



TEST REPORT

<p>KCTL KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr</p>	<p>Report No.: KR20-SRF0158-A Page (1) of (238)</p>	
<p>1. Client</p> <ul style="list-style-type: none"> ◦ Name : Samsung Electronics Co., Ltd. ◦ Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea ◦ Date of Receipt : 2020-04-24 <p>2. Use of Report : Certification</p> <p>3. Name of Product / Model : Tablet PC / SM-T976B</p> <p>4. Manufacturer / Country of Origin : Samsung Electronics Co., Ltd. / Vietnam</p> <p>5. FCC ID : A3LSMT976B</p> <p>6. Date of Test : 2020-05-09 to 2020-06-22</p> <p>7. Location of Test : <input checked="" type="checkbox"/> Permanent Testing Lab <input type="checkbox"/> On Site Testing (Address: Address of testing location)</p> <p>8. Test method used : FCC Part 15 Subpart E, 15.407</p> <p>9. Test Results : Refer to the test result in the test report</p>		
Affirmation	<p>Tested by</p> <p>Name : Taeyoung Kim </p>	<p>Technical Manager</p> <p>Name : Seungyong Kim </p>
<p style="text-align: right;">2020-07-02</p> <p style="text-align: center;">KCTL Inc.</p> <p>As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by KCTL Inc.</p>		

REPORT REVISION HISTORY

Date	Revision	Page No
2020-06-24	Originally issued	-
2020-07-02	Updated	4,5

This report shall not be reproduced except in full, without the written approval of KCTL Inc. This document may be altered or revised by KCTL Inc. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KCTL Inc. will constitute fraud and shall nullify the document. This test report is a general report that does not use the KOLAS accreditation mark and is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.

Note. The report No. KR20-SRF0158 is superseded by the report No. KR20-SRF0158-A.

General remarks for test reports

Nothing significant to report.



CONTENTS

1.	General information	4
2.	Device information	4
2.1.	Accessory information	6
2.2.	Frequency/channel operations.....	6
2.3.	Simultaneous Tx Condition	7
2.4	Test RU offset for tones in each modes	8
2.5	Band portion of RU allocation about straddle channels	9
2.6.	Duty Cycle Factor	10
3.	Antenna requirement	11
3.1	Antenna information.....	11
3.2	Directional Gain Calculations.....	11
4.	Summary of tests.....	12
5.	Measurement uncertainty	13
6.	Measurement results explanation example	14
7.	Test results	15
7.1.	Maximum conducted output power	15
7.2.	Maximum Power Spectral Density	48
7.3.	26 dB Bandwidth.....	80
7.4.	6 dB Bandwidth.....	92
7.5.	Spurious Emission, Band Edge and Restricted bands.....	94
8.	Measurement equipment	238

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 Thai Nguyen Co., Ltd
Address : Yen binh Industrial Zone Pho Ten Dist., Thai Nguyen Province, Vietnam
Laboratory : KCTL Inc.
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
Industry Canada Registration No. : 8035A
KOLAS No.: KT231

2. Device information

Equipment under test : Tablet PC
Model : SM-T976B
Modulation technique : Bluetooth(BDR/EDR)_GFSK, $\pi/4$ DQPSK, 8DPSK
Bluetooth(BLE)_GFSK
WIFI(802.11a/b/g/n/ac/ax)_DSSS, OFDM, OFDMA
WPT_AM
LTE_QPSK, 16QAM, 64QAM, 256QAM
WCDMA_QPSK
GSM_GMSK, 8-PSK
Number of channels : Bluetooth(BDR/EDR)_79 ch / Bluetooth(BLE)_40 ch
802.11b/g/n/ac/ax_HT20/VHT20/HE20 : 13 ch
UNII-1: 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 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)
UNII-3: 5 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
WPT_1 ch
Power source : DC 3.86 V
Antenna specification : LTE/WCDMA_Metal Antenna
WIFI/Bluetooth(BDR/EDR/BLE)_ Metal Antenna
Loop Coil Antenna_Flat type (WPT)

Antenna gain : WIFI/Bluetooth(BDR/EDR/BLE)_ANT 1 : -5.71 dBi, ANT 2 : -6.52 dBi
UNII-1 ANT 1 : -8.45 dBi, ANT 2 : -8.84 dBi
UNII-2A ANT 1 : -6.15 dBi, ANT 2 : -8.46 dBi
UNII-2C ANT 1 : -6.05 dBi, ANT 2 : -8.57 dBi
UNII-3 ANT 1 : -8.65 dBi, ANT 2 : -7.70 dBi

Frequency range : Bluetooth(BDR/EDR/BLE)_2 402 MHz ~ 2 480 MHz
2 412 MHz ~ 2 472 MHz (802.11b/g/n/ac/ax_HT20/VHT20/HE20)
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-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-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)
LTE Band 2_1 850.7 MHz ~ 1909.3 MHz
LTE Band 4_1 710.7 MHz ~ 1754.3 MHz
LTE Band 5_824.7 MHz ~ 848.3 MHz
LTE Band 12_699.7 MHz ~ 715.3 MHz
LTE Band 13_779.5 MHz ~ 784.5 MHz
LTE Band 25_1850.7 MHz ~ 1914.3 MHz
LTE Band 26_824.7 MHz ~ 848.3 MHz, 814.7 MHz ~ 824.0 MHz
LTE Band 41_2 498.5 MHz ~ 2 687.5 MHz
LTE Band 66_1 710.7 MHz ~ 1779.3 MHz
GSM 850_824.2 MHz ~ 848.8 MHz
GSM 1900_1 850.2 MHz ~ 1 909.8 MHz
WCDMA 850_826.4 MHz ~ 846.6 MHz
WCDMA 1700_1 712.4 MHz ~ 1752.6 MHz
WCDMA 1900_1 852.4 MHz ~ 1907.6 MHz
WPT_530 kHz ~ 600 kHz

Software version : T976B.001
Hardware version : REV0.4
Test device serial No. : Conducted(R32N400F37D, R32N4006KBV, 42d9c794931f7ece)
Radiated(R32N400EZHV, R32N406LHH)
Operation temperature : -30 °C ~ 50 °C

2.1. Accessory information

Equipment	Manufacturer	Model	Serial No.	Power source	FCC ID
Travel Adapter	Samsung Electronics Co., Ltd	EP-TA800	-	Input : 100-240V, 50-60Hz Output : (PDO) 5.0V, 3A or 9.0V, 2.77A (PPS) 3.3-5.9V, 3A or 3.3-11.0V, 2.25A	-
Data Cable	Samsung Electronics Co., Ltd	EP-DT725BBE	-	-	-
Stylus Pen	Samsung Electronics Co., Ltd	EJ-PT870	-	DC 2.75 V	A3LEJPT870
Earphone	Samsung Electronics Co., Ltd	EHS64	-	-	-
External Keyboard	Samsung Electronics Co., Ltd	EF-DT970	-	DC 3.30 V	-

2.2. Frequency/channel operations

This device contains the following capabilities:

WIFI(802.11a/b/g/n/ac/ax), Bluetooth(BDR/EDR/BLE), WPT,

LTE Band 2, LTE Band 4, LTE Band 5, LTE Band 12, LTE Band 13, LTE Band 25, LTE Band 26, LTE Band 41, LTE Band 66, GSM 850, GSM 1900, WCDMA 850, WCDMA 1700, WCDMA 1900

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	5 580
140	5 700
144	5 720

UNII-3

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

Table 2.2-1. 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 2.2-2. 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 2.2-3. 802.11ax_HE80 mode

2.3. Simultaneous Tx Condition

Simultaneous Tx condition – RSDB

Mode	Bluetooth		2.4GHz		5GHz	
	ANT 1	ANT 2	ANT 1	ANT 2	ANT 1	ANT 2
2.4GHz + 5GHz	-	-	O	O	O	O
2.4GHz + 5GHz + Bluetooth	O	-		O	O	O

Simultaneous Tx condition – not RSDB

Mode	Bluetooth		2.4GHz		5GHz	
	ANT 1	ANT 2	ANT 1	ANT 2	ANT 1	ANT 2
2.4GHz + Bluetooth	O	-	-	O	-	-
5GHz + Bluetooth	O	-	-	-	O	O
5GHz + Bluetooth	-	O	-	-	O	O

KCTL

2.4 Test RU offset for tones in each modes

Mode	Tone number in RU	RU offset
HE20	26T	0
		4
		8
	52T	37
		38
		40
	106T	53
		54
	SU	-
	HE40	26T
9		
17		
52T		37
		41
		44
106T		53
		54
242T		56
		61
SU	62	
HE80	26T	-
		0
		18
	52T	36
		37
		45
	106T	52
		53
		57
	242T	60
		61
		62
	484T	64
		65
SU	66	
SU	-	

Notes.

This device does not supported Full RU(Resource Unit)

2.5 Band portion of RU allocation about straddle channels

Mode	Channel	Tone number in RU	RU offset	Portion
HE20	Straddle 5720 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
54	UNII-2C & UNII-3			
SU	-	UNII-2C & UNII-3		
HE40	Straddle 5710 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
			56	UNII-2C & UNII-3
		242T	61	UNII-2C
62	UNII-2C & UNII-3			
SU	-	UNII-2C & UNII-3		
HE80	Straddle 5690 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			
SU	-	UNII-2C & UNII-3		

2.6. Duty Cycle Factor

Test mode	ANT	Tone	T _{on} time (ms)	Period (ms)	Duty cycle		Duty cycle factor (dB)	
					(Linear)	(%)		
UNII-1	HE20	SISO	26T	5.104 1	5.078 5	0.995 0	99.50	0.02
			52T	5.093 6	5.068 0	0.995 0	99.50	0.02
			106T	4.786 1	4.756 0	0.993 7	99.37	0.03
			SU	5.448 5	5.431 0	0.996 8	99.68	0.01
	HE20	MIMO	26T	2.614 1	2.576 8	0.985 7	98.57	0.06
			52T	2.605 3	2.586 7	0.992 9	99.29	0.03
			106T	2.454 5	2.434 5	0.991 9	99.19	0.04
			SU	5.461 4	5.441 8	0.996 4	99.64	0.02
	HE40	SISO	26T	5.098 8	5.043 5	0.989 2	98.92	0.05
			52T	5.095 2	5.025 5	0.986 3	98.63	0.06
			106T	4.787 9	4.730 8	0.988 1	98.81	0.05
			242T	4.676 3	4.648 0	0.993 9	99.39	0.03
			SU	5.460 6	5.419 7	0.992 5	99.25	0.03
	HE40	MIMO	26T	2.618 5	2.579 0	0.984 9	98.49	0.07
			52T	2.608 6	2.562 5	0.982 3	98.23	0.08
			106T	2.452 5	2.405 5	0.980 8	98.08	0.08
			242T	2.406 5	2.385 5	0.991 3	99.13	0.04
			SU	5.461 4	5.441 8	0.996 4	99.64	0.02
	HE80	SISO	26T	5.102 4	5.032 7	0.986 3	98.63	0.06
			52T	5.077 2	5.014 7	0.987 7	98.77	0.05
			106T	4.771 2	4.715 9	0.988 4	98.84	0.05
			242T	4.675 8	4.631 3	0.990 5	99.05	0.04
			484T	4.668 6	4.620 5	0.989 7	98.97	0.04
			SU	5.489 4	5.416 1	0.986 6	98.66	0.06
	HE80	MIMO	26T	2.606 4	2.554 8	0.980 2	98.02	0.09
			52T	2.600 9	2.552 6	0.981 4	98.14	0.08
			106T	2.451 5	2.404 5	0.980 8	98.08	0.08
			242T	2.404 5	2.373 5	0.987 1	98.71	0.06
484T			2.402 5	2.382 5	0.991 7	99.17	0.04	
SU			5.459 2	5.441 8	0.996 8	99.68	0.01	

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 because duty cycle is more than 98%
4. Please refer to Appendix A for plots,

3. Antenna requirement

Requirement of FCC part section 15.203, 15.407:

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.

- The transmitter has permanently attached Metal Antenna (external antenna).

3.1 Antenna information

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

√ = 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.

3.2.1. Directional Antenna Gain with equal gain

Band	ANT 1 Gain (dBi)	ANT 2 Gain (dBi)	Power Directional Gain (dBi)
UNII 1	-8.45	-8.84	-5.63
UNII 2A	-6.15	-8.46	-4.22
UNII 2C	-6.05	-8.57	-4.21
UNII 3	-8.65	-7.70	-5.15

Note.

Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, \dots, G_N dBi

Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi

4. Summary of tests

FCC Part section(s)	Parameter	Test results
15.407(a)	Maximum conducted output power	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
15.407(b), 15.205(a), 15.209(a)	Spurious emission	Pass
	Band-edge, restricted band	Pass
15.207(a)	Conducted Emissions	Pass

Notes:

- All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- For AC Conducted emission, please refer to KR20-SRF0152-A_02161_Samsung Electronics_SM-T976B_WiFi(P15.407).
- 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.
- The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that **X** orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in **X** orientation.
- All the radiated tests have been performed several case.
(stand alone, with accessories (keyboard, earphone, etc.))
Worst case : stand alone
- 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:
 - SISO Antenna: 802.11ax HE20 mode : MCS0
 - 802.11ax HE40 mode : MCS0
 - 802.11ax HE80 mode : MCS0

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 indicate 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	1.76 dB	
Conducted spurious emissions	4.03 dB	
Radiated spurious emissions	9 kHz ~ 30 MHz:	2.28 dB
	30 MHz ~ 300 MHz	4.98 dB
	300 MHz ~ 1 000 MHz	5.14 dB
	1 GHz ~ 6 GHz	6.70 dB
	Above 6 GHz	6.60 dB
Conducted emissions	9 kHz ~ 150 kHz	3.66 dB
	150 kHz ~ 30 MHz	3.26 dB

KCTL

6. Measurement results explanation example

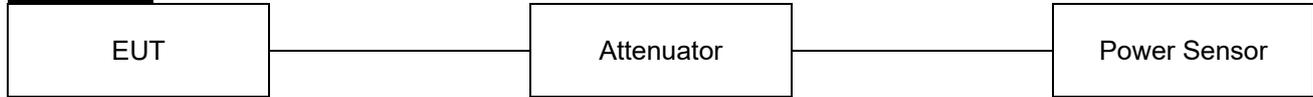
The offset level is set in the spectrum analyzer to compensate the RF cable loss factor between EUT conducted output port and spectrum analyzer.

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	9.64	9 000	12.06
50	9.78	10 000	12.12
100	9.88	11 000	12.42
200	10.06	12 000	12.50
300	10.16	13 000	12.58
400	10.24	14 000	12.73
500	10.30	15 000	12.84
600	10.37	16 000	12.89
700	10.41	17 000	12.99
800	10.46	18 000	13.06
900	10.50	19 000	13.13
1 000	10.54	20 000	13.36
2 000	10.55	21 000	13.49
3 000	11.01	22 000	13.46
4 000	11.08	23 000	13.48
5 000	11.30	24 000	13.51
6 000	11.62	25 000	13.57
7 000	11.66	26 000	13.45
8 000	11.70	26 500	13.53

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 procedureANSI C63.10-2013-Section 12.3.3.2 and 14.2
KDB 789033 D02 v02r01 - Section E.2.d) or e)
KDB 662911 D01 v02r01 – Section E).1)

Test settings**Used test method is Section E.2.d) and Section E.2.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 $10 \log(1/0,25) = 6$ dB if the duty cycle is 25%.

Section E.2.e)**Method SA-2 Alternative (power averaging(rms) detection with slow sweep with each spectrum bin 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) Manually set sweep time $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
- (vii) Set detector = power averaging (rms)
- (viii) Perform a single sweep.
- (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement

function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

- (x) 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 $10 \log(1/0.25) = 6$ dB if the duty cycle is 25%.

Section E.3.a)

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

- (xi) 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
- (xii) If the transmitter does not transmit continuously, measure the duty cycle, x , of the transmitter output signal as described in II
- (xiii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- (xiv) 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%).

Section E.3.b)

Method PM-G (Measurement using a gated RF average power meter):

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Note:

Please refer to Appendix A for plots

Test results**802.11ax HE20 SISO in the UNII-1 band**

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Low	5 180	26T	0	9.86	10.21	9.86	10.21	24.00
			4	10.09	10.41	10.09	10.41	24.00
			8	10.18	10.30	10.18	10.30	24.00
		52T	37	10.06	10.66	10.06	10.66	24.00
			38	10.26	10.76	10.26	10.76	24.00
			40	10.30	10.59	10.30	10.59	24.00
		106T	53	10.48	10.78	10.48	10.78	24.00
			54	10.64	10.71	10.64	10.71	24.00
		SU	-	13.50	12.95	13.50	12.95	24.00
		Mid	5 200	26T	0	9.95	10.44	9.95
4	10.09				10.57	10.09	10.57	24.00
8	10.12				10.43	10.12	10.43	24.00
52T	37			10.14	10.85	10.14	10.85	24.00
	38			10.30	10.92	10.30	10.92	24.00
	40			10.23	10.68	10.23	10.68	24.00
106T	53			10.39	10.96	10.39	10.96	24.00
	54			10.45	10.85	10.45	10.85	24.00
SU	-			13.24	12.91	13.24	12.91	24.00
High	5 240			26T	0	9.54	10.05	9.54
		4	9.64		10.23	9.64	10.23	24.00
		8	9.72		10.23	9.72	10.23	24.00
		52T	37	9.69	10.47	9.69	10.47	24.00
			38	9.84	10.56	9.84	10.56	24.00
			40	9.86	10.47	9.86	10.47	24.00
		106T	53	9.93	10.59	9.93	10.59	24.00
			54	10.04	10.57	10.04	10.57	24.00
		SU	-	13.03	12.86	13.03	12.86	24.00

802.11ax HE40 SISO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)		
						Average	Average			
Low	5 190	26T	0	9.62	10.77	9.62	10.77	24.00		
			9	10.42	10.10	10.42	10.10	24.00		
			17	10.23	10.64	10.23	10.64	24.00		
		52T	37	9.96	9.90	9.96	9.90	24.00		
			41	10.54	10.11	10.54	10.11	24.00		
			44	10.32	10.81	10.32	10.81	24.00		
		106T	53	10.45	10.11	10.45	10.11	24.00		
			54	10.83	10.86	10.83	10.86	24.00		
			56	10.77	10.33	10.77	10.33	24.00		
		242T	61	10.51	10.26	10.51	10.26	24.00		
			62	10.71	10.00	10.71	10.00	24.00		
		SU	-	11.79	11.61	11.79	11.61	24.00		
		Mid	5 230	26T	0	9.39	10.20	9.39	10.20	24.00
					9	9.96	10.55	9.96	10.55	24.00
17	9.86				10.12	9.86	10.12	24.00		
52T	37			9.69	10.32	9.69	10.32	24.00		
	41			10.10	10.58	10.10	10.58	24.00		
	44			9.97	10.24	9.97	10.24	24.00		
106T	53			9.99	10.56	9.99	10.56	24.00		
	54			10.26	10.25	10.26	10.25	24.00		
	56			10.31	10.25	10.31	10.25	24.00		
242T	61			10.12	10.44	10.12	10.44	24.00		
	62			10.24	10.36	10.24	10.36	24.00		
SU	-			11.54	11.56	11.54	11.56	24.00		

802.11ax HE80 SISO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Low	5 210	26T	0	9.44	10.34	9.44	10.34	24.00
			18	10.13	10.38	10.13	10.38	24.00
			36	10.11	10.60	10.11	10.60	24.00
		52T	37	9.35	10.36	9.35	10.36	24.00
			45	9.94	10.34	9.94	10.34	24.00
			52	10.03	10.63	10.03	10.63	24.00
		106T	53	9.66	10.50	9.66	10.50	24.00
			57	10.42	10.41	10.42	10.41	24.00
			60	10.36	10.02	10.36	10.02	24.00
		242T	61	9.92	10.67	9.92	10.67	24.00
			62	10.27	10.64	10.27	10.64	24.00
			64	10.43	10.23	10.43	10.23	24.00
		484T	65	10.24	10.69	10.24	10.69	24.00
			66	10.50	10.36	10.50	10.36	24.00
		SU	-	10.82	10.57	10.82	10.57	24.00

KCTL

802.11ax HE20 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Low	5 260	26T	0	9.86	10.18	9.86	10.18	24.00
			4	9.99	10.39	9.99	10.39	23.70
			8	10.02	10.36	10.02	10.36	24.00
		52T	37	10.00	10.57	10.00	10.57	24.00
			38	10.19	10.69	10.19	10.69	23.78
			40	10.17	10.62	10.17	10.62	24.00
		106T	53	10.26	10.70	10.26	10.70	24.00
			54	10.37	10.74	10.37	10.74	24.00
		SU	-	13.38	13.22	13.38	13.22	24.00
		Mid	5 280	26T	0	10.25	9.96	10.25
4	10.34				10.20	10.34	10.20	23.68
8	10.32				10.19	10.32	10.19	24.00
52T	37			10.42	10.36	10.42	10.36	24.00
	38			10.57	10.47	10.57	10.47	23.81
	40			10.49	10.45	10.49	10.45	24.00
106T	53			10.71	10.48	10.71	10.48	24.00
	54			10.71	10.53	10.71	10.53	24.00
SU	-			13.74	13.25	13.74	13.25	24.00
High	5 320			26T	0	9.88	10.78	9.88
		4	9.91		10.25	9.91	10.25	23.68
		8	9.82		10.23	9.82	10.23	24.00
		52T	37	10.05	10.37	10.05	10.37	24.00
			38	10.16	10.50	10.16	10.50	23.77
			40	9.99	10.50	9.99	10.50	24.00
		106T	53	10.31	10.49	10.31	10.49	24.00
			54	10.27	10.65	10.27	10.65	24.00
		SU	-	13.23	13.27	13.23	13.27	24.00

802.11ax HE40 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)		
						Average	Average			
Low	5 270	26T	0	10.02	10.59	10.02	10.59	24.00		
			9	10.64	9.89	10.64	9.89	24.00		
			17	10.41	10.74	10.41	10.74	24.00		
		52T	37	10.29	10.66	10.29	10.66	24.00		
			41	10.79	9.91	10.79	9.91	24.00		
			44	10.55	10.87	10.55	10.87	24.00		
		106T	53	9.60	10.96	9.60	10.96	24.00		
			54	9.89	10.67	9.89	10.67	24.00		
			56	9.79	10.59	9.79	10.59	24.00		
		242T	61	9.76	10.59	9.76	10.59	24.00		
			62	9.83	10.18	9.83	10.18	24.00		
		SU	-	11.28	11.06	11.28	11.06	24.00		
		Mid	5 310	26T	0	9.37	10.78	9.37	10.78	24.00
					9	9.72	10.16	9.72	10.16	24.00
17	9.27				9.85	9.27	9.85	24.00		
52T	37			9.41	10.88	9.41	10.88	24.00		
	41			9.80	10.19	9.80	10.19	24.00		
	44			9.44	10.00	9.44	10.00	24.00		
106T	53			9.85	10.02	9.85	10.02	24.00		
	54			10.06	10.90	10.06	10.90	24.00		
	56			9.76	10.85	9.76	10.85	24.00		
242T	61			9.92	10.85	9.92	10.85	24.00		
	62			9.83	10.23	9.83	10.23	24.00		
SU	-			11.82	10.90	11.82	10.90	24.00		

802.11ax HE80 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Low	5 290	26T	0	9.95	10.31	9.95	10.31	24.00
			18	10.35	10.78	10.35	10.78	24.00
			36	9.90	10.70	9.90	10.70	24.00
		52T	37	9.74	10.37	9.74	10.37	24.00
			45	10.26	10.88	10.26	10.88	24.00
			52	9.97	10.78	9.97	10.78	24.00
		106T	53	10.02	10.49	10.02	10.49	24.00
			57	10.51	10.90	10.51	10.90	24.00
			60	10.26	10.83	10.26	10.83	24.00
		242T	61	10.25	10.68	10.25	10.68	24.00
			62	10.58	10.90	10.58	10.90	24.00
			64	10.48	10.45	10.48	10.45	24.00
		484T	65	10.51	10.82	10.51	10.82	24.00
			66	10.65	10.53	10.65	10.53	24.00
		SU	-	10.15	10.82	10.15	10.82	24.00

KCTL

802.11ax HE20 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Low	5 500	26T	0	9.79	10.09	9.79	10.09	24.00
			4	9.71	10.35	9.71	10.35	23.69
			8	9.65	10.39	9.65	10.39	24.00
		52T	37	9.90	10.51	9.90	10.51	24.00
			38	10.11	10.65	10.11	10.65	23.78
			40	9.73	10.63	9.73	10.63	24.00
		106T	53	10.04	10.67	10.04	10.67	24.00
			54	9.73	10.78	9.73	10.78	24.00
		SU	-	12.57	13.58	12.57	13.58	24.00
		Mid	5 580	26T	0	9.85	10.12	9.85
4	10.15				10.35	10.15	10.35	23.66
8	10.22				10.36	10.22	10.36	23.98
52T	37			10.06	10.48	10.06	10.48	24.00
	38			10.28	10.62	10.28	10.62	23.81
	40			10.39	10.62	10.39	10.62	24.00
106T	53			10.34	10.72	10.34	10.72	24.00
	54			10.65	10.76	10.65	10.76	24.00
SU	-			13.26	13.41	13.26	13.41	24.00
High	5 700			26T	0	9.59	10.87	9.59
		4	9.70		10.08	9.70	10.08	23.66
		8	9.70		9.97	9.70	9.97	24.00
		52T	37	9.73	10.23	9.73	10.23	24.00
			38	9.88	10.37	9.88	10.37	23.79
			40	9.83	10.23	9.83	10.23	24.00
		106T	53	10.11	10.55	10.11	10.55	24.00
			54	10.14	10.40	10.14	10.40	24.00
		SU	-	13.19	13.47	13.19	13.47	24.00
		Straddle	5 720	26T	0	9.78	9.74	9.78
4	9.87				9.82	9.87	9.82	23.75
52T	37			9.94	9.83	9.94	9.83	24.00
	38			10.02	9.93	10.02	9.93	23.79
106T	53			10.18	10.10	10.18	10.10	24.00

802.11ax HE40 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)		
						Average	Average			
Low	5 510	26T	0	9.12	10.93	9.12	10.93	24.00		
			9	9.50	10.54	9.50	10.54	24.00		
			17	9.05	10.29	9.05	10.29	24.00		
		52T	37	9.33	10.09	9.33	10.09	24.00		
			41	9.58	10.62	9.58	10.62	24.00		
			44	9.26	10.42	9.26	10.42	24.00		
		106T	53	9.41	10.27	9.41	10.27	24.00		
			54	9.56	10.06	9.56	10.06	24.00		
			56	9.38	10.00	9.38	10.00	24.00		
		242T	61	9.48	10.30	9.48	10.30	24.00		
			62	9.48	10.11	9.48	10.11	24.00		
		SU	-	10.97	10.87	10.97	10.87	24.00		
		Mid	5 590	26T	0	10.10	10.41	10.10	10.41	24.00
					9	10.82	10.95	10.82	10.95	24.00
17	10.27				10.51	10.27	10.51	24.00		
52T	37			10.18	10.49	10.18	10.49	24.00		
	41			10.90	10.98	10.90	10.98	24.00		
	44			10.40	10.61	10.40	10.61	24.00		
106T	53			9.40	10.83	9.40	10.83	24.00		
	54			9.83	10.52	9.83	10.52	24.00		
	56			9.60	10.45	9.60	10.45	24.00		
242T	61			9.61	10.77	9.61	10.77	24.00		
	62			9.73	10.54	9.73	10.54	24.00		
SU	-			11.34	10.91	11.34	10.91	24.00		
High	5 670			26T	0	9.89	10.66	9.89	10.66	24.00
					9	10.09	10.88	10.09	10.88	24.00
		17	9.56		10.39	9.56	10.39	24.00		
		52T	37	10.14	10.75	10.14	10.75	24.00		
			41	10.17	10.93	10.17	10.93	24.00		
			44	9.66	10.52	9.66	10.52	24.00		
		106T	53	10.52	10.99	10.52	10.99	24.00		
			54	10.51	10.77	10.51	10.77	24.00		
			56	10.08	10.26	10.08	10.26	24.00		
		242T	61	10.53	10.61	10.53	10.61	24.00		
			62	10.20	10.87	10.20	10.87	24.00		
		SU	-	11.80	11.15	11.80	11.15	24.00		

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Straddle	5 710	26T	0	9.94	10.44	9.94	10.44	24.00
			9	10.26	9.74	10.26	9.74	24.00
		52T	37	10.02	9.33	10.02	9.33	24.00
			41	10.25	9.74	10.25	9.74	24.00
		106T	53	10.37	9.79	10.37	9.79	24.00
			54	10.56	10.03	10.56	10.03	24.00
		242T	61	10.41	9.88	10.41	9.88	24.00

KCTL

802.11ax HE80 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)		
						Average	Average			
Low	5 530	26T	0	10.59	10.36	10.59	10.36	24.00		
			18	10.63	10.37	10.63	10.37	24.00		
			36	9.65	10.76	9.65	10.76	24.00		
		52T	37	10.51	10.43	10.51	10.43	24.00		
			45	10.42	10.43	10.42	10.43	24.00		
			52	9.64	10.81	9.64	10.81	24.00		
		106T	53	10.68	10.60	10.68	10.60	24.00		
			57	10.73	10.49	10.73	10.49	24.00		
			60	9.86	10.37	9.86	10.37	24.00		
		242T	61	10.62	10.71	10.62	10.71	24.00		
			62	10.82	10.39	10.82	10.39	24.00		
			64	10.10	10.48	10.10	10.48	24.00		
		484T	65	10.84	10.92	10.84	10.92	24.00		
			66	10.41	10.56	10.41	10.56	24.00		
		SU	-	10.12	9.83	10.12	9.83	24.00		
		High	5 610	26T	0	9.68	10.12	9.68	10.12	24.00
					18	10.04	10.43	10.04	10.43	24.00
36	9.66				10.88	9.66	10.88	24.00		
52T	37			9.50	10.14	9.50	10.14	24.00		
	45			9.83	10.45	9.83	10.45	24.00		
	52			9.64	10.93	9.64	10.93	24.00		
106T	53			9.86	10.37	9.86	10.37	24.00		
	57			10.17	10.55	10.17	10.55	24.00		
	60			9.99	10.22	9.99	10.22	24.00		
242T	61			10.17	10.54	10.17	10.54	24.00		
	62			10.48	10.56	10.48	10.56	24.00		
	64			10.21	10.35	10.21	10.35	24.00		
484T	65			10.42	10.68	10.42	10.68	24.00		
	66			10.28	10.50	10.28	10.50	24.00		
SU	-			10.00	10.16	10.00	10.16	24.00		

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Straddle	5 690	26T	0	10.51	10.02	10.51	10.02	24.00
			18	10.62	10.46	10.62	10.46	24.00
		52T	37	10.53	10.03	10.53	10.03	24.00
			45	10.62	10.43	10.62	10.43	24.00
		106T	53	10.66	10.33	10.66	10.33	24.00
			57	10.71	10.63	10.71	10.63	24.00
		242T	61	10.84	10.43	10.84	10.43	24.00
			62	10.88	10.51	10.88	10.51	24.00
		484T	65	10.91	10.47	10.91	10.47	24.00

KCTL

802.11ax HE20 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
Straddle	5 720	26T	8	9.86	9.65	9.86	9.65	30.00
		52T	40	10.04	9.71	10.04	9.71	30.00
Low	5 745	26T	0	10.44	10.40	10.44	10.40	30.00
			4	10.45	10.37	10.45	10.37	30.00
			8	10.37	10.31	10.37	10.31	30.00
		52T	37	10.53	10.45	10.53	10.45	30.00
			38	10.71	10.49	10.71	10.49	30.00
			40	10.35	10.36	10.35	10.36	30.00
		106T	53	10.67	10.53	10.67	10.53	30.00
			54	10.65	10.44	10.65	10.44	30.00
		SU	-	12.99	13.24	12.99	13.24	30.00
		Mid	5 785	26T	0	10.60	10.22	10.60
4	10.53				10.11	10.53	10.11	30.00
8	10.42				10.09	10.42	10.09	30.00
52T	37			10.64	10.26	10.64	10.26	30.00
	38			10.68	10.26	10.68	10.26	30.00
	40			10.50	10.12	10.50	10.12	30.00
106T	53			10.72	10.31	10.72	10.31	30.00
	54			10.61	10.24	10.61	10.24	30.00
SU	-			12.97	13.25	12.97	13.25	30.00
High	5 825			26T	0	10.72	9.52	10.72
		4	10.56		9.66	10.56	9.66	30.00
		8	10.51		9.52	10.51	9.52	30.00
		52T	37	10.76	9.68	10.76	9.68	30.00
			38	10.72	9.76	10.72	9.76	30.00
			40	10.53	9.55	10.53	9.55	30.00
		106T	53	10.74	9.77	10.74	9.77	30.00
			54	10.59	9.71	10.59	9.71	30.00
		SU	-	12.94	12.39	12.94	12.39	30.00

802.11ax HE40 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)		
						Average	Average			
Straddle	5 710	26T	17	9.73	10.08	9.73	10.08	30.00		
		52T	44	9.89	10.19	9.89	10.19	30.00		
Low	5 755	26T	0	10.79	10.29	10.79	10.29	30.00		
			9	10.14	10.68	10.14	10.68	30.00		
			17	10.41	10.05	10.41	10.05	30.00		
		52T	37	10.91	10.35	10.91	10.35	30.00		
			41	10.11	10.73	10.11	10.73	30.00		
			44	10.52	10.09	10.52	10.09	30.00		
		106T	53	10.08	10.65	10.08	10.65	30.00		
			54	10.25	10.84	10.25	10.84	30.00		
			56	10.73	10.43	10.73	10.43	30.00		
		242T	61	10.08	10.68	10.08	10.68	30.00		
			62	10.96	10.55	10.96	10.55	30.00		
		SU	-	11.50	11.42	11.50	11.42	30.00		
		High	5 795	26T	0	10.46	9.92	10.46	9.92	30.00
					9	10.68	10.20	10.68	10.20	30.00
17	10.30				9.76	10.30	9.76	30.00		
52T	37			10.52	10.10	10.52	10.10	30.00		
	41			10.69	10.25	10.69	10.25	30.00		
	44			10.27	9.87	10.27	9.87	30.00		
106T	53			10.77	10.21	10.77	10.21	30.00		
	54			10.89	10.42	10.89	10.42	30.00		
	56			10.47	10.03	10.47	10.03	30.00		
242T	61			10.85	10.26	10.85	10.26	30.00		
	62			10.54	10.16	10.54	10.16	30.00		
SU	-			10.93	10.90	10.93	10.90	30.00		

802.11ax HE80 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)	
						Average	Average		
Straddle	5 690	26T	36	9.77	9.80	9.77	9.80	30.00	
		52T	52	9.88	9.81	9.88	9.81	30.00	
Mid	5 775	26T	0	10.86	10.25	10.86	10.25	30.00	
			18	10.74	10.29	10.74	10.29	30.00	
			36	10.01	9.71	10.01	9.71	30.00	
		52T	37	10.78	10.34	10.78	10.34	30.00	
			45	10.68	10.37	10.68	10.37	30.00	
			52	10.14	9.71	10.14	9.71	30.00	
		106T	53	10.88	10.56	10.88	10.56	30.00	
			57	10.82	10.45	10.82	10.45	30.00	
			60	10.32	9.89	10.32	9.89	30.00	
		242T	61	10.96	10.57	10.96	10.57	30.00	
			62	10.91	10.55	10.91	10.55	30.00	
			64	10.40	10.04	10.40	10.04	30.00	
		484T	65	10.93	10.52	10.93	10.52	30.00	
			66	10.46	10.12	10.46	10.12	30.00	
		SU	-	-	10.28	10.28	10.28	10.28	30.00

802.11ax HE20 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
UNII-2C	5 720	106T	54	5.99	6.04	5.99	6.04	22.60
		SU	-	12.21	12.01	12.21	12.01	22.86
UNII-3		106T	54	6.68	6.78	6.68	6.78	30.00
		SU	-	6.43	6.31	6.43	6.31	30.00

802.11ax HE40 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
UNII-2C	5 710	106T	56	6.70	7.55	6.70	7.55	24.00
		242T	62	8.76	9.55	8.76	9.55	24.00
		SU	-	10.03	10.90	10.03	10.90	24.00
UNII-3		106T	56	6.08	7.01	6.08	7.01	30.00
		242T	62	2.71	3.56	2.71	3.56	30.00
		SU	-	-0.56	0.46	-0.56	0.46	30.00

802.11ax HE80 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power ANT 1 (dBm)	Conducted output power ANT 2 (dBm)	Conducted Power Limit (dBm)
						Average	Average	
UNII-2C	5 690	106T	60	6.84	8.06	6.84	8.06	24.00
		242T	64	8.88	10.06	8.88	10.06	24.00
		484T	66	9.60	10.73	9.60	10.73	24.00
		SU	-	10.18	9.96	10.18	9.96	24.00
UNII-3		106T	60	6.41	7.67	6.41	7.67	30.00
		242T	64	2.97	4.24	2.97	4.24	30.00
		484T	66	-0.03	1.27	-0.03	1.27	30.00
		SU	-	-4.17	-4.15	-4.17	-4.15	30.00

802.11ax HE20 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 180	26T	0	10.12	9.99	13.07	24.00
			4	10.45	10.16	13.32	24.00
			8	10.33	9.83	13.10	24.00
		52T	37	10.52	10.13	13.34	24.00
			38	10.71	10.06	13.41	24.00
			40	10.53	10.01	13.29	24.00
		106T	53	10.50	10.14	13.33	24.00
			54	10.49	10.15	13.33	24.00
		SU	-	13.66	13.29	16.49	24.00
		Mid	5 200	26T	0	10.15	10.19
4	10.31				10.36	13.35	24.00
8	10.28				10.06	13.18	24.00
52T	37			10.39	10.29	13.35	24.00
	38			10.58	10.31	13.46	24.00
	40			10.47	10.28	13.39	24.00
106T	53			10.48	10.43	13.47	24.00
	54			10.55	10.55	13.56	24.00
SU	-			13.64	13.21	16.44	24.00
High	5 240			26T	0	10.35	10.11
		4	10.47		10.32	13.41	24.00
		8	10.27		10.05	13.17	24.00
		52T	37	10.56	10.25	13.42	24.00
			38	10.77	10.27	13.54	24.00
			40	10.54	10.19	13.38	24.00
		106T	53	10.73	10.42	13.59	24.00
			54	10.51	10.37	13.45	24.00
		SU	-	13.67	13.33	16.51	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT 1}/10)} + 10^{(\text{ANT 2}/10)})$

802.11ax HE40 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 190	26T	0	10.10	10.07	13.10	24.00
			9	10.61	10.54	13.59	24.00
			17	10.26	9.85	13.07	24.00
		52T	37	10.10	10.19	13.16	24.00
			41	10.87	10.56	13.73	24.00
			44	10.54	10.13	13.35	24.00
		106T	53	10.28	10.50	13.40	24.00
			54	10.70	10.67	13.70	24.00
			56	10.62	10.57	13.61	24.00
		242T	61	10.48	10.52	13.51	24.00
			62	10.74	10.54	13.65	24.00
		SU	-	11.59	11.41	14.51	24.00
		Mid	5 230	26T	0	10.23	9.58
9	10.18				10.15	13.18	24.00
17	10.33				9.68	13.03	24.00
52T	37			10.35	9.81	13.10	24.00
	41			10.88	10.24	13.58	24.00
	44			10.53	9.83	13.20	24.00
106T	53			10.61	10.29	13.46	24.00
	54			10.92	10.44	13.70	24.00
	56			10.47	10.17	13.33	24.00
242T	61			10.82	10.34	13.60	24.00
	62			10.77	10.25	13.53	24.00
SU	-			11.71	11.18	14.46	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 210	26T	0	10.15	9.77	12.97	24.00
			18	10.60	10.12	13.38	24.00
			36	10.45	9.74	13.12	24.00
		52T	37	10.13	9.88	13.02	24.00
			45	10.65	10.00	13.35	24.00
			52	10.54	9.76	13.18	24.00
		106T	53	10.07	9.95	13.02	24.00
			57	10.92	10.27	13.62	24.00
			60	10.39	10.03	13.22	24.00
		242T	61	10.36	10.03	13.21	24.00
			62	10.86	10.09	13.50	24.00
			64	10.68	10.11	13.41	24.00
		484T	65	10.67	10.15	13.43	24.00
			66	10.87	10.20	13.56	24.00
		SU	-	10.79	10.26	13.54	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE20 MIMO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 260	26T	0	10.33	10.16	13.26	24.00
			4	10.71	10.43	13.58	23.70
			8	10.33	10.16	13.26	24.00
		52T	37	10.93	10.54	13.75	24.00
			38	11.18	10.51	13.87	23.78
			40	10.96	10.49	13.74	24.00
		106T	53	11.06	10.46	13.78	24.00
			54	11.09	10.49	13.81	24.00
		SU	-	13.68	13.22	16.47	24.00
		Mid	5 280	26T	0	10.60	10.04
4	11.03				10.18	13.64	23.68
8	10.55				9.82	13.21	24.00
52T	37			11.23	10.30	13.80	24.00
	38			11.47	10.29	13.93	23.81
	40			11.14	10.16	13.69	24.00
106T	53			11.37	10.16	13.82	24.00
	54			11.28	10.15	13.76	24.00
SU	-			14.14	13.09	16.66	24.00
High	5 320			26T	0	10.13	10.18
		4	10.11		10.35	13.24	23.68
		8	9.84		10.00	12.93	24.00
		52T	37	10.43	10.47	13.46	24.00
			38	10.66	10.50	13.59	23.77
			40	10.30	10.36	13.34	24.00
		106T	53	10.48	10.54	13.52	24.00
			54	10.31	10.61	13.47	24.00
		SU	-	13.17	12.93	16.06	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)		
						Average			
Low	5 270	26T	0	10.63	10.23	13.44	24.00		
			9	11.07	10.51	13.81	24.00		
			17	10.65	10.02	13.36	24.00		
		52T	37	10.90	10.39	13.66	24.00		
			41	10.92	10.07	13.53	24.00		
			44	11.00	10.16	13.61	24.00		
		106T	53	10.86	10.50	13.69	24.00		
			54	10.65	10.01	13.35	24.00		
			56	11.07	10.30	13.71	24.00		
		242T	61	11.01	10.50	13.77	24.00		
			62	10.99	10.34	13.69	24.00		
		SU	-	12.03	11.44	14.76	24.00		
		Mid	5 310	26T	0	10.40	9.85	13.14	24.00
					9	10.41	10.08	13.26	24.00
17	10.31				10.18	13.26	24.00		
52T	37			10.37	10.04	13.22	24.00		
	41			10.50	10.12	13.32	24.00		
	44			10.55	10.29	13.43	24.00		
106T	53			10.28	10.13	13.22	24.00		
	54			10.57	10.24	13.42	24.00		
	56			10.49	10.60	13.56	24.00		
242T	61			10.42	10.15	13.30	24.00		
	62			10.19	9.98	13.10	24.00		
SU	-			11.48	11.11	14.31	24.00		

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 290	26T	0	10.51	10.09	13.32	24.00
			18	10.67	10.43	13.56	24.00
			36	10.40	10.17	13.30	24.00
		52T	37	10.49	10.21	13.36	24.00
			45	10.78	10.38	13.59	24.00
			52	10.49	10.22	13.37	24.00
		106T	53	10.34	10.23	13.30	24.00
			57	10.64	10.26	13.46	24.00
			60	10.30	10.38	13.35	24.00
		242T	61	10.55	10.26	13.42	24.00
			62	10.82	10.19	13.53	24.00
			64	10.63	10.45	13.55	24.00
		484T	65	10.95	10.52	13.75	24.00
			66	11.05	10.73	13.90	24.00
		SU	-	10.87	10.40	13.65	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE20 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 500	26T	0	10.14	10.29	13.23	24.00
			4	10.40	10.66	13.54	23.69
			8	10.21	10.17	13.20	24.00
		52T	37	10.57	10.69	13.64	24.00
			38	10.78	10.69	13.75	23.78
			40	10.54	10.59	13.58	24.00
		106T	53	10.42	10.61	13.53	24.00
			54	10.32	10.88	13.62	24.00
		SU	-	13.04	12.92	15.99	24.00
		Mid	5 580	26T	0	9.80	10.48
4	10.00				10.67	13.36	23.66
8	9.77				10.46	13.14	23.98
52T	37			10.11	10.65	13.40	24.00
	38			10.33	10.65	13.50	23.81
	40			10.13	10.71	13.44	24.00
106T	53			10.08	10.65	13.38	24.00
	54			10.03	10.92	13.51	24.00
SU	-			12.69	13.36	16.05	24.00
High	5 700			26T	0	9.77	10.63
		4	9.84		11.04	13.49	23.66
		8	9.69		10.47	13.11	24.00
		52T	37	9.99	11.08	13.58	24.00
			38	10.20	11.06	13.66	23.79
			40	9.82	10.95	13.43	24.00
		106T	53	9.90	11.26	13.64	24.00
			54	9.63	11.15	13.47	24.00
		SU	-	12.61	13.57	16.13	24.00
		Straddle	5 720	26T	0	9.47	9.56
4	9.41				9.72	12.58	23.75
52T	37			9.64	9.68	12.67	24.00
	38			9.77	9.63	12.71	23.79
106T	53			9.69	9.86	12.79	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT 1}/10)} + 10^{(\text{ANT 2}/10)})$

802.11ax HE40 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 510	26T	0	10.57	9.40	13.03	24.00
			9	10.70	9.84	13.30	24.00
			17	10.27	9.38	12.86	24.00
		52T	37	10.65	9.62	13.18	24.00
			41	11.03	9.89	13.51	24.00
			44	10.41	9.43	12.96	24.00
		106T	53	10.53	9.61	13.10	24.00
			54	10.81	9.75	13.32	24.00
			56	10.17	9.58	12.90	24.00
		242T	61	10.67	9.64	13.20	24.00
			62	10.45	9.60	13.06	24.00
		SU	-	12.09	10.00	14.18	24.00
		Mid	5 590	26T	0	9.97	10.17
9	10.22				10.70	13.48	24.00
17	9.73				10.22	12.99	24.00
52T	37			10.01	10.29	13.16	24.00
	41			10.36	10.67	13.53	24.00
	44			9.84	10.34	13.11	24.00
106T	53			9.95	10.39	13.19	24.00
	54			10.31	10.64	13.49	24.00
	56			9.72	10.59	13.19	24.00
242T	61			10.13	10.44	13.30	24.00
	62			9.96	10.56	13.28	24.00
SU	-			11.14	11.34	14.25	24.00
High	5 670			26T	0	10.42	10.57
		9	10.51		10.68	13.61	24.00
		17	10.12		10.24	13.19	24.00
		52T	37	10.72	10.92	13.83	24.00
			41	10.71	10.75	13.74	24.00
			44	10.31	10.41	13.37	24.00
		106T	53	10.19	10.57	13.39	24.00
			54	10.60	10.70	13.66	24.00
			56	10.19	10.69	13.46	24.00
		242T	61	10.39	10.58	13.50	24.00
			62	10.44	10.69	13.58	24.00
		SU	-	11.93	11.91	14.93	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Straddle	5 710	26T	0	9.06	9.57	12.33	24.00
			9	9.34	10.12	12.76	24.00
		52T	37	8.93	9.75	12.37	24.00
			41	9.43	9.96	12.71	24.00
		106T	53	8.65	9.57	12.14	24.00
			54	8.92	9.49	12.22	24.00
		242T	61	9.24	9.91	12.60	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE80 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Low	5 530	26T	0	10.61	9.88	13.27	24.00
			18	10.41	10.28	13.36	24.00
			36	10.35	10.25	13.31	24.00
		52T	37	10.55	9.99	13.29	24.00
			45	10.43	10.33	13.39	24.00
			52	10.30	10.15	13.24	24.00
		106T	53	10.32	9.90	13.13	24.00
			57	10.11	10.12	13.13	24.00
			60	10.00	10.26	13.14	24.00
		242T	61	10.52	10.02	13.29	24.00
			62	10.59	10.01	13.32	24.00
			64	10.16	10.31	13.25	24.00
		484T	65	10.87	10.37	13.64	24.00
			66	10.53	10.60	13.58	24.00
		SU	-	10.19	9.64	12.93	24.00
		High	5 610	26T	0	10.61	10.35
18	10.52				11.15	13.86	24.00
36	10.34				10.68	13.52	24.00
52T	37			10.68	10.72	13.71	24.00
	45			9.92	10.76	13.37	24.00
	52			10.35	10.90	13.64	24.00
106T	53			10.55	10.80	13.69	24.00
	57			9.77	10.65	13.24	24.00
	60			10.13	11.01	13.60	24.00
242T	61			10.79	10.94	13.88	24.00
	62			10.16	10.56	13.37	24.00
	64			10.38	11.06	13.74	24.00
484T	65			10.36	10.81	13.60	24.00
	66			10.07	10.92	13.53	24.00
SU	-			10.17	10.60	13.40	24.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Straddle	5 690	26T	0	9.31	10.01	12.68	24.00
			18	9.42	10.50	13.00	24.00
		52T	37	9.33	10.12	12.75	24.00
			45	9.82	10.28	13.07	24.00
		106T	53	9.30	10.27	12.82	24.00
			57	9.45	10.43	12.98	24.00
		242T	61	9.48	10.31	12.93	24.00
			62	9.61	10.32	12.99	24.00
		484T	65	8.85	9.89	12.41	24.00

Note:

1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

KCTL

802.11ax HE20 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Straddle	5 720	26T	8	9.49	9.38	12.45	30.00
		52T	40	9.57	9.44	12.51	30.00
Low	5 745	26T	0	10.24	9.60	12.94	30.00
			4	10.29	9.30	12.83	30.00
			8	10.03	9.09	12.59	30.00
		52T	37	10.34	9.39	12.90	30.00
			38	10.59	9.23	12.97	30.00
			40	10.31	9.31	12.85	30.00
		106T	53	10.45	9.48	13.00	30.00
			54	10.35	9.39	12.91	30.00
		SU	-	13.57	13.11	16.36	30.00
		Mid	5 785	26T	0	10.38	10.15
4	10.34				10.18	13.27	30.00
8	10.21				10.07	13.15	30.00
52T	37			10.45	10.22	13.35	30.00
	38			10.60	10.17	13.40	30.00
	40			10.32	10.16	13.25	30.00
106T	53			10.46	10.34	13.41	30.00
	54			10.38	10.27	13.34	30.00
SU	-			12.69	13.36	16.05	30.00
High	5 825			26T	0	10.38	9.77
		4	10.36		9.80	13.10	30.00
		8	10.23		9.73	13.00	30.00
		52T	37	10.43	9.82	13.15	30.00
			38	10.54	9.78	13.19	30.00
			40	10.32	9.66	13.01	30.00
		106T	53	10.53	9.85	13.21	30.00
			54	10.38	9.88	13.15	30.00
		SU	-	12.97	13.22	16.11	30.00

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)		
						Average			
Straddle	5 710	26T	17	9.05	9.62	12.35	30.00		
		52T	44	9.25	10.07	12.69	30.00		
Low	5 755	26T	0	10.29	10.28	13.30	30.00		
			9	10.89	10.70	13.80	30.00		
			17	10.24	9.89	13.08	30.00		
		52T	37	10.76	10.45	13.62	30.00		
			41	10.65	10.66	13.66	30.00		
			44	10.53	10.06	13.31	30.00		
		106T	53	10.74	10.81	13.78	30.00		
			54	10.58	10.91	13.75	30.00		
			56	10.32	10.53	13.43	30.00		
		242T	61	10.88	10.67	13.79	30.00		
			62	10.83	10.66	13.75	30.00		
		SU	-	11.60	11.81	14.72	30.00		
		High	5 795	26T	0	10.43	9.87	13.17	30.00
					9	10.54	10.19	13.38	30.00
17	10.06				9.66	12.88	30.00		
52T	37			10.01	10.03	13.03	30.00		
	41			10.65	10.23	13.45	30.00		
	44			10.27	9.75	13.03	30.00		
106T	53			10.58	10.26	13.43	30.00		
	54			10.78	10.41	13.61	30.00		
	56			10.21	10.22	13.22	30.00		
242T	61			10.72	10.25	13.51	30.00		
	62			10.49	10.11	13.31	30.00		
SU	-			10.91	11.63	14.30	30.00		

Note:1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
Straddle	5 690	26T	36	8.47	9.65	12.11	30.00
		52T	52	8.70	9.77	12.28	30.00
Mid	5 775	26T	0	10.79	10.28	13.55	30.00
			18	10.67	10.40	13.55	30.00
			36	10.02	9.64	12.84	30.00
		52T	37	10.76	10.32	13.55	30.00
			45	10.70	10.40	13.56	30.00
			52	10.18	9.72	12.97	30.00
		106T	53	10.70	10.63	13.67	30.00
			57	10.76	10.41	13.60	30.00
			60	10.11	10.06	13.10	30.00
		242T	61	10.89	10.52	13.72	30.00
			62	10.18	9.64	12.93	30.00
			64	10.26	10.09	13.19	30.00
		484T	65	10.85	10.50	13.69	30.00
			66	10.58	10.22	13.41	30.00
		SU	-	10.28	10.94	13.63	30.00

Note:

1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE20 MIMO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
UNII-2C	5 720	106T	54	5.78	6.00	8.90	22.60
		SU	-	11.30	10.88	14.11	22.86
UNII-3		106T	54	6.50	6.64	9.58	30.00
		SU	-	5.52	5.20	8.37	30.00

802.11ax HE40 MIMO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
UNII-2C	5 710	106T	56	4.11	5.16	7.68	24.00
		242T	62	6.16	6.94	9.58	24.00
		SU	-	10.05	10.78	13.44	24.00
UNII-3		106T	56	3.34	4.59	7.02	30.00
		242T	62	-0.05	0.96	3.49	30.00
		SU	-	-0.57	0.33	2.91	30.00

802.11ax HE80 MIMO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured power ANT 1 (dBm)	Measured power ANT 2 (dBm)	Conducted output power (dBm)	Conducted Power Limit (dBm)
						Average	
UNII-2C	5 690	106T	60	4.91	6.17	8.60	24.00
		242T	64	6.88	8.03	10.50	24.00
		484T	66	7.57	8.58	11.11	24.00
		SU	-	10.23	11.14	13.72	24.00
UNII-3		106T	60	4.33	5.75	8.11	30.00
		242T	64	0.77	2.21	4.56	30.00
		484T	66	-2.15	-0.78	1.60	30.00
		SU	-	-4.15	-2.97	-0.51	30.00

Note:

1. Conducted Output power = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

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

Notes:

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain if the antenna exceed 6 dBi

Test procedure

ANSI C63.10-2013 Section 12.3.2.2, 14.3.2.2
 KDB 789033 D02 v02r01 - Section F
 KDB 662911 D01 v02r01 - Section E). 2)

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

This test report shall not be reproduced, except in full, without the written approval

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.1.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.

Note:

Please refer to Appendix B for plots

Test results**802.11ax HE20 SISO in the UNII-1 band**

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 180	26T	0	7.07	7.45	7.07	7.45	11.00
			4	6.16	6.44	6.16	6.44	11.00
			8	7.36	7.53	7.36	7.53	11.00
		52T	37	4.41	4.97	4.41	4.97	11.00
			38	4.57	4.20	4.57	4.20	11.00
			40	4.68	4.93	4.68	4.93	11.00
		106T	53	1.68	2.14	1.68	2.14	11.00
			54	1.74	2.00	1.74	2.00	11.00
		SU	-	1.78	1.35	1.78	1.35	11.00
		Mid	5 200	26T	0	7.16	7.58	7.16
4	6.13				6.66	6.13	6.66	11.00
8	7.27				7.62	7.27	7.62	11.00
52T	37			4.44	5.17	4.44	5.17	11.00
	38			4.61	5.25	4.61	5.25	11.00
	40			4.61	5.07	4.61	5.07	11.00
106T	53			1.67	2.25	1.67	2.25	11.00
	54			1.68	2.17	1.68	2.17	11.00
SU	-			1.64	1.28	1.64	1.28	11.00
High	5 240			26T	0	6.73	7.24	6.73
		4	5.79		6.38	5.79	6.38	11.00
		8	6.96		7.49	6.96	7.49	11.00
		52T	37	3.98	4.78	3.98	4.78	11.00
			38	4.15	4.88	4.15	4.88	11.00
			40	4.17	4.85	4.17	4.85	11.00
		106T	53	1.16	1.93	1.16	1.93	11.00
			54	1.33	1.88	1.33	1.88	11.00
		SU	-	1.45	1.21	1.45	1.21	11.00

802.11ax HE40 SISO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)		
						Average	Average			
Low	5 190	26T	0	6.78	7.94	6.78	7.94	11.00		
			9	7.58	7.27	7.58	7.27	11.00		
			17	7.38	7.76	7.38	7.76	11.00		
		52T	37	4.22	4.16	4.22	4.16	11.00		
			41	4.82	4.35	4.82	4.35	11.00		
			44	4.63	5.14	4.63	5.14	11.00		
		106T	53	1.67	1.52	1.67	1.52	11.00		
			54	1.84	2.15	1.84	2.15	11.00		
			56	1.90	1.70	1.90	1.70	11.00		
		242T	61	-1.63	-2.00	-1.63	-2.00	11.00		
			62	-1.52	-2.16	-1.52	-2.16	11.00		
		SU	-	-2.71	-2.88	-2.71	-2.88	11.00		
		Mid	5 230	26T	0	6.55	7.31	6.55	7.31	11.00
					9	7.19	7.70	7.19	7.70	11.00
17	7.01				7.27	7.01	7.27	11.00		
52T	37			3.90	4.58	3.90	4.58	11.00		
	41			4.36	4.89	4.36	4.89	11.00		
	44			4.22	4.53	4.22	4.53	11.00		
106T	53			1.26	1.92	1.26	1.92	11.00		
	54			1.53	1.43	1.53	1.43	11.00		
	56			1.49	1.59	1.49	1.59	11.00		
242T	61			-2.09	-1.81	-2.09	-1.81	11.00		
	62			-1.96	-1.82	-1.96	-1.82	11.00		
SU	-			-2.93	-3.04	-2.93	-3.04	11.00		

802.11ax HE80 SISO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 210	26T	0	6.55	7.43	6.55	7.43	11.00
			18	6.12	6.46	6.12	6.46	11.00
			36	7.16	7.68	7.16	7.68	11.00
		52T	37	3.64	4.61	3.64	4.61	11.00
			45	4.25	4.61	4.25	4.61	11.00
			52	4.28	4.92	4.28	4.92	11.00
		106T	53	0.79	1.77	0.79	1.77	11.00
			57	1.44	1.64	1.44	1.64	11.00
			60	1.42	1.27	1.42	1.27	11.00
		242T	61	-2.28	-1.64	-2.28	-1.64	11.00
			62	-2.01	-1.71	-2.01	-1.71	11.00
			64	-1.85	-2.11	-1.85	-2.11	11.00
		484T	65	-4.90	-4.56	-4.90	-4.56	11.00
			66	-4.83	-4.85	-4.83	-4.85	11.00
		SU	-	-8.09	-7.04	-8.09	-7.04	11.00

KCTL

802.11ax HE20 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 260	26T	0	7.11	7.35	7.11	7.35	11.00
			4	6.13	6.48	6.13	6.48	11.00
			8	7.27	7.56	7.27	7.56	11.00
		52T	37	4.34	4.98	4.34	4.98	11.00
			38	4.50	5.05	4.50	5.05	11.00
			40	4.47	4.96	4.47	4.96	11.00
		106T	53	1.54	2.00	1.54	2.00	11.00
			54	1.58	2.12	1.58	2.12	11.00
		SU	-	1.72	1.54	1.72	1.54	11.00
		Mid	5 280	26T	0	7.53	7.13	7.53
4	6.54				6.33	6.54	6.33	11.00
8	7.55				7.36	7.55	7.36	11.00
52T	37			4.72	4.72	4.72	4.72	11.00
	38			4.89	4.80	4.89	4.80	11.00
	40			4.87	4.77	4.87	4.77	11.00
106T	53			1.90	1.82	1.90	1.82	11.00
	54			1.96	1.86	1.96	1.86	11.00
SU	-			2.09	1.62	2.09	1.62	11.00
High	5 320			26T	0	7.18	7.99	7.18
		4	6.02		6.41	6.02	6.41	11.00
		8	7.06		7.43	7.06	7.43	11.00
		52T	37	4.39	4.74	4.39	4.74	11.00
			38	4.43	4.81	4.43	4.81	11.00
			40	4.31	4.82	4.31	4.82	11.00
		106T	53	1.53	1.89	1.53	1.89	11.00
			54	1.48	1.91	1.48	1.91	11.00
		SU	-	1.54	1.54	1.54	1.54	11.00

802.11ax HE40 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 270	26T	0	7.18	7.73	7.18	7.73	11.00
			9	7.84	6.98	7.84	6.98	11.00
			17	7.61	7.94	7.61	7.94	11.00
		52T	37	4.60	5.00	4.60	5.00	11.00
			41	5.09	4.16	5.09	4.16	11.00
			44	4.89	5.22	4.89	5.22	11.00
		106T	53	0.96	2.31	0.96	2.31	11.00
			54	1.02	1.99	1.02	1.99	11.00
			56	1.00	1.76	1.00	1.76	11.00
		242T	61	-2.44	-1.64	-2.44	-1.64	11.00
			62	-2.37	-2.25	-2.37	-2.25	11.00
		SU	-	-3.11	-3.43	-3.11	-3.43	11.00
		Mid	5 310	26T	0	6.53	7.99	6.53
9	6.89				7.26	6.89	7.26	11.00
17	6.39				6.95	6.39	6.95	11.00
52T	37			3.71	5.14	3.71	5.14	11.00
	41			4.05	4.50	4.05	4.50	11.00
	44			3.68	4.37	3.68	4.37	11.00
106T	53			1.13	1.39	1.13	1.39	11.00
	54			1.20	2.18	1.20	2.18	11.00
	56			0.98	2.23	0.98	2.23	11.00
242T	61			-2.29	-1.34	-2.29	-1.34	11.00
	62			-2.39	-1.96	-2.39	-1.96	11.00
SU	-			-2.64	-3.75	-2.64	-3.75	11.00

802.11ax HE80 SISO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 290	26T	0	7.03	7.34	7.03	7.34	11.00
			18	6.51	6.81	6.51	6.81	11.00
			36	7.07	7.93	7.07	7.93	11.00
		52T	37	3.89	4.56	3.89	4.56	11.00
			45	4.47	5.07	4.47	5.07	11.00
			52	4.15	5.01	4.15	5.01	11.00
		106T	53	1.28	1.74	1.28	1.74	11.00
			57	1.71	2.27	1.71	2.27	11.00
			60	1.41	2.05	1.41	2.05	11.00
		242T	61	-1.94	-1.60	-1.94	-1.60	11.00
			62	-1.71	-1.41	-1.71	-1.41	11.00
			64	-1.70	-1.82	-1.70	-1.82	11.00
		484T	65	-4.66	-4.41	-4.66	-4.41	11.00
			66	-4.62	-4.81	-4.62	-4.81	11.00
		SU	-	-7.30	-6.75	-7.30	-6.75	11.00

KCTL

802.11ax HE20 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Low	5 500	26T	0	6.97	7.28	6.97	7.28	11.00
			4	5.87	6.41	5.87	6.41	11.00
			8	6.77	7.53	6.77	7.53	11.00
		52T	37	4.16	4.85	4.16	4.85	11.00
			38	4.46	4.94	4.46	4.94	11.00
			40	4.06	4.94	4.06	4.94	11.00
		106T	53	1.45	1.95	1.45	1.95	11.00
			54	1.17	2.07	1.17	2.07	11.00
		SU	-	1.20	1.86	1.20	1.86	11.00
		Mid	5 580	26T	0	7.05	7.30	7.05
4	6.23				6.45	6.23	6.45	11.00
8	7.50				7.56	7.50	7.56	11.00
52T	37			4.38	4.81	4.38	4.81	11.00
	38			4.56	4.92	4.56	4.92	11.00
	40			4.72	4.98	4.72	4.98	11.00
106T	53			1.64	1.91	1.64	1.91	11.00
	54			1.79	2.07	1.79	2.07	11.00
SU	-			1.69	1.82	1.69	1.82	11.00
High	5 700			26T	0	6.81	8.13	6.81
		4	5.86		6.23	5.86	6.23	11.00
		8	6.88		7.15	6.88	7.15	11.00
		52T	37	4.13	4.55	4.13	4.55	11.00
			38	4.21	4.69	4.21	4.69	11.00
			40	4.18	4.58	4.18	4.58	11.00
		106T	53	1.23	1.67	1.23	1.67	11.00
			54	1.27	1.70	1.27	1.70	11.00
		SU	-	1.48	1.64	1.48	1.64	11.00
		Straddle	5 720	26T	0	7.06	6.95	7.06
4	6.02				5.80	6.02	5.80	11.00
52T	37			4.27	4.21	4.27	4.21	11.00
	38			4.34	4.29	4.34	4.29	11.00
106T	53			1.32	1.25	1.32	1.25	11.00

802.11ax HE40 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)		
						Average	Average			
Low	5 510	26T	0	6.27	8.04	6.27	8.04	11.00		
			9	6.61	7.65	6.61	7.65	11.00		
			17	6.19	7.44	6.19	7.44	11.00		
		52T	37	3.54	4.38	3.54	4.38	11.00		
			41	3.79	4.98	3.79	4.98	11.00		
			44	3.55	4.69	3.55	4.69	11.00		
		106T	53	0.87	1.67	0.87	1.67	11.00		
			54	0.92	1.43	0.92	1.43	11.00		
			56	0.88	1.45	0.88	1.45	11.00		
		242T	61	-2.75	-1.81	-2.75	-1.81	11.00		
			62	-2.77	-2.09	-2.77	-2.09	11.00		
		SU	-	-3.49	-3.72	-3.49	-3.72	11.00		
		Mid	5 590	26T	0	7.24	7.53	7.24	7.53	11.00
					9	7.99	8.09	7.99	8.09	11.00
17	7.45				7.72	7.45	7.72	11.00		
52T	37			4.53	4.80	4.53	4.80	11.00		
	41			5.18	5.33	5.18	5.33	11.00		
	44			4.73	4.94	4.73	4.94	11.00		
106T	53			0.84	2.17	0.84	2.17	11.00		
	54			0.99	1.75	0.99	1.75	11.00		
	56			0.81	1.59	0.81	1.59	11.00		
242T	61			-2.55	-1.30	-2.55	-1.30	11.00		
	62			-2.46	-2.25	-2.46	-2.25	11.00		
SU	-			-2.51	-3.59	-2.51	-3.59	11.00		
High	5 670			26T	0	7.02	7.82	7.02	7.82	11.00
					9	7.20	7.97	7.20	7.97	11.00
		17	6.71		7.52	6.71	7.52	11.00		
		52T	37	4.43	5.05	4.43	5.05	11.00		
			41	4.45	5.19	4.45	5.19	11.00		
			44	3.98	4.81	3.98	4.81	11.00		
		106T	53	1.68	2.26	1.68	2.26	11.00		
			54	1.66	1.73	1.66	1.73	11.00		
			56	1.21	1.41	1.21	1.41	11.00		
		242T	61	-1.72	-1.54	-1.72	-1.54	11.00		
			62	-1.99	-1.34	-1.99	-1.34	11.00		
		SU	-	-2.77	-3.63	-2.77	-3.63	11.00		

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Straddle	5 710	26T	0	7.09	7.63	7.09	7.63	11.00
			9	7.35	6.84	7.35	6.84	11.00
		52T	37	4.28	3.64	4.28	3.64	11.00
			41	4.51	4.02	4.51	4.02	11.00
		106T	53	1.56	0.96	1.56	0.96	11.00
			54	1.60	1.10	1.60	1.10	11.00
		242T	61	-1.76	-2.34	-1.76	-2.34	11.00

KCTL

802.11ax HE80 SISO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)		
						Average	Average			
Low	5 530	26T	0	7.68	7.45	7.68	7.45	11.00		
			18	6.65	6.45	6.65	6.45	11.00		
			36	6.83	7.89	6.83	7.89	11.00		
		52T	37	4.63	4.62	4.63	4.62	11.00		
			45	4.66	4.75	4.66	4.75	11.00		
			52	3.92	5.14	3.92	5.14	11.00		
		106T	53	1.89	1.92	1.89	1.92	11.00		
			57	1.94	1.72	1.94	1.72	11.00		
			60	1.09	1.52	1.09	1.52	11.00		
		242T	61	-1.66	-1.54	-1.66	-1.54	11.00		
			62	-1.53	-1.85	-1.53	-1.85	11.00		
			64	-2.10	-1.75	-2.10	-1.75	11.00		
		484T	65	-4.44	-4.29	-4.44	-4.29	11.00		
			66	-4.56	-4.74	-4.56	-4.74	11.00		
		SU	-	-7.27	-7.76	-7.27	-7.76	11.00		
		High	5 610	26T	0	6.86	7.21	6.86	7.21	11.00
					18	6.19	6.50	6.19	6.50	11.00
36	6.79				7.92	6.79	7.92	11.00		
52T	37			3.86	4.36	3.86	4.36	11.00		
	45			4.20	4.68	4.20	4.68	11.00		
	52			3.92	5.20	3.92	5.20	11.00		
106T	53			1.08	1.58	1.08	1.58	11.00		
	57			1.25	1.76	1.25	1.76	11.00		
	60			1.07	1.29	1.07	1.29	11.00		
242T	61			-1.99	-1.69	-1.99	-1.69	11.00		
	62			-1.82	-1.69	-1.82	-1.69	11.00		
	64			-2.01	-1.92	-2.01	-1.92	11.00		
484T	65			-4.78	-4.57	-4.78	-4.57	11.00		
	66			-5.01	-4.69	-5.01	-4.69	11.00		
SU	-			-7.58	-7.33	-7.58	-7.33	11.00		

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD ANT 1 (dBm/MHz)	Maximum PSD ANT 2 (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	Average	
Straddle	5 690	26T	0	7.54	7.16	7.54	7.16	11.00
			18	6.74	6.50	6.74	6.50	11.00
		52T	37	4.73	4.31	4.73	4.31	11.00
			45	4.90	4.68	4.90	4.68	11.00
		106T	53	1.87	1.44	1.87	1.44	11.00
			57	1.88	1.70	1.88	1.70	11.00
		242T	61	-1.48	-1.75	-1.48	-1.75	11.00
			62	-1.46	-1.81	-1.46	-1.81	11.00
		484T	65	-4.34	-4.79	-4.34	-4.79	11.00

KCTL

802.11ax HE20 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD ANT 1 (dBm/500kHz)	Maximum PSD ANT 2 (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
						Average	Average	
Straddle	5 720	26T	8	4.21	4.24	4.21	4.24	30.00
		52T	40	1.45	1.41	1.45	1.41	30.00
Low	5 745	26T	0	4.44	4.69	4.44	4.69	30.00
			4	4.26	4.58	4.26	4.58	30.00
			8	4.28	4.93	4.28	4.93	30.00
		52T	37	1.54	1.88	1.54	1.88	30.00
			38	1.71	1.95	1.71	1.95	30.00
			40	1.65	1.93	1.65	1.93	30.00
		106T	53	-1.18	-0.98	-1.18	-0.98	30.00
			54	-1.25	-0.89	-1.25	-0.89	30.00
		SU	-	-1.26	-1.10	-1.26	-1.10	30.00
		Mid	5 785	26T	0	4.59	4.93	4.59
4	4.28				4.80	4.28	4.80	30.00
8	4.18				4.93	4.18	4.93	30.00
52T	37			1.60	2.06	1.60	2.06	30.00
	38			1.76	2.16	1.76	2.16	30.00
	40			1.53	2.11	1.53	2.11	30.00
106T	53			-1.04	-0.76	-1.04	-0.76	30.00
	54			-1.27	-0.86	-1.27	-0.86	30.00
SU	-			-1.15	-1.22	-1.15	-1.22	30.00
High	5 825			26T	0	4.33	4.62	4.33
		4	3.93		4.66	3.93	4.66	30.00
		8	4.26		4.77	4.26	4.77	30.00
		52T	37	1.36	1.87	1.36	1.87	30.00
			38	1.53	1.88	1.53	1.88	30.00
			40	1.37	1.96	1.37	1.96	30.00
		106T	53	-1.41	-1.08	-1.41	-1.08	30.00
			54	-1.46	-1.03	-1.46	-1.03	30.00
		SU	-	-1.30	-2.05	-1.30	-2.05	30.00

802.11ax HE40 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD ANT 1 (dBm/500kHz)	Maximum PSD ANT 2 (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)		
						Average	Average			
Straddle	5 710	26T	17	4.05	4.51	4.05	4.51	30.00		
		52T	44	1.32	1.75	1.32	1.75	30.00		
Low	5 755	26T	0	4.79	4.80	4.79	4.80	30.00		
			9	3.98	5.37	3.98	5.37	30.00		
			17	4.56	5.11	4.56	5.11	30.00		
		52T	37	1.92	2.07	1.92	2.07	30.00		
			41	1.02	2.52	1.02	2.52	30.00		
			44	1.75	2.28	1.75	2.28	30.00		
		106T	53	-1.67	-0.68	-1.67	-0.68	30.00		
			54	-1.66	-0.50	-1.66	-0.50	30.00		
			56	-0.86	-0.44	-0.86	-0.44	30.00		
		242T	61	-5.31	-4.11	-5.31	-4.11	30.00		
			62	-4.31	-3.95	-4.31	-3.95	30.00		
		SU	-	-5.87	-6.03	-5.87	-6.03	30.00		
		High	5 795	26T	0	4.40	4.74	4.40	4.74	30.00
					9	4.42	5.20	4.42	5.20	30.00
17	3.74				4.73	3.74	4.73	30.00		
52T	37			1.49	1.97	1.49	1.97	30.00		
	41			1.46	2.27	1.46	2.27	30.00		
	44			1.03	1.98	1.03	1.98	30.00		
106T	53			-1.14	-0.74	-1.14	-0.74	30.00		
	54			-1.16	-0.64	-1.16	-0.64	30.00		
	56			-1.59	-0.79	-1.59	-0.79	30.00		
242T	61			-4.71	-4.20	-4.71	-4.20	30.00		
	62			-4.95	-4.31	-4.95	-4.31	30.00		
SU	-			-6.54	-6.59	-6.54	-6.59	30.00		

802.11ax HE80 SISO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD ANT 1 (dBm/500kHz)	Maximum PSD ANT 2 (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
						Average	Average	
Straddle	5 690	26T	36	4.24	4.30	4.24	4.30	30.00
		52T	52	1.12	1.31	1.12	1.31	30.00
Mid	5 775	26T	0	4.63	4.66	4.63	4.66	30.00
			18	4.66	5.08	4.66	5.08	30.00
			36	3.78	4.68	3.78	4.68	30.00
		52T	37	1.72	1.89	1.72	1.89	30.00
			45	1.82	2.33	1.82	2.33	30.00
			52	1.14	1.76	1.14	1.76	30.00
		106T	53	-0.99	-0.80	-0.99	-0.80	30.00
			57	-1.07	-0.59	-1.07	-0.59	30.00
			60	-1.77	-0.99	-1.77	-0.99	30.00
		242T	61	-4.39	-4.21	-4.39	-4.21	30.00
			62	-4.36	-4.05	-4.36	-4.05	30.00
			64	-5.07	-4.37	-5.07	-4.37	30.00
		484T	65	-7.35	-7.09	-7.35	-7.09	30.00
			66	-7.71	-7.12	-7.71	-7.12	30.00
		SU	-	-10.08	-10.19	-10.08	-10.19	30.00

802.11ax HE20 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD ANT 1	Maximum PSD ANT 2	Maximum PSD Limit
						Average	Average	
UNII-2C	5 720	106T	54	1.21	0.73	1.21	0.73	11.00
		SU	-	1.72	1.23	1.72	1.23	11.00
UNII-3		106T	54	-1.83	-2.35	-1.83	-2.35	30.00
		SU	-	-1.86	-2.22	-1.86	-2.22	30.00

802.11ax HE40 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD ANT 1	Maximum PSD ANT 2	Maximum PSD Limit
						Average	Average	
UNII-2C	5 710	106T	56	0.01	0.61	0.01	0.61	11.00
		242T	62	-3.97	-3.54	-3.97	-3.54	11.00
		SU	-	-3.95	-3.40	-3.95	-3.40	11.00
UNII-3		106T	56	-2.61	-2.43	-2.61	-2.43	30.00
		242T	62	-6.23	-6.80	-6.23	-6.80	30.00
		SU	-	-8.58	-7.78	-8.58	-7.78	30.00

802.11ax HE80 SISO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD ANT 1	Maximum PSD ANT 2	Maximum PSD Limit
						Average	Average	
UNII-2C	5 690	106T	60	-1.59	-0.50	-1.59	-0.50	11.00
		242T	64	-4.97	-3.96	-4.97	-3.96	11.00
		484T	66	-7.97	-6.86	-7.97	-6.86	11.00
		SU	-	-7.22	-7.70	-7.22	-7.70	11.00
UNII-3		106T	60	-4.92	-3.69	-4.92	-3.69	30.00
		242T	64	-8.52	-7.05	-8.52	-7.05	30.00
		484T	66	-11.56	-10.26	-11.56	-10.26	30.00
		SU	-	-12.57	-12.71	-12.57	-12.71	30.00

Note:

1. The Unit of UNII-2C is (dB m / MHz) and Unit of UNII-3 is (dB m / 500 kHz)

802.11ax HE20 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 180	26T	0	7.36	7.02	10.20	11.00
			4	6.27	6.04	9.17	11.00
			8	7.49	6.93	10.23	11.00
		52T	37	5.05	4.39	7.74	11.00
			38	5.17	4.60	7.90	11.00
			40	5.08	4.39	7.76	11.00
		106T	53	2.04	1.66	4.86	11.00
			54	2.00	1.59	4.81	11.00
		SU	-	1.97	1.61	4.80	11.00
		Mid	5 200	26T	0	7.23	7.22
4	6.29				6.39	9.35	11.00
8	7.59				7.22	10.42	11.00
52T	37			4.86	4.53	7.71	11.00
	38			4.89	4.93	7.92	11.00
	40			5.09	4.68	7.90	11.00
106T	53			1.84	1.82	4.84	11.00
	54			1.81	1.90	4.87	11.00
SU	-			1.78	1.40	4.60	11.00
High	5 240			26T	0	7.67	7.19
		4	6.53		6.34	9.45	11.00
		8	7.43		7.05	10.25	11.00
		52T	37	5.14	4.61	7.89	11.00
			38	5.15	4.82	8.00	11.00
			40	5.00	4.62	7.82	11.00
		106T	53	2.21	1.83	5.03	11.00
			54	2.01	1.83	4.93	11.00
		SU	-	1.87	1.55	4.72	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 190	26T	0	7.03	7.07	10.06	11.00
			9	7.58	7.42	10.51	11.00
			17	7.46	6.90	10.20	11.00
		52T	37	4.61	4.60	7.62	11.00
			41	5.34	4.76	8.07	11.00
			44	5.03	4.54	7.80	11.00
		106T	53	1.74	2.06	4.91	11.00
			54	2.02	2.15	5.10	11.00
			56	1.94	1.73	4.85	11.00
		242T	61	-1.55	-1.52	1.48	11.00
			62	-1.45	-1.59	1.49	11.00
		SU	-	-3.15	-3.41	-0.27	11.00
		Mid	5 230	26T	0	7.45	6.72
9	7.24				7.25	10.26	11.00
17	7.44				6.67	10.08	11.00
52T	37			4.73	4.14	7.46	11.00
	41			5.42	4.56	8.02	11.00
	44			4.88	4.33	7.62	11.00
106T	53			1.86	1.53	4.71	11.00
	54			2.14	1.69	4.93	11.00
	56			2.07	1.54	4.82	11.00
242T	61			-1.17	-1.77	1.55	11.00
	62			-1.22	-1.85	1.49	11.00
SU	-			-2.93	-3.47	-0.18	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-1 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 210	26T	0	7.16	6.69	9.94	11.00
			18	6.57	6.12	9.36	11.00
			36	7.56	6.73	10.18	11.00
		52T	37	4.60	4.14	7.39	11.00
			45	5.02	4.44	7.75	11.00
			52	4.92	4.12	7.55	11.00
		106T	53	1.45	1.35	4.41	11.00
			57	2.04	1.41	4.75	11.00
			60	1.80	1.35	4.59	11.00
		242T	61	-1.67	-2.19	1.09	11.00
			62	-1.35	-2.02	1.34	11.00
			64	-1.32	-1.96	1.38	11.00
		484T	65	-4.39	-5.01	-1.68	11.00
			66	-4.08	-4.95	-1.48	11.00
		SU	-	-6.91	-7.55	-4.21	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE20 MIMO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 260	26T	0	7.63	7.17	10.42	11.00
			4	6.45	6.25	9.36	11.00
			8	7.65	7.09	10.39	11.00
		52T	37	5.30	4.78	8.06	11.00
			38	5.32	5.15	8.25	11.00
			40	5.22	4.88	8.06	11.00
		106T	53	2.36	2.05	5.22	11.00
			54	2.40	2.23	5.33	11.00
		SU	-	2.12	1.66	4.91	11.00
		Mid	5 280	26T	0	7.99	6.89
4	6.77				6.04	9.43	11.00
8	7.87				6.78	10.37	11.00
52T	37			5.47	4.61	8.07	11.00
	38			5.55	4.88	8.24	11.00
	40			5.54	4.49	8.06	11.00
106T	53			2.74	1.82	5.31	11.00
	54			2.59	1.83	5.24	11.00
SU	-			2.38	1.57	5.00	11.00
High	5 320			26T	0	7.34	7.42
		4	6.03		6.41	9.23	11.00
		8	7.07		7.24	10.17	11.00
		52T	37	4.98	4.78	7.89	11.00
			38	4.95	5.01	7.99	11.00
			40	4.81	4.79	7.81	11.00
		106T	53	1.91	1.99	4.96	11.00
			54	1.76	2.17	4.98	11.00
		SU	-	1.49	1.23	4.37	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-2A band

	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 270	26T	0	7.90	7.17	10.56	11.00
			9	8.17	7.54	10.88	11.00
			17	7.90	6.85	10.42	11.00
		52T	37	5.10	4.69	7.91	11.00
			41	5.34	4.37	7.89	11.00
			44	5.40	4.62	8.04	11.00
		106T	53	2.47	2.02	5.26	11.00
			54	2.19	1.61	4.92	11.00
			56	2.50	1.82	5.18	11.00
		242T	61	-1.01	-1.61	1.71	11.00
			62	-1.05	-1.74	1.63	11.00
		SU	-	-2.68	-3.49	-0.06	11.00
		Mid	5 310	26T	0	7.33	6.79
9	7.51				7.17	10.35	11.00
17	7.54				7.32	10.44	11.00
52T	37			4.78	4.33	7.57	11.00
	41			4.96	4.31	7.66	11.00
	44			4.89	4.77	7.84	11.00
106T	53			1.79	1.70	4.76	11.00
	54			1.98	1.70	4.85	11.00
	56			1.99	1.97	4.99	11.00
242T	61			-1.67	-1.90	1.23	11.00
	62			-1.73	-2.09	1.10	11.00
SU	-			-3.29	-3.72	-0.49	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-2A band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 290	26T	0	7.39	6.95	10.19	11.00
			18	6.60	6.20	9.41	11.00
			36	7.51	7.08	10.31	11.00
		52T	37	4.91	4.51	7.72	11.00
			45	5.02	4.80	7.92	11.00
			52	4.82	4.60	7.72	11.00
		106T	53	1.83	1.66	4.76	11.00
			57	2.06	1.74	4.91	11.00
			60	1.72	1.69	4.72	11.00
		242T	61	-1.48	-1.97	1.29	11.00
			62	-1.33	-2.02	1.35	11.00
			64	-1.43	-1.71	1.44	11.00
		484T	65	-4.37	-4.62	-1.48	11.00
			66	-3.95	-4.52	-1.22	11.00
		SU	-	-6.81	-7.33	-4.05	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE20 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 500	26T	0	7.45	7.39	10.43	11.00
			4	6.30	6.51	9.42	11.00
			8	7.27	7.50	10.40	11.00
		52T	37	5.07	4.99	8.04	11.00
			38	5.14	5.23	8.20	11.00
			40	5.07	5.04	8.07	11.00
		106T	53	2.08	2.26	5.18	11.00
			54	1.94	2.32	5.14	11.00
		SU	-	1.52	1.41	4.48	11.00
		Mid	5 580	26T	0	6.90	7.43
4	5.86				6.59	9.25	11.00
8	6.81				7.37	10.11	11.00
52T	37			4.64	4.95	7.81	11.00
	38			4.70	5.21	7.97	11.00
	40			4.65	5.09	7.89	11.00
106T	53			1.57	2.22	4.92	11.00
	54			1.50	2.32	4.94	11.00
SU	-			1.12	1.72	4.44	11.00
High	5 700			26T	0	6.89	7.85
		4	5.67		7.06	9.43	11.00
		8	6.90		7.76	10.36	11.00
		52T	37	4.55	5.17	7.88	11.00
			38	4.54	5.45	8.03	11.00
			40	4.46	5.41	7.97	11.00
		106T	53	1.51	2.60	5.10	11.00
			54	1.27	2.63	5.01	11.00
		SU	-	1.06	2.05	4.59	11.00
		Straddle	5 720	26T	0	6.80	6.73
4	5.56				5.79	8.69	11.00
52T	37			4.09	3.93	7.02	11.00
	38			4.09	4.14	7.13	11.00
106T	53			0.97	1.11	4.05	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 510	26T	0	7.53	6.28	9.96	11.00
			9	7.77	6.72	10.29	11.00
			17	7.24	6.24	9.78	11.00
		52T	37	5.07	3.99	7.57	11.00
			41	5.34	4.09	7.77	11.00
			44	4.77	3.89	7.36	11.00
		106T	53	2.16	1.17	4.70	11.00
			54	2.44	1.34	4.94	11.00
			56	1.85	1.11	4.51	11.00
		242T	61	-1.48	-2.35	1.12	11.00
			62	-1.53	-2.53	1.01	11.00
		SU	-	-2.56	-4.72	-0.50	11.00
		Mid	5 590	26T	0	6.97	7.00
9	7.13				7.50	10.33	11.00
17	6.59				7.04	9.83	11.00
52T	37			4.45	4.72	7.60	11.00
	41			4.87	4.85	7.87	11.00
	44			4.19	4.76	7.49	11.00
106T	53			1.51	1.92	4.73	11.00
	54			1.69	2.12	4.92	11.00
	56			1.29	2.02	4.68	11.00
242T	61			-1.85	-1.61	1.28	11.00
	62			-2.02	-1.57	1.22	11.00
SU	-			-3.75	-3.53	-0.63	11.00
High	5 670			26T	0	7.53	7.72
		9	7.68		7.86	10.78	11.00
		17	7.15		7.19	10.18	11.00
		52T	37	5.14	5.10	8.13	11.00
			41	5.25	4.99	8.13	11.00
			44	4.64	4.82	7.74	11.00
		106T	53	1.73	2.02	4.89	11.00
			54	2.06	2.20	5.14	11.00
			56	1.71	2.13	4.94	11.00
		242T	61	-1.56	-1.51	1.48	11.00
			62	-1.59	-1.47	1.48	11.00
		SU	-	-2.88	-2.80	0.17	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Straddle	5 710	26T	0	6.01	6.60	9.33	11.00
			9	6.37	7.28	9.86	11.00
		52T	37	3.40	4.03	6.74	11.00
			41	4.05	4.15	7.11	11.00
		106T	53	-0.18	0.88	3.39	11.00
			54	-0.26	0.79	3.31	11.00
		242T	61	-2.67	-1.94	0.72	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE80 MIMO in the UNII-2C band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Low	5 530	26T	0	7.44	6.72	10.11	11.00
			18	6.02	6.17	9.11	11.00
			36	7.16	7.02	10.10	11.00
		52T	37	5.03	4.31	7.70	11.00
			45	4.63	4.84	7.75	11.00
			52	4.71	4.45	7.59	11.00
		106T	53	1.83	1.37	4.62	11.00
			57	1.64	1.69	4.68	11.00
			60	1.47	1.64	4.57	11.00
		242T	61	-1.57	-2.21	1.13	11.00
			62	-1.42	-2.19	1.22	11.00
			64	-2.10	-1.93	1.00	11.00
		484T	65	-4.45	-4.74	-1.58	11.00
			66	-4.57	-4.56	-1.55	11.00
		SU	-	-7.68	-7.99	-4.82	11.00
		High	5 610	26T	0	7.62	7.48
18	6.20				6.93	9.59	11.00
36	7.23				7.70	10.48	11.00
52T	37			5.16	4.99	8.09	11.00
	45			4.20	5.18	7.73	11.00
	52			4.77	5.19	8.00	11.00
106T	53			2.11	2.14	5.14	11.00
	57			1.27	2.16	4.75	11.00
	60			1.61	2.42	5.04	11.00
242T	61			-1.31	-1.24	1.74	11.00
	62			-2.00	-1.55	1.24	11.00
	64			-1.71	-1.15	1.59	11.00
484T	65			-4.74	-4.41	-1.56	11.00
	66			-4.97	-4.43	-1.68	11.00
SU	-			-7.65	-7.16	-4.39	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/MHz)	Measured PSD ANT 2 (dBm/MHz)	Maximum PSD (dBm/MHz)	Maximum PSD Limit (dBm/MHz)
						Average	
Straddle	5 690	26T	0	6.43	7.17	9.83	11.00
			18	5.46	6.32	8.92	11.00
		52T	37	3.77	4.40	7.11	11.00
			45	3.84	4.70	7.30	11.00
		106T	53	0.61	1.52	4.10	11.00
			57	0.61	1.68	4.19	11.00
		242T	61	-2.72	-1.79	0.78	11.00
			62	-2.66	-1.71	0.85	11.00
		484T	65	-5.85	-5.13	-2.46	11.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$ **KCTL**

802.11ax HE20 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
						Average	
Straddle	5 720	26T	8	3.88	3.91	6.91	30.00
		52T	40	1.15	1.45	4.31	30.00
Low	5 745	26T	0	4.05	3.47	6.78	30.00
			4	3.61	3.62	6.63	30.00
			8	4.26	3.57	6.94	30.00
		52T	37	1.33	0.73	4.05	30.00
			38	1.66	1.03	4.37	30.00
			40	1.56	1.11	4.35	30.00
		106T	53	-1.99	-2.22	0.91	30.00
			54	-1.78	-2.02	1.11	30.00
		SU	-	-1.04	-1.31	1.84	30.00
		Mid	5 785	26T	0	4.27	5.26
4	3.76				5.12	7.50	30.00
8	3.95				4.88	7.45	30.00
52T	37			1.31	2.28	4.83	30.00
	38			1.54	2.48	5.05	30.00
	40			1.18	2.45	4.87	30.00
106T	53			-1.77	-0.50	1.92	30.00
	54			-1.90	-0.55	1.84	30.00
SU	-			-1.94	-1.05	1.54	30.00
High	5 825			26T	0	4.30	5.00
		4	3.72		5.00	7.42	30.00
		8	4.04		4.80	7.45	30.00
		52T	37	1.36	2.17	4.79	30.00
			38	1.71	2.40	5.08	30.00
			40	1.25	2.26	4.79	30.00
		106T	53	-1.71	-0.57	1.91	30.00
			54	-1.85	-0.70	1.77	30.00
		SU	-	-1.62	-1.18	1.62	30.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE40 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)		
						Average			
Straddle	5 710	26T	17	3.55	4.21	6.90	30.00		
		52T	44	0.56	1.16	3.88	30.00		
Low	5 755	26T	0	4.79	4.88	7.85	30.00		
			9	4.85	5.42	8.15	30.00		
			17	4.73	5.19	7.98	30.00		
		52T	37	1.84	2.30	5.09	30.00		
			41	2.32	2.81	5.58	30.00		
			44	1.89	2.25	5.08	30.00		
		106T	53	-1.44	-0.54	2.04	30.00		
			54	-0.86	-0.53	2.32	30.00		
			56	-1.29	-0.32	2.23	30.00		
		242T	61	-4.40	-3.96	-1.16	30.00		
			62	-4.66	-3.84	-1.22	30.00		
		SU	-	-6.01	-5.73	-2.86	30.00		
		High	5 795	26T	0	4.42	5.11	7.79	30.00
					9	4.34	5.35	7.88	30.00
17	4.44				5.27	7.89	30.00		
52T	37			1.45	2.51	5.02	30.00		
	41			1.83	2.67	5.28	30.00		
	44			1.37	2.27	4.85	30.00		
106T	53			-1.82	-0.33	2.00	30.00		
	54			-1.41	-0.19	2.25	30.00		
	56			-1.73	-0.29	2.06	30.00		
242T	61			-4.90	-3.70	-1.25	30.00		
	62			-5.03	-3.81	-1.37	30.00		
SU	-			-6.69	-5.96	-3.30	30.00		

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE80 MIMO in the UNII-3 band

Channel	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1 (dBm/500kHz)	Measured PSD ANT 2 (dBm/500kHz)	Maximum PSD (dBm/500kHz)	Maximum PSD Limit (dBm/500kHz)
						Average	
Straddle	5 690	26T	36	1.23	2.46	4.90	30.00
		52T	52	-1.72	-0.51	1.94	30.00
Mid	5 775	26T	0	4.55	4.86	7.72	30.00
			18	4.00	5.25	7.68	30.00
			36	4.40	5.11	7.78	30.00
		52T	37	1.86	2.24	5.06	30.00
			45	1.74	2.77	5.30	30.00
			52	1.49	2.29	4.92	30.00
		106T	53	-1.85	-0.88	1.67	30.00
			57	-1.54	-0.56	1.99	30.00
			60	-1.98	-0.79	1.67	30.00
		242T	61	-4.64	-4.20	-1.40	30.00
			62	-5.15	-4.95	-2.04	30.00
			64	-5.17	-4.07	-1.57	30.00
		484T	65	-7.40	-6.61	-3.98	30.00
			66	-7.70	-6.83	-4.23	30.00
		SU	-	-10.50	-9.80	-7.13	30.00

Note:1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$

802.11ax HE20 MIMO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD	Maximum PSD Limit
						Average	
UNII-2C	5 720	106T	54	0.40	0.64	3.53	11.00
		SU	-	0.47	0.09	3.29	11.00
UNII-3		106T	54	-2.46	-2.48	0.54	30.00
		SU	-	-3.04	-3.34	-0.18	30.00

802.11ax HE40 MIMO in the Straddle

Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD	Maximum PSD Limit
						Average	
UNII-2C	5 710	106T	56	-1.49	-0.52	2.03	11.00
		242T	62	-4.78	-4.23	-1.49	11.00
		SU	-	-4.28	-3.48	-0.85	11.00
UNII-3		106T	56	-4.62	-3.65	-1.10	30.00
		242T	62	-8.43	-7.37	-4.86	30.00
		SU	-	-8.80	-7.96	-5.35	30.00

802.11ax HE80 MIMO in the Straddle

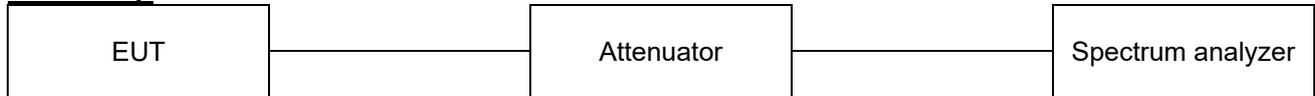
Band	Frequency (MHz)	Tones	RU offset	Measured PSD ANT 1	Measured PSD ANT 2	Maximum PSD	Maximum PSD Limit
						Average	
UNII-2C	5 690	106T	60	-1.28	0.16	2.51	11.00
		242T	64	-4.26	-3.20	-0.69	11.00
		484T	66	-7.02	-5.80	-3.36	11.00
		SU	-	-7.40	-6.49	-3.91	11.00
UNII-3		106T	60	-4.19	-2.81	-0.44	30.00
		242T	64	-7.83	-6.42	-4.06	30.00
		484T	66	-10.47	-9.16	-6.76	30.00
		SU	-	-12.72	-11.61	-9.12	30.00

Note:

1. Maximum PSD = $10\log(10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)})$
2. The Unit of UNII-2C is (dB m / MHz) and Unit of UNII-3 is (dB m / 500 kHz)

7.3. 26 dB 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

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

Note:

Please refer to Appendix C for plots

Test results**26 dB bandwidth**

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-1	HE20	5 180	26T	0	19.83	20.08
				4	18.63	18.83
				8	20.18	20.08
			52T	37	20.33	20.23
				38	19.08	19.08
				40	20.13	20.18
			106T	53	20.63	20.63
				54	20.38	20.43
			SU	-	20.63	20.13
		5 200	26T	0	19.93	20.08
				4	18.73	18.78
				8	20.23	20.08
			52T	37	20.53	20.58
				38	19.68	19.23
				40	20.08	19.83
			106T	53	20.23	20.58
				54	20.53	20.58
			SU	-	20.83	20.58
		5 240	26T	0	20.23	20.03
				4	18.53	18.73
				8	20.28	20.13
			52T	37	20.33	20.48
				38	19.43	19.18
				40	20.43	20.08
106T	53		20.58	20.53		
	54		20.53	20.53		
SU	-		21.23	21.03		

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-1	HE40	5 190	26T	0	40.46	40.26
				9	38.06	38.26
				17	40.26	40.16
			52T	37	40.46	40.66
				41	38.46	38.36
				44	40.06	40.26
			106T	53	40.46	40.66
				54	39.16	39.06
				56	40.86	40.76
			242T	61	41.56	41.36
				62	41.56	41.26
			SU	-	40.56	40.66
		5 230	26T	0	40.26	40.26
				9	38.26	38.16
				17	40.16	40.46
			52T	37	40.36	40.36
				41	38.36	38.56
				44	40.06	40.16
			106T	53	40.46	40.36
				54	38.66	38.86
				56	40.86	40.56
			242T	61	41.76	41.56
				62	41.36	41.46
			SU	-	40.46	40.56

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-1	HE80	5 210	26T	0	82.36	82.60
				18	81.76	81.88
				36	81.76	81.88
			52T	37	84.16	82.96
				45	79.60	79.00
				52	83.20	83.92
			106T	53	84.40	84.40
				57	80.68	80.68
				60	84.28	83.44
			242T	61	83.92	83.92
				62	81.76	82.00
				64	84.52	84.88
			484T	65	86.19	84.64
				66	85.95	86.55
			SU	-	82.12	82.60

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2A	HE20	5 260	26T	0	20.18	19.98
				4	18.63	18.73
				8	20.18	19.88
			52T	37	20.28	20.23
				38	19.08	18.98
				40	20.08	20.13
			106T	53	20.78	20.63
				54	20.53	20.48
			SU	-	20.83	20.88
		5 280	26T	0	19.93	20.18
				4	18.53	18.73
				8	19.93	20.08
			52T	37	20.18	20.38
				38	19.08	19.18
				40	19.98	19.88
			106T	53	21.68	20.83
				54	20.38	20.53
			SU	-	21.28	20.93
		5 320	26T	0	20.08	20.13
				4	18.53	18.88
				8	19.93	20.08
			52T	37	20.28	20.33
				38	18.93	19.03
				40	20.08	20.18
			106T	53	20.83	20.98
				54	20.38	20.28
			SU	-	21.08	20.83

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2A	HE40	5 270	26T	0	40.06	40.16
				9	38.26	38.16
				17	40.16	40.36
			52T	37	40.36	40.46
				41	38.46	38.46
				44	40.26	40.56
			106T	53	40.36	40.36
				54	38.96	38.96
				56	40.86	40.96
			242T	61	41.46	41.56
				62	41.66	41.46
			SU	-	40.46	40.46
		5 310	26T	0	40.26	40.26
				9	38.26	38.36
				17	40.16	40.26
			52T	37	40.36	40.36
				41	38.36	38.46
				44	40.56	40.26
			106T	53	40.36	40.46
				54	39.06	39.16
				56	40.96	40.56
			242T	61	41.36	41.36
				62	41.66	41.66
			SU	-	40.86	40.26

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2A	HE80	5 290	26T	0	82.48	82.72
				18	81.40	81.88
				36	81.40	81.88
			52T	37	84.16	84.04
				45	78.64	78.52
				52	83.80	83.80
			106T	53	84.52	84.88
				57	80.44	80.56
				60	83.56	83.20
			242T	61	85.11	84.40
				62	81.64	82.24
				64	84.88	84.04
			484T	65	85.35	85.35
				66	85.71	86.31
			SU	-	82.48	83.44

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2C	HE20	5 500	26T	0	20.18	20.18
				4	18.58	18.78
				8	20.33	20.08
			52T	37	20.33	20.33
				38	19.33	18.98
				40	19.98	19.98
			106T	53	20.83	20.73
				54	20.53	20.33
			SU	-	20.73	20.93
		5 580	26T	0	19.73	20.13
				4	18.43	18.63
				8	19.88	20.18
			52T	37	20.33	20.33
				38	19.08	19.28
				40	20.13	20.08
			106T	53	20.88	21.03
				54	20.68	20.48
			SU	-	21.18	21.28
		5 700	26T	0	20.03	19.93
				4	18.53	18.43
				8	20.13	20.03
			52T	37	20.03	20.28
				38	19.18	19.03
				40	20.03	19.98
106T	53		20.98	20.53		
	54		20.63	20.53		
SU	-		21.33	20.78		
UNII-2C	HE20	Straddle 5 720	26T	0	19.78	20.13
				4	18.83	18.43
				8	-	-
			52T	37	20.23	20.43
				38	19.03	18.98
				40	-	-
			106T	53	20.73	20.43
				54*	14.64	14.44
			SU	-*	15.44	15.34

* RU Allocation included in the straddle band

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2C	HE40	5 510	26T	0	40.06	40.26
				9	38.26	38.26
				17	40.16	40.16
			52T	37	40.36	40.56
				41	38.56	38.56
				44	40.46	40.56
			106T	53	40.36	40.56
				54	39.06	39.26
				56	41.26	40.86
			242T	61	41.86	41.66
				62	41.56	41.56
			SU	-	40.76	40.56
		5 590	26T	0	40.26	40.36
				9	38.26	38.26
				17	40.16	40.26
			52T	37	40.56	40.46
				41	38.46	38.56
				44	40.16	40.26
			106T	53	40.36	40.46
				54	39.26	39.06
				56	40.76	40.66
			242T	61	41.46	41.56
				62	41.56	41.36
			SU	-	40.56	40.56
		5 670	26T	0	40.26	40.46
				9	38.26	38.26
				17	40.26	40.26
			52T	37	40.66	40.76
				41	38.46	38.56
				44	40.26	40.36
			106T	53	40.46	40.66
				54	39.16	39.56
				56	41.06	41.16
			242T	61	41.76	41.86
				62	41.66	41.66
			SU	-	40.66	39.96

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2C	HE40	Straddle 5 710	26T	0	40.06	40.26
				9	38.26	38.26
				17	-	
			52T	37	40.56	40.36
				41	38.56	38.46
				44	-	
			106T	53	40.46	40.66
				54	39.16	39.16
				56*	34.68	34.68
			242T	61	41.46	41.56
				62*	34.88	34.78
			SU	-*	35.38	35.28

* RU Allocation included in the straddle band

KCTL

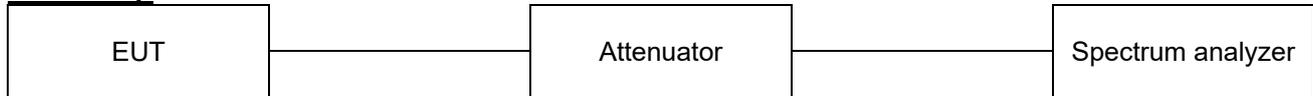
Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2C	HE80	5 530	26T	0	83.20	82.72
				18	82.00	81.52
				36	82.00	81.52
			52T	37	83.32	84.16
				45	79.84	79.00
				52	84.40	83.68
			106T	53	84.16	84.64
				57	80.56	80.56
				60	84.04	83.92
			242T	61	83.92	84.64
				62	81.76	81.88
				64	85.00	84.52
			484T	65	84.76	85.47
				66	87.39	86.07
			SU	-	83.08	83.08
		5 610	26T	0	82.72	82.84
				18	81.76	82.00
				36	81.76	82.00
			52T	37	83.80	83.68
				45	79.48	78.64
				52	83.80	83.80
			106T	53	84.16	84.16
				57	80.56	80.32
				60	83.56	83.80
			242T	61	84.28	84.16
				62	81.52	84.28
				64	84.64	84.76
			484T	65	85.23	85.35
				66	85.83	86.79
			SU	-	82.12	82.36

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-2C	HE80	Straddle 5 690	26T	0	82.48	82.72
				18	78.76	78.76
				36	-	
			52T	37	83.44	83.92
				45	79.24	79.24
				52	-	
			106T	53	84.88	84.52
				57	80.56	80.56
				60*	75.64	75.28
			242T	61	84.28	84.76
				62	81.76	82.00
				64*	76.00	75.88
			484T	65	84.52	85.23
				66*	77.20	77.20
			SU	-*	76.36	76.24

* RU Allocation included in the straddle band

7.4. 6 dB Bandwidth

Test setup



Limit

According to §15.407(e), RSS-247(6.2.4)

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth if 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. 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. Please refer to Appendix C for plots

Test results**6 dB bandwidth**

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-3	HE20	Straddle 5 720	26T	8	2.15	2.20
			52T	40	17.13	17.13
			106T	54*	4.59	4.59
			SU	-*	4.24	4.14
		5 745	26T	0	2.15	2.20
		5 785	26T	0	2.20	2.20
		5 825	26T	0	2.20	2.20
		Minimum 6dB Bandwidth				2.15
Minimum Limit (MHz)					0.5	

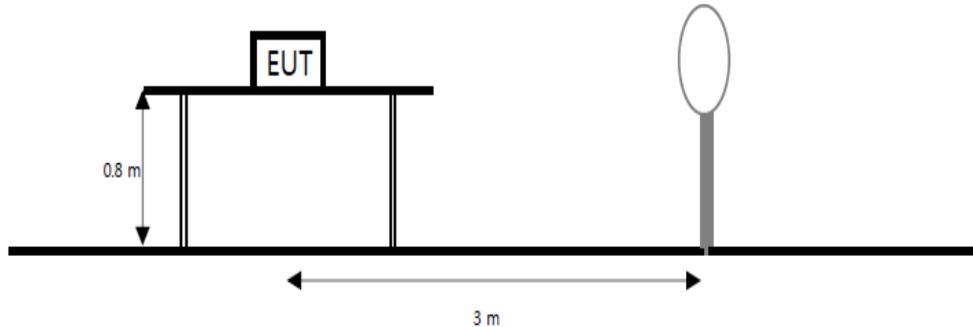
Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-3	HE40	Straddle 5 720	26T	17	2.30	2.30
			52T	44	4.20	4.30
			106T	56*	4.08	4.08
			242T	62*	4.18	4.18
			SU	-*	3.78	3.98
		5 755	26T	0	2.30	2.20
		5 795	26T	0	2.30	2.20
		Minimum 6dB Bandwidth				2.30
Minimum Limit (MHz)					0.5	

Band	Mode	Frequency (MHz)	Tones	RU offset	Measured Bandwidth (MHz)	
					ANT 1	ANT 2
UNII-3	HE80	Straddle 5 690	26T	36	2.28	2.28
			52T	52	4.44	4.44
			106T	60*	4.08	4.08
			242T	64*	4.20	4.20
			484T	66*	4.20	4.20
			SU	-*	3.84	3.84
		5 755	26T	0	2.28	2.28
Minimum 6dB Bandwidth				2.28	2.28	
Minimum Limit (MHz)					0.5	

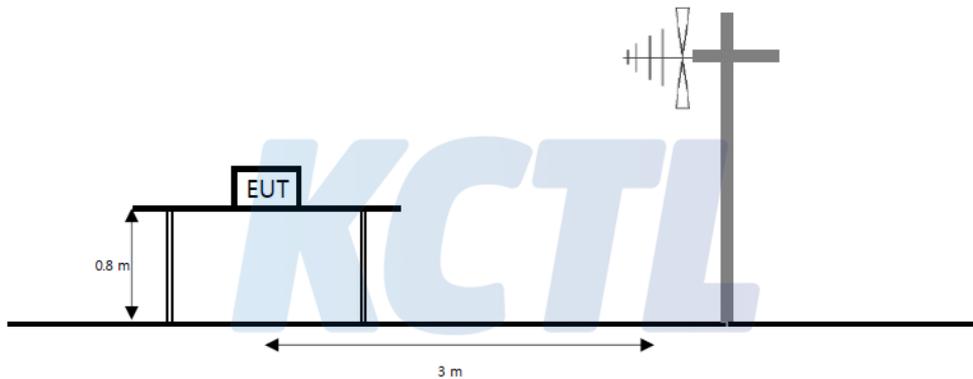
7.5. Spurious Emission, Band Edge and Restricted bands

Test setup

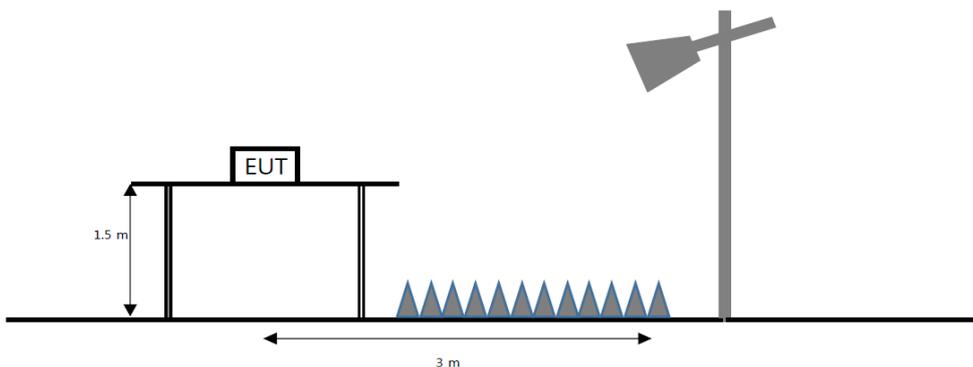
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions



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.

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 5.725-5.85 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 procedureANSI 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 [span / (# of points in sweep)] \leq (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 [span / (# of points in sweep)] \leq (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.

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 with the transmit cycle, then no duty cycle correction is required for that emission.

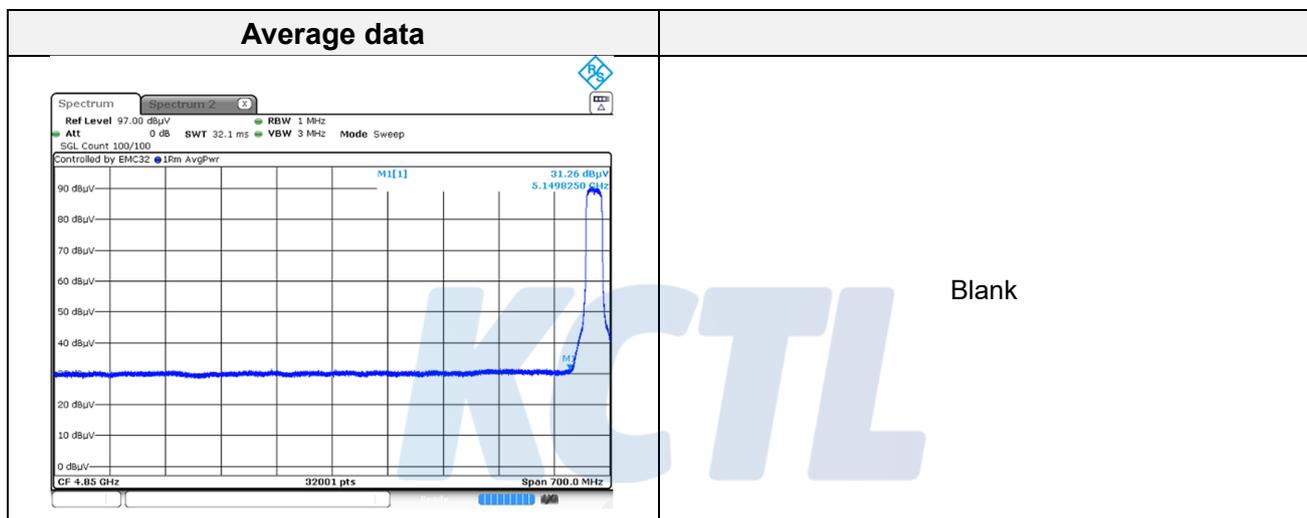
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1 GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz ($\geq 1/T$) for Average detection (AV) at frequency above 1 GHz. (where T = pulse width)
2. $f < 30$ 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
3. Factors(dB) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d (dB)
4. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
5. Average test would be performed if the peak result were greater than the average limit.
6. ¹⁾ means restricted band.
7. According to part 15.31(f)(2), an extrapolation factor of 40 dB/decade is applied because measured distance of radiated emission is 3 m.
8. 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."
9. For the radiated band-edge test, it was tested at RU allocations with highest power for each RU Tones across all bandwidths
10. For the spurious emissions, it was tested at the bandwidth/RU allocation with actual highest power and bandwidth/RU allocation with actual highest PSD for each bandwidth
11. For test below 1 000 MHz, please refer to KR20-SRF0152-A_02161_Samsung Electronics_SM-T976B_WiFi(P15.407)

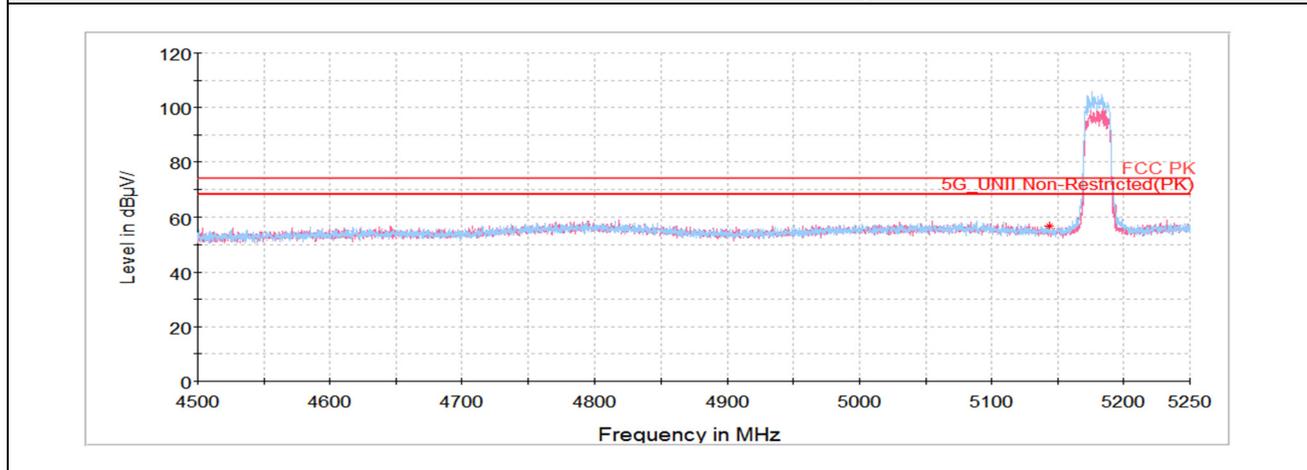
Test results (Above 1 000 MHz)

UNII-1 1Tx (SISO) Restricted Bandedge (Lowest Channel)
802.11ax_HE20 SU mode_ANT 1 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								
5 149.83	H	49.39	34.24	-27.12	-	56.51	74.00	17.49
Average Data								
5 149.83	H	31.26	34.24	-27.12	-	38.38	54.00	15.62

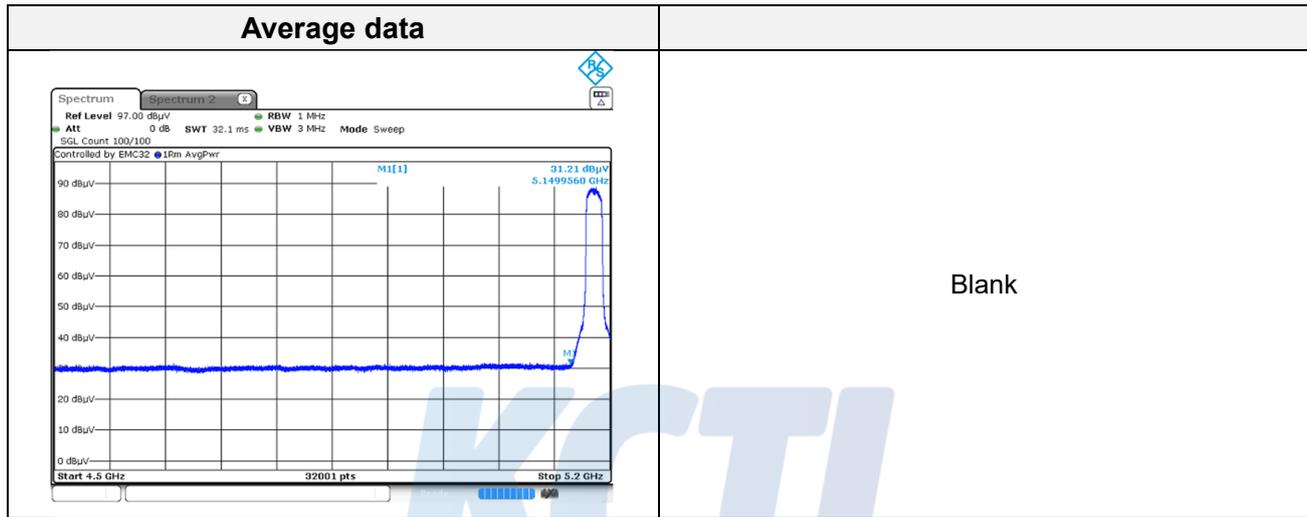


Horizontal/Vertical for Band-edge

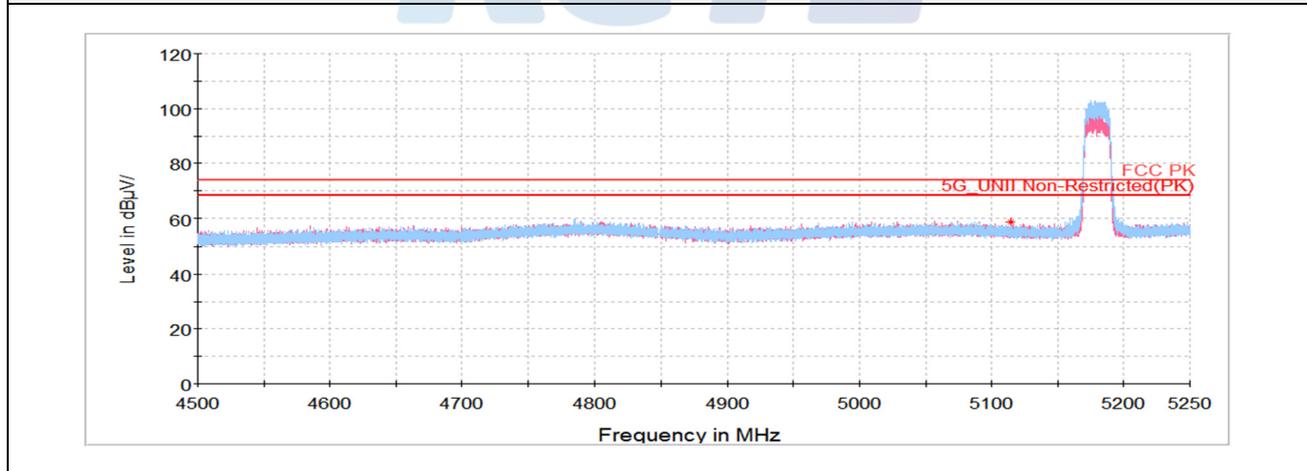


802.11ax_HE20 SU mode_ANT 2 Lowest Channel (5 180 MHz)

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								
5 149.96	H	51.66	34.24	-27.12	-	58.78	74.00	15.22
Average Data								
5 149.96	H	31.21	34.24	-27.12	-	38.33	54.00	15.67



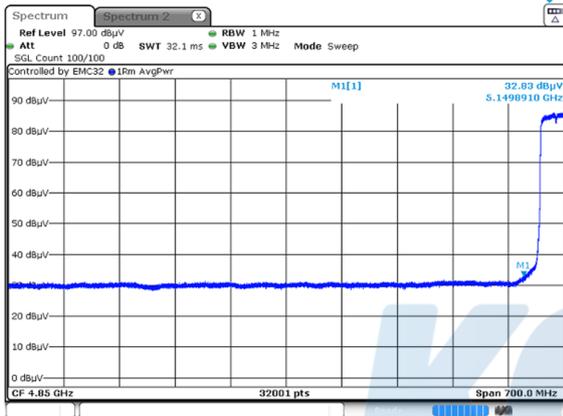
Horizontal/Vertical for Band-edge



802.11ax_HE40 SU mode_ANT 1 Lowest Channel (5 190 MHz)

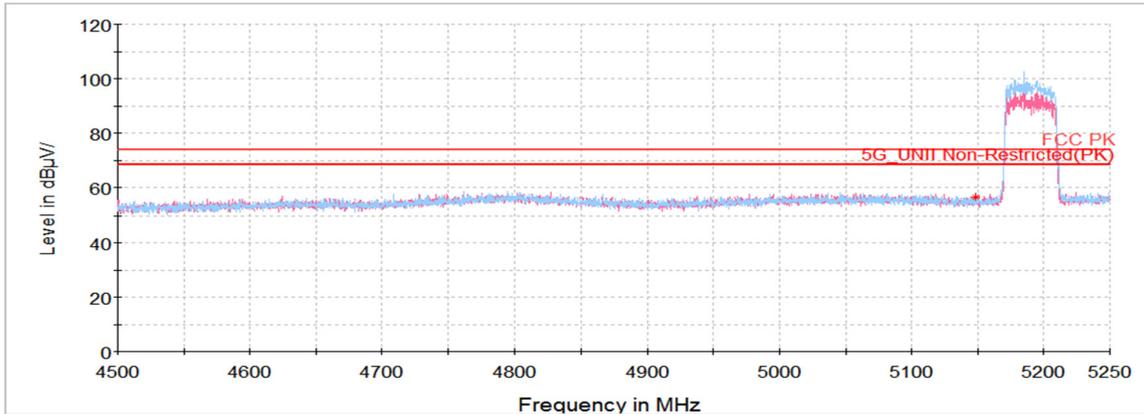
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.89	H	49.20	34.24	-27.12	-	56.32	74.00	17.68
Average Data								
5 149.89	H	32.83	34.24	-27.12	-	39.95	54.00	14.05

Average data



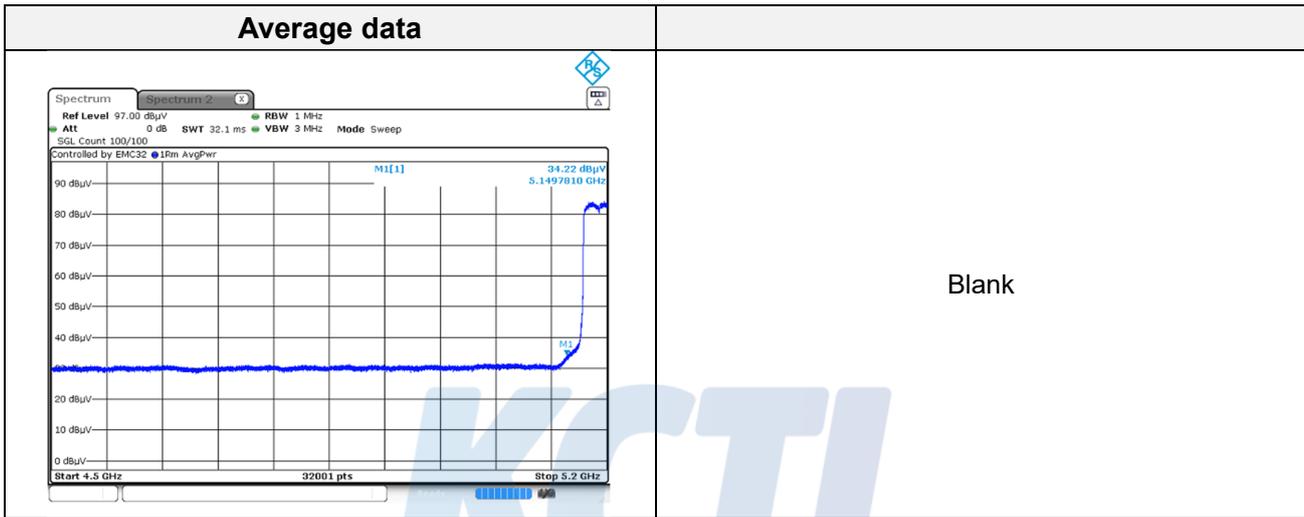
Blank

Horizontal/Vertical for Band-edge

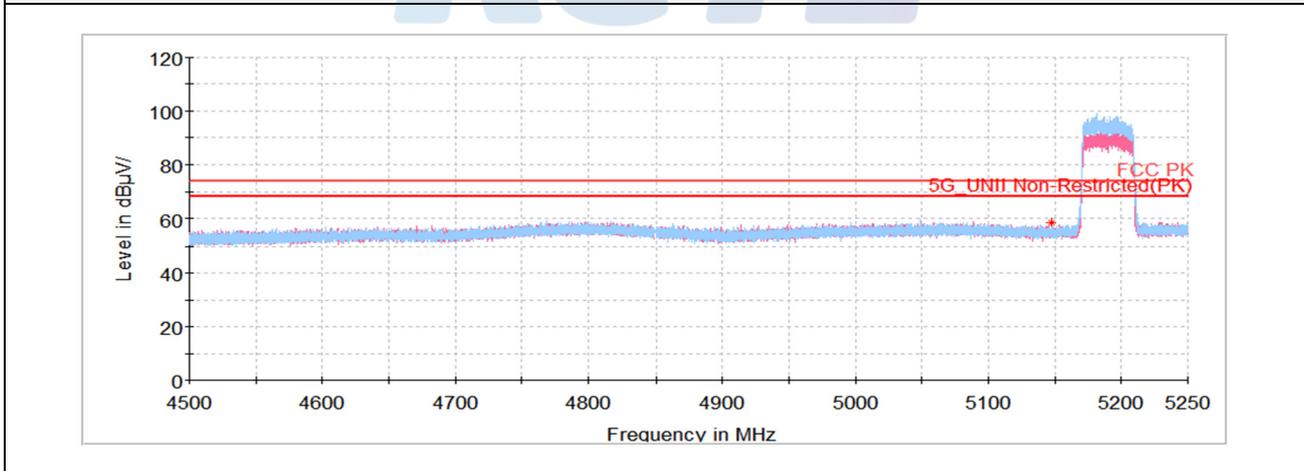


802.11ax_HE40 SU mode_ANT 2 Lowest Channel (5 190 MHz)

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								
5 149.78	H	51.29	34.24	-27.12	-	58.41	74.00	15.59
Average Data								
5 149.78	H	34.22	34.24	-27.12	-	41.34	54.00	12.66



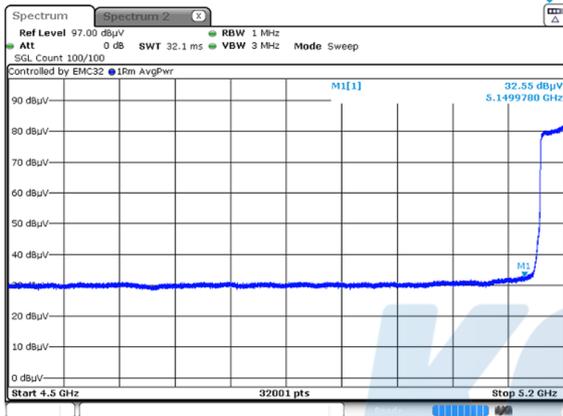
Horizontal/Vertical for Band-edge



802.11ax_HE80 SU mode_ANT 1 Middle Channel (5 210 MHz)

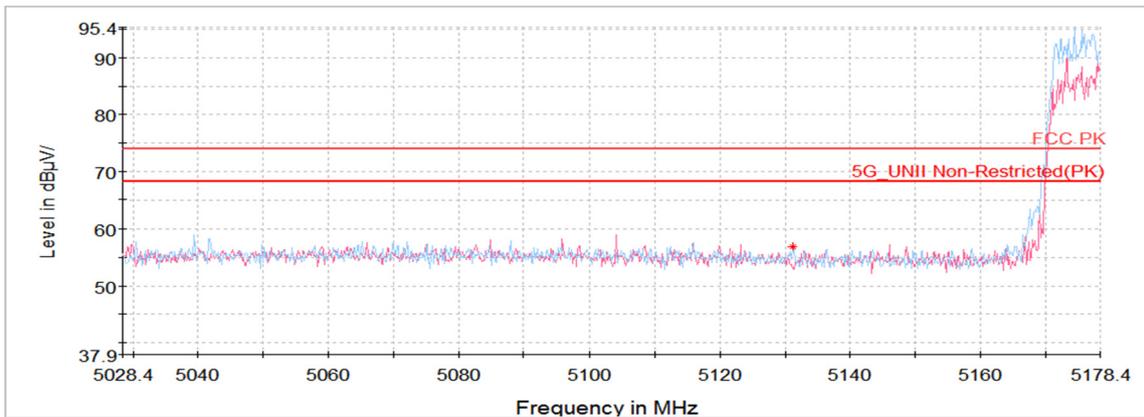
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.98	H	49.86	34.24	-27.12	-	56.98	74.00	17.02
Average Data								
5 149.98	H	32.55	34.24	-27.12	-	39.67	54.00	14.33

Average data



Blank

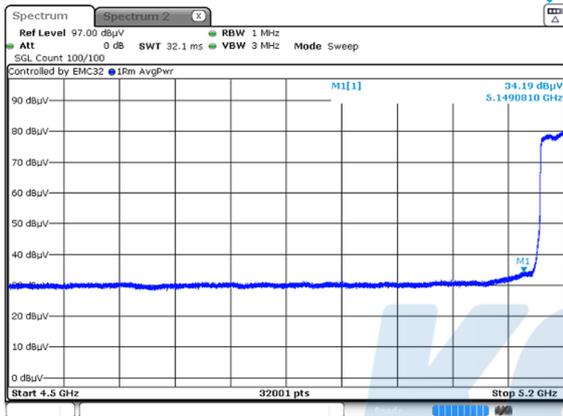
Horizontal/Vertical for Band-edge



802.11ax_HE80 SU mode_ANT 2 Middle Channel (5 210 MHz)

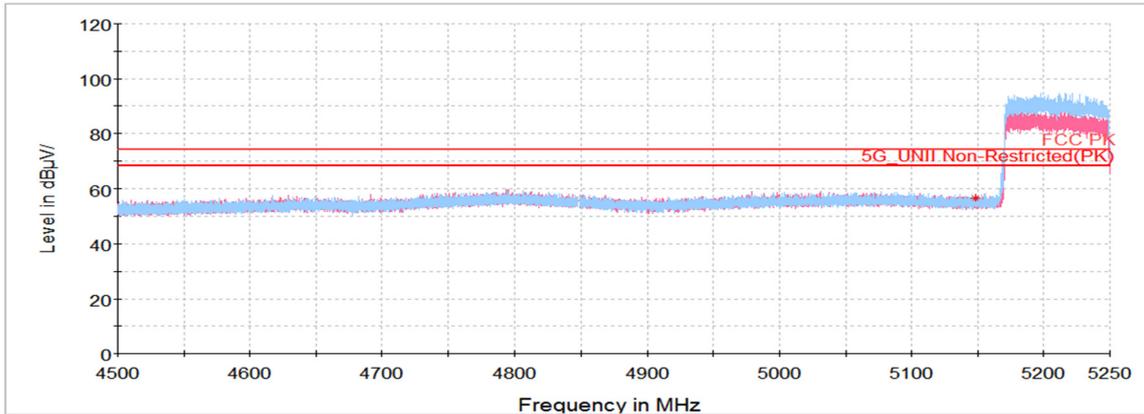
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.08	H	49.39	34.24	-27.11	-	56.52	74.00	17.48
Average Data								
5 149.08	H	34.19	34.24	-27.11	-	41.32	54.00	12.68

Average data



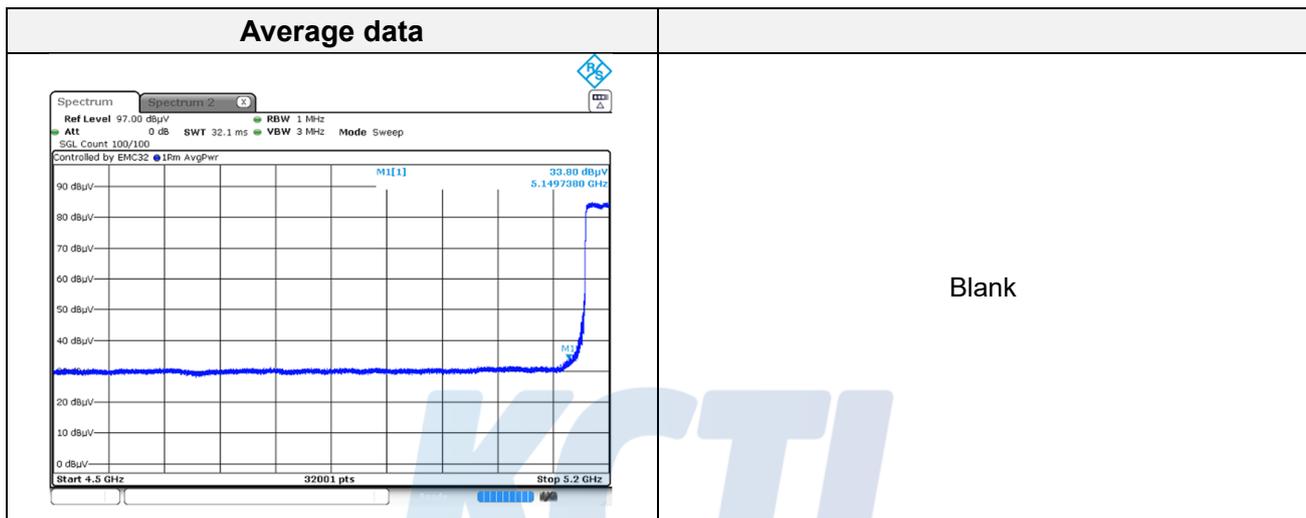
Blank

Horizontal/Vertical for Band-edge



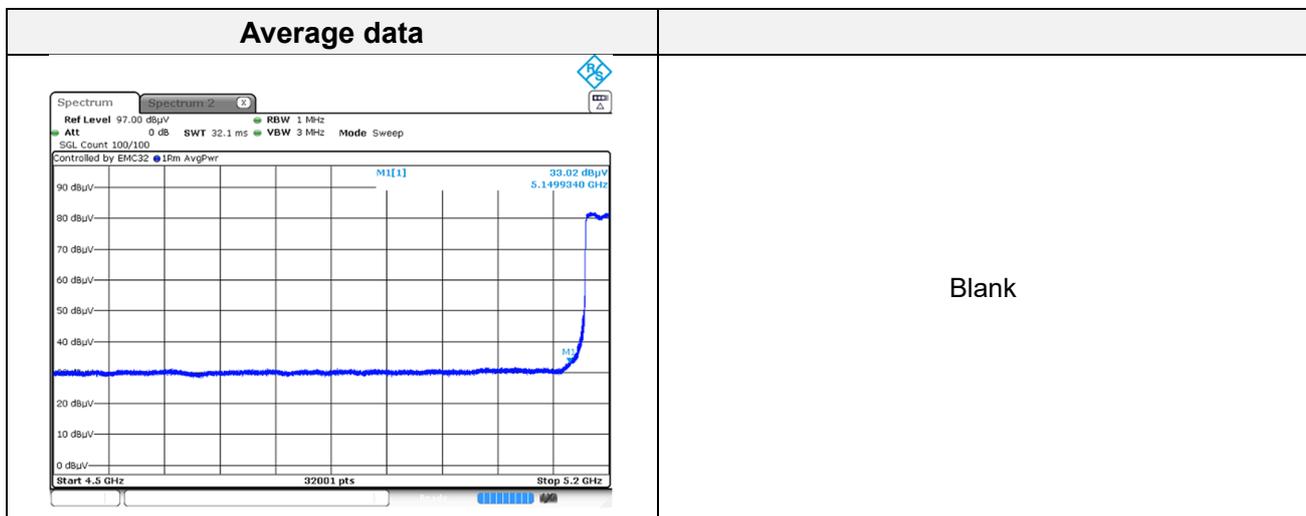
802.11ax_RU mode (HE 80 / 484T / RU offset 65)_ANT 1 Middle Channel (5 210 MHz)

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								
5 149.74	H	50.52	34.24	-27.12	-	57.64	74.00	16.36
Average Data								
5 149.74	H	33.80	34.24	-27.12	-	40.92	54.00	13.08



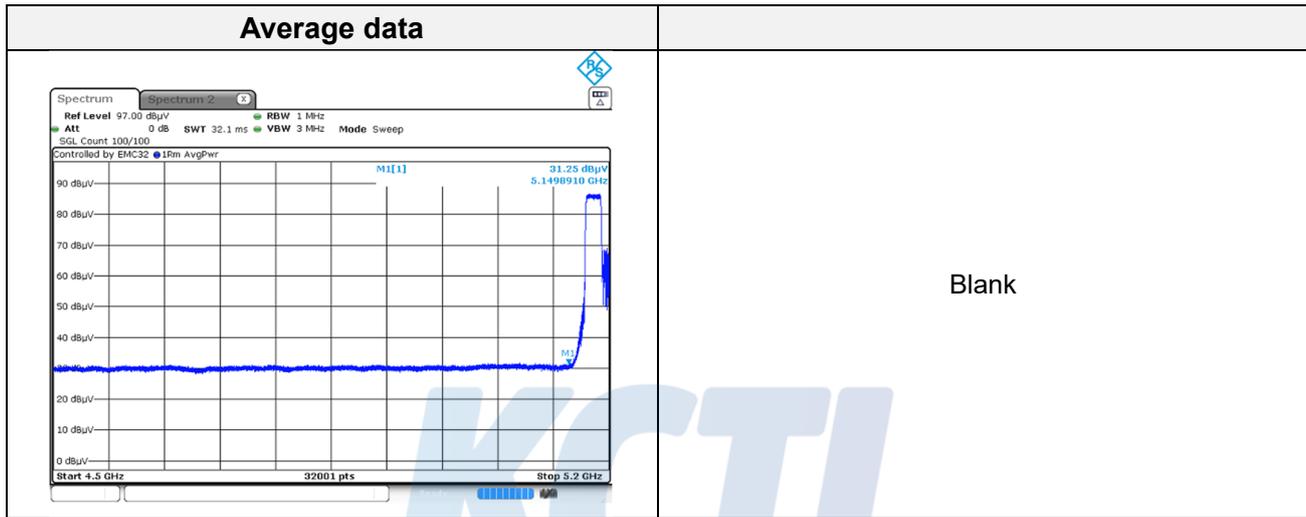
802.11ax_RU mode (HE 80 / 484T / RU offset 65)_ANT 2 Middle Channel (5 210 MHz)

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								
5 149.93	H	49.72	34.24	-27.12	-	56.84	74.00	17.16
Average Data								
5 149.93	H	33.02	34.24	-27.12	-	40.14	54.00	13.86



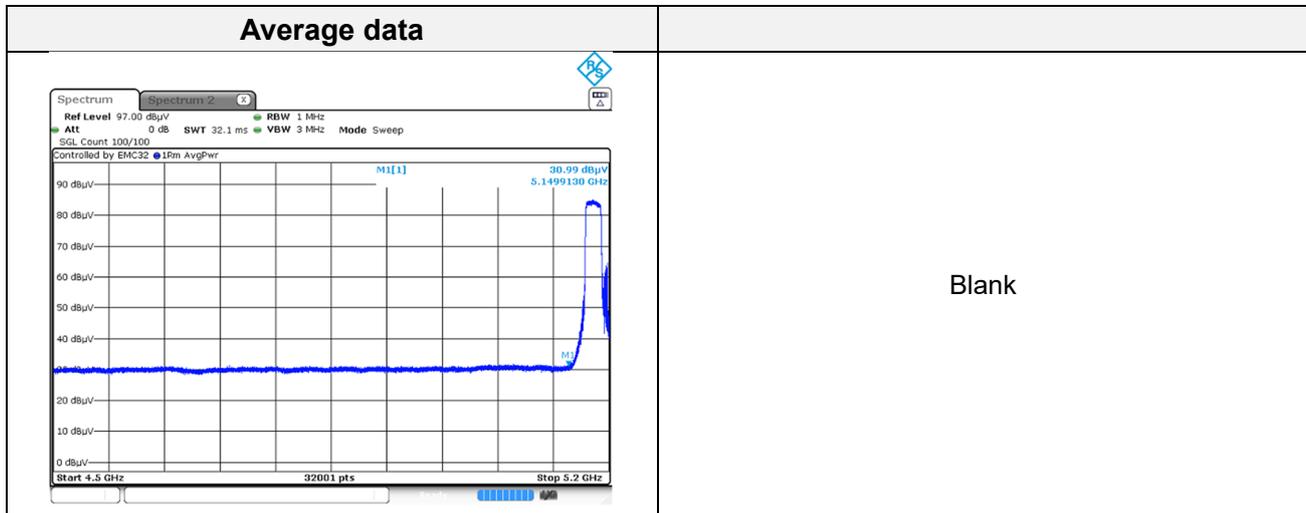
802.11ax_RU mode (HE 40 / 242T / RU offset 61)_ANT 1 Lowest Channel (5 190 MHz)

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								
5 149.89	H	49.47	34.24	-27.12	-	56.59	74.00	17.41
Average Data								
5 149.89	H	31.25	34.24	-27.12	-	38.37	54.00	15.63



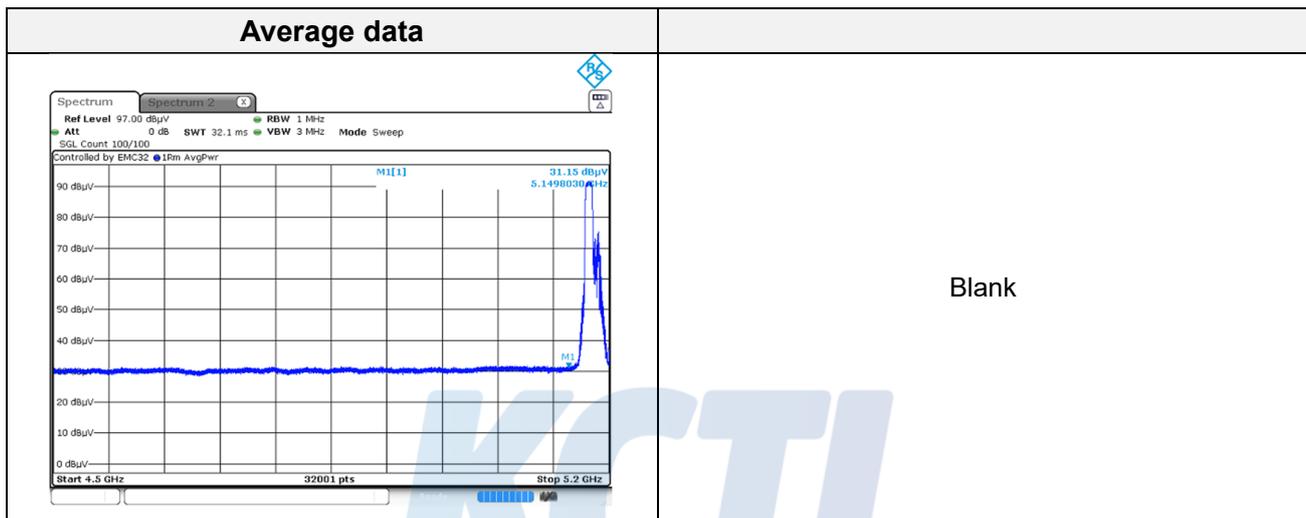
802.11ax_RU mode (HE 80 / 242T / RU offset 61)_ANT 2 Middle Channel (5 210 MHz)

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								
5 149.91	H	50.10	34.24	-27.12	-	57.22	74.00	16.78
Average Data								
5 149.91	H	30.99	34.24	-27.12	-	38.11	54.00	15.89



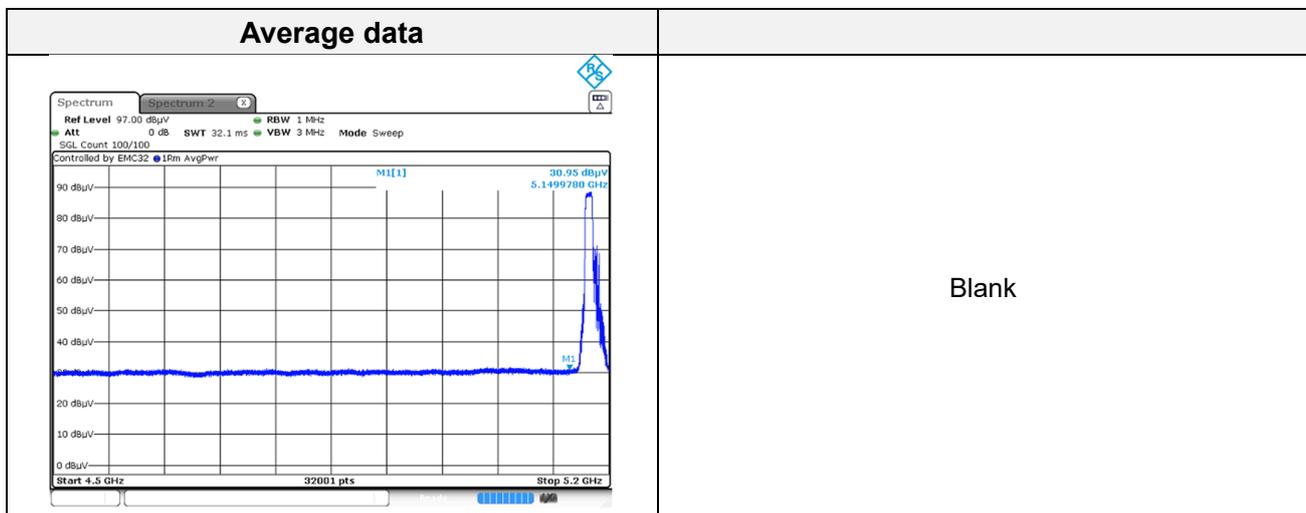
802.11ax_RU mode (HE 20 / 106T / RU offset 53)_ANT 1 Lowest Channel (5 180 MHz)

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								
5 149.80	H	48.61	34.24	-27.12	-	55.73	74.00	18.27
Average Data								
5 149.80	H	31.15	34.24	-27.12	-	38.27	54.00	15.73



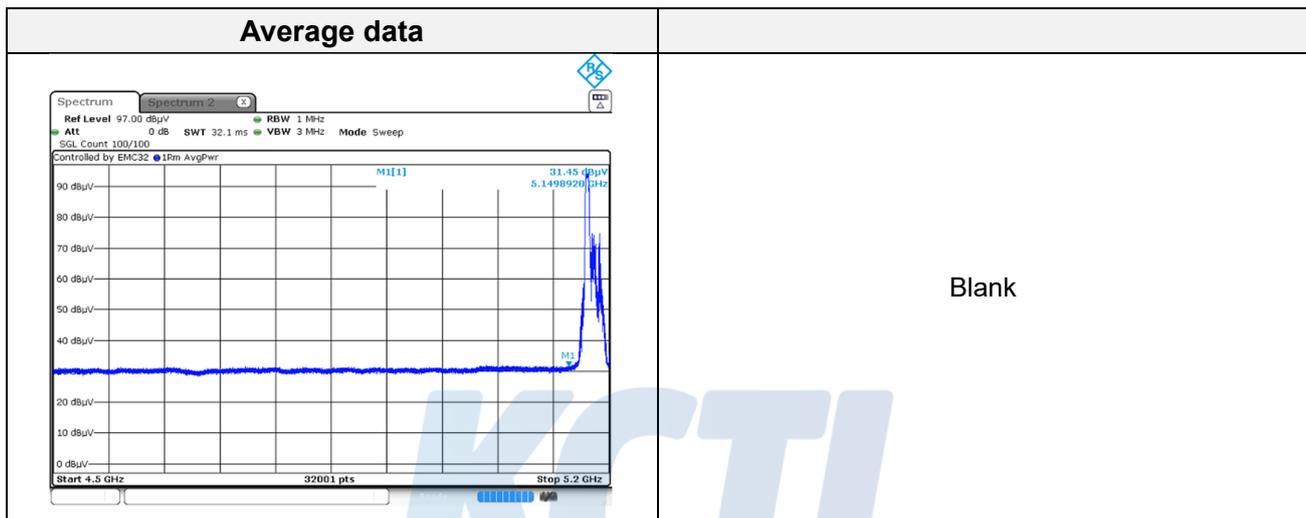
802.11ax_RU mode (HE 20 / 106T / RU offset 53)_ANT 2 Lowest Channel (5 180 MHz)

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								
5 149.98	H	50.12	34.24	-27.12	-	57.24	74.00	16.76
Average Data								
5 149.98	H	30.95	34.24	-27.12	-	38.07	54.00	15.93



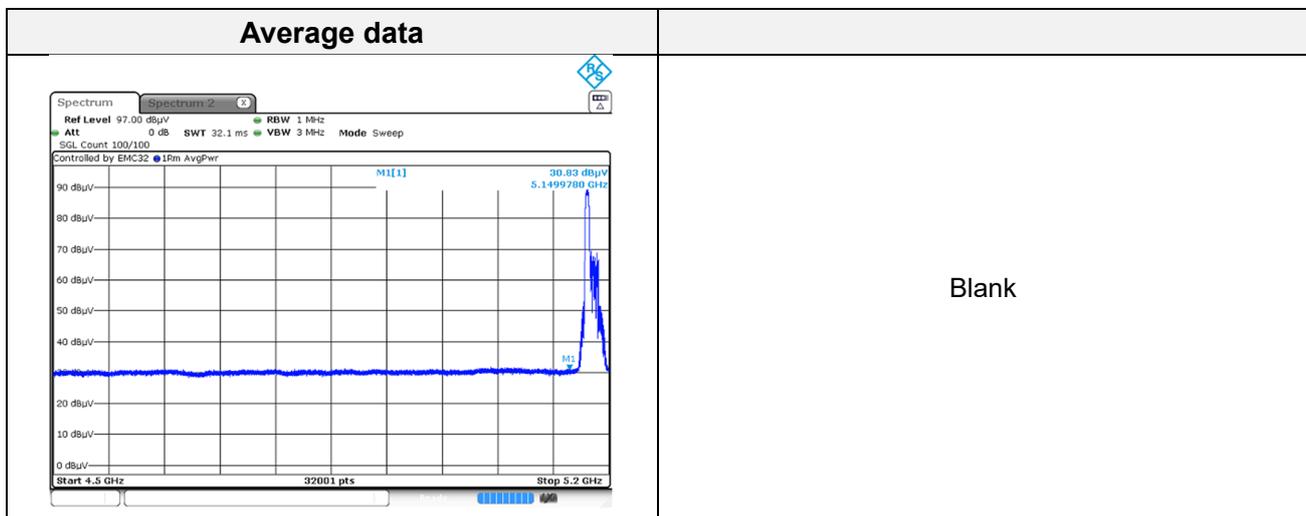
802.11ax_RU mode (HE 20 / 52T / RU offset 37)_ANT 1 Lowest Channel (5 180 MHz)

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								
5 149.89	H	50.93	34.24	-27.12	-	58.05	74.00	15.95
Average Data								
5 149.89	H	31.45	34.24	-27.12	-	38.57	54.00	15.43



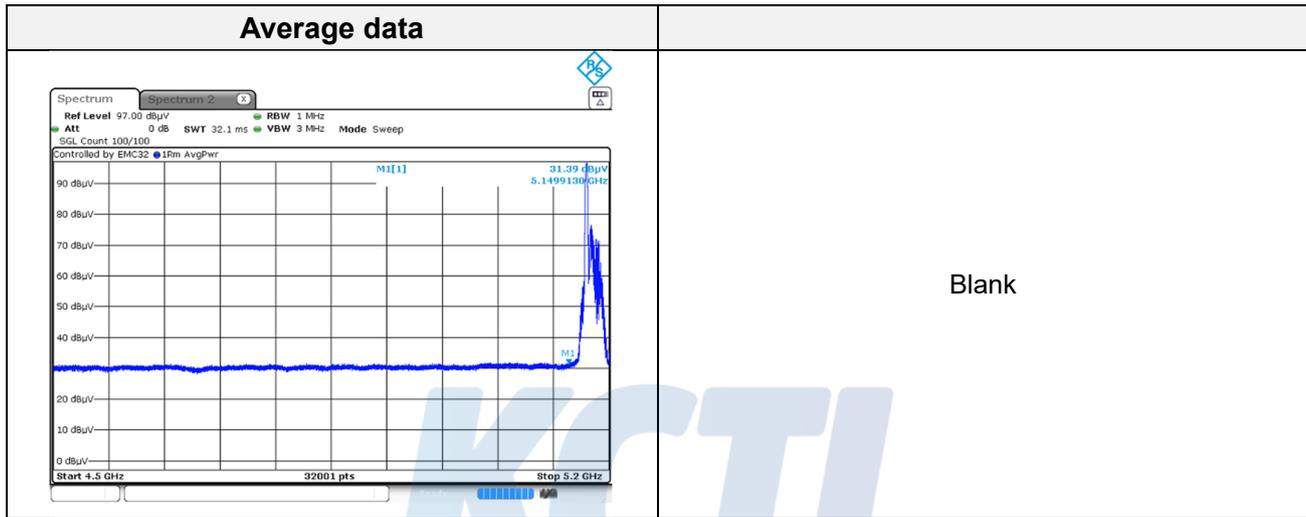
802.11ax_RU mode (HE 20 / 52T / RU offset 37)_ANT 2 Lowest Channel (5 180 MHz)

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								
5 149.98	H	49.59	34.24	-27.12	-	56.71	74.00	17.29
Average Data								
5 149.98	H	30.83	34.24	-27.12	-	37.95	54.00	16.05



802.11ax_RU mode (HE 20 / 26T / RU offset 0)_ANT 1 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								
5 098.73	H	49.69	34.16	-26.79	-	57.06	74.00	16.94
Average Data								
5 098.73	H	31.39	34.16	-26.79	-	38.76	54.00	15.24



802.11ax_RU mode (HE 40 / 26T / RU offset 0)_ANT 2 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								
5 149.87	H	49.97	34.24	-27.12	-	57.09	74.00	16.91
Average Data								
5 149.87	H	31.02	34.24	-27.12	-	38.14	54.00	15.86

