CERTIFICATION TEST REPORT

Report Number. : 4790841160-E8V3

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SC-55D, SCG22
FCC ID	:	A3LSMF946JPN
EUT Description	:	GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E

Date Of Issue:
2023-07-10

Prepared by:
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IAS ACCREDITED Testing Laboratory

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2023-06-30	Initial issue	Minju Cha
V2	2023-07-07	Updated to address TCB's question	Minju Cha
V3	2023-07-10	Updated to address TCB's question	Minju Cha

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB
MODEL NUMBER:	SC-55D, SCG22
SERIAL NUMBER:	6c4c5d98ba4c7eee, 723c6c5d0f4d7ece (CONDUCTED, Original); R3CW30K682H (RADIATED, Original); R3CW408V1CV, R3CW408V0PF (RADIATED, Spot-check);
DATE TESTED:	2023-03-22 ~ 2023-05-12 (Original); 2023-05-31 ~ 2023-07-07 (Spot-check);

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:

Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:

Minju Cha
Suwon Lab Engineer
UL KOREA LTD.

1.1. INTRODUCTION OF TEST DATA REUSE

This report referenced from the FCC ID: A3LSMF946U NII WLAN(FCC CFR 47 Part 15E).
And the applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

1.2. DIFFERENCE

The A3LSMF946JPN model shares the same enclosure and circuit board as A3LSMF946U. The WLAN antennas and surrounding circuitry and layout are identical between these two units.

After confirming through preliminary radiated emissions that the performance of the A3LSMF946JPN remains representative of A3LSMF946U. The test data of A3LSMF946U being submitted for this application to cover WLAN features.

1.3. SPOT CHECK VERIFICATION DATA

(Worst case of the radiated band-edge and radiated spurious emissions)

Band	Test Item	Mode	Frequency	Test Limit	Original model	Spot check model	Deviation	Remark
					SM-F946U Results	SM-F946D Results		
					FCC ID : A3LSMF946U	FCC ID : A3LSMF946JPN		
NII WLAN (5GHz)	BANDEDGE	802.11n HT40 ALL	5190 MHz	54 dBuV/m	50.26 dBuV/m	44.33 dBuV/m	-5.93 dB	
	RSE	802.11a ALL	6905 MHz	68.2 dBuV/m	55.50 dBuV/m	52.84 dBuV/m	-2.66 dB	
	BANDEDGE	802.11ac VHT80 ALL	5290 MHz	54 dBuV/m	47.18 dBuV/m	46.65 dBuV/m	-0.53 dB	
	RSE	802.11a ALL	7012 MHz	68.2 dBuV/m	55.46 dBuV/m	52.14 dBuV/m	-3.32 dB	
	BANDEDGE	802.11ac VHT160 ALL	5570 MHz	54 dBuV/m	46.55 dBuV/m	46.97 dBuV/m	0.42 dB	
	RSE	802.11a ALL	8580 MHz	68.2 dBuV/m	51.64 dBuV/m	47.41 dBuV/m	-4.23 dB	Noise floor
	BANDEDGE	802.11ac VHT160 ALL	5815 MHz	-27 dBm	-35.72 dBm	-34.54 dBm	1.18 dB	
	RSE	802.11a ALL	8618 MHz	54 dBuV/m	40.95 dBuV/m	36.46 dBuV/m	-4.49 dB	Noise floor
	BANDEDGE	802.11n HT20 ALL	5885 MHz	89.99 dBuV/m	72.14 dBuV/m	73.25 dBuV/m	1.11 dB	
	RSE	802.11a ALL	17655 MHz	68.2 dBuV/m	56.60 dBuV/m	55.74 dBuV/m	-0.86 dB	Noise floor
	BANDEDGE	802.11ax HE160(SU) ALL	5250 MHz	54 dBuV/m	50.65 dBuV/m	50.43 dBuV/m	-0.22 dB	
	RSE	802.11ax HE20(106T RU53) ALL	6985 MHz	68.2 dBuV/m	56.51 dBuV/m	51.91 dBuV/m	-4.60 dB	
	BANDEDGE	802.11ax HE160(SU) ALL	5250 MHz	54 dBuV/m	48.63 dBuV/m	48.29 dBuV/m	-0.34 dB	
	RSE	802.11ax HE20(106T RU53) ALL	7092 MHz	68.2 dBuV/m	55.79 dBm	51.28 dBm	-4.51 dB	
	BANDEDGE	802.11ax HE20(SU) ALL	5700 MHz	68.2 dBuV/m	64.68 dBuV/m	63.58 dBuV/m	-1.10 dB	
	RSE	802.11ax HE20(106T RU53) ALL	7598 MHz	68.2 dBuV/m	52.70 dBuV/m	46.84 dBuV/m	-5.86 dB	Noise floor
	BANDEDGE	802.11ax HE80(SU) ALL	5775 MHz	-27 dBm	-36.04 dBm	-36.26 dBm	-0.22 dB	
	RSE	802.11ax HE80(106T RU53) ALL	8085 MHz	54 dBuV/m	43.00 dBuV/m	36.19 dBuV/m	-6.81 dB	Noise floor
	BANDEDGE	802.11ax HE20(SU) ALL	5885 MHz	89.99 dBuV/m	83.87 dBuV/m	83.56 dBuV/m	-0.31 dB	
	RSE	802.11ax HE20(106T RU54) ALL	17535 MHz	68.2 dBuV/m	54.74 dBuV/m	54.94 dBuV/m	0.20 dB	Noise floor

Band	Test Item	Test Result	Limit	Result
NII WLAN (2A, 2C)	Channel Closing time	6.375 ms	60.000 ms	**Complies**
	Channel Move time	0.792 s	10.000 s	**Complies**

Comparison of two models, upper deviation is within 3 dB range and all test results are under FCC Technical Limits.

1.4. REFERENCE DETAIL

Reference application that contains the reused reference data in the individual test reports:

Equipment Class	Reference FCC ID (Parent)	Application Type	Reference Test report number	Exhibit Type	Variant Test Report Number	Data Re-used
DTS	A3LSMF946U	Original Grant	4790748041-E8 (802.11b/g/n/ax)	Test Report	4790841160-E7 (802.11b/g/n/ax)	All
DSS	A3LSMF946U	Original Grant	4790748041-E10 (Bluetooth)	Test Report	4790841160-E6 (Bluetooth)	All
NII	A3LSMF946U	Original Grant	4790748041-E11 (802.11a/n/ac/ax)	Test Report	4790841160-E8 (802.11a/n/ac/ax)	All
6CD	A3LSMF946U	Original Grant	4790748041-E12 (802.11a/n/ac/ax)	Test Report	4790841160-E9 (802.11a/n/ac/ax)	All
DCD	A3LSMF946U	Original Grant	4790748041-E14 (WPT)	Test Report	4790841160-E11 (WPT)	All
UWB	A3LSMF946U	Original Grant	4790748041-E15 (UWB)	Test Report	4790841160-E12 (UWB)	All

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
4. KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
5. KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02
6. KDB 484596 D01 Referencing Test Data v01
7. KDB 662911 D01 v02r01
8. KDB 291074 D02 v01
9. ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro
☒ Chamber 1(3m semi-anechoic chamber)
☒ Chamber 2(3m semi-anechoic chamber)
☒ Chamber 3(3m semi-anechoic chamber)
☐ Chamber 4(3m Full-anechoic chamber)
☐ Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

AC Corrected Reading (dBuV) = Measured Voltage (dBuV) + Extension Cord Loss (dB) + Cable Loss (dB)
44.72 dBuV = 34.72 dBuV + 9.9 dB + 0.1 dB

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.80 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.69 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.92 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.06 dB
Radiated Disturbance, Above 18 GHz	6.02 dB

Uncertainty figures are valid to a confidence level of 95%.

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB. This test report addresses the NII (WLAN) operational mode.

Representative model	Difference	Derivative model
		SCG22
SC-55D	Hardware	SC-55D BT/WIFI IC and layout is same as SM-F946U.
	Software	Supported WWAN Band is different.

Thus, SC-55D was set for final test.

WiFi operating mode

Frequency rage	Mode	ANT1	ANT2
5GHz (5180 MHz ~ 5885 MHz)	802.11a MIMO	TX/RX	TX/RX
	802.11n MIMO	TX/RX	TX/RX
	802.11ac MIMO	TX/RX	TX/RX
	802.11ax MIMO	TX/RX	TX/RX

Simultaneous TX Condition

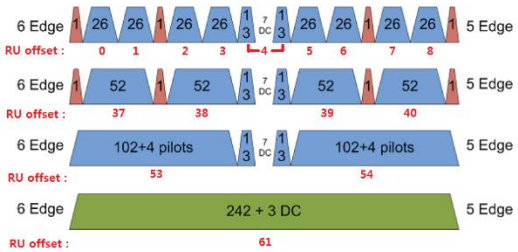
Simultaneous Tx Condition - RSDB

Mode	# of TX	5GHz WLAN		2.4GHz WLAN		Test Case
		ANT1	ANT2	ANT1	ANT2	
2.4GHz MIMO + 5GHz MIMO	**4**	**O**	**O**	**O**	**O**	**O**
2.4GHz MIMO + 6GHz MIMO	**4**	**O**	**O**	**O**	**O**	**O**

802.11ax RU allocations

- HE 20 Mode -

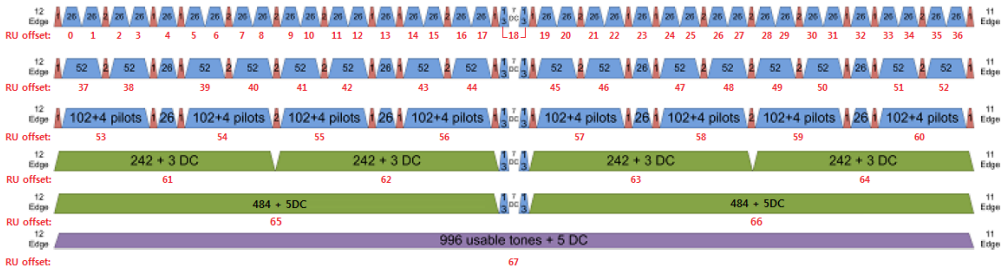
20 MHz



- HE 40 Mode -

40 MHz

- HE 80(996T) & 160 Mode(996T + 996T) -



Test RU offset for tones in each modes

Mode	Tones	RU offset
HE20	26T	0
		4
		8
	52T	37
		38
		40
	106T	53
		54
	242T / SU Note	61 / -
HE40	26T	0
		9
		17
	52T	37
		41
		44
	106T	53
		54
		56
	242T	61
		62
	484T / SU Note	63 / -
HE80	26T	0
		18
		36
	52T	37
		45
		52
	106T	53
		57
		60
	242T	61
		62
		64
	484T	65
		66
	996T / SU Note	67 / -

Note: Full RU(Resource Unit) mode and SU(Single Unit) mode have no difference in physical waveform. This report has been reported the SU mode with highest output power in MIMO.

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Mode	Position	Tones	RU offset
HE160	Lower 80 MHz	26T	0
			18
			36
	Upper 80 MHz		0
			18
			36
	Lower 80 MHz	52T	37
			45
			52
	Upper 80 MHz		37
			45
			52
	Lower 80 MHz	106T	53
			57
			60
	Upper 80 MHz		53
			57
			60
	Lower 80 MHz	242T	61
			62
			64
	Upper 80 MHz		61
			62
			64
	Lower 80 MHz	484T	65
			66
	Upper 80 MHz		65
			66
	Lower 80 MHz	996T	67
	Upper 80 MHz		67
	-	SU Note	-

Note: Full RU(Resource Unit) 996T + 996T mode and SU(Single Unit) mode have no difference in physical waveform. This report has been reported the SU mode with highest output power in MIMO.

Band portion of RU allocation about straddle channels

Mode	Channel	Tones	RU offset	Portion
HE20	Straddle 5720 MHz	106T	54	UNII 2C & UNII 3
		242T / SU	61 / -	
HE40	Straddle 5710 MHz	106T	56	UNII 2C & UNII 3
		484T / SU	65 / -	
HE80	Straddle 5690 MHz	106T	60	UNII 2C & UNII 3
		996T / SU	67 / -	

Note: In case of RU straddle channel, test was performed overlapping RU position.

MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Band	Frequency Range [MHz]	Mode	Output Power [dBm]	Output Power [mW]
UNII-1	5180 - 5240	802.11a MIMO	17.39	54.83
		802.11n(HT20) MIMO	20.43	110.41
		802.11ax(HE20) MIMO	20.46	111.17
	5190 - 5230	802.11n(HT40) MIMO	20.52	112.72
		802.11ax(HE40) MIMO	20.34	108.14
	5210	802.11ac(VHT80) MIMO	19.99	99.77
		802.11ax(HE80) MIMO	20.38	109.14
UNII-2A	5260 - 5320	802.11a MIMO	20.49	111.94
		802.11n(HT20) MIMO	20.41	109.90
		802.11ax(HE20) MIMO	20.53	112.98
	5190 - 5230	802.11n(HT40) MIMO	20.57	114.02
		802.11ax(HE40) MIMO	20.12	102.80
	5270 - 5310	802.11ac(VHT80) MIMO	19.94	98.63
		802.11ax(HE80) MIMO	20.34	108.14
	5250Note1	802.11ac(VHT160) MIMO	20.21	104.95
		802.11ax(HE160) MIMO	20.30	107.15
UNII-2C	5500 - 5720	802.11a MIMO	20.42	110.15
		802.11n(HT20) MIMO	20.35	108.39
		802.11ax(HE20) MIMO	20.44	110.66
	5510 - 5710	802.11n(HT40) MIMO	20.32	107.65
		802.11ax(HE40) MIMO	20.28	106.66
	5530 - 5690	802.11ac(VHT80) MIMO	19.88	97.27
		802.11ax(HE80) MIMO	20.33	107.89
	5570	802.11ac(VHT160) MIMO	20.07	101.62
		802.11ax(HE160) MIMO	20.28	106.66
UNII-3	5745 - 5825	802.11a MIMO	20.58	114.29
		802.11n(HT20) MIMO	20.54	113.24
		802.11ax(HE20) MIMO	20.33	107.89
	5755 - 5795	802.11n(HT40) MIMO	20.34	108.14
		802.11ax(HE40) MIMO	20.37	108.89
	5775	802.11ac(VHT80) MIMO	20.16	103.75
		802.11ax(HE80) MIMO	20.45	110.92
UNII-4 Note3	5845 - 5885	802.11a MIMO	20.14	103.28
		802.11n(HT20) MIMO	20.07	101.62
		802.11ax(HE20) MIMO	20.13	103.04
	5835 - 5875	802.11n(HT40) MIMO	20.30	107.15
		802.11ax(HE40) MIMO	20.16	103.75
	5855	802.11ac(VHT80) MIMO	19.97	99.31
		802.11ax(HE80) MIMO	20.37	108.89
	5815Note2	802.11ac(VHT160) MIMO	19.99	99.77
		802.11ax(HE160) MIMO	20.20	104.71

Note1. Overlap channel(UNII-1 & 2A)
Note2. Overlap channel(UMNII-3 & 4)
Note3. e.i.r.p. output power

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5.2. DESCRIPTION OF AVAILABLE ANTENNAS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.

The radio utilizes a internal antenna, with a maximum gain of:

Frequency Band [MHz]	ANT1 Gain [dBi]	ANT2 Gain [dBi]	Correlated Chains Directional Gain [dBi]
UNII 1 5150 - 5250	-5.00	-2.96	-0.91
UNII 2A 5250 - 5350	-3.88	-2.24	-0.01
UNII 2C 5470 - 5725	-3.59	-2.59	-0.07
UNII 3 5725 - 5850	-3.96	-2.19	-0.02
UNII 4 5850 - 5925	-3.89	-2.33	-0.06

Directional gain for the MIMO operations is determined using KDB 662911 D01 Multiple Transmitter Output section F (2)(d)(1) for *Unequal antenna gains, with equal transmit powers*. The gain is calculated using the formula for correlated transmissions across the two transmit antennas.
Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi.
Sample calculation for this device with $N_{ANT} = 2$
Directional gain = 10 log[$(10^{-3.5/20} + 10^{-7.1/20})^2 / 2$] = -2.1 dBi

Q5_NA Wi-Fi1" and "Q5_NA Wi-Fi2" as indicated in antenna specification are written as ANT1 and ANT2 in this report.

5.3. List of test reduction and modes covering other modes:

The output power on covered modes is equal to or less than one referenced.

Authorized Frequency Band			
Mode	**Antenna Stream**	**Mode**	**Covered by**
802.11a	MIMO	802.11a 2TX	
802.11n HT20		802.11n HT20 2TX	
802.11ac VHT20		802.11ac VHT20 2TX	802.11n HT20 2TX
802.11ax HE20(SU)		802.11ax HE20 RU(242T) 2TX	802.11ax HE20 SU 2TX
802.11n HT40		802.11n HT40 2TX	
802.11ac VHT40		802.11ac VHT40 2TX	802.11n HT40 2TX
802.11ax HE40(SU)		802.11ax HE40 RU(484T) 2TX	802.11ax HE40 SU 2TX
802.11ac VHT80		802.11ac VHT80 2TX	
802.11ax HE80(SU)		802.11ax HE80 RU(996T) 2TX	802.11ax HE80 SU 2TX
802.11ac VHT160		802.11ac VHT160 2TX	
802.11ax HE160(SU)		802.11ax HE160 RU(996T*2) 2TX	802.11ax HE160 SU 2TX

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission below 1GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Radiated emission above 1GHz was performed with the EUT set to transmit low/mid/high channels.

For MIMO, the fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z it was determined that Z orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Z orientation.

Based on the baseline scan, the worst-case data rates were:

802.11a mode: 6 Mbps 2Tx	802.11n HT20 mode: MCS0 2Tx	802.11ax HE20 mode: MCS0 2Tx
	802.11n HT40 mode: MCS0 2Tx	802.11ax HE40 mode: MCS0 2Tx
	802.11ac VHT80 mode: MCS0 2Tx	802.11ax HE80 mode: MCS0 2Tx
	802.11ac VHT160 mode: MCS0 2Tx	802.11ax HE160 mode: MCS0 2Tx

Radiation test for 802.11a / n HT20 & HT40 / ac VHT80 & VHT160 / ax HE20 & HE40 & HE80 & HE160 were evaluated at MIMO mode.

Note : All radiated and power line conducted tests were performed connected with charger for evaluation of worst case mode.

Worst-case selection criteria for 802.11ax test items :

- For the 6dB Bandwidth, it was tested at the RU allocation with lowest tones number for each bandwidth.

Note : All radiated and power line conducted tests were performed connected with charger for evaluation of worst case mode.

Test case configuration for 802.11a, 802.11n HT20 & 40, 802.11ac VHT20 & 40 & 80 & 160, 802.11ax HE20 & 40 & 80 & 160(SU) modes :

Mode	Band	SISO Target[dBm]				MIMO Target[dBm]			
		802.11a	802.11n	802.11ac	802.11ax (SU)	802.11a	802.11n	802.11ac	802.11ax (SU)
5GHz (20 MHz)	UNII-1					20	20	20	20
	UNII-2A					20	20	20	20
	UNII-2C					20	20	20	20
	UNII-3					20	20	20	20
	UNII-4					20	20	20	20
5GHz (40 MHz)	UNII-1						20	20	20
	UNII-2A						20	20	20
	UNII-2C						20	20	20
	UNII-3						20	20	20
	UNII-4						20	20	20
5GHz (80 MHz)	UNII-1							20	20
	UNII-2A							20	20
	UNII-2C							20	20
	UNII-3							20	20
	UNII-4							20	20
5GHz (160 MHz)	UNII-1 & 2A							20	20
	UNII-2C							20	20
	UNII-3 & 4							20	20

Band-Edge & Spurious Emission
Band-Edge & Spurious Emission Spot-Check
Band-Edge

Note. Compared to the 802.11a mode, target power is the same or lower and the density is low, so only the spot-check test was performed in the 802.11n & 802.11ac & 802.11ax mode. Spot check test was performed in the worst tested band of 802.11a mode.

Test case configuration for 802.11ax HE20 & 40 & 80 & 160 (RU) modes :

Band	Mode	Freq.	Tone	RU offset	Test Case		
					ANT1	ANT2	MIMO
UNII-1	HE20	5180	106T	53			
				54			O
		5200	106T	53			
				54			O
		5240	106T	53			O
				54			
UNII-2A	HE20	5320	106T	53			O
				54			
UNII-2C	HE20	5700	106T	53			O
				54			
UNII-3	HE20	5745	106T	53			O
				54			
		5825	106T	53			
				54			O
	HE40	5755	106T	53			O
				54			
	HE80	5775	106T	53			O
				54			
	HE160	5815	106T	53			O
				54			
UNII-4	HE20	5845	106T	53			
				54			O

Note1. Radiated spurious test was performed on the 106 tone with worst power density.
Note2. Since the target of 106 tones are all the same, spurious test was performed once in each UNII band.
Note3. Spot-check test was performed in HE40, HE80, HE160 modes.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37N9QP4SL9DK3	N/A
Data Cable	SAMSUNG	WBR0062M	GH39-02112A	N/A

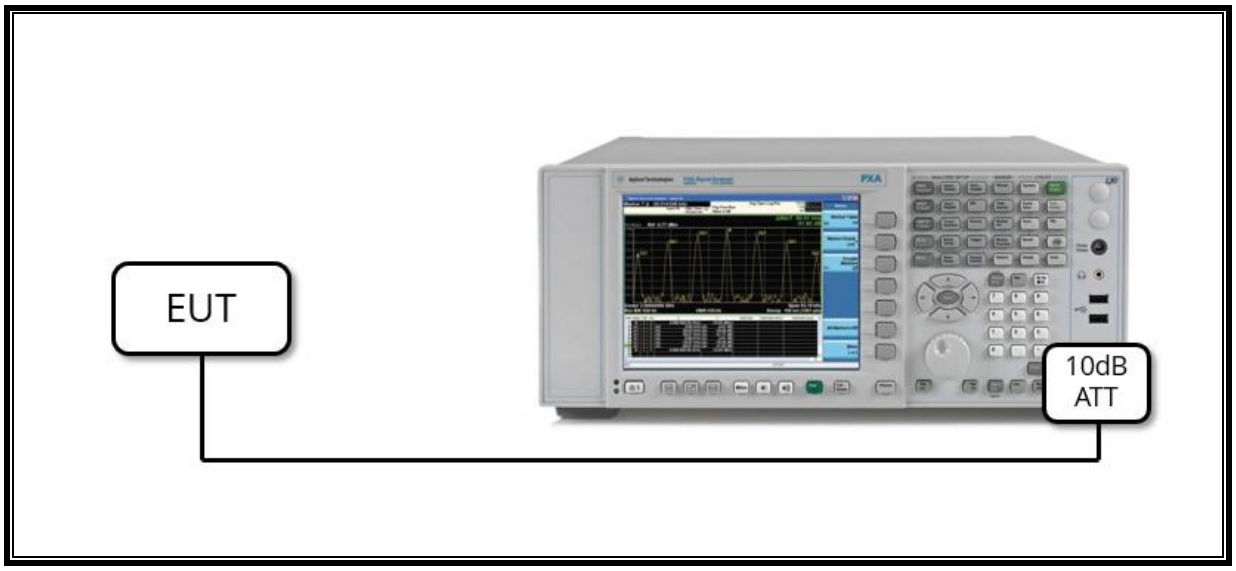
I/O CABLE

I/O Cable List						
Cable No.	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	C Type	Shielded	1.0 m	N/A

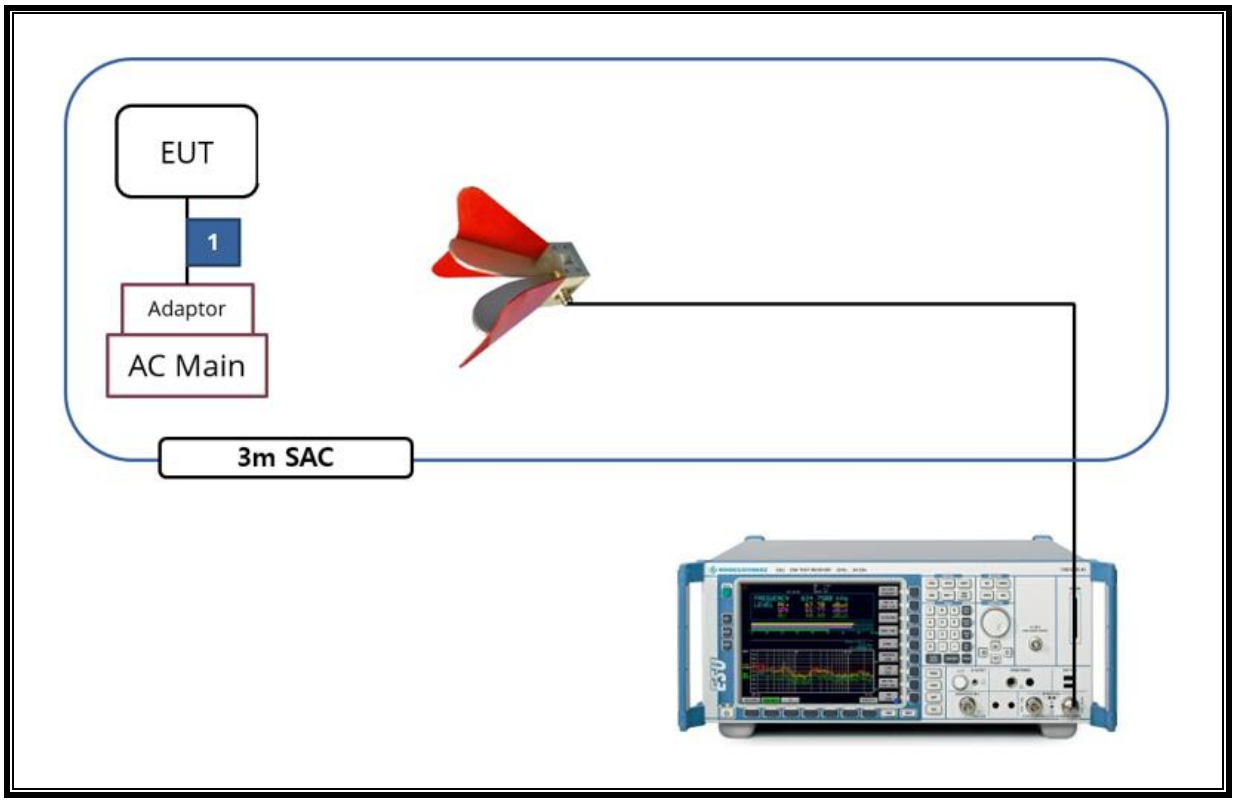
TEST SETUP

The EUT is a stand-alone unit during the tests.
Test software exercised the EUT to enable NII mode.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**S/N**	**Cal Due**
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Horn, 18 GHz	ETS	3115	00167211	2024-08-04
Antenna, Horn, 18 GHz	ETS	3115	00161451	2024-08-21
Antenna, Horn, 18 GHz	ETS	3117	00168724	2024-08-04
Antenna, Horn, 18 GHz	ETS	3117	00168717	2024-08-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2023-10-13
Preamplifier	ETS	3115-PA	00167475	2023-08-04
Preamplifier	ETS	3116C-PA	00168841	2023-08-04
Preamplifier, 1000 MHz	Sonoma	310N	341282	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	370599	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2023-08-01
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2023-08-01
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2023-08-03
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2023-08-01
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY60070693	2024-01-09
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2024-01-09
Average Power Sensor	Agilent / HP	U2000	MY54270007	2023-08-03
Average Power Sensor	Agilent / HP	U2000	MY54260010	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A001	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A008	2023-08-03
Attenuator	PASTERNACK	PE7004-10	2	2023-08-01
Attenuator	PASTERNACK	PE7087-10	A009	2023-08-03
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2023-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2023-07-29
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2023-08-01
Notch Filter	Micro-Tronics	BRM50702-02	G037	2023-08-01
Notch Filter	Micro-Tronics	BRM50716-2	006	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	2023-08-02
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	2023-08-01
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	2023-08-02
High Pass Filter 3GHz	Micro-Tronics	HPM17543	015	2023-08-01
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	2023-08-01
High Pass Filter 6GHz	Micro-Tronics	HPS17542	009	2023-08-02
High Pass Filter 6GHz	Micro-Tronics	HPS17542	016	2022-08-02
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	2023-08-01
LISN	R&S	ENV-216	101837	2023-08-04
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
Termination	WEINSCHEL	M1406A	T09	2023-08-03
Attenuator	WEINSCHEL	WA76-30-21	A015	2023-08-03
UL Software				
Description	**Manufacturer**	**Model**	**Version**	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.407(e)	6dB Band width (5.8GHz)	> 500kHz	Conducted	Complies
15.407 (a)(1)(iv)	TX Cond. Power (5.150-5.250)	< 24dBm		Complies
15.407 (a)(2)	TX Cond. Power (5.250-5.350 & 5.470-5.725)	< 24dBm or 11+10Log(26dB BW)		Complies
15.407 (a)(3)(i)	TX Cond. Power (5.725-5.850)	< 30dBm		Complies
15.407 (a)(3)(iii)	TX Cond. Power (5.850-5.895)	< 30dBm e.i.r.p.		Complies
15.407 (a)(1)(iv) & (a)(2)	PSD (5.150-5.250 5.250-5.350 & 5.470-5.725)	< 11dBm/MHz		Complies
15.407 (a)(3)	PSD (5.725-5.850)	< 30dBm/500kHz		Complies
15.407 (a)(3)(iii)	PSD (5.850-5.895)	< 14dBm/MHz e.i.r.p.		Complies
15.207 (a)	AC Power Line conducted emissions	Section 13	Radiated	Complies
15.407 (b) & 15.209	Radiated Spurious Emission	< 74dBuV/m PK < 54dBuV/m AV		Complies
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Condcuted	Complies[Note]

Note. This EUT does not support channel puncturing.

8. MEASUREMENT METHODS

On-Time and Duty Cycle : KDB 789033 D02 v02r01, Section II.B.

6dB Emission BW : KDB 789033 D02 v02r01, Section II.C.2.

26dB Emission BW : KDB 789033 D02 v02r01, Section II.C.1.

99% Occupied BW : KDB 789033 D02 v02r01, Section II.D.

Conducted Output Power : KDB 789033 D02 v02r01, Section II.E.3.b(Method PM-G)

Conducted Output Power for Straddle Channel (ch144/142/138 for 20/40/80MHz BW):

KDB 789033 D02 v02r01, Section II.E.2.b(Method SA-1)

Power Spectral Density : KDB 789033 D02 v02r01, Section II.F.

Unwanted emissions in restricted bands : KDB 789033 D02 v02r01, Section II.G.3 – II.G.6.

Unwanted emissions in non-restricted bands : KDB 789033 D02 v02r01, Section II.G.3 – II.G.6.

AC Power Line Conducted Emission : ANSI C63.10-2013, Section 6.2.

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9. REFERENCE MEASUREMENTS RESULTS

9.1. ON TIME AND DUTY CYCLE RESULTS

Mode	On Time [ms]	Period [ms]	Duty Cycle X [Linear]	Duty Cycle X [%]	Duty Cycle Correction Factor[dB]
802.11a MIMO	2.828	2.926	0.967	96.651	0.15
802.11n(HT20) MIMO	5.031	5.129	0.981	98.089	-
802.11n(HT40) MIMO	5.347	5.445	0.982	98.200	-
802.11ac(VHT80) MIMO	3.455	3.553	0.972	97.242	0.12
802.11ac(VHT160) MIMO	3.459	3.557	0.972	97.245	0.12

Mode	ANT.	Tone	On Time [ms]	Period [ms]	Duty Cycle X [Linear]	Duty Cycle X [%]	Duty Cycle Correction Factor[dB]
802.11ax HE20	MIMO	26T	2.595	2.613	0.993	99.311	-
		52T	2.591	2.610	0.993	99.272	-
		106T	2.435	2.453	0.993	99.266	-
		SU	5.443	5.460	0.997	99.689	-
802.11ax HE40	MIMO	26T	2.561	2.611	0.981	98.085	-
		52T	2.559	2.611	0.980	98.008	-
		106T	2.402	2.450	0.980	98.041	-
		242T	2.371	2.408	0.985	98.463	-
		SU	5.396	5.471	0.986	98.629	-
802.11ax HE80	MIMO	26T	2.563	2.612	0.981	98.124	-
		52T	2.555	2.606	0.980	98.043	-
		106T	2.402	2.451	0.980	98.001	-
		242T	2.359	2.404	0.981	98.128	-
		484T	2.365	2.387	0.991	99.078	-
		SU	5.401	5.455	0.990	99.010	-
802.11ax HE160	MIMO	26T	2.563	2.612	0.981	98.124	-
		52T	2.556	2.608	0.980	98.006	-
		106T	2.403	2.452	0.980	98.002	-
		242T	2.355	2.404	0.980	97.962	0.09
		484T	2.367	2.400	0.986	98.625	-
		996T	2.402	2.434	0.987	98.685	-
		SU	5.419	5.440	0.996	99.614	-

Note. If the duty cycle is over 98%, compensation is not included in average measurement.

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 D02 v02r01 Zero-Span Spectrum Analyzer Method.

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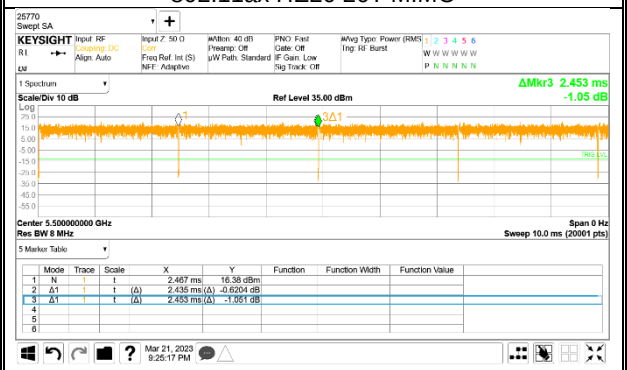
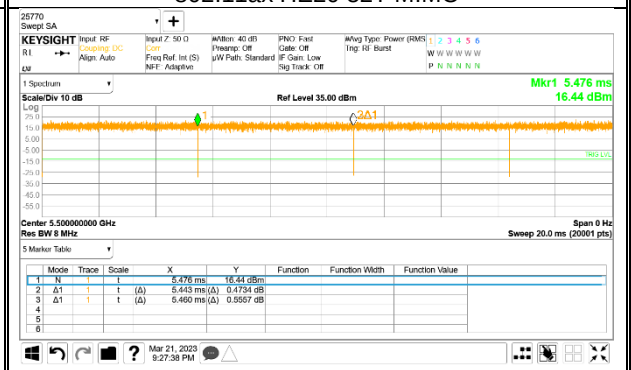
9.2. DUTY CYCLE PLOTS

802.11ax HE20 26T MIMO

802.11ax HE20 52T MIMO



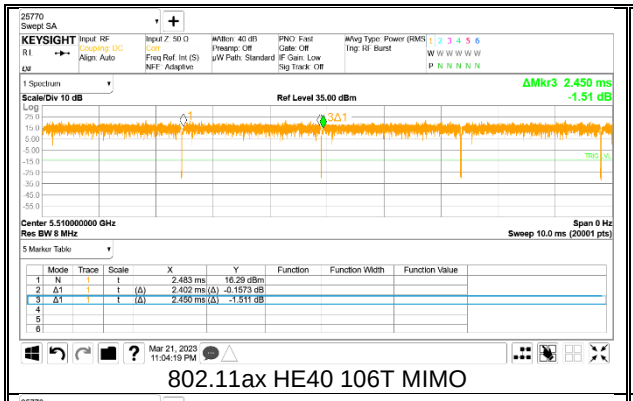
802.11ax HE20 106T MIMO



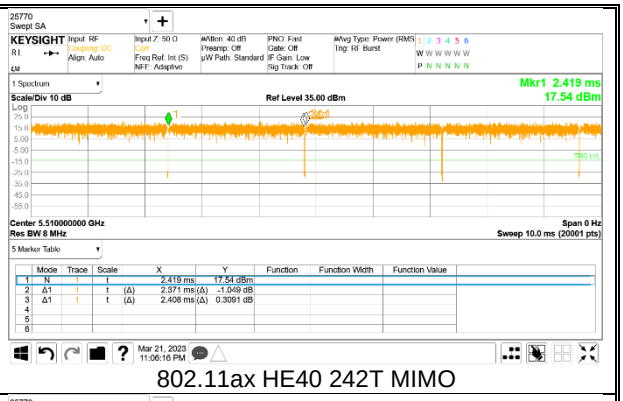
802.11ax HE20 SU MIMO

802.11ax HE40 26T MIMO

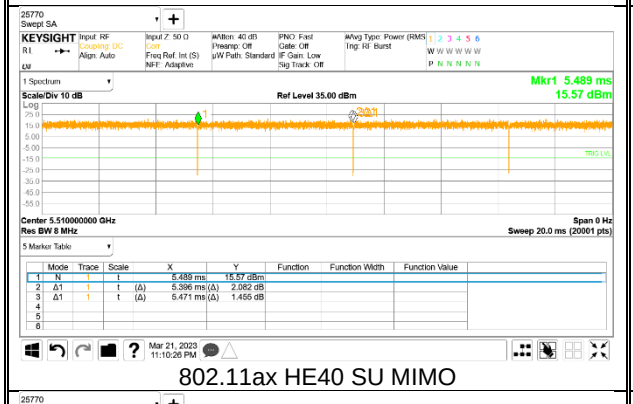
802.11ax HE40 52T MIMO



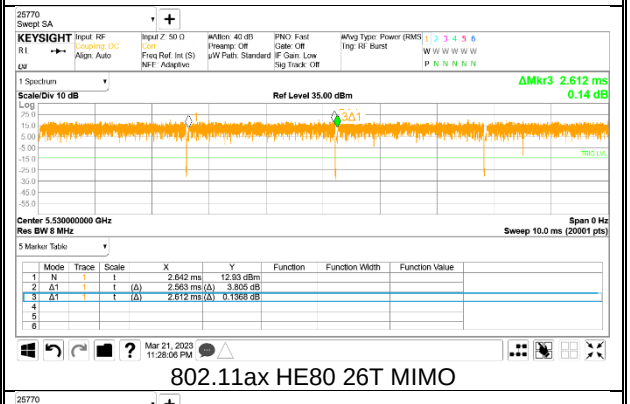
802.11ax HE40 106T MIMO



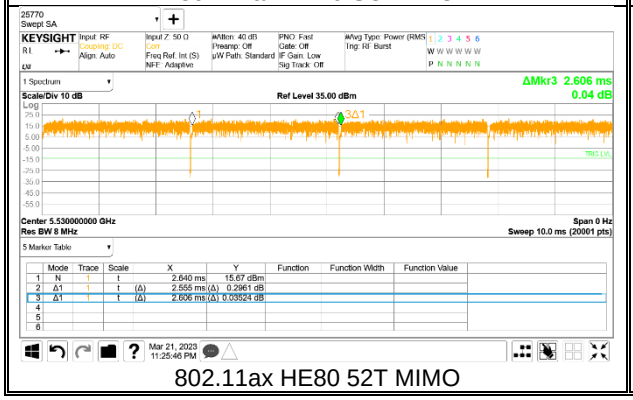
802.11ax HE40 242T MIMO



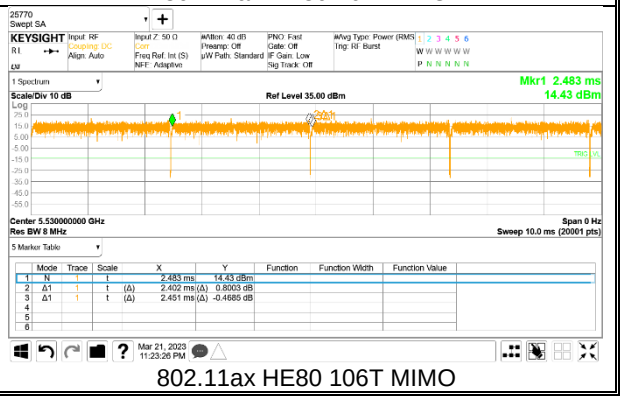
802.11ax HE40 SU MIMO



802.11ax HE80 26T MIMO



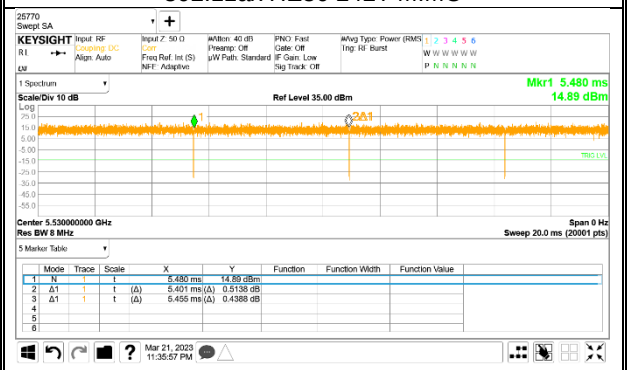
802.11ax HE80 52T MIMO



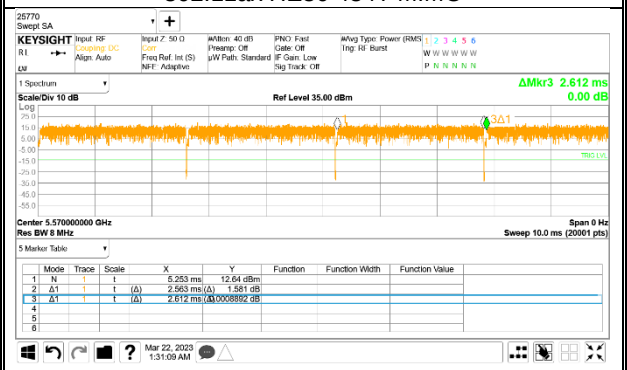
802.11ax HE80 106T MIMO

802.11ax HE80 242T MIMO

802.11ax HE80 484T MIMO



802.11ax HE80 SU MIMO



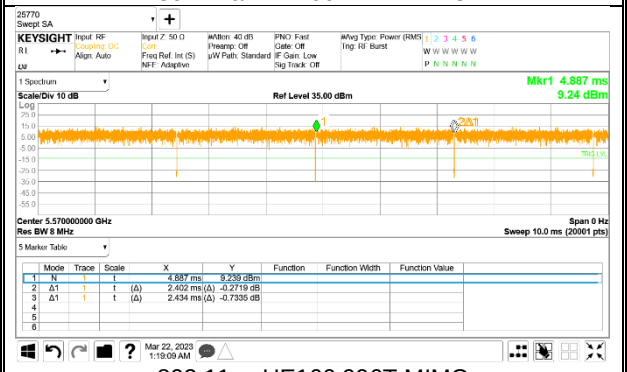
802.11ax HE160 26T MIMO

802.11ax HE160 52T MIMO

802.11ax HE160 106T MIMO

802.11ax HE160 242T MIMO

802.11ax HE160 484T MIMO



802.11ax HE160 996T MIMO

802.11ax HE160 SU MIMO

9.3. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

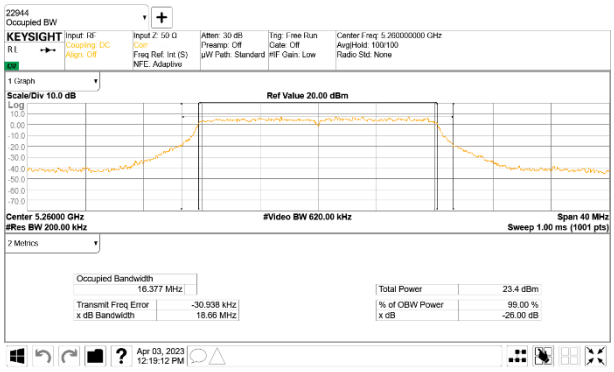
Reference to 789033 D02 General UNII Test Procedures New Rules v02r01: The transmitter output is connected to a spectrum analyzer with the RBW set to approximately 1% of EBW, the VBW > RBW, peak detector and max hold.

RESULTS

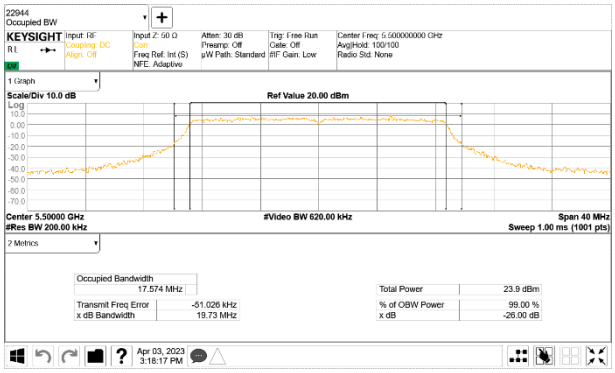
- Please refer to the next page

WORST CASE TEST PLOTS

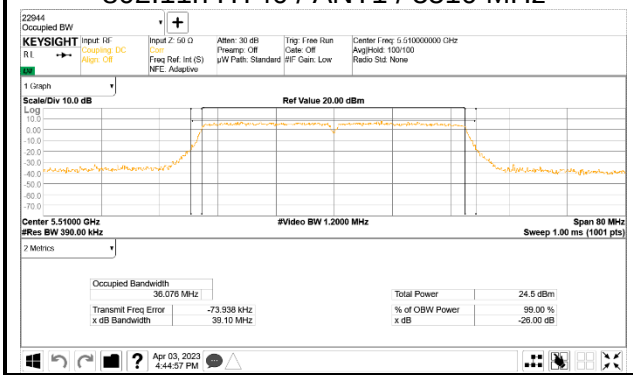
802.11a / ANT2 / 5260 MHz



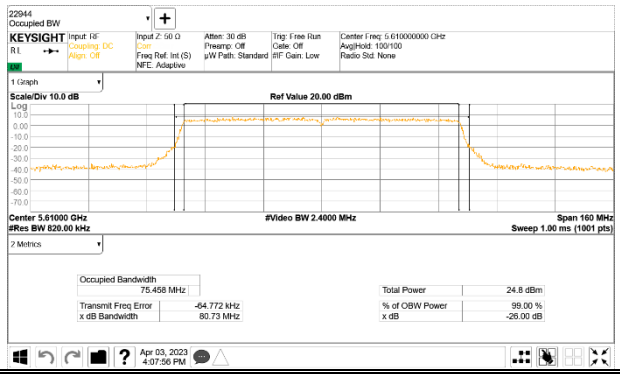
802.11n HT20 / ANT2 / 5500 MHz



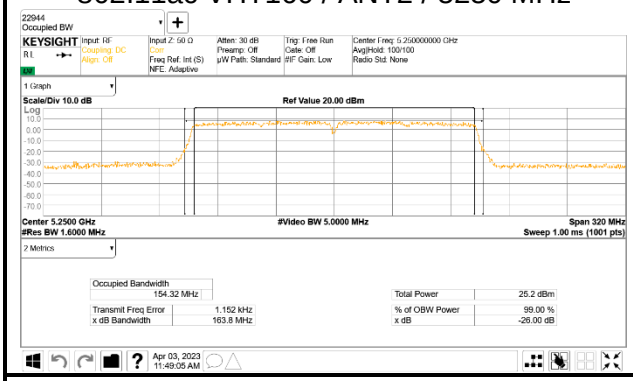
802.11n HT40 / ANT1 / 5510 MHz



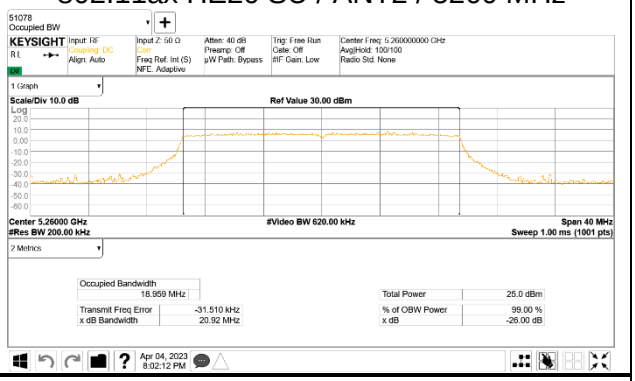
802.11ac VHT80 / ANT2 / 5610 MHz



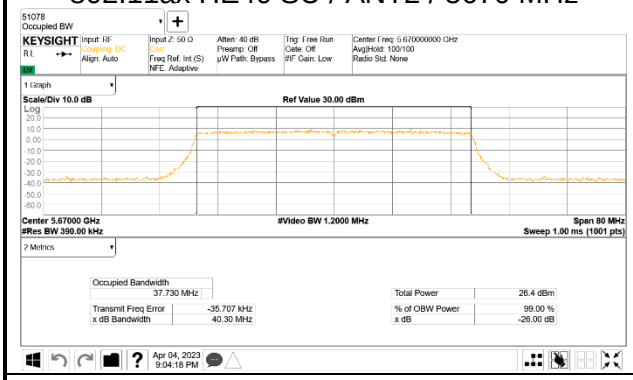
802.11ac VHT160 / ANT2 / 5250 MHz



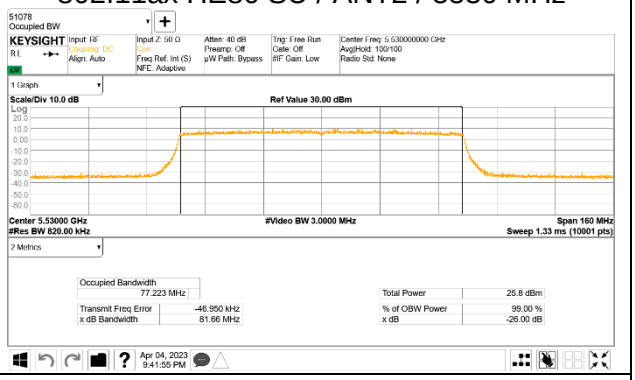
802.11ax HE20 SU / ANT2 / 5260 MHz



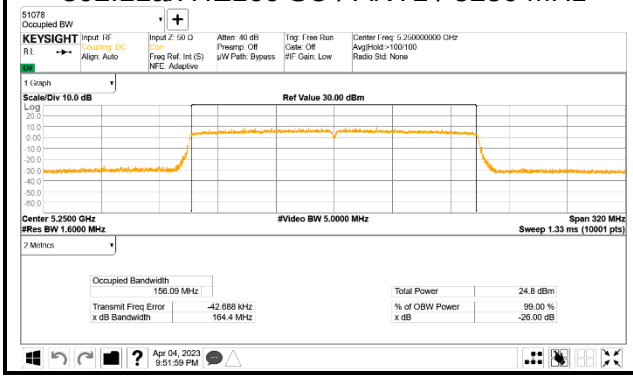
802.11ax HE40 SU / ANT2 / 5670 MHz



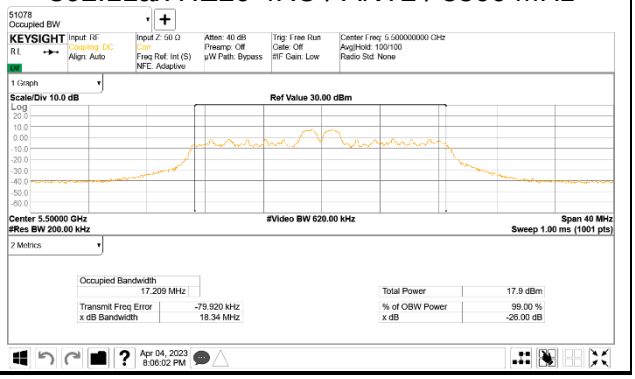
802.11ax HE80 SU / ANT2 / 5530 MHz



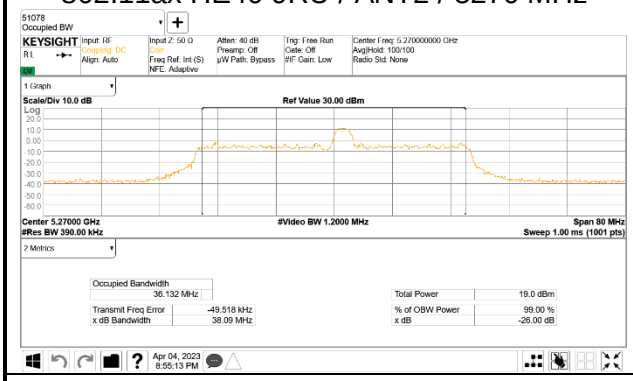
802.11ax HE160 SU / ANT1 / 5250 MHz



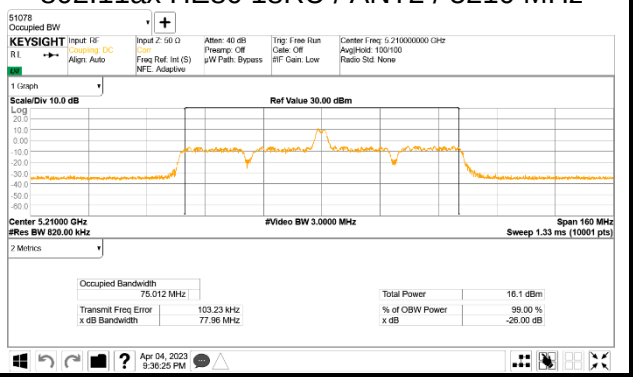
802.11ax HE20 4RU / ANT2 / 5500 MHz



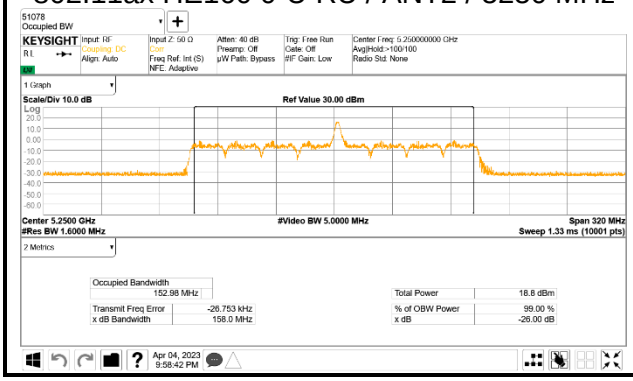
802.11ax HE40 9RU / ANT2 / 5270 MHz



802.11ax HE80 18RU / ANT2 / 5210 MHz



802.11ax HE160 0-U RU / ANT2 / 5250 MHz



9.3.1. 802.11a

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz]	
			ANT1	ANT2		ANT1	ANT2
UNII-1Note	36	5180	19.00	18.99	18.91	16.37	16.38
	40	5200	18.99	19.24		16.39	16.40
	48	5240	19.09	18.91		16.37	16.40
UNII-2A Note	52	5260	18.79	18.66	18.66	16.37	16.38
	60	5300	19.01	18.98		16.36	16.39
	64	5320	18.91	19.04		16.37	16.39
UNII-2C	100	5500	19.02	18.81	18.74		
	116	5580	18.96	19.06			
	140	5700	19.20	18.74			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.2. 802.11n HT20

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz]	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	36	5180	19.88	19.80	19.80	17.59	17.59
	40	5200	19.83	20.52		17.57	17.59
	48	5240	20.01	20.25		17.58	17.58
UNII-2A Note	52	5260	19.86	20.03	19.86	17.59	17.59
	60	5300	20.11	20.31		17.58	17.57
	64	5320	19.94	19.96		17.58	17.61
UNII-2C	100	5500	19.83	19.73	19.73		
	116	5580	19.82	19.94			
	140	5700	19.98	19.80			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.3. 802.11n HT40

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz]	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	38	5190	39.39	39.12	39.12	36.03	36.11
	46	5230	39.41	39.31		36.08	36.06
UNII-2A Note	54	5270	39.66	39.26	39.26	36.02	36.07
	62	5310	39.62	39.33		36.02	36.10
UNII-2C	102	5510	39.10	39.36	39.10		
	110	5550	39.62	39.43			
	134	5670	39.50	39.66			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.4. 802.11ac VHT80

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz]	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	42	5210	81.02	80.83	80.83	75.40	75.38
UNII-2A Note	58	5290	81.98	81.63	81.63	75.40	75.31
UNII-2C	106	5530	81.64	81.20	80.73		
	122	5610	82.10	80.73			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.5. 802.11ac VHT160

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz]	
			ANT1	ANT2		ANT1	ANT2
UNII-1&2A	50	5250	164.10	163.80	163.80		
UNII-2C	114	5570	165.10	165.10	165.10		

9.3.6. 802.11ax HE20

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz](Note)	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	36	5180	21.07	20.96	20.96	18.94	18.93
	40	5200	21.31	20.99		18.96	18.96
	48	5240	21.55	20.97		18.97	18.95
UNII-2A Note	52	5260	21.26	20.92	20.92	18.95	18.96
	60	5300	21.16	20.96		18.92	18.95
	64	5320	21.26	20.94		18.95	18.94
UNII-2C	100	5500	21.17	20.99	20.97		
	116	5580	21.18	21.13			
	140	5700	21.10	20.97			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.7. 802.11ax HE40

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz](Note)	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	38	5190	40.67	40.51	40.51	37.74	37.74
	46	5230	40.64	40.74		37.72	37.72
UNII-2A Note	54	5270	40.58	40.35	40.35	37.72	37.73
	62	5310	40.61	40.48		37.74	37.75
UNII-2C	102	5510	40.79	40.46	40.30		
	110	5550	40.73	40.56			
	134	5670	40.67	40.30			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.8. 802.11ax HE80

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz](Note)	
			ANT1	ANT2		ANT1	ANT2
UNII-1 Note	42	5210	82.01	81.83	81.83	77.19	77.24
UNII-2A Note	58	5290	82.04	82.01	82.01	77.24	77.07
UNII-2C	106	5530	82.64	81.66	81.66		
	122	5610	82.19	81.88			

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.9. 802.11ax HE160

Band	Channel	Center Freq. [MHz]	26 dB BW [MHz]		Worst	99% BW [MHz](Note)	
			ANT1	ANT2		ANT1	ANT2
UNII-1&2A	50	5250	164.40	164.80	164.40		
UNII-2C	114	5570	165.10	164.40	164.40		

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.10. STRADDLE CHANNEL

Mode	Channel	Center Freq. [MHz]	26 dB BW [MHz]			
			ANT1		ANT2	
			UNII-2C	UNII-3	UNII-2C	UNII-3
802.11a	Straddle	5720	14.43	4.43	14.39	4.39
802.11n HT20	Straddle	5720	15.05	5.05	15.12	5.12
802.11n HT40	Straddle	5710	34.57	4.57	34.65	4.65
802.11ac VHT80	Straddle	5690	75.75	5.75	75.38	5.38
802.11ax HE20(SU)	Straddle	5720	15.69	5.63	15.67	5.61
802.11ax HE40(SU)	Straddle	5710	35.50	5.61	35.38	5.29
802.11ax HE80(SU)	Straddle	5690	76.21	6.06	76.22	6.12

9.3.11. 802.11ax HE20(RU)

Band Mode	Center Freq. [MHz]	Tones	RU offset	26 dB BW [MHz]		99% BW [MHz]	
				ANT1	ANT2	ANT1	ANT2
UNII-1 Note	5180	26T	0	20.71	20.16	18.69	18.43
			4	19.01	18.48	17.42	17.20
			8	20.51	19.81	18.56	18.41
	5200		0	20.67	20.21	18.71	18.51
			4	18.82	18.43	17.42	17.23
			8	20.69	20.12	18.64	18.45
	5240		0	20.76	20.17	18.66	18.40
			4	19.10	18.47	17.42	17.19
			8	20.52	19.93	18.57	18.38
UNII-2A Note	5260	26T	0	20.71	20.12	18.70	18.40
			4	19.04	18.44	17.41	17.19
			8	21.01	20.02	18.78	18.42
	5300		0	20.73	20.22	18.67	18.50
			4	19.11	18.50	17.40	17.22
			8	20.82	20.03	18.70	18.42
	5320		0	20.70	20.36	18.68	18.57
			4	19.07	18.43	17.42	17.23
			8	20.85	19.87	18.75	18.39
UNII-2C	5500	26T	0	20.73	20.14		
			4	18.97	18.34		
			8	20.43	19.93		
	5580		0	20.80	20.10		
			4	19.09	18.49		
			8	20.57	19.92		
	5700		0	20.68	20.17		
			4	19.05	18.43		
			8	20.56	19.99		

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.12. 802.11ax HE40(RU)

Band	Center Freq. [MHz]	Tones	RU offset	26 dB BW [MHz]		99% BW [MHz]	
				ANT1	ANT2	ANT1	ANT2
UNII-1 Note	5190	26T	0	40.24	40.10	38.14	37.86
			9	38.46	38.11	36.60	36.26
			17	40.37	40.40	38.12	38.11
	5230		0	40.35	39.96	38.09	37.78
			9	38.41	38.13	36.60	36.29
			17	40.40	40.46	38.28	37.99
UNII-2A Note	5270	26T	0	40.47	40.00	38.15	37.78
			9	38.45	38.09	36.63	36.13
			17	40.58	40.19	38.23	37.94
	5310		0	40.53	40.04	38.27	37.82
			9	38.52	38.12	36.66	36.31
			17	40.41	40.30	38.16	38.00
UNII-2C	5510	26T	0	40.47	39.88		
			9	38.33	38.11		
			17	40.55	40.31		
	5550		0	40.40	40.03		
			9	38.52	38.15		
			17	40.42	40.43		
	5670		0	40.67	40.06		
			9	38.42	38.10		
			17	40.23	40.80		

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.13. 802.11ax HE80(RU)

Band	Center Freq. [MHz]	Tones	RU offset	26 dB BW [MHz]		99% BW [MHz]	
				ANT1	ANT2	ANT1	ANT2
UNII-1 Note	5210	26T	0	82.41	81.11	79.16	78.22
			18	78.54	77.96	75.27	75.01
			36	81.44	81.49	78.23	78.09
UNII-2A Note	5290	26T	0	81.90	80.97	78.91	78.11
			18	78.51	78.14	75.37	75.08
			36	81.48	81.44	78.38	77.80
UNII-2C	5530	26T	0	82.89	80.81		
			18	78.63	78.12		
			36	81.36	81.31		
	5610	26T	0	82.76	81.29		
			18	78.58	78.14		
			36	81.37	81.73		

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.14. 802.11ax HE160(RU)

Band	Center Freq. [MHz]	Tones	RU offset	26 dB BW [MHz]		99% BW [MHz]	
				ANT1	ANT2	ANT1	ANT2
UNII-1&2A	5250	26T	0 L	163.90	162.50	158.68	158.17
			0 U	158.10	158.00	153.11	152.98
			36 U	163.20	163.30	158.98	158.17
UNII-2C	5570	26T	0 L	163.70	162.80		
			0 U	158.30	158.10		
			36 U	163.70	162.90		

Note. As a result of 99% bandwidth test, the bandwidth of UNII-1 does not interfere with UNII-2A.

9.3.15. 802.11ax STRADDLE CHANNEL(RU)

Band	Mode	Center Freq. [MHz]	Tones	RU offset	26 dB BW [MHz]			
					ANT1		ANT2	
					UNII-2C	UNII-3	UNII-2C	UNII-3
Straddle Channel	HE20	5720	26T	6	15.30	6.44	14.73	6.26
	HE40	5710		15	34.68	6.67	34.68	7.29
	HE80	5690		34	74.98	9.19	74.77	9.75

10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407
The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

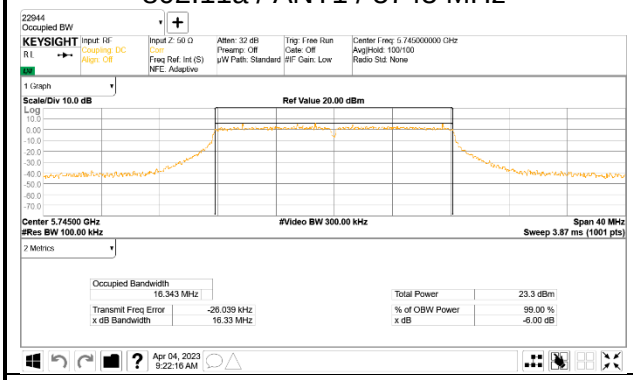
Reference to 789033 D02 General UNII Test Procedures New Rules v02r01: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

RESULTS

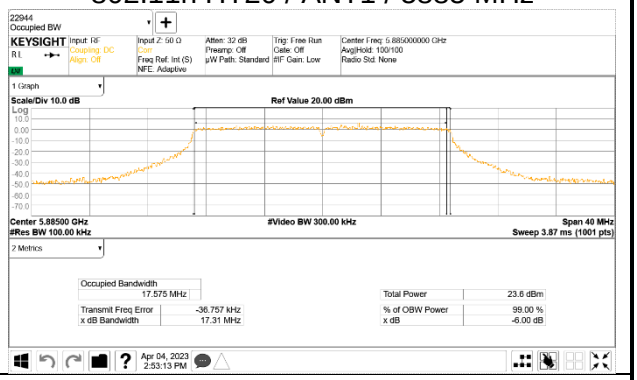
- Please refer to the next page

WORST CASE TEST PLOTS

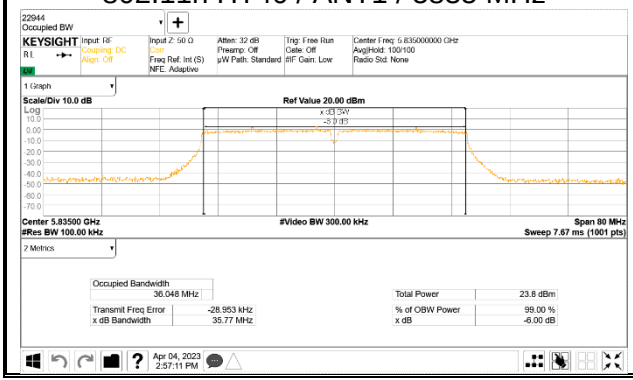
802.11a / ANT1 / 5745 MHz



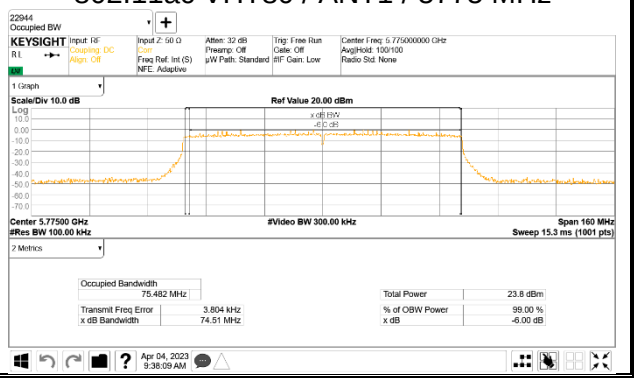
802.11n HT20 / ANT1 / 5885 MHz



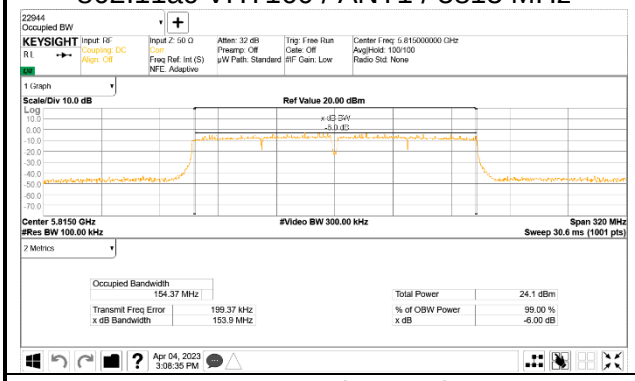
802.11n HT40 / ANT1 / 5835 MHz



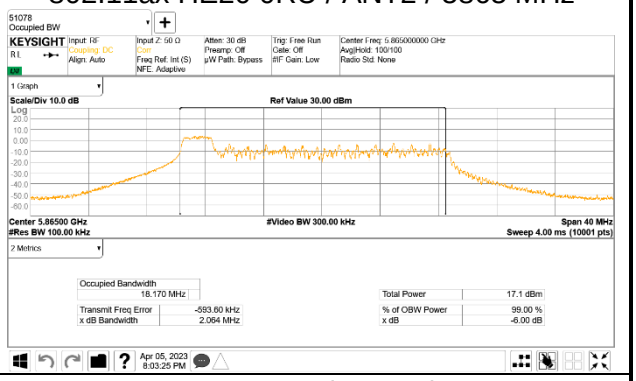
802.11ac VHT80 / ANT1 / 5775 MHz



802.11ac VHT160 / ANT1 / 5815 MHz

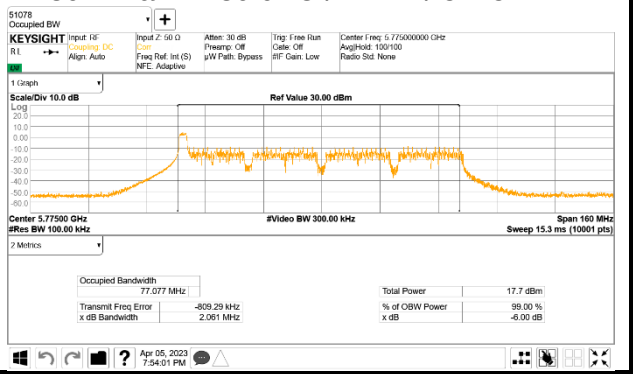


802.11ax HE20 0RU / ANT2 / 5865 MHz

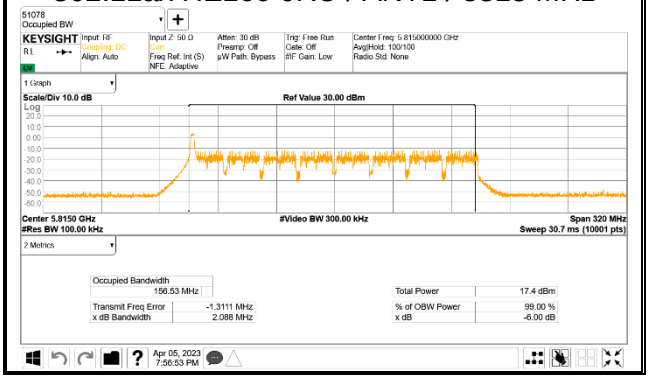


802.11ax HE40 0RU / ANT1 / 5875 MHz

802.11ax HE80 0RU / ANT1 / 5775 MHz



802.11ax HE160 0RU / ANT1 / 5815 MHz



10.1.1. UNII-3 & 4 BAND

Mode	Channel	Center Freq. [MHz]	6 dB BW [MHz]		Worst	Minimum Limit [MHz]
			ANT1	ANT2		
802.11a	149	5745	16.33	16.36	16.33	0.5
	157	5785	16.34	16.38		
	165	5825	16.35	16.37		
	169	5845	16.37	16.36		
	173	5865	16.34	16.35		
	177	5885	16.39	16.37		
802.11n HT20	149	5745	17.59	17.57	17.31	
	157	5785	17.59	17.65		
	165	5825	17.57	17.60		
	169	5845	17.60	17.58		
	173	5865	17.56	17.58		
	177	5885	17.31	17.54		
802.11n HT40	151	5755	36.02	36.29	35.77	
	159	5795	36.28	36.40		
	167	5835	35.77	36.06		
	175	5875	35.97	36.28		
802.11ac VHT80	155	5775	74.51	75.18	74.51	
	171	5855	74.91	75.28		
802.11ac VHT160	163	5815	153.90	155.80	153.90	
802.11ax HE20(SU)	149	5745	18.98	19.04	18.84	
	157	5785	18.99	18.85		
	165	5825	18.88	19.02		
	169	5845	18.93	18.93		
	173	5865	18.95	18.87		
	177	5885	18.89	18.84		
802.11ax HE40(SU)	151	5755	37.95	37.83	37.79	
	159	5795	37.91	38.00		
	167	5835	37.93	37.81		
	175	5875	37.79	37.90		
802.11ax HE80(SU)	155	5775	76.74	77.63	76.74	
	171	5855	77.40	77.88		
802.11ax HE160(SU)	163	5815	156.60	157.90	156.60	

10.1.2. UNII-3 & 4 BAND(RU)

Mode	Channel	Center Freq. [MHz]	Tones	RU offset	6 dB BW [MHz]		Minimum Limit [MHz]
					ANT1	ANT2	
HE20	149	5745	26T	0	2.09	2.07	0.5
	157	5785			2.08	2.07	
	165	5825			2.09	2.08	
	169	5845			2.12	2.09	
	173	5865			2.11	2.06	
	177	5885			2.08	2.08	
	Minimum 6dB Bandwidth				2.06		
HE40	151	5755	26T	0	2.06	2.10	
	159	5795			2.06	2.09	
	167	5835			2.07	2.07	
	175	5875			2.05	2.09	
	Minimum 6dB Bandwidth				2.05		
HE80	155	5775	26T	0	2.06	2.09	
	171	5855			2.07	2.08	
	Minimum 6dB Bandwidth				2.06		
HE160	163	5815	26T	0	2.09	2.12	
	Minimum 6dB Bandwidth				2.09		

10.2. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a)(1)(iv), (a)(2), (a)(3)(i), (a)(3)(iii)

FCC

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For client devices operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 14 dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm. Client devices operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 30 dBm.

TEST PROCEDURE

KDB 789033 Method PM is used for output power.
KDB 789033 Method SA-2 is used for PSD. RBW set to 1MHz(500kHz for the band 5.725-5.85 GHz, the VBW >= 3 x RBW, RMS detector and trace averaging).

Straddle Channel(UNII-2C&3)

KDB 789033 Method SA-2 is used for only power of straddle Ch. and PSD. RBW set to 1MHz(500kHz for the band 5.725-5.85 GHz, the VBW >= 3 x RBW, RMS detector and trace averaging). Band power function used for power and peak marker value of the spectrum is used for PSD.

Straddle Channel(UNII-3&4)

KDB 789033 Method PM is used for total power of straddle Ch.
(verification that both limit of UNII-3 and UNII-4 power & e.i.r.p. are satisfied)
KDB 789033 Method SA-2 is used for only PSD of straddle Ch. RBW set to 1MHz(500kHz for the band 5.725-5.85 GHz, the VBW >= 3 x RBW, RMS detector and trace averaging).
Peak marker value of the spectrum is used for PSD. For the band 5.850-5.895 GHz, The correlated gain is added to the result to convert e.i.r.p.

DIRECTIONAL ANTENNA GAIN

For OUTPUT POWER and PSD: The TX chains are correlated and the antenna gains are unequal among the chains. The directional gain is:

Frequency Band [MHz]	ANT1 Gain [dBi]	ANT2 Gain [dBi]	Correlated Chains Directional Gain [dBi]
UNII 1 5150 - 5250	-5.00	-2.96	-0.91
UNII 2A 5250 - 5350	-3.88	-2.24	-0.01
UNII 2C 5470 - 5725	-3.59	-2.59	-0.07
UNII 3 5725 - 5850	-3.96	-2.19	-0.02
UNII 4 5850 - 5925	-3.89	-2.33	-0.06

Note. Since the correrated gain does not exceed 6dBi, bands except for UNII-4 do not consider the antenna gain.

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10.2.1. 802.11a MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
UNII-1	36	5180	17.48	17.42		17.39	23.98
	40	5200	17.39	17.48		17.28	
	48	5240	17.39	16.95		17.30	
UNII-2A	52	5260	17.44	17.01		20.24	23.71
	60	5300	17.22	17.07		20.16	
	64	5320	17.46	17.49		20.49	
UNII-2C	100	5500	17.15	17.34		20.26	23.73
	116	5580	17.08	17.44		20.27	
	140	5700	17.32	17.49		20.42	
UNII-3	149	5745	17.27	17.85		20.58	30.00
	157	5785	16.80	17.80		20.34	
	165	5825	17.08	17.25		20.18	
UNII-3&4	169	5845	17.07	17.24		20.17	30.00
		5845	17.07	17.24	-0.06	20.11	30.00(e.i.r.p)
UNII-4	173	5865	17.07	17.25	-0.06	20.11	30.00(e.i.r.p)
	177	5885	17.46	16.90	-0.06	20.14	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Direct. Gain [dBi]	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2				
UNII-1	36	5180	6.79	6.78	0.15		9.94	11.00
	40	5200	6.61	6.99	0.15		9.96	
	48	5240	6.36	6.21	0.15		9.45	
UNII-2A	52	5260	6.87	6.39	0.15		9.80	11.00
	60	5300	6.80	6.46	0.15		9.80	
	64	5320	6.86	6.77	0.15		9.98	
UNII-2C	100	5500	6.86	6.92	0.15		***10.05***	11.00
	116	5580	6.93	6.86	0.15		***10.05***	
	140	5700	6.86	6.87	0.15		10.03	
UNII-3	149	5745	3.59	4.30	0.15		7.12	30.00/500kHz
	157	5785	3.46	4.08	0.15		6.94	
	165	5825	3.69	3.56	0.15		6.79	
UNII-3&4	169	5845	3.78	3.80	0.15		6.95	30.00/500kHz
		5845	6.51	6.49	0.15	-0.06	9.60	14.00(e.i.r.p.)
UNII-4	173	5865	6.82	6.72	0.15	-0.06	9.87	14.00(e.i.r.p.)
	177	5885	7.13	6.58	0.15	-0.06	9.96	

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

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10.2.2. 802.11n HT20 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
UNII-1	36	5180	17.39	17.44		20.43	23.98
	40	5200	17.28	17.49		20.40	
	48	5240	17.30	16.94		20.13	
UNII-2A	52	5260	17.30	17.07		20.20	23.98
	60	5300	17.09	17.10		20.11	
	64	5320	17.30	17.50		20.41	
UNII-2C	100	5500	17.01	17.34		20.19	23.95
	116	5580	16.90	17.47		20.20	
	140	5700	17.18	17.49		20.35	
UNII-3	149	5745	17.19	17.85		20.54	30.00
	157	5785	16.68	17.80		20.29	
	165	5825	17.02	17.24		20.14	
UNII-3&4	169	5845	16.97	17.23		20.11	30.00
		5845	16.97	17.23	-0.06	20.05	30.00(e.i.r.p)
UNII-4	173	5865	16.90	17.22	-0.06	20.01	30.00(e.i.r.p)
	177	5885	17.35	16.87	-0.06	20.07	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Direct. Gain [dBi]	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2				
UNII-1	36	5180	6.39	6.51	0.00		9.46	11.00
	40	5200	6.45	6.35	0.00		9.41	
	48	5240	6.30	5.66	0.00		9.00	
UNII-2A	52	5260	6.57	5.79	0.00		9.20	11.00
	60	5300	6.82	6.19	0.00		9.53	
	64	5320	6.51	6.47	0.00		9.50	
UNII-2C	100	5500	6.61	6.87	0.00		9.75	11.00
	116	5580	6.75	6.70	0.00		9.74	
	140	5700	6.97	6.85	0.00		***9.92***	
UNII-3	149	5745	3.50	3.89	0.00		6.71	30.00/500kHz
	157	5785	2.75	3.64	0.00		6.23	
	165	5825	3.30	3.24	0.00		6.28	
UNII-3&4	169	5845	3.67	3.88	0.00		6.78	30.00/500kHz
		5845	6.16	6.35	0.00	-0.06	9.21	14.00(e.i.r.p.)
UNII-4	173	5865	6.31	6.62	0.00	-0.06	9.42	14.00(e.i.r.p.)
	177	5885	6.95	6.30	0.00	-0.06	9.59	

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

10.2.3. 802.11n HT40 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
UNII-1	38	5190	17.50	17.51		20.52	23.98
	46	5230	17.62	16.82		20.25	
UNII-2A	54	5270	17.54	17.06		20.32	23.98
	62	5310	17.57	17.55		20.57	
UNII-2C	102	5510	17.09	17.35		20.23	23.98
	110	5550	16.61	17.59		20.14	
	134	5670	17.04	17.57		20.32	
UNII-3	151	5755	16.92	17.48		20.22	30.00
	159	5795	16.41	17.55		20.03	
UNII-3&4	167	5835	17.12	17.53		20.34	30.00
		5835	17.12	17.53	-0.06	20.28	30.00(e.i.r.p)
UNII-4	175	5875	17.14	17.55	-0.06	20.30	30.00(e.i.r.p)

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Direct. Gain [dBi]	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2				
UNII-1	38	5190	4.74	4.43	0.00		7.60	11.00
	46	5230	5.17	4.47	0.00		7.84	
UNII-2A	54	5270	5.37	3.92	0.00		7.71	11.00
	62	5310	5.11	4.28	0.00		7.72	
UNII-2C	102	5510	4.90	5.03	0.00		***7.97***	11.00
	110	5550	3.66	4.68	0.00		7.21	
	134	5670	4.85	4.90	0.00		7.88	
UNII-3	151	5755	1.62	1.32	0.00		4.48	30.00/500kHz
	159	5795	0.39	1.05	0.00		3.74	
UNII-3&4	167	5835	0.45	0.95	0.00		3.72	30.00/500kHz
		5835	2.39	2.73	0.00	-0.06	5.51	14.00(e.i.r.p.)
UNII-4	175	5875	3.83	4.03	0.00	-0.06	6.88	14.00(e.i.r.p.)

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

10.2.4. 802.11ac VHT80 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
UNII-1	42	5210	17.38	16.54		19.99	23.98
UNII-2A	58	5290	17.08	16.77		19.94	23.98
UNII-2C	106	5530	16.81	16.91		19.87	23.98
	122	5610	16.70	17.04		19.88	
UNII-3	155	5775	16.53	17.69		20.16	30.00
UNII-3&4	171	5855	16.85	17.19		20.03	30.00
		5855	16.85	17.19	-0.06	19.97	30.00(e.i.r.p)

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Direct. Gain [dBi]	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2				
UNII-1	42	5210	1.67	0.70	0.12		***4.34***	11.00
UNII-2A	58	5290	1.26	1.12	0.12		4.32	11.00
UNII-2C	106	5530	1.10	0.79	0.12		4.08	11.00
	122	5610	0.44	0.27	0.12		3.49	
UNII-3	155	5775	-2.95	-1.77	0.12		0.81	30.00/500kHz
UNII-3&4	171	5855	-3.16	-2.67	0.12		0.22	30.00/500kHz
		5855	0.13	0.82	0.12	-0.06	3.56	14.00(e.i.r.p.)

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

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10.2.5. 802.11ac VHT160 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
UNII-1&2A	50	5250	17.48	16.89		20.21	23.98
UNII-2C	114	5570	16.52	17.54		20.07	23.98
UNII-3&4	163	5815	16.45	17.55		20.05	30.00
	163	5815	16.45	17.55	-0.06	19.99	30.00(e.i.r.p)

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

PSD Results

Band	Channel	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Direct. Gain [dBi]	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2				
UNII-1&2A	50	5250	-1.61	-2.16	0.12		***1.25***	11.00
UNII-2C	114	5570	-2.75	-1.55	0.12		1.02	11.00
UNII-3&4	163	5815	-6.32	-5.30	0.12		-2.65	30.00/500kHz
	163	5815	-3.38	-2.63	0.12	-0.06	0.08	14.00(e.i.r.p.)

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

10.2.6. STRADDLE CHANNEL

Output Power Results

Mode	Band	Center Freq. [MHz]	Meas Power [dBm]		DCCF.	Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2			
802.11a	UNII-2C	5720	16.62	16.84	0.15	19.89	22.58
	UNII-3		10.15	10.41	0.15	13.44	30.00
802.11n HT20	UNII-2C	5720	16.53	16.59	0.00	19.57	22.78
	UNII-3		10.60	10.49	0.00	13.55	30.00
802.11n HT40	UNII-2C	5710	17.11	17.18	0.00	20.15	23.98
	UNII-3		6.14	6.23	0.00	9.20	30.00
802.11ac VHT80	UNII-2C	5690	17.19	17.20	0.12	20.33	23.98
	UNII-3		2.21	2.25	0.12	5.36	30.00

* Calculation of Output Power : Corr'd Power = Ant1 meas. Power + Ant2 meas. Power + Duty CF [dB]

PSD Results

Mode	Band	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2			
802.11a	UNII-2C	5720	7.19	6.71	0.15	10.12	11.00
	UNII-3		3.54	3.31	0.15	6.58	30.00/500kHz
802.11n HT20	UNII-2C	5720	6.71	6.66	0.00	9.69	11.00
	UNII-3		3.20	3.03	0.00	6.12	30.00/500kHz
802.11n HT40	UNII-2C	5710	4.72	4.93	0.00	7.83	11.00
	UNII-3		-0.25	-0.28	0.00	2.74	30.00/500kHz
802.11ac VHT80	UNII-2C	5690	1.25	1.55	0.12	4.53	11.00
	UNII-3		-4.33	-4.36	0.12	-1.21	30.00/500kHz

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

10.2.7. 802.11ax HE20 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-1	36	5180	26T	0	9.17	8.52	11.87	23.98
				4	9.17	8.66	11.93	
				8	9.07	8.75	11.92	
			52T	37	12.70	11.84	15.30	
				38	12.43	11.63	15.06	
				40	12.60	11.92	15.28	
			106T	53	15.58	15.04	18.33	
				54	15.55	15.11	18.35	
			SU	-	17.52	17.37	20.46	
	40	5200	26T	0	9.12	8.53	11.85	
				4	9.08	8.65	11.88	
				8	9.49	9.15	12.33	
			52T	37	12.26	11.34	14.83	
				38	12.38	11.60	15.02	
				40	12.54	11.89	15.24	
			106T	53	15.06	14.60	17.85	
				54	15.51	15.16	18.35	
			SU	-	17.46	17.44	20.46	
	48	5240	26T	0	9.23	7.90	11.63	
				4	9.14	8.04	11.64	
				8	9.53	8.52	12.06	
			52T	37	12.24	10.93	14.64	
				38	12.50	11.14	14.88	
				40	12.64	11.39	15.07	
			106T	53	15.64	14.25	18.01	
				54	15.56	14.30	17.99	
			SU	-	17.49	16.88	20.21	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-2A	52	5260	26T	0	9.24	8.08	11.71	23.66
				4	9.46	8.18	11.88	
				8	9.84	8.65	12.30	
			52T	37	12.25	11.05	14.70	
				38	12.56	11.29	14.98	
				40	12.72	11.54	15.18	
			106T	53	15.22	14.22	17.76	
				54	15.61	14.72	18.20	
			SU	-	17.47	17.04	20.27	
	60	5300	26T	0	9.07	8.15	11.64	
				4	9.25	8.22	11.78	
				8	9.63	8.59	12.15	
			52T	37	12.06	11.04	14.59	
				38	12.35	11.30	14.87	
				40	12.50	11.54	15.06	
			106T	53	15.01	14.25	17.66	
				54	15.40	14.73	18.09	
			SU	-	17.26	17.07	20.18	
	64	5320	26T	0	9.11	8.69	11.92	
				4	9.49	8.78	12.16	
				8	9.05	8.70	11.89	
			52T	37	12.80	11.97	15.42	
				38	12.53	11.79	15.19	
				40	12.69	12.01	15.37	
			106T	53	15.46	15.07	18.28	
				54	15.40	15.10	18.26	
			SU	-	17.52	17.51	20.53	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

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Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-2C	100	5500	26T	0	9.33	8.48	11.94	23.63
				4	9.28	8.57	11.95	
				8	9.25	8.44	11.87	
			52T	37	12.48	11.85	15.19	
				38	12.20	11.62	14.93	
				40	12.30	11.81	15.07	
			106T	53	15.18	14.75	17.98	
				54	15.13	14.74	17.95	
			SU	-	17.28	17.30	20.30	
	116	5580	26T	0	9.10	8.72	11.92	
				4	9.15	8.66	11.92	
				8	9.56	9.04	12.32	
			52T	37	11.90	11.41	14.67	
				38	12.12	11.65	14.90	
				40	12.27	11.81	15.06	
			106T	53	14.98	15.20	18.10	
				54	14.90	15.17	18.05	
			SU	-	17.18	17.42	20.31	
	140	5700	26T	0	9.46	8.70	12.11	
				4	9.40	8.69	12.07	
				8	9.85	9.09	12.50	
			52T	37	12.13	11.47	14.82	
				38	12.49	11.56	15.06	
				40	12.73	11.78	15.29	
			106T	53	15.40	15.24	18.33	
				54	15.41	15.20	18.32	
			SU	-	17.36	17.49	20.44	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-3	149	5745	26T	0	9.30	9.05	12.19	30.00
				4	8.90	8.66	11.79	
				8	9.40	9.06	12.24	
			52T	37	11.98	11.96	14.98	
				38	11.75	11.74	14.76	
				40	12.01	11.97	15.00	
			106T	53	15.28	15.60	18.45	
				54	15.30	15.57	18.45	
			SU	-	16.81	17.34	20.09	
	157	5785	26T	0	9.40	9.66	12.54	
				4	8.97	9.16	12.08	
				8	9.45	9.60	12.54	
			52T	37	12.02	12.45	15.25	
				38	11.80	12.21	15.02	
				40	12.05	12.40	15.24	
			106T	53	14.85	15.50	18.20	
				54	14.91	15.48	18.21	
			SU	-	16.82	17.77	20.33	
	165	5825	26T	0	9.59	9.11	12.37	
				4	9.15	8.65	11.92	
				8	9.63	9.10	12.38	
			52T	37	12.30	11.93	15.13	
				38	12.06	11.68	14.88	
				40	12.28	11.91	15.11	
			106T	53	15.15	15.09	18.13	
				54	15.18	15.11	18.16	
			SU	-	17.13	17.27	20.21	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2			
UNII-3&4	169 Overlap	5845	26T	0	9.62	9.15		12.40	30.00 or 30.00 e.i.r.p[Note]
				4	9.16	8.68		11.94	
				8	9.62	9.10		12.38	
			52T	37	12.31	11.96		15.15	
				38	12.05	11.72		14.90	
				40	12.28	11.91		15.11	
			106T	53	15.13	15.14		18.15	
				54	15.14	15.15		18.16	
			SU	-	17.15	17.28		20.23	
UNII-4	173	5865	26T	0	9.60	9.13	-0.06	12.32	30.00 e.i.r.p.
				4	9.14	8.68	-0.06	11.87	
				8	9.60	9.13	-0.06	12.32	
			52T	37	12.27	11.97	-0.06	15.07	
				38	12.05	11.73	-0.06	14.84	
				40	12.27	11.96	-0.06	15.07	
			106T	53	15.11	15.16	-0.06	18.09	
				54	15.02	15.07	-0.06	18.00	
			SU	-	17.09	17.26	-0.06	20.13	
	177	5885	26T	0	9.24	8.38	-0.06	11.78	
				4	8.81	7.94	-0.06	11.35	
				8	9.26	8.38	-0.06	11.79	
			52T	37	12.18	11.17	-0.06	14.65	
				38	12.02	11.03	-0.06	14.50	
				40	12.16	11.17	-0.06	14.64	
			106T	53	14.84	14.58	-0.06	17.66	
				54	14.90	14.61	-0.06	17.71	
			SU	-	17.40	16.77	-0.06	20.05	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]		Corr'd PSD [dBm/MHz]	PSD Limit [dBm/MHz]
					ANT1	ANT2		
UNII-1	36	5180	106T	53	7.60	7.31	***10.47***	11.00
				54	7.32	7.27	10.30	
				SU	-	6.22	6.42	9.33
	40	5200	106T	53	7.03	7.12	10.08	
				54	7.20	7.22	10.22	
				SU	-	6.03	6.30	9.18
	48	5240	106T	53	7.51	6.69	10.13	
				54	7.45	6.67	10.09	
				SU	-	6.29	6.23	9.27
UNII-2A	52	5260	106T	53	7.16	7.03	10.10	11.00
				54	7.47	6.92	10.21	
				SU	-	6.29	6.28	9.30
	60	5300	106T	53	7.30	6.85	10.09	
				54	7.45	6.74	10.12	
				SU	-	6.22	6.28	9.26
	64	5320	106T	53	7.50	7.37	10.44	
				54	7.32	7.36	10.35	
				SU	-	6.43	6.54	9.49
UNII-2C	100	5500	106T	53	7.23	7.41	10.33	11.00
				54	7.09	7.06	10.09	
				SU	-	5.92	6.26	9.10
	116	5580	106T	53	7.01	7.54	10.29	
				54	6.83	7.43	10.15	
				SU	-	5.96	6.63	9.32
	140	5700	106T	53	7.10	7.32	10.22	
				54	7.21	7.25	10.24	
				SU	-	5.98	6.45	9.23

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

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Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm]		Direct. Gain [dBi]	Corr'd PSD [dBm]	PSD Limit [dBm]
					ANT1	ANT2			
UNII-3	149	5745	106T	53	4.67	4.69		7.69	30.00 /500kHz
				54	4.38	4.52		7.46	
			SU	-	2.42	3.72		6.13	
	157	5785	106T	53	4.03	4.67		7.38	
				54	3.98	4.92		7.48	
			SU	-	2.90	3.82		6.39	
	165	5825	106T	53	4.41	4.53		7.48	
				54	4.68	4.84		7.77	
			SU	-	3.28	3.47		6.38	
UNII-3&4	169	5845	106T	53	4.57	4.71		7.65	30.00 /500kHz
				54(L)	4.31	4.68		7.51	
				54(U)	7.20	7.40	-0.06	10.25	14.00 /MHz e.i.r.p.
			SU(L)	-	3.56	3.70		6.64	30.00 /500kHz
			SU(U)	-	5.51	5.90	-0.06	8.66	14.00 /MHz e.i.r.p
UNII-4	173	5865	106T	53	7.37	7.82	-0.06	10.55	14.00 /MHz e.i.r.p
				54	7.47	7.80	-0.06	10.59	
			SU	-	6.26	6.39	-0.06	9.28	
	177	5885	106T	53	7.39	6.97	-0.06	10.13	
				54	7.16	6.97	-0.06	10.01	
			SU	-	6.75	6.38	-0.06	9.52	

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

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10.2.8. 802.11ax HE40 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-1	38	5190	26T	0	9.08	8.42	11.77	23.98
				9	9.20	8.80	12.01	
				17	9.34	9.12	12.24	
			52T	37	12.49	11.43	15.00	
				41	12.52	11.80	15.19	
				44	12.63	12.07	15.37	
			106T	53	15.28	14.61	17.97	
				54	15.56	15.02	18.31	
				56	15.59	15.27	18.44	
			242T	61	17.35	16.97	20.17	
				62	17.28	17.10	20.20	
			SU	-	17.51	17.14	20.34	
	46	5230	26T	0	9.17	7.75	11.53	
				9	9.25	8.16	11.75	
				17	9.42	8.46	11.98	
			52T	37	12.45	11.05	14.82	
				41	12.60	11.31	15.01	
				44	12.73	11.56	15.19	
			106T	53	15.88	14.23	18.14	
				54	15.63	14.14	17.96	
				56	15.65	14.35	18.06	
			242T	61	17.43	16.40	19.96	
				62	17.31	16.47	19.92	
			SU	-	17.50	16.59	20.08	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-2A	54	5270	26T	0	9.85	8.55	12.26	23.98
				9	9.44	8.35	11.94	
				17	9.60	8.60	12.14	
			52T	37	12.95	11.65	15.36	
				41	12.60	11.48	15.09	
				44	12.70	11.73	15.25	
			106T	53	15.32	14.28	17.84	
				54	15.10	14.15	17.66	
				56	15.10	14.34	17.75	
			242T	61	17.38	16.63	20.03	
				62	17.26	16.68	19.99	
			SU	-	17.50	16.68	20.12	
	62	5310	26T	0	9.08	8.65	11.88	
				9	9.55	8.87	12.23	
				17	9.70	9.13	12.43	
			52T	37	12.57	11.65	15.14	
				41	12.68	11.93	15.33	
				44	12.78	12.11	15.47	
			106T	53	15.52	14.64	18.11	
				54	15.29	14.48	17.91	
				56	15.30	14.64	17.99	
			242T	61	17.08	16.63	19.87	
				62	16.96	16.64	19.81	
			SU	-	17.05	16.71	19.89	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-2C	102	5510	26T	0	9.68	8.91	12.32	23.96
				9	9.30	8.61	11.98	
				17	9.45	8.80	12.15	
			52T	37	12.59	12.02	15.32	
				41	12.23	11.72	14.99	
				44	12.40	11.86	15.15	
			106T	53	14.99	14.38	17.71	
				54	15.09	14.73	17.92	
				56	15.15	14.80	17.99	
			242T	61	17.03	16.90	19.98	
				62	16.95	16.83	19.90	
			SU	-	17.20	17.05	20.14	
	110	5550	26T	0	9.05	9.30	12.19	
				9	8.70	8.93	11.83	
				17	8.90	9.10	12.01	
			52T	37	12.18	12.35	15.28	
				41	11.85	12.03	14.95	
				44	11.95	12.13	15.05	
			106T	53	14.91	15.11	18.02	
				54	14.72	14.88	17.81	
				56	14.75	14.91	17.84	
			242T	61	16.50	17.26	19.91	
				62	16.30	17.06	19.71	
			SU	-	16.58	17.31	19.97	
	134	5670	26T	0	9.42	9.18	12.31	
				9	9.18	8.88	12.04	
				17	9.44	9.06	12.26	
			52T	37	12.44	12.16	15.31	
				41	12.18	11.88	15.04	
				44	12.37	12.03	15.21	
			106T	53	15.04	15.29	18.18	
				54	14.86	15.05	17.97	
				56	15.02	15.14	18.09	
			242T	61	16.91	17.30	20.12	
				62	16.90	17.21	20.07	
			SU	-	17.08	17.45	20.28	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

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Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-3	151	5755	26T	0	9.24	9.10	12.18	30.00
				9	9.06	8.80	11.94	
				17	9.38	8.98	12.19	
			52T	37	12.15	12.19	15.18	
				41	11.95	11.90	14.94	
				44	12.20	12.04	15.13	
			106T	53	15.03	15.20	18.13	
				54	14.80	15.02	17.92	
				56	15.03	15.09	18.07	
			242T	61	16.68	17.13	19.92	
				62	16.72	17.06	19.90	
			SU	-	16.80	17.35	20.09	
	159	5795	26T	0	9.28	9.59	12.45	
				9	9.12	9.26	12.20	
				17	9.38	9.47	12.44	
			52T	37	12.16	12.62	15.41	
				41	11.98	12.34	15.17	
				44	12.21	12.50	15.37	
			106T	53	14.99	15.63	18.33	
				54	14.86	15.44	18.17	
				56	15.04	15.51	18.29	
			242T	61	16.65	17.62	20.17	
				62	16.70	17.55	20.16	
			SU	-	16.87	17.80	20.37	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Direct. Gain [dBi]	Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2			
UNII-3&4	167 Overlap	5835	26T	0	9.48	9.04		12.28	30.00 or 30.00 e.i.r.p[Note]
				9	9.30	8.76		12.05	
				17	9.52	8.96		12.26	
			52T	37	12.44	12.09		15.28	
				41	12.24	11.84		15.05	
				44	12.44	12.02		15.25	
			106T	53	15.21	15.15		18.19	
				54	15.11	15.03		18.08	
				56	15.25	15.15		18.21	
			242T	61	16.99	17.16		20.09	
				62	16.98	17.13		20.07	
			SU	-	17.16	17.36		20.27	
UNII-4	175	5875	26T	0	9.46	9.13	-0.06	12.25	30.00 e.i.r.p.
				9	9.18	8.86	-0.06	11.97	
				17	9.44	9.11	-0.06	12.23	
			52T	37	12.39	12.17	-0.06	15.23	
				41	12.16	11.92	-0.06	14.99	
				44	12.35	12.13	-0.06	15.19	
			106T	53	15.16	15.17	-0.06	18.12	
				54	14.99	15.01	-0.06	17.95	
				56	15.15	15.18	-0.06	18.12	
			242T	61	16.90	17.14	-0.06	19.97	
				62	16.88	17.13	-0.06	19.96	
			SU	-	17.03	17.38	-0.06	20.16	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

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PSD Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]		Corr'd PSD [dBm/MHz]	PSD Limit [dBm/MHz]
					ANT1	ANT2		
UNII-1	38	5190	106T	53	7.54	6.86	10.22	11.00
				54	7.80	7.28	10.56	
				56	7.83	7.52	***10.69***	
			SU	-	3.62	3.40	6.52	
	46	5230	106T	53	8.11	6.59	10.43	
				54	7.89	6.49	10.26	
				56	7.97	6.65	10.37	
			SU	-	3.77	2.81	6.32	
UNII-2A	54	5270	106T	53	7.67	6.55	10.16	11.00
				54	7.48	6.32	9.95	
				56	7.53	6.52	10.07	
			SU	-	3.86	2.79	6.37	
	62	5310	106T	53	7.69	6.81	10.28	
				54	7.43	6.65	10.07	
				56	7.58	6.75	10.19	
			SU	-	3.27	2.75	6.03	
UNII-2C	102	5510	106T	53	7.44	6.78	10.13	11.00
				54	7.48	6.93	10.23	
				56	7.62	7.18	10.42	
			SU	-	3.64	3.21	6.44	
	110	5550	106T	53	7.25	7.21	10.24	
				54	7.47	7.10	10.30	
				56	7.58	7.19	10.40	
			SU	-	3.57	3.76	6.67	
	134	5670	106T	53	7.44	7.46	10.46	
				54	7.25	7.25	10.26	
				56	7.40	7.39	10.41	
			SU	-	3.54	3.71	6.64	

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm]		Direct. Gain [dBi]	Corr'd PSD [dBm]	PSD Limit [dBm]
					ANT1	ANT2			
UNII-3	151	5755	106T	53	4.36	4.55		7.46	30.00 /500kHz
				54	4.35	4.28		7.32	
				56	4.36	4.29		7.33	
			SU	-	0.35	0.48		3.42	
	159	5795	106T	53	4.56	4.83		7.71	
				54	4.20	4.79		7.51	
				56	4.24	4.81		7.54	
			SU	-	0.05	1.13		3.64	
UNII-3&4	167	5835	106T	53	4.90	4.63		7.78	30.00 /500kHz
				54	4.50	4.43		7.47	
				56(L)	4.67	4.65		7.67	
				56(U)	7.45	7.39	-0.06	10.37	14.00 /MHz e.i.r.p.
			SU(L)	-	0.47	0.70		3.59	30.00 /500kHz
			SU(U)	-	2.41	2.68	-0.06	5.50	14.00 /MHz e.i.r.p
UNII-4	175	5875	106T	53	7.51	7.61	-0.06	10.51	14.00 /MHz e.i.r.p
				54	7.34	7.40	-0.06	10.32	
				56	7.58	7.58	-0.06	10.53	
			SU	-	3.40	3.54	-0.06	6.42	

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

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10.2.9. 802.11ax HE80 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-1	42	5210	26T	0	9.62	8.00	11.90	23.98
				18	9.58	8.45	12.06	
				36	9.55	8.82	12.21	
			52T	37	12.73	11.07	14.99	
				45	12.81	11.49	15.21	
				52	12.78	11.76	15.31	
			106T	53	16.10	14.34	18.32	
				57	15.63	14.41	18.07	
				60	15.62	14.67	18.18	
			242T	61	17.74	16.56	20.20	
				62	17.53	16.58	20.09	
				64	17.53	16.91	20.24	
			484T	65	17.62	16.56	20.13	
				66	17.37	16.76	20.09	
			SU	-	17.78	16.92	20.38	
UNII-2A	58	5290	26T	0	9.43	8.33	11.93	23.98
				18	9.58	8.69	12.17	
				36	9.52	8.89	12.23	
			52T	37	12.54	11.43	15.03	
				45	12.64	11.68	15.20	
				52	12.56	11.96	15.28	
			106T	53	15.42	14.55	18.02	
				57	15.40	14.80	18.12	
				60	15.37	15.05	18.22	
			242T	61	17.13	16.44	19.81	
				62	17.31	16.87	20.11	
				64	17.13	16.99	20.07	
			484T	65	17.39	16.87	20.15	
				66	17.12	16.88	20.01	
			SU	-	17.54	17.10	20.34	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-2C	106	5530	26T	0	9.57	8.65	12.14	23.98
				18	9.45	8.80	12.15	
				36	9.51	8.79	12.18	
			52T	37	12.24	11.72	15.00	
				45	12.30	11.81	15.07	
				52	12.28	11.77	15.04	
			106T	53	15.13	14.58	17.87	
				57	14.99	14.74	17.88	
				60	15.05	14.76	17.92	
			242T	61	16.84	16.61	19.74	
				62	17.01	16.96	20.00	
				64	16.95	16.85	19.91	
			484T	65	17.12	17.03	20.09	
				66	16.92	16.83	19.89	
			SU	-	17.27	17.26	20.28	
	122	5610	26T	0	9.31	8.98	12.16	
				18	9.35	8.89	12.14	
				36	9.40	8.92	12.18	
			52T	37	12.23	11.78	15.02	
				45	12.25	11.78	15.03	
				52	12.31	11.79	15.07	
			106T	53	14.85	14.96	17.92	
				57	14.82	15.08	17.96	
				60	14.85	15.12	18.00	
			242T	61	17.15	17.30	20.24	
				62	16.91	17.05	19.99	
				64	16.88	16.95	19.93	
			484T	65	17.06	17.06	20.07	
				66	16.88	16.81	19.86	
			SU	-	17.27	17.36	20.33	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-3	155	5775	26T	0	8.95	8.90	11.94	30.00
				18	9.26	9.40	12.34	
				36	9.23	9.47	12.36	
			52T	37	12.15	12.60	15.39	
				45	12.07	12.36	15.23	
				52	12.34	12.45	15.41	
			106T	53	14.92	15.67	18.32	
				57	14.83	15.39	18.13	
				60	15.05	15.53	18.31	
			242T	61	16.68	17.82	20.30	
				62	16.67	17.65	20.20	
				64	16.85	17.63	20.27	
			484T	65	16.66	17.67	20.20	
				66	16.73	17.57	20.18	
			SU	-	16.80	18.00	20.45	
UNII-3&4	171	5855	26T	0	9.31	8.71	12.03	30.00 or 30.00 e.i.r.p[Note]
				18	9.44	8.80	12.14	
				36	9.31	8.53	11.95	
			52T	37	12.54	12.13	15.35	
				45	12.28	11.88	15.09	
				52	12.50	12.03	15.28	
			106T	53	15.30	15.29	18.31	
				57	15.12	15.01	18.08	
				60	15.25	15.15	18.21	
			242T	61	17.09	17.34	20.23	
				62	17.01	17.14	20.09	
				64	17.05	17.20	20.14	
			484T	65	17.04	17.22	20.14	
				66	17.04	17.17	20.12	
			SU	-	17.24	17.59	20.43	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

PSD Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]		Corr'd PSD [dBm/MHz]	PSD Limit [dBm/MHz]
					ANT1	ANT2		
UNII-1	42	5210	106T	53	8.26	6.25	10.38	11.00
				57	7.99	6.55	10.34	
				60	7.89	6.73	10.36	
			SU	-	1.21	0.03	3.67	
UNII-2A	58	5290	106T	53	7.66	6.82	10.27	11.00
				57	7.64	6.93	10.31	
				60	7.64	7.19	***10.43***	
			SU	-	0.74	0.47	3.62	
UNII-2C	106	5530	106T	53	7.38	7.08	10.25	11.00
				57	7.30	6.98	10.16	
				60	7.35	6.94	10.16	
			SU	-	0.66	0.40	3.54	
	122	5610	106T	53	7.00	7.09	10.06	
				57	7.38	7.26	10.33	
				60	7.12	7.20	10.17	
			SU	-	0.46	0.48	3.48	

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm]		Direct. Gain [dBi]	Corr'd PSD [dBm]	PSD Limit [dBm]
					ANT1	ANT2			
UNII-3	155	5775	106T	53	4.31	4.92		7.64	30.00 /500kHz
				57	4.12	4.43		7.29	
				60	4.73	4.57		7.66	
			SU	-	-2.95	-1.86		0.64	
UNII-3&4	171	5855	106T	53	4.87	4.60		7.75	30.00 /500kHz
				56(L)	4.39	4.42		7.41	
				56(U)	7.31	7.07	-0.06	10.14	
				57	7.39	7.28	-0.06	10.29	14.00 /MHz e.i.r.p.
				60	7.58	7.13	-0.06	10.31	
			SU(L)	-	-2.58	-2.28		0.58	30.00 /500kHz
			SU(U)	-	0.61	0.81	-0.06	3.66	14.00 /MHz e.i.r.p

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)

10.2.10. 802.11ax HE160 MODE

Output Power Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-1&2A	50	5250	26T	0(LB)	9.95	8.33	12.23	23.98
				0(UB)	9.36	8.44	11.93	
				36(BU)	9.08	8.65	11.88	
			52T	37(LB)	13.21	11.17	15.32	
				37(UB)	12.57	11.50	15.08	
				52(UB)	12.28	11.61	14.97	
			106T	53(LB)	16.08	14.14	18.23	
				53(UB)	15.39	14.28	17.88	
				60(UB)	15.13	14.49	17.83	
			242T	61(LB)	17.82	16.41	20.18	
				61(UB)	17.10	16.53	19.83	
				64(UB)	16.95	16.79	19.88	
			484T	65(LB)	17.68	16.79	20.27	
				65(UB)	17.02	16.54	19.80	
				66(UB)	16.91	16.75	19.84	
			996T	67(LB)	17.44	16.39	19.96	
				67(UB)	16.94	16.60	19.78	
			SU	-	17.63	16.91	20.30	
UNII-2C	114	5570	26T	0(LB)	8.97	9.08	12.04	23.98
				0(UB)	8.85	9.00	11.94	
				36(UB)	9.25	9.25	12.26	
			52T	37(LB)	12.00	12.00	15.01	
				37(UB)	11.80	11.96	14.89	
				52(UB)	12.19	12.18	15.20	
			106T	53(LB)	15.15	15.26	18.22	
				53(UB)	14.87	15.29	18.10	
				60(UB)	14.79	15.10	17.96	
			242T	61(LB)	16.92	17.60	20.28	
				61(UB)	16.65	17.44	20.07	
				64(UB)	16.66	17.33	20.02	
			484T	65(LB)	16.80	17.52	20.19	
				65(UB)	16.60	17.35	20.00	
				66(UB)	16.59	17.30	19.97	
			996T	67(LB)	16.55	17.27	19.94	
				67(UB)	16.53	17.31	19.95	
			SU	-	16.83	17.65	20.27	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Average Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
					ANT1	ANT2		
UNII-3&4	163	5815	26T	0(LB)	8.82	9.17	12.01	30.00 or 30.00 e.i.r.p[Note]
				0(UB)	8.82	8.76	11.80	
				36(UB)	9.04	8.89	11.98	
			52T	37(LB)	11.65	12.11	14.90	
				37(UB)	12.10	12.20	15.16	
				52(UB)	12.33	12.35	15.35	
			106T	53(LB)	14.84	15.62	18.26	
				53(UB)	14.81	15.22	18.03	
				60(UB)	15.03	15.41	18.23	
			242T	61(LB)	16.23	17.35	19.84	
				61(UB)	16.63	17.40	20.04	
				64(UB)	16.85	17.52	20.21	
			484T	65(LB)	16.60	17.74	20.22	
				65(UB)	16.61	17.35	20.01	
				66(UB)	16.79	17.45	20.14	
			996T	67(LB)	16.55	17.53	20.08	
				67(UB)	16.63	17.34	20.01	
			SU	-	16.74	17.70	20.26	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd Power = Ant1 Average Power + Ant2 Average Power(in case of UNII-4: added directional gain)

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PSD Results

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]		Corr'd PSD [dBm/MHz]	PSD Limit [dBm/MHz]
					ANT1	ANT2		
UNII-1&2A	50	5250	106T	53(LB)	8.21	6.26	10.36	11.00
				53(UB)	7.63	6.37	10.06	
				60(UB)	7.22	6.70	9.98	
			SU	-	-1.94	-2.71	0.70	
UNII-2C	114	5570	106T	53(LB)	7.29	7.44	***10.37***	11.00
				53(UB)	7.07	7.26	10.18	
				60(UB)	7.19	7.32	10.27	
			SU	-	-2.92	-2.03	0.56	

Band	Channel	Center Freq. [MHz]	Tones	RU offset	Meas PSD [dBm]		Direct. Gain [dBi]	Corr'd PSD [dBm]	PSD Limit [dBm]
					ANT1	ANT2			
UNII-3&4	171	5815	106T	53(LB)	4.20	4.58		7.41	30.00 /500kHz
				53(UB)	4.08	4.52		7.32	
				56(UB,L)	4.35	4.31		7.34	
				56(UB,U)	7.59	7.21	-0.06	10.36	14.00 /MHz e.i.r.p.
				60(U)	7.39	7.49	-0.06	10.39	
			SU(L)	-	-6.01	-5.24		-2.59	30.00 /500kHz
			SU(U)	-	-3.00	-2.70	-0.06	0.10	14.00 /MHz e.i.r.p

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB] (in case of UNII-4: added directional gain)
Note. LB=Lower band(Lower 996T),UB=Upper band(Upper 996T), L=Lower side, U=Upper side

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10.2.11. STRADDLE CHANNEL(802.11ax)

Output Power Results(SU)

Mode	Band	Center Freq. [MHz]	Meas Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2		
HE20	UNII-2C	5720	16.52	16.53	19.54	22.95
	UNII-3		11.09	11.04	14.07	30.00
HE40	UNII-2C	5710	16.99	17.24	20.13	23.98
	UNII-3		7.02	7.16	10.10	30.00
HE80	UNII-2C	5690	17.32	17.55	20.44	23.98
	UNII-3		3.60	3.68	6.65	30.00

* Calculation of Output Power : Corr'd Power = Ant1 meas. Power + Ant2 meas. Power + Duty CF [dB]

PSD Results(SU)

Mode	Band	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2			
HE20	UNII-2C	5720	6.19	6.61	0.00	9.41	11.00
	UNII-3		3.02	3.05	0.00	6.04	30.00/500kHz
HE40	UNII-2C	5710	3.63	3.92	0.00	6.78	11.00
	UNII-3		-0.56	-0.40	0.00	2.53	30.00/500kHz
HE80	UNII-2C	5690	0.86	0.71	0.00	3.79	11.00
	UNII-3		-3.88	-4.14	0.00	-0.99	30.00/500kHz

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

Output Power Results(RU)

Mode	Band	Center Freq. [MHz]	Meas Power [dBm]		Corr'd Power [dBm]	Limit [dBm]
			ANT1	ANT2		
HE20	UNII-2C	5720 (54RU)	12.02	11.89	14.96	22.68
	UNII-3		12.94	12.76	15.86	30.00
HE40	UNII-2C	5710 (56RU)	12.64	12.62	15.64	23.98
	UNII-3		12.27	12.17	15.23	30.00
HE80	UNII-2C	5690 (60RU)	12.40	12.12	15.27	23.98
	UNII-3		12.01	11.60	14.82	30.00

* Calculation of Output Power : Corr'd Power = Ant1 meas. Power + Ant2 meas. Power + Duty CF [dB]

PSD Results(RU)

Mode	Band	Center Freq. [MHz]	Meas PSD [dBm/MHz]		DCCF.	Corr'd PSD [dBm]	Limit [dBm/ MHz]
			ANT1	ANT2			
HE20	UNII-2C	5720 (54RU)	7.80	6.94	0.00	10.40	11.00
	UNII-3		5.00	4.39	0.00	7.72	30.00/500kHz
HE40	UNII-2C	5710 (56RU)	7.38	7.17	0.00	10.29	11.00
	UNII-3		4.81	4.50	0.00	7.67	30.00/500kHz
HE80	UNII-2C	5690 (60RU)	6.97	6.50	0.00	9.75	11.00
	UNII-3		4.37	3.80	0.00	7.11	30.00/500kHz

* Calculation of PSD: Corr'd PSD = Ant1 PSD + Ant2 PSD + Duty CF [dB]

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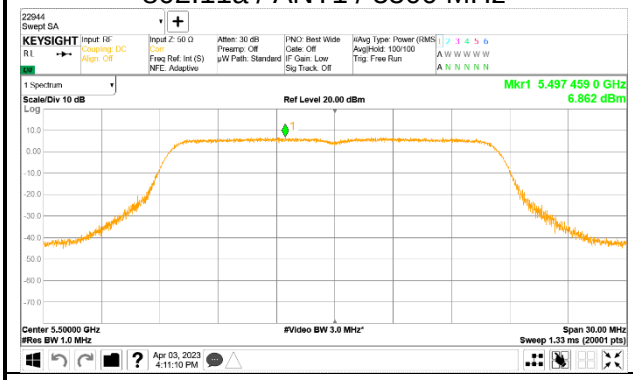
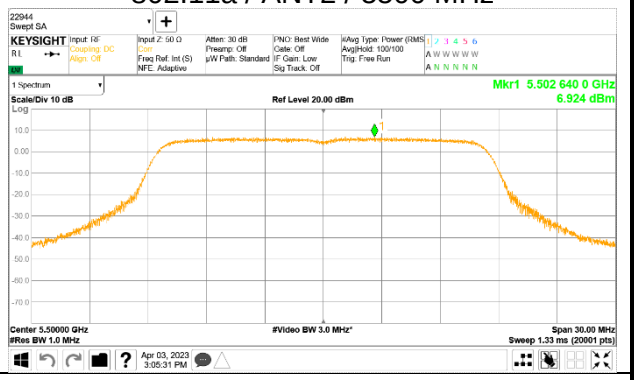
10.2.12. OUTPUT POWER AND PPSD PLOTS(WORST CASE)

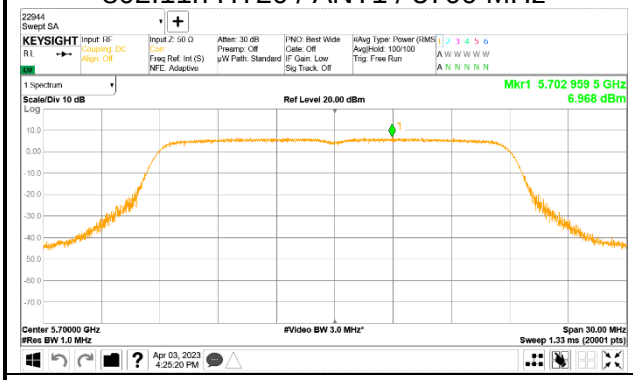
802.11a / ANT1 / 5500 MHz



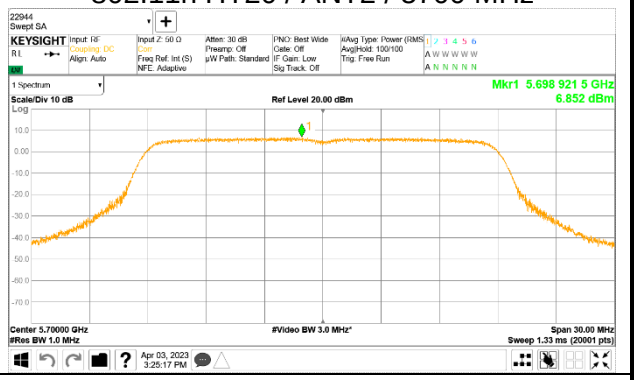
802.11a / ANT2 / 5500 MHz



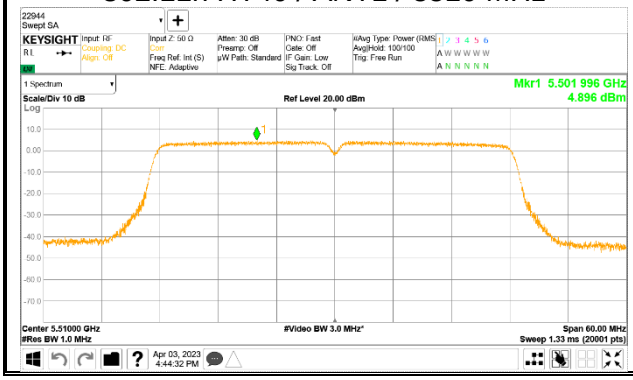
802.11n HT20 / ANT1 / 5700 MHz



802.11n HT20 / ANT2 / 5700 MHz



802.11n HT40 / ANT1 / 5510 MHz



802.11n HT40 / ANT2 / 5510 MHz

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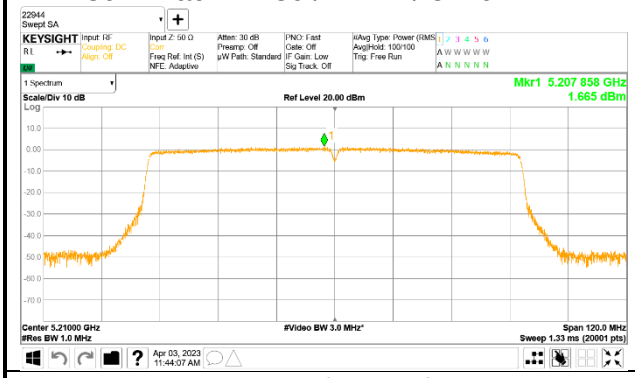
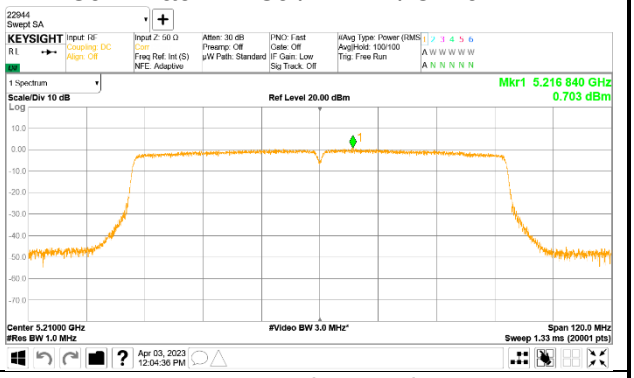
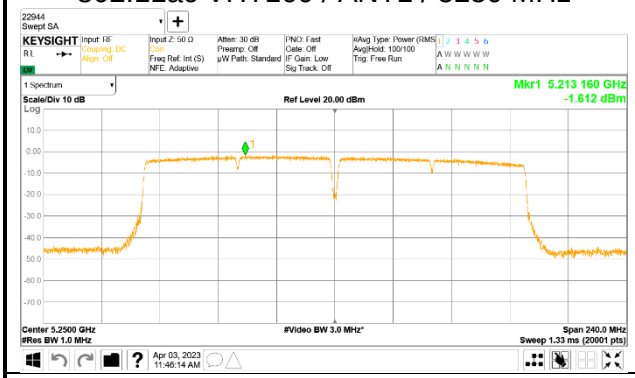
802.11ac VHT80 / ANT1 / 5210 MHz



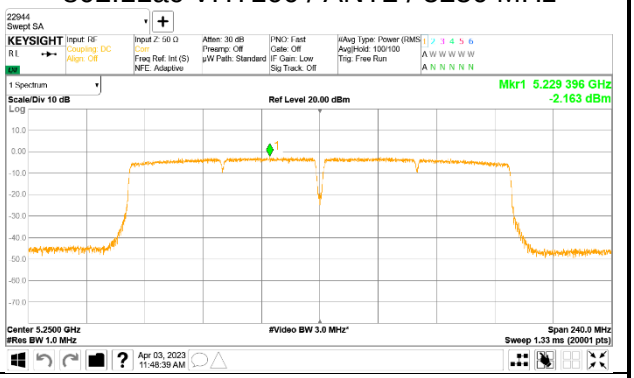
802.11ac VHT80 / ANT2 / 5210 MHz



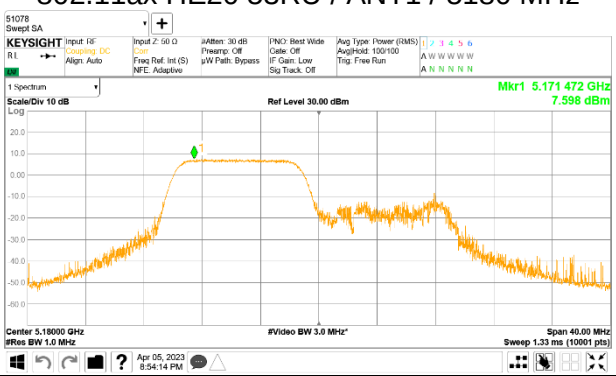
802.11ac VHT160 / ANT1 / 5250 MHz



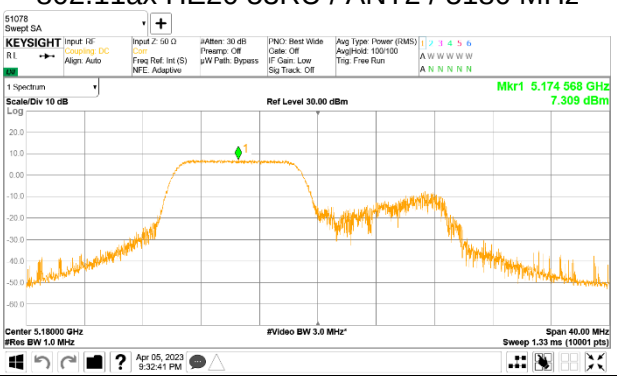
802.11ac VHT160 / ANT2 / 5250 MHz



802.11ax HE20 53RU / ANT1 / 5180 MHz



802.11ax HE20 53RU / ANT2 / 5180 MHz



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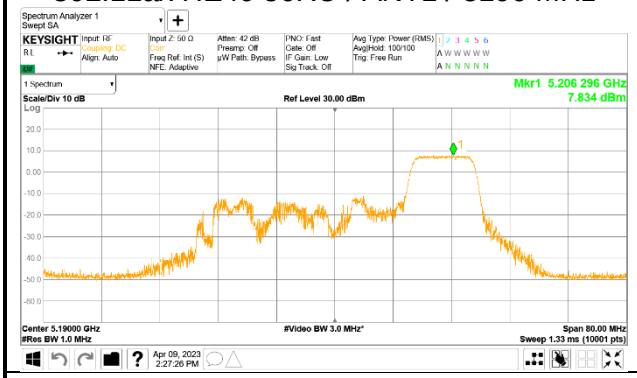
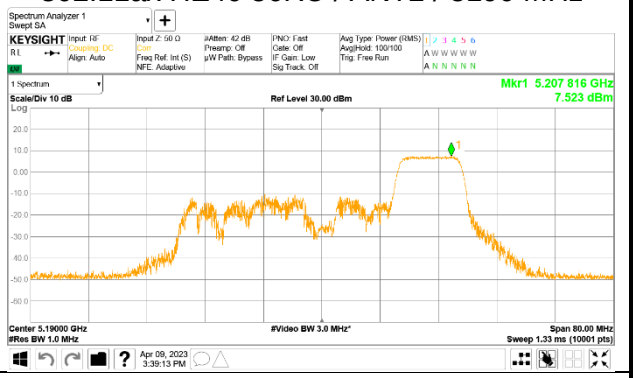
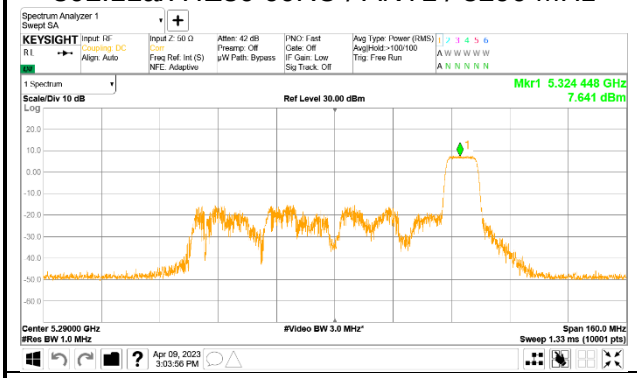
802.11ax HE40 56RU / ANT1 / 5190 MHz



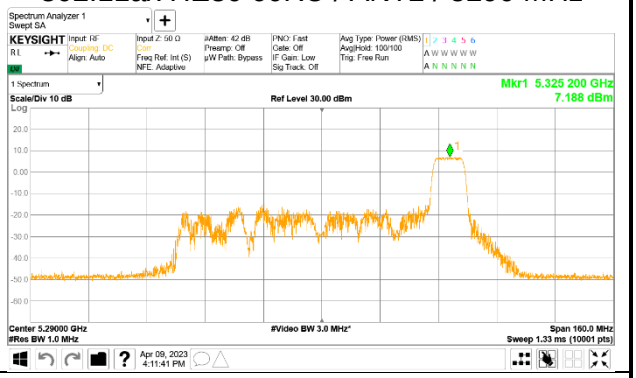
802.11ax HE40 56RU / ANT2 / 5190 MHz



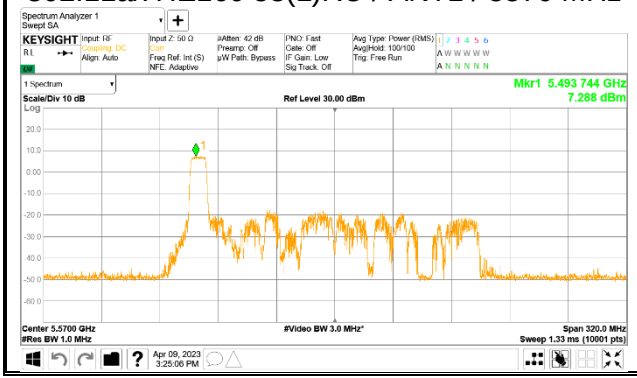
802.11ax HE80 60RU / ANT1 / 5290 MHz



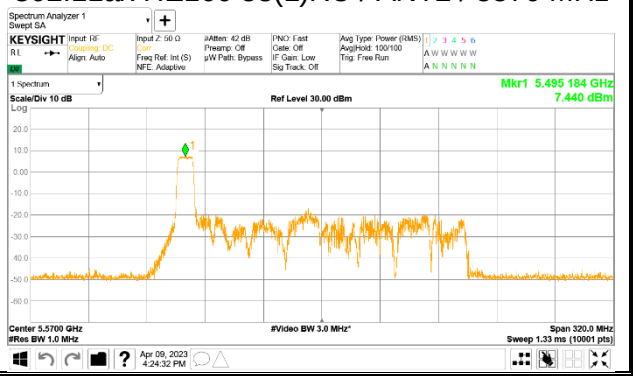
802.11ax HE80 60RU / ANT2 / 5290 MHz



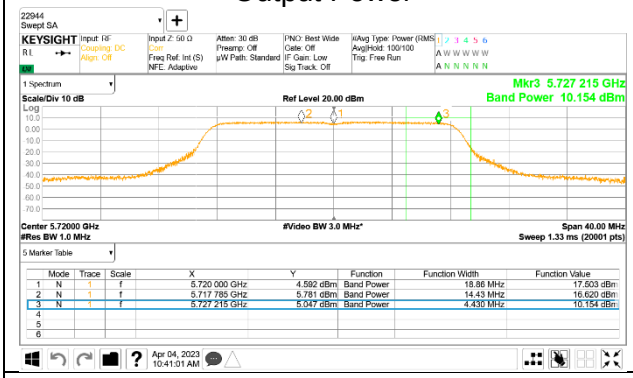
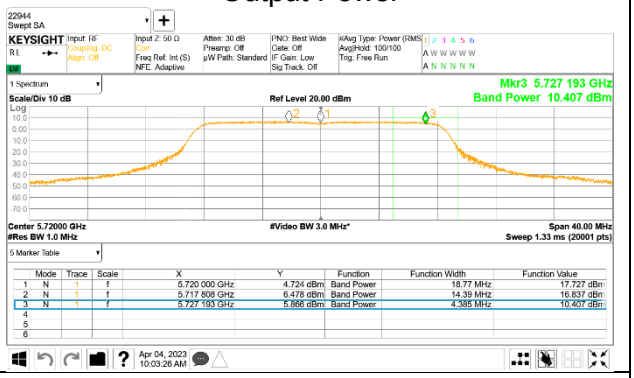
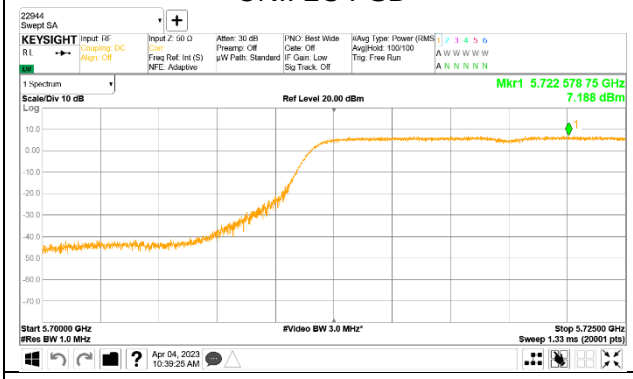
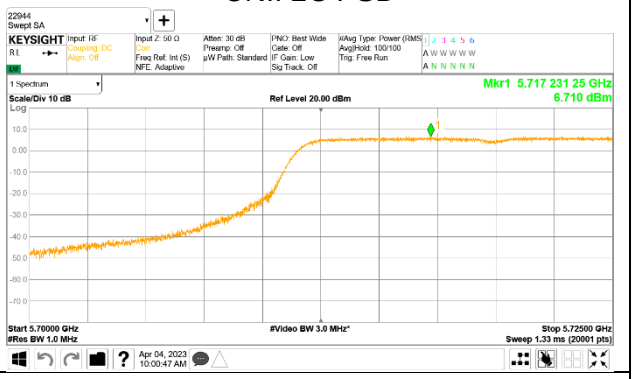
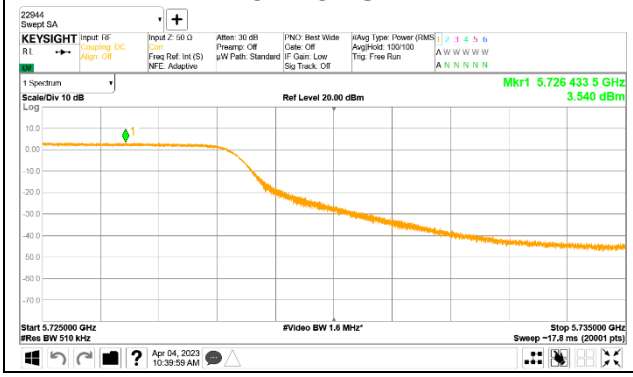
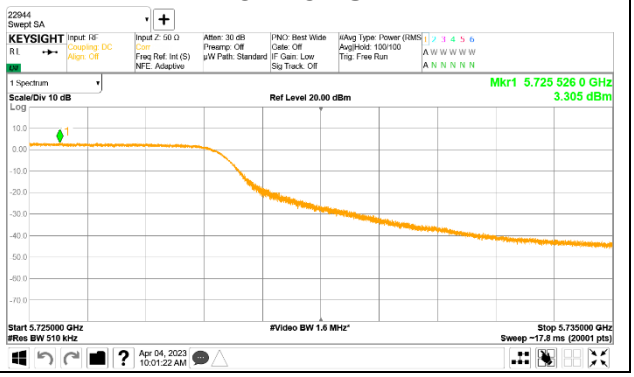
802.11ax HE160 53(L)RU / ANT1 / 5570 MHz



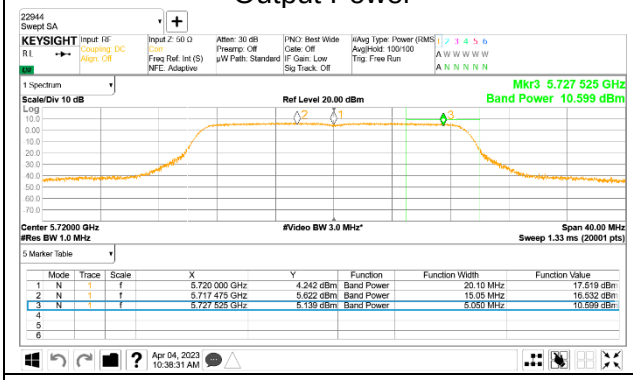
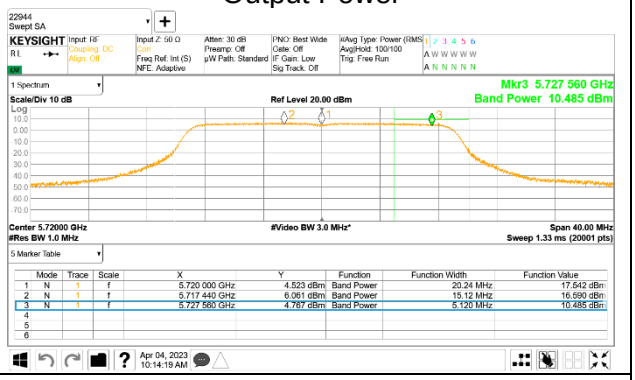
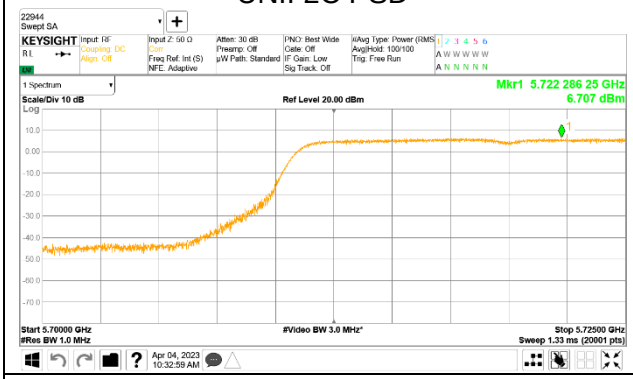
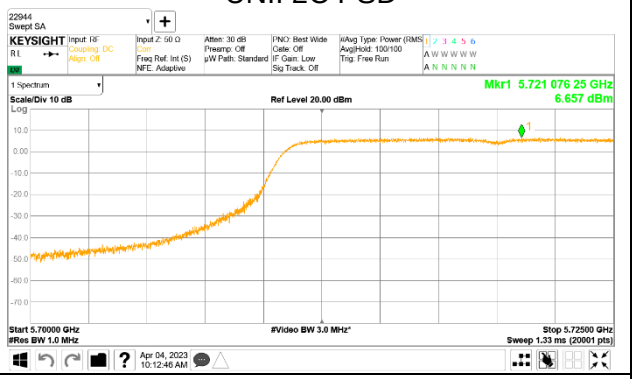
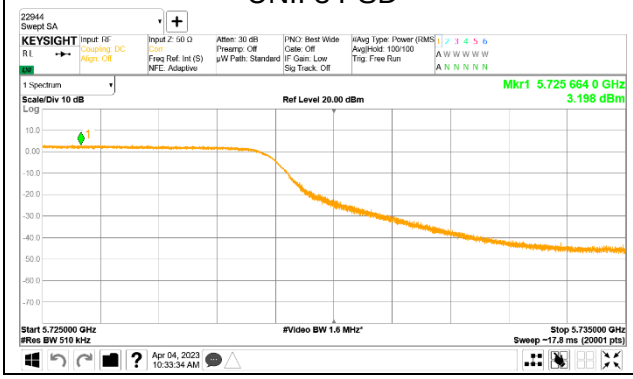
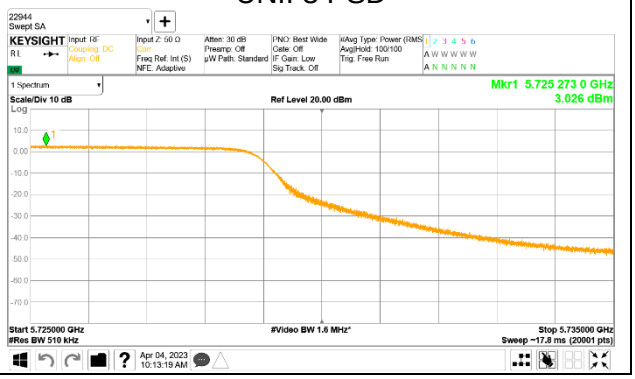
802.11ax HE160 53(L)RU / ANT2 / 5570 MHz



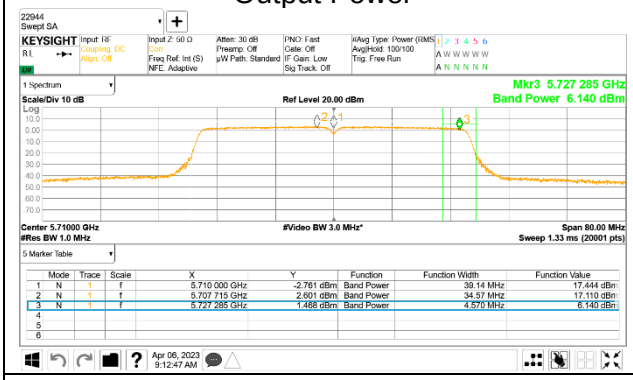
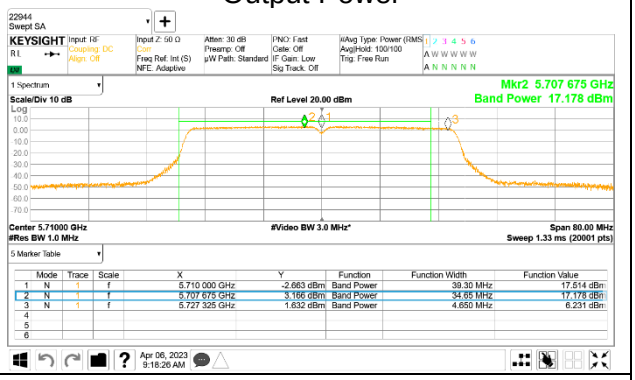
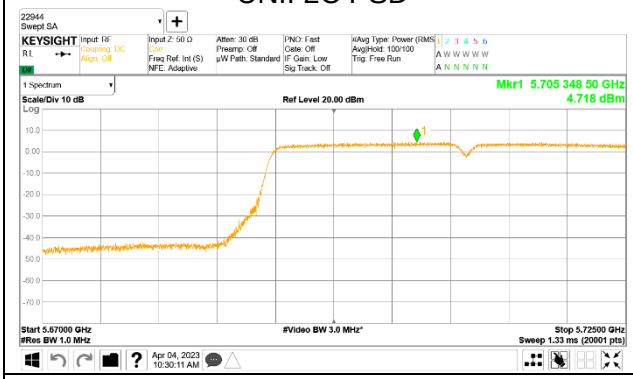
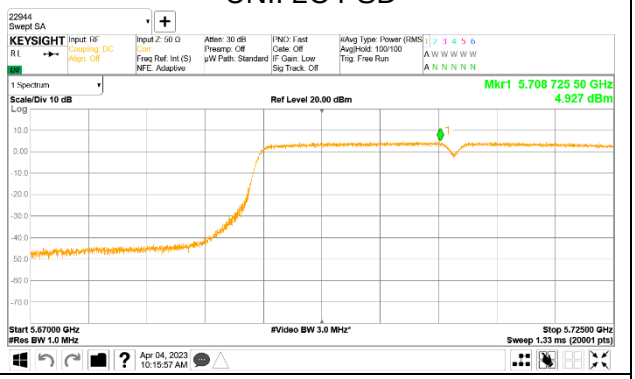
UNII Straddle Ch. IEEE 802.11a mode Output Power and PSD

ANT1	ANT2
Output Power	Output Power
	
UNII 2C PSD	UNII 2C PSD
	
UNII 3 PSD	UNII 3 PSD
	

UNII Straddle Ch. IEEE 802.11n HT20 mode Output Power and PSD

ANT1	ANT2
Output Power	Output Power
	
UNII 2C PSD	UNII 2C PSD
	
UNII 3 PSD	UNII 3 PSD
	

UNII Straddle Ch. IEEE 802.11n HT40 mode Output Power and PSD

ANT1	ANT2
Output Power	Output Power
	
UNII 2C PSD	UNII 2C PSD
	
UNII 3 PSD	UNII 3 PSD