

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 386.197	22.46	Peak	H	26.90	3.07	52.43	74.00	21.57
2 387.799	11.26	Average	H	26.90	3.07	41.23	54.00	12.77
2 339.614	19.19	Peak	V	26.90	3.07	49.16	74.00	24.84
2 340.687	10.35	Average	V	26.90	3.07	40.32	54.00	13.68
Test Data for High 11 Channel								
2 483.508	27.53	Peak	H	26.60	3.16	57.29	74.00	16.71
2 483.539	20.37	Average	H	26.60	3.16	50.13	54.00	3.87
2 483.508	24.56	Peak	V	26.60	3.16	54.32	74.00	19.68
2 483.508	18.33	Average	V	26.60	3.16	48.09	54.00	5.91

Test Data for High 12 Channel								
2 483.508	29.84	Peak	H	26.60	3.16	59.60	74.00	14.40
2 483.508	20.56	Average	H	26.60	3.16	50.32	54.00	3.68
2 483.508	25.87	Peak	V	26.60	3.16	55.63	74.00	18.37
2 483.508	19.86	Average	V	26.60	3.16	49.62	54.00	4.38
Test Data for High 13 Channel								
2 483.835	30.68	Peak	H	26.60	3.16	60.44	74.00	13.56
2 484.590	21.15	Average	H	26.60	3.16	50.91	54.00	3.09
2 487.242	28.72	Peak	V	26.60	3.16	58.48	74.00	15.52
2 483.892	20.15	Average	V	26.60	3.16	49.91	54.00	4.09

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 386.090	22.25	Peak	H	26.90	3.07	52.22	74.00	21.78
2 388.051	14.18	Average	H	26.90	3.07	44.15	54.00	9.85
2 377.877	19.50	Peak	V	26.90	3.07	49.47	74.00	24.53
2 340.414	12.51	Average	V	26.90	3.07	42.48	54.00	11.52
Test Data for High 11 Channel								
2 483.508	28.11	Peak	H	26.60	3.16	57.87	74.00	16.13
2 483.508	20.41	Average	H	26.60	3.16	50.17	54.00	3.83
2 495.125	25.62	Peak	V	26.60	3.16	55.38	74.00	18.62
2 483.508	18.33	Average	V	26.60	3.16	48.09	54.00	5.91
Test Data for High 12 Channel								
2 483.508	29.62	Peak	H	26.60	3.16	59.38	74.00	14.62
2 483.508	20.81	Average	H	26.60	3.16	50.57	54.00	3.43
2 499.318	27.05	Peak	V	26.60	3.16	56.81	74.00	17.19
2 483.508	20.31	Average	V	26.60	3.16	50.07	54.00	3.93
Test Data for High 13 Channel								
2 484.071	30.67	Peak	H	26.60	3.16	60.43	74.00	13.57
2 484.099	21.14	Average	H	26.60	3.16	50.90	54.00	3.10
2 484.444	28.62	Peak	V	26.60	3.16	58.38	74.00	15.62
2 484.075	20.56	Average	V	26.60	3.16	50.32	54.00	3.68

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 389.067	23.33	Peak	H	26.90	3.07	53.30	74.00	20.70
2 389.856	13.34	Average	H	26.90	3.07	43.31	54.00	10.69
2 340.483	21.58	Peak	V	26.90	3.07	51.55	74.00	22.45
2 338.688	13.11	Average	V	26.90	3.07	43.08	54.00	10.92
Test Data for High 11 Channel								
2 483.508	28.33	Peak	H	26.60	3.16	58.09	74.00	15.91
2 483.508	19.82	Average	H	26.60	3.16	49.58	54.00	4.42
2 483.508	27.51	Peak	V	26.60	3.16	57.27	74.00	16.73
2 483.508	19.32	Average	V	26.60	3.16	49.08	54.00	4.92
Test Data for High 12 Channel								
2 483.508	29.91	Peak	H	26.60	3.16	59.67	74.00	14.33
2 483.508	20.13	Average	H	26.60	3.16	49.89	54.00	4.11
2 483.508	27.88	Peak	V	26.60	3.16	57.64	74.00	16.36
2 483.508	19.81	Average	V	26.60	3.16	49.57	54.00	4.43
Test Data for High 13 Channel								
2 483.508	30.51	Peak	H	26.60	3.16	60.27	74.00	13.73
2 483.508	20.87	Average	H	26.60	3.16	50.63	54.00	3.37
2 483.508	29.07	Peak	V	26.60	3.16	58.83	74.00	15.17
2 483.508	20.65	Average	V	26.60	3.16	50.41	54.00	3.59

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 388.401	23.41	Peak	H	26.90	3.07	53.38	74.00	20.62
2 389.960	13.25	Average	H	26.90	3.07	43.22	54.00	10.78
2 319.256	22.33	Peak	V	26.90	3.07	52.30	74.00	21.70
2 339.044	13.11	Average	V	26.90	3.07	43.08	54.00	10.92
Test Data for High 11 Channel								
2 483.508	29.52	Peak	H	26.60	3.16	59.28	74.00	14.72
2 483.508	19.99	Average	H	26.60	3.16	49.75	54.00	4.25
2 483.508	27.58	Peak	V	26.60	3.16	57.34	74.00	16.66
2 483.508	19.76	Average	V	26.60	3.16	49.52	54.00	4.48
Test Data for High 12 Channel								
2 483.508	30.95	Peak	H	26.60	3.16	60.71	74.00	13.29
2 483.508	20.63	Average	H	26.60	3.16	50.39	54.00	3.61
2 483.508	28.95	Peak	V	26.60	3.16	58.71	74.00	15.29
2 483.508	20.15	Average	V	26.60	3.16	49.91	54.00	4.09
Test Data for High 13 Channel								
2 483.712	31.34	Peak	H	26.60	3.16	61.10	74.00	12.90
2 483.508	20.91	Average	H	26.60	3.16	50.67	54.00	3.33
2 483.508	28.33	Peak	V	26.60	3.16	58.09	74.00	15.91
2 483.508	20.45	Average	V	26.60	3.16	50.21	54.00	3.79

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 389.960	26.84	Peak	H	26.90	3.07	56.81	74.00	17.19
2 388.108	13.21	Average	H	26.90	3.07	43.18	54.00	10.82
2 344.316	25.32	Peak	V	26.90	3.07	55.29	74.00	18.71
2 337.718	12.56	Average	V	26.90	3.07	42.53	54.00	11.47
Test Data for High 9 Channel								
2 484.321	31.35	Peak	H	26.60	3.16	61.11	74.00	12.89
2 483.949	20.74	Average	H	26.60	3.16	50.50	54.00	3.50
2 486.421	28.69	Peak	V	26.60	3.16	58.45	74.00	15.55
2 484.271	19.97	Average	V	26.60	3.16	49.73	54.00	4.27
Test Data for High 10 Channel								
2 483.508	32.34	Peak	H	26.60	3.16	62.10	74.00	11.90
2 483.508	20.91	Average	H	26.60	3.16	50.67	54.00	3.33
2 483.511	29.61	Peak	V	26.60	3.16	59.37	74.00	14.63
2 483.508	20.11	Average	V	26.60	3.16	49.87	54.00	4.13
Test Data for High 11 Channel								
2 483.508	33.48	Peak	H	26.60	3.16	63.24	74.00	10.76
2 483.508	21.57	Average	H	26.60	3.16	51.33	54.00	2.67
2 483.508	30.34	Peak	V	26.60	3.16	60.10	74.00	13.90
2 483.508	21.22	Average	V	26.60	3.16	50.98	54.00	3.02

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.19	Peak	H	28.20	4.85	51.24	74.00	22.76
4 824.00	8.49	Average	H	28.20	4.85	41.54	54.00	12.46
4 824.00	17.63	Peak	V	28.20	4.85	50.68	74.00	23.32
4 824.00	6.70	Average	V	28.20	4.85	39.75	54.00	14.25
Test Data for Middle Channel								
4 874.00	18.22	Peak	H	28.30	4.91	51.43	74.00	22.57
4 874.00	8.37	Average	H	28.30	4.91	41.58	54.00	12.42
4 874.00	17.78	Peak	V	28.30	4.91	50.99	74.00	23.01
4 874.00	8.27	Average	V	28.30	4.91	41.48	54.00	12.52

Test Data for High 11 Channel								
4 924.00	17.89	Peak	H	28.60	5.04	51.53	74.00	22.47
4 924.00	8.67	Average	H	28.60	5.04	42.31	54.00	11.69
4 924.00	18.66	Peak	V	28.60	5.04	52.30	74.00	21.70
4 924.00	6.47	Average	V	28.60	5.04	40.11	54.00	13.89
Test Data for High 12 Channel								
4 934.00	19.00	Peak	H	28.60	5.04	52.64	74.00	21.36
4 934.00	9.26	Average	H	28.60	5.04	42.90	54.00	11.10
4 934.00	18.39	Peak	V	28.60	5.04	52.03	74.00	21.97
4 934.00	6.51	Average	V	28.60	5.04	40.15	54.00	13.85
Test Data for High 13 Channel								
4 944.00	18.19	Peak	H	28.60	5.04	51.83	74.00	22.17
4 944.00	8.43	Average	H	28.60	5.04	42.07	54.00	11.93
4 944.00	18.06	Peak	V	28.60	5.04	51.70	74.00	22.30
4 944.00	8.10	Average	V	28.60	5.04	41.74	54.00	12.26

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.49	Peak	H	28.20	4.85	51.54	74.00	22.46
4 824.00	8.44	Average	H	28.20	4.85	41.49	54.00	12.51
4 824.00	18.10	Peak	V	28.20	4.85	51.15	74.00	22.85
4 824.00	7.09	Average	V	28.20	4.85	40.14	54.00	13.86
Test Data for Middle Channel								
4 874.00	18.96	Peak	H	28.30	4.91	52.17	74.00	21.83
4 874.00	8.88	Average	H	28.30	4.91	42.09	54.00	11.91
4 874.00	18.80	Peak	V	28.30	4.91	52.01	74.00	21.99
4 874.00	7.22	Average	V	28.30	4.91	40.43	54.00	13.57

Test Data for High 11 Channel								
4 924.00	18.93	Peak	H	28.60	5.04	52.57	74.00	21.43
4 924.00	8.34	Average	H	28.60	5.04	41.98	54.00	12.02
4 924.00	17.80	Peak	V	28.60	5.04	51.44	74.00	22.56
4 924.00	7.05	Average	V	28.60	5.04	40.69	54.00	13.31
Test Data for High 12 Channel								
4 934.00	18.65	Peak	H	28.60	5.04	52.29	74.00	21.71
4 934.00	8.37	Average	H	28.60	5.04	42.01	54.00	11.99
4 934.00	18.12	Peak	V	28.60	5.04	51.76	74.00	22.24
4 934.00	7.01	Average	V	28.60	5.04	40.65	54.00	13.35
Test Data for High 13 Channel								
4 944.00	18.98	Peak	H	28.60	5.04	52.62	74.00	21.38
4 944.00	8.94	Average	H	28.60	5.04	42.58	54.00	11.42
4 944.00	18.92	Peak	V	28.60	5.04	52.56	74.00	21.44
4 944.00	8.35	Average	V	28.60	5.04	41.99	54.00	12.01

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	17.93	Peak	H	28.20	4.85	50.98	74.00	23.02
4 824.00	8.74	Average	H	28.20	4.85	41.79	54.00	12.21
4 824.00	17.32	Peak	V	28.20	4.85	50.37	74.00	23.63
4 824.00	7.43	Average	V	28.20	4.85	40.48	54.00	13.52
Test Data for Middle Channel								
4 874.00	18.12	Peak	H	28.30	4.91	51.33	74.00	22.67
4 874.00	8.50	Average	H	28.30	4.91	41.71	54.00	12.29
4 874.00	17.94	Peak	V	28.30	4.91	51.15	74.00	22.85
4 874.00	8.21	Average	V	28.30	4.91	41.42	54.00	12.58

Test Data for High 11 Channel								
4 924.00	17.89	Peak	H	28.60	5.04	51.53	74.00	22.47
4 924.00	9.21	Average	H	28.60	5.04	42.85	54.00	11.15
4 924.00	17.83	Peak	V	28.60	5.04	51.47	74.00	22.53
4 924.00	7.09	Average	V	28.60	5.04	40.73	54.00	13.27
Test Data for High 12 Channel								
4 934.00	18.64	Peak	H	28.60	5.04	52.28	74.00	21.72
4 934.00	8.73	Average	H	28.60	5.04	42.37	54.00	11.63
4 934.00	18.21	Peak	V	28.60	5.04	51.85	74.00	22.15
4 934.00	7.62	Average	V	28.60	5.04	41.26	54.00	12.74
Test Data for High 13 Channel								
4 944.00	19.07	Peak	H	28.60	5.04	52.71	74.00	21.29
4 944.00	8.59	Average	H	28.60	5.04	42.23	54.00	11.77
4 944.00	18.51	Peak	V	28.60	5.04	52.15	74.00	21.85
4 944.00	6.35	Average	V	28.60	5.04	39.99	54.00	14.01

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.67	Peak	H	28.20	4.85	51.72	74.00	22.28
4 824.00	8.12	Average	H	28.20	4.85	41.17	54.00	12.83
4 824.00	17.83	Peak	V	28.20	4.85	50.88	74.00	23.12
4 824.00	7.64	Average	V	28.20	4.85	40.69	54.00	13.31
Test Data for Middle Channel								
4 874.00	18.83	Peak	H	28.30	4.91	52.04	74.00	21.96
4 874.00	8.84	Average	H	28.30	4.91	42.05	54.00	11.95
4 874.00	19.11	Peak	V	28.30	4.91	52.32	74.00	21.68
4 874.00	7.81	Average	V	28.30	4.91	41.02	54.00	12.98

Test Data for High 11 Channel								
4 924.00	18.72	Peak	H	28.60	5.04	52.36	74.00	21.64
4 924.00	8.48	Average	H	28.60	5.04	42.12	54.00	11.88
4 924.00	18.79	Peak	V	28.60	5.04	52.43	74.00	21.57
4 924.00	6.36	Average	V	28.60	5.04	40.00	54.00	14.00
Test Data for High 12 Channel								
4 934.00	18.27	Peak	H	28.60	5.04	51.91	74.00	22.09
4 934.00	8.27	Average	H	28.60	5.04	41.91	54.00	12.09
4 934.00	18.20	Peak	V	28.60	5.04	51.84	74.00	22.16
4 934.00	7.19	Average	V	28.60	5.04	40.83	54.00	13.17
Test Data for High 13 Channel								
4 944.00	18.41	Peak	H	28.60	5.04	52.05	74.00	21.95
4 944.00	8.63	Average	H	28.60	5.04	42.27	54.00	11.73
4 944.00	18.96	Peak	V	28.60	5.04	52.60	74.00	21.40
4 944.00	7.99	Average	V	28.60	5.04	41.63	54.00	12.37

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

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	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 844.00	18.57	Peak	H	28.20	4.85	51.62	74.00	22.38
4 844.00	9.06	Average	H	28.20	4.85	42.11	54.00	11.89
4 844.00	18.10	Peak	V	28.20	4.85	51.15	74.00	22.85
4 844.00	6.34	Average	V	28.20	4.85	39.39	54.00	14.61
Test Data for Middle Channel								
4 874.00	18.59	Peak	H	28.30	4.91	51.80	74.00	22.20
4 874.00	8.86	Average	H	28.30	4.91	42.07	54.00	11.93
4 874.00	18.24	Peak	V	28.30	4.91	51.45	74.00	22.55
4 874.00	6.96	Average	V	28.30	4.91	40.17	54.00	13.83

Test Data for High 11 Channel								
4 904.00	18.83	Peak	H	28.60	5.04	52.47	74.00	21.53
4 904.00	8.73	Average	H	28.60	5.04	42.37	54.00	11.63
4 904.00	18.08	Peak	V	28.60	5.04	51.72	74.00	22.28
4 904.00	6.97	Average	V	28.60	5.04	40.61	54.00	13.39
Test Data for High 12 Channel								
4 914.00	18.07	Peak	H	28.60	5.04	51.71	74.00	22.29
4 914.00	8.41	Average	H	28.60	5.04	42.05	54.00	11.95
4 914.00	18.33	Peak	V	28.60	5.04	51.97	74.00	22.03
4 914.00	6.91	Average	V	28.60	5.04	40.55	54.00	13.45
Test Data for High 13 Channel								
4 924.00	19.18	Peak	H	28.60	5.04	52.82	74.00	21.18
4 924.00	8.77	Average	H	28.60	5.04	42.41	54.00	11.59
4 924.00	17.97	Peak	V	28.60	5.04	51.61	74.00	22.39
4 924.00	8.10	Average	V	28.60	5.04	41.74	54.00	12.26

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

10. PEAK POWER SPECTRUL DENSITY

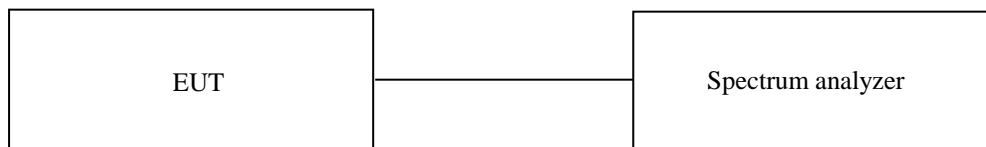
10.1 Operating environment

Temperature : 23 °C
 Relative humidity : 41 % 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

August 21, 2020 ~ September 08, 2020

10.4 Test data for 802.11b WLAN Mode

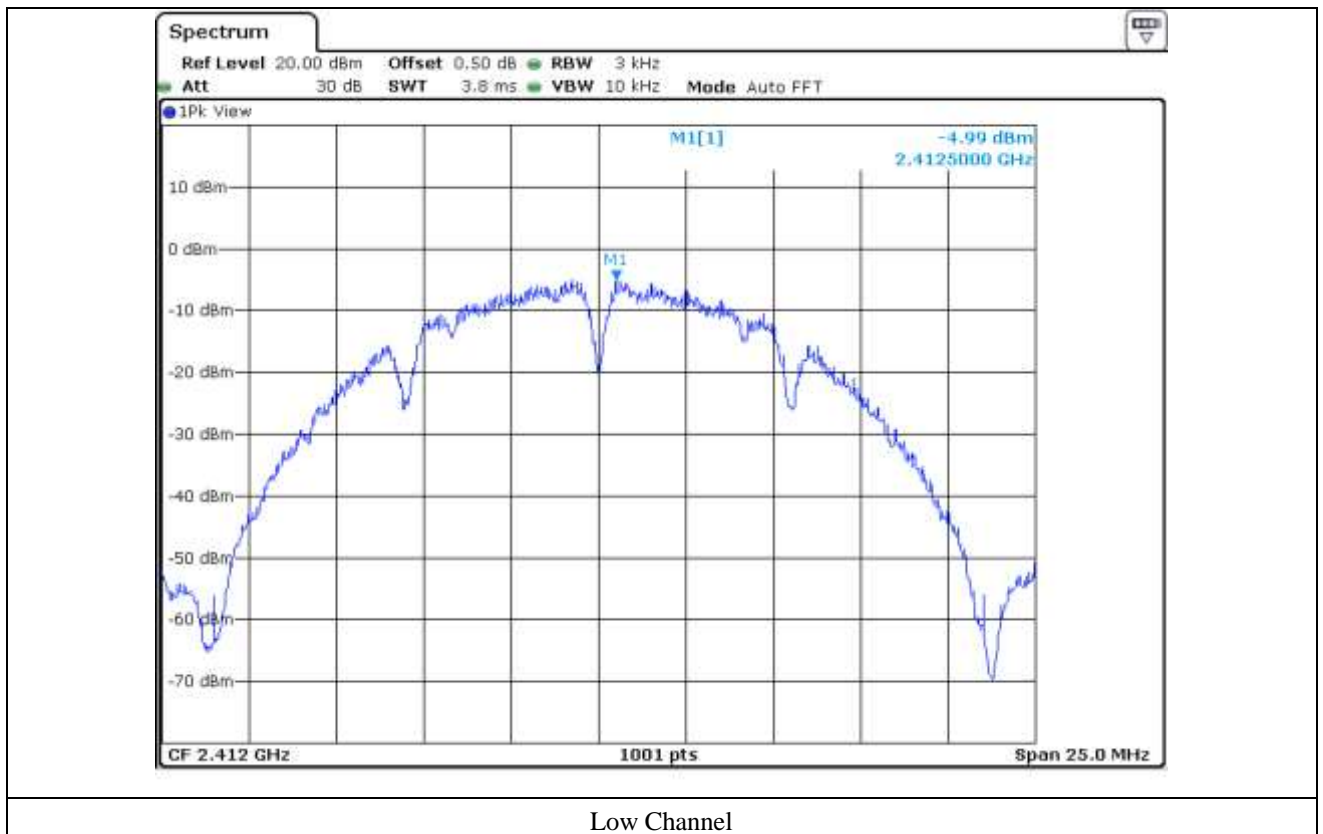
10.4.1 Test data for Antenna 0

-. Test Result : Pass

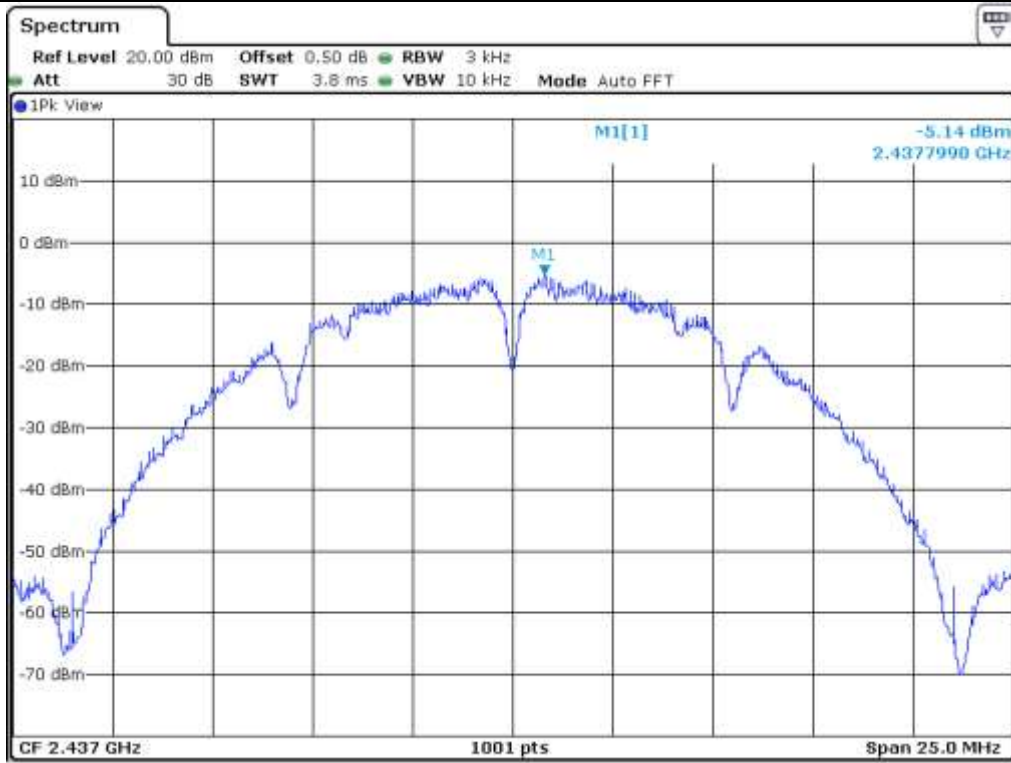
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-4.99	8.00	12.99
Middle	2 437.00	-5.14	8.00	13.14
High 11	2 462.00	-5.03	8.00	13.03
High 12	2 467.00	-7.16	8.00	15.16
High 13	2 472.00	-8.34	8.00	16.34

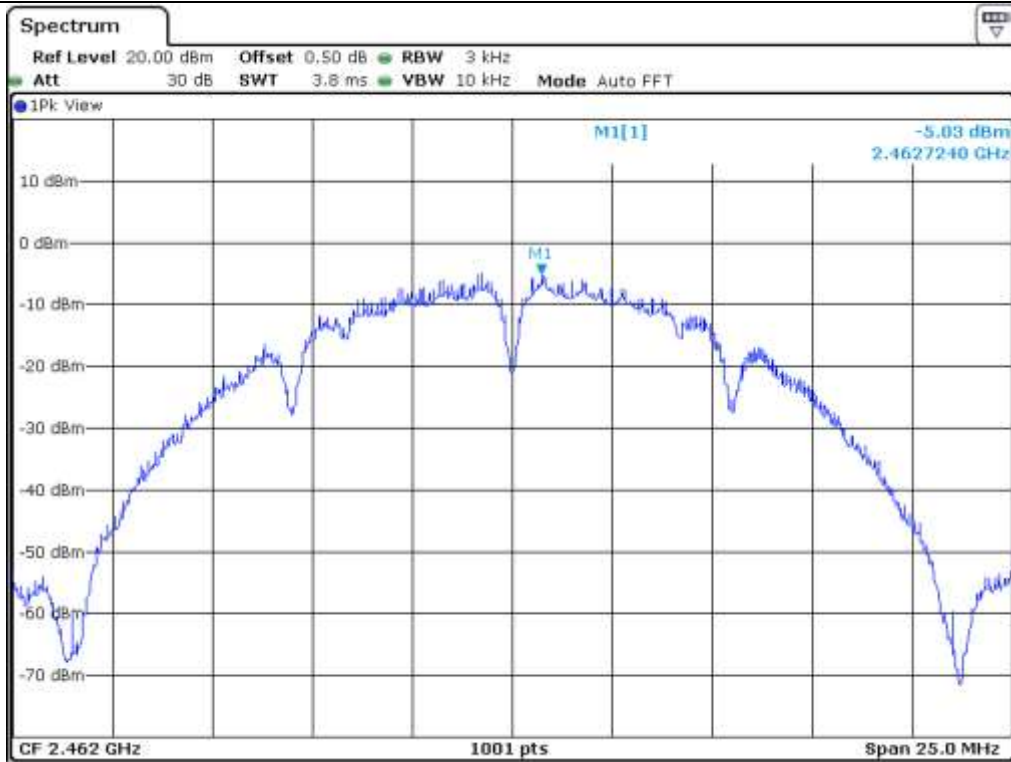
Remark. Margin = Limit – Measured value



Low Channel



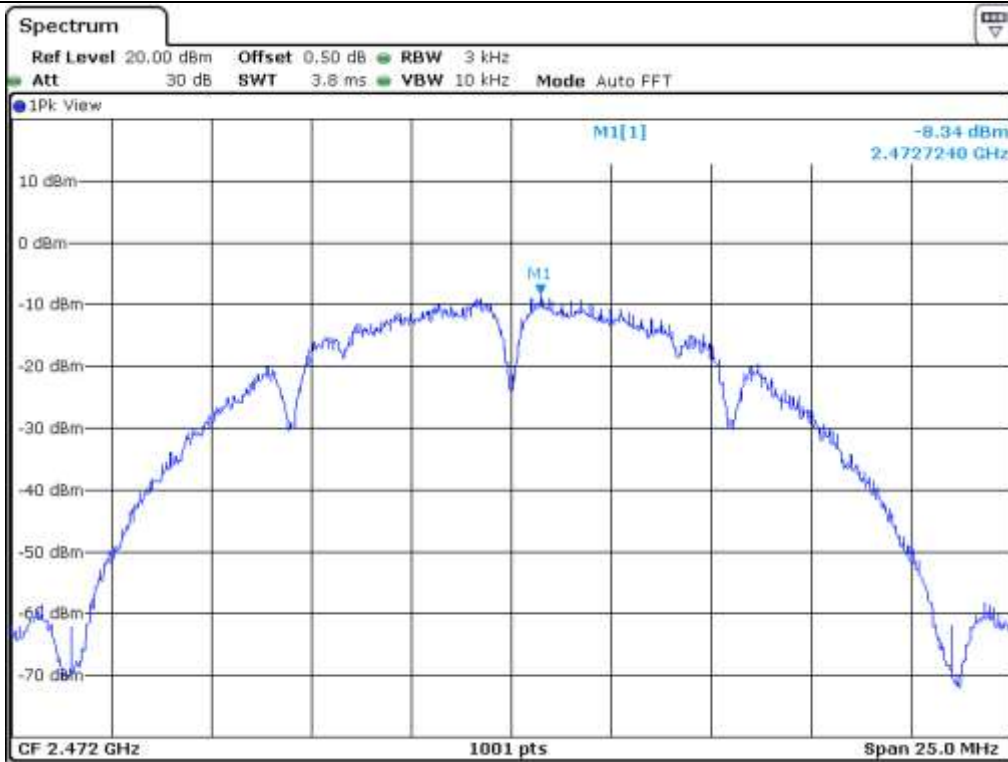
Middle Channel



High Channel 11



High Channel 12



High Channel 13

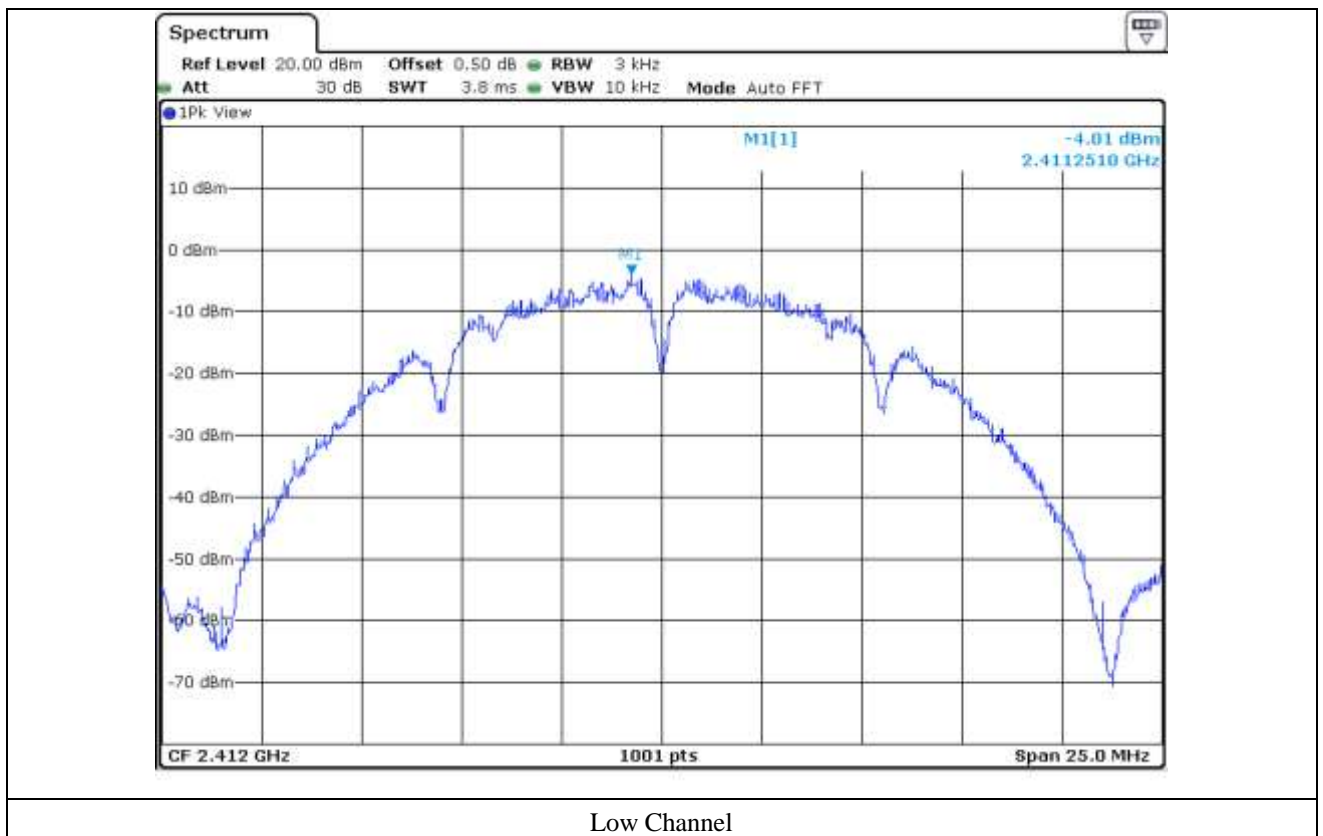
10.4.2 Test data for Antenna 1

- Test Result : Pass

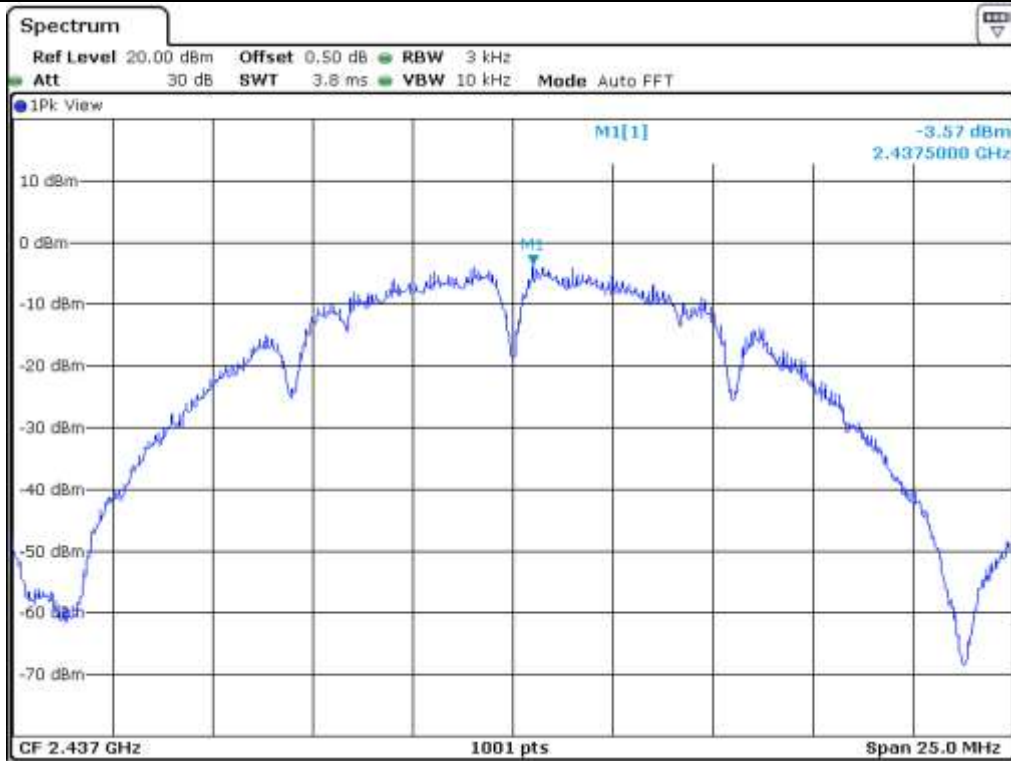
- Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-4.01	8.00	12.01
Middle	2 437.00	-3.57	8.00	11.57
High 11	2 462.00	-3.32	8.00	11.32
High 12	2 467.00	-5.73	8.00	13.73
High 13	2 472.00	-6.63	8.00	14.63

Remark. Margin = Limit – Measured value



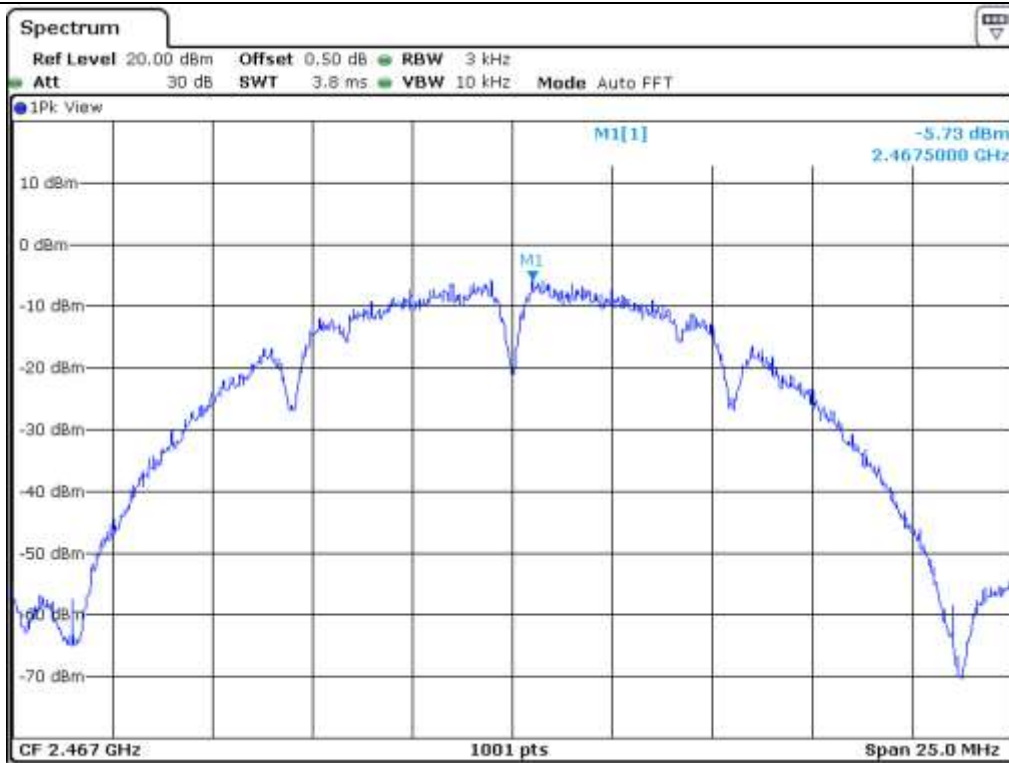
Low Channel



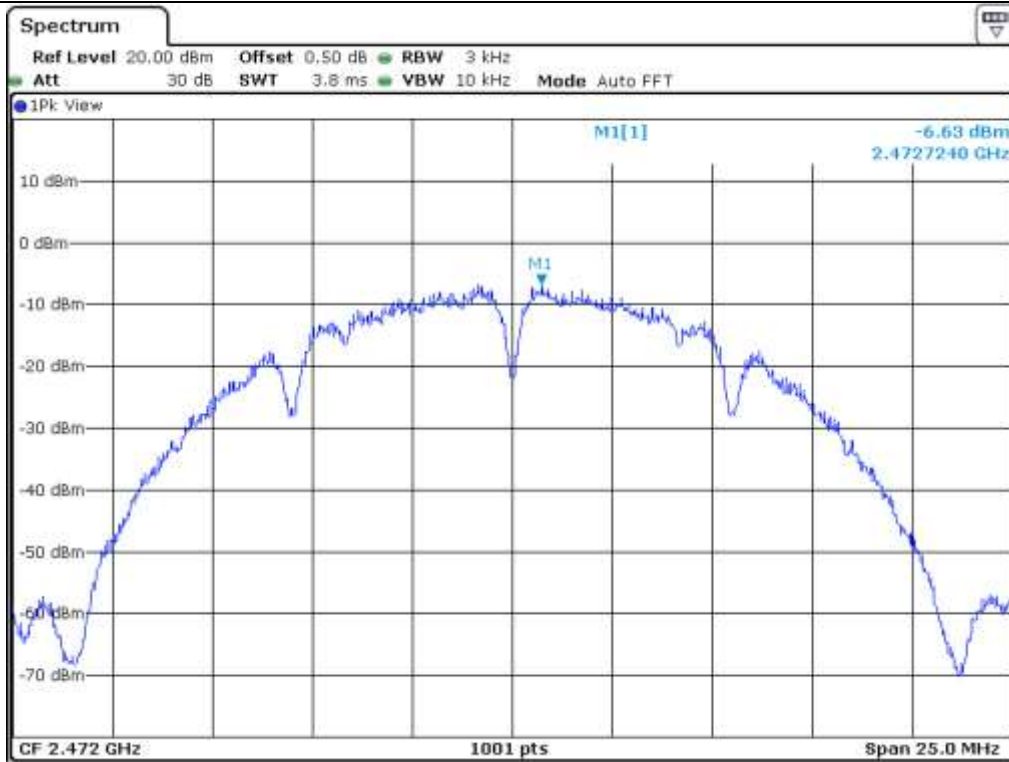
Middle Channel



High Channel 11



High Channel 12



High Channel 13

10.5 Test data for 802.11g WLAN Mode

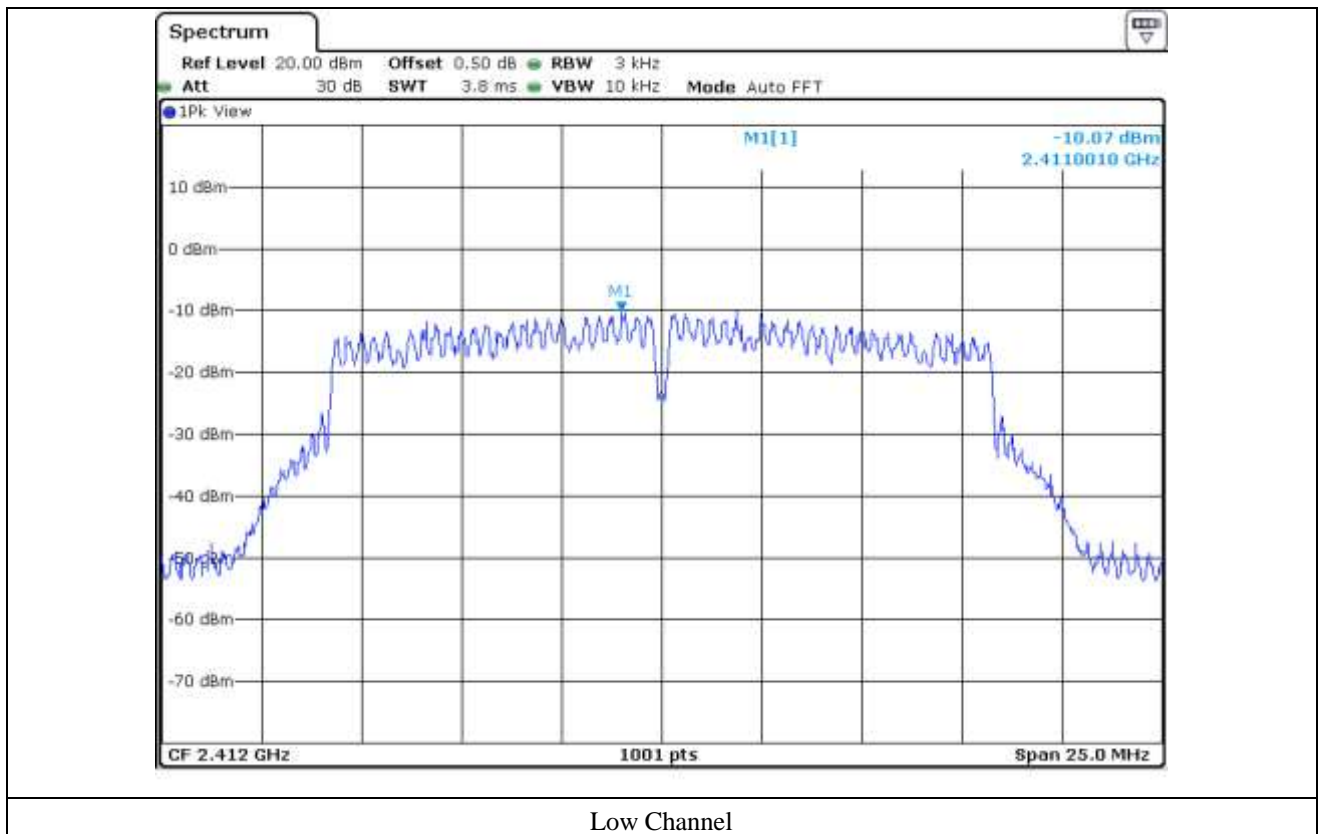
10.5.1 Test data for Antenna 0

-. Test Result : Pass

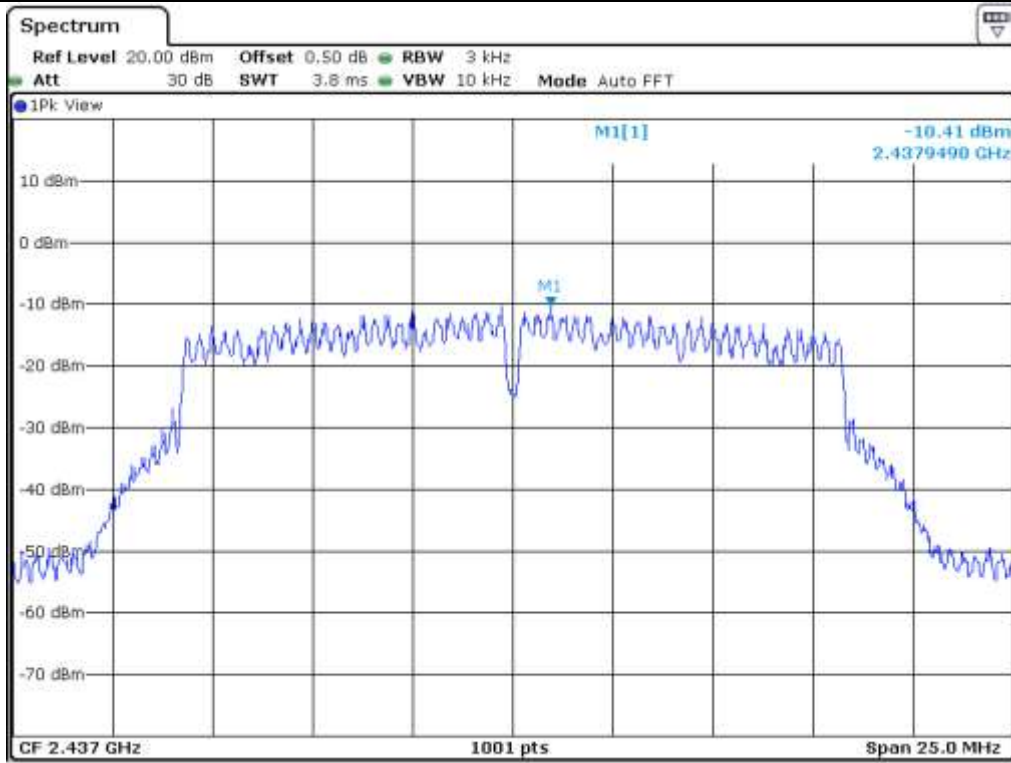
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-10.07	8.00	18.07
Middle	2 437.00	-10.41	8.00	18.41
High 11	2 462.00	-10.15	8.00	18.15
High 12	2 467.00	-11.68	8.00	19.68
High 13	2 472.00	-13.49	8.00	21.49

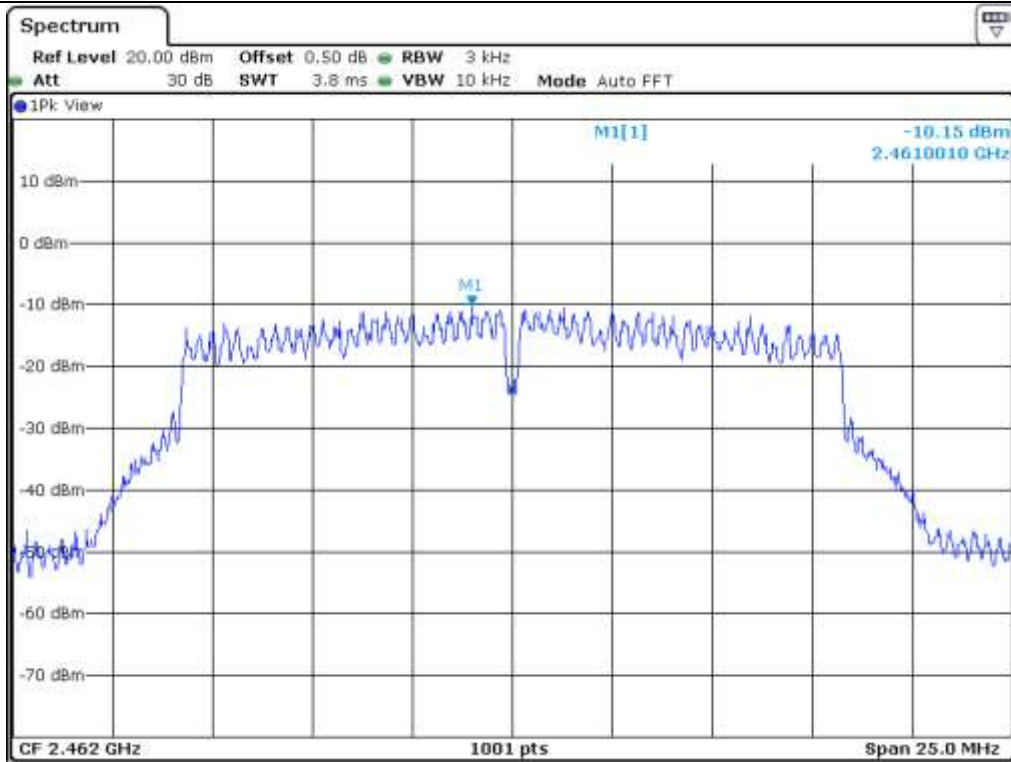
Remark. Margin = Limit – Measured value



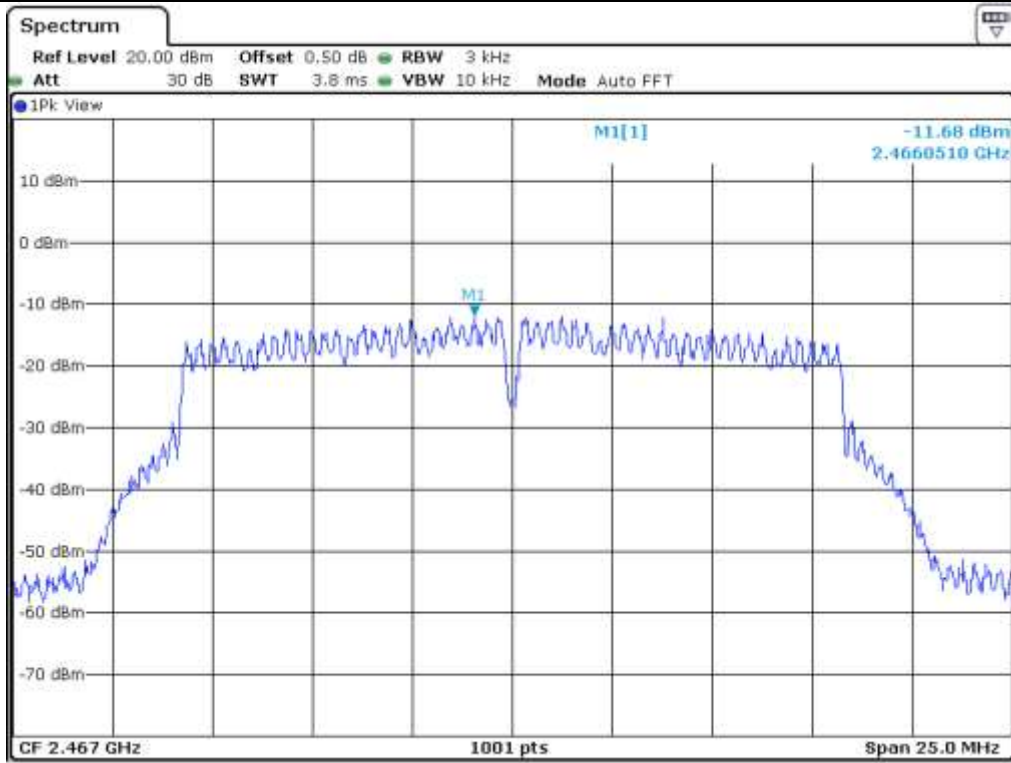
Low Channel



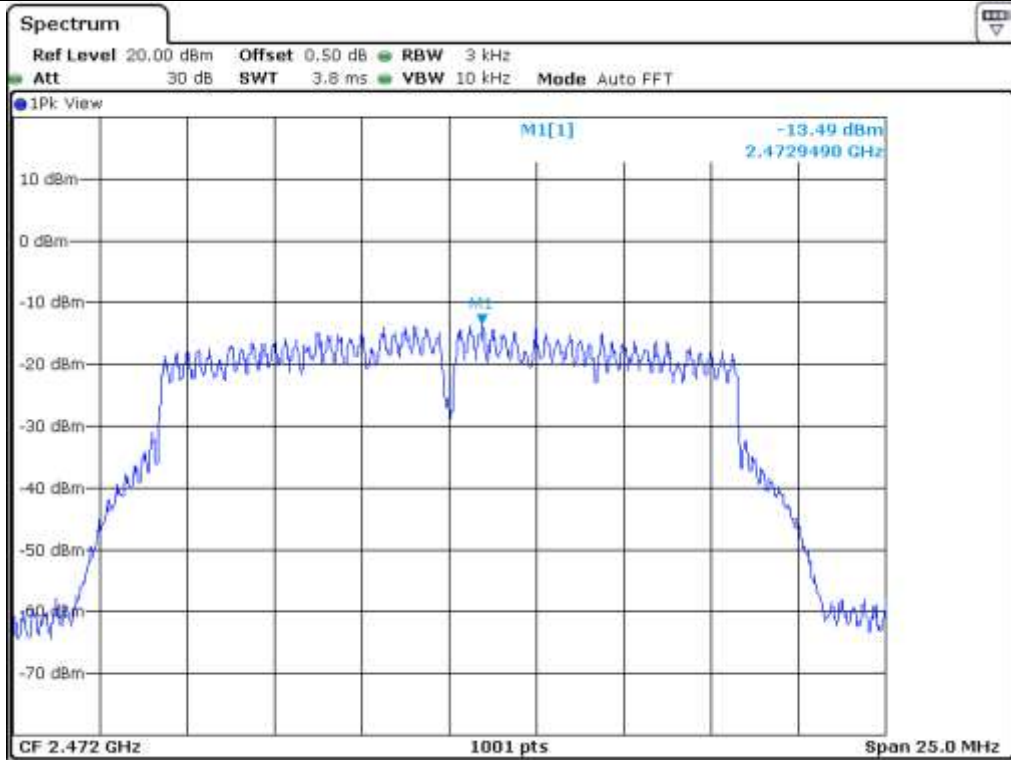
Middle Channel



High Channel 11



High Channel 12



High Channel 13

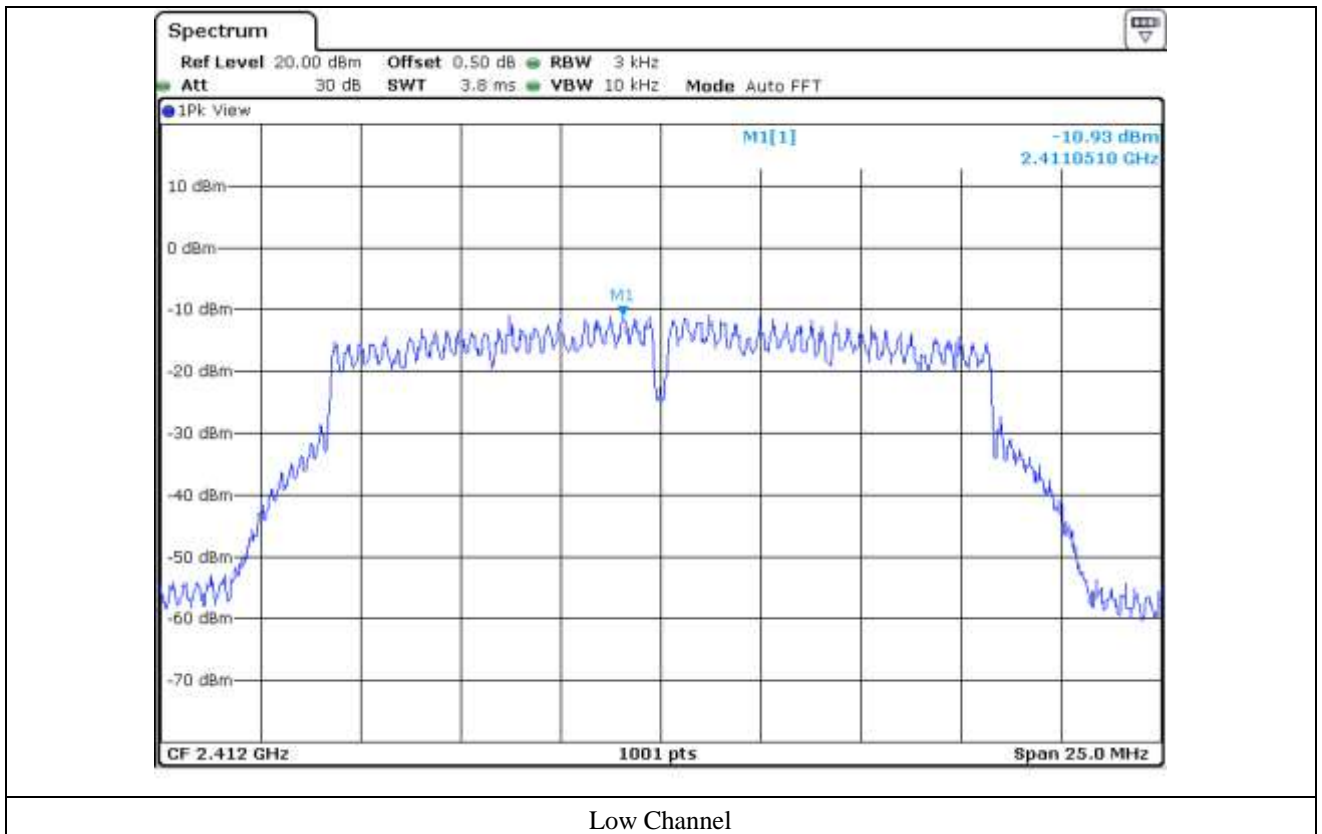
10.5.2 Test data for Antenna 1

-. Test Result : Pass

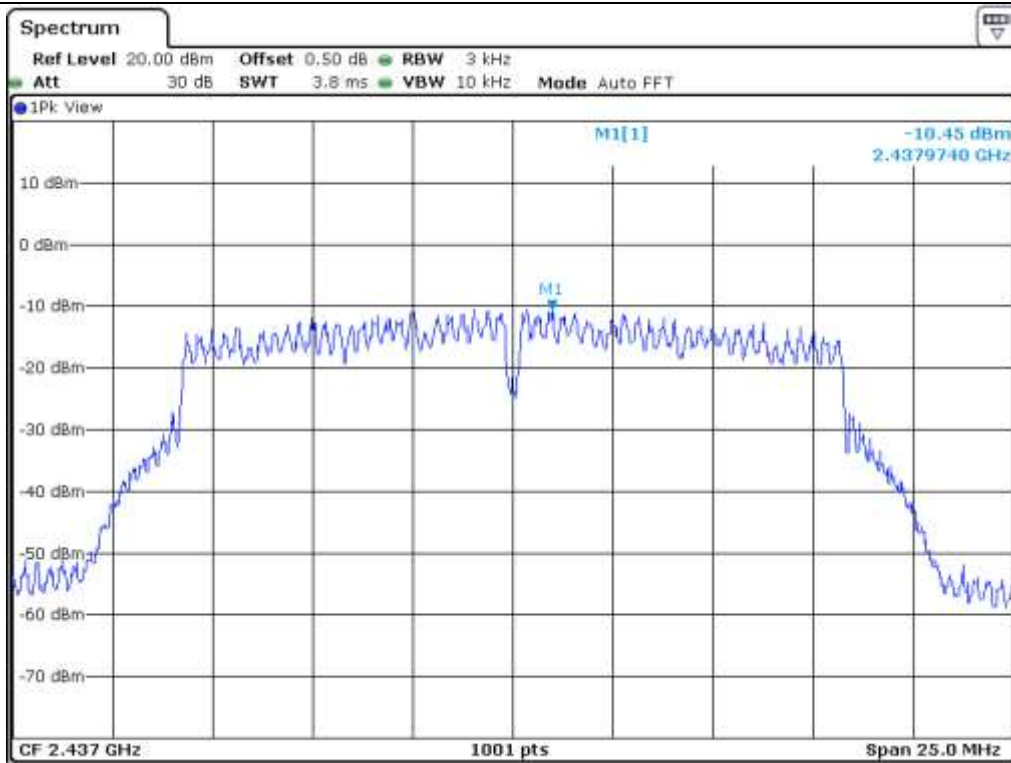
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-10.93	8.00	18.93
Middle	2 437.00	-10.45	8.00	18.45
High 11	2 462.00	-10.12	8.00	18.12
High 12	2 467.00	-12.12	8.00	20.12
High 13	2 472.00	-14.05	8.00	22.05

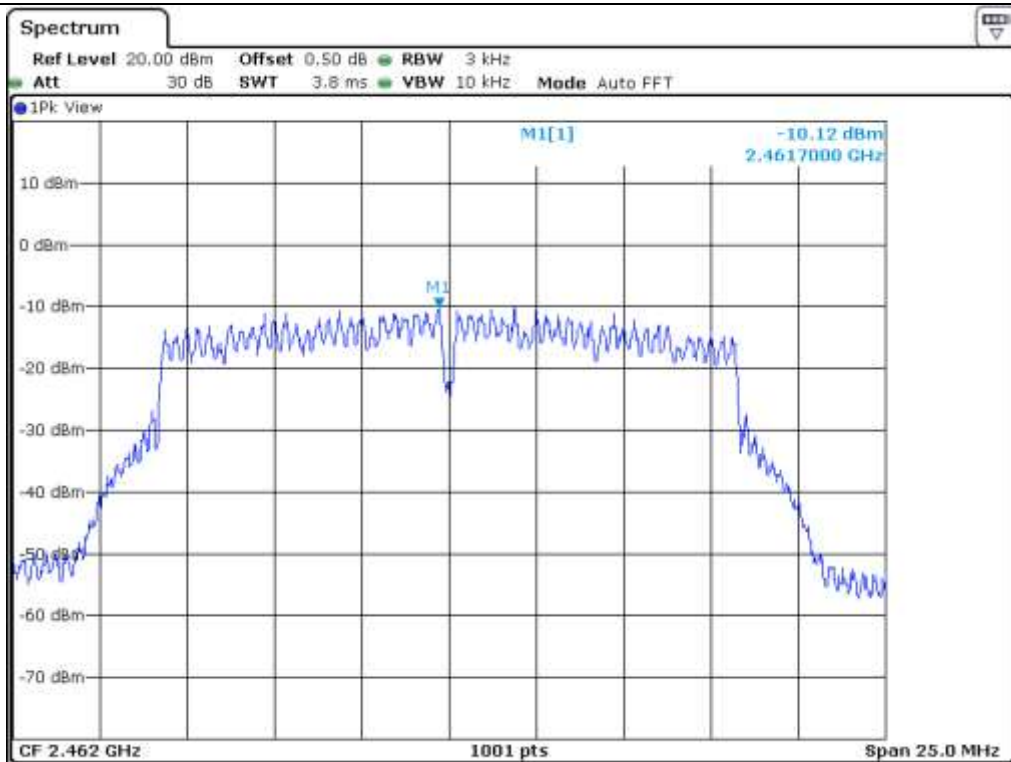
Remark. Margin = Limit – Measured value



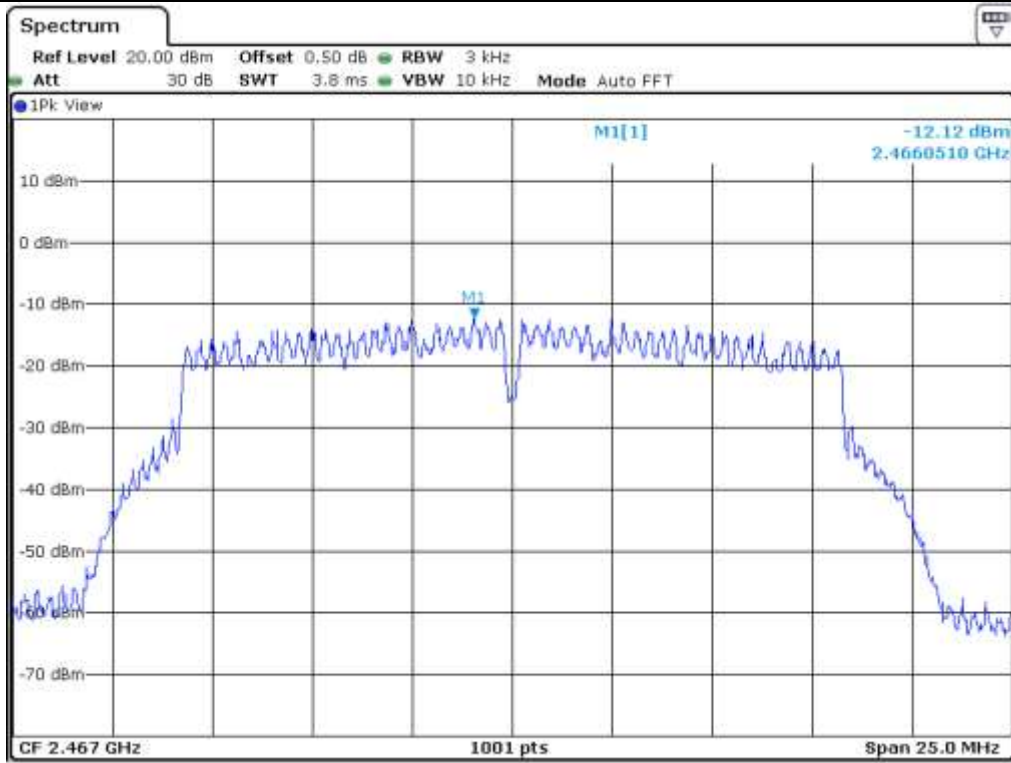
Low Channel



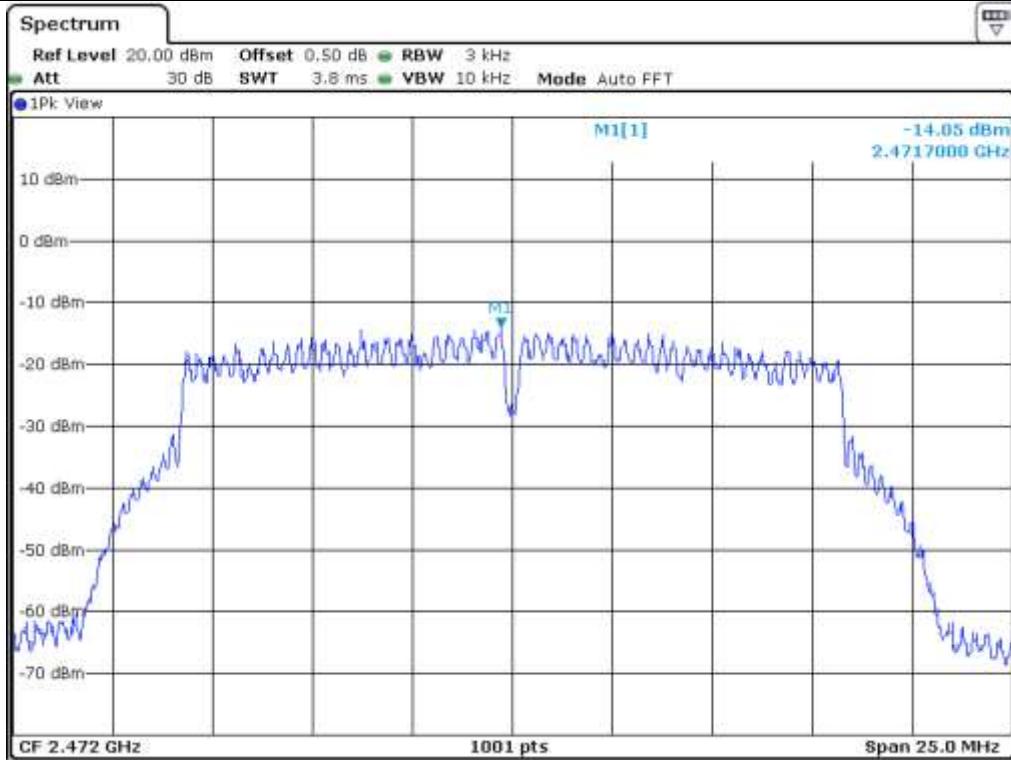
Middle Channel



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 VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-7.47	8.00	15.47
Middle	2 437.00	-7.42	8.00	15.42
High 11	2 462.00	-7.12	8.00	15.12
High 12	2 467.00	-8.88	8.00	16.88
High 13	2 472.00	-10.75	8.00	18.75

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

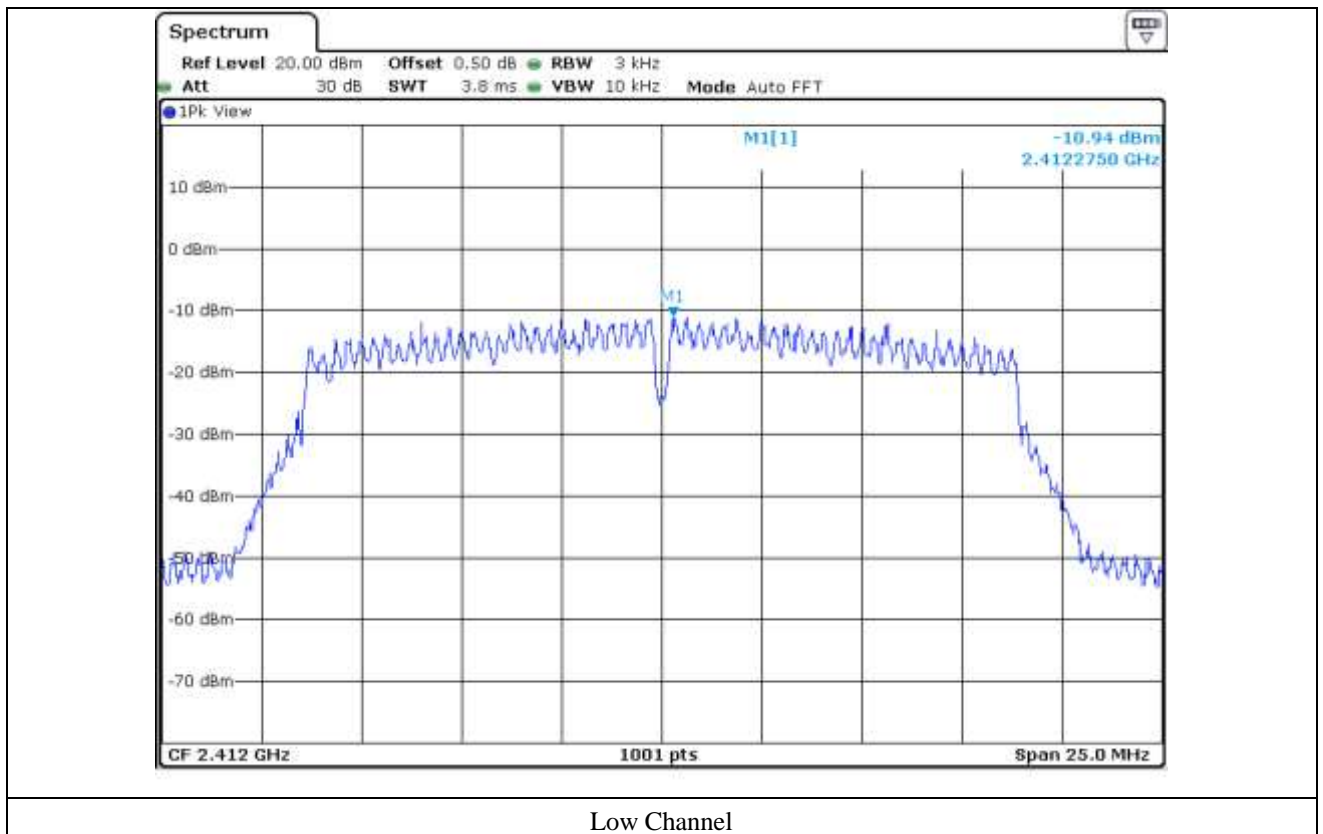
10.6.1 Test data for Antenna 0

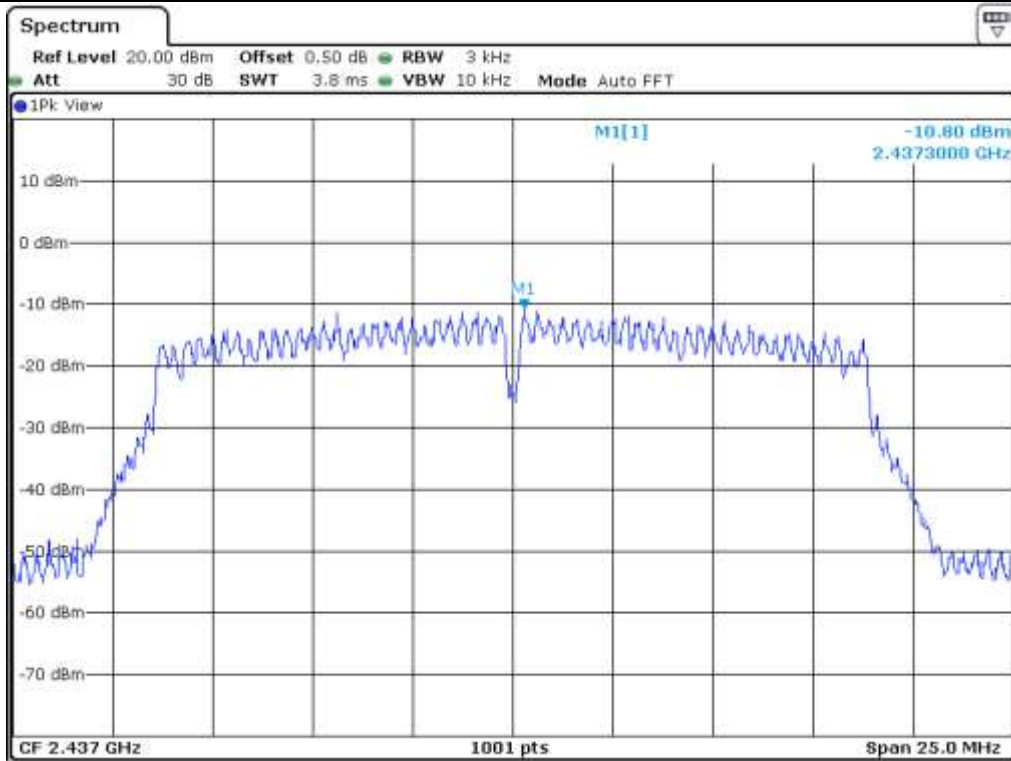
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

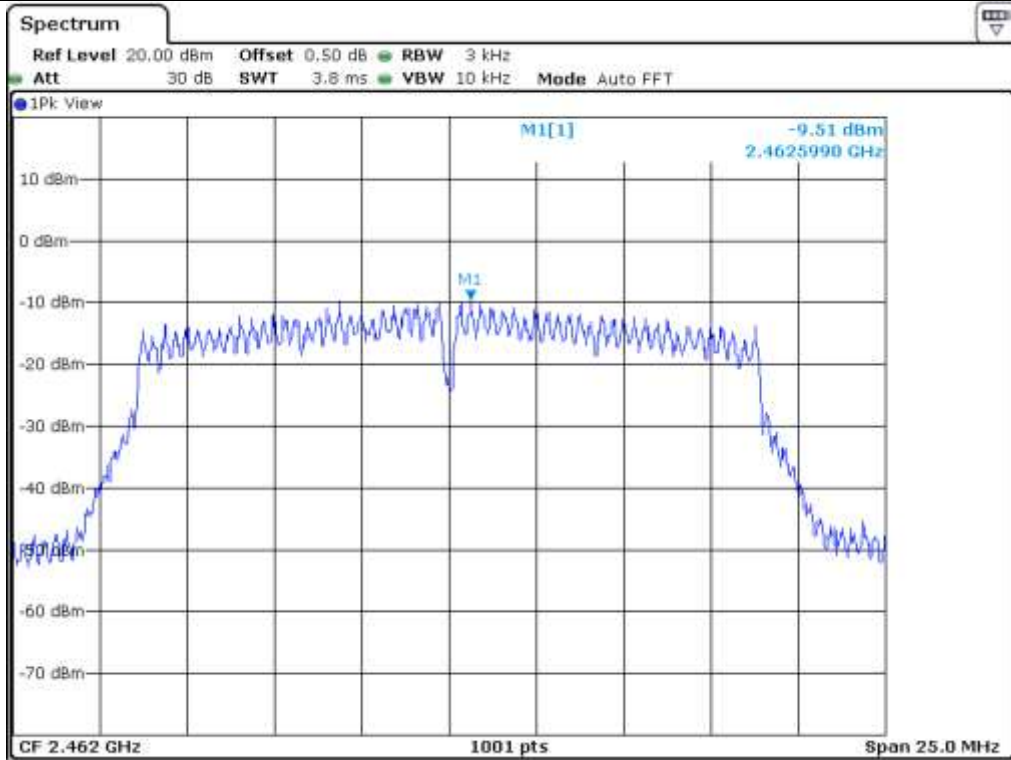
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-10.94	8.00	18.94
Middle	2 437.00	-10.80	8.00	18.80
High 11	2 462.00	-9.51	8.00	17.51
High 12	2 467.00	-12.02	8.00	20.02
High 13	2 472.00	-12.86	8.00	20.86

Remark. Margin = Limit – Measured value

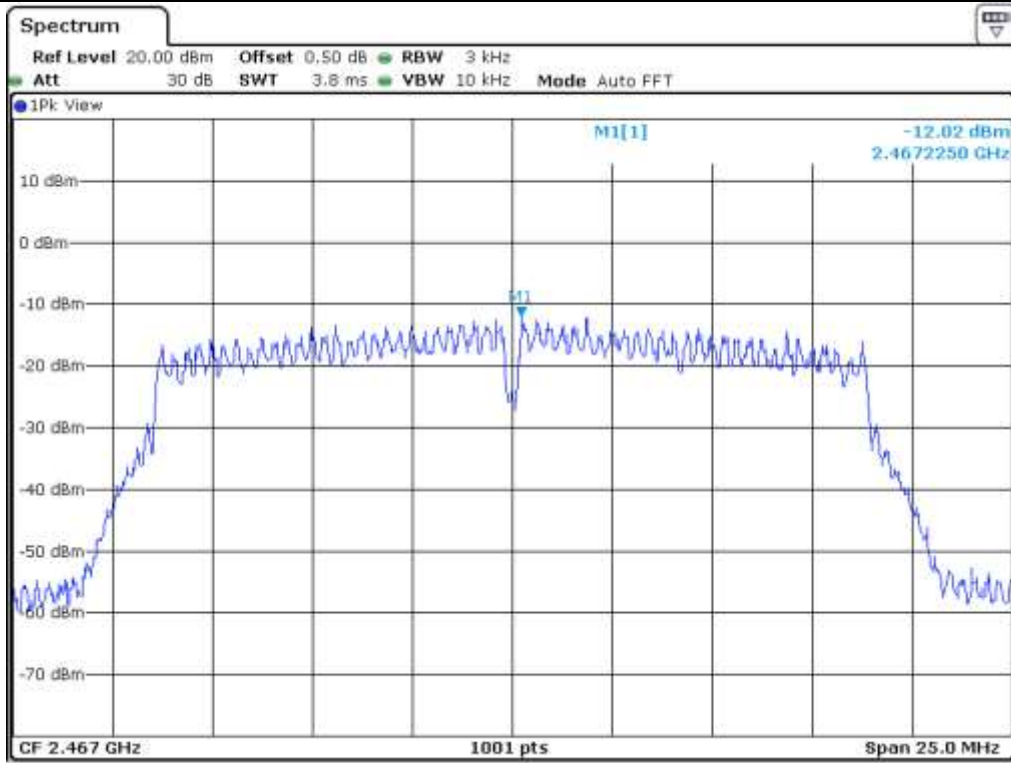




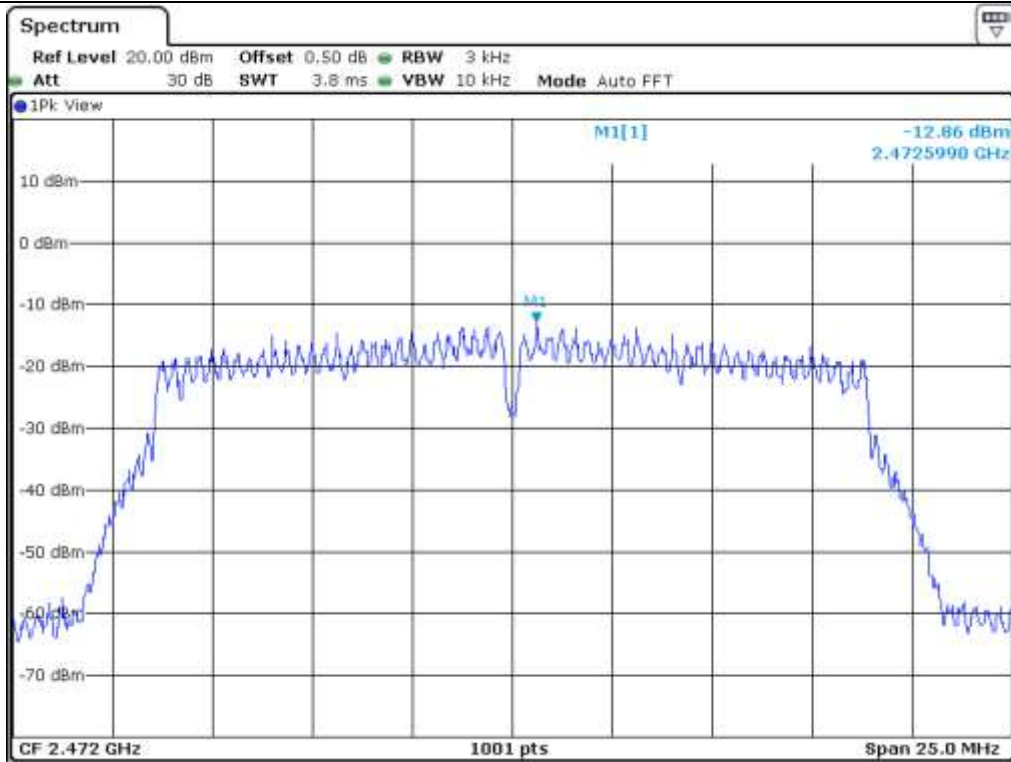
Middle Channel



High Channel 11



High Channel 12



High Channel 13

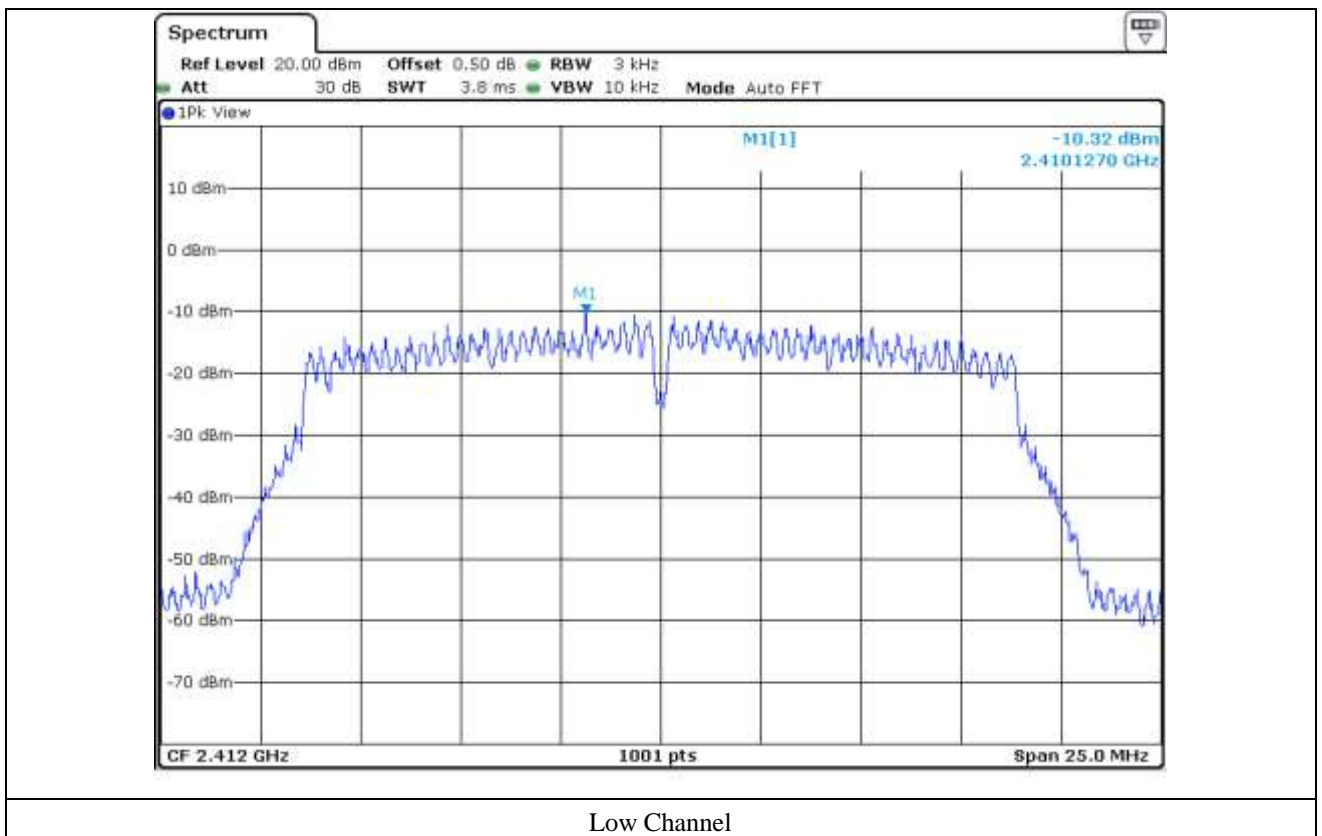
10.6.2 Test data for Antenna 1

-. Test Result : Pass

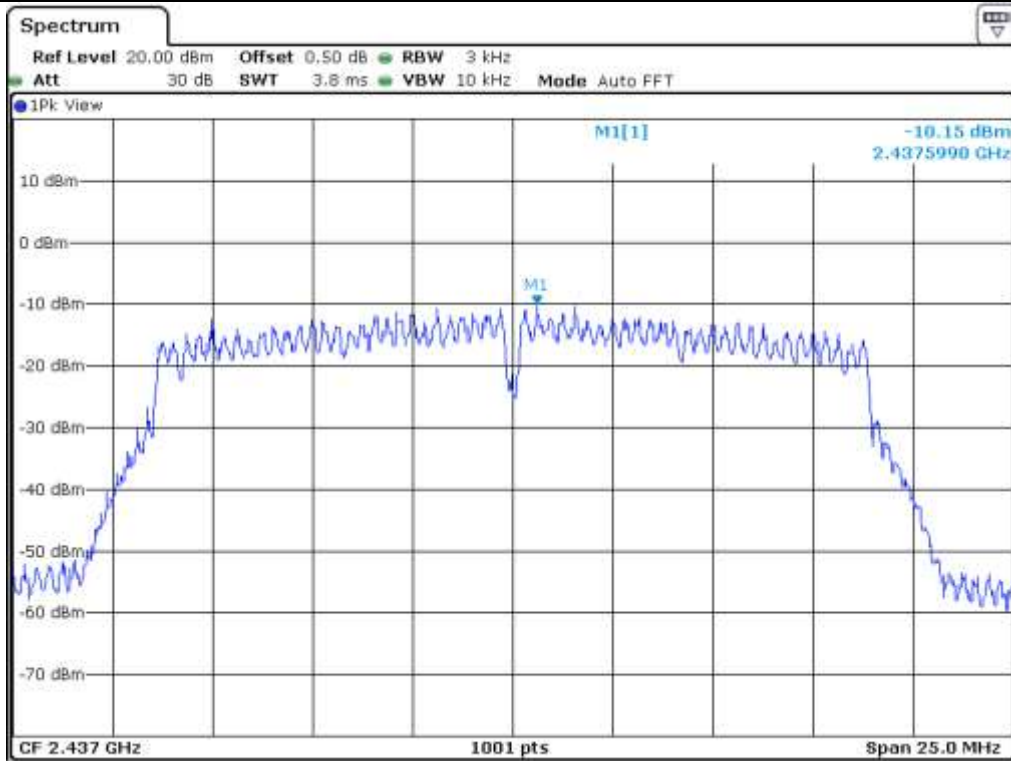
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-10.32	8.00	18.32
Middle	2 437.00	-10.15	8.00	18.15
High 11	2 462.00	-9.09	8.00	17.09
High 12	2 467.00	-12.56	8.00	20.56
High 13	2 472.00	-14.43	8.00	22.43

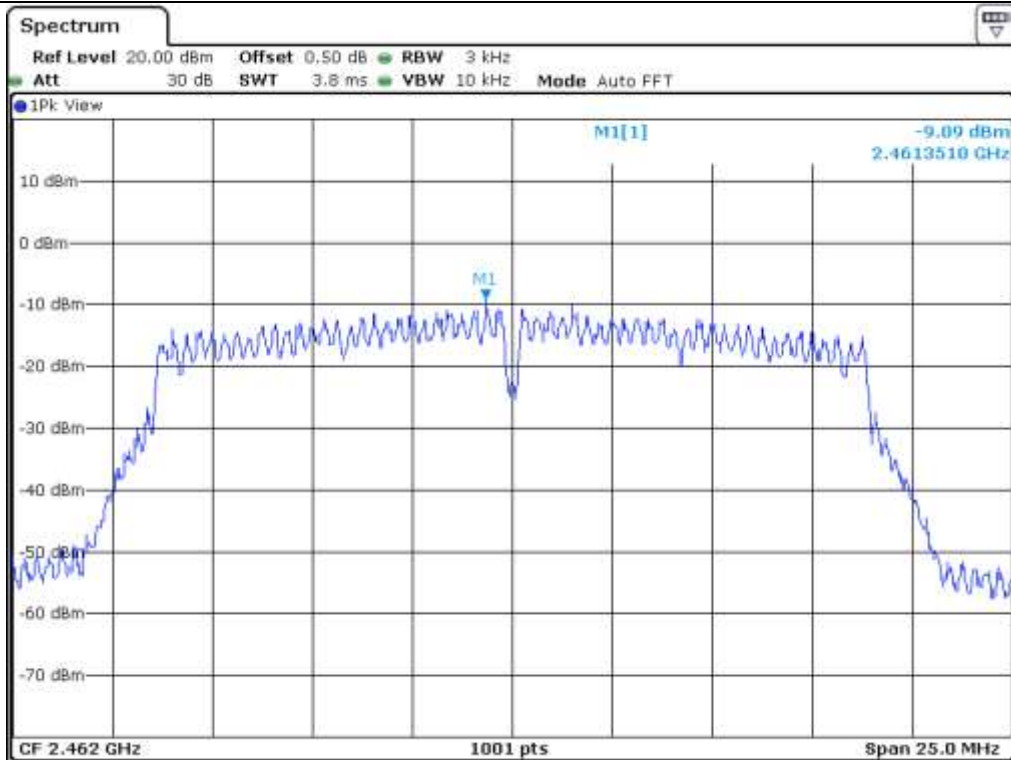
Remark. Margin = Limit – Measured value



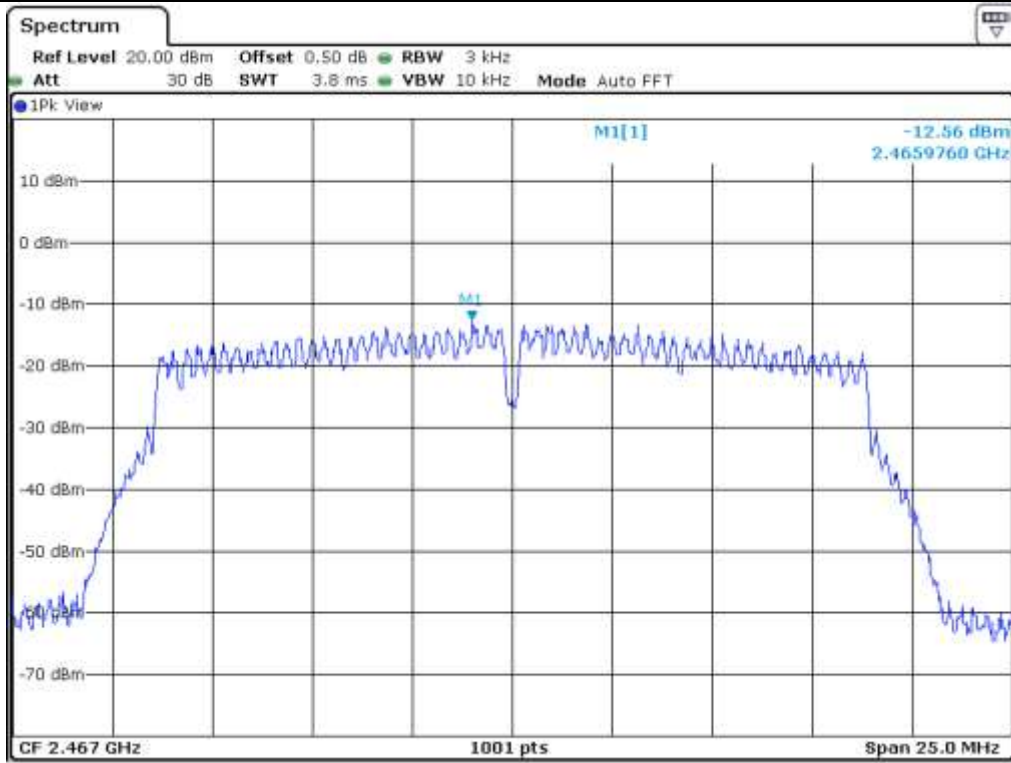
Low Channel



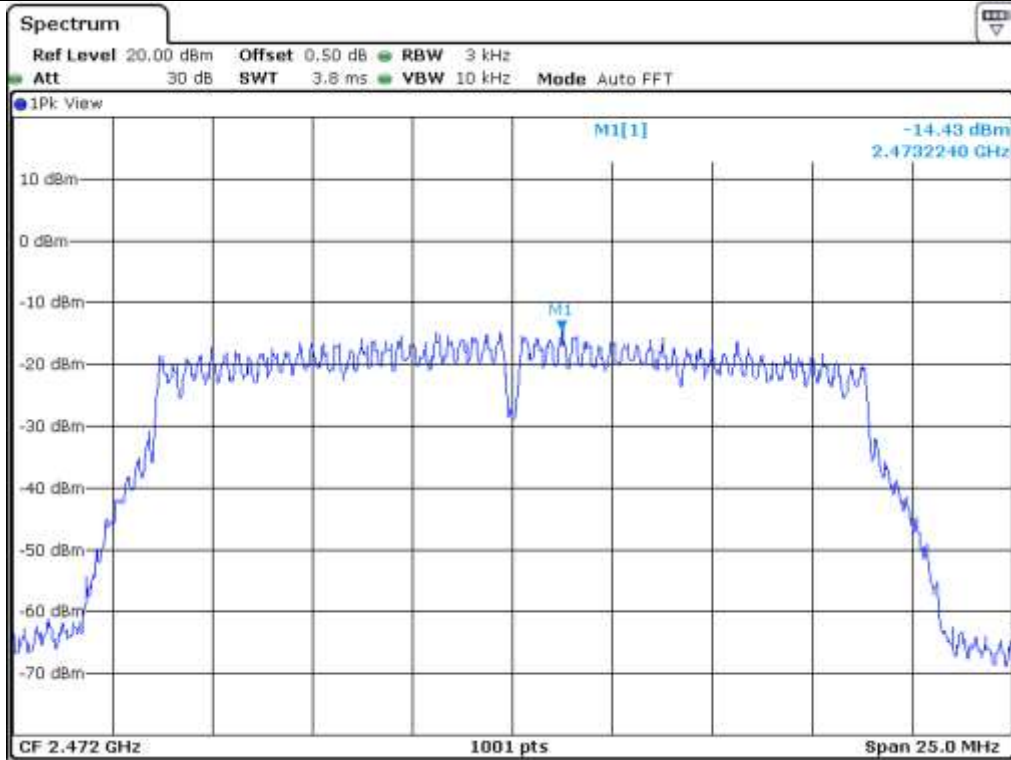
Middle Channel



High Channel 11



High Channel 12



High Channel 13

10.6.3 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-7.61	8.00	15.61
Middle	2 437.00	-7.45	8.00	15.45
High 11	2 462.00	-6.28	8.00	14.28
High 12	2 467.00	-9.27	8.00	17.27
High 13	2 472.00	-10.56	8.00	18.56

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

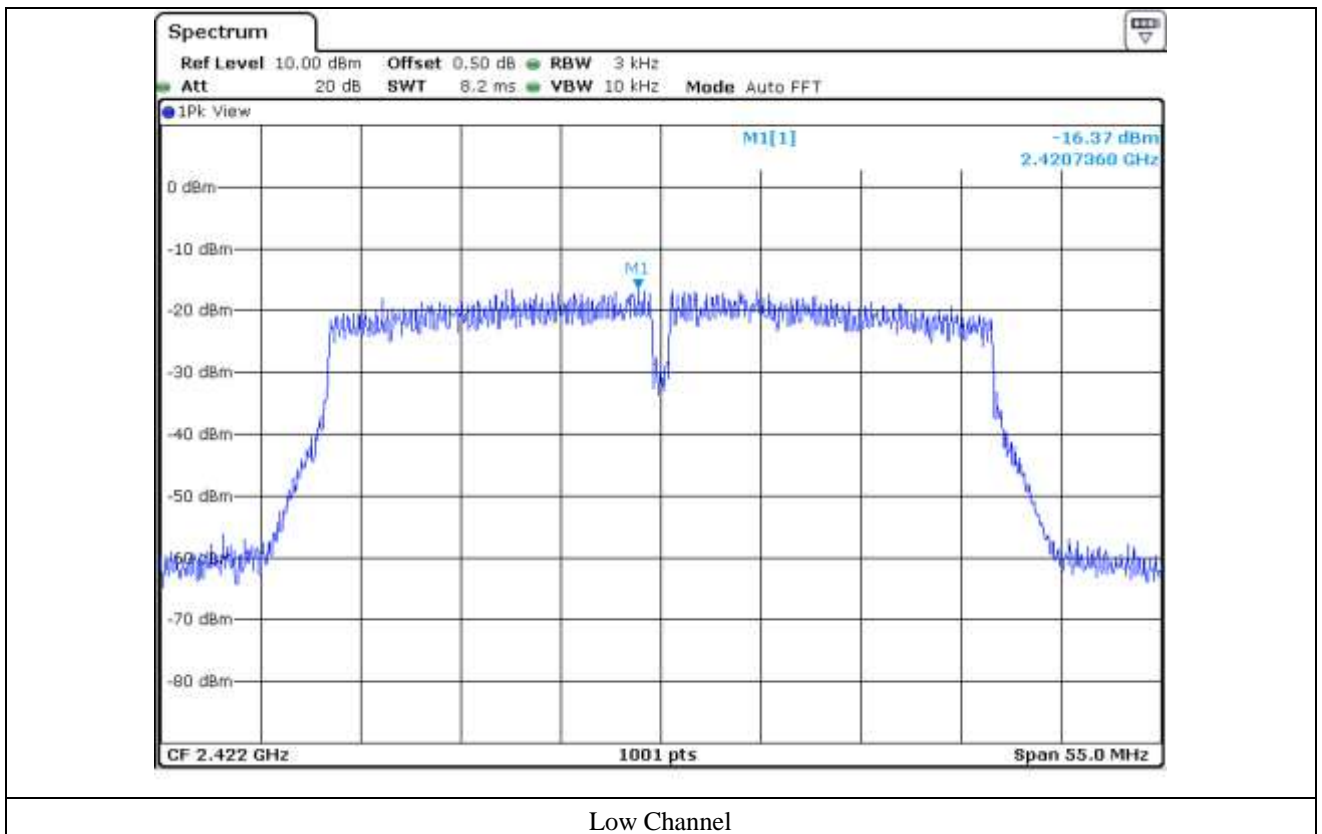
10.7.1 Test data for Antenna 0

-. Test Result : Pass

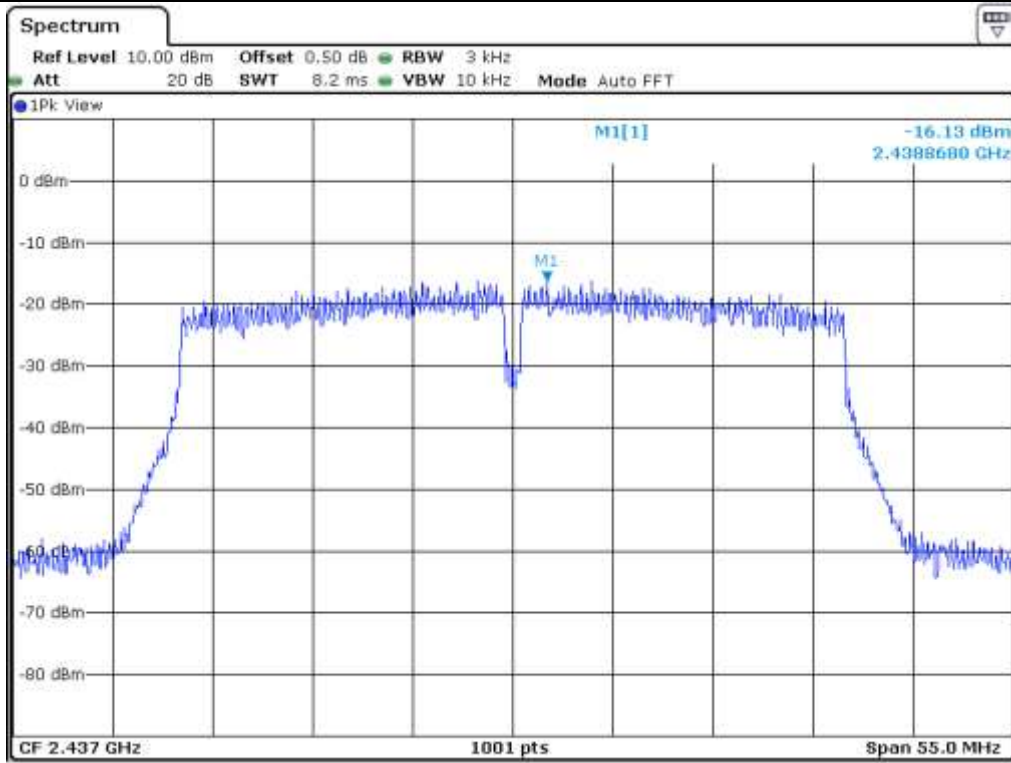
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-16.37	8.00	24.37
Middle	2 437.00	-16.13	8.00	24.13
High 9	2 452.00	-15.69	8.00	23.69
High 10	2 457.00	-17.15	8.00	25.15
High 11	2 462.00	-16.49	8.00	24.49

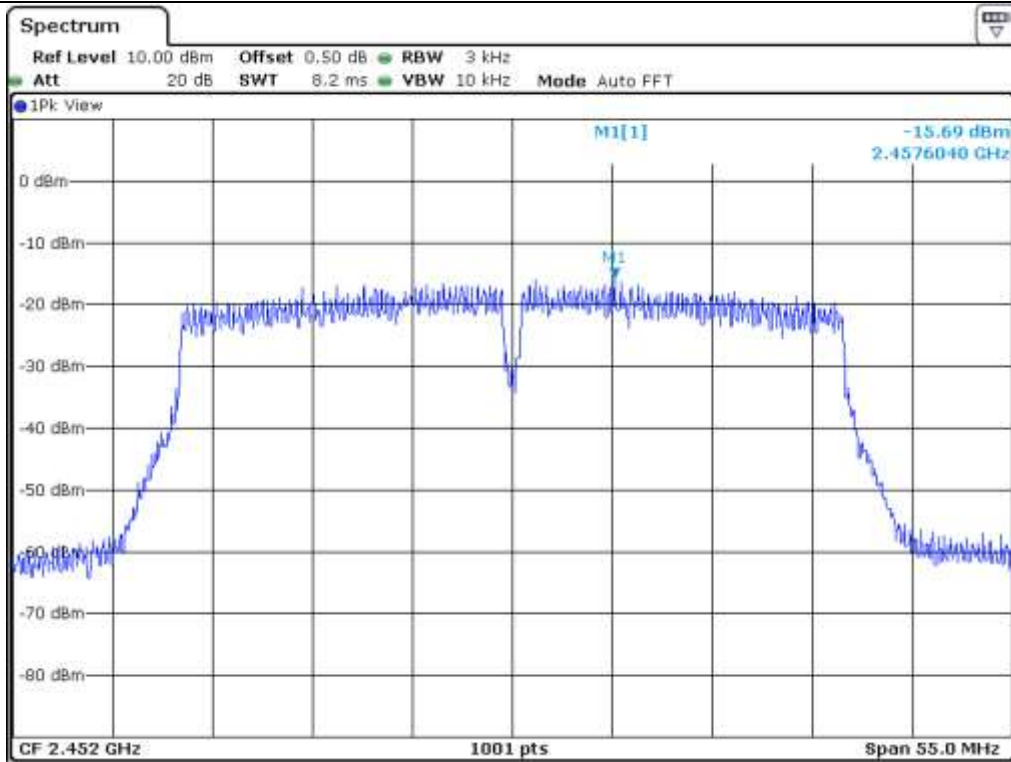
Remark. Margin = Limit – Measured value



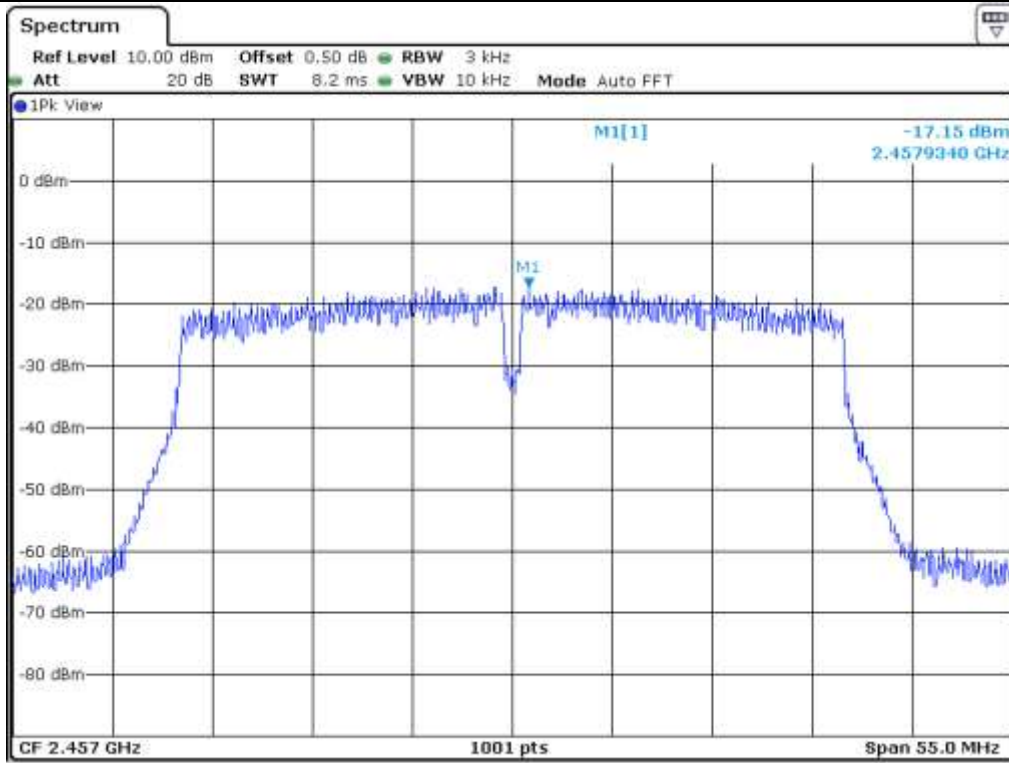
Low Channel



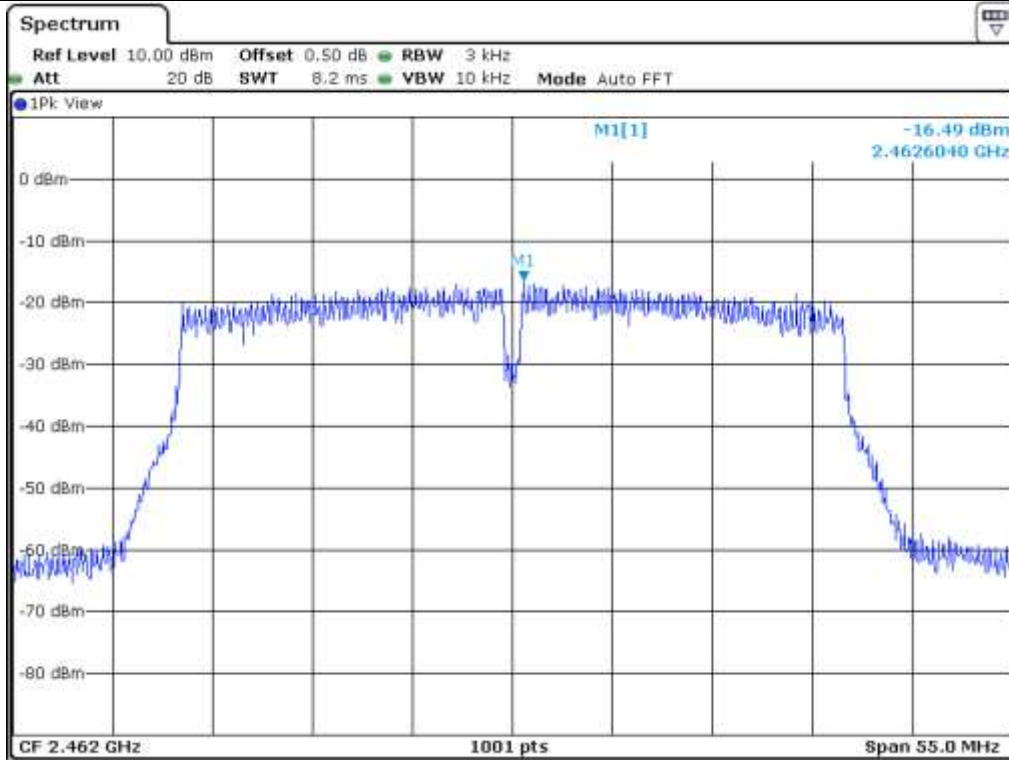
Middle Channel



High Channel 9



High Channel 10



High Channel 11

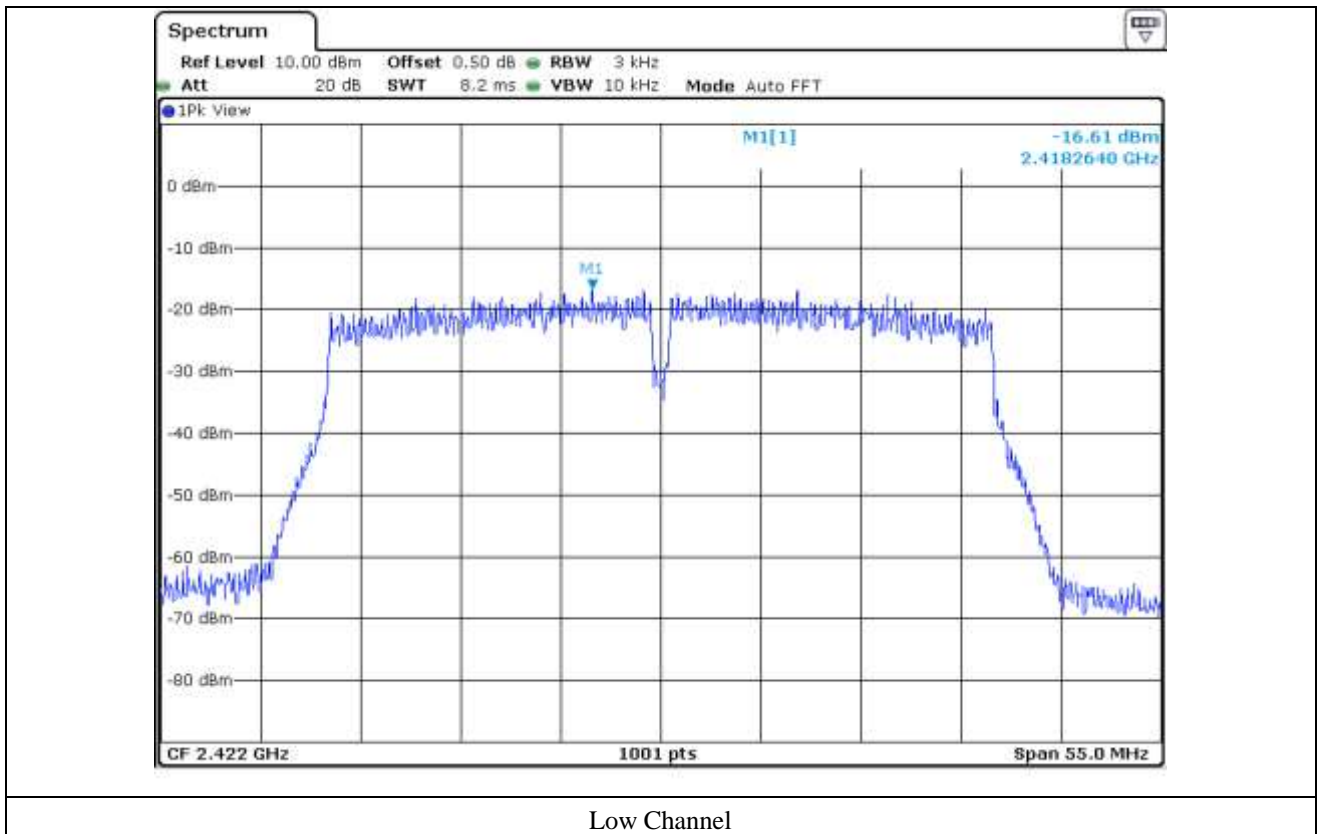
10.7.2 Test data for Antenna 1

-. Test Result : Pass

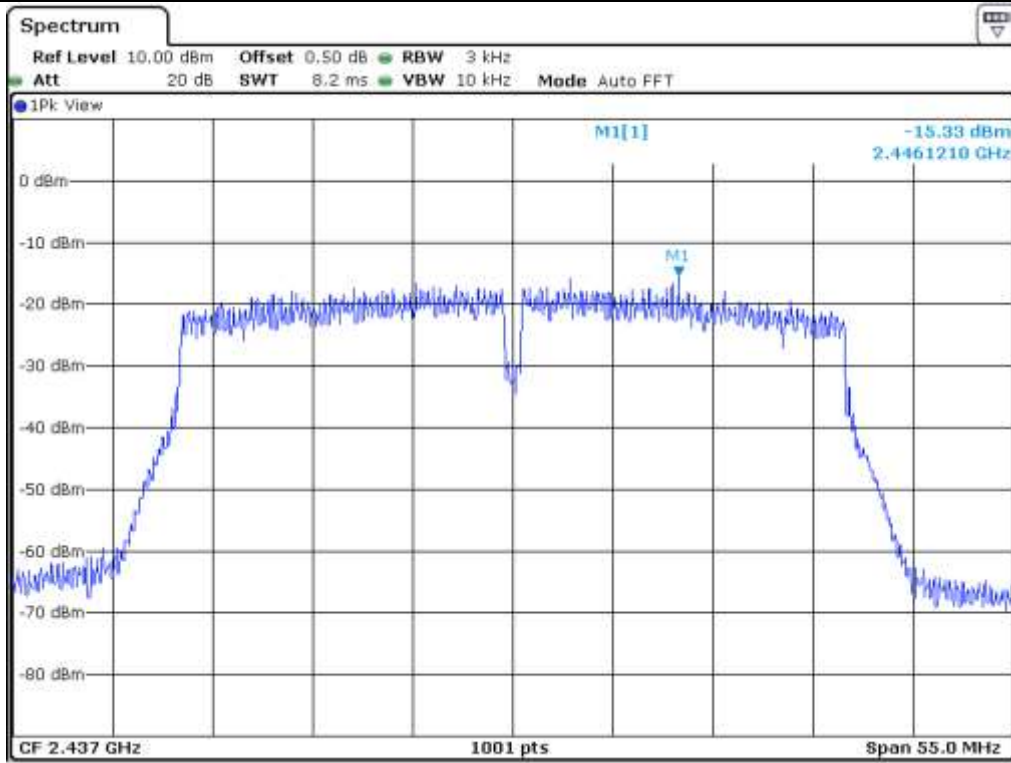
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-16.61	8.00	24.61
Middle	2 437.00	-15.33	8.00	23.33
High 9	2 452.00	-16.78	8.00	24.78
High 10	2 457.00	-17.34	8.00	25.34
High 11	2 462.00	-17.06	8.00	25.06

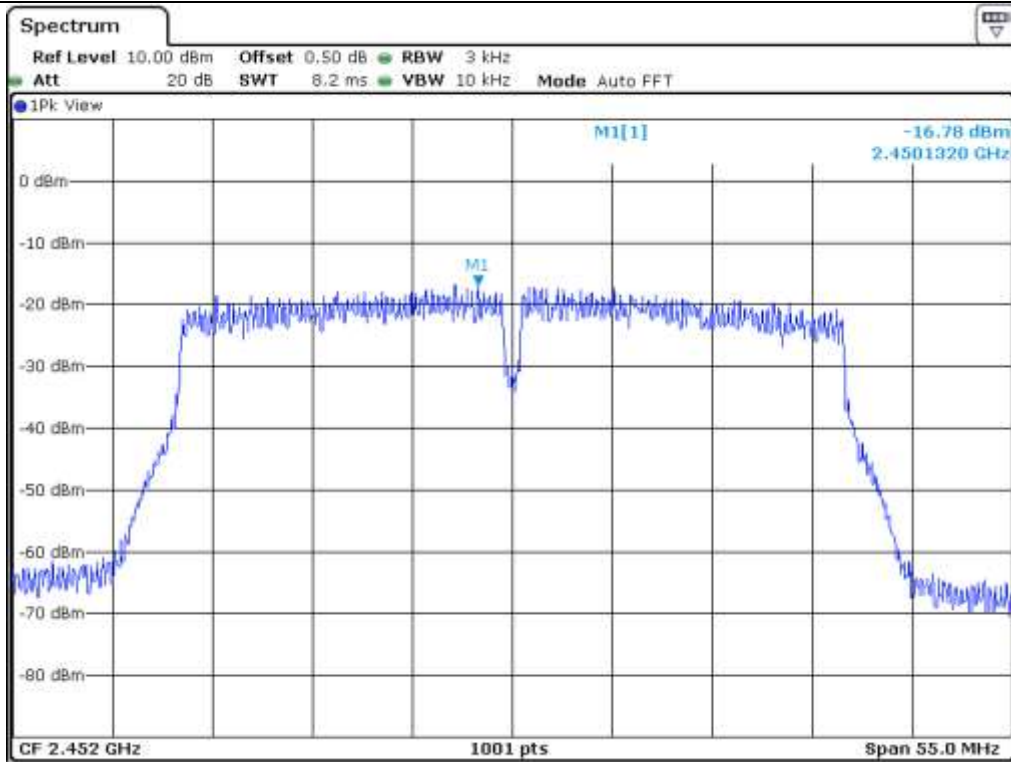
Remark. Margin = Limit – Measured value



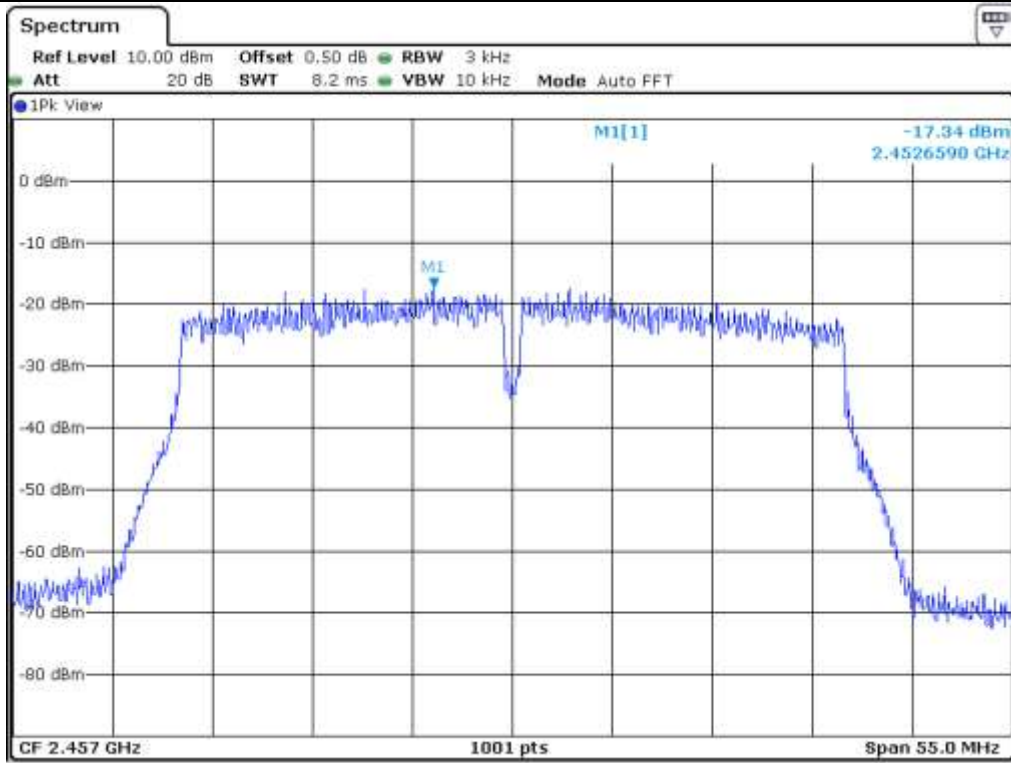
Low Channel



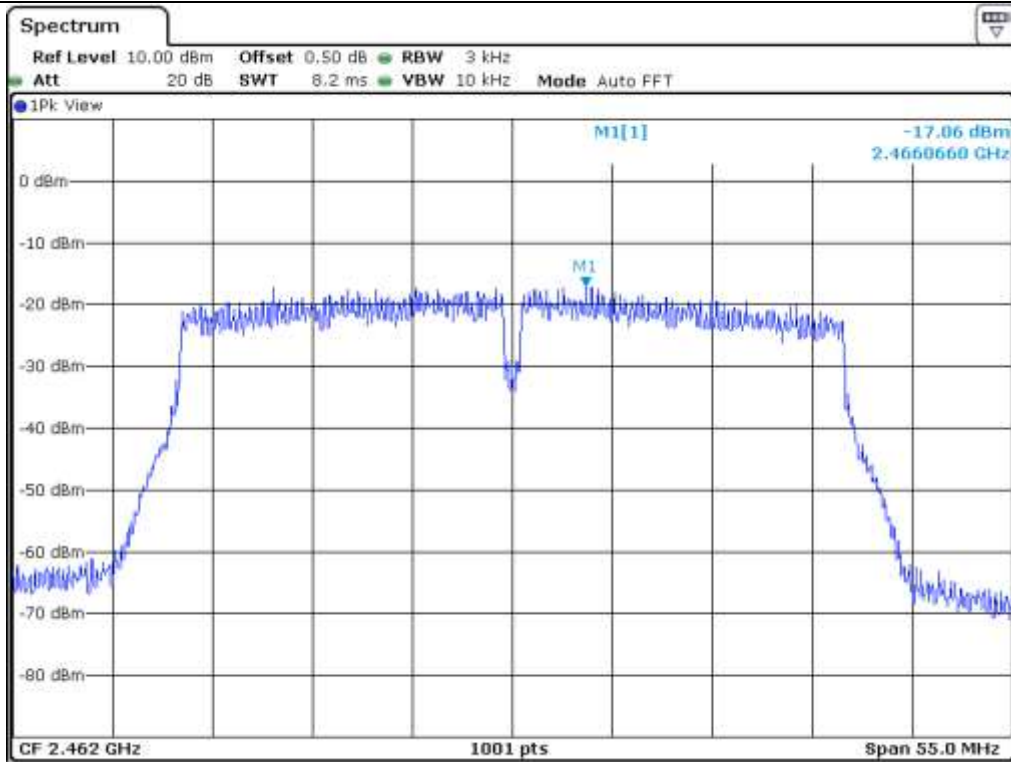
Middle Channel



High Channel 9



High Channel 10



High Channel 11

10.7.3 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-13.48	8.00	21.48
Middle	2 437.00	-12.70	8.00	20.70
High 9	2 452.00	-13.19	8.00	21.19
High 10	2 457.00	-14.23	8.00	22.23
High 11	2 462.00	-13.76	8.00	21.76

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 : 41 % 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

August 21, 2020 ~ September 08, 2020

11.4 Test data for 30 MHz ~ 1000 MHz

11.4.1 Test data for Basic Model (WCA731M)

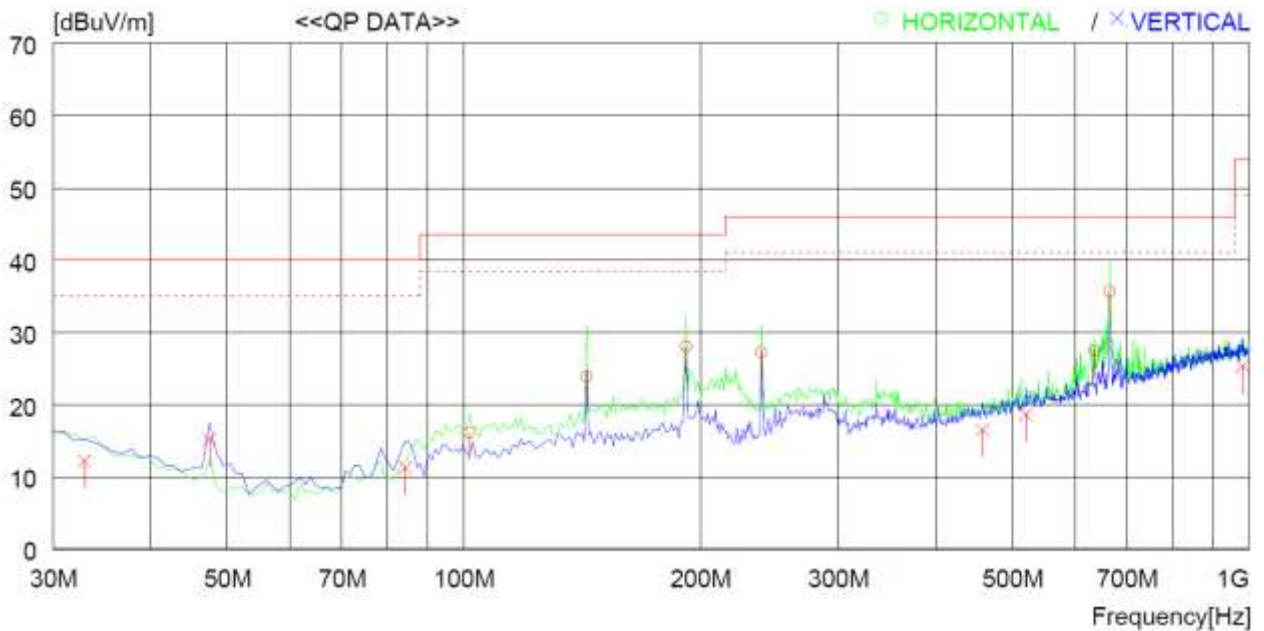
11.4.1.1 Test data for WLAN 2.4 GHz

Humidity Level : 41 % 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)

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	101.780	38.4	9.5	0.9	32.7	16.1	43.5	27.4	400	352
2	143.490	44.4	11.1	1.1	32.7	23.9	43.5	19.6	400	352
3	191.990	46.5	12.8	1.3	32.6	28.0	43.5	15.5	400	5
4	239.520	47.7	10.6	1.5	32.6	27.2	46.0	18.8	400	16
5	636.247	37.7	20.2	2.5	33.0	27.4	46.0	18.6	400	285
6	665.346	45.4	20.6	2.5	32.9	35.6	46.0	10.4	400	326
----- Vertical -----										
7	32.910	33.3	11.0	0.5	32.6	12.2	40.0	27.8	400	233
8	47.460	37.2	10.1	0.6	32.7	15.2	40.0	24.8	400	5
9	84.320	35.4	7.8	0.8	32.7	11.3	40.0	28.7	400	325
10	457.771	30.0	17.2	2.1	32.8	16.5	46.0	29.5	400	97
11	519.850	31.1	18.2	2.2	32.9	18.6	46.0	27.4	400	5
12	981.556	30.3	23.6	3.0	31.6	25.3	54.0	28.7	400	233

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

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

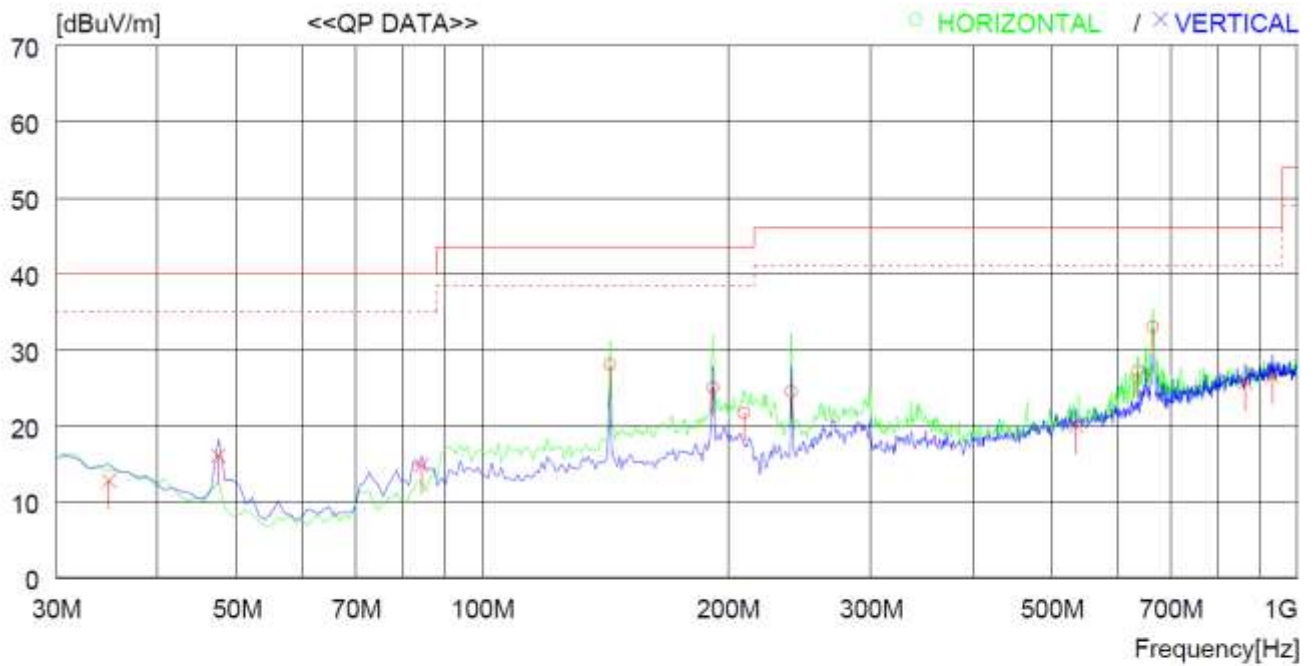
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	143.490	48.5	11.1	1.1	32.7	28.0	43.5	15.5	400	352
2	191.990	43.5	12.8	1.3	32.6	25.0	43.5	18.5	400	4
3	209.450	40.8	12.1	1.4	32.6	21.7	43.5	21.8	400	352
4	239.520	45.0	10.6	1.5	32.6	24.5	46.0	21.5	400	352
5	637.217	37.5	20.2	2.5	33.0	27.2	46.0	18.8	400	300
6	664.376	42.8	20.6	2.5	32.9	33.0	46.0	13.0	400	316
----- Vertical -----										
7	34.850	33.8	11.1	0.5	32.6	12.8	40.0	27.2	400	175
8	47.460	38.0	10.1	0.6	32.7	16.0	40.0	24.0	400	5
9	84.320	38.9	7.8	0.8	32.7	14.8	40.0	25.2	400	5
10	535.370	32.2	18.5	2.2	32.9	20.0	46.0	26.0	400	5
11	863.220	32.5	22.8	2.6	32.2	25.7	46.0	20.3	400	5
12	932.088	32.1	23.4	2.9	31.8	26.6	46.0	19.4	400	226

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

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

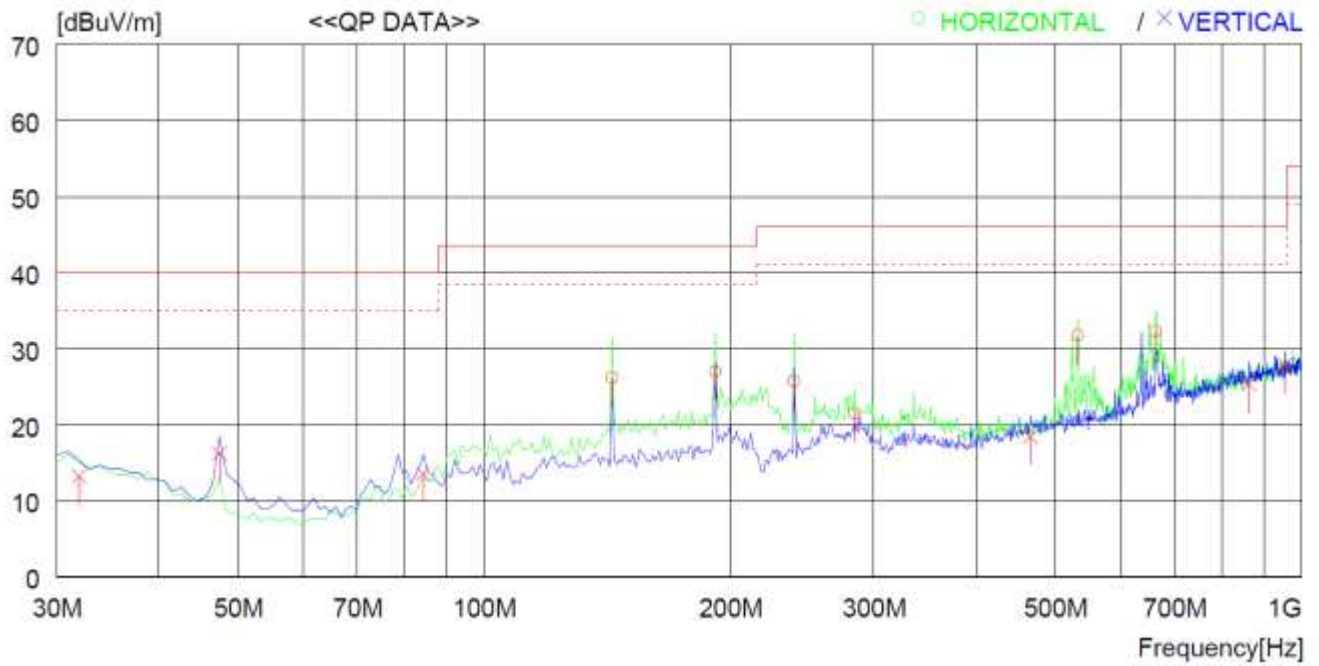
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	143.490	46.7	11.1	1.1	32.7	26.2	43.5	17.3	400	359
2	191.990	45.5	12.8	1.3	32.6	27.0	43.5	16.5	400	359
3	239.520	46.2	10.6	1.5	32.6	25.7	46.0	20.3	400	359
4	284.140	40.1	12.5	1.6	32.7	21.5	46.0	24.5	400	359
5	532.460	44.0	18.4	2.2	32.9	31.7	46.0	14.3	400	359
6	663.406	42.2	20.5	2.5	32.9	32.3	46.0	13.7	400	317
----- Vertical -----										
7	31.940	34.4	10.9	0.5	32.6	13.2	40.0	26.8	400	1
8	47.460	38.2	10.1	0.6	32.7	16.2	40.0	23.8	400	1
9	84.320	37.7	7.8	0.8	32.7	13.6	40.0	26.4	400	1
10	465.531	31.8	17.3	2.1	32.8	18.4	46.0	27.6	400	1
11	862.250	32.1	22.8	2.6	32.2	25.3	46.0	20.7	400	1
12	955.367	33.0	23.5	3.0	31.7	27.8	46.0	18.2	400	1

11.4.2 Test data for Multiple Model (WCA734M)

11.4.2.1 Test data for WLAN 2.4 GHz

Humidity Level : 41 % R.H. Temperature: 23 °C

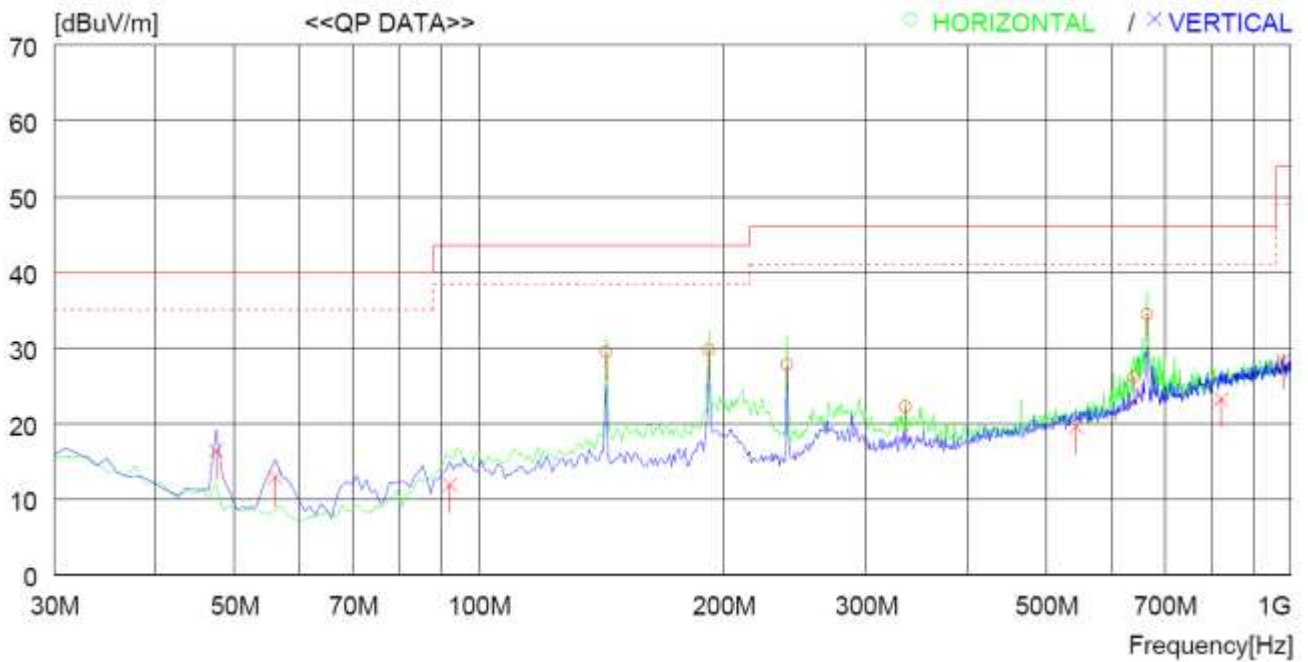
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	143.490	41.0	18.6	2.3	32.5	29.4	43.5	14.1	400	353
2	191.990	43.3	16.2	2.7	32.5	29.7	43.5	13.8	400	353
3	239.520	40.0	17.2	3.0	32.4	27.8	46.0	18.2	400	353
4	335.550	31.1	20.1	3.5	32.5	22.2	46.0	23.8	400	344
5	641.097	27.8	26.1	4.9	32.6	26.2	46.0	19.8	400	296
6	664.376	35.5	26.4	5.1	32.6	34.4	46.0	11.6	400	344
----- Vertical -----										
7	47.460	27.8	19.6	1.5	32.5	16.4	40.0	23.6	400	305
8	56.190	24.4	19.4	1.6	32.5	12.9	40.0	27.1	400	5
9	92.080	28.7	13.7	2.0	32.5	11.9	43.5	31.6	400	36
10	543.130	23.3	24.5	4.4	32.6	19.6	46.0	26.4	400	5
11	820.541	21.5	28.4	5.5	32.2	23.2	46.0	22.8	400	208
12	976.707	23.1	29.6	6.6	31.0	28.3	54.0	25.7	400	321

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

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

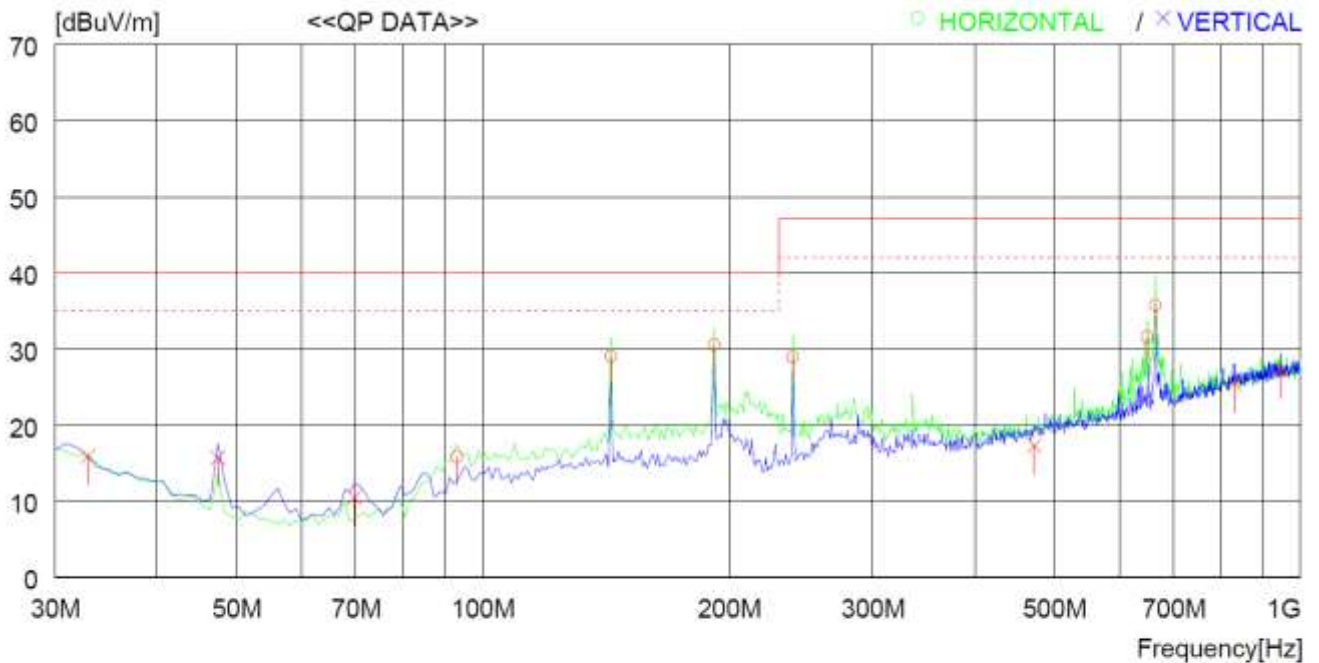
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	93.050	33.3	14.0	1.2	32.7	15.8	40.0	24.2	400	122
2	143.490	41.1	19.2	1.4	32.7	29.0	40.0	11.0	400	164
3	191.990	45.4	16.0	1.7	32.6	30.5	40.0	9.5	400	355
4	239.520	42.3	17.3	1.9	32.6	28.9	47.0	18.1	400	355
5	649.826	36.5	24.9	3.2	33.0	31.6	47.0	15.4	400	355
6	664.376	40.2	25.1	3.3	32.9	35.7	47.0	11.3	400	214
----- Vertical -----										
7	32.910	27.8	19.9	0.8	32.6	15.9	40.0	24.1	400	3
8	47.460	33.3	14.2	0.9	32.7	15.7	40.0	24.3	400	3
9	69.770	29.4	12.9	0.9	32.7	10.5	40.0	29.5	400	354
10	472.321	25.1	22.4	2.6	32.8	17.3	47.0	29.7	400	3
11	830.241	26.5	27.2	4.1	32.4	25.4	47.0	21.6	400	3
12	945.668	26.4	28.0	4.6	31.8	27.2	47.0	19.8	400	46

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

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

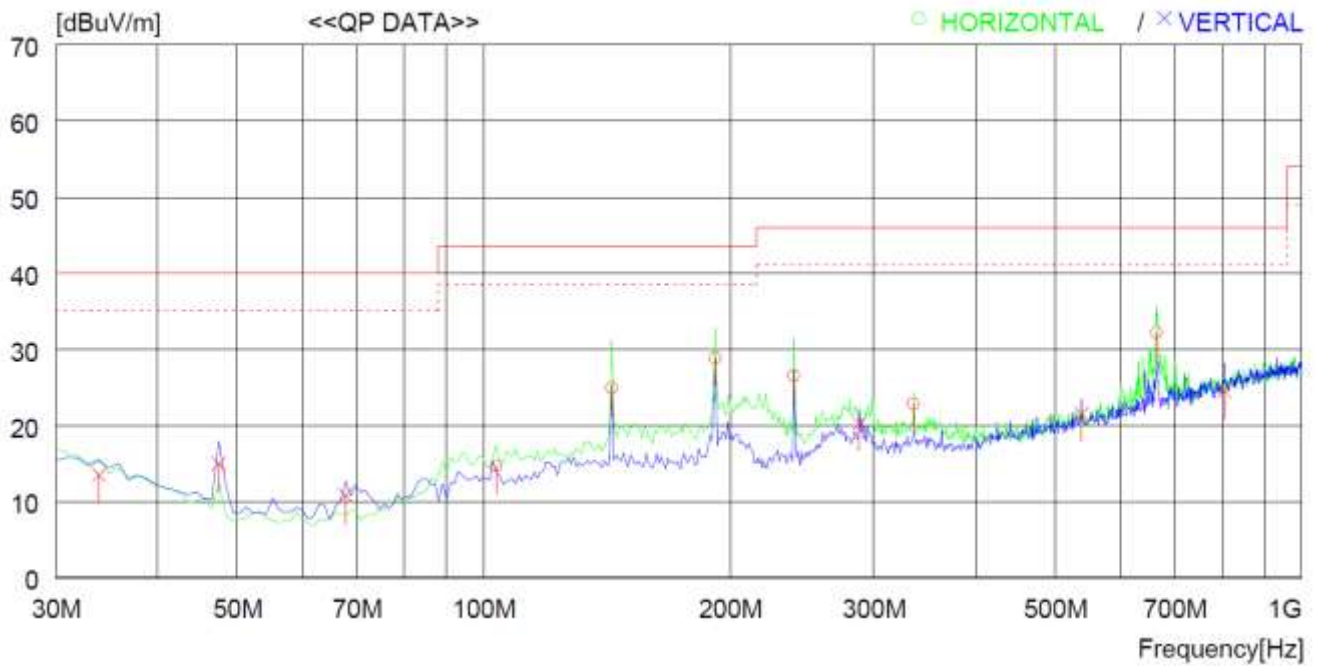
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	103.720	30.1	15.0	2.1	32.5	14.7	43.5	28.8	400	355
2	143.490	36.5	18.6	2.3	32.5	24.9	43.5	18.6	400	355
3	191.990	42.4	16.2	2.7	32.5	28.8	43.5	14.7	400	355
4	239.520	38.7	17.2	3.0	32.4	26.5	46.0	19.5	400	11
5	335.550	31.7	20.1	3.5	32.5	22.8	46.0	23.2	400	163
6	665.346	33.3	26.4	5.1	32.6	32.2	46.0	13.8	400	355
----- Vertical -----										
7	33.880	26.7	18.0	1.3	32.5	13.5	40.0	26.5	400	225
8	47.460	26.4	19.6	1.5	32.5	15.0	40.0	25.0	400	310
9	67.830	23.4	18.1	1.8	32.5	10.8	40.0	29.2	400	2
10	288.020	30.4	19.1	3.2	32.4	20.3	46.0	25.7	400	2
11	538.280	25.4	24.4	4.4	32.7	21.5	46.0	24.5	400	348
12	805.022	23.2	28.2	5.4	32.3	24.5	46.0	21.5	400	2

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 (dB μ V)	Ant. Pol. (H/V)	Ant. Height (m)	Angle ($^{\circ}$)	Ant. Factor (dB/m)	Cable Loss	Emission Level (dB μ V/m)	Limits (dB μ V/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 for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Operating mode : Transmitting mode

Frequency (MHz)	Reading (dB μ V)	Ant. Pol. (H/V)	Ant. Height (m)	Angle ($^{\circ}$)	Ant. Factor (dB/m)	Cable Loss	Emission Level (dB μ V/m)	Limits (dB μ V/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 : 41 % 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.

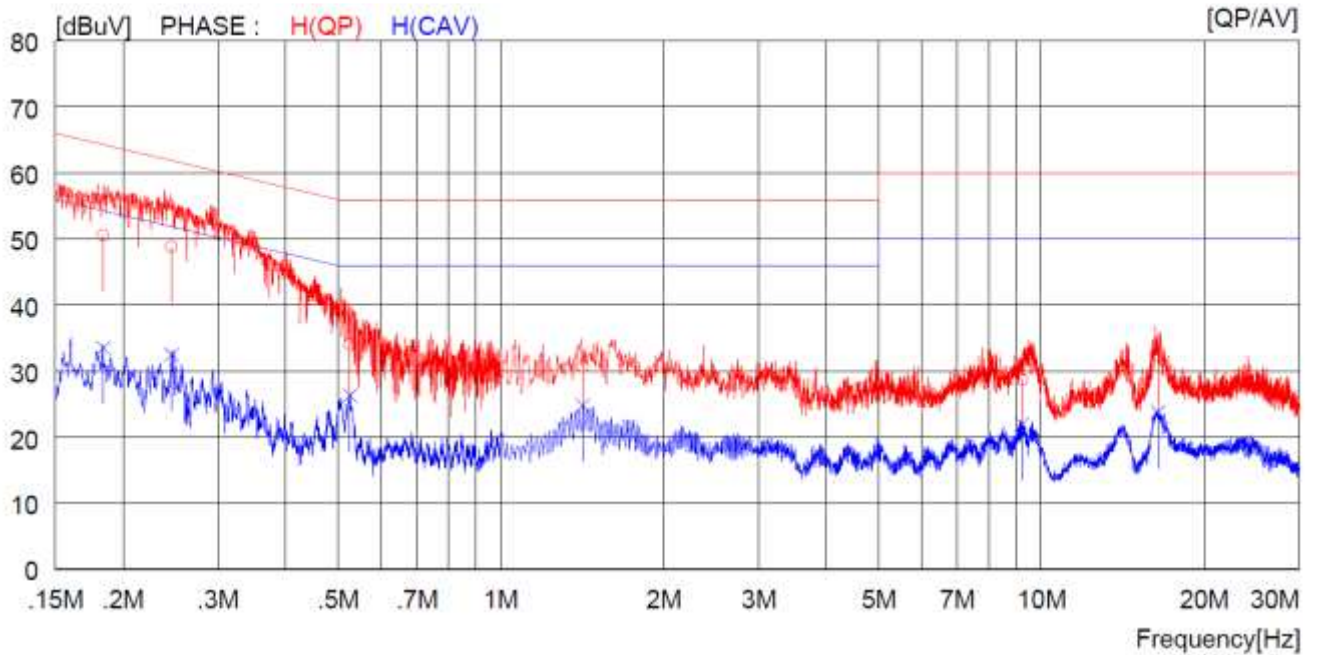
12.3 Test Date

August 21, 2020 ~ September 08, 2020

12.4 Test data for Basic Model (WCA731M)

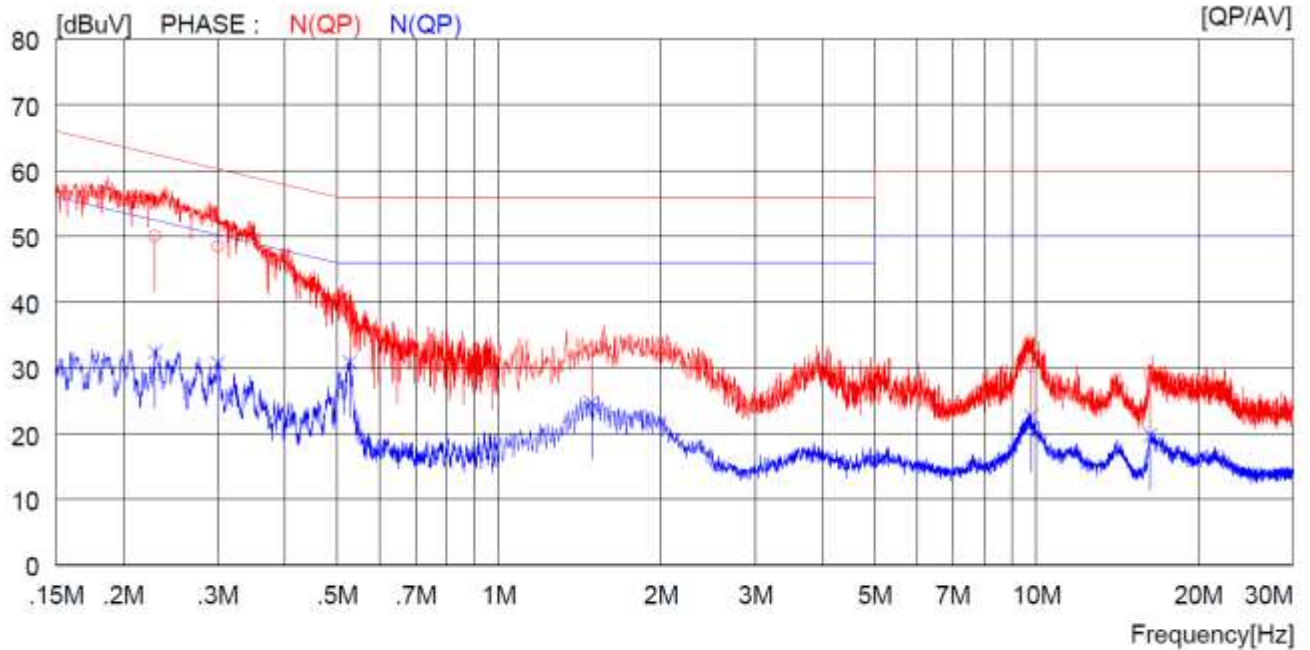
12.4.1 Test data for WLAN 2.4 GHz

- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : HOT LINE
- Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN		PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.18400	40.5	---	10.0	50.5	---	64.3	---	13.8	---	---	---	H(QP)
2	0.24600	38.9	---	9.9	48.8	---	61.9	---	13.1	---	---	---	H(QP)
3	0.52600	24.0	---	10.0	34.0	---	56.0	---	22.0	---	---	---	H(QP)
4	1.42000	20.6	---	10.1	30.7	---	56.0	---	25.3	---	---	---	H(QP)
5	9.22000	18.5	---	10.2	28.7	---	60.0	---	31.3	---	---	---	H(QP)
6	16.44000	22.0	---	10.3	32.3	---	60.0	---	27.7	---	---	---	H(QP)
7	0.18400	---	23.5	10.0	---	33.5	---	54.3	---	20.8	---	---	H(CAV)
8	0.24600	---	22.6	9.9	---	32.5	---	51.9	---	19.4	---	---	H(CAV)
9	0.52600	---	16.3	10.0	---	26.3	---	46.0	---	19.7	---	---	H(CAV)
10	1.42000	---	14.7	10.1	---	24.8	---	46.0	---	21.2	---	---	H(CAV)
11	9.22000	---	11.8	10.2	---	22.0	---	50.0	---	28.0	---	---	H(CAV)
12	16.44000	---	13.5	10.3	---	23.8	---	50.0	---	26.2	---	---	H(CAV)

- Tested Line : NEUTRAL LINE



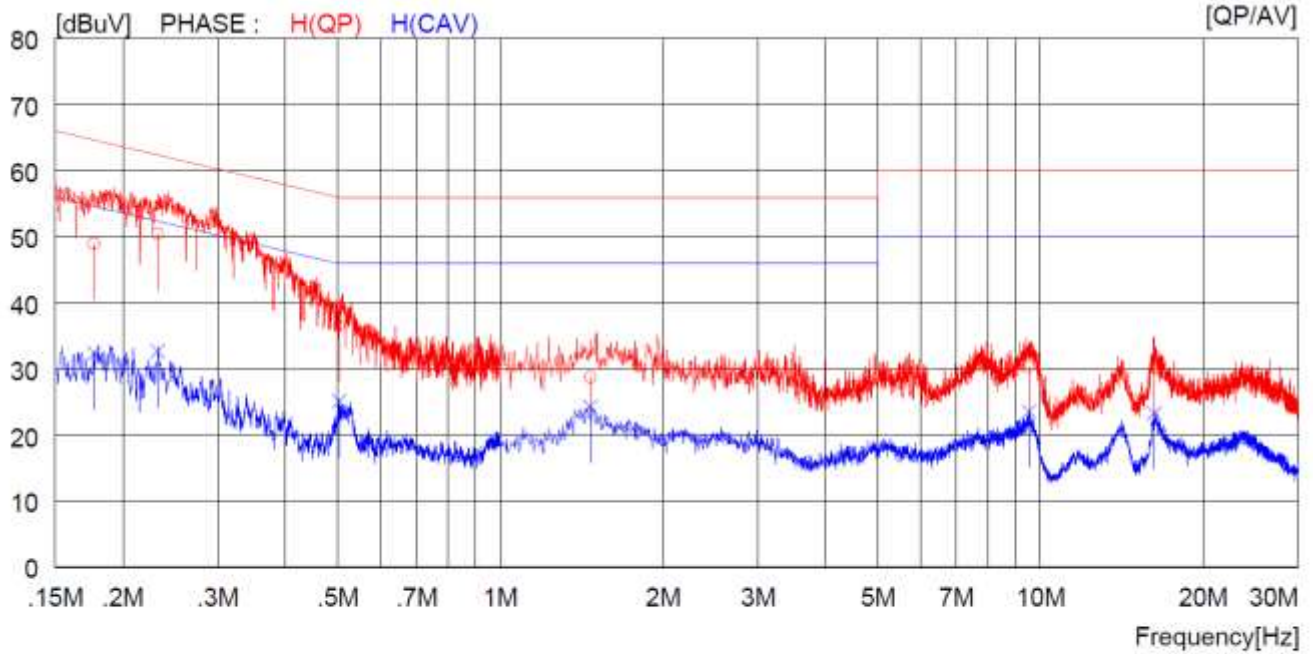
NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN	PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]		
1	0.22900	40.1	---	9.9	50.0	---	62.5	---	12.5	---	N(QP)	
2	0.30000	38.5	---	10.0	48.5	---	60.2	---	11.7	---	N(QP)	
3	0.52800	27.8	---	10.0	37.8	---	56.0	---	18.2	---	N(QP)	
4	1.48400	22.5	---	10.1	32.6	---	56.0	---	23.4	---	N(QP)	
5	9.78000	20.0	---	10.2	30.2	---	60.0	---	29.8	---	N(QP)	
6	16.29000	18.9	---	10.3	29.2	---	60.0	---	30.8	---	N(QP)	
7	0.22900	---	22.5	9.9	---	32.4	---	52.5	---	20.1	N(CAV)	
8	0.30000	---	20.8	10.0	---	30.8	---	50.2	---	19.4	N(CAV)	
9	0.52800	---	20.9	10.0	---	30.9	---	46.0	---	15.1	N(CAV)	
10	1.48400	---	14.6	10.1	---	24.7	---	46.0	---	21.3	N(CAV)	
11	9.78000	---	12.5	10.2	---	22.7	---	50.0	---	27.3	N(CAV)	
12	16.29000	---	9.5	10.3	---	19.8	---	50.0	---	30.2	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.

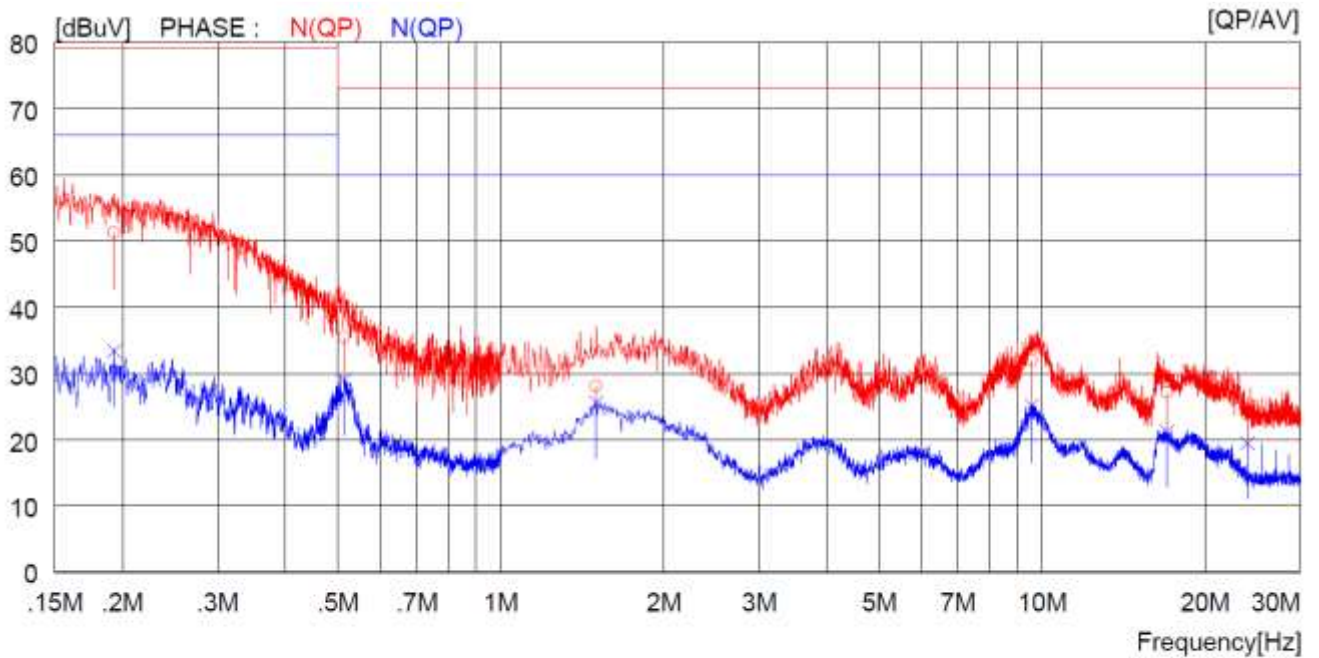
12.4.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

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



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN		PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.17700	38.9	----	10.0	48.9	----	64.6	----	15.7	----			H(QP)
2	0.23200	40.5	----	9.9	50.4	----	62.4	----	12.0	----			H(QP)
3	0.50300	26.5	----	10.0	36.5	----	56.0	----	19.5	----			H(QP)
4	1.46800	18.6	----	10.1	28.7	----	56.0	----	27.3	----			H(QP)
5	9.52000	20.1	----	10.2	30.3	----	60.0	----	29.7	----			H(QP)
6	16.27000	19.9	----	10.3	30.2	----	60.0	----	29.8	----			H(QP)
7	0.17700	----	22.4	10.0	----	32.4	----	54.6	----	22.2			H(CAV)
8	0.23200	----	22.8	9.9	----	32.7	----	52.4	----	19.7			H(CAV)
9	0.50300	----	15.1	10.0	----	25.1	----	46.0	----	20.9			H(CAV)
10	1.46800	----	14.2	10.1	----	24.3	----	46.0	----	21.7			H(CAV)
11	9.52000	----	13.4	10.2	----	23.6	----	50.0	----	26.4			H(CAV)
12	16.27000	----	13.0	10.3	----	23.3	----	50.0	----	26.7			H(CAV)

- Tested Line : NEUTRAL LINE



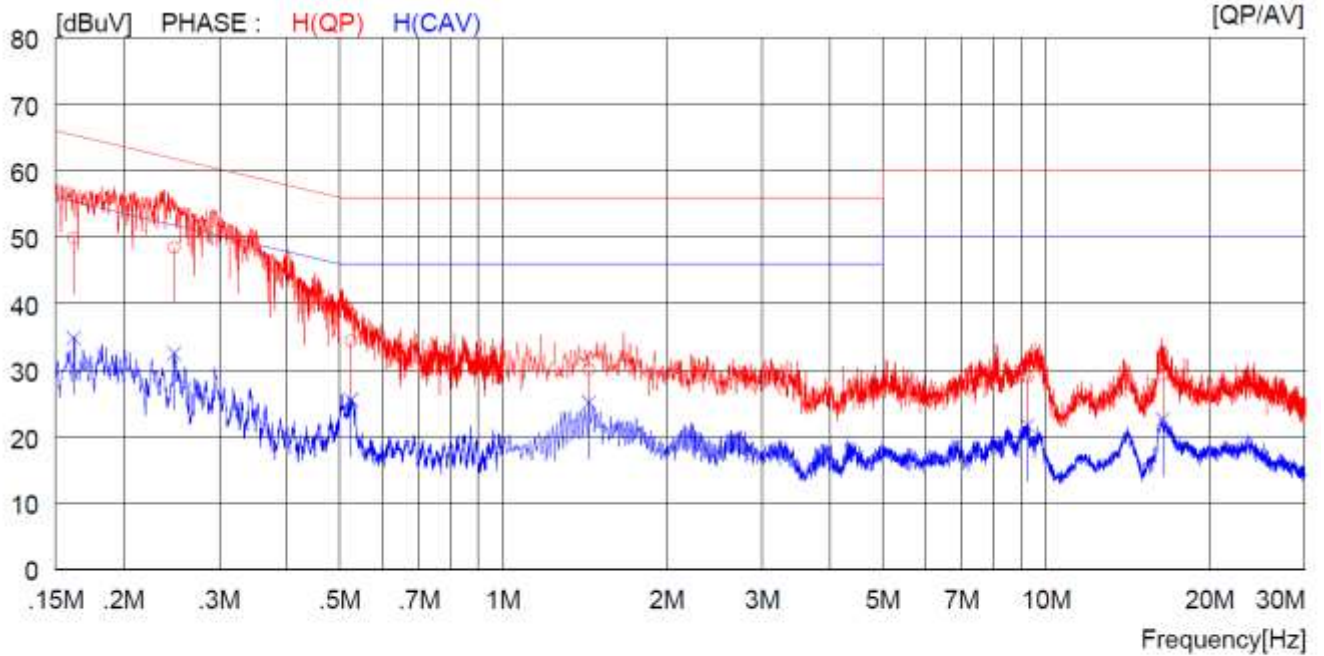
NO	FREQ [MHz]	READING		C.FACTOR		RESULT		LIMIT		MARGIN	PHASE	
		QP	AV	QP	AV	QP	AV	QP	AV			
1	0.19300	41.2	---	---	10.0	51.2	---	79.0	---	27.8	---	N(QP)
2	0.51400	25.5	---	---	10.0	35.5	---	73.0	---	37.5	---	N(QP)
3	1.50000	18.0	---	---	10.1	28.1	---	73.0	---	44.9	---	N(QP)
4	9.57000	21.8	---	---	10.2	32.0	---	73.0	---	41.0	---	N(QP)
5	17.04000	16.9	---	---	10.3	27.2	---	73.0	---	45.8	---	N(QP)
6	23.99000	13.3	---	---	10.5	23.8	---	73.0	---	49.2	---	N(QP)
7	0.19300	---	---	23.4	10.0	---	---	33.4	---	66.0	---	N(CAV)
8	0.51400	---	---	19.0	10.0	---	---	29.0	---	60.0	---	N(CAV)
9	1.50000	---	---	15.5	10.1	---	---	25.6	---	60.0	---	N(CAV)
10	9.57000	---	---	14.9	10.2	---	---	25.1	---	60.0	---	N(CAV)
11	17.04000	---	---	11.0	10.3	---	---	21.3	---	60.0	---	N(CAV)
12	23.99000	---	---	9.0	10.5	---	---	19.5	---	60.0	---	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.

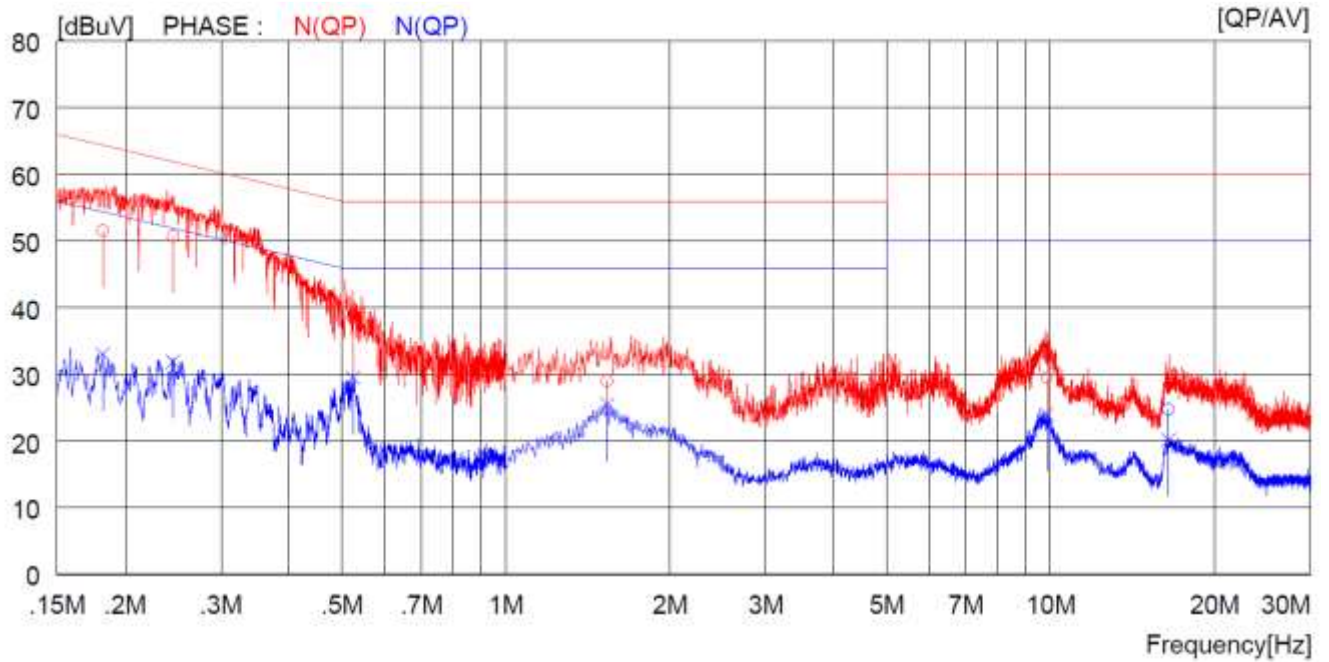
12.4.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

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



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN		PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.16200	39.8	---	10.0	49.8	---	65.4	---	15.6	---	---	---	H(QP)
2	0.24800	38.5	---	9.9	48.4	---	61.8	---	13.4	---	---	---	H(QP)
3	0.52500	24.4	---	10.0	34.4	---	56.0	---	21.6	---	---	---	H(QP)
4	1.44000	19.9	---	10.1	30.0	---	56.0	---	26.0	---	---	---	H(QP)
5	9.24500	18.8	---	10.2	29.0	---	60.0	---	31.0	---	---	---	H(QP)
6	16.42000	19.0	---	10.3	29.3	---	60.0	---	30.7	---	---	---	H(QP)
7	0.16200	---	24.8	10.0	---	34.8	---	55.4	---	20.6	---	---	H(CAV)
8	0.24800	---	22.6	9.9	---	32.5	---	51.8	---	19.3	---	---	H(CAV)
9	0.52500	---	15.5	10.0	---	25.5	---	46.0	---	20.5	---	---	H(CAV)
10	1.44000	---	15.0	10.1	---	25.1	---	46.0	---	20.9	---	---	H(CAV)
11	9.24500	---	11.5	10.2	---	21.7	---	50.0	---	28.3	---	---	H(CAV)
12	16.42000	---	12.3	10.3	---	22.6	---	50.0	---	27.4	---	---	H(CAV)

- Tested Line : NEUTRAL LINE



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT	MARGIN	PHASE
	QP	AV	QP	AV	QP	AV	QP	AV			
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.18200	41.5	---	10.0	51.5	---	64.4	---	12.9	---	N(QP)
2	0.24500	40.8	---	9.9	50.7	---	61.9	---	11.2	---	N(QP)
3	0.52400	28.5	---	10.0	38.5	---	56.0	---	17.5	---	N(QP)
4	1.53600	18.9	---	10.1	29.0	---	56.0	---	27.0	---	N(QP)
5	9.83500	19.3	---	10.2	29.5	---	60.0	---	30.5	---	N(QP)
6	16.48000	14.5	---	10.3	24.8	---	60.0	---	35.2	---	N(CAV)
7	0.18200	---	23.0	10.0	---	33.0	---	54.4	---	21.4	N(CAV)
8	0.24500	---	22.0	9.9	---	31.9	---	51.9	---	20.0	N(CAV)
9	0.52400	---	19.5	10.0	---	29.5	---	46.0	---	16.5	N(CAV)
10	1.53600	---	15.4	10.1	---	25.5	---	46.0	---	20.5	N(CAV)
11	9.83500	---	13.8	10.2	---	24.0	---	50.0	---	26.0	N(CAV)
12	16.48000	---	9.9	10.3	---	20.2	---	50.0	---	29.8	N(CAV)

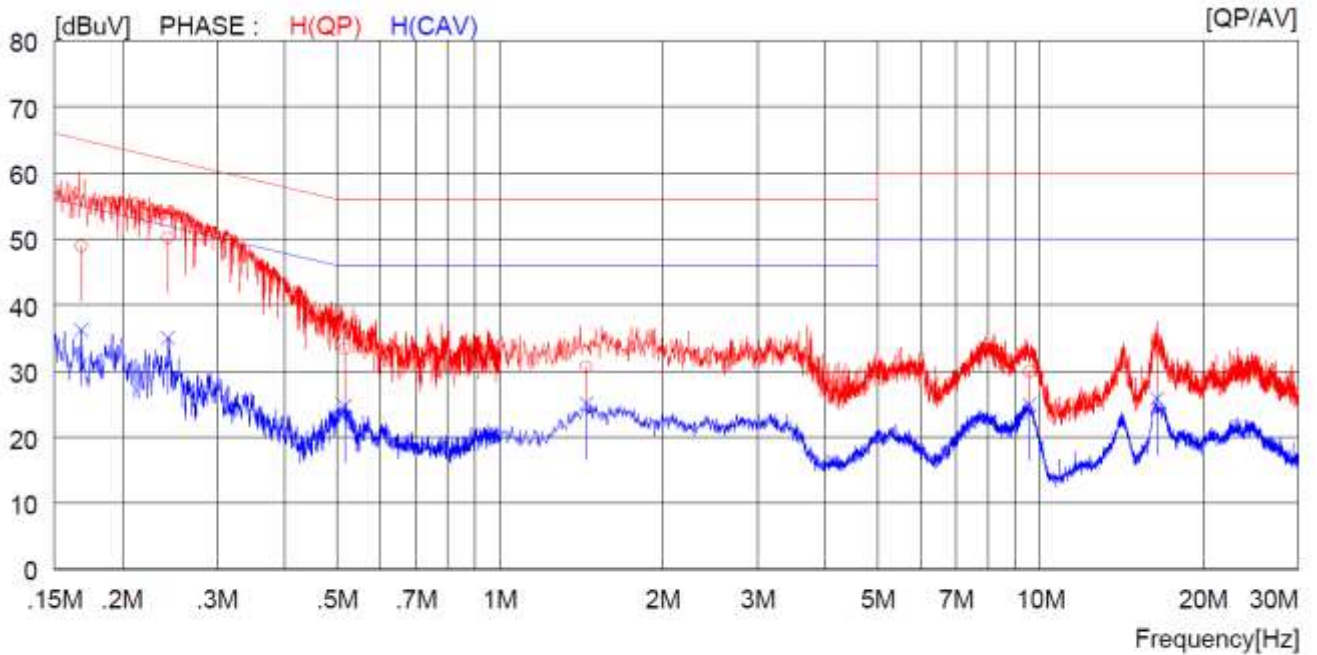
Remark: Margin (dB) = Limit – Level (Result)

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

12.5 Test data for Multiple Model (WCA734M)

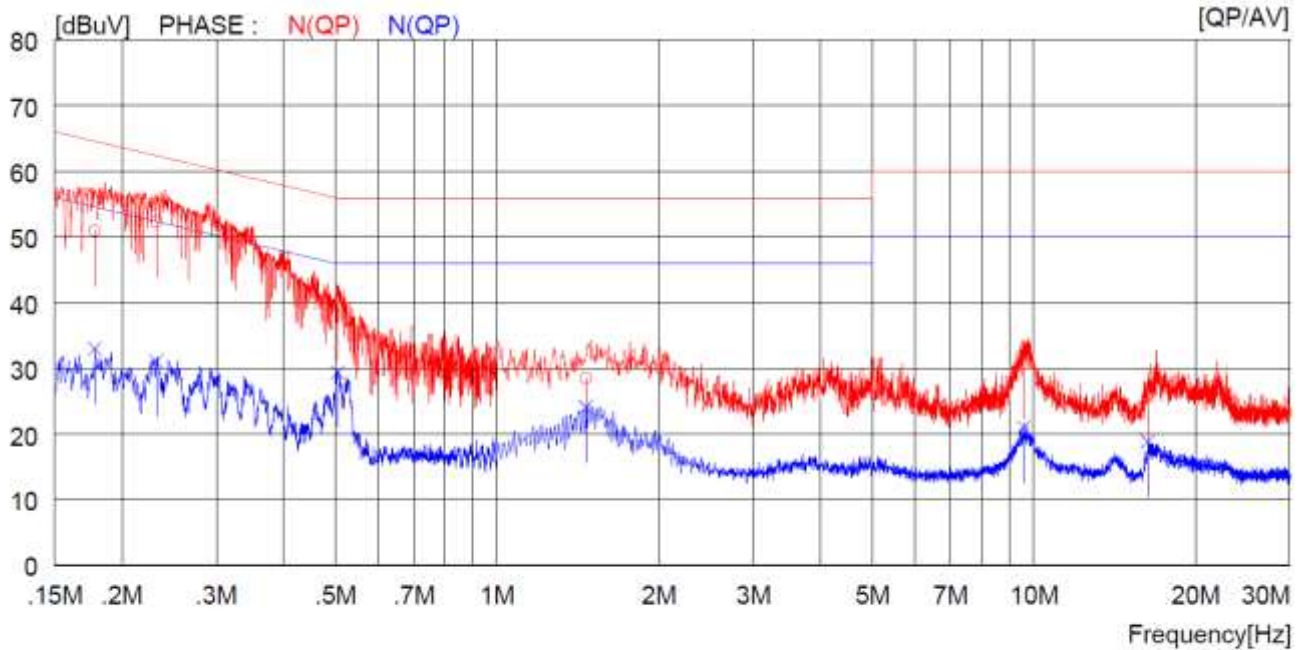
12.5.1 Test data for WLAN 2.4 GHz

- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Tested Line : HOT LINE
- Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.



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	0.16800	38.9	----	10.0	48.9	----	65.1	----	16.2	----	H(QP)
2	0.24300	40.2	----	9.9	50.1	----	62.0	----	11.9	----	H(QP)
3	0.51600	23.3	----	10.0	33.3	----	56.0	----	22.7	----	H(QP)
4	1.44400	20.5	----	10.1	30.6	----	56.0	----	25.4	----	H(QP)
5	9.54000	19.7	----	10.2	29.9	----	60.0	----	30.1	----	H(QP)
6	16.44000	24.5	----	10.3	34.8	----	60.0	----	25.2	----	H(QP)
7	0.16800	----	26.2	10.0	----	36.2	----	55.1	----	18.9	H(CAV)
8	0.24300	----	25.1	9.9	----	35.0	----	52.0	----	17.0	H(CAV)
9	0.51600	----	14.7	10.0	----	24.7	----	46.0	----	21.3	H(CAV)
10	1.44400	----	15.0	10.1	----	25.1	----	46.0	----	20.9	H(CAV)
11	9.54000	----	14.7	10.2	----	24.9	----	50.0	----	25.1	H(CAV)
12	16.44000	----	15.5	10.3	----	25.8	----	50.0	----	24.2	H(CAV)

- Tested Line : NEUTRAL LINE



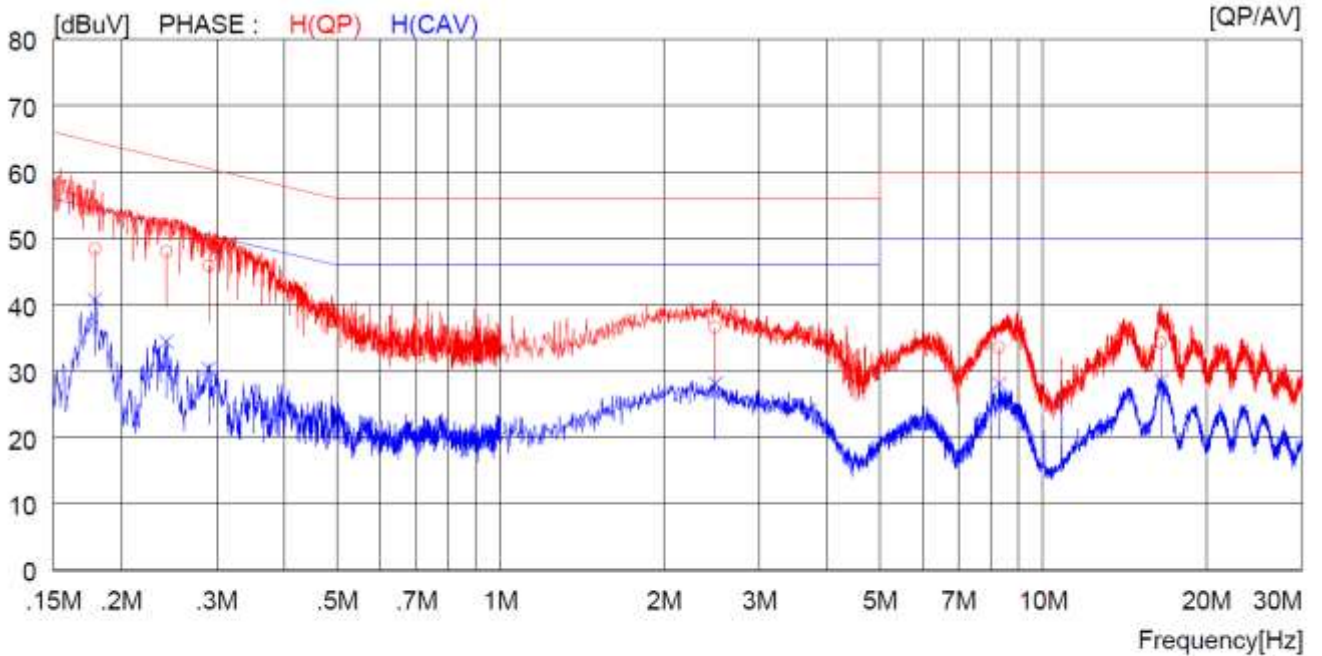
NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.17800	40.9	----	10.0	50.9	----	64.6	----	13.7	----	N(QP)
2	0.23200	42.3	----	9.9	52.2	----	62.4	----	10.2	----	N(QP)
3	0.50400	29.5	----	10.0	39.5	----	56.0	----	16.5	----	N(QP)
4	1.46400	18.4	----	10.1	28.5	----	56.0	----	27.5	----	N(QP)
5	9.57000	20.5	----	10.2	30.7	----	60.0	----	29.3	----	N(QP)
6	16.32000	15.4	----	10.3	25.7	----	60.0	----	34.3	----	N(QP)
7	0.17800	----	23.0	10.0	----	33.0	----	54.6	----	21.6	N(CAV)
8	0.23200	----	21.2	9.9	----	31.1	----	52.4	----	21.3	N(CAV)
9	0.50400	----	19.4	10.0	----	29.4	----	46.0	----	16.6	N(CAV)
10	1.46400	----	14.0	10.1	----	24.1	----	46.0	----	21.9	N(CAV)
11	9.57000	----	10.8	10.2	----	21.0	----	50.0	----	29.0	N(CAV)
12	16.32000	----	8.5	10.3	----	18.8	----	50.0	----	31.2	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.

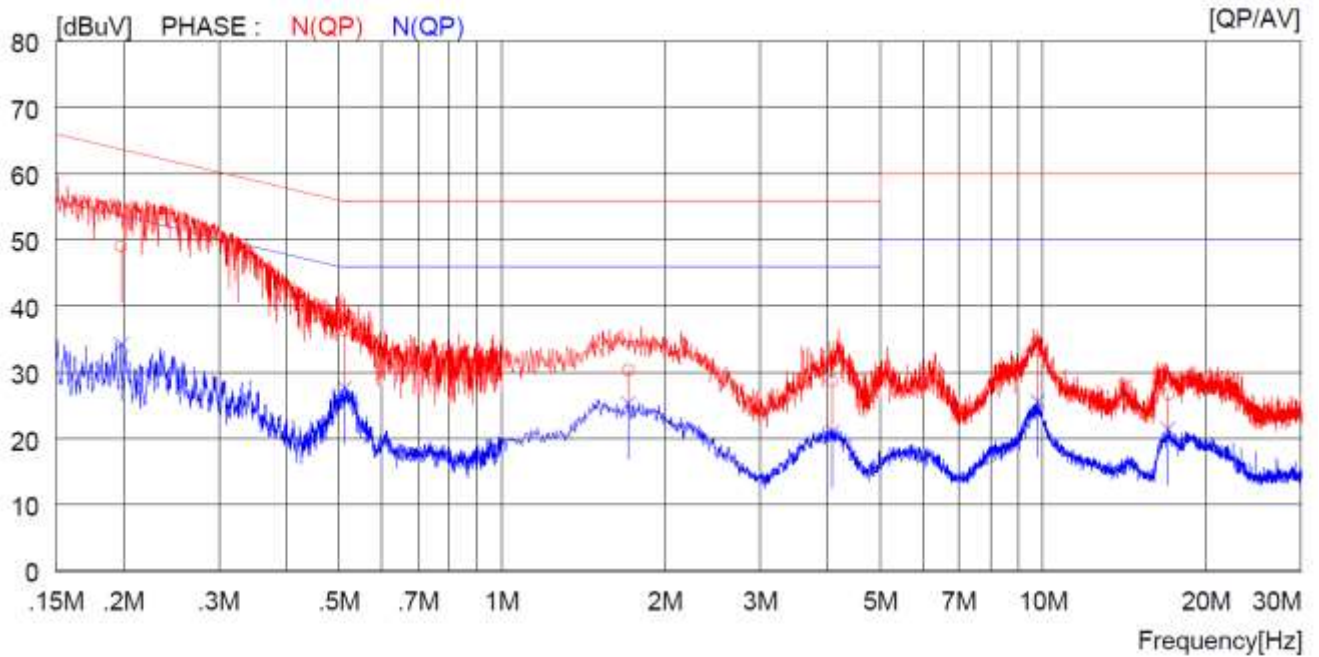
12.5.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

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



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN		PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.17900	38.4	---	10.0	48.4	---	64.5	---	16.1	---	---	---	H(QP)
2	0.24200	38.1	---	9.9	48.0	---	62.0	---	14.0	---	---	---	H(QP)
3	0.29000	36.0	---	9.9	45.9	---	60.5	---	14.6	---	---	---	H(QP)
4	2.48800	26.5	---	10.1	36.6	---	56.0	---	19.4	---	---	---	H(QP)
5	8.30500	23.3	---	10.2	33.5	---	60.0	---	26.5	---	---	---	H(QP)
6	16.52000	24.0	---	10.3	34.3	---	60.0	---	25.7	---	---	---	H(QP)
7	0.17900	---	30.8	10.0	---	40.8	---	54.5	---	13.7	---	---	H(CAV)
8	0.24200	---	24.5	9.9	---	34.4	---	52.0	---	17.6	---	---	H(CAV)
9	0.29000	---	20.5	9.9	---	30.4	---	50.5	---	20.1	---	---	H(CAV)
10	2.48800	---	18.0	10.1	---	28.1	---	46.0	---	17.9	---	---	H(CAV)
11	8.30500	---	17.9	10.2	---	28.1	---	50.0	---	21.9	---	---	H(CAV)
12	16.52000	---	18.3	10.3	---	28.6	---	50.0	---	21.4	---	---	H(CAV)

- Tested Line : NEUTRAL LINE



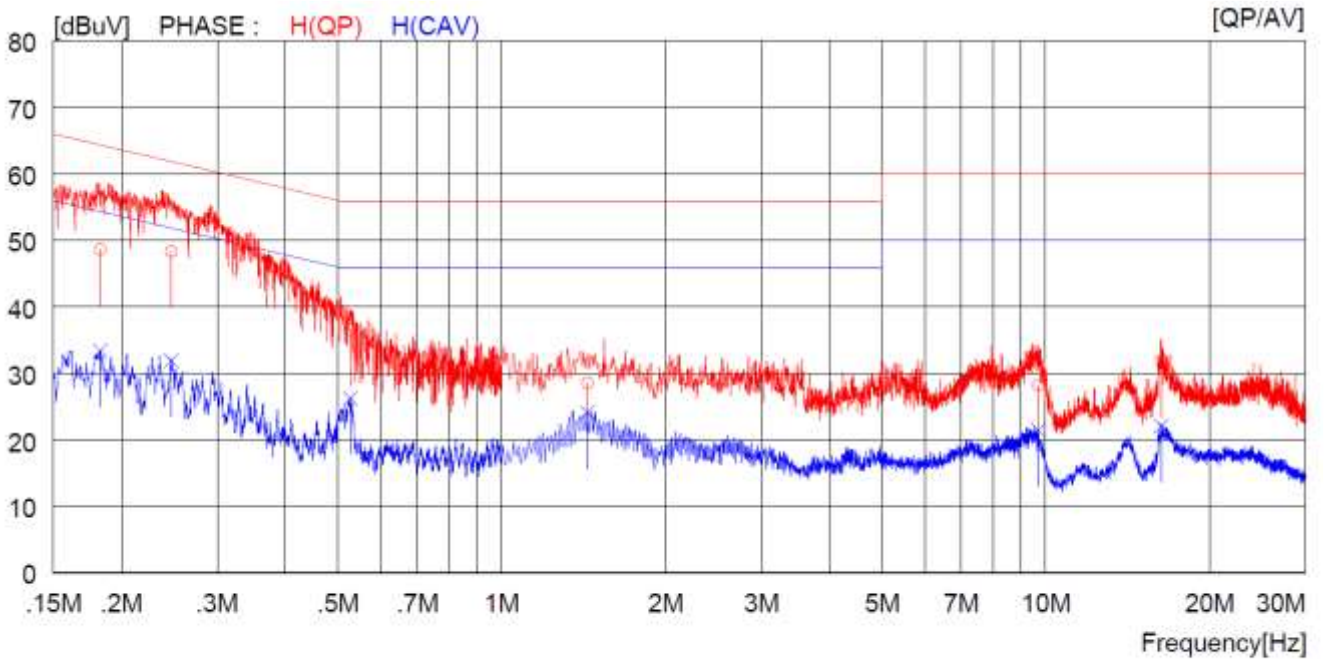
NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.19800	39.0	----	10.0	49.0	----	63.7	----	14.7	----	N(QP)
2	0.51300	26.3	----	10.0	36.3	----	56.0	----	19.7	----	N(QP)
3	1.71200	20.2	----	10.1	30.3	----	56.0	----	25.7	----	N(QP)
4	4.08000	18.6	----	10.1	28.7	----	56.0	----	27.3	----	N(QP)
5	9.77000	23.0	----	10.2	33.2	----	60.0	----	26.8	----	N(QP)
6	17.03000	16.4	----	10.3	26.7	----	60.0	----	33.3	----	N(QP)
7	0.19800	----	24.2	10.0	----	34.2	----	53.7	----	19.5	N(CAV)
8	0.51300	----	17.6	10.0	----	27.6	----	46.0	----	18.4	N(CAV)
9	1.71200	----	15.2	10.1	----	25.3	----	46.0	----	20.7	N(CAV)
10	4.08000	----	11.0	10.1	----	21.1	----	46.0	----	24.9	N(CAV)
11	9.77000	----	15.4	10.2	----	25.6	----	50.0	----	24.4	N(CAV)
12	17.03000	----	11.2	10.3	----	21.5	----	50.0	----	28.5	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.

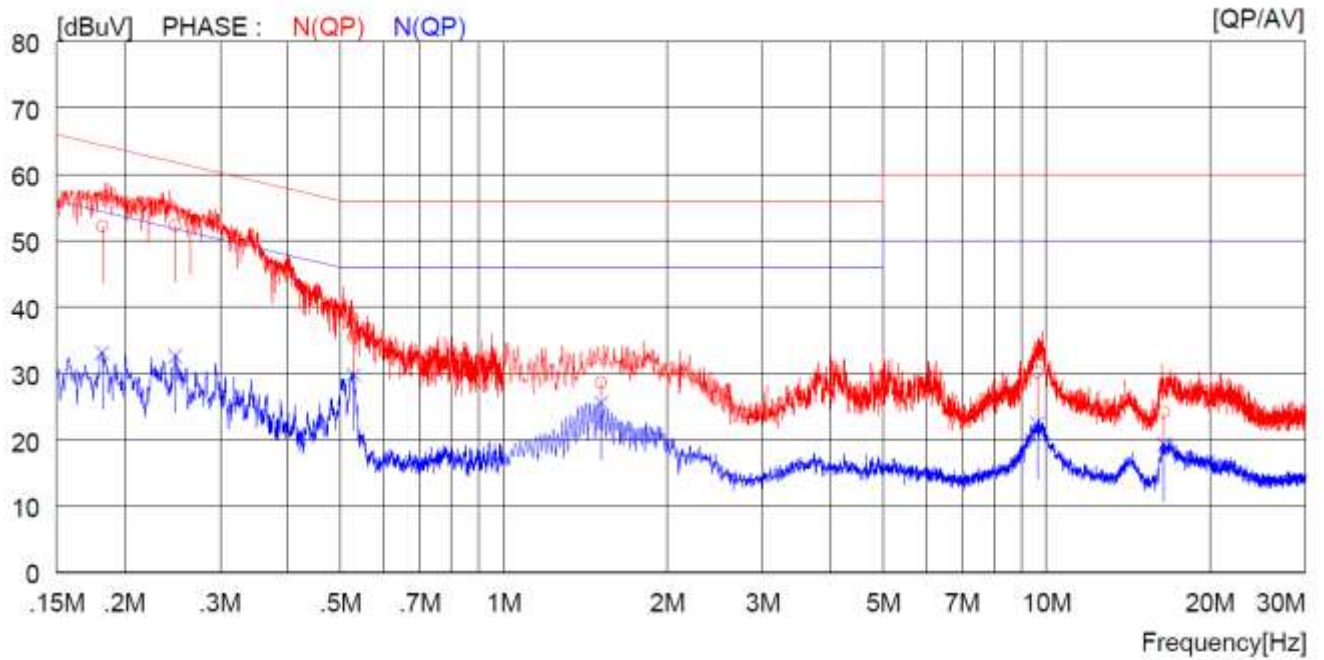
12.5.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

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



NO	FREQ		READING		C.FACTOR		RESULT		LIMIT		MARGIN		PHASE
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.18300	38.6	---	10.0	48.6	---	64.3	---	15.7	---			H(QP)
2	0.24700	38.4	---	9.9	48.3	---	61.9	---	13.6	---			H(QP)
3	0.52700	26.6	---	10.0	36.6	---	56.0	---	19.4	---			H(QP)
4	1.44000	18.4	---	10.1	28.5	---	56.0	---	27.5	---			H(QP)
5	9.70500	18.0	---	10.2	28.2	---	60.0	---	31.8	---			H(QP)
6	16.31000	21.5	---	10.3	31.8	---	60.0	---	28.2	---			H(QP)
7	0.18300	---	23.4	10.0	---	33.4	---	54.3	---	20.9			H(CAV)
8	0.24700	---	22.0	9.9	---	31.9	---	51.9	---	20.0			H(CAV)
9	0.52700	---	16.2	10.0	---	26.2	---	46.0	---	19.8			H(CAV)
10	1.44000	---	14.0	10.1	---	24.1	---	46.0	---	21.9			H(CAV)
11	9.70500	---	11.3	10.2	---	21.5	---	50.0	---	28.5			H(CAV)
12	16.31000	---	11.8	10.3	---	22.1	---	50.0	---	27.9			H(CAV)

- Tested Line : NEUTRAL LINE



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	0.18200	42.1	----	10.0	52.1	----	64.4	----	12.3	----	N (QP)
2	0.24800	42.3	----	9.9	52.2	----	61.8	----	9.6	----	N (QP)
3	0.52900	25.4	----	10.0	35.4	----	56.0	----	20.6	----	N (QP)
4	1.51200	18.5	----	10.1	28.6	----	56.0	----	27.4	----	N (QP)
5	9.62000	20.0	----	10.2	30.2	----	60.0	----	29.8	----	N (QP)
6	16.47000	13.8	----	10.3	24.1	----	60.0	----	35.9	----	N (QP)
7	0.18200	----	23.1	10.0	----	33.1	----	54.4	----	21.3	N (CAV)
8	0.24800	----	22.7	9.9	----	32.6	----	51.8	----	19.2	N (CAV)
9	0.52900	----	19.8	10.0	----	29.8	----	46.0	----	16.2	N (CAV)
10	1.51200	----	15.4	10.1	----	25.5	----	46.0	----	20.5	N (CAV)
11	9.62000	----	12.3	10.2	----	22.5	----	50.0	----	27.5	N (CAV)
12	16.47000	----	9.0	10.3	----	19.3	----	50.0	----	30.7	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	102165	Apr. 20, 2020 (1Y)
NRP-Z81	Rohde & Schwarz	Wide band Sensor	101975	Feb. 19, 2020 (1Y)
ESW	Rohde & Schwarz	EMI Test Receiver	101851	Mar. 27, 2020 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	312544	Mar. 16, 2020 (1Y)
BBV 9718 B	Schwarzbeck	Broadband Preamplifier	00009	Mar. 16, 2020 (1Y)
SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Feb. 20, 2020 (1Y)
SCU18	Rohde & Schwarz	Signal Conditioning unit	102266	Jul. 15, 2020 (1Y)
DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 08, 2020 (2Y)
BBHA 9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 23, 2020 (1Y)
BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2020(1Y)
ESCI	Rohde & Schwarz	Test Receiver	101012	Oct. 22, 2019 (1Y)
NSLK8126	Schwarzbeck	AMN	8126-404	Mar. 16, 2020 (1Y)
3825/2	EMCO	AMN	9109-1869	Mar. 16, 2020 (1Y)