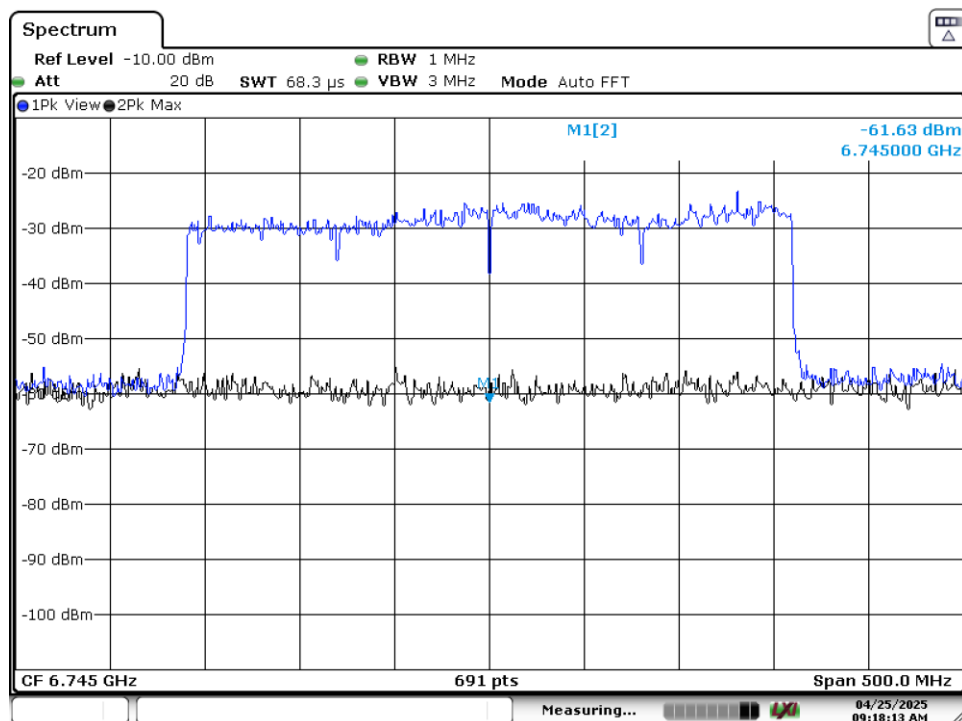
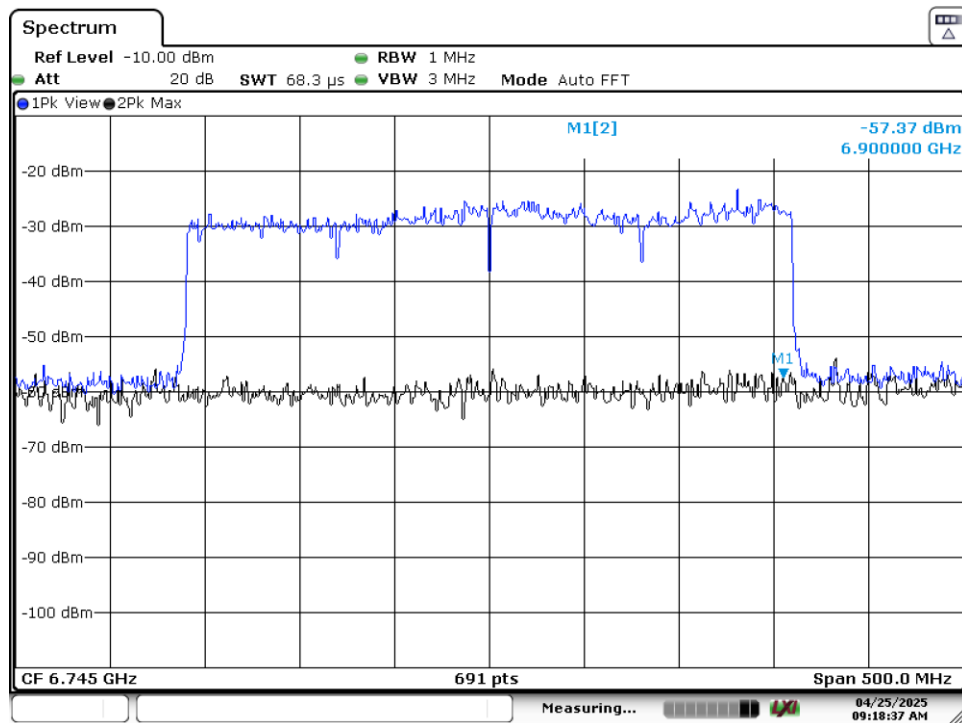




Date: 25.APR.2025 09:18:13

Plot 7-91. CBP 320MHz Channel - Injection Center – [6745 MHz]



Date: 25.APR.2025 09:18:37

Plot 7-92. CBP 320MHz Channel - Injection Upper Edge – [6900 MHz]

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7.7 Dual Client Device Additional Requirement (AFC Protocol) 15.407

Test Overview and Limit

Dual Client Device additional requirements (AFC Protocol) are tested per the test procedures listed below. During testing, the EUT is connected to a standard power access point to show compliance with 15.407.

The maximum power limits shall remain at least 6dB below the power levels authorized for the associated standard-power access point.

The EUT must distinguish its associated access point as standard or low power and control its power levels accordingly.

Test Procedure Used

ANSI C63.10.2013 – Section 12.3.3.2 Method PM-G
ANSI C63.10.2013 – Section 14.2 Measure-and-Sum Technique
KDB 987594 D02 v03

Test Setup/Method

The EUT was connected via an RF cable to a power meter and a callbox acting as a 6GHz standard power access point. For LPI measurement, the device is connected to a power meter via an RF cable and to an LPI access point wirelessly.

1. Standard Power callbox:
 - a. Enable 6GHz standard power access point
 - b. Send command to set power limit
 - c. Connect EUT to callbox AP (CMX500) and generate traffic via iperf.
 - d. Measure output power at conducted ports of client EUT
2. Low power indoor access point:
 - a. Connect EUT to LPI AP network (TPLink Archer BE900) and generate traffic via iPerf.
 - b. Measure output power at conducted ports of client EUT

Test Notes

- The EUT is a Dual Client Device.
- The test was executed with the CMX SP AP authorized to transmit up to 9.00dBm, 22.5dBm, and 36dBm on Ch. 1 (5955MHz). The LPI AP was operating on channel 1.
- The lowest 9.00dBm power level is based on the EIRP resulting from the conducted power targets specified in the manufacturer's "WLAN and Bluetooth Maximum Power Document".
- For LPI power verification, the EUT was connected via a conducted connection to the power meter. Simultaneously, the EUT was able to see and establish a radiated connection with the low power indoor access point.
- The CMX "Max Tx Power" values displayed below are 2 times the set max EIRP level in dBm: Max Tx Power = (72) = 36dBm

Test Setup Diagram

The testing was setup as shown in the diagram below:

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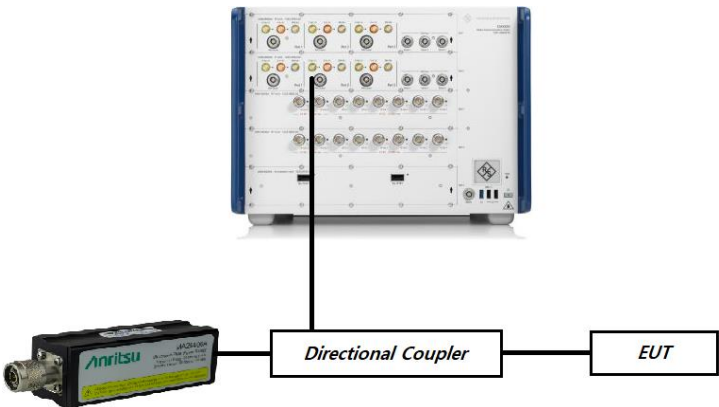


Figure 7-6. Test Setup Diagram for Power Reduction Verification Test

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
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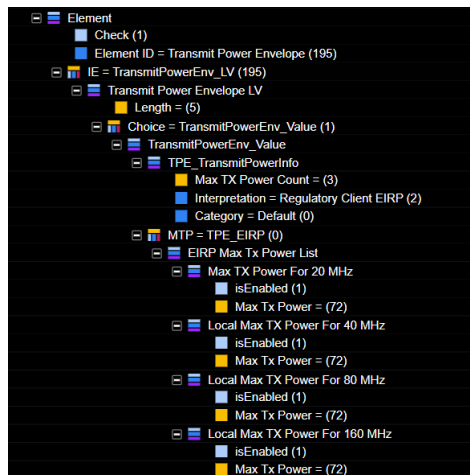


Figure 7-7. Callbox Power Authorization – 36.00dBm

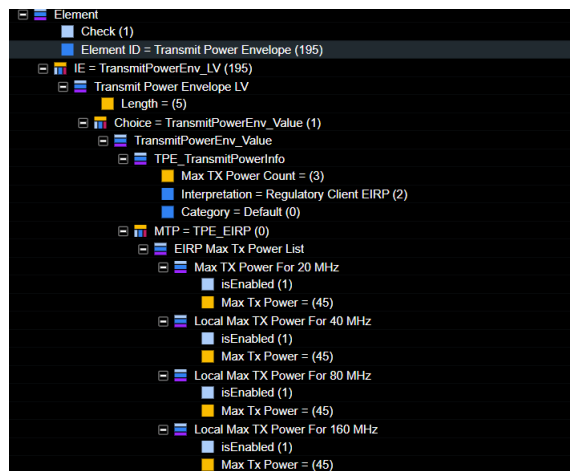


Figure 7-8. Callbox Power Authorization – 22.50dBm

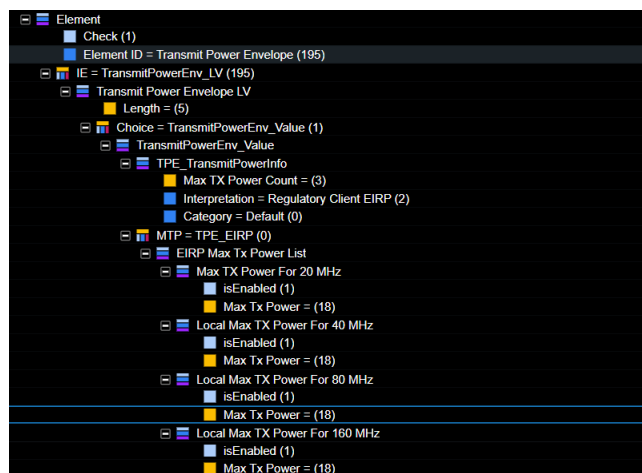


Figure 7-9. Callbox Power Authorization – 9.00dBm

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AFC Authorized EIRP for AP [dBm]	Dual Client ANT1 Conducted Power [dBm]	Antenna Gain [dBi]	Dual Client EIRP [dBm]	Client EIRP Limit [dBm]	Margin [dB]
36.00	12.36	-4.49	7.87	30.00	-22.13
22.50	12.01	-4.49	7.52	16.50	-8.98
9.00	6.55	-4.49	2.06	3.00	-0.94

Table 7-80. Dual Client Output Power Results – Ch.5

AP	AFC Authorized EIRP for AP [dBm]	Dual Client ANT1 Conducted Power [dBm]	Antenna Gain [dBi]	Dual Client EIRP [dBm]	Client EIRP Limit [dBm]	Margin [dB]
SP	36.00	12.36	-4.49	7.87	30.00	-22.13
LPI		4.82	-4.49	0.33	24.00	-23.67

Table 7-81. Power Adjustment based on Associated AP Results – Ch.5

Sample e.i.r.p. Calculation:

At 5955MHz in 802.11ax (20MHz BW) mode, the average MIMO conducted power was calculated to be 12.36 dBm with antenna gain of -3.88 dBi.

$$\text{e.i.r.p. (dBm)} = \text{Conducted Power (dBm)} + \text{Ant gain (dBi)}$$

$$12.36 \text{ dBm} + -3.88\text{dBi} = 8.48\text{dBm}$$

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7.8 Radiated Emission Measurements

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11ax (20/40/80/160MHz), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst-case emissions are reported in this section.

For transmitters operating in the 5.925-7.125 GHz band: All emissions outside of the 5.925-7.125 GHz band shall not exceed an EIRP of -27dBm/MHz (68.2dBuV/m at a 3m distance). Emissions found in a restricted band are subject to the limits of 15.209 as shown in the table below.

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400\F (kHz)	300
0.490 – 1.705 MHz	24000\F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-82. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5

Test Settings – Above 1GHz

Average Field Strength Measurements (Method AD – Average Detection)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span} \backslash \text{RBW}$)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

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Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize.

Test Settings – Below 1GHz

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

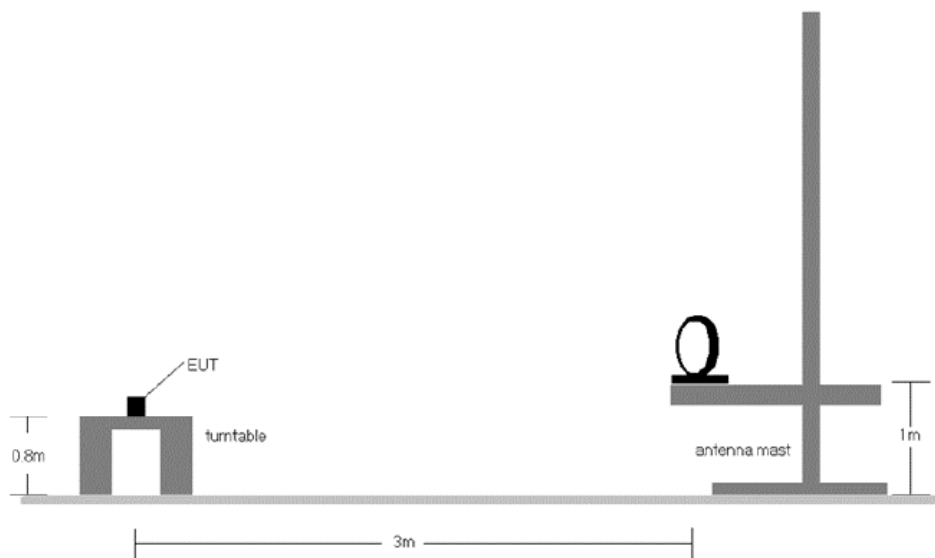


Figure 7-10. Radiated Test Setup < 30MHz

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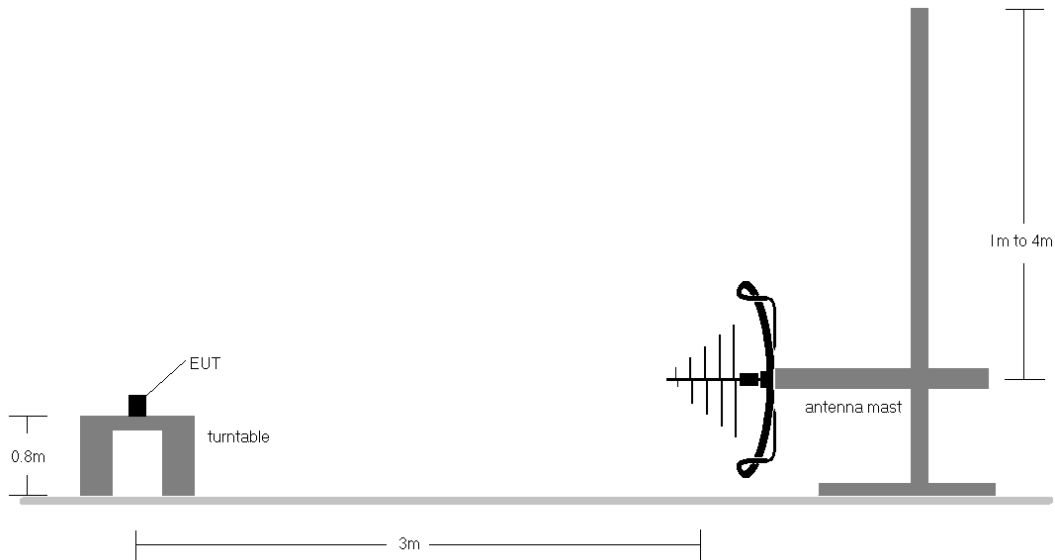


Figure 7-11. Radiated Test Setup < 1GHz

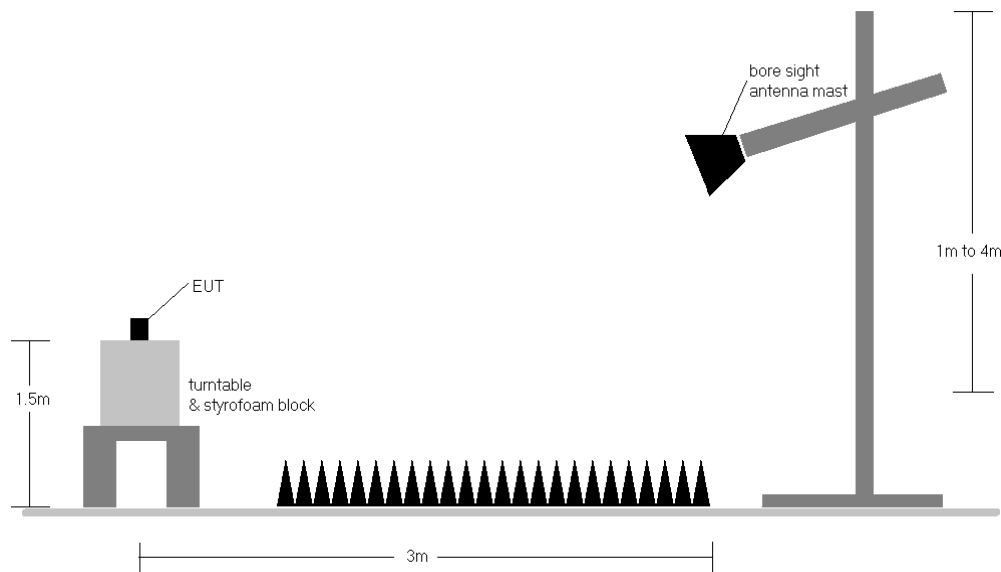


Figure 7-12. Radiated Test Setup > 1GHz

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Test Notes

1. All spurious emissions lying in restricted bands specified in §15.205 are below the limits specified in §15.209. All spurious emissions that do not lie in a restricted band are subject to an average limit of -27dBm/MHz. At 3 meters, the field strength limit in dB μ V/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dB μ V/m.
2. All spurious emissions that do not lie in a restricted band are subject to a peak limit not to exceed 20dB of the average limit [68.2dB μ V/m]. If a peak measurement passes the average limit, it was determined no further investigation is necessary.
3. The antenna is manipulated through typical positions, polarity, and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported, however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3-meter test distance while emissions above 18GHz were measured at a 1-meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
8. In the case where a peak-detector measurement passed the given RMS limit it was determined sufficient to demonstrate compliance.
9. The results recorded using the broadband antenna are known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level [dB μ V/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dB μ V/m] – Limit [dB μ V/m]

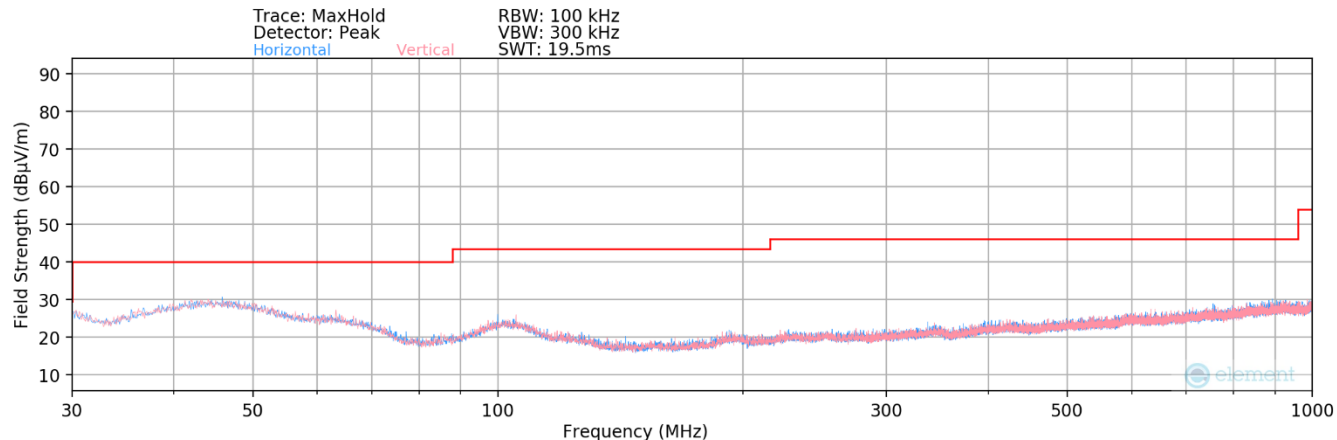
Radiated Band Edge Measurement Offset

The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:

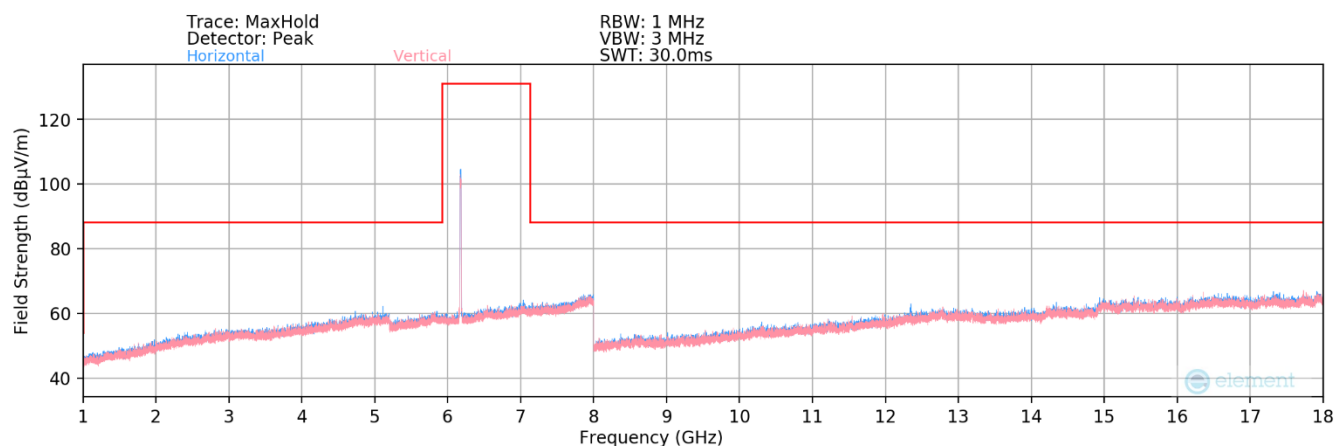
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

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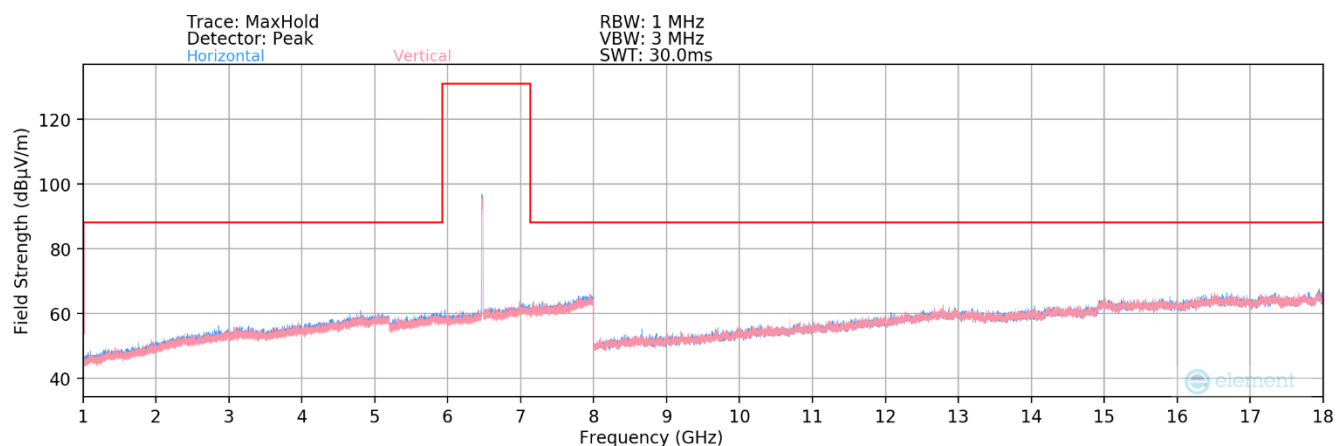
7.8.1 MIMO Radiated Spurious Emission Measurements



Plot 7-93. Radiated Spurious Plot below 1GHz MIMO (802.11a)

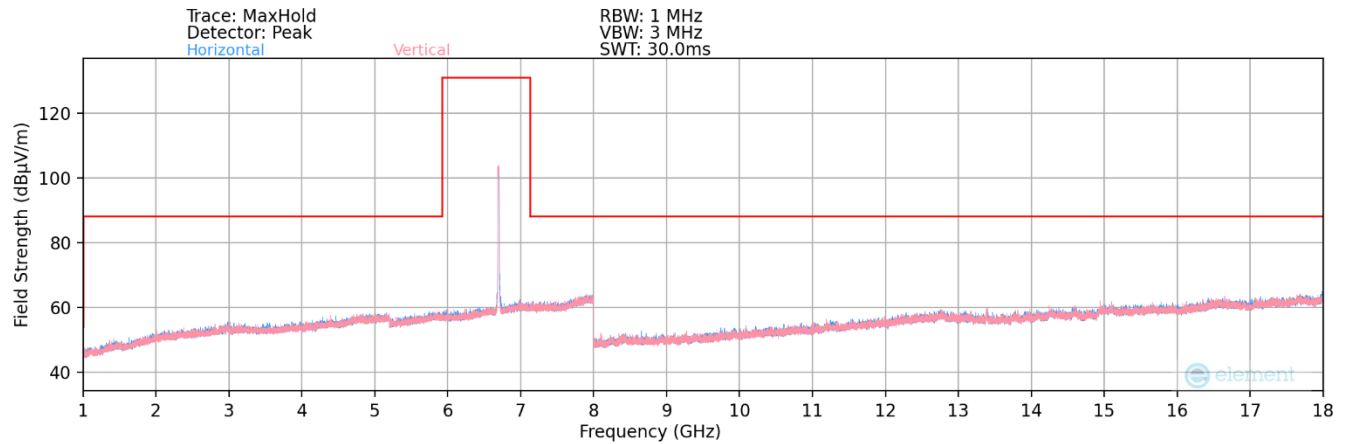


Plot 7-94. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11a – UNII Band 5 Ch. 45)

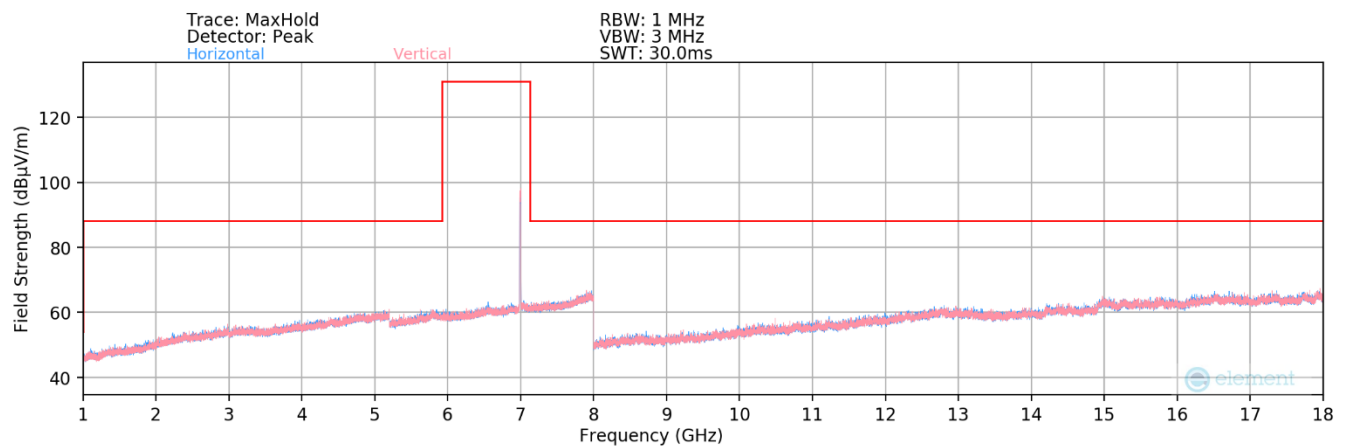


Plot 7-95. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11a – UNII Band 6 Ch. 105)

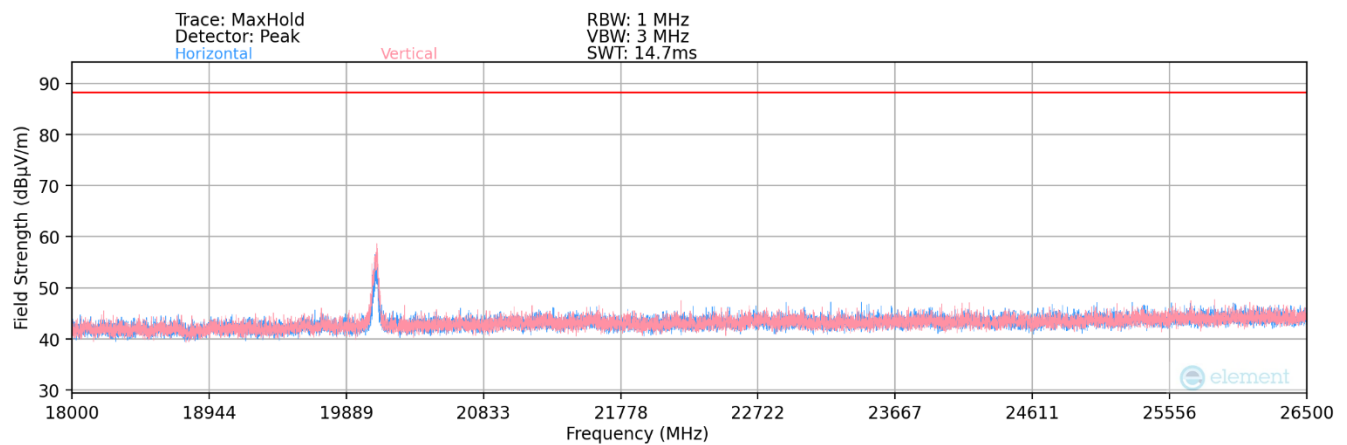
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-96. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11a – UNII Band 7 Ch. 149)

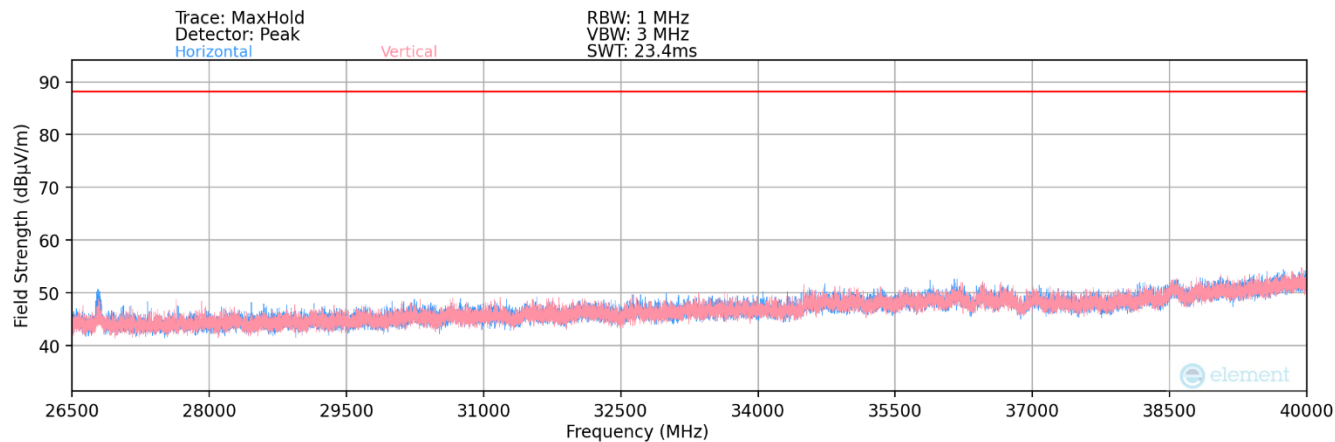


Plot 7-97. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11a – U Band 8 Ch. 209)



Plot 7-98. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a) – Ch. 149

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Plot 7-99. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a) – Ch. 149

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MIMO Radiated Spurious Emission Measurements – UNII Band 5

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
802.11a	MIMO	5	2	5935	*	11870.00	Average	H	178	21	-80.65	18.86	0.00	45.21	53.98	-8.77
					*	11870.00	Peak	H	178	21	-69.42	18.86	0.00	56.44	73.98	-17.54
					*	17805.00	Average	H	-	-	-83.14	26.16	0.00	50.02	53.98	-3.96
					*	17805.00	Peak	H	-	-	-71.91	26.16	0.00	61.25	73.98	-12.73
					*	23740.00	Average	H	-	-	-67.81	3.58	-9.54	33.23	53.98	-20.75
					*	23740.00	Peak	H	-	-	-56.89	3.58	-9.54	44.15	73.98	-29.83
			45	6175		29675.00	Peak	H	-	-	-57.11	5.33	-9.54	45.68	68.20	-22.52
					*	12350.00	Average	H	176	3	-78.45	19.23	0.00	47.78	53.98	-6.20
					*	12350.00	Peak	H	176	3	-67.91	19.23	0.00	58.32	73.98	-15.66
					*	18525.00	Average	H	150	350	-61.36	1.16	-9.54	37.26	53.98	-16.72
					*	18525.00	Peak	H	150	350	-48.49	1.16	-9.54	50.13	73.98	-23.85
						24700.00	Peak	H	-	-	-56.09	3.72	-9.54	45.09	68.20	-23.11
			93	6415		30875.00	Peak	H	-	-	-57.24	6.32	-9.54	46.55	68.20	-21.65
						12830.00	Peak	H	178	72	-64.12	20.14	0.00	63.02	68.20	-5.18
					*	19245.00	Average	H	150	20	-61.59	1.84	-9.54	37.71	53.98	-16.27
					*	19245.00	Peak	H	150	20	-49.10	1.84	-9.54	50.20	73.98	-23.78
						25660.00	Peak	H	-	-	-55.31	3.90	-9.54	46.05	68.20	-22.15
						32075.00	Peak	H	-	-	-56.14	6.64	-9.54	47.96	68.20	-20.24

Table 7-83. Radiated Measurements MIMO – SP

MIMO Radiated Spurious Emission Measurements – UNII Band 6

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
802.11a	MIMO	6	97	6435		12870.00	Peak	H	189	74	-68.00	20.06	0.00	59.06	68.20	-9.14
					*	19305.00	Average	H	150	320	-63.34	1.64	-9.54	35.77	53.98	-18.21
					*	19305.00	Peak	H	150	320	-51.84	1.64	-9.54	47.26	73.98	-26.72
						25740.00	Peak	H	-	-	-56.21	3.84	-9.54	45.09	68.20	-23.11
						32175.00	Peak	H	-	-	-56.91	6.80	-9.54	47.34	68.20	-20.86
			105	6475		12950.00	Peak	H	188	76	-69.69	20.00	0.00	57.31	68.20	-10.89
					*	19425.00	Average	H	150	320	-63.27	1.80	-9.54	36.00	53.98	-17.98
					*	19425.00	Peak	H	150	320	-51.39	1.80	-9.54	47.88	73.98	-26.10
						25900.00	Peak	H	-	-	-55.24	4.24	-9.54	46.45	68.20	-21.75
						32375.00	Peak	H	-	-	-57.30	6.46	-9.54	46.62	68.20	-21.58
			113	6515		13030.00	Peak	H	126	29	-69.37	20.37	0.00	58.00	68.20	-10.20
					*	19545.00	Average	H	150	340	-60.68	1.84	-9.54	38.63	53.98	-15.35
					*	19545.00	Peak	H	150	340	-49.96	1.84	-9.54	49.34	73.98	-24.64
						26060.00	Peak	H	-	-	-56.06	4.18	-9.54	45.59	68.20	-22.61
						32575.00	Peak	H	-	-	-56.50	6.18	-9.54	47.14	68.20	-21.06

Table 7-84. Radiated Measurements MIMO – LPI

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT			Approved by: Technical Manager
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MIMO Radiated Spurious Emission Measurements – UNII Band 7

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
802.11a	MIMO	7	117	6535		13070.00	Peak	H	222	17	-63.88	20.29	0.00	63.41	68.20	-4.79
					*	19605.00	Average	V	150	320	-53.53	2.38	-9.54	46.31	53.98	-7.67
					*	19605.00	Peak	V	150	320	-42.12	2.38	-9.54	57.71	73.98	-16.27
						26140.00	Peak	V	150	320	-54.08	4.03	-9.54	47.41	68.20	-20.79
						32675.00	Peak	V	-	-	-57.54	6.46	-9.54	46.38	68.20	-21.82
			149	6695	*	13390.00	Average	H	136	325	-76.85	20.77	0.00	50.92	53.98	-3.06
					*	13390.00	Peak	H	136	325	-64.78	20.77	0.00	62.99	73.98	-10.99
					*	20085.00	Average	V	150	320	-51.09	2.58	-9.54	48.95	53.98	-5.03
					*	20085.00	Peak	V	150	320	-40.39	2.58	-9.54	59.65	73.98	-14.33
						26780.00	Peak	H	150	345	-51.60	4.33	-9.54	50.18	68.20	-18.02
			185	6875		33475.00	Peak	V	-	-	-56.86	6.96	-9.54	47.55	68.20	-20.65
						13750.00	Peak	H	121	76	-66.94	21.34	0.00	61.40	68.20	-6.80
					*	20625.00	Average	V	150	320	-59.15	3.01	-9.54	41.32	53.98	-12.66
					*	20625.00	Peak	V	150	320	-47.82	3.01	-9.54	52.65	73.98	-21.33
						27500.00	Peak	V	150	320	-55.14	3.97	-9.54	46.30	68.20	-21.90
						34375.00	Peak	V	-	-	-57.43	7.33	-9.54	47.36	68.20	-20.84

Table 7-85. Radiated Measurements MIMO – SP

Mode	Antenna	UNII Band	Channel	Test Channel Freq.	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
802.11a	MIMO	7	149	6695	*	13390.00	Average	H	152	358	-77.08	20.77	0.00	50.69	53.98	-3.29
					*	13390.00	Peak	H	152	358	-64.51	20.77	0.00	63.26	73.98	-10.72
					*	20085.00	Average	V	150	330	-53.49	2.58	-9.54	46.55	53.98	-7.43
					*	20085.00	Peak	V	150	330	-41.98	2.58	-9.54	58.06	73.98	-15.92
						26780.00	Peak	V	-	-	-55.60	4.33	-9.54	46.18	68.20	-22.02
						33475.00	Peak	V	-	-	-56.86	6.96	-9.54	47.55	68.20	-20.65

Table 7-86. Radiated Measurements MIMO with WCP

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset		Page 118 of 138

MIMO Radiated Spurious Emission Measurements – UNII Band 8

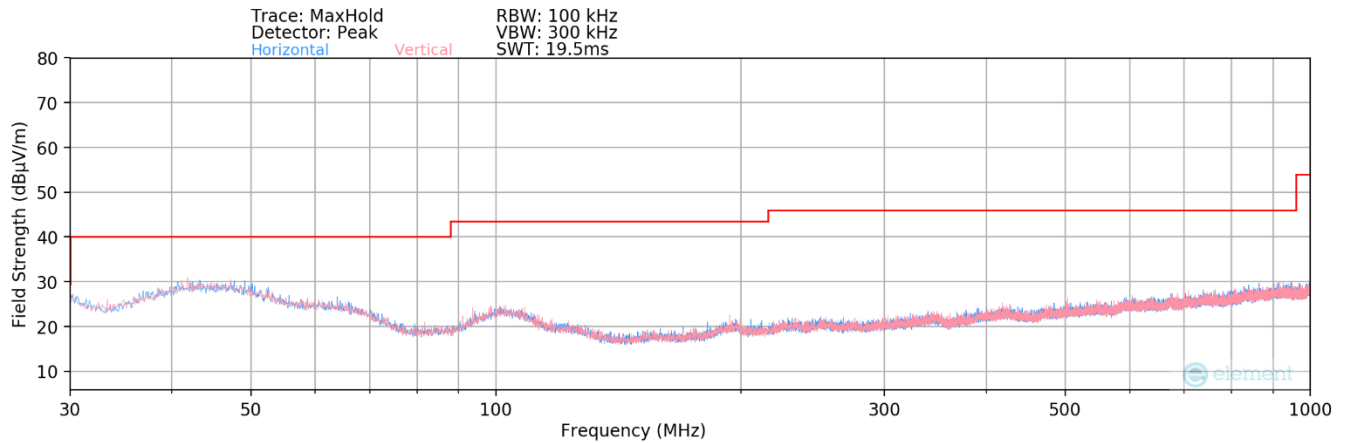
Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
802.11a	MIMO	8	189	6895		13790.00	Peak	H	133	74	-67.46	21.59	0.00	61.13	68.20	-7.07
					*	20685.00	Average	V	150	320	-58.35	3.01	-9.54	42.12	53.98	-11.86
					*	20685.00	Peak	V	150	320	-46.28	3.01	-9.54	54.19	73.98	-19.79
						27580.00	Peak	V	-	-	-56.85	4.40	-9.54	45.01	68.20	-23.19
						34475.00	Peak	V	-	-	-56.12	7.31	-9.54	48.65	68.20	-19.55
			209	6995		13990.00	Peak	H	150	82	-68.77	21.24	0.00	59.47	68.20	-8.73
					*	20985.00	Average	V	150	320	-60.27	3.27	-9.54	40.46	53.98	-13.52
					*	20985.00	Peak	V	150	320	-48.57	3.27	-9.54	52.16	73.98	-21.82
						27980.00	Peak	V	-	-	-56.60	4.40	-9.54	45.26	68.20	-22.94
						34975.00	Peak	V	-	-	-56.41	7.79	-9.54	48.84	68.20	-19.36
			233	7115		14230.00	Peak	H	120	357	-69.94	21.94	0.00	59.00	68.20	-9.20
					*	21345.00	Average	H	150	320	-63.28	3.57	-9.54	37.75	53.98	-16.23
					*	21345.00	Peak	H	150	320	-52.88	3.57	-9.54	48.16	73.98	-25.82
						28460.00	Peak	H	-	-	-55.99	5.01	-9.54	46.48	68.20	-21.72
						35575.00	Peak	H	-	-	-56.56	7.78	-9.54	48.68	68.20	-19.52

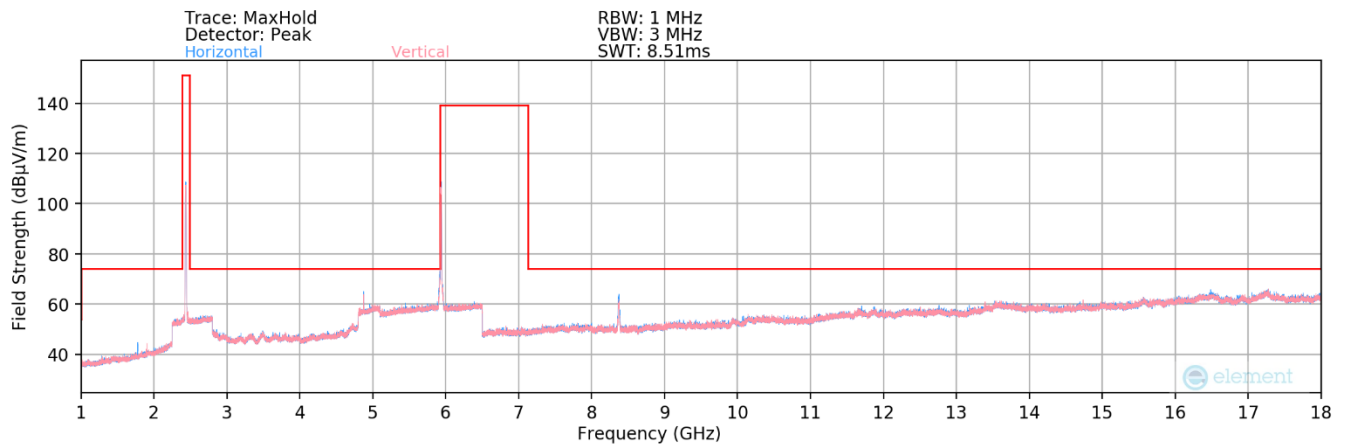
Table 7-87. Radiated Measurements MIMO – LPI

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 119 of 138

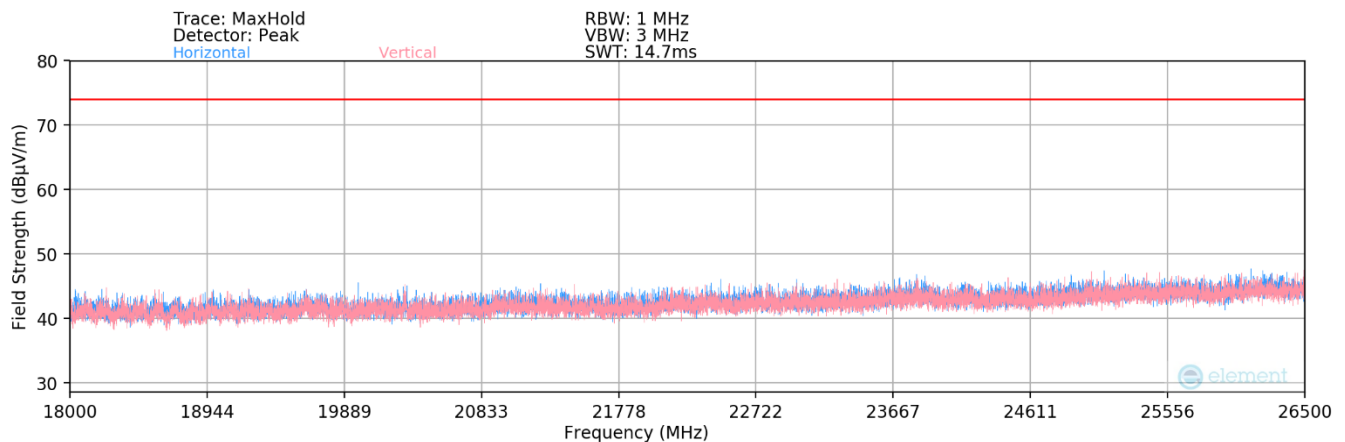
7.8.2 MIMO Radiated Spurious Emission Measurements – Simultaneous Transmission



Plot 7-100. Radiated Spurious Plot below 1GHz MIMO 802.11b (2.4GHz – Ch.6) + MIMO 802.11a (6GHz – Ch.1)

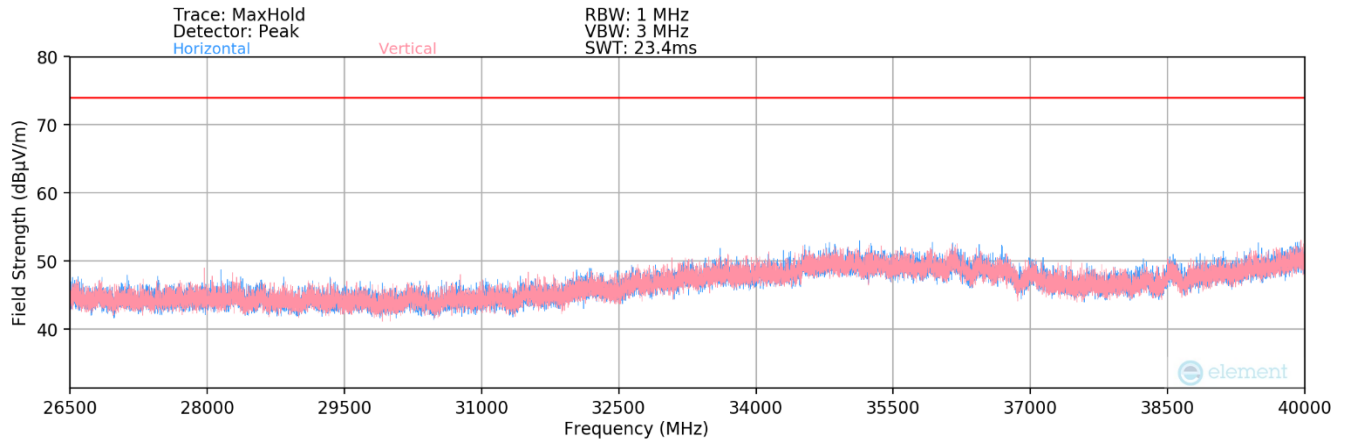


Plot 7-101. Radiated Spurious Plot above 1GHz MIMO 802.11b (2.4GHz – Ch.6) + MIMO 802.11a (6GHz – Ch.1)



Plot 7-102. Radiated Spurious Plot 18GHz – 26.6GHz MIMO 802.11b (2.4GHz – Ch.6) + MIMO 802.11a (6GHz – Ch.1)

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 120 of 138



Plot 7-103. Radiated Spurious Plot 26.6GHz – 40GHz MIMO 802.11b (2.4GHz – Ch.6) + MIMO 802.11a (6GHz – Ch.1)

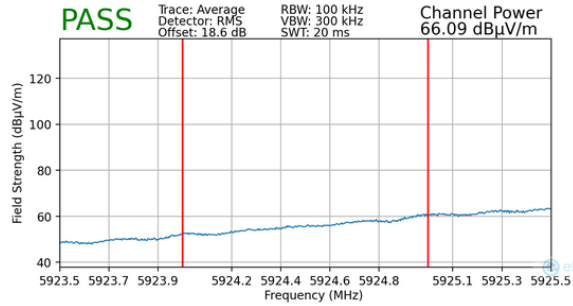
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
806.00	Peak	H	-	-	-76.50	-2.11	0.00	28.39	46.02	-17.63
* 1081.00	Average	H	-	-	-74.86	-2.46	0.00	29.68	53.98	-24.30
* 1081.00	Peak	H	-	-	-65.97	-2.46	0.00	38.57	73.98	-35.41
* 1356.00	Average	H	-	-	-75.35	-1.46	0.00	30.19	53.98	-23.79
* 1356.00	Peak	H	-	-	-66.40	-1.46	0.00	39.14	73.98	-34.84
3518.00	Peak	H	219	13	-68.42	7.75	0.00	46.33	68.20	-21.87
7036.00	Peak	H	199	65	-69.09	15.43	0.00	53.34	68.20	-14.86
* 8392.00	Average	H	161	118	-73.66	17.01	0.00	50.35	53.98	-3.63
* 8392.00	Peak	H	161	118	-61.01	17.01	0.00	63.00	73.98	-10.98
* 9473.00	Average	H	102	306	-79.35	18.49	0.00	46.14	53.98	-7.84
* 9473.00	Peak	H	102	306	-70.60	18.49	0.00	54.89	73.98	-19.09
* 10829.00	Average	H	210	349	-80.18	20.66	0.00	47.48	53.98	-6.50
* 10829.00	Peak	H	210	349	-71.37	20.66	0.00	56.29	73.98	-17.69
14347.00	Peak	H	-	-	-73.18	15.43	0.00	49.25	68.20	-18.95
* 20302.00	Average	H	-	-	-62.24	2.95	-9.54	38.17	53.98	-15.81
* 20302.00	Peak	H	-	-	-51.94	2.95	-9.54	48.47	73.98	-25.51

Table 7-88. Radiated Measurements MIMO 2.4GHz + 6GHz

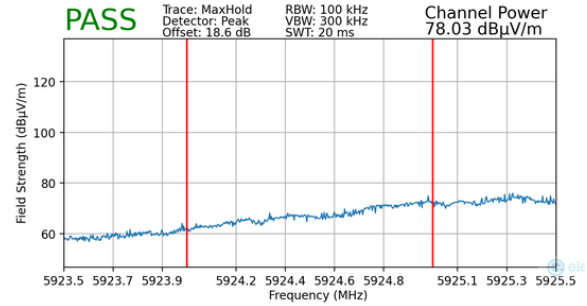
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 121 of 138

7.8.3 MIMO Radiated Band Edge Measurements (20MHz BW)

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5935MHz
Channel:	2

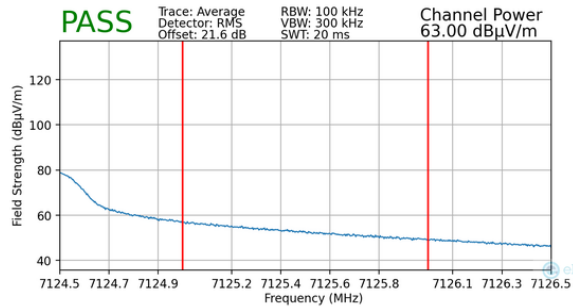


Plot 7-104. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

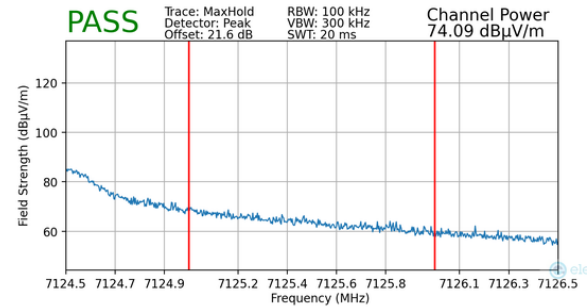


Plot 7-105. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	7115MHz
Channel:	233



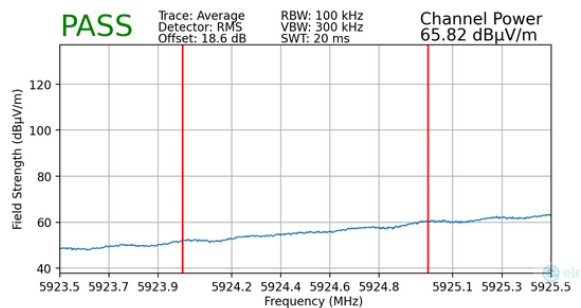
Plot 7-106. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)



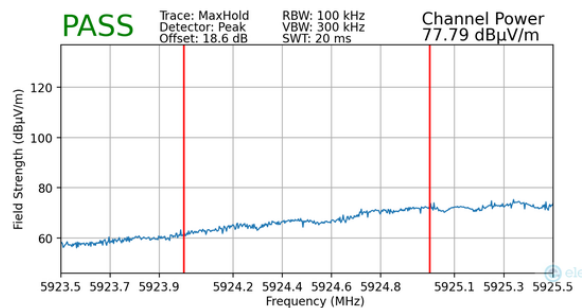
Plot 7-107. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 122 of 138

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 5935MHz
Channel: 2



**Plot 7-108. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 5) with WCP**

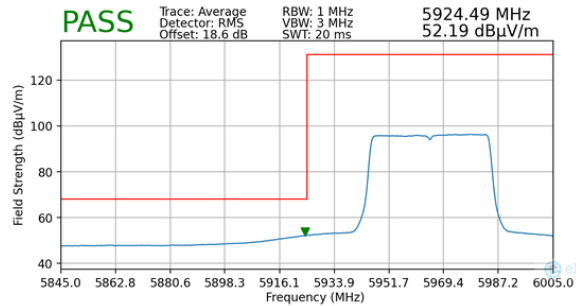


**Plot 7-109. Radiated Lower Band Edge Plot MIMO
(Peak – UNII Band 5) with WCP**

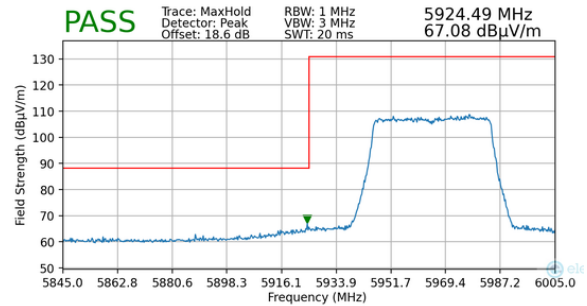
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 123 of 138

7.8.4 MIMO Radiated Band Edge Measurements (40MHz BW)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5965MHz
Channel:	3

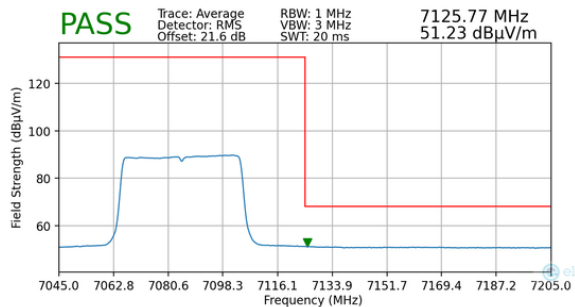


Plot 7-110. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

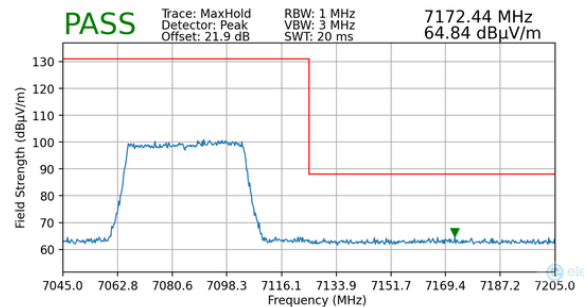


Plot 7-111. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	7085MHz
Channel:	227



Plot 7-112. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

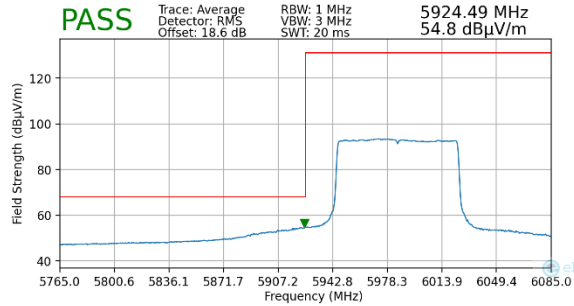


Plot 7-113. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

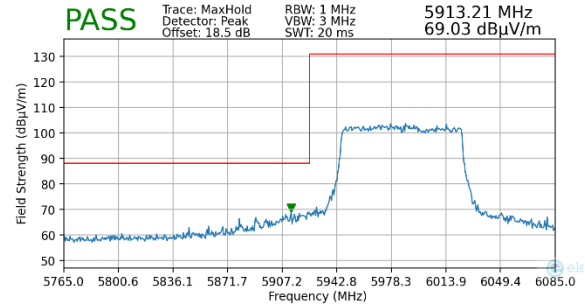
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 124 of 138

7.8.5 MIMO Radiated Band Edge Measurements (80MHz BW)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5985MHz
Channel:	7

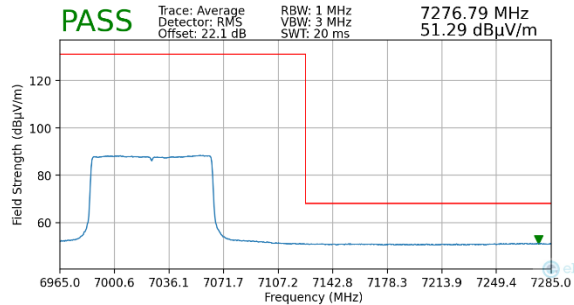


Plot 7-114. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

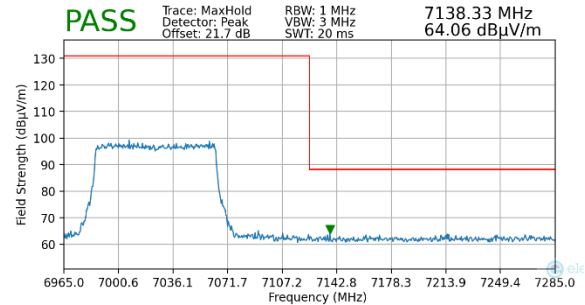


Plot 7-115. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	7025MHz
Channel:	215



Plot 7-116. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

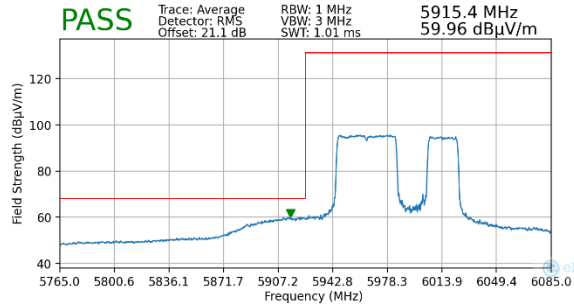


Plot 7-117. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

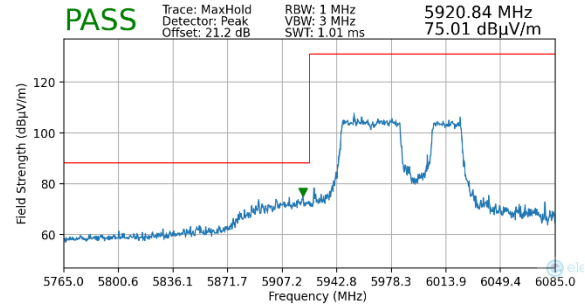
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 125 of 138

7.8.6 MIMO Radiated Band Edge Measurements (80MHz BW - Punctured)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5985MHz
Channel:	7

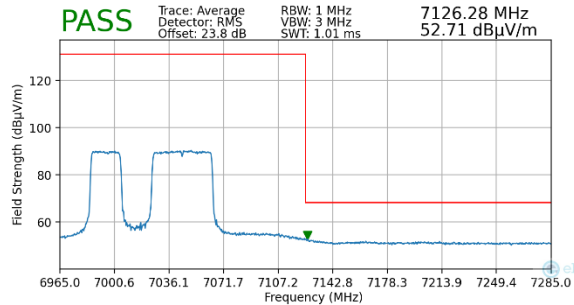


Plot 7-118. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

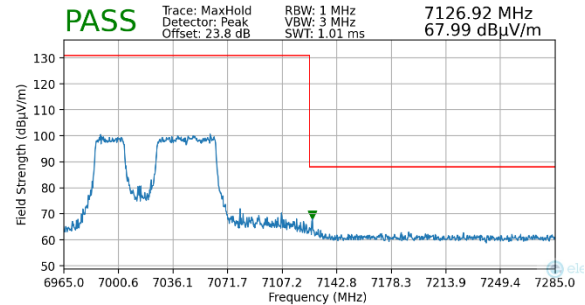


Plot 7-119. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	7025MHz
Channel:	215



Plot 7-120. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

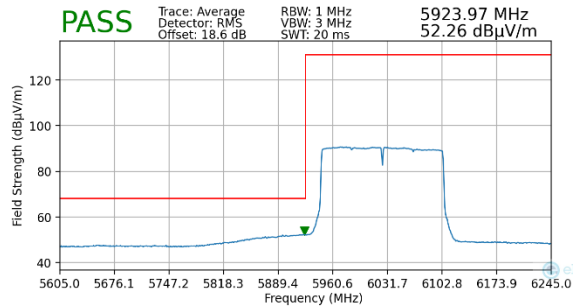


Plot 7-121. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

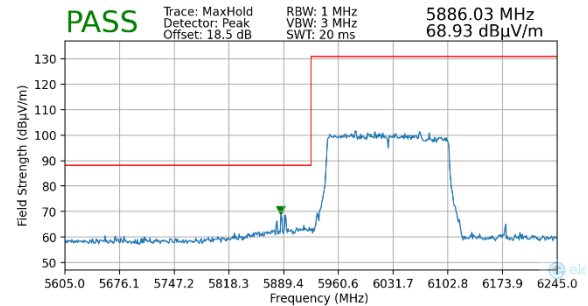
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 126 of 138

7.8.7 MIMO Radiated Band Edge Measurements (160MHz BW)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6025MHz
Channel:	15

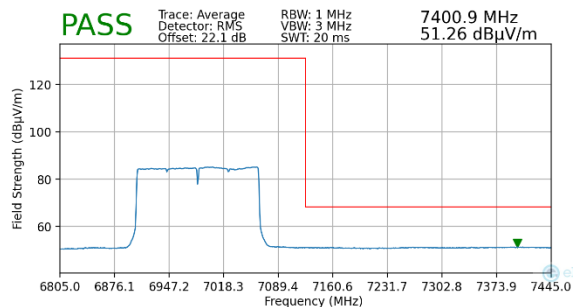


Plot 7-122. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

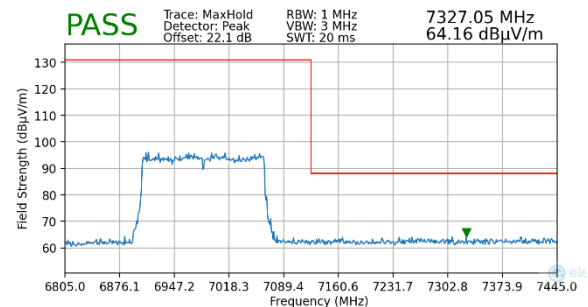


Plot 7-123. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6985MHz
Channel:	207



Plot 7-124. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

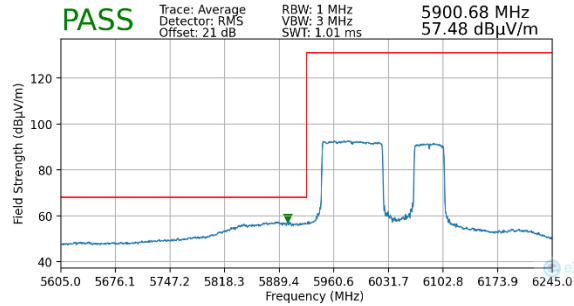


Plot 7-125. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

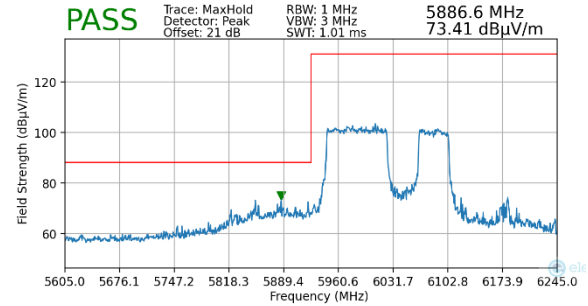
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 127 of 138

7.8.8 MIMO Radiated Band Edge Measurements (160MHz BW - Punctured)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6025MHz
Channel:	15

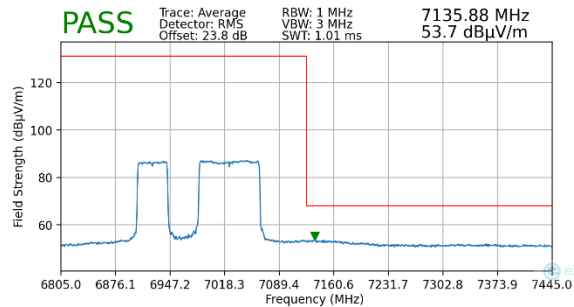


Plot 7-126. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

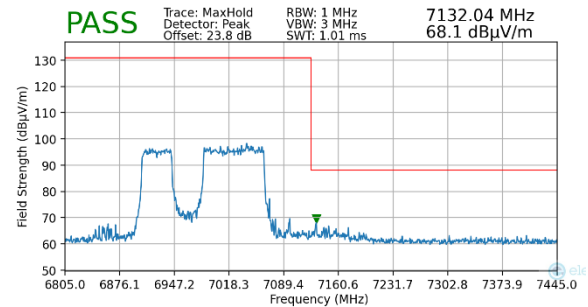


Plot 7-127. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6985MHz
Channel:	207



Plot 7-128. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

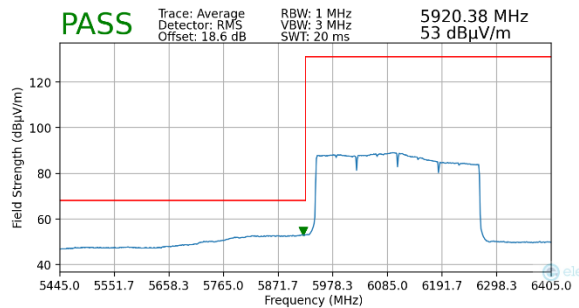


Plot 7-129. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

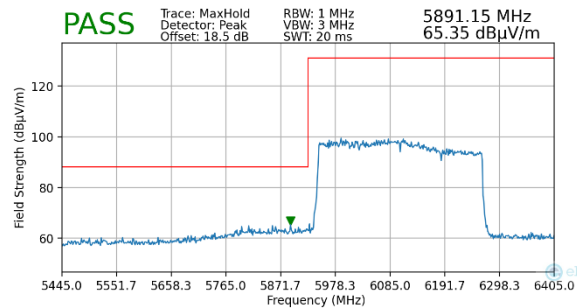
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 128 of 138

7.8.9 MIMO Radiated Band Edge Measurements (320MHz BW)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6105MHz
Channel:	31

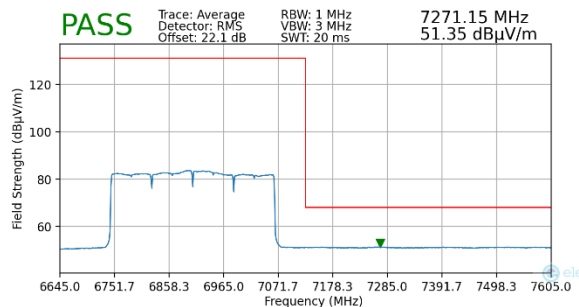


Plot 7-130. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

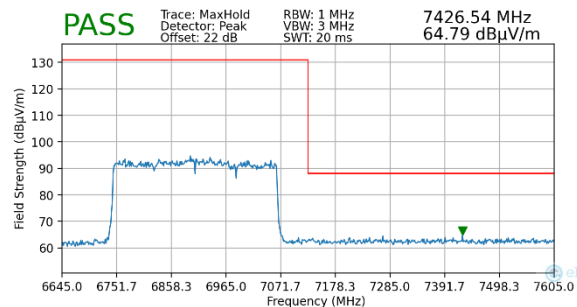


Plot 7-131. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6905MHz
Channel:	191



Plot 7-132. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)

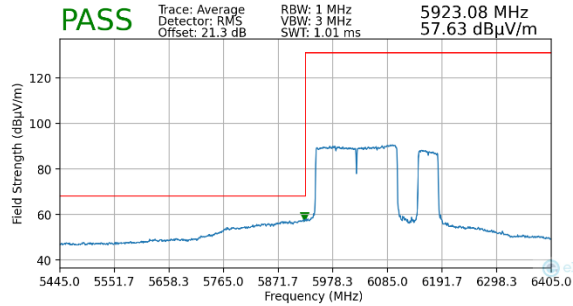


Plot 7-133. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

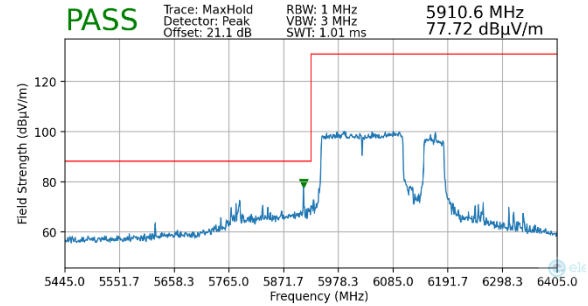
FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502210015-22-R1.A3L	Test Dates: 02/24/2025 – 04/30/2025	EUT Type: Portable Handset	Page 129 of 138

7.8.10 MIMO Radiated Band Edge Measurements (320MHz BW – Punctured)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6105MHz
Channel:	31

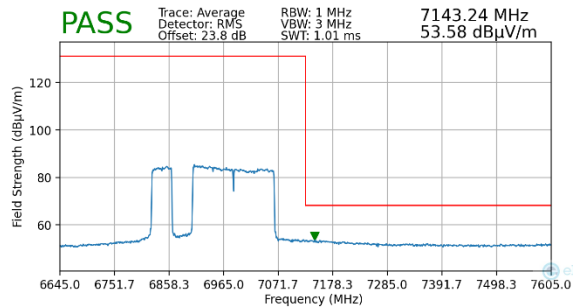


Plot 7-134. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5)

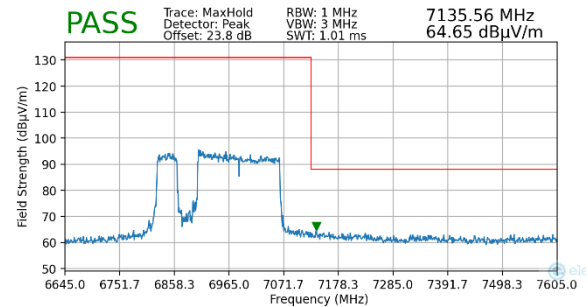


Plot 7-135. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	6905MHz
Channel:	191



Plot 7-136. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8)



Plot 7-137. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8)

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7.9 Line Conducted Test Data

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst-case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207.

Frequency of emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-89. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest.
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize.

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest.
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize.

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

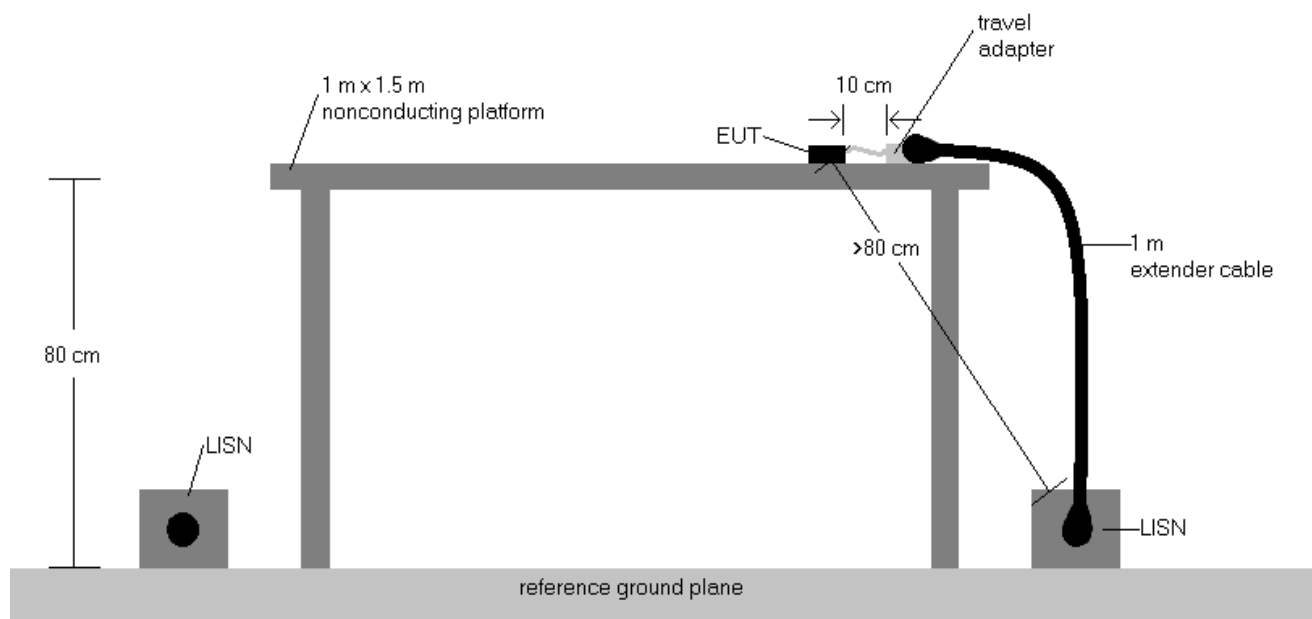
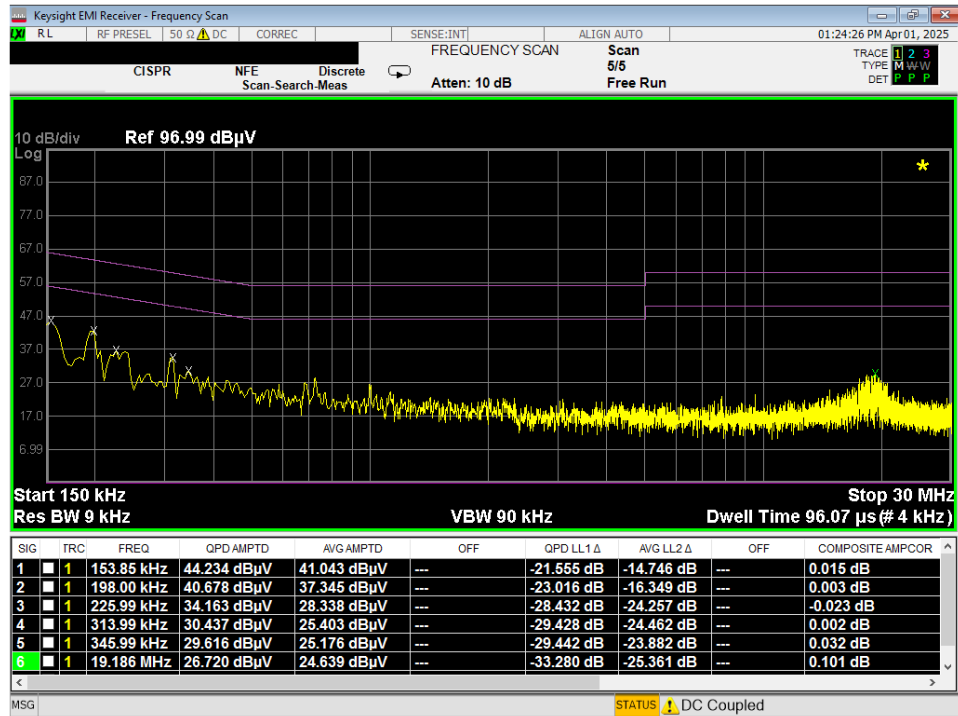


Figure 7-13. Test Instrument & Measurement Setup

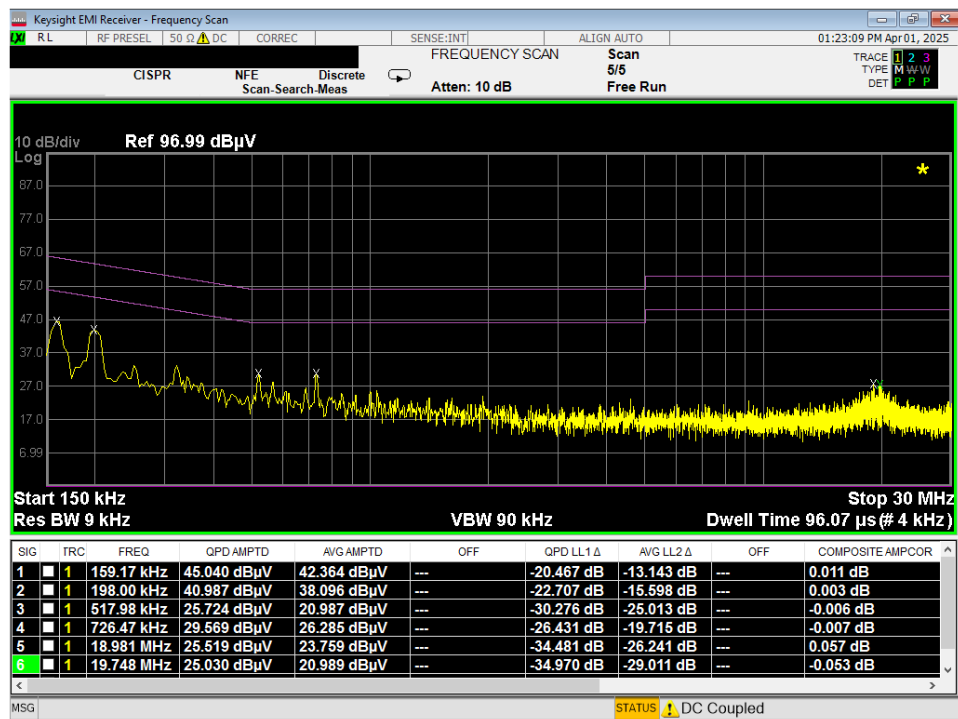
Test Notes

1. All modes of operation were investigated, and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz is specified in 15.207.
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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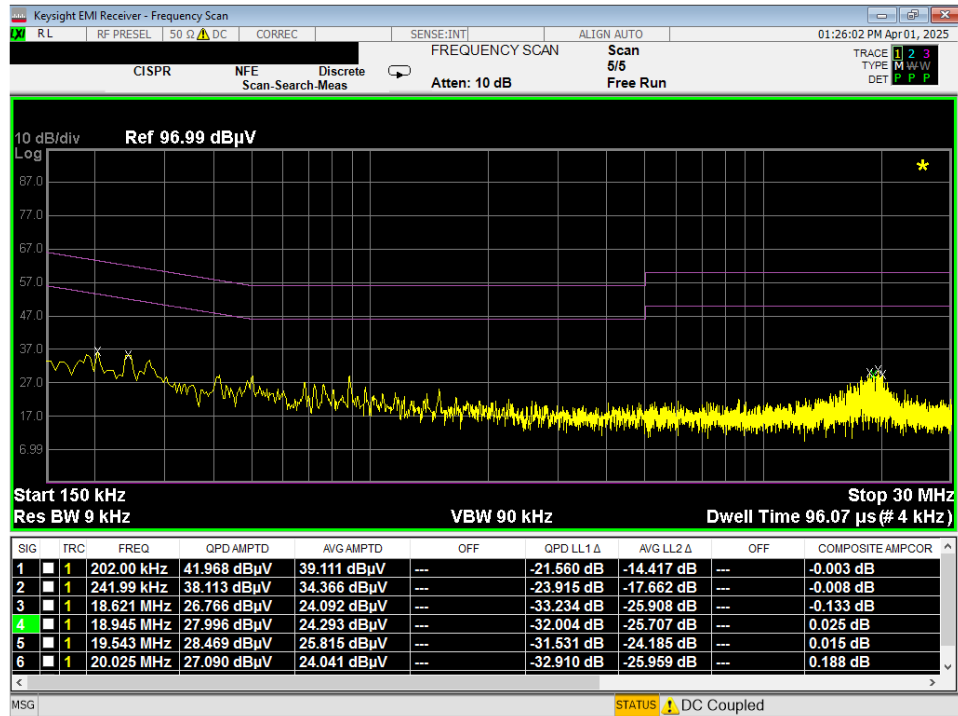


Plot 7-138. Line Conducted Plot with 802.11a UNII Band 5 (L1)

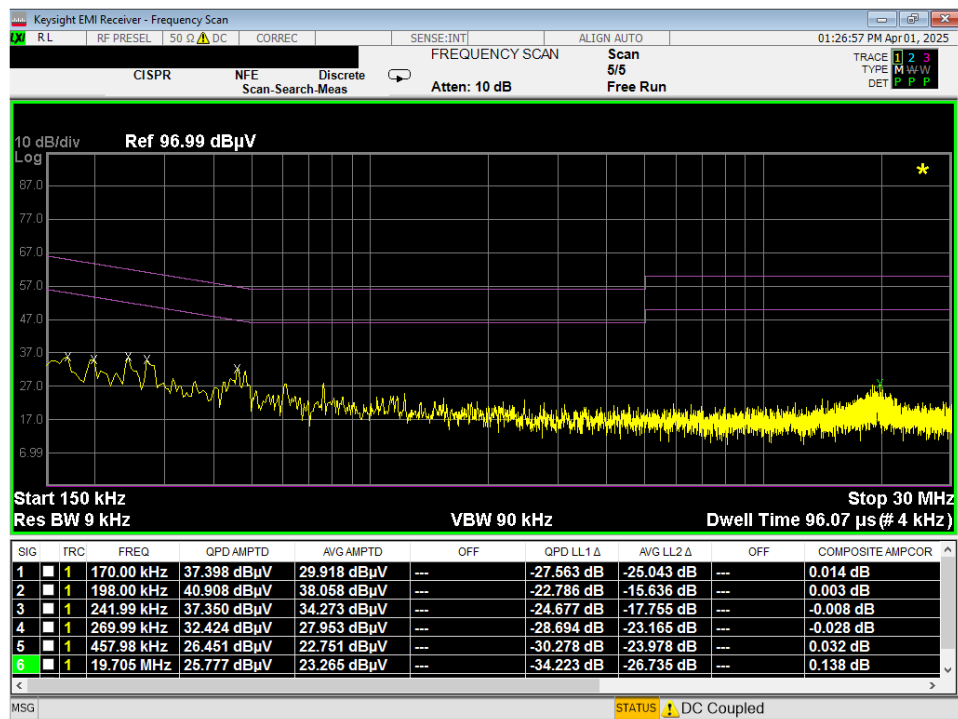


Plot 7-139. Line Conducted Plot with 802.11a UNII Band 5 (N)

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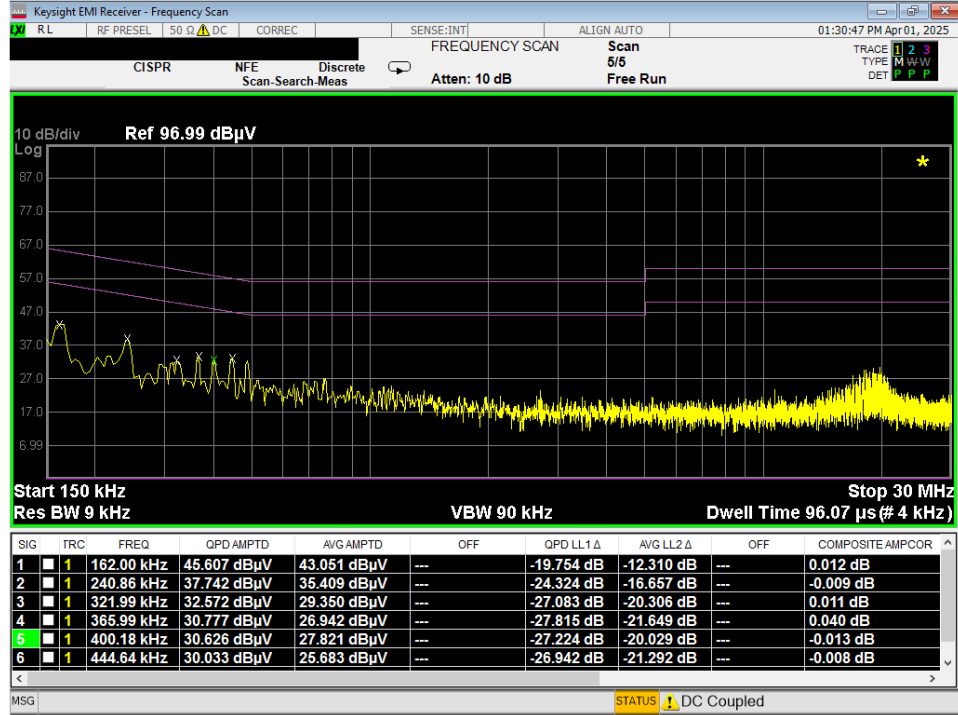


Plot 7-140. Line Conducted Plot with 802.11a UNII Band 6 (L1)

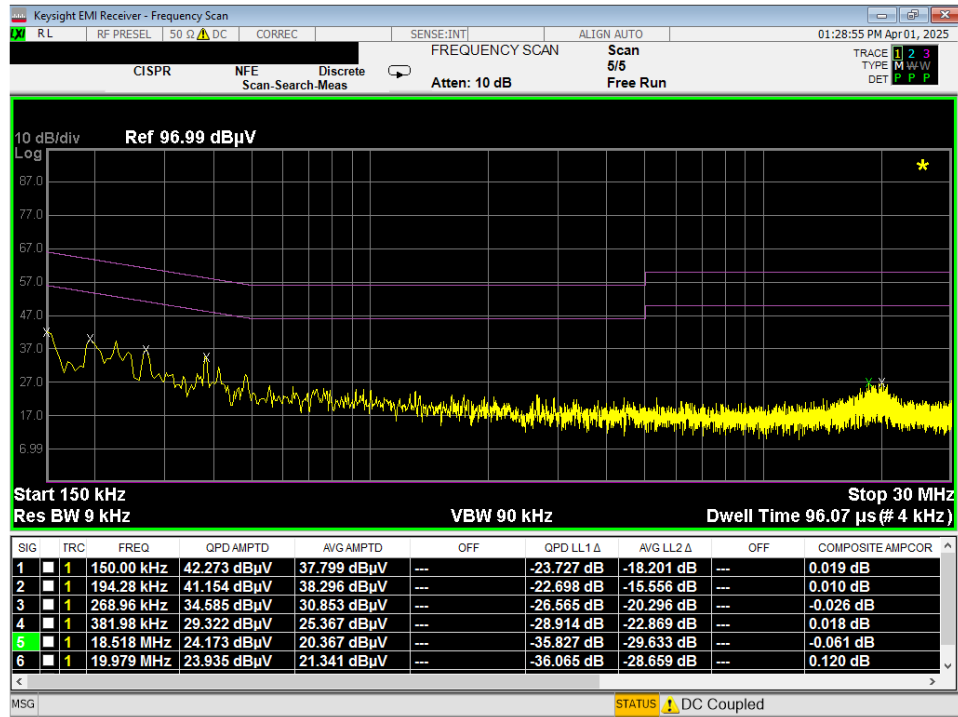


Plot 7-141. Line Conducted Plot with 802.11a UNII Band 6 (N)

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
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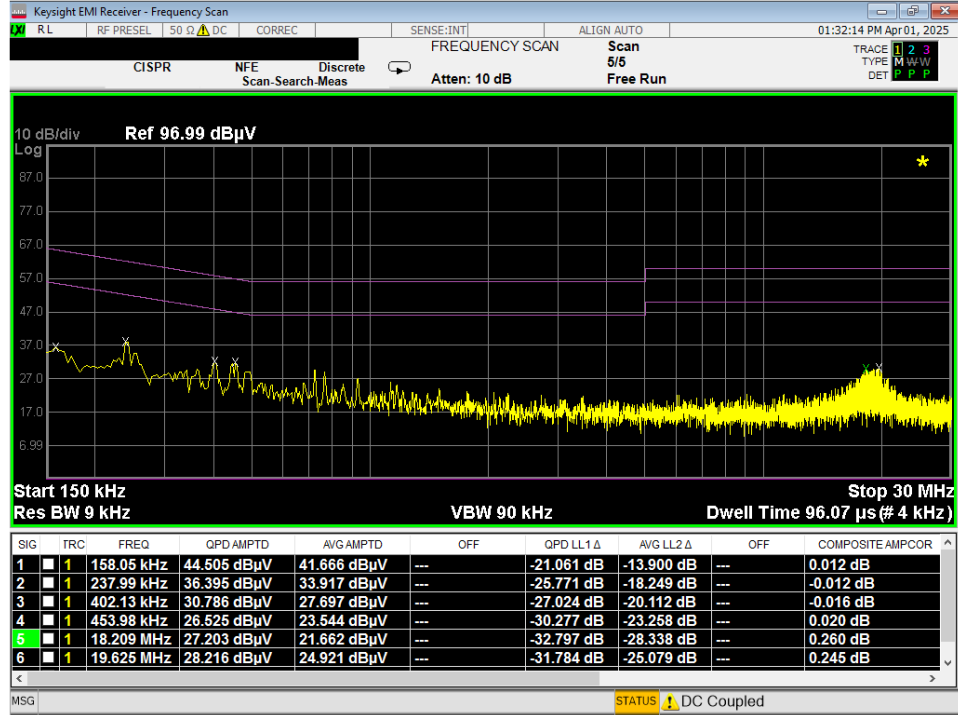


Plot 7-142. Line Conducted Plot with 802.11a UNII Band 7 (L1)

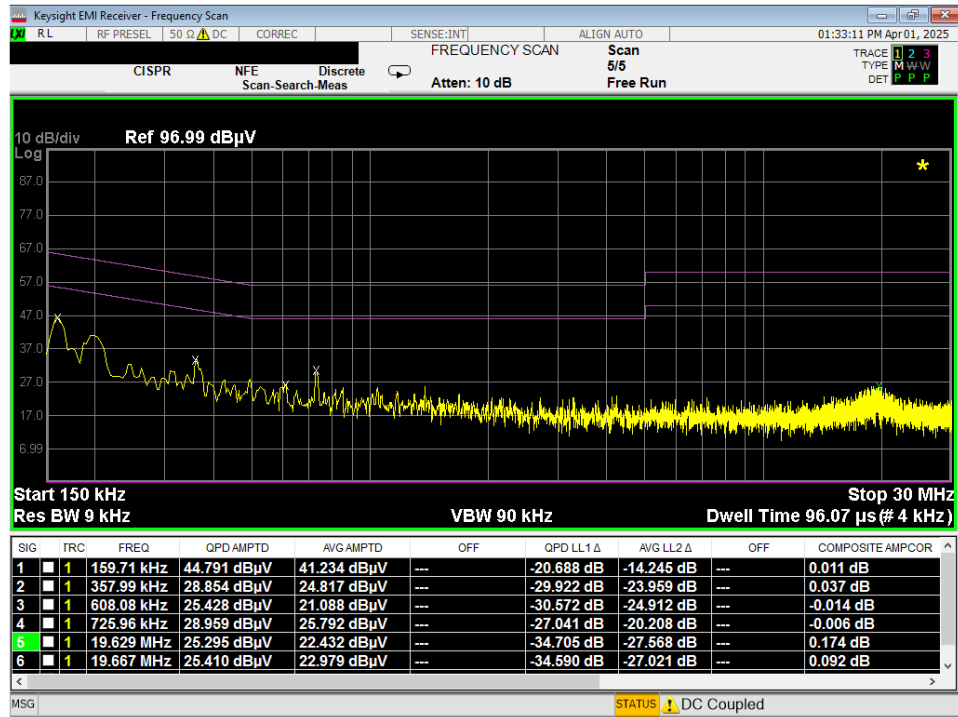


Plot 7-143. Line Conducted Plot with 802.11a UNII Band 7 (N)

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
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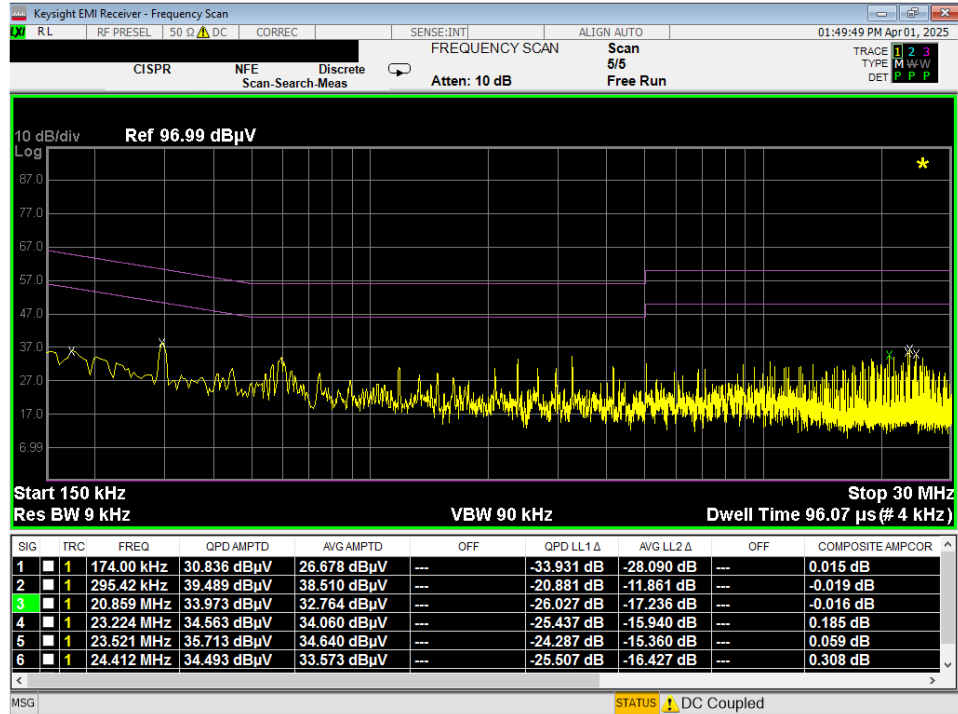


Plot 7-144. Line Conducted Plot with 802.11a UNII Band 8 (L1)

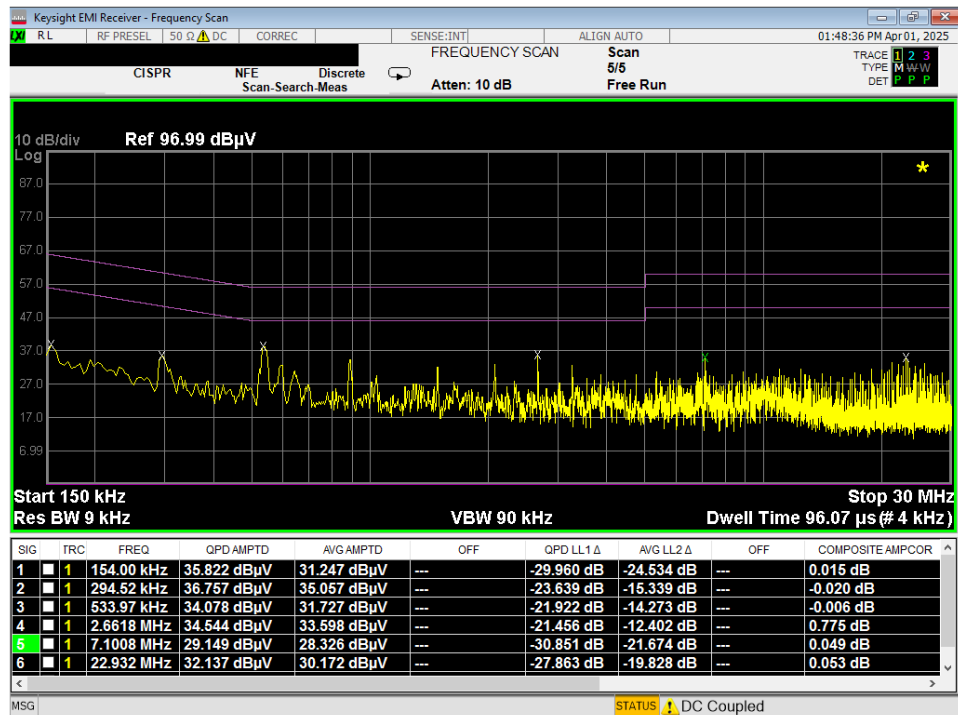


Plot 7-145. Line Conducted Plot with 802.11a UNII Band 8 (N)

FCC ID: A3LSMF966U IC: 649E-SMF966W	MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-146. Line Conducted Plot with 802.11a UNII Band 5 (L1) with WCP



Plot 7-147. Line Conducted Plot with 802.11a UNII Band 5 (N) with WCP

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8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMF966U** is in compliance with FCC Part Subpart E (15.407) of the FCC rules and RSS-248 Issue 3 of the ISED Canada rules for operation as a Dual Client Device.

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