

FCC Test Report

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Test Model: MR9600 V2

Series Model: MR9610 V2, EA9350 V2

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Release Control Record

Issue No.	Description	Date Issued
RF200605E14-1	Original release.	Nov. 09, 2020

1 Certificate of Conformity

Product: Dual-Band 802.11ax Wireless Router

Brand: Linksys

Test Model: MR9600 V2

Series Model: MR9610 V2, EA9350 V2

Sample Status: ENGINEERING SAMPLE

Applicant: Belkin International, Inc.

Test Date: July 02 to Sep. 29, 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 : Vivian Huang , **Date:** Nov. 09, 2020
Vivian Huang / Specialist

Approved by : Clark Lin , **Date:** Nov. 09, 2020
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 -15.20dB at 0.16172 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 -0.1 dB at 5150.00 MHz, 5725.00 MHz, 5350.00 MHz and 5460.00 MH.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex(MHF) not a standard connector.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- For U-NII-1, U-NII-2A, U-NII-2C 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.
- 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

Product	Dual-Band 802.11ax Wireless Router
Brand	Linksys
Test Model	MR9600 V2
Series Model	MR9610 V2, EA9350 V2
Status of EUT	ENGINEERING SAMPLE
Driver version	17.10.99.17(r780087 WLTEST)
Power Supply Rating	12Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 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 3466.7 Mbps 802.11ax: up to 4803.9 Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18~5.32GHz, 5.50~5.70GHz, 5.745 ~ 5.825GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 24 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 11 802.11ac (VHT80), 802.11ax (HE80): 5 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	CDD Mode: 2.412 ~ 2.462 GHz: 984.722 mW 5.18 ~ 5.25 GHz: 948.995 mW 5.25 ~ 5.32 GHz: 249.921 mW 5.5 ~ 5.7GHz: 245.213 mW 5.745 ~ 5.825 GHz: 979.87 mW Beamforming Mode: 2.412 ~ 2.462 GHz: 425.171 mW 5.18 ~ 5.25 GHz: 440.884 mW 5.25 ~ 5.32 GHz: 117.046 mW 5.5 ~ 5.7GHz: 116.92 mW 5.745 ~ 5.825 GHz: 464.91 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	RJ45 cable x1 (Unshielded, 1m)

Note:

- The EUT has three model names, which are identical to each other in all aspects except for the following information:

Brand Name	Model Name	Difference
Linksys	MR9610 V2	For marketing
	EA9350 V2	
	MR9600 V2	

From the above models, model: **MR9600 V2** was selected as representative model for the test and its data are recorded in this report.

- The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3
WLAN 2.4GHz	WLAN 5GHz	Bluetooth

- Simultaneously transmission condition.

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

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

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

No.	Brand	Model name	Spec	plug
1	LEI	MU48AY120400-A1	Input: 100-240Vac, 50/60Hz, 1.5A Output: 12Vdc, 4A Output Cable: Unshielded, 1.5m	US
2	Ktec	KSAS0501200400HU	Input: 100-240Vac, 50/60Hz, 1.2A Output: 12Vdc, 4A Output Cable: Unshielded, 1.5m	US
3	APD	DA-48T12	Input: 100-240Vac, 50/60Hz, 1.4A Output: 12Vdc, 4A Output Cable: Unshielded, 1.5m	US/EU/UK (Detachable)
4	Ktec	KSAS0501200400M2	Input: 100-240Vac, 50/60Hz, 1.2A Output: 12Vdc, 4A Output Cable: Unshielded, 1.5m	US/EU/UK (Detachable)

Note:

- From the above adapters, the worst Radiated Emissions and Conducted Emissions test was found in Adapter 1. Therefore only the test data of the modes were recorded in this report.

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

Antenna No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
1	4.04 3.31	2.4~2.4835 5.15-5.85	Dipole	i-pex(MHF)
2	3.66 3.31	2.4~2.4835 5.15-5.85	Dipole	i-pex(MHF)
3	3.66 3.25	2.4~2.4835 5.15-5.85	Dipole	i-pex(MHF)
4	3.33 3.23	2.4~2.4835 5.15-5.85	Dipole	i-pex(MHF)
Bluetooth	2.7	2.4~2.4835	PIFA	none

6. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

Note:

1. All of modulation mode support beamforming function except 802.11a 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, 160MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 160MHz), 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)

7. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
8. 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 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

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

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

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

Channel	Frequency
50	5250 MHz

FOR 5500 ~ 5700MHz

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

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

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

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

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

Channel	Frequency
106	5530 MHz
122	5610 MHz

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

Channel	Frequency
114	5570 MHz

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where **RE≥1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of laying-flat and wall-mount. The worst case was found when positioned of on laying-flat.

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	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6Mb/s
802.11ax (HE20)		36 to 64	36, 40, 48, 52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 62	38, 46, 54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		42, 58	42, 58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6Mb/s
802.11ax (HE20)		100 to 140	100, 116, 140	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 134	102, 110, 134	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 122	106, 122	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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
802.11ax (HE20)	5180-5320	36 to 64	165	OFDMA	BPSK	MCS0
	5500-5700	100 to 140				
	5745-5825	149 to 165				

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
802.11ax (HE20)	5180-5320	36 to 64	165	OFDMA	BPSK	MCS0
	5500-5700	100 to 140				
	5745-5825	149 to 165				

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	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		38 to 62	38, 46, 54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		42, 58	42, 58	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 64	36, 40, 48, 52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 62	38, 46, 54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		42, 58	42, 58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		100 to 140	100, 116, 140	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		106 to 122	106, 122	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 140	100, 116, 140	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 134	102, 110, 134	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 122	106, 122	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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)	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	MCS0
802.11ac (VHT160)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 64	36, 40, 48, 52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 62	38, 46, 54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		42, 58	42, 58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11ac (VHT20)	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	MCS0
802.11ac (VHT160)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 140	100, 116, 140	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 134	102, 110, 134	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 122	106, 122	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	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	Gary Cheng
RE _{<} 1G	26deg. C, 68%RH	120Vac, 60Hz	Tom Yang
PLC	26deg. C, 68%RH	120Vac, 60Hz	Tom Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Kevin Ko

3.3 Duty Cycle of Test Signal

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

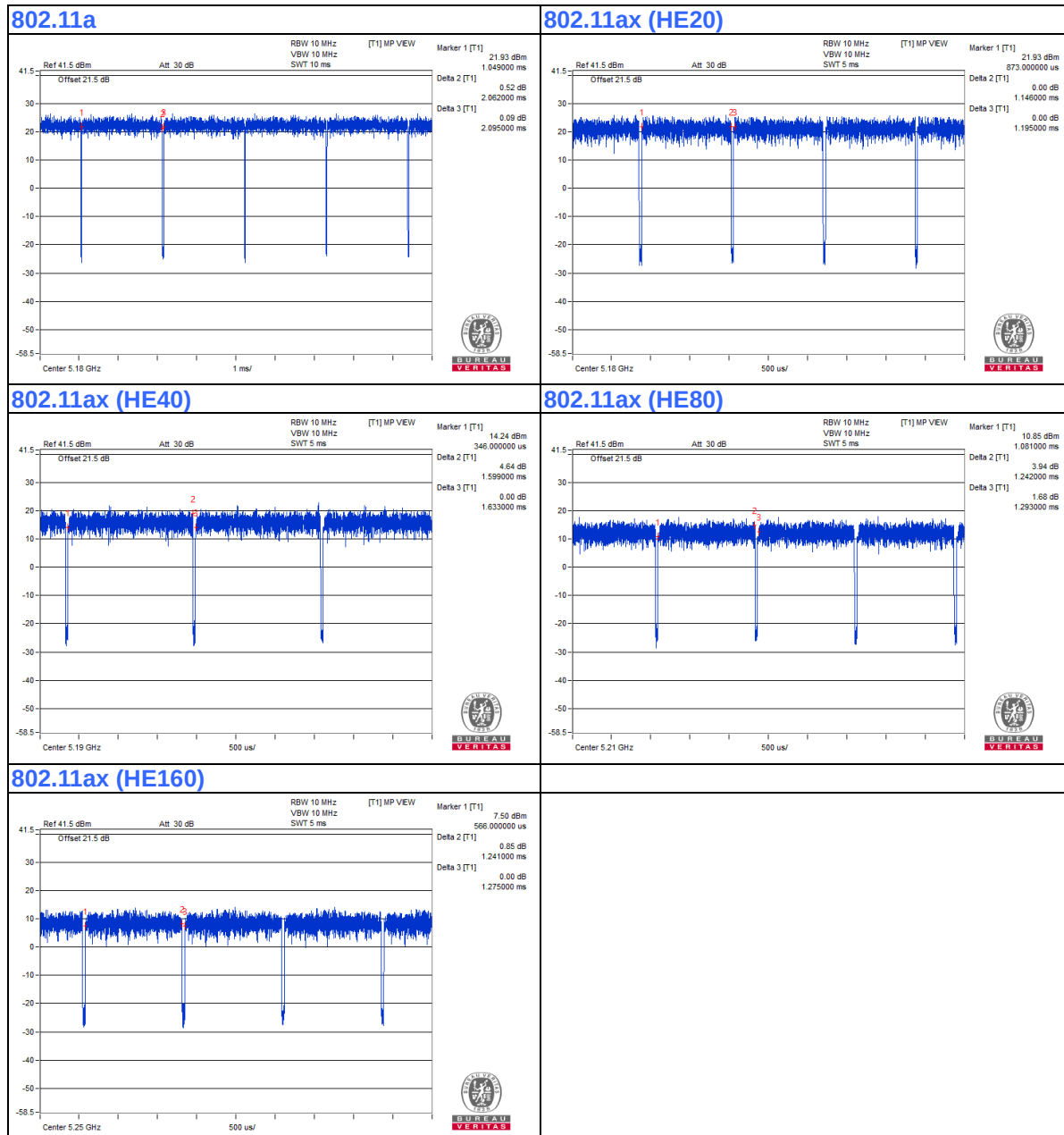
802.11a: Duty cycle = $2.062 \text{ ms} / 2.095 \text{ ms} = 0.984$

802.11ax (HE20): Duty cycle = $1.146 \text{ ms} / 1.195 \text{ ms} = 0.959$, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.18 \text{ dB}$

802.11ax (HE40): Duty cycle = $1.599 \text{ ms} / 1.633 \text{ ms} = 0.979$, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.09 \text{ dB}$

802.11ax (HE80): Duty cycle = $1.242 \text{ ms} / 1.293 \text{ ms} = 0.961$, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.17 \text{ dB}$

802.11ax (HE160): Duty cycle = $1.241 \text{ ms} / 1.275 \text{ ms} = 0.975$, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.12 \text{ dB}$



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.

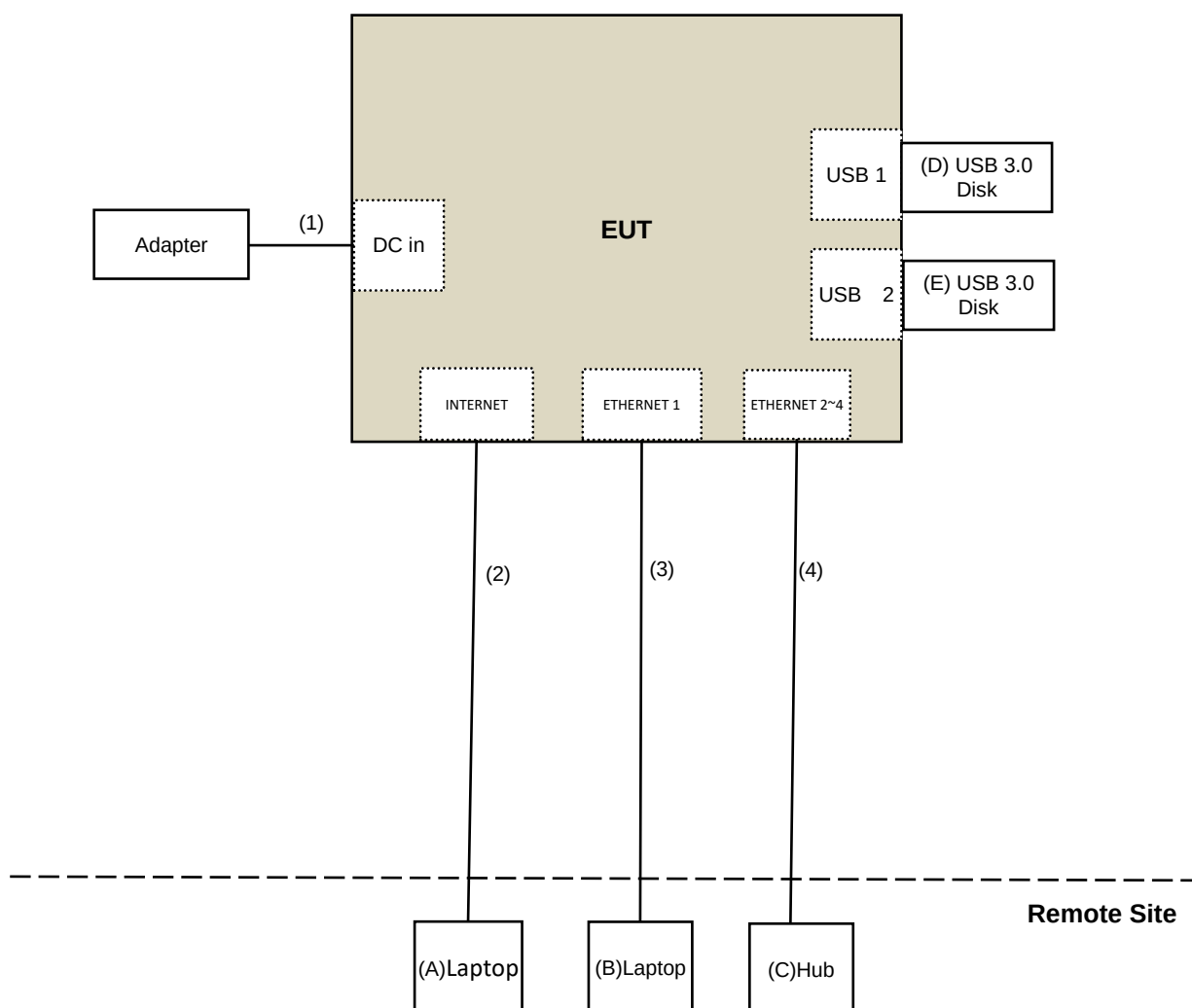
ID	Product	Brand	Model No.	Serial No	FCC ID	Remarks
A.	Laptop	WONDER	WD-303	7C17KA 04011	NA	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	HUB	ZyXEL	GS1100-16	S150H44000046	FCC DoC	Provided by Lab
D.	USB 3.0 Disk	SanDisk	SDCZ73-032G-G46	NA	NA	Provided by Lab
E.	USB 3.0 Disk	SanDisk	SDCZ73-032G-G46	NA	NA	Provided by Lab

Note:

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

ID	Descriptions (Cables)	Qty	Length (m)	Shielding (Yes/No)	Cores (Number)	Remarks
1	DC Cable	1	1.5	No	0	Supplied by client
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	RJ-45 Cable	1	10	No	0	Provided by Lab
4	RJ-45 Cable	3	10	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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}
^{*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 OOB & BandEdge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1200	160922	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 09, 2020	June 08, 2021
RF Cable	EMC104-SM-SM-6000	180602	June 09, 2020	June 08, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 17, 2019	July 16, 2020
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
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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. 3.
3. Tested Date: July 02, 2020

For Radiated Emission test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2020	July 05, 2021
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-05	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCi	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1500	180504	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 09, 2020	June 08, 2021
RF Cable	EMC104-SM-SM-6000	180602	June 09, 2020	June 08, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 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
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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. 3.
3. Tested Date: Sep. 26 to 29, 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
AC Power Source Extech Electronics	6205	1440452	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: Sep. 22, 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:

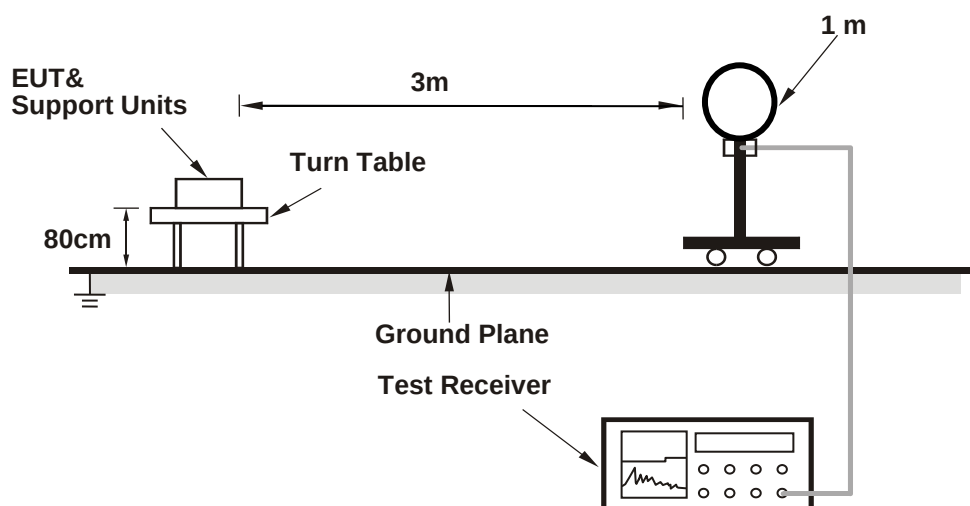
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

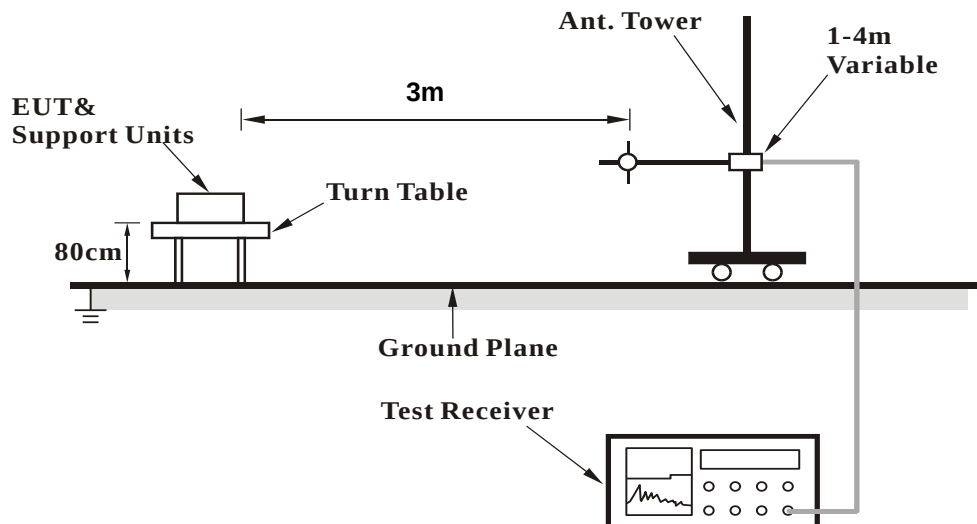
No deviation.

4.1.5 Test Setup

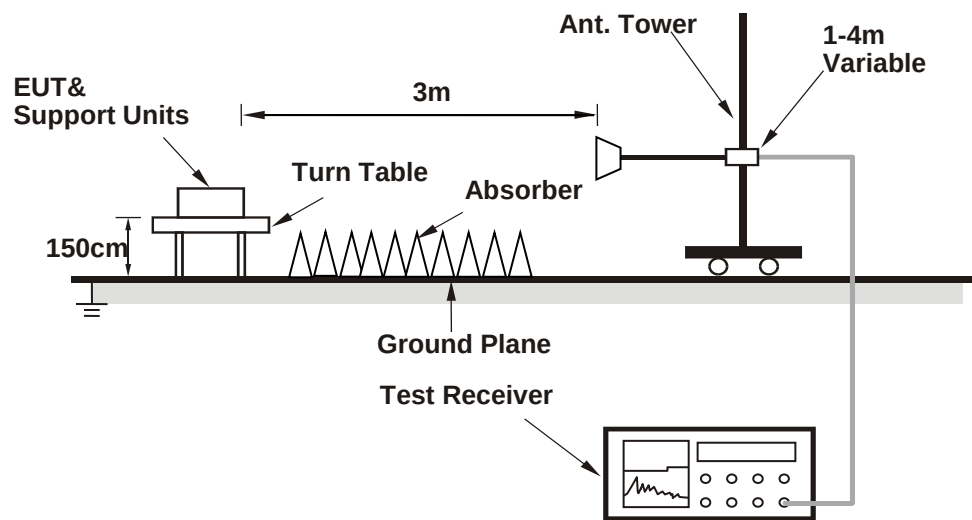
For Radiated emission below 30MHz



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 remote site.
- Controlling software (MTool 3.2.0.2) has been activated to set the EUT under transmission condition continuously.

4.1.7 Test Results

Above 1GHz Data:

802.11a

Channel	TX Channel 36	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	62.1 PK	74.0	-11.9	1.00 H	0	57.9	4.2
2	5150.00	45.3 AV	54.0	-8.7	1.00 H	0	41.1	4.2
3	*5180.00	111.4 PK			2.37 H	159	107.3	4.1
4	*5180.00	103.5 AV			2.37 H	159	99.4	4.1
5	#10360.00	45.3 PK	68.2	-22.9	1.37 H	275	32.1	13.2
6	15540.00	50.3 PK	74.0	-23.7	1.53 H	231	36.6	13.7
7	15540.00	39.5 AV	54.0	-14.5	1.53 H	231	25.8	13.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	73.1 PK	74.0	-0.9	1.98 V	126	68.9	4.2
2	5150.00	51.7 AV	54.0	-2.3	1.98 V	126	47.5	4.2
3	*5180.00	120.9 PK			1.98 V	126	116.8	4.1
4	*5180.00	111.3 AV			1.98 V	126	107.2	4.1
5	#10360.00	45.9 PK	68.2	-22.3	1.38 V	274	32.7	13.2
6	15540.00	50.6 PK	74.0	-23.4	1.51 V	229	36.9	13.7
7	15540.00	39.8 AV	54.0	-14.2	1.51 V	229	26.1	13.7

Remarks:

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

Channel	TX Channel 40	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	115.3 PK			2.35 H	161	111.4	3.9
2	*5200.00	106.4 AV			2.35 H	161	102.5	3.9
3	#10400.00	46.3 PK	68.2	-21.9	1.33 H	274	33.1	13.2
4	15600.00	44.8 PK	74.0	-29.2	1.54 H	233	30.8	14.0
5	15600.00	34.9 AV	54.0	-19.1	1.54 H	233	20.9	14.0
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	*5200.00	124.9 PK			2.06 V	122	121.0	3.9
2	*5200.00	114.8 AV			2.06 V	122	110.9	3.9
3	#10400.00	46.7 PK	68.2	-21.5	1.34 V	274	33.5	13.2
4	15600.00	51.9 PK	74.0	-22.1	1.50 V	226	37.9	14.0
5	15600.00	40.5 AV	54.0	-13.5	1.50 V	226	26.5	14.0

Remarks:

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

Channel	TX Channel 48	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	112.8 PK			2.34 H	164	108.9	3.9
2	*5240.00	104.1 AV			2.34 H	164	100.2	3.9
3	5350.00	55.9 PK	74.0	-18.1	2.34 H	164	52.2	3.7
4	5350.00	44.7 AV	54.0	-9.3	2.34 H	164	41.0	3.7
5	#10480.00	45.8 PK	68.2	-22.4	1.38 H	271	32.3	13.5
6	15720.00	50.3 PK	74.0	-23.7	1.56 H	233	35.8	14.5
7	15720.00	39.5 AV	54.0	-14.5	1.56 H	233	25.0	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	123.5 PK			2.01 V	124	119.6	3.9
2	*5240.00	113.3 AV			2.01 V	124	109.4	3.9
3	5350.00	57.5 PK	74.0	-16.5	2.01 V	124	53.8	3.7
4	5350.00	45.2 AV	54.0	-8.8	2.01 V	124	41.5	3.7
5	#10480.00	46.1 PK	68.2	-22.1	1.36 V	277	32.6	13.5
6	15720.00	50.8 PK	74.0	-23.2	1.54 V	232	36.3	14.5
7	15720.00	40.0 AV	54.0	-14.0	1.54 V	232	25.5	14.5

Remarks:

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

Channel	TX Channel 52	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	54.9 PK	74.0	-19.1	2.31 H	164	50.7	4.2
2	5150.00	43.4 AV	54.0	-10.6	2.31 H	164	39.2	4.2
3	*5260.00	111.7 PK			2.31 H	164	107.9	3.8
4	*5260.00	103.6 AV			2.31 H	164	99.8	3.8
5	#10520.00	47.0 PK	68.2	-21.2	1.40 H	270	33.6	13.4
6	15780.00	50.5 PK	74.0	-23.5	1.60 H	234	36.3	14.2
7	15780.00	39.4 AV	54.0	-14.6	1.60 H	234	25.2	14.2

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.7 PK	74.0	-18.3	1.31 V	88	51.5	4.2
2	5150.00	44.0 AV	54.0	-10.0	1.31 V	88	39.8	4.2
3	*5260.00	122.4 PK			1.31 V	88	118.6	3.8
4	*5260.00	112.8 AV			1.31 V	88	109.0	3.8
5	#10520.00	47.3 PK	68.2	-20.9	1.36 V	271	33.9	13.4
6	15780.00	51.4 PK	74.0	-22.6	1.56 V	228	37.2	14.2
7	15780.00	40.3 AV	54.0	-13.7	1.56 V	228	26.1	14.2

Remarks:

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

Channel	TX Channel 60	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5300.00	111.9 PK			2.34 H	168	108.2	3.7
2	*5300.00	103.8 AV			2.34 H	168	100.1	3.7
3	10600.00	47.2 PK	74.0	-26.8	1.48 H	253	33.8	13.4
4	10600.00	35.8 AV	54.0	-18.2	1.48 H	253	22.4	13.4
5	15900.00	50.3 PK	74.0	-23.7	1.64 H	220	36.8	13.5
6	15900.00	39.2 AV	54.0	-14.8	1.64 H	220	25.7	13.5
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	*5300.00	121.8 PK			1.33 V	90	118.1	3.7
2	*5300.00	112.4 AV			1.33 V	90	108.7	3.7
3	10600.00	47.5 PK	74.0	-26.5	1.56 V	266	34.1	13.4
4	10600.00	35.9 AV	54.0	-18.1	1.56 V	266	22.5	13.4
5	15900.00	51.0 PK	74.0	-23.0	1.60 V	234	37.5	13.5
6	15900.00	40.1 AV	54.0	-13.9	1.60 V	234	26.6	13.5

Remarks:

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

Channel	TX Channel 64	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5320.00	111.9 PK			2.41 H	160	108.1	3.8
2	*5320.00	104.6 AV			2.41 H	160	100.8	3.8
3	5350.00	59.3 PK	74.0	-14.7	2.41 H	160	55.6	3.7
4	5350.00	48.0 AV	54.0	-6.0	2.41 H	160	44.3	3.7
5	10640.00	47.0 PK	74.0	-27.0	1.46 H	252	33.5	13.5
6	10640.00	35.5 AV	54.0	-18.5	1.46 H	252	22.0	13.5
7	15960.00	50.6 PK	74.0	-23.4	1.65 H	220	37.1	13.5
8	15960.00	39.6 AV	54.0	-14.4	1.65 H	220	26.1	13.5
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	*5320.00	119.8 PK			1.84 V	197	116.0	3.8
2	*5320.00	110.7 AV			1.84 V	197	106.9	3.8
3	5350.00	71.7 PK	74.0	-2.3	1.84 V	197	68.0	3.7
4	5350.00	53.8 AV	54.0	-0.2	1.84 V	197	50.1	3.7
5	10640.00	47.6 PK	74.0	-26.4	1.56 V	268	34.1	13.5
6	10640.00	36.0 AV	54.0	-18.0	1.56 V	268	22.5	13.5
7	15960.00	51.2 PK	74.0	-22.8	1.64 V	234	37.7	13.5
8	15960.00	40.1 AV	54.0	-13.9	1.64 V	234	26.6	13.5

Remarks:

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

Channel	TX Channel 100	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	5460.00	50.7 PK	74.0	-23.3	2.00 H	159	46.6	4.1
2	5460.00	40.1 AV	54.0	-13.9	2.00 H	159	36.0	4.1
3	#5470.00	50.2 PK	68.2	-18.0	2.00 H	159	46.0	4.2
4	*5500.00	107.2 PK			2.00 H	159	103.0	4.2
5	*5500.00	99.3 AV			2.00 H	159	95.1	4.2
6	11000.00	47.1 PK	74.0	-26.9	1.45 H	254	33.6	13.5
7	11000.00	35.6 AV	54.0	-18.4	1.45 H	254	22.1	13.5
8	#16500.00	50.3 PK	68.2	-17.9	1.68 H	221	35.2	15.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.2 PK	74.0	-15.8	2.05 V	113	54.1	4.1
2	5460.00	44.3 AV	54.0	-9.7	2.05 V	113	40.2	4.1
3	#5470.00	68.0 PK	68.2	-0.2	2.05 V	113	63.8	4.2
4	*5500.00	115.3 PK			2.05 V	113	111.1	4.2
5	*5500.00	105.7 AV			2.05 V	113	101.5	4.2
6	11000.00	47.5 PK	74.0	-26.5	1.55 V	270	34.0	13.5
7	11000.00	35.8 AV	54.0	-18.2	1.55 V	270	22.3	13.5
8	#16500.00	51.1 PK	68.2	-17.1	1.64 V	235	36.0	15.1

Remarks:

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

Channel	TX Channel 116	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5580.00	109.6 PK			2.02 H	167	105.3	4.3
2	*5580.00	100.2 AV			2.02 H	167	95.9	4.3
3	11160.00	47.9 PK	74.0	-26.1	1.42 H	245	34.3	13.6
4	11160.00	35.8 AV	54.0	-18.2	1.42 H	245	22.2	13.6
5	#16740.00	52.4 PK	68.2	-15.8	1.70 H	240	35.8	16.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.9 PK			2.08 V	118	111.6	4.3
2	*5580.00	106.1 AV			2.08 V	118	101.8	4.3
3	11160.00	48.3 PK	74.0	-25.7	1.61 V	271	34.7	13.6
4	11160.00	36.3 AV	54.0	-17.7	1.61 V	271	22.7	13.6
5	#16740.00	53.1 PK	68.2	-15.1	1.72 V	228	36.5	16.6

Remarks:

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

Channel	TX Channel 140	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5700.00	112.7 PK			2.02 H	160	108.4	4.3
2	*5700.00	103.5 AV			2.02 H	160	99.2	4.3
3	#5725.00	65.8 PK	68.2	-2.4	2.02 H	160	61.4	4.4
4	11400.00	49.6 PK	74.0	-24.4	1.42 H	245	36.0	13.6
5	11400.00	37.7 AV	54.0	-16.3	1.42 H	245	24.1	13.6
6	#17100.00	54.8 PK	68.2	-13.4	1.74 H	228	37.0	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	119.1 PK			3.14 V	122	114.8	4.3
2	*5700.00	109.6 AV			3.14 V	122	105.3	4.3
3	#5725.00	67.6 PK	68.2	-0.6	3.14 V	122	63.2	4.4
4	11400.00	50.4 PK	74.0	-23.6	1.61 V	273	36.8	13.6
5	11400.00	38.5 AV	54.0	-15.5	1.61 V	273	24.9	13.6
6	#17100.00	55.7 PK	68.2	-12.5	1.75 V	229	37.9	17.8

Remarks:

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

Channel	TX Channel 149	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5581.21	52.0 PK	68.2	-16.2	2.24 H	173	47.7	4.3
2	*5745.00	113.9 PK			2.24 H	173	109.5	4.4
3	*5745.00	104.5 AV			2.24 H	173	100.1	4.4
4	#6021.07	51.4 PK	68.2	-16.8	2.24 H	173	46.3	5.1
5	11490.00	46.7 PK	74.0	-27.3	1.50 H	264	32.8	13.9
6	11490.00	35.4 AV	54.0	-18.6	1.50 H	264	21.5	13.9
7	#17235.00	54.2 PK	68.2	-14.0	2.06 H	158	35.9	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.04	56.7 PK	68.2	-11.5	1.50 V	136	52.3	4.4
2	*5745.00	121.9 PK			1.50 V	136	117.5	4.4
3	*5745.00	112.2 AV			1.50 V	136	107.8	4.4
4	#5931.19	54.2 PK	68.2	-14.0	1.50 V	136	49.3	4.9
5	11490.00	52.6 PK	74.0	-21.4	1.08 V	146	38.7	13.9
6	11490.00	40.8 AV	54.0	-13.2	1.08 V	146	26.9	13.9
7	#17235.00	58.5 PK	68.2	-9.7	1.11 V	67	40.2	18.3

Remarks:

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

Channel	TX Channel 157	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5609.08	52.1 PK	68.2	-16.1	2.07 H	203	47.9	4.2
2	*5785.00	115.2 PK			2.07 H	203	110.7	4.5
3	*5785.00	104.3 AV			2.07 H	203	99.8	4.5
4	#5951.78	52.7 PK	68.2	-15.5	2.07 H	203	47.8	4.9
5	11570.00	51.6 PK	74.0	-22.4	1.53 H	266	37.7	13.9
6	11570.00	39.5 AV	54.0	-14.5	1.53 H	266	25.6	13.9
7	#17355.00	57.2 PK	68.2	-11.0	2.06 H	162	39.0	18.2

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5643.08	56.2 PK	68.2	-12.0	2.19 V	123	51.9	4.3
2	*5785.00	123.6 PK			2.19 V	122	119.1	4.5
3	*5785.00	112.5 AV			2.19 V	122	108.0	4.5
4	#6014.22	56.3 PK	68.2	-11.9	2.19 V	123	51.2	5.1
5	11570.00	52.3 PK	74.0	-21.7	1.15 V	148	38.4	13.9
6	11570.00	40.6 AV	54.0	-13.4	1.15 V	148	26.7	13.9
7	#17355.00	58.1 PK	68.2	-10.1	1.12 V	70	39.9	18.2

Remarks:

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

Channel	TX Channel 165	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5638.23	52.3 PK	68.2	-15.9	2.20 H	202	48.0	4.3
2	*5825.00	115.7 PK			2.20 H	202	111.0	4.7
3	*5825.00	104.7 AV			2.20 H	202	100.0	4.7
4	#5994.41	52.7 PK	68.2	-15.5	2.20 H	202	47.6	5.1
5	11650.00	51.9 PK	74.0	-22.1	1.54 H	266	37.9	14.0
6	11650.00	39.8 AV	54.0	-14.2	1.54 H	266	25.8	14.0
7	#17475.00	56.8 PK	68.2	-11.4	2.05 H	162	38.0	18.8
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	#5631.31	57.5 PK	68.2	-10.7	1.97 V	123	53.2	4.3
2	*5825.00	123.3 PK			1.97 V	123	118.6	4.7
3	*5825.00	112.9 AV			1.97 V	123	108.2	4.7
4	#5945.77	56.8 PK	68.2	-11.4	1.97 V	123	51.9	4.9
5	11650.00	53.6 PK	74.0	-20.4	1.15 V	139	39.6	14.0
6	11650.00	42.3 AV	54.0	-11.7	1.15 V	139	28.3	14.0
7	#17475.00	59.3 PK	68.2	-8.9	1.10 V	77	40.5	18.8

Remarks:

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

802.11ax (HE20)

Channel	TX Channel 36	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	62.4 PK	74.0	-11.6	2.25 H	159	58.2	4.2
2	5150.00	44.0 AV	54.0	-10.0	2.25 H	159	39.8	4.2
3	*5180.00	110.8 PK			2.25 H	159	106.7	4.1
4	*5180.00	99.3 AV			2.25 H	159	95.2	4.1
5	#10360.00	44.1 PK	68.2	-24.1	1.60 H	137	30.9	13.2
6	15540.00	44.8 PK	74.0	-29.2	1.28 H	230	31.1	13.7
7	15540.00	33.9 AV	54.0	-20.1	1.28 H	230	20.2	13.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	69.6 PK	74.0	-4.4	2.00 V	114	65.4	4.2
2	5150.00	53.9 AV	54.0	-0.1	2.00 V	114	49.7	4.2
3	*5180.00	119.9 PK			2.00 V	114	115.8	4.1
4	*5180.00	108.6 AV			2.00 V	114	104.5	4.1
5	#10360.00	46.4 PK	68.2	-21.8	1.55 V	235	33.2	13.2
6	15540.00	48.5 PK	74.0	-25.5	1.55 V	227	34.8	13.7
7	15540.00	38.0 AV	54.0	-16.0	1.55 V	227	24.3	13.7

Remarks:

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

Channel	TX Channel 40	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	116.9 PK			2.25 H	165	113.0	3.9
2	*5200.00	105.8 AV			2.25 H	165	101.9	3.9
3	#10400.00	44.6 PK	68.2	-23.6	1.54 H	133	31.4	13.2
4	15600.00	43.2 PK	74.0	-30.8	1.28 H	230	29.2	14.0
5	15600.00	33.2 AV	54.0	-20.8	1.28 H	230	19.2	14.0
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	*5200.00	126.5 PK			2.03 V	332	122.6	3.9
2	*5200.00	114.1 AV			2.03 V	332	110.2	3.9
3	#10400.00	46.8 PK	68.2	-21.4	1.56 V	234	33.6	13.2
4	15600.00	49.1 PK	74.0	-24.9	1.50 V	226	35.1	14.0
5	15600.00	38.5 AV	54.0	-15.5	1.50 V	226	24.5	14.0

Remarks:

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

Channel	TX Channel 48	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	112.3 PK			2.23 H	166	108.4	3.9
2	*5240.00	101.7 AV			2.23 H	166	97.8	3.9
3	5350.00	55.8 PK	74.0	-18.2	2.23 H	166	52.1	3.7
4	5350.00	43.6 AV	54.0	-10.4	2.23 H	166	39.9	3.7
5	#10480.00	44.1 PK	68.2	-24.1	1.54 H	139	30.6	13.5
6	15720.00	42.6 PK	74.0	-31.4	1.31 H	232	28.1	14.5
7	15720.00	32.7 AV	54.0	-21.3	1.31 H	232	18.2	14.5

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	122.9 PK			2.01 V	113	119.0	3.9
2	*5240.00	110.1 AV			2.01 V	113	106.2	3.9
3	5350.00	57.0 PK	74.0	-17.0	2.01 V	113	53.3	3.7
4	5350.00	44.9 AV	54.0	-9.1	2.01 V	113	41.2	3.7
5	#10480.00	46.3 PK	68.2	-21.9	1.57 V	234	32.8	13.5
6	15720.00	48.5 PK	74.0	-25.5	1.50 V	227	34.0	14.5
7	15720.00	37.9 AV	54.0	-16.1	1.50 V	227	23.4	14.5

Remarks:

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

Channel	TX Channel 52	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	52.6 PK	74.0	-21.4	2.24 H	168	48.4	4.2
2	5150.00	41.8 AV	54.0	-12.2	2.24 H	168	37.6	4.2
3	*5260.00	109.8 PK			2.24 H	168	106.0	3.8
4	*5260.00	99.1 AV			2.24 H	168	95.3	3.8
5	#10520.00	43.4 PK	68.2	-24.8	1.56 H	140	30.0	13.4
6	15780.00	42.1 PK	74.0	-31.9	1.34 H	232	27.9	14.2
7	15780.00	32.3 AV	54.0	-21.7	1.34 H	232	18.1	14.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.7 PK	74.0	-20.3	1.86 V	250	49.5	4.2
2	5150.00	42.3 AV	54.0	-11.7	1.86 V	250	38.1	4.2
3	*5260.00	119.4 PK			1.86 V	250	115.6	3.8
4	*5260.00	107.7 AV			1.86 V	250	103.9	3.8
5	#10520.00	45.8 PK	68.2	-22.4	1.56 V	234	32.4	13.4
6	15780.00	47.9 PK	74.0	-26.1	1.51 V	222	33.7	14.2
7	15780.00	37.3 AV	54.0	-16.7	1.51 V	222	23.1	14.2

Remarks:

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

Channel	TX Channel 60	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5300.00	110.6 PK			2.22 H	196	106.9	3.7
2	*5300.00	100.3 AV			2.22 H	196	96.6	3.7
3	10600.00	43.2 PK	74.0	-30.8	1.58 H	148	29.8	13.4
4	10600.00	33.3 AV	54.0	-20.7	1.58 H	148	19.9	13.4
5	15900.00	42.3 PK	74.0	-31.7	1.28 H	255	28.8	13.5
6	15900.00	32.4 AV	54.0	-21.6	1.28 H	255	18.9	13.5
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	*5300.00	118.7 PK			1.89 V	249	115.0	3.7
2	*5300.00	108.1 AV			1.89 V	249	104.4	3.7
3	10600.00	45.6 PK	74.0	-28.4	1.67 V	213	32.2	13.4
4	10600.00	33.9 AV	54.0	-20.1	1.67 V	213	20.5	13.4
5	15900.00	47.7 PK	74.0	-26.3	1.47 V	226	34.2	13.5
6	15900.00	37.2 AV	54.0	-16.8	1.47 V	226	23.7	13.5

Remarks:

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

Channel	TX Channel 64	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5320.00	111.6 PK			2.10 H	162	107.8	3.8
2	*5320.00	100.3 AV			2.10 H	162	96.5	3.8
3	5350.00	61.2 PK	74.0	-12.8	2.10 H	162	57.5	3.7
4	5350.00	42.6 AV	54.0	-11.4	2.10 H	162	38.9	3.7
5	10640.00	43.0 PK	74.0	-31.0	1.58 H	144	29.5	13.5
6	10640.00	33.2 AV	54.0	-20.8	1.58 H	144	19.7	13.5
7	15960.00	42.5 PK	74.0	-31.5	1.30 H	257	29.0	13.5
8	15960.00	32.5 AV	54.0	-21.5	1.30 H	257	19.0	13.5
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	*5320.00	119.9 PK			2.05 V	249	116.1	3.8
2	*5320.00	108.5 AV			2.05 V	249	104.7	3.8
3	5350.00	71.7 PK	74.0	-2.3	2.05 V	249	68.0	3.7
4	5350.00	53.9 AV	54.0	-0.1	2.05 V	249	50.2	3.7
5	10640.00	45.1 PK	74.0	-28.9	1.68 V	216	31.6	13.5
6	10640.00	33.7 AV	54.0	-20.3	1.68 V	216	20.2	13.5
7	15960.00	47.4 PK	74.0	-26.6	1.48 V	227	33.9	13.5
8	15960.00	37.0 AV	54.0	-17.0	1.48 V	227	23.5	13.5

Remarks:

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

Channel	TX Channel 100	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	5460.00	50.7 PK	74.0	-23.3	1.91 H	198	46.6	4.1
2	5460.00	38.7 AV	54.0	-15.3	1.91 H	198	34.6	4.1
3	#5470.00	57.8 PK	68.2	-10.4	1.91 H	198	53.6	4.2
4	*5500.00	108.9 PK			1.91 H	198	104.7	4.2
5	*5500.00	97.2 AV			1.91 H	198	93.0	4.2
6	11000.00	42.5 PK	74.0	-31.5	1.59 H	150	29.0	13.5
7	11000.00	32.8 AV	54.0	-21.2	1.59 H	150	19.3	13.5
8	#16500.00	46.4 PK	68.2	-21.8	1.33 H	254	31.3	15.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.7 PK	74.0	-17.3	2.15 V	115	52.6	4.1
2	5460.00	44.5 AV	54.0	-9.5	2.15 V	115	40.4	4.1
3	#5470.00	67.5 PK	68.2	-0.7	2.15 V	115	63.3	4.2
4	*5500.00	118.9 PK			2.15 V	115	114.7	4.2
5	*5500.00	107.0 AV			2.15 V	115	102.8	4.2
6	11000.00	44.6 PK	74.0	-29.4	1.68 V	216	31.1	13.5
7	11000.00	33.2 AV	54.0	-20.8	1.68 V	216	19.7	13.5
8	#16500.00	47.0 PK	68.2	-21.2	1.46 V	236	31.9	15.1

Remarks:

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

Channel	TX Channel 116	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5580.00	112.0 PK			1.96 H	192	107.7	4.3
2	*5580.00	100.7 AV			1.96 H	192	96.4	4.3
3	11160.00	43.2 PK	74.0	-30.8	1.58 H	148	29.6	13.6
4	11160.00	33.3 AV	54.0	-20.7	1.58 H	148	19.7	13.6
5	#16740.00	42.3 PK	68.2	-25.9	1.28 H	255	25.7	16.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.3 PK			2.06 V	252	116.0	4.3
2	*5580.00	108.9 AV			2.06 V	252	104.6	4.3
3	11160.00	45.6 PK	74.0	-28.4	1.67 V	213	32.0	13.6
4	11160.00	33.9 AV	54.0	-20.1	1.67 V	213	20.3	13.6
5	#16740.00	47.7 PK	68.2	-20.5	1.47 V	226	31.1	16.6

Remarks:

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

Channel	TX Channel 140	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5700.00	117.9 PK			1.96 H	200	113.6	4.3
2	*5700.00	106.4 AV			1.96 H	200	102.1	4.3
3	#5725.00	66.5 PK	68.2	-1.7	1.96 H	200	62.1	4.4
4	11400.00	42.9 PK	74.0	-31.1	1.60 H	148	29.3	13.6
5	11400.00	33.2 AV	54.0	-20.8	1.60 H	148	19.6	13.6
6	#17100.00	46.8 PK	68.2	-21.4	1.34 H	263	29.0	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	118.3 PK			1.93 V	112	114.0	4.3
2	*5700.00	106.8 AV			1.93 V	112	102.5	4.3
3	#5725.00	68.1 PK	68.2	-0.1	1.93 V	112	63.7	4.4
4	11400.00	45.0 PK	74.0	-29.0	1.69 V	216	31.4	13.6
5	11400.00	33.6 AV	54.0	-20.4	1.69 V	216	20.0	13.6
6	#17100.00	47.4 PK	68.2	-20.8	1.45 V	236	29.6	17.8

Remarks:

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

Channel	TX Channel 149	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5608.97	51.6 PK	68.2	-16.6	1.94 H	174	47.4	4.2
2	*5745.00	115.7 PK			1.94 H	174	111.3	4.4
3	*5745.00	103.9 AV			1.94 H	174	99.5	4.4
4	#6000.35	51.1 PK	68.2	-17.1	1.94 H	174	46.0	5.1
5	11490.00	46.5 PK	74.0	-27.5	1.53 H	260	32.6	13.9
6	11490.00	35.4 AV	54.0	-18.6	1.53 H	260	21.5	13.9
7	#17235.00	53.9 PK	68.2	-14.3	2.04 H	166	35.6	18.3

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5604.58	58.5 PK	68.2	-9.7	2.01 V	113	54.3	4.2
2	*5745.00	123.4 PK			2.01 V	113	119.0	4.4
3	*5745.00	112.1 AV			2.01 V	113	107.7	4.4
4	#5944.13	55.9 PK	68.2	-12.3	2.01 V	113	51.0	4.9
5	11490.00	52.3 PK	74.0	-21.7	1.12 V	148	38.4	13.9
6	11490.00	40.5 AV	54.0	-13.5	1.12 V	148	26.6	13.9
7	#17235.00	58.1 PK	68.2	-10.1	1.11 V	68	39.8	18.3

Remarks:

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

Channel	TX Channel 157	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5633.27	51.7 PK	68.2	-16.5	1.98 H	203	47.4	4.3
2	*5785.00	115.1 PK			1.98 H	203	110.6	4.5
3	*5785.00	103.8 AV			1.98 H	203	99.3	4.5
4	#5955.50	51.4 PK	68.2	-16.8	1.98 H	203	46.5	4.9
5	11570.00	46.2 PK	74.0	-27.8	1.54 H	260	32.3	13.9
6	11570.00	35.1 AV	54.0	-18.9	1.54 H	260	21.2	13.9
7	#17355.00	53.2 PK	68.2	-15.0	2.04 H	167	35.0	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5572.21	58.2 PK	68.2	-10.0	2.00 V	118	54.0	4.2
2	*5785.00	123.7 PK			2.00 V	118	119.2	4.5
3	*5785.00	112.5 AV			2.00 V	118	108.0	4.5
4	#5944.62	56.6 PK	68.2	-11.6	2.00 V	118	51.7	4.9
5	11570.00	52.1 PK	74.0	-21.9	1.17 V	154	38.2	13.9
6	11570.00	40.3 AV	54.0	-13.7	1.17 V	154	26.4	13.9
7	#17355.00	57.5 PK	68.2	-10.7	1.10 V	68	39.3	18.2

Remarks:

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

Channel	TX Channel 165	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5583.11	50.9 PK	68.2	-17.3	2.20 H	196	46.6	4.3
2	*5825.00	114.8 PK			2.20 H	196	110.1	4.7
3	*5825.00	103.7 AV			2.20 H	196	99.0	4.7
4	#5952.80	51.7 PK	68.2	-16.5	2.20 H	196	46.8	4.9
5	11650.00	47.1 PK	74.0	-26.9	1.54 H	265	33.1	14.0
6	11650.00	36.0 AV	54.0	-18.0	1.54 H	265	22.0	14.0
7	#17475.00	54.6 PK	68.2	-13.6	2.04 H	163	35.8	18.8
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	#5590.53	58.4 PK	68.2	-9.8	2.01 V	112	54.1	4.3
2	*5825.00	123.7 PK			2.01 V	112	119.0	4.7
3	*5825.00	112.1 AV			2.01 V	112	107.4	4.7
4	#5931.58	55.9 PK	68.2	-12.3	2.01 V	112	51.0	4.9
5	11650.00	52.9 PK	74.0	-21.1	1.14 V	149	38.9	14.0
6	11650.00	41.1 AV	54.0	-12.9	1.14 V	149	27.1	14.0
7	#17475.00	58.8 PK	68.2	-9.4	1.10 V	67	40.0	18.8

Remarks:

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

802.11ax (HE40)

Channel	TX Channel 38	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	58.4 PK	74.0	-15.6	1.72 H	159	54.2	4.2
2	5150.00	46.0 AV	54.0	-8.0	1.72 H	159	41.8	4.2
3	*5190.00	106.4 PK			1.72 H	159	102.3	4.1
4	*5190.00	94.8 AV			1.72 H	159	90.7	4.1
5	#10380.00	44.1 PK	68.2	-24.1	1.60 H	303	30.9	13.2
6	15570.00	45.8 PK	74.0	-28.2	2.11 H	160	32.0	13.8
7	15570.00	35.9 AV	54.0	-18.1	2.11 H	160	22.1	13.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	71.8 PK	74.0	-2.2	1.91 V	144	67.6	4.2
2	5150.00	53.9 AV	54.0	-0.1	1.91 V	144	49.7	4.2
3	*5190.00	114.7 PK			1.91 V	144	110.6	4.1
4	*5190.00	103.2 AV			1.91 V	144	99.1	4.1
5	#10380.00	44.7 PK	68.2	-23.5	1.32 V	203	31.5	13.2
6	15570.00	47.0 PK	74.0	-27.0	1.49 V	235	33.2	13.8
7	15570.00	36.7 AV	54.0	-17.3	1.49 V	235	22.9	13.8

Remarks:

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

Channel	TX Channel 46	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	63.7 PK	74.0	-10.3	1.73 H	159	59.5	4.2
2	5150.00	52.6 AV	54.0	-1.4	1.73 H	159	48.4	4.2
3	*5230.00	112.5 PK			1.73 H	159	108.6	3.9
4	*5230.00	100.3 AV			1.73 H	159	96.4	3.9
5	5350.00	57.5 PK	74.0	-16.5	1.73 H	159	53.8	3.7
6	5350.00	45.4 AV	54.0	-8.6	1.73 H	159	41.7	3.7
7	#10460.00	46.5 PK	68.2	-21.7	1.61 H	308	33.2	13.3
8	15690.00	51.4 PK	74.0	-22.6	2.10 H	160	36.9	14.5
9	15690.00	40.7 AV	54.0	-13.3	2.10 H	160	26.2	14.5
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	5150.00	66.6 PK	74.0	-7.4	1.92 V	68	62.4	4.2
2	5150.00	53.9 AV	54.0	-0.1	1.92 V	68	49.7	4.2
3	*5230.00	120.8 PK			1.92 V	68	116.9	3.9
4	*5230.00	108.7 AV			1.92 V	68	104.8	3.9
5	5350.00	58.6 PK	74.0	-15.4	1.92 V	68	54.9	3.7
6	5350.00	46.1 AV	54.0	-7.9	1.92 V	68	42.4	3.7
7	#10460.00	47.2 PK	68.2	-21.0	1.34 V	202	33.9	13.3
8	15690.00	52.3 PK	74.0	-21.7	1.47 V	242	37.8	14.5
9	15690.00	41.4 AV	54.0	-12.6	1.47 V	242	26.9	14.5

Remarks:

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

Channel	TX Channel 54	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	57.2 PK	74.0	-16.8	1.74 H	161	53.0	4.2
2	5150.00	45.0 AV	54.0	-9.0	1.74 H	161	40.8	4.2
3	*5270.00	111.3 PK			1.74 H	161	107.5	3.8
4	*5270.00	99.4 AV			1.74 H	161	95.6	3.8
5	5350.00	62.7 PK	74.0	-11.3	1.74 H	161	59.0	3.7
6	5350.00	51.3 AV	54.0	-2.7	1.74 H	161	47.6	3.7
7	#10540.00	47.0 PK	68.2	-21.2	1.62 H	311	33.6	13.4
8	15810.00	51.8 PK	74.0	-22.2	2.10 H	165	37.9	13.9
9	15810.00	41.1 AV	54.0	-12.9	2.10 H	165	27.2	13.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	2.04 V	68	53.9	4.2
2	5150.00	45.6 AV	54.0	-8.4	2.04 V	68	41.4	4.2
3	*5270.00	122.1 PK			2.04 V	68	118.3	3.8
4	*5270.00	109.7 AV			2.04 V	68	105.9	3.8
5	5350.00	67.6 PK	74.0	-6.4	2.04 V	68	63.9	3.7
6	5350.00	53.9 AV	54.0	-0.1	2.04 V	68	50.2	3.7
7	#10540.00	47.7 PK	68.2	-20.5	1.34 V	202	34.3	13.4
8	15810.00	52.8 PK	74.0	-21.2	1.46 V	245	38.9	13.9
9	15810.00	41.8 AV	54.0	-12.2	1.46 V	245	27.9	13.9

Remarks:

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

Channel	TX Channel 62	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5310.00	108.5 PK			1.98 H	158	104.8	3.7
2	*5310.00	95.6 AV			1.98 H	158	91.9	3.7
3	5350.00	57.0 PK	74.0	-17.0	1.98 H	158	53.3	3.7
4	5350.00	43.7 AV	54.0	-10.3	1.98 H	158	40.0	3.7
5	10620.00	44.4 PK	74.0	-29.6	1.70 H	317	31.0	13.4
6	10620.00	34.1 AV	54.0	-19.9	1.70 H	317	20.7	13.4
7	15930.00	46.1 PK	74.0	-27.9	2.21 H	169	32.6	13.5
8	15930.00	36.2 AV	54.0	-17.8	2.21 H	169	22.7	13.5
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	*5310.00	117.1 PK			1.92 V	139	113.4	3.7
2	*5310.00	104.8 AV			1.92 V	139	101.1	3.7
3	5350.00	73.5 PK	74.0	-0.5	1.92 V	139	69.8	3.7
4	5350.00	53.8 AV	54.0	-0.2	1.92 V	139	50.1	3.7
5	10620.00	44.8 PK	74.0	-29.2	1.45 V	216	31.4	13.4
6	10620.00	34.5 AV	54.0	-19.5	1.45 V	216	21.1	13.4
7	15930.00	47.3 PK	74.0	-26.7	1.59 V	252	33.8	13.5
8	15930.00	36.9 AV	54.0	-17.1	1.59 V	252	23.4	13.5

Remarks:

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

Channel	TX Channel 102	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	5460.00	52.4 PK	74.0	-21.6	1.71 H	198	48.3	4.1
2	5460.00	40.6 AV	54.0	-13.4	1.71 H	198	36.5	4.1
3	#5470.00	56.5 PK	68.2	-11.7	1.71 H	198	52.3	4.2
4	*5510.00	104.3 PK			1.71 H	198	100.1	4.2
5	*5510.00	91.9 AV			1.71 H	198	87.7	4.2
6	11020.00	42.2 PK	74.0	-31.8	1.71 H	315	28.7	13.5
7	11020.00	32.1 AV	54.0	-21.9	1.71 H	315	18.6	13.5
8	#16530.00	44.9 PK	68.2	-23.3	2.20 H	169	29.6	15.3
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	5460.00	61.5 PK	74.0	-12.5	2.04 V	112	57.4	4.1
2	5460.00	49.7 AV	54.0	-4.3	2.04 V	112	45.6	4.1
3	#5470.00	67.8 PK	68.2	-0.4	2.04 V	112	63.6	4.2
4	*5510.00	115.5 PK			2.04 V	112	111.3	4.2
5	*5510.00	102.7 AV			2.04 V	112	98.5	4.2
6	11020.00	42.8 PK	74.0	-31.2	1.49 V	217	29.3	13.5
7	11020.00	32.7 AV	54.0	-21.3	1.49 V	217	19.2	13.5
8	#16530.00	45.5 PK	68.2	-22.7	1.60 V	256	30.2	15.3

Remarks:

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

Channel	TX Channel 110	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5550.00	110.4 PK			1.80 H	167	106.2	4.2
2	*5550.00	98.8 AV			1.80 H	167	94.6	4.2
3	11100.00	46.9 PK	74.0	-27.1	1.72 H	310	33.5	13.4
4	11100.00	36.4 AV	54.0	-17.6	1.72 H	310	23.0	13.4
5	#16650.00	51.4 PK	68.2	-16.8	2.19 H	166	35.2	16.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	121.3 PK			2.08 V	76	117.1	4.2
2	*5550.00	109.0 AV			2.08 V	76	104.8	4.2
3	11100.00	47.6 PK	74.0	-26.4	1.48 V	214	34.2	13.4
4	11100.00	37.1 AV	54.0	-16.9	1.48 V	214	23.7	13.4
5	#16650.00	52.5 PK	68.2	-15.7	1.61 V	260	36.3	16.2

Remarks:

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

Channel	TX Channel 134	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5670.00	109.7 PK			1.88 H	172	105.3	4.4
2	*5670.00	96.1 AV			1.88 H	172	91.7	4.4
3	#5725.00	63.5 PK	68.2	-4.7	1.88 H	172	59.1	4.4
4	11340.00	44.3 PK	74.0	-29.7	1.72 H	313	30.4	13.9
5	11340.00	34.1 AV	54.0	-19.9	1.72 H	313	20.2	13.9
6	#17010.00	46.8 PK	68.2	-21.4	2.46 H	165	29.3	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	117.7 PK			2.05 V	110	113.3	4.4
2	*5670.00	105.2 AV			2.05 V	110	100.8	4.4
3	#5725.00	67.9 PK	68.2	-0.3	2.05 V	110	63.5	4.4
4	11340.00	45.1 PK	74.0	-28.9	1.44 V	220	31.2	13.9
5	11340.00	34.8 AV	54.0	-19.2	1.44 V	220	20.9	13.9
6	#17010.00	48.0 PK	68.2	-20.2	1.58 V	254	30.5	17.5

Remarks:

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

Channel	TX Channel 151	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5647.99	55.8 PK	68.2	-12.4	1.10 H	307	51.4	4.4
2	*5755.00	111.6 PK			1.10 H	307	107.2	4.4
3	*5755.00	100.2 AV			1.10 H	307	95.8	4.4
4	#6000.45	51.0 PK	68.2	-17.2	1.10 H	307	45.9	5.1
5	11510.00	50.4 PK	74.0	-23.6	1.55 H	262	36.4	14.0
6	11510.00	39.2 AV	54.0	-14.8	1.55 H	262	25.2	14.0
7	#17265.00	55.1 PK	68.2	-13.1	2.03 H	167	37.0	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.18	66.6 PK	68.2	-1.6	1.91 V	70	62.2	4.4
2	*5755.00	122.7 PK			1.91 V	70	118.3	4.4
3	*5755.00	110.3 AV			1.91 V	70	105.9	4.4
4	#5930.63	56.2 PK	68.2	-12.0	1.91 V	70	51.3	4.9
5	11510.00	51.8 PK	74.0	-22.2	1.17 V	160	37.8	14.0
6	11510.00	40.0 AV	54.0	-14.0	1.17 V	160	26.0	14.0
7	#17265.00	57.0 PK	68.2	-11.2	1.08 V	68	38.9	18.1

Remarks:

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

Channel	TX Channel 159	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	#5639.16	51.2 PK	68.2	-17.0	1.06 H	305	46.9	4.3
2	*5795.00	112.0 PK			1.06 H	305	107.4	4.6
3	*5795.00	100.7 AV			1.06 H	305	96.1	4.6
4	#5927.23	52.3 PK	68.2	-15.9	1.06 H	305	47.4	4.9
5	11590.00	50.7 PK	74.0	-23.3	1.57 H	264	36.8	13.9
6	11590.00	39.5 AV	54.0	-14.5	1.57 H	264	25.6	13.9
7	#17385.00	55.8 PK	68.2	-12.4	2.02 H	164	37.4	18.4
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	#5633.40	59.7 PK	68.2	-8.5	2.03 V	69	55.4	4.3
2	*5795.00	123.2 PK			2.03 V	69	118.6	4.6
3	*5795.00	110.8 AV			2.03 V	69	106.2	4.6
4	#5964.54	57.6 PK	68.2	-10.6	2.03 V	69	52.7	4.9
5	11590.00	52.3 PK	74.0	-21.7	1.20 V	161	38.4	13.9
6	11590.00	40.4 AV	54.0	-13.6	1.20 V	161	26.5	13.9
7	#17385.00	57.6 PK	68.2	-10.6	1.08 V	70	39.2	18.4

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.

802.11ax (HE80)

Channel	TX Channel 42	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	55.8 PK	74.0	-18.2	2.25 H	159	51.6	4.2
2	5150.00	46.5 AV	54.0	-7.5	2.25 H	159	42.3	4.2
3	*5210.00	103.1 PK			2.25 H	159	99.2	3.9
4	*5210.00	90.6 AV			2.25 H	159	86.7	3.9
5	5350.00	50.9 PK	74.0	-23.1	2.25 H	159	47.2	3.7
6	5350.00	39.5 AV	54.0	-14.5	2.25 H	159	35.8	3.7
7	#10420.00	42.1 PK	68.2	-26.1	2.03 H	147	28.9	13.2
8	15630.00	44.8 PK	74.0	-29.2	1.73 H	302	30.5	14.3
9	15630.00	34.6 AV	54.0	-19.4	1.73 H	302	20.3	14.3
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	64.9 PK	74.0	-9.1	1.73 V	114	60.7	4.2
2	5150.00	53.6 AV	54.0	-0.4	1.73 V	114	49.4	4.2
3	*5210.00	110.5 PK			1.73 V	114	106.6	3.9
4	*5210.00	98.7 AV			1.73 V	114	94.8	3.9
5	5350.00	54.0 PK	74.0	-20.0	1.73 V	114	50.3	3.7
6	5350.00	43.0 AV	54.0	-11.0	1.73 V	114	39.3	3.7
7	#10420.00	42.5 PK	68.2	-25.7	1.67 V	153	29.3	13.2
8	15630.00	45.3 PK	74.0	-28.7	2.07 V	269	31.0	14.3
9	15630.00	35.0 AV	54.0	-19.0	2.07 V	269	20.7	14.3

Remarks:

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

Channel	TX Channel 58	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	50.9 PK	74.0	-23.1	2.03 H	158	46.7	4.2
2	5150.00	40.0 AV	54.0	-14.0	2.03 H	158	35.8	4.2
3	*5290.00	104.0 PK			2.03 H	158	100.3	3.7
4	*5290.00	93.1 AV			2.03 H	158	89.4	3.7
5	5350.00	57.6 PK	74.0	-16.4	2.03 H	158	53.9	3.7
6	5350.00	46.1 AV	54.0	-7.9	2.03 H	158	42.4	3.7
7	#10580.00	42.7 PK	68.2	-25.5	2.03 H	150	29.3	13.4
8	15870.00	45.3 PK	74.0	-28.7	1.76 H	300	31.6	13.7
9	15870.00	34.9 AV	54.0	-19.1	1.76 H	300	21.2	13.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.8 PK	74.0	-16.2	1.95 V	140	53.6	4.2
2	5150.00	45.5 AV	54.0	-8.5	1.95 V	140	41.3	4.2
3	*5290.00	114.1 PK			1.95 V	140	110.4	3.7
4	*5290.00	101.7 AV			1.95 V	140	98.0	3.7
5	5350.00	66.6 PK	74.0	-7.4	1.95 V	140	62.9	3.7
6	5350.00	53.9 AV	54.0	-0.1	1.95 V	140	50.2	3.7
7	#10580.00	43.0 PK	68.2	-25.2	1.67 V	155	29.6	13.4
8	15870.00	45.9 PK	74.0	-28.1	2.06 V	272	32.2	13.7
9	15870.00	35.5 AV	54.0	-18.5	2.06 V	272	21.8	13.7

Remarks:

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

Channel	TX Channel 106	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	5460.00	54.3 PK	74.0	-19.7	1.91 H	193	50.2	4.1
2	5460.00	43.9 AV	54.0	-10.1	1.91 H	193	39.8	4.1
3	#5470.00	54.6 PK	68.2	-13.6	1.91 H	193	50.4	4.2
4	*5530.00	100.5 PK			1.91 H	193	96.3	4.2
5	*5530.00	88.9 AV			1.91 H	193	84.7	4.2
6	#5725.00	50.9 PK	68.2	-17.3	1.91 H	193	46.5	4.4
7	11060.00	42.4 PK	74.0	-31.6	2.04 H	148	29.0	13.4
8	11060.00	33.3 AV	54.0	-20.7	2.04 H	148	19.9	13.4
9	#16590.00	45.0 PK	68.2	-23.2	1.76 H	298	29.3	15.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.1 PK	74.0	-8.9	2.07 V	114	61.0	4.1
2	5460.00	53.9 AV	54.0	-0.1	2.07 V	114	49.8	4.1
3	#5470.00	67.7 PK	68.2	-0.5	2.07 V	114	63.5	4.2
4	*5530.00	110.8 PK			2.07 V	114	106.6	4.2
5	*5530.00	99.4 AV			2.07 V	114	95.2	4.2
6	#5725.00	53.6 PK	68.2	-14.6	2.07 V	114	49.2	4.4
7	11060.00	42.8 PK	74.0	-31.2	1.68 V	160	29.4	13.4
8	11060.00	33.6 AV	54.0	-20.4	1.68 V	160	20.2	13.4
9	#16590.00	45.6 PK	68.2	-22.6	2.07 V	272	29.9	15.7

Remarks:

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

Channel	TX Channel 122	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	*5610.00	106.9 PK			1.90 H	197	102.7	4.2
2	*5610.00	95.7 AV			1.90 H	197	91.5	4.2
3	#5725.00	65.1 PK	68.2	-3.1	1.90 H	197	60.7	4.4
4	11220.00	45.6 PK	74.0	-28.4	2.03 H	152	31.8	13.8
5	11220.00	36.2 AV	54.0	-17.8	2.03 H	152	22.4	13.8
6	#16830.00	48.4 PK	68.2	-19.8	1.74 H	296	31.7	16.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	116.6 PK			2.09 V	90	112.4	4.2
2	*5610.00	105.5 AV			2.09 V	90	101.3	4.2
3	#5725.00	68.0 PK	68.2	-0.2	2.09 V	90	63.6	4.4
4	11220.00	46.1 PK	74.0	-27.9	1.67 V	164	32.3	13.8
5	11220.00	36.7 AV	54.0	-17.3	1.67 V	164	22.9	13.8
6	#16830.00	49.2 PK	68.2	-19.0	2.06 V	278	32.5	16.7

Remarks:

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

Channel	TX Channel 155	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.42	56.5 PK	68.2	-11.7	1.04 H	308	52.1	4.4
2	*5775.00	105.3 PK			1.04 H	308	100.8	4.5
3	*5775.00	94.6 AV			1.04 H	308	90.1	4.5
4	#5926.30	53.7 PK	68.2	-14.5	1.04 H	308	48.8	4.9
5	11550.00	46.0 PK	74.0	-28.0	2.05 H	156	32.1	13.9
6	11550.00	36.6 AV	54.0	-17.4	2.05 H	156	22.7	13.9
7	#17325.00	49.1 PK	68.2	-19.1	1.73 H	294	30.9	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.25	67.2 PK	68.2	-1.0	1.95 V	68	62.9	4.3
2	*5775.00	116.8 PK			1.95 V	68	112.3	4.5
3	*5775.00	104.7 AV			1.95 V	68	100.2	4.5
4	#5925.68	59.9 PK	68.2	-8.3	1.95 V	68	55.0	4.9
5	11550.00	46.6 PK	74.0	-27.4	1.67 V	165	32.7	13.9
6	11550.00	37.2 AV	54.0	-16.8	1.67 V	165	23.3	13.9
7	#17325.00	50.0 PK	68.2	-18.2	2.06 V	278	31.8	18.2

Remarks:

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

802.11ax (HE160)

Channel	TX Channel 50	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	56.5 PK	74.0	-17.5	1.00 H	158	52.3	4.2
2	5150.00	45.4 AV	54.0	-8.6	1.00 H	158	41.2	4.2
3	*5250.00	101.1 PK			1.00 H	158	97.3	3.8
4	*5250.00	89.2 AV			1.00 H	158	85.4	3.8
5	5350.00	53.3 PK	74.0	-20.7	1.00 H	158	49.6	3.7
6	5350.00	43.7 AV	54.0	-10.3	1.00 H	158	40.0	3.7
7	#10500.00	41.2 PK	68.2	-27.0	1.18 H	164	27.8	13.4
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	5150.00	65.8 PK	74.0	-8.2	2.09 V	130	61.6	4.2
2	5150.00	53.8 AV	54.0	-0.2	2.09 V	130	49.6	4.2
3	*5250.00	109.8 PK			2.09 V	130	106.0	3.8
4	*5250.00	97.9 AV			2.09 V	130	94.1	3.8
5	5350.00	59.9 PK	74.0	-14.1	2.09 V	130	56.2	3.7
6	5350.00	48.3 AV	54.0	-5.7	2.09 V	130	44.6	3.7
7	#10500.00	42.3 PK	68.2	-25.9	2.01 V	184	28.9	13.4
8	15750.00	45.0 PK	74.0	-29.0	2.75 V	290	30.7	14.3
9	15750.00	35.7 AV	54.0	-18.3	2.75 V	290	21.4	14.3

Remarks:

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

Channel	TX Channel 114	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 40GHz		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	5460.00	52.6 PK	74.0	-21.4	1.50 H	224	48.5	4.1
2	5460.00	42.2 AV	54.0	-11.8	1.50 H	224	38.1	4.1
3	#5470.00	54.0 PK	68.2	-14.2	1.50 H	224	49.8	4.2
4	*5570.00	95.7 PK			1.50 H	224	91.5	4.2
5	*5570.00	83.8 AV			1.50 H	224	79.6	4.2
6	#5725.00	51.4 PK	68.2	-16.8	1.50 H	224	47.0	4.4
7	11140.00	40.9 PK	74.0	-33.1	1.58 H	233	27.3	13.6
8	11140.00	32.1 AV	54.0	-21.9	1.58 H	233	18.5	13.6
9	#16710.00	43.2 PK	68.2	-25.0	1.38 H	207	26.6	16.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	66.5 PK	74.0	-7.5	2.12 V	113	62.4	4.1
2	5460.00	53.9 AV	54.0	-0.1	2.12 V	113	49.8	4.1
3	#5470.00	66.9 PK	68.2	-1.3	2.12 V	113	62.7	4.2
4	*5570.00	107.0 PK			2.12 V	113	102.8	4.2
5	*5570.00	95.5 AV			2.12 V	113	91.3	4.2
6	#5725.00	57.8 PK	68.2	-10.4	2.12 V	113	53.4	4.4
7	11140.00	41.7 PK	74.0	-32.3	2.08 V	177	28.1	13.6
8	11140.00	32.8 AV	54.0	-21.2	2.08 V	177	19.2	13.6
9	#16710.00	44.3 PK	68.2	-23.9	2.96 V	302	27.7	16.6

Remarks:

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

Below 1GHz Data:

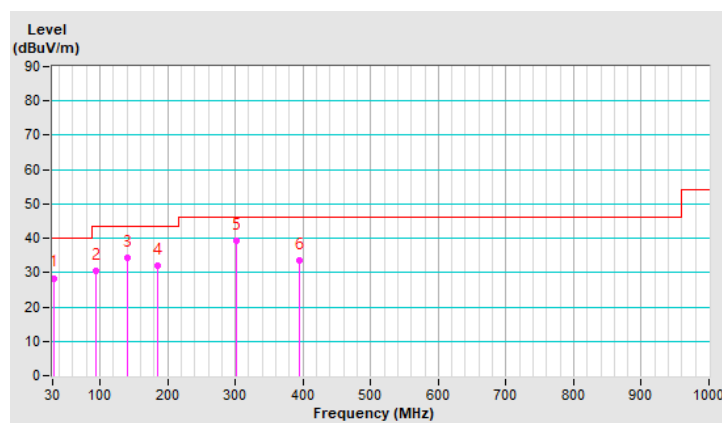
802.11ax (HE20)

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	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	32.30	28.4 QP	40.0	-11.6	1.00 H	126	37.2	-8.8
2	94.17	30.6 QP	43.5	-12.9	3.00 H	284	43.3	-12.7
3	140.58	34.3 QP	43.5	-9.2	2.00 H	281	41.6	-7.3
4	184.52	32.0 QP	43.5	-11.5	1.50 H	292	40.9	-8.9
5	300.92	39.1 QP	46.0	-6.9	1.00 H	215	44.9	-5.8
6	395.42	33.7 QP	46.0	-12.3	1.00 H	2	36.8	-3.1

REMARKS:

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

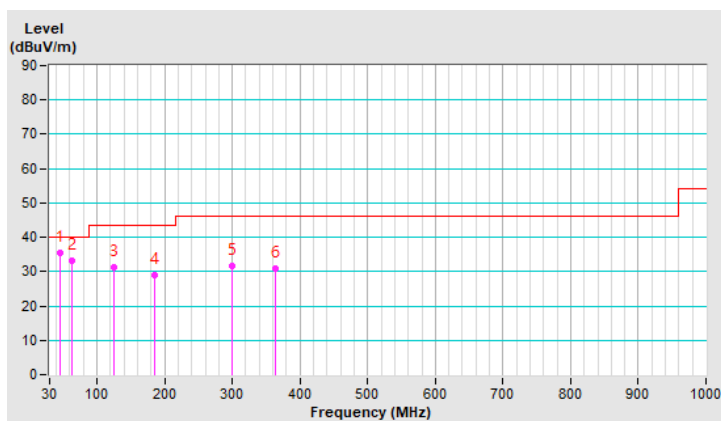


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	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	44.74	35.5 QP	40.0	-4.5	1.00 V	272	43.2	-7.7
2	62.91	33.1 QP	40.0	-6.9	1.50 V	360	41.7	-8.6
3	125.04	31.3 QP	43.5	-12.2	1.00 V	342	39.9	-8.6
4	184.40	28.9 QP	43.5	-14.6	1.00 V	11	37.8	-8.9
5	298.74	31.5 QP	46.0	-14.5	1.50 V	225	37.4	-5.9
6	363.39	30.8 QP	46.0	-15.2	2.00 V	39	34.7	-3.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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: Sep. 29, 2020

4.2.3 Test Procedure

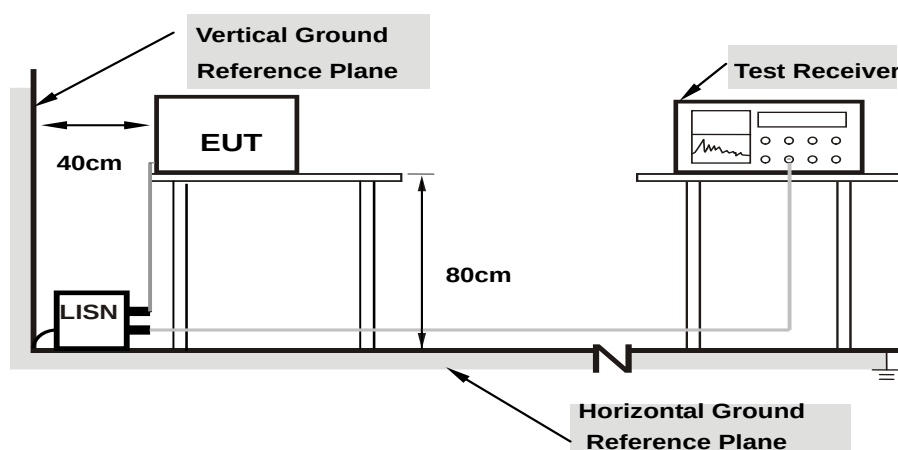
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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.

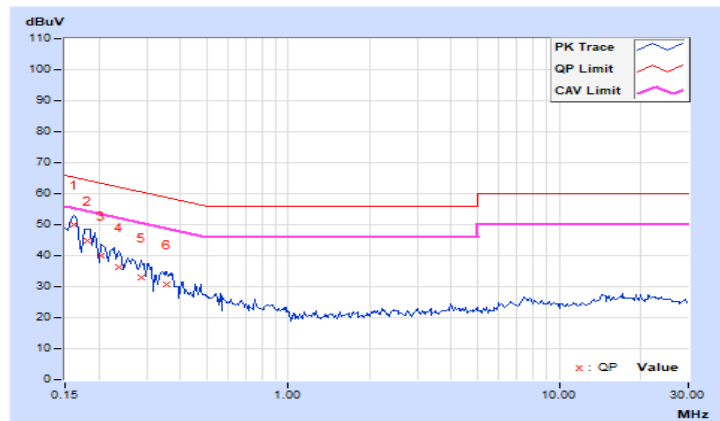
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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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	0.16172	9.93	40.25	25.58	50.18	35.51	65.38	55.38	-15.20	-19.87
2	0.18125	9.94	34.96	18.95	44.90	28.89	64.43	54.43	-19.53	-25.54
3	0.20469	9.95	29.94	13.92	39.89	23.87	63.42	53.42	-23.53	-29.55
4	0.23594	9.96	26.27	11.59	36.23	21.55	62.24	52.24	-26.01	-30.69
5	0.28672	9.96	23.03	9.34	32.99	19.30	60.62	50.62	-27.63	-31.32
6	0.35703	9.97	20.91	7.56	30.88	17.53	58.80	48.80	-27.92	-31.27

Remarks:

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

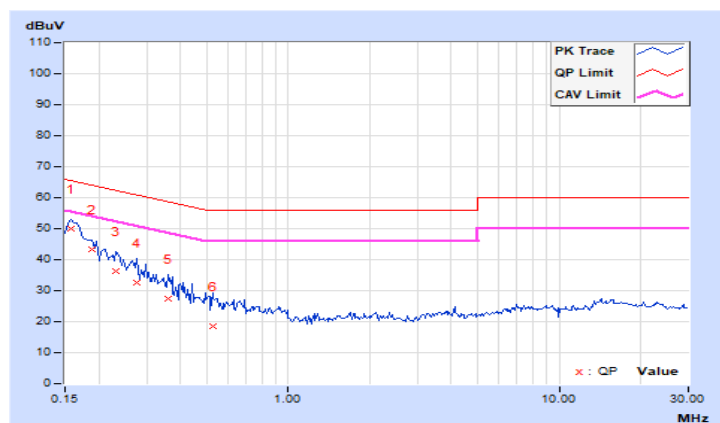


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBUV)		Emission Level (dBUV)		Limit (dBUV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	9.93	40.23	26.80	50.16	36.73	65.58	55.58	-15.42	-18.85
2	0.18906	9.95	33.38	15.83	43.33	25.78	64.08	54.08	-20.75	-28.30
3	0.23203	9.97	26.45	9.38	36.42	19.35	62.38	52.38	-25.96	-33.03
4	0.27500	9.97	22.77	6.08	32.74	16.05	60.97	50.97	-28.23	-34.92
5	0.36094	9.99	17.41	3.94	27.40	13.93	58.71	48.71	-31.31	-34.78
6	0.52500	10.01	8.44	-0.85	18.45	9.16	56.00	46.00	-37.55	-36.84

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 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

Note: This device can support different category application which switched by access point mode and client mode by software.

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

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

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

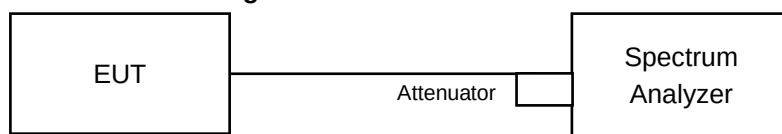
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

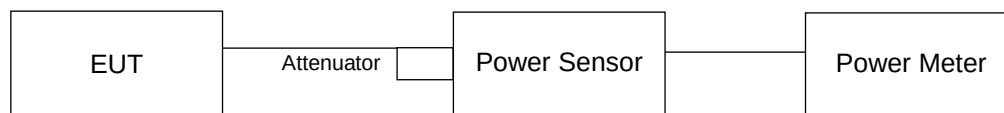
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5250MHz



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5250MHz

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

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

For other channels:

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results

POWER OUTPUT

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	20.72	20.66	20.61	20.68	466.475	26.69	30.00	Pass
40	5200	20.67	20.66	20.68	20.56	463.806	26.66	30.00	Pass
48	5240	20.59	20.76	20.74	20.57	466.277	26.69	30.00	Pass
52	5260	14.46	14.93	14.75	14.52	117.21	20.69	24.00	Pass
60	5300	14.51	14.84	14.80	14.50	117.111	20.69	24.00	Pass
64	5320	14.48	14.96	14.83	14.36	117.086	20.69	24.00	Pass
100	5500	14.62	14.71	14.73	14.56	116.846	20.68	24.00	Pass
116	5580	14.66	14.72	14.55	14.67	116.709	20.67	24.00	Pass
140	5700	14.57	14.69	14.66	14.73	117.044	20.68	24.00	Pass
149	5745	23.84	23.86	23.95	23.67	966.446	29.85	30.00	Pass
157	5785	23.87	23.89	23.99	23.61	968.913	29.86	30.00	Pass
165	5825	24.08	23.82	23.91	23.64	974.092	29.89	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.67	24.35 > 24
60	5300	21.6	24.34 > 24
64	5320	21.67	24.35 > 24
100	5500	21.48	24.32 > 24
116	5580	21.68	24.36 > 24
140	5700	21.71	24.36 > 24

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	20.45	20.83	20.65	20.74	466.699	26.69	30.00	Pass
40	5200	20.58	20.77	20.56	20.77	466.848	26.69	30.00	Pass
48	5240	20.51	20.72	20.76	20.68	466.567	26.69	30.00	Pass
52	5260	14.51	14.89	14.52	14.73	117.111	20.69	24.00	Pass
60	5300	14.55	14.76	14.71	14.63	117.053	20.68	24.00	Pass
64	5320	14.62	14.76	14.70	14.59	117.182	20.69	24.00	Pass
100	5500	14.52	14.73	14.75	14.68	117.261	20.69	24.00	Pass
116	5580	14.61	14.74	14.62	14.71	117.246	20.69	24.00	Pass
140	5700	14.76	14.52	14.68	14.72	117.261	20.69	24.00	Pass
149	5745	23.67	23.77	23.59	23.57	927.111	29.67	30.00	Pass
157	5785	23.71	23.70	23.56	23.58	924.407	29.66	30.00	Pass
165	5825	23.81	23.72	23.54	23.56	928.871	29.68	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.54	24.33 > 24
60	5300	21.65	24.35 > 24
64	5320	21.56	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.55	24.33 > 24

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	18.41	18.35	18.45	18.21	273.94	24.38	30.00	Pass
46	5230	23.48	23.60	23.69	23.24	896.677	29.53	30.00	Pass
54	5270	17.41	17.79	17.83	17.47	231.719	23.65	24.00	Pass
62	5310	14.39	17.68	17.83	17.72	205.923	23.14	24.00	Pass
102	5510	17.73	17.45	17.70	17.46	229.486	23.61	24.00	Pass
110	5550	17.66	17.39	17.75	17.34	226.939	23.56	24.00	Pass
134	5670	17.70	17.53	17.72	17.47	230.511	23.63	24.00	Pass
151	5755	23.69	23.51	23.55	23.40	903.513	29.56	30.00	Pass
159	5795	23.70	23.60	23.48	23.52	911.259	29.60	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.53	27.18 > 24
62	5310	41.64	27.19 > 24
102	5510	41.57	27.18 > 24
110	5550	41.53	27.18 > 24
134	5670	41.48	27.17 > 24

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	17.49	17.60	17.76	17.50	229.586	23.61	30.00	Pass
58	5290	17.54	17.58	18.24	17.46	236.433	23.74	24.00	Pass
106	5530	16.17	15.95	16.38	15.98	163.834	22.14	24.00	Pass
122	5610	17.58	17.50	18.01	17.46	232.473	23.66	24.00	Pass
155	5775	21.62	21.46	21.34	21.41	559.671	27.48	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.49	30.16 > 24
106	5530	82.73	30.17 > 24
122	5610	82.54	30.16 > 24

802.11ac (VHT160)

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				
*50 (U-NII-1 Band)	5250	11.72	11.29	11.54	11.43	58.021	17.64	30.00	Pass
*50 (U-NII-2A Band)	5250	11.52	12.09	11.80	11.58	61.536	17.89	24.00	Pass
114	5570	15.63	15.39	15.76	15.87	147.46	21.69	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.35	30.1 > 24
114	5570	166.89	33.22 > 24

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	20.77	21.05	20.98	21.01	498.246	26.97	30.00	Pass
40	5200	20.88	21.07	20.86	20.97	497.325	26.97	30.00	Pass
48	5240	20.72	21.03	21.08	20.92	496.625	26.96	30.00	Pass
52	5260	14.85	15.12	14.84	14.96	124.87	20.96	24.00	Pass
60	5300	14.89	14.98	15.03	14.87	124.842	20.96	24.00	Pass
64	5320	14.87	15.09	15.05	14.83	125.373	20.98	24.00	Pass
100	5500	14.83	14.97	14.98	15.02	125.06	20.97	24.00	Pass
116	5580	14.97	14.98	14.93	14.94	125.189	20.98	24.00	Pass
140	5700	15.01	14.83	14.99	14.96	124.987	20.97	24.00	Pass
149	5745	23.91	23.97	23.81	23.79	975.264	29.89	30.00	Pass
157	5785	23.95	23.94	23.81	23.83	978.038	29.90	30.00	Pass
165	5825	24.03	23.93	23.79	23.81	979.87	29.91	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.54	24.33 > 24
60	5300	21.65	24.35 > 24
64	5320	21.56	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.55	24.33 > 24

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	18.71	18.61	18.65	18.41	289.538	24.62	30.00	Pass
46	5230	23.78	23.80	23.89	23.53	948.995	29.77	30.00	Pass
54	5270	17.71	17.99	18.03	17.76	245.207	23.90	24.00	Pass
62	5310	17.68	17.97	18.13	17.93	248.375	23.95	24.00	Pass
102	5510	17.94	17.72	17.98	17.68	242.806	23.85	24.00	Pass
110	5550	17.89	17.66	17.95	17.62	240.045	23.80	24.00	Pass
134	5670	17.96	17.76	17.94	17.75	244.017	23.87	24.00	Pass
151	5755	23.91	23.75	23.78	23.68	955.301	29.80	30.00	Pass
159	5795	23.95	23.81	23.71	23.76	961.397	29.83	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.53	27.18 > 24
62	5310	41.64	27.19 > 24
102	5510	41.57	27.18 > 24
110	5550	41.53	27.18 > 24
134	5670	41.48	27.17 > 24

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	17.79	17.80	17.96	17.79	243.008	23.86	30.00	Pass
58	5290	17.74	17.88	18.44	17.73	249.921	23.98	24.00	Pass
106	5530	16.43	16.21	16.64	16.26	174.136	22.41	24.00	Pass
122	5610	17.78	17.76	18.22	17.72	245.213	23.90	24.00	Pass
155	5775	21.83	21.67	21.56	21.68	589.748	27.71	30.00	Pass

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.49	30.16 > 24
106	5530	82.73	30.17 > 24
122	5610	82.54	30.16 > 24

802.11ax (HE160)

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				
*50 (U-NII-1 Band)	5250	11.92	11.44	11.83	11.74	61.294	17.87	30.00	Pass
*50 (U-NII-2A Band)	5250	11.89	12.16	12.15	11.98	65.834	18.18	24.00	Pass
114	5570	15.89	15.61	16.02	16.11	156.033	21.93	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.35	30.1 > 24
114	5570	166.89	33.22 > 24

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	20.18	20.56	20.49	20.44	440.601	26.44	26.70	Pass
40	5200	20.39	20.48	20.28	20.47	439.171	26.43	26.70	Pass
48	5240	20.24	20.45	20.51	20.43	439.468	26.43	26.70	Pass
52	5260	14.27	14.63	14.25	14.46	110.303	20.43	20.70	Pass
60	5300	14.40	14.50	14.42	14.35	110.623	20.44	20.70	Pass
64	5320	14.26	14.49	14.53	14.28	109.958	20.41	20.70	Pass
100	5500	14.34	14.47	14.39	14.51	110.882	20.45	20.70	Pass
116	5580	14.28	14.35	14.43	14.32	108.791	20.37	20.70	Pass
140	5700	14.47	14.23	14.40	14.38	109.433	20.39	20.70	Pass
149	5745	20.39	20.46	20.40	20.37	439.11	26.43	26.70	Pass
157	5785	20.52	20.40	20.36	20.33	438.905	26.42	26.70	Pass
165	5825	20.55	20.47	20.26	20.38	440.244	26.44	26.70	Pass

- Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.54	24.33 > 24
60	5300	21.65	24.35 > 24
64	5320	21.56	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.55	24.33 > 24

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	18.41	18.32	18.45	18.21	273.469	24.37	26.70	Pass
46	5230	20.48	20.45	20.58	20.17	440.884	26.44	26.70	Pass
54	5270	14.28	14.49	14.50	14.33	110.196	20.42	20.70	Pass
62	5310	14.13	14.50	14.65	14.37	110.593	20.44	20.70	Pass
102	5510	14.55	14.24	14.60	14.28	110.688	20.44	20.70	Pass
110	5550	14.52	14.19	14.47	14.25	109.153	20.38	20.70	Pass
134	5670	14.54	14.26	14.39	14.23	109.077	20.38	20.70	Pass
151	5755	20.48	20.40	20.34	20.35	437.87	26.41	26.70	Pass
159	5795	20.57	20.44	20.26	20.39	440.253	26.44	26.70	Pass

- Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.53	27.18 > 24
62	5310	41.64	27.19 > 24
102	5510	41.57	27.18 > 24
110	5550	41.53	27.18 > 24
134	5670	41.48	27.17 > 24

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	17.49	17.60	17.66	17.59	229.405	23.61	26.70	Pass
58	5290	14.23	14.36	14.91	14.17	110.871	20.45	20.70	Pass
106	5530	14.50	14.21	14.63	14.33	110.689	20.44	20.70	Pass
122	5610	14.35	14.22	14.68	14.27	109.758	20.40	20.70	Pass
155	5775	20.47	20.40	20.31	20.36	437.119	26.41	26.70	Pass

Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.49	30.16 > 24
106	5530	82.73	30.17 > 24
122	5610	82.54	30.16 > 24

802.11ac (VHT160)

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				
*50 (U-NII-1 Band)	5250	8.88	8.83	8.74	8.80	31.266	14.95	26.70	Pass
*50 (U-NII-2A Band)	5250	8.97	9.04	9.43	8.63	32.846	15.16	20.70	Pass
114	5570	14.33	14.15	14.48	14.65	110.332	20.43	20.70	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.35	30.1 > 24
114	5570	166.89	33.22 > 24

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	20.48	20.76	20.69	20.73	466.334	26.69	26.70	Pass
40	5200	20.59	20.78	20.57	20.68	465.2	26.68	26.70	Pass
48	5240	20.44	20.75	20.80	20.64	465.617	26.68	26.70	Pass
52	5260	14.57	14.83	14.55	14.68	116.937	20.68	20.70	Pass
60	5300	14.61	14.70	14.74	14.56	116.78	20.67	20.70	Pass
64	5320	14.56	14.79	14.73	14.52	116.737	20.67	20.70	Pass
100	5500	14.54	14.68	14.69	14.72	116.914	20.68	20.70	Pass
116	5580	14.58	14.65	14.63	14.61	115.829	20.64	20.70	Pass
140	5700	14.67	14.53	14.70	14.66	116.442	20.66	20.70	Pass
149	5745	20.69	20.75	20.60	20.57	464.91	26.67	26.70	Pass
157	5785	20.72	20.70	20.58	20.61	464.89	26.67	26.70	Pass
165	5825	20.76	20.67	20.55	20.58	463.594	26.66	26.70	Pass

Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.54	24.33 > 24
60	5300	21.65	24.35 > 24
64	5320	21.56	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.55	24.33 > 24

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	18.71	18.61	18.65	18.41	289.538	24.62	26.70	Pass
46	5230	20.68	20.70	20.78	20.41	464.014	26.67	26.70	Pass
54	5270	14.48	14.77	14.80	14.53	116.625	20.67	20.70	Pass
62	5310	14.41	14.70	14.86	14.67	117.046	20.68	20.70	Pass
102	5510	14.75	14.54	14.81	14.51	116.816	20.68	20.70	Pass
110	5550	14.72	14.49	14.78	14.45	115.689	20.63	20.70	Pass
134	5670	14.74	14.56	14.69	14.53	116.184	20.65	20.70	Pass
151	5755	20.75	20.60	20.64	20.55	463.044	26.66	26.70	Pass
159	5795	20.78	20.64	20.53	20.59	463.083	26.66	26.70	Pass

- Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.53	27.18 > 24
62	5310	41.64	27.19 > 24
102	5510	41.57	27.18 > 24
110	5550	41.53	27.18 > 24
134	5670	41.48	27.17 > 24

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	17.79	17.80	17.96	17.79	243.008	23.86	26.70	Pass
58	5290	14.43	14.56	15.11	14.41	116.349	20.66	20.70	Pass
106	5530	14.70	14.48	14.91	14.53	116.92	20.68	20.70	Pass
122	5610	14.55	14.52	14.98	14.49	116.421	20.66	20.70	Pass
155	5775	20.77	20.60	20.52	20.65	463.079	26.66	26.70	Pass

Note: 1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

4. For UNII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.49	30.16 > 24
106	5530	82.73	30.17 > 24
122	5610	82.54	30.16 > 24

802.11ax (HE160)

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				
*50 (U-NII-1 Band)	5250	9.01	8.77	8.80	9.11	32.084	15.06	26.70	Pass
*50 (U-NII-2A Band)	5250	9.41	9.16	9.53	8.94	34.705	15.40	20.70	Pass
114	5570	14.63	14.36	14.76	14.85	116.802	20.67	20.70	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (9.3 - 6) = 26.70 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(9.3-6)".

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.35	30.1 > 24
114	5570	166.89	33.22 > 24

For channel straddling 5250MHz of Power





26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
36	5180	21.67	22.32	22.83	21.67
40	5200	21.67	22.23	22.28	21.78
48	5240	21.55	22.09	22.29	21.76
52	5260	21.77	21.91	21.92	21.67
60	5300	21.6	21.79	21.91	21.8
64	5320	21.75	21.76	21.92	21.67
100	5500	21.57	21.48	21.78	21.62
116	5580	21.68	21.94	21.89	21.73
140	5700	21.76	21.9	21.95	21.71
149	5745	22.44	22.75	26.13	24.25
157	5785	26.94	27.62	37.85	25.96
165	5825	27.67	39.85	39.9	38.5

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
36	5180	21.77	21.88	22.06	21.59
40	5200	21.9	21.94	22.14	21.66
48	5240	21.74	22.42	22.11	21.58
52	5260	21.8	21.84	22.12	21.54
60	5300	21.75	21.94	21.94	21.65
64	5320	21.84	21.95	22.13	21.56
100	5500	21.74	21.84	21.85	21.43
116	5580	21.77	21.73	21.97	21.61
140	5700	21.55	21.89	22.01	21.62
149	5745	26.14	22.47	24.61	22.44
157	5785	22.6	24.91	24.64	28.45
165	5825	28.96	28.9	27.68	29.22

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
38	5190	41.84	41.74	41.72	41.77
46	5230	42.04	58.82	58.49	44.7
54	5270	41.53	41.61	41.86	41.88
62	5310	41.64	41.71	41.79	41.91
102	5510	41.62	41.57	41.89	41.96
110	5550	41.69	41.53	41.88	41.76
134	5670	41.7	41.48	41.82	42.04
151	5755	46.9	45.74	51.49	44.62
159	5795	56.89	65.3	52.54	55.41

802.11ax (HE80)

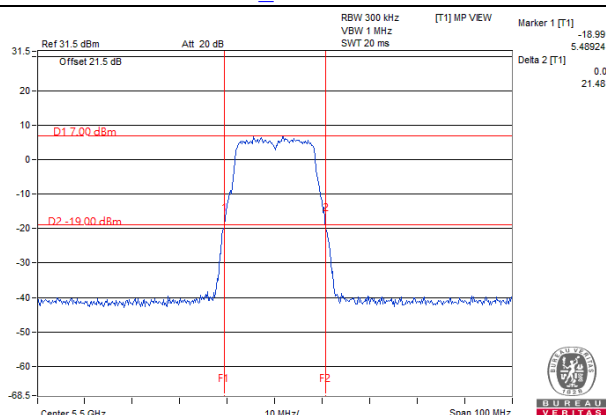
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
42	5210	82.81	82.47	83.08	82.95
58	5290	82.56	82.49	82.75	82.51
106	5530	82.81	82.73	83.07	83.34
122	5610	82.87	82.54	83.16	83
155	5775	83.16	82.57	83.07	83.32

802.11ax (HE160)

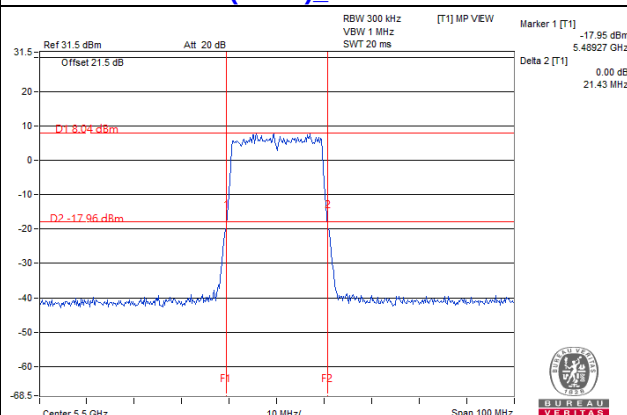
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
50 (U-NII-1 Band)	5250	81.77	81.23	81.24	82.06
50 (U-NII-2A Band)	5250	81.35	81.64	81.39	81.67
114	5570	168.38	168.18	166.89	168.3

Spectrum Plot of Worst Value

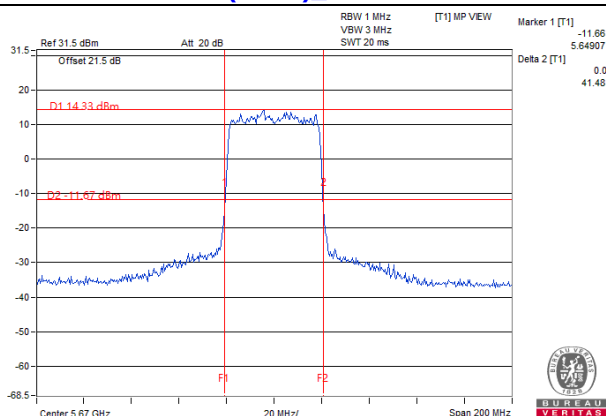
802.11a_Chain 1 / CH100



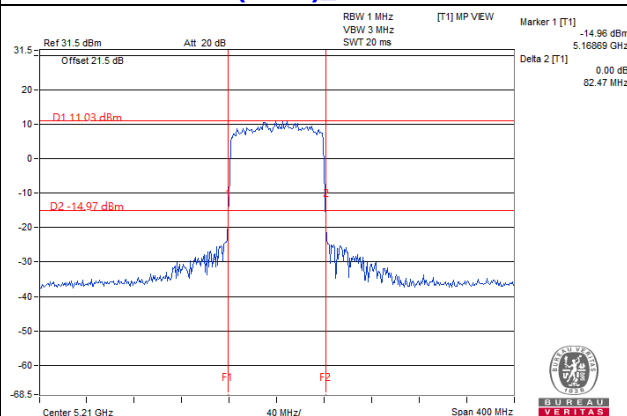
802.11ax (HE20)_Chain 3 / CH100



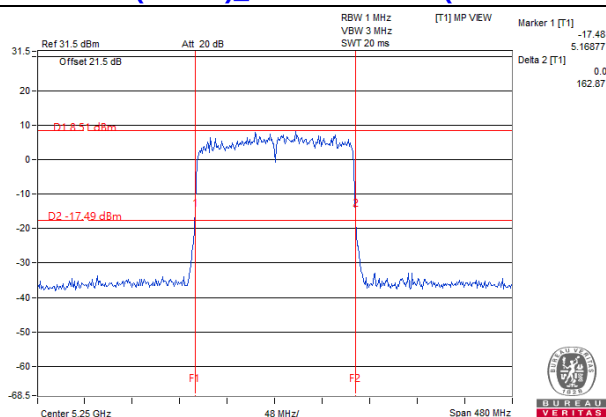
802.11ax (HE40)_Chain 1 / CH134



802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)

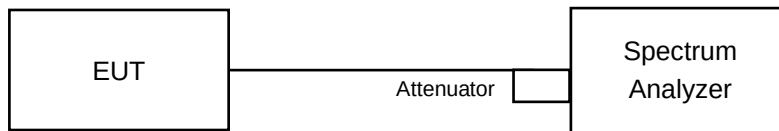


Note:

For CH50 (U-NII-1) = 5250MHz - Marker 1

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.04	16.92	16.92	16.8
40	5200	16.92	16.92	16.92	16.8
48	5240	17.04	16.92	16.92	16.92
52	5260	17.04	16.8	16.92	16.92
60	5300	16.92	16.92	16.92	16.8
64	5320	16.92	16.92	16.92	16.68
100	5500	17.04	17.04	16.92	16.68
116	5580	16.8	16.92	17.16	16.8
140	5700	16.92	16.92	16.92	16.8
149	5745	17.04	17.04	17.28	16.8
157	5785	17.04	17.28	17.16	17.16
165	5825	17.16	17.16	17.16	17.16

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	19.08	19.08	19.08	19.08
40	5200	19.2	19.08	19.08	19.08
48	5240	19.2	19.08	19.2	19.08
52	5260	19.08	19.08	19.08	18.96
60	5300	19.08	19.08	19.08	19.08
64	5320	19.08	19.08	19.32	19.08
100	5500	19.08	19.2	19.08	19.08
116	5580	19.08	19.08	19.08	19.2
140	5700	19.08	19.2	19.08	19.08
149	5745	19.08	19.08	19.2	19.08
157	5785	19.2	19.08	19.2	19.2
165	5825	19.08	19.2	19.2	19.2

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	38.16	37.92	38.16
46	5230	37.92	38.16	38.16	38.16
54	5270	37.92	37.92	37.92	37.68
62	5310	38.16	38.16	37.68	37.92
102	5510	37.68	37.68	37.68	37.92
110	5550	37.68	37.92	37.68	37.92
134	5670	38.16	37.92	37.92	38.16
151	5755	38.16	37.92	38.4	37.92
159	5795	38.16	38.64	38.4	38.16

802.11ax (HE80)

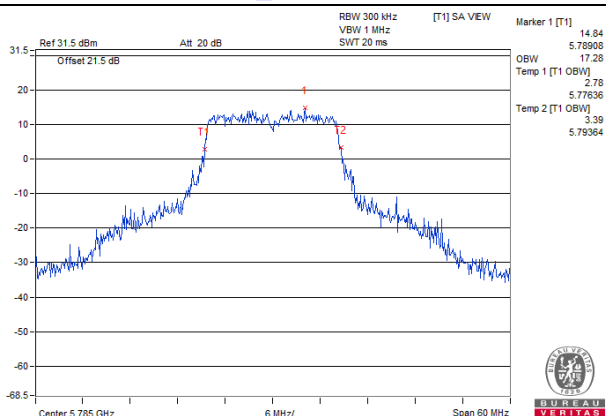
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.28	77.28	77.28	76.8
58	5290	76.8	77.28	77.28	77.28
106	5530	77.28	76.8	77.76	77.28
122	5610	77.28	77.28	77.28	77.28
155	5775	77.28	76.8	77.28	77.28

802.11ax (HE160)

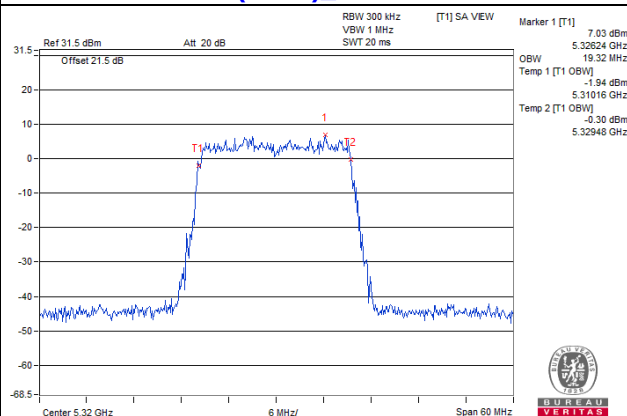
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1 Band)	5250	78.72	77.76	76.8	76.8
50 (U-NII-2A Band)	5250	76.8	77.76	76.8	77.76
114	5570	156.48	154.56	155.52	154.56

Spectrum Plot of Max. Value

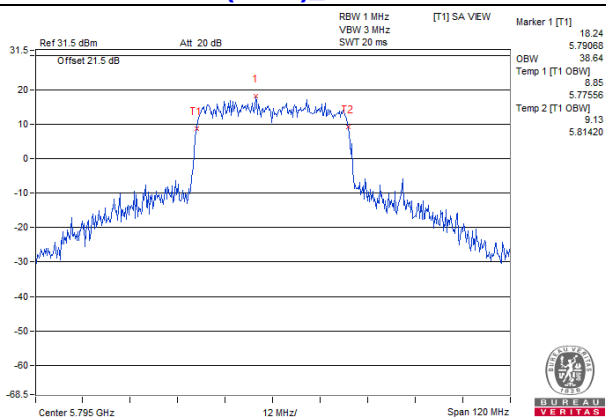
802.11a_Chain 1 / CH157



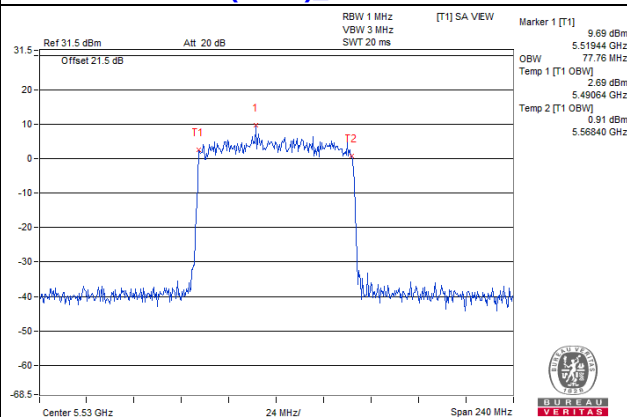
802.11ax (HE20)_Chain 2 / CH64



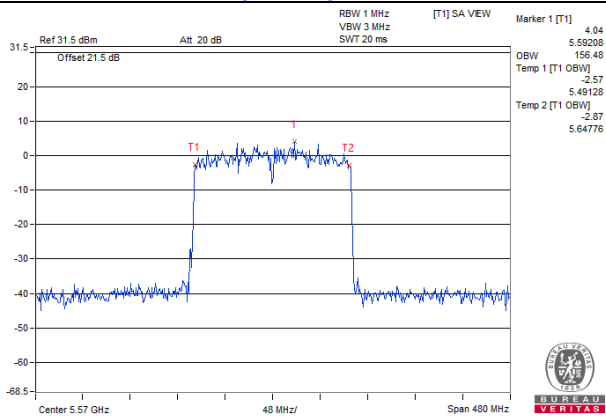
802.11ax (HE40)_Chain 1 / CH159



802.11ax (HE80)_Chain 2 / CH106

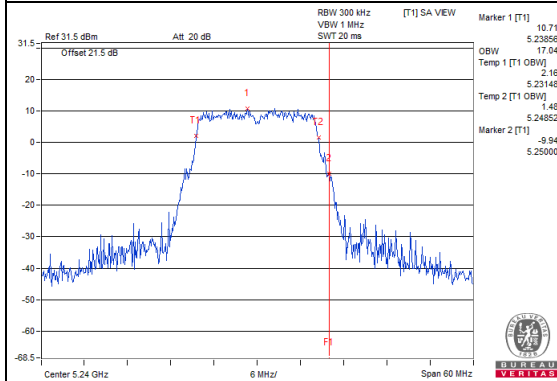


802.11ax (HE160)_Chain 0 / 114

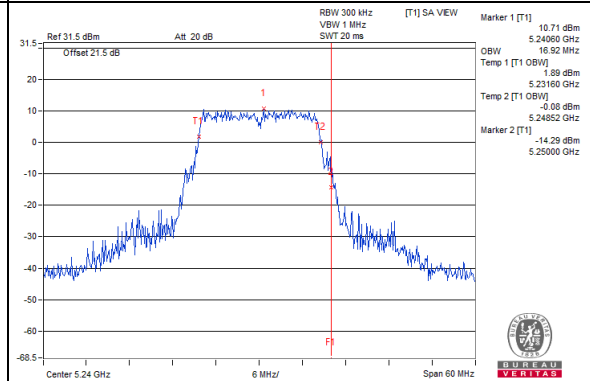


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

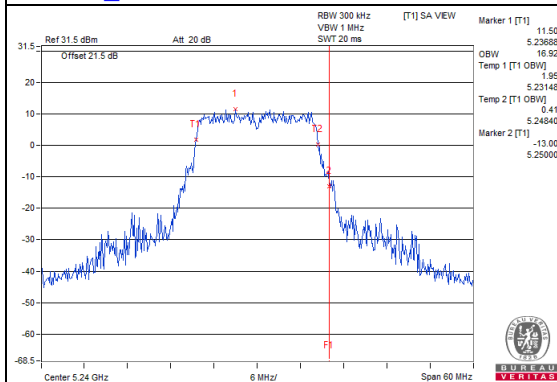
802.11a_Chain 0 / CH48



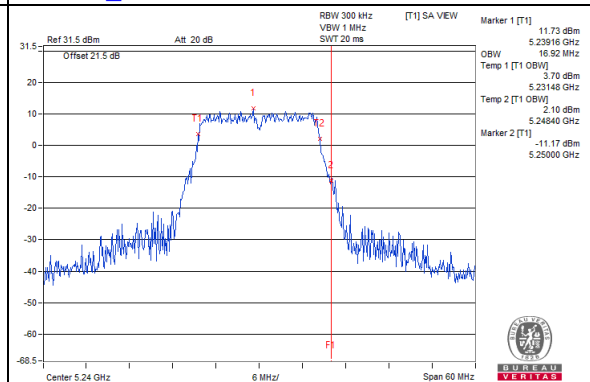
802.11a_Chain 1 / CH48



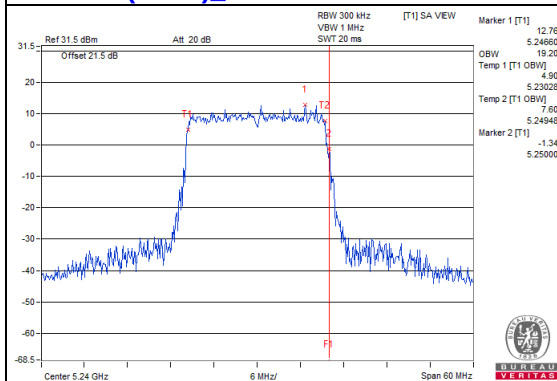
802.11a_Chain 2 / CH48



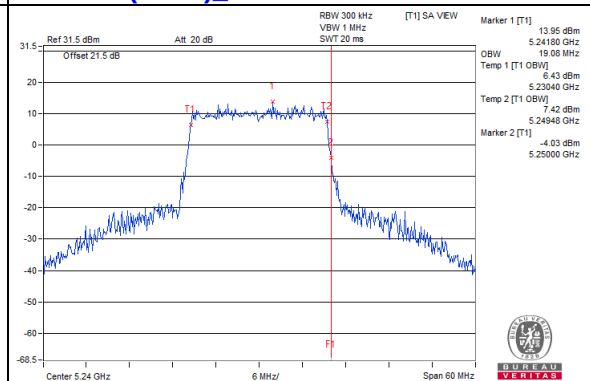
802.11a_Chain 3 / CH48



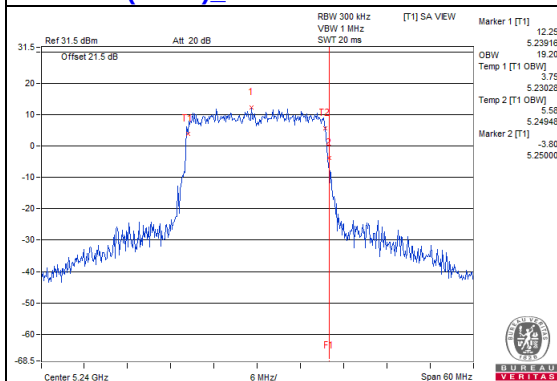
802.11ax (HE20)_Chain 0 / CH48



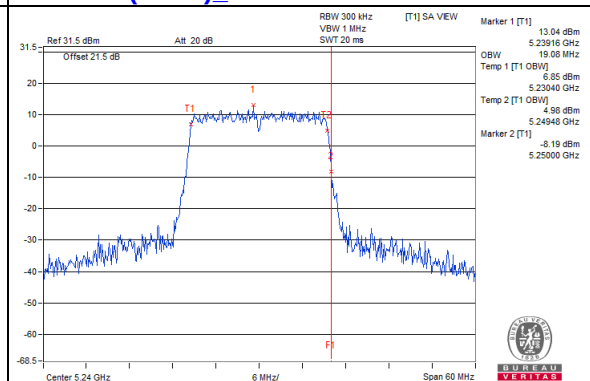
802.11ax (HE20)_Chain 1 / CH48



802.11ax (HE20)_Chain 2 / CH48

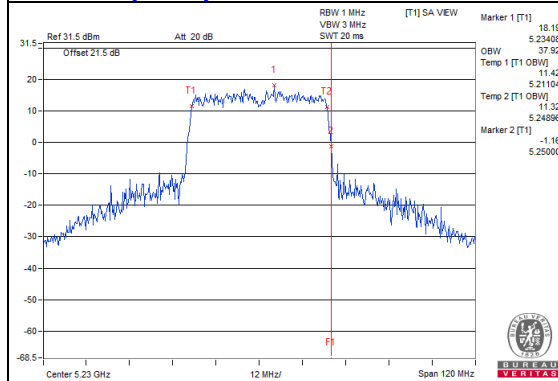


802.11ax (HE20)_Chain 3 / CH48

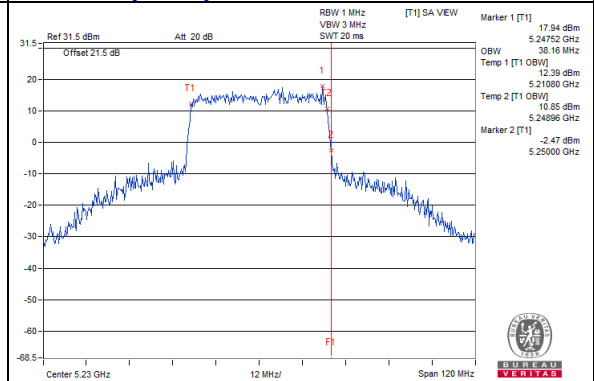


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

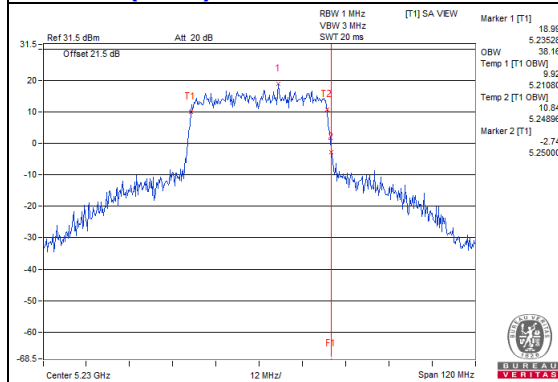
802.11ax (HE40)_Chain 0 / CH46



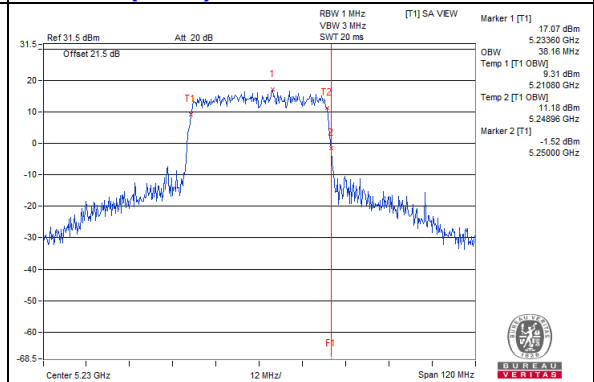
802.11ax (HE40)_Chain 1 / CH46



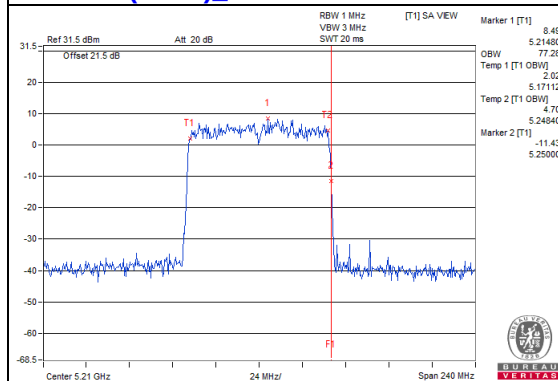
802.11ax (HE40)_Chain 2 / CH46



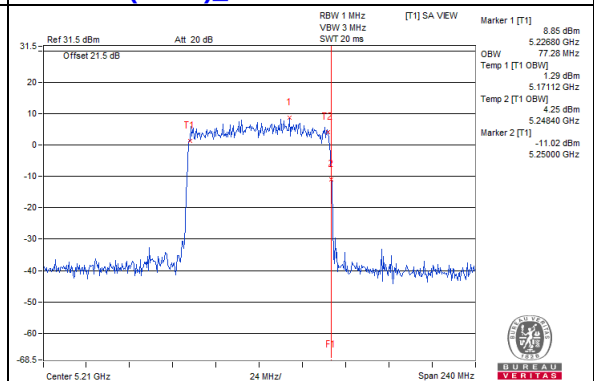
802.11ax (HE40)_Chain 3 / CH46



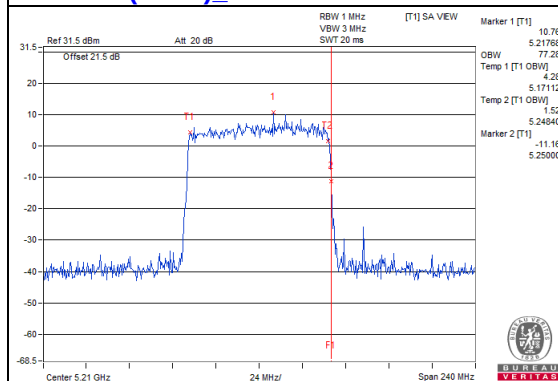
802.11ax (HE80)_Chain 0 / CH42



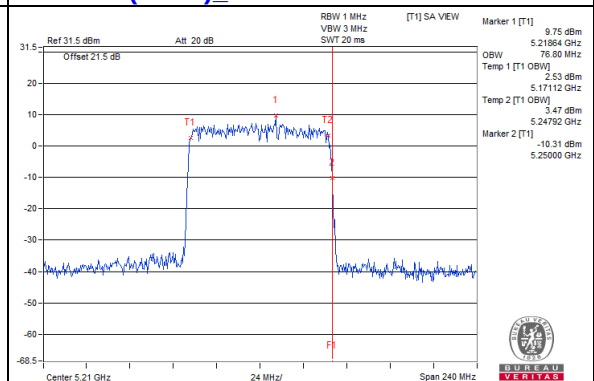
802.11ax (HE80)_Chain 1 / CH42



802.11ax (HE80)_Chain 2 / CH42

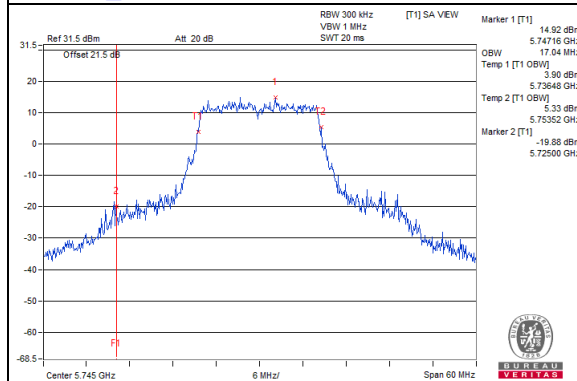


802.11ax (HE80)_Chain 3 / CH42

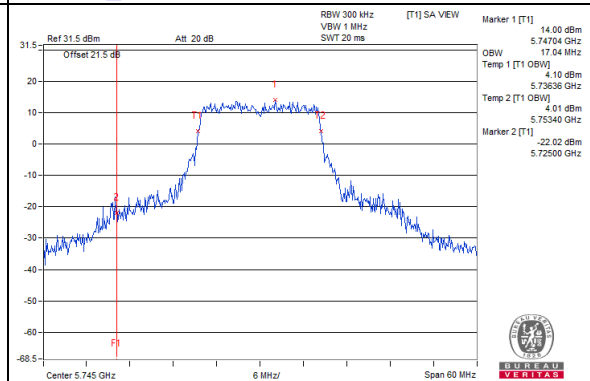


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

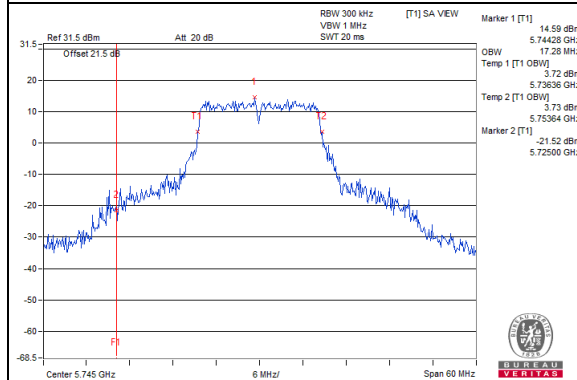
802.11a Chain 0 / CH149



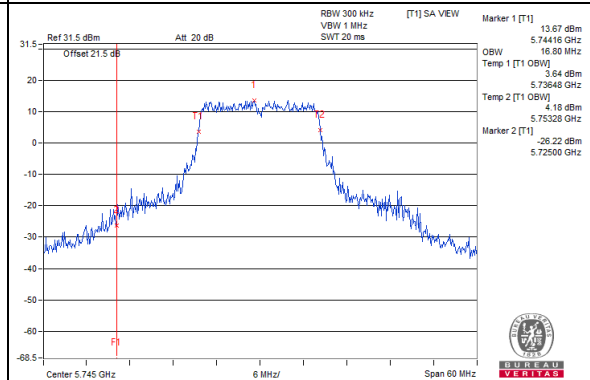
802.11a Chain 1 / CH149



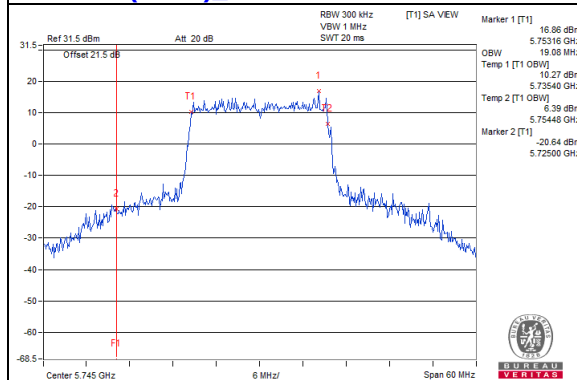
802.11a Chain 2 / CH149



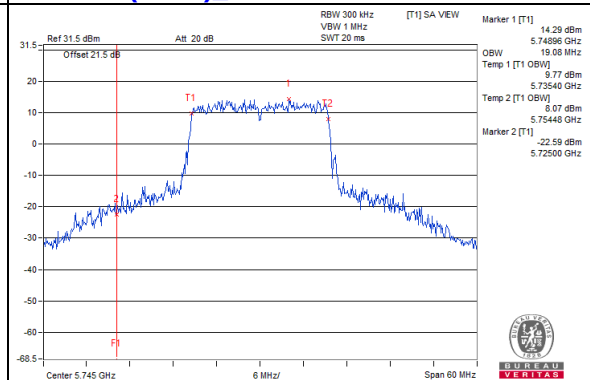
802.11a Chain 3 / CH149



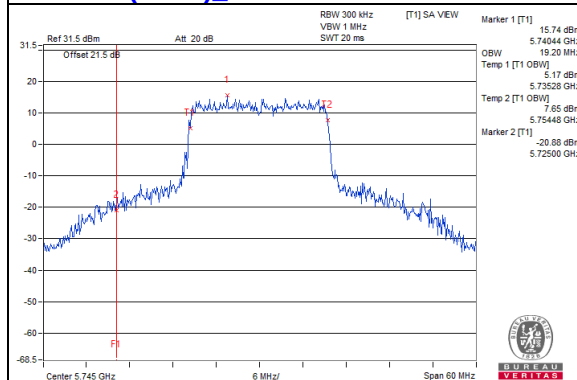
802.11ax (HE20) Chain 0 / CH149



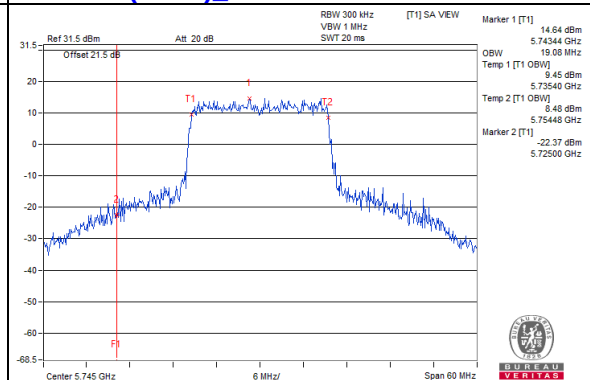
802.11ax (HE20) Chain 1 / CH149



802.11ax (HE20) Chain 2 / CH149

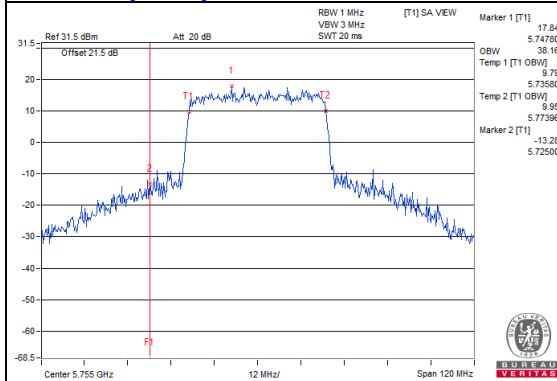


802.11ax (HE20) Chain 3 / CH149

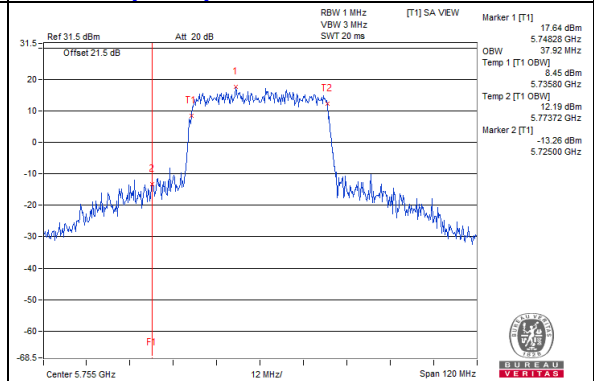


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

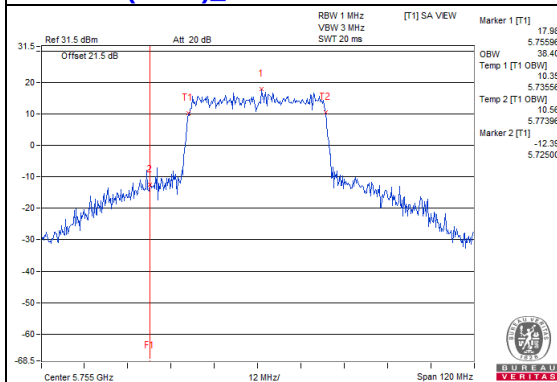
802.11ax (HE40)_Chain 0 / CH151



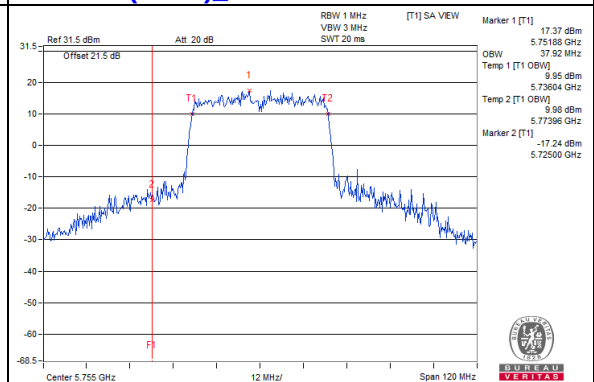
802.11ax (HE40)_Chain 1 / CH151



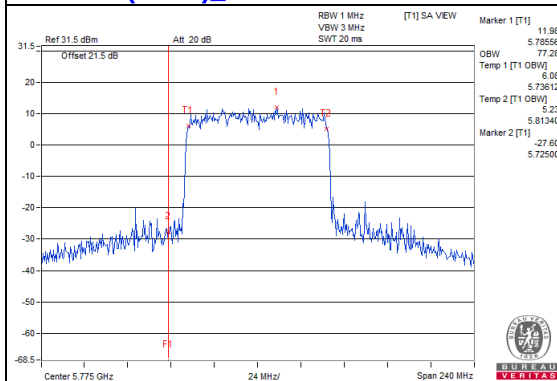
802.11ax (HE40)_Chain 2 / CH151



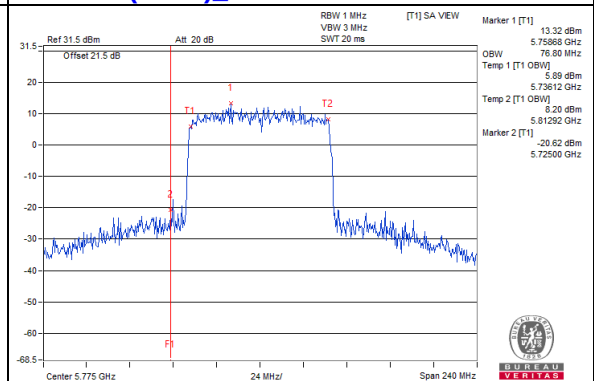
802.11ax (HE40)_Chain 3 / CH151



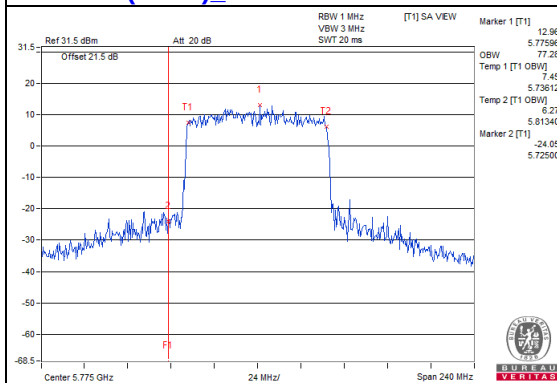
802.11ax (HE80)_Chain 0 / CH155



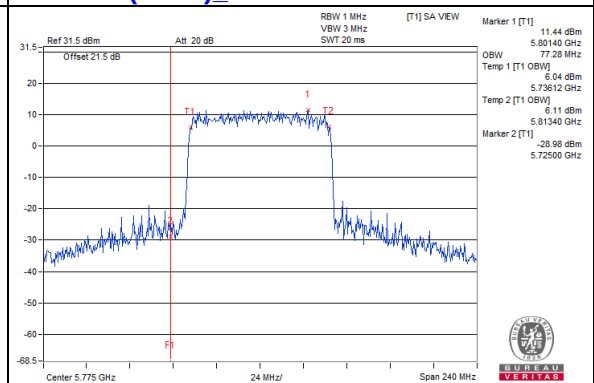
802.11ax (HE80)_Chain 1 / CH155



802.11ax (HE80)_Chain 2 / CH155



802.11ax (HE80)_Chain 3 / CH155



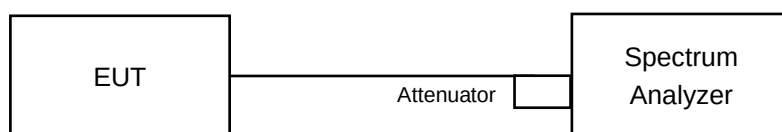
4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

Note: This device can support different category application which switched by access point mode and client mode by software.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For 802.11a

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-1

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

For U-NII-3 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

For 802.11ax (HE20), 802.11ax (HE40), 802.11ax (HE80), 802.11ax (HE160)

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

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

For U-NII-1, U-NII-2A, U-NII-2C band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	6.99	7.15	7.05	7.02	13.07	13.70	Pass
40	5200	7.03	6.85	6.91	6.95	12.96	13.70	Pass
48	5240	6.92	6.93	7.00	7.28	13.06	13.70	Pass
52	5260	0.48	0.98	1.41	1.02	7.01	7.70	Pass
60	5300	0.70	1.01	1.30	1.21	7.08	7.70	Pass
64	5320	0.90	1.03	1.13	1.14	7.07	7.70	Pass
100	5500	1.01	1.12	1.22	0.95	7.10	7.70	Pass
116	5580	0.68	0.80	0.93	0.88	6.84	7.70	Pass
140	5700	0.76	0.73	0.93	0.85	6.84	7.70	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(9.3-6) = 13.7\text{dBm}$.
3. For U-NII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.
4. For U-NII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.

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	6.55	6.64	6.93	6.51	0.18	12.86	13.70	Pass
40	5200	6.31	6.73	6.84	6.95	0.18	12.92	13.70	Pass
48	5240	6.33	7.63	6.66	6.68	0.18	13.06	13.70	Pass
52	5260	0.45	0.59	0.74	0.61	0.18	6.80	7.70	Pass
60	5300	0.53	0.81	0.78	0.74	0.18	6.92	7.70	Pass
64	5320	0.43	0.76	0.96	0.72	0.18	6.92	7.70	Pass
100	5500	0.51	0.58	0.61	0.54	0.18	6.76	7.70	Pass
116	5580	0.31	0.58	0.48	0.45	0.18	6.66	7.70	Pass
140	5700	0.74	0.21	0.51	0.31	0.18	6.65	7.70	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(9.3-6) = 13.7\text{dBm}$.
3. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.
4. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.

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	1.42	1.61	1.77	1.18	0.09	7.61	13.70	Pass
46	5230	6.31	6.66	6.63	6.33	0.09	12.60	13.70	Pass
54	5270	0.67	0.71	0.73	0.71	0.09	6.82	7.70	Pass
62	5310	0.34	0.83	0.91	0.88	0.09	6.86	7.70	Pass
102	5510	0.61	0.46	0.91	0.82	0.09	6.82	7.70	Pass
110	5550	0.65	0.17	0.88	0.44	0.09	6.65	7.70	Pass
134	5670	0.75	0.51	0.61	0.56	0.09	6.72	7.70	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(9.3-6) = 13.7\text{dBm}$.
3. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.
4. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.

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	-2.37	-2.17	-1.75	-2.21	0.17	4.08	13.70	Pass
58	5290	-2.44	-2.02	-1.47	-2.55	0.17	4.10	7.70	Pass
106	5530	-3.57	-3.94	-3.37	-3.77	0.17	2.54	7.70	Pass
122	5610	-2.13	-2.36	-1.69	-1.98	0.17	4.16	7.70	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(9.3-6) = 13.7\text{dBm}$.
3. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.
4. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.

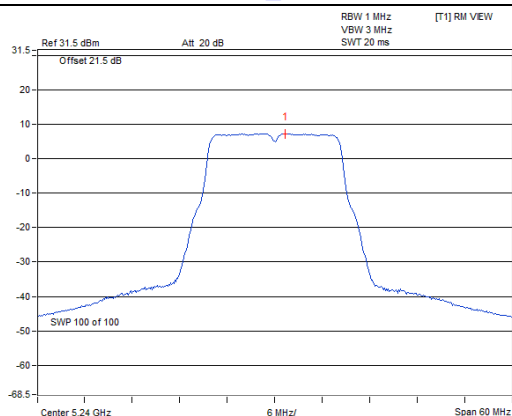
802.11ax (HE160)

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				
50 (U-NII-1 Band)	5250	-5.25	-5.35	-5.14	-5.16	0.12	0.91	13.70	Pass
50 (U-NII-2A Band)	5250	-5.30	-5.00	-5.03	-5.13	0.12	1.02	7.70	Pass
114	5570	-7.32	-6.97	-6.63	-6.58	0.12	-0.73	7.70	Pass

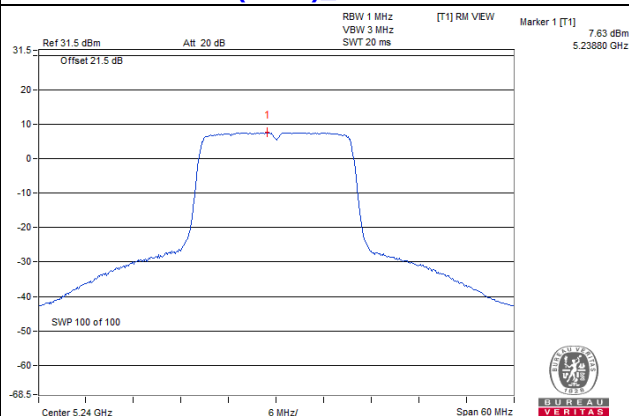
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(9.3-6) = 13.7\text{dBm}$.
3. For UNII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.
4. For UNII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(9.3-6) = 7.7\text{dBm}$.

Spectrum Plot of Worst Value

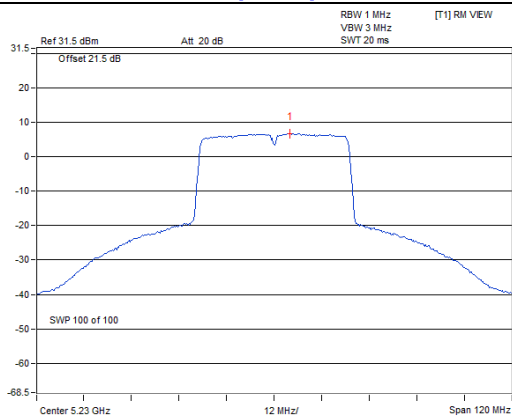
802.11a_Chain 3 / CH48



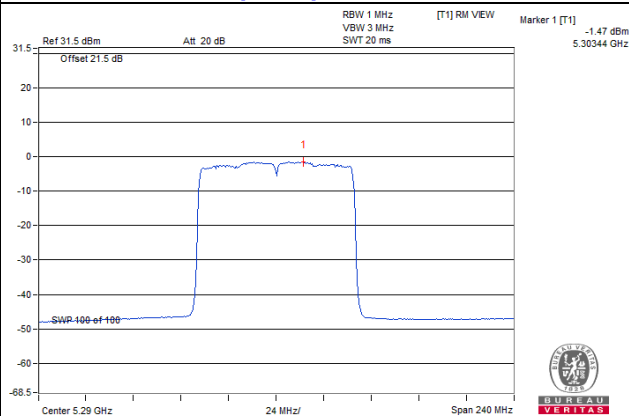
802.11ax (HE20)_Chain 1 / CH48



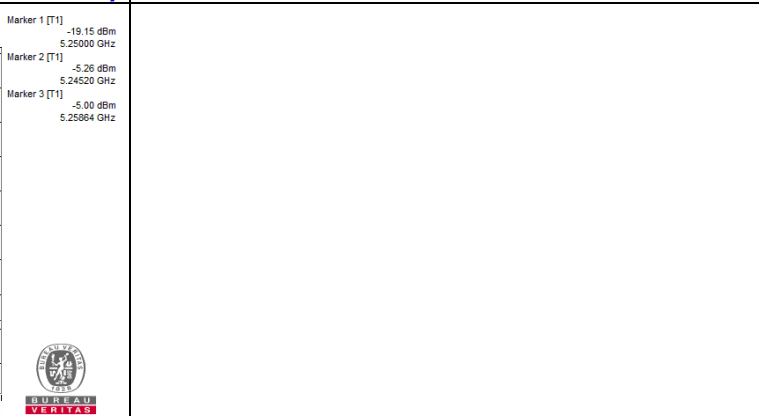
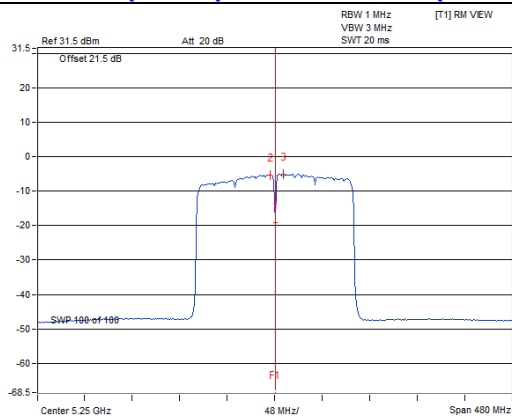
802.11ax (HE40)_Chain 1 / CH46



802.11ax (HE80)_Chain 2 / CH58



802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



For U-NII-3 band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	1.60	1.41	2.18	1.87	7.80	10.02	26.70	Pass
157	5785	1.86	2.02	1.78	1.78	7.88	10.10	26.70	Pass
165	5825	1.97	1.96	2.11	1.89	8.00	10.22	26.70	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 = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (9.3 - 6) = 26.7 \text{ dBm}$.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	0.24	0.55	0.60	0.68	0.18	6.72	8.94	26.70	Pass
157	5785	0.75	0.71	0.50	0.80	0.18	6.89	9.11	26.70	Pass
165	5825	0.90	0.83	0.62	0.90	0.18	7.02	9.24	26.70	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 = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (9.3 - 6) = 26.7 \text{ dBm}$.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
151	5755	-2.38	-2.39	-2.25	-2.27	0.09	3.79	6.01	26.70	Pass
159	5795	-2.35	-1.96	-2.43	-2.41	0.09	3.83	6.05	26.70	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 = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (9.3 - 6) = 26.7 \text{ dBm}$.

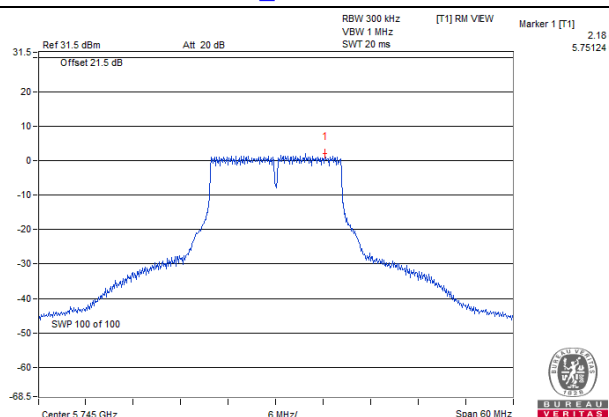
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
155	5775	-7.44	-6.96	-7.02	-7.26	0.17	-0.97	1.25	26.70	Pass

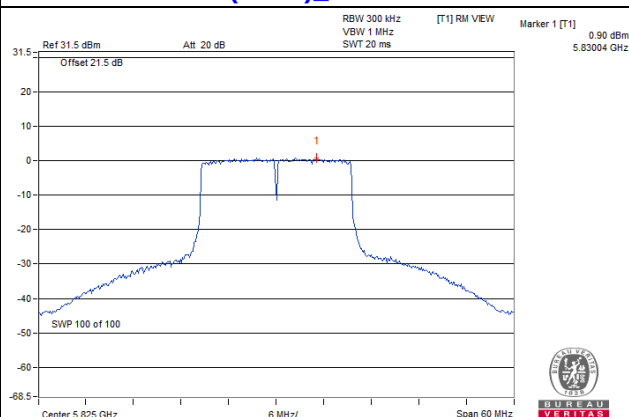
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4] = 9.3 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (9.3 - 6) = 26.7 \text{ dBm}$.

Spectrum Plot of Worst Value

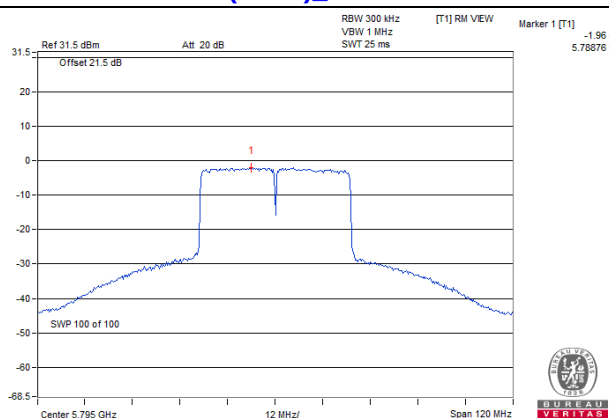
802.11a_Chain 2 / CH149



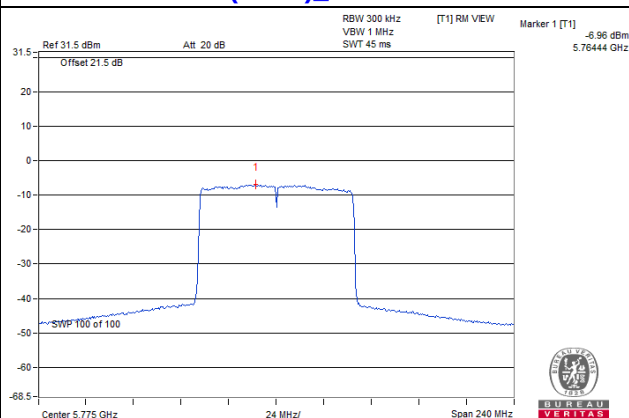
802.11ax (HE20)_Chain 0 / CH165



802.11ax (HE40)_Chain 1 / CH159



802.11ax (HE80)_Chain 1 / CH155

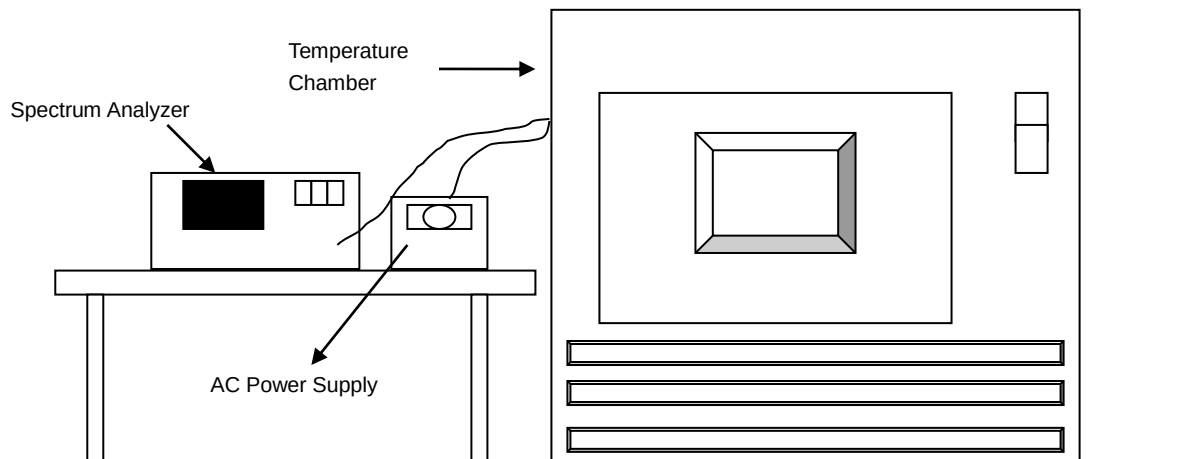


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC 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 (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5179.987	Pass	5179.9848	Pass	5179.9853	Pass	5179.9856	Pass
30	120	5180.0206	Pass	5180.0216	Pass	5180.021	Pass	5180.0255	Pass
20	120	5179.9744	Pass	5179.9771	Pass	5179.9779	Pass	5179.9758	Pass
10	120	5180.0176	Pass	5180.0173	Pass	5180.0189	Pass	5180.0196	Pass
0	120	5180.0204	Pass	5180.0201	Pass	5180.0228	Pass	5180.0182	Pass

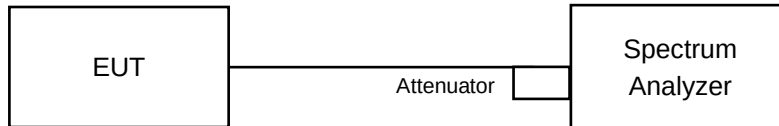
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5179.9746	Pass	5179.9779	Pass	5179.9771	Pass	5179.9751	Pass
	120	5179.9744	Pass	5179.9771	Pass	5179.9779	Pass	5179.9758	Pass
	102	5179.9743	Pass	5179.977	Pass	5179.9776	Pass	5179.9763	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

- 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

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.41	16.4	16.41	16.42	0.5	Pass
157	5785	16.42	16.41	16.4	16.42	0.5	Pass
165	5825	16.4	16.41	16.41	16.43	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	19.05	18.98	18.98	19.03	0.5	Pass
157	5785	19.07	18.97	19.01	18.99	0.5	Pass
165	5825	19.01	18.99	18.95	18.99	0.5	Pass

802.11ax (HE40)

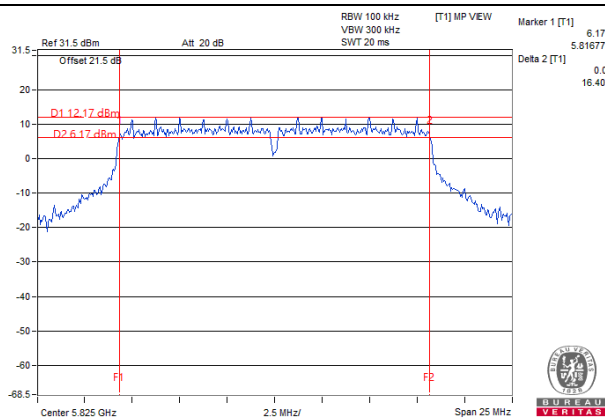
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	37.8	37.61	37.75	37.68	0.5	Pass
159	5795	37.86	37.78	37.77	37.75	0.5	Pass

802.11ax (HE80)

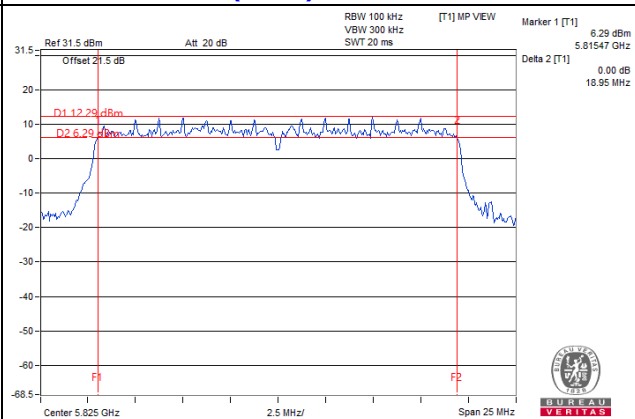
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	77.02	76.69	76.92	76.79	0.5	Pass

Spectrum Plot of Worst Value

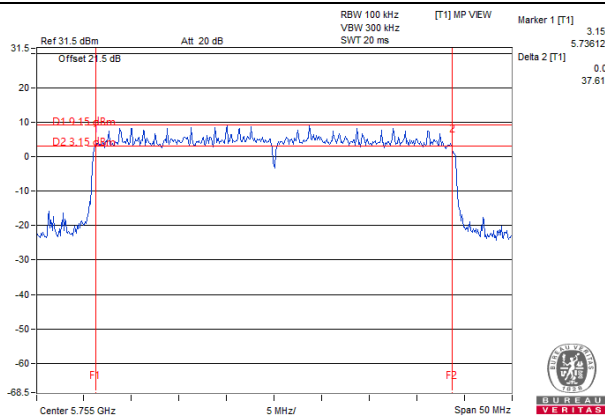
802.11a_Chain 0 / CH165



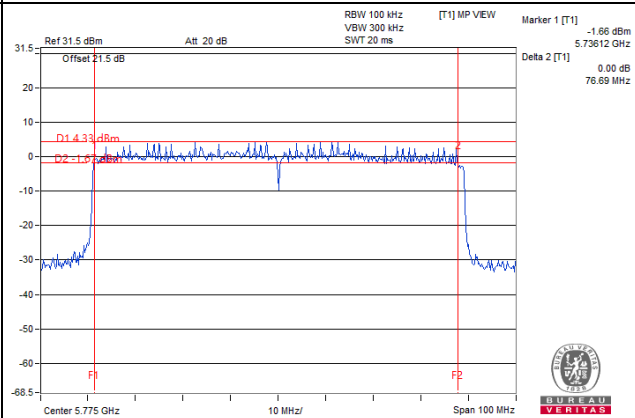
802.11ax (HE20)_Chain 2 / CH165



802.11ax (HE40)_Chain 1 / CH151



802.11ax (HE80)_Chain 1 / CH155



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

5 Pictures of Test Arrangements

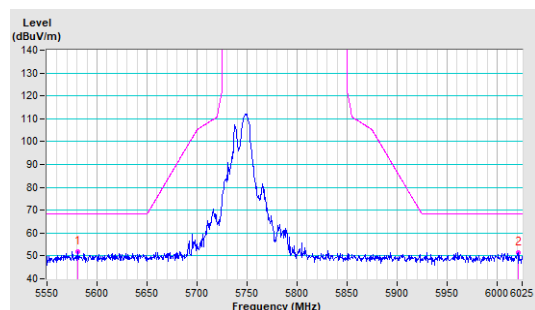
Please refer to the attached file (Test Setup Photo).

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

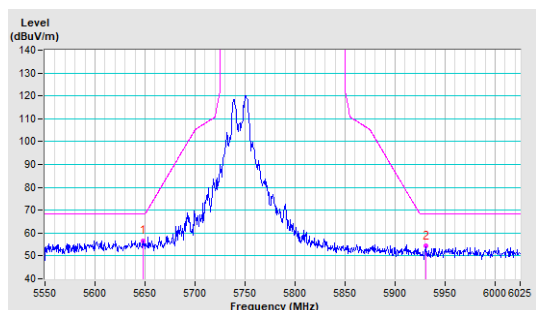
802.11a

CH 149 5745 MHz

Horizontal

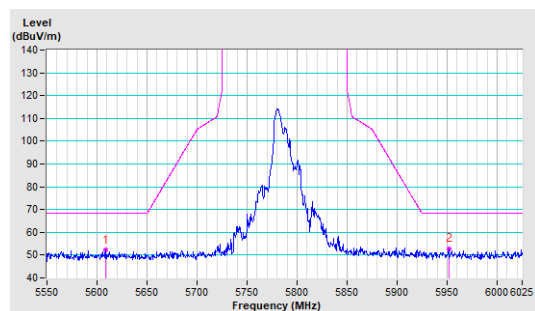


Vertical

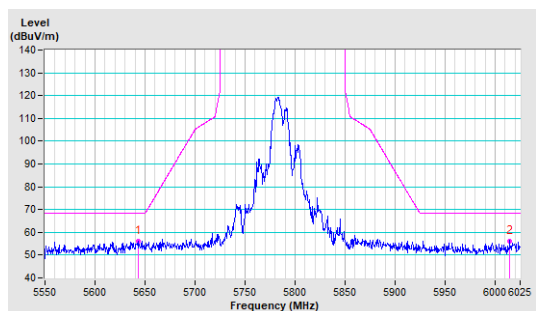


CH 157 5785 MHz

Horizontal

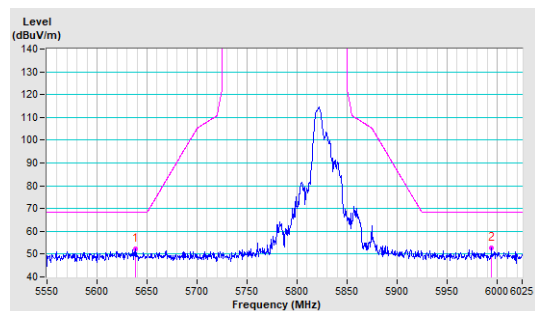


Vertical

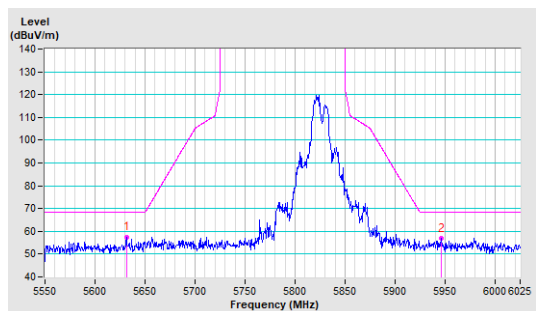


CH 165 5825 MHz

Horizontal



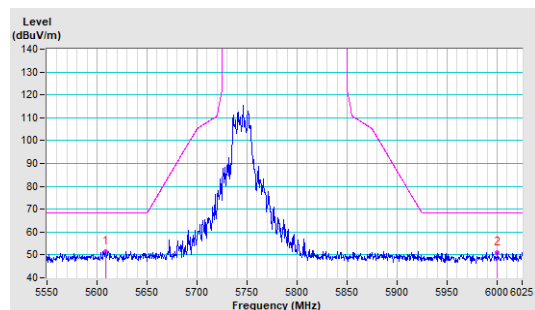
Vertical



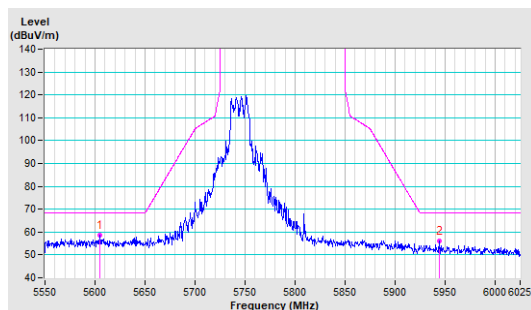
802.11ax (HE20)

CH 149 5745 MHz

Horizontal

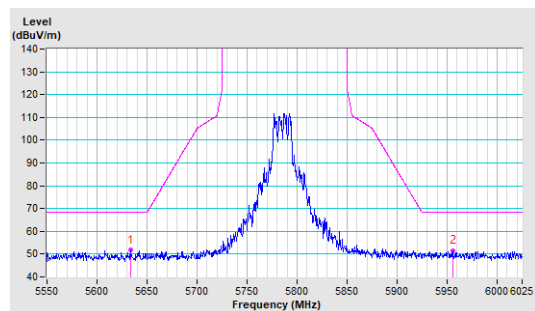


Vertical

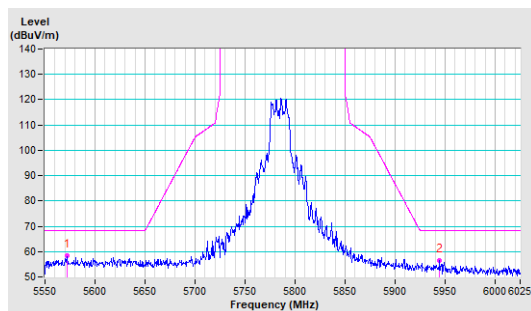


CH 157 5785 MHz

Horizontal

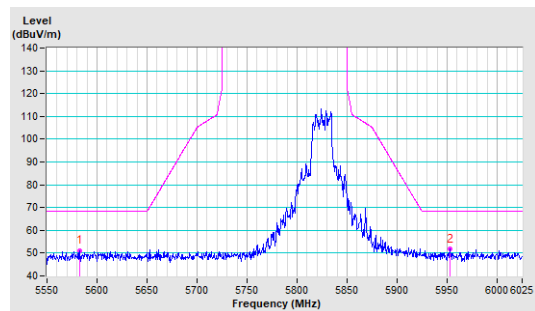


Vertical

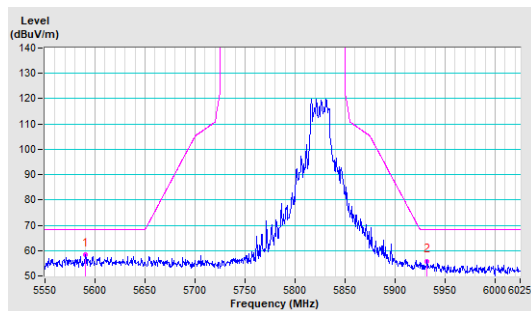


CH 165 5825 MHz

Horizontal



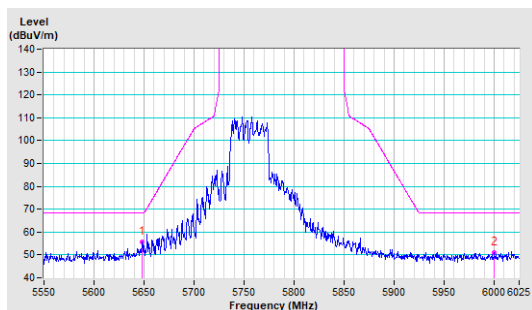
Vertical



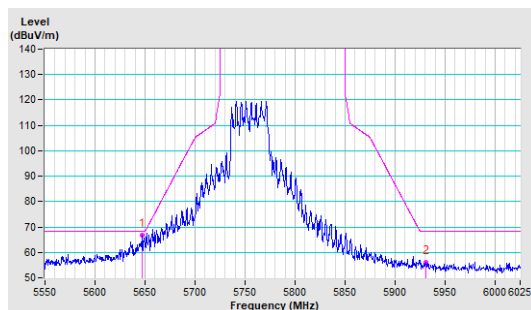
802.11ax (HE40)

CH 151 5755 MHz

Horizontal

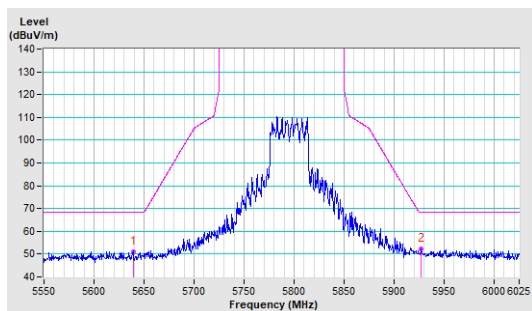


Vertical

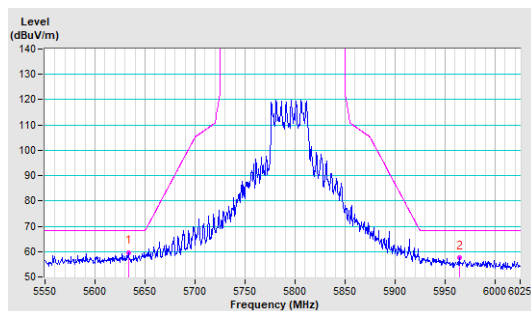


CH 159 5795 MHz

Horizontal



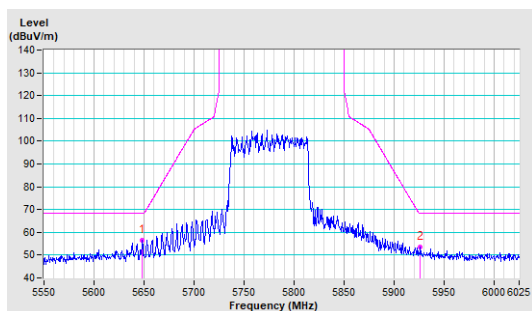
Vertical



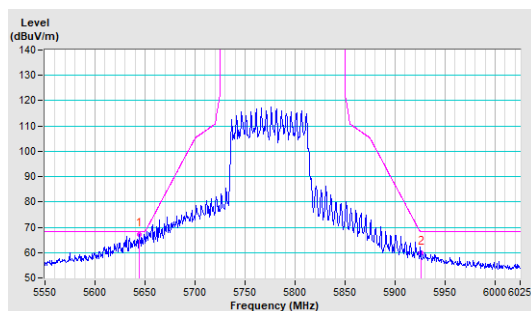
802.11ax (HE80)

CH 155 5775 MHz

Horizontal

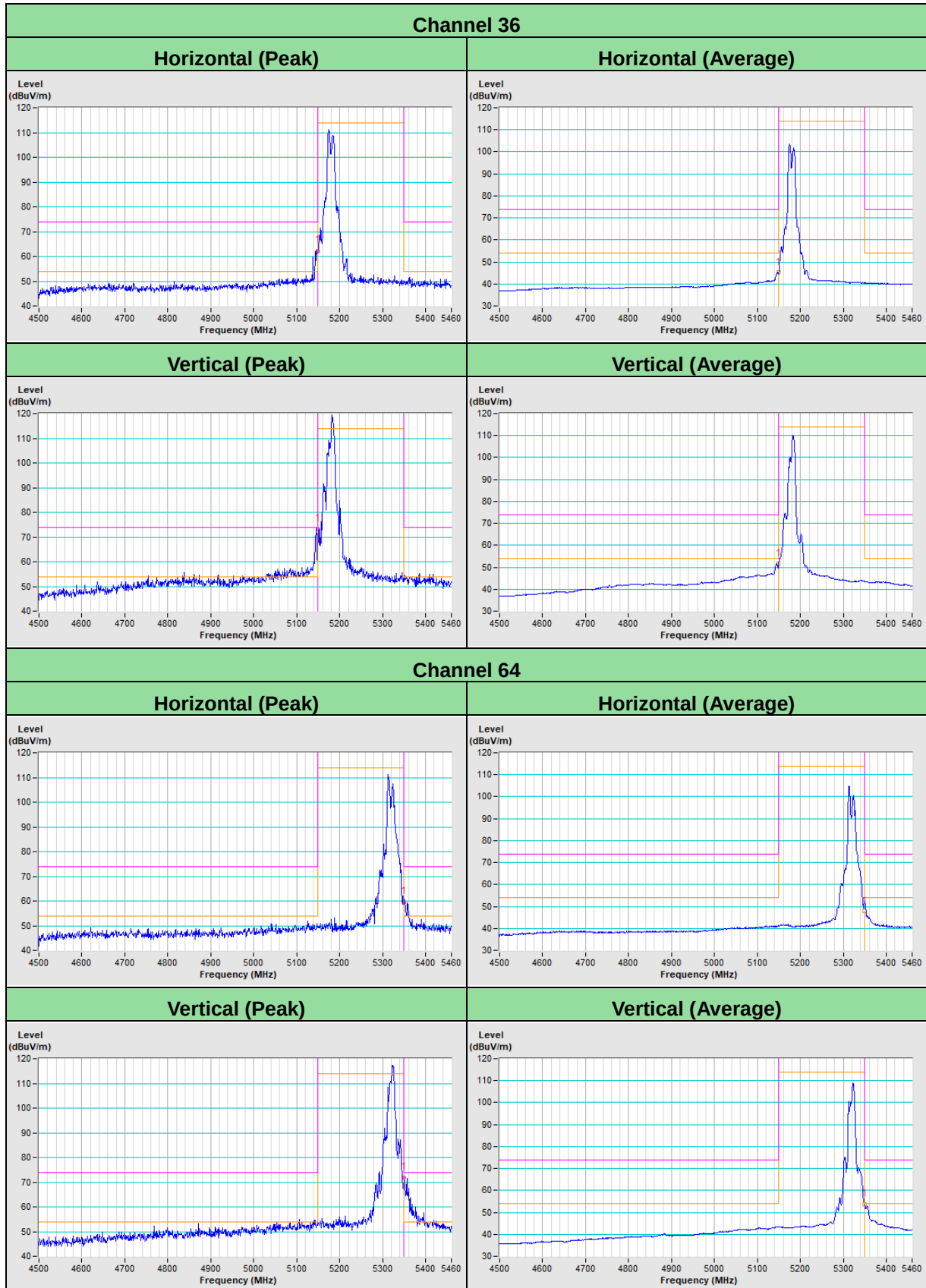


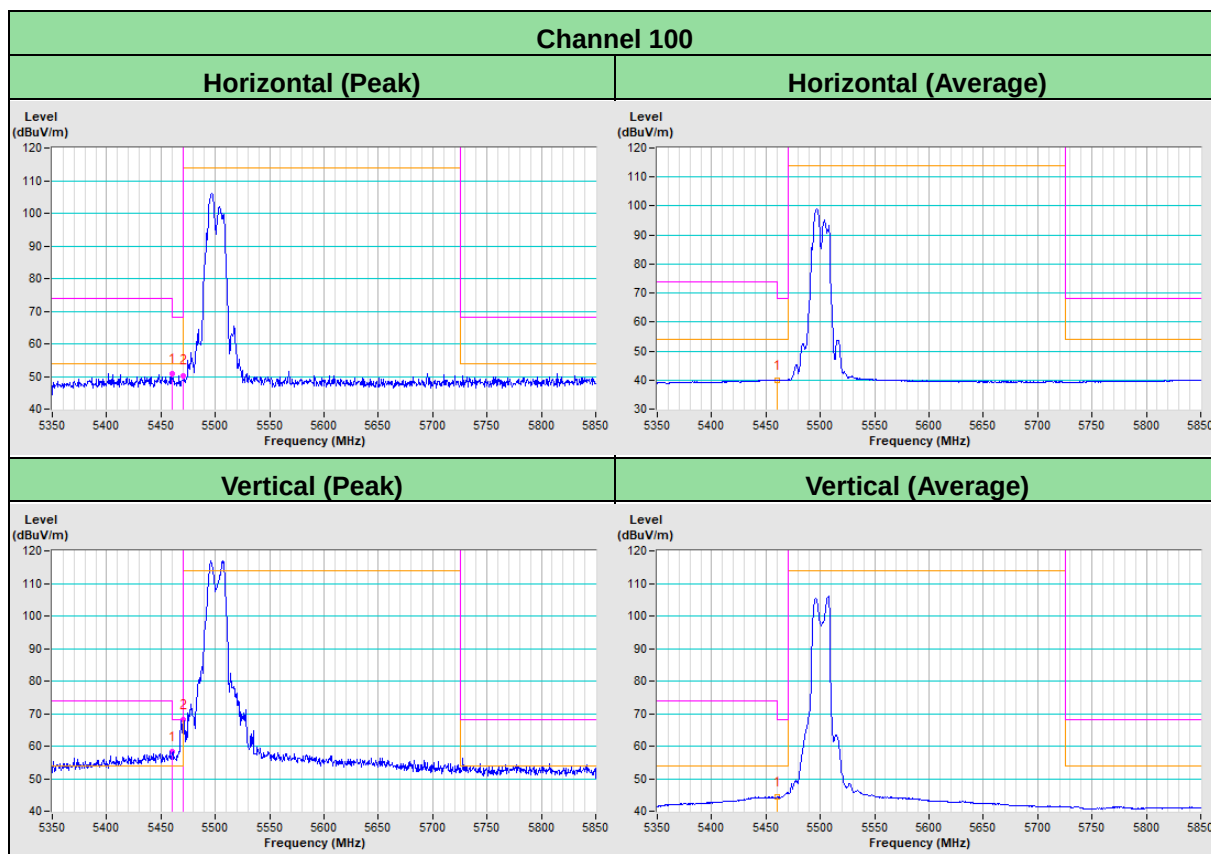
Vertical



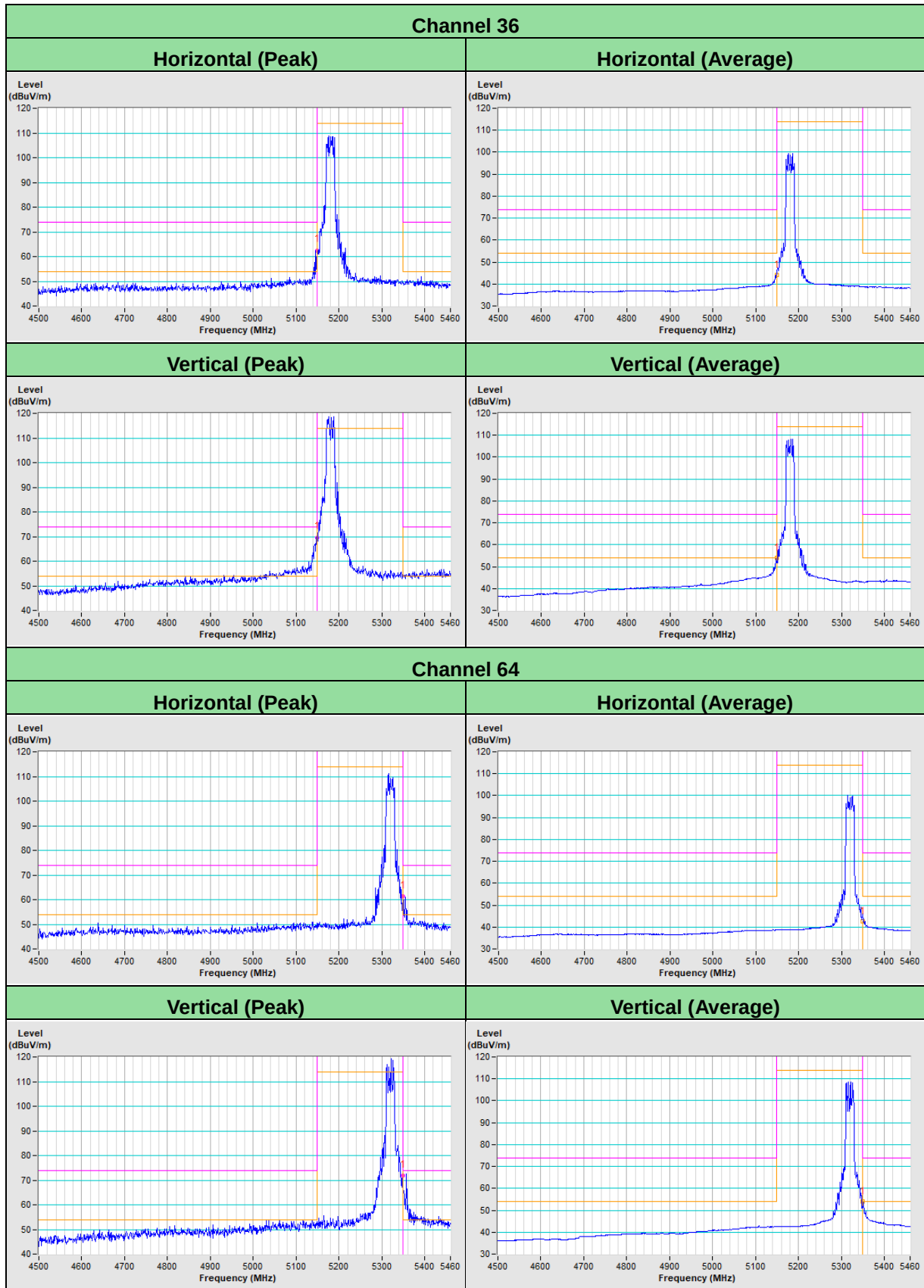
Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)

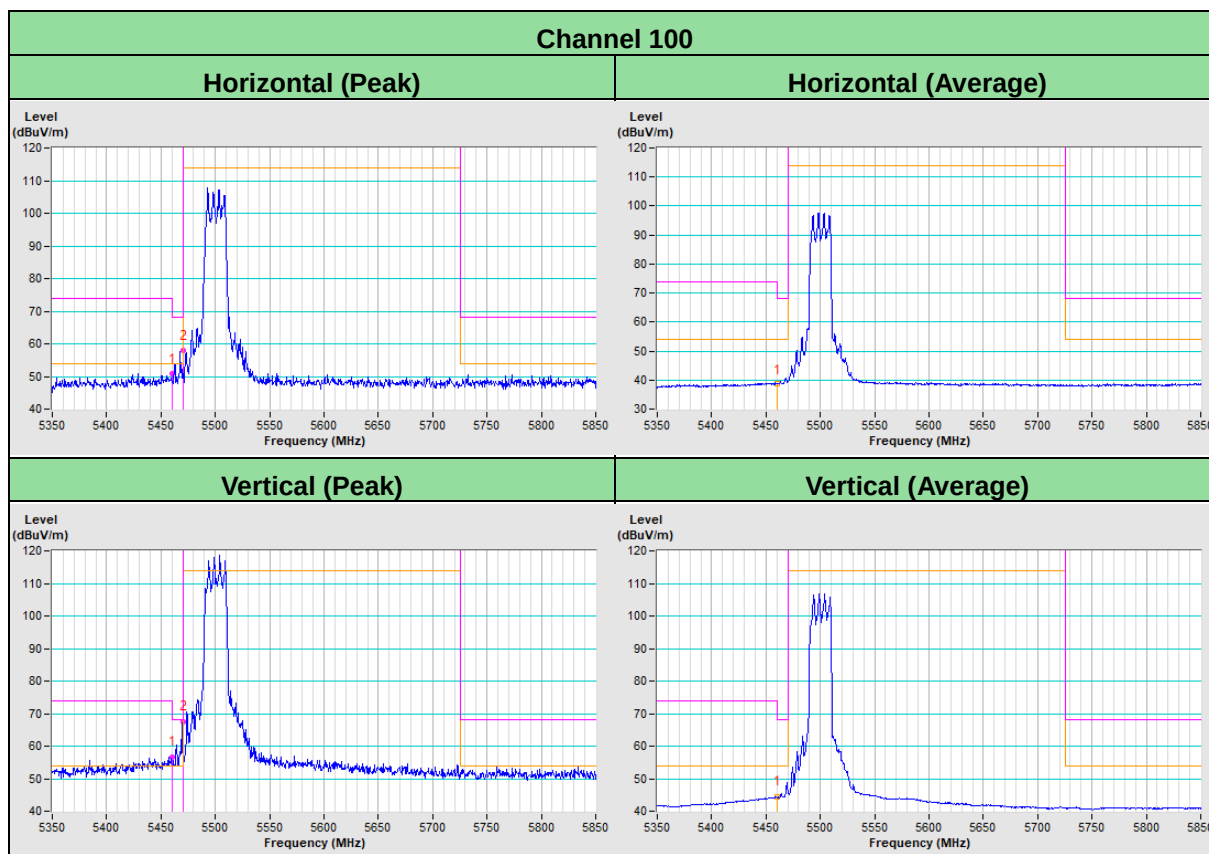
802.11a



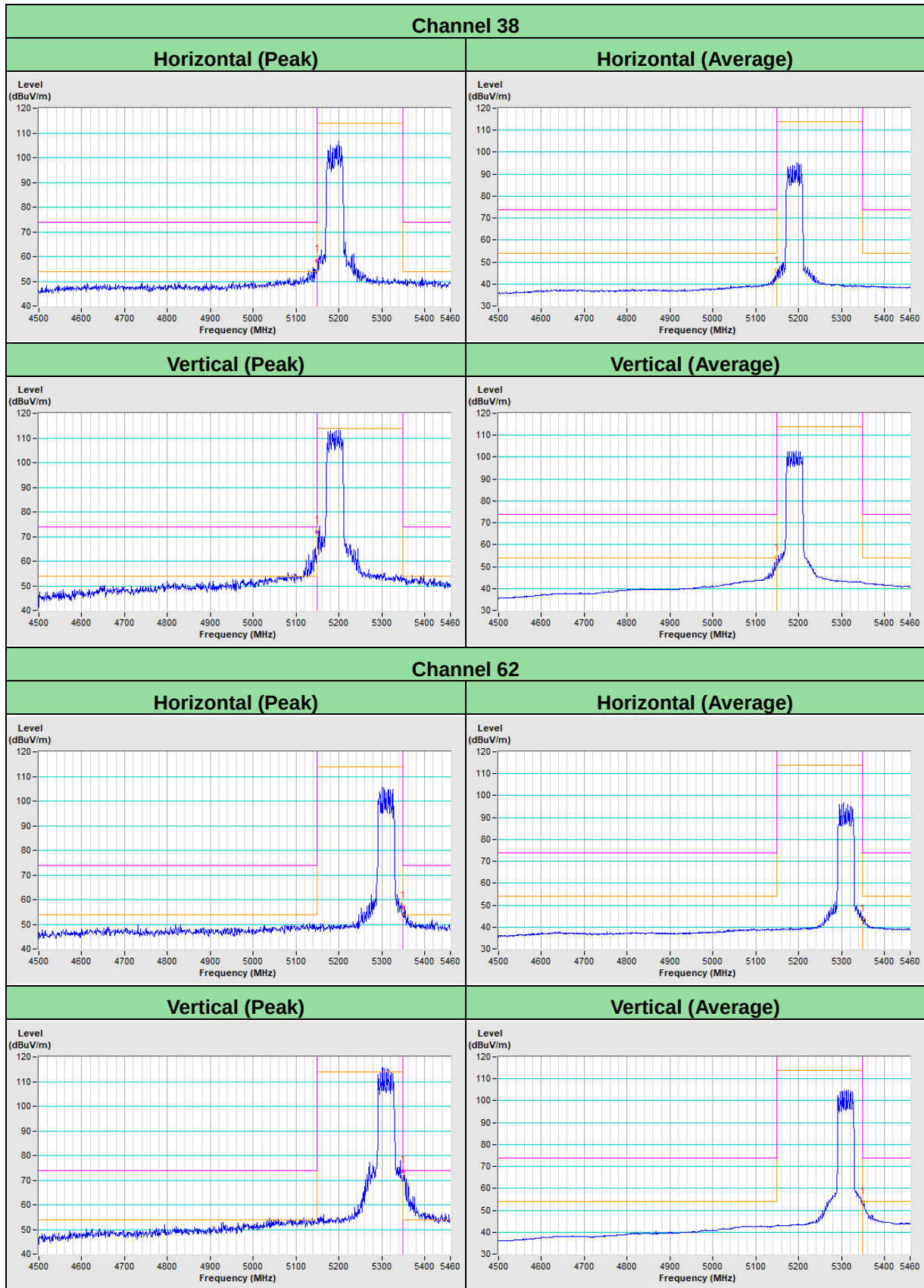


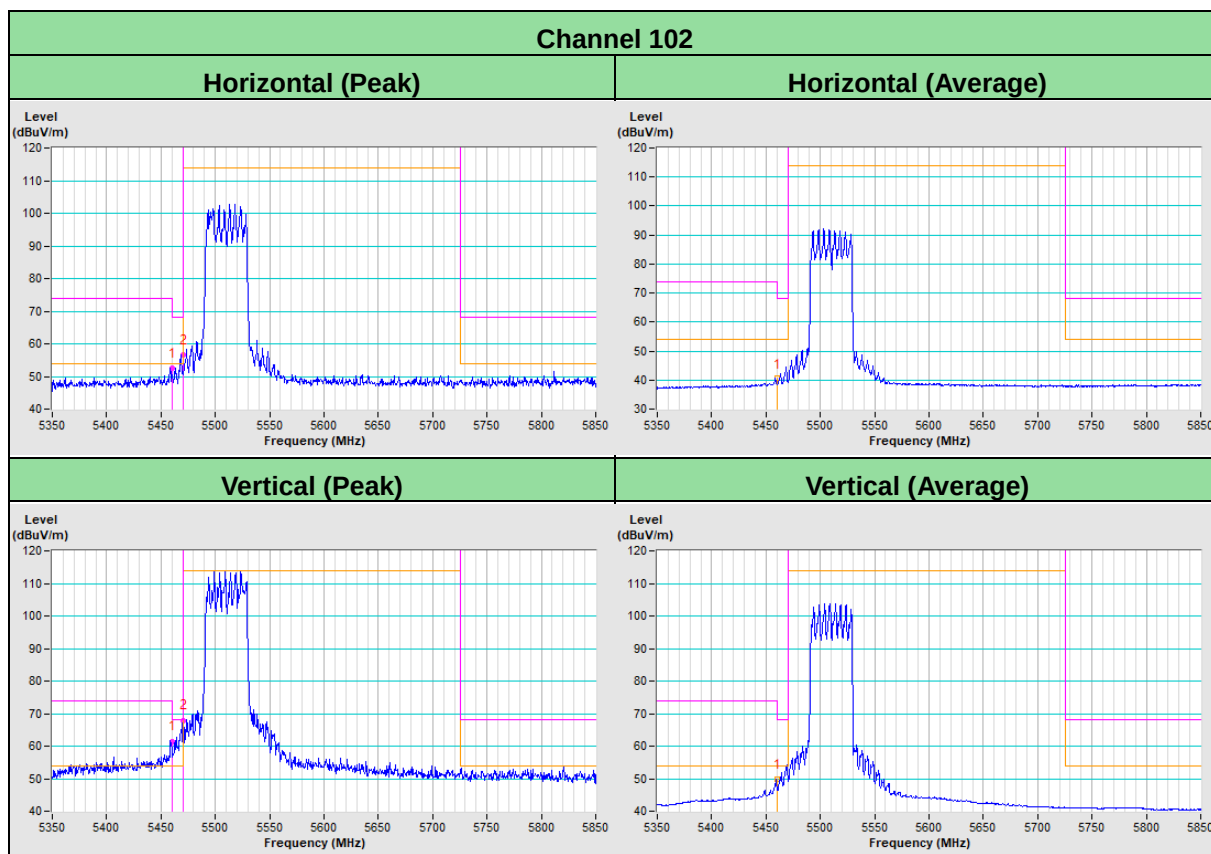
802.11ax (HE20)



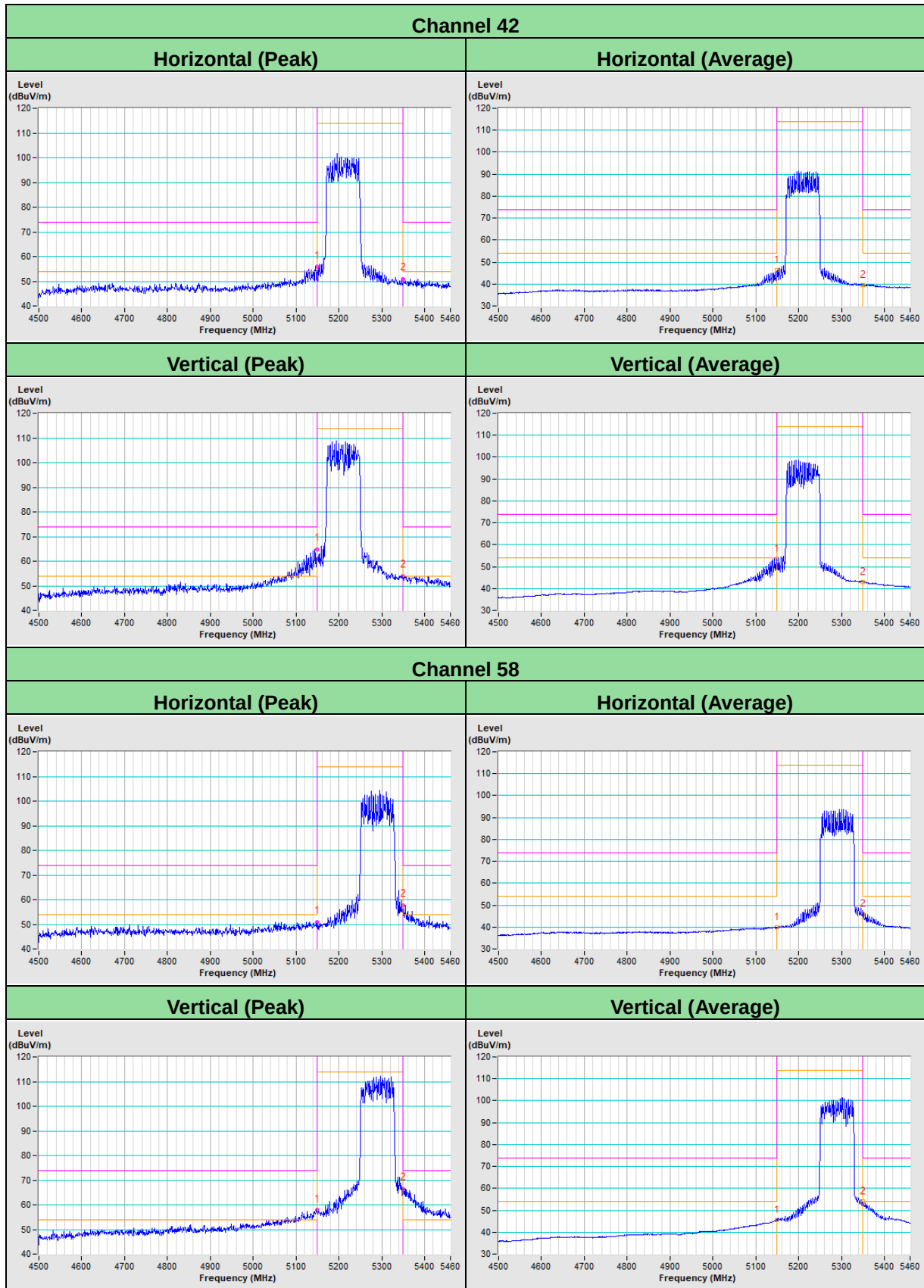


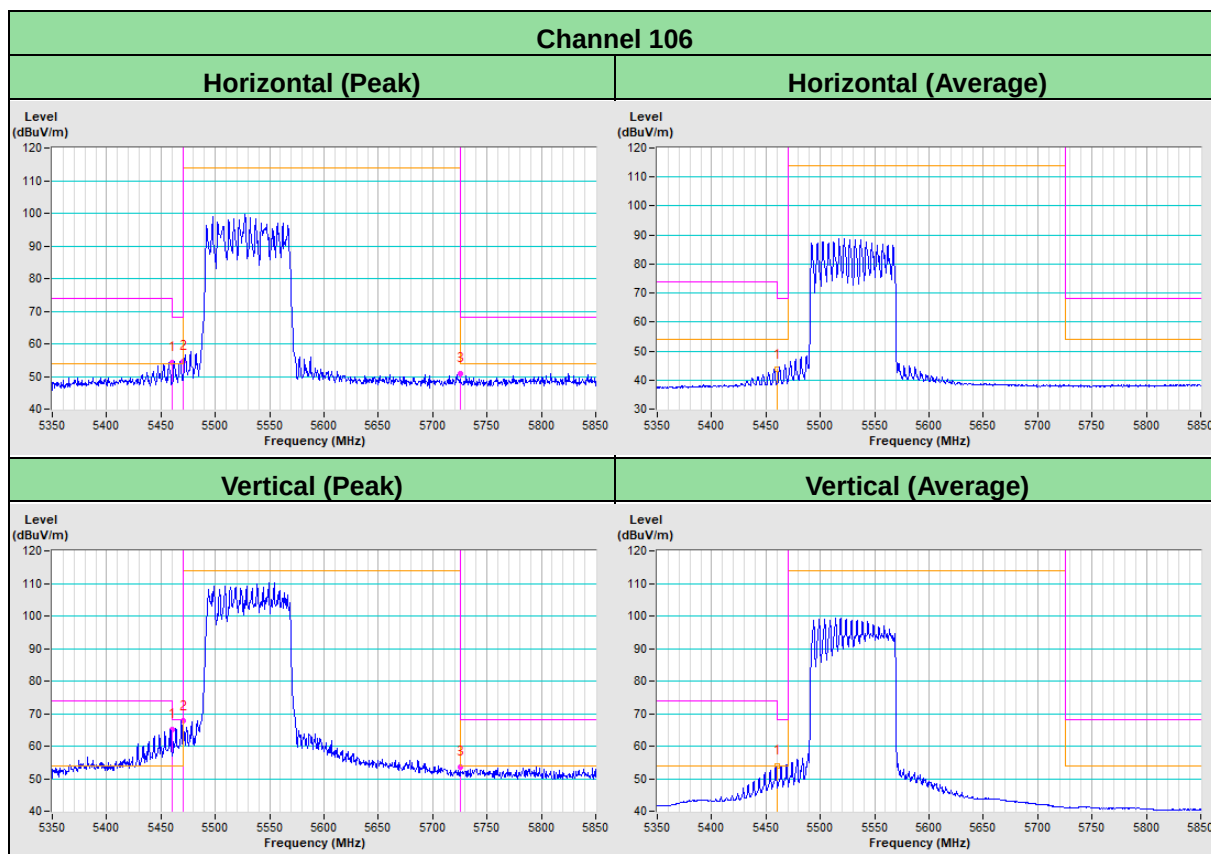
802.11ax (HE40)



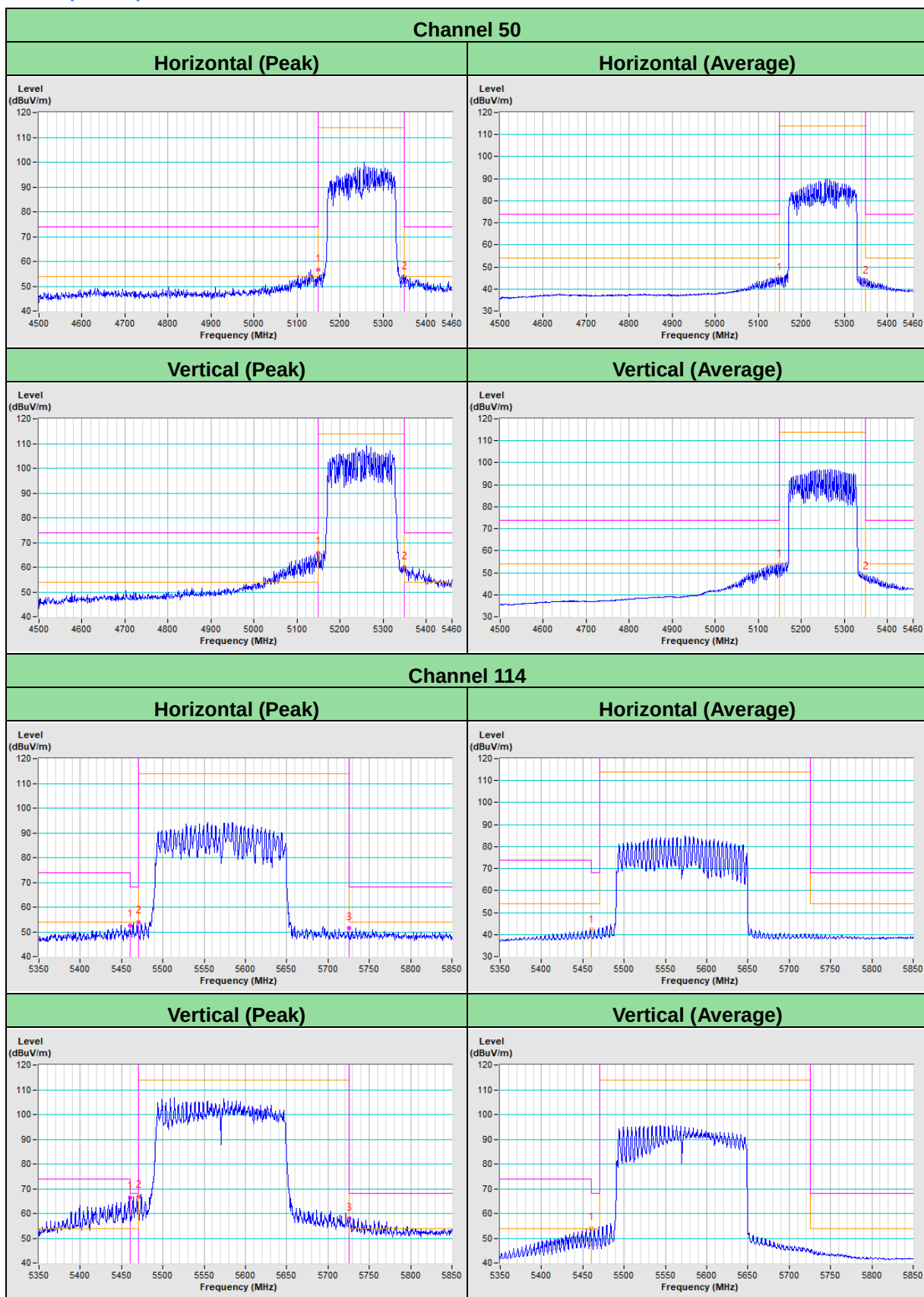


802.11ax (HE80)





802.11ax (HE160)



Appendix – Information of the Testing Laboratories

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

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

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Fax: 886-2-26051924

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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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