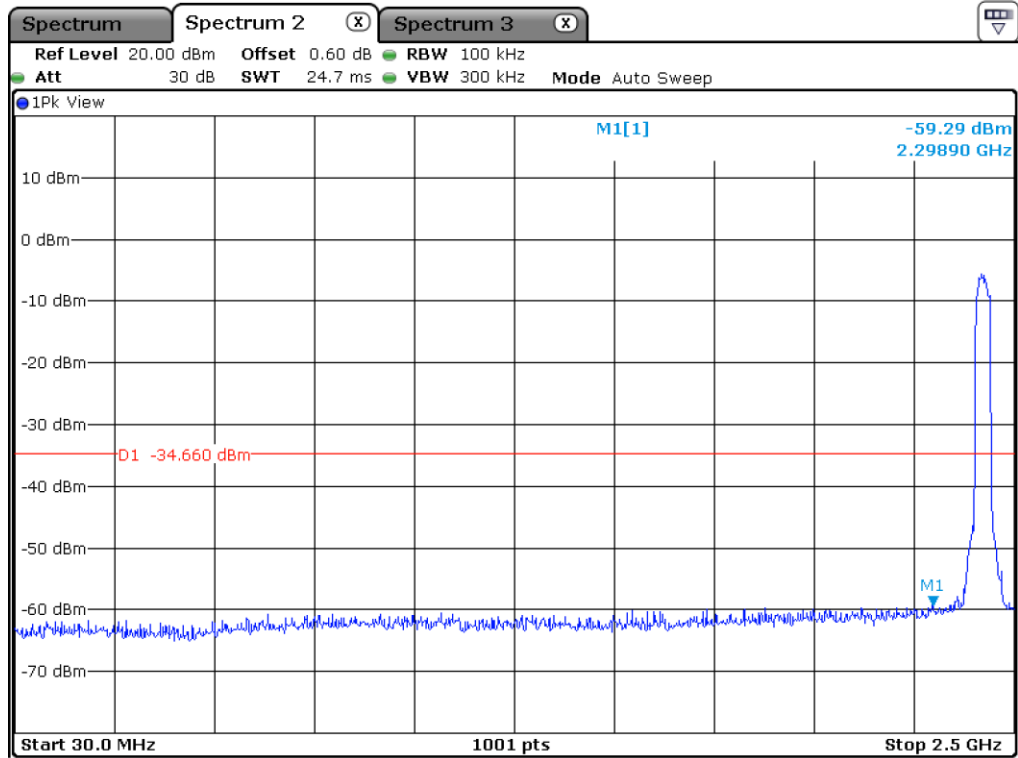
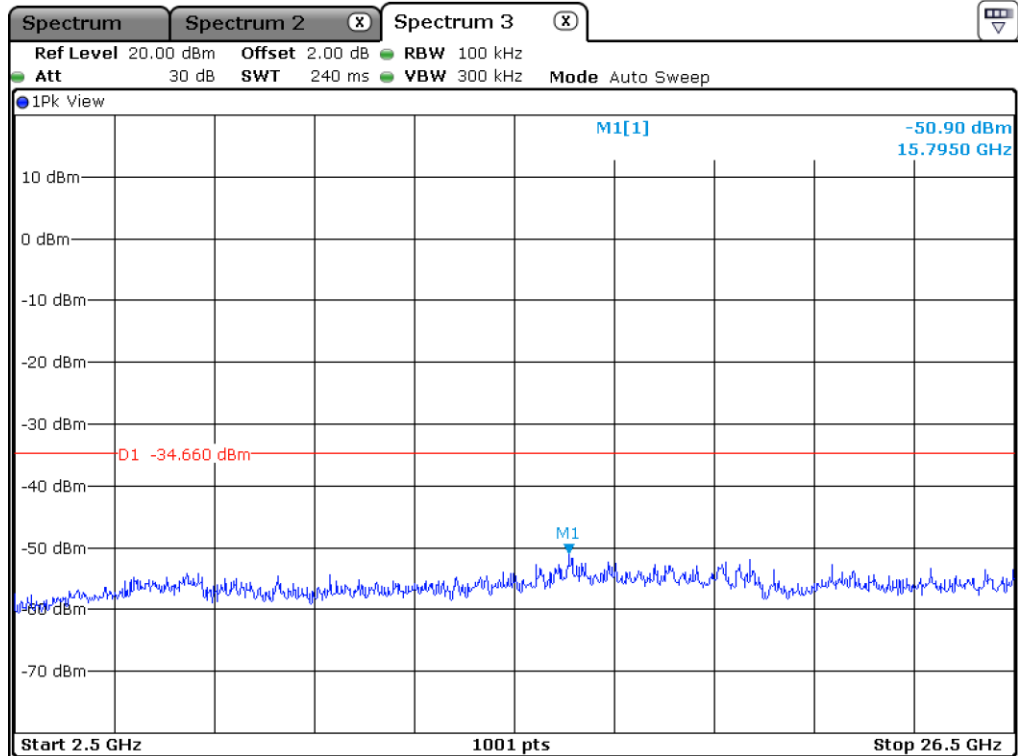




Low Channel



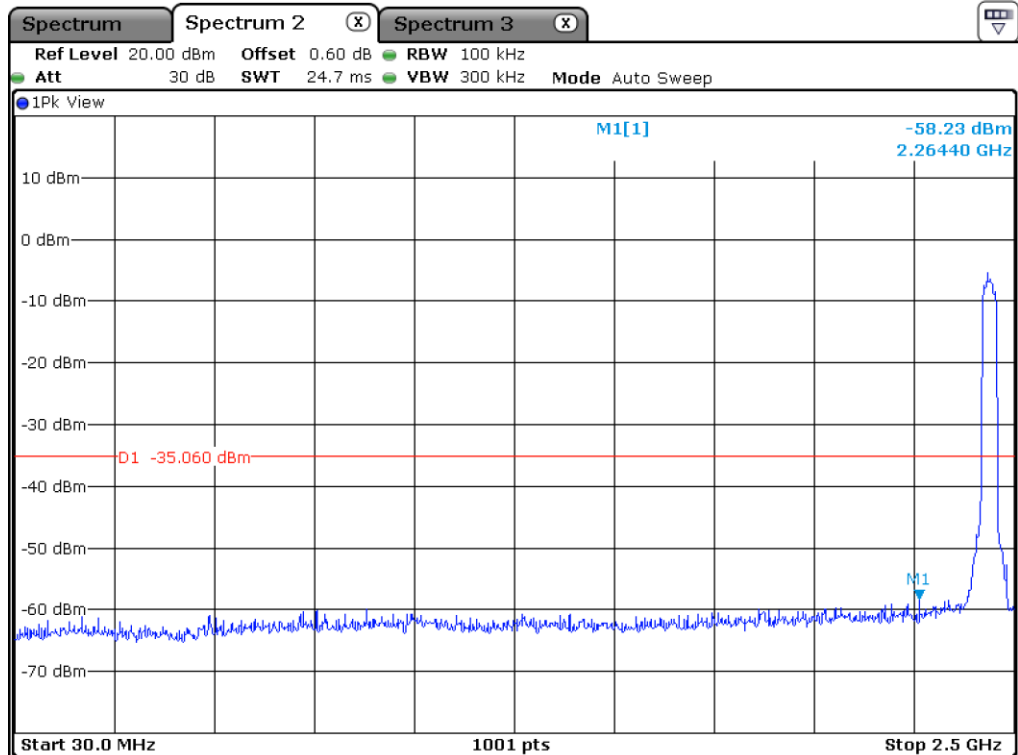
Low Channel

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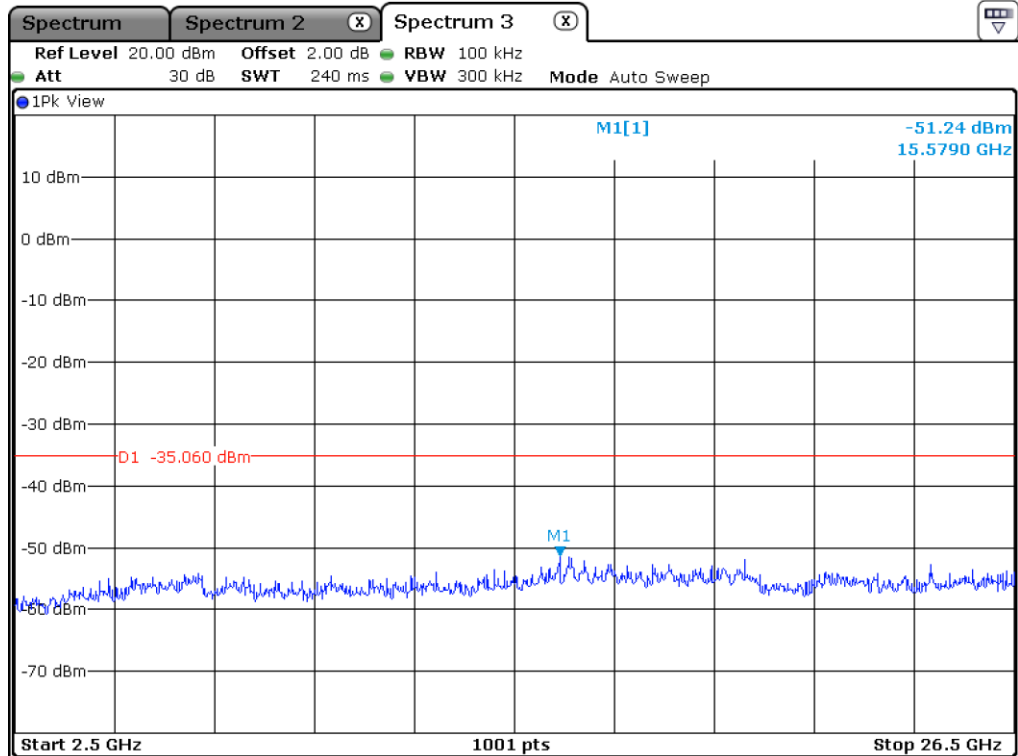
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Middle Channel



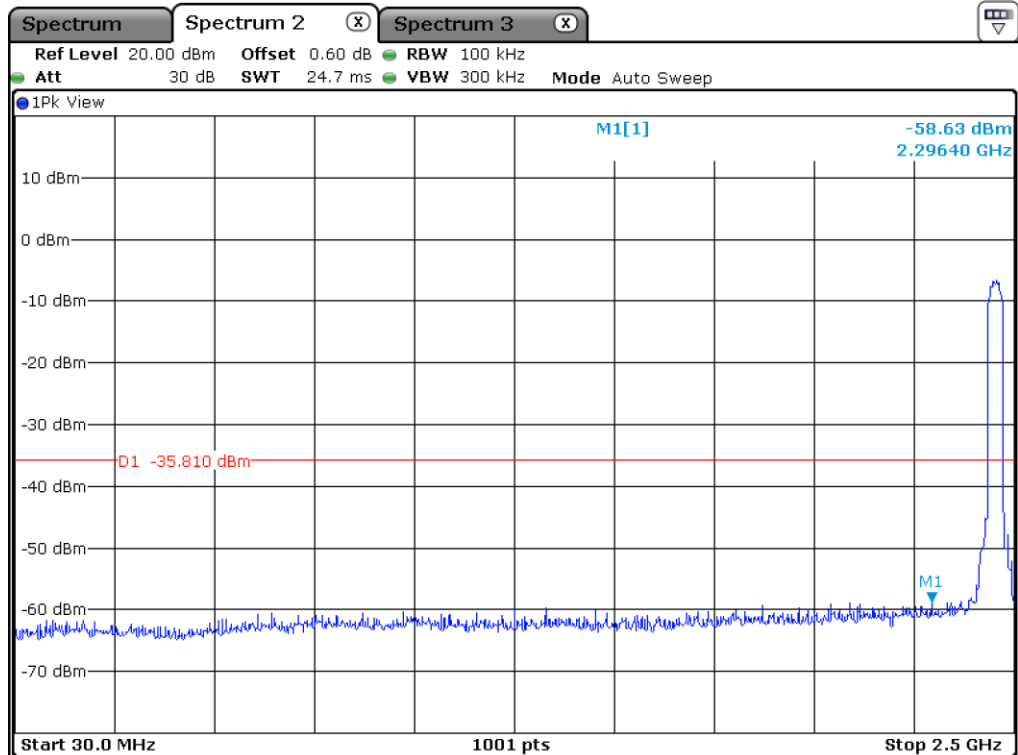
Middle Channel

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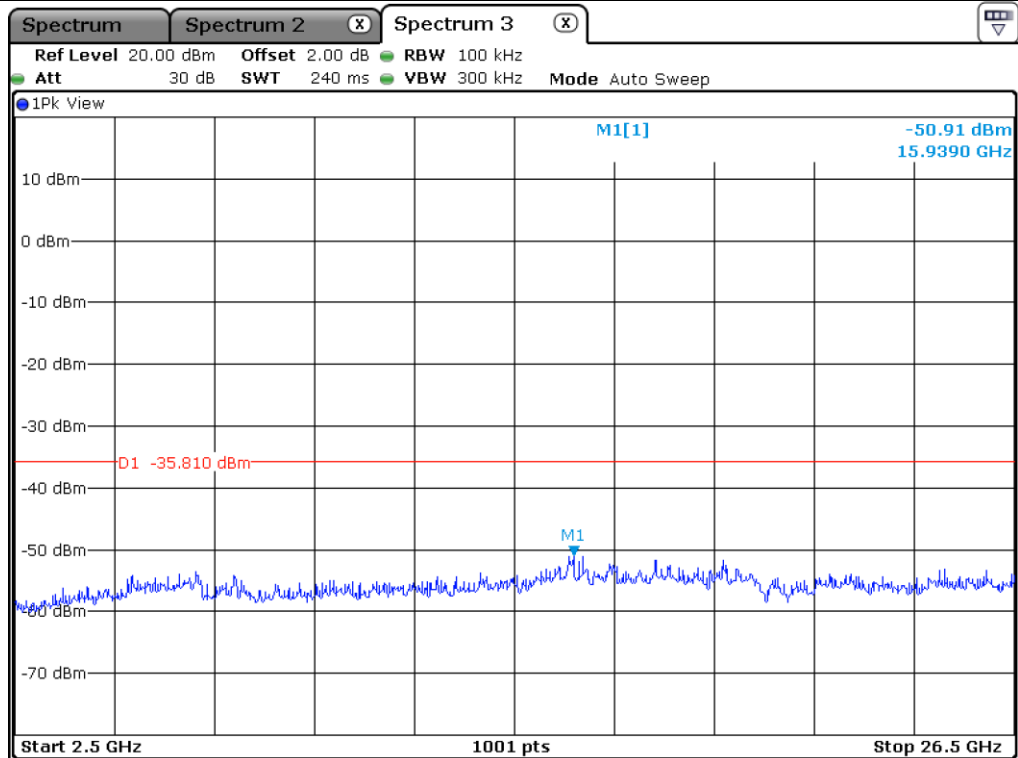
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High Channel 9



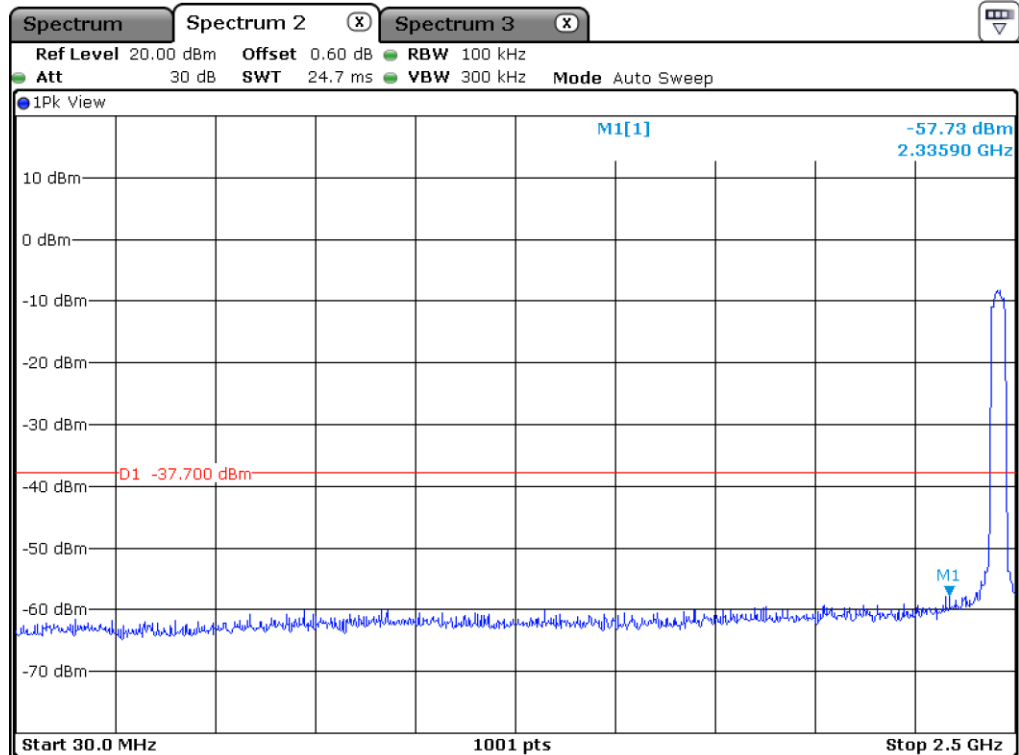
High Channel 9

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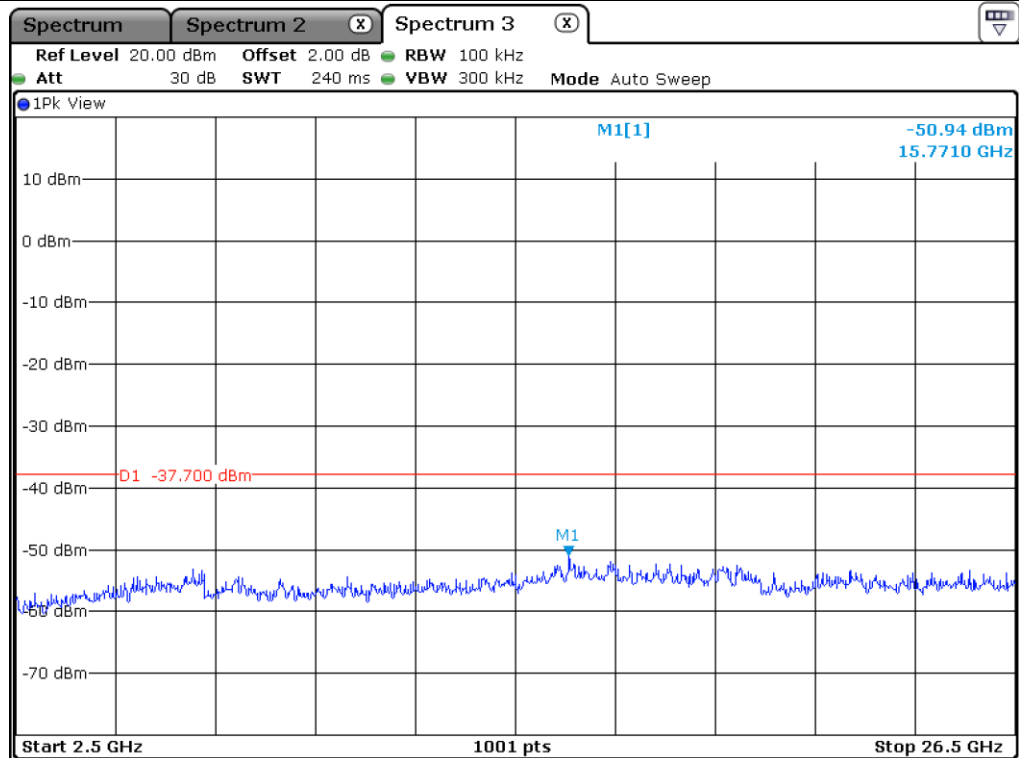
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High Channel 10



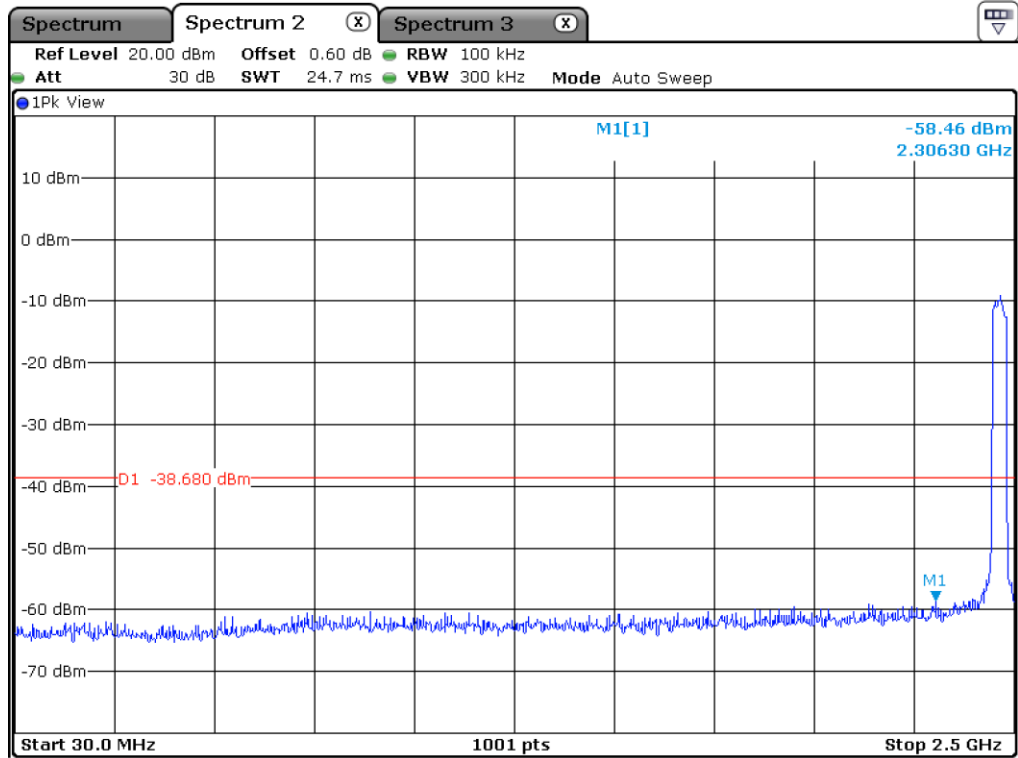
High Channel 10

This Report is not correlated with the authentication of KOLAS

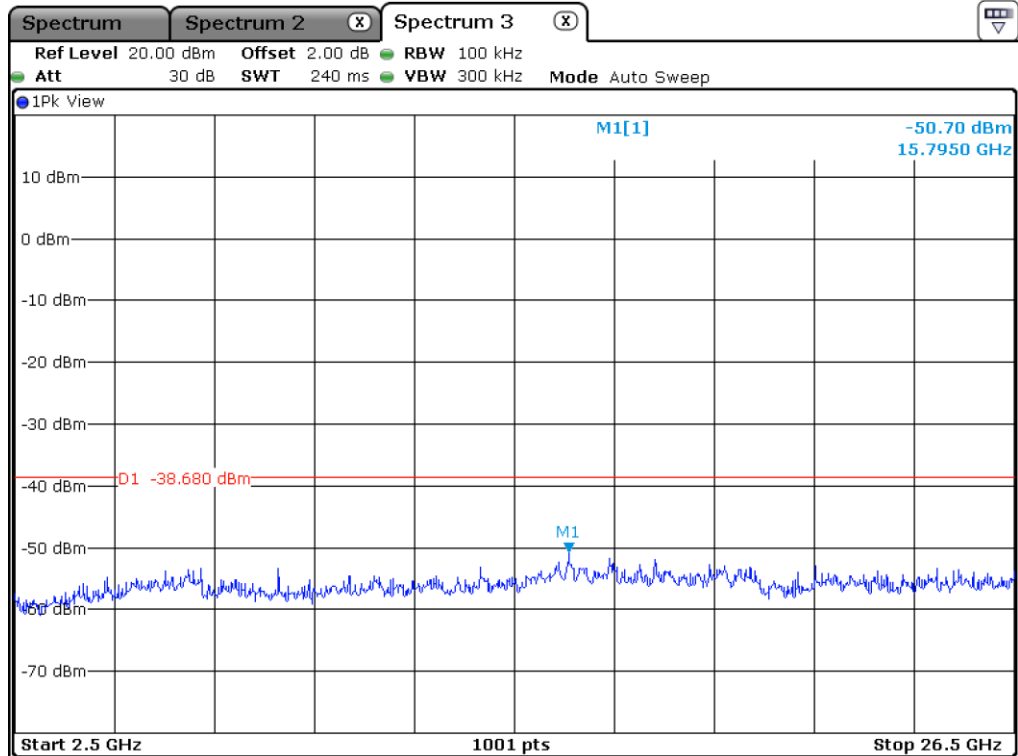
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High Channel 11



High Channel 11

9.6 Test data for radiated emission

9.6.1 Radiated Emission which fall in the Restricted Band

9.6.1.1 Test data for 802.11b WLAN Mode

9.6.1.1.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	ATT Factor	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 387.817	53.37	Peak	H	27.50	8.20	9.93	45.79	53.21	74.00	20.79
2 387.997	44.61	Average	H	27.50	8.20	9.93	45.79	44.45	54.00	9.55
2 373.072	52.85	Peak	V	27.50	8.20	9.93	45.79	52.69	74.00	21.31
2 386.828	43.23	Average	V	27.50	8.20	9.93	45.79	43.07	54.00	10.93
Test Data for High 11 Channel										
2 491.132	54.23	Peak	H	27.30	8.33	9.95	45.79	54.02	74.00	19.98
2 484.046	43.12	Average	H	27.30	8.33	9.95	45.79	42.91	54.00	11.09
2 487.136	53.04	Peak	V	27.30	8.33	9.95	45.79	52.83	74.00	21.17
2 485.724	42.92	Average	V	27.30	8.33	9.95	45.79	42.71	54.00	11.29
Test Data for High 12 Channel										
2 483.500	56.06	Peak	H	27.30	8.33	9.95	45.79	55.85	74.00	18.15
2 483.500	48.91	Average	H	27.30	8.33	9.95	45.79	48.70	54.00	5.30
2 483.500	55.30	Peak	V	27.30	8.33	9.95	45.79	55.09	74.00	18.91
2 483.500	47.59	Average	V	27.30	8.33	9.95	45.79	47.38	54.00	6.62
Test Data for High 13 Channel										
2 483.700	56.28	Peak	H	27.30	8.33	9.95	45.79	56.07	74.00	17.93
2 484.479	49.51	Average	H	27.30	8.33	9.95	45.79	49.30	54.00	4.70
2 483.720	55.75	Peak	V	27.30	8.33	9.95	45.79	55.54	74.00	18.46
2 484.179	48.21	Average	V	27.30	8.33	9.95	45.79	48.00	54.00	6.00

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss+ATT Factor– AMP Factor

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9.6.1.1.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	ATT Factor	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 353.561	52.75	Peak	H	27.50	8.20	9.93	45.79	52.59	74.00	21.41
2 384.221	42.05	Average	H	27.50	8.20	9.93	45.79	41.89	54.00	12.11
2 377.747	52.58	Peak	V	27.50	8.20	9.93	45.79	52.42	74.00	21.58
2 384.760	41.80	Average	V	27.50	8.20	9.93	45.79	41.64	54.00	12.36
Test Data for High 11 Channel										
2 486.803	53.84	Peak	H	27.30	8.33	9.95	45.79	53.63	74.00	20.37
2 488.861	43.30	Average	H	27.30	8.33	9.95	45.79	43.09	54.00	10.91
2 486.843	53.34	Peak	V	27.30	8.33	9.95	45.79	53.13	74.00	20.87
2 489.161	43.00	Average	V	27.30	8.33	9.95	45.79	42.79	54.00	11.21
Test Data for High 12 Channel										
2 483.620	56.87	Peak	H	27.30	8.33	9.95	45.79	56.66	74.00	17.34
2 483.500	49.65	Average	H	27.30	8.33	9.95	45.79	49.44	54.00	4.56
2 483.500	55.62	Peak	V	27.30	8.33	9.95	45.79	55.41	74.00	18.59
2 483.500	48.06	Average	V	27.30	8.33	9.95	45.79	47.85	54.00	6.15
Test Data for High 13 Channel										
2 486.977	57.82	Peak	H	27.30	8.33	9.95	45.79	57.61	74.00	16.39
2 484.679	50.06	Average	H	27.30	8.33	9.95	45.79	49.85	54.00	4.15
2 484.479	56.15	Peak	V	27.30	8.33	9.95	45.79	55.94	74.00	18.06
2 484.679	49.26	Average	V	27.30	8.33	9.95	45.79	49.05	54.00	4.95

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss+ATT Factor– AMP Factor

9.6.1.2 Test data for 802.11g WLAN Mode

9.6.1.2.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	ATT Factor	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 390.000	57.79	Peak	H	27.50	8.20	9.93	45.79	57.63	74.00	16.37
2 390.000	48.27	Average	H	27.50	8.20	9.93	45.79	48.11	54.00	5.89
2 390.000	57.09	Peak	V	27.50	8.20	9.93	45.79	56.93	74.00	17.07
2 390.000	47.31	Average	V	27.50	8.20	9.93	45.79	47.15	54.00	6.85
Test Data for High 11 Channel										
2 483.500	57.38	Peak	H	27.30	8.33	9.95	45.79	57.17	74.00	16.83
2 483.500	46.15	Average	H	27.30	8.33	9.95	45.79	45.94	54.00	8.06
2 483.500	55.68	Peak	V	27.30	8.33	9.95	45.79	55.47	74.00	18.53
2 483.500	44.72	Average	V	27.30	8.33	9.95	45.79	44.51	54.00	9.49
Test Data for High 12 Channel										
2 483.500	61.96	Peak	H	27.30	8.33	9.95	45.79	61.75	74.00	12.25
2 483.500	50.13	Average	H	27.30	8.33	9.95	45.79	49.92	54.00	4.08
2 483.500	60.45	Peak	V	27.30	8.33	9.95	45.79	60.24	74.00	13.76
2 483.500	48.79	Average	V	27.30	8.33	9.95	45.79	48.58	54.00	5.42
Test Data for High 13 Channel										
2 483.500	61.05	Peak	H	27.30	8.33	9.95	45.79	60.84	74.00	13.16
2 484.939	49.59	Average	H	27.30	8.33	9.95	45.79	49.38	54.00	4.62
2 483.740	59.35	Peak	V	27.30	8.33	9.95	45.79	59.14	74.00	14.86
2 484.979	48.28	Average	V	27.30	8.33	9.95	45.79	48.07	54.00	5.93

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss+ATT Factor– AMP Factor

9.6.1.3 Test data for 802.11n_HT20 WLAN Mode

9.6.1.3.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	ATT Factor	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 390.000	60.97	Peak	H	27.50	8.20	9.93	45.79	60.81	74.00	13.19
2 390.000	50.37	Average	H	27.50	8.20	9.93	45.79	50.21	54.00	3.79
2 390.000	59.60	Peak	V	27.50	8.20	9.93	45.79	59.44	74.00	14.56
2 390.000	49.38	Average	V	27.50	8.20	9.93	45.79	49.22	54.00	4.78
Test Data for High 11 Channel										
2 483.500	63.47	Peak	H	27.30	8.33	9.95	45.79	63.26	74.00	10.74
2 483.500	50.26	Average	H	27.30	8.33	9.95	45.79	50.05	54.00	3.95
2 483.500	62.12	Peak	V	27.30	8.33	9.95	45.79	61.91	74.00	12.09
2 483.500	49.12	Average	V	27.30	8.33	9.95	45.79	48.91	54.00	5.09
Test Data for High 12 Channel										
2 483.500	61.49	Peak	H	27.30	8.33	9.95	45.79	61.28	74.00	12.72
2 483.500	50.22	Average	H	27.30	8.33	9.95	45.79	50.01	54.00	3.99
2 483.500	59.50	Peak	V	27.30	8.33	9.95	45.79	59.29	74.00	14.71
2 483.500	48.73	Average	V	27.30	8.33	9.95	45.79	48.52	54.00	5.48
Test Data for High 13 Channel										
2 483.500	60.49	Peak	H	27.30	8.33	9.95	45.79	60.28	74.00	13.72
2 483.500	49.98	Average	H	27.30	8.33	9.95	45.79	49.77	54.00	4.23
2 483.500	57.86	Peak	V	27.30	8.33	9.95	45.79	57.65	74.00	16.35
2 483.500	48.79	Average	V	27.30	8.33	9.95	45.79	48.58	54.00	5.42

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss+ATT Factor– AMP Factor

9.6.1.4 Test data for 802.11n_HT40 WLAN Mode

9.6.1.4.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	ATT Factor	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 390.000	60.59	Peak	H	27.50	8.20	9.93	45.79	60.43	74.00	13.57
2 390.000	50.90	Average	H	27.50	8.20	9.93	45.79	50.74	54.00	3.26
2 389.730	58.98	Peak	V	27.50	8.20	9.93	45.79	58.82	74.00	15.18
2 390.000	49.72	Average	V	27.50	8.20	9.93	45.79	49.56	54.00	4.44
Test Data for High 11 Channel										
2 484.699	61.36	Peak	H	27.30	8.33	9.95	45.79	61.15	74.00	12.85
2 483.500	50.19	Average	H	27.30	8.33	9.95	45.79	49.98	54.00	4.02
2 483.500	60.73	Peak	V	27.30	8.33	9.95	45.79	60.52	74.00	13.48
2 483.500	49.57	Average	V	27.30	8.33	9.95	45.79	49.36	54.00	4.64
Test Data for High 12 Channel										
2 483.820	60.73	Peak	H	27.30	8.33	9.95	45.79	60.52	74.00	13.48
2 484.379	50.13	Average	H	27.30	8.33	9.95	45.79	49.92	54.00	4.08
2 483.500	58.82	Peak	V	27.30	8.33	9.95	45.79	58.61	74.00	15.39
2 483.500	48.52	Average	V	27.30	8.33	9.95	45.79	48.31	54.00	5.69
Test Data for High 13 Channel										
2 483.500	61.54	Peak	H	27.30	8.33	9.95	45.79	61.33	74.00	12.67
2 483.500	50.00	Average	H	27.30	8.33	9.95	45.79	49.79	54.00	4.21
2 483.500	59.32	Peak	V	27.30	8.33	9.95	45.79	59.11	74.00	14.89
2 483.500	48.34	Average	V	27.30	8.33	9.95	45.79	48.13	54.00	5.87

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss+ATT Factor– AMP Factor

9.6.2 Spurious & Harmonic Radiated Emission

9.6.2.1 Test data for 802.11b WLAN Mode

9.6.2.1.1 Test data for Antenna 0

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	49.69	Peak	H	31.10	11.21	45.03	46.97	74.00	27.03
4 824.00	44.32	Average	H	31.10	11.21	45.03	41.60	54.00	12.40
4 824.00	49.16	Peak	V	31.10	11.21	45.03	46.44	74.00	27.56
4 824.00	43.67	Average	V	31.10	11.21	45.03	40.95	54.00	13.05
Test Data for Middle Channel									
4 874.00	49.61	Peak	H	31.10	11.23	45.03	46.91	74.00	27.09
4 874.00	43.46	Average	H	31.10	11.23	45.03	40.76	54.00	13.24
4 874.00	49.15	Peak	V	31.10	11.23	45.03	46.45	74.00	27.55
4 874.00	43.00	Average	V	31.10	11.23	45.03	40.30	54.00	13.70

Test Data for High 11 Channel									
4 924.00	49.66	Peak	H	31.10	11.25	45.03	46.98	74.00	27.02
4 924.00	41.84	Average	H	31.10	11.25	45.03	39.16	54.00	14.84
4 924.00	49.29	Peak	V	31.10	11.25	45.03	46.61	74.00	27.39
4 924.00	41.59	Average	V	31.10	11.25	45.03	38.91	54.00	15.09
Test Data for High 12 Channel									
4 934.00	49.30	Peak	H	31.10	11.26	45.03	46.63	74.00	27.37
4 934.00	40.95	Average	H	31.10	11.26	45.03	38.28	54.00	15.72
4 934.00	49.21	Peak	V	31.10	11.26	45.03	46.54	74.00	27.46
4 934.00	40.92	Average	V	31.10	11.26	45.03	38.25	54.00	15.75
Test Data for High 13 Channel									
4 944.00	49.26	Peak	H	31.20	11.31	45.03	46.74	74.00	27.26
4 944.00	40.02	Average	H	31.20	11.31	45.03	37.50	54.00	16.50
4 944.00	49.30	Peak	V	31.20	11.31	45.03	46.78	74.00	27.22
4 944.00	39.90	Average	V	31.20	11.31	45.03	37.38	54.00	16.62

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor – AMP Factor + Cable Loss

9.6.2.1.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	49.57	Peak	H	31.10	11.21	45.03	46.85	74.00	27.15
4 824.00	43.81	Average	H	31.10	11.21	45.03	41.09	54.00	12.91
4 824.00	49.44	Peak	V	31.10	11.21	45.03	46.72	74.00	27.28
4 824.00	43.18	Average	V	31.10	11.21	45.03	40.46	54.00	13.54
Test Data for Middle Channel									
4 874.00	49.82	Peak	H	31.10	11.23	45.03	47.12	74.00	26.88
4 874.00	43.44	Average	H	31.10	11.23	45.03	40.74	54.00	13.26
4 874.00	49.65	Peak	V	31.10	11.23	45.03	46.95	74.00	27.05
4 874.00	43.11	Average	V	31.10	11.23	45.03	40.41	54.00	13.59

Test Data for High 11 Channel									
4 924.00	50.02	Peak	H	31.10	11.25	45.03	47.34	74.00	26.66
4 924.00	43.94	Average	H	31.10	11.25	45.03	41.26	54.00	12.74
4 924.00	49.72	Peak	V	31.10	11.25	45.03	47.04	74.00	26.96
4 924.00	43.16	Average	V	31.10	11.25	45.03	40.48	54.00	13.52
Test Data for High 12 Channel									
4 934.00	49.46	Peak	H	31.10	11.26	45.03	46.79	74.00	27.21
4 934.00	42.69	Average	H	31.10	11.26	45.03	40.02	54.00	13.98
4 934.00	49.52	Peak	V	31.10	11.26	45.03	46.85	74.00	27.15
4 934.00	42.05	Average	V	31.10	11.26	45.03	39.38	54.00	14.62
Test Data for High 13 Channel									
4 944.00	49.52	Peak	H	31.20	11.31	45.03	47.00	74.00	27.00
4 944.00	40.38	Average	H	31.20	11.31	45.03	37.86	54.00	16.14
4 944.00	49.44	Peak	V	31.20	11.31	45.03	46.92	74.00	27.08
4 944.00	40.29	Average	V	31.20	11.31	45.03	37.77	54.00	16.23

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor – AMP Factor + Cable Loss

9.6.2.2 Test data for 802.11g WLAN Mode

9.6.2.2.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	49.67	Peak	H	31.10	11.21	45.03	46.95	74.00	27.05
4 824.00	40.31	Average	H	31.10	11.21	45.03	37.59	54.00	16.41
4 824.00	49.49	Peak	V	31.10	11.21	45.03	46.77	74.00	27.23
4 824.00	40.24	Average	V	31.10	11.21	45.03	37.52	54.00	16.48
Test Data for Middle Channel									
4 874.00	49.49	Peak	H	31.10	11.23	45.03	46.79	74.00	27.21
4 874.00	40.29	Average	H	31.10	11.23	45.03	37.59	54.00	16.41
4 874.00	49.64	Peak	V	31.10	11.23	45.03	46.94	74.00	27.06
4 874.00	40.21	Average	V	31.10	11.23	45.03	37.51	54.00	16.49

Test Data for High 11 Channel									
4 924.00	49.54	Peak	H	31.10	11.25	45.03	46.86	74.00	27.14
4 924.00	40.32	Average	H	31.10	11.25	45.03	37.64	54.00	16.36
4 924.00	49.43	Peak	V	31.10	11.25	45.03	46.75	74.00	27.25
4 924.00	40.27	Average	V	31.10	11.25	45.03	37.59	54.00	16.41
Test Data for High 12 Channel									
4 934.00	49.62	Peak	H	31.10	11.26	45.03	46.95	74.00	27.05
4 934.00	40.24	Average	H	31.10	11.26	45.03	37.57	54.00	16.43
4 934.00	49.47	Peak	V	31.10	11.26	45.03	46.80	74.00	27.20
4 934.00	40.27	Average	V	31.10	11.26	45.03	37.60	54.00	16.40
Test Data for High 13 Channel									
4 944.00	49.48	Peak	H	31.20	11.31	45.03	46.96	74.00	27.04
4 944.00	40.33	Average	H	31.20	11.31	45.03	37.81	54.00	16.19
4 944.00	49.48	Peak	V	31.20	11.31	45.03	46.96	74.00	27.04
4 944.00	40.35	Average	V	31.20	11.31	45.03	37.83	54.00	16.17

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor – AMP Factor + Cable Loss

9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	49.66	Peak	H	31.10	11.21	45.03	46.94	74.00	27.06
4 824.00	40.43	Average	H	31.10	11.21	45.03	37.71	54.00	16.29
4 824.00	49.45	Peak	V	31.10	11.21	45.03	46.73	74.00	27.27
4 824.00	40.25	Average	V	31.10	11.21	45.03	37.53	54.00	16.47
Test Data for Middle Channel									
4 874.00	49.59	Peak	H	31.10	11.23	45.03	46.89	74.00	27.11
4 874.00	40.26	Average	H	31.10	11.23	45.03	37.56	54.00	16.44
4 874.00	49.64	Peak	V	31.10	11.23	45.03	46.94	74.00	27.06
4 874.00	40.27	Average	V	31.10	11.23	45.03	37.57	54.00	16.43

Test Data for High 11 Channel									
4 924.00	49.62	Peak	H	31.10	11.25	45.03	46.94	74.00	27.06
4 924.00	40.25	Average	H	31.10	11.25	45.03	37.57	54.00	16.43
4 924.00	49.59	Peak	V	31.10	11.25	45.03	46.91	74.00	27.09
4 924.00	40.38	Average	V	31.10	11.25	45.03	37.70	54.00	16.30
Test Data for High 12 Channel									
4 934.00	49.59	Peak	H	31.10	11.26	45.03	46.92	74.00	27.08
4 934.00	40.34	Average	H	31.10	11.26	45.03	37.67	54.00	16.33
4 934.00	49.50	Peak	V	31.10	11.26	45.03	46.83	74.00	27.17
4 934.00	40.25	Average	V	31.10	11.26	45.03	37.58	54.00	16.42
Test Data for High 13 Channel									
4 944.00	49.54	Peak	H	31.20	11.31	45.03	47.02	74.00	26.98
4 944.00	40.28	Average	H	31.20	11.31	45.03	37.76	54.00	16.24
4 944.00	49.59	Peak	V	31.20	11.31	45.03	47.07	74.00	26.93
4 944.00	40.34	Average	V	31.20	11.31	45.03	37.82	54.00	16.18

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor -AMP Factor + Cable Loss

9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 844.00	49.62	Peak	H	31.10	11.21	45.03	46.90	74.00	27.10
4 844.00	40.26	Average	H	31.10	11.21	45.03	37.54	54.00	16.46
4 844.00	49.46	Peak	V	31.10	11.21	45.03	46.74	74.00	27.26
4 844.00	40.29	Average	V	31.10	11.21	45.03	37.57	54.00	16.43
Test Data for Middle Channel									
4 874.00	49.56	Peak	H	31.10	11.23	45.03	46.86	74.00	27.14
4 874.00	40.28	Average	H	31.10	11.23	45.03	37.58	54.00	16.42
4 874.00	49.63	Peak	V	31.10	11.23	45.03	46.93	74.00	27.07
4 874.00	40.38	Average	V	31.10	11.23	45.03	37.68	54.00	16.32

Test Data for High 9 Channel									
4 904.00	49.50	Peak	H	31.10	11.25	45.03	46.82	74.00	27.18
4 904.00	40.30	Average	H	31.10	11.25	45.03	37.62	54.00	16.38
4 904.00	49.46	Peak	V	31.10	11.25	45.03	46.78	74.00	27.22
4 904.00	40.29	Average	V	31.10	11.25	45.03	37.61	54.00	16.39
Test Data for High 10 Channel									
4 914.00	49.67	Peak	H	31.10	11.26	45.03	47.00	74.00	27.00
4 914.00	40.40	Average	H	31.10	11.26	45.03	37.73	54.00	16.27
4 914.00	49.62	Peak	V	31.10	11.26	45.03	46.95	74.00	27.05
4 914.00	40.22	Average	V	31.10	11.26	45.03	37.55	54.00	16.45
Test Data for High 11 Channel									
4 924.00	49.62	Peak	H	31.20	11.31	45.03	47.10	74.00	26.90
4 924.00	40.28	Average	H	31.20	11.31	45.03	37.76	54.00	16.24
4 924.00	49.59	Peak	V	31.20	11.31	45.03	47.07	74.00	26.93
4 924.00	40.33	Average	V	31.20	11.31	45.03	37.81	54.00	16.19

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor -AMP Factor + Cable Loss

10. PEAK POWER SPECTRUL DENSITY

10.1 Operating environment

Temperature : 23 ° C

Relative humidity : 45 % R.H.

10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$, the video bandwidth is set to 3 times the resolution bandwidth.



10.3 Test Date

October 07, 2021 ~ October 20, 2021

10.4 Test data for 802.11b WLAN Mode

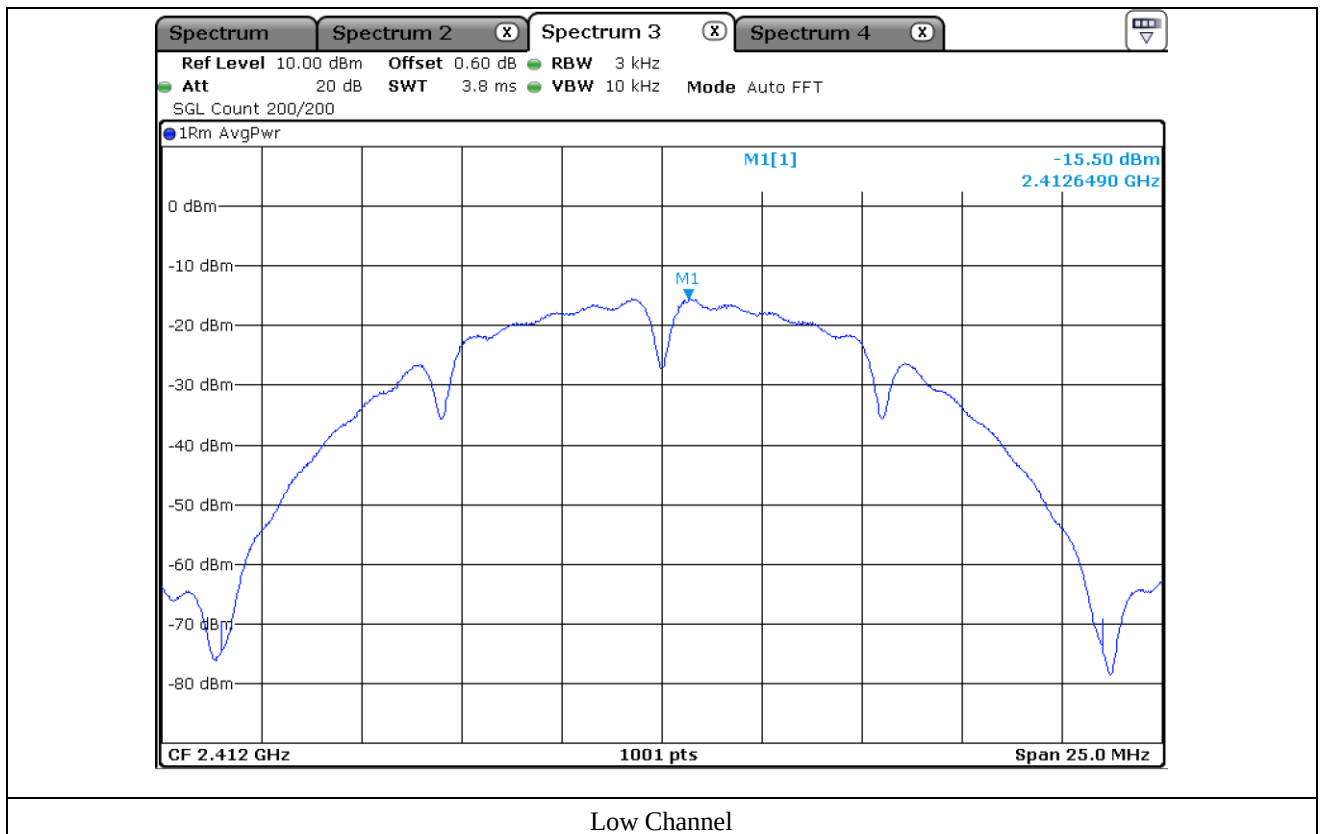
10.4.1 Test data for Antenna 0

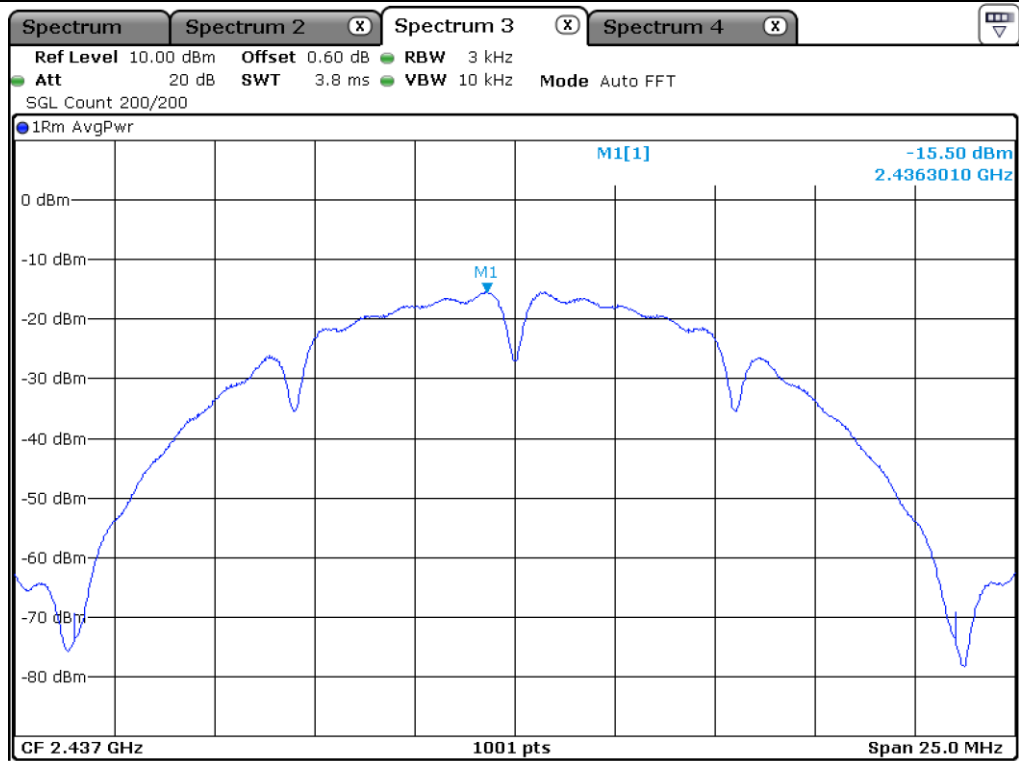
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

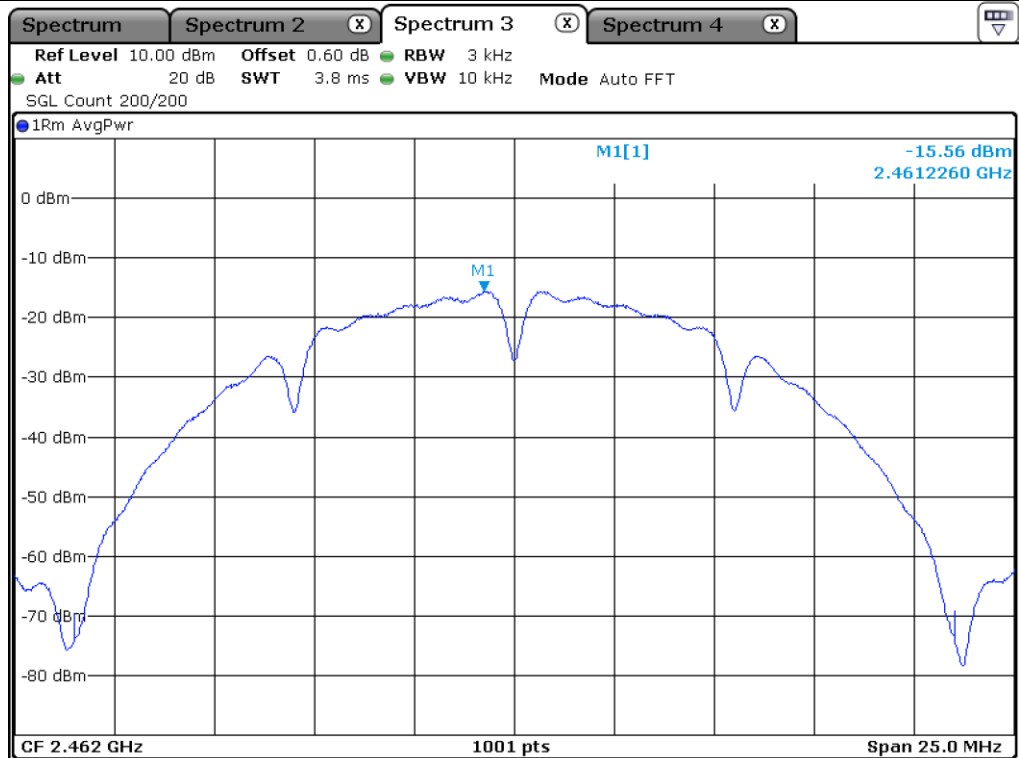
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-15.50	8.00	23.50
Middle	2 437.00	-15.50	8.00	23.50
High 11	2 462.00	-15.56	8.00	23.56
High 12	2 467.00	-18.11	8.00	26.11
High 13	2 472.00	-20.98	8.00	28.98

Remark. Margin = Limit – Measured value

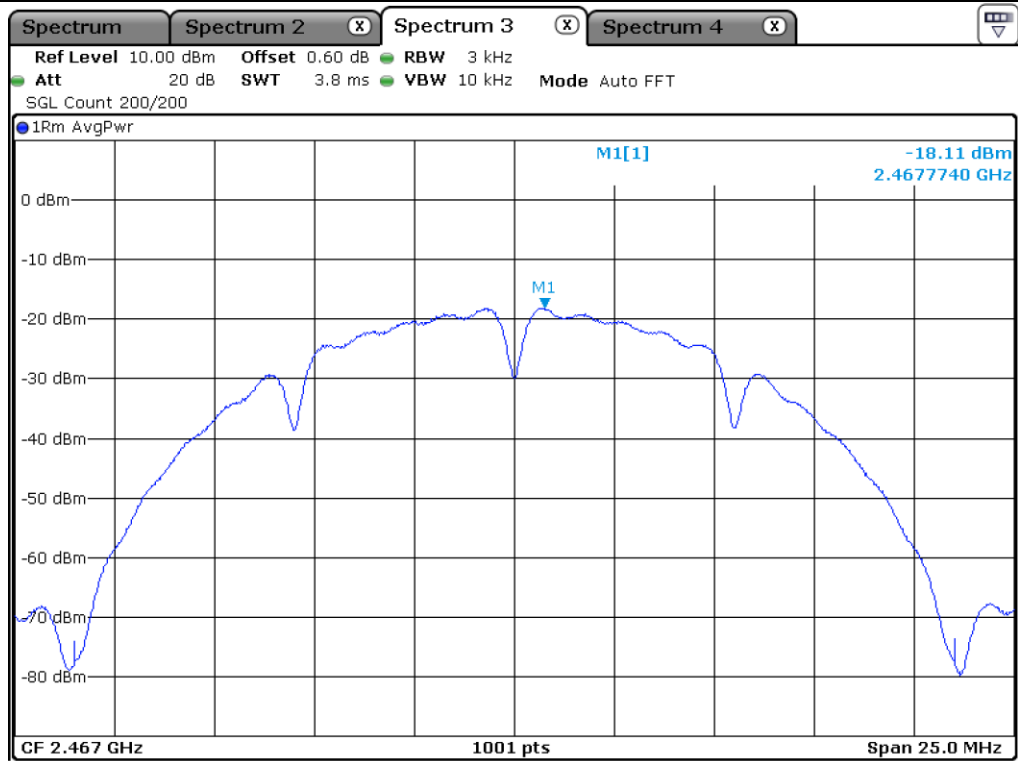




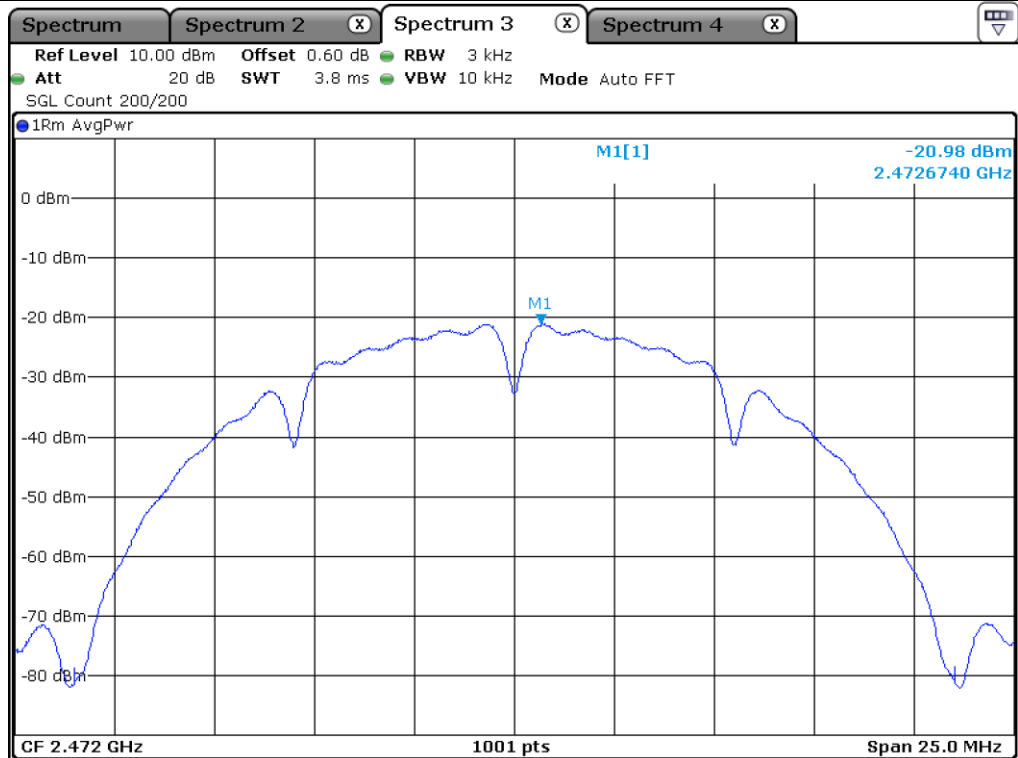
Middle Channel



High Channel 11



High Channel 12



High Channel 13

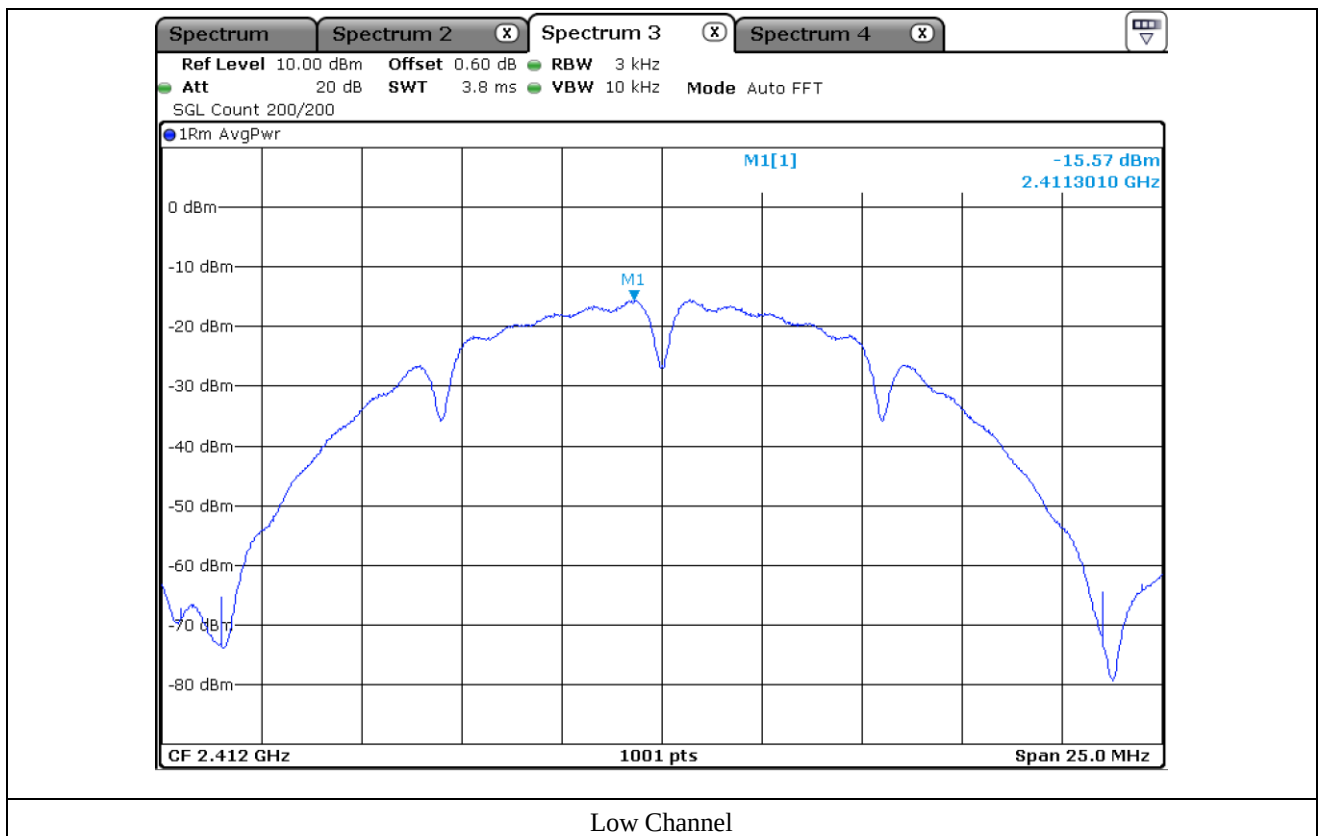
10.4.2 Test data for Antenna 1

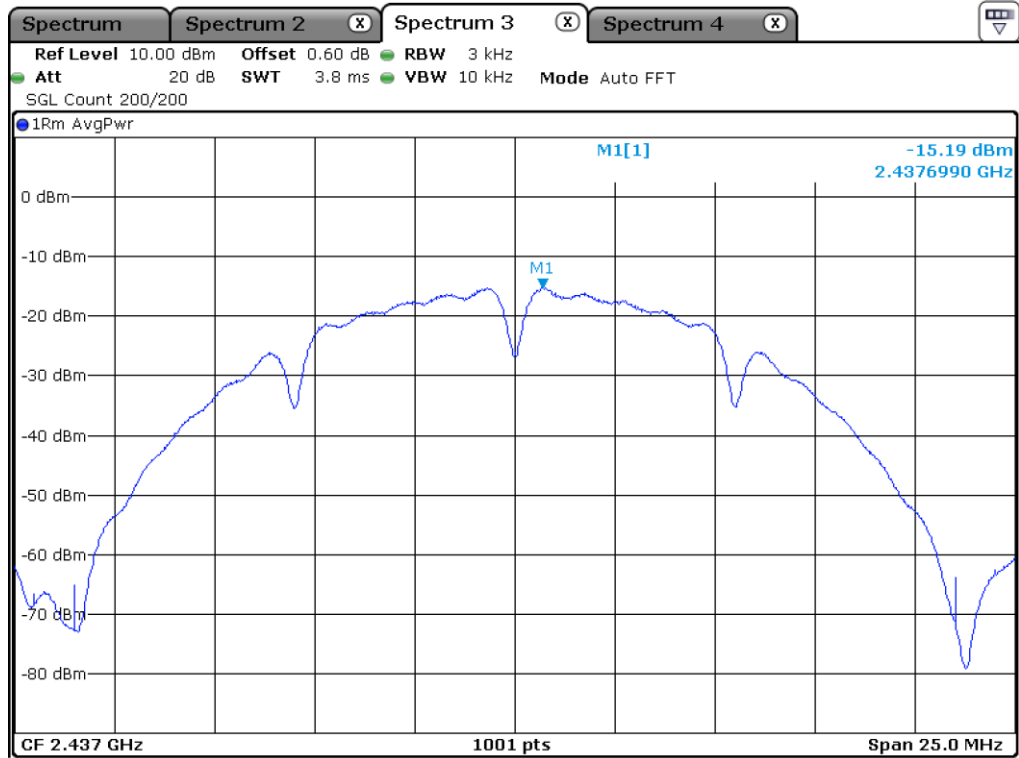
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

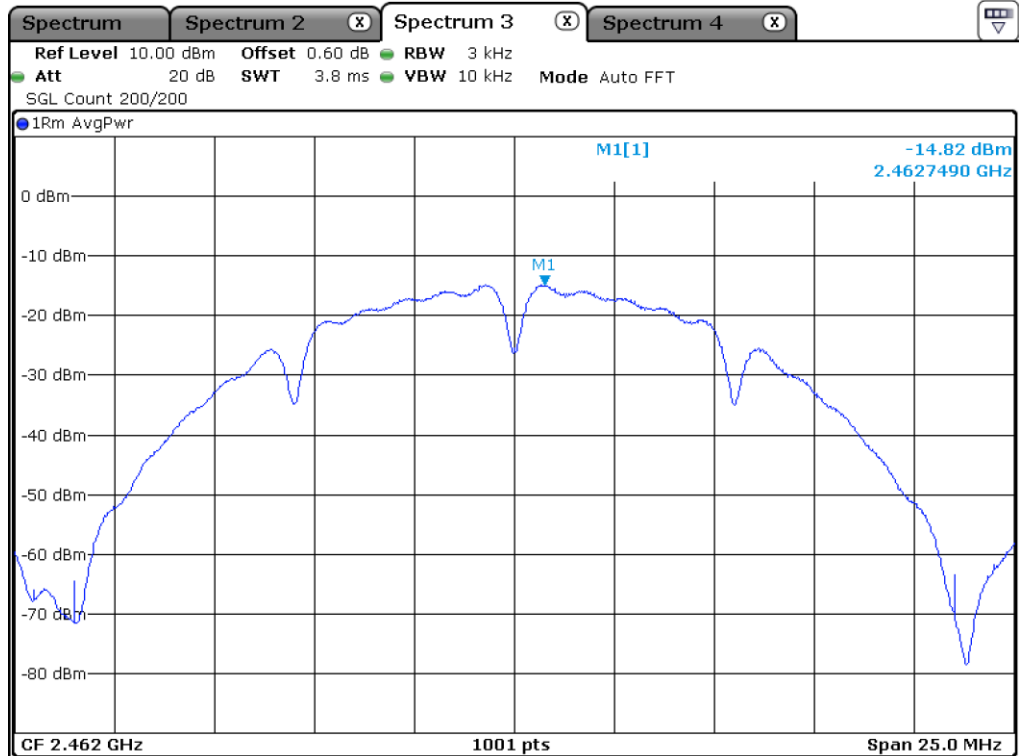
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-15.57	8.00	23.57
Middle	2 437.00	-15.19	8.00	23.19
High 11	2 462.00	-14.82	8.00	22.82
High 12	2 467.00	-16.56	8.00	24.56
High 13	2 472.00	-19.35	8.00	27.35

Remark. Margin = Limit – Measured value





Middle Channel



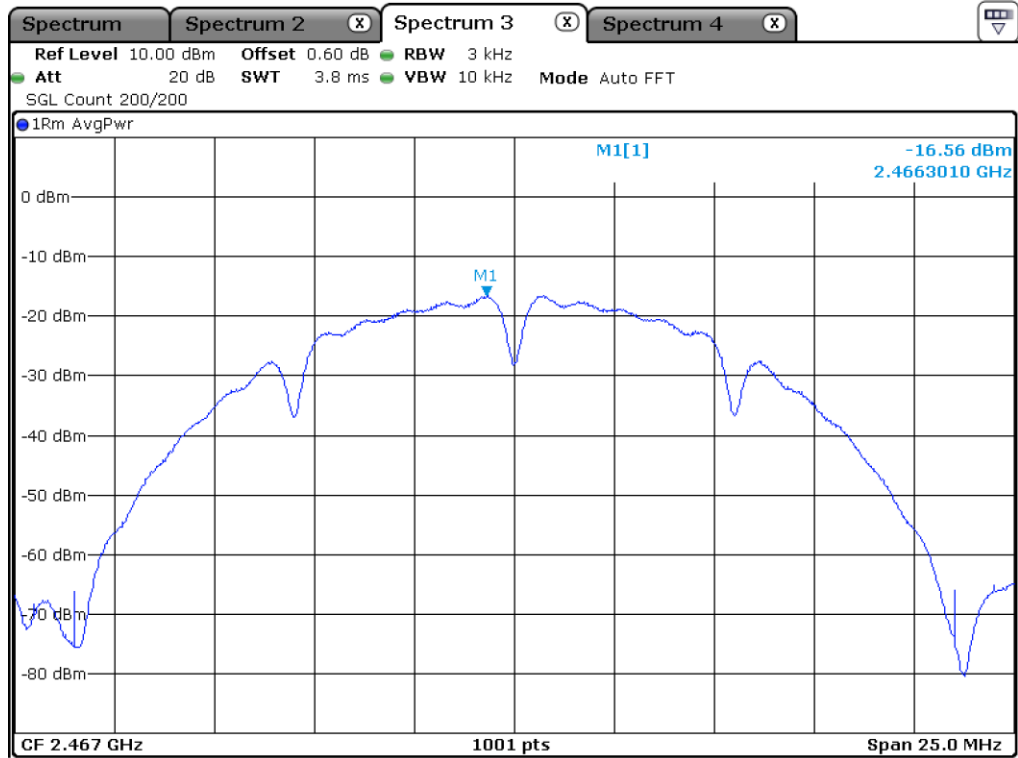
High Channel 11

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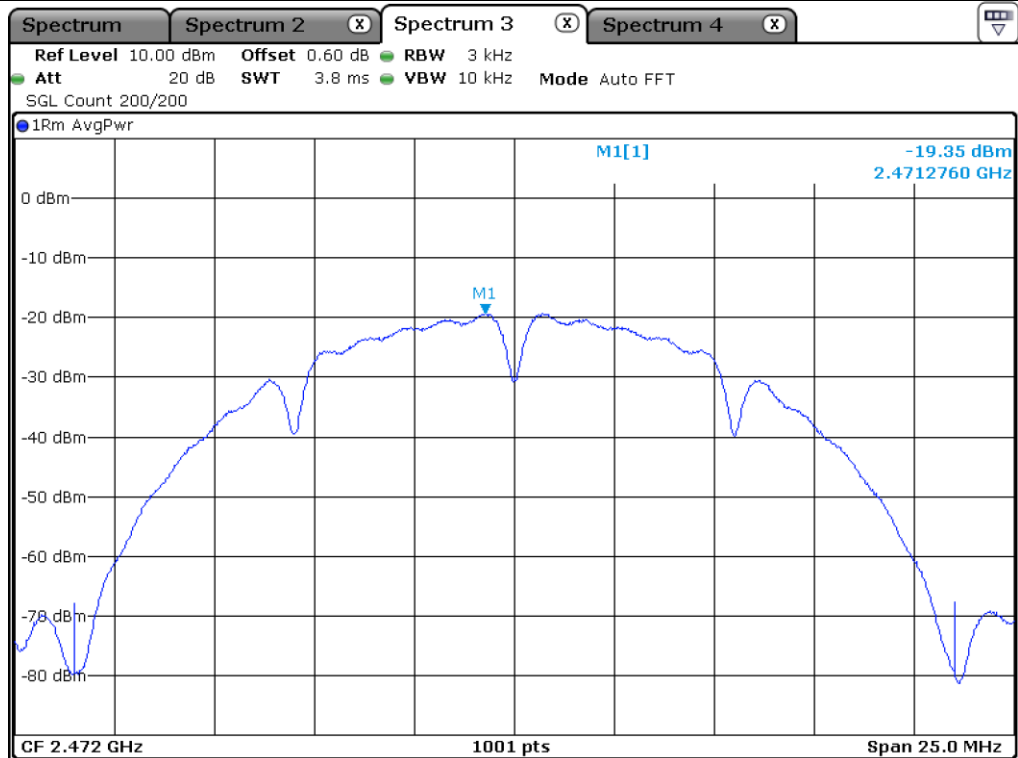
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High Channel 12



High Channel 13

10.5 Test data for 802.11g WLAN Mode

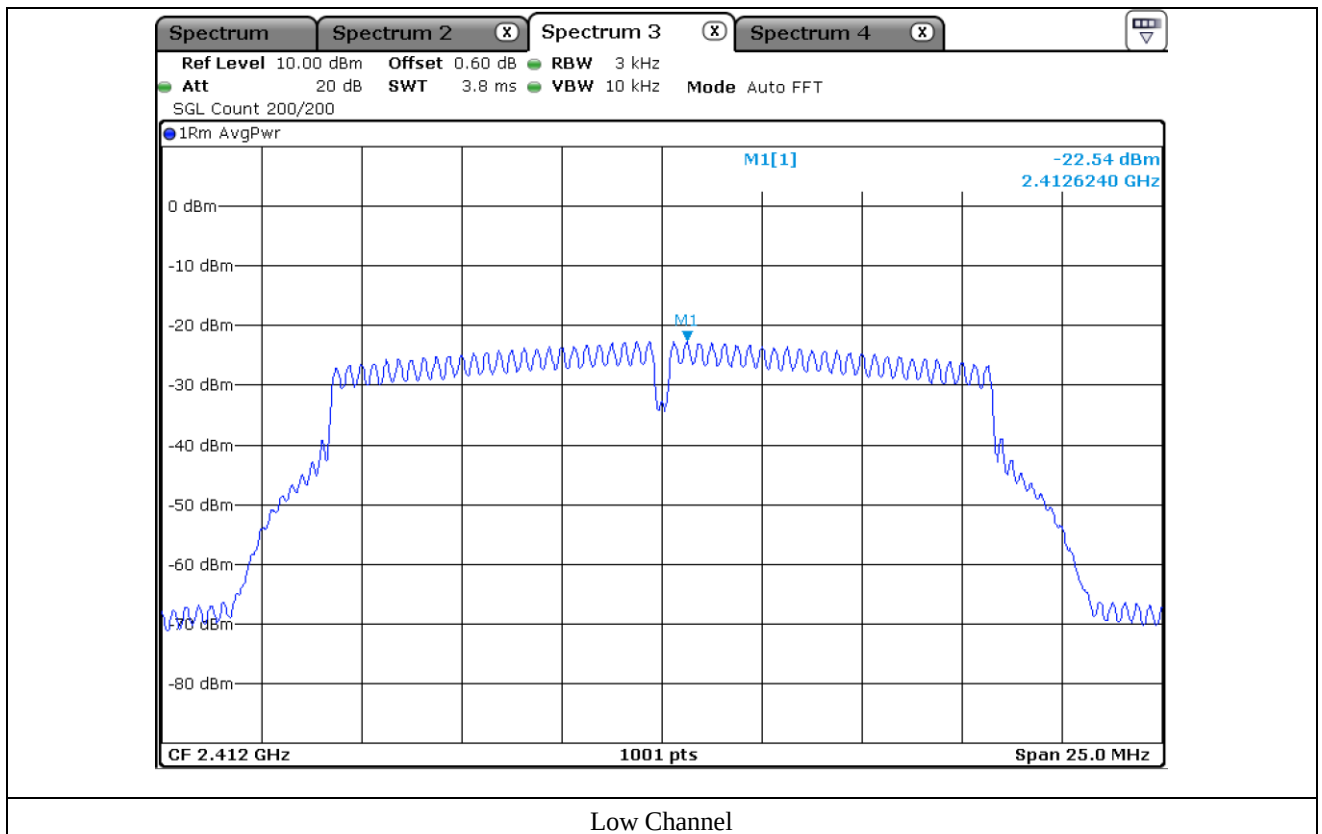
10.5.1 Test data for Antenna 0

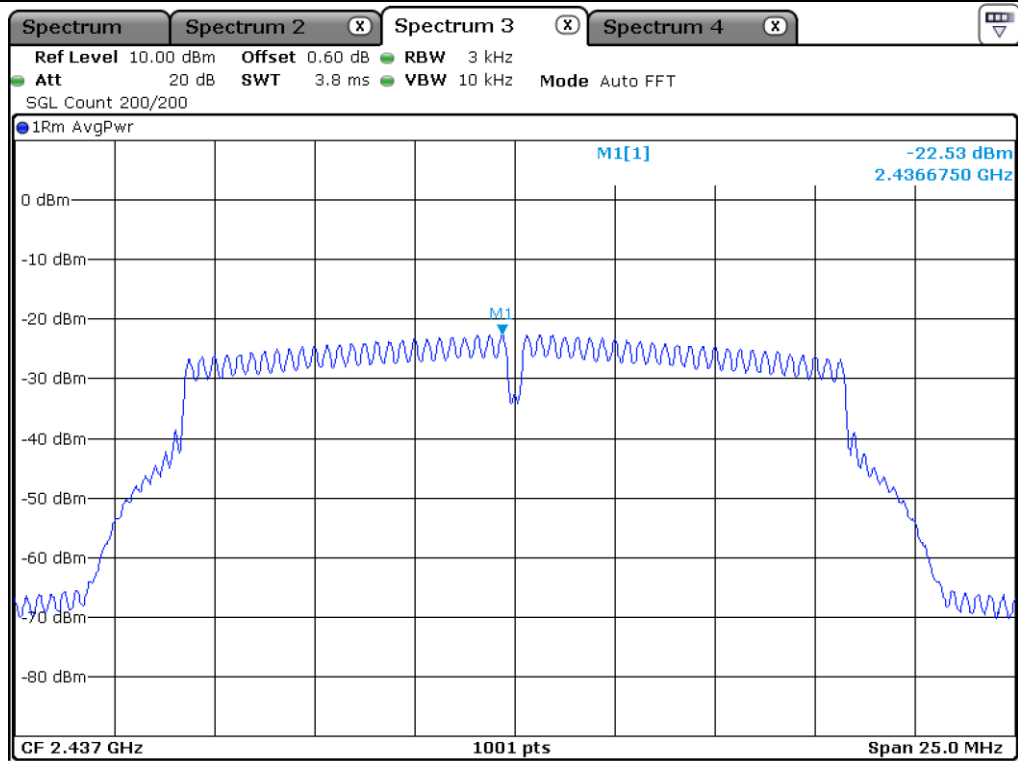
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

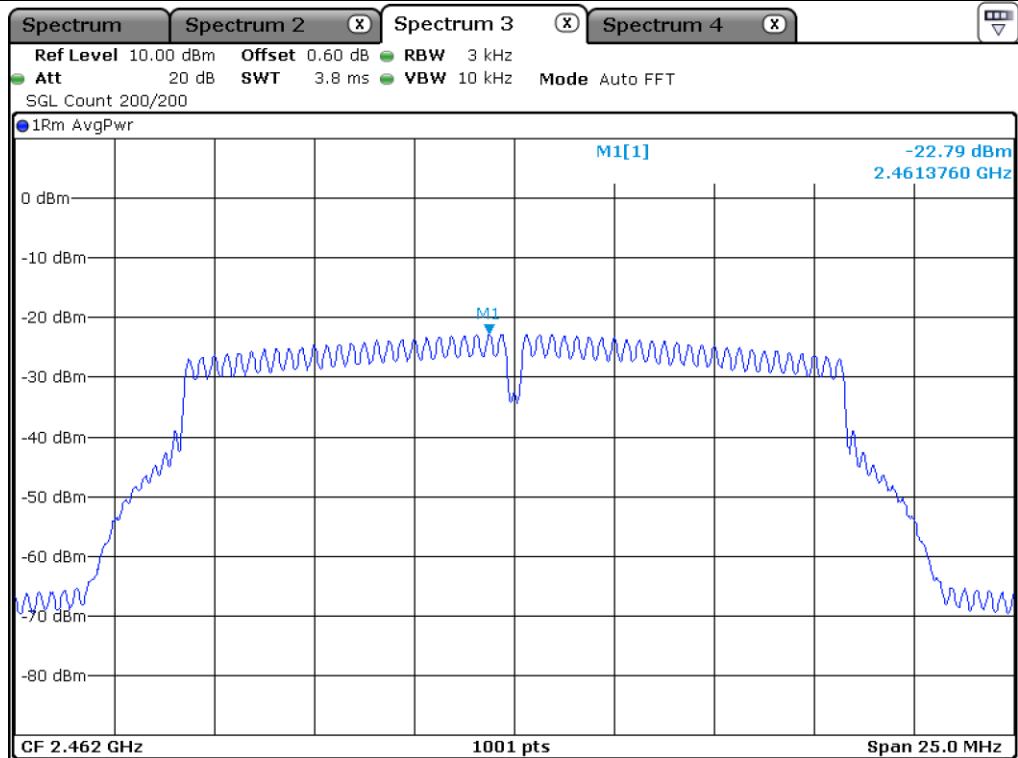
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-22.54	8.00	30.54
Middle	2 437.00	-22.53	8.00	30.53
High 11	2 462.00	-22.79	8.00	30.79
High 12	2 467.00	-25.44	8.00	33.44
High 13	2 472.00	-28.31	8.00	36.31

Remark. Margin = Limit – Measured value





Middle Channel



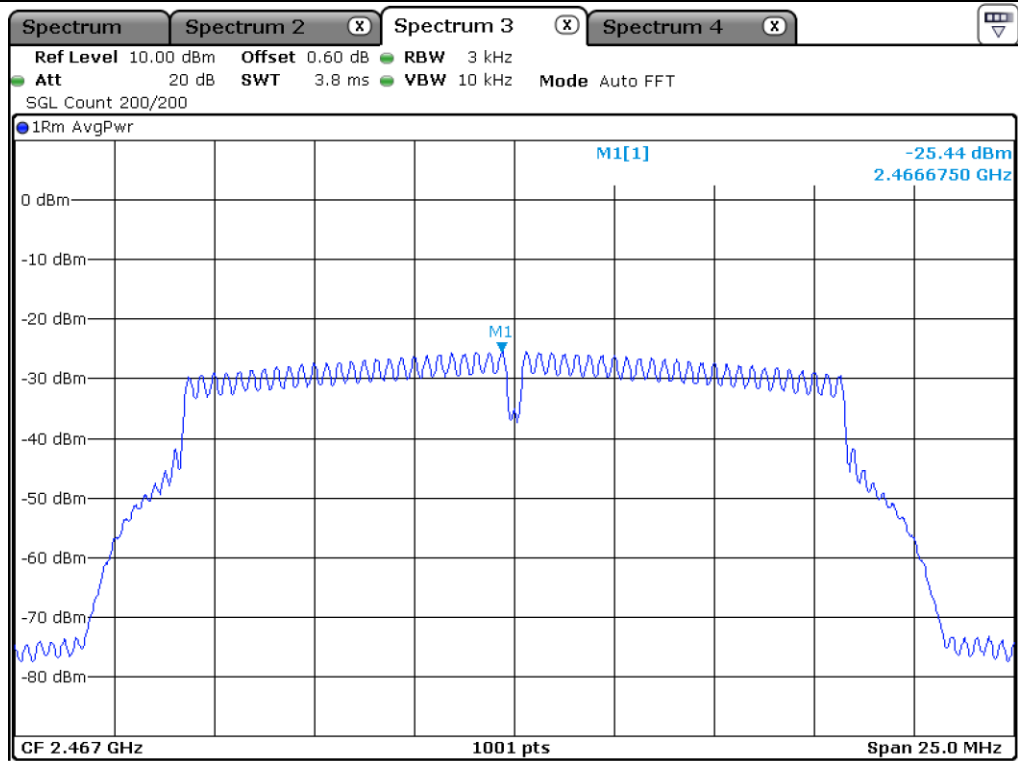
High Channel 11

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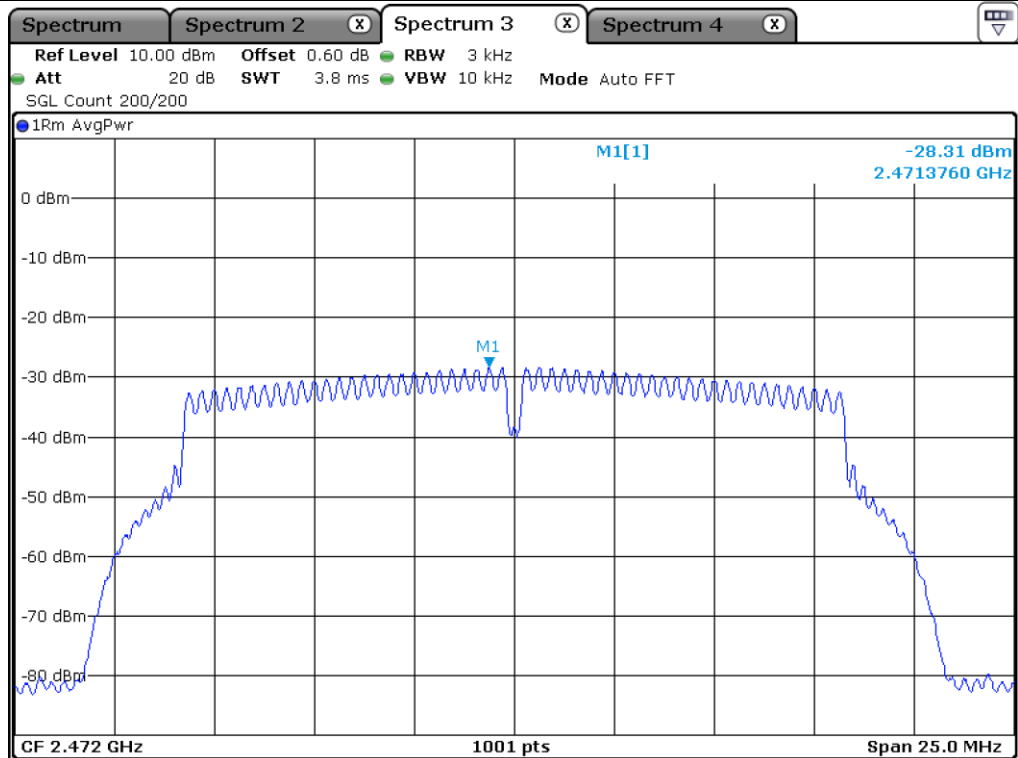
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High Channel 12



High Channel 13

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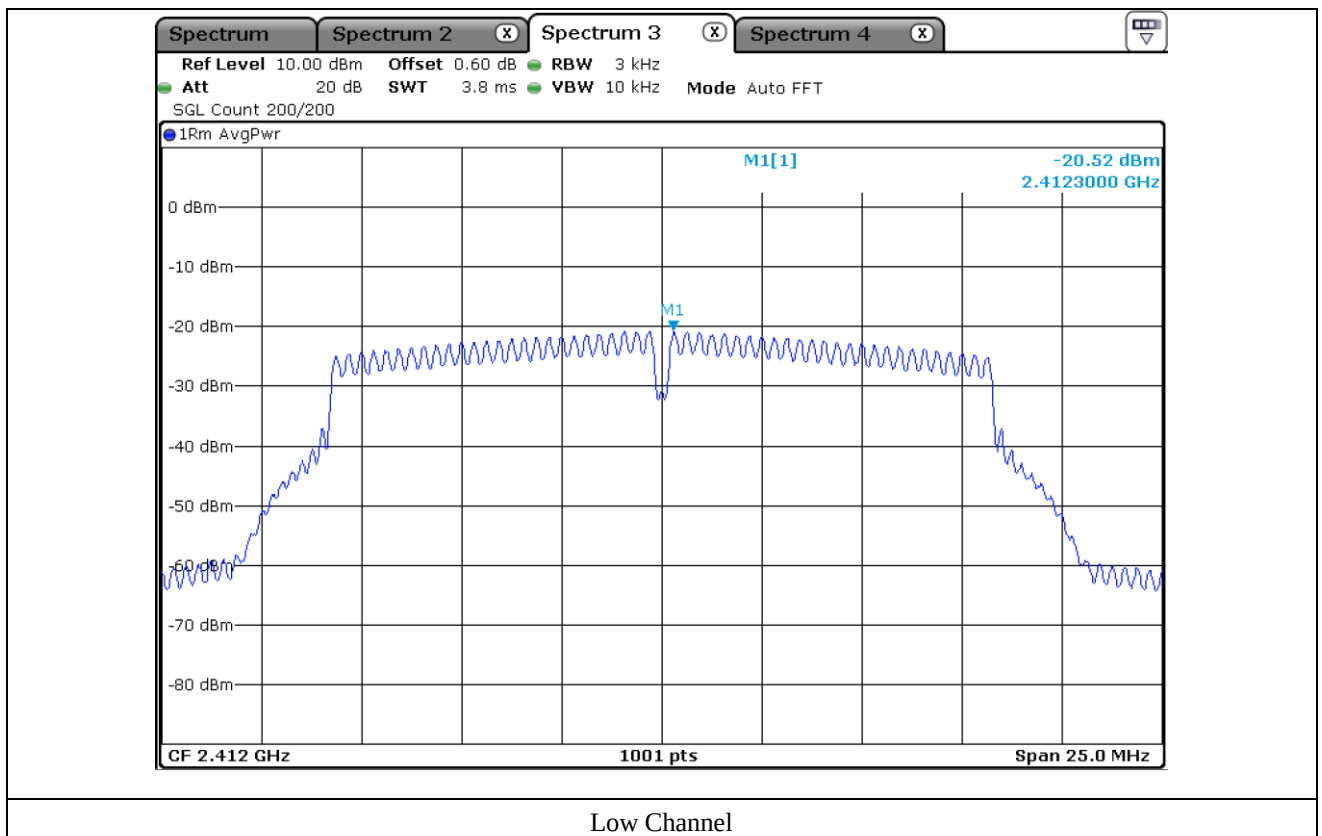
10.5.2 Test data for Antenna 1

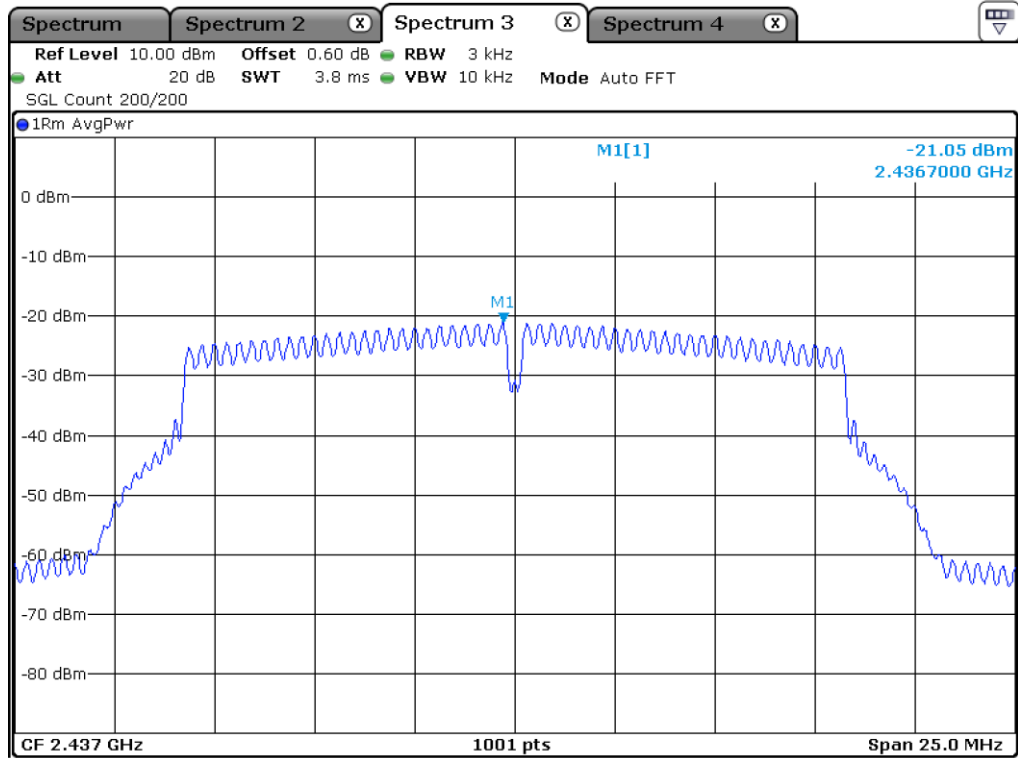
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

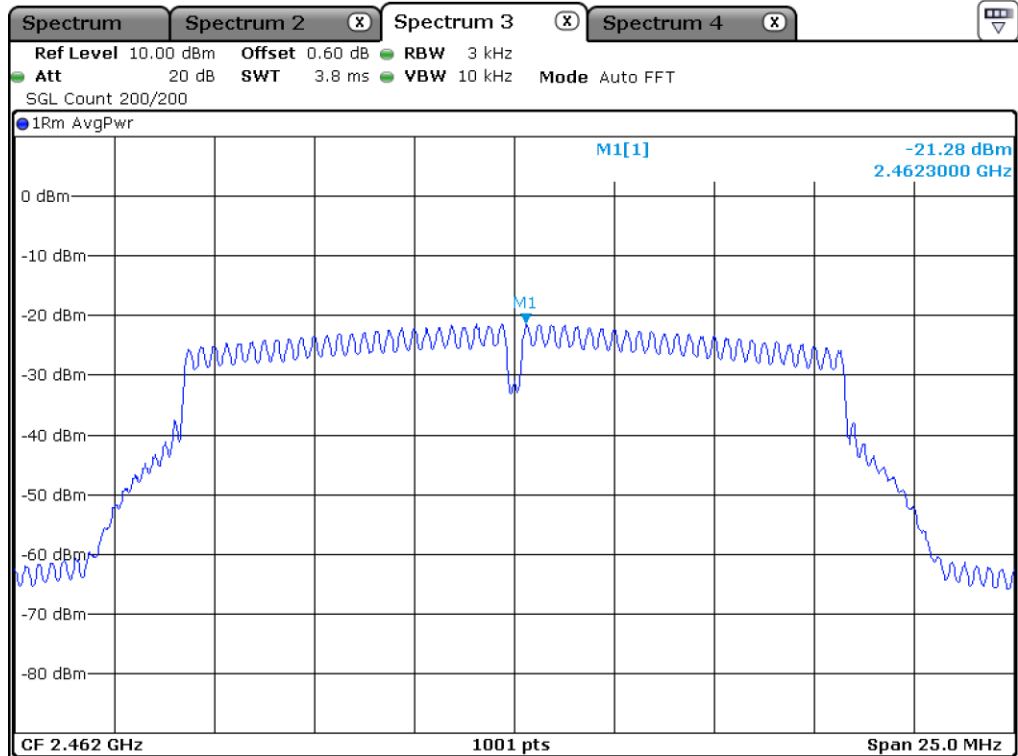
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-20.52	8.00	28.52
Middle	2 437.00	-21.05	8.00	29.05
High 11	2 462.00	-21.28	8.00	29.28
High 12	2 467.00	-24.20	8.00	32.20
High 13	2 472.00	-26.86	8.00	34.86

Remark. Margin = Limit – Measured value

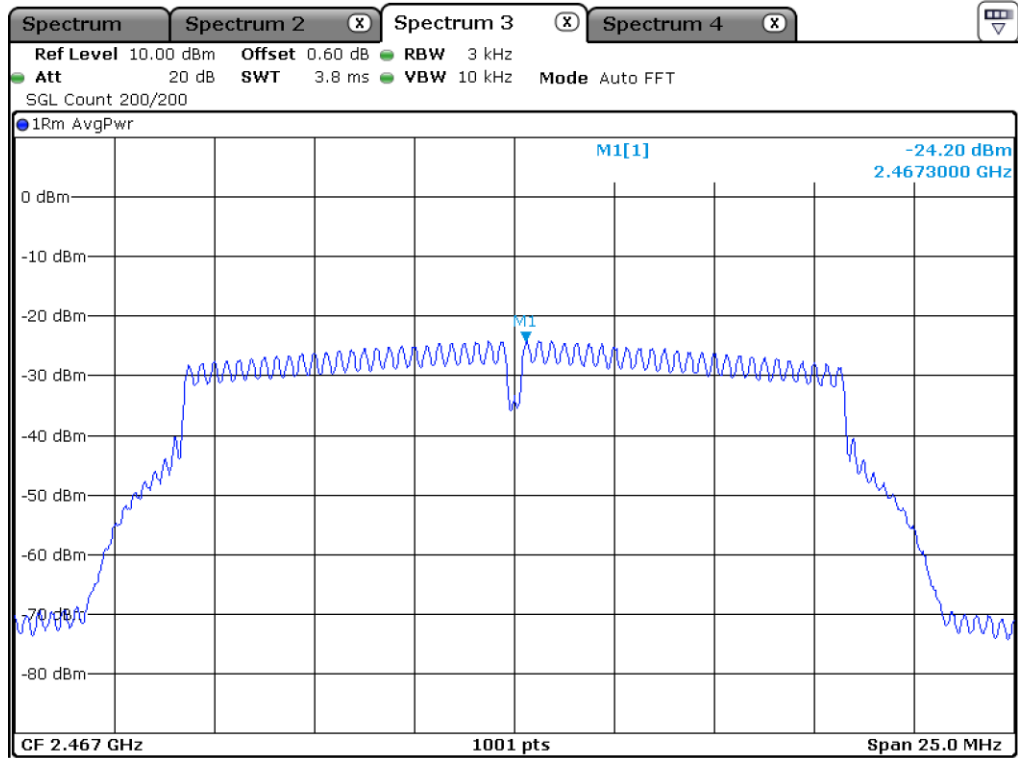




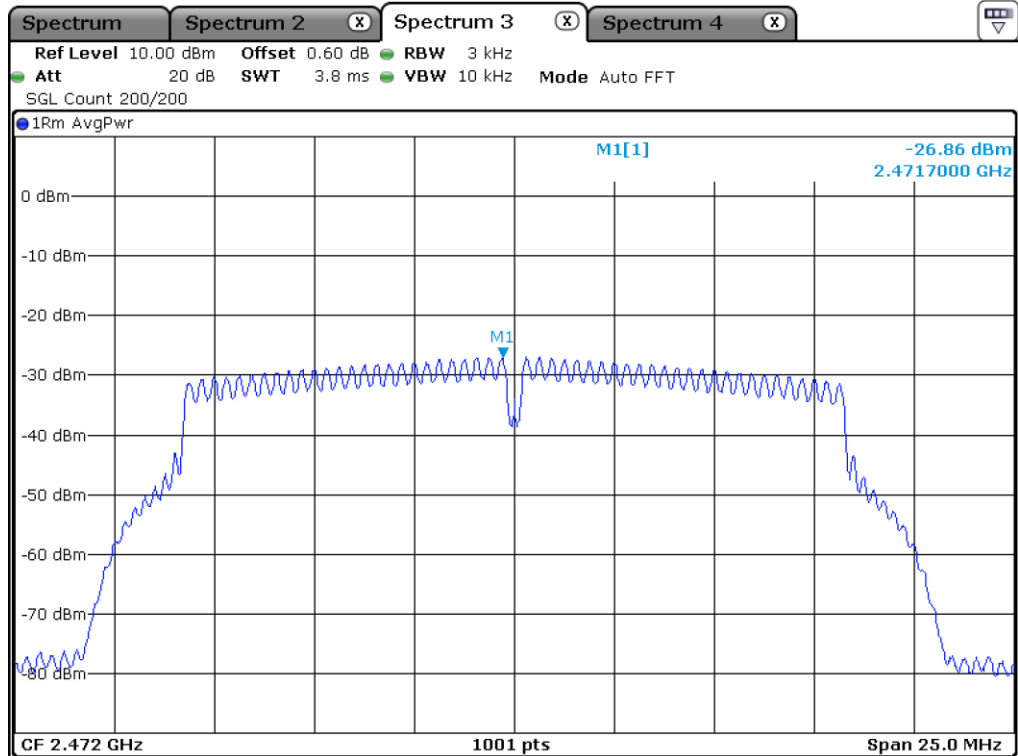
Middle Channel



High Channel 11



High Channel 12



High Channel 13

10.5.3 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-18.40	8.00	26.40
Middle	2 437.00	-18.72	8.00	26.72
High 11	2 462.00	-18.96	8.00	26.96
High 12	2 467.00	-21.77	8.00	29.77
High 13	2 472.00	-24.51	8.00	32.51

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 0 Power Density}/10)} + 10^{(\text{Antenna 1 Power Density}/10)})$

Remark 3 : Directional gain = $10*\log[(10^{G0/20} + 10^{G1/20})^2/N]$ dBi

10.6 Test data for 802.11n_HT20 WLAN Mode

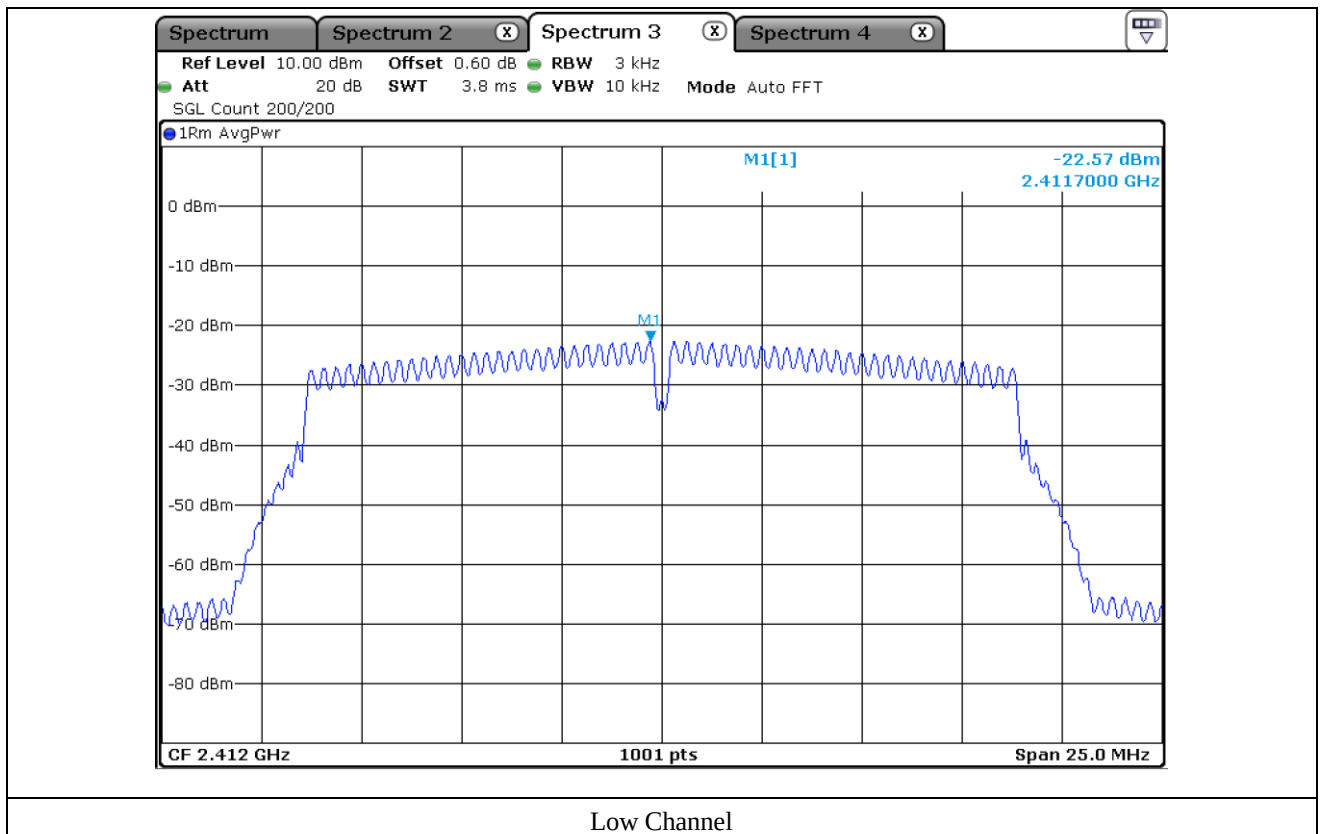
10.6.1 Test data for Antenna 0

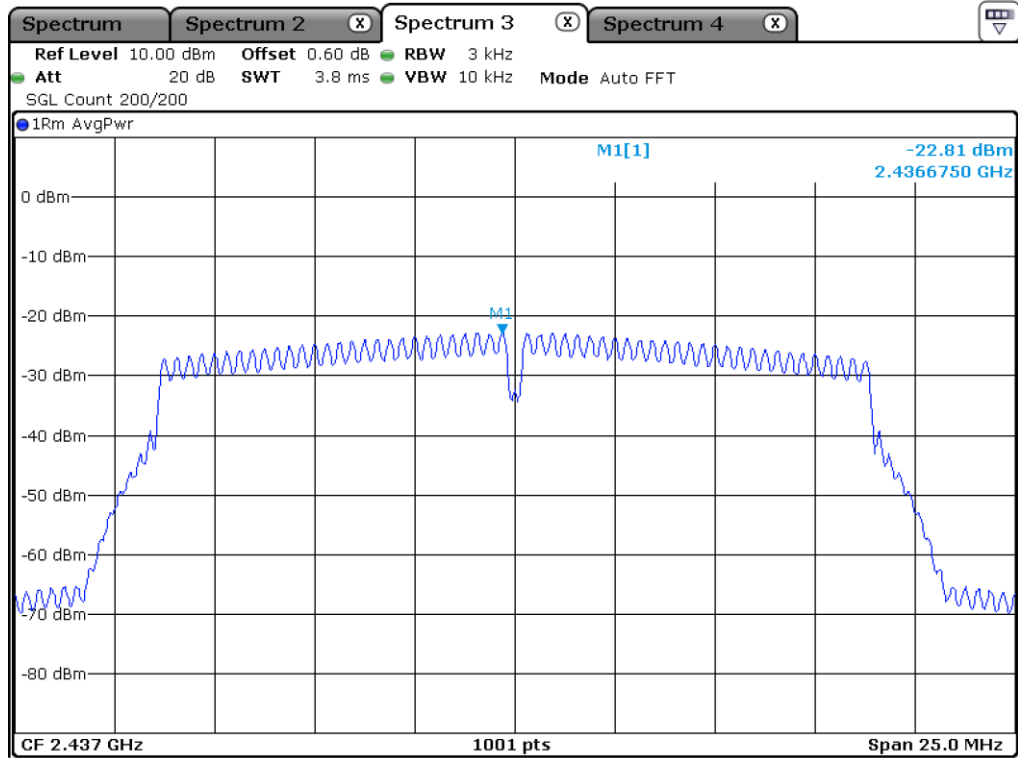
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

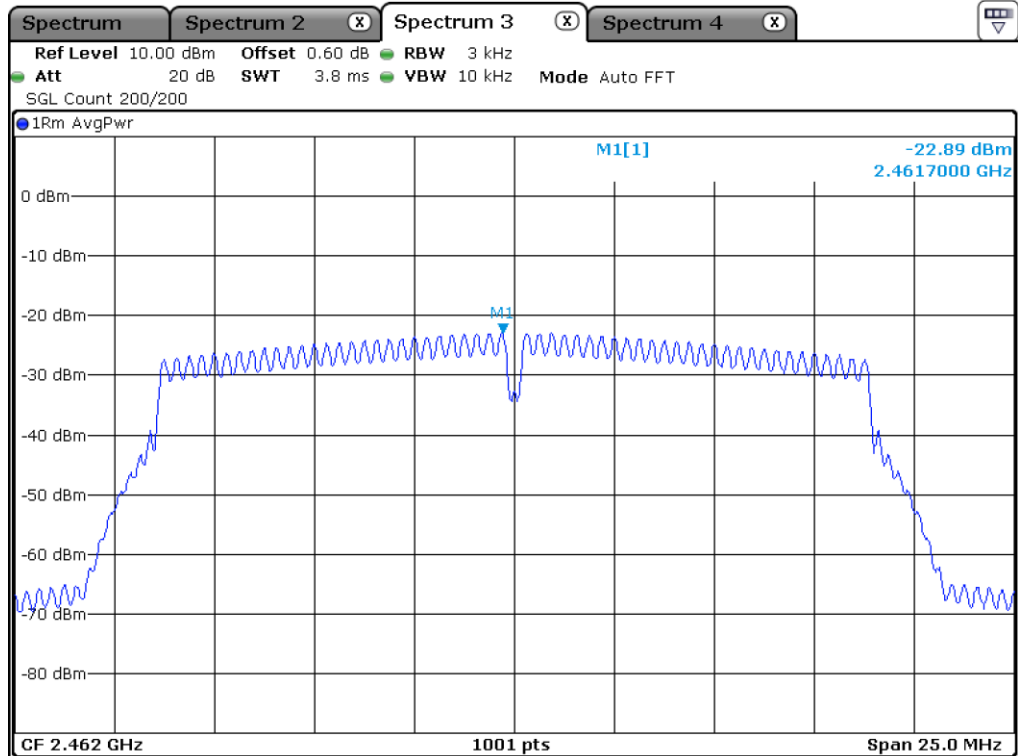
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-22.57	8.00	30.57
Middle	2 437.00	-22.81	8.00	30.81
High 11	2 462.00	-22.89	8.00	30.89
High 12	2 467.00	-25.48	8.00	33.48
High 13	2 472.00	-28.53	8.00	36.53

Remark. Margin = Limit – Measured value

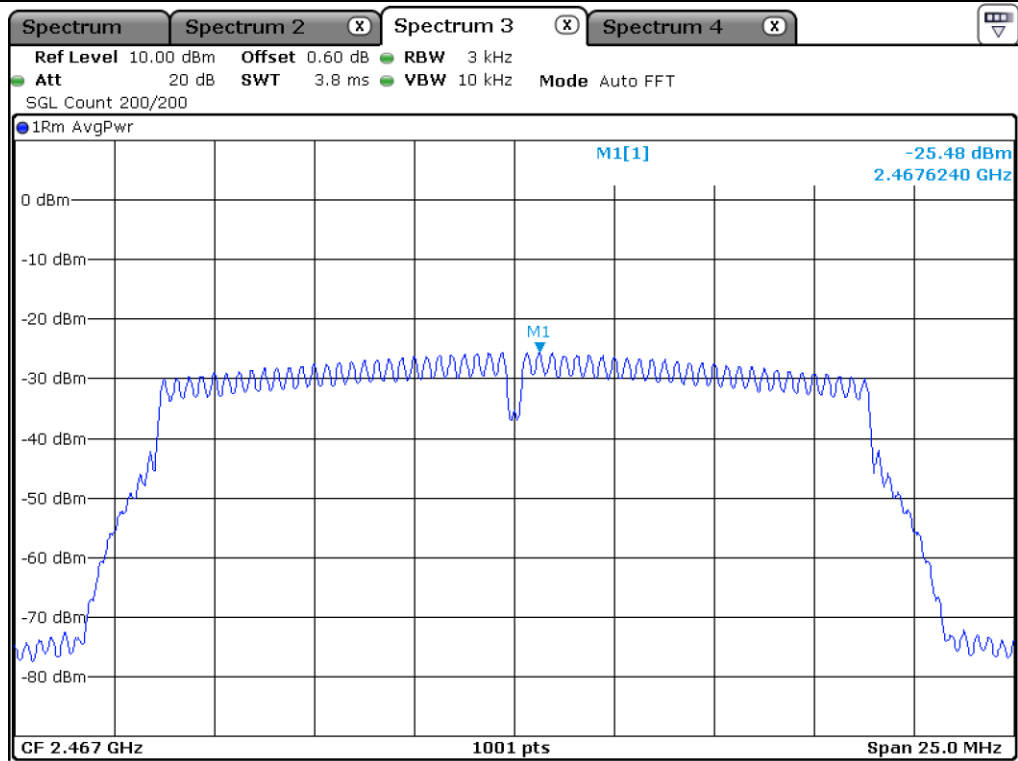




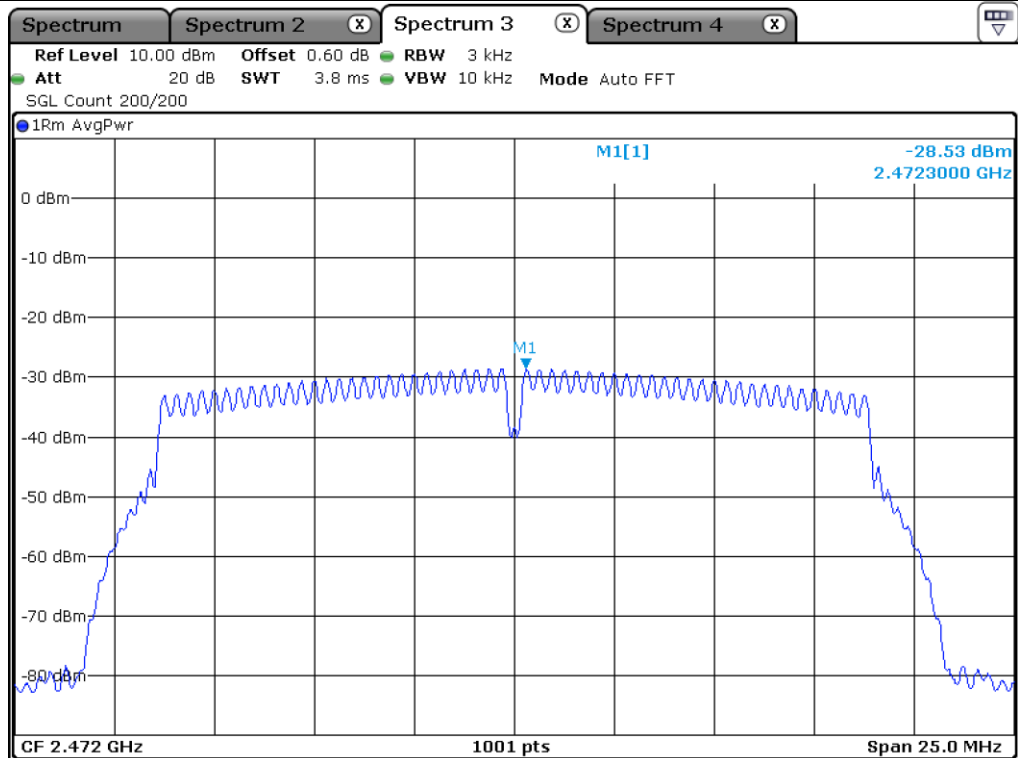
Middle Channel



High Channel 11



High Channel 12



High Channel 13

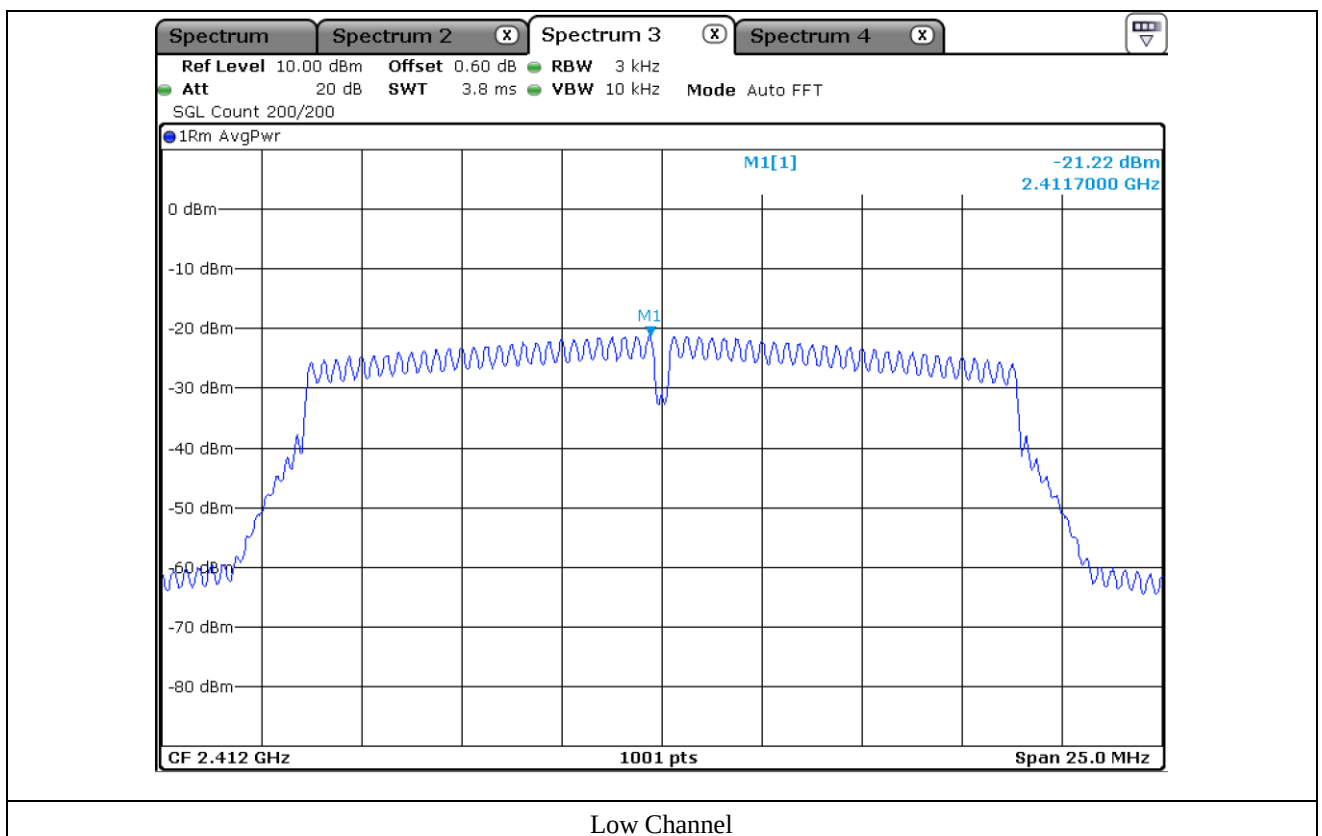
10.6.2 Test data for Antenna 1

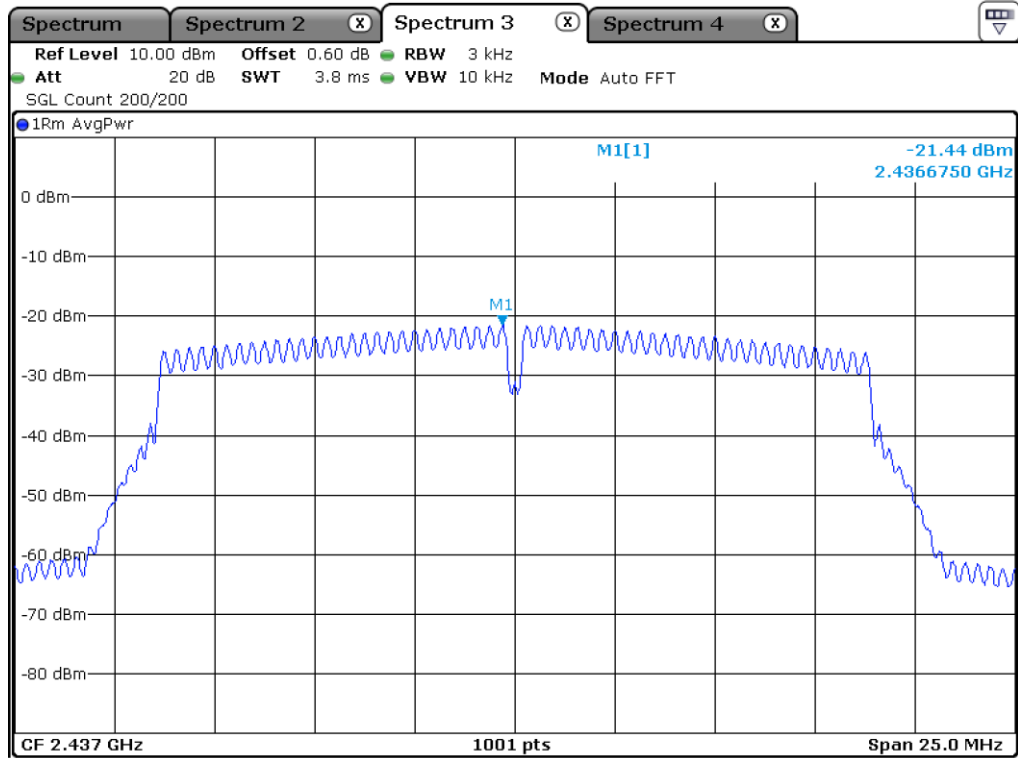
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

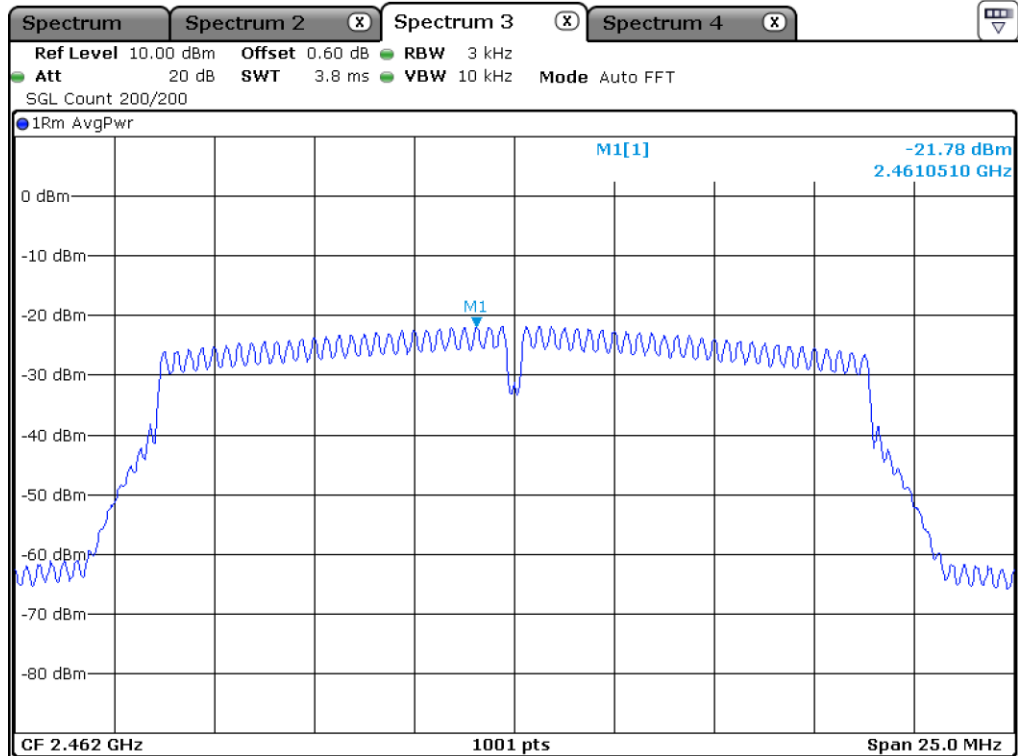
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-21.22	8.00	29.22
Middle	2 437.00	-21.44	8.00	29.44
High 11	2 462.00	-21.78	8.00	29.78
High 12	2 467.00	-24.48	8.00	32.48
High 13	2 472.00	-27.52	8.00	35.52

Remark. Margin = Limit – Measured value





Middle Channel



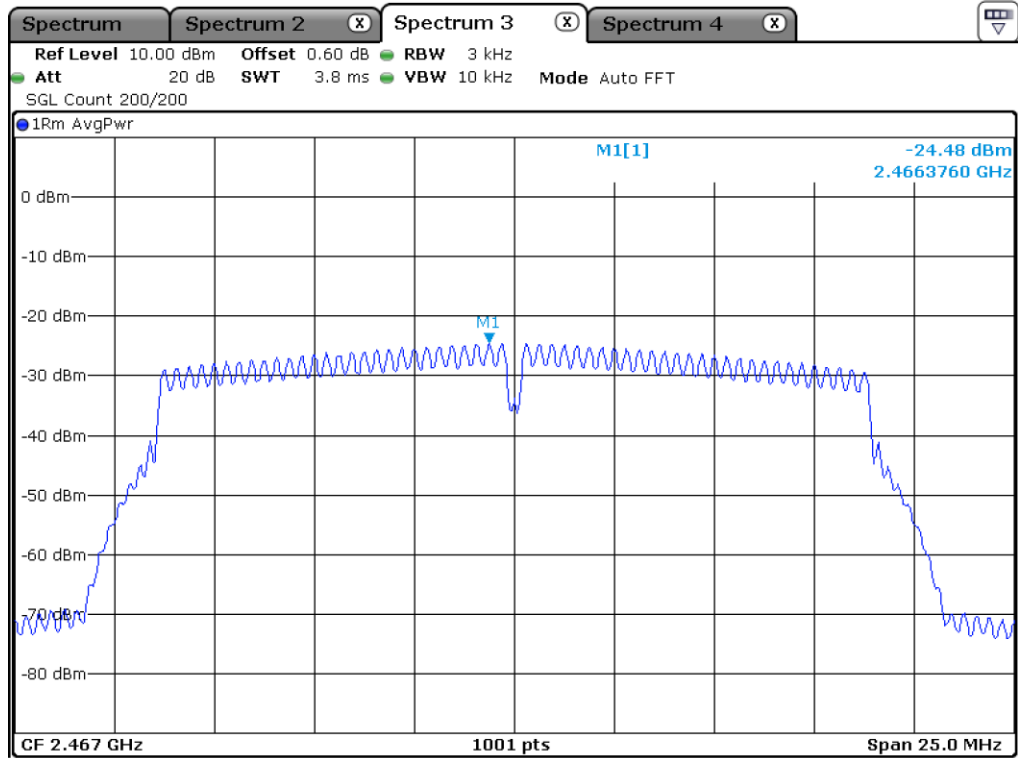
High Channel 11

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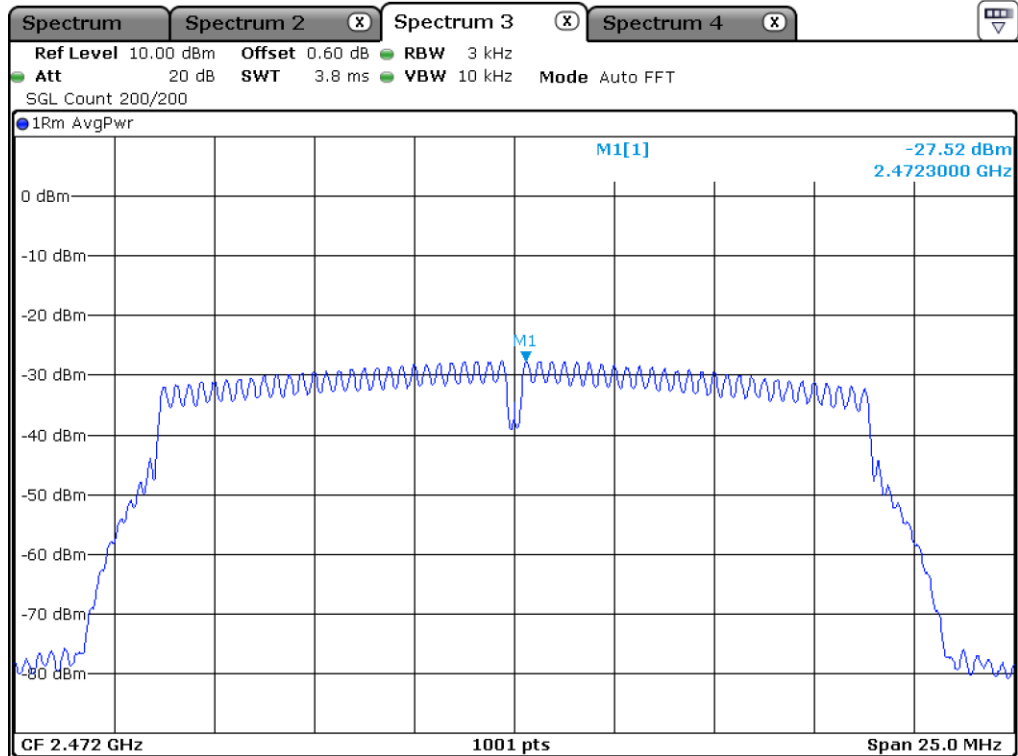
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High Channel 12



High Channel 13

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10.6.3 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-18.83	8.00	26.83
Middle	2 437.00	-19.06	8.00	27.06
High 11	2 462.00	-19.29	8.00	27.29
High 12	2 467.00	-21.94	8.00	29.94
High 13	2 472.00	-24.99	8.00	32.99

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 0 Power Density}/10)} + 10^{(\text{Antenna 1 Power Density}/10)})$

Remark 3 : Directional gain = $10*\log[(10^{G0/20} + 10^{G1/20})^2/N]$ dBi

10.7 Test data for 802.11n_HT40 WLAN Mode

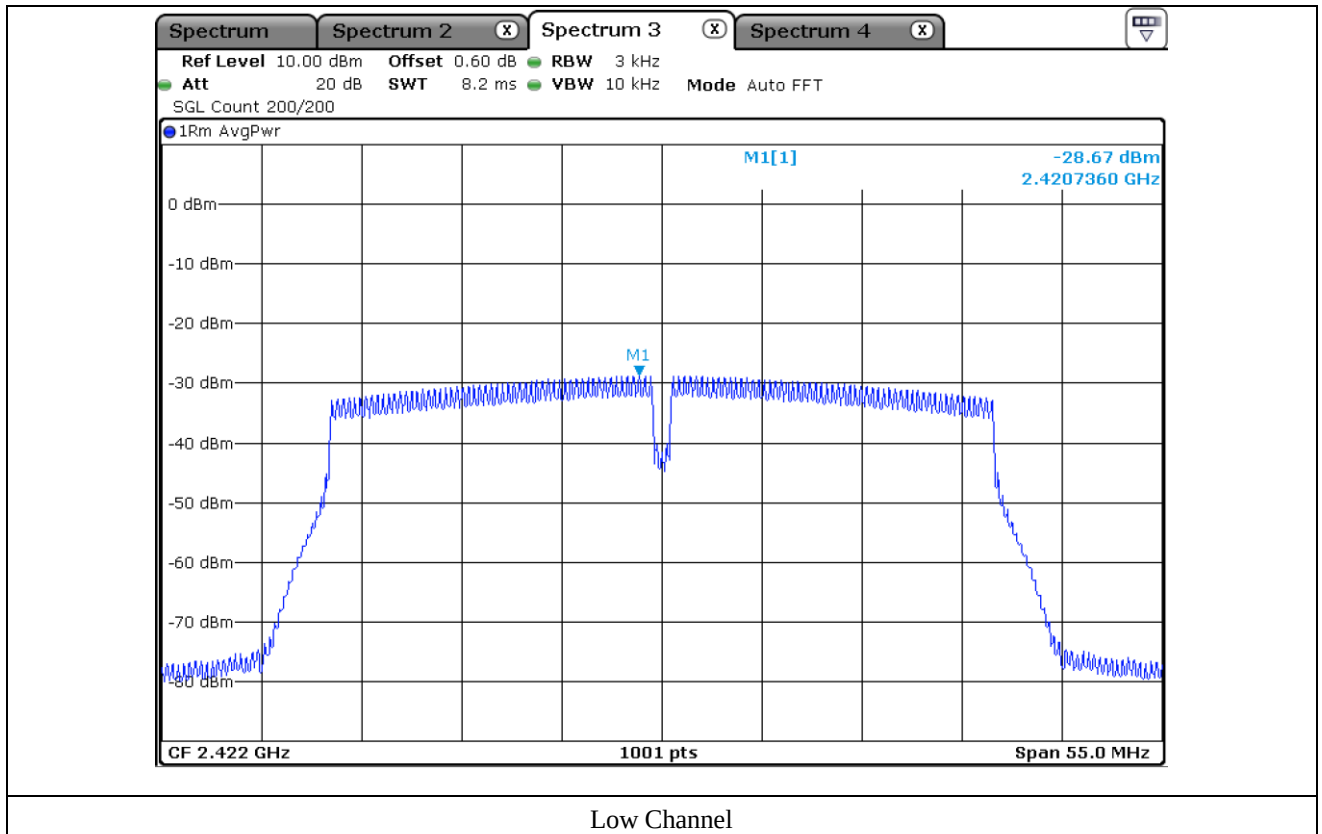
10.7.1 Test data for Antenna 0

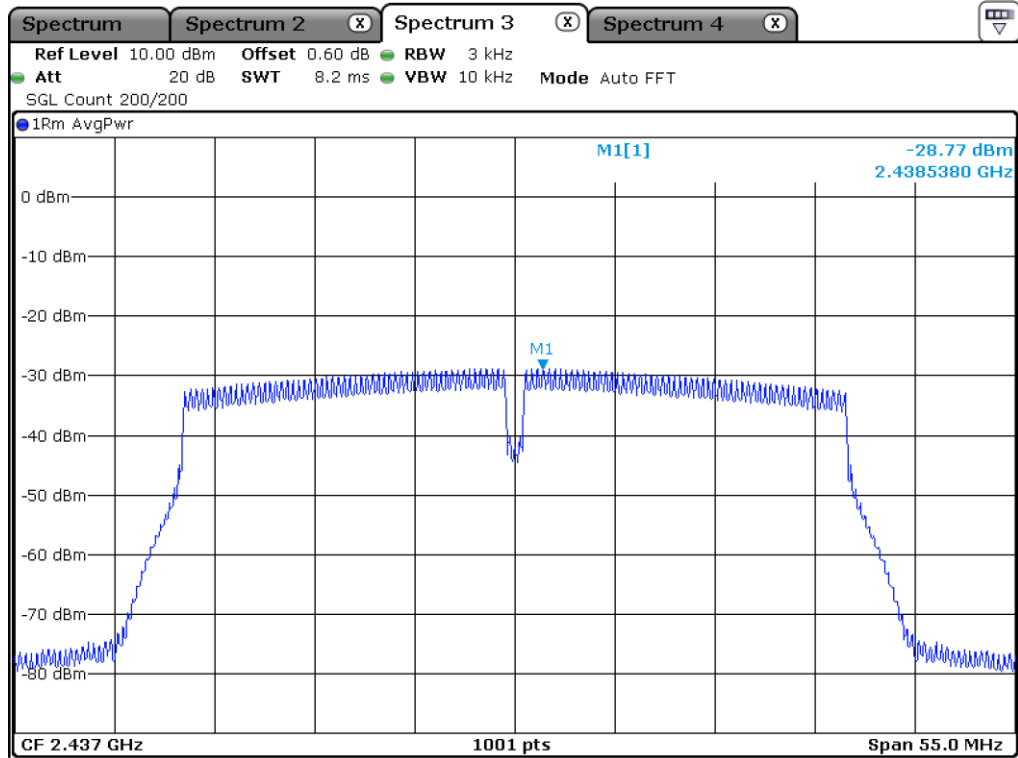
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

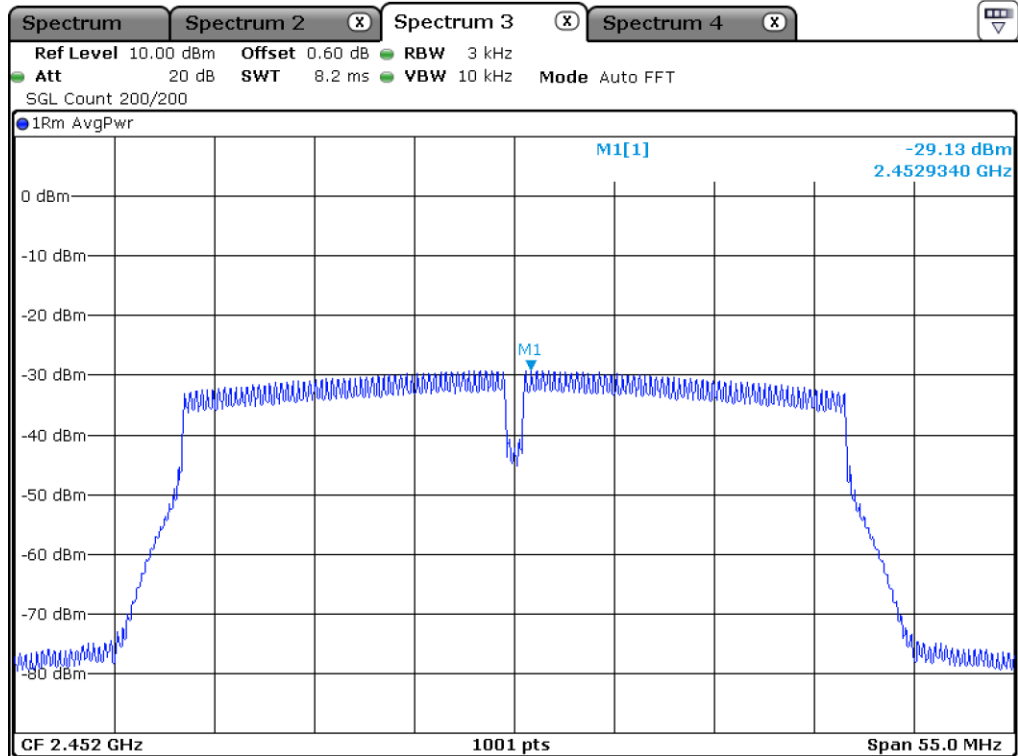
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-28.67	8.00	36.67
Middle	2 437.00	-28.77	8.00	36.77
High 9	2 452.00	-29.13	8.00	37.13
High 10	2 457.00	-30.74	8.00	38.74
High 11	2 462.00	-31.75	8.00	39.75

Remark. Margin = Limit – Measured value





Middle Channel



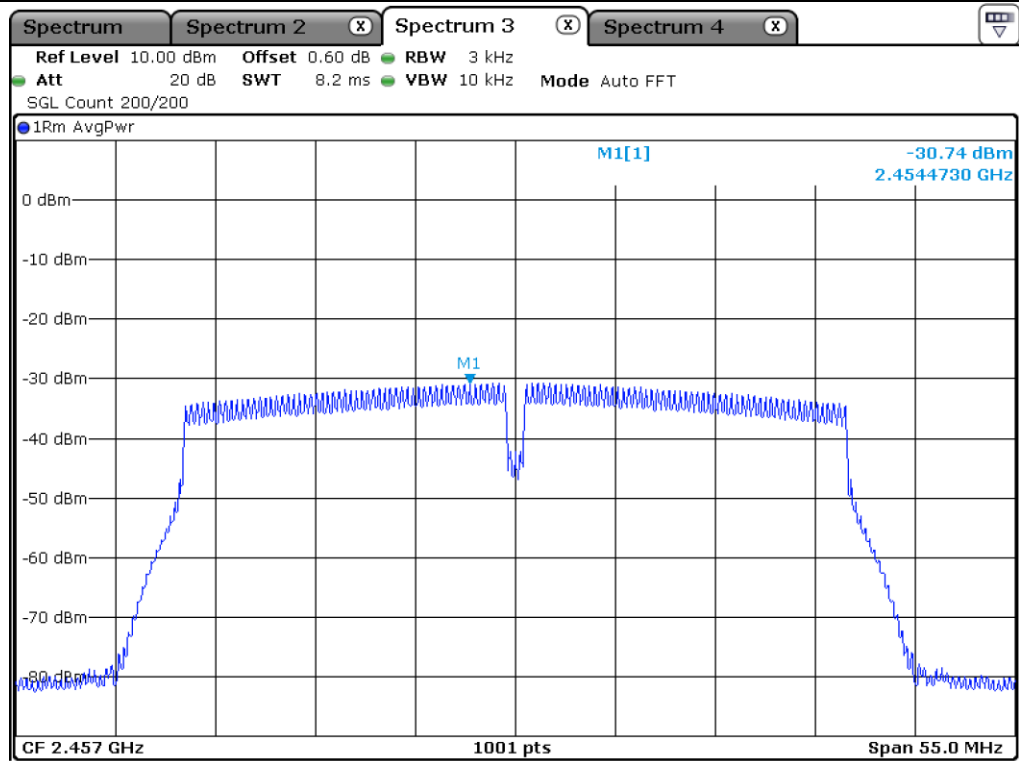
High Channel 9

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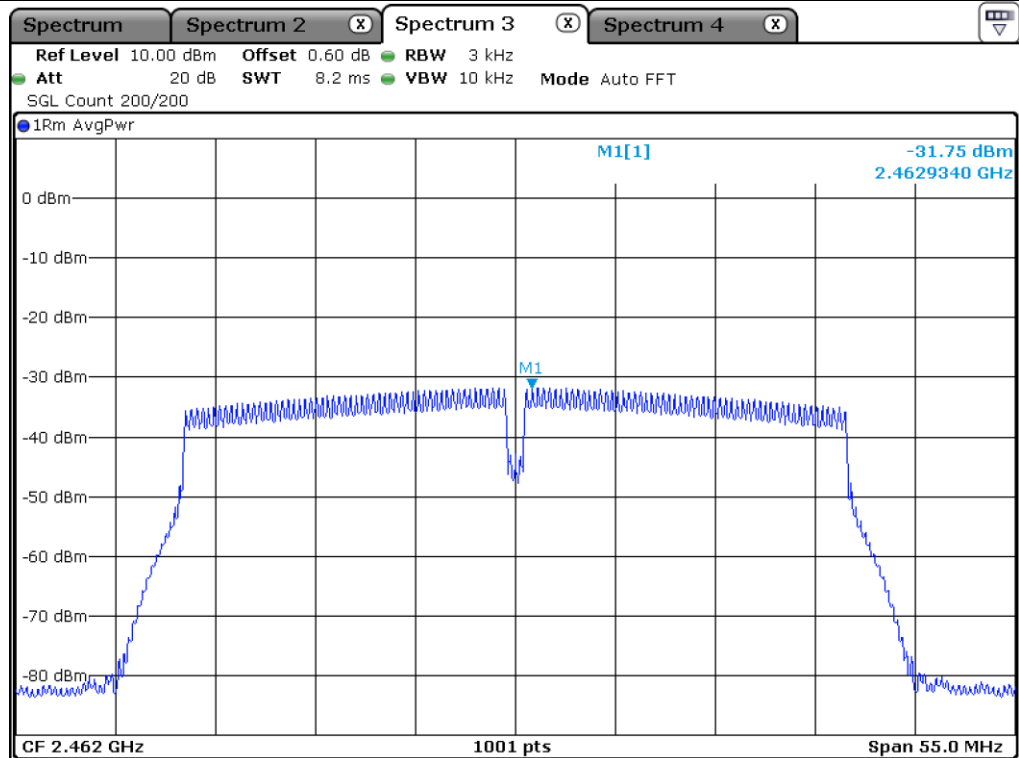
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High Channel 10



High Channel 11

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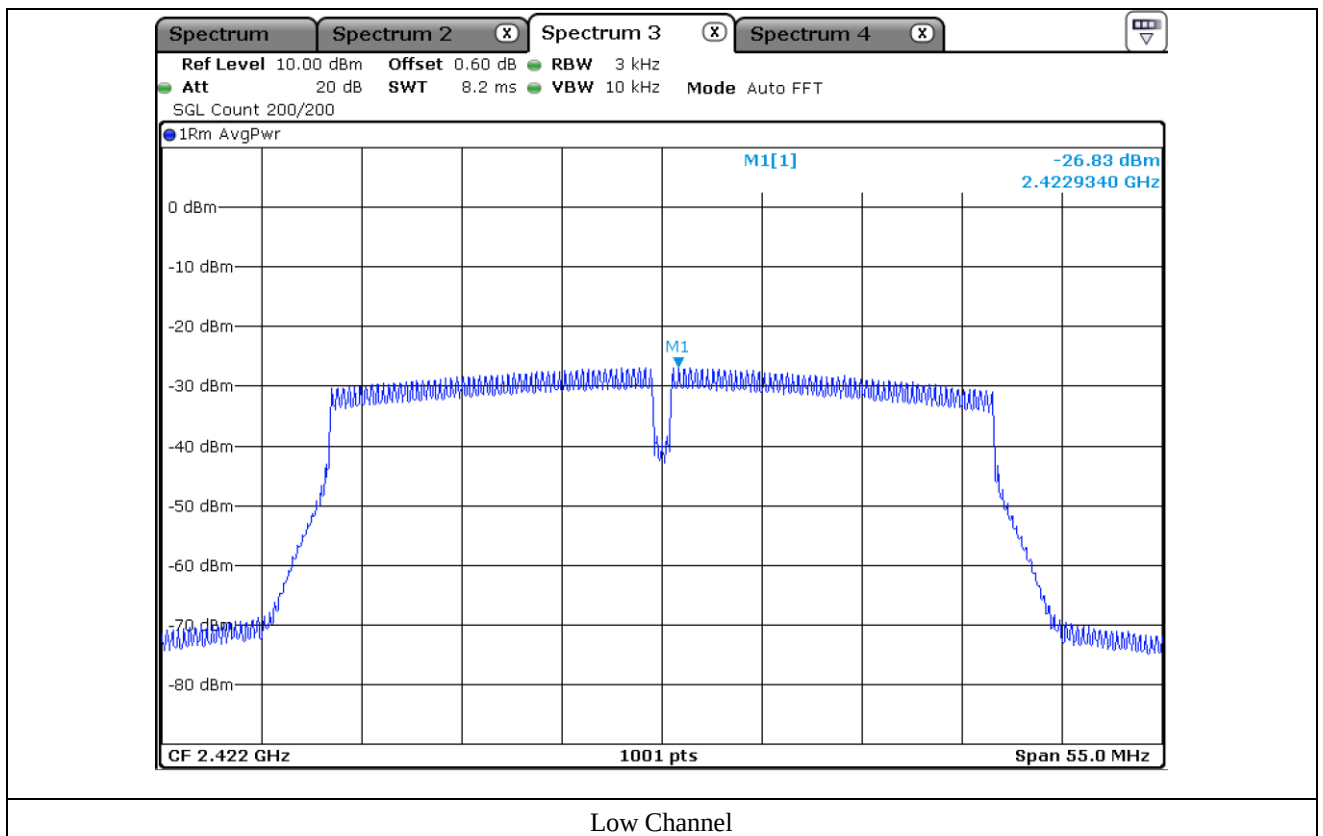
10.7.2 Test data for Antenna 1

-. Test Result : Pass

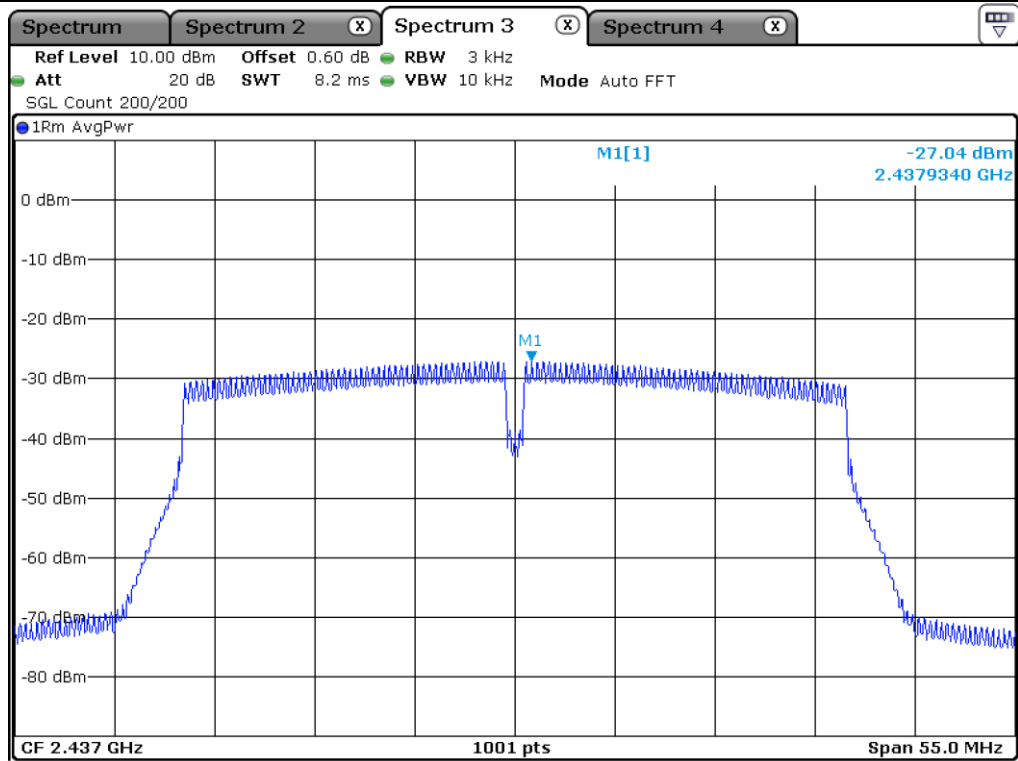
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-26.83	8.00	34.83
Middle	2 437.00	-27.04	8.00	35.04
High 9	2 452.00	-27.32	8.00	35.32
High 10	2 457.00	-29.22	8.00	37.22
High 11	2 462.00	-30.11	8.00	38.11

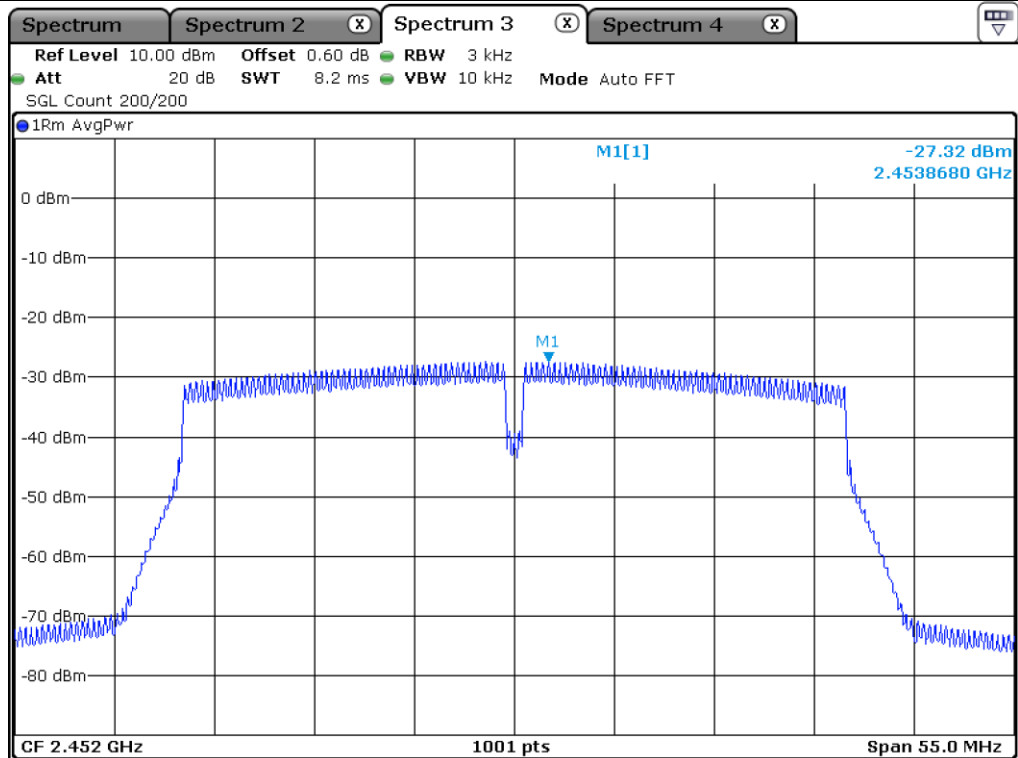
Remark. Margin = Limit – Measured value



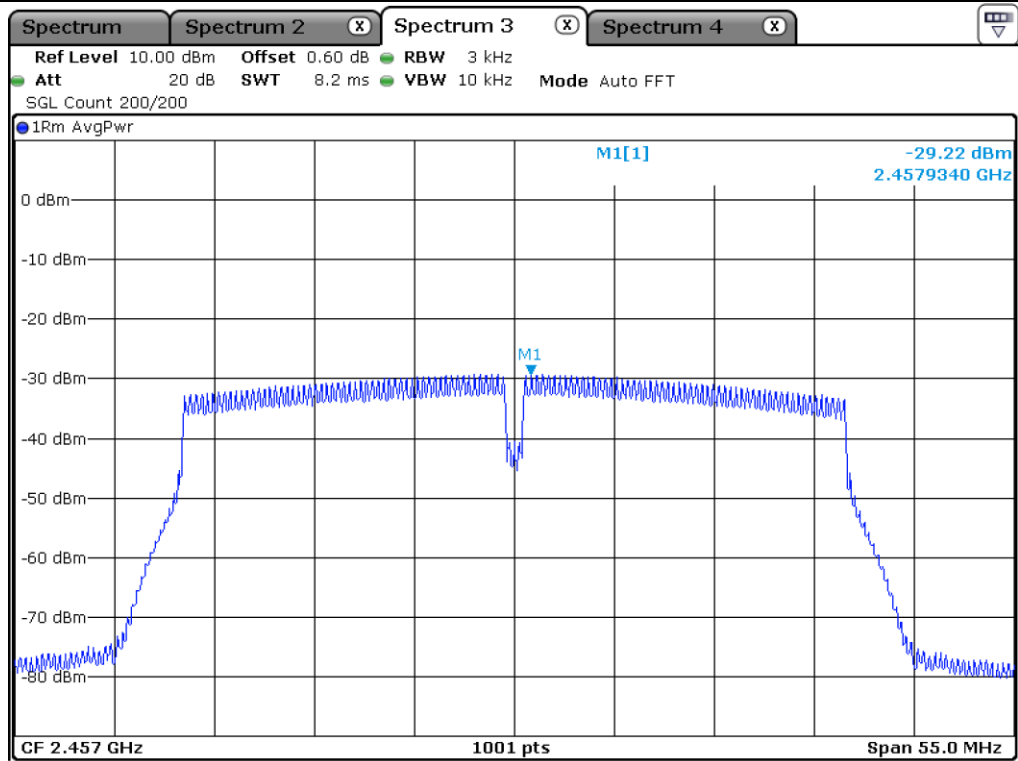
Low Channel



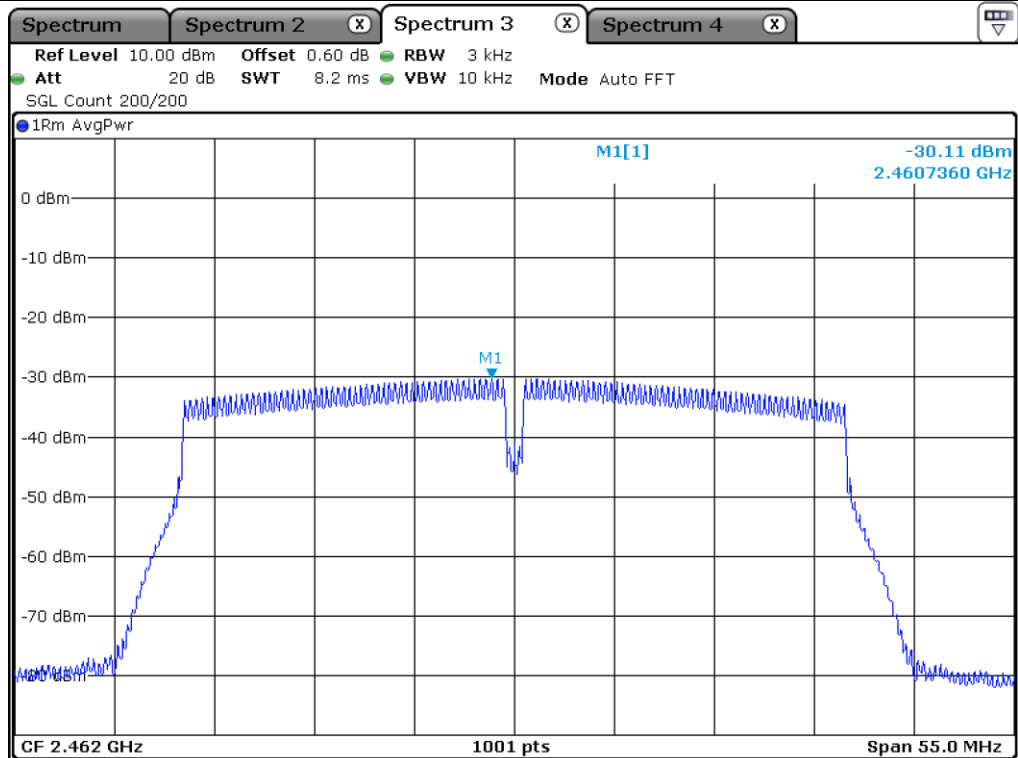
Middle Channel



High Channel 9



High Channel 10



High Channel 11

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10.7.3 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-24.64	8.00	32.64
Middle	2 437.00	-24.81	8.00	32.81
High 9	2 452.00	-25.12	8.00	33.12
High 10	2 457.00	-26.90	8.00	34.90
High 11	2 462.00	-27.84	8.00	35.84

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 0 Power Density}/10)} + 10^{(\text{Antenna 1 Power Density}/10)})$

Remark 3 : Directional gain = $10*\log[(10^{G0/20} + 10^{G1/20})^2/N]$ dBi

11. RADIATED EMISSION TEST

11.1 Operating environment

Temperature : 23 °C
Relative humidity : 45 % R.H.

11.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

11.3 Test Date

October 07, 2021 ~ October 20, 2021

11.4 Test data for 30 MHz ~ 1 000 MHz

11.4.1 Test data for WLAN 2.4 GHz

Humidity Level : 45 % R.H.

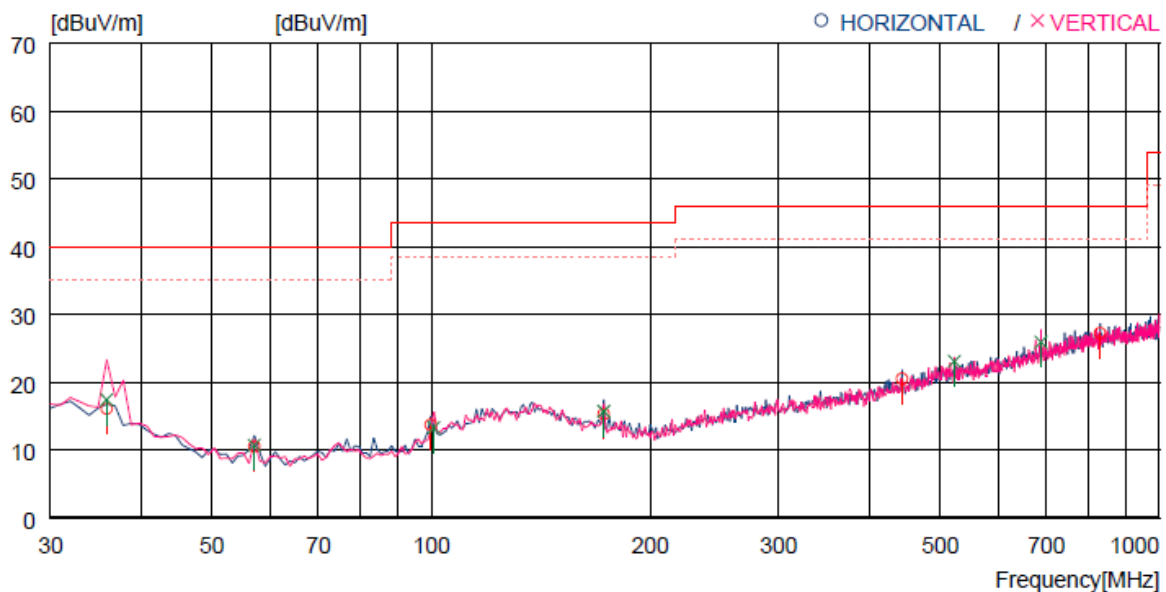
Temperature: 23 ° C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
---- Horizontal ----										
1	35.820	28.0	18.8	1.3	32.0	16.1	40.0	23.9	100	274
2	57.160	28.7	12.4	1.5	32.1	10.5	40.0	29.5	100	126
3	99.840	28.6	15.3	1.8	32.0	13.7	43.5	29.8	100	117
4	172.590	27.9	17.1	2.3	32.0	15.3	43.5	28.2	100	52
5	443.221	27.3	21.7	3.7	32.2	20.5	46.0	25.5	100	274
6	829.271	26.8	27.2	5.1	31.9	27.2	46.0	18.8	100	249
---- Vertical ----										
7	35.820	29.3	18.8	1.3	32.0	17.4	40.0	22.6	100	4
8	57.160	28.9	12.4	1.5	32.1	10.7	40.0	29.3	100	12
9	100.810	28.1	15.4	1.8	32.0	13.3	43.5	30.2	100	8
10	172.590	28.3	17.1	2.3	32.0	15.7	43.5	27.8	100	4
11	522.760	28.0	23.4	4.0	32.3	23.1	46.0	22.9	100	4
12	687.655	28.2	25.4	4.6	32.3	25.9	46.0	20.1	100	4

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11.4.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

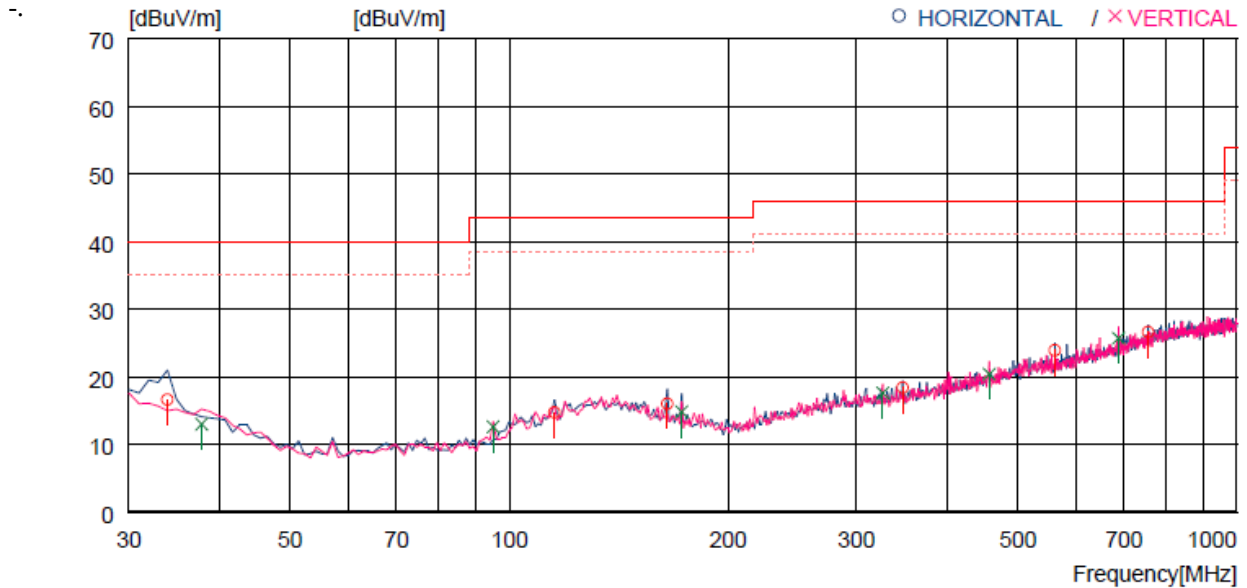
Humidity Level : 45 % R.H. Temperature: 23 ° C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	33.880	27.9	19.5	1.2	32.0	16.6	40.0	23.4	100	17
2	115.360	27.0	17.8	1.9	32.0	14.7	43.5	28.8	100	17
3	164.830	28.1	17.6	2.3	32.0	16.0	43.5	27.5	100	17
4	347.190	27.3	19.9	3.2	32.0	18.4	46.0	27.6	100	17
5	562.529	28.4	23.8	4.1	32.4	23.9	46.0	22.1	100	92
6	755.553	27.5	26.4	4.8	32.1	26.6	46.0	19.4	100	17
----- Vertical -----										
7	37.760	25.6	18.1	1.3	32.0	13.0	40.0	27.0	100	333
8	94.990	28.4	14.4	1.8	32.0	12.6	43.5	30.9	100	124
9	172.590	27.4	17.1	2.3	32.0	14.8	43.5	28.7	100	333
10	325.850	26.9	19.6	3.1	32.0	17.6	46.0	28.4	100	84
11	456.801	26.8	22.1	3.7	32.2	20.4	46.0	25.6	100	198
12	687.655	28.0	25.4	4.6	32.3	25.7	46.0	20.3	100	333

Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

11.4.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

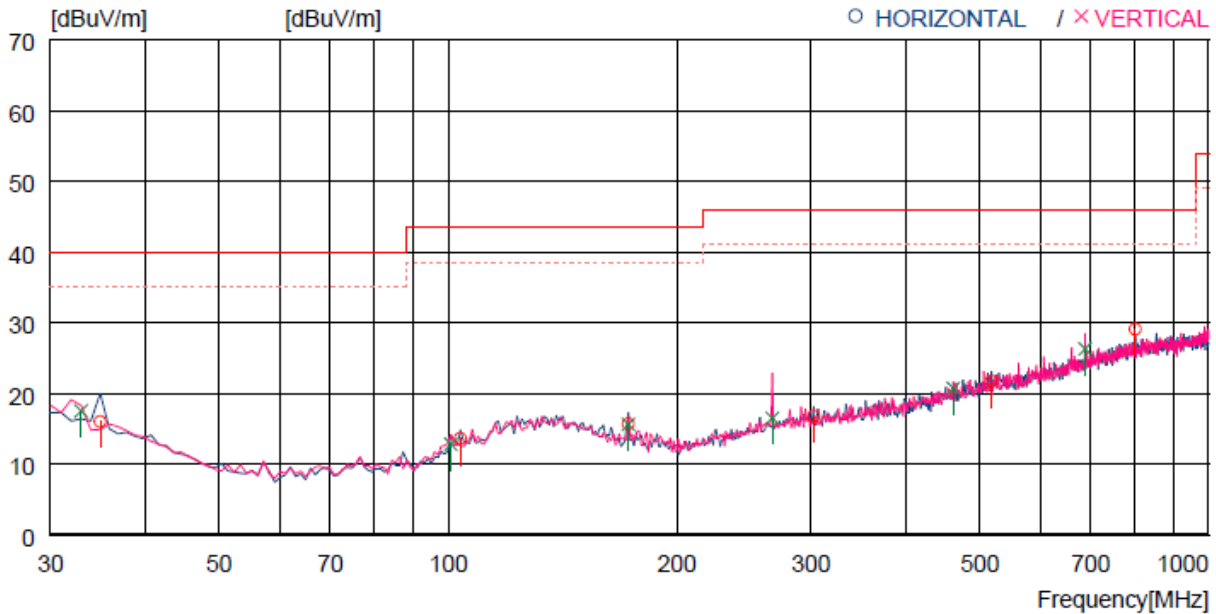
Humidity Level : 45 % R.H. Temperature: 23 ° C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
---- Horizontal ----										
1	34.850	27.6	19.2	1.2	32.0	16.0	40.0	24.0	100	284
2	103.720	27.9	15.9	1.8	32.0	13.6	43.5	29.9	100	62
3	172.590	28.3	17.1	2.3	32.0	15.7	43.5	27.8	100	261
4	302.570	26.6	19.2	3.0	32.0	16.8	46.0	29.2	100	316
5	517.910	26.8	23.3	3.9	32.3	21.7	46.0	24.3	100	78
6	801.142	29.0	27.1	5.0	32.0	29.1	46.0	16.9	100	328
---- Vertical ----										
7	32.910	28.4	19.9	1.2	32.0	17.5	40.0	22.5	100	312
8	100.810	27.6	15.4	1.8	32.0	12.8	43.5	30.7	100	145
9	172.590	28.2	17.1	2.3	32.0	15.6	43.5	27.9	100	128
10	266.680	27.3	18.3	2.9	32.0	16.5	46.0	29.5	100	41
11	461.651	27.0	22.2	3.7	32.2	20.7	46.0	25.3	100	312
12	687.655	28.6	25.4	4.6	32.3	26.3	46.0	19.7	100	312

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

11.5 Test data for Below 30 MHz

- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

11.6 Test data for above 1 GHz

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

12. CONDUCTED EMISSION TEST

12.1 Operating environment

Temperature : 23 ° C

Relative humidity : 45 % R.H.

12.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

12.3 Test Date

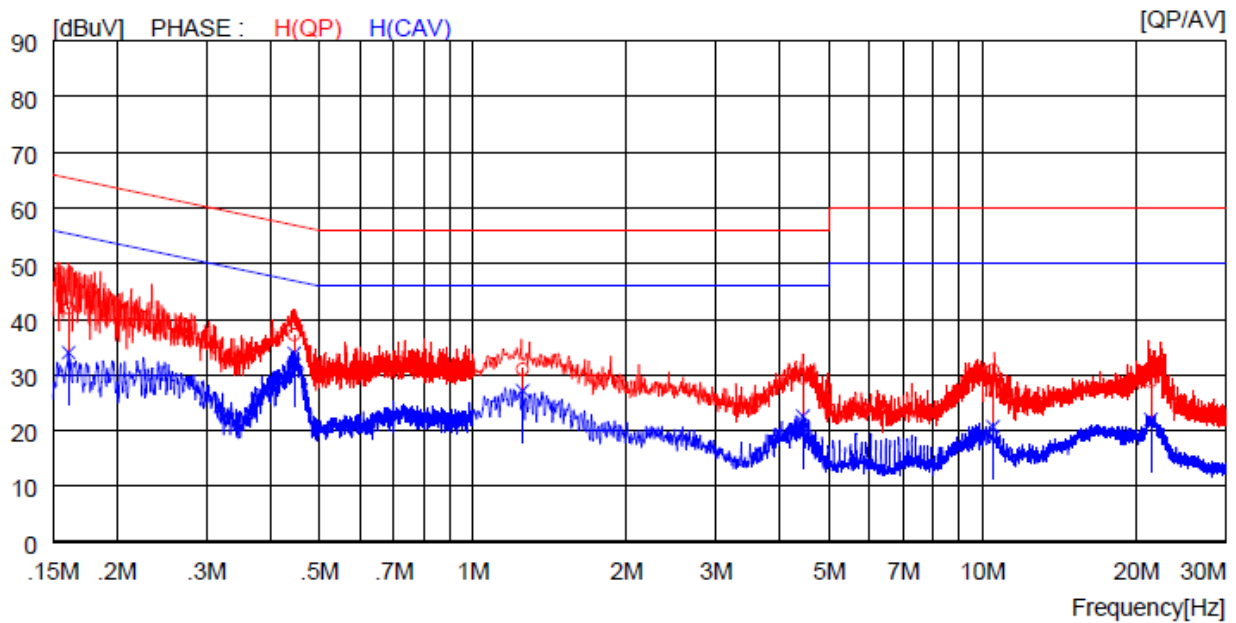
October 07, 2021 ~ October 20, 2021

12.4 Test data

12.4.1 Test data for WLAN 2.4 GHz

- . Resolution bandwidth : 9 kHz
- . Frequency range : 0.15 MHz ~ 30 MHz
- . Tested Line : LIVE LINE

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Average Limits (Mains Ports)

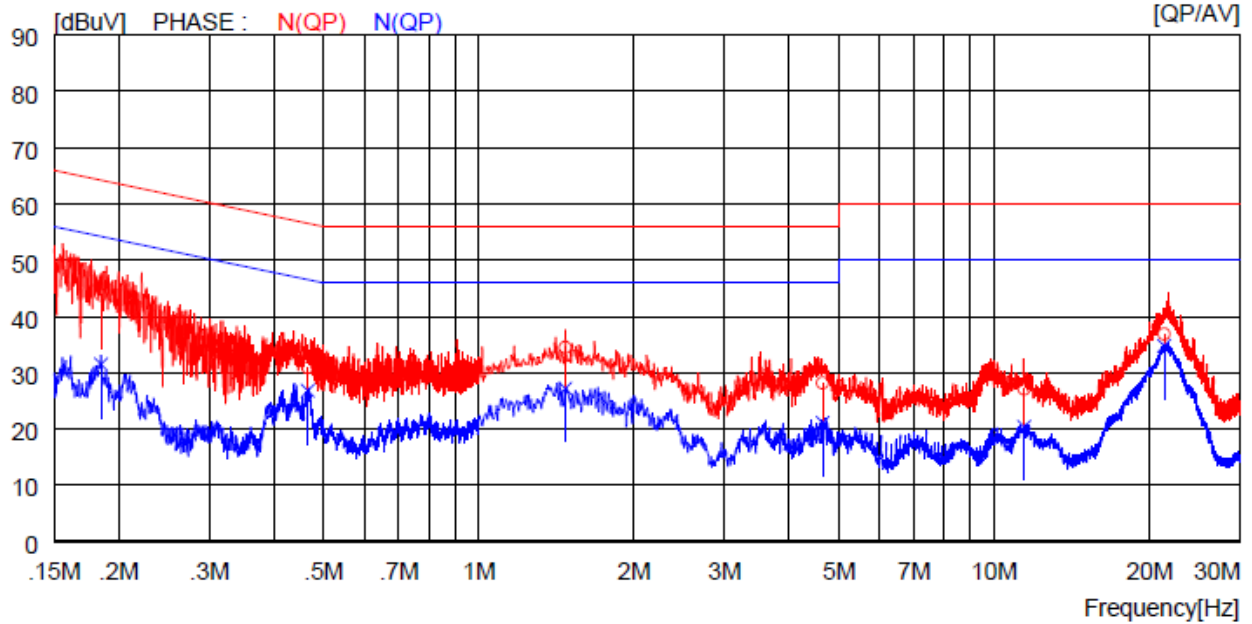


NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16100	32.1	----	9.9	42.0	----	65.4	----	23.4	----	H (QP)
2	0.44600	27.3	----	9.9	37.2	----	56.9	----	19.7	----	H (QP)
3	1.25200	20.9	----	10.1	31.0	----	56.0	----	25.0	----	H (QP)
4	4.44000	19.4	----	10.1	29.5	----	56.0	----	26.5	----	H (QP)
5	10.48000	20.7	----	10.2	30.9	----	60.0	----	29.1	----	H (QP)
6	21.38000	18.5	----	10.4	28.9	----	60.0	----	31.1	----	H (QP)
7	0.16100	----	24.1	9.9	----	34.0	----	55.4	----	21.4	H (CAV)
8	0.44600	----	24.0	9.9	----	33.9	----	46.9	----	13.0	H (CAV)
9	1.25200	----	17.1	10.1	----	27.2	----	46.0	----	18.8	H (CAV)
10	4.44000	----	12.5	10.1	----	22.6	----	46.0	----	23.4	H (CAV)
11	10.48000	----	10.5	10.2	----	20.7	----	50.0	----	29.3	H (CAV)
12	21.38000	----	11.6	10.4	----	22.0	----	50.0	----	28.0	H (CAV)

- . Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

-. Tested Line : NEUTRAL LINE

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Average Limits (Mains Ports)



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18500	33.9	----	9.9	43.8	----	64.3	----	20.5	----	N (QP)
2	0.46600	21.0	----	9.9	30.9	----	56.6	----	25.7	----	N (QP)
3	1.47200	24.4	----	10.1	34.5	----	56.0	----	21.5	----	N (QP)
4	4.65200	18.1	----	10.1	28.2	----	56.0	----	27.8	----	N (QP)
5	11.45000	16.9	----	10.2	27.1	----	60.0	----	32.9	----	N (QP)
6	21.39000	26.5	----	10.4	36.9	----	60.0	----	23.1	----	N (QP)
7	0.18500	----	21.6	9.9	----	31.5	----	54.3	----	22.8	N (CAV)
8	0.46600	----	16.9	9.9	----	26.8	----	46.6	----	19.8	N (CAV)
9	1.47200	----	17.1	10.1	----	27.2	----	46.0	----	18.8	N (CAV)
10	4.65200	----	11.0	10.1	----	21.1	----	46.0	----	24.9	N (CAV)
11	11.45000	----	10.2	10.2	----	20.4	----	50.0	----	29.6	N (CAV)
12	21.39000	----	24.4	10.4	----	34.8	----	50.0	----	15.2	N (CAV)

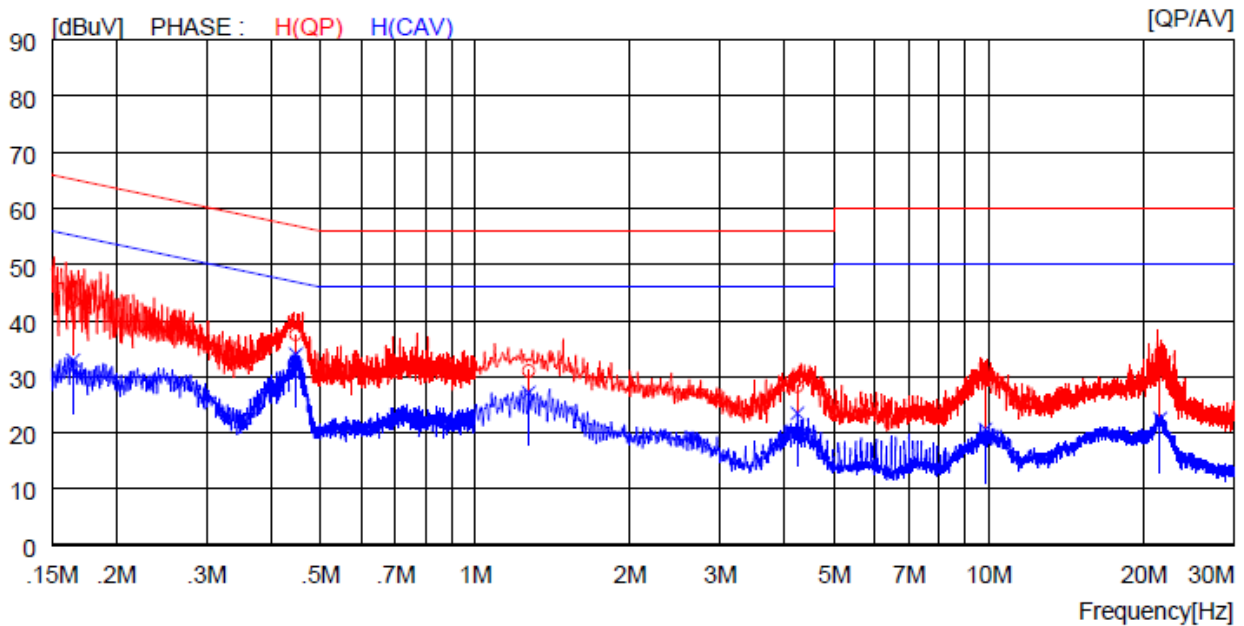
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

12.4.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : LIVE LINE

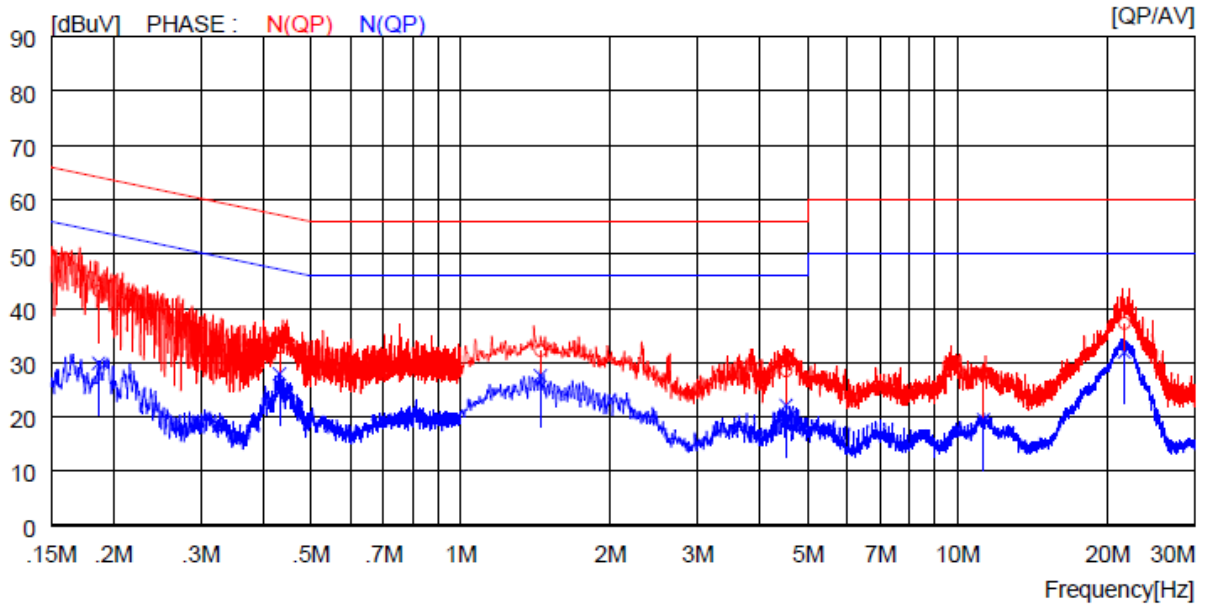
LIMIT : EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Average Limits (Mains Ports)



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16500	33.5	----	9.9	43.4	----	65.2	----	21.8	----	H (QP)
2	0.44800	27.6	----	9.9	37.5	----	56.9	----	19.4	----	H (QP)
3	1.27200	20.9	----	10.1	31.0	----	56.0	----	25.0	----	H (QP)
4	4.24000	18.2	----	10.1	28.3	----	56.0	----	27.7	----	H (QP)
5	9.84500	19.9	----	10.2	30.1	----	60.0	----	29.9	----	H (QP)
6	21.55000	21.1	----	10.4	31.5	----	60.0	----	28.5	----	H (QP)
7	0.16500	----	23.0	9.9	----	32.9	----	55.2	----	22.3	H (CAV)
8	0.44800	----	24.1	9.9	----	34.0	----	46.9	----	12.9	H (CAV)
9	1.27200	----	17.1	10.1	----	27.2	----	46.0	----	18.8	H (CAV)
10	4.24000	----	13.4	10.1	----	23.5	----	46.0	----	22.5	H (CAV)
11	9.84500	----	10.4	10.2	----	20.6	----	50.0	----	29.4	H (CAV)
12	21.55000	----	12.1	10.4	----	22.5	----	50.0	----	27.5	H (CAV)

-. Tested Line : NEUTRAL LINE

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Average Limits (Mains Ports)



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18700	33.3	----	9.9	43.2	----	64.2	----	21.0	----	N(QP)
2	0.43200	22.9	----	9.9	32.8	----	57.2	----	24.4	----	N(QP)
3	1.44800	22.1	----	10.1	32.2	----	56.0	----	23.8	----	N(QP)
4	4.51600	18.4	----	10.1	28.5	----	56.0	----	27.5	----	N(QP)
5	11.27000	17.6	----	10.2	27.8	----	60.0	----	32.2	----	N(QP)
6	21.65000	26.8	----	10.4	37.2	----	60.0	----	22.8	----	N(QP)
7	0.18700	----	20.0	9.9	----	29.9	----	54.2	----	24.3	N(CAV)
8	0.43200	----	18.0	9.9	----	27.9	----	47.2	----	19.3	N(CAV)
9	1.44800	----	17.5	10.1	----	27.6	----	46.0	----	18.4	N(CAV)
10	4.51600	----	12.0	10.1	----	22.1	----	46.0	----	23.9	N(CAV)
11	11.27000	----	9.3	10.2	----	19.5	----	50.0	----	30.5	N(CAV)
12	21.65000	----	21.5	10.4	----	31.9	----	50.0	----	18.1	N(CAV)

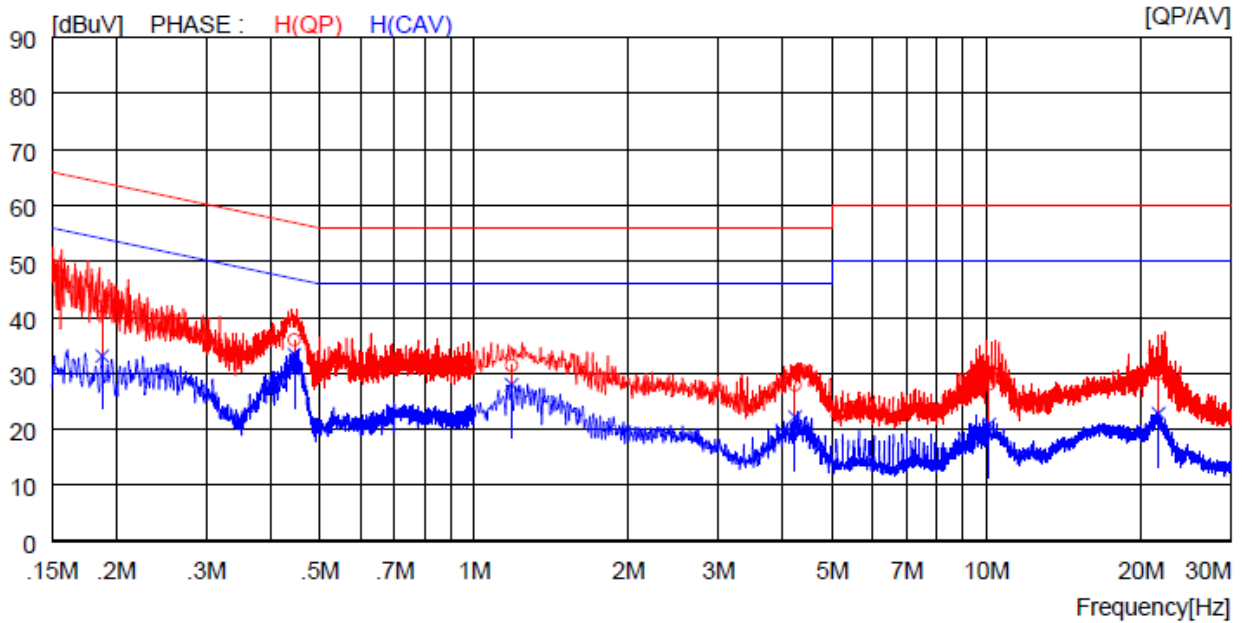
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

12.4.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : LIVE LINE

LIMIT : EN.KN.FCC.VCCI CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI CISPR Pub.22 Class B, Average Limits (Mains Ports)



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18800	32.1	----	9.9	42.0	----	64.1	----	22.1	----	H (QP)
2	0.44600	26.1	----	9.9	36.0	----	56.9	----	20.9	----	H (QP)
3	1.18400	21.4	----	10.0	31.4	----	56.0	----	24.6	----	H (QP)
4	4.23200	17.8	----	10.1	27.9	----	56.0	----	28.1	----	H (QP)
5	10.13000	17.9	----	10.2	28.1	----	60.0	----	31.9	----	H (QP)
6	21.66000	19.5	----	10.4	29.9	----	60.0	----	30.1	----	H (QP)
7	0.18800	----	23.2	9.9	----	33.1	----	54.1	----	21.0	H (CAV)
8	0.44600	----	23.4	9.9	----	33.3	----	46.9	----	13.6	H (CAV)
9	1.18400	----	18.0	10.0	----	28.0	----	46.0	----	18.0	H (CAV)
10	4.23200	----	12.1	10.1	----	22.2	----	46.0	----	23.8	H (CAV)
11	10.13000	----	10.7	10.2	----	20.9	----	50.0	----	29.1	H (CAV)
12	21.66000	----	12.4	10.4	----	22.8	----	50.0	----	27.2	H (CAV)

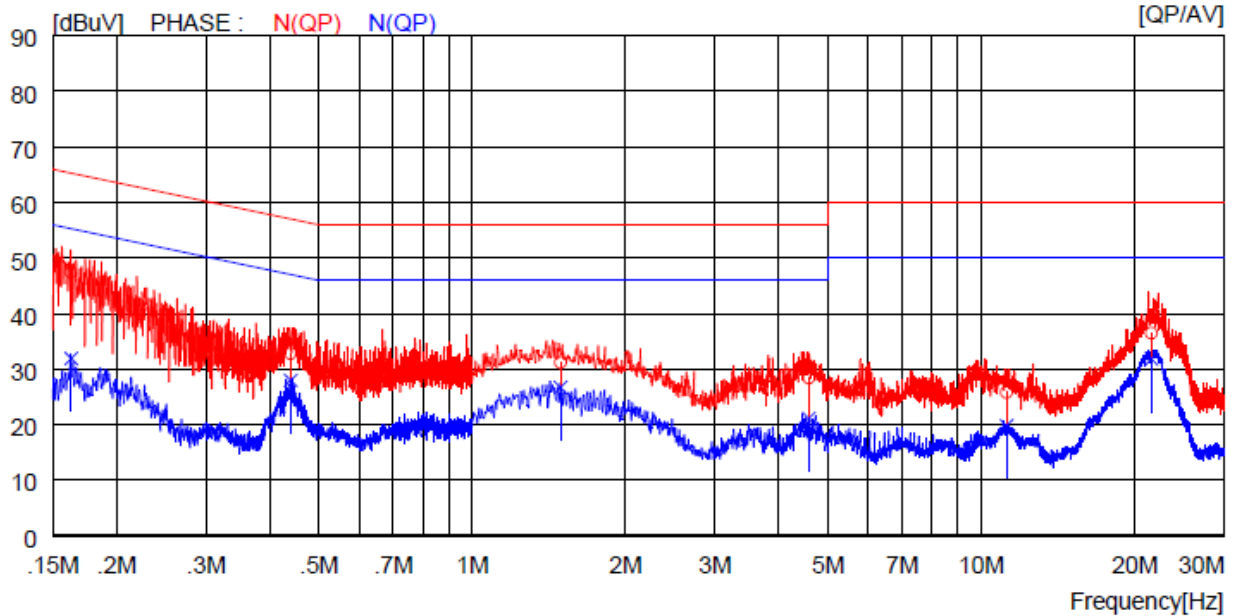
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OTC-TRF-RF-001(0)

-. Tested Line : NEUTRAL LINE

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.22 Class B, Average Limits (Mains Ports)



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16300	37.5	----	9.9	47.4	----	65.3	----	17.9	----	N (QP)
2	0.44000	22.9	----	9.9	32.8	----	57.1	----	24.3	----	N (QP)
3	1.49200	21.1	----	10.1	31.2	----	56.0	----	24.8	----	N (QP)
4	4.59200	18.3	----	10.1	28.4	----	56.0	----	27.6	----	N (QP)
5	11.21000	15.6	----	10.2	25.8	----	60.0	----	34.2	----	N (QP)
6	21.61000	26.1	----	10.4	36.5	----	60.0	----	23.5	----	N (QP)
7	0.16300	----	22.0	9.9	----	31.9	----	55.3	----	23.4	N (CAV)
8	0.44000	----	18.1	9.9	----	28.0	----	47.1	----	19.1	N (CAV)
9	1.49200	----	16.6	10.1	----	26.7	----	46.0	----	19.3	N (CAV)
10	4.59200	----	11.0	10.1	----	21.1	----	46.0	----	24.9	N (CAV)
11	11.21000	----	9.6	10.2	----	19.8	----	50.0	----	30.2	N (CAV)
12	21.61000	----	21.4	10.4	----	31.8	----	50.0	----	18.2	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN),
cable loss and attenuator.

13. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
FSV40-N	Rohde & Schwarz	Signal Analyzer	102177	Apr. 16, 2021 (1Y)
ESW 44	Rohde & Schwarz	EMI Test Receiver	101851	Mar. 23, 2021 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	392756	Oct. 14, 2021 (1Y)
SCU18	Rohde & Schwarz	Pre-Amplifier	102266	Jul. 14, 2021 (1Y)
PAM-840A	Com-Power	Pre-Amplifier	461339	Oct. 12, 2021 (1Y)
DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
FMZB 1513	Schwarzbeck	Loop Antenna	1513-235	Mar. 24, 2020 (2Y)
HLP-2008	TDK	Hybrid Antenna	131316	Feb. 27, 2020 (2Y)
BBHA9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 20, 2021 (1Y)
BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2021(1Y)
10 dB Attenuator	Rohde & Schwarz	10 dB Attenuator	14100882-3	Jul. 14, 2021 (1Y)
NRP-Z81	Rohde & Schwarz	Wide band Sensor	101975	Feb. 09, 2021 (1Y)
HPF 3GHz	Rohde & Schwarz	High Pass Filter	N/A	Feb. 08, 2021 (1Y)
ESCI	Rohde & Schwarz	EMI TEST RECEIVER	101012	Oct. 20, 2021 (1Y)
NSLK8126	Schwarzbeck	AMN	8126-404	Mar. 16, 2021 (1Y)
ESH3-Z2	Rohde & Schwarz	PULSE LIMITER	100655	Mar. 15, 2021 (1Y)