



TEST REPORT

<p>Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-70-5008-1021 FAX: 82-505-299-8311 www.kctl.co.kr</p>	<p>Report No.: KR23-SRF0177-B Page (1) of (117)</p>	
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1. Client

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2023-03-14

2. Use of Report : Certification

3. Name of Product / Model : Notebook PC / NP935QNA

4. Manufacturer / Country of Origin : Samsung Electronics Co., Ltd. / Vietnam

5. FCC ID : A3LNP935QNA

6. Date of Test : 2023-04-15 to 2023-05-25

7. Location of Test : Permanent Testing Lab On Site Testing
 (Address:65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

8. Test method used : FCC Part 15 Subpart E, 15.407


9. Test Result : Refer to the test result in the test report

Affirmation	Tested by	Technical Manager
	Name : Sunghyun Yoon (Signature)	Name : Seungyong Kim (Signature)

2023-06-05

Eurofins KCTL Co.,Ltd.

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REPORT REVISION HISTORY

Date	Revision	Page No
2023-05-26	Originally issued	-
2023-06-01	Updated	4,8,10,14, 32,37,73
2023-06-05	Updated	10, 32, 33

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Note. The report No. KR23-SRF0177-A is superseded by the report No. KR23-SRF0177-B.

General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

Statement not required by the standard or client used for type testing

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1. General information

Client : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
 Manufacturer : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
 Factory : SAMSUNG ELECTRONICS VIETNAM CO.,LTD.
 Address : Khu Cong nghiep Ten Phong 1, Yen Trung, Yen Phong, Bac Ninh, Vietnam
 Laboratory : Eurofins KCTL Co.,Ltd.
 Address : 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
 Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132
 VCCI Registration No. : R-20080, G-20078, C-20059, T-20056
 CAB Identifier: KR0040
 ISED Number: 8035A
 KOLAS No.: KT231

2. Device information

Equipment under test : Notebook PC
 Model : NP935QNA
 Modulation technique : WIFI(802.11a/b/g/n/ac/ax) : DSSS, OFDM, OFDMA
 Number of channels
 UNII-1 : 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz), 1 ch (160 MHz)
 UNII-2A : 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
 UNII-2C : 12 ch (20 MHz), 6 ch (40 MHz), 3 ch (80 MHz), 1 ch (160 MHz)
 UNII-3 : 5 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz), 1 ch (160 MHz)
 Power source : DC 11.58 V
 Antenna specification
 Antenna 1 (Aux) : PIFA Antenna
 Antenna 2 (Main) : PIFA Antenna
 Antenna gain :

	Antenna 1 (Aux)	Antenna 2 (Main)
UNII-1	: 3.21 dBi	: 3.63 dBi
UNII-2A	: 3.84 dBi	: 3.67 dBi
UNII-2C	: 3.59 dBi	: 4.22 dBi
UNII-3	: 2.19 dBi	: 4.22 dBi

 Frequency range
 UNII-1 : 5 180 MHz ~ 5 240 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20)
 UNII-1 : 5 190 MHz ~ 5 230 MHz (802.11n/ac/ax_HT40/VHT40/HE40)
 UNII-1 : 5 210 MHz (802.11ac/ax_VHT80/HE80)
 UNII-1 : 5 250 MHz (802.11ac/ax_VHT160/HE160)
 UNII-2A : 5 260 MHz ~ 5 320 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20)
 UNII-2A : 5 270 MHz ~ 5 310 MHz (802.11n/ac/ax_HT40/VHT40/HE40)
 UNII-2A : 5 290 MHz (802.11ac/ax_VHT80/HE80)
 UNII-2C : 5 500 MHz ~ 5 720 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20)
 UNII-2C : 5 510 MHz ~ 5 710 MHz (802.11n/ac/ax_HT40/VHT40/HE40)
 UNII-2C : 5 530 MHz ~ 5 690 MHz (802.11ac/ax_VHT80/HE80)
 UNII-2C : 5 570 MHz (802.11ac/ax_VHT160/HE160)
 UNII-3 : 5 745 MHz ~ 5 825 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20)
 UNII-3 : 5 755 MHz ~ 5 795 MHz (802.11n/ac/ax_HT40/VHT40/HE40)
 UNII-3 : 5 775 MHz (802.11ac/ax_VHT80/HE80)
 Software version : NP930QNA.001
 Hardware version : REV0.1
 Test device serial No. : Conducted : KQZZ930W300160T
 Radiated : KQZZ930W300364Z
 Operation temperature : 10 °C ~ 35 °C

Notes.

- This device does not support SISO mode in UNII band.

2.1. Frequency/channel operations

This device contains the following capabilities:
 WLAN (11a/b/g/n/ac/ax), Bluetooth (BDR/EDR/BLE)

UNII-1

Ch.	Frequency (MHz)
36	5 180
40	5 200
48	5 240

UNII-2A

Ch.	Frequency (MHz)
52	5 260
56	5 280
64	5 320

UNII-2C

Ch.	Frequency (MHz)
100	5 500
120	5 600
140	5 700
144	5 720

UNII-3

Ch.	Frequency (MHz)
149	5 745
157	5 785
165	5 825

Table 2.1.1. 802.11ax HE20 mode

UNII-1

Ch.	Frequency (MHz)
38	5 190
46	5 230

UNII-2A

Ch.	Frequency (MHz)
54	5 270
62	5 310

UNII-2C

Ch.	Frequency (MHz)
102	5 510
118	5 590
134	5 670
142	5 710

UNII-3

Ch.	Frequency (MHz)
151	5 755
159	5 795

Table 2.1.2. 802.11ax HE40 mode

UNII-1

Ch.	Frequency (MHz)
42	5 210

UNII-2A

Ch.	Frequency (MHz)
58	5 290

UNII-2C

Ch.	Frequency (MHz)
106	5 530
122	5 610
138	5 690

UNII-3

Ch.	Frequency (MHz)
155	5 775

Table 2.1.3. 802.11ax HE80 mode

UNII-1,2A

Ch.	Frequency (MHz)
50	5 250

UNII-2C

Ch.	Frequency (MHz)
114	5 570

Table 2.1.4. 802.11ax HE160 mode

2.2. Simultaneous Tx Condition

The device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the Bluetooth, 5 GHz, or 6 GHz bands simultaneously on each antenna.

Simultaneous Tx condition – not RSDB

Mode	# of TX	WLAN 5 GHz		WLAN 6 GHz		Bluetooth	Report
		ANT 1	ANT 2	ANT 1	ANT 2	ANT 1	
WLAN + Bluetooth	2	O	O	-	-	O	√
	2	-	-	O	O	O	

Notes.

1. Simultaneous condition was performed as a worst case which is configured as a combination of lowest margin for each mode during radiated spurious emission.
2. For simultaneous spurious emission test result, please refer to 15.407 legacy test report.

2.3 Test RU offset for tones in each modes

BW (MHz)	Tones (T)	RU offset	Test RU offset		
			Low	Mid	High
20	26	0 ~ 8	0	4	8
	52	37 ~ 40	37	38	40
	106	53 ~ 54	53	-	54
	242	61 / SU	-	61 / -	-
40	26	0 ~ 17	0	9	17
	52	37 ~ 44	37	41	44
	106	53 ~ 56	53	54	56
	242	61 ~ 62	61	-	62
	484	65 / SU	-	65 / -	-
80	26	0 ~ 36	0	18	36
	52	37 ~ 52	37	45	52
	106	53 ~ 60	53	57	60
	242	61 ~ 64	61	62	64
	484	65 ~ 66	65	-	66
	996	67 / SU	-	67 / -	-
160 ^{Note}	26	0 ~ 36	0L	0U	36U
	52	37 ~ 52	37L	37U	52U
	106	53 ~ 60	53L	53U	60U
	242	61 ~ 64	61L	61U	64U
	484	65 ~ 66	65L	65U	66U
	996	67	67L	-	67U
	2x996	68 / SU	-	68 / -	-

Notes.

HE160 = HE80(L) + HE80(H)

Measurement RU offset for HE80 (L) and HE80 (U) was investigated then worst RU offset of testing offset (L/M/H) was reported as a worst case.

2.4. Band portion of RU allocation about straddle channels

Mode	Channel	Tone number in RU	RU offset	Portion
HE20	Straddle 5 720 MHz	26T	0	UNII-2C
			4	UNII-2C
			8	UNII-3
		52T	37	UNII-2C
			38	UNII-2C
			40	UNII-3
		106T	53	UNII-2C
242T / SU	54	UNII-2C & UNII-3		
61 / -	UNII-2C & UNII-3			
HE40	Straddle 5 710 MHz	26T	0	UNII-2C
			9	UNII-2C
			17	UNII-3
		52T	37	UNII-2C
			41	UNII-2C
			44	UNII-3
		106T	53	UNII-2C
			54	UNII-2C
		242T	56	UNII-2C & UNII-3
			61	UNII-2C
484T / SU	62	UNII-2C & UNII-3		
65 / -	UNII-2C & UNII-3			
HE80	Straddle 5 690 MHz	26T	0	UNII-2C
			18	UNII-2C
			36	UNII-3
		52T	37	UNII-2C
			45	UNII-2C
			52	UNII-3
		106T	53	UNII-2C
			57	UNII-2C
			60	UNII-2C & UNII-3
		242T	61	UNII-2C
			62	UNII-2C
			64	UNII-2C & UNII-3
		484T	65	UNII-2C
66	UNII-2C & UNII-3			
996T / SU	67 / -	UNII-2C & UNII-3		

2.5. Duty Cycle Factor

Test mode	Tone	Period (ms)	T _{on} time (ms)	Duty cycle		Duty cycle factor (dB)	
				(Linear)	(%)		
802.11ax	HE20	26T	5.180	5.066	0.978 0	97.80	0.10
		52T	5.169	5.054	0.977 8	97.78	0.10
		106T	4.863	4.749	0.976 6	97.66	0.10
		242T	2.466	2.366	0.959 4	95.94	0.18
		SU	2.374	2.268	0.955 3	95.53	0.20
	HE40	26T	5.184	5.052	0.974 5	97.45	0.11
		52T	5.173	5.043	0.974 9	97.49	0.11
		106T	4.865	4.739	0.974 1	97.41	0.11
		242T	2.463	2.362	0.959 0	95.90	0.18
		484T	1.314	1.215	0.924 7	92.47	0.34
		SU	1.261	1.162	0.921 5	92.15	0.36
	HE80	26T	5.180	5.050	0.974 9	97.49	0.11
		52T	5.167	5.037	0.974 8	97.48	0.11
		106T	4.865	4.733	0.972 9	97.29	0.12
		242T	2.473	2.349	0.949 9	94.99	0.22
		484T	1.312	1.212	0.923 8	92.38	0.34
		996T	0.721	0.623	0.864 1	86.41	0.63
		SU	0.694	0.596	0.858 8	85.88	0.66
	HE160	26T	5.180	5.052	0.975 3	97.53	0.11
		52T	5.167	5.039	0.975 2	97.52	0.11
		106T	4.865	4.735	0.973 3	97.33	0.12
		242T	2.477	2.353	0.949 9	94.99	0.22
		484T	1.313	1.214	0.924 6	92.46	0.34
		996T	0.720	0.622	0.863 9	86.39	0.64
		996x2T	0.428	0.331	0.773 4	77.34	1.12
		SU	0.429	0.331	0.771 6	77.16	1.13

Notes.

1. Duty cycle (Linear) = T_{on} time / Period
2. DCF(Duty cycle factor) = 10log(1/duty cycle)
3. DCF is not compensated to average result if duty cycle is more than 98%
4. Please refer to Appendix A for plots,

3. Antenna requirement

Requirement of FCC part section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. antenna gain (in dBi) and the required impedance for each antenna type.

- The transmitter has permanently attached PIFA Antenna (Internal antenna) on board.
- The E.U.T Complies with the requirement of §15.203, §15.407.

3.1 Antenna information

Mode	CDD	MIMO
	ANT 1 + 2	ANT 1 + 2
802.11ax HE20	√	√
802.11ax HE40	√	√
802.11ax HE80	√	√
802.11ax HE160	√	√

√ = Support, X = Not support

3.2 Directional Gain Calculations

According to clause F), 2), d), (i) of KDB 662911 D01 Multiple Transmitter Output, Directional gain may be calculated by using the formulas as below.

Directional Antenna Gain

Band	ANT 1 Gain (dBi)	ANT 2 Gain (dBi)	Power Directional Gain (dBi)
UNII 1	3.21	3.63	6.43
UNII 2A	3.84	3.67	6.77
UNII 2C	3.59	4.22	6.92
UNII 3	2.19	4.22	6.27

Note.

- 1) Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, \dots, G_N dB
 Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi
- 2) If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain if the antenna exceeds 6 dBi.

Sample calculation

In case of UNII 1, directional gain = $10 \log[(10^{3.21/20} + 10^{3.63/20})^2 / 2] = 6.43$ dBi.

4. Summary of tests

FCC Part section(s)	Parameter	Test Condition	Test results
15.407(a)	Maximum conducted output power	Conducted	Pass
15.407(a)	Maximum power spectral density		Pass
15.407(a)	26 dB Channel Bandwidth		Pass
15.407(e)	6 dB Channel Bandwidth		Pass
15.207(a)	AC Conducted Emissions		Pass
15.407(b), 15.205(a), 15.209(a)	Spurious emission	Radiated	Pass
	Band-edge, restricted band		Pass

Notes.

- All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- According to exploratory test no any obvious emission were detected from 9 kHz to 30 MHz. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
- All the radiated tests have been performed two modes (Notebook and Tablet mode) and the fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z.
Worst case: Notebook mode, X axis
- All configurations have been performed (stand-alone, stand-alone with TA, with accessories) and the worst case is Stand-alone with TA.
- The test procedure(s) in this report were performed in accordance as following.
 - ANSI C63.10-2013
 - KDB 662911 D01 v02r01
 - KDB 789033 D02 v02r01
- Based on the baseline scan, the worst-case data rates were:
 - 802.11ax HE20 mode: MCS0
 - 802.11ax HE40 mode: MCS0
 - 802.11ax HE80 mode: MCS0
 - 802.11ax HE160 mode: MCS0
- For AC Conducted emission and spurious emission below 1 GHz, please refer to 15.407 legacy test report.

5. Measurement uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicated a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded uncertainty (\pm)	
Conducted RF power	0.9 dB	
Conducted spurious emissions	1.3 dB	
Radiated spurious emissions	9 kHz ~ 30 MHz	2.3 dB
	30 MHz ~ 1 000 MHz	2.5 dB
	Above 1 GHz	4.7 dB
	Above 18 000 MHz	4.8 dB
Conducted emissions	9 kHz ~ 150 kHz	2.7 dB
	150 kHz ~ 30 MHz	2.7 dB

6. Measurement results explanation example

The offset level is set in the spectrum analyzer to compensate the RF cable loss factor between EUT conducted output port and spectrum analyzer.

With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Frequency (MHz)	Factor(dB)	Frequency (MHz)	Factor(dB)
30	10.13	9 000	12.63
50	10.17	10 000	12.80
100	10.26	11 000	12.96
200	10.37	12 000	13.27
300	10.45	13 000	13.39
400	10.53	14 000	13.51
500	10.61	15 000	13.59
600	10.66	16 000	13.68
700	10.71	17 000	13.59
800	10.76	18 000	13.73
900	10.81	19 000	13.76
1 000	10.84	20 000	13.88
2 000	11.21	21 000	14.22
3 000	11.51	22 000	14.09
4 000	11.74	23 000	14.16
5 000	11.95	24 000	14.17
6 000	12.06	25 000	14.19
7 000	12.33	26 000	14.50
8 000	12.44	26 500	14.59

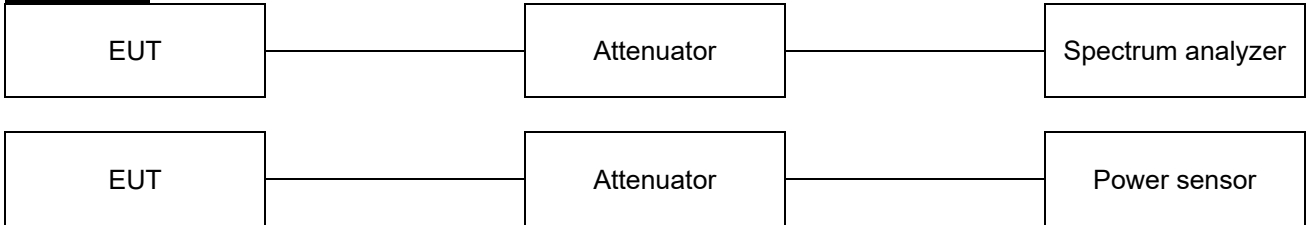
Notes:

Offset(dB) = RF cable loss(dB) + Attenuator(dB)

7. Test results

7.1. Maximum conducted output power

Test setup



Limit

According to §15.407(a)



Band	EUT category		Conducted output power limit
UNII-1		Outdoor access point	1 W (30 dBm)
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	250 mW (23.98 dBm)
UNII-2A		√	250 mW or 11 dBm + 10logB ¹⁾
UNII-2C		√	250 mW or 11 dBm + 10logB ¹⁾
UNII-3		√	1 W (30 dBm)

Note:

1) Conducted output power limit B is the 26 dB emission bandwidth.

Test procedure

ANSI C63.10-2013-Section 12.3.3.2 and 14.2
 KDB 789033 D02 v02r01 - Section E.2.d) or E.3.a)
 KDB 662911 D01 v02r01 – Section E).1) and Section F)

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Test settings

Used test method is Section E.2.d) and Section E.3.a)

◆ KDB 789033 D02 v02r01

Section E.2.d)

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction):

- (i) Measure the duty cycle, x , of the transmitter output signal as described in II.B..
- (ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (iii) Set RBW = 1 MHz
- (iv) Set RBW \geq 3 MHz
- (v) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- (vi) Sweep time = auto.
- (vii) Detector = power averaging (rms), if available. Otherwise use sample detector mode.
- (viii) Do not use sweep triggering. Allow the sweep to “free run.”
- (ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
- (x) 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 signal.
- (xi) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log (1/0.25) = 6 \text{ dB}$ if the duty cycle is 25%.

Section E.3.a)

Method PM (Measurement using an RF average power meter):

- (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.
 - The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
 - At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
 - The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five
- (ii) If the transmitter does not transmit continuously, measure the duty cycle, x , of the transmitter output signal as described in II
- (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.

Adjust the measurement in dBm by adding $10 \log (1/x)$ where x is the duty cycle (e.g., $10 \log (1/0.25)$ if the duty cycle is 25%).

Notes: All the RU mode of UNII-3 band except for the straddle channel was measured with a power meter.

Test results

**802.11ax HE20 in the UNII-1 band
 Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 180	26T	0	7.90	7.24	0.10	10.69	23.55
			4	7.23	6.94	0.10	10.20	23.55
			8	7.41	7.59	0.10	10.61	23.55
		52T	37	9.63	9.13	0.10	12.50	23.55
			38	8.97	9.24	0.10	12.22	23.55
			40	9.08	9.56	0.10	12.44	23.55
		106T	53	10.33	10.18	0.10	13.37	23.55
			54	10.13	10.30	0.10	13.33	23.55
		242T	61	9.96	10.06	0.18	13.20	23.55
SU	-	13.16	12.66	0.20	16.13	23.55		
Mid	5 200	26T	0	7.89	7.33	0.10	10.73	23.55
			4	7.05	6.94	0.10	10.11	23.55
			8	7.24	7.57	0.10	10.52	23.55
		52T	37	9.59	9.30	0.10	12.56	23.55
			38	8.90	9.33	0.10	12.23	23.55
			40	8.95	9.50	0.10	12.34	23.55
		106T	53	10.18	10.24	0.10	13.32	23.55
			54	10.02	10.27	0.10	13.26	23.55
		242T	61	9.91	10.08	0.18	13.19	23.55
SU	-	13.12	12.73	0.20	16.14	23.55		
High	5 240	26T	0	7.83	6.52	0.10	10.33	23.55
			4	6.97	6.10	0.10	9.67	23.55
			8	7.19	6.88	0.10	10.15	23.55
		52T	37	9.56	9.04	0.10	12.42	23.55
			38	8.93	9.05	0.10	12.10	23.55
			40	9.05	9.19	0.10	12.23	23.55
		106T	53	10.31	9.99	0.10	13.26	23.55
			54	10.21	9.97	0.10	13.20	23.55
		242T	61	10.04	9.80	0.18	13.11	23.55
SU	-	13.03	12.33	0.20	15.90	23.55		

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE40 in the UNII-1 band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 190	26T	0	7.43	6.86	0.11	10.27	23.55
			9	6.98	6.68	0.11	9.95	23.55
			17	6.53	7.18	0.11	9.99	23.55
		52T	37	9.34	9.06	0.11	12.32	23.55
			41	9.07	8.91	0.11	12.11	23.55
			44	8.63	9.35	0.11	12.13	23.55
		106T	53	9.92	10.05	0.11	13.11	23.55
			54	9.72	9.99	0.11	12.98	23.55
			56	9.69	10.10	0.11	13.02	23.55
		242T	61	9.62	9.80	0.18	12.90	23.55
			62	9.45	9.82	0.18	12.83	23.55
		484T	65	10.28	10.57	0.34	13.78	23.55
		SU	-	11.60	11.13	0.36	14.74	23.55
		High	5 230	26T	0	7.61	6.74	0.11
9	7.08				6.36	0.11	9.86	23.55
17	6.76				6.74	0.11	9.87	23.55
52T	37			9.31	9.05	0.11	12.30	23.55
	41			8.94	8.66	0.11	11.92	23.55
	44			8.64	9.01	0.11	11.95	23.55
106T	53			9.91	9.93	0.11	13.04	23.55
	54			9.71	9.75	0.11	12.85	23.55
	56			9.73	9.78	0.11	12.88	23.55
242T	61			9.58	9.62	0.18	12.79	23.55
	62			9.44	9.49	0.18	12.66	23.55
484T	65			10.22	10.32	0.34	13.62	23.55
SU	-			11.59	10.91	0.36	14.63	23.55

Note:

- Conducted Output power(dBm) = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) + \text{D.C.F}$
- Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**802.11ax HE80 in the UNII-1 band
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 210	26T	0	7.58	5.95	0.11	9.96	23.55
			18	6.74	5.91	0.11	9.47	23.55
			36	6.53	6.14	0.11	9.46	23.55
		52T	37	9.77	8.92	0.11	12.49	23.55
			45	9.22	8.89	0.11	12.18	23.55
			52	8.76	9.07	0.11	12.04	23.55
		106T	53	10.38	9.93	0.12	13.29	23.55
			57	9.76	9.78	0.12	12.90	23.55
			60	9.79	9.81	0.12	12.93	23.55
		242T	61	10.13	9.73	0.22	13.16	23.55
			62	9.82	9.66	0.22	12.97	23.55
			64	9.58	9.57	0.22	12.81	23.55
		484T	65	9.69	9.42	0.34	12.91	23.55
			66	9.30	9.29	0.34	12.65	23.55
		996T	67	9.46	9.34	0.63	13.04	23.55
		SU	-	11.48	10.65	0.66	14.76	23.55

Notes:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**802.11ax HE160 in the UNII-1 band
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 250	26T	0L	8.22	6.43	0.11	10.54	23.55
			0U	8.21	7.07	0.11	10.80	23.55
			36U	6.68	6.21	0.11	9.57	23.55
		52T	37L	9.71	8.76	0.11	12.38	23.55
			37U	9.97	9.36	0.11	12.80	23.55
			52U	8.54	8.45	0.11	11.62	23.55
		106T	53L	10.24	9.67	0.12	13.09	23.55
			53U	11.23	10.19	0.12	13.87	23.55
			60U	10.18	9.27	0.12	12.88	23.55
		242T	61L	10.19	9.17	0.22	12.94	23.55
			61U	9.83	9.25	0.22	12.78	23.55
			64U	9.04	8.66	0.22	12.08	23.55
		484T	65L	10.03	9.01	0.34	12.90	23.55
			65U	9.92	9.08	0.34	12.87	23.55
			66U	9.09	8.63	0.34	12.22	23.55
		996T	67L	9.87	8.42	0.64	12.86	23.55
			67U	9.17	8.14	0.64	12.34	23.55
		2X996T	68	9.07	8.34	1.12	12.85	23.55
		SU	-	9.07	8.33	1.13	12.86	23.55

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE20 in the UNII-2A band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 260	26T	0	7.59	6.96	0.10	10.40	22.97
			4	6.52	6.46	0.10	9.60	22.97
			8	6.68	7.01	0.10	9.96	22.97
		52T	37	10.21	9.77	0.10	13.11	22.97
			38	9.59	9.78	0.10	12.80	22.97
			40	9.48	9.86	0.10	12.78	22.97
		106T	53	10.00	9.81	0.10	13.02	22.97
			54	9.73	9.80	0.10	12.88	22.97
		242T	61	9.65	9.63	0.18	12.83	22.97
		SU	-	12.65	12.48	0.20	15.78	22.97
Mid	5 280	26T	0	7.25	6.63	0.10	10.06	22.97
			4	6.45	6.23	0.10	9.45	22.97
			8	6.88	6.82	0.10	9.96	22.97
		52T	37	9.99	9.60	0.10	12.91	22.97
			38	9.50	9.54	0.10	12.63	22.97
			40	9.70	9.78	0.10	12.85	22.97
		106T	53	9.81	9.63	0.10	12.83	22.97
			54	9.85	9.70	0.10	12.89	22.97
		242T	61	9.62	9.48	0.18	12.74	22.97
		SU	-	12.62	12.44	0.20	15.74	22.97
High	5 320	26T	0	7.43	7.55	0.10	10.60	22.97
			4	6.38	7.42	0.10	10.04	22.97
			8	6.79	7.81	0.10	10.44	22.97
		52T	37	9.33	10.05	0.10	12.82	22.97
			38	8.99	9.84	0.10	12.55	22.97
			40	8.48	9.82	0.10	12.31	22.97
		106T	53	10.02	10.49	0.10	13.37	22.97
			54	9.71	10.80	0.10	13.40	22.97
		242T	61	9.62	10.74	0.18	13.41	22.97
		SU	-	12.75	13.22	0.20	16.20	22.97

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE40 in the UNII-2A band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 270	26T	0	7.18	6.50	0.11	9.97	23.21
			9	6.36	6.15	0.11	9.38	23.21
			17	6.29	6.63	0.11	9.58	23.21
		52T	37	9.17	8.74	0.11	12.08	23.21
			41	8.53	8.42	0.11	11.60	23.21
			44	8.53	8.83	0.11	11.80	23.21
		106T	53	9.72	9.59	0.11	12.78	23.21
			54	9.33	9.38	0.11	12.48	23.21
			56	9.47	9.61	0.11	12.66	23.21
		242T	61	9.31	9.25	0.18	12.47	23.21
			62	9.13	9.30	0.18	12.41	23.21
		484T	65	9.97	10.04	0.34	13.36	23.21
		SU	-	10.75	10.63	0.36	14.06	23.21
		High	5 310	26T	0	7.16	7.68	0.11
9	6.62				7.54	0.11	10.22	23.21
17	6.36				7.48	0.11	10.08	23.21
52T	37			9.24	10.19	0.11	12.86	23.21
	41			8.74	9.74	0.11	12.39	23.21
	44			8.61	9.45	0.11	12.17	23.21
106T	53			10.08	10.80	0.11	13.58	23.21
	54			9.93	10.55	0.11	13.37	23.21
	56			9.61	10.41	0.11	13.15	23.21
242T	61			9.70	10.46	0.18	13.29	23.21
	62			9.43	10.19	0.18	13.02	23.21
484T	65			9.28	10.39	0.34	13.22	23.21
SU	-			9.90	10.95	0.36	13.83	23.21

Note:

- Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
- Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE80 in the UNII-2A band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 290	26T	0	7.98	7.04	0.11	10.66	23.21
			18	6.90	6.85	0.11	10.00	23.21
			36	6.88	6.76	0.11	9.94	23.21
		52T	37	9.91	9.27	0.11	12.72	23.21
			45	9.53	9.14	0.11	12.46	23.21
			52	9.08	8.97	0.11	12.15	23.21
		106T	53	10.48	10.13	0.12	13.44	23.21
			57	10.13	9.98	0.12	13.19	23.21
			60	9.96	9.74	0.12	12.98	23.21
		242T	61	10.16	9.82	0.22	13.22	23.21
			62	9.93	9.78	0.22	13.09	23.21
			64	9.84	9.64	0.22	12.97	23.21
		484T	65	9.80	9.50	0.34	13.00	23.21
			66	9.67	9.43	0.34	12.90	23.21
		996T	67	9.71	9.45	0.63	13.22	23.21
SU	-	11.10	10.78	0.66	14.61	23.21		

Notes:

1. Conducted Output power(dBm) = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) + \text{D.C.F}$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**802.11ax HE20 in the UNII-2C band
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 500	26T	0	6.89	7.17	0.10	10.14	22.82
			4	6.84	6.54	0.10	9.80	22.82
			8	7.75	6.98	0.10	10.49	22.82
		52T	37	9.59	10.00	0.10	12.91	22.82
			38	10.02	9.68	0.10	12.96	22.82
			40	10.35	9.86	0.10	13.22	22.82
		106T	53	9.84	9.89	0.10	12.98	22.82
			54	9.99	9.89	0.10	13.05	22.82
		242T	61	9.77	9.72	0.18	12.94	22.82
		SU	-	12.73	12.38	0.20	15.77	22.82
Mid	5 600	26T	0	5.99	6.42	0.10	9.32	22.82
			4	6.05	6.01	0.10	9.14	22.82
			8	7.03	6.55	0.10	9.91	22.82
		52T	37	8.49	9.33	0.10	12.04	22.82
			38	9.08	9.04	0.10	12.17	22.82
			40	9.56	9.37	0.10	12.58	22.82
		106T	53	8.89	9.23	0.10	12.17	22.82
			54	9.13	9.39	0.10	12.37	22.82
		242T	61	8.87	9.15	0.18	12.20	22.82
		SU	-	12.98	12.79	0.20	16.10	22.82
High	5 700	26T	0	7.61	7.70	0.10	10.77	22.82
			4	7.50	7.10	0.10	10.41	22.82
			8	8.07	7.46	0.10	10.89	22.82
		52T	37	9.55	9.92	0.10	12.85	22.82
			38	9.65	9.56	0.10	12.72	22.82
			40	10.03	10.04	0.10	13.15	22.82
		106T	53	10.84	10.32	0.10	13.70	22.82
			54	10.88	10.19	0.10	13.66	22.82
		242T	61	10.79	10.13	0.18	13.66	22.82
		SU	-	13.75	13.32	0.20	16.75	22.82
Straddle	5 720	26T	0	7.02	6.96	0.10	10.10	22.82
			4	7.10	6.37	0.10	9.86	22.82
		52T	37	9.42	9.70	0.10	12.67	22.82
			38	9.68	9.36	0.10	12.63	22.82
		106T	53	9.63	9.61	0.10	12.73	22.82

Note:

- Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
- Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE40 in the UNII-2C band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 510	26T	0	6.54	6.89	0.11	9.84	23.06
			9	6.56	6.65	0.11	9.73	23.06
			17	7.58	6.80	0.11	10.33	23.06
		52T	37	9.51	9.90	0.11	12.83	23.06
			41	9.49	9.70	0.11	12.72	23.06
			44	10.38	9.88	0.11	13.26	23.06
		106T	53	9.82	9.71	0.11	12.89	23.06
			54	9.77	9.60	0.11	12.81	23.06
			56	10.08	9.81	0.11	13.07	23.06
		242T	61	9.58	9.47	0.18	12.72	23.06
			62	9.76	9.54	0.18	12.84	23.06
		484T	65	10.50	10.55	0.34	13.88	23.06
		SU	-	11.34	10.94	0.36	14.51	23.06
Mid	5 590	26T	0	6.27	7.06	0.11	9.80	23.06
			9	6.49	7.02	0.11	9.88	23.06
			17	7.75	7.32	0.11	10.66	23.06
		52T	37	8.40	8.79	0.11	11.72	23.06
			41	8.41	8.78	0.11	11.72	23.06
			44	9.54	9.09	0.11	12.44	23.06
		106T	53	9.65	9.90	0.11	12.90	23.06
			54	9.67	9.83	0.11	12.87	23.06
			56	10.03	10.23	0.11	13.25	23.06
		242T	61	9.43	9.66	0.18	12.74	23.06
			62	9.70	9.92	0.18	13.00	23.06
		484T	65	9.39	9.35	0.34	12.72	23.06
		SU	-	11.52	11.27	0.36	14.77	23.06
High	5 670	26T	0	6.24	7.29	0.11	9.92	23.06
			9	6.48	7.38	0.11	10.07	23.06
			17	7.37	7.69	0.11	10.65	23.06
		52T	37	7.97	9.31	0.11	11.81	23.06
			41	8.16	9.44	0.11	11.97	23.06
			44	8.94	9.75	0.11	12.48	23.06
		106T	53	9.32	10.21	0.11	12.91	23.06
			54	9.32	10.23	0.11	12.92	23.06
			56	9.66	10.66	0.11	13.31	23.06
		242T	61	9.15	10.03	0.18	12.80	23.06
			62	9.31	10.33	0.18	13.04	23.06
		484T	65	9.03	9.99	0.34	12.89	23.06
		SU	-	10.29	10.51	0.36	13.77	23.06

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Straddle	5 710	26T	0	6.40	6.81	0.11	9.73	23.06
			9	6.47	6.44	0.11	9.58	23.06
		52T	37	9.13	9.82	0.11	12.61	23.06
			41	9.12	9.52	0.11	12.44	23.06
		106T	53	9.28	9.64	0.11	12.58	23.06
			54	9.21	9.45	0.11	12.45	23.06
		242T	61	9.09	9.32	0.18	12.40	23.06

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



802.11ax HE80 in the UNII-2C band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 530	26T	0	6.30	6.94	0.11	9.75	23.06
			18	6.86	6.64	0.11	9.87	23.06
			36	7.28	6.38	0.11	9.97	23.06
		52T	37	9.36	9.69	0.11	12.65	23.06
			45	9.51	9.56	0.11	12.66	23.06
			52	10.06	9.16	0.11	12.75	23.06
		106T	53	9.60	9.36	0.12	12.61	23.06
			57	9.67	9.18	0.12	12.56	23.06
			60	9.66	9.01	0.12	12.48	23.06
		242T	61	9.42	9.15	0.22	12.52	23.06
			62	9.47	9.15	0.22	12.54	23.06
			64	9.50	8.88	0.22	12.43	23.06
		484T	65	9.70	9.07	0.34	12.75	23.06
			66	9.74	8.93	0.34	12.70	23.06
		996T	67	10.15	9.76	0.63	13.60	23.06
SU	-	11.88	11.34	0.66	15.29	23.06		
High	5 610	26T	0	5.98	6.40	0.11	9.32	23.06
			18	6.82	6.48	0.11	9.77	23.06
			36	7.71	6.60	0.11	10.31	23.06
		52T	37	9.01	9.38	0.11	12.32	23.06
			45	9.34	9.60	0.11	12.59	23.06
			52	10.36	9.57	0.11	13.10	23.06
		106T	53	9.30	9.21	0.12	12.39	23.06
			57	9.61	9.45	0.12	12.66	23.06
			60	9.90	9.57	0.12	12.87	23.06
		242T	61	9.10	9.10	0.22	12.33	23.06
			62	9.24	9.17	0.22	12.44	23.06
			64	9.71	9.41	0.22	12.79	23.06
		484T	65	8.93	8.84	0.34	12.24	23.06
			66	9.33	9.03	0.34	12.53	23.06
		996T	67	10.04	9.85	0.63	13.59	23.06
SU	-	11.77	11.31	0.66	15.22	23.06		

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Straddle	5 690	26T	0	6.16	5.91	0.11	9.16	23.06
			18	6.94	5.98	0.11	9.61	23.06
		52T	37	8.95	8.93	0.11	12.06	23.06
			45	9.17	9.27	0.11	12.34	23.06
		106T	53	10.15	9.76	0.12	13.09	23.06
			57	10.36	10.01	0.12	13.32	23.06
		242T	61	10.02	9.72	0.22	13.10	23.06
			62	10.16	9.92	0.22	13.27	23.06
		484T	65	9.86	9.46	0.34	13.01	23.06

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**802.11ax HE160 in the UNII-2C band
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Low	5 570	26T	0L	6.32	7.52	0.11	10.08	23.06
			0U	6.47	6.03	0.11	9.38	23.06
			36U	7.05	5.41	0.11	9.43	23.06
		52T	37L	9.25	9.63	0.11	12.56	23.06
			37U	9.24	8.73	0.11	12.11	23.06
			52U	9.75	8.11	0.11	12.13	23.06
		106T	53L	9.62	9.65	0.12	12.77	23.06
			53U	10.53	9.66	0.12	13.25	23.06
			60U	10.56	8.96	0.12	12.96	23.06
		242T	61L	8.87	9.47	0.22	12.41	23.06
			61U	9.41	8.57	0.22	12.24	23.06
			64U	9.60	8.12	0.22	12.15	23.06
		484T	65L	9.06	9.43	0.34	12.60	23.06
			65U	9.80	9.54	0.34	13.02	23.06
			66U	10.35	9.06	0.34	13.10	23.06
		996T	67L	8.39	8.60	0.64	12.15	23.06
			67U	9.41	8.21	0.64	12.50	23.06
		2X996T	68	9.37	8.97	1.12	13.30	23.06
		SU	-	9.38	8.95	1.13	13.31	23.06

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE20 in the UNII-3 band
Conducted Output Power

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Straddle	5 720	26T	8	7.31	6.84	0.10	10.19	29.73
		52T	40	10.40	9.62	0.10	13.14	29.73
Low	5 745	26T	0	7.27	7.08	0.10	10.29	29.73
			4	7.01	6.55	0.10	9.90	29.73
			8	7.40	6.96	0.10	10.30	29.73
		52T	37	10.33	9.96	0.10	13.26	29.73
			38	10.15	9.24	0.10	12.83	29.73
			40	10.36	9.49	0.10	13.06	29.73
		106T	53	10.50	9.58	0.10	13.17	29.73
			54	10.49	9.66	0.10	13.21	29.73
		242T	61	10.33	9.47	0.18	13.11	29.73
		SU	-	12.95	12.17	0.20	15.79	29.73
Mid	5 785	26T	0	7.17	6.24	0.10	9.84	29.73
			4	6.85	5.96	0.10	9.54	29.73
			8	7.11	5.98	0.10	9.69	29.73
		52T	37	9.66	9.14	0.10	12.52	29.73
			38	9.27	8.70	0.10	12.10	29.73
			40	9.53	8.81	0.10	12.30	29.73
		106T	53	9.55	9.07	0.10	12.43	29.73
			54	9.53	9.00	0.10	12.38	29.73
		242T	61	9.36	8.85	0.18	12.30	29.73
		SU	-	12.68	11.84	0.20	15.49	29.73
High	5 825	26T	0	6.93	6.73	0.10	9.94	29.73
			4	6.45	6.10	0.10	9.39	29.73
			8	6.74	6.33	0.10	9.65	29.73
		52T	37	9.35	9.91	0.10	12.75	29.73
			38	8.97	9.33	0.10	12.26	29.73
			40	9.26	9.54	0.10	12.51	29.73
		106T	53	9.28	9.74	0.10	12.63	29.73
			54	9.31	9.74	0.10	12.64	29.73
		242T	61	9.08	9.67	0.18	12.58	29.73
		SU	-	12.29	12.07	0.20	15.39	29.73

Note:

- Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
- Directional gains are greater than 6 dB_i, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

**802.11ax HE40 in the UNII-3 band
 Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Straddle	5 710	26T	17	6.91	6.53	0.11	9.84	29.73
		52T	44	10.28	9.77	0.11	13.15	29.73
Low	5 755	26T	0	6.79	6.66	0.11	9.85	29.73
			9	6.84	6.55	0.11	9.82	29.73
			17	6.90	6.60	0.11	9.87	29.73
		52T	37	9.44	9.81	0.11	12.75	29.73
			41	9.54	9.81	0.11	12.80	29.73
			44	9.57	9.82	0.11	12.82	29.73
		106T	53	9.58	9.75	0.11	12.79	29.73
			54	9.47	9.74	0.11	12.73	29.73
			56	9.59	9.90	0.11	12.87	29.73
		242T	61	9.31	9.55	0.18	12.62	29.73
			62	9.33	9.61	0.18	12.66	29.73
		484T	65	9.08	9.27	0.34	12.53	29.73
		SU	-	10.83	9.75	0.36	13.69	29.73
		High	5 795	26T	0	6.66	6.11	0.11
9	6.52				5.98	0.11	9.38	29.73
17	6.43				5.96	0.11	9.32	29.73
52T	37			9.23	9.29	0.11	12.38	29.73
	41			9.16	9.14	0.11	12.27	29.73
	44			9.09	9.08	0.11	12.21	29.73
106T	53			9.12	9.19	0.11	12.28	29.73
	54			9.01	9.02	0.11	12.14	29.73
	56			9.20	9.27	0.11	12.36	29.73
242T	61			8.92	8.95	0.18	12.13	29.73
	62			8.91	9.02	0.18	12.16	29.73
484T	65			8.67	8.89	0.34	12.13	29.73
SU	-			10.10	9.17	0.36	13.03	29.73

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dBi, So output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**802.11ax HE80 in the UNII-3 band
 Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
Straddle	5 690	26T	36	7.61	7.05	0.11	10.46	29.73
		52T	52	9.28	9.90	0.11	12.72	29.73
Low	5 775	26T	0	7.14	5.68	0.11	9.59	29.73
			18	7.15	5.40	0.11	9.48	29.73
			36	6.96	5.54	0.11	9.43	29.73
		52T	37	9.48	8.70	0.11	12.23	29.73
			45	9.37	8.80	0.11	12.21	29.73
			52	9.40	8.56	0.11	12.12	29.73
		106T	53	9.50	8.56	0.12	12.19	29.73
			57	9.37	8.54	0.12	12.11	29.73
			60	9.55	8.84	0.12	12.34	29.73
		242T	61	9.40	8.40	0.22	12.16	29.73
			62	9.37	8.52	0.22	12.20	29.73
			64	9.33	8.75	0.22	12.28	29.73
		484T	65	9.00	8.37	0.34	12.05	29.73
			66	8.98	8.43	0.34	12.06	29.73
		996T	67	9.11	8.01	0.63	12.24	29.73
		SU	-	11.44	10.55	0.66	14.69	29.73

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

**802.11ax HE20 in the Straddle
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
UNII-2C	5 720	106T	54	5.69	6.15	0.10	9.04	22.00
		242T	61	8.20	8.24	0.18	11.41	22.00
		SU	-	12.51	12.11	0.20	15.52	22.00
UNII-3		106T	54	7.40	7.10	0.10	10.36	29.73
		242T	61	3.70	3.40	0.18	6.74	29.73
		SU	-	7.39	6.64	0.20	10.24	29.73

**802.11ax HE40 in the Straddle
Conducted Output Power**

Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
UNII-2C	5 710	106T	56	6.34	6.73	0.11	9.66	23.06
		242T	62	8.02	8.28	0.18	11.34	23.06
		484T	65	9.99	9.57	0.34	13.14	23.06
		SU	-	10.70	10.46	0.36	13.95	23.06
UNII-3		106T	56	6.42	6.42	0.11	9.54	29.73
		242T	62	2.69	2.74	0.18	5.91	29.73
		484T	65	1.00	0.47	0.34	4.09	29.73
		SU	-	0.89	0.49	0.36	4.06	29.73

**802.11ax HE80 in the Straddle
Conducted Output Power**

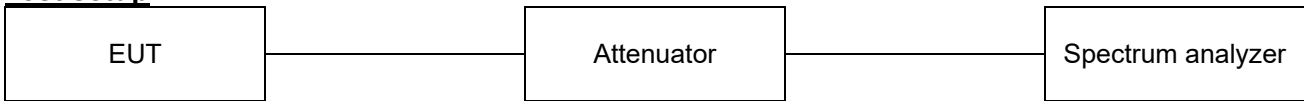
Channel	Frequency (MHz)	Tones	RU offset	Measured output power				FCC Limit (dBm)
				Reading (dBm)		DCF (dB)	Result (dBm)	
				ANT1	ANT2			
UNII-2C	5 690	106T	60	7.43	7.13	0.12	10.41	23.06
		242T	64	9.28	8.77	0.22	12.26	23.06
		484T	66	9.51	8.99	0.34	12.61	23.06
		996T	67	9.66	9.16	0.63	13.06	23.06
		SU	-	11.54	10.50	0.66	14.72	23.06
UNII-3		106T	60	7.69	6.85	0.12	10.42	29.73
		242T	64	3.96	3.27	0.22	6.86	29.73
		484T	66	0.63	-0.12	0.34	3.62	29.73
		996T	67	-2.41	-3.18	0.63	0.86	29.73
		SU	-	-1.78	-3.05	0.66	1.30	29.73

Note:

1. Conducted Output power(dBm) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)}) + D.C.F$
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

7.2. Maximum Power Spectral Density

Test setup



Limit

According to §15.407(a)

Band	EUT category		Limit
UNII-1		Outdoor access point	17dBm/MHz
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	11 dBm /MHz
UNII-2A		√	11 dBm /MHz
UNII-2C		√	11 dBm /MHz
UNII-3		√	30 dBm /500 kHz

Test procedure

ANSI C63.10-2013 Section 12.3.2.2, 14.3.2.2

KDB 789033 D02 v02r01 - Section E and F

KDB 662911 D01 v02r01 - Section E). 2) and Section F)

Test settings

Section F

The rules requires “maximum power spectral density” measurements where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission. Refer to III.A for additional guidance for devices that use channel aggregation.

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power....” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Search function on the instrument to find the peak of the spectrum and record its value.
3. Adjustments to the peak value of the spectrum, if applicable:
 - a) If Method SA-2 or SA-2 Alternative was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.
 - b) If Method SA-3 Alternative was used and the linear mode was used in II.E.2.g) (viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4. The result is the Maximum PSD over 1MHz reference bandwidth
5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth(i.e.,

1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500 \text{ kHz} / RBW)$ to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log (1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note.

- As a practical matter, it is recommended to use reduced RBW of 100 kHz for the II.F.5.c) and II.F.5.d), since RBW=100 kHz is available on nearly all spectrum analyzers.
- Method SA-2 is used.
- Please refer to Appendix A for plots.

Test results

802.11ax HE20 in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 180	26T	0	5.12	4.34	0.10	7.86	10.57
			4	3.43	3.13	0.10	6.39	10.57
			8	4.58	4.80	0.10	7.80	10.57
		52T	37	3.95	3.42	0.10	6.80	10.57
			38	3.30	3.58	0.10	6.55	10.57
			40	3.38	3.89	0.10	6.75	10.57
		106T	53	1.92	1.49	0.10	4.82	10.57
			54	1.58	1.75	0.10	4.78	10.57
		242T	61	-1.86	-1.95	0.18	1.29	10.57
		SU	-	1.48	0.88	0.20	4.40	10.57
Mid	5 200	26T	0	5.14	4.43	0.10	7.91	10.57
			4	3.33	3.00	0.10	6.28	10.57
			8	4.43	4.67	0.10	7.66	10.57
		52T	37	3.90	3.47	0.10	6.80	10.57
			38	3.37	3.66	0.10	6.63	10.57
			40	3.25	3.84	0.10	6.67	10.57
		106T	53	1.75	1.63	0.10	4.80	10.57
			54	1.42	1.74	0.10	4.69	10.57
		242T	61	-1.87	-1.96	0.18	1.28	10.57
		SU	-	1.35	0.97	0.20	4.37	10.57
High	5 240	26T	0	5.01	3.67	0.10	7.50	10.57
			4	3.17	2.27	0.10	5.85	10.57
			8	4.40	3.72	0.10	7.18	10.57
		52T	37	3.94	3.39	0.10	6.78	10.57
			38	3.45	3.42	0.10	6.55	10.57
			40	3.40	3.56	0.10	6.59	10.57
		106T	53	1.86	1.34	0.10	4.72	10.57
			54	1.58	1.39	0.10	4.60	10.57
		242T	61	-1.84	-2.17	0.18	1.19	10.57
		SU	-	1.36	0.61	0.20	4.21	10.57

Note:

1. $\text{Maximum PSD (dB m/MHz)} = 10 \log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) \text{ (dB m/MHz)} + \text{DCF (dB)}$
2. Directional gains are greater than 6 dB i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB i.

802.11ax HE40 in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 190	26T	0	4.55	4.02	0.11	7.41	10.57
			9	4.12	3.83	0.11	7.10	10.57
			17	3.63	4.31	0.11	7.10	10.57
		52T	37	3.76	3.29	0.11	6.65	10.57
			41	3.40	3.13	0.11	6.39	10.57
			44	2.93	3.64	0.11	6.42	10.57
		106T	53	1.38	1.38	0.11	4.50	10.57
			54	1.21	1.34	0.11	4.40	10.57
			56	1.08	1.48	0.11	4.40	10.57
		242T	61	-2.39	-2.37	0.18	0.81	10.57
			62	-2.69	-2.30	0.18	0.70	10.57
		484T	65	-4.58	-4.54	0.34	-1.21	10.57
		SU	-	-3.05	-3.57	0.36	0.07	10.57
		High	5 230	26T	0	4.78	3.79	0.11
9	4.25				3.55	0.11	7.03	10.57
17	3.80				3.89	0.11	6.97	10.57
52T	37			3.70	3.39	0.11	6.67	10.57
	41			3.34	3.05	0.11	6.32	10.57
	44			3.01	3.41	0.11	6.33	10.57
106T	53			1.49	1.31	0.11	4.52	10.57
	54			1.25	1.01	0.11	4.25	10.57
	56			1.18	1.09	0.11	4.26	10.57
242T	61			-2.34	-2.45	0.18	0.80	10.57
	62			-2.63	-2.68	0.18	0.54	10.57
484T	65			-4.62	-4.64	0.34	-1.28	10.57
SU	-			-3.04	-3.79	0.36	-0.03	10.57

Note:

1. Maximum PSD(dB m/MHz) = 10log(10^(ANT 1/10) + 10^(ANT 2/10)) (dB m/MHz) + DCF(dB)
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

802.11ax HE80 in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Mid	5 210	26T	0	4.67	3.16	0.11	7.10	10.57
			18	2.88	1.98	0.11	5.57	10.57
			36	3.60	3.23	0.11	6.54	10.57
		52T	37	4.06	3.25	0.11	6.79	10.57
			45	3.51	3.27	0.11	6.51	10.57
			52	3.14	3.37	0.11	6.38	10.57
		106T	53	1.82	1.25	0.12	4.67	10.57
			57	1.22	1.18	0.12	4.33	10.57
			60	1.20	1.03	0.12	4.25	10.57
		242T	61	-1.96	-2.53	0.22	0.99	10.57
			62	-2.24	-2.56	0.22	0.83	10.57
			64	-2.52	-2.69	0.22	0.63	10.57
		484T	65	-5.32	-5.70	0.34	-2.16	10.57
			66	-5.74	-5.85	0.34	-2.44	10.57
		996T	67	-8.31	-8.70	0.63	-4.86	10.57
		SU	-	-6.01	-6.89	0.66	-2.76	10.57

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE160 in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Mid	5 250	26T	0L	5.27	3.46	0.11	7.58	10.57
			0U	5.19	4.19	0.11	7.84	10.57
			36U	3.69	3.16	0.11	6.55	10.57
		52T	37L	4.18	3.19	0.11	6.83	10.57
			37U	4.23	3.60	0.11	7.05	10.57
			52U	2.98	2.70	0.11	5.96	10.57
		106T	53L	1.39	1.12	0.12	4.39	10.57
			53U	2.66	1.53	0.12	5.26	10.57
			60U	1.50	0.45	0.12	4.14	10.57
		242T	61L	-1.95	-2.82	0.22	0.87	10.57
			61U	-2.23	-3.01	0.22	0.63	10.57
			64U	-2.75	-3.47	0.22	0.14	10.57
		484T	65L	-5.15	-6.11	0.34	-2.25	10.57
			65U	-5.17	-6.12	0.34	-2.27	10.57
			66U	-5.76	-6.48	0.34	-2.75	10.57
		996T	67L	-8.22	-9.86	0.64	-5.31	10.57
			67U	-8.85	-10.00	0.64	-5.74	10.57
		2X996T	-	-11.28	-12.11	1.12	-7.54	10.57
		SU	-	-11.21	-12.15	1.13	-7.51	10.57

Note:

1. $\text{Maximum PSD}(\text{dB m/MHz}) = 10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) (\text{dB m/MHz}) + \text{DCF}(\text{dB})$
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

802.11ax HE20 in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 260	26T	0	4.82	4.13	0.10	7.60	10.23
			4	2.78	2.59	0.10	5.80	10.23
			8	3.82	4.19	0.10	7.12	10.23
		52T	37	4.61	4.10	0.10	7.47	10.23
			38	4.11	4.17	0.10	7.25	10.23
			40	3.84	4.30	0.10	7.19	10.23
		106T	53	1.65	1.23	0.10	4.56	10.23
			54	1.19	1.23	0.10	4.32	10.23
		242T	61	-2.10	-2.36	0.18	0.96	10.23
		SU	-	0.97	0.63	0.20	4.01	10.23
		Mid	5 280	26T	0	4.42	3.79	0.10
4	2.66				2.40	0.10	5.64	10.23
8	4.06				3.98	0.10	7.13	10.23
52T	37			4.37	3.94	0.10	7.27	10.23
	38			3.94	3.97	0.10	7.07	10.23
	40			4.11	4.18	0.10	7.26	10.23
106T	53			1.48	1.02	0.10	4.37	10.23
	54			1.34	1.08	0.10	4.32	10.23
242T	61			-2.30	-2.61	0.18	0.74	10.23
SU	-			1.04	0.75	0.20	4.11	10.23
High	5 320			26T	0	4.63	5.33	0.10
		4	2.46		3.53	0.10	6.14	10.23
		8	3.87		4.98	0.10	7.57	10.23
		52T	37	3.75	4.43	0.10	7.21	10.23
			38	3.23	4.32	0.10	6.92	10.23
			40	2.95	4.19	0.10	6.72	10.23
		106T	53	1.67	2.39	0.10	5.16	10.23
			54	1.24	2.21	0.10	4.86	10.23
		242T	61	-2.07	-1.28	0.18	1.53	10.23
		SU	-	1.09	1.46	0.20	4.49	10.23

Note:

1. Maximum PSD(dB m/MHz) = 10log(10^(ANT 1/10) + 10^(ANT 2/10)) (dB m/MHz) + DCF(dB)
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

802.11ax HE40 in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)		
							Average			
Low	5 270	26T	0	4.27	3.57	0.11	7.05	10.23		
			9	3.44	3.30	0.11	6.49	10.23		
			17	3.39	3.80	0.11	6.72	10.23		
		52T	37	3.49	3.12	0.11	6.43	10.23		
			41	2.96	2.76	0.11	5.98	10.23		
			44	2.93	3.26	0.11	6.22	10.23		
		106T	53	1.26	0.92	0.11	4.21	10.23		
			54	0.88	0.67	0.11	3.90	10.23		
			56	0.95	0.95	0.11	4.07	10.23		
		242T	61	-2.48	-2.80	0.18	0.55	10.23		
			62	-2.85	-2.76	0.18	0.39	10.23		
		484T	65	-4.81	-4.98	0.34	-1.54	10.23		
		SU	-	-3.92	-4.13	0.36	-0.65	10.23		
		High	5 310	26T	0	4.27	5.07	0.11	7.81	10.23
					9	3.84	4.69	0.11	7.41	10.23
					17	3.59	4.59	0.11	7.24	10.23
52T	37			3.65	4.47	0.11	7.20	10.23		
	41			3.27	4.13	0.11	6.84	10.23		
	44			3.09	4.09	0.11	6.74	10.23		
106T	53			1.67	2.11	0.11	5.02	10.23		
	54			1.51	1.90	0.11	4.83	10.23		
	56			1.12	1.77	0.11	4.58	10.23		
242T	61			-2.24	-1.64	0.18	1.26	10.23		
	62			-2.50	-1.94	0.18	0.98	10.23		
484T	65			-5.51	-4.52	0.34	-1.64	10.23		
SU	-			-4.62	-3.76	0.36	-0.80	10.23		

Note:

1. $\text{Maximum PSD (dB m/MHz)} = 10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) \text{ (dB m/MHz)} + \text{DCF (dB)}$
2. Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

802.11ax HE80 in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Mid	5 290	26T	0	5.10	4.17	0.11	7.78	10.23
			18	2.98	2.87	0.11	6.05	10.23
			36	3.89	3.82	0.11	6.98	10.23
		52T	37	4.23	3.59	0.11	7.04	10.23
			45	4.01	3.40	0.11	6.84	10.23
			52	3.48	3.23	0.11	6.48	10.23
		106T	53	1.97	1.37	0.12	4.81	10.23
			57	1.57	1.24	0.12	4.54	10.23
			60	1.42	1.07	0.12	4.38	10.23
		242T	61	-1.77	-2.32	0.22	1.19	10.23
			62	-2.10	-2.40	0.22	0.98	10.23
			64	-2.14	-2.57	0.22	0.88	10.23
		484T	65	-4.91	-5.63	0.34	-1.90	10.23
			66	-5.37	-5.79	0.34	-2.22	10.23
		996T	67	-8.05	-8.62	0.63	-4.69	10.23
		SU	-	-6.45	-6.70	0.66	-2.90	10.23

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE20 in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 500	26T	0	4.03	4.33	0.10	7.29	10.08
			4	3.12	2.67	0.10	6.01	10.08
			8	4.91	4.18	0.10	7.67	10.08
		52T	37	3.78	4.35	0.10	7.18	10.08
			38	4.40	4.00	0.10	7.31	10.08
			40	4.78	4.13	0.10	7.58	10.08
		106T	53	1.33	1.35	0.10	4.45	10.08
			54	1.71	1.15	0.10	4.55	10.08
		242T	61	-1.88	-2.40	0.18	1.06	10.08
		SU	-	1.13	0.58	0.20	4.07	10.08
Mid	5 600	26T	0	3.11	3.59	0.10	6.47	10.08
			4	2.41	2.05	0.10	5.34	10.08
			8	4.22	3.71	0.10	7.08	10.08
		52T	37	2.71	3.56	0.10	6.27	10.08
			38	3.49	3.44	0.10	6.58	10.08
			40	4.02	3.74	0.10	6.99	10.08
		106T	53	0.43	0.60	0.10	3.63	10.08
			54	0.93	0.63	0.10	3.89	10.08
		242T	61	-2.77	-2.97	0.18	0.32	10.08
		SU	-	1.34	1.03	0.20	4.40	10.08
High	5 700	26T	0	4.78	4.79	0.10	7.90	10.08
			4	3.71	3.37	0.10	6.65	10.08
			8	5.17	4.67	0.10	8.04	10.08
		52T	37	3.98	4.31	0.10	7.26	10.08
			38	4.04	3.95	0.10	7.11	10.08
			40	4.50	3.95	0.10	7.34	10.08
		106T	53	2.19	1.68	0.10	5.05	10.08
			54	2.56	1.46	0.10	5.16	10.08
		242T	61	-1.09	-1.96	0.18	1.69	10.08
		SU	-	2.19	1.44	0.20	5.04	10.08
Straddle	5 720	26T	0	4.21	4.19	0.10	7.31	10.08
			4	3.45	2.66	0.10	6.18	10.08
		52T	37	3.87	4.08	0.10	7.09	10.08
			38	4.21	3.74	0.10	7.09	10.08
		106T	53	1.18	1.02	0.10	4.21	10.08

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.

802.11ax HE40 in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 510	26T	0	3.67	4.09	0.11	7.01	10.08
			9	3.68	3.75	0.11	6.84	10.08
			17	4.71	3.96	0.11	7.47	10.08
		52T	37	3.90	4.22	0.11	7.18	10.08
			41	3.69	3.99	0.11	6.96	10.08
			44	4.75	4.15	0.11	7.58	10.08
		106T	53	1.31	1.01	0.11	4.28	10.08
			54	1.32	0.90	0.11	4.24	10.08
			56	1.60	1.15	0.11	4.50	10.08
		242T	61	-2.52	-2.75	0.18	0.56	10.08
			62	-2.12	-2.65	0.18	0.81	10.08
		484T	65	-4.18	-4.57	0.34	-1.02	10.08
		SU	-	-3.27	-3.90	0.36	-0.20	10.08
		Mid	5 590	26T	0	3.39	4.18	0.11
9	3.53				4.13	0.11	6.96	10.08
17	4.88				4.45	0.11	7.79	10.08
52T	37			2.74	3.09	0.11	6.04	10.08
	41			2.57	3.10	0.11	5.96	10.08
	44			3.98	3.35	0.11	6.80	10.08
106T	53			1.21	1.24	0.11	4.35	10.08
	54			1.17	1.22	0.11	4.32	10.08
	56			1.73	1.52	0.11	4.75	10.08
242T	61			-2.57	-2.59	0.18	0.61	10.08
	62			-2.09	-2.30	0.18	1.00	10.08
484T	65			-5.24	-5.65	0.34	-2.09	10.08
SU	-			-3.02	-3.43	0.36	0.15	10.08
High	5 670			26T	0	3.31	4.43	0.11
		9	3.55		4.60	0.11	7.23	10.08
		17	4.55		4.81	0.11	7.80	10.08
		52T	37	2.21	3.57	0.11	6.06	10.08
			41	2.46	3.71	0.11	6.25	10.08
			44	3.43	4.07	0.11	6.88	10.08
		106T	53	0.89	1.44	0.11	4.29	10.08
			54	0.98	1.42	0.11	4.33	10.08
			56	1.19	2.02	0.11	4.75	10.08
		242T	61	-2.81	-2.31	0.18	0.64	10.08
			62	-2.53	-1.83	0.18	1.02	10.08
		484T	65	-5.61	-5.02	0.34	-1.95	10.08
		SU	-	-4.36	-4.16	0.36	-0.89	10.08

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Straddle	5 710	26T	0	3.57	4.02	0.11	6.92	10.08
			9	3.55	3.56	0.11	6.68	10.08
		52T	37	3.41	4.06	0.11	6.87	10.08
			41	3.49	3.82	0.11	6.78	10.08
		106T	53	0.83	0.93	0.11	4.00	10.08
			54	0.65	0.76	0.11	3.83	10.08
		242T	61	-2.97	-2.86	0.18	0.28	10.08

Note:

- Maximum PSD(dB m/MHz) = 10log(10^(ANT 1/10) + 10^(ANT 2/10)) (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dB_i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB_i.



802.11ax HE80 in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Low	5 530	26T	0	3.38	3.93	0.11	6.78	10.08
			18	2.89	2.67	0.11	5.90	10.08
			36	4.36	3.52	0.11	7.08	10.08
		52T	37	3.75	3.97	0.11	6.98	10.08
			45	3.85	3.91	0.11	7.00	10.08
			52	4.36	3.42	0.11	7.04	10.08
		106T	53	1.13	0.61	0.12	4.01	10.08
			57	1.15	0.48	0.12	3.96	10.08
			60	1.20	0.18	0.12	3.85	10.08
		242T	61	-2.69	-3.07	0.22	0.35	10.08
			62	-2.56	-3.12	0.22	0.40	10.08
			64	-2.59	-3.44	0.22	0.24	10.08
		484T	65	-5.37	-6.19	0.34	-2.41	10.08
			66	-5.34	-6.27	0.34	-2.43	10.08
		996T	67	-7.90	-8.48	0.63	-4.54	10.08
		SU	-	-5.56	-6.29	0.66	-2.24	10.08
High	5 610	26T	0	3.15	3.39	0.11	6.39	10.08
			18	3.00	2.51	0.11	5.88	10.08
			36	4.80	3.71	0.11	7.41	10.08
		52T	37	3.32	3.60	0.11	6.58	10.08
			45	3.62	3.94	0.11	6.90	10.08
			52	4.77	3.88	0.11	7.47	10.08
		106T	53	0.93	0.49	0.12	3.85	10.08
			57	1.29	0.63	0.12	4.10	10.08
			60	1.53	0.87	0.12	4.34	10.08
		242T	61	-2.84	-3.20	0.22	0.21	10.08
			62	-2.60	-3.02	0.22	0.43	10.08
			64	-2.27	-2.92	0.22	0.65	10.08
		484T	65	-6.07	-6.39	0.34	-2.88	10.08
			66	-5.61	-6.19	0.34	-2.54	10.08
		996T	67	-7.64	-8.29	0.63	-4.31	10.08
		SU	-	-5.59	-6.34	0.66	-2.28	10.08

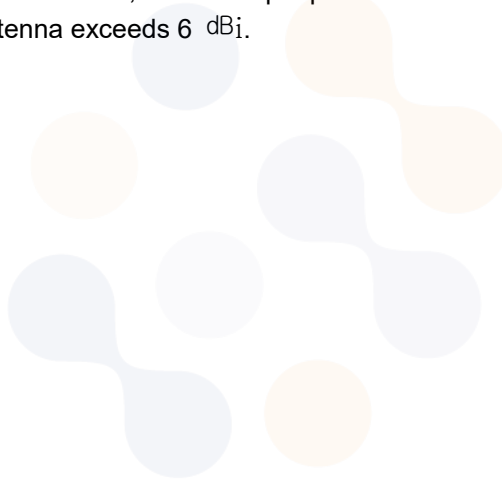
Note:

1. Maximum PSD(dB m/MHz) = 10log(10^(ANT 1/10) + 10^(ANT 2/10)) (dB m/MHz) + DCF(dB)
2. Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Straddle	5 690	26T	0	3.31	2.98	0.11	6.27	10.08
			18	3.03	2.01	0.11	5.67	10.08
		52T	37	3.18	3.22	0.11	6.32	10.08
			45	3.42	3.52	0.11	6.59	10.08
		106T	53	1.80	1.02	0.12	4.56	10.08
			57	1.97	1.40	0.12	4.82	10.08
		242T	61	-1.93	-2.66	0.22	0.95	10.08
			62	-1.89	-2.47	0.22	1.06	10.08
		484T	65	-5.16	-5.71	0.34	-2.08	10.08

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



11ax HE160 in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	DCF (dB)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
							Average	
Mid	5 570	26T	0L	3.33	4.63	0.11	7.15	10.08
			0U	3.45	3.13	0.11	6.41	10.08
			36U	4.12	2.39	0.11	6.46	10.08
		52T	37L	3.53	3.75	0.11	6.76	10.08
			37U	3.41	3.02	0.11	6.34	10.08
			52U	3.99	2.39	0.11	6.38	10.08
		106T	53L	1.29	1.04	0.12	4.30	10.08
			53U	2.15	0.85	0.12	4.68	10.08
			60U	1.75	0.31	0.12	4.22	10.08
		242T	61L	-2.69	-2.65	0.22	0.56	10.08
			61U	-2.56	-3.78	0.22	0.10	10.08
			64U	-2.44	-4.14	0.22	0.02	10.08
		484T	65L	-5.70	-5.81	0.34	-2.40	10.08
			65U	-5.31	-5.71	0.34	-2.16	10.08
			66U	-4.71	-6.14	0.34	-2.02	10.08
		996T	67L	-9.57	-9.65	0.64	-5.96	10.08
			67U	-8.72	-10.09	0.64	-5.70	10.08
		2X996T	68	-10.83	-11.53	1.12	-7.04	10.08
		SU	-	-10.98	-11.70	1.13	-7.18	10.08

Note:

1. $\text{Maximum PSD (dB m/MHz)} = 10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) \text{ (dB m/MHz)} + \text{DCF (dB)}$
2. Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE20 in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	DCF (dB)	Maximum PSD (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
							Average	
Straddle	5 720	26T	8	2.06	1.60	0.10	4.95	29.73
		52T	40	2.50	1.26	0.10	5.03	29.73
Low	5 745	26T	0	2.22	1.85	0.10	5.15	29.73
			4	1.78	1.15	0.10	4.59	29.73
			8	2.22	1.74	0.10	5.10	29.73
		52T	37	2.48	1.97	0.10	5.34	29.73
			38	2.06	1.89	0.10	5.09	29.73
			40	2.46	1.93	0.10	5.31	29.73
		106T	53	-0.50	-0.92	0.10	2.41	29.73
			54	-0.56	-0.96	0.10	2.35	29.73
		242T	61	-0.54	-4.61	0.18	1.08	29.73
		SU	-	-1.41	-1.43	0.20	1.79	29.73
Mid	5 785	26T	0	1.67	1.25	0.10	4.58	29.73
			4	1.07	0.39	0.10	3.85	29.73
			8	1.59	0.87	0.10	4.36	29.73
		52T	37	1.31	1.14	0.10	4.34	29.73
			38	0.80	0.87	0.10	3.95	29.73
			40	1.13	0.91	0.10	4.13	29.73
		106T	53	-1.64	-1.84	0.10	1.37	29.73
			54	-1.84	-2.10	0.10	1.14	29.73
		242T	61	-5.49	-5.52	0.18	-2.31	29.73
		SU	-	-1.92	-2.62	0.20	0.95	29.73
High	5 825	26T	0	1.24	2.14	0.10	4.82	29.73
			4	0.59	1.42	0.10	4.14	29.73
			8	1.20	1.73	0.10	4.58	29.73
		52T	37	0.93	2.19	0.10	4.72	29.73
			38	0.24	1.96	0.10	4.29	29.73
			40	0.71	1.98	0.10	4.50	29.73
		106T	53	-2.09	-0.76	0.10	1.74	29.73
			54	-2.22	-0.89	0.10	1.61	29.73
		242T	61	-5.82	-4.34	0.18	-1.83	29.73
		SU	-	-2.49	-1.40	0.20	1.30	29.73

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE40 in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500 kHz)	Measured PSD ANT 2 (dBm/500 kHz)	DCF (dB)	Maximum PSD (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
							Average	
Straddle	5 710	26T	17	2.01	1.36	0.11	4.82	29.73
		52T	44	2.50	1.56	0.11	5.18	29.73
Low	5 755	26T	0	1.83	1.78	0.11	4.93	29.73
			9	1.75	1.52	0.11	4.76	29.73
			17	1.90	1.52	0.11	4.83	29.73
		52T	37	1.57	1.88	0.11	4.85	29.73
			41	1.58	1.72	0.11	4.77	29.73
			44	1.74	1.80	0.11	4.89	29.73
		106T	53	-1.27	-1.23	0.11	1.87	29.73
			54	-1.50	-1.21	0.11	1.77	29.73
			56	-1.45	-1.17	0.11	1.81	29.73
		242T	61	-5.02	-4.95	0.18	-1.79	29.73
			62	-5.21	-4.87	0.18	-1.85	29.73
		484T	65	-8.23	-8.03	0.34	-4.78	29.73
		SU	-	-6.40	-7.07	0.36	-3.35	29.73
		High	5 795	26T	0	1.17	1.20	0.11
9	1.04				0.91	0.11	4.10	29.73
17	0.89				0.95	0.11	4.04	29.73
52T	37			1.00	1.30	0.11	4.27	29.73
	41			0.78	1.08	0.11	4.05	29.73
	44			0.72	1.14	0.11	4.06	29.73
106T	53			-2.20	-1.81	0.11	1.12	29.73
	54			-2.26	-2.05	0.11	0.97	29.73
	56			-2.21	-1.78	0.11	1.13	29.73
242T	61			-5.86	-5.49	0.18	-2.48	29.73
	62			-5.96	-5.48	0.18	-2.52	29.73
484T	65			-9.00	-8.62	0.34	-5.46	29.73
SU	-			-7.46	-7.86	0.36	-4.29	29.73

Note:

1. Maximum PSD(dB m/MHz) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)})$ (dB m/MHz) + DCF(dB)
2. Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE80 in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	DCF (dB)	Maximum PSD	Maximum PSD Limit
				(dBm/500kHz)	(dBm/500kHz)		(dBm/500kHz)	
Straddle	5 690	26T	36	2.45	1.43	0.11	5.09	29.73
		52T	52	2.78	1.32	0.11	5.23	29.73
Mid	5 775	26T	0	1.64	1.02	0.11	4.46	29.73
			18	1.24	0.54	0.11	4.02	29.73
			36	1.35	1.02	0.11	4.31	29.73
		52T	37	1.32	1.04	0.11	4.30	29.73
			45	1.05	0.88	0.11	4.09	29.73
			52	1.10	0.92	0.11	4.13	29.73
		106T	53	-1.73	-2.09	0.12	1.22	29.73
			57	-1.90	-2.32	0.12	1.03	29.73
			60	-1.88	-2.05	0.12	1.17	29.73
		242T	61	-5.30	-5.79	0.22	-2.31	29.73
			62	-5.44	-5.82	0.22	-2.40	29.73
			64	-5.54	-5.62	0.22	-2.35	29.73
		484T	65	-8.63	-9.09	0.34	-5.50	29.73
			66	-8.90	-9.00	0.34	-5.60	29.73
		996T	67	-12.35	-12.60	0.63	-8.83	29.73
		SU	-	-8.35	-8.97	0.66	-4.98	29.73

Note:

1. $\text{Maximum PSD}(\text{dB m/MHz}) = 10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)}) (\text{dB m/MHz}) + \text{DCF}(\text{dB})$
2. Directional gains are greater than 6 dBi, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

802.11ax HE20 in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	DCF (dB)	Maximum PSD	Maximum PSD Limit
							Average	
UNII-2C	5 720	106T	54	0.39	0.89	0.10	3.76	10.08
		242T	61	-2.34	-2.60	0.18	0.72	10.08
		SU	-	2.29	1.42	0.20	5.09	10.08
UNII-3		106T	54	-1.36	-2.08	0.10	1.41	29.73
		242T	61	-5.00	-5.70	0.18	-2.15	29.73
		SU	-	-1.54	-2.00	0.20	1.45	29.73

802.11ax HE40 in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	DCF (dB)	Maximum PSD	Maximum PSD Limit
							Average	
UNII-2C	5 710	106T	56	0.45	0.91	0.11	3.81	10.08
		242T	62	-2.88	-2.88	0.18	0.31	10.08
		484T	65	-4.32	-4.94	0.34	-1.27	10.08
		SU	-	-3.46	-3.92	0.36	-0.31	10.08
UNII-3		106T	56	-2.06	-2.08	0.11	1.05	29.73
		242T	62	-5.82	-5.89	0.18	-2.66	29.73
		484T	65	-7.48	-8.05	0.34	-4.41	29.73
		SU	-	-7.71	-7.61	0.36	-4.29	29.73

802.11ax HE80 in the Straddle

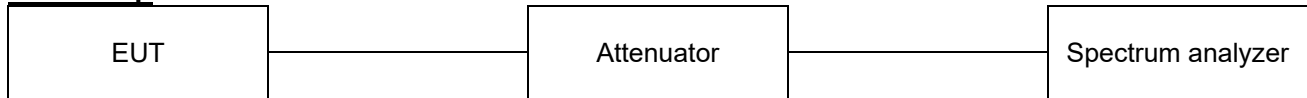
Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	DCF (dB)	Maximum PSD	Maximum PSD Limit
							Average	
UNII-2C	5 690	106T	60	1.59	1.28	0.12	4.57	10.08
		242T	64	-1.74	-2.34	0.22	1.20	10.08
		484T	66	-4.98	-5.72	0.34	-1.98	10.08
		996T	67	-8.08	-8.74	0.63	-4.76	10.08
		SU	-	-5.71	-6.92	0.66	-2.60	10.08
UNII-3		106T	60	-0.83	-1.68	0.12	1.90	29.73
		242T	64	-4.45	-5.44	0.22	-1.69	29.73
		484T	66	-7.78	-8.73	0.34	-4.88	29.73
		996T	67	-11.15	-11.81	0.63	-7.83	29.73
		SU	-	-10.30	-11.32	0.66	-7.11	29.73

Note:

- Maximum PSD(dB m/MHz) = $10\log(10^{(ANT\ 1/10)} + 10^{(ANT\ 2/10)})$ (dB m/MHz) + DCF(dB)
- Directional gains are greater than 6 dB i, So the output power limits are reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB i.
- The Unit of UNII-2C is (dB m / MHz) and Unit of UNII-3 is (dB m / 500 kHz)

7.3. 26 dB Bandwidth & 99% Bandwidth

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013 Section 12.4

KDB 789033 D02 v02r01 - Section C.1 (26dBbandwidth)

KDB 789033 D02 v02r01 - Section D (99% bandwidth)

Test settings

1. 26 dB Bandwidth

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

2. 99% Occupied Bandwidth

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1% to 5% of the OBW
- Set VBW $\geq 3 \times$ RBW
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- Use the 99% power bandwidth function of the instrument (if available).
- If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Note:

- Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
 - For UNII-2C = $5\,725\text{ MHz} - T1$ (Measured frequency on the marker table)
 - For UNII 3 = $T2$ (Measured frequency on the marker table) - $5\,725\text{ MHz}$
- Please refer to Appendix A for plots

Test results

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)		
					ANT 1	ANT 2	ANT 1	ANT 2	
UNII-1	HE20	5 180	26T	0	20.98	20.78	18.68	18.63	
				4	19.13	18.83	17.38	17.23	
				8	21.13	20.73	18.88	18.68	
			52T	37	21.63	21.58	18.48	18.48	
				38	19.88	19.23	17.38	17.23	
				40	21.18	20.83	18.48	18.33	
			106T	53	22.48	22.18	18.43	18.43	
				54	22.03	21.43	18.48	18.28	
			242T	61	23.23	23.63	19.28	19.28	
			SU	-	21.28	21.63	18.93	18.98	
			5 200	26T	0	20.93	20.73	18.73	18.68
					4	19.18	18.68	17.38	17.23
		8			21.03	20.58	18.93	18.63	
		52T		37	21.68	21.63	18.53	18.58	
				38	19.88	19.33	17.38	17.18	
				40	21.18	20.88	18.43	18.33	
		106T		53	22.38	22.18	18.43	18.43	
				54	22.08	21.53	18.48	18.28	
		242T		61	23.13	23.53	19.28	19.28	
		SU		-	21.48	21.53	18.93	18.98	
		5 240		26T	0	20.98	20.63	18.73	18.58
					4	19.13	18.78	17.43	17.23
			8		21.23	20.78	18.98	18.73	
			52T	37	21.43	21.58	18.48	18.53	
				38	19.88	19.28	17.38	17.18	
				40	21.18	21.03	18.48	18.33	
			106T	53	22.38	22.13	18.48	18.43	
				54	22.08	21.43	18.48	18.33	
			242T	61	23.08	23.58	19.23	19.23	
			SU	-	21.33	21.68	18.93	18.93	

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-1	HE40	5 190	26T	0	40.76	40.76	38.26	38.36
				9	38.46	38.26	36.36	36.46
				17	40.86	40.46	38.46	38.16
			52T	37	41.56	41.16	38.06	38.06
				41	38.56	38.66	36.36	36.46
				44	41.86	41.16	38.36	38.06
			106T	53	41.36	41.16	37.76	37.66
				54	39.26	38.96	36.76	36.56
				56	41.36	41.06	37.76	37.66
			242T	61	43.36	42.76	37.66	37.46
				62	44.26	42.36	37.96	37.66
			484T	65	45.25	44.06	38.16	38.06
		SU	-	41.16	41.06	37.66	37.76	
		5 230	26T	0	40.76	41.06	38.26	38.46
				9	38.46	38.36	36.46	36.46
				17	40.86	40.86	38.46	38.46
			52T	37	41.46	41.36	38.06	38.06
				41	38.56	38.56	36.56	36.46
				44	41.36	41.16	38.06	38.06
			106T	53	41.46	40.96	37.86	37.66
				54	39.26	38.96	36.76	36.66
				56	41.46	41.26	37.76	37.66
			242T	61	42.76	42.46	37.56	37.46
				62	44.06	42.76	37.96	37.86
484T	65		44.96	45.05	38.26	38.16		
SU	-	41.36	41.06	37.76	37.76			

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-1	HE80	5 210	26T	0	82.84	82.72	79.24	79.60
				18	78.88	78.64	75.28	75.16
				36	82.24	81.52	79.00	78.52
			52T	37	83.56	83.92	78.64	78.64
				45	78.64	78.88	74.69	74.81
				52	83.44	83.56	78.52	78.28
			106T	53	83.92	82.72	78.40	77.92
				57	79.96	79.00	75.76	75.40
				60	83.32	82.72	77.68	77.44
			242T	61	85.47	85.47	77.44	77.20
				62	83.68	81.52	76.00	75.40
				64	85.35	85.35	77.32	77.20
			484T	65	87.87	83.32	77.32	76.96
				66	88.35	86.07	77.44	77.08
			966T	67	92.79	90.27	78.04	78.04
			SU	-	82.84	82.72	77.20	77.08

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-1	HE160	5 250	26T	0L	165.91	165.59	158.88	159.52
				0U	159.20	158.88	152.49	152.49
				36U	164.64	164.32	159.52	159.52
			52T	37L	166.23	165.59	158.56	158.24
				37U	159.52	158.88	152.49	151.85
				52U	165.59	164.96	158.88	158.24
			106T	53L	166.87	165.59	157.92	157.92
				53U	160.16	160.48	152.81	153.13
				60U	165.27	166.87	158.24	158.88
			242T	61L	171.99	170.39	156.96	157.28
				61U	163.36	162.40	154.09	154.09
				64U	172.63	170.07	157.92	157.60
			484T	65L	172.63	168.47	156.64	156.32
				65U	167.83	164.32	154.09	154.09
				66U	179.98	168.47	157.92	156.96
			966T	67L	180.62	168.15	156.32	156.32
				67U	183.82	172.95	156.96	156.64
			2X996T	-	166.23	166.23	156.00	156.00
			SU	-	166.87	166.55	156.00	156.00

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2A	HE20	5 260	26T	0	20.93	20.63	18.78	18.58
				4	19.18	18.78	17.43	17.23
				8	21.33	20.78	18.98	18.68
			52T	37	21.48	21.58	18.43	18.53
				38	19.98	19.28	17.38	17.18
				40	21.23	20.88	18.48	18.33
			106T	53	22.28	22.08	18.43	18.43
				54	22.23	21.43	18.48	18.33
			242T	61	23.03	23.53	19.23	19.28
		SU	-	21.33	21.63	18.93	18.93	
		5 280	26T	0	21.03	20.73	18.78	18.63
				4	19.33	18.83	17.43	17.23
				8	21.13	20.68	18.98	18.63
			52T	37	21.58	21.48	18.58	18.53
				38	19.88	19.28	17.43	17.23
				40	21.18	20.93	18.43	18.33
			106T	53	22.33	22.13	18.48	18.43
				54	21.93	21.33	18.48	18.33
			242T	61	23.03	23.53	19.23	19.23
		SU	-	21.43	21.53	18.93	18.93	
		5 320	26T	0	21.08	20.63	18.78	18.58
				4	19.38	18.83	17.48	17.23
				8	21.28	20.68	18.93	18.68
			52T	37	21.48	21.53	18.53	18.53
				38	19.78	19.28	17.38	17.18
				40	21.18	20.93	18.43	18.38
			106T	53	22.28	22.08	18.38	18.38
				54	21.98	21.48	18.48	18.38
			242T	61	22.93	23.53	19.18	19.28
		SU	-	21.43	21.68	18.93	18.93	

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2A	HE40	5 270	26T	0	40.86	41.16	38.36	38.46
				9	38.56	38.26	36.46	36.46
				17	41.26	41.06	38.76	38.66
			52T	37	41.46	41.36	38.06	38.06
				41	38.56	38.56	36.56	36.56
				44	41.26	41.06	38.06	37.96
			106T	53	41.46	41.16	37.76	37.66
				54	39.26	39.16	36.76	36.66
				56	41.86	41.16	37.96	37.76
			242T	61	42.86	42.46	37.66	37.46
				62	44.26	42.36	37.86	37.76
			484T	65	45.25	44.56	38.26	38.06
		SU	-	41.36	41.26	37.66	37.76	
		5 310	26T	0	40.76	40.76	38.26	38.16
				9	38.46	38.36	36.46	36.36
				17	40.66	40.66	38.56	38.26
			52T	37	41.56	41.26	38.06	37.96
				41	38.66	38.66	36.56	36.46
				44	41.36	40.96	38.06	37.96
			106T	53	41.26	41.16	37.76	37.56
				54	39.16	39.06	36.76	36.56
				56	41.46	41.46	37.76	37.66
			242T	61	42.46	42.56	37.56	37.36
				62	44.26	42.26	37.86	37.66
484T	65		44.86	44.56	38.16	38.16		
SU	-	41.06	40.86	37.66	37.76			

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2A	HE80	5 290	26T	0	82.72	82.48	79.36	79.12
				18	79.12	78.52	75.52	75.04
				36	82.00	81.64	79.00	78.64
			52T	37	84.64	83.32	79.00	78.40
				45	79.48	78.76	75.04	74.81
				52	84.04	83.56	78.64	78.40
			106T	53	84.76	82.60	78.64	77.80
				57	79.96	79.00	75.64	75.16
				60	82.72	82.60	77.56	77.32
			242T	61	84.52	85.71	77.32	77.32
				62	83.32	81.04	76.00	75.52
				64	87.87	85.23	77.80	77.32
			484T	65	87.99	83.68	77.44	76.96
				66	87.15	85.83	77.44	77.08
			996T	67	91.47	89.55	77.92	77.92
SU	-	82.96	83.32	77.20	77.08			

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE20	5 500	26T	0	21.18	20.93	18.83	18.73
				4	19.28	18.78	17.38	17.23
				8	21.08	20.78	18.83	18.73
			52T	37	21.73	21.38	18.58	18.48
				38	19.88	19.28	17.33	17.18
				40	21.08	21.03	18.38	18.38
			106T	53	22.28	21.98	18.48	18.43
				54	21.93	21.48	18.48	18.38
			242T	61	23.08	23.53	19.28	19.28
		SU	-	21.58	21.58	18.93	18.93	
		5 600	26T	0	21.08	21.18	18.78	19.03
				4	19.18	18.83	17.38	17.23
				8	21.03	20.78	18.93	18.73
			52T	37	21.68	21.43	18.63	18.48
				38	19.88	19.23	17.33	17.23
				40	21.13	20.88	18.33	18.33
			106T	53	22.33	22.08	18.48	18.43
				54	21.83	21.33	18.43	18.33
			242T	61	23.23	23.58	19.28	19.28
		SU	-	21.53	21.68	18.93	18.98	
		5 700	26T	0	21.03	20.63	18.83	18.58
				4	19.13	18.83	17.38	17.23
				8	21.08	20.73	18.88	18.73
			52T	37	21.78	21.23	18.63	18.48
				38	19.83	19.23	17.33	17.23
				40	21.08	20.88	18.38	18.33
			106T	53	22.38	21.73	18.48	18.43
				54	21.98	21.53	18.48	18.38
			242T	61	23.33	23.58	19.28	19.28
		SU	-	21.58	21.68	18.98	18.98	

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE20	Straddle 5 720	26T	0	20.88	20.78	18.78	18.93
				4	18.98	18.83	17.33	17.23
				8	-		-	
			52T	37	21.63	21.38	18.53	18.48
				38	19.78	19.23	17.33	17.23
				40	-		-	
			106T	53	22.33	22.13	18.53	18.43
				54*	15.24	12.59	13.74	13.59
				242T	61*	16.79	14.54	14.69
			SU	-*	15.69	14.39	14.44	14.44

Note:

1. * RU Allocation included in the straddle band
2. Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
 - For UNII-2C = 5 725 MHz – T1 (Measured frequency on the marker table)
 - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 MHz

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE40	5 510	26T	0	40.86	40.66	38.46	38.26
				9	38.36	38.26	36.46	36.36
				17	40.66	40.56	38.36	38.16
			52T	37	41.36	40.96	38.16	37.86
				41	38.66	38.46	36.56	36.36
				44	41.56	40.86	37.96	37.96
			106T	53	41.26	41.26	37.86	37.66
				54	39.16	39.26	36.76	36.66
				56	41.46	41.16	37.66	37.76
			242T	61	43.16	42.76	37.56	37.46
				62	43.96	42.26	37.76	37.66
			484T	65	44.86	44.36	38.26	38.26
		SU	-	41.16	41.06	37.76	37.76	
		5 590	26T	0	40.76	40.86	38.46	38.26
				9	38.36	38.36	36.36	36.46
				17	41.06	40.56	38.56	38.26
			52T	37	41.76	41.26	38.26	38.06
				41	38.76	38.56	36.66	36.36
				44	41.16	41.26	37.86	37.96
			106T	53	41.16	41.06	37.76	37.66
				54	39.16	39.16	36.66	36.66
				56	41.36	41.06	37.66	37.66
			242T	61	42.96	43.06	37.66	37.46
				62	43.86	42.16	37.76	37.66
484T	65		44.96	44.16	38.26	38.16		
SU	-	40.86	40.96	37.86	37.76			

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE40	5 670	26T	0	40.76	40.76	38.46	38.36
				9	38.36	38.26	36.46	36.26
				17	40.66	40.66	38.26	38.16
			52T	37	41.36	41.36	38.16	38.06
				41	38.66	38.56	36.56	36.26
				44	41.36	41.26	37.96	37.96
			106T	53	41.36	41.36	37.86	37.66
				54	39.36	39.16	36.76	36.66
				56	41.86	41.16	37.66	37.66
			242T	61	42.36	42.76	37.56	37.46
				62	43.96	42.26	37.86	37.66
			484T	65	44.86	44.26	38.26	38.16
		SU	-	41.06	40.86	37.76	37.76	
		Straddle 5 710	26T	0	40.96	40.96	38.66	38.26
				9	38.26	38.26	36.36	36.36
				17	-	-	-	-
			52T	37	41.76	41.26	38.16	37.96
				41	38.66	38.56	36.46	36.36
				44	-	-	-	-
			106T	53	41.46	41.26	37.66	37.66
				54	39.26	39.26	36.76	36.66
				56*	34.98	34.48	33.28	33.28
			242T	61	43.16	42.56	37.56	37.46
				62*	37.38	34.88	33.58	33.38
484T	65*		36.78	37.38	33.98	34.08		
SU	-*	35.68	35.48	33.78	33.78			

Note:

- * RU Allocation included in the straddle band
- Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
 - For UNII-2C = 5 725 MHz – T1 (Measured frequency on the marker table)
 - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 MHz

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE80	5 530	26T	0	82.48	82.24	79.12	78.88
				18	78.88	78.28	75.28	74.93
				36	82.12	81.76	79.24	78.76
			52T	37	84.64	83.56	79.12	78.52
				45	79.48	78.76	75.16	74.69
				52	83.56	83.68	78.52	78.28
			106T	53	83.44	82.84	78.28	77.92
				57	79.72	79.12	75.40	75.28
				60	82.72	82.84	77.44	77.56
			242T	61	86.19	85.35	77.56	77.32
				62	83.56	80.92	75.76	75.52
				64	85.71	85.47	77.32	77.32
			484T	65	87.15	83.44	77.44	76.96
				66	86.67	85.71	77.32	77.20
			996T	67	91.47	89.19	78.04	78.04
		SU	-	82.60	82.60	77.20	77.20	
		5 610	26T	0	82.96	82.24	79.36	79.00
				18	78.88	78.64	75.28	75.16
				36	82.24	81.28	79.12	78.76
			52T	37	84.75	83.20	79.24	78.40
				45	79.36	78.76	75.16	74.69
				52	83.08	82.96	78.28	78.16
			106T	53	83.32	83.08	78.40	78.04
				57	79.48	79.00	75.40	75.29
				60	83.44	83.32	77.56	77.68
			242T	61	87.27	85.47	77.68	77.32
				62	83.08	81.16	75.76	75.52
64	85.23			85.11	76.96	77.20		
484T	65		87.75	84.87	77.44	77.08		
	66		86.79	85.95	77.20	77.08		
996T	67		90.03	89.19	77.92	77.92		
SU	-	82.24	82.84	77.08	77.20			

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE80	Straddle 5 690	26T	0	82.84	82.72	79.36	79.24
				18	78.40	78.64	75.04	75.16
				36	-	-	-	-
			52T	37	84.28	83.32	79.24	78.64
				45	79.72	78.88	75.04	74.81
				52	-	-	-	-
			106T	53	83.68	82.72	78.40	77.92
				57	79.84	79.00	75.40	75.28
				60*	74.56	74.44	72.28	72.28
			242T	61	87.87	85.47	77.44	77.32
				62	83.80	81.16	75.64	75.40
				64*	76.00	75.16	72.52	72.52
			484T	65	87.75	83.68	77.44	76.96
				66*	76.00	75.88	72.64	72.64
			966T	67*	79.36	79.24	73.84	73.96
			SU	-*	76.12	76.48	73.48	73.48

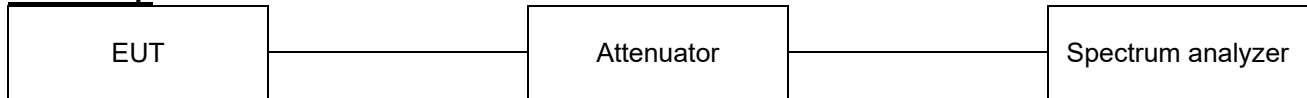
Note:

- * RU Allocation included in the straddle band
- Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
 - For UNII-2C = 5 725 MHz – T1 (Measured frequency on the marker table)
 - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 MHz

Band	Mode	Frequency (MHz)	Tones	RU offset	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-2C	HE160	5 570	26T	0L	165.59	166.23	159.84	159.52
				0U	158.88	158.56	153.77	153.13
				36U	164.32	163.68	159.52	159.84
			52T	37L	167.19	166.23	159.84	158.88
				37U	158.56	159.52	151.85	152.81
				52U	164.96	165.27	157.92	158.24
			106T	53L	167.83	166.87	158.56	158.24
				53U	160.16	159.84	153.13	153.13
				60U	164.96	166.55	157.60	158.56
			242T	61L	172.31	171.03	157.92	157.28
				61U	162.40	162.72	153.45	154.41
				64U	170.71	167.83	156.64	157.60
			484T	65L	168.15	168.79	157.28	156.32
				65U	165.27	164.32	154.41	154.41
				66U	169.11	168.47	156.96	157.28
			996T	67L	172.95	173.91	156.64	156.64
				67U	170.07	189.57	156.32	157.28
			2X996T	-	165.91	166.55	155.68	156.00
			SU	-	167.19	166.23	156.00	156.00

7.4. 6 dB Bandwidth & 99% Bandwidth

Test setup



Limit

According to §15.407(e), Within the 5.725-5.85 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500kHz.

Test procedure

ANSI C63.10-2013 Section 6.9.2
KDB 789033 D02 v02r01 - Section C.2

Test settings

Minimum Emission Bandwidth for the band 5.725–5.85 GHz.

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725–5.85 GHz and 5.850-5.895 GHz band. The following procedure shall be used for measuring this Bandwidth:

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note:

1. For the 6dB Bandwidth, it was tested at the RU allocation with lowest tones number for each bandwidth
2. * RU Allocation included in the straddle band
3. Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
 - For UNII-2C = 5 725 MHz – T1 (Measured frequency on the marker table)
 - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 MHz
4. Please refer to Appendix A for plots

Test results

Band	Mode	Frequency (MHz)	Tones	RU offset	6 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-3	HE20	Straddle 5 720	26T	8	2.15	2.20	18.88	18.73
			52T	40	15.88	17.13	18.43	18.38
			106T	54*	4.54	4.64	4.79	4.79
			242T	61*	4.54	4.59	4.64	4.74
			SU	-*	4.54	4.49	4.54	4.54
		5 745	26T	0	2.20	2.20	18.78	18.63
		5 785	26T	8	2.15	2.15	18.88	18.73
		5 825	26T	8	2.20	2.15	18.88	18.78
		Minimum Bandwidth				2.15	2.15	4.54
Minimum Limit (MHz)					0.5		-	

Band	Mode	Frequency (MHz)	Tones	RU offset	6 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-3	HE40	Straddle 5 720	26T	17	2.20	2.20	38.26	38.26
			52T	44	4.30	4.30	38.06	38.16
			106T	56*	4.18	4.18	4.48	4.48
			242T	62*	4.28	4.28	4.38	4.38
			484T	65*	4.18	4.18	4.18	4.18
			SU	-*	4.08	3.98	3.98	3.98
		5 755	26T	17	2.20	2.30	38.56	38.26
		5 795	26T	0	2.20	2.20	38.26	38.36
		Minimum Bandwidth				2.20	2.20	3.98
Minimum Limit (MHz)					0.5		-	

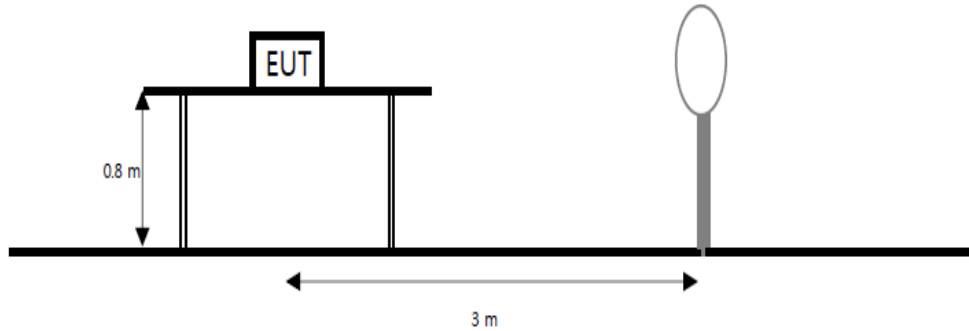
Band	Mode	Frequency (MHz)	Tones	RU offset	6 dB bandwidth (MHz)		99% bandwidth (MHz)	
					ANT 1	ANT 2	ANT 1	ANT 2
UNII-3	HE80	Straddle 5 690	26T	36	2.28	2.28	78.64	78.52
			52T	52	4.32	4.32	78.40	78.28
			106T	60*	4.20	4.20	5.16	5.04
			242T	64*	4.32	4.20	4.56	4.80
			484T	66*	4.32	4.20	4.68	4.44
			996T	67*	4.20	4.20	4.20	4.08
			SU	-*	4.08	3.96	3.72	3.72
		5 755	26T	0	2.28	2.28	79.24	79.00
Minimum Bandwidth					2.28	2.28	3.72	3.72
Minimum Limit (MHz)					0.5		-	



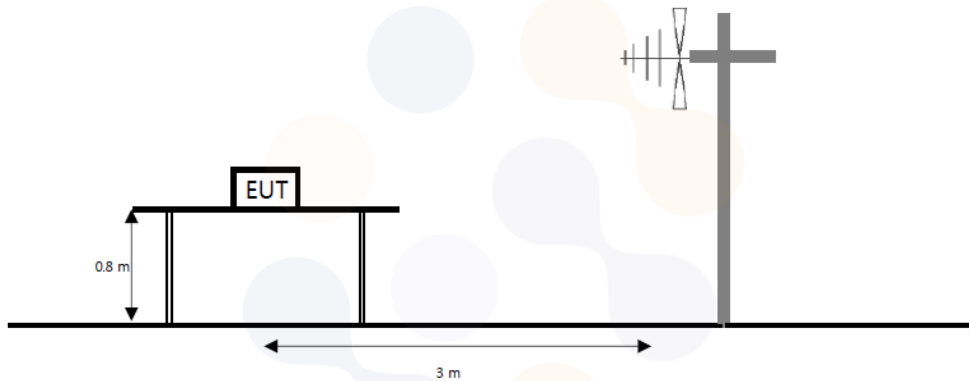
7.5. Spurious Emission, Band Edge and Restricted bands

Test setup

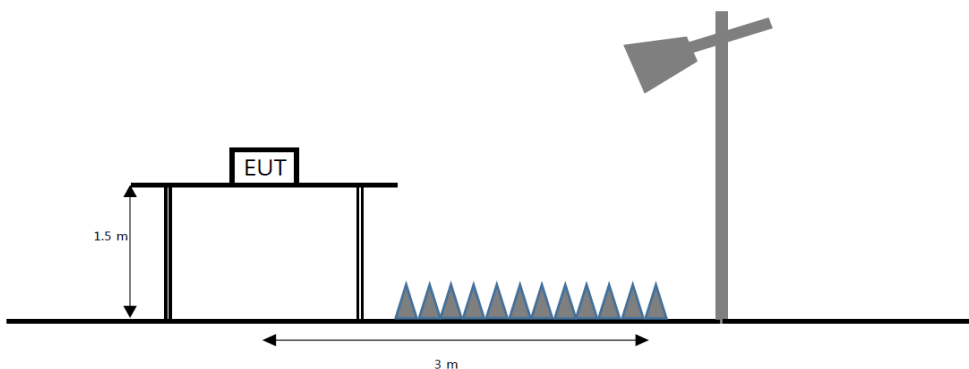
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz emissions, whichever is lower.



Limit

According to section 15.209(a) except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:



Frequency (MHz)	Field strength ($\mu\text{V}/\text{m}$)	Measurement distance (m)
0.009 - 0.490	2 400/F(kHz)	300
0.490 - 1.705	24 000/F(kHz)	30
1.705 - 30	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., Section 15.231 and 15.241.

According to section 15.205(a) and (b) only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 - 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 - 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 - 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 - 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 - 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 - 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 - 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 - 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525	2 483.5 - 2 500	17.7 - 21.4
8.376 25 - 8.386 75	25	2 690 - 2 900	22.01 - 23.12
8.414 25 - 8.414 75	156.7 - 156.9	3 260 - 3 267	23.6 - 24.0
12.29 - 12.293	162.012 5 - 167.17	3 332 - 3 339	31.2 - 31.8
12.519 75 - 12.520 25	167.72 - 173.2	3 345.8 - 3 358	36.43 - 36.5
12.576 75 - 12.577 25	240 - 285	3 600 - 4 400	Above 38.6
13.36 - 13.41	322 - 335.4		

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in section 15.209. At frequencies equal to or less than 1 000 MHz, compliance with the limits in section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 MHz, compliance with the emission limits in section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in section 15.35 apply to these measurements.

<p>Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-70-5008-1021 FAX: 82-505-299-8311 www.kctl.co.kr</p>	<p>Report No.: KR23-SRF0177-B Page (71) of (117)</p>	 
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According to section 15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



Test procedure

ANSI C63.10-2013 Section 12.7.7.2, 12.7.5, 12.7.6
KDB 789033 D02 v02r01 – Section G

Test settings

Peak field strength measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in table
3. VBW \geq (3 \times RBW)
4. Detector = peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow sweeps to continue until the trace stabilizes

Table. RBW as a function of frequency

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1 000 MHz	100 kHz to 120 kHz
> 1 000 MHz	1 MHz

Average field strength measurements

Trace averaging with continuous EUT transmission at full power


If the EUT can be configured or modified to transmit continuously ($D \geq 98\%$), then the average emission levels shall be measured using the following method (with EUT transmitting continuously):

1. RBW = 1 MHz (unless otherwise specified).
2. VBW \geq (3 \times RBW).
3. Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4. Averaging type = power (i.e., rms):
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.

Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT ($D \geq 98\%$) cannot be achieved and the duty cycle is constant (duty cycle variations are less than $\pm 2\%$), then the following procedure shall be used:

1. The EUT shall be configured to operate at the maximum achievable duty cycle.
2. Measure the duty cycle D of the transmitter output signal as described in 11.6.
3. RBW = 1 MHz (unless otherwise specified).
4. VBW \geq [3 \times RBW].
5. Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this

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condition cannot be satisfied, then the detector mode shall be set to peak.

6. Averaging type = power (i.e., rms):
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
7. Sweep time = auto.
8. Perform a trace average of at least 100 traces.
9. A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
 - 1) If power averaging (rms) mode was used in step f), then the applicable correction factor is $[10 \log (1 / D)]$, where D is the duty cycle.
 - 2) If linear voltage averaging mode was used in step f), then the applicable correction factor is $[20 \log (1 / D)]$, where D is the duty cycle.
 - 3) If a specific emission is demonstrated to be continuous ($D \geq 98\%$) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Notes:

1. $f < 30$ MHz, extrapolation factor of 40 dB/decade of distance. $F_d = 40 \log(D_m/D_s)$
 $f \geq 30$ MHz, extrapolation factor of 20 dB/decade of distance. $F_d = 20 \log(D_m/D_s)$
Where:
 F_d = Distance factor in dB
 D_m = Measurement distance in meters
 D_s = Specification distance in meters
2. Factors(dB) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d (dB)
3. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
4. Average test would be performed if the peak result were greater than the average limit.
5. ¹⁾ means restricted band.
6. Below 30 MHz frequency range, In order to search for the worst result, all orientations about parallel, perpendicular, and ground-parallel were investigated then reported. when the emission level was higher than 20 dB of the limit, then the following statement shall be made: "No spurious emissions were detected within 20 dB of the limit."
7. For above 1 GHz pre-scan to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.
8. Measurement configuration for 11ax RU allocations
 - 1) For the radiated band-edge test, it was tested at 11ax RU allocations near the band edge.
 - The target power of the RU tone is the same for each bandwidth (20/40/80/160 MHz), Therefore, it was tested as a representative at 20 MHz bandwidth and additional full tone cases were tested for the remaining bandwidth.
 - 2) The pre-scan was performed for all modes, and then only the RU allocation with actual highest output power considering each bandwidth was reported as a representative.
9. Above 1 GHz the worst results between two antenna polarizations (H and V) were documented in the test report.

Test results (Above 1 000 MHz)

UNII-1 Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 142.78 ¹⁾	V	45.30	33.20	-30.29	-	48.21	74.00	25.79
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 190 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.85 ¹⁾	V	52.40	33.20	-30.25	-	55.35	74.00	18.65
Average Data								
5 149.85 ¹⁾	V	42.85	33.20	-30.25	0.36	46.16	54.00	7.84

802.11ax_HE80 SU mode_Middle Channel (5 210 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.59 ¹⁾	V	53.60	33.20	-30.25	-	56.55	74.00	17.45
Average Data								
5 149.59 ¹⁾	V	43.72	33.20	-30.25	0.66	47.33	54.00	6.67

802.11ax_HE160 SU mode_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.36 ¹⁾	V	49.50	33.20	-30.25	-	52.45	74.00	21.55
Average Data								
5 149.36 ¹⁾	V	40.55	33.20	-30.25	1.13	44.63	54.00	9.37

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 146.08 ¹⁾	H	44.20	33.20	-30.27	-	47.13	74.00	26.87
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.60 ¹⁾	H	44.80	33.20	-30.25	-	47.75	74.00	26.25
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 144.48 ¹⁾	V	44.60	33.20	-30.28	-	47.52	74.00	26.48
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 136.10 ¹⁾	V	44.90	33.20	-30.33	-	47.77	74.00	26.23
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 65)_Lowest Channel (5 190 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.96 ¹⁾	V	54.00	33.20	-30.25	-	56.95	74.00	17.05
Average Data								
5 149.96 ¹⁾	V	42.47	33.20	-30.25	0.34	45.76	54.00	8.24

802.11ax_HE80 RU mode (996T / RU offset 67)_Middle Channel (5 210 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.40 ¹⁾	V	51.70	33.20	-30.25	-	54.65	74.00	19.35
Average Data								
5 149.40 ¹⁾	V	41.55	33.20	-30.25	0.63	45.13	54.00	8.87

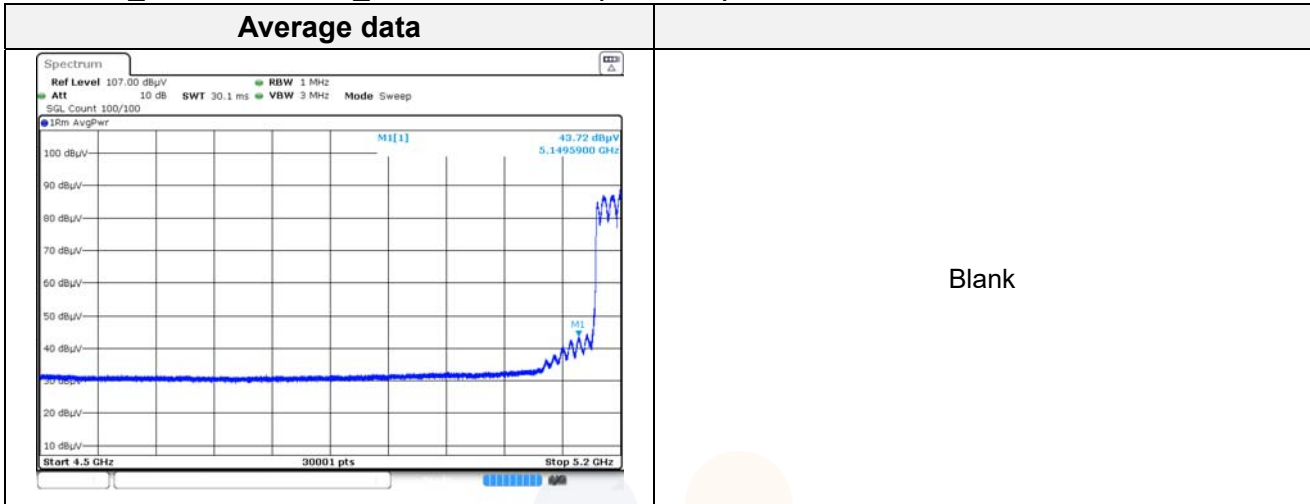
802.11ax_HE160 RU mode (2x996T / RU offset 68)_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.33 ¹⁾	V	50.30	33.20	-30.25	-	53.25	74.00	20.75
Average Data								
5 149.33 ¹⁾	V	40.14	33.20	-30.25	1.12	44.21	54.00	9.79

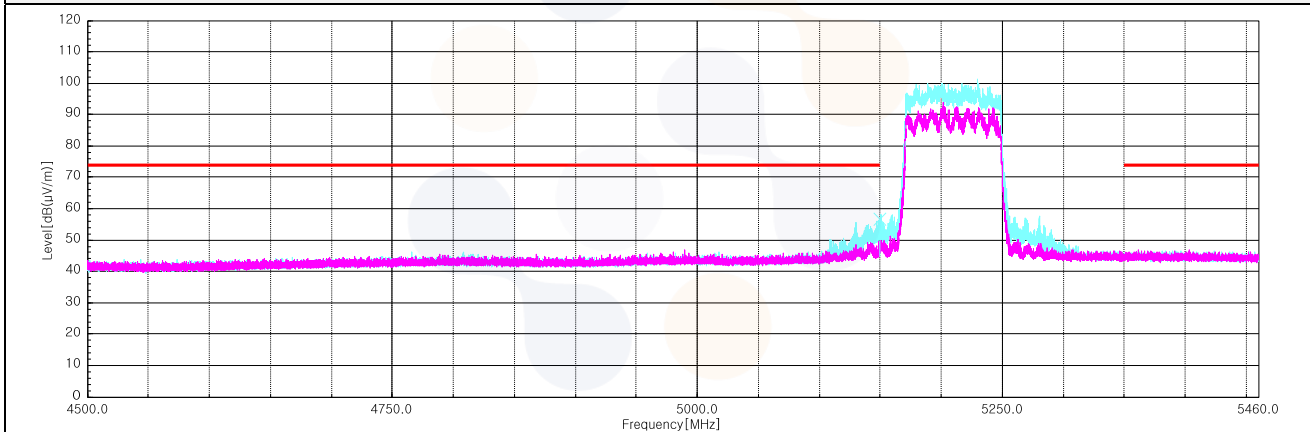
Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE80 SU mode_Middle Channel (5 210 MHz)



Horizontal/Vertical for Band-edge



UNII-2A Restricted Band edge (Highest Channel)

802.11ax_HE20 SU mode_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 376.05 ¹⁾	V	45.20	33.10	-30.06	-	48.24	74.00	25.76
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Highest Channel (5 310 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 350.51 ¹⁾	V	47.10	33.10	-29.93	-	50.27	74.00	23.73
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Middle Channel (5 290 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 357.20 ¹⁾	V	51.10	33.10	-29.97	-	54.23	74.00	19.77
Average Data								
5 357.20 ¹⁾	V	40.26	33.10	-29.97	0.66	44.05	54.00	9.95

802.11ax_HE160 SU mode_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 350.12 ¹⁾	V	49.50	33.10	-29.93	-	52.67	74.00	21.33
Average Data								
5 350.12 ¹⁾	V	40.15	33.10	-29.93	1.13	44.45	54.00	9.55

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 385.90 ¹⁾	H	44.60	33.10	-30.11	-	47.59	74.00	26.41
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (52T / RU offset 40)_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 362.16 ¹⁾	V	44.40	33.10	-29.99	-	47.51	74.00	26.49
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (106T / RU offset 54)_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 376.73 ¹⁾	V	44.90	33.10	-30.06	-	47.94	74.00	26.06
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (242T / RU offset 61)_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 355.69 ¹⁾	H	45.20	33.10	-29.96	-	48.34	74.00	25.66
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 65)_Highest Channel (5 310 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 350.08 ¹⁾	V	54.50	33.10	-29.93	-	57.67	74.00	16.33
Average Data								
5 350.08 ¹⁾	V	39.68	33.10	-29.93	0.34	43.19	54.00	10.81

802.11ax_HE80 RU mode (996T / RU offset 67)_Middle Channel (5 290 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 357.94 ¹⁾	V	49.60	33.10	-29.97	-	52.73	74.00	21.27
Average Data								
5 357.94 ¹⁾	V	39.19	33.10	-29.97	0.63	42.95	54.00	11.05

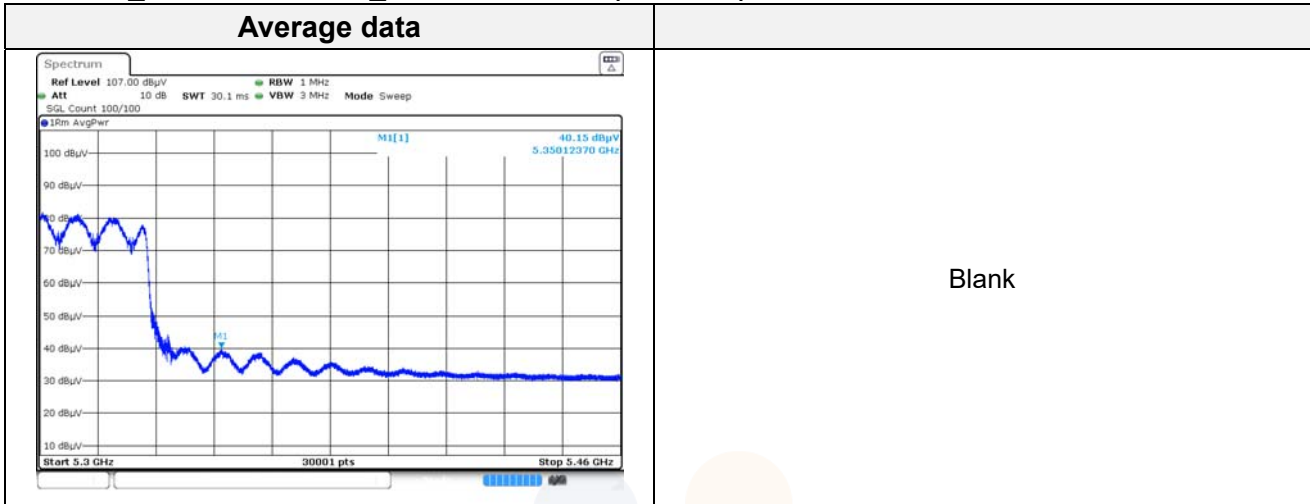
802.11ax_HE160 RU mode (2x996T / RU offset 68)_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 350.31 ¹⁾	V	50.50	33.10	-29.93	-	53.67	74.00	20.33
Average Data								
5 350.31 ¹⁾	V	39.97	33.10	-29.93	1.12	44.26	54.00	9.74

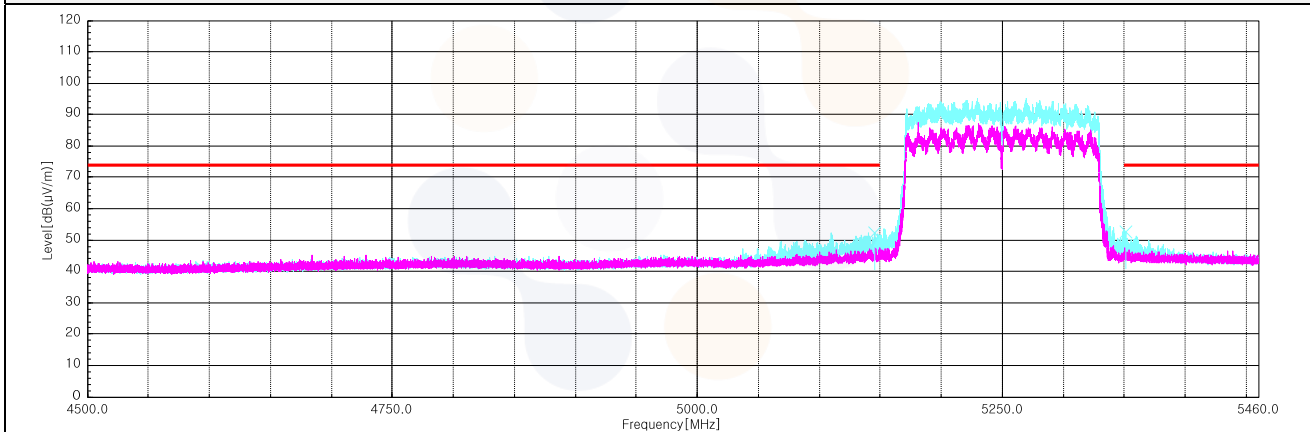
Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE160 SU mode_Middle Channel (5 250 MHz)



Horizontal/Vertical for Band-edge



UNII-2C Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 456.66 ¹⁾	V	45.20	32.99	-30.13	-	48.06	74.00	25.94
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 510 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 459.70 ¹⁾	V	46.10	32.98	-30.13	-	48.95	74.00	25.05
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Lowest Channel (5 530 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 459.77 ¹⁾	V	51.20	32.98	-30.13	-	54.05	74.00	19.95
Average Data								
5 459.77 ¹⁾	V	40.78	32.98	-30.13	0.66	44.29	54.00	9.71

802.11ax_HE160 SU mode_Middle Channel (5 570 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 452.69 ¹⁾	V	48.20	32.99	-30.14	-	51.05	74.00	22.95
Average Data								
5 452.69 ¹⁾	V	37.77	32.99	-30.14	1.13	41.75	54.00	12.25

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 382.70 ¹⁾	V	44.30	33.10	-30.09	-	47.31	74.00	26.69
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 430.45 ¹⁾	V	45.60	33.10	-30.16	-	48.54	74.00	25.46
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 443.72 ¹⁾	V	44.70	33.10	-30.15	-	47.65	74.00	26.35
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 434.16 ¹⁾	V	44.80	33.10	-30.15	-	47.75	74.00	26.25
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 65)_Lowest Channel (5 510 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 454.75 ¹⁾	V	46.50	32.99	-30.14	-	49.35	74.00	24.65
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (996T / RU offset 67)_Lowest Channel (5 530 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 453.97 ¹⁾	V	51.00	32.99	-30.14	-	53.85	74.00	20.15
Average Data								
5 453.97 ¹⁾	V	38.95	32.99	-30.14	0.63	42.43	54.00	11.57

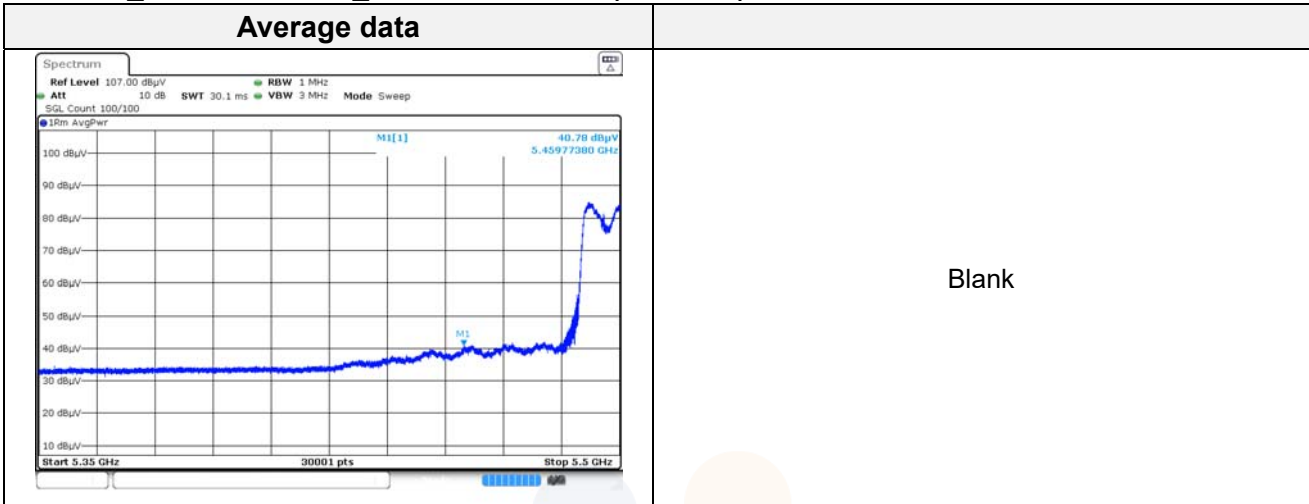
802.11ax_HE160 RU mode_(2X996T / RU offset 68)_Middle Channel (5 570 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 452.65 ¹⁾	V	48.20	32.99	-30.14	-	51.05	74.00	22.95
Average Data								
5 452.65 ¹⁾	V	37.79	32.99	-30.14	1.12	41.76	54.00	12.24

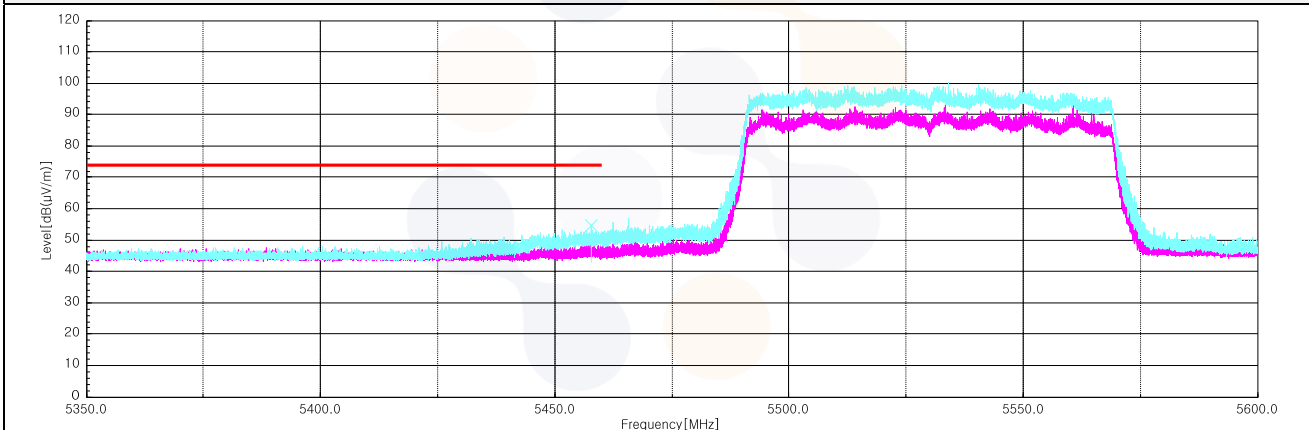
Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE80 SU mode_ Lowest Channel (5 530 MHz)



Horizontal/Vertical for Band-edge



UNII-2C Restricted Band edge (Highest Channel)

802.11ax_HE20 SU mode_Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 725.12	V	47.10	33.45	-29.12	-	51.43	68.20	16.77

802.11ax_HE40 SU mode_Highest Channel (5 670 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 760.55	V	45.40	33.76	-29.19	-	49.97	68.20	18.23

802.11ax_HE80 SU mode_Highest Channel (5 610 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 819.63	V	45.60	34.12	-29.35	-	50.37	68.20	17.83

802.11ax_HE160 SU mode_Middle Channel (5 570 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 816.07	H	45.00	34.10	-29.34	-	49.76	68.20	18.44

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 823.78	H	45.60	34.14	-29.37	-	50.37	68.20	17.83

802.11ax_HE20 RU mode (52T / RU offset 40)_Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 816.40	H	45.40	34.10	-29.34	-	50.16	68.20	18.04

802.11ax_HE20 RU mode (106T / RU offset 54)_ Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 725.60	V	49.90	33.45	-29.12	-	54.23	68.20	13.97

802.11ax_HE20 RU mode (242T / RU offset 61)_ Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 727.10	V	47.20	33.45	-29.12	-	51.53	68.20	16.67

802.11ax_HE40 RU mode (484T / RU offset 65)_ Highest Channel (5 670 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 775.15	H	46.00	33.85	-29.23	-	50.62	68.20	17.58

802.11ax_HE80 RU mode (996T / RU offset 67)_ Highest Channel (5 610 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 815.38	H	45.60	34.09	-29.34	-	50.35	68.20	17.85

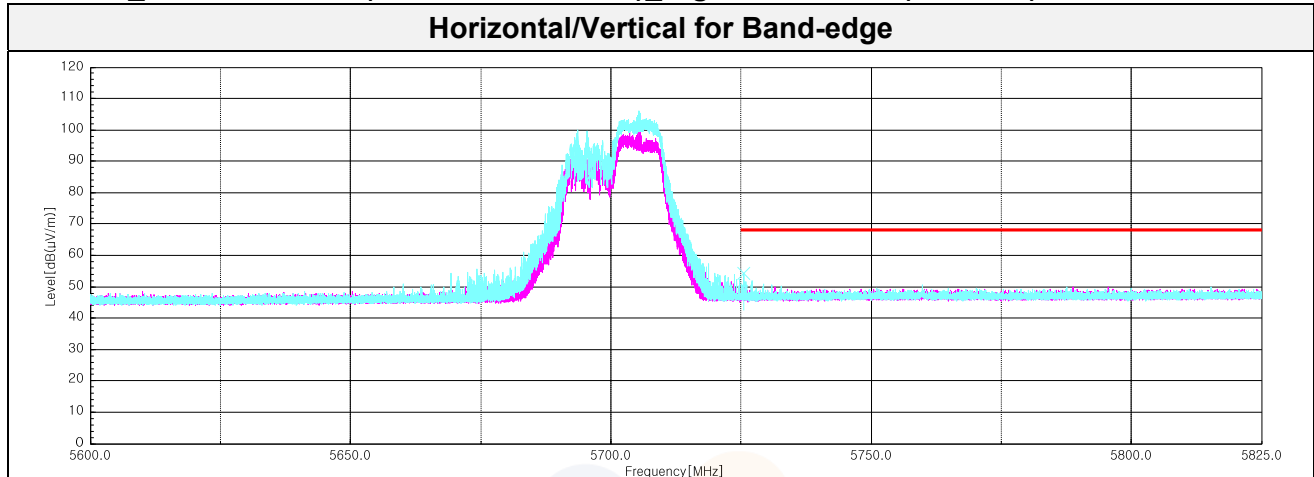
802.11ax_HE160 RU mode_(2X996T / RU offset 68)_ Middle Channel (5 570 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 818.24	H	45.20	34.11	-29.35	-	49.96	68.20	18.24

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (106T / RU offset 54)_Highest Channel (5 700 MHz)



UNII-3 Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 724.48	V	52.40	33.45	-29.11	-	56.74	121.00	64.26

802.11ax_HE40 SU mode_Lowest Channel (5 755 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 720.59	V	48.30	33.44	-29.11	-	52.63	112.10	59.47

802.11ax_HE80 SU mode_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 719.25	V	48.60	33.44	-29.10	-	52.94	110.60	57.66

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 697.66	H	44.10	33.49	-29.07	-	48.52	103.50	54.98

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 702.73	H	43.40	33.41	-29.07	-	47.74	106.00	58.26

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 698.83	H	43.90	33.50	-29.06	-	48.34	104.30	55.96

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 724.93	V	47.10	33.45	-29.11	-	51.44	122.00	70.56

802.11ax_HE40 RU mode (484T / RU offset 65)_Lowest Channel (5 755 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 719.12	V	48.30	33.44	-29.10	-	52.64	110.60	57.96

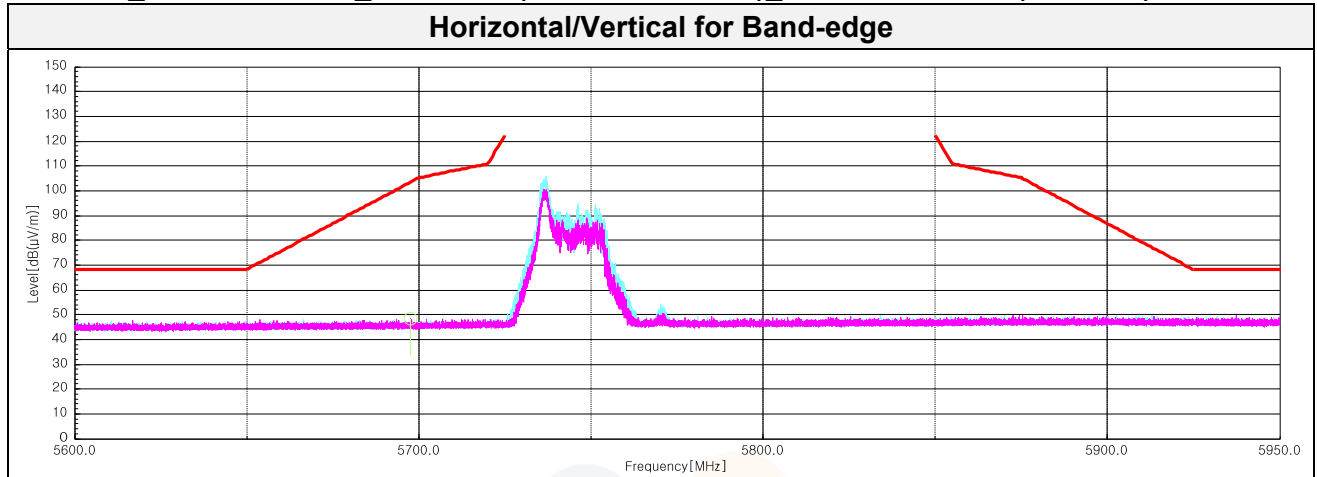
802.11ax_HE80 RU mode (996T / RU offset 67)_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 725.00	V	53.60	33.45	-29.11	-	57.94	122.20	64.26

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode_ RU mode (26T / RU offset 0)_Lowest Channel (5 745 MHz)



UNII-3 Restricted Band edge (Highest Channel)

802.11ax_HE20 SU mode_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 876.73	H	44.80	34.15	-29.56	-	49.39	103.90	54.51

802.11ax_HE40 SU mode_Highest Channel (5 795 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 870.92	V	44.70	34.14	-29.54	-	49.30	106.30	57.00

802.11ax_HE80 SU mode_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 877.55	V	44.90	34.16	-29.57	-	49.49	103.30	53.81

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 889.85	V	45.10	34.18	-29.61	-	49.67	94.20	44.53

802.11ax_HE20 RU mode (52T / RU offset 40)_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 883.70	V	45.40	34.17	-29.59	-	49.98	98.70	48.72

802.11ax_HE20 RU mode (106T / RU offset 54)_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 888.75	V	44.90	34.18	-29.61	-	49.47	95.00	45.53

802.11ax_HE20 RU mode (242T / RU offset 61)_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 871.04	V	45.40	34.14	-29.54	-	50.00	106.30	56.30

802.11ax_HE40 RU mode (484T / RU offset 65)_Highest Channel (5 795 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 886.32	V	44.80	34.17	-29.60	-	49.37	96.80	47.43

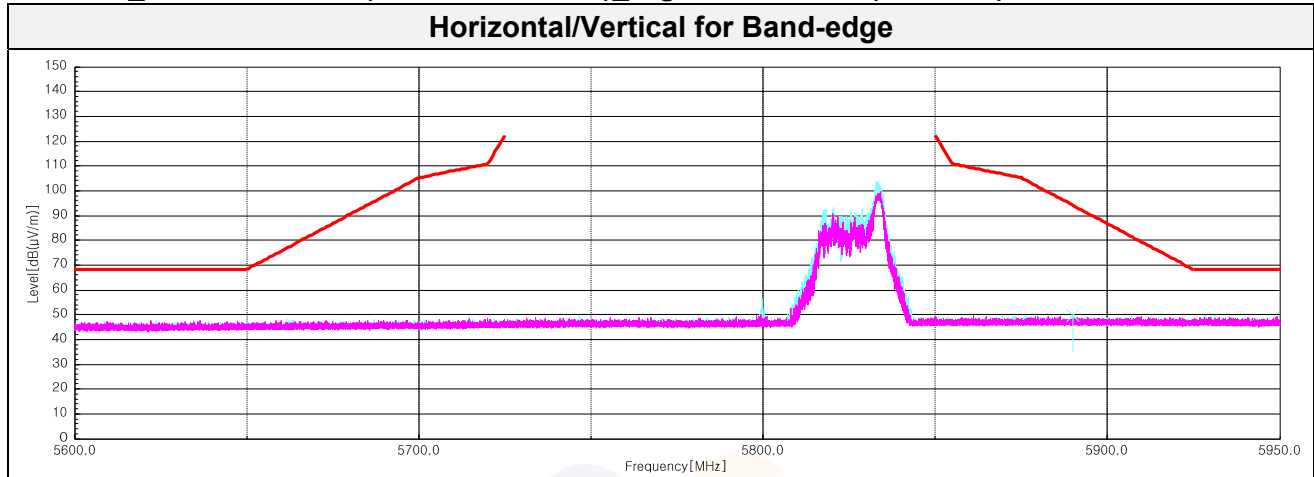
802.11ax_HE80 RU mode (996T / RU offset 67)_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
5 876.78	H	45.30	34.15	-29.56	-	49.89	103.90	54.01

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 825 MHz)



UNII-1 Harmonics and Spurious Emissions

802.11ax_HE20 SU mode_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
6 906.72	V	57.00	36.00	-45.54	-	47.46	68.20	20.74
10 466.73	V	56.00	39.10	-47.43	-	47.67	68.20	20.53
15 455.05 ¹⁾	V	54.20	38.69	-44.65	-	48.24	74.00	25.76
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Middle Channel (5 200 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
6 933.17	V	56.50	36.00	-45.56	-	46.94	68.20	21.26
10 495.10	V	55.70	39.10	-47.45	-	47.35	68.20	20.85
15 743.70 ¹⁾	H	55.10	38.30	-44.50	-	48.90	74.00	25.10
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Highest Channel (5 240 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
6 986.45	V	57.60	36.00	-45.60	-	48.00	68.20	20.20
10 441.05	V	55.90	39.10	-47.42	-	47.58	68.20	20.62
15 729.90 ¹⁾	H	55.10	38.30	-44.51	-	48.89	74.00	25.11
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 190 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
6 920.13	H	56.00	36.00	-45.55	-	46.45	68.20	21.75
10 425.72	H	55.50	39.10	-47.41	-	47.19	68.20	21.01
15 583.08 ¹⁾	V	55.10	38.33	-44.65	-	48.78	74.00	25.22
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Highest Channel (5 230 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
6 973.42	V	55.70	36.00	-45.59	-	46.11	68.20	22.09
10 550.30	V	56.60	39.20	-47.28	-	48.52	68.20	19.68
15 793.92 ¹⁾	H	55.70	38.30	-44.45	-	49.55	74.00	24.45
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Middle Channel (5 210 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
6 946.20	V	56.70	36.00	-45.57	-	47.13	68.20	21.07
10 600.52 ¹⁾	V	57.00	39.20	-47.12	-	49.08	74.00	24.92
15 740.63 ¹⁾	H	55.70	38.30	-44.50	-	49.50	74.00	24.50
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE160 SU mode_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
7 000.25	V	56.90	36.00	-45.61	-	47.29	68.20	20.91
10 478.23	V	56.40	39.10	-47.44	-	48.06	68.20	20.14
15 869.82 ¹⁾	H	56.50	38.44	-44.37	-	50.57	74.00	23.43
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 180 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
6 907.10	H	57.00	36.00	-45.54	-	47.46	68.20	20.74
10 436.83	V	56.70	39.10	-47.41	-	48.39	68.20	19.81
15 511.02 ¹⁾	V	54.00	38.46	-44.72	-	47.74	74.00	26.26
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 65)_Highest Channel (5 190 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
6 920.13	V	56.10	36.00	-45.55	-	46.55	68.20	21.65
10 433.77	H	56.10	39.10	-47.41	-	47.79	68.20	20.41
15 613.75 ¹⁾	V	54.90	38.27	-44.62	-	48.55	74.00	25.45
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (106T / RU offset 53)_Middle Channel (5 210 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
5 033.61 ¹⁾	V	71.60	33.33	-45.80	-	59.13	74.00	14.87
6 946.58	V	57.30	36.00	-45.57	-	47.73	68.20	20.47
10 509.67	H	57.00	39.10	-47.42	-	48.68	68.20	19.52
15 575.42 ¹⁾	H	55.30	38.35	-44.66	-	48.99	74.00	25.01
Average Data								
5 033.61 ¹⁾	V	54.39	33.33	-45.80	0.12	42.04	54.00	11.96

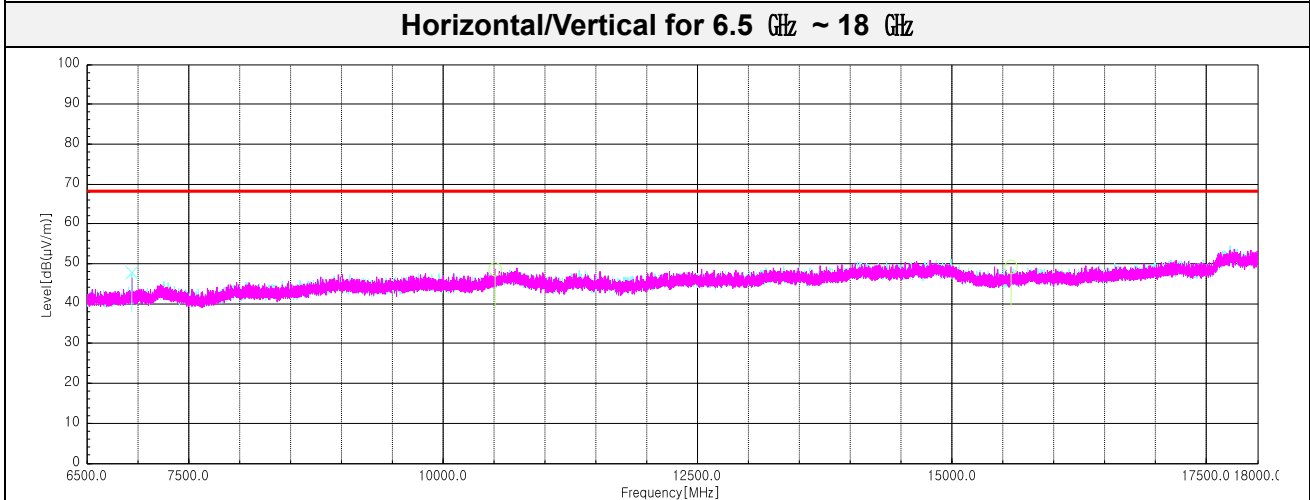
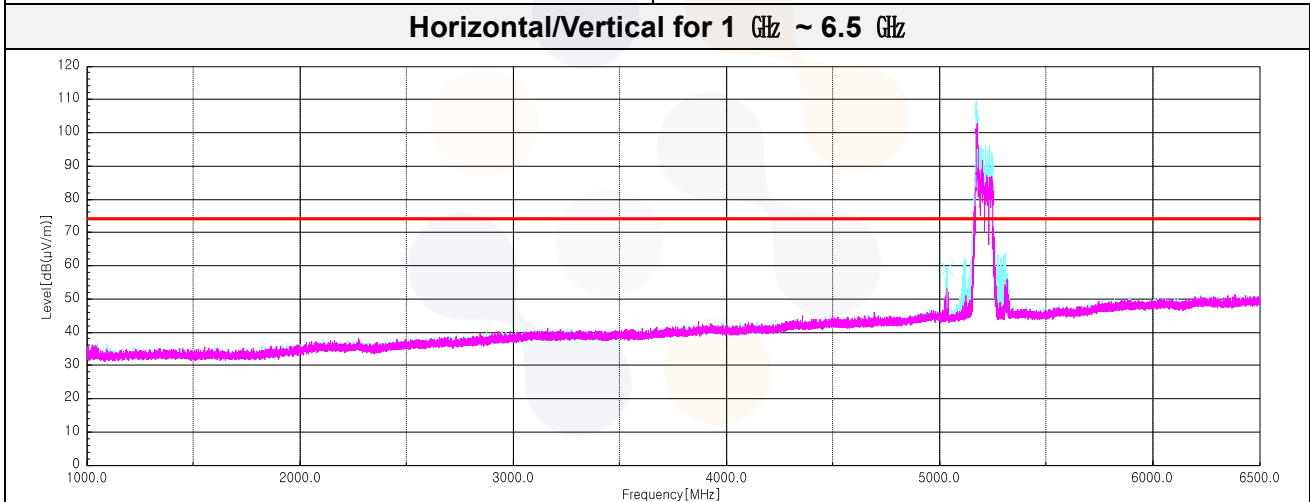
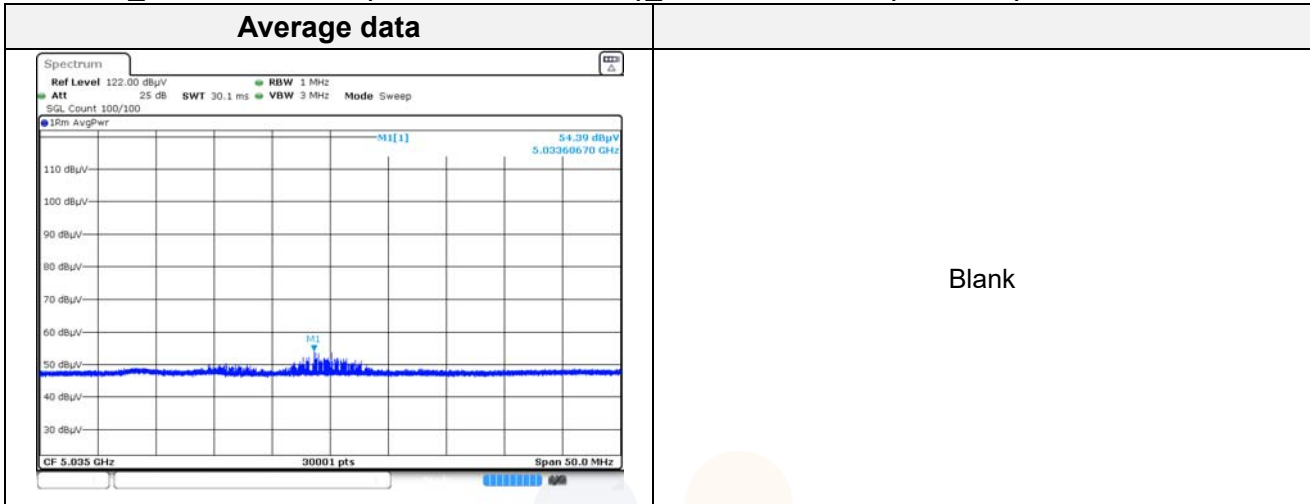
802.11ax_HE160 RU mode (106T / RU offset 53U)_Middle Channel (5 250 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
6 999.87	V	56.10	36.00	-45.61	-	46.49	68.20	21.71
10 443.73	H	56.90	39.10	-47.42	-	48.58	68.20	19.62
15 716.48 ¹⁾	H	56.30	38.30	-44.52	-	50.08	74.00	23.92
Average Data								
No spurious emissions were detected within 20 dB of the limit								

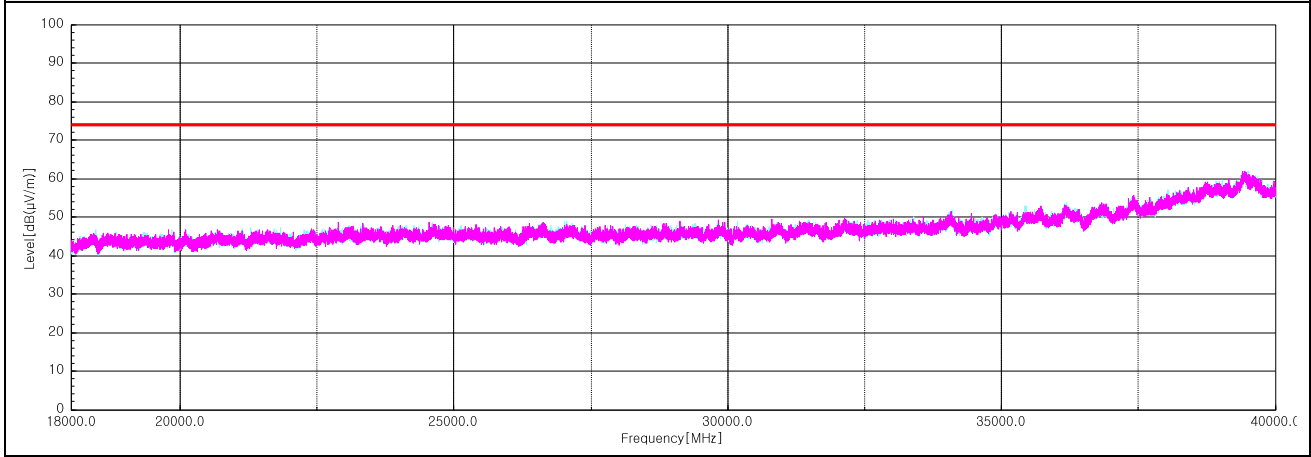
Plot of Harmonics and Spurious Emissions

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE80 RU mode (106T / RU offset 53)_Middle Channel (5 210 MHz)



Horizontal/Vertical for 18 GHz ~ 40 GHz



UNII-2A Harmonics and Spurious Emissions

802.11ax_HE20 SU mode_Lowest Channel (5 260 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
7 013.28	V	57.60	36.00	-45.62	-	47.98	68.20	20.22
10 590.17	H	56.70	39.28	-47.15	-	48.83	68.20	19.37
15 765.17 ¹⁾	V	55.40	38.30	-44.48	-	49.22	74.00	24.78
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Middle Channel (5 280 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
7 040.12	V	58.20	36.00	-45.64	-	48.56	68.20	19.64
10 605.12 ¹⁾	H	55.90	39.20	-47.10	-	48.00	74.00	26.00
15 720.70 ¹⁾	V	55.20	38.30	-44.52	-	48.98	74.00	25.02
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
7 093.40	V	56.30	36.37	-45.69	-	46.98	68.20	21.22
10 704.40 ¹⁾	V	56.10	39.41	-46.77	-	48.74	74.00	25.26
16 040.40 ¹⁾	H	55.20	38.30	-44.23	-	49.27	74.00	24.73
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 270 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
7 026.70	V	57.40	36.00	-45.63	-	47.77	68.20	20.43
10 499.70	H	56.40	39.10	-47.45	-	48.05	68.20	20.15
15 808.10 ¹⁾	H	55.30	38.30	-44.43	-	49.17	74.00	24.83
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Highest Channel (5 310 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
7 079.98	V	57.90	36.32	-45.68	-	48.54	68.20	19.66
10 668.75 ¹⁾	H	56.40	39.34	-46.89	-	48.85	74.00	25.15
16 045.38 ¹⁾	V	55.00	38.30	-44.22	-	49.08	74.00	24.92
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Middle Channel (5 290 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
7 053.53	V	57.90	36.21	-45.66	-	48.45	68.20	19.75
10 591.70	H	57.70	39.28	-47.15	-	49.83	68.20	18.37
15 797.37 ¹⁾	H	55.00	38.30	-44.44	-	48.86	74.00	25.14
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (242T / RU offset 61)_Highest Channel (5 320 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
7 093.02	V	56.50	36.37	-45.69	-	47.18	68.20	21.02
10 629.65 ¹⁾	V	56.50	39.20	-47.02	-	48.68	74.00	25.32
16 038.87 ¹⁾	V	54.70	38.30	-44.23	-	48.77	74.00	25.23
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (106T / RU offset 53)_Highest Channel (5 310 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
7 081.13	V	56.30	36.32	-45.68	-	46.94	68.20	21.26
10 728.55 ¹⁾	H	56.20	39.46	-46.69	-	48.97	74.00	25.03
15 961.82 ¹⁾	H	54.40	38.28	-44.29	-	48.39	74.00	25.61
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (106T / RU offset 53)_Middle Channel (5 290 MHz)

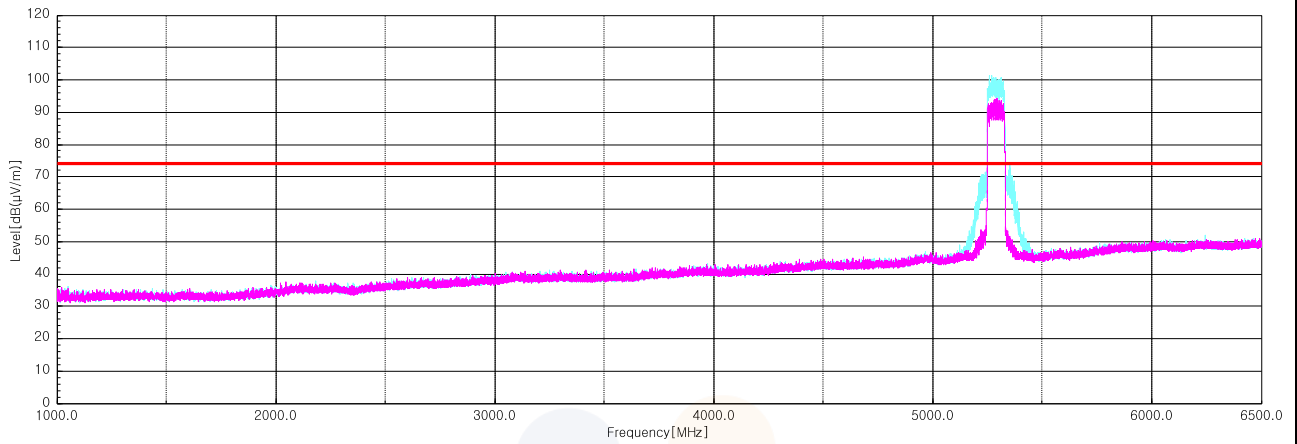
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
7 053.15	V	58.50	36.21	-45.66	-	49.05	68.20	19.15
10 592.85	H	56.20	39.29	-47.14	-	48.35	68.20	19.85
15 778.97 ¹⁾	V	56.00	38.30	-44.46	-	49.84	74.00	24.16
Average Data								
No spurious emissions were detected within 20 dB of the limit								

Plot of Harmonics and Spurious Emissions

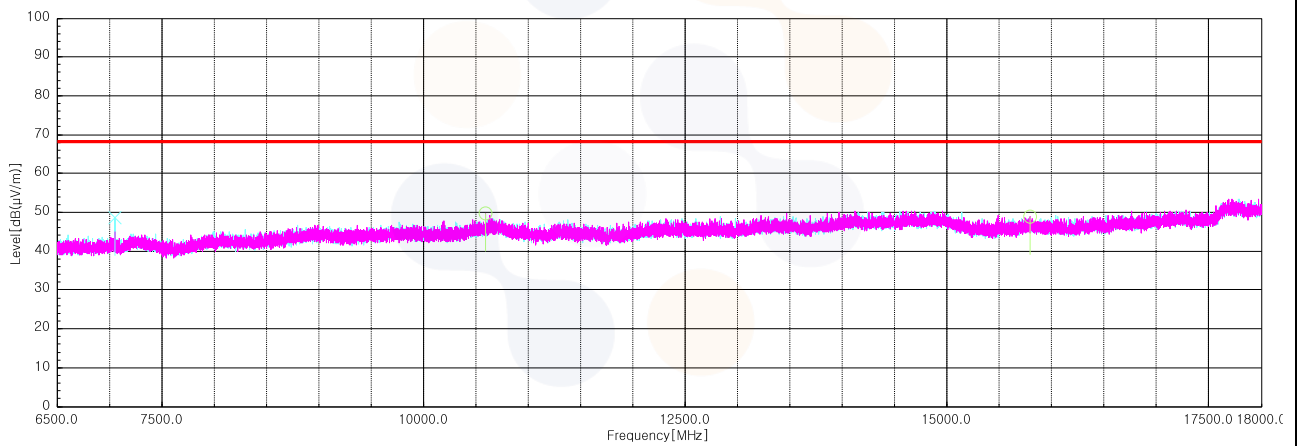
In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE80 SU mode_Middle Channel (5 290 MHz)

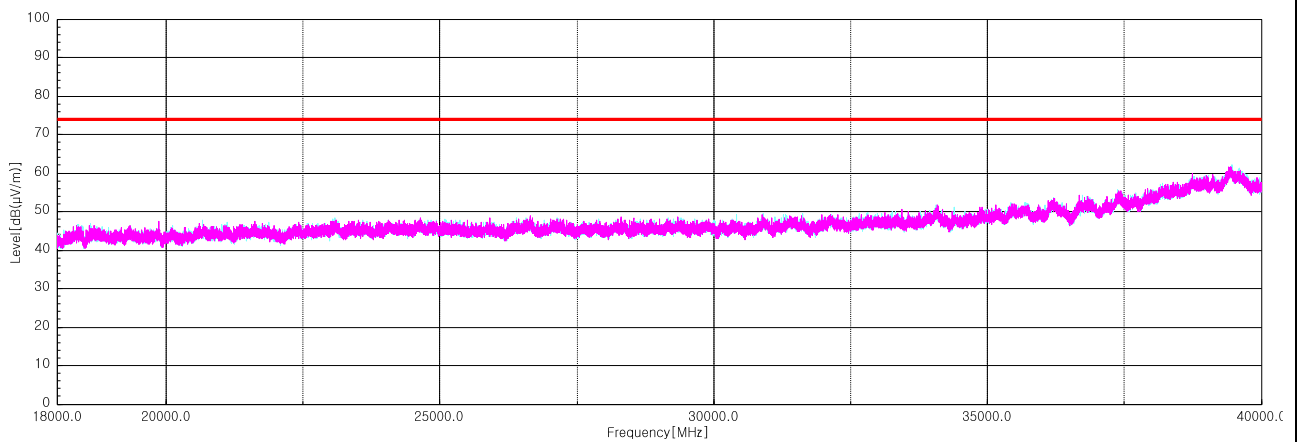
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



UNII-2C Harmonics and Spurious Emissions

802.11ax_HE20 SU mode_Lowest Channel (5 500 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
10 927.88 ¹⁾	V	55.40	39.24	-46.03	-	48.61	74.00	25.39
16 443.67	V	54.70	38.39	-44.00	-	49.09	68.20	19.11
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Middle Channel (5 600 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 287.07 ¹⁾	V	54.30	39.20	-45.93	-	47.57	74.00	26.43
16 904.82	V	55.80	38.20	-43.95	-	50.05	68.20	18.15
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 341.50 ¹⁾	V	54.40	39.38	-45.96	-	47.82	74.00	26.18
17 208.42	V	55.80	38.62	-43.87	-	50.55	68.20	17.65
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 510 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
10 938.23 ¹⁾	H	54.10	39.22	-46.00	-	47.32	74.00	26.68
16 597.00	H	55.00	38.49	-43.96	-	49.53	68.20	18.67
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Middle Channel (5 590 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 274.03 ¹⁾	V	54.40	39.20	-45.93	-	47.67	74.00	26.33
16 843.87	H	55.90	38.30	-43.95	-	50.25	68.20	17.95
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Highest Channel (5 670 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 405.90 ¹⁾	V	54.40	39.30	-45.99	-	47.71	74.00	26.29
17 046.65	V	56.40	38.20	-43.93	-	50.67	68.20	17.53
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Lowest Channel (5 530 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
10 956.63 ¹⁾	H	54.10	39.30	-45.93	-	47.47	74.00	26.53
16 636.10	V	54.90	38.40	-43.96	-	49.34	68.20	18.86
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Highest Channel (5 610 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 310.45 ¹⁾	H	54.70	39.32	-45.95	-	48.07	74.00	25.93
16 905.97	V	55.40	38.20	-43.95	-	49.65	68.20	18.55
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE160 SU mode_Middle Channel (5 570 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 285.15 ¹⁾	H	54.80	39.20	-45.93	-	48.07	74.00	25.93
16 772.95	H	55.60	38.30	-43.95	-	49.95	68.20	18.25
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (106T / RU offset 53)_Highest Channel (5 700 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 354.15 ¹⁾	H	54.00	39.30	-45.97	-	47.33	74.00	26.67
17 114.12	V	57.20	38.43	-43.90	-	51.73	68.20	16.47
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 65)_Lowest Channel (5 510 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
10 975.42 ¹⁾	V	54.30	39.30	-45.87	-	47.73	74.00	26.27
16 598.53	H	55.10	38.50	-43.96	-	49.64	68.20	18.56
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (996T / RU offset 67)_Lowest Channel (5 530 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
10 909.10 ¹⁾	H	54.30	39.28	-46.09	-	47.49	74.00	26.51
16 599.30	V	55.60	38.50	-43.96	-	50.14	68.20	18.06
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE160 RU mode (2x996T / RU offset 68)_Middle Channel (5 570 MHz)

Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
11 290.90 ¹⁾	H	54.00	39.20	-45.94	-	47.26	74.00	26.74
16 625.75	V	56.00	38.40	-43.96	-	50.44	68.20	17.76
Average Data								
No spurious emissions were detected within 20 dB of the limit								

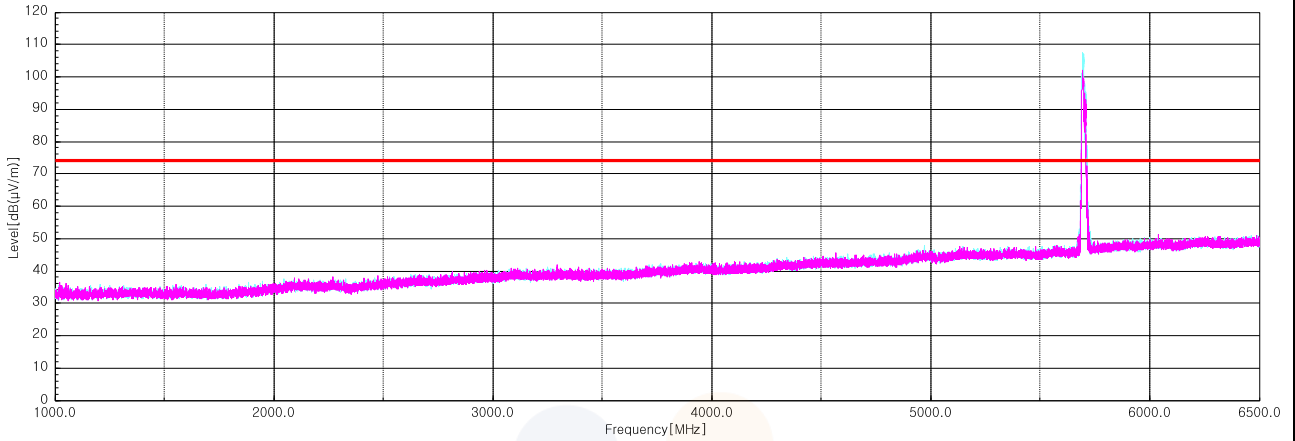


Plot of Harmonics and Spurious Emissions

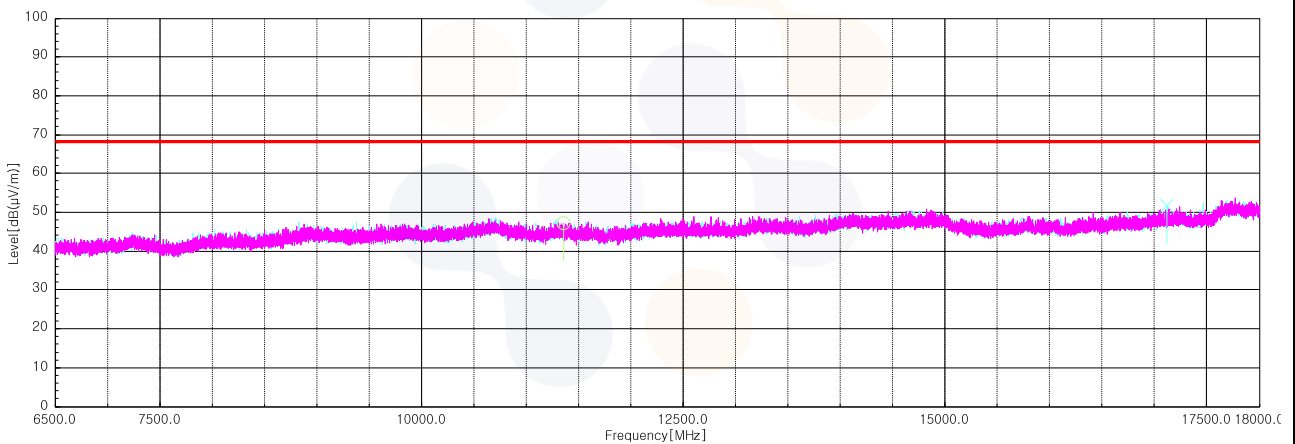
In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode(106T / RU offset 53)_Highest Channel (5 700 MHz)

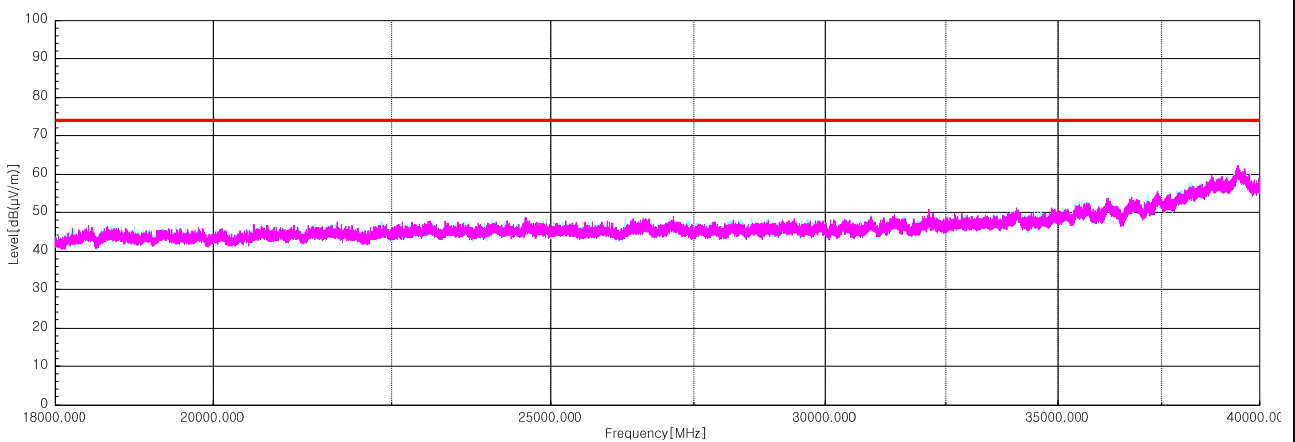
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



UNII-2C&3 Straddle Channel Harmonics and Spurious Emissions

802.11ax_HE20 SU mode_Middle Channel (5 720 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 398.62 ¹⁾	H	55.40	39.30	-45.99	-	48.71	74.00	25.29
17 212.25	V	55.70	38.62	-43.87	-	50.45	68.20	17.75
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Middle Channel (5 710 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 379.45 ¹⁾	H	54.50	39.30	-45.98	-	47.82	74.00	26.18
17 106.83	H	55.50	38.41	-43.91	-	50.00	68.20	18.20
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Middle Channel (5 690 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 280.93 ¹⁾	H	54.80	39.20	-45.93	-	48.07	74.00	25.93
16 966.15	V	55.80	38.20	-43.94	-	50.06	68.20	18.14
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (52T / RU offset 40)_Lowest Channel (5 720 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 274.03 ¹⁾	H	55.30	39.20	-45.93	-	48.57	74.00	25.43
17 279.72	H	56.00	38.92	-43.85	-	51.07	68.20	17.13
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (484T / RU offset 61)_ Middle Channel (5 710 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 306.23 ¹⁾	V	54.70	39.31	-45.94	-	48.07	74.00	25.93
17 190.40	V	55.60	38.58	-43.88	-	50.30	68.20	17.90
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (106T / RU offset 60)_ Middle Channel (5 690 MHz)

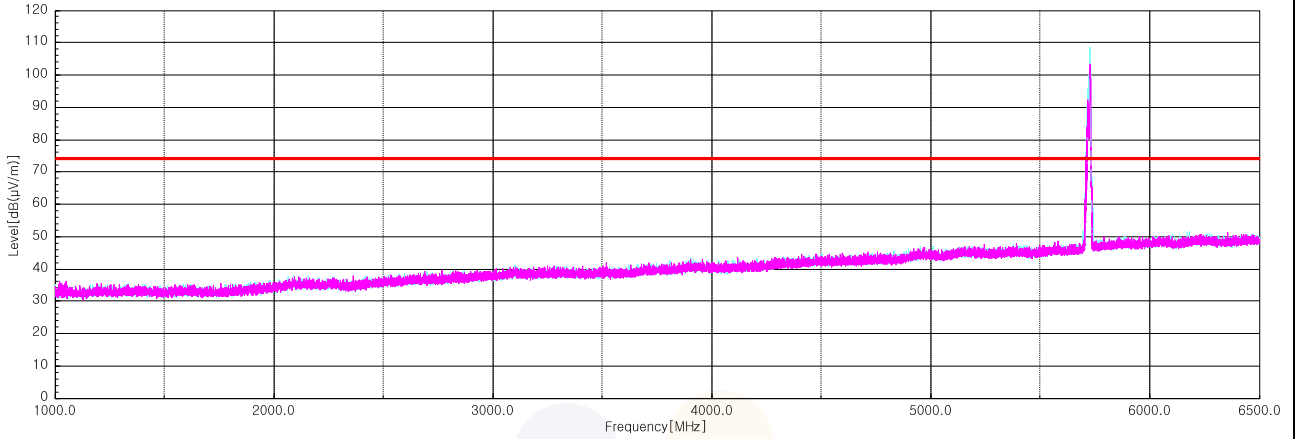
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 376.00 ¹⁾	H	54.40	39.30	-45.98	-	47.72	74.00	26.28
17 048.18	V	55.90	38.20	-43.92	-	50.18	68.20	18.02
Average Data								
No spurious emissions were detected within 20 dB of the limit								

Plot of Harmonics and Spurious Emissions

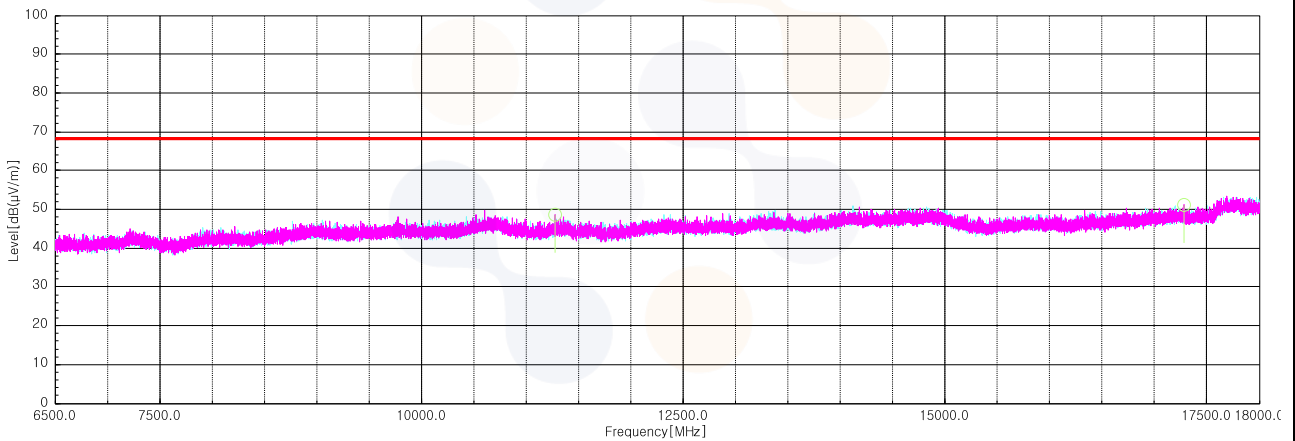
In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode(52T / RU offset 40)_Middle Channel (5 720 MHz)

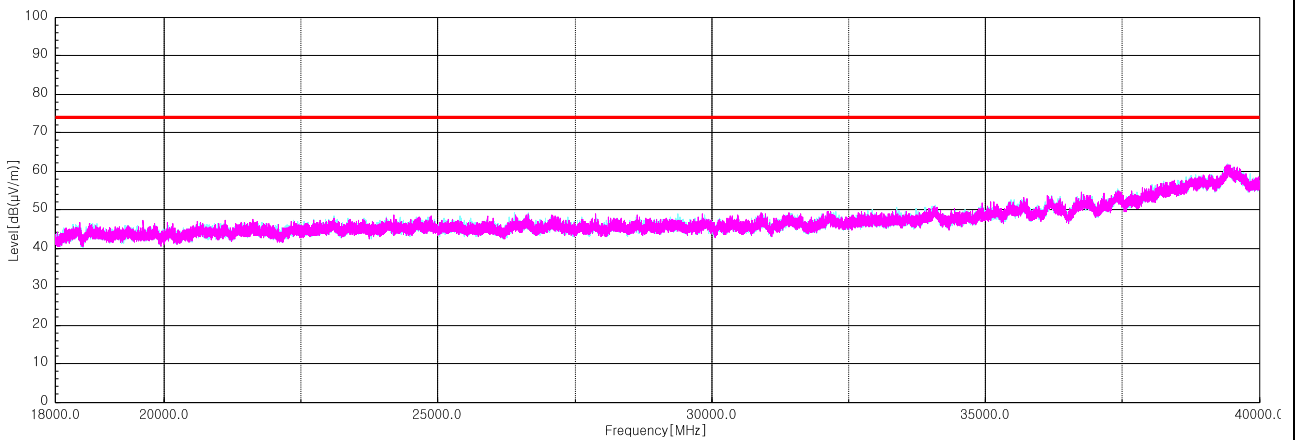
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



UNII-3 Harmonics and Spurious Emissions

802.11ax_HE20 SU mode_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 550.80 ¹⁾	H	54.60	39.10	-45.89	-	47.81	74.00	26.19
17 256.72	V	56.10	38.83	-43.86	-	51.07	68.20	17.13
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Middle Channel (5 785 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 536.23 ¹⁾	V	53.50	39.20	-45.94	-	46.76	74.00	27.24
17 217.23	H	56.00	38.63	-43.87	-	50.76	68.20	17.44
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 SU mode_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 487.17 ¹⁾	V	54.50	39.13	-46.03	-	47.60	74.00	26.40
17 601.33	H	54.70	40.51	-43.78	-	51.43	68.20	16.77
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Lowest Channel (5 755 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μ V))	(dB)	(dB)	(dB)	(dB(μ V/m))	(dB(μ V/m))	(dB)
Peak data								
11 533.93 ¹⁾	H	55.10	39.20	-45.94	-	48.36	74.00	25.64
17 243.30	V	55.90	38.69	-43.86	-	50.73	68.20	17.47
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 SU mode_Highest Channel (5 795 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 561.53 ¹⁾	H	54.40	39.08	-45.86	-	47.62	74.00	26.38
17 215.70	H	55.90	38.63	-43.87	-	50.66	68.20	17.54
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 SU mode_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 510.93 ¹⁾	V	54.00	39.20	-46.01	-	47.19	74.00	26.81
17 173.92	H	55.60	38.55	-43.88	-	50.27	68.20	17.93
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE20 RU mode (52T / RU offset 37)_Middle Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 354.92 ¹⁾	H	55.00	39.30	-45.97	-	48.33	74.00	25.67
17 302.72	V	55.30	39.01	-43.84	-	50.47	68.20	17.73
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE40 RU mode (106T / RU offset 56)_Highest Channel (5 755 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 555.02 ¹⁾	H	54.30	39.09	-45.88	-	47.51	74.00	26.49
17 137.50	V	55.80	38.48	-43.90	-	50.38	68.20	17.82
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ax_HE80 RU mode (106T / RU offset 60)_ Middle Channel (5 775 MHz)

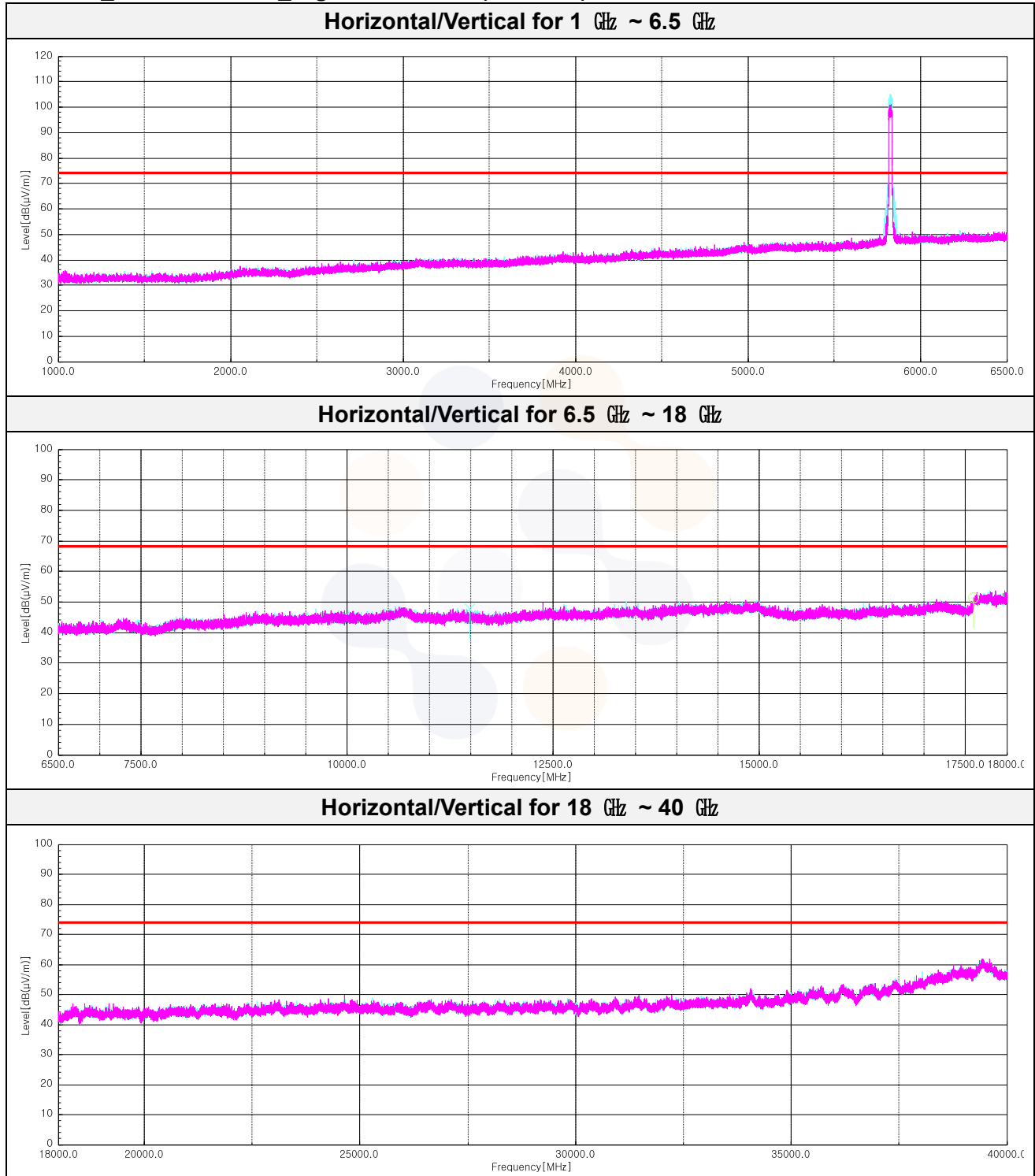
Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
11 532.02 ¹⁾	V	54.30	39.20	-45.95	-	47.55	74.00	26.45
17 325.33	V	55.50	39.10	-43.84	-	50.76	68.20	17.44
Average Data								
No spurious emissions were detected within 20 dB of the limit								



Plot of Harmonics and Spurious Emissions

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 SU mode_Highest Channel (5 825 MHz)



8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSVA40	101574	24.03.28
Attenuator	HUBER+SUHNER	6610_SK-50-1/199_NE	ATT08	24.04.10
DC Power Supply	AGILENT	E3632A	KR73001026	24.01.19
Vector Signal Generator	R&S	SMBV100A	257566	23.07.04
Signal Generator	R&S	SMB100A	176206	24.01.19
Power Sensor	R&S	NRP-Z81	1137.9009.02-106224-tg	24.04.25*
Attenuator	R&S	DNF Dämpfungsglied 10 dB in N-50 Ohm	0006	24.01.19
Controller	INNCO SYSTEMS	CO3000	1441/54370322/P	-
Antenna Mast	INNCO SYSTEMS	MA4640-XP-ET	-	-
Turn Device	INNCO SYSTEMS	DS1200-S-1t	-	-
Spectrum Analyzer	R&S	FSVA40	101575	23.07.22
PSA Spectrum Analyzer	Agilent	E4440A	MY46186407	24.03.22
Broadband Pre-Amplifier	SCHWARZBECK	BBV9718D	57	24.03.17
Low Noise Amplifier	TESTEK	TK-PA18H	220124-L	23.12.02
Low Noise Amplifier	TESTEK	TK-PA1840H	220133-L	23.12.02
Amplifier	SONOMA INSTRUMENT	310N	421821	23.12.14
Horn Antenna	SCHWARZBECK	BBHA9120D	2763	23.12.06
Horn Antenna	SCHWARZBECK	BBHA9170	1267	23.12.05
Bi-log Antenna	Teseq GmbH	CBL 6112D	63756	24.11.17
Loop Antenna	R&S	HFH2-Z2	100355	24.08.10
High Pass Filter	Wainwright Instruments GmbH	WHKX8-5655-6500- 18000-40SS	SN8	23.12.14
TWO-LINE V - Network	R&S	ENV216	101358	23.09.29
EMI Test Receiver	R&S	ESCI3	100001	23.08.18

* Tests related to this equipment were progressed after the calibration was completed.

End of test report