CERTIFICATION TEST REPORT

Report Number. : 4790976555-E9V4

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-S921B/DS, SM-S921B
FCC ID	:	A3LSMS921B
EUT Description	:	GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC and WPT
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E 6 GHz LOW POWER DUAL CLIENT (6CD)

Date Of Issue:
2023-11-14

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ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2023-10-23	Initial issue	Jaejin Lee
V2	2023-10-25	Updated to address TCB's question	Jaejin Lee
V3	2023-10-26	Updated to address TCB's question	Jaejin Lee
V4	2023-11-14	Updated to address PAG comment	Jaejin Lee

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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 and WPT
MODEL NUMBER:	SM-S921B/DS, SM-S921B
SERIAL NUMBER:	R3CW80FKQ6B, R3CW80FKP9Y, R3CW80FKNYD(CONDUCTED); R3CW80FLMMK(RADIATED);
DATE TESTED:	2023-08-28 ~ 2023-10-23;

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
47 CFR 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:

Jaejin Lee
Suwon Lab Engineer
UL KOREA LTD.

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2. TEST METHODOLOGY

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

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 15.
3. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
4. KDB 987594 D02 U-NII 6 GHz EMC Measurement v02v01
5. KDB 662911 D01 v02r01
6. 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.

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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 and WPT. This test report addresses the DTS (WLAN) operational mode.

Representative model	Difference	Derivative model
		SM-S921B
SM-S921B/DS	Hardware	Different Sim Card tray
	Software	Same

The model SM-S921B/DS was used for final testing and is representative of the test results in this report.

WiFi operating mode

Frequency rage	Mode	ANT1	ANT2
6GHz (5955 MHz ~ 7115 MHz)	802.11a SISO	TX/RX	TX/RX
	802.11a MIMO	TX/RX	TX/RX
	802.11ax SISO	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**

Note. Simultaneous transmission with the Bluetooth and Wi-Fi were investigated, and no noticeable emission was found.

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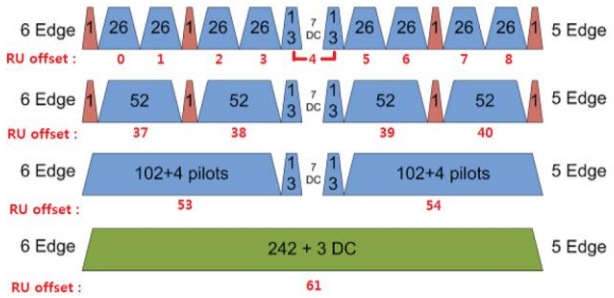
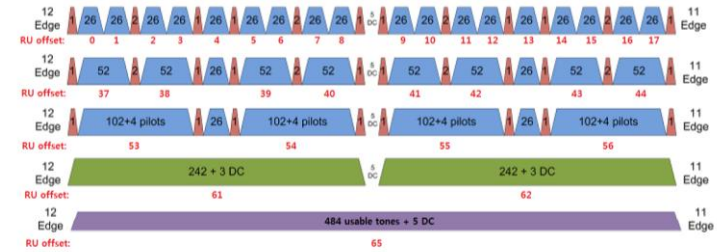
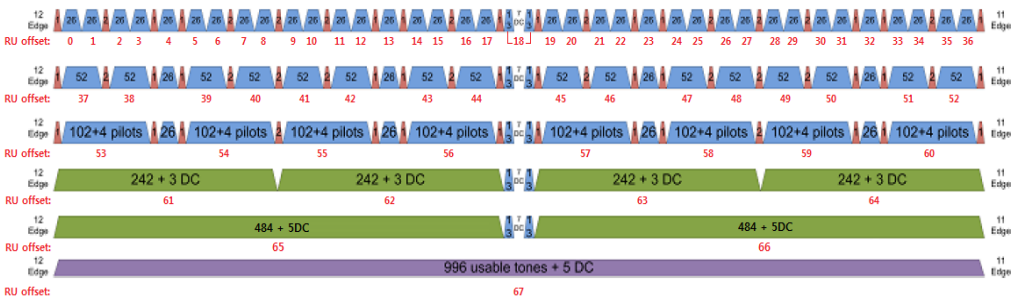
802.11ax RU allocations



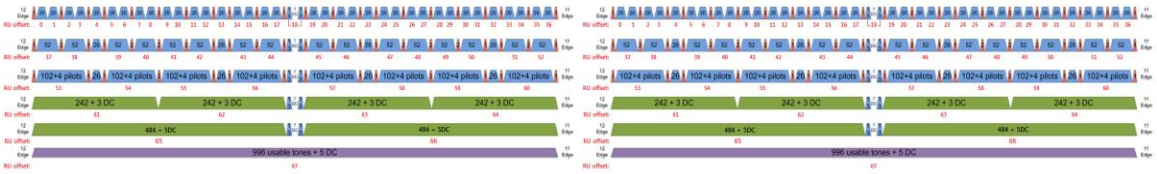
- HE 20 Mode -



- HE 40 Mode -



- HE 80 Mode -



- HE 160 Mode -

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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 1	61 / -
HE40	26T	0
		9
		17
	52T	37
		41
		44
	106T	53
		54
		56
	242T	61
		62
	484T / SU Note 1	63 / -
HE80 / HE160 Note2	26T	0
		18
		36
	52T	37
		45
		52
	106T	53
		57
		60
	242T	61
		62
		64
	484T	65
		66
	996T / SU Note1	67 / -

Note 1: 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.
Note 2: HE160 = HE80(Lower) + HE80(Upper)

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MAXIMUM OUTPUT POWER

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

- **Standard Power client mode(SP)**

Band	Frequency Range [MHz]	Mode	Output Power [dBm]	Output Power [mW]	e.i.r.p [dBm]	e.i.r.p [mW]
UNII-5	5955 – 6415	802.11a MIMO	11.09	12.85	8.71	7.43
		802.11ax(HE20) MIMO	11.32	13.55	8.94	7.83
		802.11ax(HE40) MIMO	11.31	13.52	8.93	7.82
		802.11ax(HE80) MIMO	11.34	13.61	8.96	7.87
		802.11ax(HE160) MIMO	11.29	13.46	8.91	7.78
UNII-7	6535 – 6875	802.11a MIMO	11.54	14.26	6.85	4.84
		802.11ax(HE20) MIMO	11.30	13.49	6.61	4.58
		802.11ax(HE40) MIMO	11.37	13.71	6.68	4.66
		802.11ax(HE80) MIMO	11.24	13.30	6.55	4.52
		802.11ax(HE160) MIMO	11.16	13.06	6.47	4.44

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- **Low Power client mode(LP)**

Band	Frequency Range [MHz]	Mode	Output Power [dBm]	Output Power [mW]	e.i.r.p [dBm]	e.i.r.p [mW]
UNII-5	5955 – 6415	802.11a MIMO	11.09	12.85	8.71	7.43
		802.11ax(HE20) MIMO	11.30	13.49	8.92	7.80
		802.11ax(HE40) MIMO	11.31	13.52	8.93	7.82
		802.11ax(HE80) MIMO	11.31	13.52	8.93	7.82
		802.11ax(HE160) MIMO	11.15	13.03	8.77	7.53
UNII-6	6435 – 6515	802.11a MIMO	10.88	12.25	6.85	4.84
		802.11ax(HE20) MIMO	11.56	14.32	7.53	5.66
		802.11ax(HE40) MIMO	11.26	13.37	7.23	5.28
		802.11ax(HE80) MIMO	10.96	12.47	6.93	4.93
		802.11ax(HE160) MIMO	11.00	12.59	6.97	4.98
UNII-7	6535 – 6875	802.11a MIMO	11.54	14.26	6.85	4.84
		802.11ax(HE20) MIMO	11.30	13.49	6.61	4.58
		802.11ax(HE40) MIMO	11.37	13.71	6.68	4.66
		802.11ax(HE80) MIMO	11.22	13.24	6.53	4.50
		802.11ax(HE160) MIMO	11.27	13.40	6.58	4.55
UNII-8	6895 - 7115	802.11a MIMO	11.27	13.40	6.79	4.78
		802.11ax(HE20) MIMO	11.52	14.19	7.04	5.06
		802.11ax(HE40) MIMO	11.39	13.77	6.91	4.91
		802.11ax(HE80) MIMO	11.22	13.24	6.74	4.72
		802.11ax(HE160) MIMO	10.73	11.83	6.25	4.22

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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 5 5925 – 6425	-4.25	-6.70	-2.38
UNII 6 6425 – 6525	-6.01	-8.21	-4.03
UNII 7 6525 – 6875	-7.22	-8.21	-4.69
UNII 8 6875 - 7125	-7.53	-7.45	-4.48

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.
Correlated Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi.
Sample calculation for this device with $N_{ANT} = 2$
Correlated Directional gain = 10 log[$(10^{-7.52/20} + 10^{-5.51/20})^2 / 2$] = -3.45 dBi

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

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5.3. WORST-CASE CONFIGURATION AND MODE

This device supports dual client mode: standard power client mode (SP) in UNII-5 & UNII-7, and low power indoor client mode (LP) in UNII-5 to UNII-8.

For radiated test, UNII-5 & UNII-7 were done against SP mode and UNII-6 & UNII-8 were tested with LP mode. The fundamentals of the EUT were investigated in three orthogonal orientations X, Y and Z on 2TX MIMO mode. It was determined that X orientation was the worst-case orientation for 2TX MIMO mode.

Both SISO and MIMO have been investigated and confirmed MIMO was the worst case set for radiated band edge and spurious emission tests.

Radiated and power line conducted tests were performed with EUT connected to AC power adapter as the worst-case configuration. Radiated harmonics spurious 1~18 GHz Low/Mid/High channels,18-40GHz were performed with the EUT set at the 2TX MIMO 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.

For Radiated spurious test, 802.11a 2TX mode has equal or higher output power and PSD results than other modes and therefore, it was set for full test. Spot-check was performed in 802.11ax 2TX RU modes.

For Radiated band-edge test, 802.11a 2TX, 802.11ax 2TX SU mode were fully tested except 802.11ax 2TX partial RU modes. 802.11ax SU mode resulted in radiated band-edge test is worse than partial RU modes; therefore, only SU mode was reported.

The output power and PSD for the 802.11ax mode were investigated between all different tones, with baseline investigation SU mode had the highest output power and RU 26T has the highest PSD readings; and therefore, conducted tests and radiated tests were performed on SU and/or RU 26T.
In band emission test was performed SU mode and low/high RU mode of worst-case tone.
Simultaneous transmission with Bluetooth and Wi-Fi were investigated, and no noticeable emission was found.

In case of 26dB Bandwidth, it was tested at the SU Mode for each bandwidth. (Worst case)

Based on the baseline scan, the worst-case data rates were:
802.11a mode: 6 Mbps 2Tx
802.11ax HE20 mode: MCS0 2Tx
802.11ax HE40 mode: MCS0 2Tx
802.11ax HE80 mode: MCS0 2Tx
802.11ax HE160 mode: MCS0 2Tx

This device does not support channel puncturing and does not support bandwidth reduction.

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5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37T53J8459SEA	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02111A	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 in hidden menu exercised the EUT to enable NII mode.

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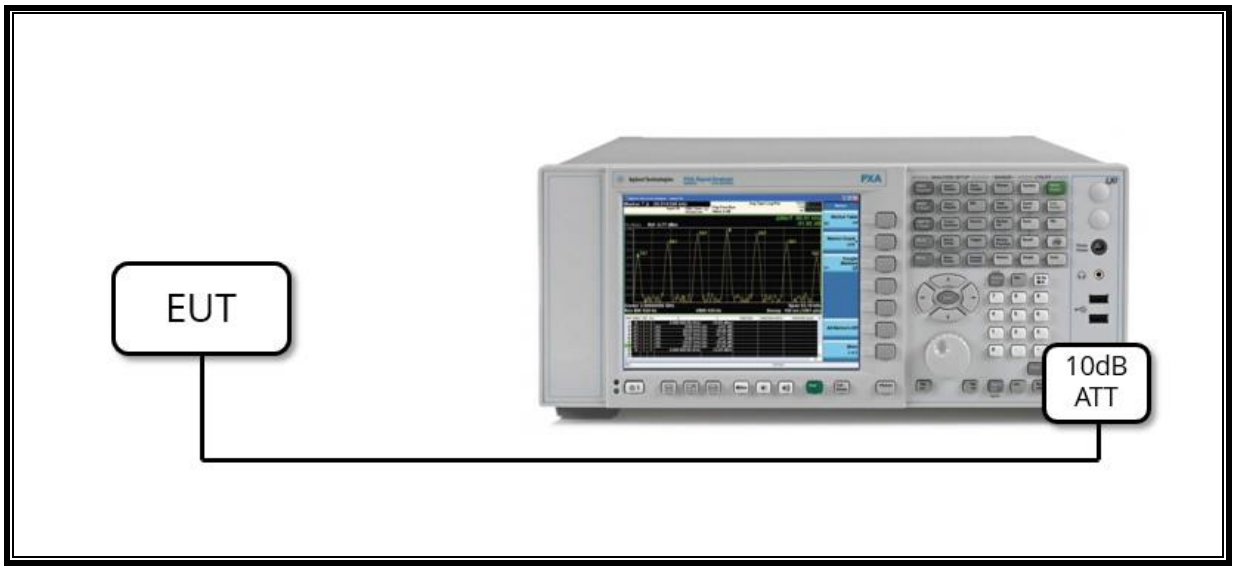
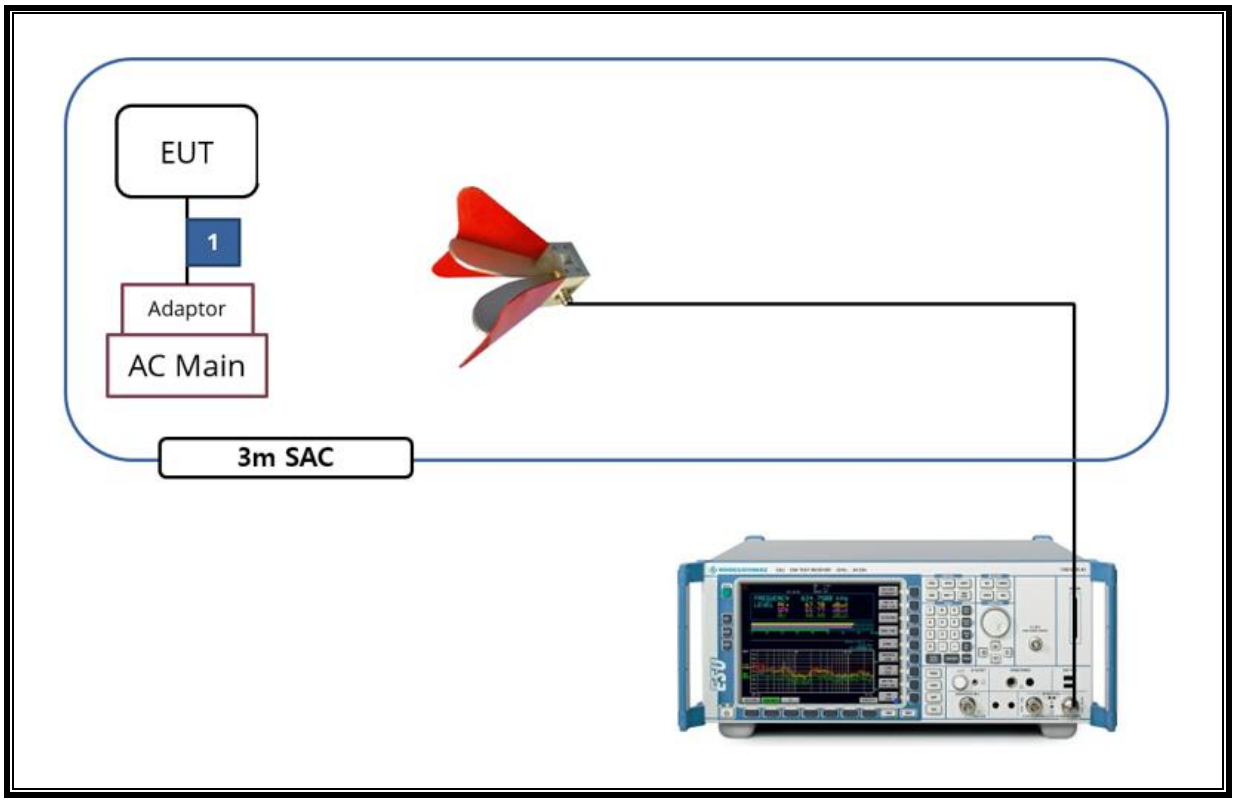
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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	749	2024-08-15
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	2024-07-25
Preamplifier	ETS	3116C-PA	00168841	2024-07-25
Preamplifier, 1000 MHz	Sonoma	310N	341282	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2024-07-25
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2024-07-24
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2024-07-25
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2024-07-24
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	2024-07-23
Average Power Sensor	Agilent / HP	U2000	MY54260010	2024-07-24
Attenuator	PASTERNACK	PE7087-10	A001	2024-07-23
Attenuator	PASTERNACK	PE7087-10	A008	2024-07-27
Attenuator	PASTERNACK	PE7004-10	2	2024-07-23
Attenuator	PASTERNACK	PE7087-10	A009	2024-07-24
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2024-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2024-07-24
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2024-07-23
Notch Filter	Micro-Tronics	BRM50702-02	G037	2024-07-24
Notch Filter	Micro-Tronics	BRM50716-2	006	2024-07-24
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	2024-07-24
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	2024-07-24
High Pass Filter 7.2 GHz	Micro-Tronics	HPM50107	G063	2024-07-24
LISN	R&S	ENV-216	101836	2024-07-23
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
Termination	WEINSCHEL	M1406A	T09	2024-07-23
Attenuator	WEINSCHEL	WA76-30-21	A015	2024-07-24
Vector SG	R&S	SMW200A	110251	2024-08-26

UL Software			
Description	**Manufacturer**	**Model**	**Version**
Radiated software	UL	UL EMC	Ver 9.5
AC Line Conducted software	UL	UL EMC	Ver 9.5

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7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.407(a)(10)	26dB Bandwidth	The maximum transmitter channel bandwidth for U-NII device in the 5.925 – 7.125 GHz band is 320 MHz	Condcuted	Complies
2.1046 15.407(a)(1)	TX Cond. Power	N/A		Complies
15.407(a)(8)	Maximum Power Spectral Density	< -1dBm/MHz e.i.r.p		Complies
15.407(a)(8)	Maximum Radiated Output Power	< 24 dBm over the frequency band of operation		Complies
15.407(b)(7)	In-band Emissions	EUT must meet the limits detailed in 15.407(b)(7)		Complies
15.407(d)(6)	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty		Complies
15.407(b)(9)	AC Power Line conducted emissions	< FCC 15.207 lmits		Complies
15.407(b)(6)	Undesirable Emissions	< -27 dBm/MHz e.i.r.p outside of the 5.925 – 7.125 GHz Band	Radiated	Complies
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Complies

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8. MEASUREMENT METHODS

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

26dB Emission BW : KDB 789033 D02 v02r01, Section II.C / KDB 987594 D02

99% Occupied BW : KDB 789033 D02 v02r01, Section II.D / KDB 987594 D02

Conducted Output Power : KDB 789033 D02 v02r01, Section II.E.3.a (Method PM) / KDB 987594 D02

Power Spectral Density : KDB 789033 D02 v02r01, Section II.F / KDB 987594 D02

In-Band Emissions : KDB 987594 D02

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	2.927	0.97	96.62	0.15

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	2.614	0.993	99.273	0.00
		SU	5.450	5.470	0.996	99.634	0.00
802.11ax HE40	MIMO	26T	2.594	2.614	0.992	99.235	0.00
		SU	5.450	5.469	0.997	99.653	0.00
802.11ax HE80	MIMO	26T	2.593	2.614	0.992	99.197	0.00
		SU	5.451	5.471	0.996	99.634	0.00
802.11ax HE160	MIMO	26T	2.592	2.611	0.993	99.272	0.00
		SU	5.450	5.470	0.996	99.634	0.00

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

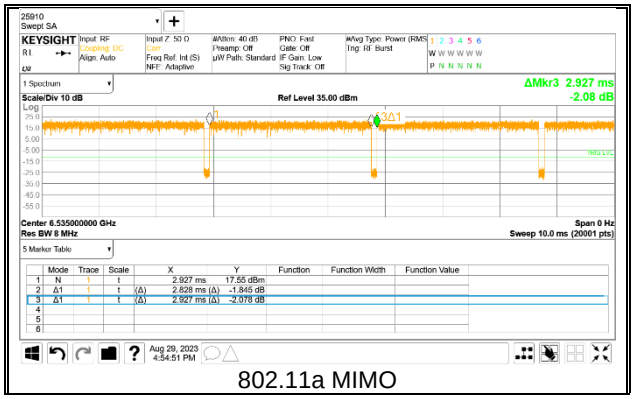
LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 D02 v02r01 Zero-Span Spectrum Analyzer Method.

DUTY CYCLE PLOTS



802.11a MIMO

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9.2. 26 dB BANDWIDTH

LIMITS

FCC §15.407 (a) (10)
The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

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

Note. As a result of 99% bandwidth test, the bandwidth not interfere each band.

WORST CASE TEST PLOTS

- Please refer to the next page

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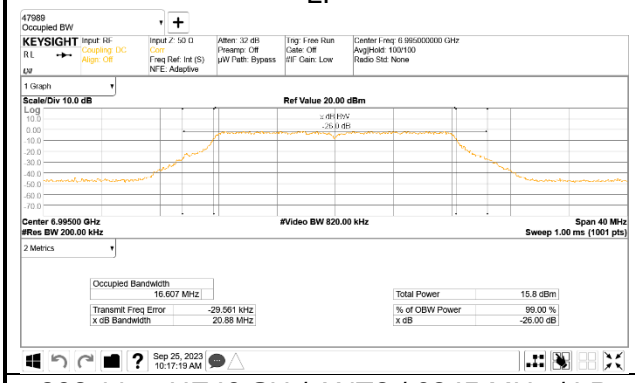
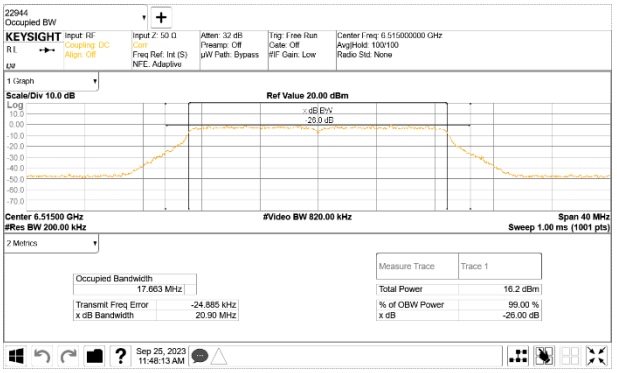
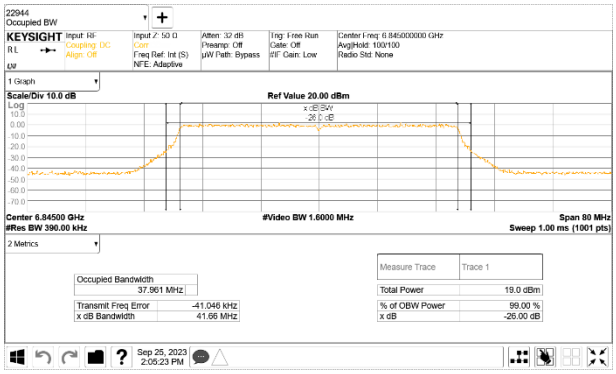
802.11a / ANT1 / 6995 MHz / LP



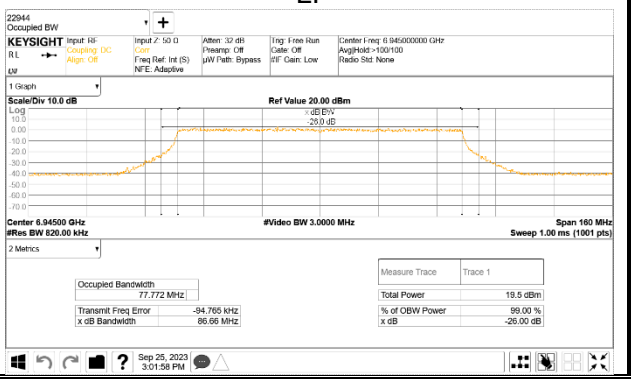
802.11ax HE20 SU / ANT2 / 6515 MHz / LP



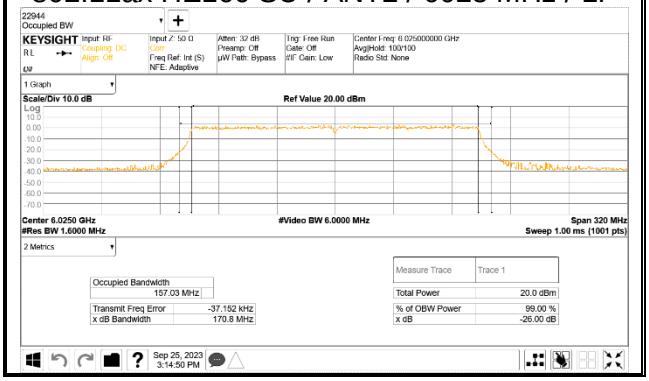
802.11ax HE40 SU / ANT2 / 6845 MHz / LP



802.11ax HE80 SU / ANT2 / 6945 MHz / LP



802.11ax HE160 SU / ANT2 / 6025 MHz / LP



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9.2.1. 802.11a

Band	Ch.	Center Freq. [MHz]	26 dB BW [MHz]				Worst	99% BW [MHz]			
			SP		LP			SP		LP	
			ANT1	ANT2	ANT1	ANT2		ANT1	ANT2	ANT1	ANT2
UNII-5	1	5955	21.11	21.07	21.11	21.07	20.94	16.583	16.591	16.583	16.591
	45	6175	21.27	21.23	21.27	21.23		16.608	16.591	16.608	16.591
	93	6415	20.94	21.12	20.94	21.12		16.584	16.573	16.584	16.573
UNII-6	97	6435			20.94	21.12	20.94			16.606	16.595
	105	6475			21.15	21.17				16.615	16.572
	113	6515			21.10	21.06				16.613	16.588
UNII-7	117	6535	21.28	21.11	21.28	21.11	20.92	16.608	16.579	16.608	16.579
	149	6695	20.92	21.29	20.92	21.29		16.612	16.579	16.612	16.579
	181	6855	20.98	21.55				16.601	19.054		
	185	6875			20.93	21.25				16.603	16.587
UNII-8	189	6895			20.94	21.27	**20.88**			16.584	16.585
	209	6995			20.88	21.14				16.607	16.594
	233	7115			20.92	21.38				16.602	16.583

9.2.2. 802.11ax HE20

Band	Ch.	Center Freq. [MHz]	26 dB BW [MHz]				Worst	99% BW [MHz]			
			SP		LP			SP		LP	
			ANT1	ANT2	ANT1	ANT2		ANT1	ANT2	ANT1	ANT2
UNII-5	1	5955	21.46	21.54	21.46	21.54	21.33	19.052	19.065	19.052	19.065
	45	6175	21.65	21.62	21.65	21.62		19.060	19.047	19.060	19.047
	93	6415	21.69	21.52	21.69	21.52		19.034	19.068	19.034	19.068
UNII-6	97	6435			21.79	21.41	**20.90**			19.035	19.060
	105	6475			21.81	21.37				19.052	19.090
	113	6515			21.69	**20.90**				19.037	17.663
UNII-7	117	6535	21.81	21.47	21.81	21.47	21.38	19.070	19.060	19.070	19.060
	149	6695	21.74	21.68	21.74	21.68		19.029	19.065	19.029	19.065
	181	6855	21.41	21.26				19.050	19.045		
	185	6875			21.61	21.38				19.054	19.037
UNII-8	189	6895			21.51	21.31	21.31			19.060	19.064
	209	6995			21.65	21.73				19.035	19.059
	233	7115			21.52	21.60				19.054	19.048

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9.2.3. 802.11ax HE40

Band	Ch.	Center Freq. [MHz]	26 dB BW [MHz]				Worst	99% BW [MHz]			
			SP		LP			SP		LP	
			ANT1	ANT2	ANT1	ANT2		ANT1	ANT2	ANT1	ANT2
UNII-5	3	5965	42.37	41.97	42.37	41.97	41.92	37.956	37.976	37.956	37.976
	43	6165	41.96	42.40	41.96	42.40		37.954	37.972	37.954	37.972
	91	6405	41.99	42.15	41.99	42.15		37.958	37.943	37.958	37.943
UNII-6	99	6445			42.27	41.88	41.88			37.943	37.954
	115	6525			42.26	42.25				37.939	37.953
UNII-7	123	6565	41.99	41.74	41.99	41.74	**41.66**	37.940	37.934	37.940	37.934
	147	6685	42.10	42.19	42.10	42.19		37.938	37.959	37.938	37.959
	179	6845	41.70	**41.66**	41.70	**41.66**		37.974	37.961	37.974	37.961
UNII-8	187	6885			42.57	41.76	41.69			37.960	37.972
	203	6965			42.22	42.13				37.935	37.964
	227	7085			42.33	41.69				37.920	37.972

9.2.4. 802.11ax HE80

Band	Ch.	Center Freq. [MHz]	26 dB BW [MHz]				Worst	99% BW [MHz]			
			SP		LP			SP		LP	
			ANT1	ANT2	ANT1	ANT2		ANT1	ANT2	ANT1	ANT2
UNII-5	7	5985	88.96	87.17	88.96	87.17	86.96	77.820	77.854	77.820	77.854
	39	6145	88.40	87.65	88.40	87.65		77.837	77.727	77.837	77.727
	87	6385	88.92	86.96	88.92	86.96		77.836	77.804	77.836	77.804
UNII-6	103	6465			87.98	87.45	87.45			77.845	77.789
UNII-7	119	6545			89.55	87.55	86.72			77.840	77.672
	135	6625	86.72	87.56				77.815	77.790		
	151	6705	89.72	87.29	89.72	87.29		77.811	77.779	77.811	77.779
	167	6785	87.90	87.33				77.776	77.791		
	183	6865			88.33	87.99				77.806	77.789
UNII-8	199	6945			88.88	**86.66**	**86.66**			77.824	77.772
	215	7025			88.45	88.78				77.796	77.760

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9.2.5. 802.11ax HE160

Band	Ch.	Center Freq. [MHz]	26 dB BW [MHz]				Worst	99% BW [MHz]			
			SP		LP			SP		LP	
			ANT1	ANT2	ANT1	ANT2		ANT1	ANT2	ANT1	ANT2
UNII-5	15	6025	172.9	**170.8**	172.9	**170.8**	**170.8**	157.36	157.03	157.36	157.03
	47	6185	174.7	172.7	174.7	172.7		157.23	157.23	157.23	157.23
	79	6345	172.8	171.1	172.8	171.1		157.21	156.94	157.21	156.94
UNII-6	111	6505			174.2	171.9	171.9			157.37	156.95
UNII-7	143	6665	173.3	172.2	173.3	172.2	171.9	157.19	156.91	157.19	156.91
	175	6825			172.7	171.9				157.31	157.02
UNII-8	207	6985			173.6	172.6	172.6			157.47	157.17

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10. ANTENNA PORT TEST RESULTS

10.1. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (7) and (8)

For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925–6.425 GHz and 6.525–6.875 GHz bands, the maximum power spectral density must not exceed 17 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 and the device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.

For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed −1 dBm e.i.r.p. in any 1megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

TEST PROCEDURE

KDB 789033 Method PM is used for output power.

KDB 789033 Method SA-2 is used for only power of PPSD. RBW set to 1MHz, the VBW >= 3 x RBW, RMS detector and trace averaging. Peak marker value of the spectrum is used for PSD.

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 5 5925 – 6425	-4.25	-6.70	-2.38
UNII 6 6425 – 6525	-6.01	-8.21	-4.03
UNII 7 6525 – 6875	-7.22	-8.21	-4.69
UNII 8 6875 - 7125	-7.53	-7.45	-4.48

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10.1.1. 802.11a MODE

Output Power Results

- SP

Band	Channel	Freq. [MHz]	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
			ANT1	ANT2	MIMO			
UNII-5	1	5955	7.52	8.58	11.09	-2.38	8.71	30.00
	45	6175	7.47	8.37	10.95	-2.38	8.57	
	93	6415	7.74	8.08	10.92	-2.38	8.54	
UNII-7	117	6535	8.63	8.36	11.51	-4.69	6.82	
	149	6695	8.59	8.47	11.54	-4.69	6.85	
	181	6855	8.67	8.30	11.50	-4.69	6.81	

- LP

Band	Channel	Freq. [MHz]	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
			ANT1	ANT2	MIMO			
UNII-5	1	5955	7.52	8.58	11.09	-2.38	8.71	24.00
	45	6175	7.47	8.37	10.95	-2.38	8.57	
	93	6415	7.74	8.08	10.92	-2.38	8.54	
UNII-6	97	6435	7.62	7.93	10.79	-4.03	6.76	
	105	6475	7.79	7.74	10.78	-4.03	6.75	
	113	6515	7.99	7.75	10.88	-4.03	6.85	
UNII-7	117	6535	8.63	8.36	11.51	-4.69	6.82	
	149	6695	8.59	8.47	11.54	-4.69	6.85	
	185	6875	8.48	8.28	11.39	-4.69	6.70	
UNII-8	189	6895	8.09	7.87	10.99	-4.48	6.51	
	209	6995	8.27	8.25	11.27	-4.48	6.79	
	233	7115	8.46	7.48	11.01	-4.48	6.53	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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PSD Results

- SP

Band	Channel	Freq. [MHz]	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
			ANT1	ANT2	MIMO				
UNII-5	1	5955	-2.385	-2.163	0.738	0.15	-2.38	**-1.492**	17.00
	45	6175	-3.713	-2.685	-0.158	0.15	-2.38	-2.388	
	93	6415	-3.333	-2.758	-0.026	0.15	-2.38	-2.256	
UNII-7	117	6535	-2.392	-2.405	0.612	0.15	-4.69	-3.928	
	149	6695	-2.323	-2.487	0.606	0.15	-4.69	-3.934	
	181	6855	-2.334	-2.192	0.748	0.15	-4.69	-3.792	

- LP

Band	Channel	Freq. [MHz]	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
			ANT1	ANT2	MIMO				
UNII-5	1	5955	-2.385	-2.163	0.738	0.15	-2.38	**-1.492**	-1.00
	45	6175	-3.713	-2.685	-0.158	0.15	-2.38	-2.388	
	93	6415	-3.333	-2.758	-0.026	0.15	-2.38	-2.256	
UNII-6	97	6435	-3.718	-2.878	-0.267	0.15	-4.03	-4.147	
	105	6475	-3.447	-3.255	-0.340	0.15	-4.03	-4.220	
	113	6515	-3.085	-3.149	-0.107	0.15	-4.03	-3.987	
UNII-7	117	6535	-2.392	-2.405	0.612	0.15	-4.69	-3.928	
	149	6695	-2.323	-2.487	0.606	0.15	-4.69	-3.934	
	185	6875	-2.912	-2.438	0.342	0.15	-4.69	-4.198	
UNII-8	189	6895	-3.125	-3.202	-0.153	0.15	-4.48	-4.483	
	209	6995	-3.430	-2.988	-0.193	0.15	-4.48	-4.523	
	233	7115	-2.851	-3.087	0.043	0.15	-4.48	-4.287	

Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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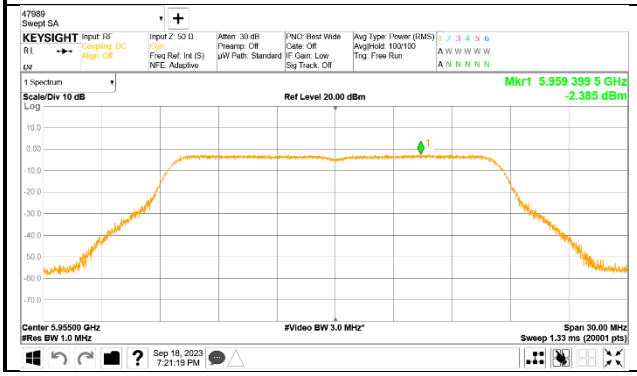
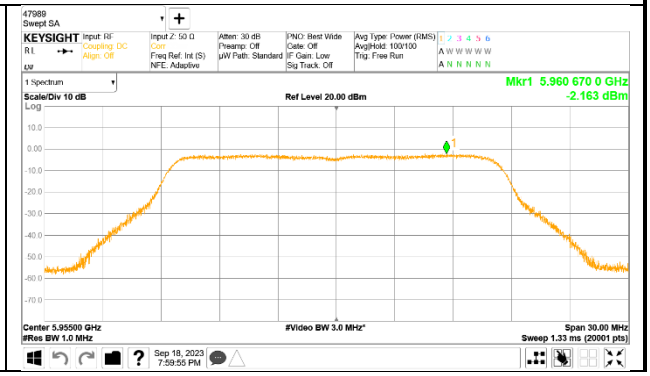
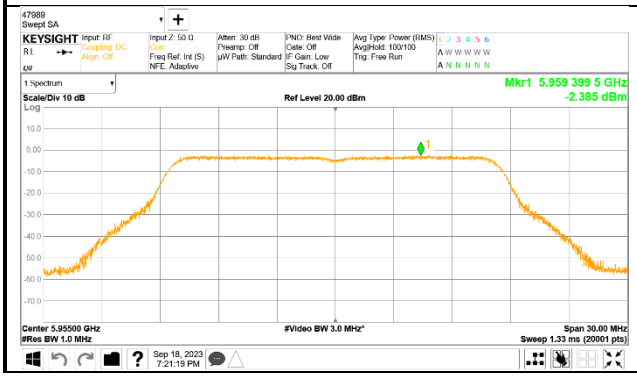
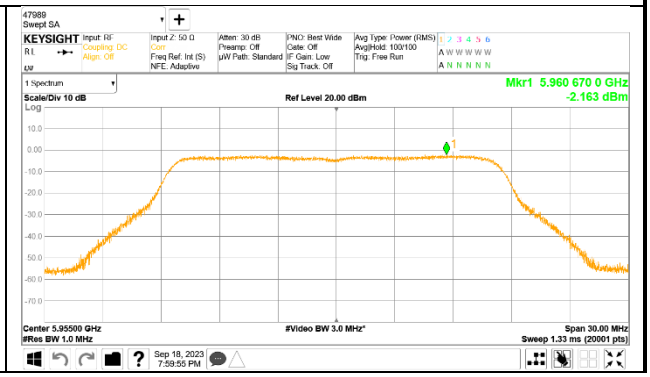
PPSD PLOTS (WORST CASE)

- SP

ANT1	ANT2
802.11a/ U-NII-5 / 5955 MHz	
	

- LP

ANT1	ANT2
802.11a/ U-NII-5 / 5955 MHz	
	

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10.1.2. 802.11ax HE20 MODE

Output Power Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	1	5955	26T	0	8.11	8.05	11.09	-2.38	8.71	30.00
				4	8.17	8.13	11.16	-2.38	8.78	
				8	8.03	7.84	10.95	-2.38	8.57	
			SU	-	7.93	8.62	11.30	-2.38	8.92	
	45	6175	26T	0	8.48	8.14	11.32	-2.38	8.94	
				4	8.10	7.94	11.03	-2.38	8.65	
				8	7.98	7.73	10.87	-2.38	8.49	
			SU	-	7.70	8.65	11.21	-2.38	8.83	
	93	6415	26T	0	8.48	7.94	11.23	-2.38	8.85	
				4	8.46	8.04	11.27	-2.38	8.89	
				8	8.53	7.80	11.19	-2.38	8.81	
			SU	-	8.01	8.36	11.20	-2.38	8.82	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	1	5955	26T	0	-1.78	-1.55	1.35	-2.38	-1.03	24.00
				4	-1.60	-1.81	1.31	-2.38	-1.07	
				8	-1.22	-1.48	1.66	-2.38	-0.72	
			SU	-	7.93	8.62	11.30	-2.38	8.92	
	45	6175	26T	0	-2.23	-1.20	1.33	-2.38	-1.05	
				4	-2.12	-1.15	1.40	-2.38	-0.98	
				8	-2.34	-1.46	1.13	-2.38	-1.25	
			SU	-	7.70	8.65	11.21	-2.38	8.83	
	93	6415	26T	0	-1.37	-1.14	1.76	-2.38	-0.62	
				4	-1.79	-1.53	1.35	-2.38	-1.03	
				8	-1.39	-1.12	1.76	-2.38	-0.62	
			SU	-	8.01	8.36	11.20	-2.38	8.82	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-6	97	6435	26T	0	-1.47	-1.13	1.71	-4.03	-2.32	24.00
				4	-1.88	-1.53	1.31	-4.03	-2.72	
				8	-1.53	-1.16	1.67	-4.03	-2.36	
			SU	-	7.77	8.26	11.03	-4.03	7.00	
	105	6475	26T	0	-1.56	-1.44	1.51	-4.03	-2.52	
				4	-1.46	-1.51	1.53	-4.03	-2.50	
				8	-1.64	-1.53	1.43	-4.03	-2.60	
			SU	-	8.44	8.65	11.56	-4.03	7.53	
	113	6515	26T	0	-1.59	-1.50	1.47	-4.03	-2.56	
				4	-1.51	-1.56	1.48	-4.03	-2.55	
				8	-1.73	-1.63	1.33	-4.03	-2.70	
			SU	-	8.15	8.06	11.12	-4.03	7.09	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	117	6535	26T	0	8.18	7.88	11.04	-4.69	6.35	30.00
				4	8.08	7.75	10.93	-4.69	6.24	
				8	8.06	8.40	11.24	-4.69	6.55	
			SU	-	8.20	8.06	11.14	-4.69	6.45	
	149	6695	26T	0	8.24	7.98	11.12	-4.69	6.43	
				4	8.13	7.97	11.06	-4.69	6.37	
				8	8.24	7.89	11.08	-4.69	6.39	
			SU	-	8.35	8.22	11.30	-4.69	6.61	
	181	6855	26T	0	8.35	7.77	11.08	-4.69	6.39	
				4	8.30	7.91	11.12	-4.69	6.43	
				8	8.16	7.70	10.95	-4.69	6.26	
			SU	-	8.12	8.15	11.15	-4.69	6.46	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	117	6535	26T	0	-1.31	-1.70	1.51	-4.69	-3.18	24.00
				4	-1.18	-1.60	1.63	-4.69	-3.06	
				8	-1.34	-1.77	1.46	-4.69	-3.23	
			SU	-	8.20	8.06	11.14	-4.69	6.45	
	149	6695	26T	0	-1.45	-1.52	1.53	-4.69	-3.16	
				4	-1.30	-1.46	1.63	-4.69	-3.06	
				8	-1.47	-1.65	1.45	-4.69	-3.24	
			SU	-	8.35	8.22	11.30	-4.69	6.61	
	185	6875	26T	0	-1.31	-2.22	1.27	-4.69	-3.42	
				4	-1.30	-2.18	1.29	-4.69	-3.40	
				8	-1.39	-2.34	1.17	-4.69	-3.52	
			SU	-	8.12	8.16	11.15	-4.69	6.46	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-8	189	6895	26T	0	-1.51	-2.49	1.04	-4.48	-3.44	24.00
				4	-1.51	-2.45	1.06	-4.48	-3.42	
				8	-1.16	-2.14	1.39	-4.48	-3.09	
			SU	-	8.18	8.21	11.21	-4.48	6.73	
	209	6995	26T	0	-1.17	-2.89	1.06	-4.48	-3.42	
				4	-1.60	-3.30	0.64	-4.48	-3.84	
				8	-1.15	-2.95	1.05	-4.48	-3.43	
			SU	-	8.31	8.70	11.52	-4.48	7.04	
	233	7115	26T	0	-1.08	-4.04	0.70	-4.48	-3.78	
				4	-1.51	-4.42	0.28	-4.48	-4.20	
				8	-1.10	-3.93	0.72	-4.48	-3.76	
			SU	-	8.34	7.55	10.97	-4.48	6.49	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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PSD Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	1	5955	26T	0	7.096	8.669	10.964	-	-2.38	8.584	17.00
				4	6.419	7.807	10.179	-	-2.38	7.799	
				8	7.277	9.103	11.296	-	-2.38	**8.916**	
			SU	-	-3.855	-4.011	-0.922	-	-2.38	-3.302	
	45	6175	26T	0	7.481	8.738	11.165	-	-2.38	8.785	
				4	6.142	7.512	9.891	-	-2.38	7.511	
				8	6.999	8.357	10.741	-	-2.38	8.361	
			SU	-	-4.697	-4.188	-1.425	-	-2.38	-3.805	
	93	6415	26T	0	7.459	8.926	11.264	-	-2.38	8.884	
				4	6.467	7.761	10.172	-	-2.38	7.792	
				8	7.786	8.590	11.217	-	-2.38	8.837	
			SU	-	-4.022	-3.932	-0.966	-	-2.38	-3.346	
UNII-7	117	6535	26T	0	7.824	8.034	10.941	-	-4.69	6.251	
				4	6.446	6.834	9.655	-	-4.69	4.965	
				8	7.896	8.126	11.023	-	-4.69	6.333	
			SU	-	-3.471	-4.221	-0.820	-	-4.69	-5.510	
	149	6695	26T	0	7.473	8.245	10.886	-	-4.69	6.196	
				4	6.531	7.419	10.008	-	-4.69	5.318	
				8	7.621	7.947	10.797	-	-4.69	6.107	
			SU	-	-3.350	-4.015	-0.659	-	-4.69	-5.349	
	181	6855	26T	0	7.538	8.289	10.940	-	-4.69	6.250	
				4	6.532	7.078	9.824	-	-4.69	5.134	
				8	7.816	7.724	10.781	-	-4.69	6.091	
			SU	-	-2.546	-2.828	0.326	-	-4.69	-4.364	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	1	5955	26T	0	-4.287	-4.790	-1.521	-	-2.38	-3.901	-1.00
				4	-5.683	-5.990	-2.823	-	-2.38	-5.203	
				8	-4.231	-4.655	-1.428	-	-2.38	-3.808	
			SU	-	-3.855	-4.011	-0.922	-	-2.38	**-3.302**	
	45	6175	26T	0	-5.660	-5.241	-2.435	-	-2.38	-4.815	
				4	-6.506	-6.075	-3.275	-	-2.38	-5.655	
				8	-5.791	-5.160	-2.454	-	-2.38	-4.834	
			SU	-	-4.697	-4.188	-1.425	-	-2.38	-3.805	
	93	6415	26T	0	-3.902	-4.368	-1.118	-	-2.38	-3.498	
				4	-5.326	-5.910	-2.598	-	-2.38	-4.978	
				8	-4.034	-4.192	-1.102	-	-2.38	-3.482	
			SU	-	-4.022	-3.932	-0.966	-	-2.38	-3.346	
UNII-6	97	6435	26T	0	-4.488	-4.215	-1.339	-	-4.03	-5.369	
				4	-5.807	-5.871	-2.829	-	-4.03	-6.859	
				8	-4.184	-4.563	-1.359	-	-4.03	-5.389	
			SU	-	-4.240	-4.171	-1.195	-	-4.03	-5.225	
	105	6475	26T	0	-4.177	-4.606	-1.376	-	-4.03	-5.406	
				4	-5.302	-5.855	-2.559	-	-4.03	-6.589	
				8	-4.492	-4.852	-1.658	-	-4.03	-5.688	
			SU	-	-4.068	-4.249	-1.147	-	-4.03	-5.177	
	113	6515	26T	0	-4.417	-4.576	-1.485	-	-4.03	-5.515	
				4	-5.024	-5.964	-2.458	-	-4.03	-6.488	
				8	-4.376	-4.557	-1.455	-	-4.03	-5.485	
			SU	-	-3.734	-4.411	-1.049	-	-4.03	-5.079	
UNII-7	117	6535	26T	0	-3.695	-4.967	-1.274	-	-4.69	-5.964	
				4	-4.876	-6.058	-2.417	-	-4.69	-7.107	
				8	-3.936	-4.871	-1.368	-	-4.69	-6.058	
			SU	-	-3.471	-4.221	-0.820	-	-4.69	-5.510	
	149	6695	26T	0	-4.088	-4.744	-1.393	-	-4.69	-6.083	
				4	-5.101	-5.652	-2.357	-	-4.69	-7.047	
				8	-4.051	-5.018	-1.497	-	-4.69	-6.187	
			SU	-	-3.350	-4.015	-0.659	-	-4.69	-5.349	
	185	6875	26T	0	-3.914	-5.604	-1.667	-	-4.69	-6.357	
				4	-5.224	-6.273	-2.707	-	-4.69	-7.397	
				8	-4.190	-5.964	-1.977	-	-4.69	-6.667	
			SU	-	-3.680	-4.061	-0.856	-	-4.69	-5.546	
UNII-8	189	6895	26T	0	-4.233	-5.779	-1.927	-	-4.48	-6.407	
				4	-5.387	-6.892	-3.064	-	-4.48	-7.544	
				8	-4.101	-5.379	-1.683	-	-4.48	-6.163	
			SU	-	-3.848	-4.027	-0.926	-	-4.48	-5.406	
	209	6995	26T	0	-4.219	-6.075	-2.038	-	-4.48	-6.518	
				4	-5.785	-7.257	-3.449	-	-4.48	-7.929	
				8	-4.323	-4.923	-1.602	-	-4.48	-6.082	
			SU	-	-3.738	-2.990	-0.338	-	-4.48	-4.818	
	233	7115	26T	0	-4.075	-6.023	-1.930	-	-4.48	-6.410	
				4	-5.507	-7.452	-3.361	-	-4.48	-7.841	
				8	-4.018	-5.764	-1.794	-	-4.48	-6.274	
			SU	-	-3.513	-3.270	-0.380	-	-4.48	-4.860	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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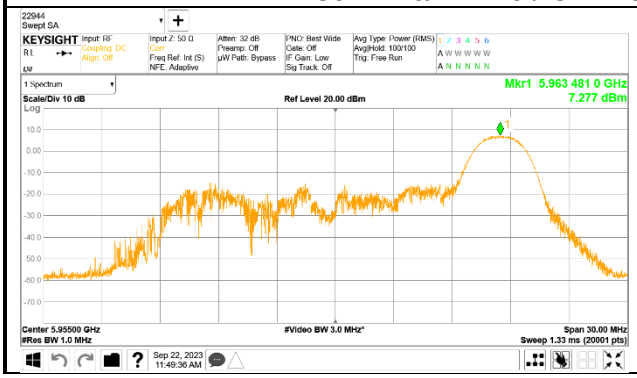
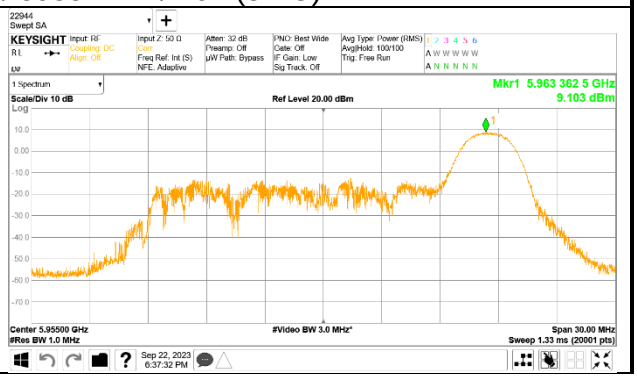
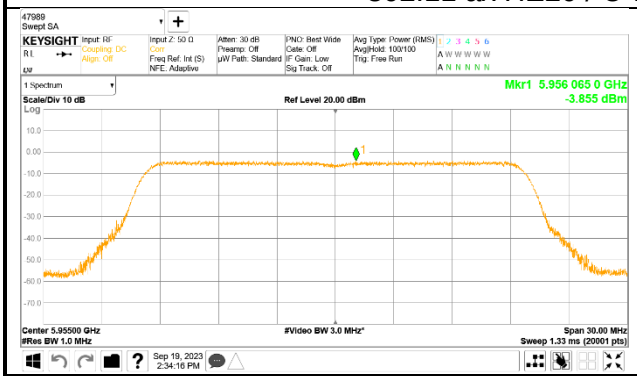
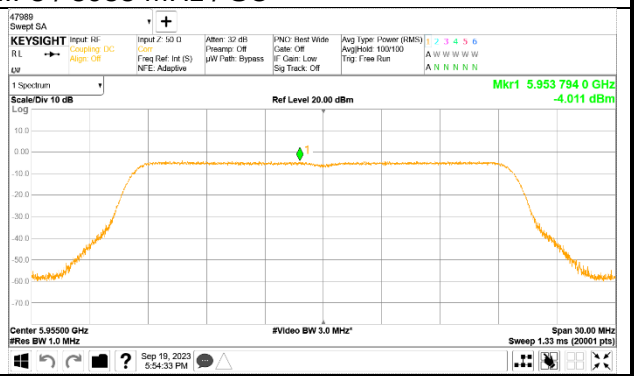
PPSD PLOTS (WORST CASE)

- SP

ANT1	ANT2
802.11 ax HE20 / U-NII-5 / 5955 MHz / 26T (8 RU)	
	

- LP

ANT1	ANT2
802.11 ax HE20 / U-NII-5 / 5955 MHz / SU	
	

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10.1.3. 802.11ax HE40 MODE

Output Power Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	3	5965	26T	0	7.65	8.74	11.24	-2.38	8.86	30.00
				9	7.35	8.43	10.93	-2.38	8.55	
				17	7.55	8.53	11.08	-2.38	8.70	
			SU	-	7.77	8.14	10.97	-2.38	8.59	
	43	6165	26T	0	8.06	8.09	11.09	-2.38	8.71	
				9	7.84	7.88	10.87	-2.38	8.49	
				17	8.18	8.14	11.17	-2.38	8.79	
			SU	-	7.78	8.76	11.31	-2.38	8.93	
	91	6405	26T	0	8.10	8.25	11.19	-2.38	8.81	
				9	7.91	8.14	11.04	-2.38	8.66	
				17	8.06	8.18	11.13	-2.38	8.75	
			SU	-	7.57	8.17	10.89	-2.38	8.51	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	3	5965	26T	0	-1.71	-2.49	0.93	-2.38	-1.45	24.00
				9	-1.62	-2.34	1.05	-2.38	-1.33	
				17	-1.65	-2.41	1.00	-2.38	-1.38	
			SU	-	7.77	8.14	10.97	-2.38	8.59	
	43	6165	26T	0	-2.65	-1.77	0.82	-2.38	-1.56	
				9	-2.35	-1.45	1.13	-2.38	-1.25	
				17	-2.21	-1.35	1.25	-2.38	-1.13	
			SU	-	7.78	8.76	11.31	-2.38	8.93	
	91	6405	26T	0	-1.86	-1.83	1.17	-2.38	-1.21	
				9	-2.06	-2.03	0.97	-2.38	-1.41	
				17	-1.86	-1.82	1.17	-2.38	-1.21	
			SU	-	7.57	8.17	10.89	-2.38	8.51	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-6	99	6445	26T	0	-1.93	-1.72	1.19	-4.03	-2.84	24.00
				9	-2.14	-1.88	1.00	-4.03	-3.03	
				17	-1.98	-1.76	1.14	-4.03	-2.89	
			SU	-	7.85	8.31	11.10	-4.03	7.07	
	115	6525	26T	0	-1.63	-1.70	1.35	-4.03	-2.68	
				9	-1.85	-1.85	1.16	-4.03	-2.87	
				17	-1.69	-1.70	1.32	-4.03	-2.71	
			SU	-	8.33	8.17	11.26	-4.03	7.23	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	123	6565	26T	0	8.15	7.61	10.90	-4.69	6.21	30.00
				9	8.48	8.06	11.29	-4.69	6.60	
				17	8.43	7.91	11.19	-4.69	6.50	
			SU	-	8.31	8.07	11.20	-4.69	6.51	
	147	6685	26T	0	8.28	8.05	11.18	-4.69	6.49	
				9	8.05	7.82	10.95	-4.69	6.26	
				17	8.06	7.80	10.94	-4.69	6.25	
			SU	-	8.04	7.79	10.93	-4.69	6.24	
	179	6845	26T	0	8.31	7.85	11.10	-4.69	6.41	
				9	8.46	8.17	11.33	-4.69	6.64	
				17	8.12	7.60	10.88	-4.69	6.19	
			SU	-	8.42	8.30	11.37	-4.69	6.68	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	123	6565	26T	0	-1.69	-2.22	1.06	-4.69	-3.63	24.00
				9	-1.83	-2.44	0.89	-4.69	-3.80	
				17	-1.70	-2.25	1.04	-4.69	-3.65	
			SU	-	8.31	8.07	11.20	-4.69	6.51	
	147	6685	26T	0	-1.66	-2.51	0.95	-4.69	-3.74	
				9	-1.92	-2.68	0.73	-4.69	-3.96	
				17	-1.77	-2.62	0.84	-4.69	-3.85	
			SU	-	8.04	7.79	10.93	-4.69	6.24	
	179	6845	26T	0	-1.61	-2.40	1.02	-4.69	-3.67	
				9	-1.40	-2.14	1.26	-4.69	-3.43	
				17	-1.39	-2.12	1.27	-4.69	-3.42	
			SU	-	8.42	8.30	11.37	-4.69	6.68	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-8	187	6885	26T	0	-1.44	-2.26	1.18	-4.48	-3.30	24.00
				9	-1.77	-2.52	0.88	-4.48	-3.60	
				17	-1.70	-2.55	0.91	-4.48	-3.57	
			SU	-	8.07	8.27	11.18	-4.48	6.70	
	203	6965	26T	0	-1.52	-2.41	1.07	-4.48	-3.41	
				9	-1.75	-2.67	0.82	-4.48	-3.66	
				17	-1.60	-2.58	0.95	-4.48	-3.53	
			SU	-	7.47	8.21	10.87	-4.48	6.39	
	227	7085	26T	0	-1.05	-4.21	0.66	-4.48	-3.82	
				9	-1.13	-3.19	0.97	-4.48	-3.51	
				17	-1.05	-3.95	0.75	-4.48	-3.73	
			SU	-	8.42	8.33	11.39	-4.48	6.91	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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PSD Results

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Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	3	5965	26T	0	7.445	8.902	11.245	-	-2.38	8.865	17.00
				9	7.313	8.759	11.106	-	-2.38	8.726	
				17	7.448	8.962	11.281	-	-2.38	**8.901**	
			SU	-	-6.073	-6.314	-3.182	-	-2.38	-5.562	
	43	6165	26T	0	6.985	8.519	10.830	-	-2.38	8.450	
				9	7.097	8.271	10.734	-	-2.38	8.354	
				17	7.095	8.487	10.857	-	-2.38	8.477	
			SU	-	-6.644	-5.647	-3.107	-	-2.38	-5.487	
	91	6405	26T	0	7.116	8.443	10.840	-	-2.38	8.460	
				9	7.217	8.148	10.718	-	-2.38	8.338	
				17	7.139	8.318	10.779	-	-2.38	8.399	
			SU	-	-6.733	-5.875	-3.273	-	-2.38	-5.653	
UNII-7	123	6565	26T	0	7.377	7.617	10.509	-	-4.69	5.819	
				9	7.792	8.650	11.252	-	-4.69	6.562	
				17	8.009	8.299	11.167	-	-4.69	6.477	
			SU	-	-6.244	-6.515	-3.367	-	-4.69	-8.057	
	147	6685	26T	0	7.621	8.409	11.043	-	-4.69	6.353	
				9	7.731	8.292	11.031	-	-4.69	6.341	
				17	7.396	8.250	10.854	-	-4.69	6.164	
			SU	-	-5.912	-6.331	-3.106	-	-4.69	-7.796	
	179	6845	26T	0	7.608	8.151	10.898	-	-4.69	6.208	
				9	7.795	8.300	11.065	-	-4.69	6.375	
				17	7.407	7.626	10.528	-	-4.69	5.838	
			SU	-	-5.352	-5.914	-2.614	-	-4.69	-7.304	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	3	5965	26T	0	-3.468	-4.646	-1.007	-	-2.38	-3.387	-1.00
				9	-3.651	-4.513	-1.050	-	-2.38	-3.430	
				17	-3.598	-4.336	-0.941	-	-2.38	**-3.321**	
			SU	-	-6.073	-6.314	-3.182	-	-2.38	-5.562	
	43	6165	26T	0	-5.062	-3.725	-1.332	-	-2.38	-3.712	
				9	-4.754	-3.619	-1.139	-	-2.38	-3.519	
				17	-4.666	-3.902	-1.257	-	-2.38	-3.637	
			SU	-	-6.644	-5.647	-3.107	-	-2.38	-5.487	
	91	6405	26T	0	-4.235	-3.943	-1.076	-	-2.38	-3.456	
				9	-4.274	-3.708	-0.971	-	-2.38	-3.351	
				17	-4.125	-4.081	-1.093	-	-2.38	-3.473	
			SU	-	-6.733	-5.875	-3.273	-	-2.38	-5.653	
UNII-6	99	6445	26T	0	-4.197	-4.000	-1.087	-	-4.03	-5.117	
				9	-4.215	-4.179	-1.187	-	-4.03	-5.217	
				17	-4.112	-3.834	-0.960	-	-4.03	-4.990	
			SU	-	-6.469	-5.843	-3.134	-	-4.03	-7.164	
	115	6525	26T	0	-3.453	-3.798	-0.612	-	-4.03	-4.642	
				9	-3.722	-3.796	-0.749	-	-4.03	-4.779	
				17	-3.711	-3.591	-0.640	-	-4.03	-4.670	
			SU	-	-5.594	-5.937	-2.752	-	-4.03	-6.782	
UNII-7	123	6565	26T	0	-3.506	-4.705	-1.054	-	-4.69	-5.744	
				9	-3.773	-4.703	-1.203	-	-4.69	-5.893	
				17	-3.769	-4.540	-1.127	-	-4.69	-5.817	
			SU	-	-6.244	-6.515	-3.367	-	-4.69	-8.057	
	147	6685	26T	0	-3.812	-4.999	-1.355	-	-4.69	-6.045	
				9	-3.726	-4.818	-1.227	-	-4.69	-5.917	
				17	-3.857	-4.934	-1.352	-	-4.69	-6.042	
			SU	-	-5.912	-6.331	-3.106	-	-4.69	-7.796	
	179	6845	26T	0	-3.598	-4.998	-1.232	-	-4.69	-5.922	
				9	-3.550	-4.761	-1.103	-	-4.69	-5.793	
				17	-3.520	-4.652	-1.039	-	-4.69	-5.729	
			SU	-	-5.352	-5.914	-2.614	-	-4.69	-7.304	
UNII-8	187	6885	26T	0	-3.210	-4.838	-0.938	-	-4.48	-5.418	
				9	-4.717	-5.223	-1.952	-	-4.48	-6.432	
				17	-3.816	-5.107	-1.403	-	-4.48	-5.883	
			SU	-	-5.765	-6.315	-3.021	-	-4.48	-7.501	
	203	6965	26T	0	-3.822	-5.053	-1.384	-	-4.48	-5.864	
				9	-4.128	-4.971	-1.519	-	-4.48	-5.999	
				17	-3.936	-5.204	-1.514	-	-4.48	-5.994	
			SU	-	-6.561	-6.387	-3.463	-	-4.48	-7.943	
	227	7085	26T	0	-3.536	-6.647	-1.808	-	-4.48	-6.288	
				9	-3.745	-6.548	-1.914	-	-4.48	-6.394	
				17	-3.436	-6.451	-1.677	-	-4.48	-6.157	
			SU	-	-5.446	-6.202	-2.797	-	-4.48	-7.277	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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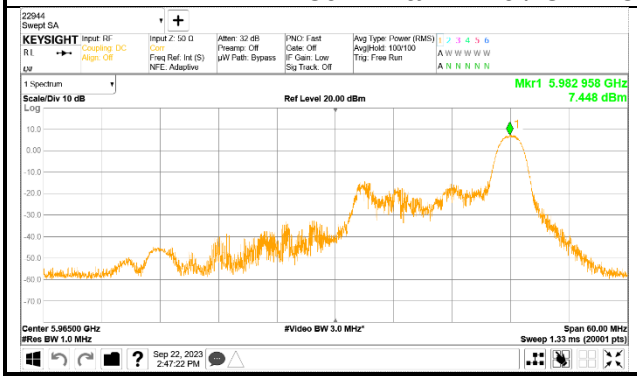
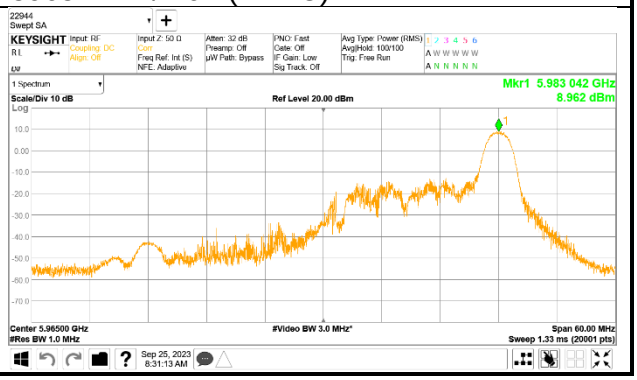
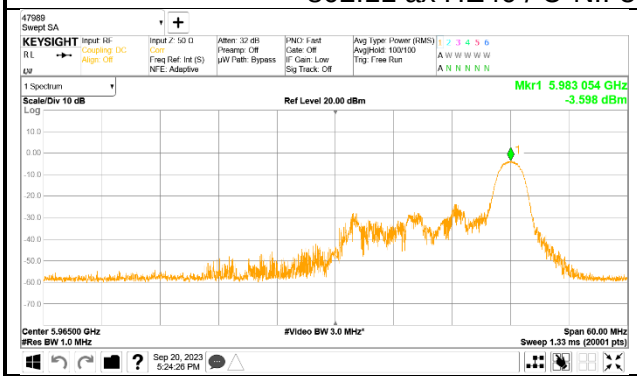
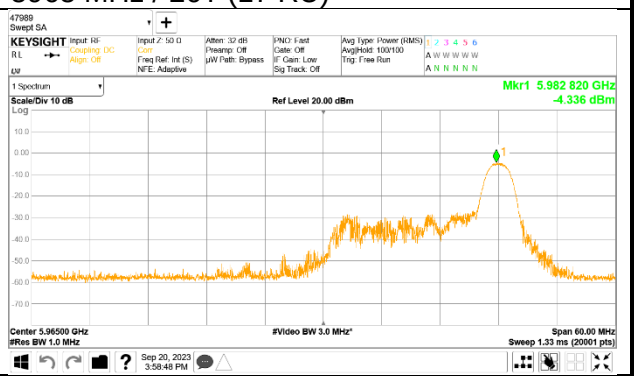
ANT1	ANT2
802.11 ax HE40 / U-NII-5 / 5965 MHz / 26T (17 RU)	
	

- LP

ANT1	ANT2
802.11 ax HE40 / U-NII-5 / 5965 MHz / 26T (17 RU)	
	

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10.1.4. 802.11ax HE80 MODE

Output Power Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	7	5985	26T	0	7.96	8.05	11.02	-2.38	8.64	30.00
				18	7.81	7.90	10.87	-2.38	8.49	
				36	7.78	7.93	10.87	-2.38	8.49	
			SU	-	8.07	8.52	11.31	-2.38	8.93	
	39	6145	26T	0	8.28	8.28	11.29	-2.38	8.91	
				18	8.23	8.42	11.34	-2.38	8.96	
				36	7.70	8.07	10.90	-2.38	8.52	
			SU	-	7.66	8.67	11.20	-2.38	8.82	
	87	6385	26T	0	7.90	8.03	10.98	-2.38	8.60	
				18	7.98	8.08	11.04	-2.38	8.66	
				36	7.97	8.08	11.04	-2.38	8.66	
			SU	-	8.06	8.31	11.20	-2.38	8.82	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	7	5985	26T	0	-1.85	-2.44	0.88	-2.38	-1.50	24.00
				18	-1.83	-2.18	1.01	-2.38	-1.37	
				36	-1.79	-2.36	0.94	-2.38	-1.44	
			SU	-	8.07	8.52	11.31	-2.38	8.93	
	39	6145	26T	0	-2.46	-1.48	1.07	-2.38	-1.31	
				18	-2.73	-1.71	0.82	-2.38	-1.56	
				36	-2.33	-1.32	1.21	-2.38	-1.17	
			SU	-	7.66	8.67	11.20	-2.38	8.82	
	87	6385	26T	0	-1.71	-1.82	1.25	-2.38	-1.13	
				18	-1.70	-1.73	1.30	-2.38	-1.08	
				36	-1.65	-1.66	1.36	-2.38	-1.02	
			SU	-	8.06	8.31	11.20	-2.38	8.82	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-6	103	6465	26T	0	-1.68	-1.70	1.32	-4.03	-2.71	24.00
				18	-1.83	-1.77	1.21	-4.03	-2.82	
				36	-1.86	-1.75	1.21	-4.03	-2.82	
			SU	-	7.99	7.90	10.96	-4.03	6.93	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	135	6625	26T	0	8.22	8.11	11.18	-4.69	6.49	30.00
				18	8.09	7.90	11.01	-4.69	6.32	
				36	7.93	7.71	10.83	-4.69	6.14	
			SU	-	8.19	8.03	11.12	-4.69	6.43	
	151	6705	26T	0	8.26	8.10	11.19	-4.69	6.50	
				18	8.11	7.88	11.01	-4.69	6.32	
				36	7.98	7.75	10.88	-4.69	6.19	
			SU	-	8.40	8.02	11.22	-4.69	6.53	
	167	6785	26T	0	7.83	7.99	10.92	-4.69	6.23	
				18	8.07	8.38	11.24	-4.69	6.55	
				36	7.75	8.27	11.03	-4.69	6.34	
			SU	-	7.96	7.91	10.95	-4.69	6.26	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	119	6545	26T	0	-1.36	-2.15	1.27	-4.69	-3.42	24.00
				18	-1.65	-2.24	1.08	-4.69	-3.61	
				36	-1.56	-2.18	1.15	-4.69	-3.54	
			SU	-	8.08	7.88	10.99	-4.69	6.30	
	151	6705	26T	0	-1.35	-2.24	1.24	-4.69	-3.45	
				18	-1.62	-2.54	0.95	-4.69	-3.74	
				36	-1.67	-2.66	0.87	-4.69	-3.82	
			SU	-	8.40	8.02	11.22	-4.69	6.53	
	183	6865	26T	0	-1.24	-2.35	1.25	-4.69	-3.44	
				18	-1.58	-2.71	0.90	-4.69	-3.79	
				36	-1.27	-2.47	1.18	-4.69	-3.51	
			SU	-	8.08	7.69	10.90	-4.69	6.21	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-8	199	6945	26T	0	-1.39	-2.60	1.06	-4.48	-3.42	24.00
				18	-1.58	-2.98	0.79	-4.48	-3.69	
				36	-1.10	-2.60	1.22	-4.48	-3.26	
			SU	-	8.42	7.98	11.22	-4.48	6.74	
	215	7025	26T	0	-1.10	-4.18	0.64	-4.48	-3.84	
				18	-1.14	-4.18	0.61	-4.48	-3.87	
				36	-1.02	-3.89	0.79	-4.48	-3.69	
			SU	-	8.12	7.88	11.01	-4.48	6.53	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain

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PSD Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	7	5985	26T	0	6.496	8.083	10.372	-	-2.38	**7.992**	17.00
				18	5.344	6.835	9.163	-	-2.38	6.783	
				36	6.560	7.900	10.292	-	-2.38	7.912	
			SU	-	-8.585	-9.118	-5.833	-	-2.38	-8.213	
	39	6145	26T	0	7.278	7.096	10.198	-	-2.38	7.818	
				18	5.817	6.386	9.121	-	-2.38	6.741	
				36	6.257	7.065	9.690	-	-2.38	7.310	
			SU	-	-9.814	-9.912	-6.852	-	-2.38	-9.232	
	87	6385	26T	0	6.472	7.647	10.109	-	-2.38	7.729	
				18	5.371	6.556	9.014	-	-2.38	6.634	
				36	6.522	7.789	10.212	-	-2.38	7.832	
			SU	-	-9.242	-10.492	-6.812	-	-2.38	-9.192	
UNII-7	135	6625	26T	0	7.577	7.709	10.654	-	-4.69	5.964	
				18	6.424	6.331	9.388	-	-4.69	4.698	
				36	7.507	7.546	10.537	-	-4.69	5.847	
			SU	-	-9.018	-9.050	-6.024	-	-4.69	-10.714	
	151	6705	26T	0	7.633	8.124	10.896	-	-4.69	6.206	
				18	6.425	7.337	9.915	-	-4.69	5.225	
				36	7.579	7.812	10.707	-	-4.69	6.017	
			SU	-	-9.583	-9.722	-6.642	-	-4.69	-11.332	
	167	6785	26T	0	7.009	7.489	10.266	-	-4.69	5.576	
				18	6.426	6.927	9.694	-	-4.69	5.004	
				36	7.073	7.579	10.344	-	-4.69	5.654	
			SU	-	-9.542	-9.213	-6.364	-	-4.69	-11.054	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	7	5985	26T	0	-3.526	-5.187	-1.267	-	-2.38	**-3.647**	-1.00
				18	-4.760	-6.028	-2.338	-	-2.38	-4.718	
				36	-3.870	-4.917	-1.352	-	-2.38	-3.732	
			SU	-	-8.585	-9.118	-5.833	-	-2.38	-8.213	
	39	6145	26T	0	-4.821	-4.778	-1.789	-	-2.38	-4.169	
				18	-6.211	-6.083	-3.136	-	-2.38	-5.516	
				36	-4.771	-5.469	-2.096	-	-2.38	-4.476	
			SU	-	-9.814	-9.912	-6.852	-	-2.38	-9.232	
	87	6385	26T	0	-4.364	-5.105	-1.708	-	-2.38	-4.088	
				18	-5.336	-6.273	-2.769	-	-2.38	-5.149	
				36	-4.339	-4.772	-1.540	-	-2.38	-3.920	
			SU	-	-9.242	-10.492	-6.812	-	-2.38	-9.192	
UNII-6	103	6465	26T	0	-4.159	-4.695	-1.408	-	-4.03	-5.438	
				18	-5.450	-5.990	-2.701	-	-4.03	-6.731	
				36	-4.285	-4.841	-1.544	-	-4.03	-5.574	
			SU	-	-9.667	-10.089	-6.863	-	-4.03	-10.893	
UNII-7	119	6545	26T	0	-5.167	-5.601	-2.368	-	-4.69	-7.058	
				18	-5.558	-6.023	-2.774	-	-4.69	-7.464	
				36	-4.482	-5.226	-1.828	-	-4.69	-6.518	
			SU	-	-9.966	-9.996	-6.971	-	-4.69	-11.661	
	151	6705	26T	0	-4.416	-5.353	-1.849	-	-4.69	-6.539	
				18	-5.762	-6.815	-3.246	-	-4.69	-7.936	
				36	-4.754	-5.685	-2.184	-	-4.69	-6.874	
			SU	-	-9.583	-9.722	-6.642	-	-4.69	-11.332	
	183	6865	26T	0	-4.490	-5.410	-1.915	-	-4.69	-6.605	
				18	-5.505	-6.821	-3.103	-	-4.69	-7.793	
				36	-4.586	-5.907	-2.186	-	-4.69	-6.876	
			SU	-	-9.825	-10.459	-7.120	-	-4.69	-11.810	
UNII-8	199	6945	26T	0	-4.674	-5.648	-2.123	-	-4.48	-6.603	
				18	-5.929	-7.060	-3.447	-	-4.48	-7.927	
				36	-4.291	-5.821	-1.979	-	-4.48	-6.459	
			SU	-	-9.535	-9.773	-6.642	-	-4.48	-11.122	
	215	7025	26T	0	-4.116	-7.019	-2.319	-	-4.48	-6.799	
				18	-5.192	-8.325	-3.472	-	-4.48	-7.952	
				36	-3.905	-6.825	-2.114	-	-4.48	-6.594	
			SU	-	-9.962	-10.302	-7.118	-	-4.48	-11.598	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain

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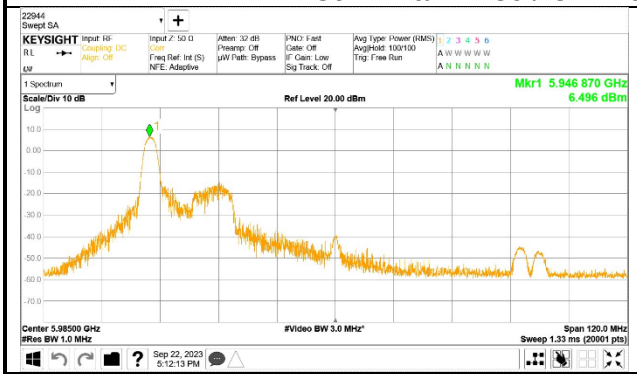
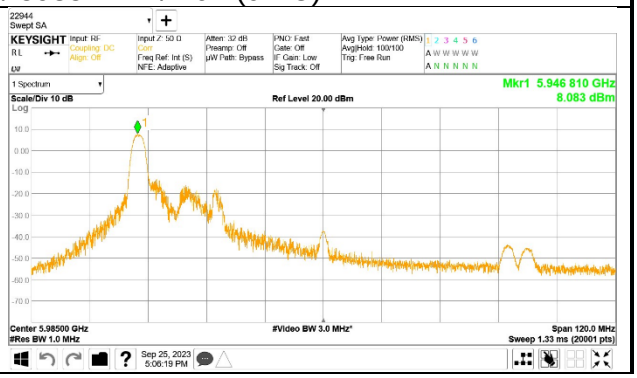
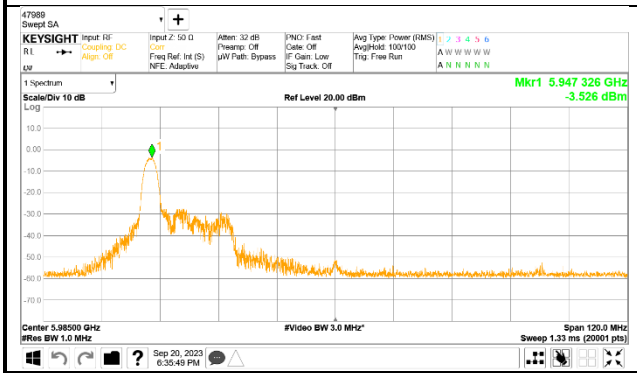
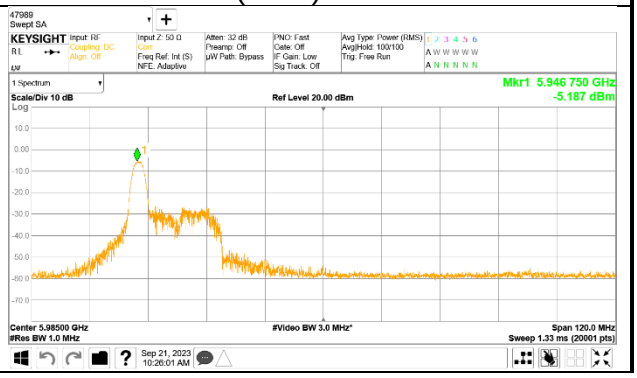
ANT1	ANT2
802.11 ax HE80 / U-NII-5 / 5985 MHz / 26T (0 RU)	
	

- LP

ANT1	ANT2
802.11 ax HE80 / U-NII-5 / 5985 MHz / 26T (0 RU)	
	

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10.1.5. 802.11ax HE160 MODE

Output Power Results

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	15	6025	26T	0L	8.01	8.12	11.08	-2.38	8.70	30.00
				0U	8.22	8.14	11.19	-2.38	8.81	
				36U	8.27	8.20	11.25	-2.38	8.87	
			SU	-	7.87	7.55	10.72	-2.38	8.34	
	47	6185	26T	0L	7.56	8.16	10.88	-2.38	8.50	
				0U	6.91	8.08	10.54	-2.38	8.16	
				36U	8.40	6.95	10.75	-2.38	8.37	
			SU	-	7.84	8.42	11.15	-2.38	8.77	
	79	6345	26T	0L	7.64	7.93	10.80	-2.38	8.42	
				0U	8.09	8.47	11.29	-2.38	8.91	
				36U	8.07	8.44	11.27	-2.38	8.89	
			SU	-	7.77	7.80	10.80	-2.38	8.42	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-5	15	6025	26T	0L	-2.27	-1.46	1.16	-2.38	-1.22	24.00
				0U	-2.26	-1.75	1.01	-2.38	-1.37	
				36U	-2.21	-1.39	1.23	-2.38	-1.15	
			SU	-	7.87	7.55	10.72	-2.38	8.34	
	47	6185	26T	0L	-2.23	-1.59	1.11	-2.38	-1.27	
				0U	-2.28	-1.55	1.11	-2.38	-1.27	
				36U	-2.13	-1.57	1.17	-2.38	-1.21	
			SU	-	7.84	8.42	11.15	-2.38	8.77	
	79	6345	26T	0L	-2.08	-2.27	0.84	-2.38	-1.54	
				0U	-2.09	-2.25	0.84	-2.38	-1.54	
				36U	-1.76	-1.91	1.18	-2.38	-1.20	
			SU	-	7.77	7.80	10.80	-2.38	8.42	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

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Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-6	111	6505	26T	0L	-1.75	-2.21	1.04	-4.03	-2.99	24.00
				0U	-1.61	-1.80	1.31	-4.03	-2.72	
				36U	-1.98	-2.20	0.92	-4.03	-3.11	
			SU	-	7.95	8.02	11.00	-4.03	6.97	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

- SP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	143	6665	26T	0L	8.21	8.08	11.16	-4.69	6.47	30.00
				0U	8.13	7.99	11.07	-4.69	6.38	
				36U	8.07	7.95	11.02	-4.69	6.33	
			SU	-	8.00	7.60	10.81	-4.69	6.12	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-7	143	6665	26T	0L	-1.56	-2.05	1.21	-4.69	-3.48	24.00
				0U	-1.90	-2.40	0.87	-4.69	-3.82	
				36U	-1.38	-2.15	1.26	-4.69	-3.43	
			SU	-	8.00	7.60	10.81	-4.69	6.12	
	175	6825	26T	0L	-1.47	-2.09	1.24	-4.69	-3.45	
				0U	-1.65	-2.09	1.15	-4.69	-3.54	
				36U	-1.85	-2.54	0.83	-4.69	-3.86	
			SU	-	8.38	8.14	11.27	-4.69	6.58	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

- LP

Band	Channel	Freq. [MHz]	Tones	RU offset	Average Power [dBm]			Direct. Gain [dBi]	Corr'd e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]
					ANT1	ANT2	MIMO			
UNII-8	207	6985	26T	0L	-1.19	-2.93	1.04	-4.48	-3.44	24.00
				0U	-1.15	-3.09	1.00	-4.48	-3.48	
				36U	-1.34	-3.23	0.83	-4.48	-3.65	
			SU	-	7.58	7.85	10.73	-4.48	6.25	

* Calculation of Output Power : Average Power = Meas Power + Duty CF[dB]
Corr'd e.i.r.p = Ant1 Average Power + Ant2 Average Power + Directional Gain
* HE160 = HE80L + HE80U

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PSD Results

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Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	15	6025	26T	0L	7.675	7.686	10.691	-	-2.38	**8.311**	17.00
				0U	7.006	7.242	10.136	-	-2.38	7.756	
				36U	7.275	7.194	10.245	-	-2.38	7.865	
			SU	-	-11.803	-12.644	-9.193	-	-2.38	-11.573	
	47	6185	26T	0L	5.211	6.976	9.193	-	-2.38	6.813	
				0U	4.881	6.964	9.057	-	-2.38	6.677	
				36U	5.400	7.415	9.534	-	-2.38	7.154	
			SU	-	-13.636	-12.496	-10.018	-	-2.38	-12.398	
	79	6345	26T	0L	5.357	7.652	9.665	-	-2.38	7.285	
				0U	5.915	7.845	9.997	-	-2.38	7.617	
				36U	6.591	7.869	10.287	-	-2.38	7.907	
			SU	-	-13.435	-13.400	-10.407	-	-2.38	-12.787	
UNII-7	143	6665	26T	0L	6.654	7.905	10.335	-	-4.69	5.645	
				0U	6.844	7.954	10.445	-	-4.69	5.755	
				36U	6.443	7.741	10.151	-	-4.69	5.461	
			SU	-	-12.893	-12.967	-9.920	-	-4.69	-14.610	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain
* HE160 = HE80L + HE80U

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Band	Channel	Freq. [MHz]	Tones	RU offset	Meas PSD [dBm/MHz]			DCCF	Direct. Gain [dBi]	Corr'd PSD e.i.r.p [dBm]	PSD e.i.r.p Limit [dBm/MHz]
					ANT1	ANT2	MIMO				
UNII-5	15	6025	26T	0L	-6.017	-4.791	-2.351	-	-2.38	-4.731	-1.00
				0U	-5.952	-4.996	-2.437	-	-2.38	-4.817	
				36U	-6.150	-4.570	-2.278	-	-2.38	**-4.658**	
			SU	-	-11.803	-12.644	-9.193	-	-2.38	-11.573	
	47	6185	26T	0L	-6.120	-5.771	-2.932	-	-2.38	-5.312	
				0U	-6.501	-5.746	-3.097	-	-2.38	-5.477	
				36U	-6.318	-5.677	-2.975	-	-2.38	-5.355	
			SU	-	-13.636	-12.496	-10.018	-	-2.38	-12.398	
	79	6345	26T	0L	-6.097	-6.021	-3.049	-	-2.38	-5.429	
				0U	-5.795	-5.927	-2.850	-	-2.38	-5.230	
				36U	-5.250	-5.589	-2.406	-	-2.38	-4.786	
			SU	-	-13.435	-13.400	-10.407	-	-2.38	-12.787	
UNII-6	111	6505	26T	0L	-5.356	-5.898	-2.608	-	-4.03	-6.638	
				0U	-5.472	-5.887	-2.664	-	-4.03	-6.694	
				36U	-5.833	-5.913	-2.863	-	-4.03	-6.893	
			SU	-	-13.189	-13.285	-10.226	-	-4.03	-14.256	
UNII-7	143	6665	26T	0L	-5.268	-5.405	-2.326	-	-4.69	-7.016	
				0U	-6.195	-6.303	-3.238	-	-4.69	-7.928	
				36U	-4.954	-5.781	-2.338	-	-4.69	-7.028	
			SU	-	-12.893	-12.967	-9.920	-	-4.69	-14.610	
	175	6825	26T	0L	-5.105	-4.805	-1.942	-	-4.69	-6.632	
				0U	-5.814	-5.956	-2.874	-	-4.69	-7.564	
				36U	-6.124	-6.493	-3.294	-	-4.69	-7.984	
			SU	-	-13.242	-12.725	-9.966	-	-4.69	-14.656	
UNII-8	207	6985	26T	0L	-5.042	-6.853	-2.843	-	-4.48	-7.323	
				0U	-5.547	-6.827	-3.130	-	-4.48	-7.610	
				36U	-5.299	-6.771	-2.963	-	-4.48	-7.443	
			SU	-	-13.746	-13.132	-10.418	-	-4.48	-14.898	

* Corr'd PSD e.i.r.p = ANT1 Meas PSD + Ant2 Meas PSD + DCCF + Directional Gain
* HE160 = HE80L + HE80U

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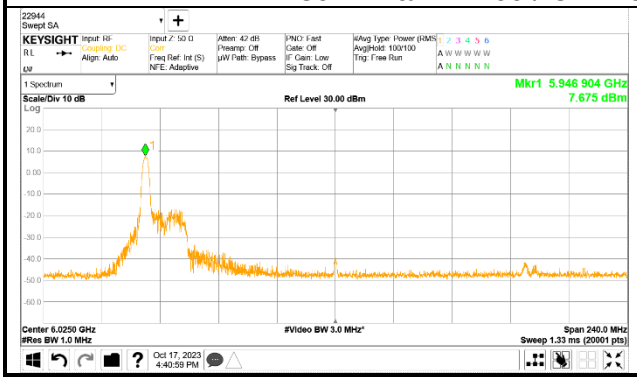
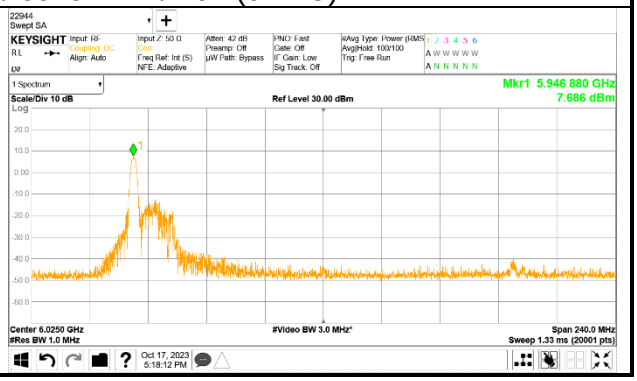
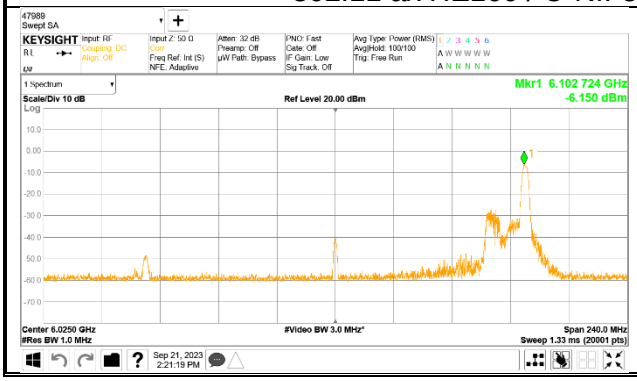
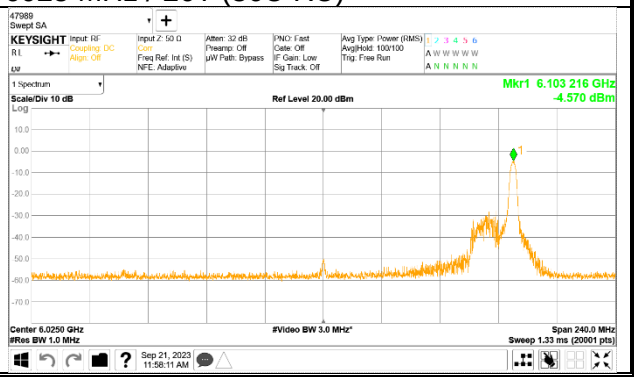
PPSD PLOTS (WORST CASE)

- SP

ANT1	ANT2
802.11 ax HE160 / U-NII-5 / 6025 MHz / 26T (0L RU)	
	

- LP

ANT1	ANT2
802.11 ax HE160 / U-NII-5/ 6025 MHz / 26T (36U RU)	
	

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10.2. IN-BAND EMISSIONS

LIMITS

FCC §15.407 (b) (7)

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

TEST PROCEDURE

KDB 987594 D02

1. Connect output of antenna port to a spectrum analyzer, with appropriate attenuation, as to not damage the instrumentation.
2. Test reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
3. Measure the 26dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013.
4. Measure the PSD (which will be used for emissions mask reference) using the following procedure:
   a) Set the span to encompass the entire 26 dB EBW of the signal.
   b) Set RBW = same RBW used for 26 dB EBW measurement.
   c) Set VBW $\geq$ 3 X RBW
   d) Number of points in sweep $\geq$ [2 X span / RBW].
   e) Sweep time = auto.
   f) Detector = RMS (i.e., power averaging)
   g) Trace average at least 100 traces in power averaging (rms) mode.
   h) Use the peak search function on the instrument to find the peak of the spectrum.
5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
   a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
   b) Suppressed by 28 dB at one channel bandwidth from the channel center.
   c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
7. Adjust the span to encompass the entire mask as necessary.
8. Clear trace.
9. Trace average at least 100 traces in power averaging (rms) mode.
10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

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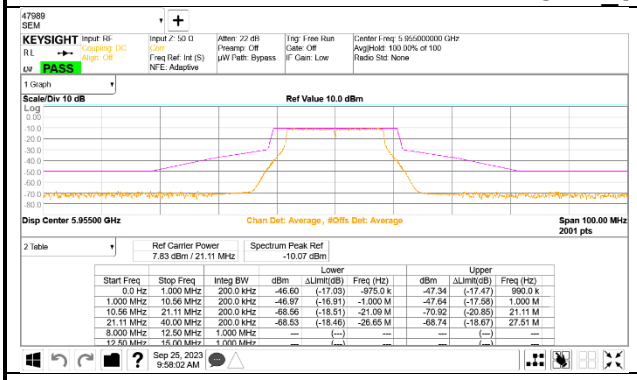
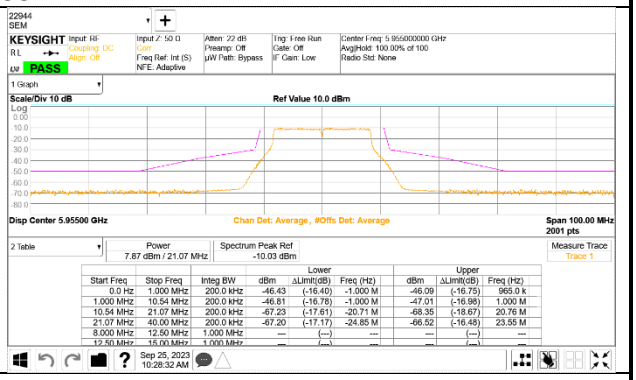
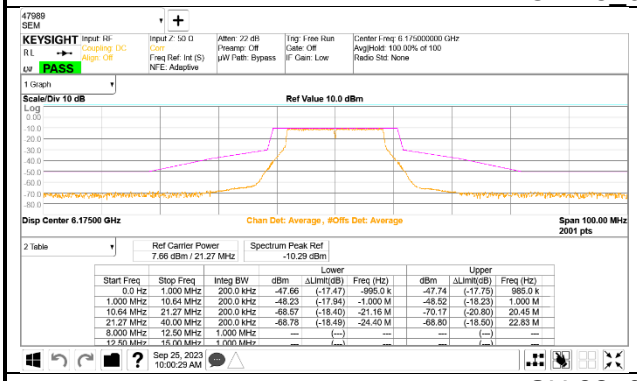
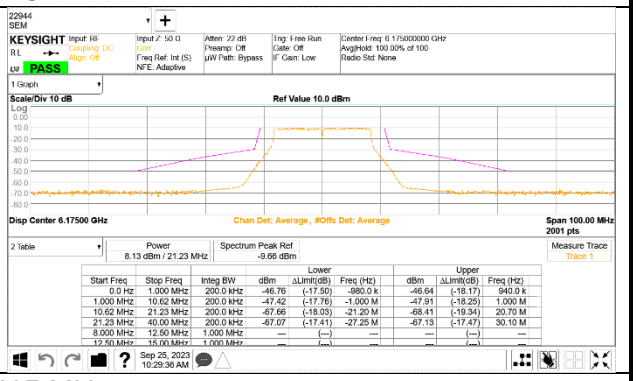
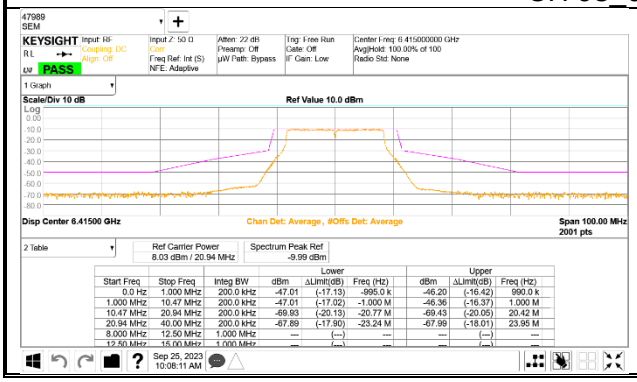
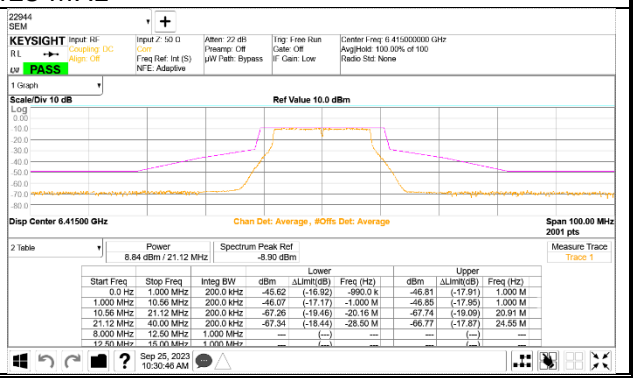
10.2.1. 802.11 a MODE

- SP & LP

802.11 a / UNII-5

ANT1	ANT2
CH 1_5955 MHz	
	
CH 45_6175 MHz	
	
CH 93_6415 MHz	
	

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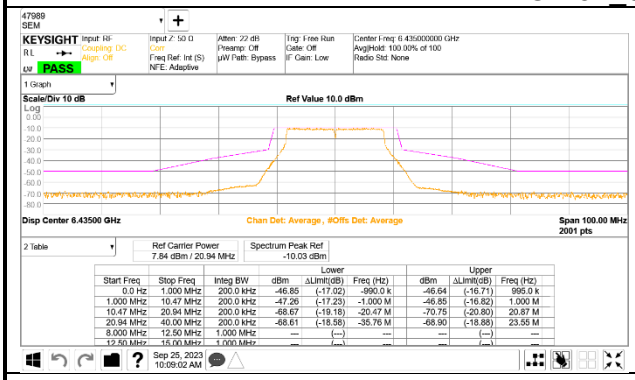
- LP

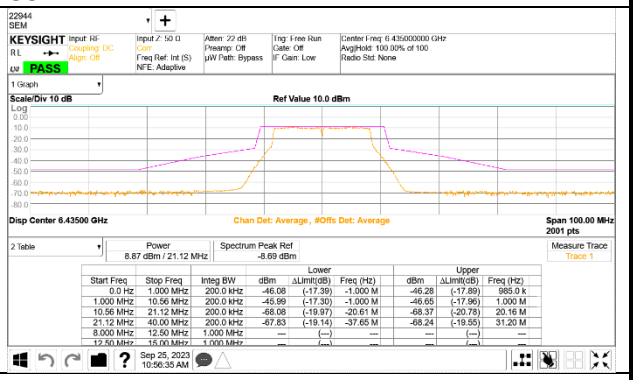
802.11 a / UNII-6

ANT1

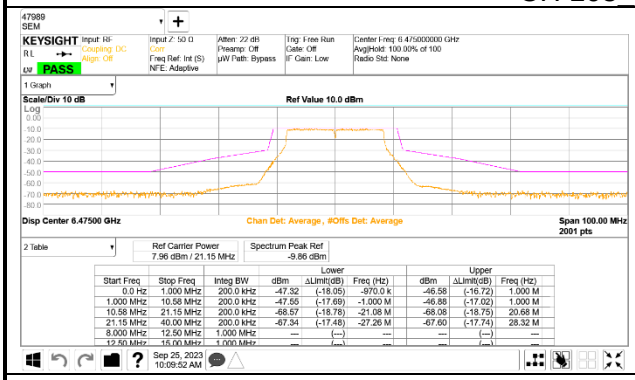
CH 97_6435 MHz

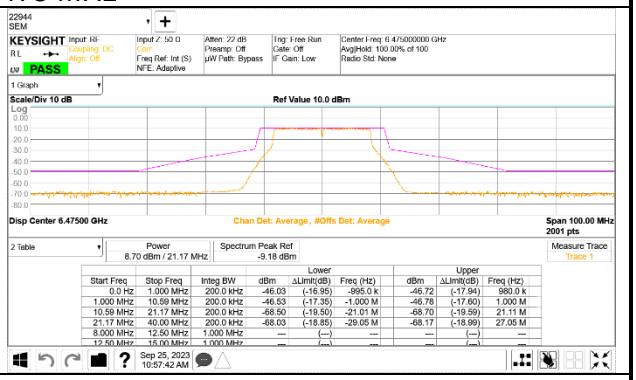


ANT2

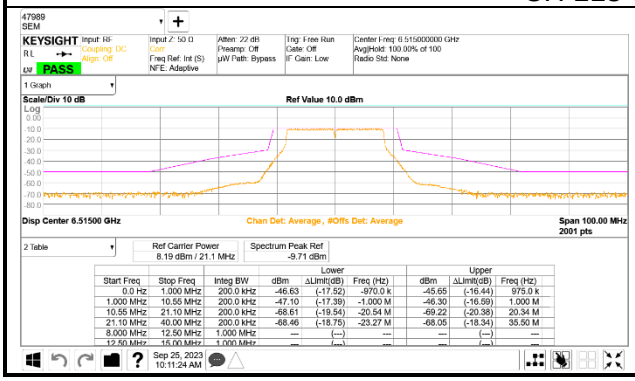


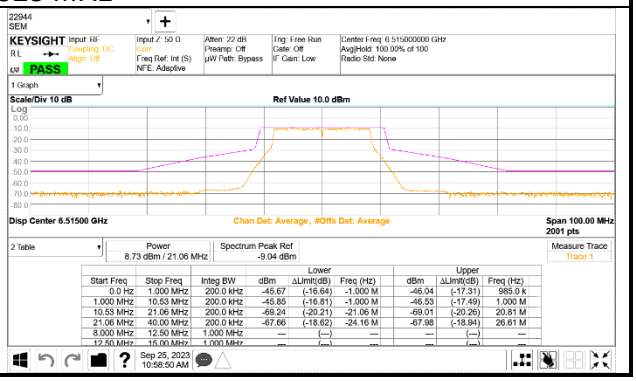
CH 105_6475 MHz





CH 113 6515 MHz





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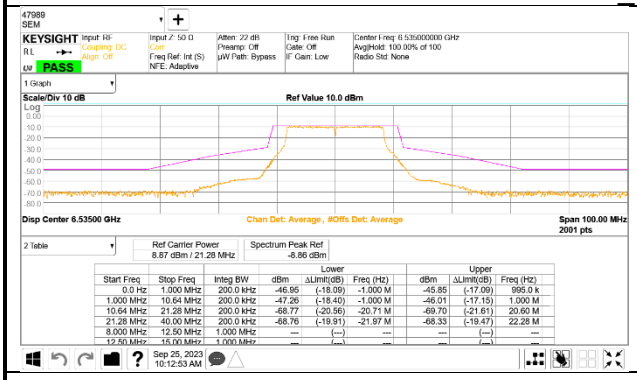
802.11 a / UNII-7

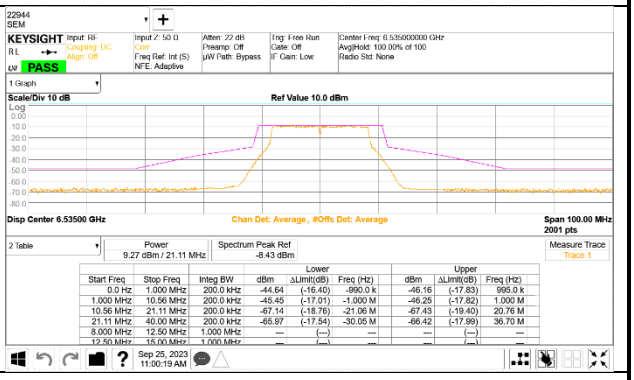
ANT1

CH 117_6535 MHz

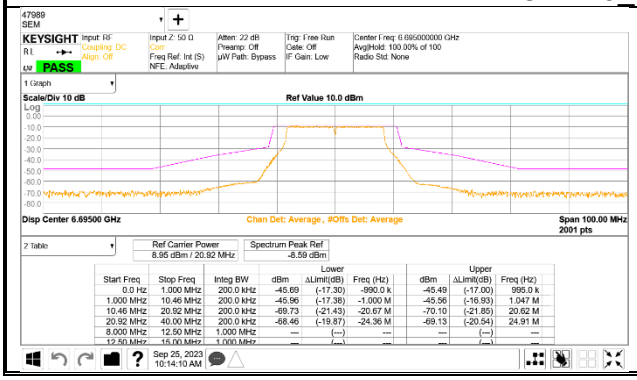


ANT2

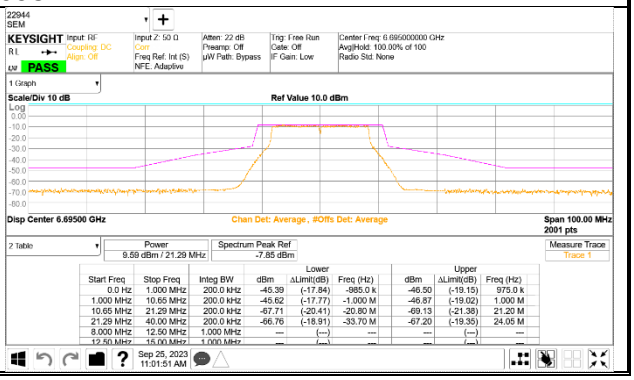
CH 117_6535 MHz



CH 149_6695 MHz



CH 149_6695 MHz



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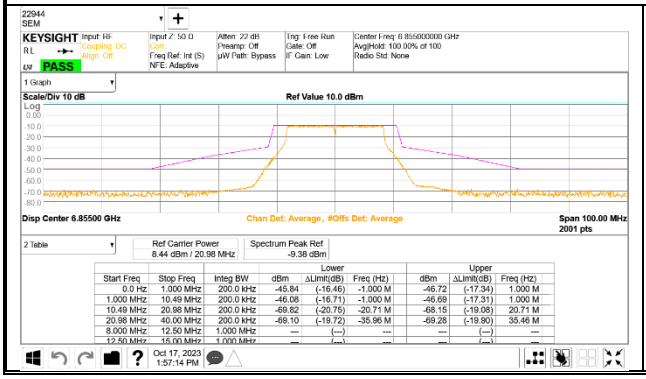
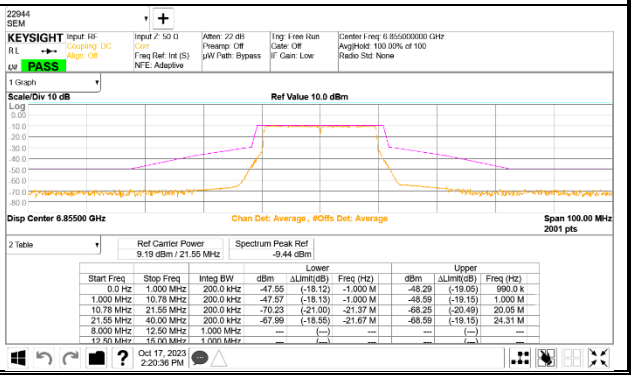
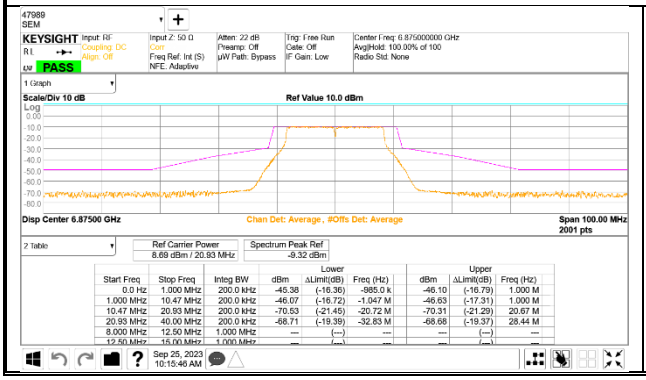
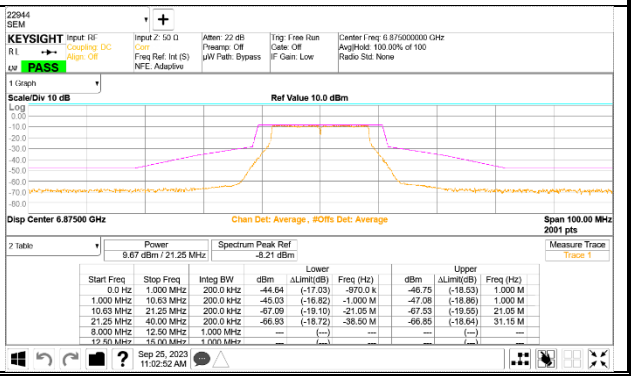
- SP

802.11 a / UNII-7	
ANT1	ANT2
CH 181 6855 MHz	
	

- LP

802.11 a / UNII-7	
ANT1	ANT2
CH 185 6875 MHz	
	

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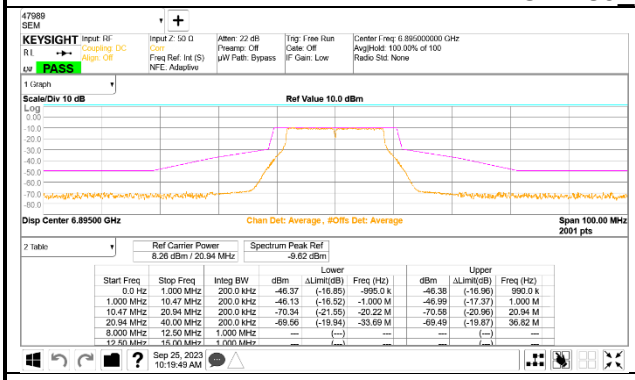
- LP

802.11 a / UNII-8

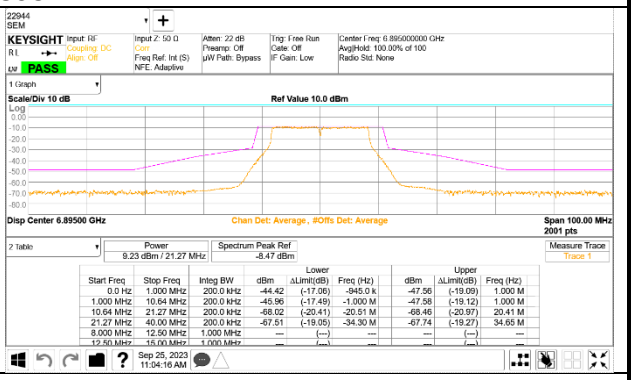
ANT1

CH 189_6895 MHz

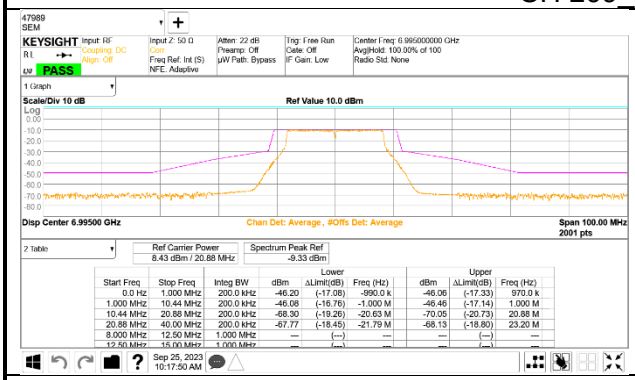


ANT2

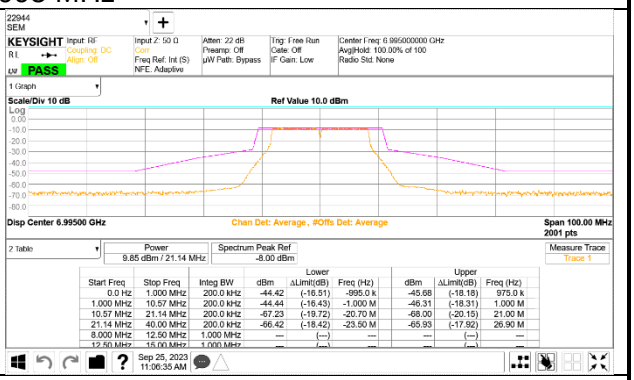
CH 189_6895 MHz



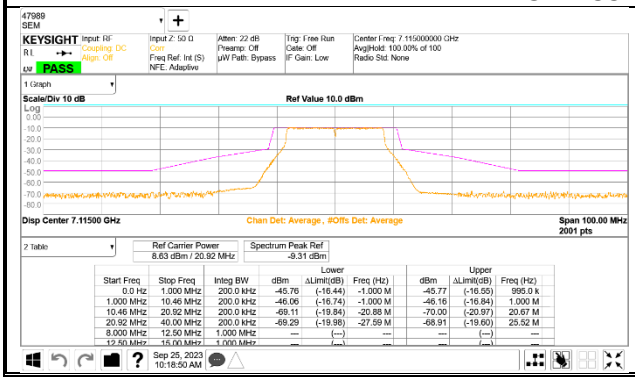
CH 209_6995 MHz



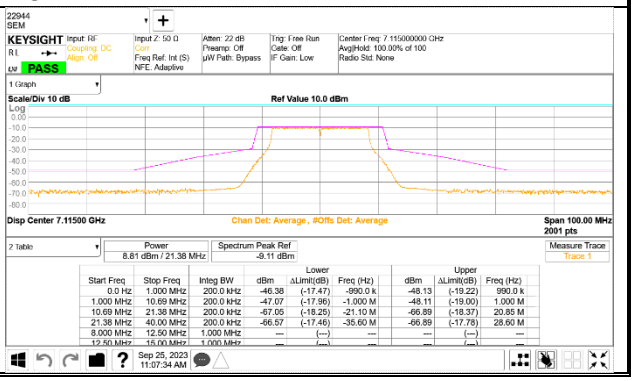
CH 209_6995 MHz



CH 233 7115 MHz



CH 233 7115 MHz



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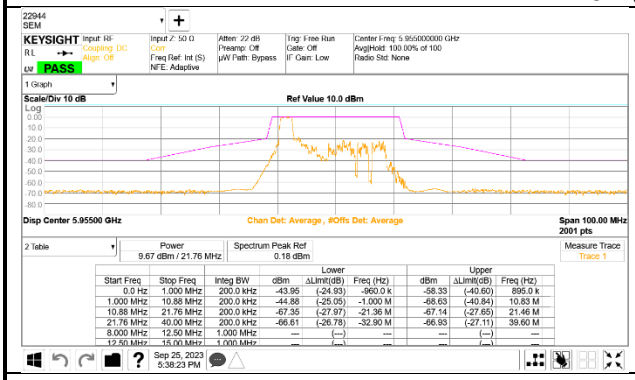
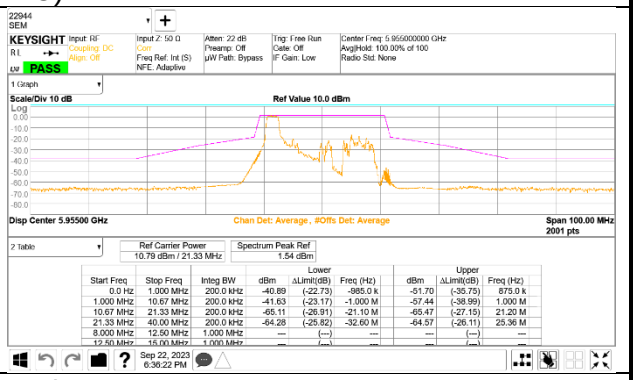
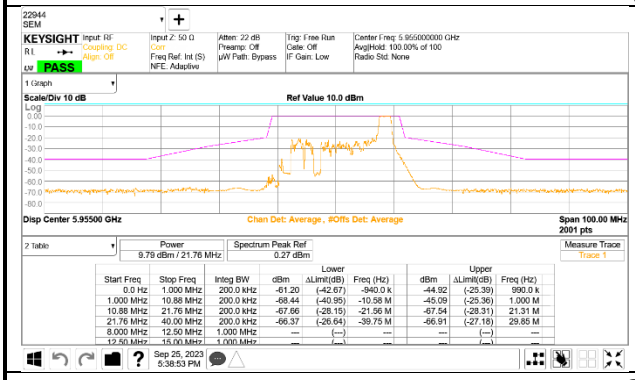
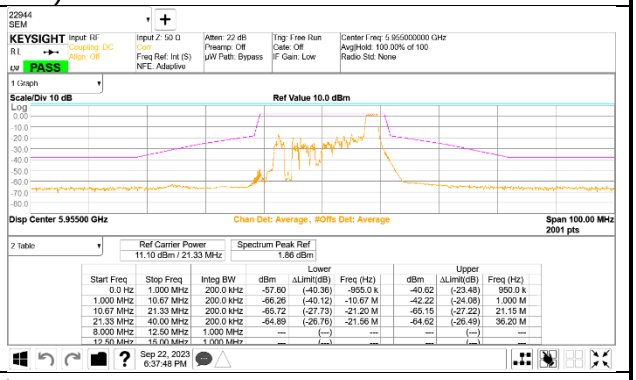
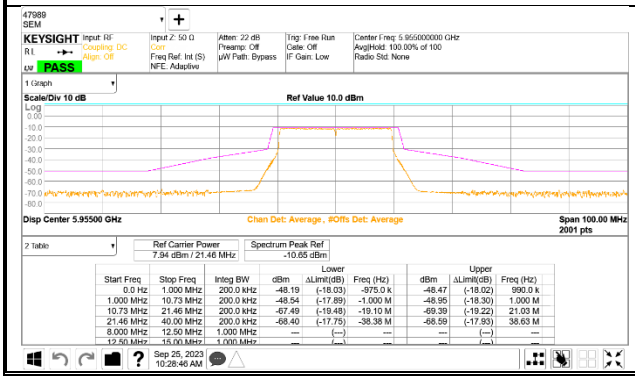
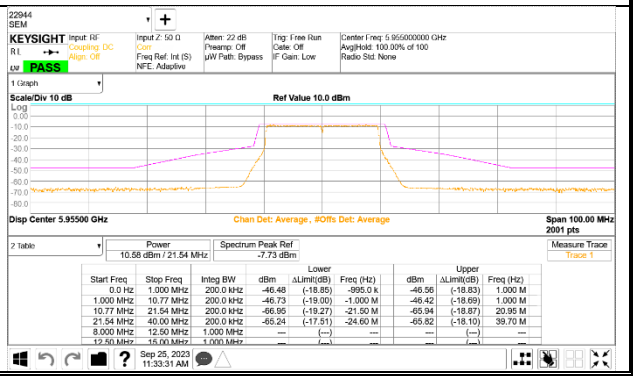
10.2.2. 802.11 ax HE20 MODE

- SP

802.11 ax HE20 / UNII-5 / CH1 5955 MHz

ANT1	ANT2
26T (0 RU)	
	
26T (8 RU)	
	
SU	
	

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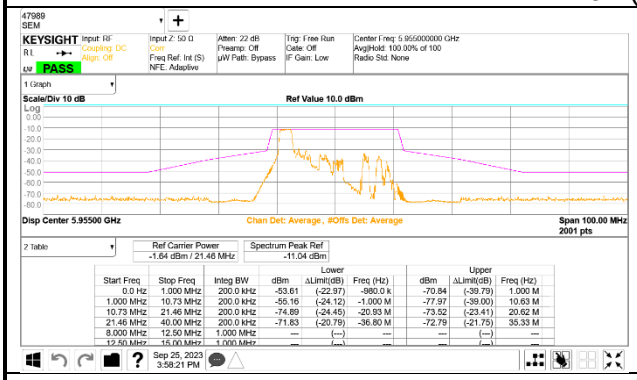
- LP

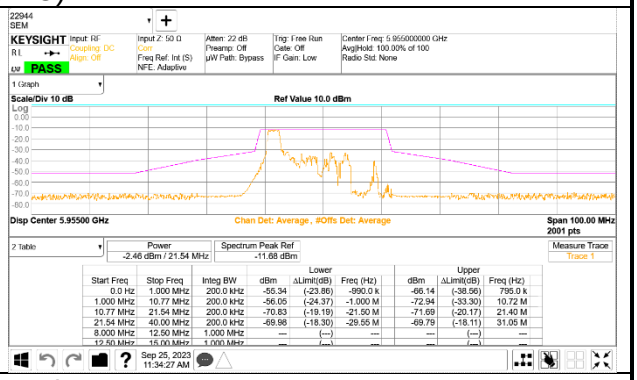
802.11 ax HE20 / UNII-5 / CH1 5955 MHz

ANT1

26T (0 RU)

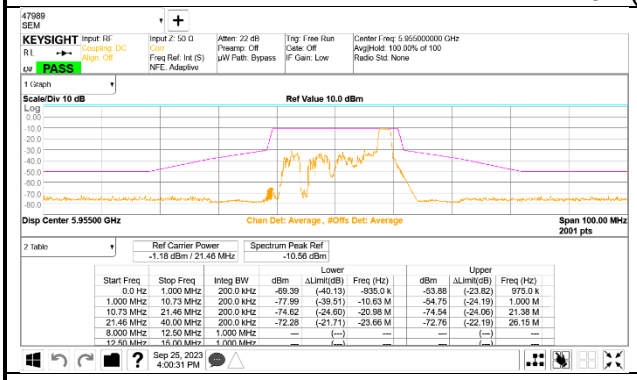


Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-53.61	(-22.97)	-980.0 k	-70.84	(-39.79)	1.000 M
1.000 MHz	10.73 MHz	200.0 kHz	-55.16	(-24.12)	-1.000 M	-77.97	(-39.00)	10.63 M
10.73 MHz	21.46 MHz	200.0 kHz	-74.89	(-24.45)	-20.93 M	-73.92	(-23.41)	20.62 M
21.46 MHz	40.00 MHz	200.0 kHz	-71.83	(-20.79)	-36.80 M	-72.79	(-21.75)	35.33 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

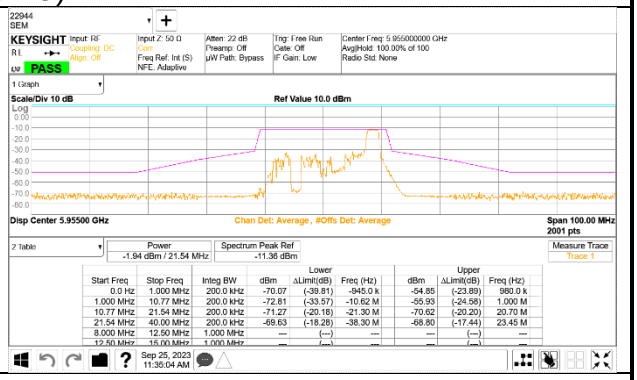


Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-55.34	(-23.86)	-990.0 k	-66.14	(-38.56)	795.0 k
1.000 MHz	10.77 MHz	200.0 kHz	-56.05	(-24.37)	-1.000 M	-72.94	(-33.30)	10.72 M
10.77 MHz	21.54 MHz	200.0 kHz	-70.83	(-19.19)	-21.50 M	-71.69	(-20.17)	21.40 M
21.54 MHz	40.00 MHz	200.0 kHz	-69.98	(-18.30)	-29.55 M	-69.79	(-18.11)	31.05 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

26T (8 RU)

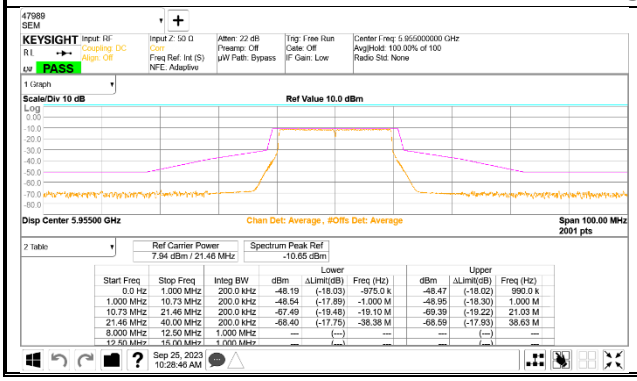


Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-69.39	(-40.13)	-935.0 k	-53.88	(-23.82)	975.0 k
1.000 MHz	10.73 MHz	200.0 kHz	-77.99	(-39.51)	-10.63 M	-54.75	(-24.19)	1.000 M
10.73 MHz	21.46 MHz	200.0 kHz	-74.62	(-24.60)	-20.98 M	-74.54	(-24.06)	21.38 M
21.46 MHz	40.00 MHz	200.0 kHz	-72.28	(-21.71)	-23.66 M	-72.76	(-22.19)	26.15 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

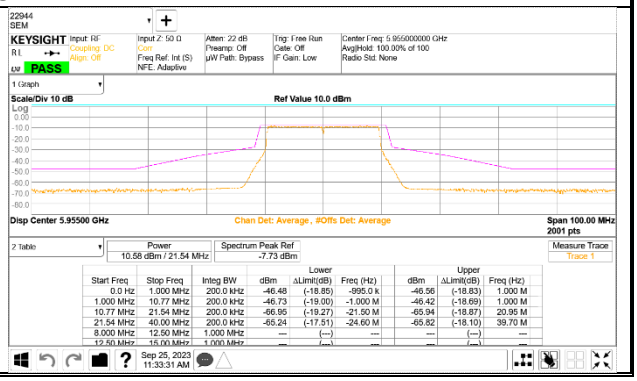


Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-70.07	(-39.81)	-945.0 k	-54.85	(-23.89)	980.0 k
1.000 MHz	10.77 MHz	200.0 kHz	-72.81	(-33.57)	-10.62 M	-55.93	(-24.58)	1.000 M
10.77 MHz	21.54 MHz	200.0 kHz	-71.27	(-20.18)	-21.30 M	-70.62	(-20.20)	20.70 M
21.54 MHz	40.00 MHz	200.0 kHz	-69.63	(-18.28)	-38.30 M	-68.80	(-17.44)	23.45 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

SU



Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-48.19	(-18.03)	-975.0 k	-48.47	(-18.02)	990.0 k
1.000 MHz	10.73 MHz	200.0 kHz	-48.54	(-17.89)	-1.000 M	-48.95	(-18.30)	1.000 M
10.73 MHz	21.46 MHz	200.0 kHz	-67.49	(-19.48)	-19.10 M	-69.39	(-19.22)	21.03 M
21.46 MHz	40.00 MHz	200.0 kHz	-68.40	(-17.75)	-36.38 M	-68.59	(-17.93)	38.63 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---



Start Freq	Stop Freq	Integ BW	dBm	ΔLimit(dB)	Freq (Hz)	dBm	ΔLimit(dB)	Freq (Hz)
			Lower			Upper		
0.0 Hz	1.000 MHz	200.0 kHz	-46.48	(-18.85)	-995.0 k	-46.56	(-18.83)	1.000 M
1.000 MHz	10.77 MHz	200.0 kHz	-46.73	(-19.00)	-1.000 M	-46.42	(-18.69)	1.000 M
10.77 MHz	21.54 MHz	200.0 kHz	-66.95	(-19.27)	-21.50 M	-65.94	(-18.87)	20.95 M
21.54 MHz	40.00 MHz	200.0 kHz	-65.24	(-17.51)	-24.60 M	-65.82	(-18.10)	39.70 M
8.000 MHz	12.50 MHz	1.000 MHz	---	(---)	---	---	(---)	---
12.50 MHz	15.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

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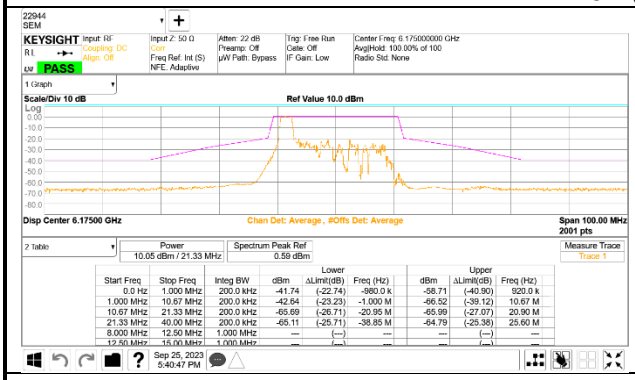
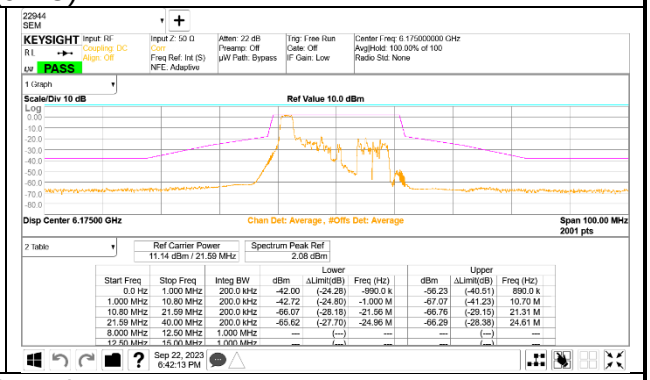
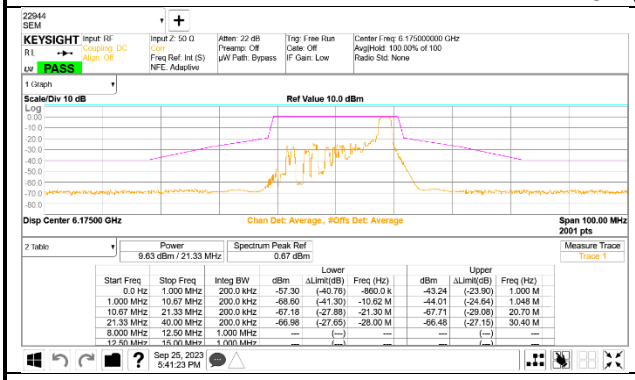
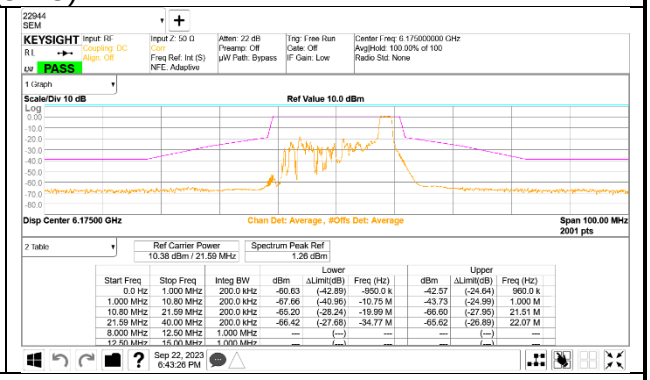
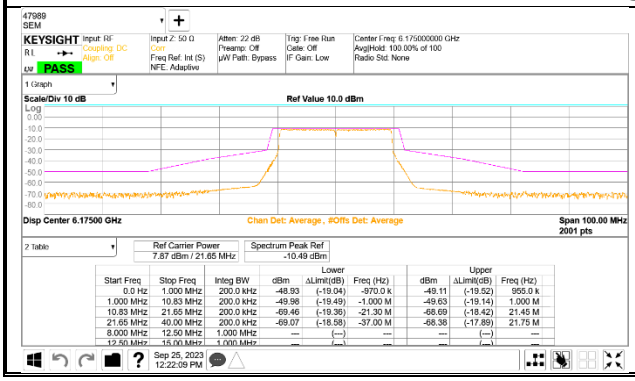
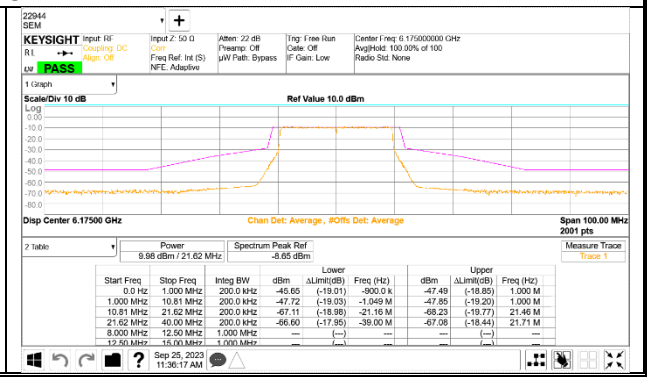
802.11 ax HE20 / UNII-5 / CH45 6175 MHz	
ANT1	ANT2
26T (0 RU)	
	
26T (8 RU)	
	
SU	
	

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