Appendix for Test report

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.2	Ant1	2402	0.692	2401.660	2402.352	---	PASS
		2440	0.700	2439.652	2440.352	---	PASS
		2480	0.708	2479.636	2480.344	---	PASS
BLE_BT5.0	Ant1	2402	1.148	2401.448	2402.596	---	PASS
		2440	1.188	2439.408	2440.596	---	PASS
		2480	1.200	2479.380	2480.580	---	PASS

Test Graphs

BLE_BT4.2_Ant1_2402

BLE_BT4.2_Ant1_2440

BLE_BT4.2_Ant1_2480

BLE_BT5.0_Ant1_2402

BLE_BT5.0_Ant1_2440

BLE_BT5.0_Ant1_2480


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.2	Ant1	2402	1.0316	2401.496	2402.527	---	PASS
		2440	1.0336	2439.497	2440.530	---	PASS
		2480	1.0274	2479.495	2480.523	---	PASS
BLE_BT5.0	Ant1	2402	2.0660	2400.996	2403.062	---	PASS
		2440	2.0595	2438.990	2441.049	---	PASS
		2480	2.0612	2478.976	2481.037	---	PASS

Test Graphs

BLE_BT4.2_Ant1_2402

BLE_BT4.2_Ant1_2440

BLE_BT4.2_Ant1_2480

BLE_BT5.0_Ant1_2402

BLE_BT5.0_Ant1_2440

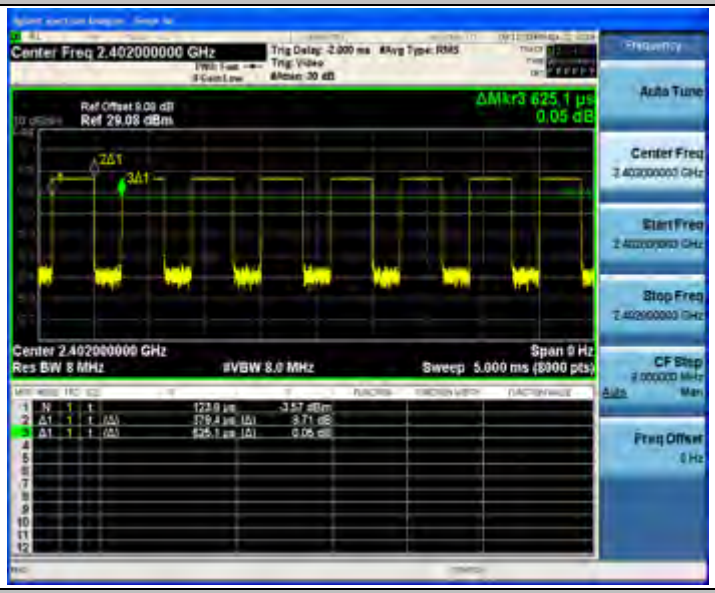
BLE_BT5.0_Ant1_2480


Appendix C: Duty Cycle

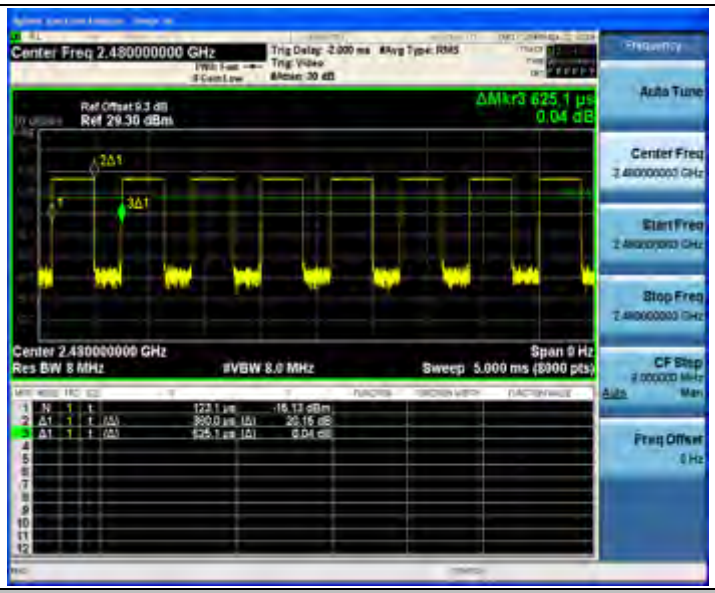
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_BT4.2	Ant1	2402	0.38	0.63	60.70
		2440	0.38	0.63	60.80
		2480	0.38	0.63	60.80
BLE_BT5.0	Ant1	2402	1.07	1.88	56.90
		2440	1.07	1.88	56.90
		2480	1.07	1.88	56.90

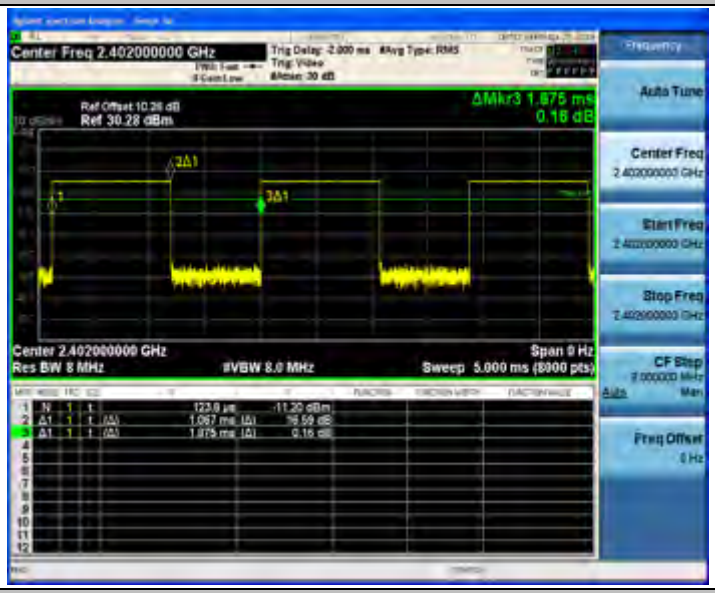
Test Graphs

BLE_BT4.2_Ant1_2402

BLE_BT4.2_Ant1_2440

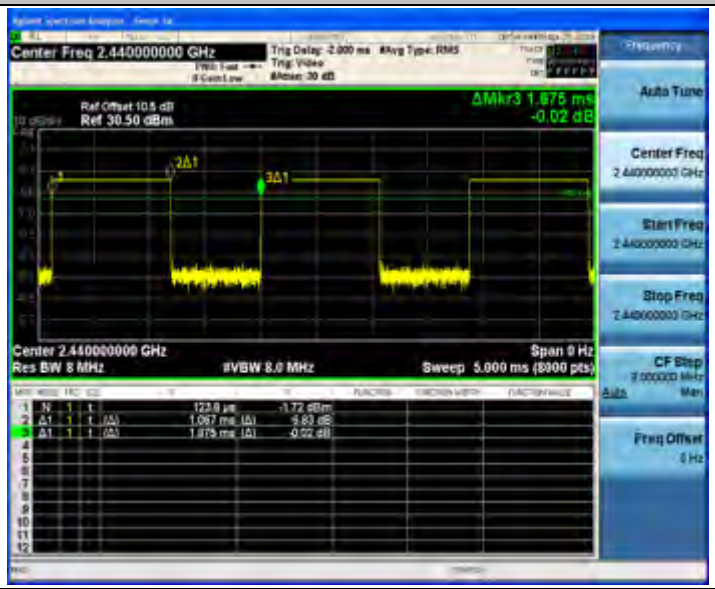
BLE_BT4.2_Ant1_2480

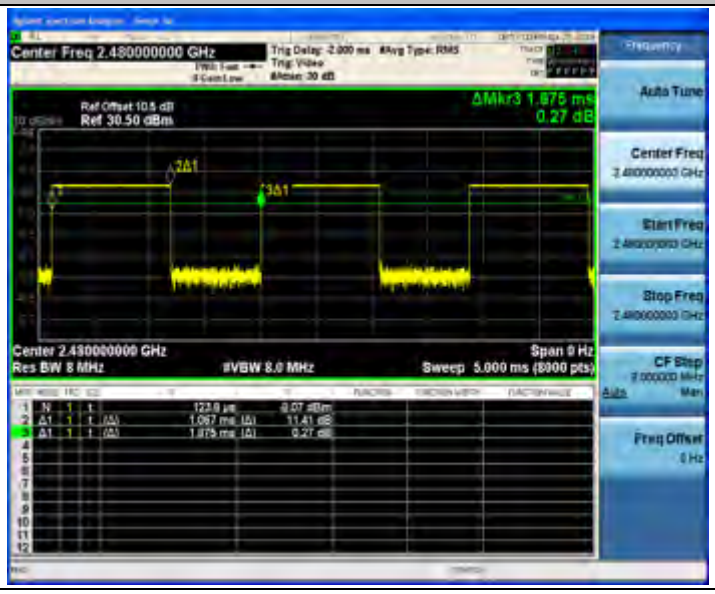


BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



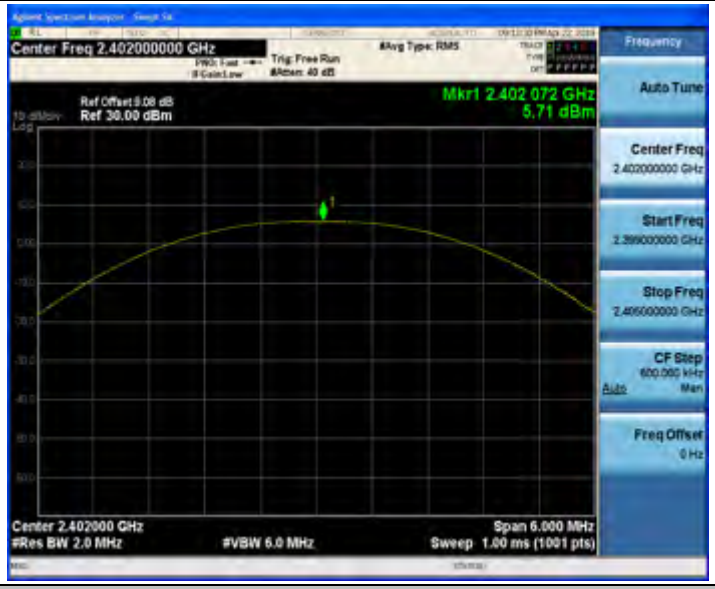
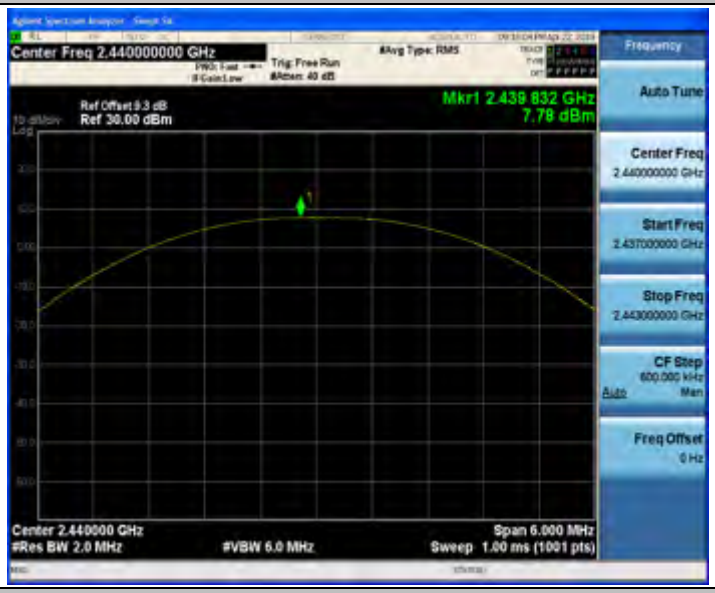
BLE_BT5.0_Ant1_2480


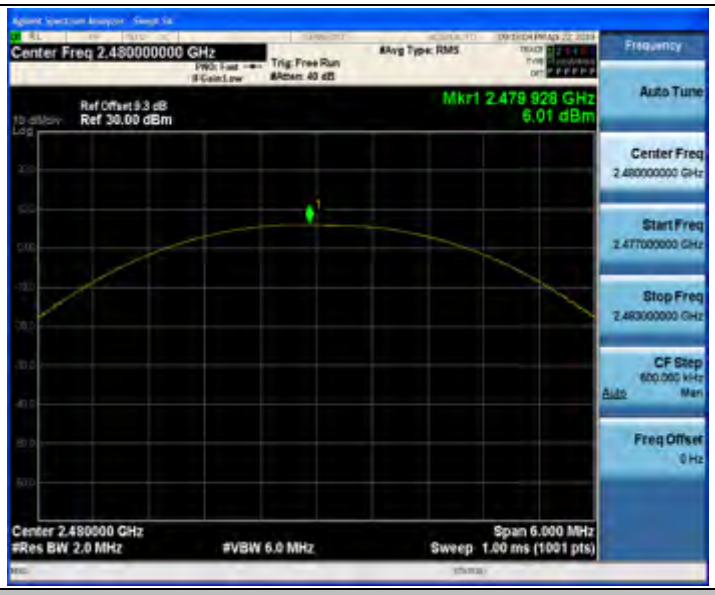
Appendix D: Maximum Peak output power

Test Result

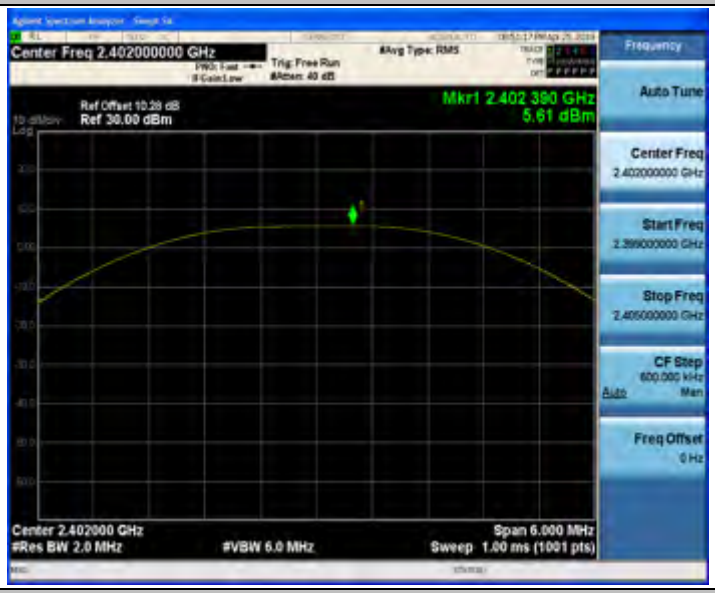
TestMode	Antenna	Channel	Conducted Result[dBm]	Conducted Limit[dBm]	EIRP Result[dBm]	EIRP Result[dBm]	Verdict
BLE_BT4.2	Ant1	2402	5.71	30	3.15	36	PASS
		2440	7.78	30	5.22	36	PASS
		2480	6.01	30	3.45	36	PASS
BLE_BT5.0	Ant1	2402	5.61	30	3.05	36	PASS
		2440	6.47	30	3.91	36	PASS
		2480	4.6	30	2.04	36	PASS

Test Graphs

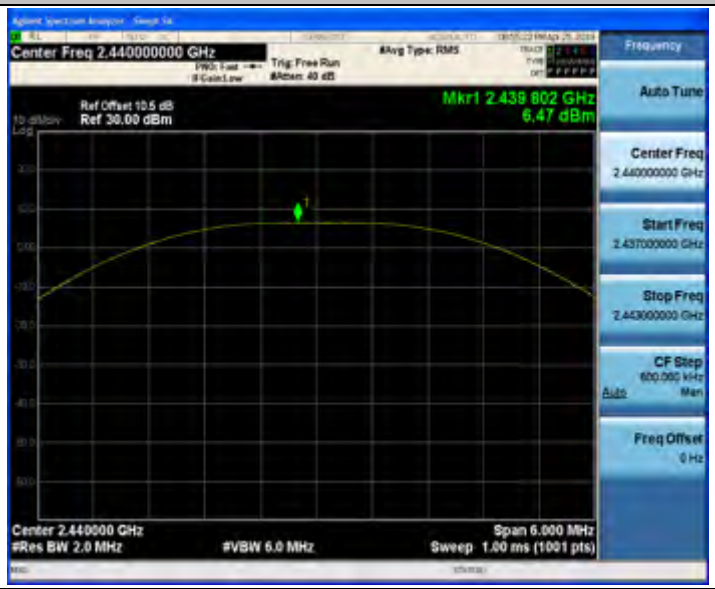
BLE_BT4.2_Ant1_2402

BLE_BT4.2_Ant1_2440

BLE_BT4.2_Ant1_2480

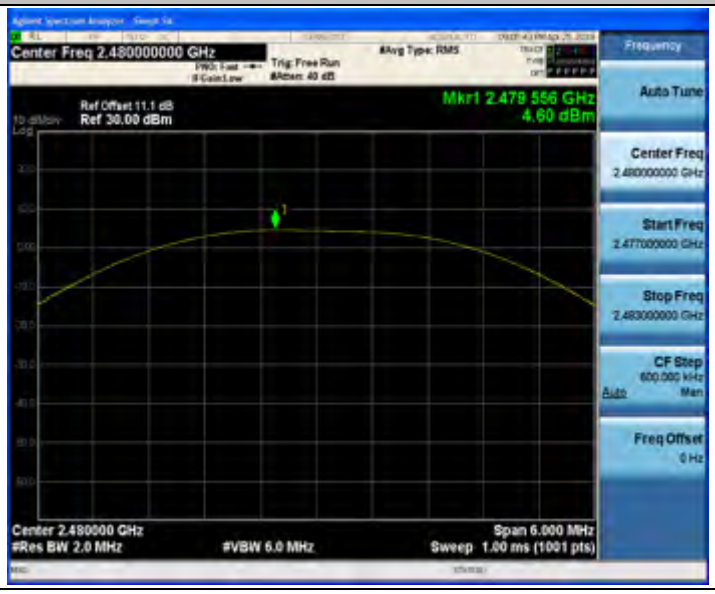


BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



BLE_BT5.0_Ant1_2480


Appendix E: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/10kHz]	Limit[dBm/3kHz]	Verdict
BLE_BT4.2	Ant1	2402	-4.56	8	PASS
		2440	-2.56	8	PASS
		2480	-4.35	8	PASS
BLE_BT5.0	Ant1	2402	-7.42	8	PASS
		2440	-6.61	8	PASS
		2480	-8.88	8	PASS

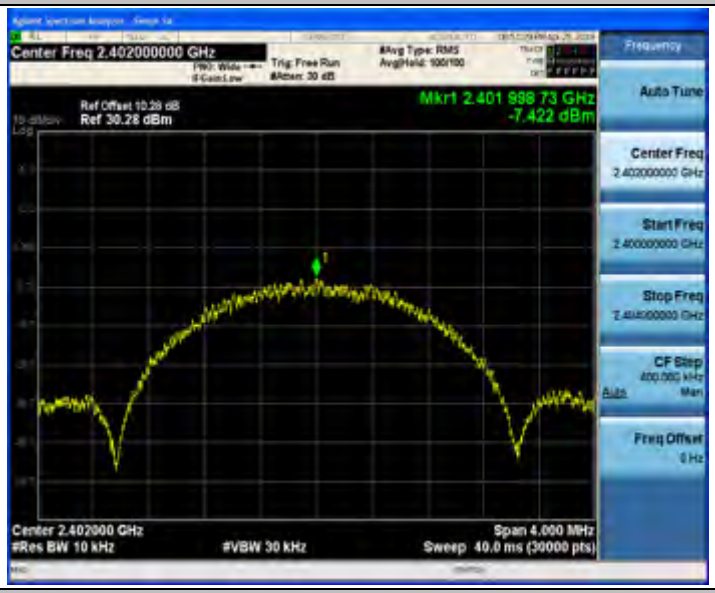
Test Graphs

BLE_BT4.2_Ant1_2402

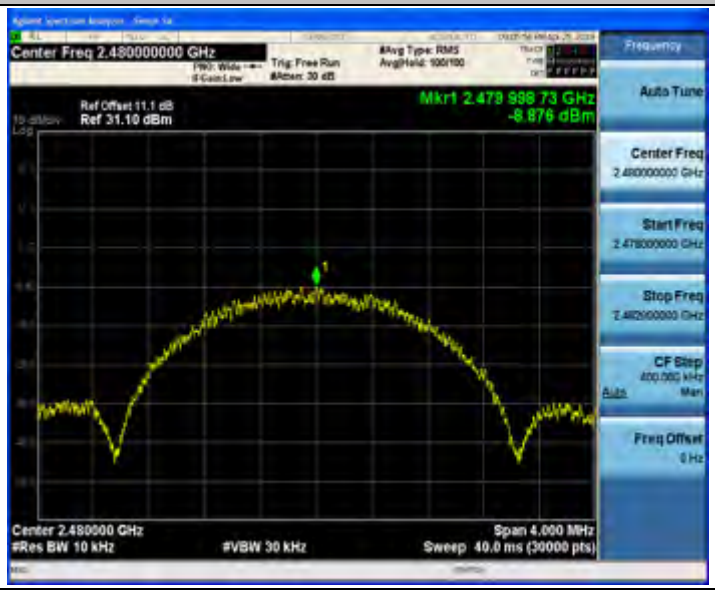
BLE_BT4.2_Ant1_2440

BLE_BT4.2_Ant1_2480

BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440

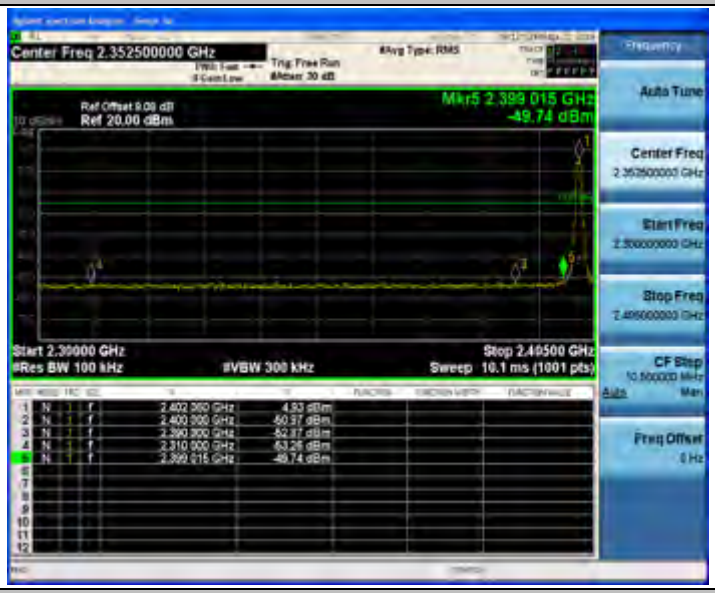
BLE_BT5.0_Ant1_2480


Appendix F: Band edge measurements

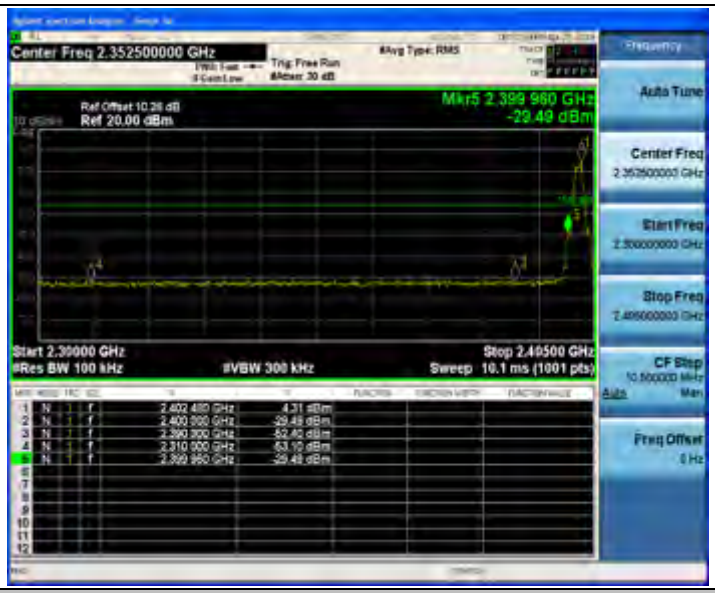
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	Low	2402	4.93	-49.74	-15.07	PASS
		High	2480	5.17	-50.92	-14.83	PASS
BLE_BT5.0	Ant1	Low	2402	4.31	-29.49	-15.69	PASS
		High	2480	4.97	-51.24	-15.03	PASS

Test Graphs

BLE_BT4.2_Ant1_Low_2402

BLE_BT4.2_Ant1_High_2480

BLE_BT5.0_Ant1_Low_2402



BLE_BT5.0_Ant1_High_2480

Appendix G: Conducted Spurious Emission

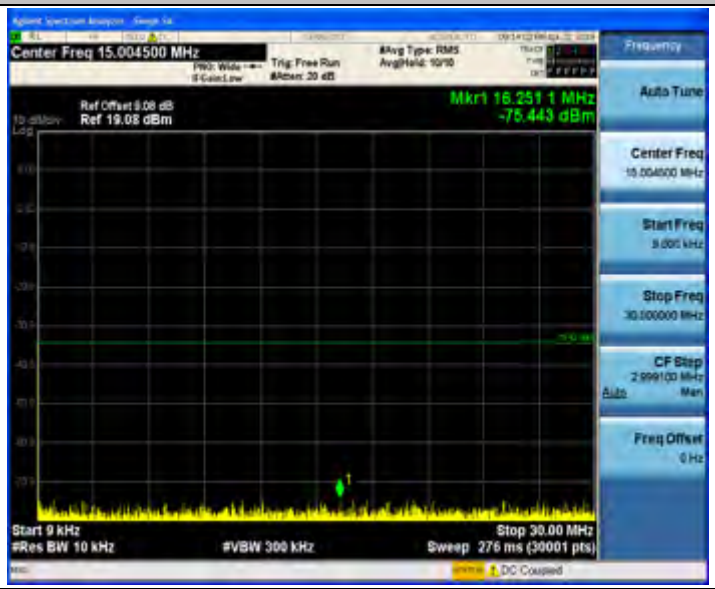
Test Result

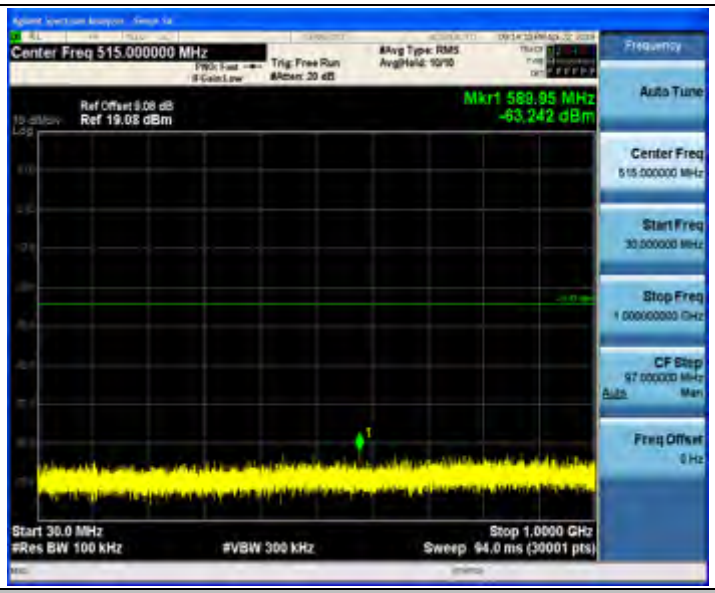
TestMode	Antenna	Channel	FreqRange	RefLevel	Result	Limit	Verdict
BLE_BT4.2	Ant1	2402	Reference	4.58	4.58	---	PASS
			0.009~30	0.009~30	-75.44	-35.42	PASS
			30~1000	30~1000	-63.24	-25.42	PASS
			1000~26500	1000~26500	-36.57	-25.42	PASS
		2440	Reference	6.73	6.73	---	PASS
			0.009~30	0.009~30	-74.13	-33.27	PASS
			30~1000	30~1000	-62.96	-23.27	PASS
			1000~26500	1000~26500	-37.26	-23.27	PASS
		2480	Reference	4.89	4.89	---	PASS
			0.009~30	0.009~30	-74.79	-35.11	PASS
			30~1000	30~1000	-63.77	-25.11	PASS
			1000~26500	1000~26500	-36.46	-25.11	PASS
BLE_BT5.0	Ant1	2402	Reference	4.22	4.22	---	PASS
			0.009~30	0.009~30	-74	-35.78	PASS
			30~1000	30~1000	-61.95	-25.78	PASS
			1000~26500	1000~26500	-36.26	-25.78	PASS
		2440	Reference	5.06	5.06	---	PASS
			0.009~30	0.009~30	-73.07	-34.94	PASS
			30~1000	30~1000	-61.29	-24.94	PASS
			1000~26500	1000~26500	-36.04	-24.94	PASS
		2480	Reference	2.51	2.51	---	PASS
			0.009~30	0.009~30	-73.25	-37.49	PASS
			30~1000	30~1000	-61.64	-	PASS

						27.49	
			1000~26500	1000~26500	-36	-27.49	PASS

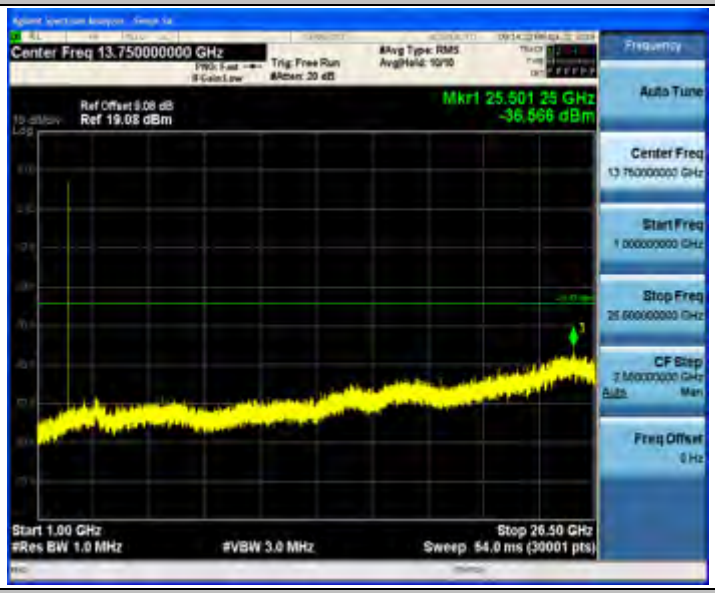
Test Graphs

BLE_BT4.2_Ant1_2402_0~Reference

BLE_BT4.2_Ant1_2402_0.009~30

BLE_BT4.2_Ant1_2402_30~1000

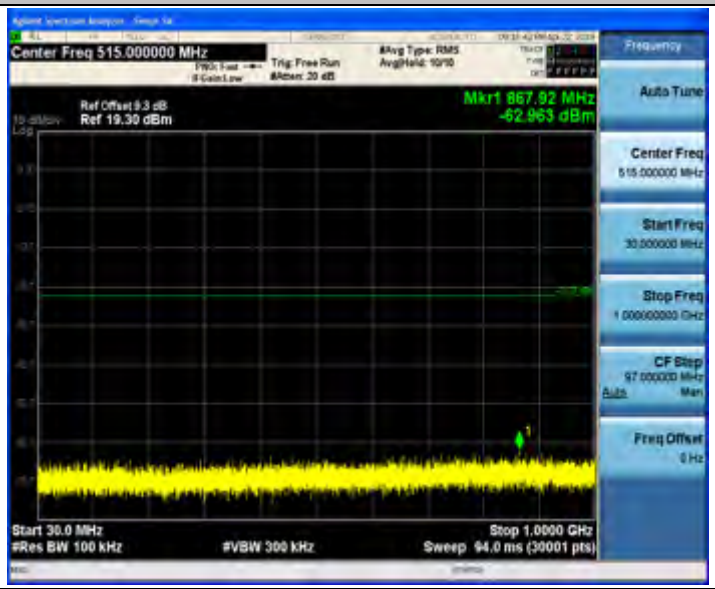


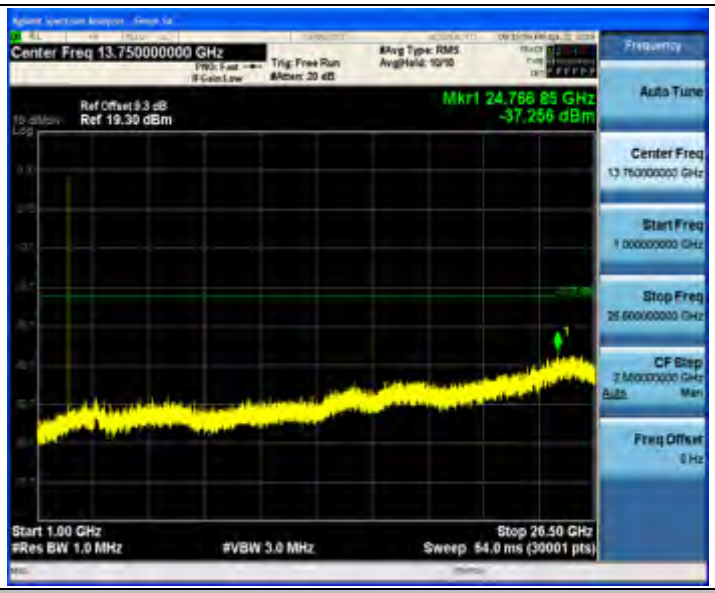
BLE_BT4.2_Ant1_2402_1000~26500



BLE_BT4.2_Ant1_2440_0~Reference

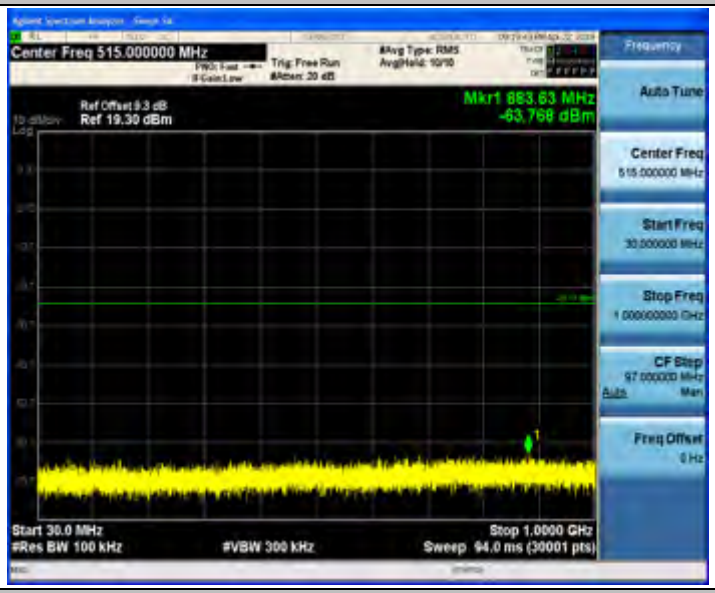
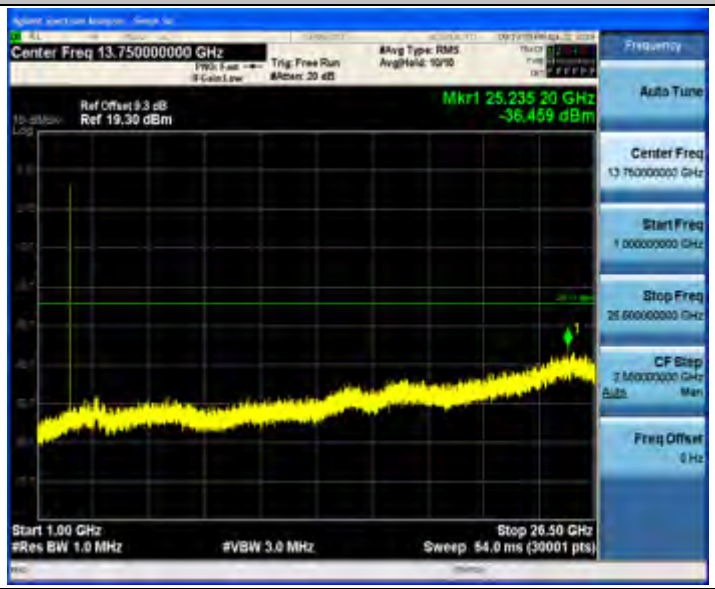
BLE_BT4.2_Ant1_2440_0.009~30

BLE_BT4.2_Ant1_2440_30~1000

BLE_BT4.2_Ant1_2440_1000~26500

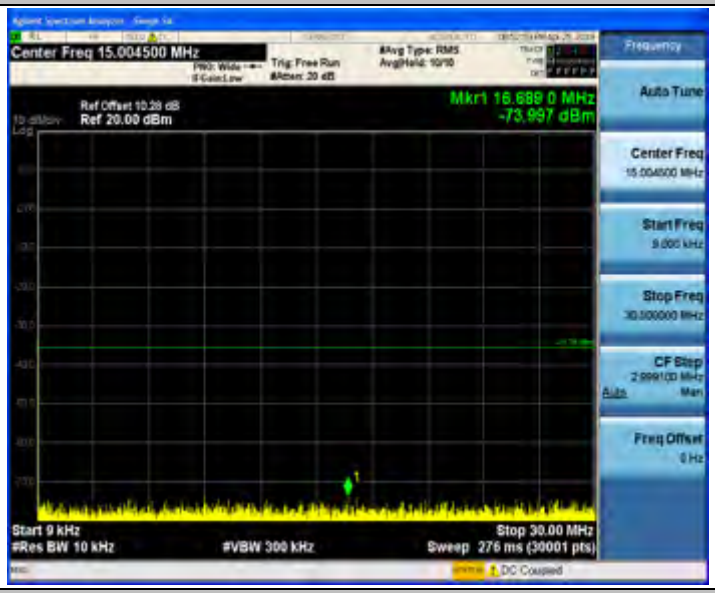


BLE_BT4.2_Ant1_2480_0~Reference

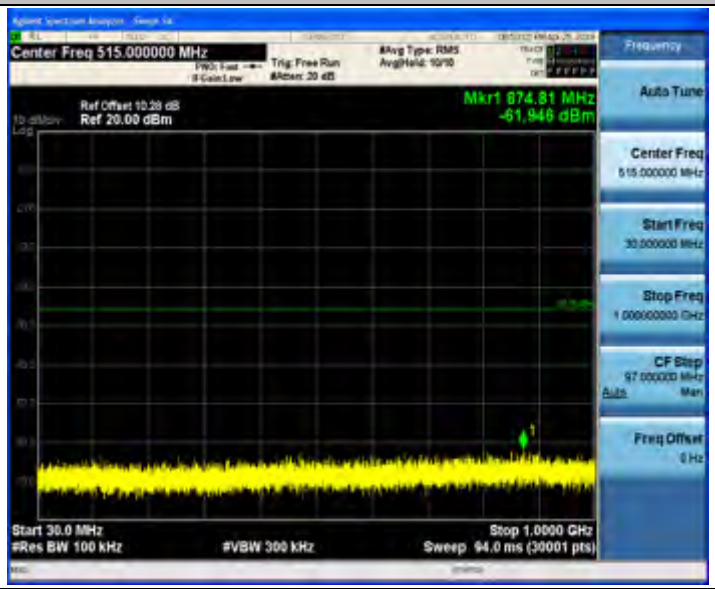
BLE_BT4.2_Ant1_2480_0.009~30

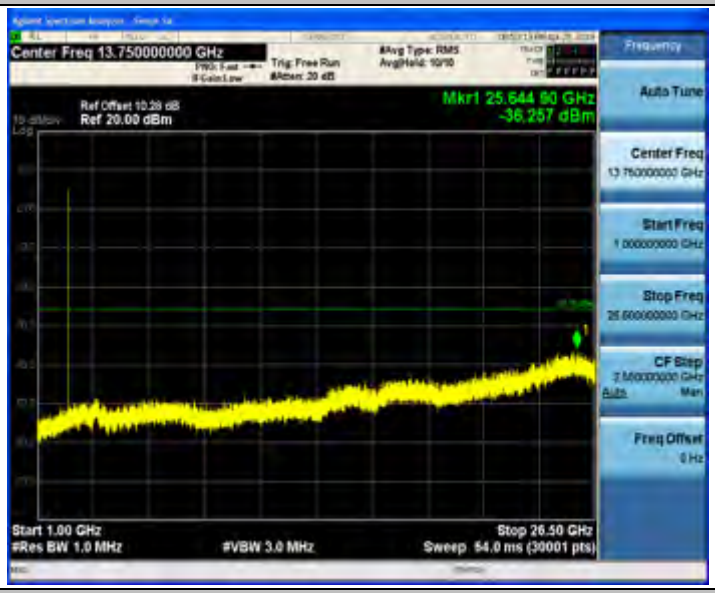
BLE_BT4.2_Ant1_2480_30~1000

BLE_BT4.2_Ant1_2480_1000~26500

BLE_BT5.0_Ant1_2402_0~Reference

BLE_BT5.0_Ant1_2402_0.009~30



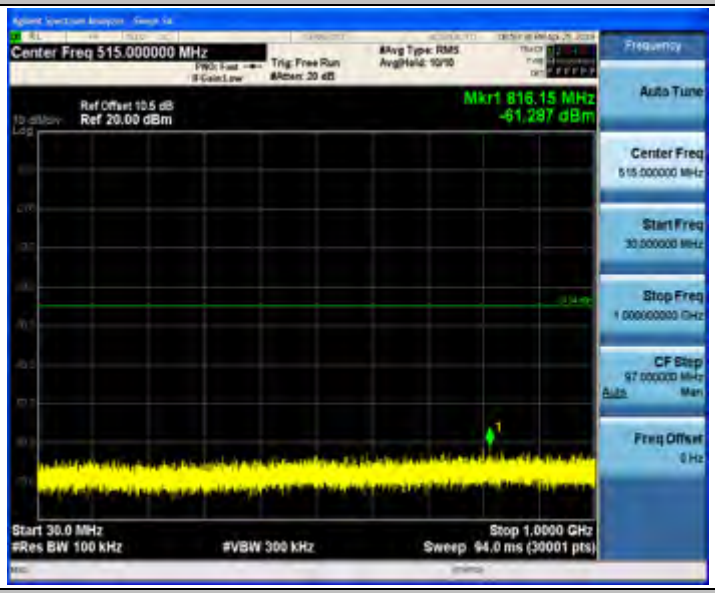
BLE_BT5.0_Ant1_2402_30~1000



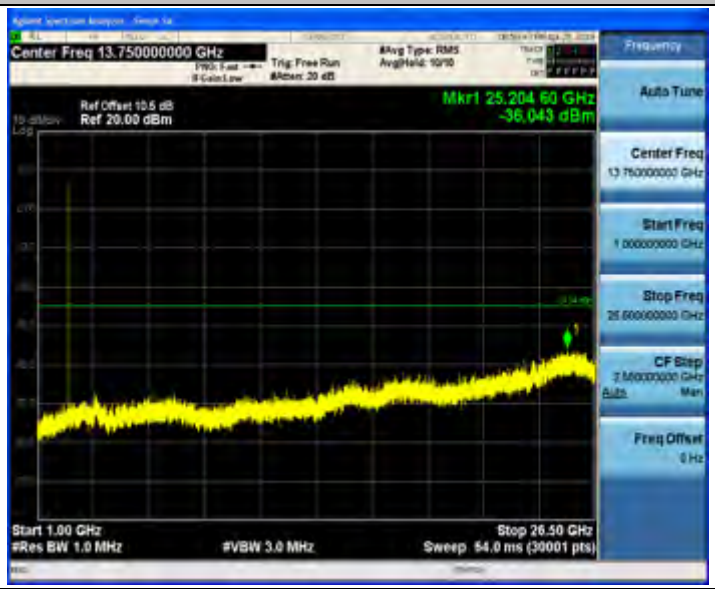
BLE_BT5.0_Ant1_2402_1000~26500

BLE_BT5.0_Ant1_2440_0~Reference

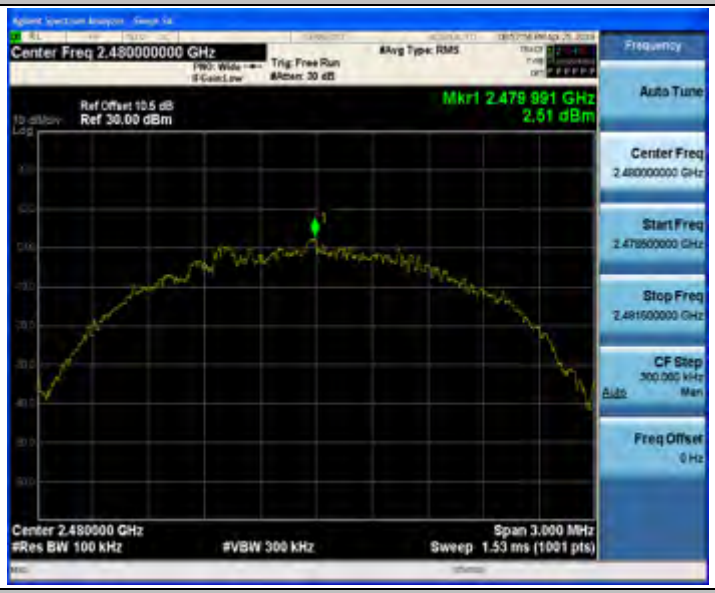
BLE_BT5.0_Ant1_2440_0.009~30

BLE_BT5.0_Ant1_2440_30~1000

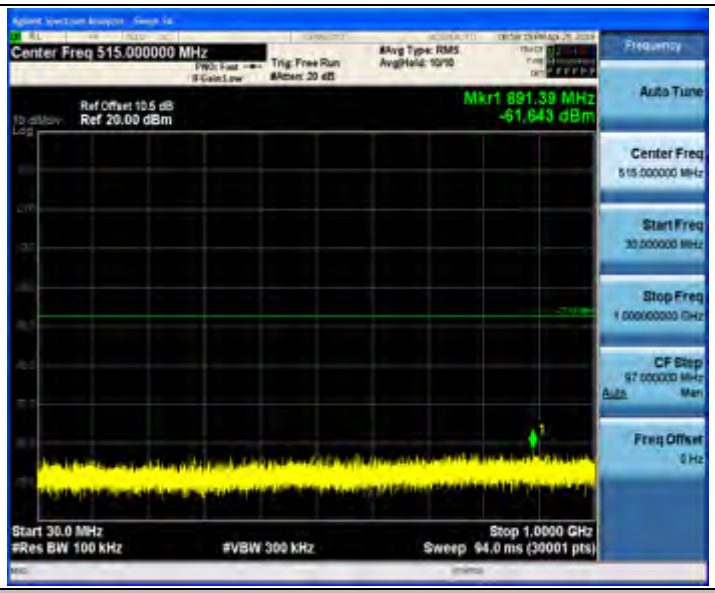


BLE_BT5.0_Ant1_2440_1000~26500



BLE_BT5.0_Ant1_2480_0~Reference

BLE_BT5.0_Ant1_2480_0.009~30

BLE_BT5.0_Ant1_2480_30~1000



BLE_BT5.0_Ant1_2480_1000~26500

Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note1: We tested all modes, but the data presented below is the worst case.

Note2: For Wireless charging protective case we only tested the RSE of the worst case.

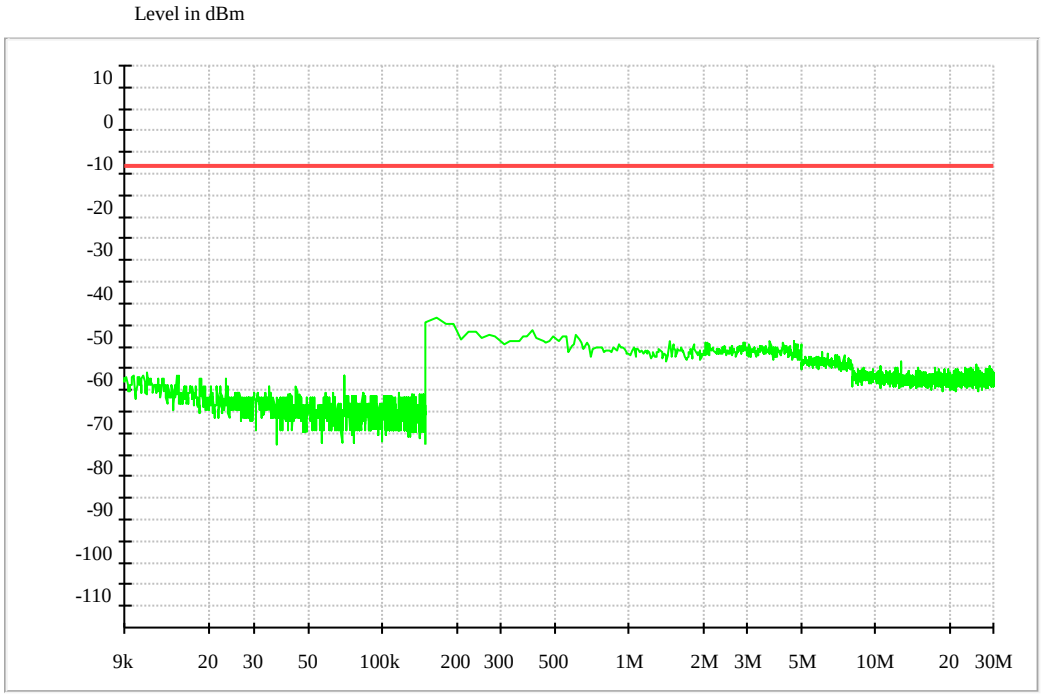
Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

1.1 Part 1: Testing Range of “9 kHz to 30MHz”

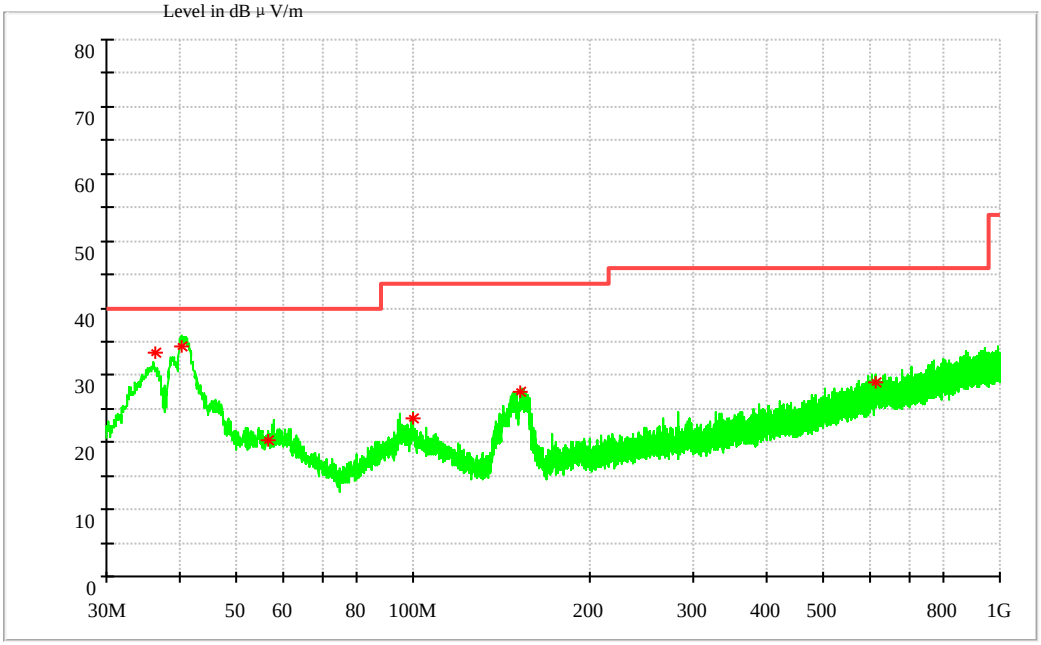
Note 1: The test results and plot for testing range of “9 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



1.2 Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
36.233040	33.25	40.00	6.75	101.0	V	4.0	13.2
40.195680	34.27	40.00	5.73	100.0	V	24.0	14.4
56.778920	20.35	40.00	19.65	101.0	V	1.0	13.5
99.980220	23.49	43.50	20.01	101.0	V	309.0	14.0
152.053700	27.41	43.50	16.09	101.0	V	251.0	9.3
614.073020	28.87	46.00	17.13	200.0	V	151.0	20.7

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

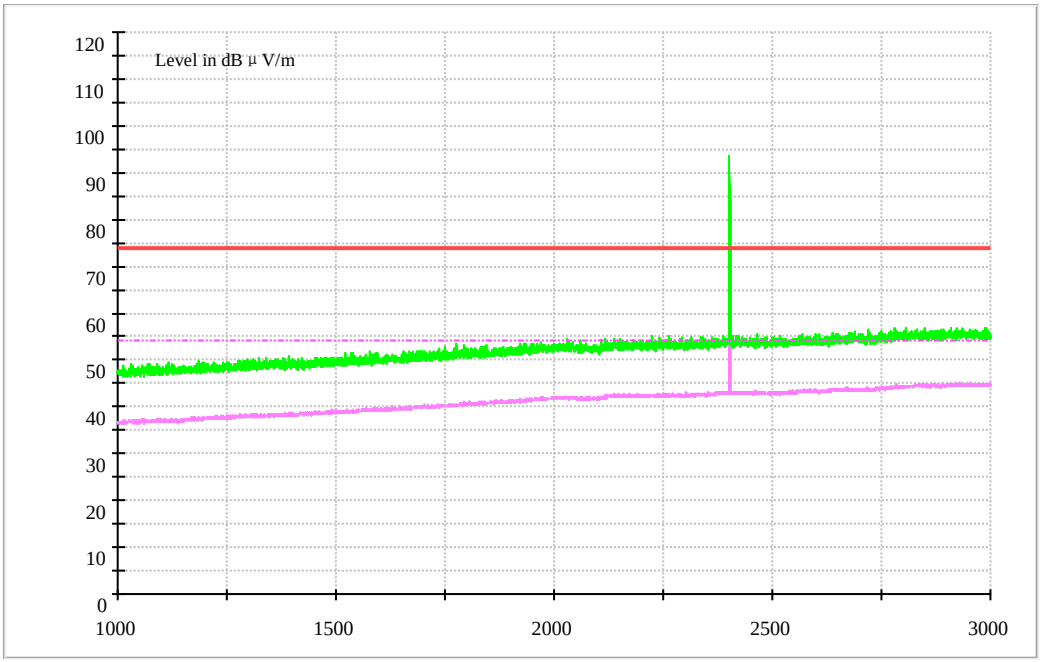
1.3 Part 3: Testing Range of “1GHz to 3GHz”

Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

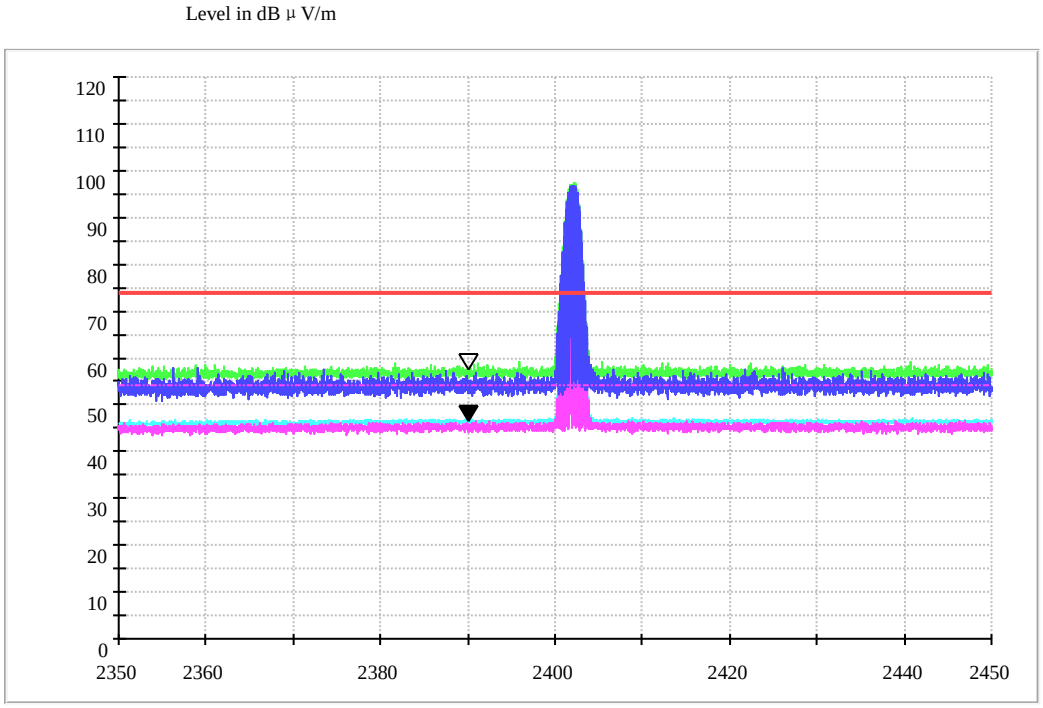
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).

Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

1.3.1Test Mode: BT4.2



1.3.1.1 Channel 0



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2389.9	57.91	74.00	16.09	150.0	V	226.0	-9.3

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2390.0	46.67	54.00	7.33	150.0	V	127.0	-9.3

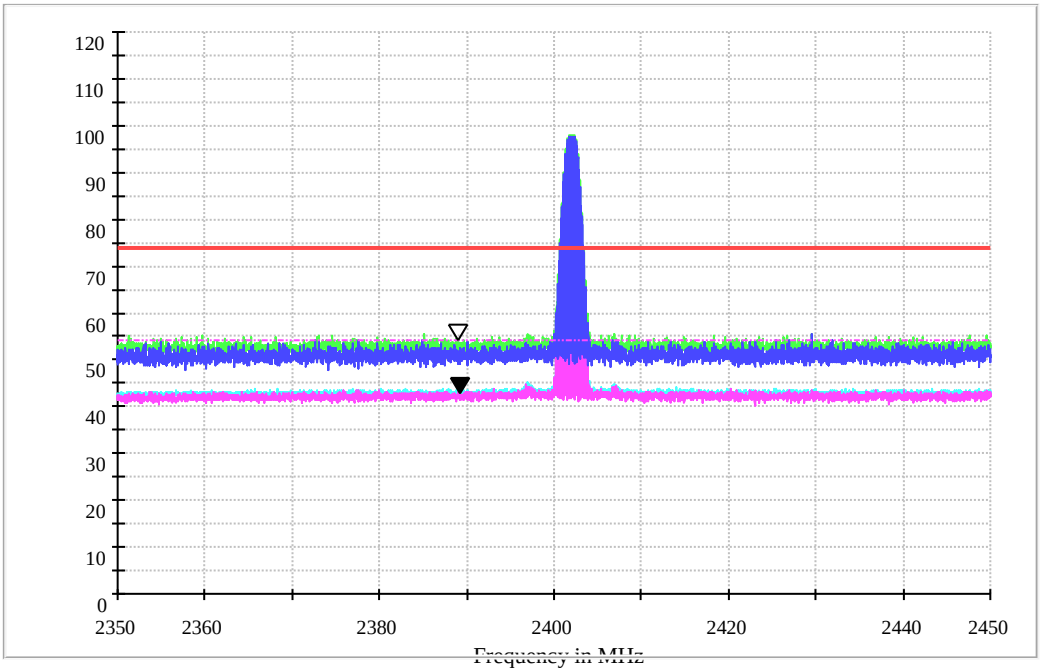
Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit – Level

1.3.1.2 Channel 0 (adaptor + Wireless Charging Case) worst case



MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2389.06	54.58	74.00	19.42	150.0	H	72.0	-9.3

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd.
2389.32	43.19	54.00	10.81	150.0	H	45.0	-9.3

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level