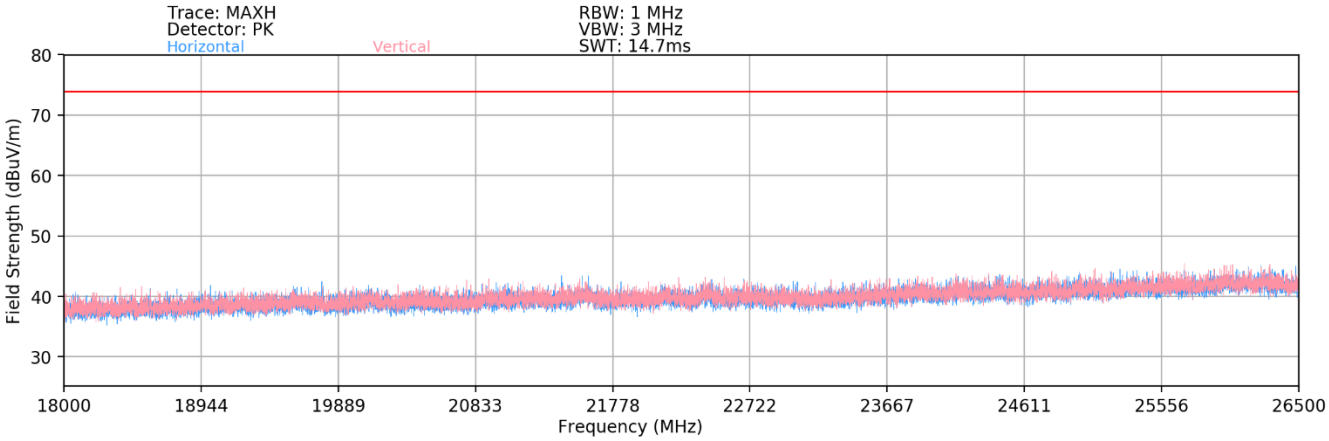
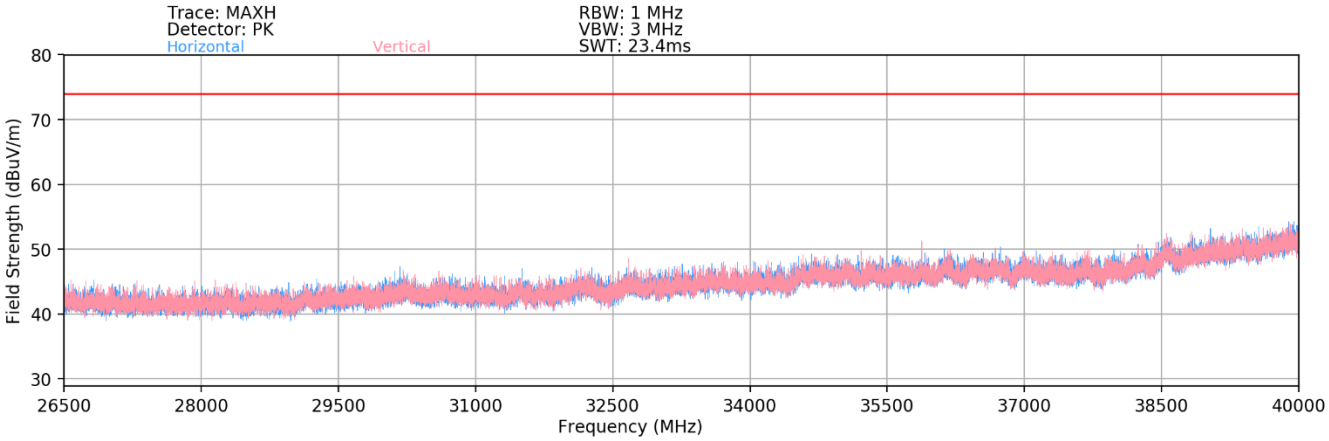
7.7.1 MIMO Radiated Spurious Emission Measurements (26 Tones)



Plot 7-663. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax) - LPI



Plot 7-664. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax) - LPI

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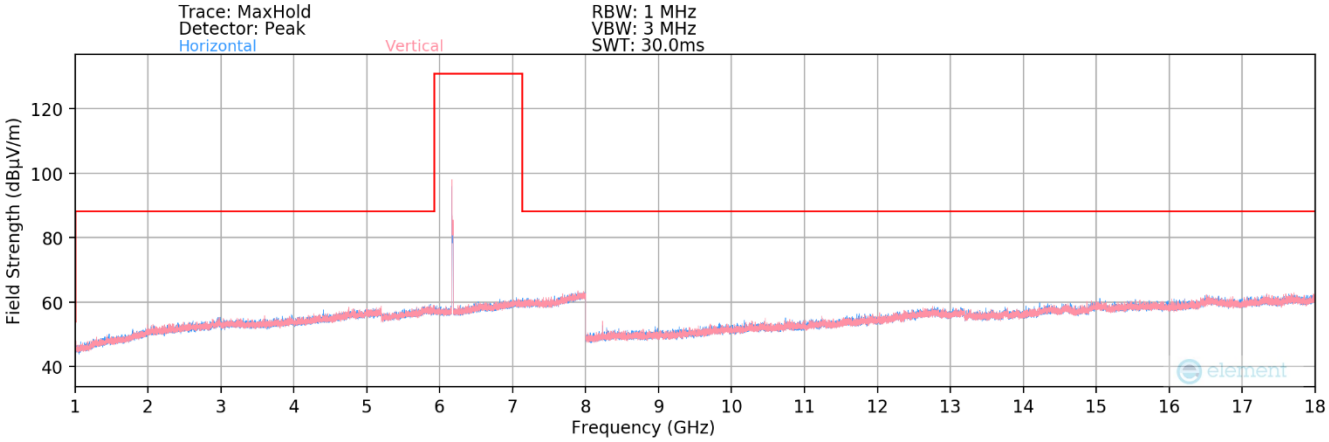
MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII Band 5



Plot 7-665. Radiated Spurious Plot above 1GHz MIMO (802.11ax – UNII Band 5 – 20MHz – Ch.45) - SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5935MHz
Channel:	2

	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]
*	11870.00	Average	V	-	-	-83.01	18.38	0.00	42.37	53.98	-11.61
*	11870.00	Peak	V	-	-	-73.11	18.38	0.00	52.27	73.98	-21.71
*	17805.00	Average	V	-	-	-83.11	26.66	0.00	50.55	53.98	-3.43
*	17805.00	Peak	V	-	-	-72.01	26.66	0.00	61.65	73.98	-12.33
*	23740.00	Average	V	-	-	-66.56	3.89	-9.54	34.79	53.98	-19.19
*	23740.00	Peak	V	-	-	-56.49	3.89	-9.54	44.86	73.98	-29.12
	29675.00	Peak	V	-	-	-55.80	6.04	-9.54	47.70	68.20	-20.50

Table 7-58. Radiated Measurements MIMO (26 Tones) - SP

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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6175MHz
Channel:	45

	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]
*	12350.00	Average	V	-	-	-83.99	18.90	0.00	41.91	53.98	-12.07
*	12350.00	Peak	V	-	-	-70.47	18.90	0.00	55.43	73.98	-18.55
*	18525.00	Average	V	-	-	-66.55	1.68	-9.54	32.59	53.98	-21.39
*	18525.00	Peak	V	-	-	-56.26	1.68	-9.54	42.88	73.98	-31.10
	24700.00	Peak	V	-	-	-56.46	4.25	-9.54	45.25	68.20	-22.95
	30875.00	Peak	V	-	-	-56.84	6.73	-9.54	47.35	68.20	-20.85

Table 7-59. Radiated Measurements MIMO (26 Tones) - SP

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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6415MHz
Channel:	93

	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]
	12830.00	Peak	V	-	-	-71.00	19.53	0.00	55.53	68.20	-12.67
*	19245.00	Average	V	-	-	-66.83	2.45	-9.54	33.08	53.98	-20.90
*	19245.00	Peak	V	-	-	-56.67	2.45	-9.54	43.24	73.98	-30.74
	25660.00	Peak	V	-	-	-56.39	4.57	-9.54	45.64	68.20	-22.56
	32075.00	Peak	V	-	-	-55.06	6.88	-9.54	49.28	68.20	-18.92

Table 7-60. Radiated Measurements MIMO (26 Tones) - SP

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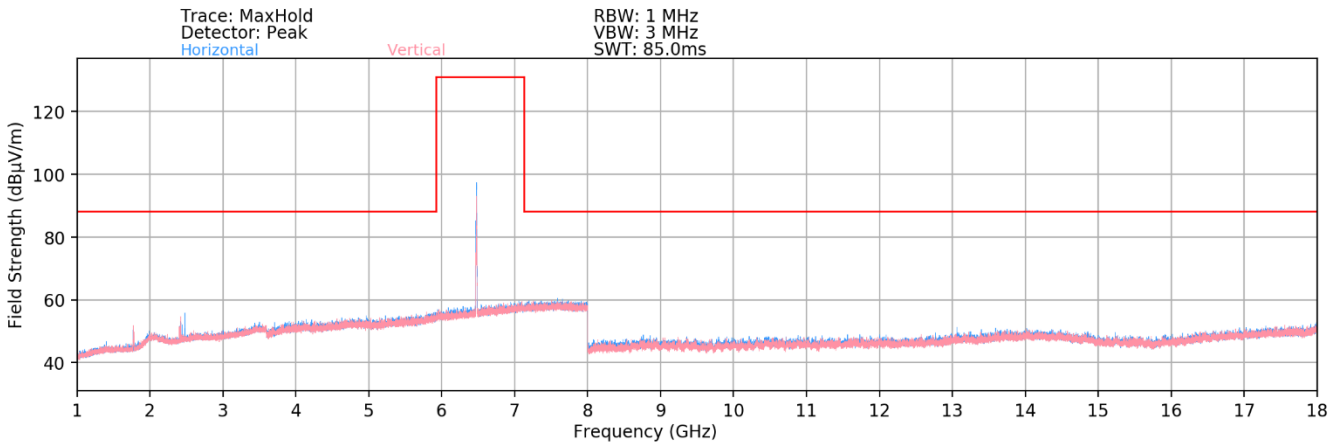
MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII Band 6



Plot 7-666. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 6 – 20MHz – Ch.105) - LPI

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6435MHz
Channel:	97

	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]
	12870.00	Peak	V	-	-	-71.77	19.56	0.00	54.79	68.20	-13.41
*	19305.00	Average	V	-	-	-66.18	2.45	-9.54	33.73	53.98	-20.25
*	19305.00	Peak	V	-	-	-56.14	2.45	-9.54	43.77	73.98	-30.21
	25740.00	Peak	V	-	-	-55.89	4.57	-9.54	46.14	68.20	-22.06
	32175.00	Peak	V	-	-	-55.51	6.88	-9.54	48.83	68.20	-19.37

Table 7-61. Radiated Measurements MIMO (26 Tones) - LPI

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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6475MHz
Channel:	105

	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]
	12950.00	Peak	V	-	-	-70.84	20.24	0.00	56.40	68.20	-11.80
*	19425.00	Average	V	-	-	-66.39	2.36	-9.54	33.43	53.98	-20.55
*	19425.00	Peak	V	-	-	-56.08	2.36	-9.54	43.74	73.98	-30.24
	25900.00	Peak	V	-	-	-55.05	4.84	-9.54	47.25	68.20	-20.95
	32375.00	Peak	V	-	-	-56.06	6.78	-9.54	48.18	68.20	-20.02

Table 7-62. Radiated Measurements MIMO (26 Tones) - LPI

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6515MHz
Channel:	113

	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]
	13030.00	Peak	V	-	-	-71.57	20.59	0.00	56.02	68.20	-12.18
*	19545.00	Average	V	-	-	-66.19	2.31	-9.54	33.58	53.98	-20.40
*	19545.00	Peak	V	-	-	-55.94	2.31	-9.54	43.83	73.98	-30.15
	26060.00	Peak	V	-	-	-56.01	4.92	-9.54	46.37	68.20	-21.83
	32575.00	Peak	V	-	-	-55.64	6.55	-9.54	48.37	68.20	-19.83

Table 7-63. Radiated Measurements MIMO (26 Tones) - LPI

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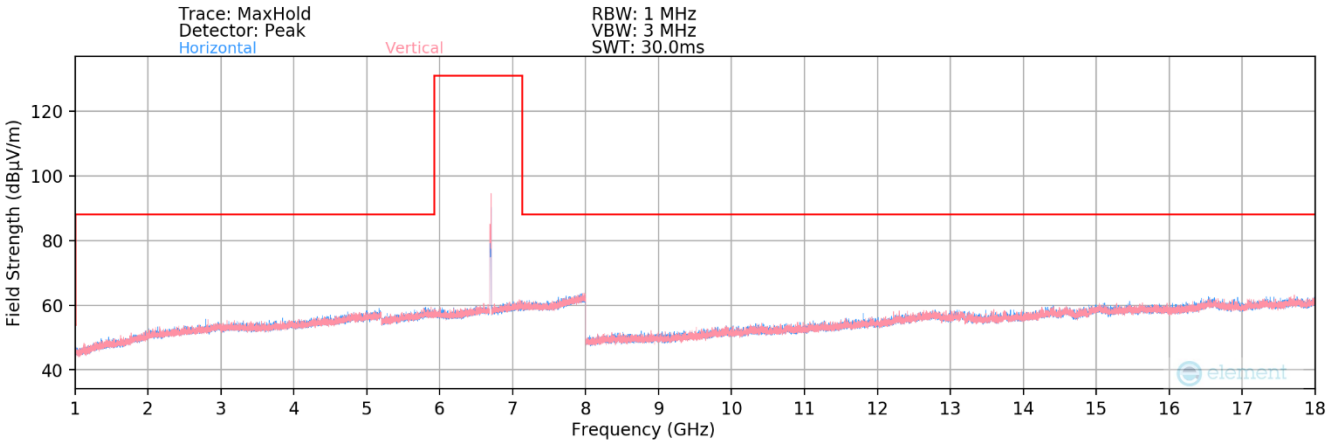
MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII Band 7



Plot 7-667. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 7 – 20MHz – Ch.149) - SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6535MHz
Channel:	117

	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]
	13070.00	Peak	V	-	-	-72.00	20.10	0.00	55.10	68.20	-13.10
*	19605.00	Average	V	-	-	-66.49	2.79	-9.54	33.76	53.98	-20.22
*	19605.00	Peak	V	-	-	-55.70	2.79	-9.54	44.55	73.98	-29.43
	26140.00	Peak	V	-	-	-56.03	4.83	-9.54	46.26	68.20	-21.94
	32675.00	Peak	V	-	-	-55.58	6.85	-9.54	48.73	68.20	-19.47

Table 7-64. Radiated Measurements MIMO (26 Tones) - SP

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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6695MHz
Channel:	149

	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]
*	13390.00	Average	V	-	-	-82.47	20.29	0.00	44.82	53.98	-9.16
*	13390.00	Peak	V	-	-	-69.85	20.29	0.00	57.44	73.98	-16.54
*	20085.00	Average	V	-	-	-66.51	3.04	-9.54	33.99	53.98	-19.99
*	20085.00	Peak	V	-	-	-56.38	3.04	-9.54	44.12	73.98	-29.86
	26780.00	Peak	V	-	-	-55.47	5.16	-9.54	47.15	68.20	-21.05
	33475.00	Peak	V	-	-	-54.64	7.26	-9.54	50.08	68.20	-18.12

Table 7-65. Radiated Measurements MIMO (26 Tones) - SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6875MHz
Channel:	185

	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]
	13750.00	Peak	V	-	-	-71.17	21.34	0.00	57.17	68.20	-11.03
*	20625.00	Average	V	-	-	-67.39	3.28	-9.54	33.35	53.98	-20.63
*	20625.00	Peak	V	-	-	-57.10	3.28	-9.54	43.64	73.98	-30.34
	27500.00	Average	V	-	-	-55.70	4.79	-9.54	46.55	68.20	-21.65
	34375.00	Peak	V	-	-	-55.85	7.69	-9.54	49.30	68.20	-18.90

Table 7-66. Radiated Measurements MIMO (26 Tones) - SP

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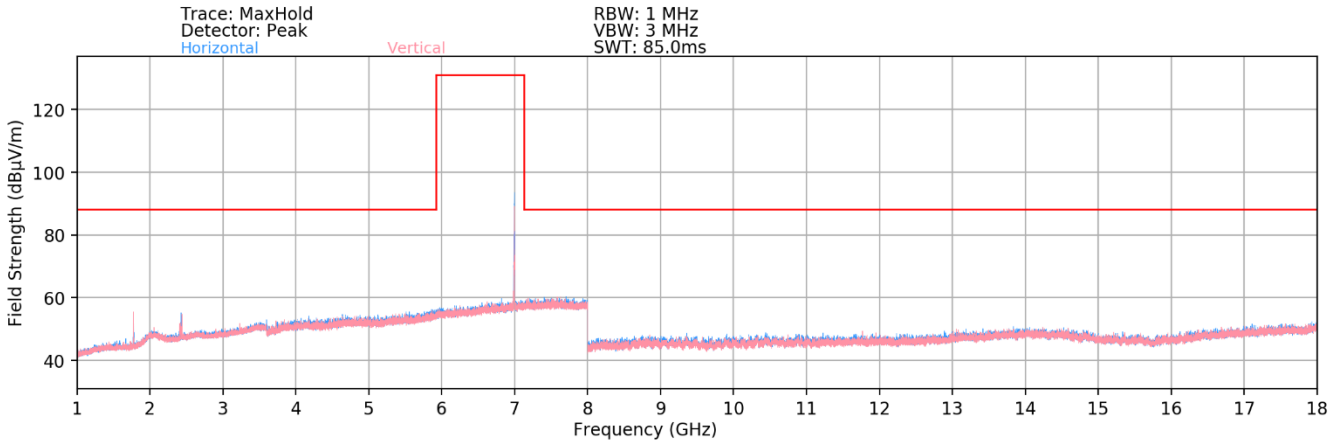
MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII Band 8



Plot 7-668. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 8 – 20MHz – Ch.209) - LPI

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6895MHz
Channel:	189

	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]
	13790.00	Peak	V	-	-	-71.00	21.25	0.00	57.25	68.20	-10.95
*	20685.00	Average	V	-	-	-66.94	3.27	-9.54	33.79	53.98	-20.19
*	20685.00	Peak	V	-	-	-56.20	3.27	-9.54	44.53	73.98	-29.45
	27580.00	Peak	V	-	-	-55.01	5.23	-9.54	47.68	68.20	-20.52
	34475.00	Peak	V	-	-	-55.26	7.64	-9.54	49.84	68.20	-18.36

Table 7-67. Radiated Measurements MIMO (26 Tones) - LPI

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 4
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6995MHz
Channel: 209

	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]
	13990.00	Peak	V	-	-	-70.87	20.95	0.00	57.08	68.20	-11.12
*	20985.00	Average	V	-	-	-66.96	3.46	-9.54	33.96	53.98	-20.02
*	20985.00	Peak	V	-	-	-56.08	3.46	-9.54	44.84	73.98	-29.14
	27980.00	Peak	V	-	-	-56.02	5.02	-9.54	46.46	68.20	-21.74
	34975.00	Peak	V	-	-	-53.61	7.91	-9.54	51.76	68.20	-16.44

Table 7-68. Radiated Measurements MIMO (26 Tones) - LPI

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 4
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 7115MHz
Channel: 233

	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]
	14230.00	Peak	V	-	-	-71.04	21.27	0.00	57.23	68.20	-10.97
*	21345.00	Average	V	-	-	-66.40	3.78	-9.54	34.84	53.98	-19.14
*	21345.00	Peak	V	-	-	-55.78	3.78	-9.54	45.46	73.98	-28.52
	28460.00	Peak	V	-	-	-55.48	5.45	-9.54	47.43	68.20	-20.77
	35575.00	Peak	V	-	-	-53.20	7.65	-9.54	51.91	68.20	-16.29

Table 7-69. Radiated Measurements MIMO (26 Tones) - LPI

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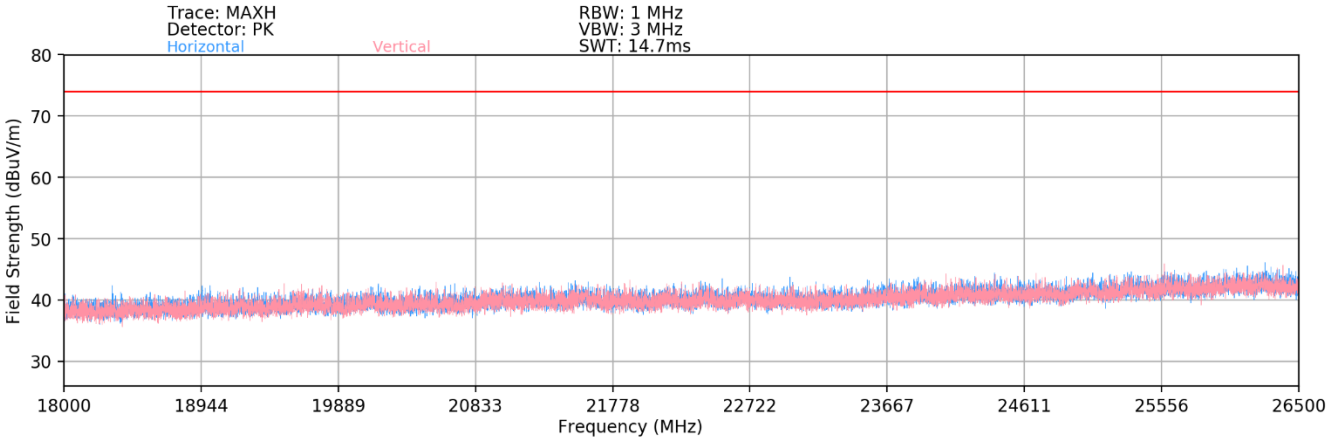
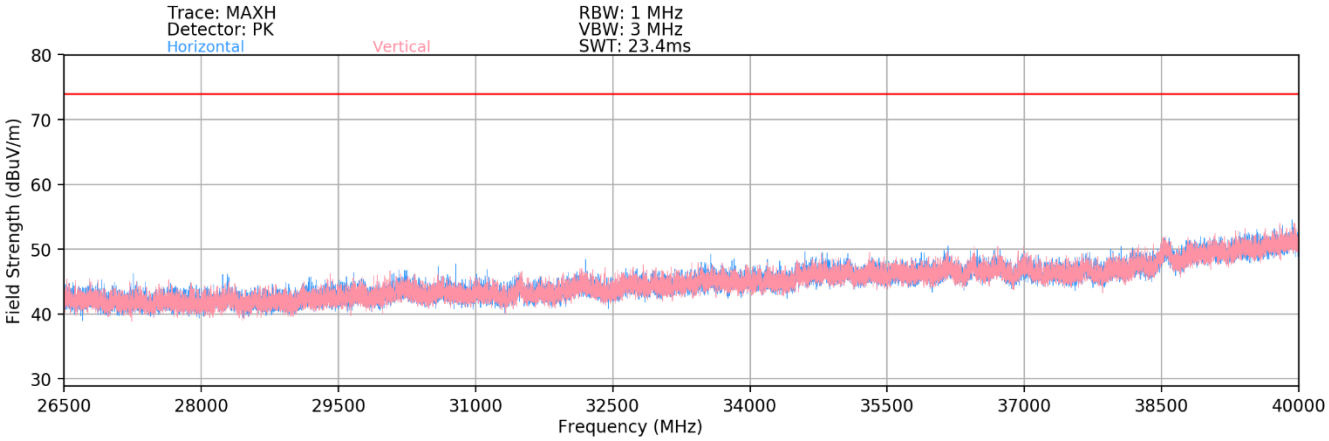
7.7.2 MIMO Radiated Spurious Emission Measurements (242 Tones)



Plot 7-669. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax) – LPI/SP



Plot 7-670. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax) – LPI/SP

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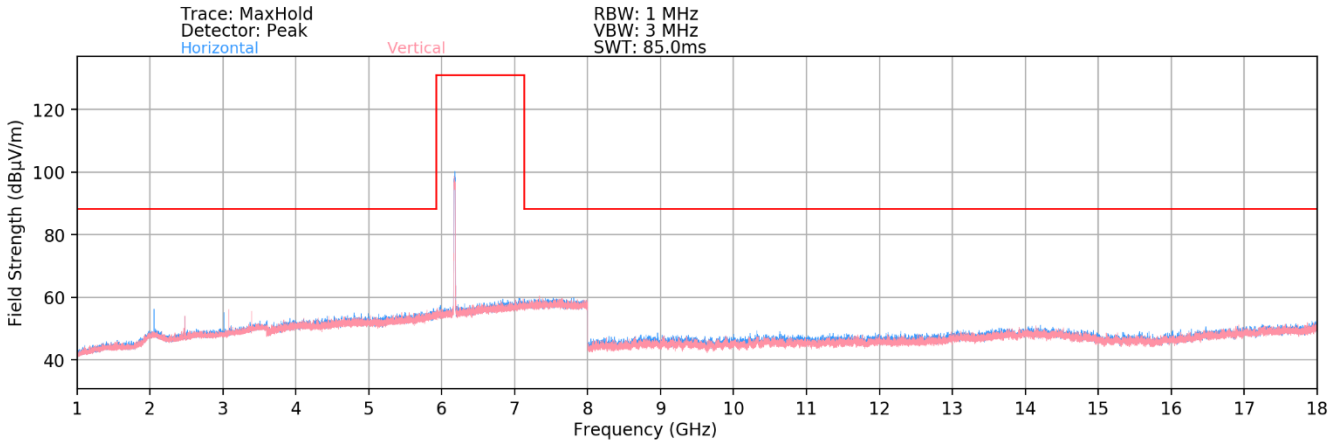
MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII Band 5



Plot 7-671. Radiated Spurious Plot above 1GHz MIMO (802.11ax – UNII Band 5 – 20MHz – Ch.45) – LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5935MHz
Channel:	2

	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]
*	11870.00	Average	V	-	-	-75.37	18.38	0.00	50.01	53.98	-3.97
*	11870.00	Peak	V	-	-	-62.87	18.38	0.00	62.51	73.98	-11.47
*	17805.00	Average	V	-	-	-83.73	26.66	0.00	49.93	53.98	-4.05
*	17805.00	Peak	V	-	-	-72.05	26.66	0.00	61.61	73.98	-12.37
*	23740.00	Average	V	-	-	-66.44	3.89	-9.54	34.91	53.98	-19.07
*	23740.00	Peak	V	-	-	-55.94	3.89	-9.54	45.41	73.98	-28.57
	29675.00	Peak	V	-	-	-56.06	6.04	-9.54	47.44	68.20	-20.76

Table 7-70. Radiated Measurements MIMO (242 Tones) – LPI/SP

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6175MHz
Channel: 45

	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]
*	12350.00	Average	V	-	-	-76.55	18.90	0.00	49.35	53.98	-4.63
*	12350.00	Peak	V	-	-	-61.35	18.90	0.00	64.55	73.98	-9.43
*	18525.00	Average	V	-	-	-66.16	1.68	-9.54	32.98	53.98	-21.00
*	18525.00	Peak	V	-	-	-55.68	1.68	-9.54	43.46	73.98	-30.52
	24700.00	Peak	V	-	-	-56.20	4.25	-9.54	45.51	68.20	-22.69
	30875.00	Peak	V	-	-	-55.09	6.73	-9.54	49.10	68.20	-19.10

Table 7-71. Radiated Measurements MIMO (242 Tones) – LPI/SP

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6415MHz
Channel: 93

	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]
	12830.00	Peak	V	-	-	-62.05	19.53	0.00	64.48	68.20	-3.72
*	19245.00	Average	V	-	-	-66.27	2.45	-9.54	33.64	53.98	-20.34
*	19245.00	Peak	V	-	-	-55.71	2.45	-9.54	44.20	73.98	-29.78
	25660.00	Peak	V	-	-	-55.53	4.57	-9.54	46.50	68.20	-21.70
	32075.00	Peak	V	-	-	-55.22	6.88	-9.54	49.12	68.20	-19.08

Table 7-72. Radiated Measurements MIMO (242 Tones) – LPI/SP

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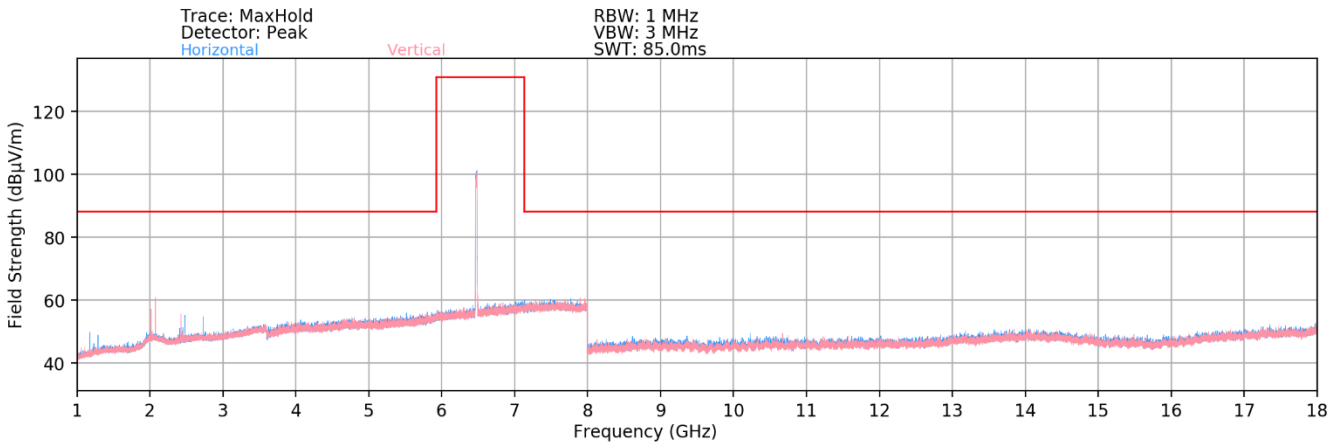
MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII Band 6



Plot 7-672. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 6 – 20MHz – Ch.105) – LPI

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6435MHz
Channel:	97

	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]
	12870.00	Peak	V	-	-	-62.17	19.56	0.00	64.39	68.20	-3.81
*	19305.00	Average	V	-	-	-66.09	2.45	-9.54	33.82	53.98	-20.16
*	19305.00	Peak	V	-	-	-55.78	2.45	-9.54	44.13	73.98	-29.85
	25740.00	Peak	V	-	-	-55.64	4.57	-9.54	46.39	68.20	-21.81
	32175.00	Peak	V	-	-	-55.72	6.88	-9.54	48.62	68.20	-19.58

Table 7-73. Radiated Measurements MIMO (242 Tones) – LPI

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6475MHz
Channel: 105

	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]
	12950.00	Peak	V	-	-	-63.62	20.24	0.00	63.62	68.20	-4.58
*	19425.00	Average	V	-	-	-66.49	2.36	-9.54	33.33	53.98	-20.65
*	19425.00	Peak	V	-	-	-55.36	2.36	-9.54	44.46	73.98	-29.52
	25900.00	Peak	V	-	-	-56.09	4.84	-9.54	46.21	68.20	-21.99
	32375.00	Peak	V	-	-	-56.86	6.78	-9.54	47.38	68.20	-20.82

Table 7-74. Radiated Measurements MIMO (242 Tones) – LPI

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6515MHz
Channel: 113

	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]
	13030.00	Peak	V	-	-	-63.19	20.59	0.00	64.40	68.20	-3.80
*	19545.00	Average	V	-	-	-66.09	2.31	-9.54	33.68	53.98	-20.30
*	19545.00	Peak	V	-	-	-55.95	2.31	-9.54	43.82	73.98	-30.16
	26060.00	Peak	V	-	-	-56.04	4.92	-9.54	46.34	68.20	-21.86
	32575.00	Peak	V	-	-	-55.65	6.55	-9.54	48.36	68.20	-19.84

Table 7-75. Radiated Measurements MIMO (242 Tones) – LPI

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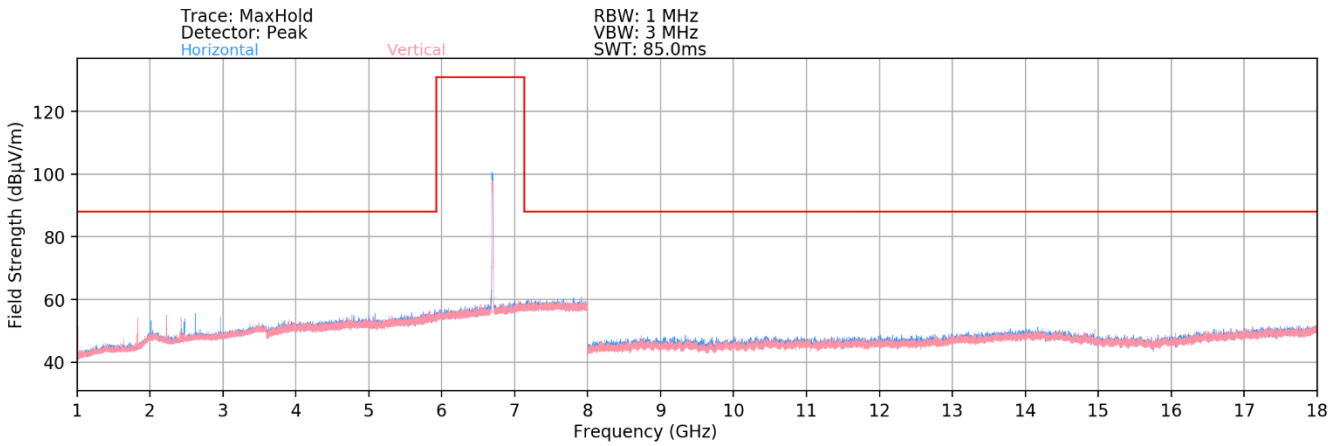
MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII Band 7



Plot 7-673. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 7 – 20MHz – Ch.149) – LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6535MHz
Channel:	117

	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]
	13070.00	Peak	V	-	-	-64.21	20.10	0.00	62.89	68.20	-5.31
*	19605.00	Average	V	-	-	-66.07	2.79	-9.54	34.18	53.98	-19.80
*	19605.00	Peak	V	-	-	-55.90	2.79	-9.54	44.35	73.98	-29.63
	26140.00	Peak	V	-	-	-56.09	4.83	-9.54	46.20	68.20	-22.00
	32675.00	Peak	V	-	-	-53.97	6.85	-9.54	50.34	68.20	-17.86

Table 7-76. Radiated Measurements MIMO (242 Tones) – LPI/SP

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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6695MHz
Channel:	149

	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]
*	13390.00	Average	V	-	-	-76.52	20.29	0.00	50.77	53.98	-3.21
*	13390.00	Peak	V	-	-	-61.87	20.29	0.00	65.42	73.98	-8.56
*	20085.00	Average	V	-	-	-66.11	3.04	-9.54	34.39	53.98	-19.59
*	20085.00	Peak	V	-	-	-54.72	3.04	-9.54	45.78	73.98	-28.20
	26780.00	Peak	V	-	-	-54.99	5.16	-9.54	47.63	68.20	-20.57
	33475.00	Peak	V	-	-	-55.02	7.26	-9.54	49.70	68.20	-18.50

Table 7-77. Radiated Measurements MIMO (242 Tones) – LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6875MHz
Channel:	185

	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]
	13750.00	Peak	V	-	-	-63.28	21.34	0.00	65.06	68.20	-3.14
*	20625.00	Average	V	-	-	-66.85	3.28	-9.54	33.89	53.98	-20.09
*	20625.00	Peak	V	-	-	-55.67	3.28	-9.54	45.07	73.98	-28.91
	27500.00	Peak	V	-	-	-55.09	4.79	-9.54	47.16	68.20	-21.04
	34375.00	Peak	V	-	-	-55.30	7.69	-9.54	49.85	68.20	-18.35

Table 7-78. Radiated Measurements MIMO (242 Tones) – LPI/SP

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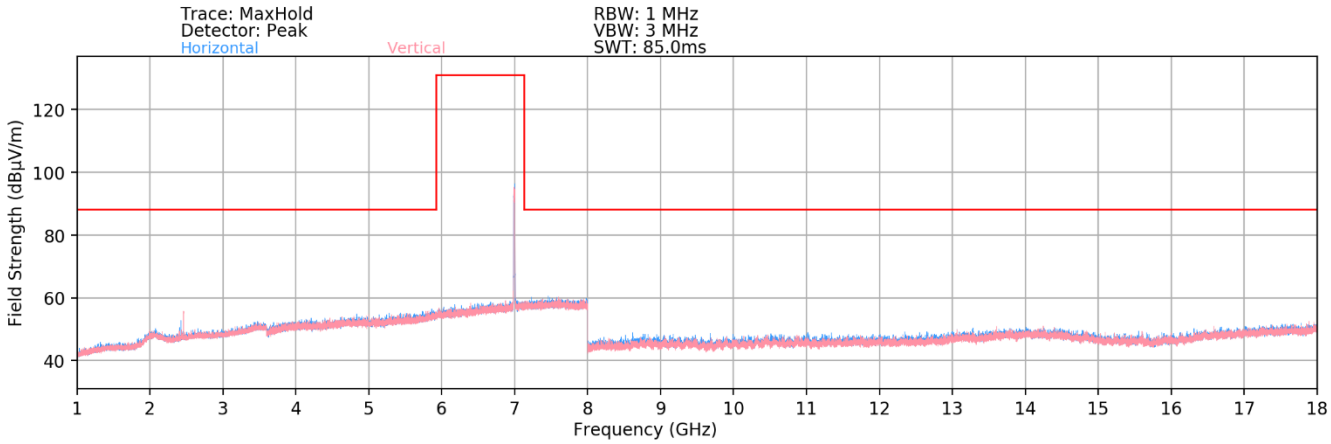
MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII Band 8



Plot 7-674. Radiated Spurious Plot above 1GHz MIMO (802.11ax– UNII Band 8 – 20MHz – Ch.209) – LPI

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	6895MHz
Channel:	189

	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]
	13790.00	Peak	V	-	-	-63.78	21.25	0.00	64.47	68.20	-3.73
*	20685.00	Average	V	-	-	-66.81	3.27	-9.54	33.92	53.98	-20.06
*	20685.00	Peak	V	-	-	-55.74	3.27	-9.54	44.99	73.98	-28.99
	27580.00	Peak	V	-	-	-54.84	5.23	-9.54	47.85	68.20	-20.35
	34475.00	Peak	V	-	-	-54.68	7.64	-9.54	50.42	68.20	-17.78

Table 7-79. Radiated Measurements MIMO (242 Tones) – LPI

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 6995MHz
Channel: 209

	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]
	13990.00	Peak	V	-	-	-62.97	20.95	0.00	64.98	68.20	-3.22
*	20985.00	Average	V	-	-	-66.72	3.46	-9.54	34.20	53.98	-19.78
*	20985.00	Peak	V	-	-	-56.20	3.46	-9.54	44.72	73.98	-29.26
	27980.00	Peak	V	-	-	-55.90	5.02	-9.54	46.57	68.20	-21.63
	34975.00	Peak	V	-	-	-54.47	7.91	-9.54	50.89	68.20	-17.31

Table 7-80. Radiated Measurements MIMO (242 Tones) – LPI

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 7115MHz
Channel: 233

	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]
	14230.00	Peak	V	-	-	-63.71	21.27	0.00	64.56	68.20	-3.64
*	21345.00	Average	V	-	-	-66.61	3.78	-9.54	34.63	53.98	-19.35
*	21345.00	Peak	V	-	-	-55.72	3.78	-9.54	45.52	73.98	-28.46
	28460.00	Peak	V	-	-	-54.79	5.45	-9.54	48.12	68.20	-20.08
	35575.00	Peak	V	-	-	-54.14	7.65	-9.54	50.97	68.20	-17.23

Table 7-81. Radiated Measurements MIMO (242 Tones) – LPI

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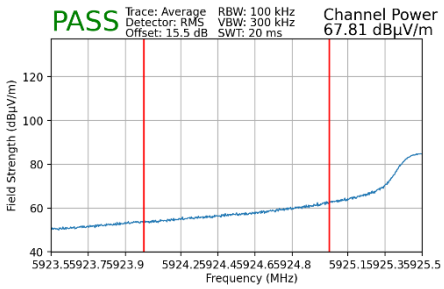
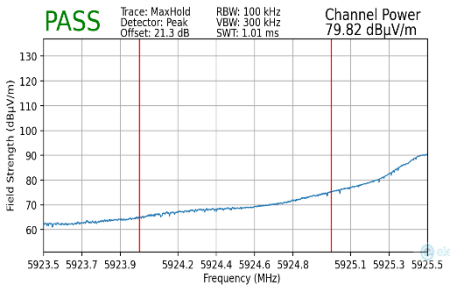
7.7.3 MIMO Radiated Band Edge Measurements (20MHz BW – Partial Tone – 106T)

§15.407(b.6) §15.205 §15.209

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	53
Distance of Measurements:	3 Meters
Operating Frequency:	5935MHz
Channel:	2

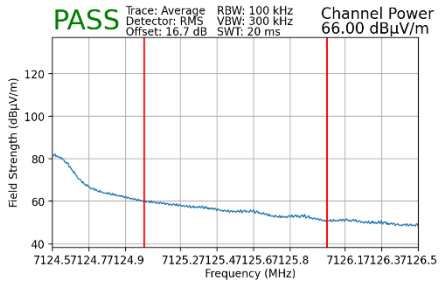


Plot 7-675. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5) SP

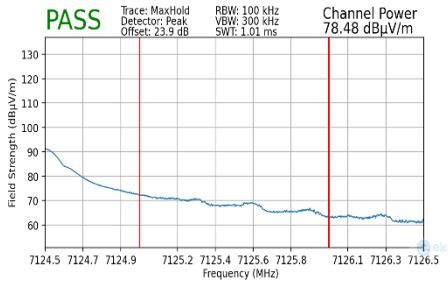


Plot 7-676. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5) SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	54
Distance of Measurements:	3 Meters
Operating Frequency:	7115MHz
Channel:	233



Plot 7-677. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8) LPI



Plot 7-678. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8) LPI

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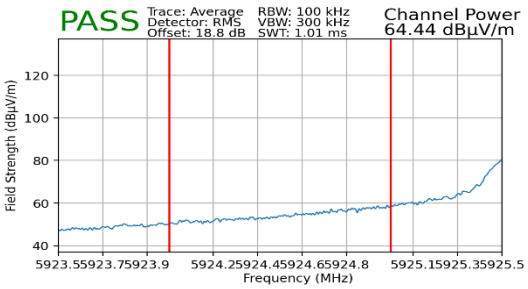
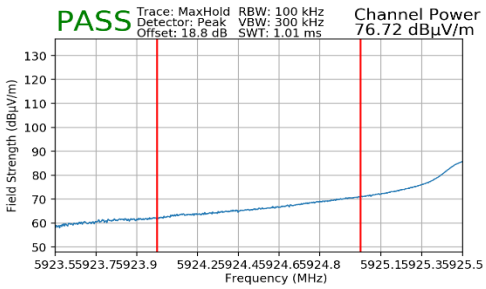
7.7.4 MIMO Radiated Band Edge Measurements (20MHz BW – Full Tone – 242T)

§15.407(b.6) §15.205 §15.209

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	61
Distance of Measurements:	3 Meters
Operating Frequency:	5935MHz
Channel:	2

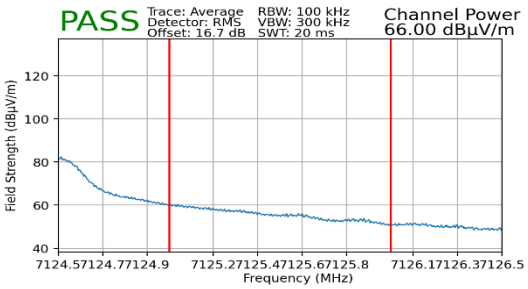


Plot 7-679. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5) SP

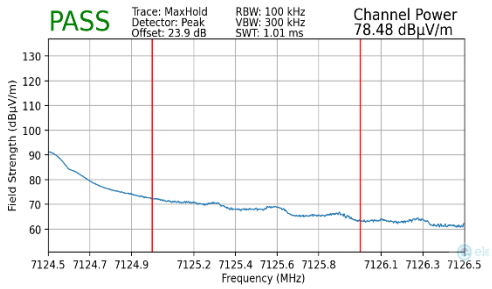


Plot 7-680. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5) SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	61
Distance of Measurements:	3 Meters
Operating Frequency:	7115MHz
Channel:	233



Plot 7-681. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8) LPI



Plot 7-682. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8) LPI

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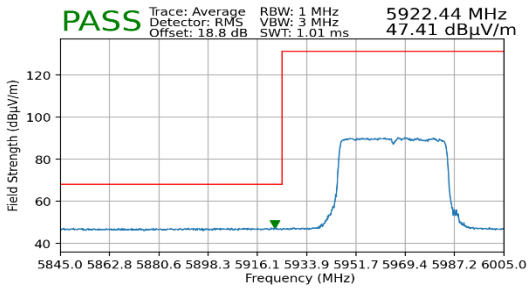
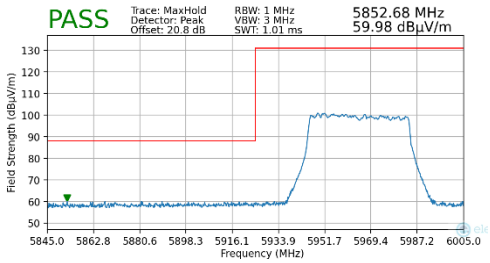
7.7.5 MIMO Radiated Band Edge Measurements (40MHz BW – Full Tone – 484T)

§15.407(b.5) §15.205 §15.209

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	5965MHz
Channel:	3

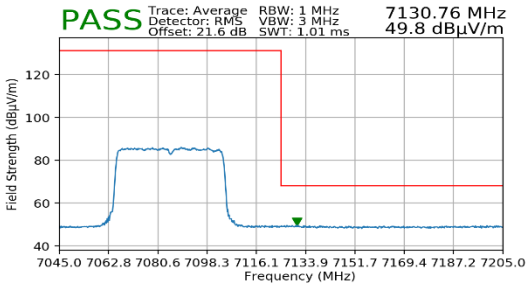


Plot 7-683. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5) LPI/SP

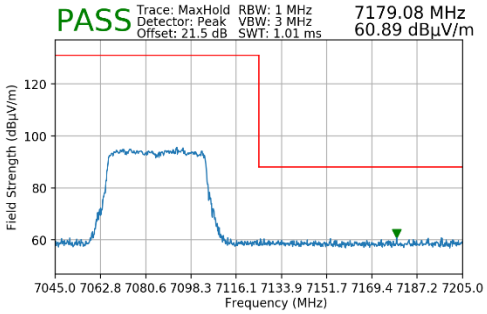


Plot 7-684. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5) LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	7085MHz
Channel:	227



Plot 7-685. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8) LPI



Plot 7-686. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8) LPI

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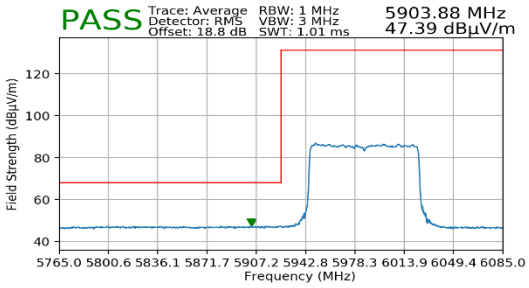
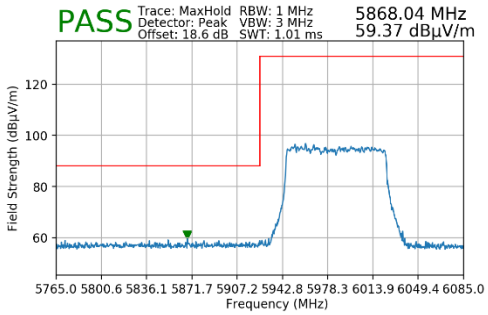
7.7.6 MIMO Radiated Band Edge Measurements (80MHz BW Full Tone – 996T)

§15.407(b.5) §15.205 §15.209

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	5985MHz
Channel:	7

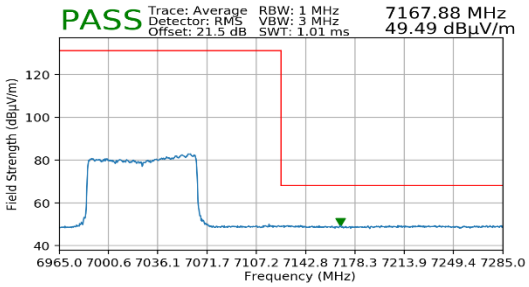


Plot 7-687. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5) LPI/SP

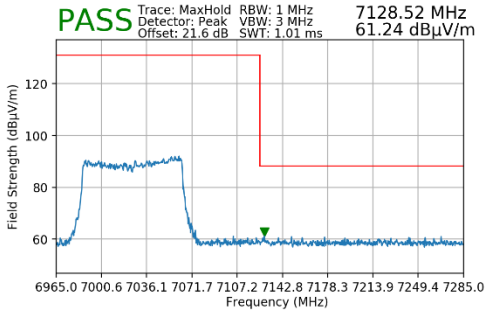


Plot 7-688. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5) LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	7025MHz
Channel:	215



Plot 7-689. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8) LPI



Plot 7-690. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8) LPI

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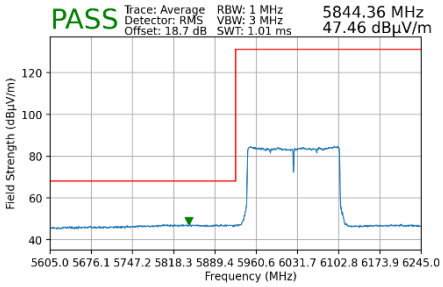
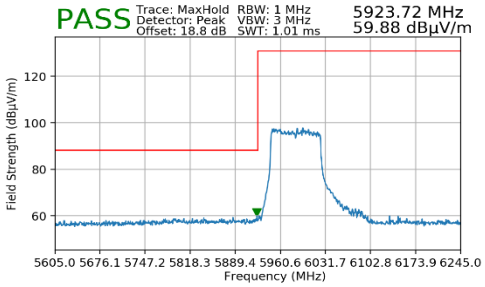
7.7.7 MIMO Radiated Band Edge Measurements (160MHz BW Full Tone - 2x996T)

§15.407(b.5) §15.205 §15.209

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	6025MHz
Channel:	15

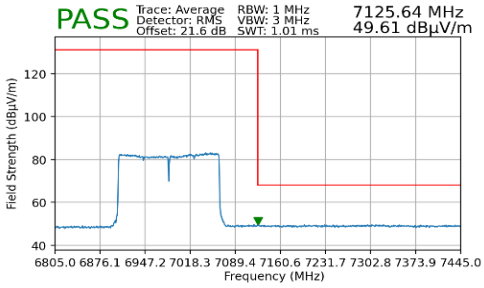


Plot 7-691. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5) LPI/SP

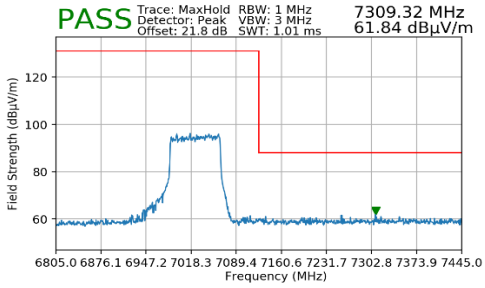


Plot 7-692. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5) LPI/SP

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	6985MHz
Channel:	207



Plot 7-693. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8) LPI



Plot 7-694. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8) LPI

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7.8 Radiated Spurious Emissions Measurements – Below 1GHz
§15.209

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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All emissions appearing <1GHz as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 7-82 per Section 15.209.

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

Test Settings

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

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Test Setup

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

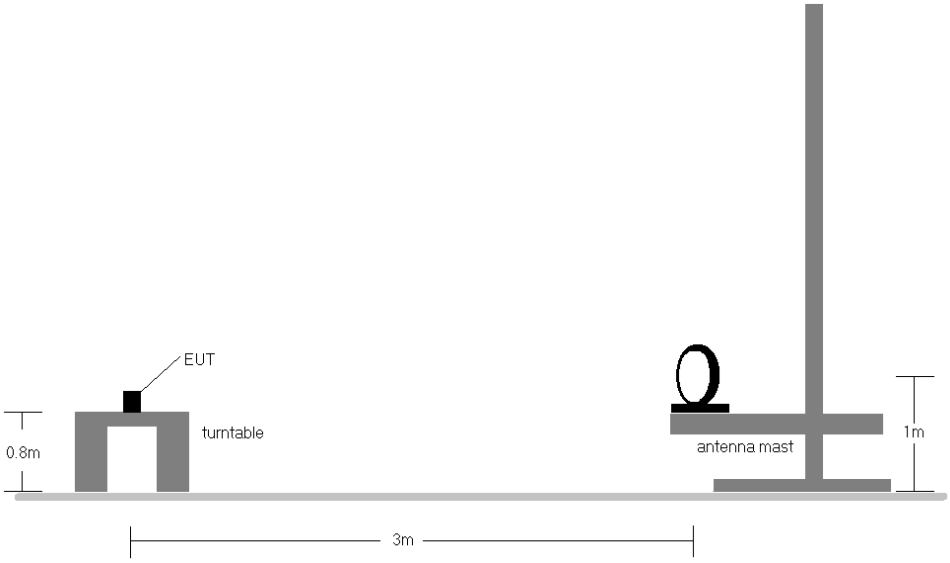

Figure 7-7. Radiated Test Setup < 30MHz

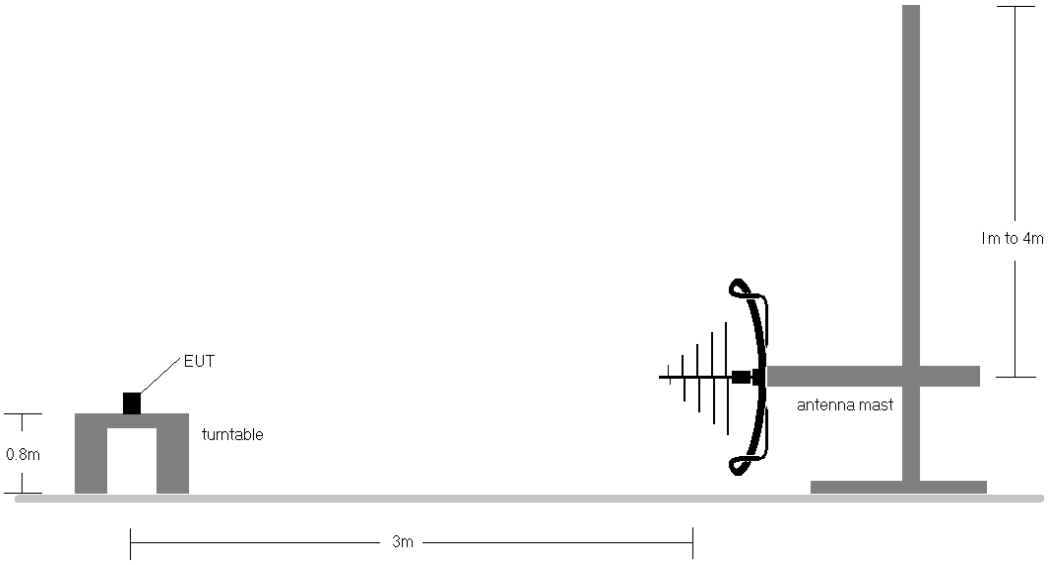

Figure 7-8. Radiated Test Setup < 1GHz

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Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-82.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is 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.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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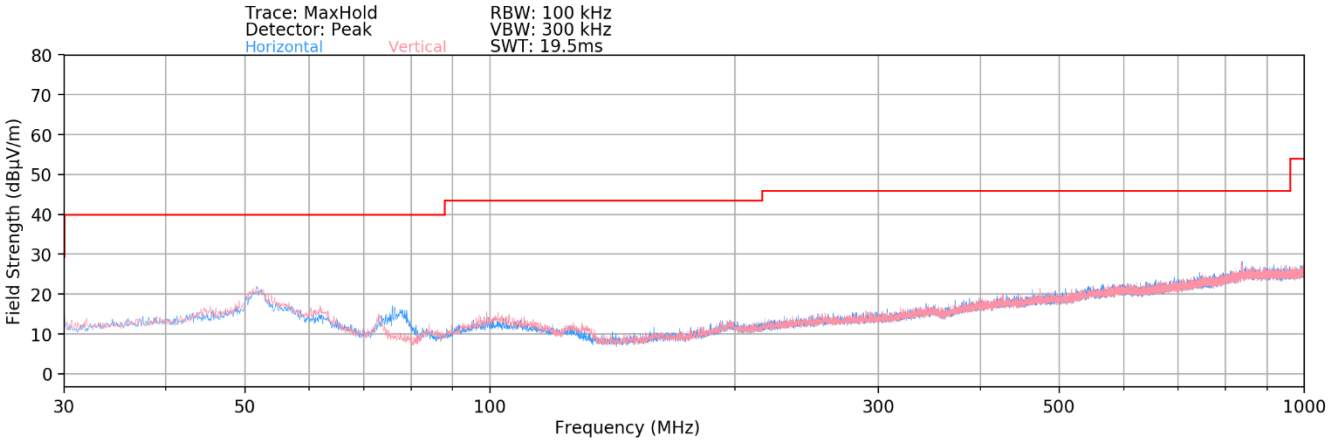
Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 7-695. Radiated Spurious Plot below 1GHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
42.11	Quasi-Peak	V	-	-	-96.35	18.51	29.16	40.00	-10.84

Table 7-83. Radiated Spurious Data below 1GHz

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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: A3LSMS918U** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules for operation as a client device.

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