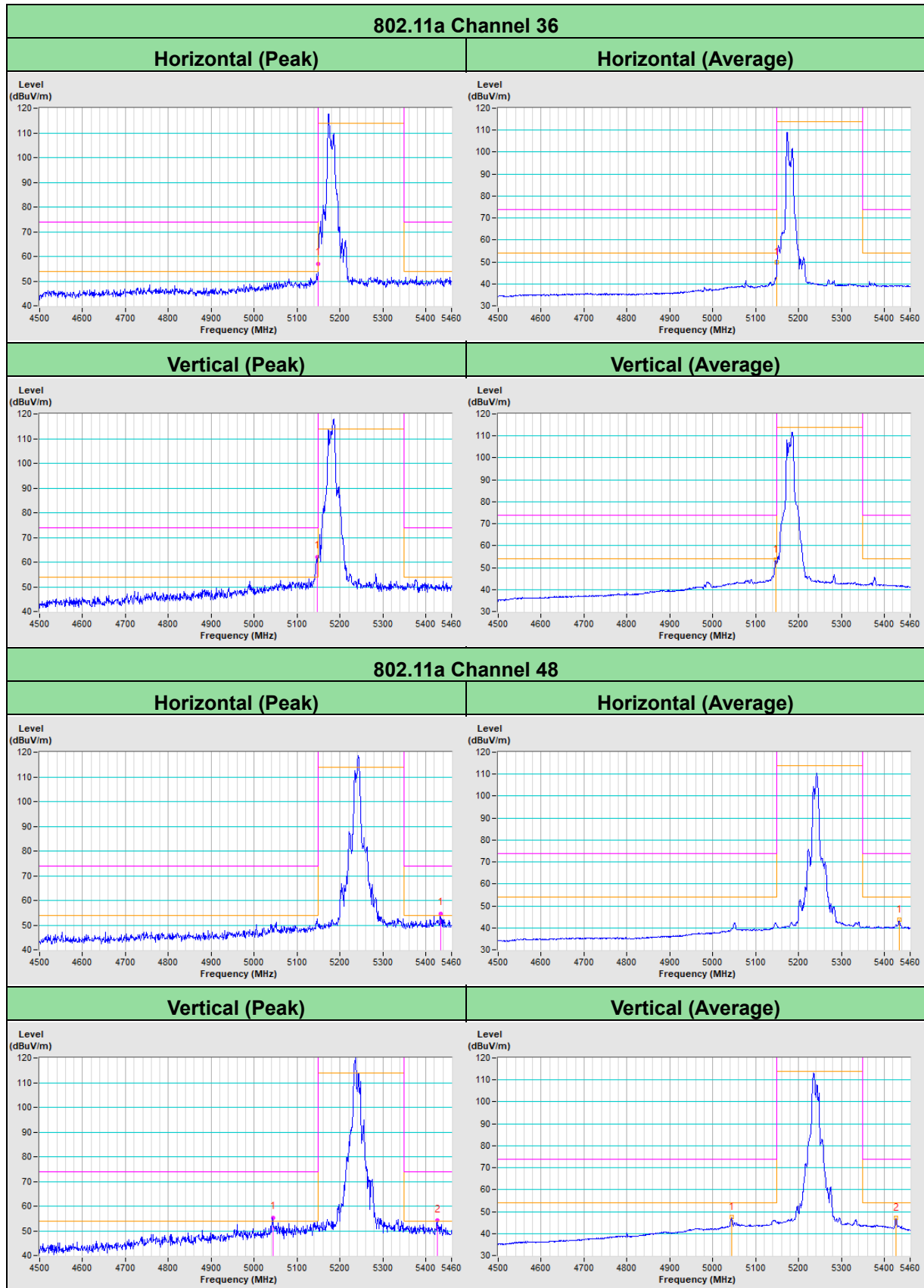
Vertical (Peak)



Vertical (Average)

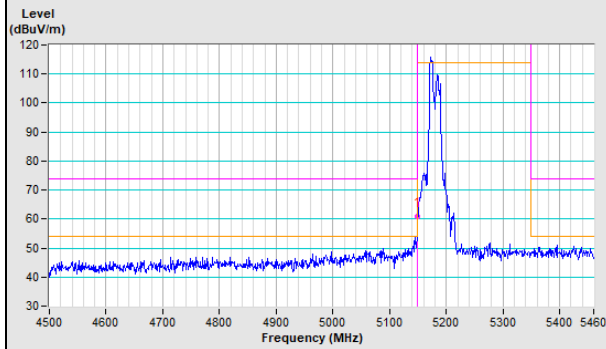


Test Results (Mode 2)

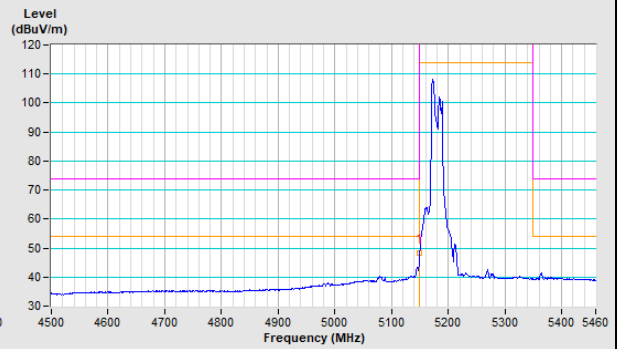


802.11ax (HE20) Channel 36

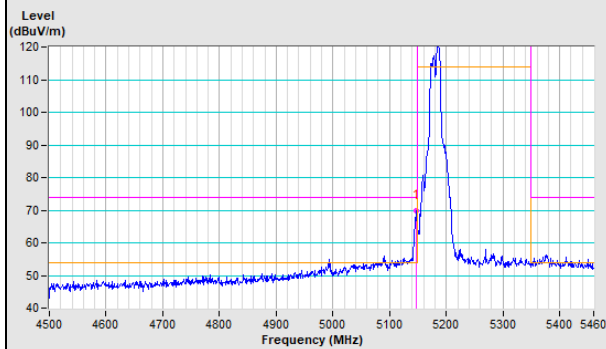
Horizontal (Peak)



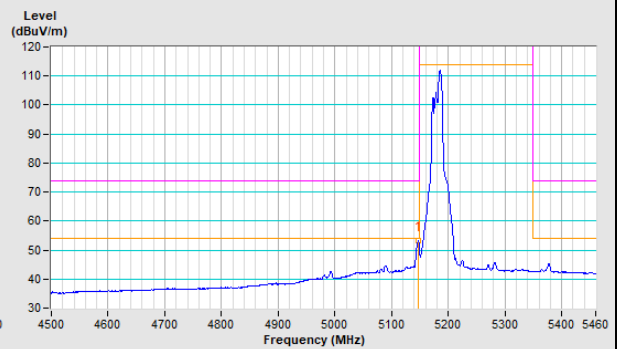
Horizontal (Average)



Vertical (Peak)

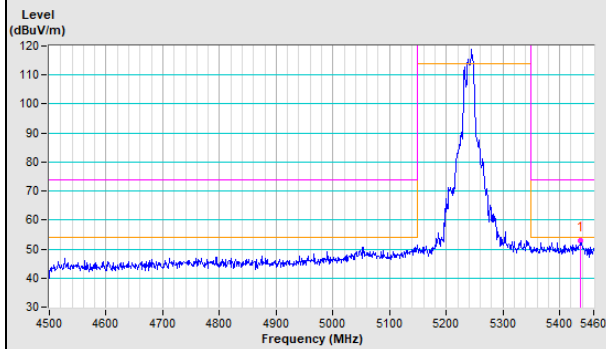


Vertical (Average)

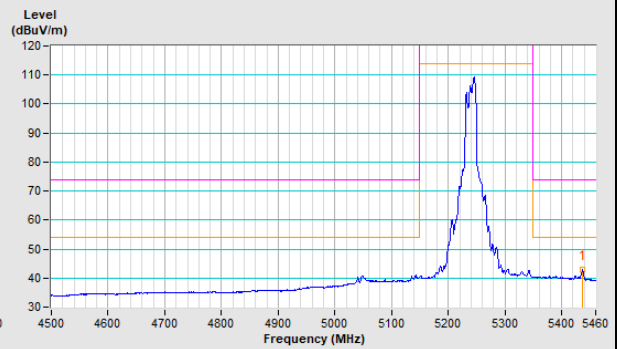


802.11ax (HE20) Channel 48

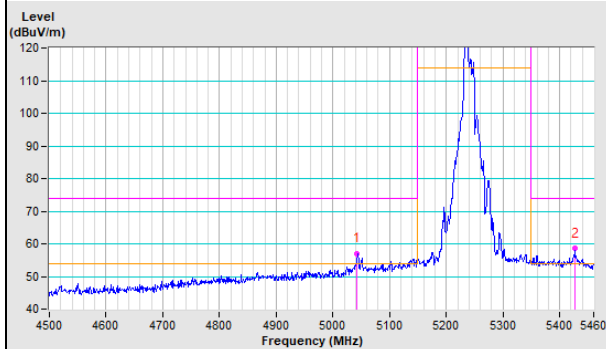
Horizontal (Peak)



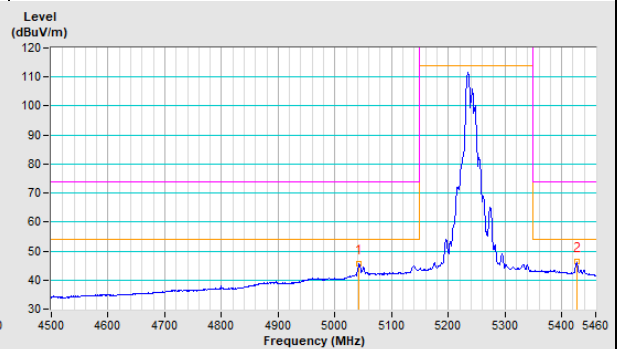
Horizontal (Average)

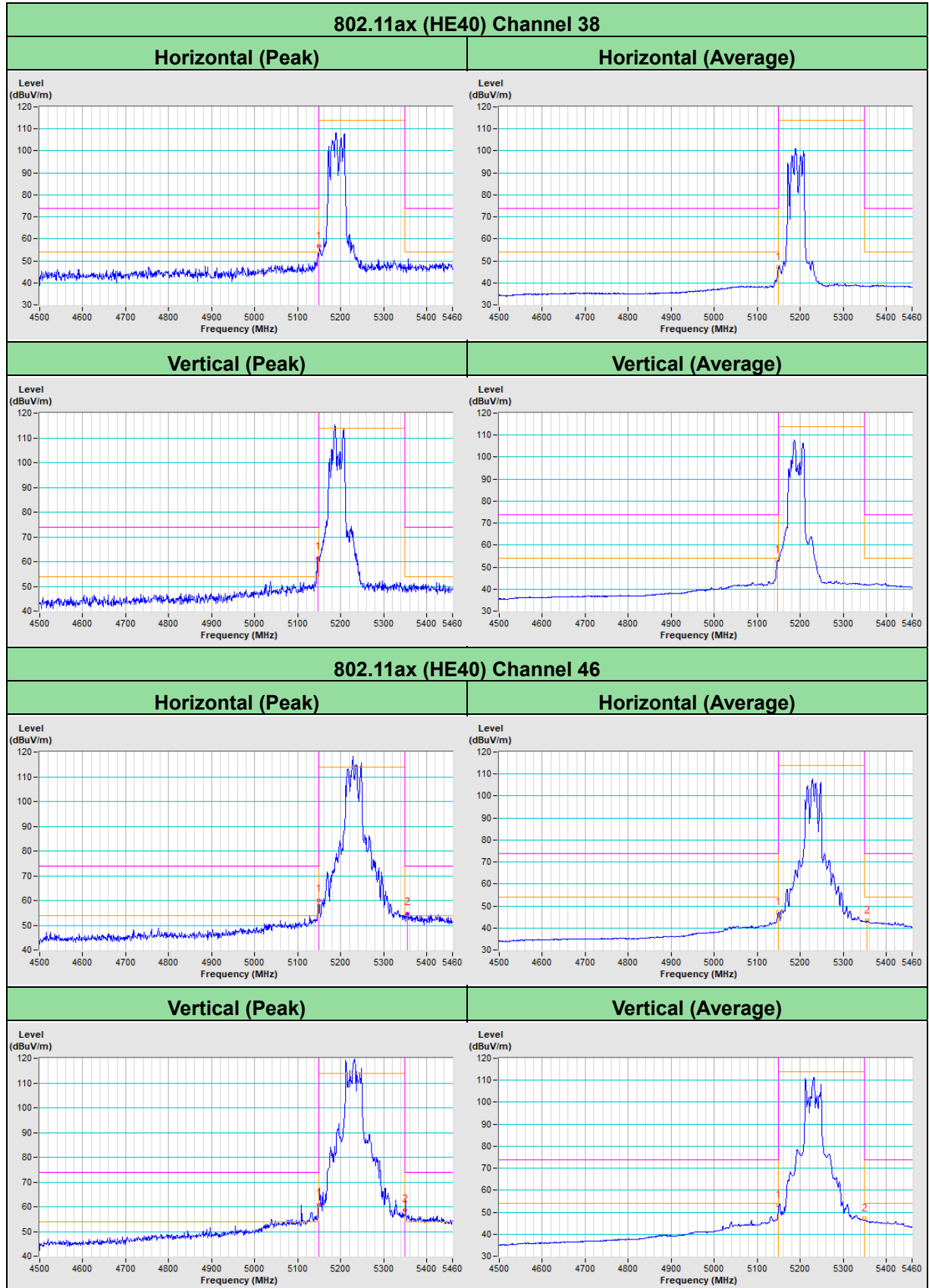


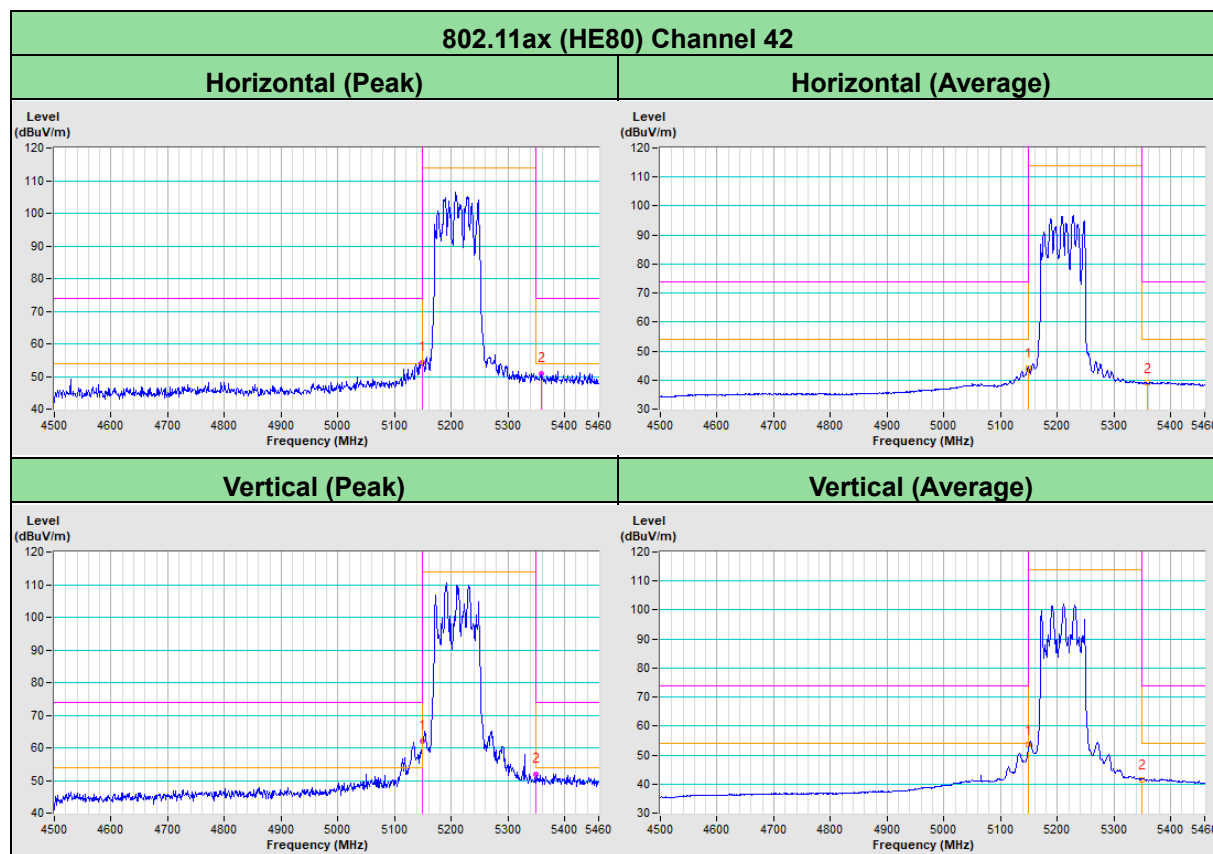
Vertical (Peak)



Vertical (Average)







Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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