



Appendix for Test report



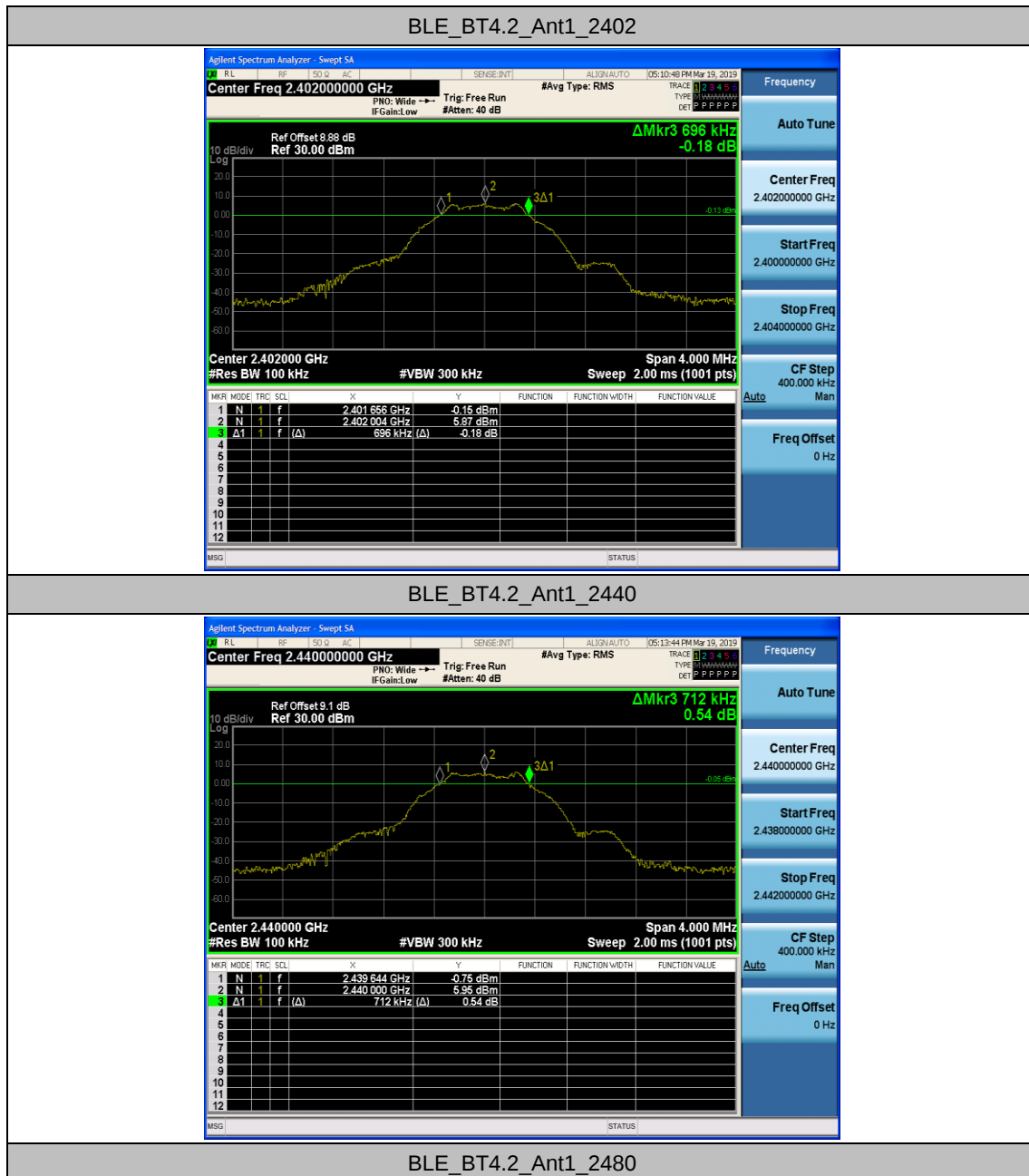
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.2	Ant1	2402	0.696	2401.656	2402.352	---	PASS
		2440	0.712	2439.644	2440.356	---	PASS
		2480	0.712	2479.644	2480.356	---	PASS



Test Graphs







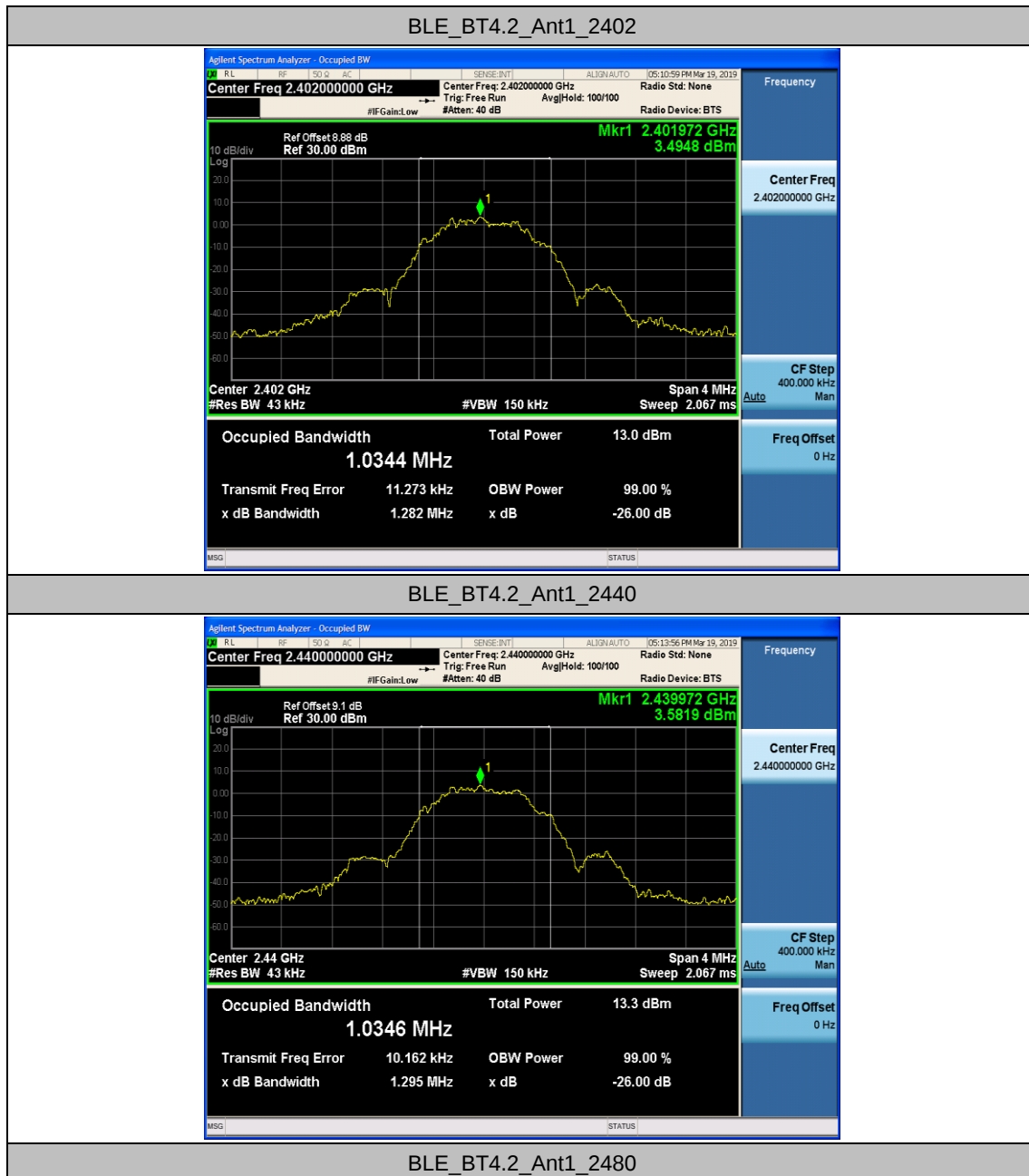
Appendix B: Occupied Channel Bandwidth

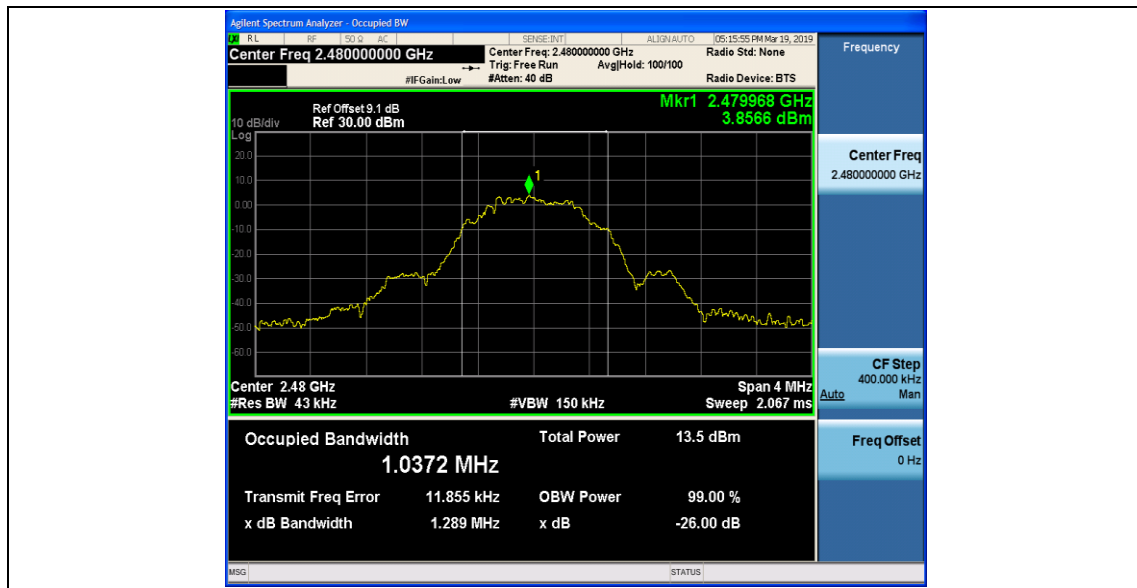
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.2	Ant1	2402	1.0344	2401.494	2402.528	---	PASS
		2440	1.0346	2439.493	2440.527	---	PASS
		2480	1.0372	2479.493	2480.530	---	PASS



Test Graphs





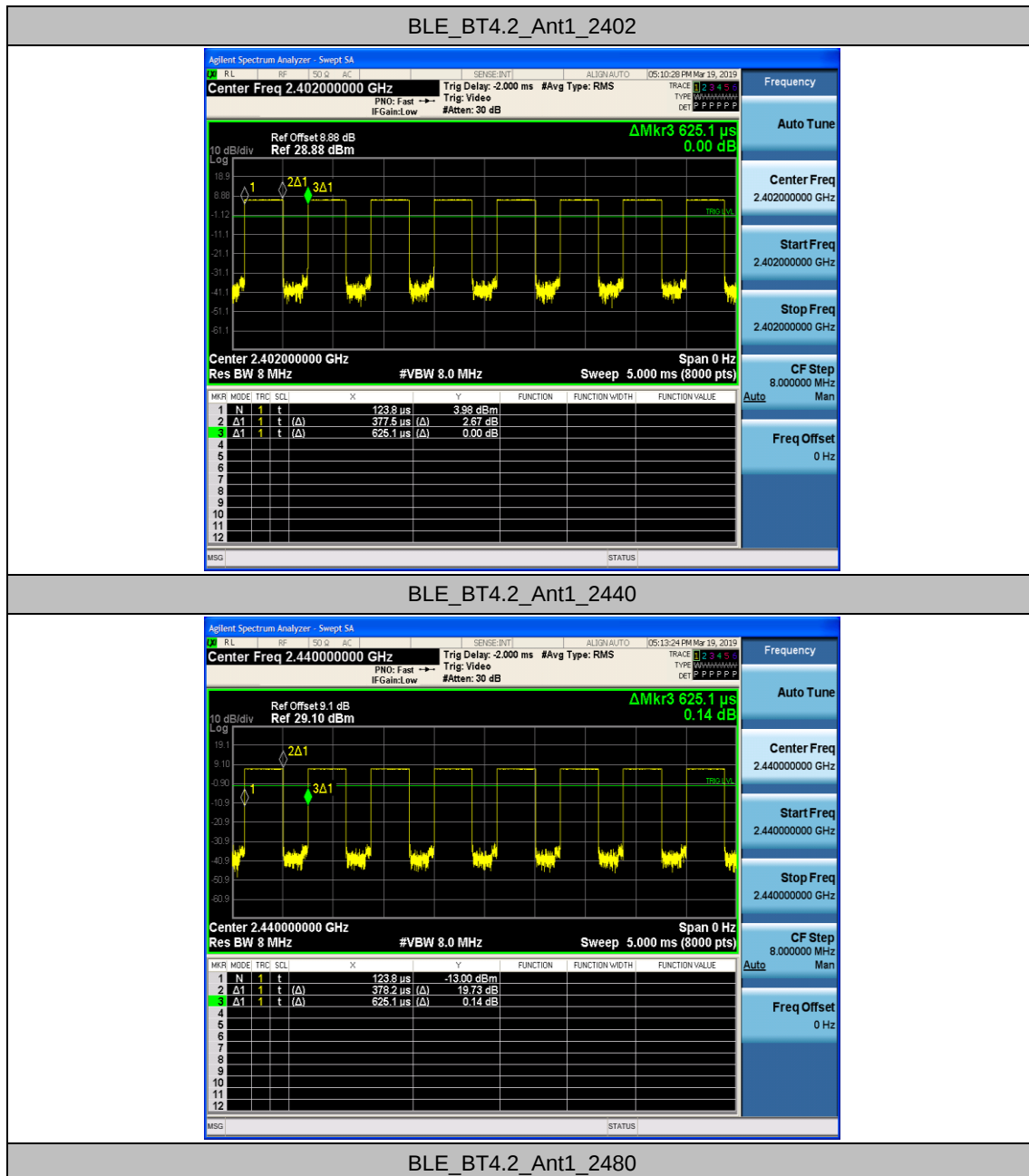
Appendix C: Duty Cycle

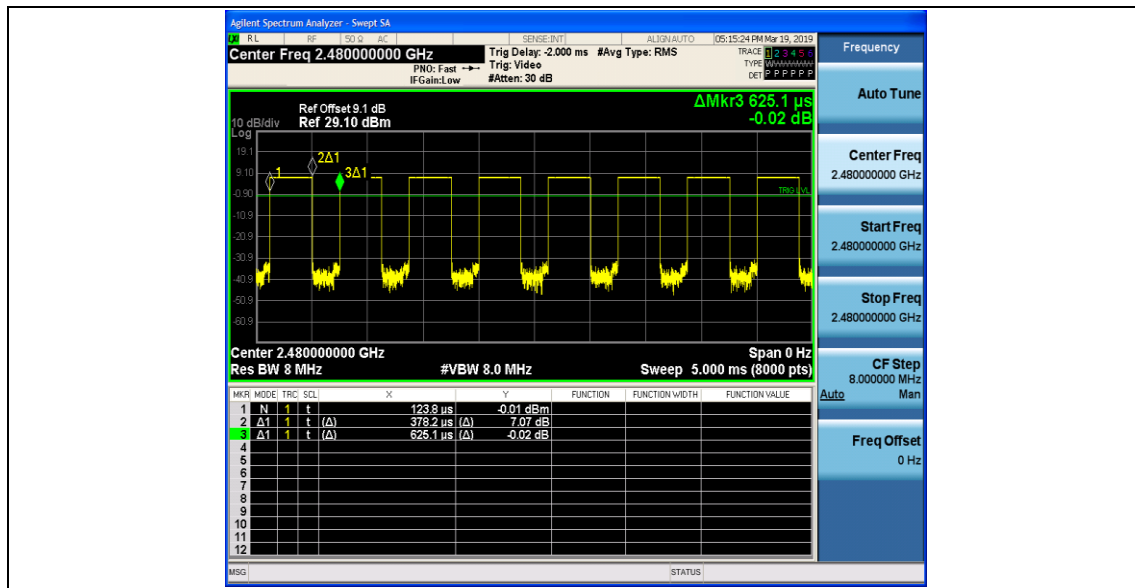
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_BT4.2	Ant1	2402	0.38	0.63	60.40
		2440	0.38	0.63	60.50
		2480	0.38	0.63	60.50



Test Graphs







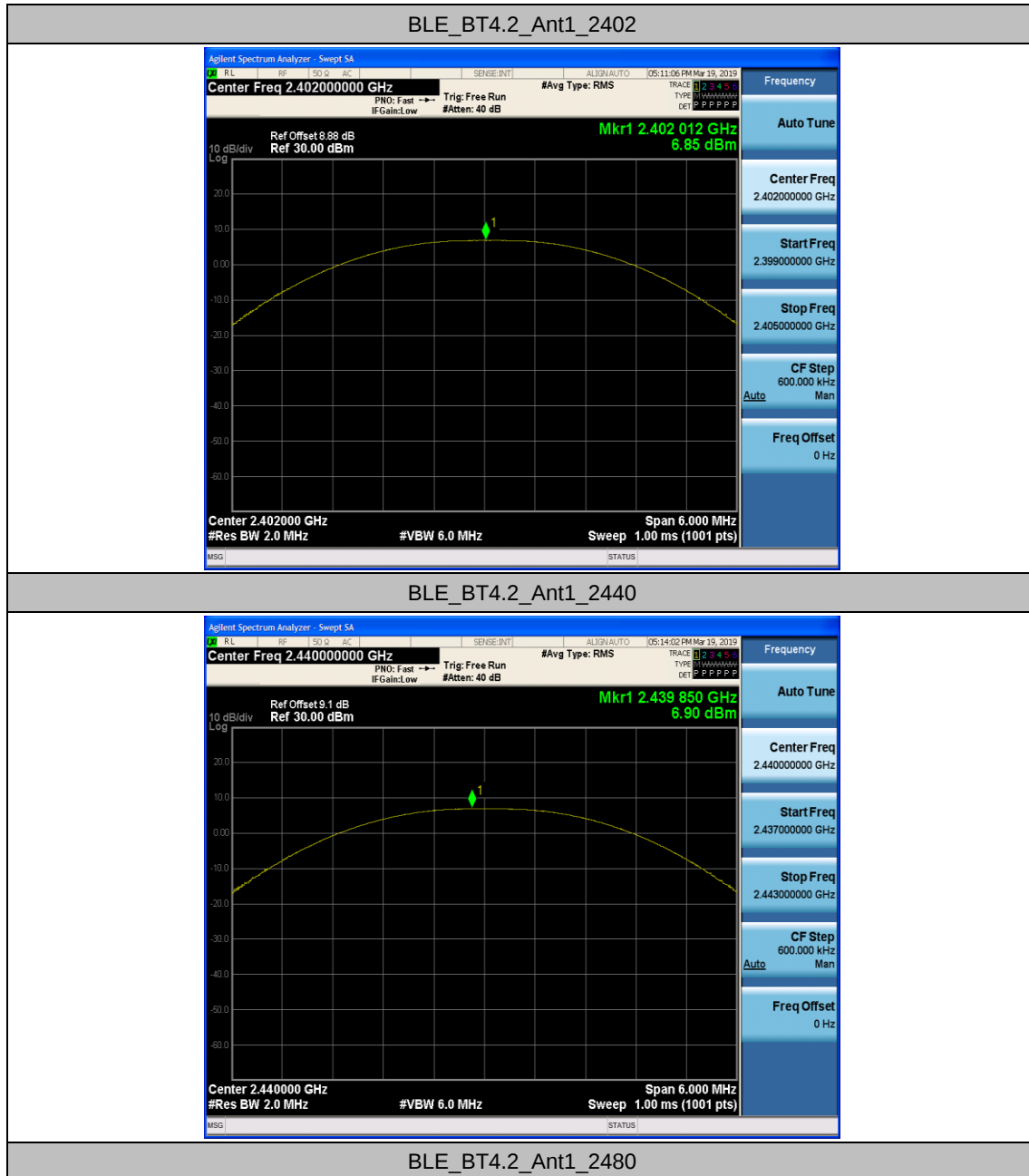
Appendix D: Maximum conducted output power

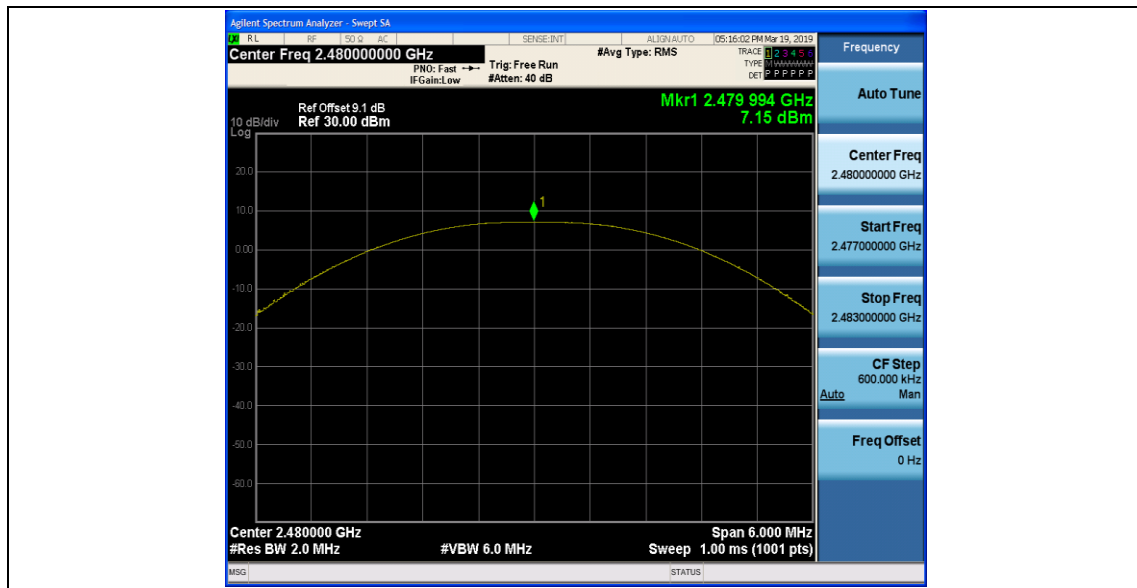
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	2402	6.85	30	PASS
		2440	6.9	30	PASS
		2480	7.15	30	PASS



Test Graphs







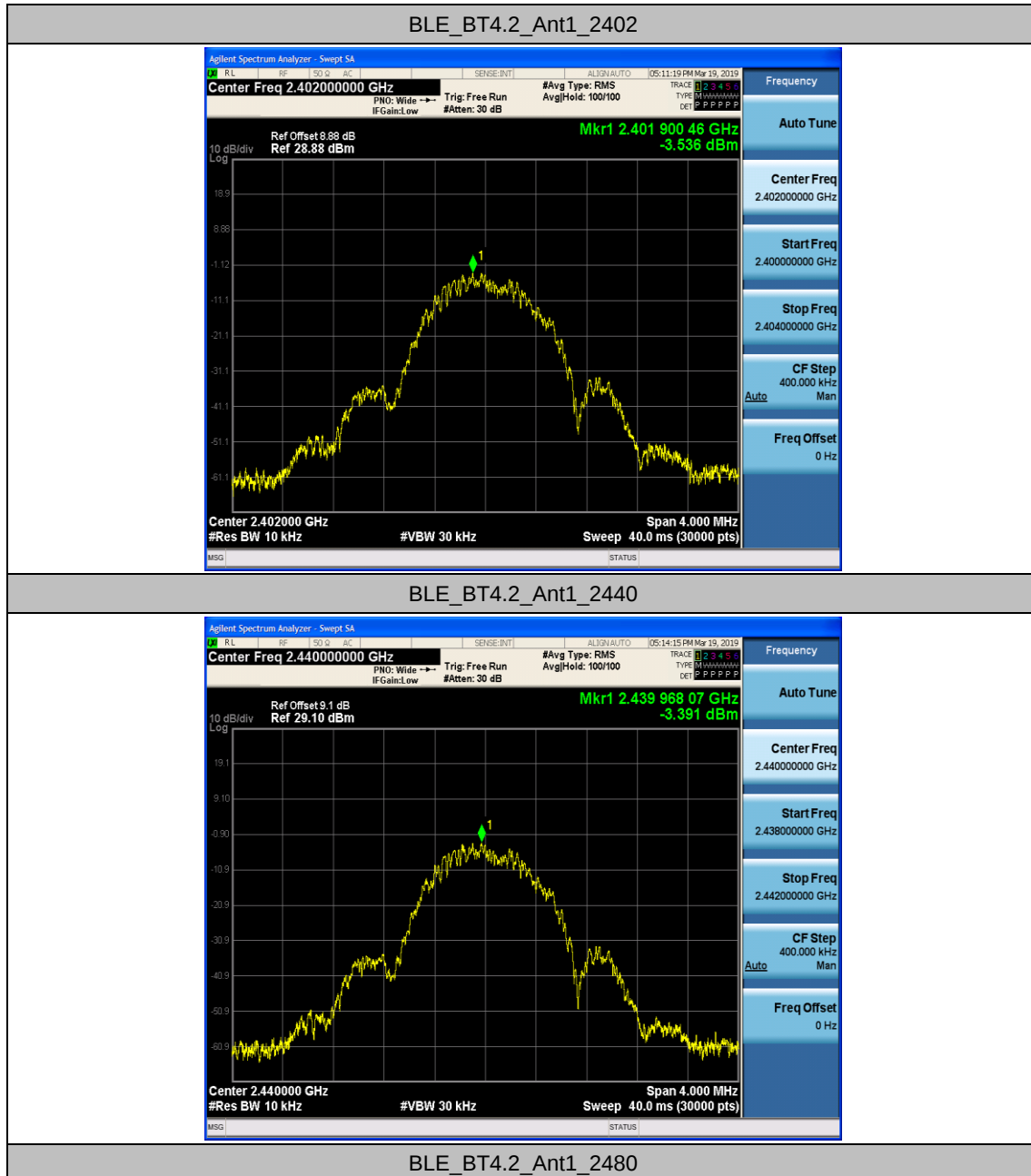
Appendix E: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/10kHz]	Limit[dBm/3kHz]	Verdict
BLE_BT4.2	Ant1	2402	-3.54	8	PASS
		2440	-3.39	8	PASS
		2480	-3.09	8	PASS



Test Graphs







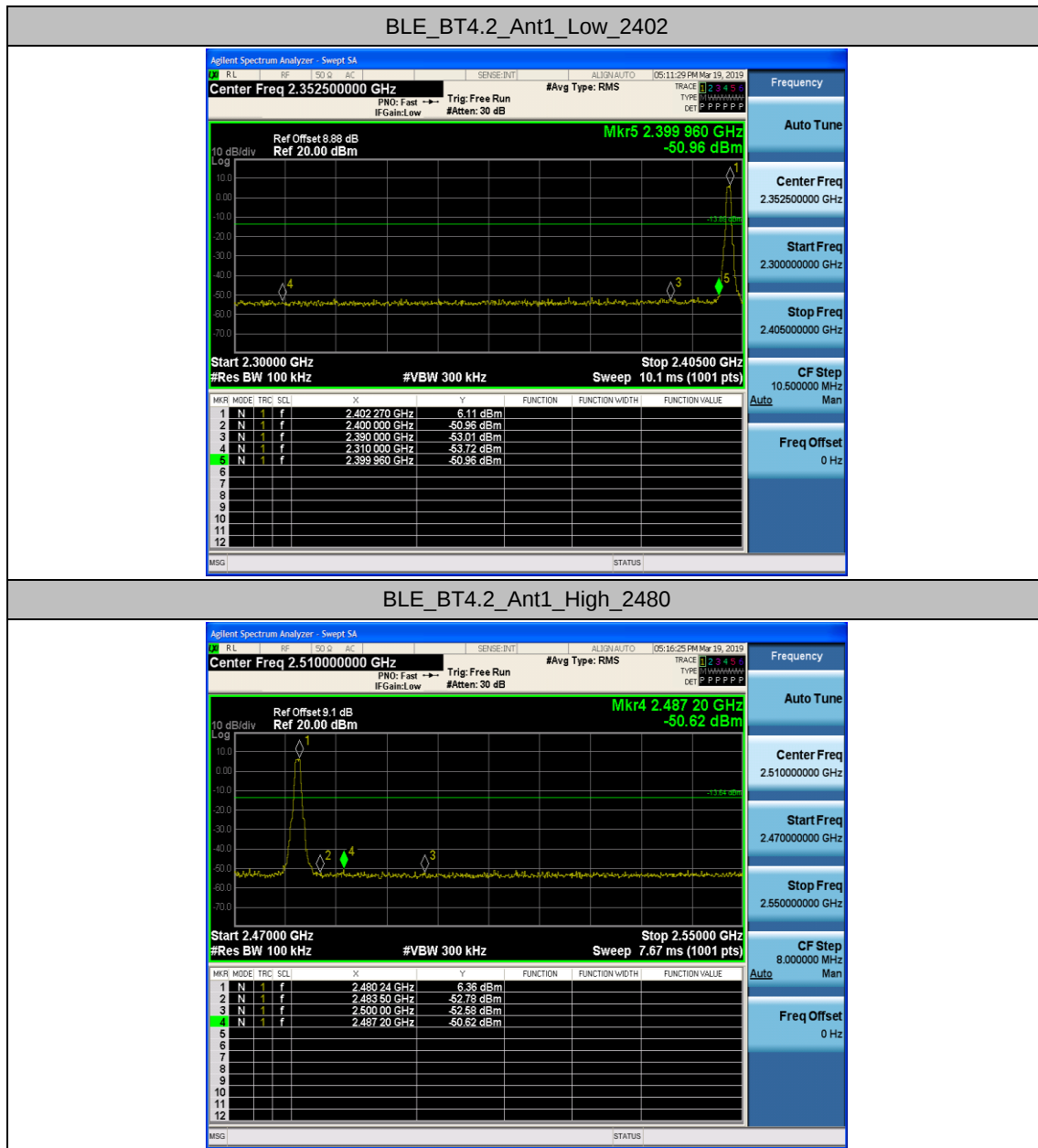
Appendix F: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	Low	2402	6.11	-50.96	-13.89	PASS
		High	2480	6.36	-50.62	-13.64	PASS



Test Graphs



Appendix G: Conducted Spurious Emission

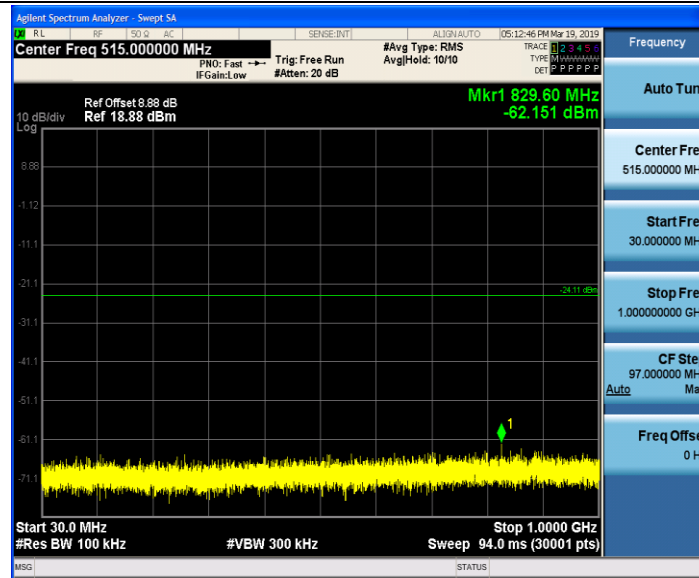
Test Result

TestMode	Antenna	Channel	FreqRange	RefLevel	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	2402	Reference	5.89	5.89	---	PASS
			0.009~30	0.009~30	-74.79	-34.11	PASS
			30~1000	30~1000	-62.15	-24.11	PASS
			1000~26500	1000~26500	-36.78	-24.11	PASS
		2440	Reference	5.82	5.82	---	PASS
			0.009~30	0.009~30	-74.78	-34.18	PASS
			30~1000	30~1000	-62.77	-24.18	PASS
			1000~26500	1000~26500	-37.16	-24.18	PASS
		2480	Reference	6.20	6.20	---	PASS
			0.009~30	0.009~30	-74.85	-33.8	PASS
			30~1000	30~1000	-63.56	-23.8	PASS
			1000~26500	1000~26500	-37	-23.8	PASS

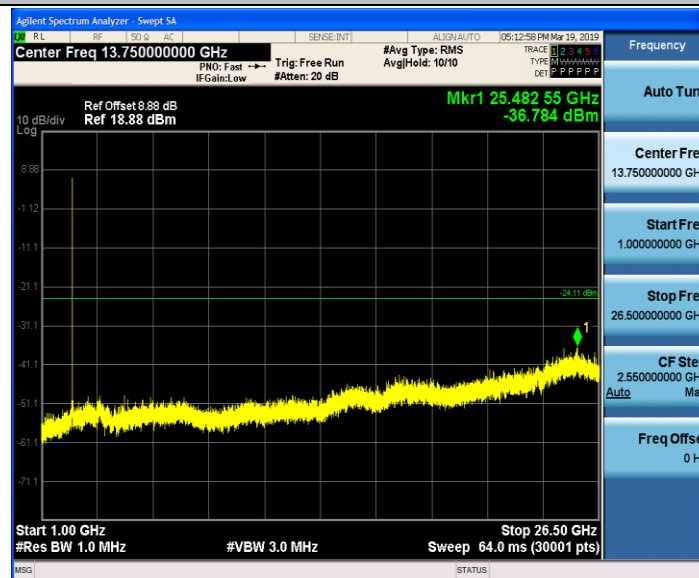


Test Graphs

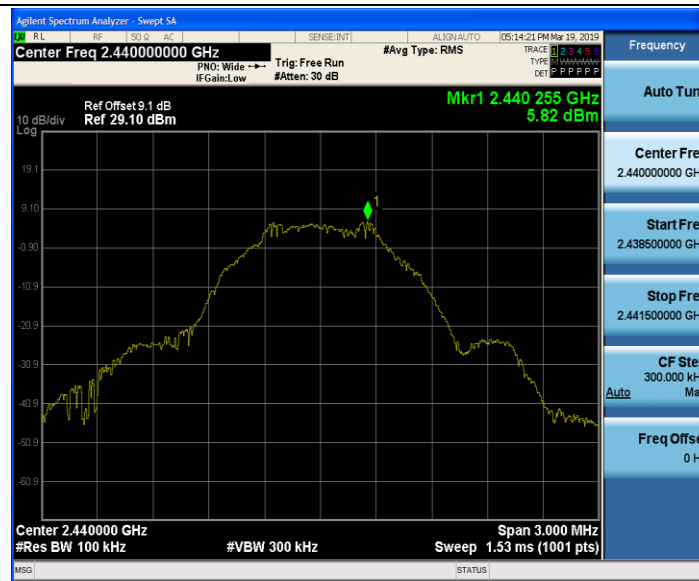




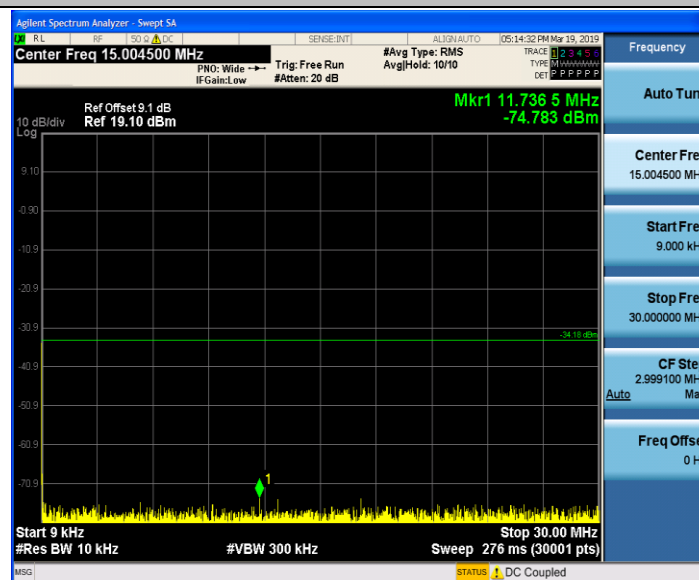
BLE_BT4.2_Ant1_2402_1000~26500



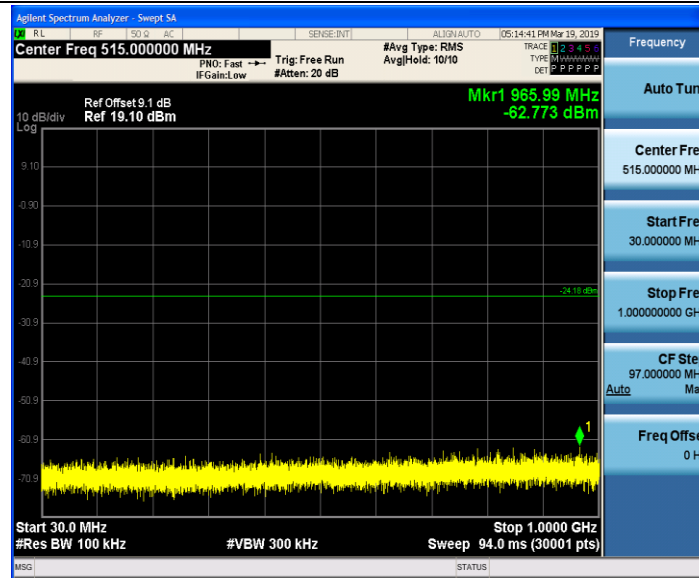
BLE_BT4.2_Ant1_2440_0~Reference



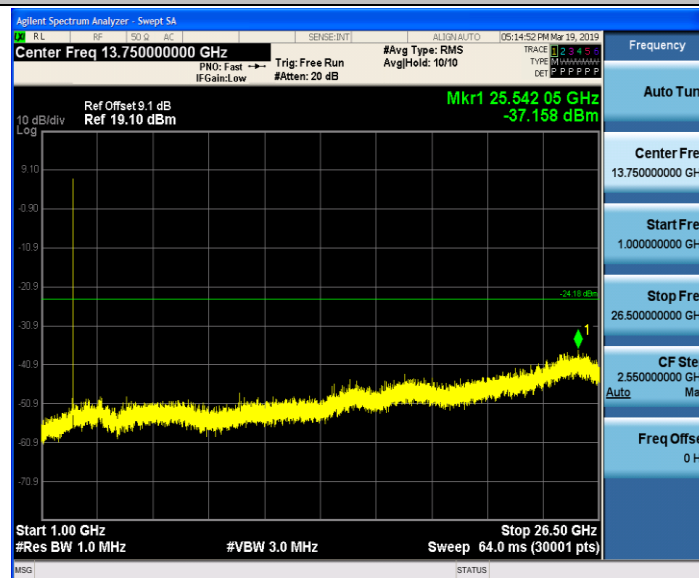
BLE_BT4.2_Ant1_2440_0.009~30



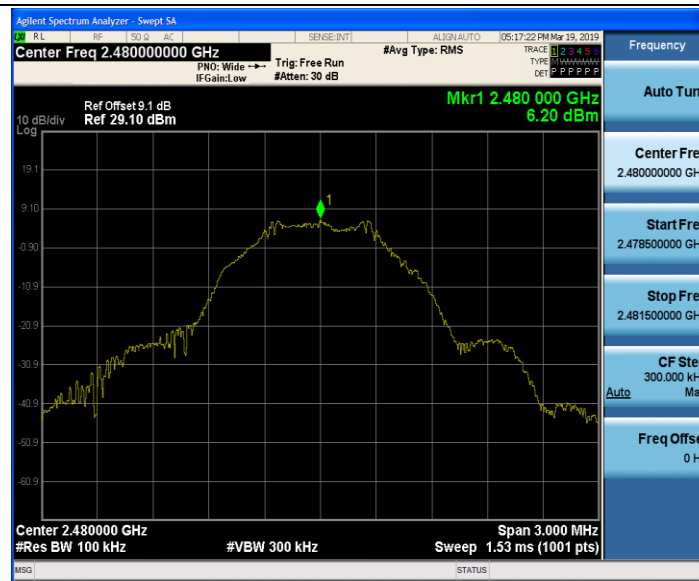
BLE_BT4.2_Ant1_2440_30~1000



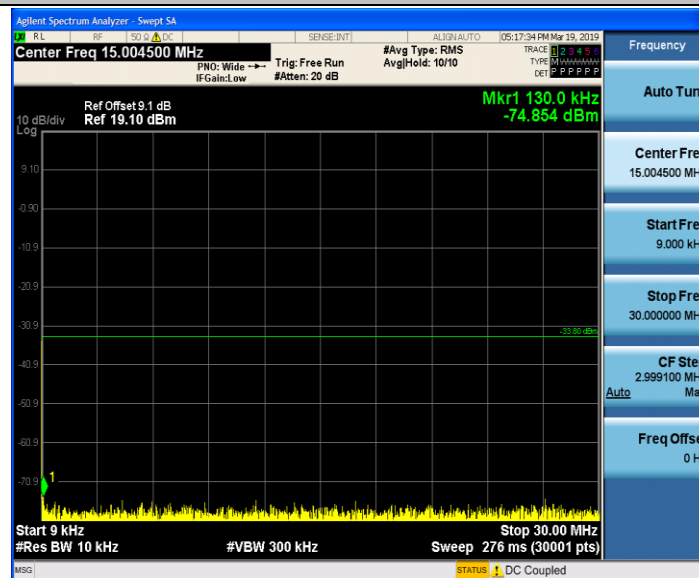
BLE_BT4.2_Ant1_2440_1000~26500



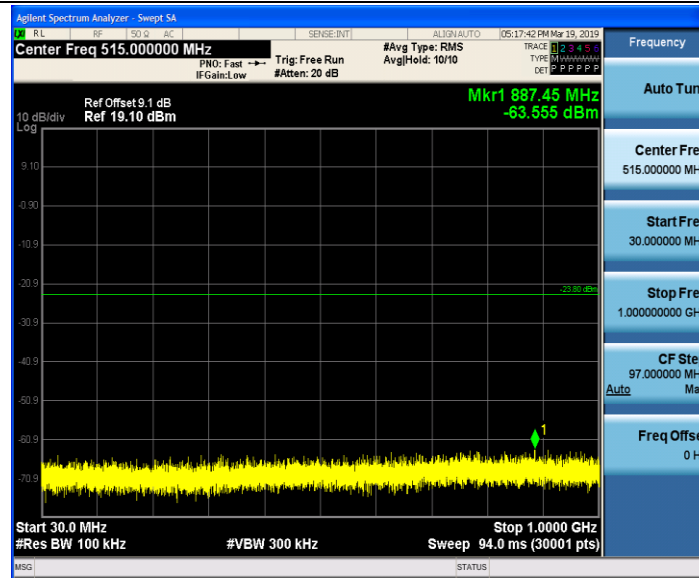
BLE_BT4.2_Ant1_2480_0~Reference



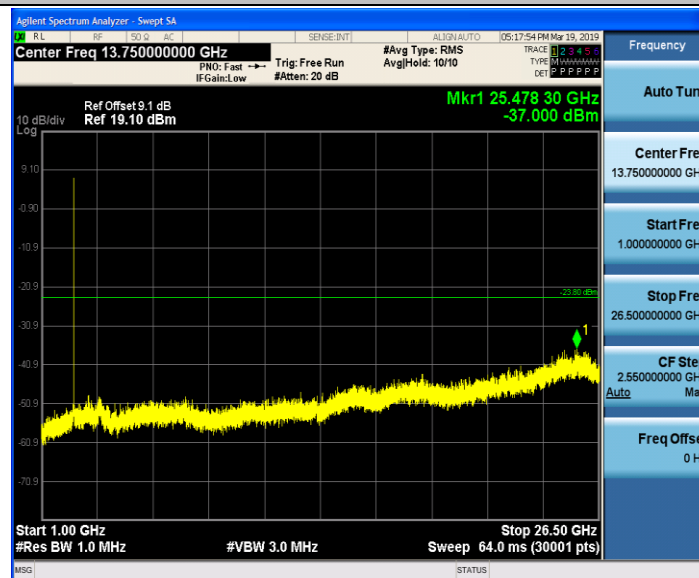
BLE_BT4.2_Ant1_2480_0.009~30



BLE_BT4.2_Ant1_2480_30~1000



BLE_BT4.2_Ant1_2480_1000~26500





Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

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

9KHz-30MHz: RBW = 300Hz, VBW = 500Hz

150KHz-30MHz: RBW = 9 kHz, VBW = 30 kHz

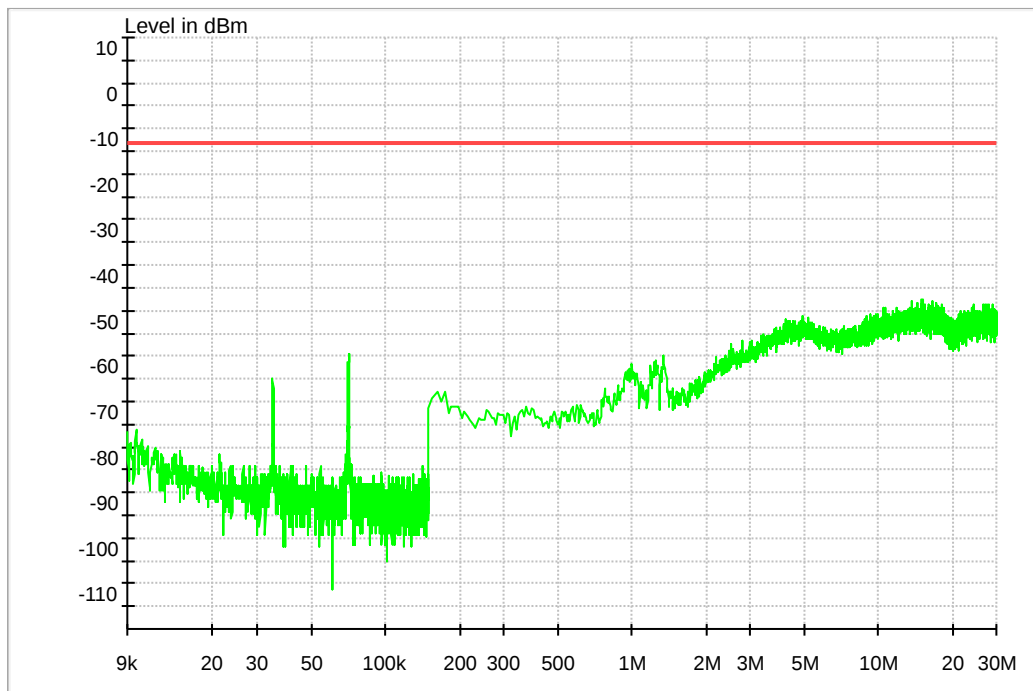
Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

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”

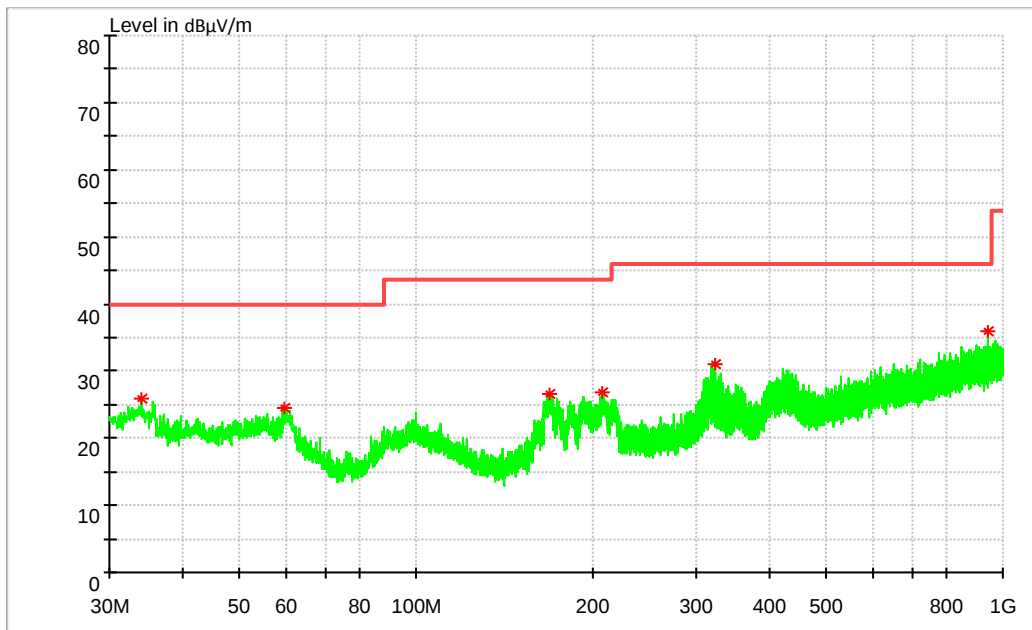
Note 1: The test results and plot for testing range of “9 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



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).



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
34.074000	25.95	40.00	14.05	100.0	V	107.0	13.0
59.633500	24.54	40.00	15.46	100.0	V	350.0	13.1
168.952500	26.69	43.50	16.81	100.0	H	188.0	10.0
206.976500	26.78	43.50	16.72	100.0	H	188.0	12.0
324.007000	31.07	46.00	14.93	100.0	H	112.0	15.0
942.479000	35.83	46.00	10.17	100.0	V	309.0	24.2

Note:

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

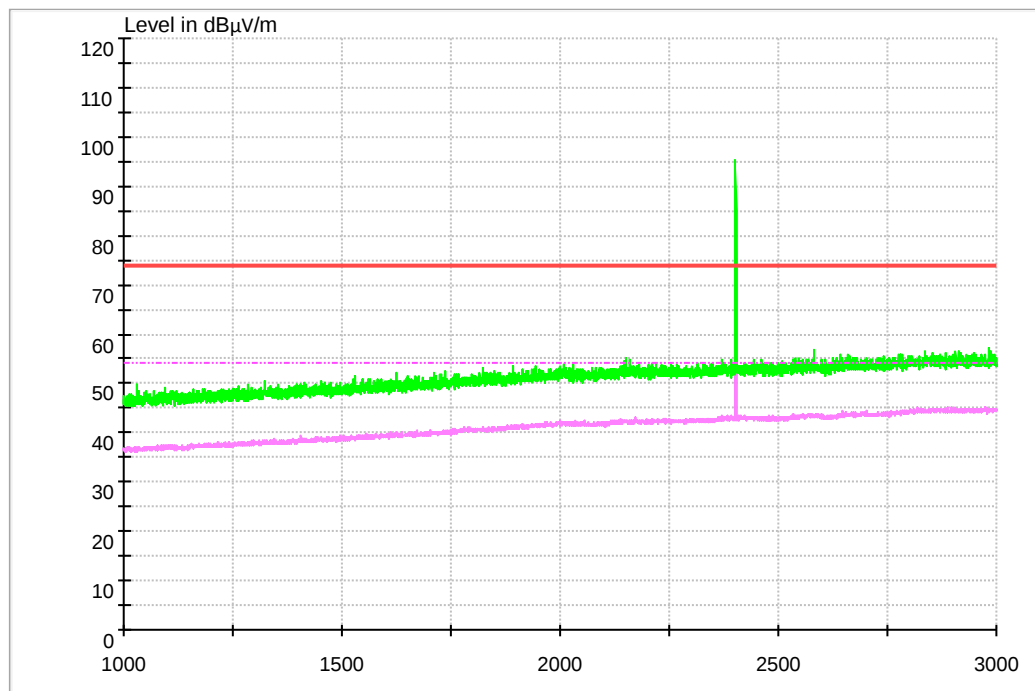
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

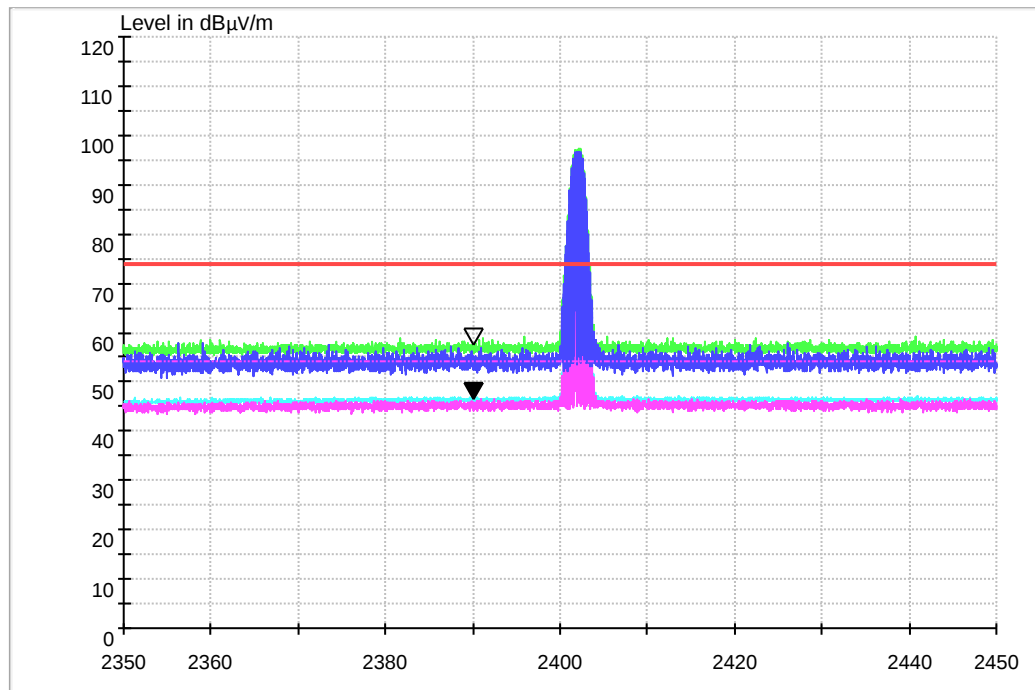
1.3 Part 3: Testing Range of “1GHz to 3GHz”

- 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 dB μ V/m) and Average Limit (54 dB μ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

1.3.1 Test 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 h	Transd. (dB)
2390.00	46.67	54.00	7.33	150.0	H	230.0	-10.2

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2389.98	57.91	74.00	16.09	150.0	H	230.0	-10.2

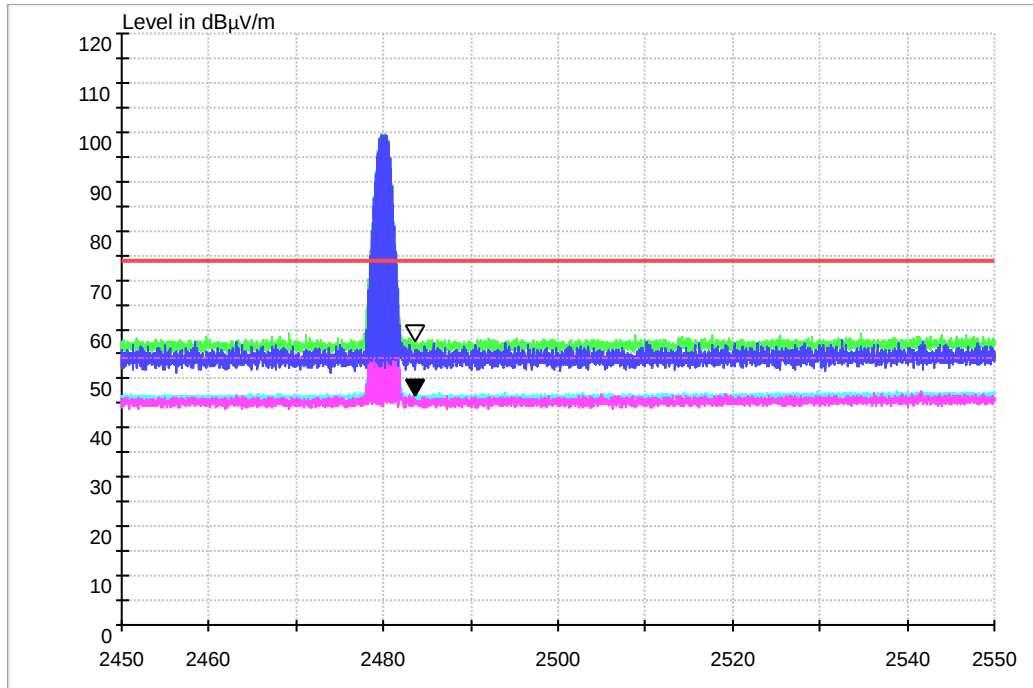
Note:

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 39



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.64	46.80	54.00	7.20	150.0	H	210.0	-6.8

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.66	57.89	74.00	16.11	150.0	H	210.0	-6.8

Note:

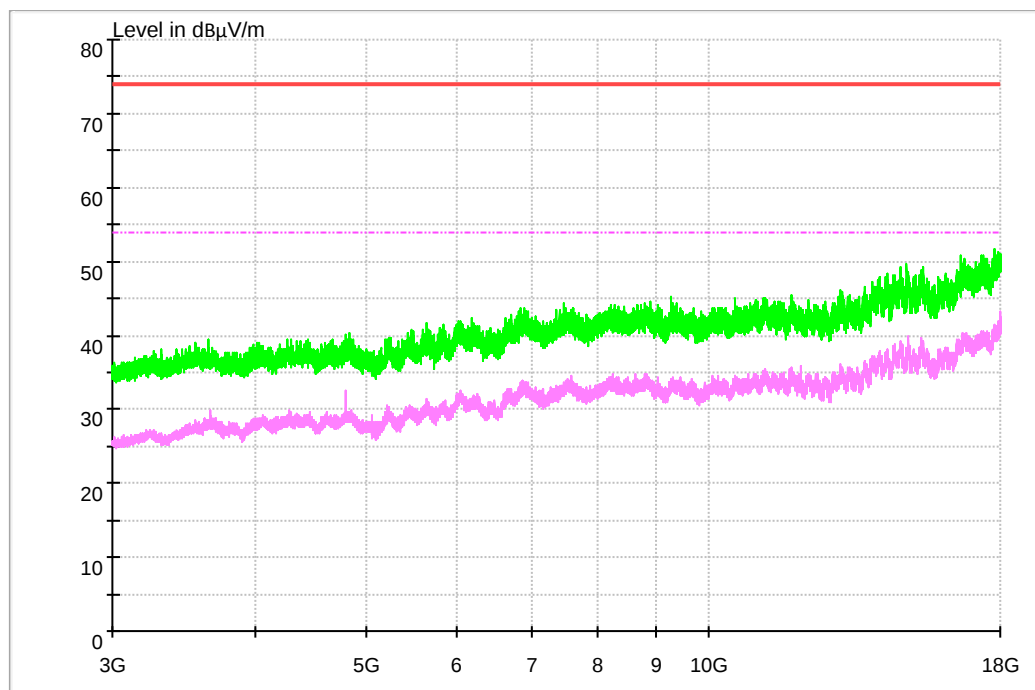
1, Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

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

2, Margin = Limit - Level

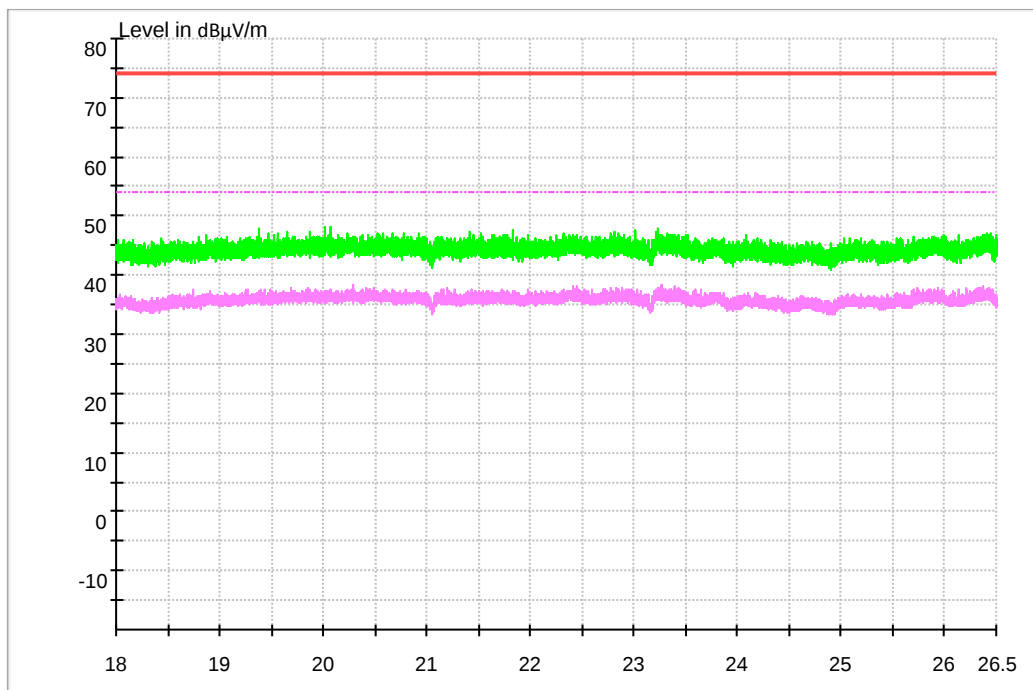
1.4 Part 4: Testing Range of “3 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3 GHz to 18 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 testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).



1.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

- Note 1: The test results and plot for testing range of “18 GHz to 26.5 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 testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

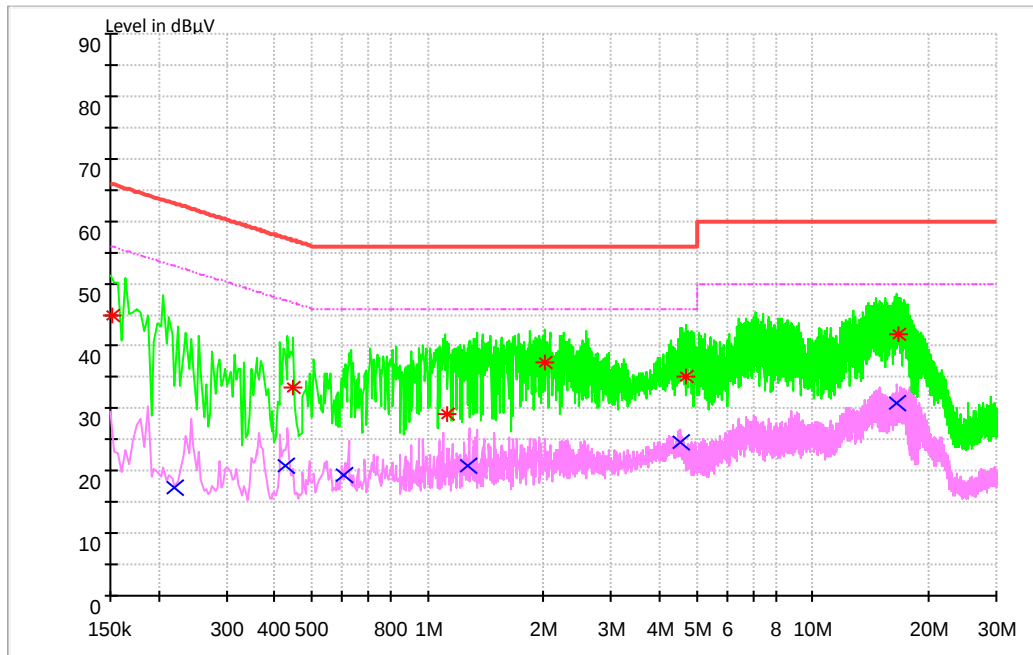


Appendix I: Conducted Emission at Power Port

1 BLE_BT4.2

Note: RBW =9 kHz, VBW = 30 kHz

Channel 39



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.152138	44.87	65.88	9.7	21.01	N	FLO
0.444430	33.38	56.98	9.7	23.60	N	FLO
1.121893	29.09	56.00	9.7	26.91	N	FLO
2.014239	37.35	56.00	9.7	18.65	L1	FLO
4.691125	35.02	56.00	9.8	20.98	L1	FLO
16.630059	41.88	60.00	10.1	18.12	L1	FLO

**MEASUREMENT RESULT: AV Detector**

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.218758	17.29	52.87	9.7	35.58	N	FLO
0.426791	20.69	47.32	9.7	26.63	L1	FLO
0.606947	19.22	46.00	9.7	26.78	L1	FLO
1.277599	20.68	46.00	9.7	25.32	L1	FLO
4.546844	24.50	46.00	9.8	21.50	L1	FLO
16.602343	30.79	50.00	10.1	19.21	L1	FLO

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

END