

FCC Test Report

Report No.: RFBHAT-WTW-P20110381-1

FCC ID: R68OQ865S

Test Model: Open-Q 865XR SOM

Received Date: Nov. 12, 2020

Test Date: Nov. 30 ~ Dec. 16, 2020

Issued Date: Jan. 04, 2021

Applicant: Lantronix

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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
3 General Information	7
3.1 General Description of EUT.....	7
3.2 Description of Test Modes.....	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal.....	14
3.4 Description of Support Units.....	15
3.4.1 Configuration of System under Test.....	15
3.5 General Description of Applied Standards and References.....	15
4 Test Types and Results	16
4.1 Radiated Emission and Bandedge Measurement.....	16
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	16
4.1.2 Test Instruments.....	17
4.1.3 Test Procedures.....	18
4.1.4 Deviation from Test Standard.....	19
4.1.5 Test Setup.....	19
4.1.6 EUT Operating Conditions.....	20
4.1.7 Test Results.....	21
4.2 Conducted Emission Measurement.....	64
4.2.1 Limits of Conducted Emission Measurement.....	64
4.2.2 Test Instruments.....	64
4.2.3 Test Procedures.....	65
4.2.4 Deviation from Test Standard.....	65
4.2.5 Test Setup.....	65
4.2.6 EUT Operating Conditions.....	65
4.2.7 Test Results.....	66
4.3 Transmit Power Measurement.....	68
4.3.1 Limits of Transmit Power Measurement.....	68
4.3.2 Test Setup.....	68
4.3.3 Test Instruments.....	68
4.3.4 Test Procedure.....	69
4.3.5 Deviation from Test Standard.....	69
4.3.6 EUT Operating Conditions.....	69
4.3.7 Test Result.....	70
4.4 Occupied Bandwidth Measurement.....	96
4.4.1 Test Setup.....	96
4.4.2 Test Instruments.....	96
4.4.3 Test Procedure.....	96
4.4.4 Test Result.....	97
4.5 Peak Power Spectral Density Measurement.....	102
4.5.1 Limits of Peak Power Spectral Density Measurement.....	102
4.5.2 Test Setup.....	102
4.5.3 Test Instruments.....	102
4.5.4 Test Procedures.....	102
4.5.5 Deviation from Test Standard.....	103
4.5.6 EUT Operating Conditions.....	103
4.5.7 Test Results.....	104
4.6 Frequency Stability.....	110
4.6.1 Limits of Frequency Stability Measurement.....	110

4.6.2	Test Setup.....	110
4.6.3	Test Instruments	110
4.6.4	Test Procedure	111
4.6.5	Deviation from Test Standard	111
4.6.6	EUT Operating Condition	111
4.6.7	Test Results	112
4.7	6dB Bandwidth Measurement.....	113
4.7.1	Limits of 6dB Bandwidth Measurement.....	113
4.7.2	Test Setup.....	113
4.7.3	Test Instruments	113
4.7.4	Test Procedure	113
4.7.5	Deviation from Test Standard	113
4.7.6	EUT Operating Condition	113
4.7.7	Test Results	114
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band).....		116
Annex B- Band Edge Measurement.....		119
5	Pictures of Test Arrangements.....	130
Appendix – Information of the Testing Laboratories		131

Release Control Record

Issue No.	Description	Date Issued
RFBHAT-WTW-P20110381-1	Original release	Jan. 04, 2021

1 Certificate of Conformity

Product: Open-Q 865 SOM
Brand: Lantronix
Test Model: Open-Q 865XR SOM
Sample Status: Engineering sample
Applicant: Lantronix
Test Date: Nov. 30 ~ Dec. 16, 2020
Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by : , **Date:** Jan. 04, 2021
Polly Chien / Specialist

Approved by : , **Date:** Jan. 04, 2021
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -33.72dB at 0.38600MHz.
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 -0.3dB at 5350.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is U.FL not a standard connector.

Note:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- 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 and 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.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Open-Q 865 SOM
Brand	Lantronix
Test Model	Open-Q 865XR SOM
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps 802.11ax: up to 1200Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1
Output Power	CDD mode: 5180 ~ 5240MHz: 48.096mW 5260 ~ 5320MHz: 40.354mW 5500 ~ 5720MHz: 241.341mW 5745 ~ 5825MHz: 261.411mW Beamforming mode: 5180 ~ 5240MHz: 24.110mW 5260 ~ 5320MHz: 20.201mW 5500 ~ 5720MHz: 120.957mW 5745 ~ 5825MHz: 261.411mW

Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Cable Supplied	NA

Note:

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

Modulation Mode	Beamforming Mode	TX Function
802.11a	Not Support	2TX
802.11n (HT20)	Not Support	2TX
802.11n (HT40)	Not Support	2TX
802.11ac (VHT20)	Support	2TX
802.11ac (VHT40)	Support	2TX
802.11ac (VHT80)	Support	2TX
802.11ax (HE20)	Support	2TX
802.11ax (HE40)	Support	2TX
802.11ax (HE80)	Support	2TX

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

* For 802.11n and 802.11ac, CDD mode and Beamforming mode are presented in power output test item.

- The following antennas were provided to the EUT.

Ant. Type	Flexible Dipole Antenna	
Connector Type	U.FL	
Antenna Gain (dBi)		
Item	2.4~2.5G	4.9~5.8G
Ant 1	3.32	6.11
Ant 2	3.32	6.11

*BT is transmitted through antenna 1.

*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.

- The EUT contains following adapter. (Support unit)

Brand	YINGHUIYUAN
Model	YHY-12003000
Input Power	100-240Vac, 50-60Hz, 1.2A
Output Power	12Vdc, 13.0A
Data Cable	1.2m shielded power cable with 1 core

- The BT could transmit simultaneously either with WLAN 2.4GHz or 5GHz at the same time.

The WLAN 2.4GHz and 5GHz could transmit at the same time.

- The EUT doesn't operate in 5600 ~ 5650MHz via software controls.

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

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

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290MHz

For 5500 ~ 5720MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	132	5660 MHz
104	5520 MHz	136	5680 MHz
108	5540 MHz	140	5700 MHz
112	5560 MHz	144	5720 MHz
116	5580 MHz		

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz	142	5710 MHz

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

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 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	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

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

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where RE \geq 1G: Radiated Emission above 1GHz & Bandedge Measurement
 RE<1G: Radiated Emission below 1GHz
 PLC: Power Line Conducted Emission
 APCM: Antenna Port Conducted Measurement

Note:

1. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst fundamental frequency emission level.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0
	802.11ax (HE80)		42	42	OFDMA	MCS0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0
	802.11ax (HE80)		58	58	OFDMA	MCS0
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0
	802.11ax (HE80)		106 to 138	106, 138	OFDMA	MCS0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0
	802.11ax (HE80)		155	155	OFDMA	MCS0

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	36 to 48	36, 40, 48	157	OFDM	6.0
		52 to 64	52, 60, 64		OFDM	6.0
		100 to 144	100, 116, 140, 144		OFDM	6.0
		149 to 165	149, 157, 165		OFDM	6.0

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	36 to 48	36, 40, 48	157	OFDM	6.0
		52 to 64	52, 60, 64		OFDM	6.0
		100 to 144	100, 116, 140, 144		OFDM	6.0
		149 to 165	149, 157, 165		OFDM	6.0

Transmit Power Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0
	802.11ax (HE80)		42	42	OFDMA	MCS0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	7.2
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	29.3
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0
	802.11ax (HE80)		58	58	OFDMA	MCS0
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	7.2
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	15.0
	802.11ac (VHT80)		106 to 138	106, 138	OFDM	29.3
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0
	802.11ax (HE80)		106 to 138	106, 138	OFDMA	MCS0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0
	802.11ax (HE80)		155	155	OFDMA	MCS0

Peak Power Spectral Density, Bandwidth and Frequency Stability Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0
	802.11ax (HE80)		42	42	OFDMA	MCS0
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0
	802.11ax (HE80)		58	58	OFDMA	MCS0
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0
	802.11ax (HE80)		106 to 138	106, 138	OFDMA	MCS0
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0
	802.11ax (HE80)		155	155	OFDMA	MCS0

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested by
RE \geq 1G	22 deg. C, 68% RH	120Vac, 60Hz	Han Wu
RE<1G	21 deg. C, 68% RH	120Vac, 60Hz	Han Wu
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Greg Lin
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ted Chang

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

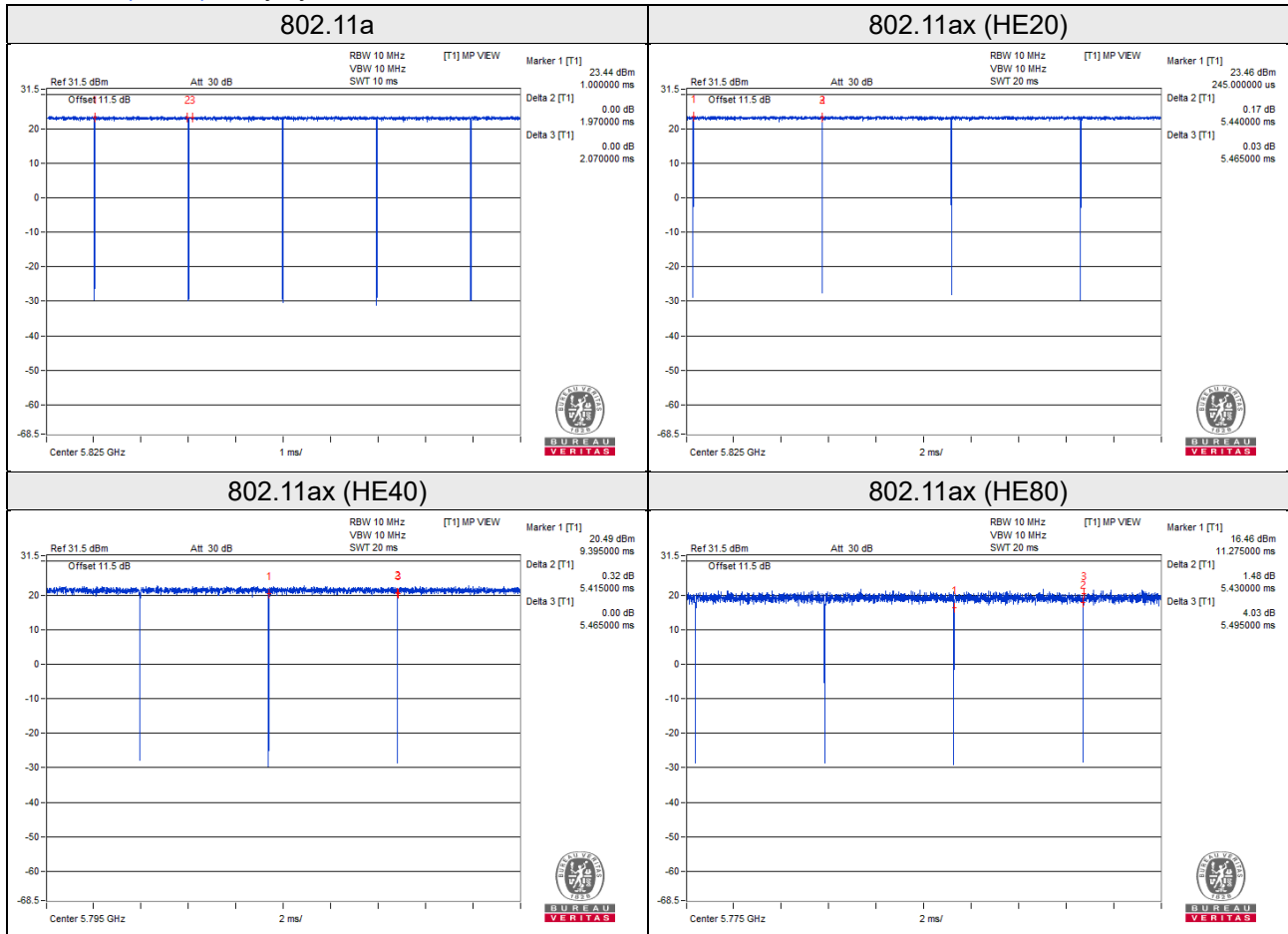
Duty cycle of test signal is $< 98\%$, duty factor is required.

802.11a: Duty cycle = $1.970/2.070 = 0.952$, Duty factor = $10 * \log(1/0.952) = 0.22$

802.11ax (HE20): Duty cycle = $5.440/5.465 = 0.995$

802.11ax (HE40): Duty cycle = $5.415/5.465 = 0.991$

802.11ax (HE80): Duty cycle = $5.430/5.495 = 0.988$



3.4 Description of Support Units

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

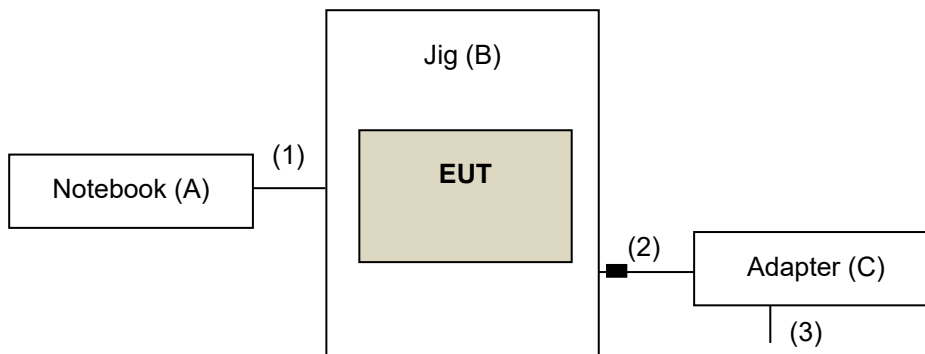
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	Lenovo	81A4	YD02TWF5	FCC DoC Approved	-
B.	Jig	N/A	N/A	N/A	N/A	Provided by client
C.	Adapter	YINGHUIYUAN	YHY-12003000	N/A	N/A	Provided by client

Note:

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type C USB Cable	1	1	Y	0	Provided by client
2.	Adapter Cable	1	1.2	Y	1	Provided by client
3.	Power Cable	1	1.15	N	0	Provided by client

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBµV/m)	AV: 54 (dBµV/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(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 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(dBµV/m) ^{*1} PK: 105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK: 122.2 (dBµV/m) ^{*4}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 08, 2020	Jun. 07, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 18, 2020	Feb. 17, 2021
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8 000	CABLE-CH9-02 (248780+171006)	Jan. 18, 2020	Jan. 17, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 18, 2020	Jan. 17, 2021
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 08, 2020	Jun. 07, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519000 4/MY55190007/MY55210 005	Jul. 13, 2020	Jul. 12, 2021
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

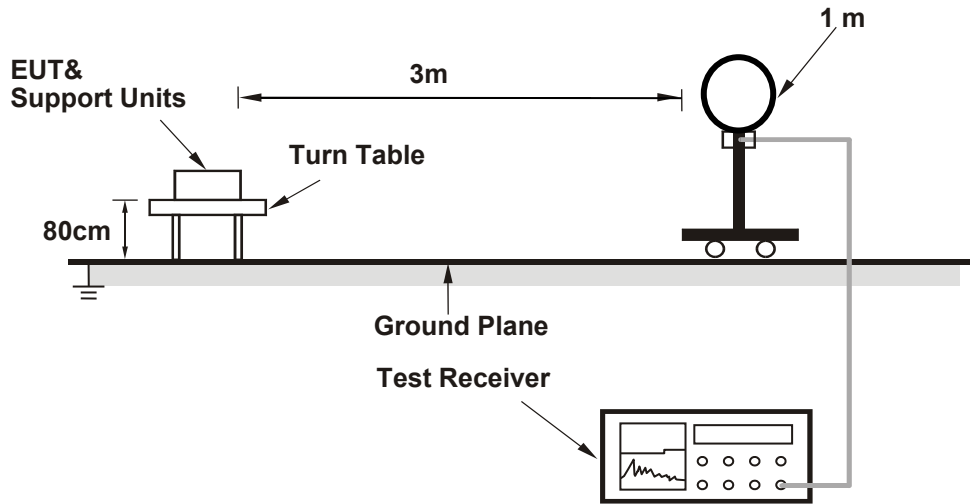
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 10Hz; 802.11ax (HE40): RBW = 1MHz, VBW = 10Hz; 802.11ax (HE80): RBW = 1MHz, VBW = 10Hz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

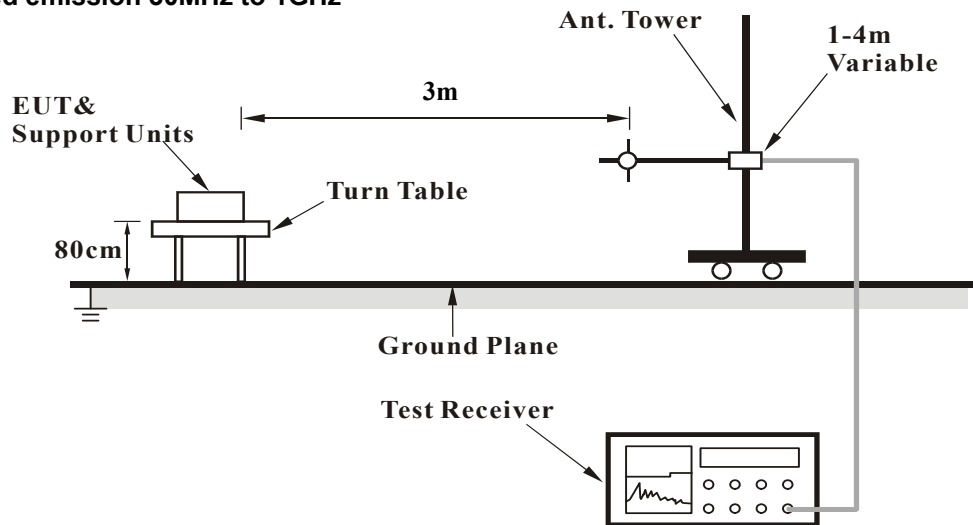
No deviation.

4.1.5 Test Setup

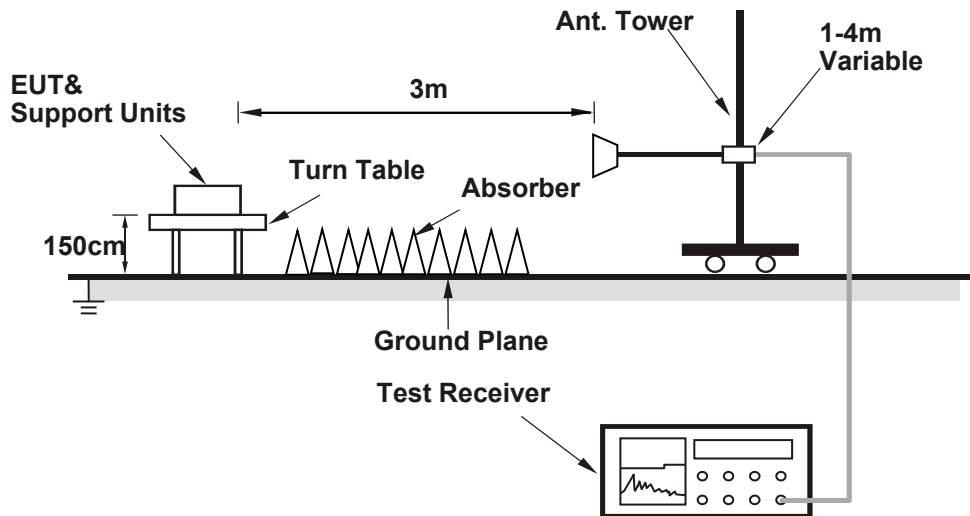
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- a. Installed the EUT into the jig.
- b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
- c. The communication partner connected with EUT via USB cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.6 PK	74.0	-9.4	2.66 H	346	62.5	2.1
2	5150.00	49.8 AV	54.0	-4.2	2.66 H	346	47.7	2.1
3	*5180.00	113.2 PK			2.66 H	346	76.9	36.3
4	*5180.00	102.9 AV			2.66 H	346	66.6	36.3
5	#10360.00	55.3 PK	68.2	-12.9	2.14 H	216	40.2	15.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.6 PK	74.0	-7.4	3.16 V	167	64.5	2.1
2	5150.00	51.8 AV	54.0	-2.2	3.16 V	167	49.7	2.1
3	*5180.00	110.3 PK			3.16 V	167	74.0	36.3
4	*5180.00	100.1 AV			3.16 V	167	63.8	36.3
5	#10360.00	55.3 PK	68.2	-12.9	3.10 V	278	40.2	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 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	114.9 PK			2.87 H	356	78.7	36.2
2	*5200.00	104.7 AV			2.87 H	356	68.5	36.2
3	#10400.00	56.7 PK	68.2	-11.5	2.13 H	210	41.5	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.1 PK			2.32 V	72	73.9	36.2
2	*5200.00	99.9 AV			2.32 V	72	63.7	36.2
3	#10400.00	56.4 PK	68.2	-11.8	3.12 V	277	41.2	15.2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	115.1 PK			2.98 H	359	79.0	36.1
2	*5240.00	105.3 AV			2.98 H	359	69.2	36.1
3	5350.00	41.4 PK	74.0	-32.6	2.98 H	359	39.4	2.0
4	5350.00	28.4 AV	54.0	-25.6	2.98 H	359	26.4	2.0
5	#10480.00	55.7 PK	68.2	-12.5	2.15 H	220	40.6	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	110.6 PK			2.57 V	4	74.5	36.1
2	*5240.00	100.1 AV			2.57 V	4	64.0	36.1
3	5350.00	52.5 PK	74.0	-21.5	2.57 V	4	50.5	2.0
4	5350.00	39.0 AV	54.0	-15.0	2.57 V	4	37.0	2.0
5	#10480.00	55.3 PK	68.2	-12.9	3.21 V	282	40.2	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 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	50.9 PK	74.0	-23.1	2.48 H	350	48.8	2.1
2	5150.00	37.9 AV	54.0	-16.1	2.48 H	350	35.8	2.1
3	*5260.00	113.4 PK			2.48 H	350	77.3	36.1
4	*5260.00	103.3 AV			2.48 H	350	67.2	36.1
5	#10520.00	55.8 PK	68.2	-12.4	2.22 H	217	40.6	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.7 PK	74.0	-22.3	2.30 V	357	49.6	2.1
2	5150.00	38.3 AV	54.0	-15.7	2.30 V	357	36.2	2.1
3	*5260.00	111.9 PK			2.30 V	357	75.8	36.1
4	*5260.00	101.0 AV			2.30 V	357	64.9	36.1
5	#10520.00	58.0 PK	68.2	-10.2	3.22 V	283	42.8	15.2

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.2 PK			2.46 H	347	77.2	36.0
2	*5300.00	102.9 AV			2.46 H	347	66.9	36.0
3	10600.00	56.3 PK	74.0	-17.7	2.21 H	223	40.6	15.7
4	10600.00	44.0 AV	54.0	-10.0	2.21 H	223	28.3	15.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.7 PK			2.33 V	352	74.7	36.0
2	*5300.00	100.5 AV			2.33 V	352	64.5	36.0
3	10600.00	56.0 PK	74.0	-18.0	3.21 V	289	40.3	15.7
4	10600.00	44.2 AV	54.0	-9.8	3.21 V	289	28.5	15.7

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.4 PK			3.40 H	353	76.2	36.2
2	*5320.00	102.6 AV			3.40 H	353	66.4	36.2
3	5350.00	65.8 PK	74.0	-8.2	3.40 H	353	63.8	2.0
4	5350.00	53.3 AV	54.0	-0.7	3.40 H	353	51.3	2.0
5	10640.00	56.4 PK	74.0	-17.6	2.16 H	211	40.6	15.8
6	10640.00	44.5 AV	54.0	-9.5	2.16 H	211	28.7	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.5 PK			2.60 V	344	76.3	36.2
2	*5320.00	101.5 AV			2.60 V	344	65.3	36.2
3	5350.00	66.5 PK	74.0	-7.5	2.60 V	344	64.5	2.0
4	5350.00	53.1 AV	54.0	-0.9	2.60 V	344	51.1	2.0
5	10640.00	56.4 PK	74.0	-17.6	3.25 V	284	40.6	15.8
6	10640.00	44.0 AV	54.0	-10.0	3.25 V	284	28.2	15.8

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.3 PK	74.0	-10.7	2.69 H	357	60.6	2.7
2	5460.00	49.2 AV	54.0	-4.8	2.69 H	357	46.5	2.7
3	#5470.00	64.8 PK	68.2	-3.4	2.69 H	357	62.1	2.7
4	*5500.00	111.5 PK			2.69 H	357	74.5	37.0
5	*5500.00	102.0 AV			2.69 H	357	65.0	37.0
6	11000.00	56.1 PK	74.0	-17.9	2.31 H	217	39.2	16.9
7	11000.00	42.2 AV	54.0	-11.8	2.31 H	217	25.3	16.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.4 PK	74.0	-13.6	2.24 V	337	57.7	2.7
2	5460.00	45.3 AV	54.0	-8.7	2.24 V	337	42.6	2.7
3	#5470.00	65.6 PK	68.2	-2.6	2.24 V	337	62.9	2.7
4	*5500.00	109.2 PK			2.24 V	337	72.2	37.0
5	*5500.00	98.1 AV			2.24 V	337	61.1	37.0
6	11000.00	56.3 PK	74.0	-17.7	3.20 V	278	39.4	16.9
7	11000.00	42.5 AV	54.0	-11.5	3.20 V	278	25.6	16.9

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.4 PK			2.88 H	355	74.5	36.9
2	*5580.00	101.2 AV			2.88 H	355	64.3	36.9
3	11160.00	55.5 PK	74.0	-18.5	2.25 H	212	39.8	15.7
4	11160.00	42.1 AV	54.0	-11.9	2.25 H	212	26.4	15.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.3 PK			3.73 V	293	74.4	36.9
2	*5580.00	100.8 AV			3.73 V	293	63.9	36.9
3	11160.00	55.8 PK	74.0	-18.2	3.23 V	287	40.1	15.7
4	11160.00	42.1 AV	54.0	-11.9	3.23 V	287	26.4	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.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.1 PK			1.62 H	355	74.9	37.2
2	*5700.00	101.6 AV			1.62 H	355	64.4	37.2
3	#5725.00	64.6 PK	68.2	-3.6	1.62 H	355	61.7	2.9
4	11400.00	55.2 PK	74.0	-18.8	2.28 H	219	39.3	15.9
5	11400.00	41.3 AV	54.0	-12.7	2.28 H	219	25.4	15.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.7 PK			3.91 V	294	71.5	37.2
2	*5700.00	98.9 AV			3.91 V	294	61.7	37.2
3	#5725.00	65.2 PK	68.2	-3.0	3.91 V	294	62.3	2.9
4	11400.00	55.7 PK	74.0	-18.3	3.22 V	284	39.8	15.9
5	11400.00	41.3 AV	54.0	-12.7	3.22 V	284	25.4	15.9

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	112.1 PK			2.10 H	353	74.9	37.2
2	*5720.00	102.1 AV			2.10 H	353	64.9	37.2
3	#5850.00	51.7 PK	68.2	-16.5	2.10 H	353	48.4	3.3
4	11440.00	54.9 PK	74.0	-19.1	2.27 H	216	39.3	15.6
5	11440.00	41.4 AV	54.0	-12.6	2.27 H	216	25.8	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	109.5 PK			3.78 V	265	72.3	37.2
2	*5720.00	99.7 AV			3.78 V	265	62.5	37.2
3	#5850.00	50.8 PK	68.2	-17.4	3.78 V	265	47.5	3.3
4	11440.00	54.9 PK	74.0	-19.1	3.21 V	286	39.3	15.6
5	11440.00	41.0 AV	54.0	-13.0	3.21 V	286	25.4	15.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	51.7 PK	68.2	-16.5	1.97 H	349	49.0	2.7
2	*5745.00	112.5 PK			1.97 H	349	75.2	37.3
3	*5745.00	102.2 AV			1.97 H	349	64.9	37.3
4	#5996.80	51.2 PK	68.2	-17.0	1.97 H	349	47.8	3.4
5	11490.00	55.4 PK	74.0	-18.6	2.29 H	229	39.6	15.8
6	11490.00	42.6 AV	54.0	-11.4	2.29 H	229	26.8	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5623.20	51.8 PK	68.2	-16.4	3.86 V	291	49.1	2.7
2	*5745.00	110.0 PK			3.86 V	291	72.7	37.3
3	*5745.00	100.0 AV			3.86 V	291	62.7	37.3
4	#5923.20	51.3 PK	69.5	-18.2	3.86 V	251	47.9	3.4
5	11490.00	56.3 PK	74.0	-17.7	3.26 V	280	40.5	15.8
6	11490.00	42.2 AV	54.0	-11.8	3.26 V	280	26.4	15.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5609.60	51.6 PK	68.2	-16.6	1.78 H	354	48.9	2.7
2	*5785.00	113.1 PK			1.78 H	354	75.6	37.5
3	*5785.00	103.1 AV			1.78 H	354	65.6	37.5
4	#5936.80	50.8 PK	68.2	-17.4	1.78 H	354	47.3	3.5
5	11570.00	55.4 PK	74.0	-18.6	2.51 H	218	40.0	15.4
6	11570.00	41.9 AV	54.0	-12.1	2.51 H	218	26.5	15.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5613.60	50.8 PK	68.2	-17.4	3.79 V	295	48.1	2.7
2	*5785.00	110.8 PK			3.79 V	295	73.3	37.5
3	*5785.00	100.9 AV			3.79 V	295	63.4	37.5
4	#5990.40	50.7 PK	68.2	-17.5	3.79 V	295	47.3	3.4
5	11570.00	54.9 PK	74.0	-19.1	3.31 V	289	39.5	15.4
6	11570.00	42.2 AV	54.0	-11.8	3.31 V	289	26.8	15.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.40	51.0 PK	68.5	-17.5	1.50 H	351	48.2	2.8
2	*5825.00	112.9 PK			1.50 H	351	75.3	37.6
3	*5825.00	103.0 AV			1.50 H	351	65.4	37.6
4	#5996.00	51.4 PK	68.2	-16.8	1.50 H	351	48.0	3.4
5	11650.00	55.0 PK	74.0	-19.0	2.21 H	213	39.5	15.5
6	11650.00	42.1 AV	54.0	-11.9	2.21 H	213	26.6	15.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.00	50.2 PK	68.2	-18.0	3.85 V	291	47.5	2.7
2	*5825.00	110.8 PK			3.85 V	291	73.2	37.6
3	*5825.00	100.9 AV			3.85 V	291	63.3	37.6
4	#5982.40	50.8 PK	68.2	-17.4	3.85 V	291	47.4	3.4
5	11650.00	55.0 PK	74.0	-19.0	3.16 V	288	39.5	15.5
6	11650.00	41.9 AV	54.0	-12.1	3.16 V	288	26.4	15.5

Remarks:

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

802.11ax (HE20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.7 PK	74.0	-7.3	1.62 H	27	64.6	2.1
2	5150.00	50.6 AV	54.0	-3.4	1.62 H	27	48.5	2.1
3	*5180.00	114.5 PK			1.62 H	27	78.2	36.3
4	*5180.00	101.7 AV			1.62 H	27	65.4	36.3
5	#10360.00	55.2 PK	68.2	-13.0	2.16 H	223	40.1	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	2.86 V	4	60.0	2.1
2	5150.00	49.7 AV	54.0	-4.3	2.86 V	4	47.6	2.1
3	*5180.00	111.8 PK			2.86 V	4	75.5	36.3
4	*5180.00	99.0 AV			2.86 V	4	62.7	36.3
5	#10360.00	54.4 PK	68.2	-13.8	3.12 V	284	39.3	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 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	116.4 PK			2.49 H	348	80.2	36.2
2	*5200.00	104.1 AV			2.49 H	348	67.9	36.2
3	#10400.00	55.7 PK	68.2	-12.5	2.14 H	219	40.5	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.4 PK			2.45 V	67	76.2	36.2
2	*5200.00	99.5 AV			2.45 V	67	63.3	36.2
3	#10400.00	56.0 PK	68.2	-12.2	3.16 V	275	40.8	15.2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	116.8 PK			2.45 H	356	80.7	36.1
2	*5240.00	104.2 AV			2.45 H	356	68.1	36.1
3	5350.00	52.1 PK	74.0	-21.9	2.45 H	356	50.1	2.0
4	5350.00	38.7 AV	54.0	-15.3	2.45 H	356	36.7	2.0
5	#10480.00	54.7 PK	68.2	-13.5	2.14 H	218	39.6	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.6 PK			2.43 V	67	76.5	36.1
2	*5240.00	109.9 AV			2.43 V	67	73.8	36.1
3	5350.00	52.4 PK	74.0	-21.6	2.43 V	67	50.4	2.0
4	5350.00	38.8 AV	54.0	-15.2	2.43 V	67	36.8	2.0
5	#10480.00	55.6 PK	68.2	-12.6	3.10 V	278	40.5	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 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.0 PK	74.0	-23.0	2.39 H	355	48.8	2.2
2	5150.00	38.3 AV	54.0	-15.7	2.39 H	355	36.1	2.2
3	*5260.00	114.4 PK			2.39 H	355	78.2	36.2
4	*5260.00	101.9 AV			2.39 H	355	65.7	36.2
5	#10520.00	55.7 PK	68.2	-12.5	2.21 H	219	40.5	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	50.5 PK	74.0	-23.5	2.38 V	346	48.4	2.1
2	5150.00	37.7 AV	54.0	-16.3	2.38 V	346	35.6	2.1
3	*5260.00	114.1 PK			2.38 V	346	78.0	36.1
4	*5260.00	101.3 AV			2.38 V	346	65.2	36.1
5	#10520.00	55.5 PK	68.2	-12.7	3.26 V	282	40.3	15.2

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	114.2 PK			2.07 H	356	78.2	36.0
2	*5300.00	101.9 AV			2.07 H	356	65.9	36.0
3	10600.00	56.3 PK	74.0	-17.7	2.20 H	219	40.6	15.7
4	10600.00	44.2 AV	54.0	-9.8	2.20 H	219	28.5	15.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	114.2 PK			2.35 V	346	78.1	36.1
2	*5300.00	101.6 AV			2.35 V	346	65.5	36.1
3	10600.00	56.2 PK	74.0	-17.8	3.19 V	283	40.6	15.6
4	10600.00	44.1 AV	54.0	-9.9	3.19 V	283	28.5	15.6

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.2 PK			2.75 H	359	78.0	36.2
2	*5320.00	101.1 AV			2.75 H	359	64.9	36.2
3	5350.00	63.2 PK	74.0	-10.8	2.75 H	359	61.2	2.0
4	5350.00	52.8 AV	54.0	-1.2	2.75 H	359	50.8	2.0
5	10640.00	56.3 PK	74.0	-17.7	2.23 H	215	40.5	15.8
6	10640.00	44.4 AV	54.0	-9.6	2.23 H	215	28.6	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.5 PK			2.35 V	347	76.3	36.2
2	*5320.00	99.8 AV			2.35 V	347	63.6	36.2
3	5350.00	62.5 PK	74.0	-11.5	2.35 V	347	60.5	2.0
4	5350.00	50.8 AV	54.0	-3.2	2.35 V	347	48.8	2.0
5	10640.00	56.4 PK	74.0	-17.6	3.26 V	285	40.6	15.8
6	10640.00	44.2 AV	54.0	-9.8	3.26 V	285	28.4	15.8

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.75 H	357	58.9	2.7
2	5460.00	49.9 AV	54.0	-4.1	1.75 H	357	47.2	2.7
3	#5470.00	64.7 PK	68.2	-3.5	1.75 H	357	62.0	2.7
4	*5500.00	114.3 PK			1.75 H	357	77.3	37.0
5	*5500.00	101.3 AV			1.75 H	357	64.3	37.0
6	11000.00	56.2 PK	74.0	-17.8	2.31 H	220	39.3	16.9
7	11000.00	42.3 AV	54.0	-11.7	2.31 H	220	25.4	16.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.7 PK	74.0	-14.3	3.86 V	292	57.0	2.7
2	5460.00	46.7 AV	54.0	-7.3	3.86 V	292	44.0	2.7
3	#5470.00	63.2 PK	68.2	-5.0	3.86 V	292	60.5	2.7
4	*5500.00	113.5 PK			3.86 V	292	76.5	37.0
5	*5500.00	100.6 AV			3.86 V	292	63.6	37.0
6	11000.00	56.4 PK	74.0	-17.6	3.20 V	279	39.5	16.9
7	11000.00	42.7 AV	54.0	-11.3	3.20 V	279	25.8	16.9

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	113.1 PK			1.74 H	356	76.2	36.9
2	*5580.00	100.6 AV			1.74 H	356	63.7	36.9
3	11160.00	55.6 PK	74.0	-18.4	2.24 H	218	39.9	15.7
4	11160.00	41.6 AV	54.0	-12.4	2.24 H	218	25.9	15.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	112.5 PK			3.74 V	292	75.6	36.9
2	*5580.00	99.6 AV			3.74 V	292	62.7	36.9
3	11160.00	55.9 PK	74.0	-18.1	3.18 V	280	40.2	15.7
4	11160.00	41.9 AV	54.0	-12.1	3.18 V	280	26.2	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.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.8 PK			1.90 H	358	75.6	37.2
2	*5700.00	99.6 AV			1.90 H	358	62.4	37.2
3	#5725.00	67.3 PK	68.2	-0.9	1.90 H	358	64.4	2.9
4	11400.00	55.3 PK	74.0	-18.7	2.23 H	219	39.4	15.9
5	11400.00	41.5 AV	54.0	-12.5	2.23 H	219	25.6	15.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	107.9 PK			3.17 V	257	70.7	37.2
2	*5700.00	95.1 AV			3.17 V	257	57.9	37.2
3	#5725.00	58.6 PK	68.2	-9.6	3.17 V	257	55.7	2.9
4	11400.00	55.4 PK	74.0	-18.6	3.24 V	284	39.5	15.9
5	11400.00	41.2 AV	54.0	-12.8	3.24 V	284	25.3	15.9

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	114.8 PK			2.14 H	353	77.6	37.2
2	*5720.00	101.9 AV			2.14 H	353	64.7	37.2
3	#5850.00	51.8 PK	68.2	-16.4	2.14 H	353	48.5	3.3
4	11440.00	55.2 PK	74.0	-18.8	2.22 H	219	39.6	15.6
5	11440.00	41.0 AV	54.0	-13.0	2.22 H	219	25.4	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	112.6 PK			3.79 V	264	75.4	37.2
2	*5720.00	99.6 AV			3.79 V	264	62.4	37.2
3	#5850.00	51.8 PK	68.2	-16.4	3.79 V	264	48.5	3.3
4	11440.00	54.7 PK	74.0	-19.3	3.25 V	282	39.1	15.6
5	11440.00	40.8 AV	54.0	-13.2	3.25 V	282	25.2	15.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5633.60	51.1 PK	68.2	-17.1	2.27 H	358	48.4	2.7
2	*5745.00	114.1 PK			2.27 H	358	76.8	37.3
3	*5745.00	101.5 AV			2.27 H	358	64.2	37.3
4	#5948.80	50.6 PK	68.2	-17.6	2.27 H	358	47.1	3.5
5	11490.00	55.4 PK	74.0	-18.6	2.26 H	214	39.6	15.8
6	11490.00	42.4 AV	54.0	-11.6	2.26 H	214	26.6	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	50.7 PK	68.2	-17.5	3.88 V	291	47.9	2.8
2	*5745.00	112.2 PK			3.88 V	291	74.9	37.3
3	*5745.00	99.5 AV			3.88 V	291	62.2	37.3
4	#5940.80	51.0 PK	68.2	-17.2	3.88 V	291	47.5	3.5
5	11490.00	55.4 PK	74.0	-18.6	3.25 V	289	39.6	15.8
6	11490.00	42.2 AV	54.0	-11.8	3.25 V	289	26.4	15.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.80	52.0 PK	68.2	-16.2	1.70 H	358	49.3	2.7
2	*5785.00	114.3 PK			1.70 H	358	76.8	37.5
3	*5785.00	101.4 AV			1.70 H	358	63.9	37.5
4	#5941.60	51.7 PK	68.2	-16.5	1.70 H	358	48.2	3.5
5	11570.00	55.0 PK	74.0	-19.0	2.22 H	229	39.6	15.4
6	11570.00	41.8 AV	54.0	-12.2	2.22 H	229	26.4	15.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.00	50.2 PK	68.2	-18.0	3.80 V	295	47.5	2.7
2	*5785.00	112.2 PK			3.80 V	295	74.7	37.5
3	*5785.00	99.3 AV			3.80 V	295	61.8	37.5
4	#5946.40	51.1 PK	68.2	-17.1	3.80 V	295	47.6	3.5
5	11570.00	55.5 PK	74.0	-18.5	3.34 V	277	40.1	15.4
6	11570.00	42.0 AV	54.0	-12.0	3.34 V	277	26.6	15.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5642.40	50.7 PK	68.2	-17.5	1.70 H	347	47.9	2.8
2	*5825.00	115.0 PK			1.70 H	347	77.4	37.6
3	*5825.00	102.3 AV			1.70 H	347	64.7	37.6
4	#5992.80	51.0 PK	68.2	-17.2	1.70 H	347	47.6	3.4
5	11650.00	55.9 PK	74.0	-18.1	2.31 H	224	40.4	15.5
6	11650.00	42.3 AV	54.0	-11.7	2.31 H	224	26.8	15.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.80	51.2 PK	68.2	-17.0	3.96 V	289	48.5	2.7
2	*5825.00	112.7 PK			3.96 V	289	75.1	37.6
3	*5825.00	100.1 AV			3.96 V	289	62.5	37.6
4	#5952.80	51.6 PK	68.2	-16.6	3.96 V	289	48.1	3.5
5	11650.00	55.2 PK	74.0	-18.8	3.28 V	294	39.7	15.5
6	11650.00	42.0 AV	54.0	-12.0	3.28 V	294	26.5	15.5

Remarks:

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

802.11ax (HE40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	70.5 PK	74.0	-3.5	2.50 H	349	68.4	2.1
2	5150.00	53.3 AV	54.0	-0.7	2.50 H	349	51.2	2.1
3	*5190.00	110.2 PK			2.50 H	349	74.0	36.2
4	*5190.00	98.0 AV			2.50 H	349	61.8	36.2
5	#10380.00	55.0 PK	68.2	-13.2	2.16 H	221	39.8	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	2.23 V	68	62.6	2.1
2	5150.00	51.5 AV	54.0	-2.5	2.23 V	68	49.4	2.1
3	*5190.00	105.9 PK			2.23 V	68	69.7	36.2
4	*5190.00	93.8 AV			2.23 V	68	57.6	36.2
5	#10380.00	54.6 PK	68.2	-13.6	3.13 V	285	39.4	15.2

Remarks:

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

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	114.3 PK			2.29 H	358	78.1	36.2
2	*5230.00	102.1 AV			2.29 H	358	65.9	36.2
3	5350.00	57.4 PK	74.0	-16.6	2.29 H	358	55.4	2.0
4	5350.00	43.1 AV	54.0	-10.9	2.29 H	358	41.1	2.0
5	#10460.00	55.1 PK	68.2	-13.1	2.10 H	219	40.0	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	110.2 PK			2.40 V	6	74.0	36.2
2	*5230.00	97.9 AV			2.40 V	6	61.7	36.2
3	5350.00	54.8 PK	74.0	-19.2	2.40 V	6	52.8	2.0
4	5350.00	41.0 AV	54.0	-13.0	2.40 V	6	39.0	2.0
5	#10460.00	54.8 PK	68.2	-13.4	3.17 V	279	39.7	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 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	113.7 PK			2.33 H	345	77.6	36.1
2	*5270.00	101.1 AV			2.33 H	345	65.0	36.1
3	5350.00	65.8 PK	74.0	-8.2	2.33 H	345	63.8	2.0
4	5350.00	53.4 AV	54.0	-0.6	2.33 H	345	51.4	2.0
5	#10540.00	55.7 PK	68.2	-12.5	2.24 H	216	40.3	15.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	111.5 PK			2.49 V	345	75.4	36.1
2	*5270.00	98.7 AV			2.49 V	345	62.6	36.1
3	5350.00	52.4 PK	74.0	-21.6	2.49 V	345	50.4	2.0
4	5350.00	39.3 AV	54.0	-14.7	2.49 V	345	37.3	2.0
5	#10540.00	56.0 PK	68.2	-12.2	3.24 V	289	40.6	15.4

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.7 PK			2.69 H	345	72.6	36.1
2	*5310.00	96.0 AV			2.69 H	345	59.9	36.1
3	5350.00	64.8 PK	74.0	-9.2	2.69 H	345	62.8	2.0
4	5350.00	51.0 AV	54.0	-3.0	2.69 H	345	49.0	2.0
5	10620.00	56.0 PK	74.0	-18.0	2.26 H	219	40.4	15.6
6	10620.00	43.8 AV	54.0	-10.2	2.26 H	219	28.2	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.1 PK			2.36 V	346	72.0	36.1
2	*5310.00	95.2 AV			2.36 V	346	59.1	36.1
3	5350.00	65.7 PK	74.0	-8.3	2.36 V	346	63.7	2.0
4	5350.00	49.0 AV	54.0	-5.0	2.36 V	346	47.0	2.0
5	10620.00	56.2 PK	74.0	-17.8	3.24 V	288	40.6	15.6
6	10620.00	44.2 AV	54.0	-9.8	3.24 V	288	28.6	15.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.2 PK	74.0	-15.8	2.35 H	350	55.5	2.7
2	5460.00	45.8 AV	54.0	-8.2	2.35 H	350	43.1	2.7
3	#5470.00	66.6 PK	68.2	-1.6	2.35 H	350	63.9	2.7
4	*5510.00	110.2 PK			2.35 H	350	73.3	36.9
5	*5510.00	96.2 AV			2.35 H	350	59.3	36.9
6	11020.00	55.9 PK	74.0	-18.1	2.25 H	214	39.2	16.7
7	11020.00	42.5 AV	54.0	-11.5	2.25 H	214	25.8	16.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.7 PK	74.0	-17.3	3.69 V	282	54.0	2.7
2	5460.00	46.0 AV	54.0	-8.0	3.69 V	282	43.3	2.7
3	#5470.00	66.8 PK	68.2	-1.4	3.69 V	282	64.1	2.7
4	*5510.00	108.0 PK			3.69 V	282	71.1	36.9
5	*5510.00	95.2 AV			3.69 V	282	58.3	36.9
6	11020.00	56.2 PK	74.0	-17.8	3.28 V	283	39.5	16.7
7	11020.00	41.9 AV	54.0	-12.1	3.28 V	283	25.2	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 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	112.8 PK			2.13 H	354	75.9	36.9
2	*5550.00	100.3 AV			2.13 H	354	63.4	36.9
3	11100.00	56.1 PK	74.0	-17.9	2.26 H	214	40.2	15.9
4	11100.00	42.1 AV	54.0	-11.9	2.26 H	214	26.2	15.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	110.7 PK			3.64 V	271	73.8	36.9
2	*5550.00	97.9 AV			3.64 V	271	61.0	36.9
3	11100.00	56.0 PK	74.0	-18.0	3.29 V	280	40.1	15.9
4	11100.00	42.4 AV	54.0	-11.6	3.29 V	280	26.5	15.9

Remarks:

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

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	111.4 PK			2.12 H	357	74.4	37.0
2	*5670.00	98.3 AV			2.12 H	357	61.3	37.0
3	#5725.00	65.5 PK	68.2	-2.7	2.12 H	357	62.6	2.9
4	11340.00	55.7 PK	74.0	-18.3	2.28 H	217	39.6	16.1
5	11340.00	41.6 AV	54.0	-12.4	2.28 H	217	25.5	16.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	107.9 PK			3.84 V	271	70.9	37.0
2	*5670.00	95.3 AV			3.84 V	271	58.3	37.0
3	#5725.00	56.1 PK	68.2	-12.1	3.84 V	271	53.2	2.9
4	11340.00	55.8 PK	74.0	-18.2	3.20 V	278	39.7	16.1
5	11340.00	41.8 AV	54.0	-12.2	3.20 V	278	25.7	16.1

Remarks:

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

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	112.8 PK			2.16 H	351	75.6	37.2
2	*5710.00	99.4 AV			2.16 H	351	62.2	37.2
3	#5850.00	50.9 PK	68.2	-17.3	2.16 H	351	47.6	3.3
4	11420.00	55.0 PK	74.0	-19.0	2.24 H	212	39.2	15.8
5	11420.00	41.5 AV	54.0	-12.5	2.24 H	212	25.7	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	110.1 PK			3.46 V	265	72.9	37.2
2	*5710.00	97.6 AV			3.46 V	265	60.4	37.2
3	#5850.00	51.1 PK	68.2	-17.1	3.46 V	265	47.8	3.3
4	11420.00	55.6 PK	74.0	-18.4	3.22 V	284	39.8	15.8
5	11420.00	41.1 AV	54.0	-12.9	3.22 V	284	25.3	15.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.20	52.4 PK	68.2	-15.8	1.84 H	357	49.7	2.7
2	*5755.00	111.1 PK			1.84 H	357	73.8	37.3
3	*5755.00	98.6 AV			1.84 H	357	61.3	37.3
4	#5928.00	52.0 PK	68.2	-16.2	1.84 H	357	48.7	3.3
5	11510.00	55.4 PK	74.0	-18.6	2.30 H	225	40.1	15.3
6	11510.00	41.5 AV	54.0	-12.5	2.30 H	225	26.2	15.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.60	53.4 PK	68.2	-14.8	3.93 V	264	50.7	2.7
2	*5755.00	109.0 PK			3.93 V	264	71.7	37.3
3	*5755.00	97.1 AV			3.93 V	264	59.8	37.3
4	#5960.00	51.4 PK	68.2	-16.8	3.93 V	264	48.1	3.3
5	11510.00	55.5 PK	74.0	-18.5	3.22 V	292	40.2	15.3
6	11510.00	41.6 AV	54.0	-12.4	3.22 V	292	26.3	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 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	51.5 PK	68.2	-16.7	1.93 H	357	48.8	2.7
2	*5795.00	112.2 PK			1.93 H	357	74.7	37.5
3	*5795.00	99.8 AV			1.93 H	357	62.3	37.5
4	#5926.40	53.0 PK	68.2	-15.2	1.93 H	357	49.7	3.3
5	11590.00	55.1 PK	74.0	-18.9	2.33 H	224	40.0	15.1
6	11590.00	41.6 AV	54.0	-12.4	2.33 H	224	26.5	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.40	52.0 PK	68.5	-16.5	3.89 V	265	49.3	2.7
2	*5795.00	109.7 PK			3.89 V	265	72.2	37.5
3	*5795.00	97.7 AV			3.89 V	265	60.2	37.5
4	#5930.40	52.7 PK	68.2	-15.5	3.89 V	265	49.4	3.3
5	11590.00	55.2 PK	74.0	-18.8	3.28 V	291	40.1	15.1
6	11590.00	41.3 AV	54.0	-12.7	3.28 V	291	26.2	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.

802.11ax (HE80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.5 PK	74.0	-6.5	2.75 H	351	65.4	2.1
2	5150.00	53.2 AV	54.0	-0.8	2.75 H	351	51.1	2.1
3	*5210.00	107.0 PK			2.75 H	351	70.8	36.2
4	*5210.00	94.9 AV			2.75 H	351	58.7	36.2
5	5350.00	51.9 PK	74.0	-22.1	2.75 H	351	49.9	2.0
6	5350.00	39.2 AV	54.0	-14.8	2.75 H	351	37.2	2.0
7	#10420.00	54.8 PK	68.2	-13.4	2.18 H	225	39.6	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.6 PK	74.0	-8.4	2.47 V	5	63.5	2.1
2	5150.00	52.2 AV	54.0	-1.8	2.47 V	5	50.1	2.1
3	*5210.00	104.6 PK			2.47 V	5	68.4	36.2
4	*5210.00	91.4 AV			2.47 V	5	55.2	36.2
5	5350.00	52.3 PK	74.0	-21.7	2.47 V	5	50.3	2.0
6	5350.00	39.6 AV	54.0	-14.4	2.47 V	5	37.6	2.0
7	#10420.00	56.5 PK	68.2	-11.7	3.18 V	276	41.3	15.2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	106.7 PK			2.31 H	343	70.6	36.1
2	*5290.00	93.8 AV			2.31 H	343	57.7	36.1
3	5350.00	67.1 PK	74.0	-6.9	2.31 H	343	65.1	2.0
4	5350.00	53.7 AV	54.0	-0.3	2.31 H	343	51.7	2.0
5	#10580.00	55.9 PK	68.2	-12.3	2.27 H	221	40.4	15.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	104.6 PK			2.33 V	339	68.5	36.1
2	*5290.00	91.7 AV			2.33 V	339	55.6	36.1
3	5350.00	63.5 PK	74.0	-10.5	2.33 V	339	61.5	2.0
4	5350.00	51.1 AV	54.0	-2.9	2.33 V	339	49.1	2.0
5	#10580.00	56.1 PK	68.2	-12.1	3.28 V	291	40.6	15.5

Remarks:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	64.2 PK	74.0	-9.8	2.01 H	354	61.5	2.7
2	5460.00	51.1 AV	54.0	-2.9	2.01 H	354	48.4	2.7
3	#5470.00	65.9 PK	68.2	-2.3	2.01 H	354	63.2	2.7
4	*5530.00	104.9 PK			2.01 H	354	68.0	36.9
5	*5530.00	92.8 AV			2.01 H	354	55.9	36.9
6	#5725.00	50.8 PK	68.2	-17.4	2.01 H	354	47.9	2.9
7	11060.00	55.7 PK	74.0	-18.3	2.23 H	216	39.3	16.4
8	11060.00	41.6 AV	54.0	-12.4	2.23 H	216	25.2	16.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.5 PK	74.0	-13.5	3.66 V	271	57.8	2.7
2	5460.00	45.0 AV	54.0	-9.0	3.66 V	271	42.3	2.7
3	#5470.00	59.6 PK	68.2	-8.6	3.66 V	271	56.9	2.7
4	*5530.00	102.8 PK			3.66 V	271	65.9	36.9
5	*5530.00	90.3 AV			3.66 V	271	53.4	36.9
6	#5725.00	51.7 PK	68.2	-16.5	3.66 V	271	48.8	2.9
7	11060.00	55.8 PK	74.0	-18.2	3.26 V	283	39.4	16.4
8	11060.00	42.2 AV	54.0	-11.8	3.26 V	283	25.8	16.4

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.

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5690.00	109.0 PK			2.43 H	5	71.8	37.2
2	*5690.00	96.9 AV			2.43 H	5	59.7	37.2
3	#5850.00	57.9 PK	68.2	-10.3	2.43 H	360	54.6	3.3
4	11380.00	55.5 PK	74.0	-18.5	2.32 H	222	39.4	16.1
5	11380.00	41.9 AV	54.0	-12.1	2.32 H	222	25.8	16.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5690.00	105.5 PK			3.30 V	263	68.3	37.2
2	*5690.00	93.9 AV			3.30 V	263	56.7	37.2
3	#5850.00	55.9 PK	68.2	-12.3	3.30 V	263	52.6	3.3
4	11380.00	55.6 PK	74.0	-18.4	3.24 V	281	39.5	16.1
5	11380.00	41.8 AV	54.0	-12.2	3.24 V	281	25.7	16.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.60	62.4 PK	68.2	-5.8	1.94 H	358	59.7	2.7
2	*5775.00	108.9 PK			1.94 H	358	71.4	37.5
3	*5775.00	95.9 AV			1.94 H	358	58.4	37.5
4	#5929.60	58.6 PK	68.2	-9.6	1.94 H	358	55.3	3.3
5	11550.00	55.2 PK	74.0	-18.8	2.28 H	221	39.9	15.3
6	11550.00	41.5 AV	54.0	-12.5	2.28 H	221	26.2	15.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.80	62.9 PK	68.2	-5.3	3.90 V	262	60.2	2.7
2	*5775.00	107.5 PK			3.90 V	262	70.0	37.5
3	*5775.00	95.4 AV			3.90 V	262	57.9	37.5
4	#5925.60	55.1 PK	68.2	-13.1	3.90 V	262	51.8	3.3
5	11550.00	55.1 PK	74.0	-18.9	3.32 V	294	39.8	15.3
6	11550.00	41.3 AV	54.0	-12.7	3.32 V	294	26.0	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.

Below 1GHz Worst-Case Data:

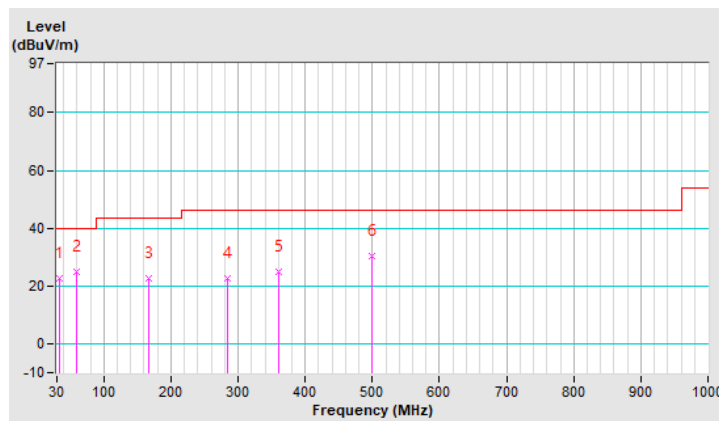
802.11a

CHANNEL	TX Channel 157	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	33.88	22.8 QP	40.0	-17.2	1.25 H	45	32.9	-10.1
2	59.10	25.1 QP	40.0	-14.9	1.50 H	243	34.4	-9.3
3	167.74	22.8 QP	43.5	-20.7	1.00 H	227	31.3	-8.5
4	284.14	22.7 QP	46.0	-23.3	1.25 H	70	29.8	-7.1
5	359.80	25.1 QP	46.0	-20.9	2.00 H	20	30.6	-5.5
6	499.48	30.4 QP	46.0	-15.6	1.50 H	22	33.1	-2.7

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

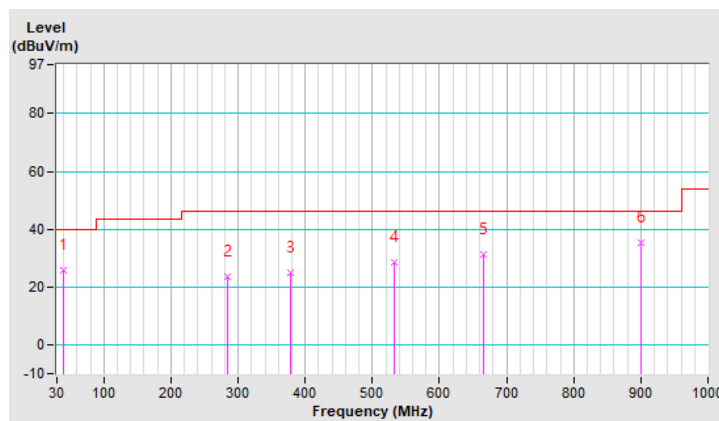


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3m								
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	39.70	26.0 QP	40.0	-14.0	1.25 V	45	35.7	-9.7
2	284.14	23.7 QP	46.0	-22.3	1.50 V	228	30.8	-7.1
3	377.26	25.0 QP	46.0	-21.0	1.00 V	172	30.0	-5.0
4	532.46	28.6 QP	46.0	-17.4	1.50 V	76	30.7	-2.1
5	666.32	31.3 QP	46.0	-14.7	1.25 V	356	30.8	0.5
6	901.06	35.3 QP	46.0	-10.7	2.00 V	149	30.3	5.0

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 17, 2020	Feb. 16, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 20, 2020	Jan. 19, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 2 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

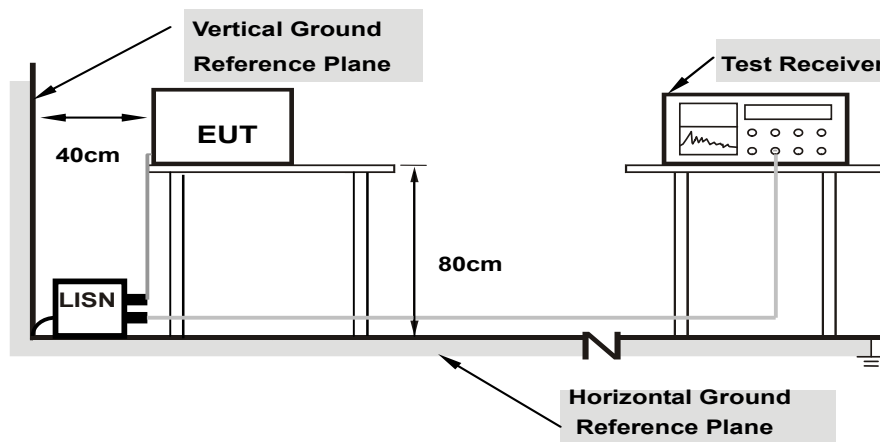
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

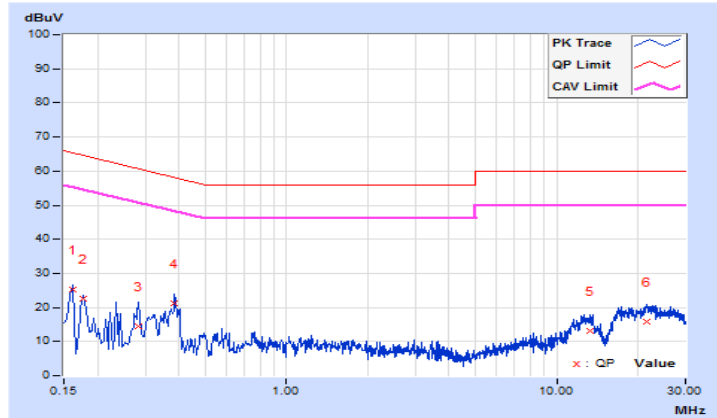
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16190	0.08	25.04	8.98	25.12	9.06	65.37
2	0.17800	0.09	22.52	6.96	22.61	7.05	64.58	54.58	-41.97	-47.53
3	0.28200	0.11	14.50	2.43	14.61	2.54	60.76	50.76	-46.15	-48.22
4	0.38600	0.12	21.26	11.25	21.38	11.37	58.15	48.15	-36.77	-36.78
5	13.34600	0.37	12.85	6.89	13.22	7.26	60.00	50.00	-46.78	-42.74
6	21.49000	0.40	15.50	9.43	15.90	9.83	60.00	50.00	-44.10	-40.17

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.

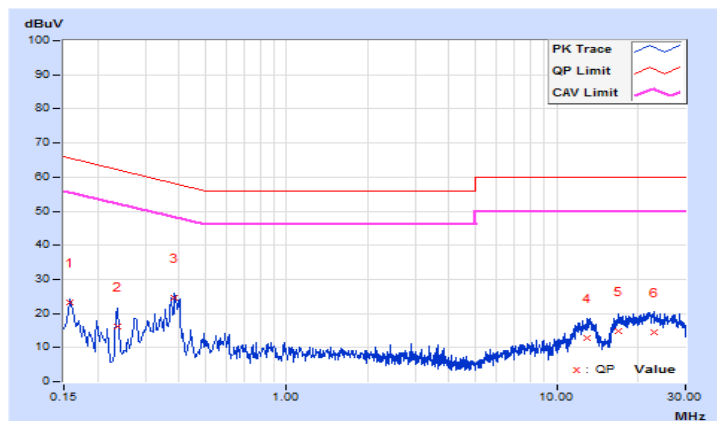


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15800	0.07	23.33	9.97	23.40	10.04	65.57
2	0.23785	0.08	16.20	1.90	16.28	1.98	62.17	52.17	-45.89	-50.19
3	0.38600	0.10	24.33	13.90	24.43	14.00	58.15	48.15	-33.72	-34.15
4	12.91800	0.44	12.41	6.55	12.85	6.99	60.00	50.00	-47.15	-43.01
5	16.88600	0.51	14.20	7.05	14.71	7.56	60.00	50.00	-45.29	-42.44
6	22.87000	0.47	14.16	8.45	14.63	8.92	60.00	50.00	-45.37	-41.08

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

*B is the 26 dB emission bandwidth in megahertz

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

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

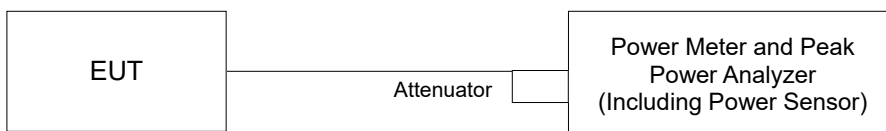
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

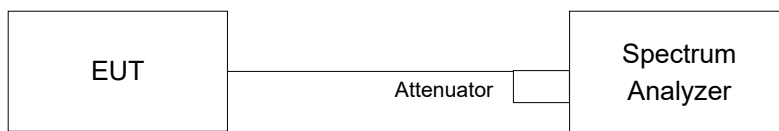
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

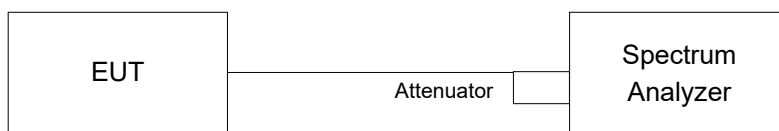
For Power Output



For Power Output (straddle channel)



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

802.11a, 802.11ac (VHT20), 802.11ac (VHT40), 802.11ax (HE20), 802.11ax (HE40)

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.

802.11ac (VHT80) , 802.11ax (HE80)

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz
- d. Set VBW \geq 3 MHz
- e. Number of points in sweep \geq 2 Span / RBW
- f. Sweep time \leq (number of points in sweep) * T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS
- i. Trace mode = max hold
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

l.

For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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%.
- f. For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 Section III. CHANNEL AGGREGATION.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.99	9.24	16.320	12.13	23.89	Pass
40	5200	9.55	8.98	16.922	12.28	23.89	Pass
48	5240	9.41	8.74	16.211	12.10	23.89	Pass
52	5260	13.41	12.61	40.167	16.04	23.67	Pass
60	5300	13.41	12.50	39.711	15.99	23.66	Pass
64	5320	13.25	12.70	39.756	15.99	23.67	Pass
100	5500	15.93	15.27	72.825	18.62	23.83	Pass
116	5580	16.59	15.32	79.645	19.01	23.70	Pass
140	5700	16.69	16.17	88.066	19.45	23.68	Pass
144	5720 (For U-NII-2C)	15.68	15.90	79.739	19.02	22.50	Pass
144	5720 (For U-NII-3)	9.23	9.42	17.994	12.55	29.89	Pass
149	5745	20.90	19.09	204.123	23.10	29.89	Pass
157	5785	21.16	20.04	231.542	23.65	29.89	Pass
165	5825	21.55	20.45	253.807	24.05	29.89	Pass

Note:

5180~5240MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 24-(6.11-6) = 23.89dBm.

5260~5320MHz:

5260MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.78-(6.11-6) = 23.67dBm

5300MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.77-(6.11-6) = 23.66dBm

5320MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.78-(6.11-6) = 23.67dBm.

5500~5720MHz

5500MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.94-(6.11-6) = 23.83dBm

5580MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.81-(6.11-6) = 23.70dBm

5700MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 23.79-(6.11-6) = 23.68dBm

5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 22.61-(6.11-6) = 22.50dBm

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 30-(6.11-6) = 29.89dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(18.98) = 23.78 < 24\text{dBm}$
2. $11\text{dBm} + 10\log(18.99) = 23.78 < 24\text{dBm}$
3. $11\text{dBm} + 10\log(19.04) = 23.79 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.72) = 23.94 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.72) = 24.16 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.90) = 23.98 < 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.70) = 22.84 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(19.02) = 23.79 < 24\text{dBm}$
2. $11\text{dBm} + 10\log(18.96) = 23.77 < 24\text{dBm}$
3. $11\text{dBm} + 10\log(18.98) = 23.78 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.08) = 24.23 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(19.11) = 23.81 < 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.03) = 23.79 < 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5710.50) = 22.61 < 24\text{dBm}$

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	9.77	10.01	19.507	12.90	23.89	Pass
40	5200	10.14	9.31	18.859	12.76	23.89	Pass
48	5240	10.38	9.02	18.894	12.76	23.89	Pass
52	5260	13.59	12.26	39.683	15.99	23.89	Pass
60	5300	13.60	11.94	38.540	15.86	23.89	Pass
64	5320	13.22	12.87	40.354	16.06	23.89	Pass
100	5500	16.31	15.79	80.688	19.07	23.89	Pass
116	5580	17.17	16.18	93.615	19.71	23.89	Pass
140	5700	14.57	14.05	54.052	17.33	23.89	Pass
144	5720 (For U-NII-2C)	15.83	15.84	76.653	18.85	22.77	Pass
144	5720 (For U-NII-3)	10.43	10.74	22.898	13.60	29.89	Pass
149	5745	20.83	20.02	221.521	23.45	29.89	Pass
157	5785	21.21	19.98	231.670	23.65	29.89	Pass
165	5825	21.50	20.49	253.198	24.03	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5700MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 24-(6.11-6) = 23.89dBm.

5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 22.88-(6.11-6) = 22.77dBm.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 30-(6.11-6) = 29.89dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (21.00) = 24.22 > 24dBm
2. 11dBm + 10log (21.00) = 24.22 > 24dBm
3. 11dBm + 10log (20.78) = 24.17 > 24dBm
4. 11dBm + 10log (21.45) = 24.31 > 24dBm
5. 11dBm + 10log (22.17) = 24.45 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.39) = 22.93 < 24dBm

Chain 1

1. 11dBm + 10log (20.98) = 24.21 > 24dBm
2. 11dBm + 10log (20.76) = 24.17 > 24dBm
3. 11dBm + 10log (20.79) = 24.17 > 24dBm
4. 11dBm + 10log (21.80) = 24.38 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.13) = 24.24 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.56) = 22.88 < 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.17	13.20	41.642	16.20	23.89	Pass
46	5230	12.17	12.35	33.661	15.27	23.89	Pass
54	5270	13.53	12.41	39.960	16.02	23.89	Pass
62	5310	13.22	12.44	38.528	15.86	23.89	Pass
102	5510	16.40	15.65	80.380	19.05	23.89	Pass
110	5550	21.27	20.15	237.482	23.76	23.89	Pass
134	5670	20.75	19.49	207.770	23.18	23.89	Pass
142	5710 (For U-NII-2C)	19.90	20.19	202.196	23.06	23.89	Pass
142	5710 (For U-NII-3)	9.95	10.47	21.028	13.23	29.89	Pass
151	5755	20.94	19.98	223.706	23.50	29.89	Pass
159	5795	21.51	20.72	259.611	24.14	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $24 - (6.11 - 6) = 23.89\text{dBm}$.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $30 - (6.11 - 6) = 29.89\text{dBm}$.

For U-NII-2A, U-NII-2C Band:

Chain 0

- $11\text{dBm} + 10\log(41.54) = 27.18 > 24\text{dBm}$
- $11\text{dBm} + 10\log(41.49) = 27.17 > 24\text{dBm}$
- $11\text{dBm} + 10\log(41.66) = 27.19 > 24\text{dBm}$
- $11\text{dBm} + 10\log(96.44) = 30.84 > 24\text{dBm}$
- $11\text{dBm} + 10\log(90.39) = 30.56 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5661.03) = 29.05 > 24\text{dBm}$

Chain 1

- $11\text{dBm} + 10\log(41.67) = 27.19 > 24\text{dBm}$
- $11\text{dBm} + 10\log(41.52) = 27.18 > 24\text{dBm}$
- $11\text{dBm} + 10\log(41.98) = 27.23 > 24\text{dBm}$
- $11\text{dBm} + 10\log(91.42) = 30.61 > 24\text{dBm}$
- $11\text{dBm} + 10\log(71.13) = 29.52 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5664.19) = 28.83 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.03	13.58	48.096	16.82	23.89	Pass
58	5290	13.18	12.18	37.317	15.72	23.89	Pass
106	5530	16.14	15.34	75.313	18.77	23.89	Pass
138	5690 (For U-NII-2C)	20.21	20.37	213.847	23.30	23.89	Pass
138	5690 (For U-NII-3)	7.22	7.32	10.667	10.28	29.89	Pass
155	5775	21.37	20.47	248.518	23.95	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $24 - (6.11 - 6) = 23.89\text{dBm}$.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $30 - (6.11 - 6) = 29.89\text{dBm}$.

For U-NII-2A, U-NII-2C Band:

Chain 0

- $11\text{dBm} + 10\log(82.51) = 30.16 > 24\text{dBm}$
- $11\text{dBm} + 10\log(83.32) = 30.20 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5597.58) = 32.05 > 24\text{dBm}$

Chain 1

- $11\text{dBm} + 10\log(82.76) = 30.17 > 24\text{dBm}$
- $11\text{dBm} + 10\log(83.18) = 30.20 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5599.71) = 31.97 > 24\text{dBm}$

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	9.79	10.07	19.690	12.94	23.89	Pass
40	5200	10.18	9.37	19.073	12.80	23.89	Pass
48	5240	10.42	9.06	19.069	12.80	23.89	Pass
52	5260	13.62	12.32	40.075	16.03	23.89	Pass
60	5300	13.66	11.99	39.040	15.92	23.89	Pass
64	5320	12.79	12.42	36.469	15.62	23.89	Pass
100	5500	16.36	15.86	81.799	19.13	23.89	Pass
116	5580	17.19	16.23	94.336	19.75	23.89	Pass
140	5700	14.63	14.13	54.922	17.40	23.89	Pass
144	5720 (For U-NII-2C)	15.87	15.87	77.273	18.88	22.77	Pass
144	5720 (For U-NII-3)	10.47	10.77	23.083	13.63	29.89	Pass
149	5745	20.85	20.07	223.243	23.49	29.89	Pass
157	5785	21.29	20.03	235.279	23.72	29.89	Pass
165	5825	21.55	20.54	256.129	24.08	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5700MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 24-(6.11-6) = 23.89dBm.

5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 22.88-(6.11-6) = 22.77dBm.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 30-(6.11-6) = 29.89dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (21.00) = 24.22 > 24dBm
2. 11dBm + 10log (21.00) = 24.22 > 24dBm
3. 11dBm + 10log (20.78) = 24.17 > 24dBm
4. 11dBm + 10log (21.45) = 24.31 > 24dBm
5. 11dBm + 10log (22.17) = 24.45 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.39) = 22.93 < 24dBm

Chain 1

1. 11dBm + 10log (20.98) = 24.21 > 24dBm
2. 11dBm + 10log (20.76) = 24.17 > 24dBm
3. 11dBm + 10log (20.79) = 24.17 > 24dBm
4. 11dBm + 10log (21.80) = 24.38 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.13) = 24.24 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.56) = 22.88 < 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.21	13.23	41.979	16.23	23.89	Pass
46	5230	12.19	12.43	34.056	15.32	23.89	Pass
54	5270	13.55	12.47	40.307	16.05	23.89	Pass
62	5310	13.24	12.47	38.747	15.88	23.89	Pass
102	5510	16.42	15.71	81.092	19.09	23.89	Pass
110	5550	21.34	20.22	241.341	23.83	23.89	Pass
134	5670	20.83	19.57	211.633	23.26	23.89	Pass
142	5710 (For U-NII-2C)	19.93	20.23	203.840	23.09	23.89	Pass
142	5710 (For U-NII-3)	10.08	10.51	21.432	13.31	29.89	Pass
151	5755	20.96	20.02	225.200	23.53	29.89	Pass
159	5795	21.54	20.75	261.411	24.17	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 24-(6.11-6) = 23.89dBm.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to 30-(6.11-6) = 29.89dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (41.54) = 27.18 > 24dBm
2. 11dBm + 10log (41.49) = 27.17 > 24dBm
3. 11dBm + 10log (41.66) = 27.19 > 24dBm
4. 11dBm + 10log (96.44) = 30.84 > 24dBm
5. 11dBm + 10log (90.39) = 30.56 > 24dBm
6. 11dBm + 10log (5725.00 - 5661.03) = 29.05 > 24dBm

Chain 1

1. 11dBm + 10log (41.67) = 27.19 > 24dBm
2. 11dBm + 10log (41.52) = 27.18 > 24dBm
3. 11dBm + 10log (41.98) = 27.23 > 24dBm
4. 11dBm + 10log (91.42) = 30.61 > 24dBm
5. 11dBm + 10log (71.13) = 29.52 > 24dBm
6. 11dBm + 10log (5725.00 - 5664.19) = 28.83 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.03	13.58	48.096	16.82	23.89	Pass
58	5290	13.18	12.18	37.317	15.72	23.89	Pass
106	5530	16.20	15.39	76.281	18.82	23.89	Pass
138	5690 (For U-NII-2C)	20.26	20.42	216.323	23.35	23.89	Pass
138	5690 (For U-NII-3)	7.28	7.36	10.791	10.33	29.89	Pass
155	5775	21.39	20.55	251.222	24.00	29.89	Pass

Note:

5180~5240MHz & 5260~5320MHz & 5500~5720MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $24 - (6.11 - 6) = 23.89\text{dBm}$.

5745~5825MHz: Gain = 6.11dBi > 6dBi, so the limit shall be reduced to $30 - (6.11 - 6) = 29.89\text{dBm}$.

For U-NII-2A, U-NII-2C Band:

Chain 0

- $11\text{dBm} + 10\log(82.51) = 30.16 > 24\text{dBm}$
- $11\text{dBm} + 10\log(83.32) = 30.20 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5597.58) = 32.05 > 24\text{dBm}$

Chain 1

- $11\text{dBm} + 10\log(82.76) = 30.17 > 24\text{dBm}$
- $11\text{dBm} + 10\log(83.18) = 30.20 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5599.71) = 31.97 > 24\text{dBm}$

Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	9.77	10.01	19.507	12.90	20.88	Pass
40	5200	10.14	9.31	18.859	12.76	20.88	Pass
48	5240	10.38	9.02	18.894	12.76	20.88	Pass
52	5260	10.59	9.26	19.888	12.99	20.88	Pass
60	5300	10.60	8.94	19.316	12.86	20.88	Pass
64	5320	9.72	9.37	18.025	12.56	20.88	Pass
100	5500	16.31	15.79	80.688	19.07	20.88	Pass
116	5580	17.17	16.18	93.615	19.71	20.88	Pass
140	5700	14.57	14.05	54.052	17.33	20.88	Pass
144	5720 (For U-NII-2C)	15.83	15.84	76.653	18.85	19.76	Pass
144	5720 (For U-NII-3)	10.43	10.74	22.898	13.60	26.88	Pass
149	5745	20.83	20.02	221.521	23.45	26.88	Pass
157	5785	21.21	19.98	231.670	23.65	26.88	Pass
165	5825	21.50	20.49	253.198	24.03	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5700MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 22.88-(9.12-6) = 19.76dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(21.00) = 24.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.00) = 24.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.78) = 24.17 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.45) = 24.31 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(22.17) = 24.45 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.56) = 24.33 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.39) = 22.93 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.98) = 24.21 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.76) = 24.17 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.79) = 24.17 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.80) = 24.38 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.60) = 24.34 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.13) = 24.24 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.56) = 22.88 < 24\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.67	10.70	23.417	13.70	20.88	Pass
46	5230	10.67	10.85	23.830	13.77	20.88	Pass
54	5270	10.53	9.41	20.028	13.02	20.88	Pass
62	5310	10.22	9.44	19.310	12.86	20.88	Pass
102	5510	16.40	15.65	80.380	19.05	20.88	Pass
110	5550	18.27	17.15	119.023	20.76	20.88	Pass
134	5670	18.25	16.99	116.838	20.68	20.88	Pass
142	5710 (For U-NII-2C)	17.38	17.64	112.778	20.52	20.88	Pass
142	5710 (For U-NII-3)	7.42	7.95	11.758	10.70	26.88	Pass
151	5755	20.94	19.98	223.706	23.50	26.88	Pass
159	5795	21.51	20.72	259.611	24.14	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (41.54) = 27.18 > 24dBm
2. 11dBm + 10log (41.49) = 27.17 > 24dBm
3. 11dBm + 10log (41.66) = 27.19 > 24dBm
4. 11dBm + 10log (96.44) = 30.84 > 24dBm
5. 11dBm + 10log (90.39) = 30.56 > 24dBm
6. 11dBm + 10log (5725.00 - 5661.03) = 29.05 > 24dBm

Chain 1

1. 11dBm + 10log (41.67) = 27.19 > 24dBm
2. 11dBm + 10log (41.52) = 27.18 > 24dBm
3. 11dBm + 10log (41.98) = 27.23 > 24dBm
4. 11dBm + 10log (91.42) = 30.61 > 24dBm
5. 11dBm + 10log (71.13) = 29.52 > 24dBm
6. 11dBm + 10log (5725.00 - 5664.19) = 28.83 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.01	10.50	23.838	13.77	20.88	Pass
58	5290	10.11	9.16	18.498	12.67	20.88	Pass
106	5530	16.14	15.34	75.313	18.77	20.88	Pass
138	5690 (For U-NII-2C)	17.18	17.34	106.440	20.27	20.88	Pass
138	5690 (For U-NII-3)	4.18	4.29	5.304	7.25	26.88	Pass
155	5775	21.37	20.47	248.518	23.95	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (82.51) = 30.16 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (5725.00 - 5597.58) = 32.05 > 24dBm

Chain 1

1. 11dBm + 10log (82.76) = 30.17 > 24dBm
2. 11dBm + 10log (83.18) = 30.20 > 24dBm
3. 11dBm + 10log (5725.00 - 5599.71) = 31.97 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	9.79	10.07	19.690	12.94	20.88	Pass
40	5200	10.18	9.37	19.073	12.80	20.88	Pass
48	5240	10.42	9.06	19.069	12.80	20.88	Pass
52	5260	10.62	9.32	20.085	13.03	20.88	Pass
60	5300	10.66	8.99	19.566	12.92	20.88	Pass
64	5320	9.79	9.42	18.278	12.62	20.88	Pass
100	5500	16.36	15.86	81.799	19.13	20.88	Pass
116	5580	17.19	16.23	94.336	19.75	20.88	Pass
140	5700	14.63	14.13	54.922	17.40	20.88	Pass
144	5720 (For U-NII-2C)	15.87	15.87	77.273	18.88	19.76	Pass
144	5720 (For U-NII-3)	10.47	10.77	23.083	13.63	26.88	Pass
149	5745	20.85	20.07	223.243	23.49	26.88	Pass
157	5785	21.29	20.03	235.279	23.72	26.88	Pass
165	5825	21.55	20.54	256.129	24.08	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5700MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 22.88-(9.12-6) = 19.76dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(21.00) = 24.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.00) = 24.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.78) = 24.17 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.45) = 24.31 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(22.17) = 24.45 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.56) = 24.33 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.39) = 22.93 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.98) = 24.21 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.76) = 24.17 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.79) = 24.17 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.80) = 24.38 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.60) = 24.34 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.13) = 24.24 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.56) = 22.88 < 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.71	10.73	23.606	13.73	20.88	Pass
46	5230	10.69	10.93	24.110	13.82	20.88	Pass
54	5270	10.55	9.47	20.201	13.05	20.88	Pass
62	5310	10.24	9.47	19.419	12.88	20.88	Pass
102	5510	16.42	15.71	81.092	19.09	20.88	Pass
110	5550	18.34	17.22	120.957	20.83	20.88	Pass
134	5670	18.33	17.07	119.010	20.76	20.88	Pass
142	5710 (For U-NII-2C)	17.41	17.69	113.830	20.56	20.88	Pass
142	5710 (For U-NII-3)	7.55	7.99	11.984	10.79	26.88	Pass
151	5755	20.96	20.02	225.200	23.53	26.88	Pass
159	5795	21.54	20.75	261.411	24.17	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (41.54) = 27.18 > 24dBm
2. 11dBm + 10log (41.49) = 27.17 > 24dBm
3. 11dBm + 10log (41.66) = 27.19 > 24dBm
4. 11dBm + 10log (96.44) = 30.84 > 24dBm
5. 11dBm + 10log (90.39) = 30.56 > 24dBm
6. 11dBm + 10log (5725.00 - 5661.03) = 29.05 > 24dBm

Chain 1

1. 11dBm + 10log (41.67) = 27.19 > 24dBm
2. 11dBm + 10log (41.52) = 27.18 > 24dBm
3. 11dBm + 10log (41.98) = 27.23 > 24dBm
4. 11dBm + 10log (91.42) = 30.61 > 24dBm
5. 11dBm + 10log (71.13) = 29.52 > 24dBm
6. 11dBm + 10log (5725.00 - 5664.19) = 28.83 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.03	10.58	24.105	13.82	20.88	Pass
58	5290	10.18	9.18	18.703	12.72	20.88	Pass
106	5530	16.20	15.39	76.281	18.82	20.88	Pass
138	5690 (For U-NII-2C)	17.22	17.38	107.425	20.31	20.88	Pass
138	5690 (For U-NII-3)	4.25	4.31	5.358	7.29	26.88	Pass
155	5775	21.39	20.55	251.222	24.00	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (82.51) = 30.16 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (5725.00 - 5597.58) = 32.05 > 24dBm

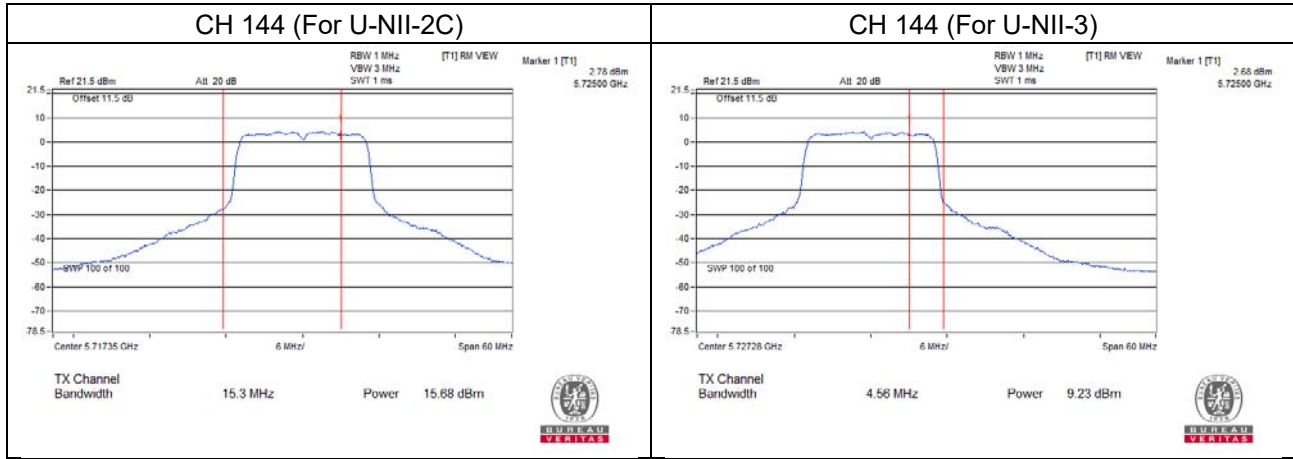
Chain 1

1. 11dBm + 10log (82.76) = 30.17 > 24dBm
2. 11dBm + 10log (83.18) = 30.20 > 24dBm
3. 11dBm + 10log (5725.00 - 5599.71) = 31.97 > 24dBm

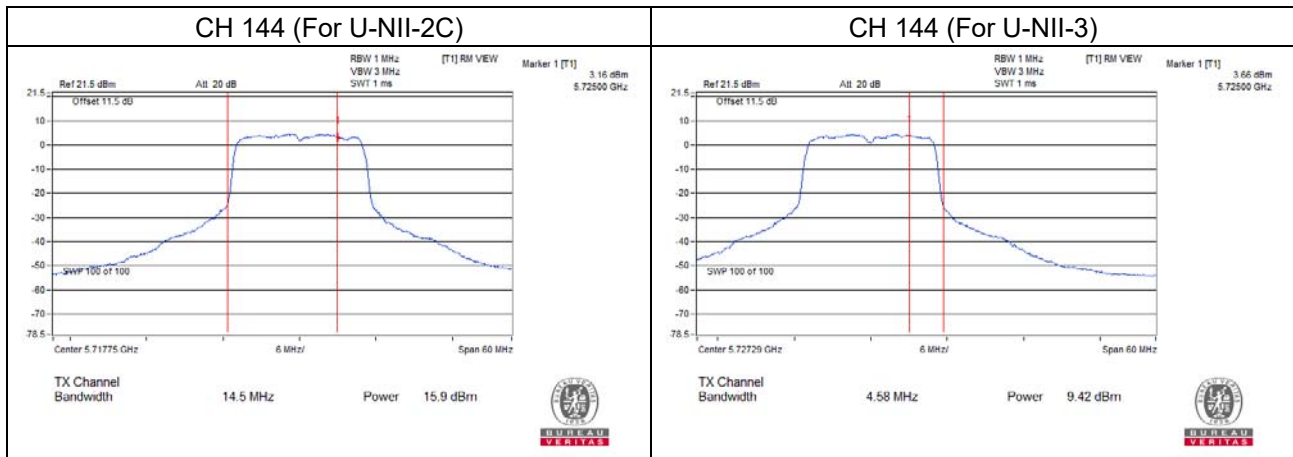
Straddle channel power plots:

802.11a

Chain 0

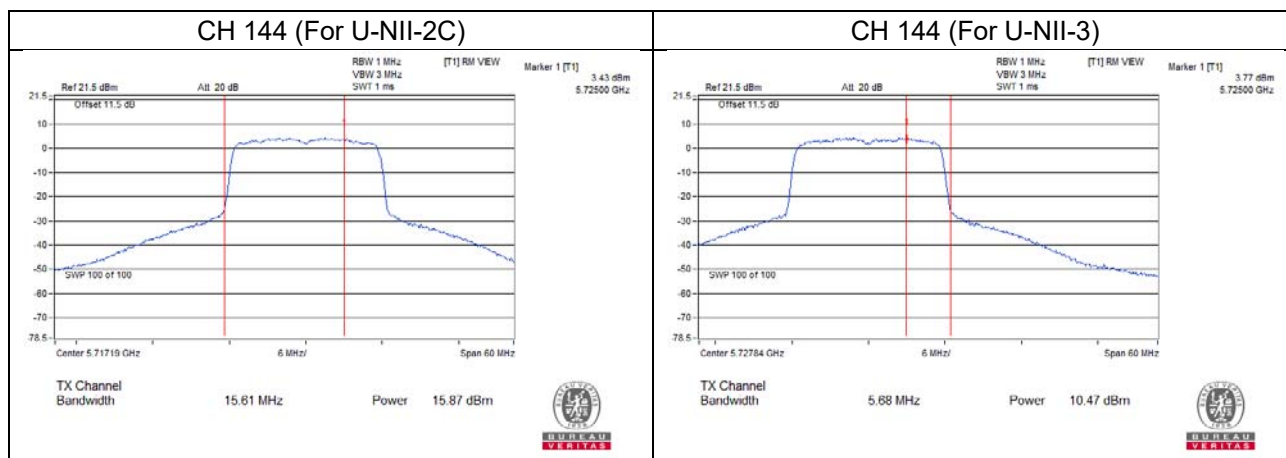


Chain 1

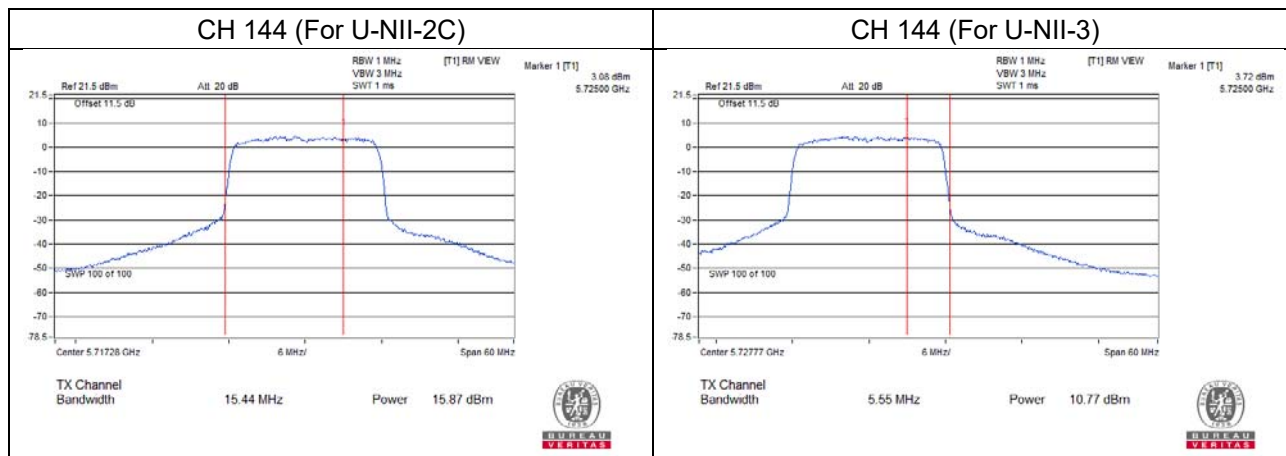


802.11ax (HE20)

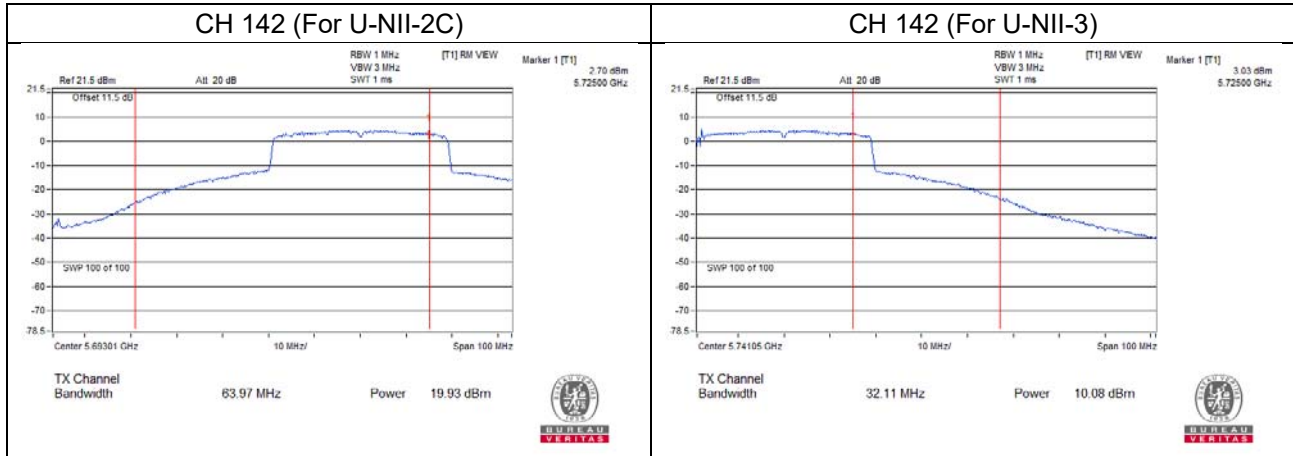
Chain 0



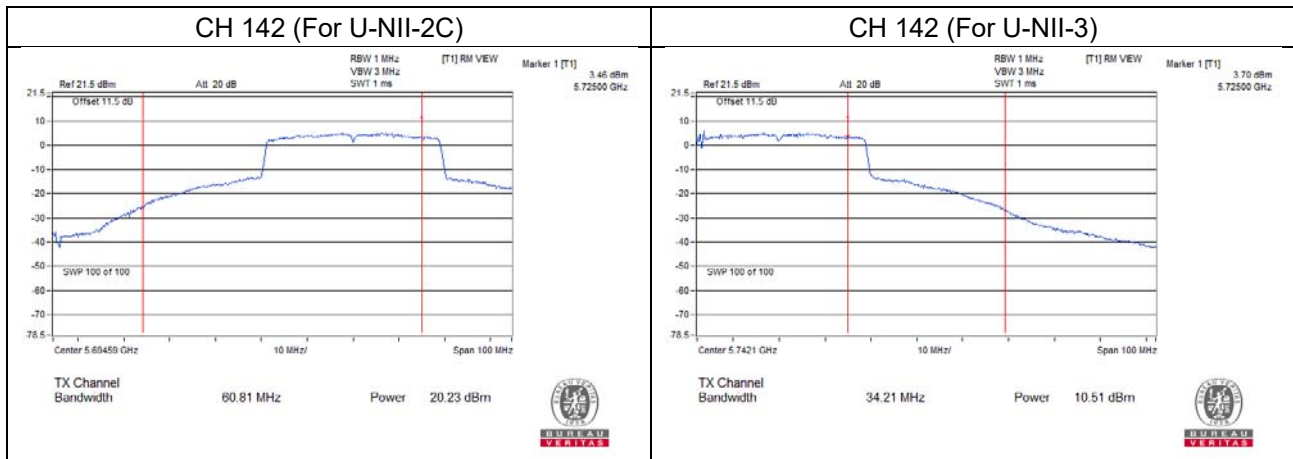
Chain 1



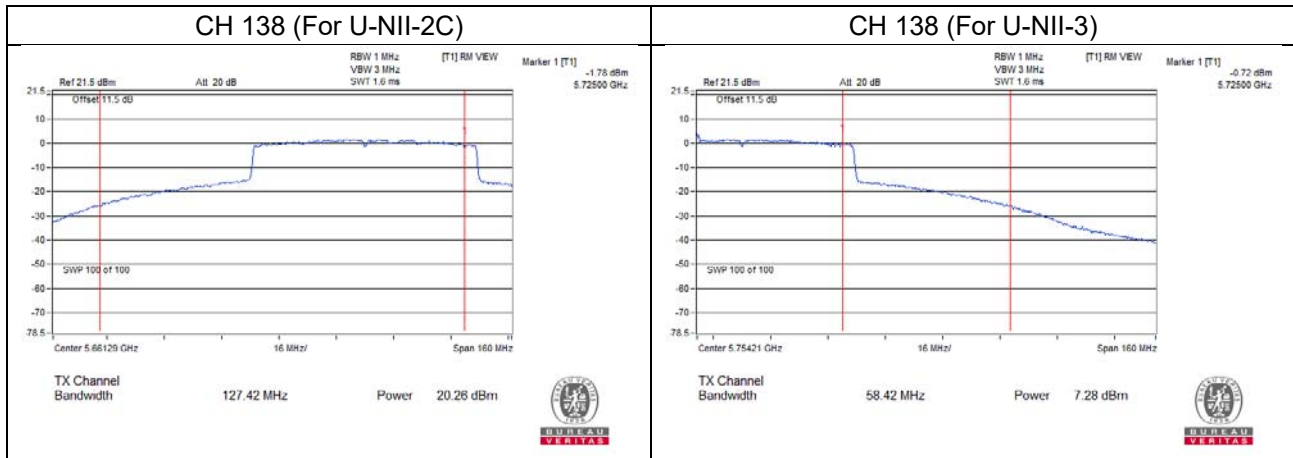
802.11ax (HE40)
Chain 0



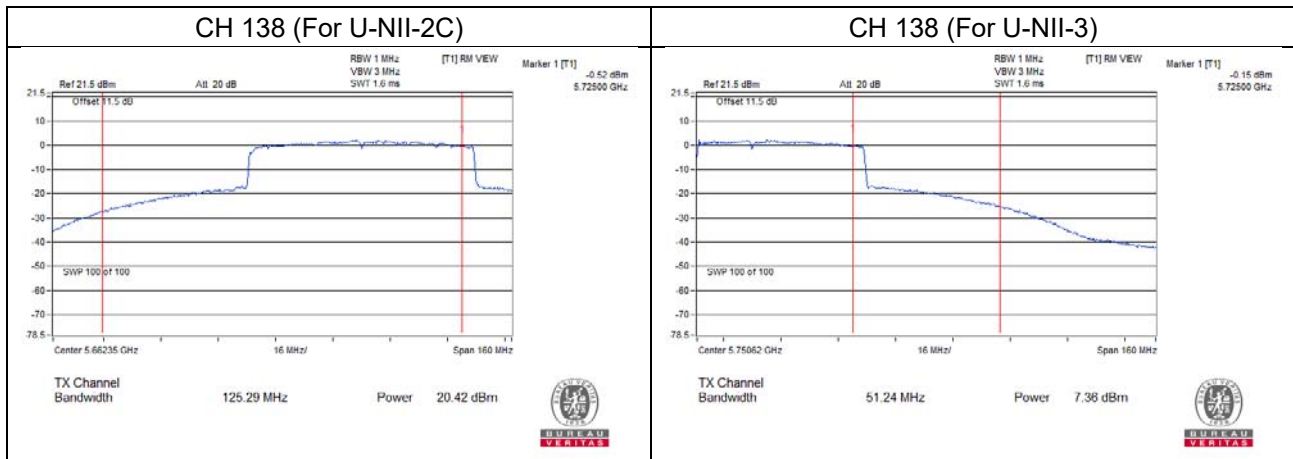
Chain 1



802.11ax (HE80)
Chain 0



Chain 1



26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.92	18.93
40	5200	18.92	18.94
48	5240	19.25	18.90
52	5260	18.98	19.02
60	5300	18.99	18.96
64	5320	19.04	18.98
100	5500	19.72	21.08
116	5580	20.72	19.11
140	5700	19.90	19.03
144	5720 (For U-NII-2C)	15.30	14.50
144	5720 (For U-NII-3)	4.56	4.58

802.11ax (HE20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	20.92	21.07
40	5200	20.94	20.66
48	5240	20.79	20.94
52	5260	21.00	20.98
60	5300	21.00	20.76
64	5320	20.78	20.79
100	5500	21.45	21.80
116	5580	22.17	21.60
140	5700	21.56	21.13
144	5720 (For U-NII-2C)	15.61	15.44
144	5720 (For U-NII-3)	5.68	5.55

802.11ax (HE40)

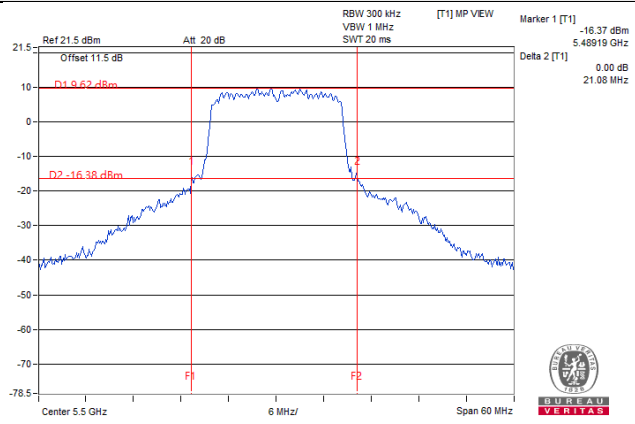
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	41.66	41.46
46	5230	41.61	41.47
54	5270	41.54	41.67
62	5310	41.49	41.52
102	5510	41.66	41.98
110	5550	96.44	91.42
134	5670	90.39	71.13
142	5710 (For U-NII-2C)	63.97	60.81
142	5710 (For U-NII-3)	32.11	34.21

802.11ax (HE80)

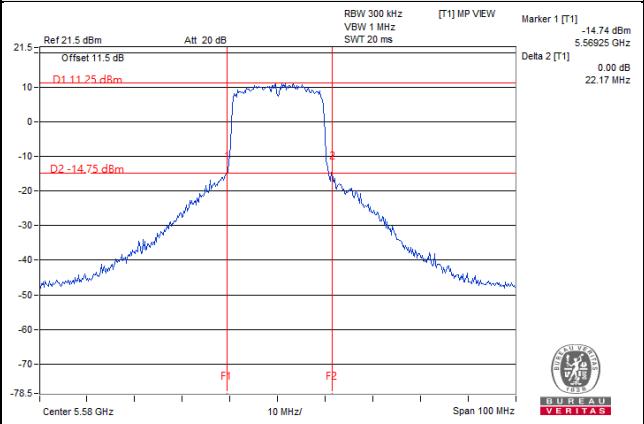
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	82.79	82.9
58	5290	82.51	82.76
106	5530	83.32	83.18
138	5690 (For U-NII-2C)	127.42	125.29
138	5690 (For U-NII-3)	58.42	51.24

Spectrum Plot of Worst Value

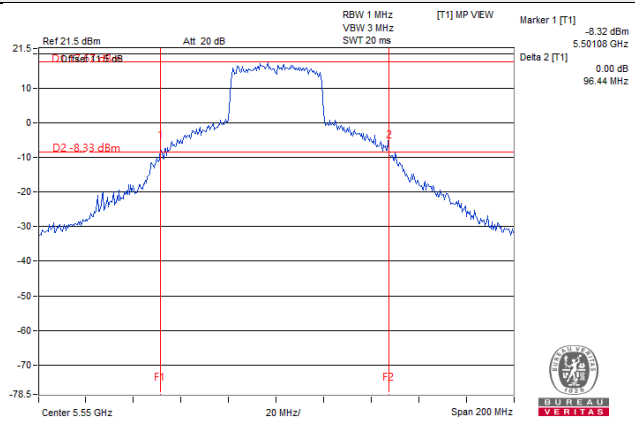
802.11a



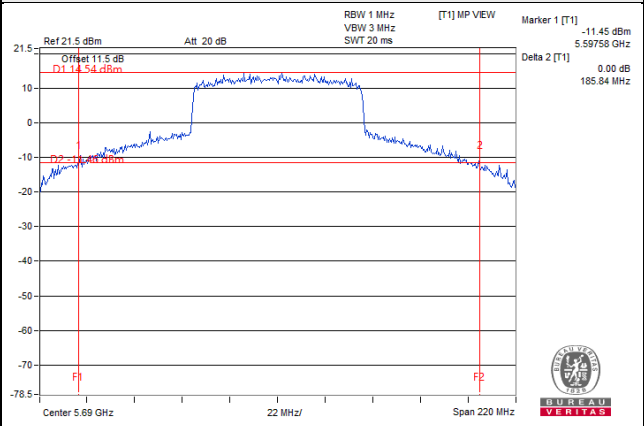
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



EUT Maximum Conducted Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	40.167	16.04
5470~5725	88.066	19.45

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	40.354	16.06
5470~5725	93.615	19.71

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	39.960	16.02
5470~5725	237.482	23.76

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	37.317	15.72
5470~5725	213.847	23.30

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	40.075	16.03
5470~5725	94.336	19.75

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	40.307	16.05
5470~5725	241.341	23.83

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	37.317	15.72
5470~5725	216.323	23.35

Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	19.888	12.99
5470~5725	93.615	19.71

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	20.028	13.02
5470~5725	119.023	20.76

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.498	12.67
5470~5725	106.440	20.27

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	20.085	13.03
5470~5725	94.336	19.75

802.11ax (HE40)

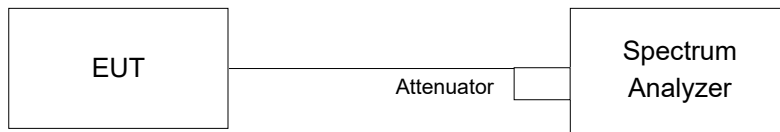
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	20.201	13.05
5470~5725	120.957	20.83

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.703	12.72
5470~5725	107.425	20.31

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.44
40	5200	16.44	16.44
48	5240	16.44	16.44
52	5260	16.44	16.44
60	5300	16.44	16.44
64	5320	16.44	16.44
100	5500	16.44	16.32
116	5580	16.44	16.32
140	5700	16.44	16.32
144	5720 (For U-NII-2C)	13.28	13.16
144	5720 (For U-NII-3)	3.16	3.16
149	5745	29.16	24.36
157	5785	30.78	24.72
165	5825	32.88	29.76

802.11ax (HE20)

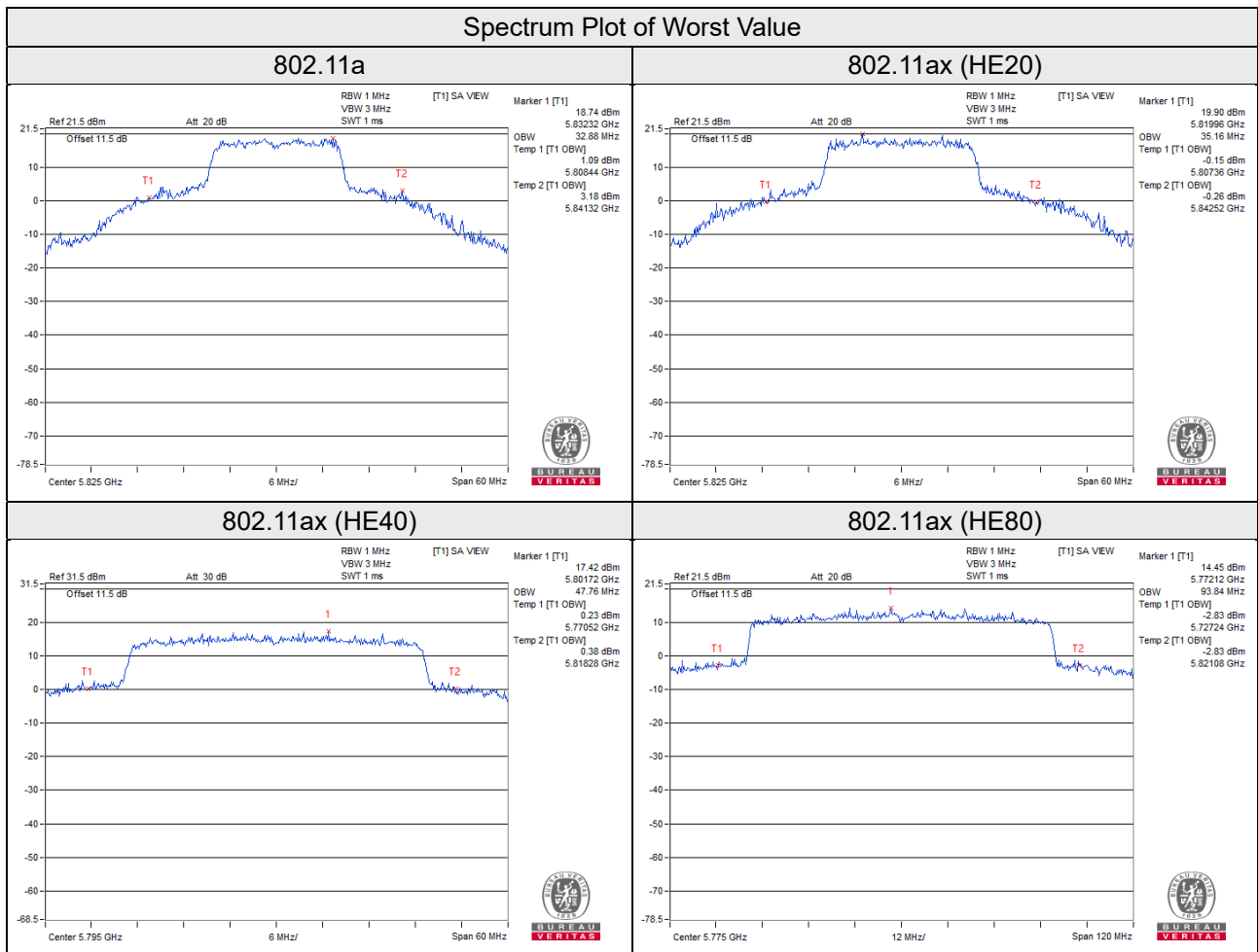
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.84	18.84
40	5200	19.08	18.84
48	5240	18.84	18.84
52	5260	18.96	18.84
60	5300	18.84	18.84
64	5320	18.96	18.84
100	5500	18.96	18.96
116	5580	19.08	18.96
140	5700	18.84	18.96
144	5720 (For U-NII-2C)	14.48	14.48
144	5720 (For U-NII-3)	4.48	4.48
149	5745	28.44	22.92
157	5785	31.20	24.84
165	5825	35.16	31.56

802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.80	37.80
46	5230	37.92	37.80
54	5270	37.92	37.80
62	5310	37.92	37.80
102	5510	37.80	37.92
110	5550	42.84	39.72
134	5670	38.76	38.40
142	5710 (For U-NII-2C)	37.08	35.04
142	5710 (For U-NII-3)	6.36	4.68
151	5755	43.56	38.88
159	5795	47.76	43.56

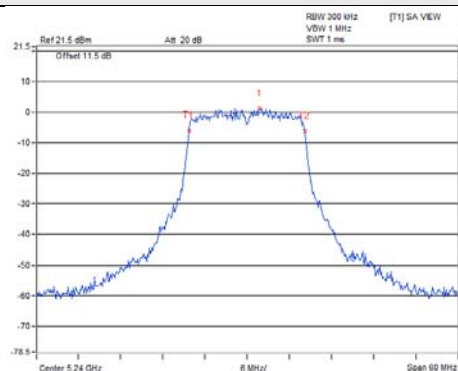
802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.04	77.04
58	5290	77.28	77.28
106	5530	77.28	77.28
138	5690 (For U-NII-2C)	78.44	74.36
138	5690 (For U-NII-3)	6.52	4.36
155	5775	93.84	83.3

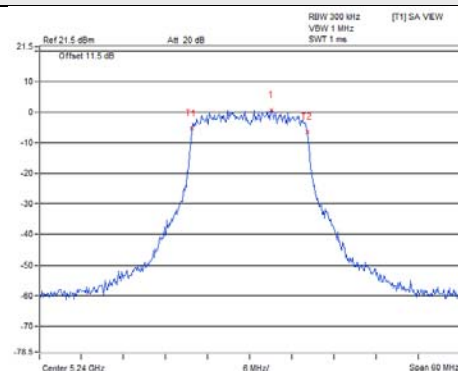


Spectrum Plot for near By DFS Band

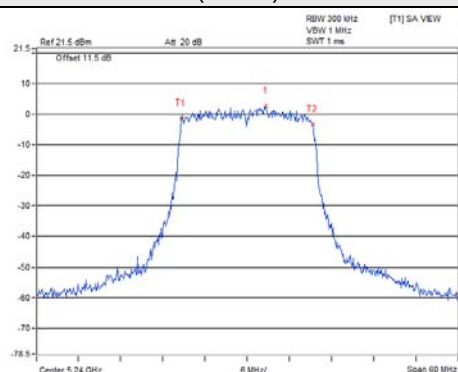
802.11a / Chain 0 / CH 48



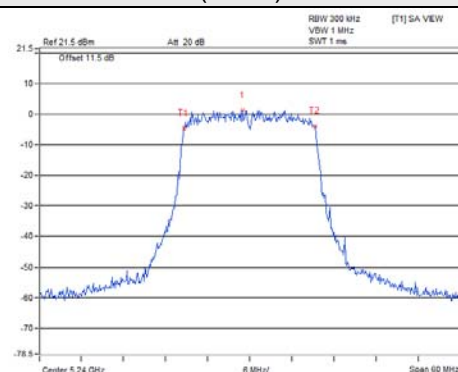
802.11a / Chain 1 / CH 48



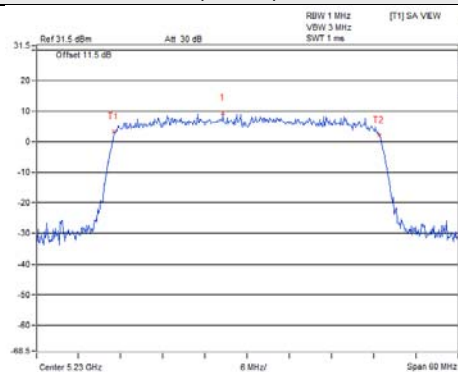
802.11ax (HE20) / Chain 0 / CH 48



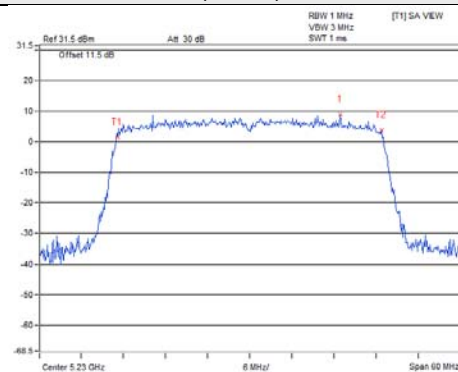
802.11ax (HE20) / Chain 1 / CH 48



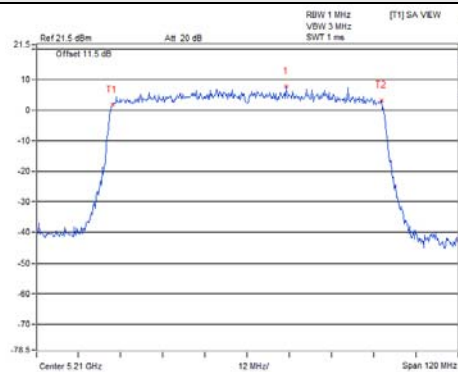
802.11ax (HE40) / Chain 0 / CH 46



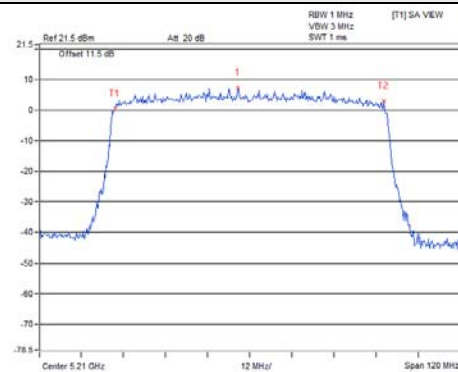
802.11ax (HE40) / Chain 1 / CH 46



802.11ax (HE80) / Chain 0 / CH 42

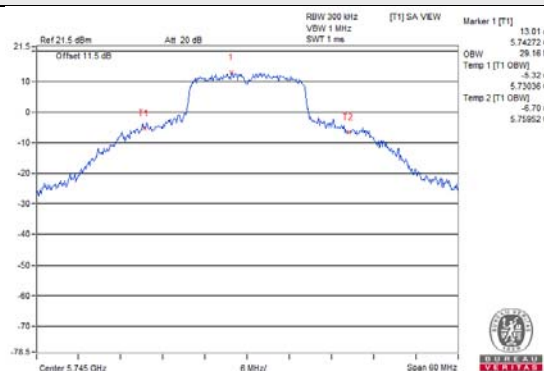


802.11ax (HE80) / Chain 1 / CH 42

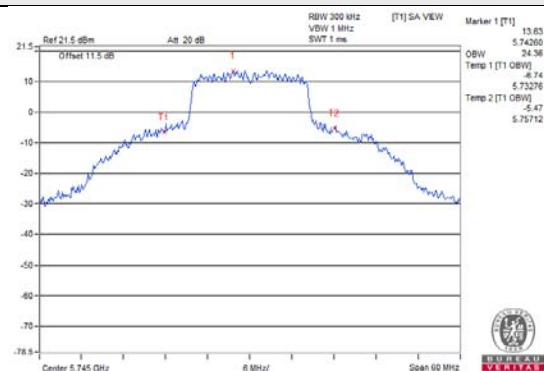


Spectrum Plot for near By DFS Band

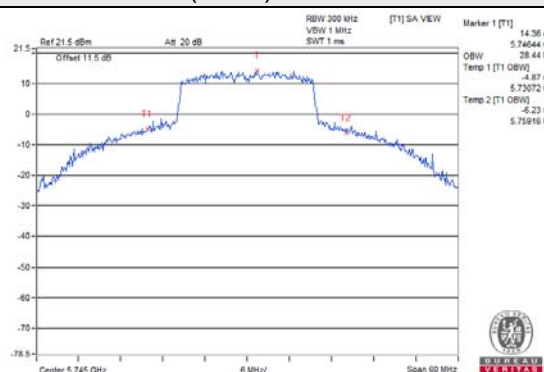
802.11a / Chain 0 / CH 149



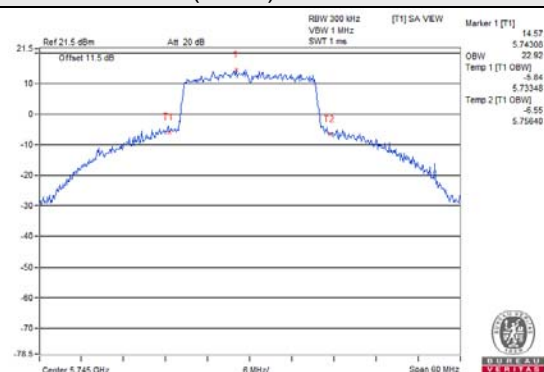
802.11a / Chain 1 / CH 149



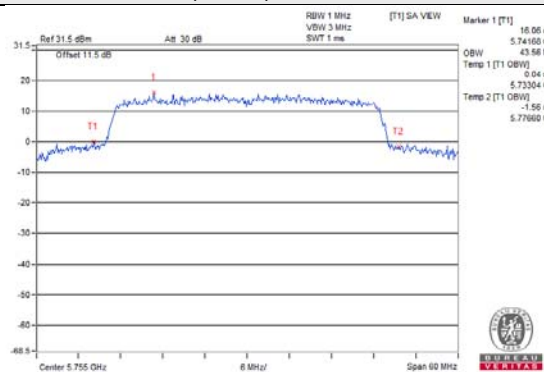
802.11ax (HE20) / Chain 0 / CH 149



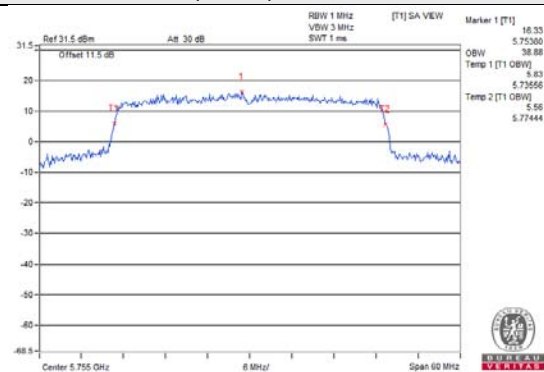
802.11ax (HE20) / Chain 1 / CH 149



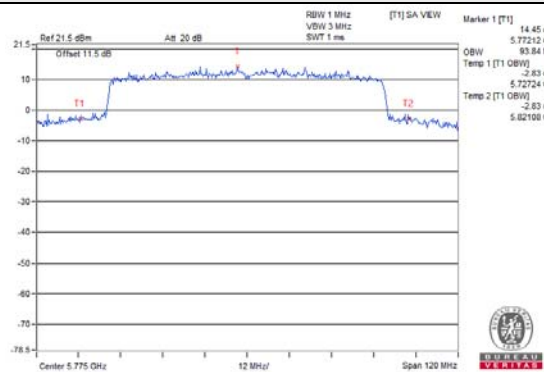
802.11ax (HE40) / Chain 0 / CH 151



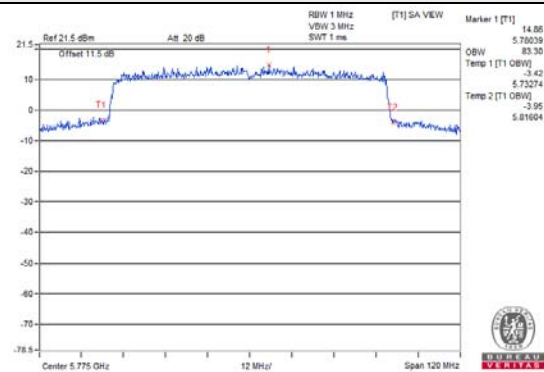
802.11ax (HE40) / Chain 1 / CH 151



802.11ax (HE80) / Chain 0 / CH 155



802.11ax (HE80) / Chain 1 / CH 155

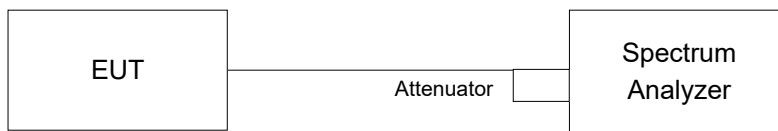


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

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

Duty cycle of test signal is $< 98\%$

Using method SA-2

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

For U-NII-3 band:

Duty cycle \geq 98%

- 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 (reducing) the measured 1) 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.

Duty cycle $<$ 98%

- 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 $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-2.81	-2.33	0.22	0.66	7.88	Pass
40	5200	-2.79	-2.03	0.22	0.83	7.88	Pass
48	5240	-2.93	-2.27	0.22	0.64	7.88	Pass
52	5260	1.87	1.05	0.22	4.70	7.88	Pass
60	5300	2.12	1.16	0.22	4.89	7.88	Pass
64	5320	2.09	1.13	0.22	4.86	7.88	Pass
100	5500	4.73	4.48	0.22	7.83	7.88	Pass
116	5580	4.80	4.44	0.22	7.85	7.88	Pass
140	5700	4.47	4.58	0.22	7.75	7.88	Pass
144	5720	4.60	4.69	0.22	7.87	7.88	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional Gain = $6.11\text{dBi} + 10\log(2) = 9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (9.12 - 6) = 7.88\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-2.87	-2.82	0.17	7.88	Pass
40	5200	-2.81	-2.08	0.58	7.88	Pass
48	5240	-3.22	-2.16	0.35	7.88	Pass
52	5260	1.50	0.34	3.97	7.88	Pass
60	5300	1.20	0.01	3.66	7.88	Pass
64	5320	1.14	-0.09	3.58	7.88	Pass
100	5500	4.22	4.71	7.48	7.88	Pass
116	5580	4.65	4.49	7.58	7.88	Pass
140	5700	4.16	4.60	7.40	7.88	Pass
144	5720	4.36	4.72	7.55	7.88	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional Gain = $6.11\text{dBi} + 10\log(2) = 9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (9.12 - 6) = 7.88\text{dBm}$.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
38	5190	-2.72	-2.12	0.60	7.88	Pass
46	5230	-3.10	-2.19	0.39	7.88	Pass
54	5270	-2.02	-3.11	0.48	7.88	Pass
62	5310	-2.36	-3.50	0.12	7.88	Pass
102	5510	0.64	0.90	3.78	7.88	Pass
110	5550	4.69	4.86	7.79	7.88	Pass
134	5670	3.97	3.84	6.92	7.88	Pass
142	5710	4.41	4.85	7.65	7.88	Pass

Note:

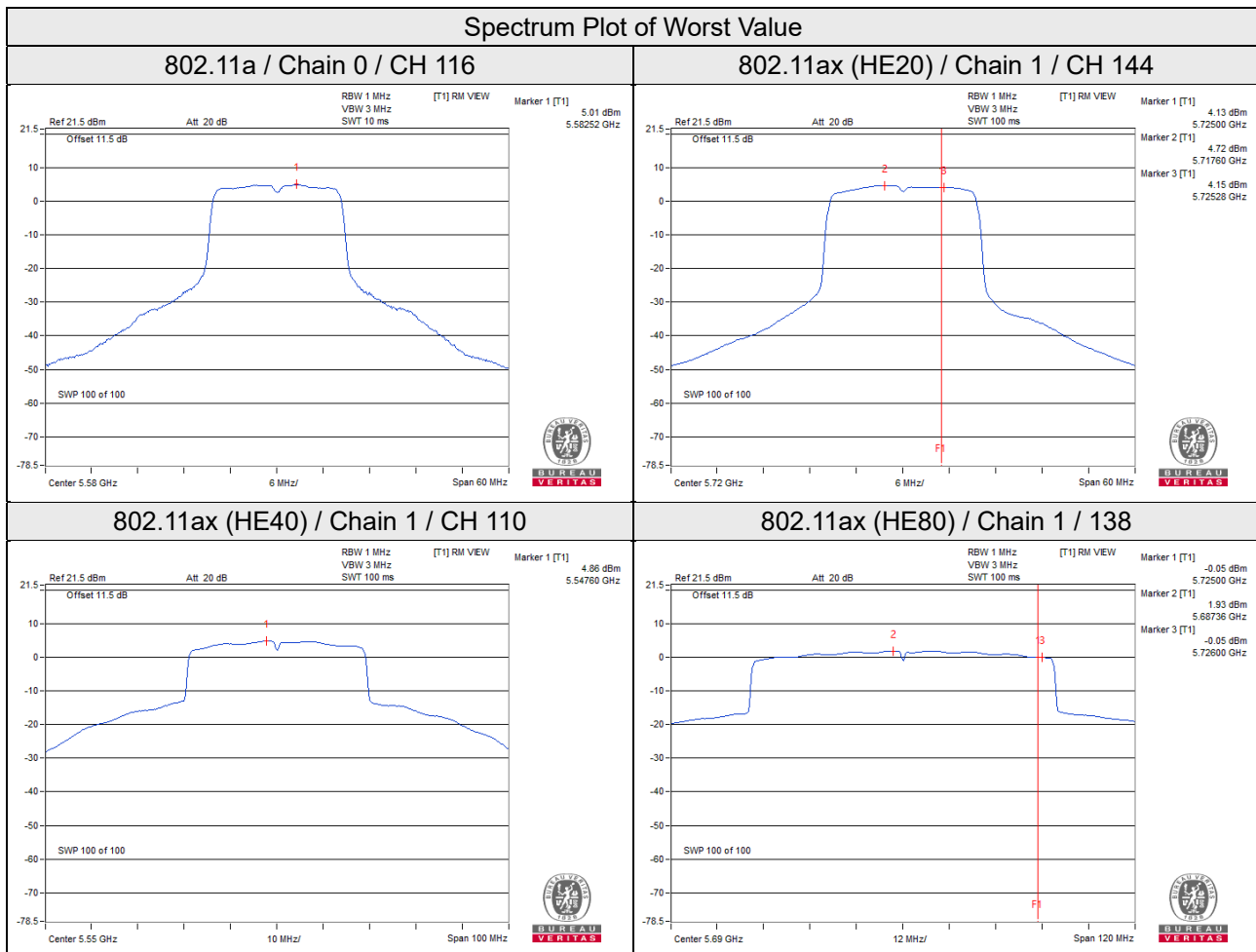
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional Gain = $6.11\text{dBi} + 10\log(2) = 9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (9.12 - 6) = 7.88\text{dBm}$.

802.11ax (HE80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
42	5210	-4.74	-5.44	-2.07	7.88	Pass
58	5290	-5.55	-6.72	-3.09	7.88	Pass
106	5530	-2.53	-2.42	0.54	7.88	Pass
138	5690	1.64	1.89	4.78	7.88	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional Gain = $6.11\text{dBi} + 10\log(2) = 9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (9.12 - 6) = 7.88\text{dBm}$.



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-4.41	-2.19	3.01	0.22	1.04	26.88	Pass
	149	5745	0.48	2.70	3.01	0.22	5.93	26.88	Pass
	157	5785	0.82	3.04	3.01	0.22	6.27	26.88	Pass
	165	5825	1.21	3.43	3.01	0.22	6.66	26.88	Pass
1	144	5720	-4.54	-2.32	3.01	0.22	0.91	26.88	Pass
	149	5745	0.69	2.91	3.01	0.22	6.14	26.88	Pass
	157	5785	0.45	2.67	3.01	0.22	5.90	26.88	Pass
	165	5825	1.12	3.34	3.01	0.22	6.57	26.88	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $6.11\text{dBi} + 10\log(2)=9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(9.12-6) = 26.88\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144	5720	-5.12	-2.9	3.01	0.11	26.88	Pass
	149	5745	-1.14	1.08	3.01	4.09	26.88	Pass
	157	5785	-0.77	1.45	3.01	4.46	26.88	Pass
	165	5825	-0.57	1.65	3.01	4.66	26.88	Pass
1	144	5720	-5.09	-2.87	3.01	0.14	26.88	Pass
	149	5745	-0.79	1.43	3.01	4.44	26.88	Pass
	157	5785	-0.77	1.45	3.01	4.46	26.88	Pass
	165	5825	-0.25	1.97	3.01	4.98	26.88	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $6.11\text{dBi} + 10\log(2)=9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(9.12-6) = 26.88\text{dBm}$.

802.11ax (HE40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	142	5710	-6.06	-3.84	3.01	-0.83	26.88	Pass
	151	5755	-4.33	-2.11	3.01	0.90	26.88	Pass
	159	5795	-3.93	-1.71	3.01	1.30	26.88	Pass
1	142	5710	-5.85	-3.63	3.01	-0.62	26.88	Pass
	151	5755	-4.26	-2.04	3.01	0.97	26.88	Pass
	159	5795	-3.58	-1.36	3.01	1.65	26.88	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $6.11\text{dBi} + 10\log(2)=9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(9.12-6) = 26.88\text{dBm}$.

802.11ax (HE80)

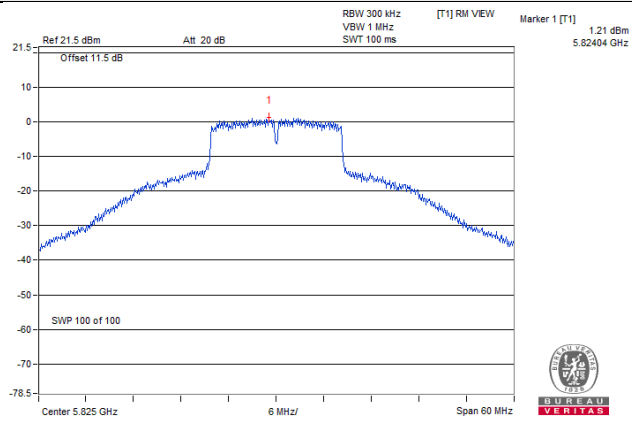
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	138	5690	-9.57	-7.35	3.01	-4.34	26.88	Pass
	155	5775	-7.03	-4.81	3.01	-1.80	26.88	Pass
1	138	5690	-9.32	-7.1	3.01	-4.09	26.88	Pass
	155	5775	-6.84	-4.62	3.01	-1.61	26.88	Pass

Note:

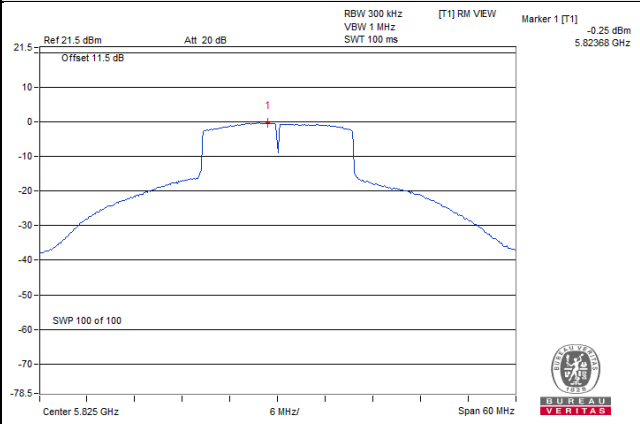
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $6.11\text{dBi} + 10\log(2)=9.12\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(9.12-6) = 26.88\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

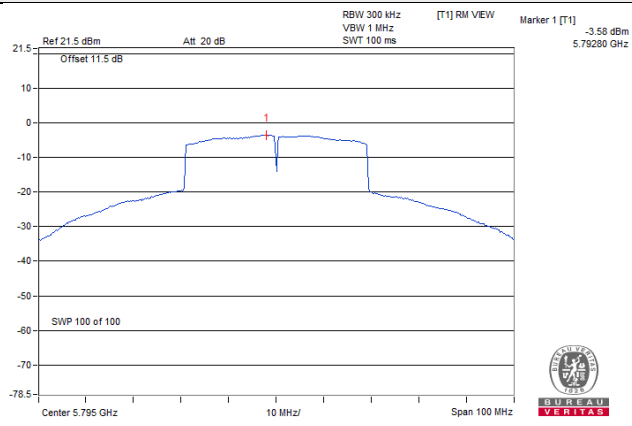
802.11a



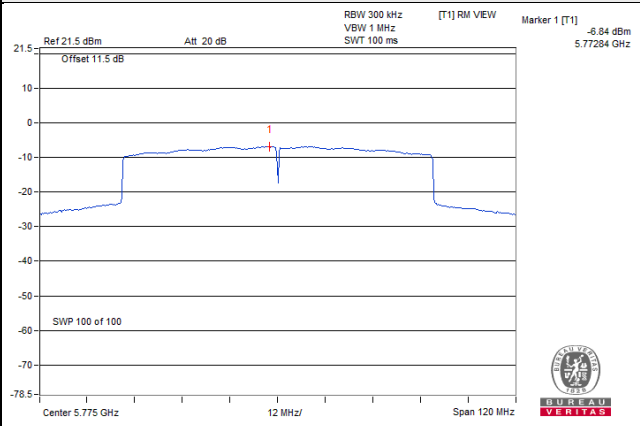
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

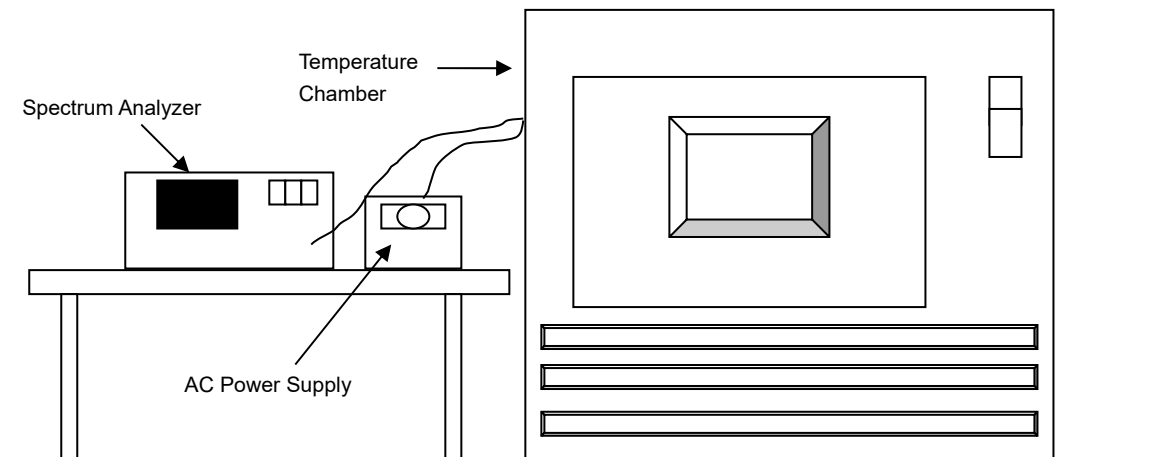


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Test Date: Dec. 11, 2020

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
Standard Temperature And Humidity Chamber GIANT FORCE	GTH-120-40-CP-AR	MAA1306-019	Sep. 09, 2020	Sep. 08, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
AC Power Supply Extech	CFW-105	E000603	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
85	120	5179.9849	PASS	5179.9803	PASS	5179.9849	PASS	5179.9816	PASS
80	120	5179.9779	PASS	5179.9812	PASS	5179.9774	PASS	5179.9806	PASS
70	120	5180.0111	PASS	5180.0131	PASS	5180.0105	PASS	5180.0091	PASS
60	120	5180.0032	PASS	5180.0011	PASS	5180.0041	PASS	5180.0027	PASS
50	120	5179.9953	PASS	5179.9959	PASS	5179.9982	PASS	5179.9983	PASS
40	120	5180.0081	PASS	5180.0093	PASS	5180.0086	PASS	5180.0121	PASS
30	120	5179.9861	PASS	5179.9883	PASS	5179.987	PASS	5179.9908	PASS
20	120	5179.986	PASS	5179.985	PASS	5179.9828	PASS	5179.9866	PASS
10	120	5180.0198	PASS	5180.0177	PASS	5180.0226	PASS	5180.0205	PASS
0	120	5179.9926	PASS	5179.9911	PASS	5179.9928	PASS	5179.9907	PASS
-10	120	5180.0166	PASS	5180.0136	PASS	5180.0162	PASS	5180.0128	PASS
-20	120	5179.9807	PASS	5179.9794	PASS	5179.9809	PASS	5179.9809	PASS

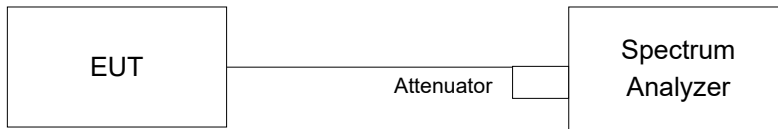
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9863	PASS	5179.9843	PASS	5179.9826	PASS	5179.9861	PASS
	120	5179.986	PASS	5179.985	PASS	5179.9828	PASS	5179.9866	PASS
	102	5179.987	PASS	5179.9851	PASS	5179.9833	PASS	5179.9864	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	2.93	3.16	0.5	Pass
149	5745	16.35	16.01	0.5	Pass
157	5785	16.35	15.78	0.5	Pass
165	5825	16.34	16.31	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	4.14	4.21	0.5	Pass
149	5745	18.58	17.49	0.5	Pass
157	5785	17.77	18.06	0.5	Pass
165	5825	18.33	18.02	0.5	Pass

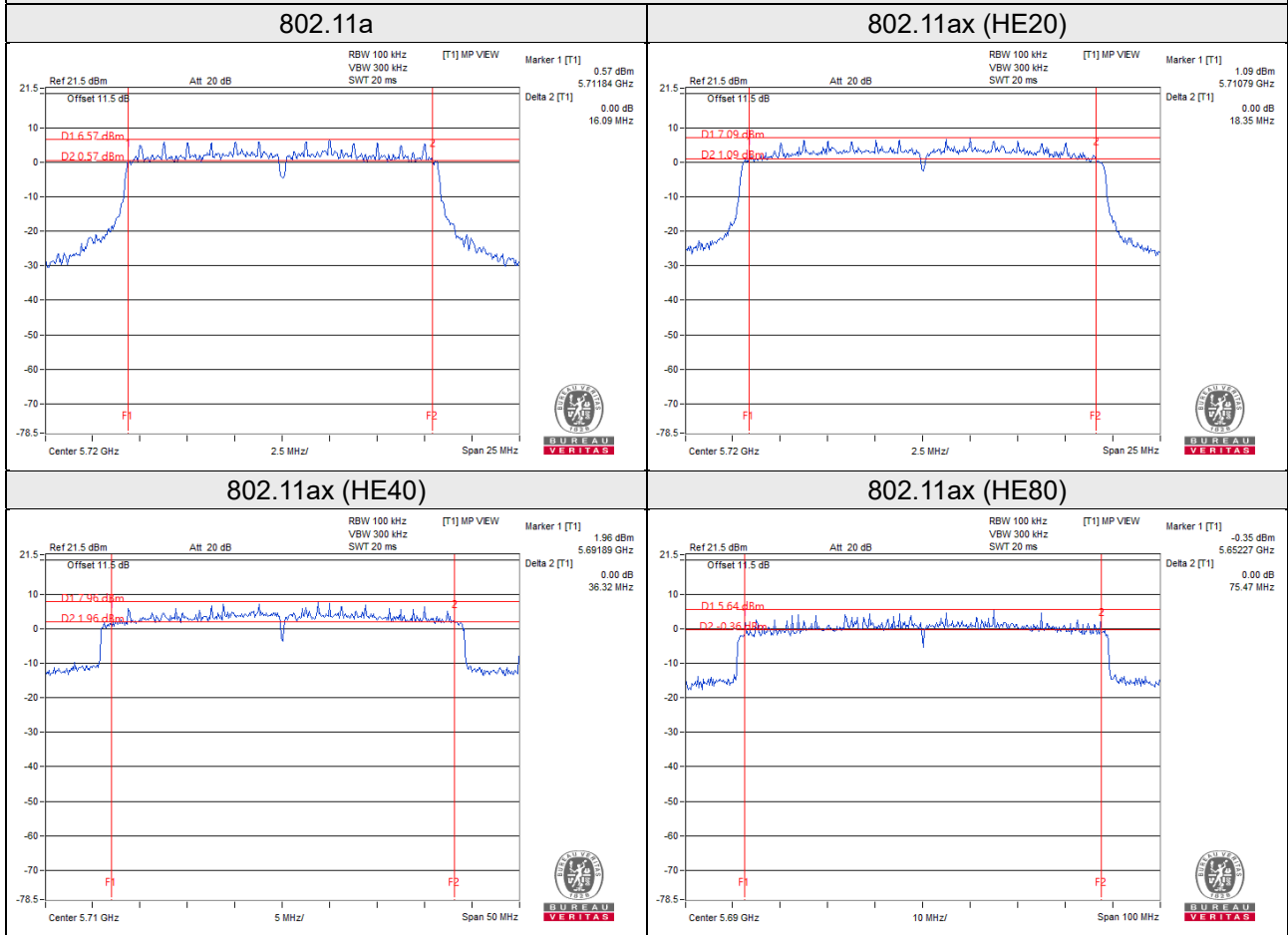
802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (For U-NII-3)	5710	3.59	3.21	0.5	Pass
151	5755	37.98	37.64	0.5	Pass
159	5795	37.03	37.81	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (For U-NII-3)	5690	3.65	2.74	0.5	Pass
155	5775	76.68	76.51	0.5	Pass

Spectrum Plot of Worst Value



Note:

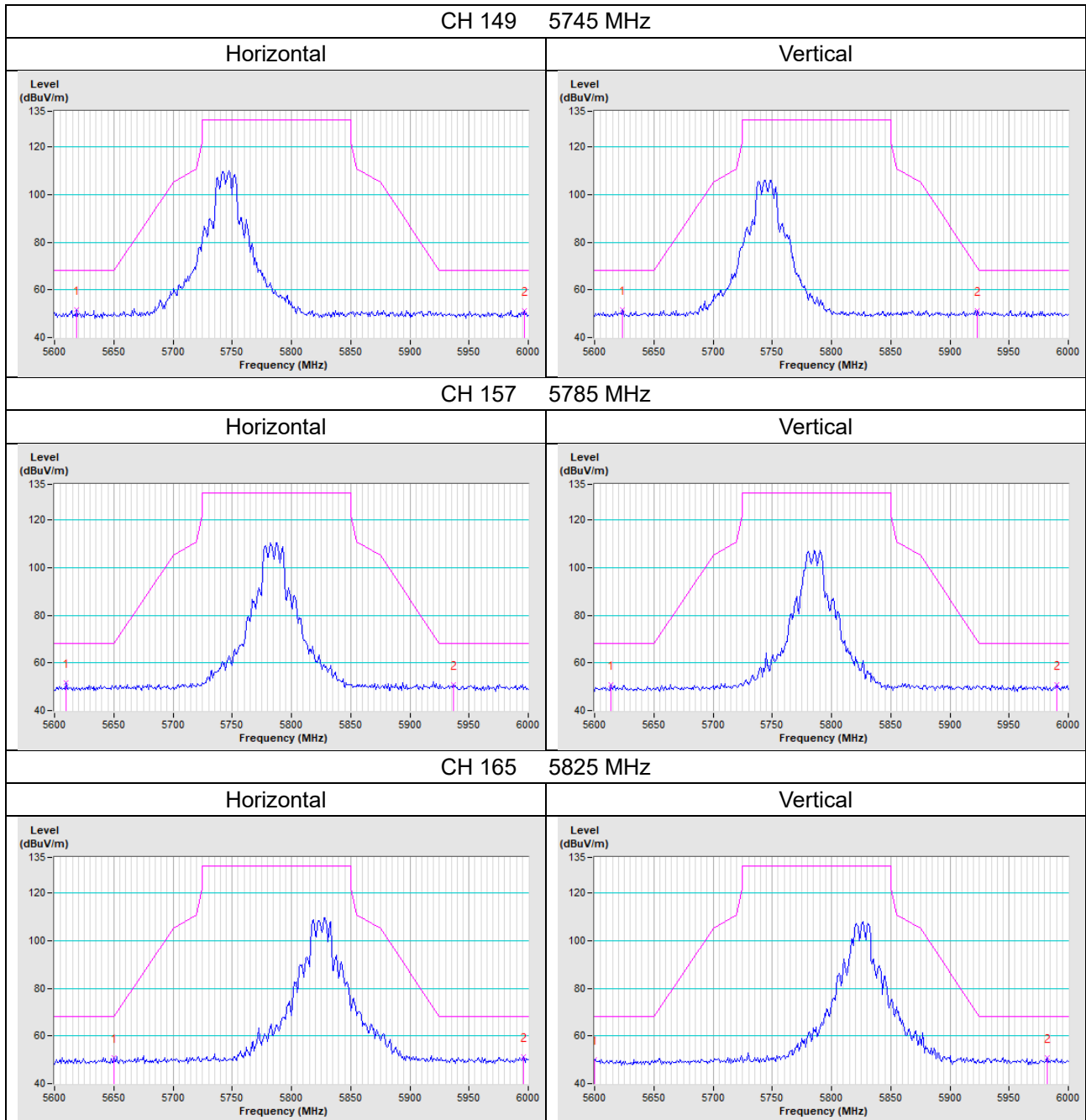
For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

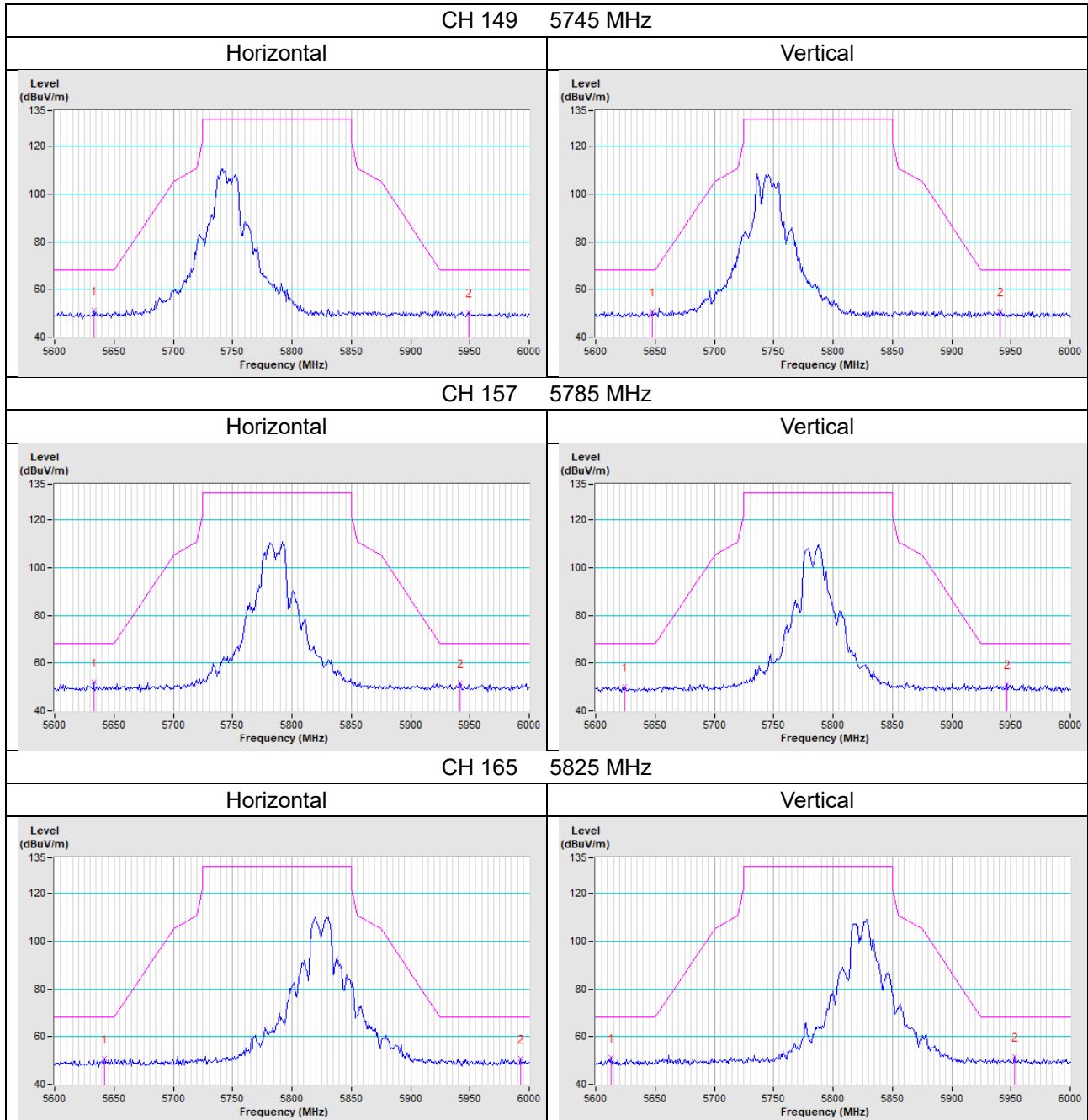
For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

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

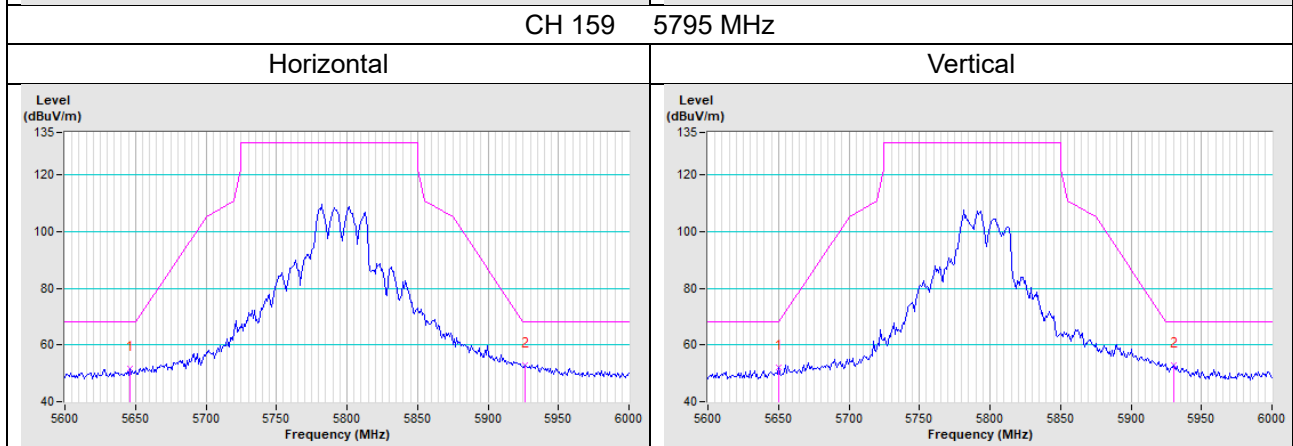
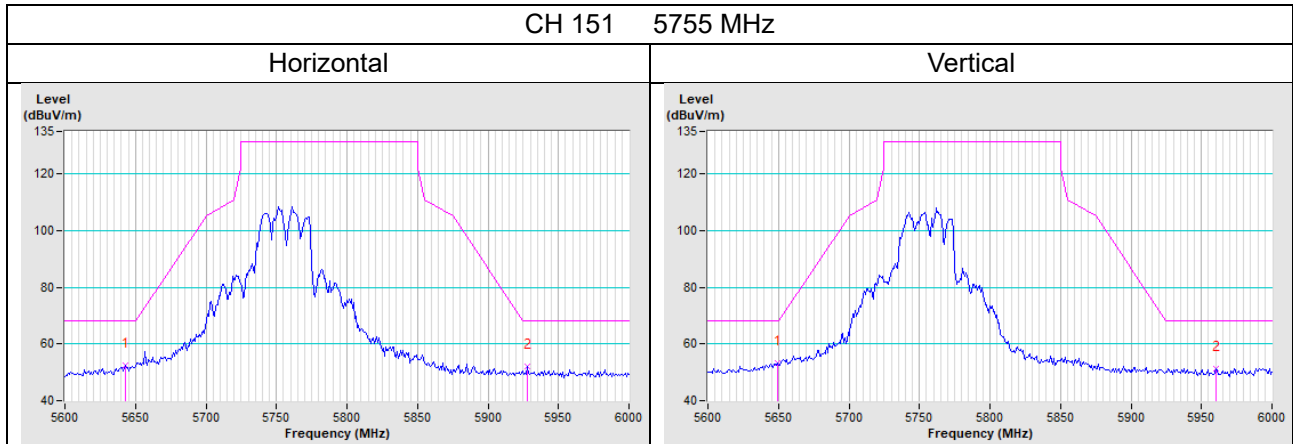
802.11a



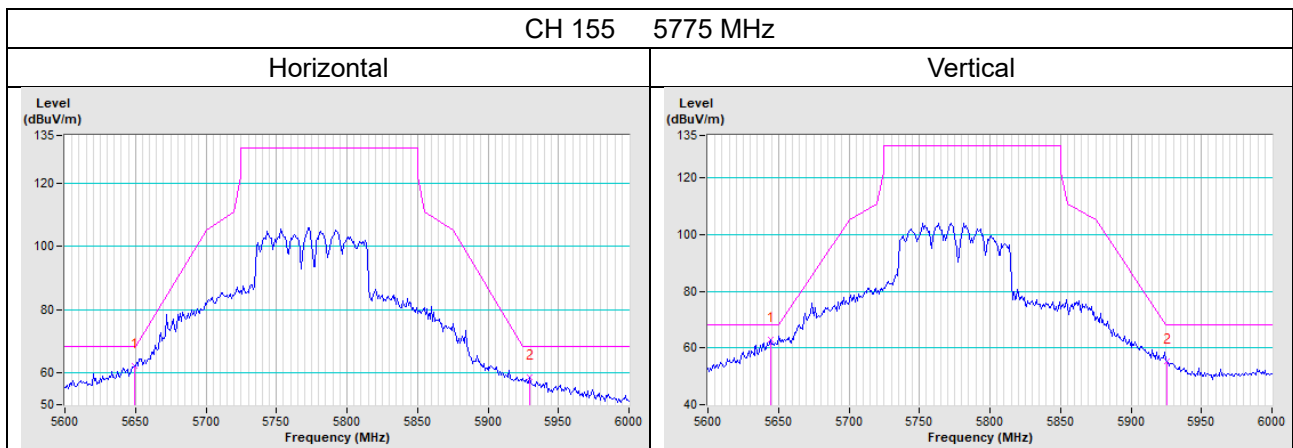
802.11ax (HE20)



802.11ax (HE40)

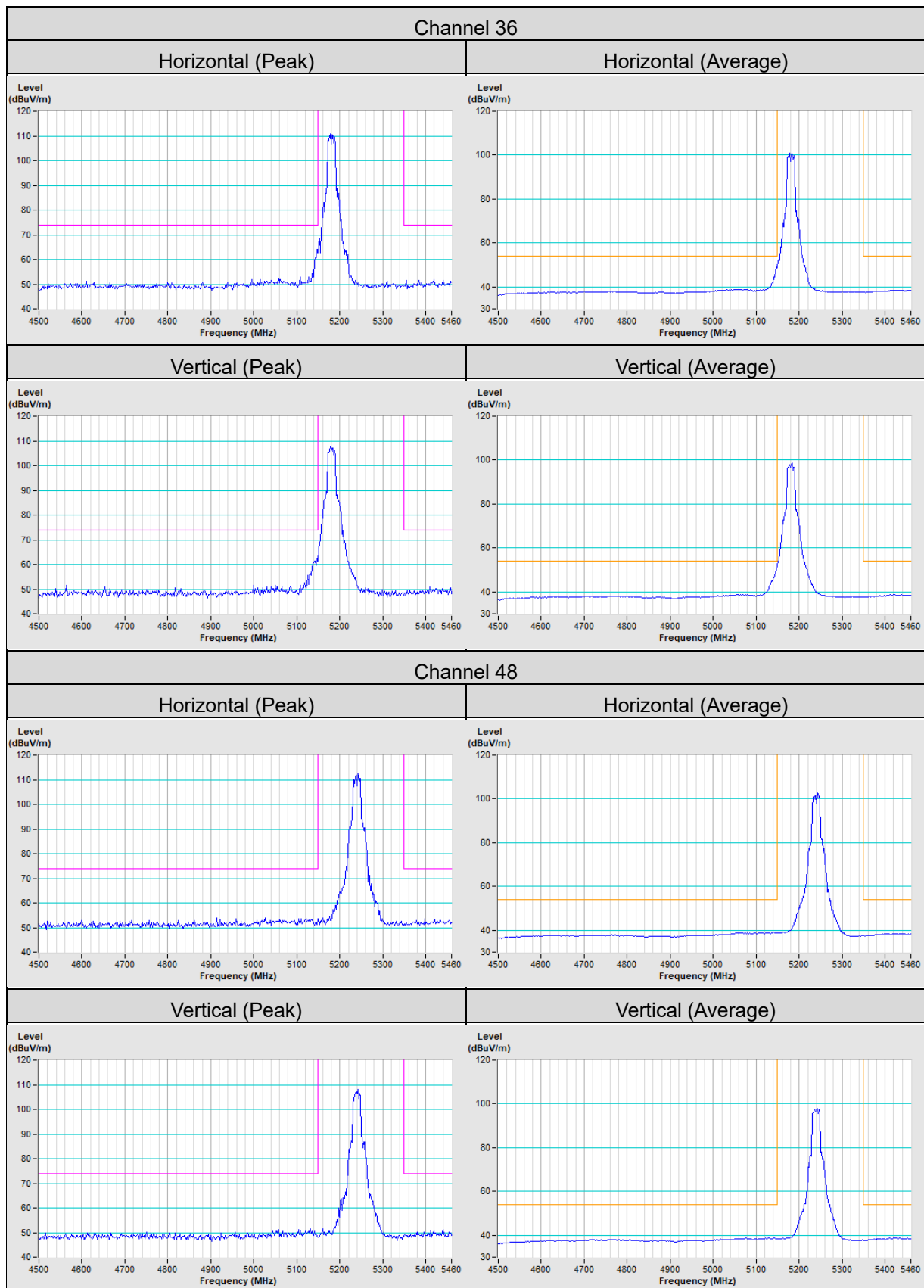


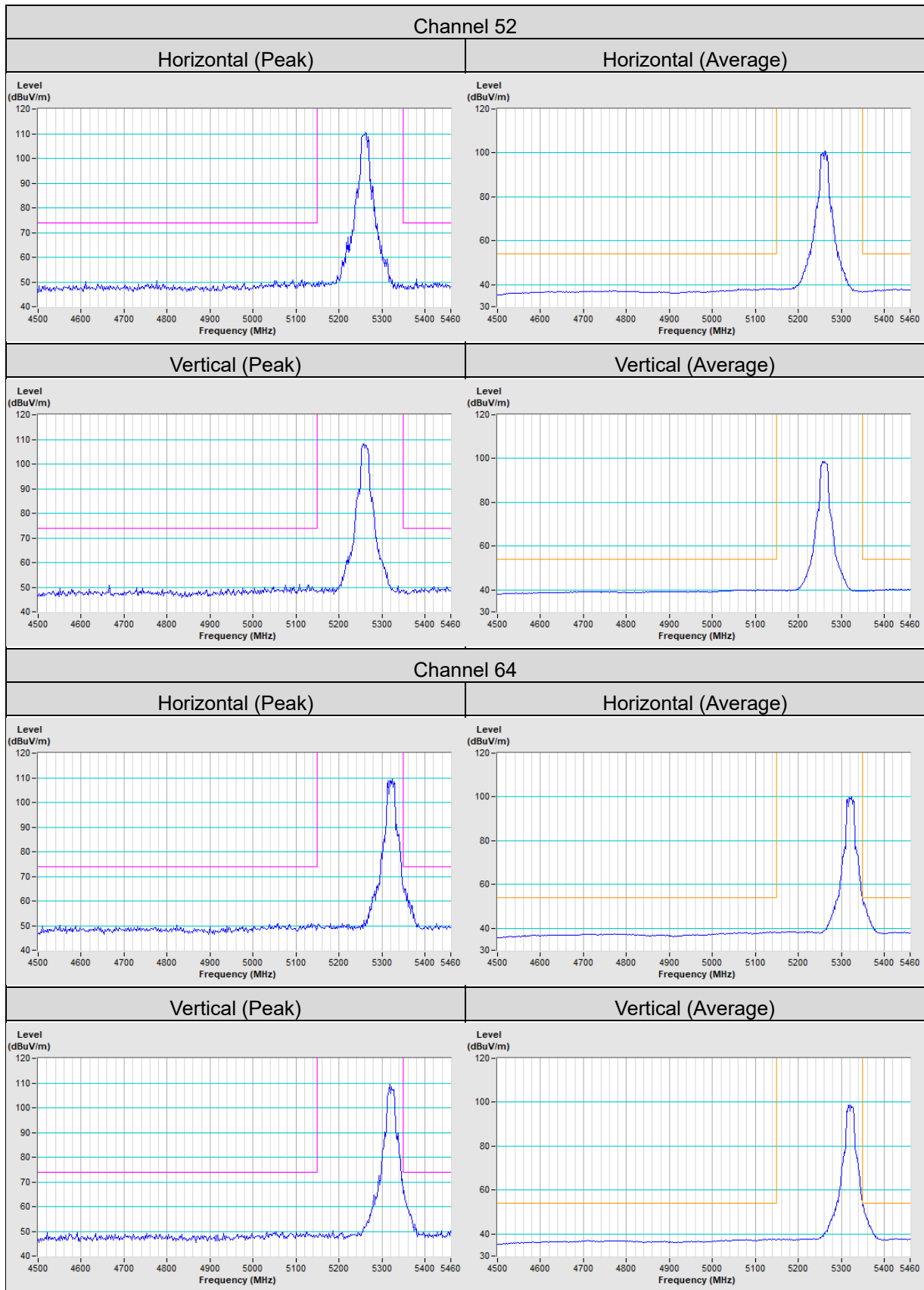
802.11ax (HE80)

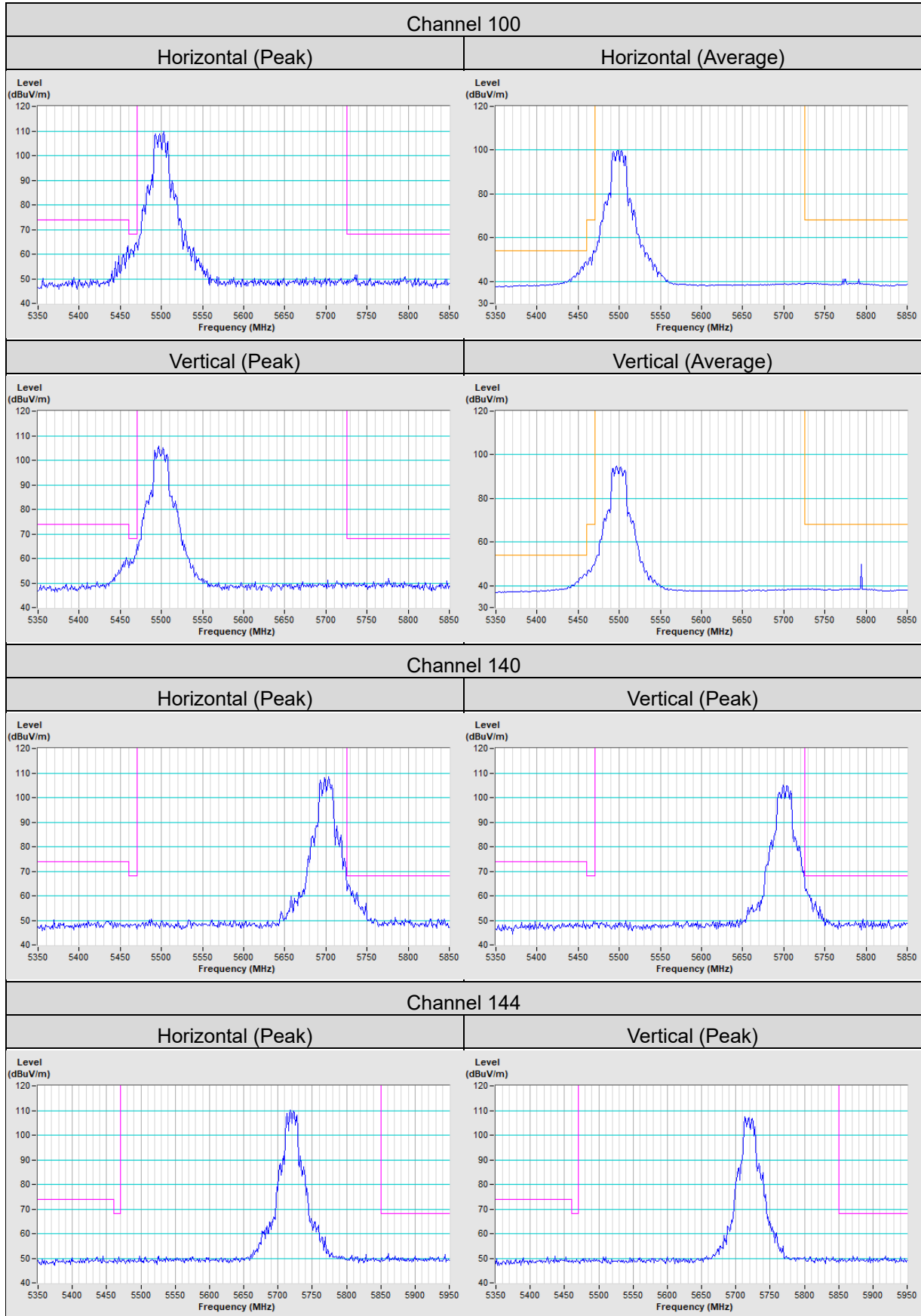


Annex B- Band Edge Measurement

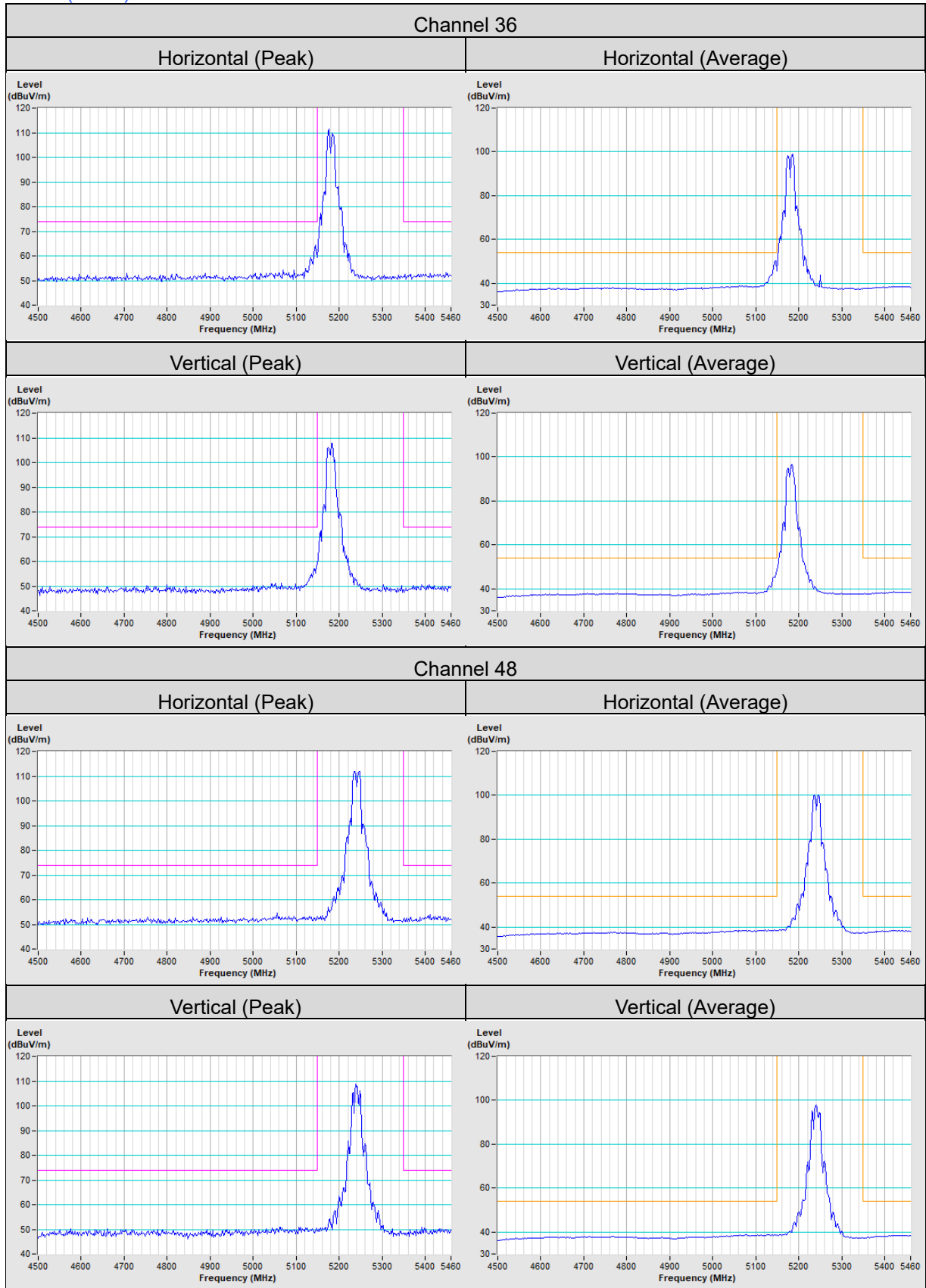
802.11a

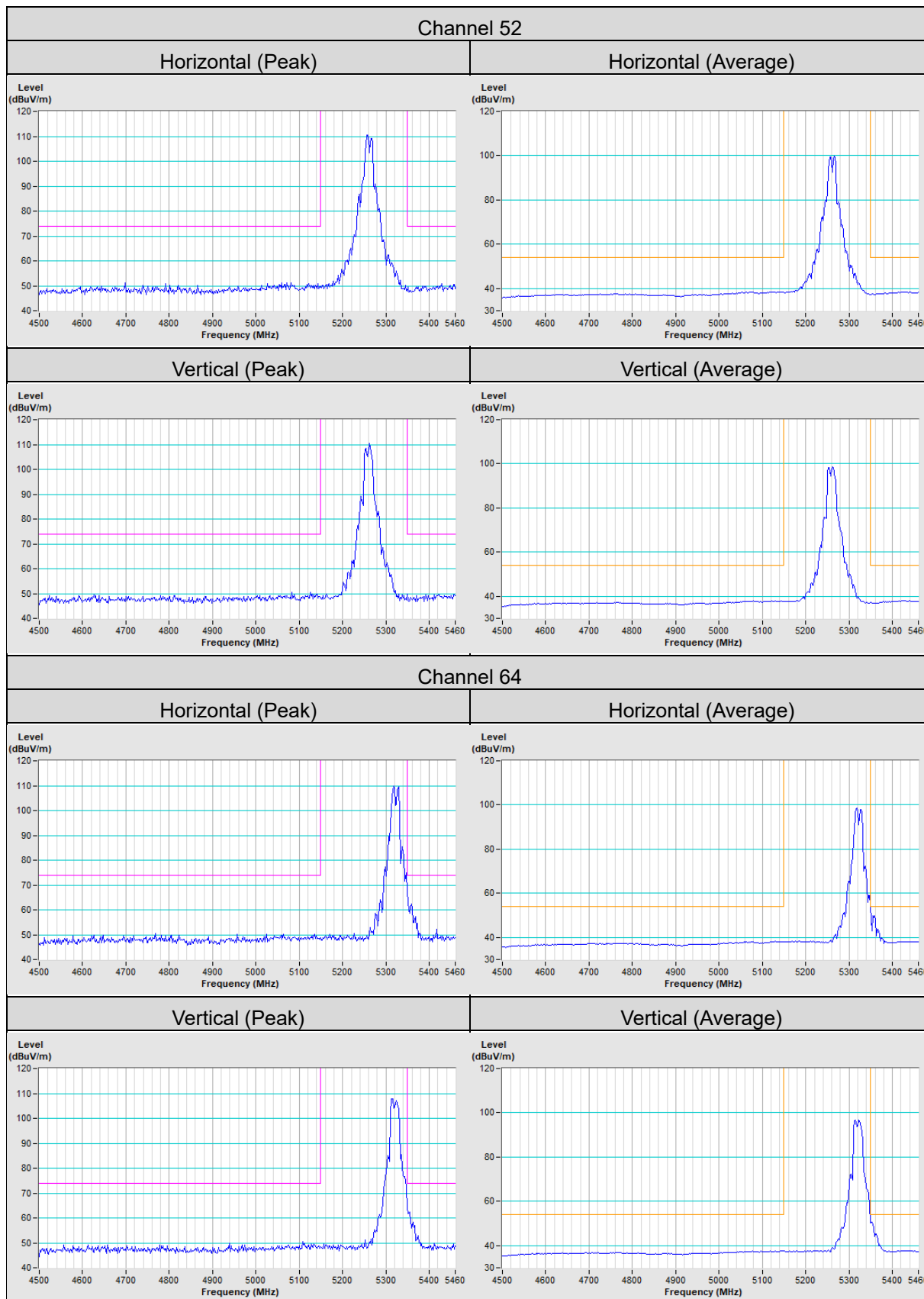


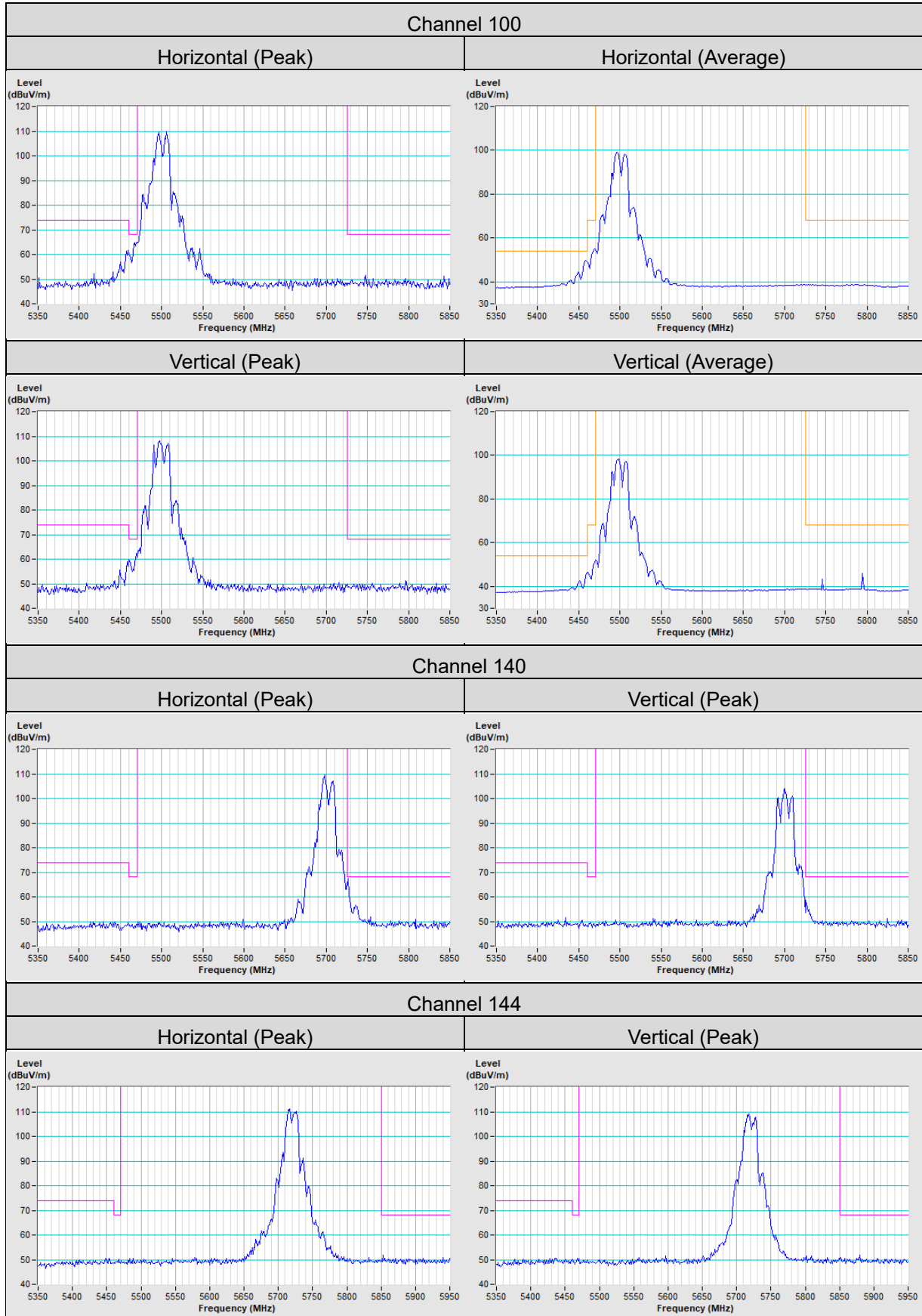




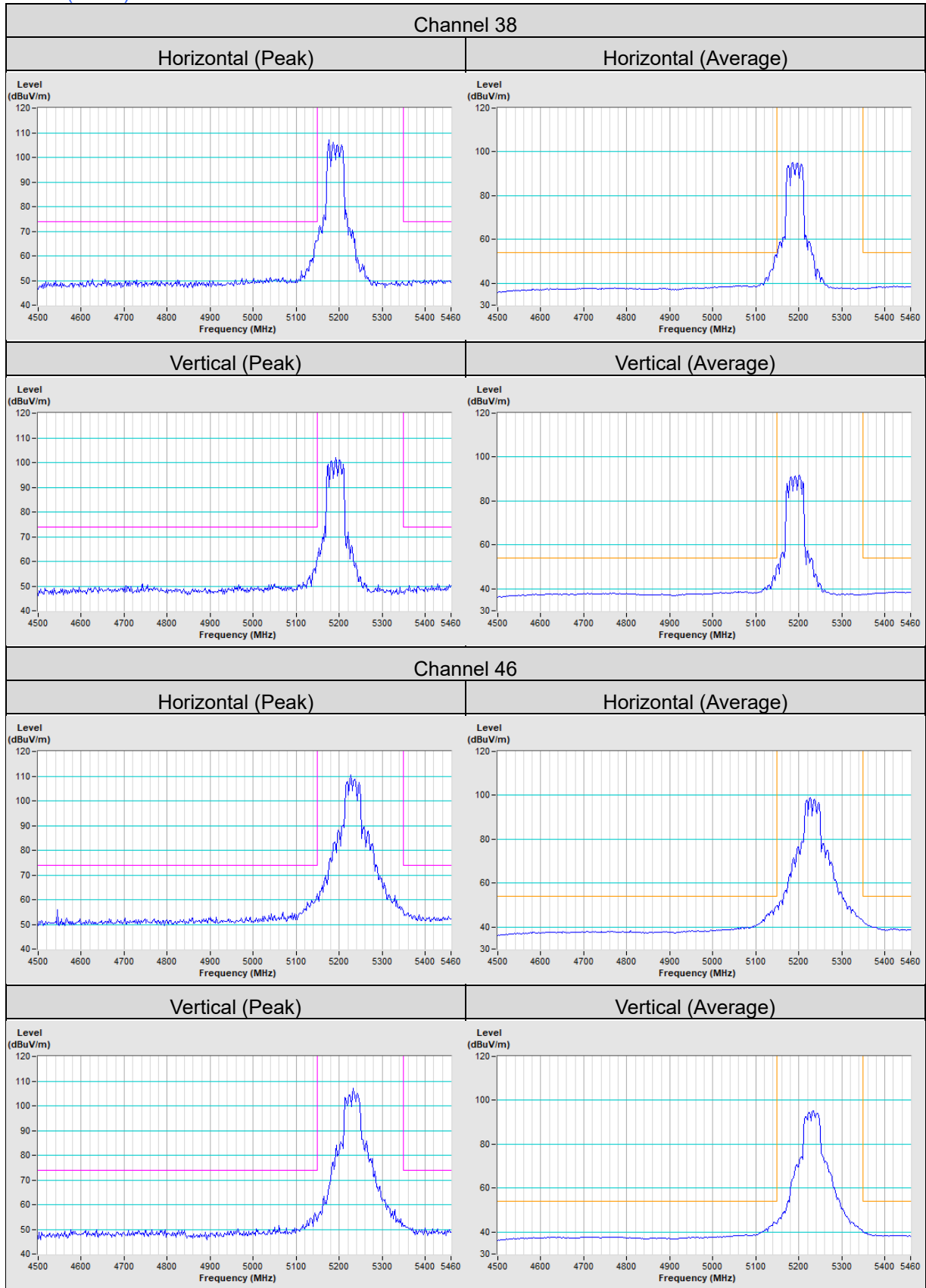
802.11ax (HE20)

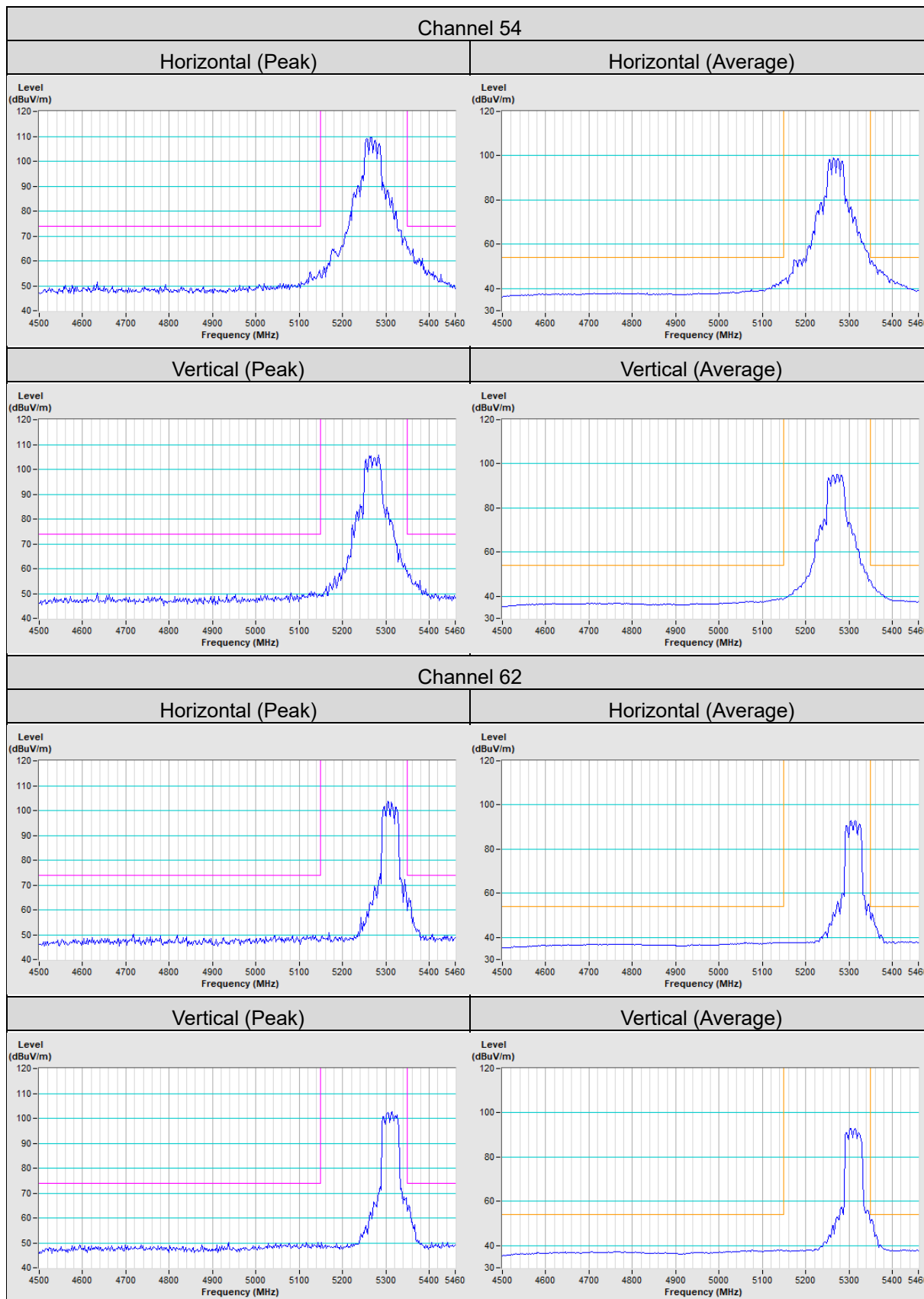


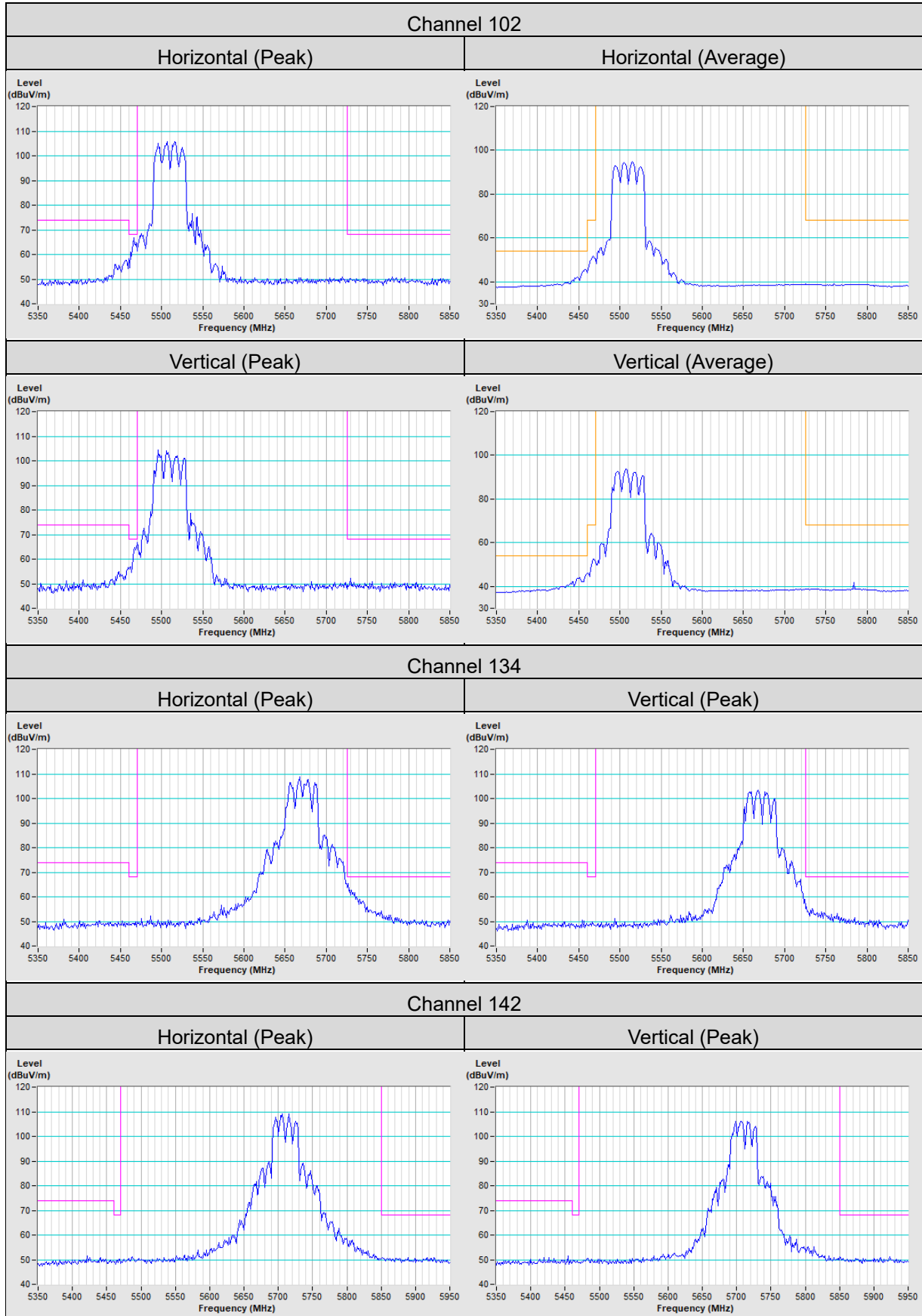




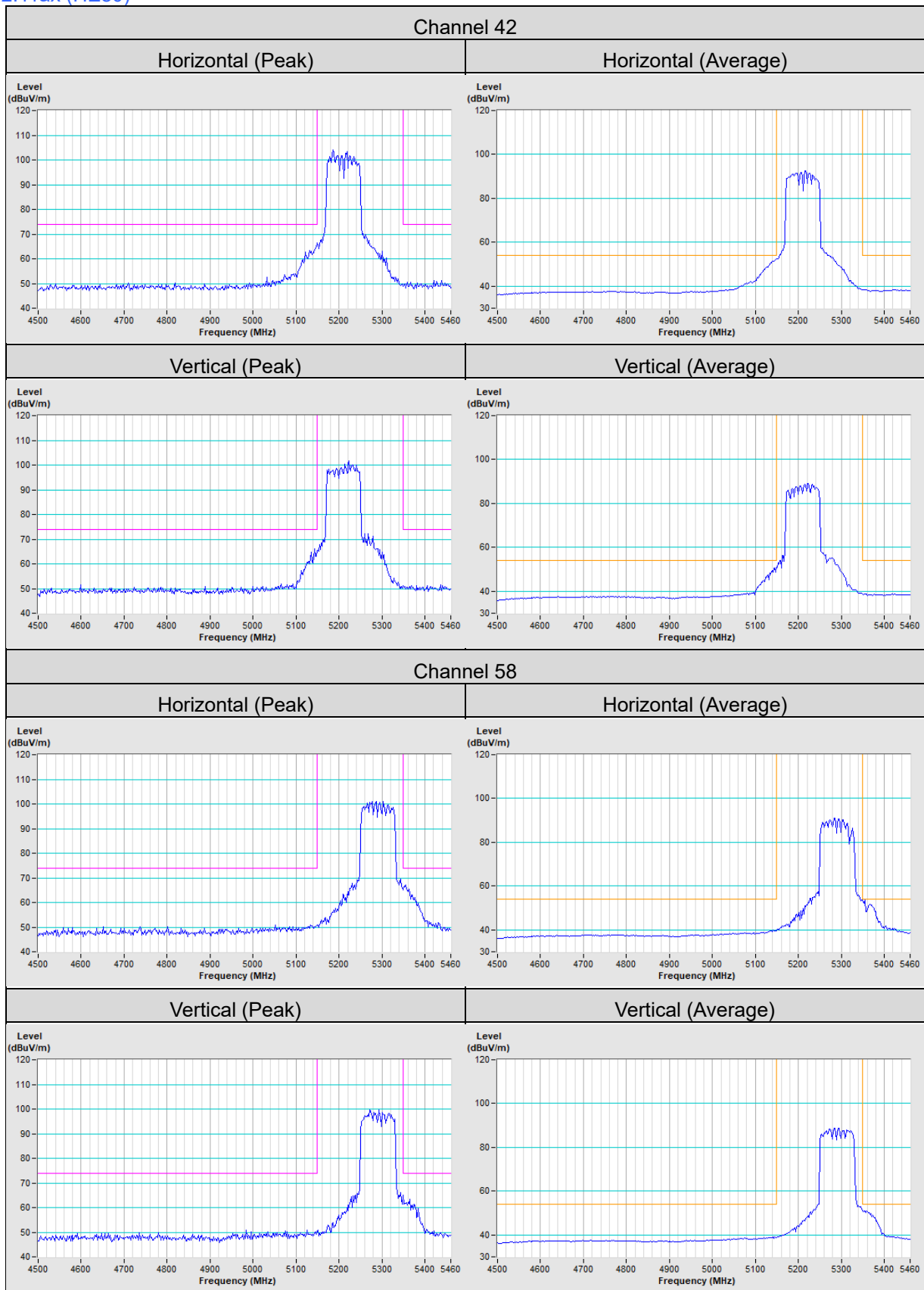
802.11ax (HE40)

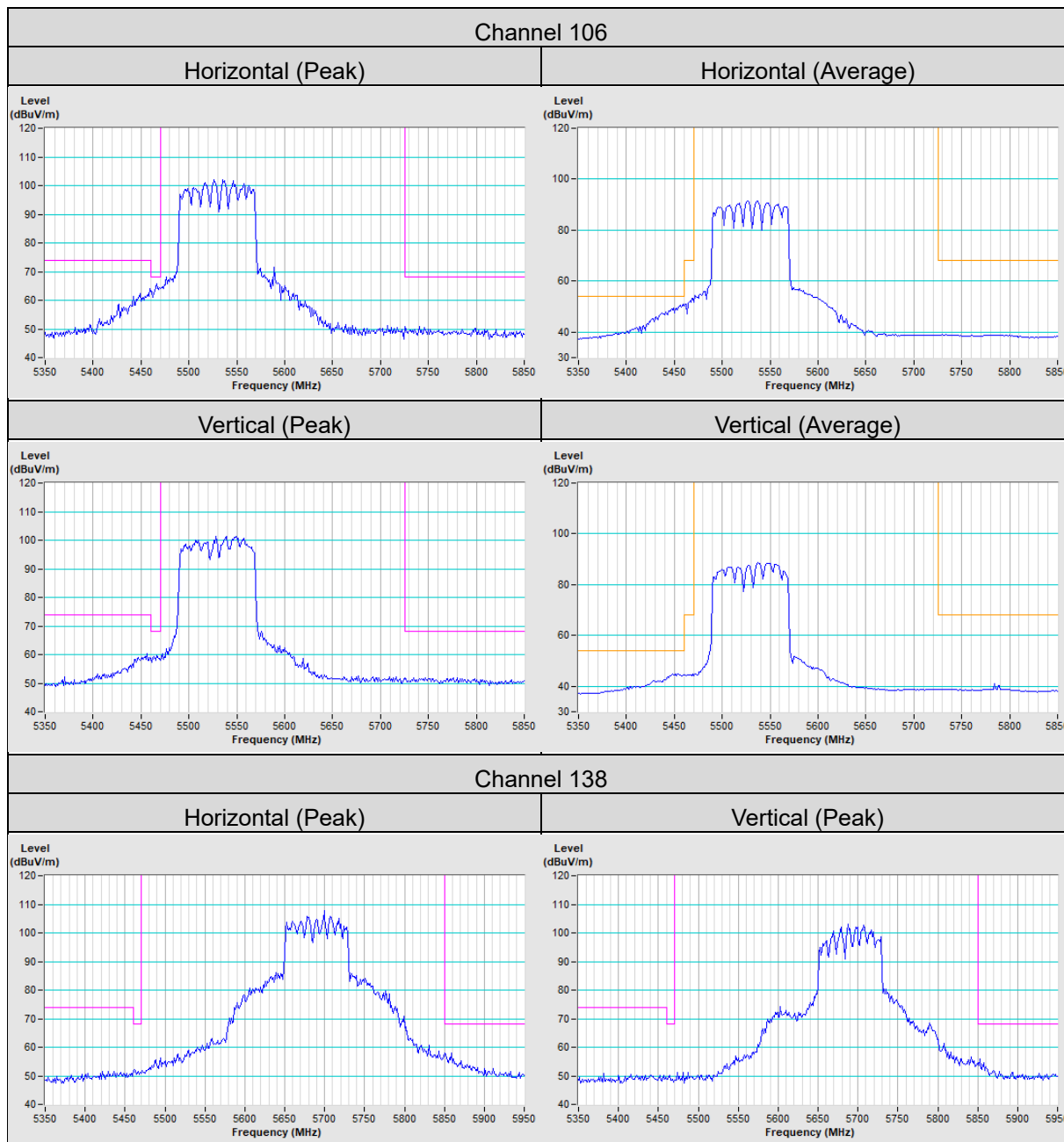






802.11ax (HE80)





5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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