



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	0.664	2401.672	2402.336	---	PASS
		2440	0.664	2439.676	2440.340	---	PASS
		2480	0.660	2479.672	2480.332	---	PASS



Test Graphs

BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440



BLE_BT4.2_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	1.0669	2401.478	2402.545	---	PASS
		2440	1.0634	2439.482	2440.546	---	PASS
		2480	1.0667	2479.476	2480.543	---	PASS



Test Graphs

BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440



BLE_BT4.2_Ant1_2480





Appendix C: Duty Cycle

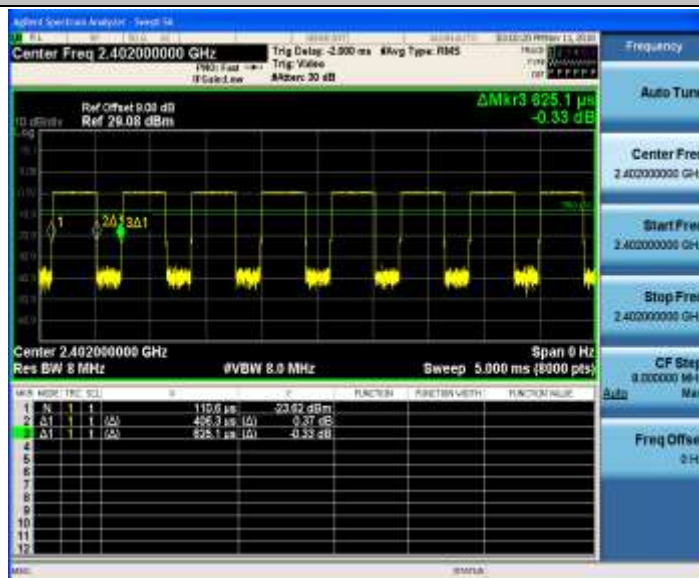
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_BT4.2	Ant1	2402	0.41	0.63	65.00
		2440	0.41	0.63	65.00
		2480	0.41	0.63	65.00

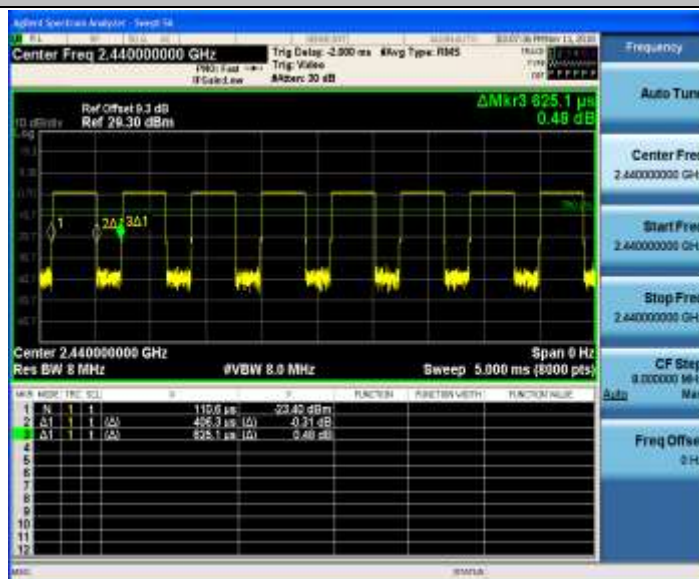


Test Graphs

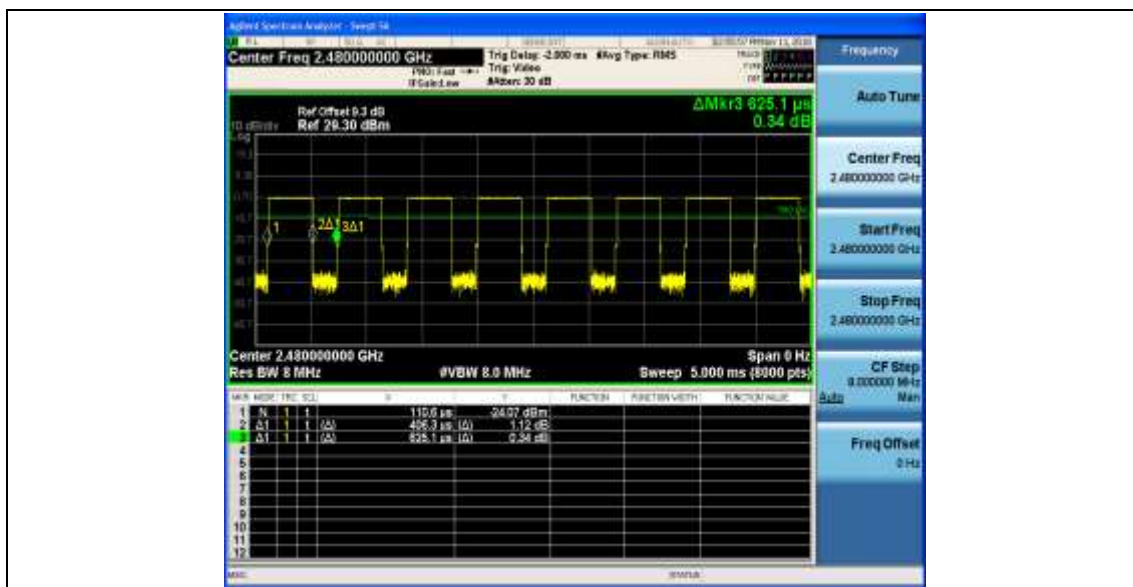
BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440



BLE_BT4.2_Ant1_2480





Appendix D: Maximum conducted peak output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	2402	-0.27	30	PASS
		2440	0.51	30	PASS
		2480	-0.56	30	PASS

Test Graphs

BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440



BLE_BT4.2_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	-11.03	8	PASS
		2440	-10.2	8	PASS
		2480	-11.3	8	PASS

Test Graphs

BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440



BLE_BT4.2_Ant1_2480





Appendix F: Band edge measurements

Test Result

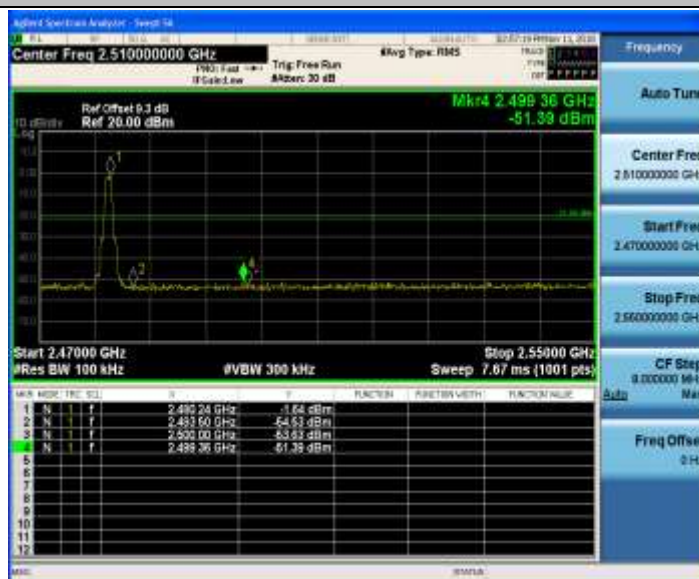
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	Low	2402	-0.73	-50.69	-20.73	PASS
		High	2480	-1.64	-51.39	-21.64	PASS

Test Graphs

BLE_BT4.2_Ant1_Low_2402



BLE_BT4.2_Ant1_High_2480



Appendix G: Unwanted Emissions into Non-Restricted Frequency Bands

Test Result

TestMode	Antenna	Channel	FreqRange	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	2402	Reference	-0.80	-0.80	---	PASS
			0.009~30	0.009~30	-75.56	-40.8	PASS
			30~1000	30~1000	-62.81	-30.8	PASS
			1000~26500	1000~26500	-37.55	-30.8	PASS
		2440	Reference	-0.15	-0.15	---	PASS
			0.009~30	0.009~30	-74.21	-40.15	PASS
			30~1000	30~1000	-62.71	-30.15	PASS
			1000~26500	1000~26500	-37.12	-30.15	PASS
		2480	Reference	-1.12	-1.12	---	PASS
			0.009~30	0.009~30	-75.21	-41.12	PASS
			30~1000	30~1000	-62.7	-31.12	PASS
			1000~26500	1000~26500	-37.9	-31.12	PASS

Test Graphs

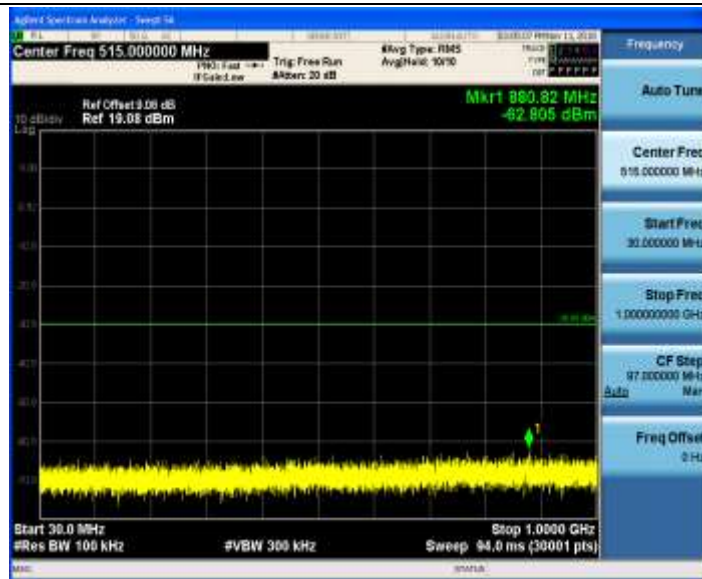
BLE_BT4.2_Ant1_2402_0~Reference



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





Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

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

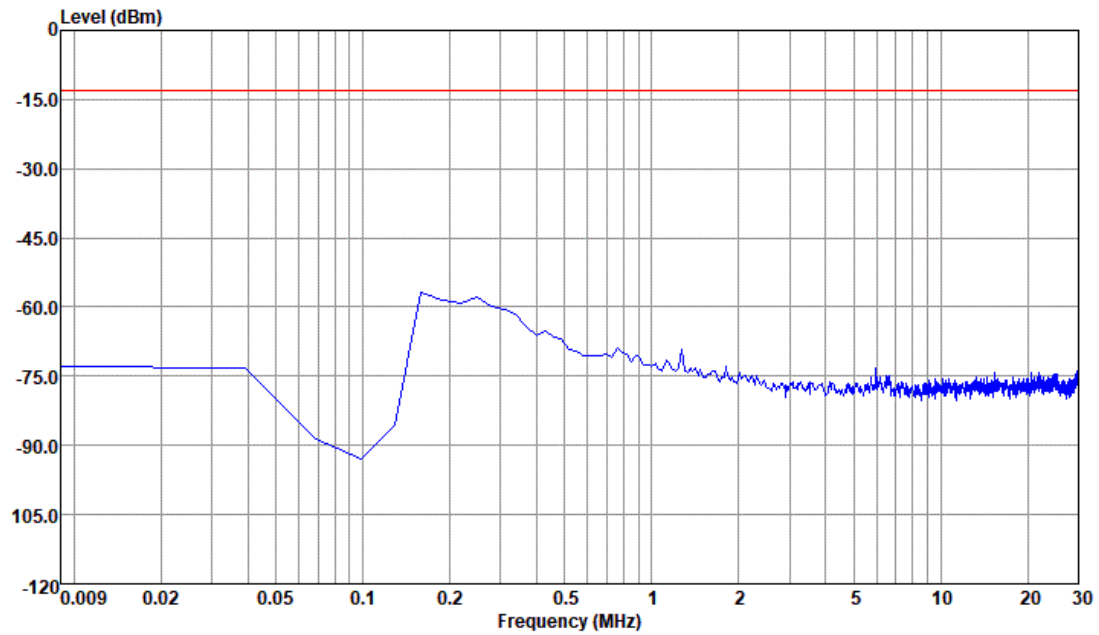
Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

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”

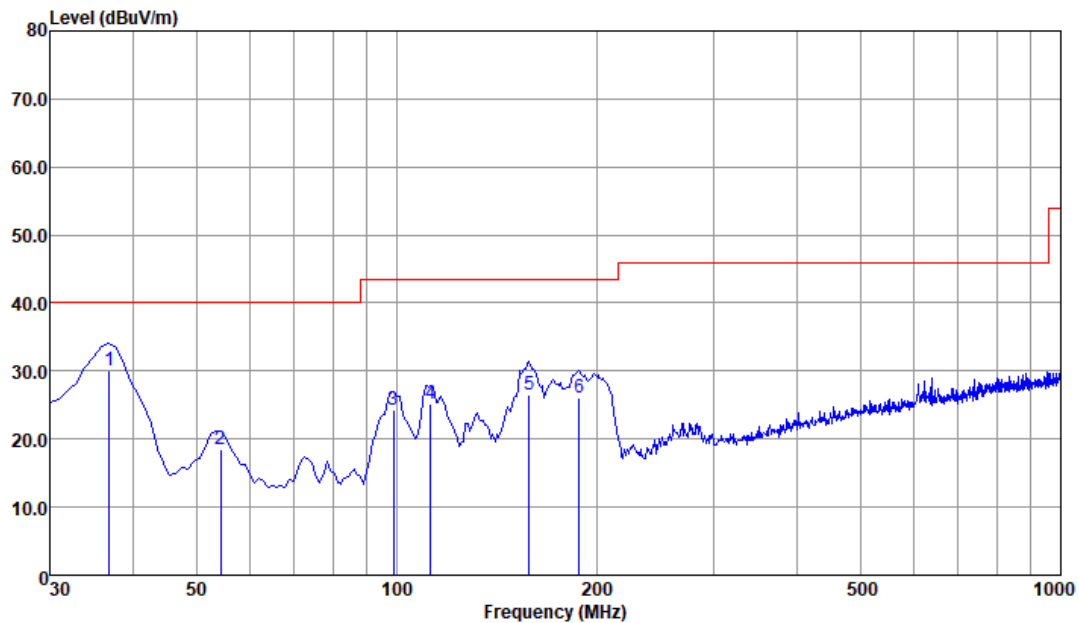
Note 1: The test results and plot for testing range of “9 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



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).



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1 pp	36.87	30.10	-9.90	40.00	41.02	20.34	0.34	31.60 QP
2	54.25	18.59	-21.41	40.00	36.27	13.42	0.50	31.60 QP
3	98.87	24.23	-19.27	43.50	38.39	16.50	0.84	31.50 QP
4	112.45	25.16	-18.34	43.50	38.17	17.50	0.97	31.48 QP
5	158.04	26.56	-16.94	43.50	40.43	16.13	1.36	31.36 QP
6	188.11	26.00	-17.50	43.50	40.35	15.36	1.54	31.25 QP

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”

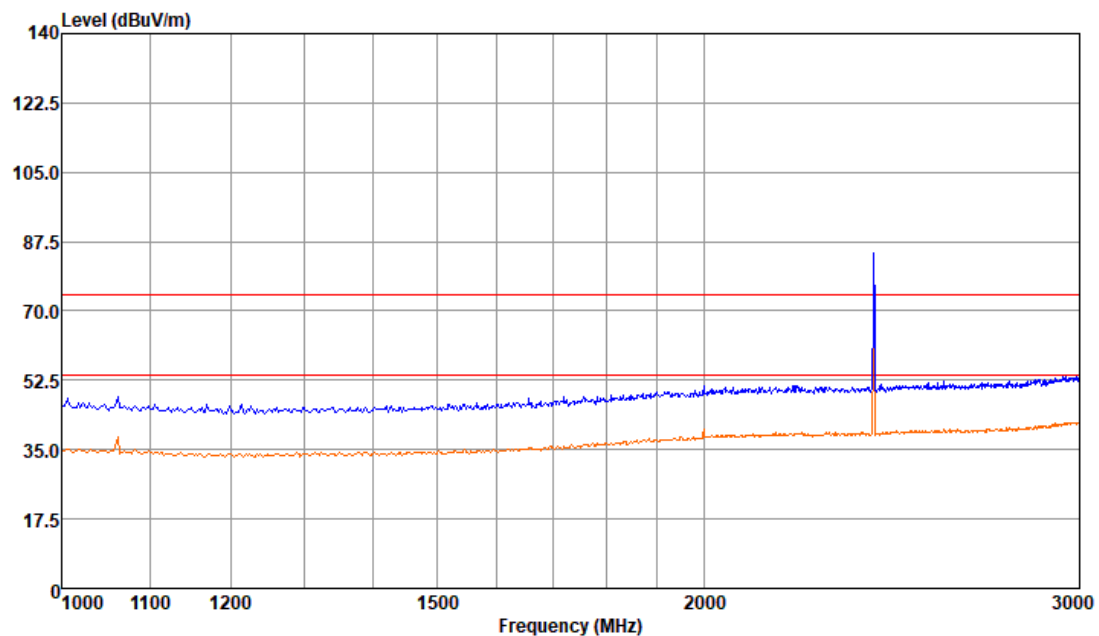
Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

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.

Test Mode:

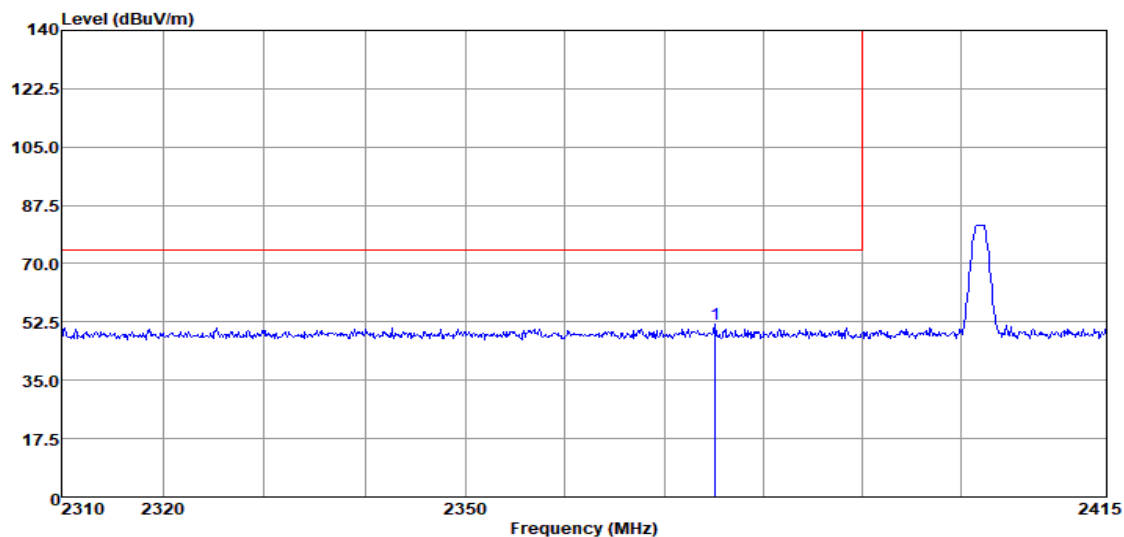
1.3.1 Test Mode: TM1





1.3.1.1 Channel 0

MEASUREMENT RESULT: PK Detector



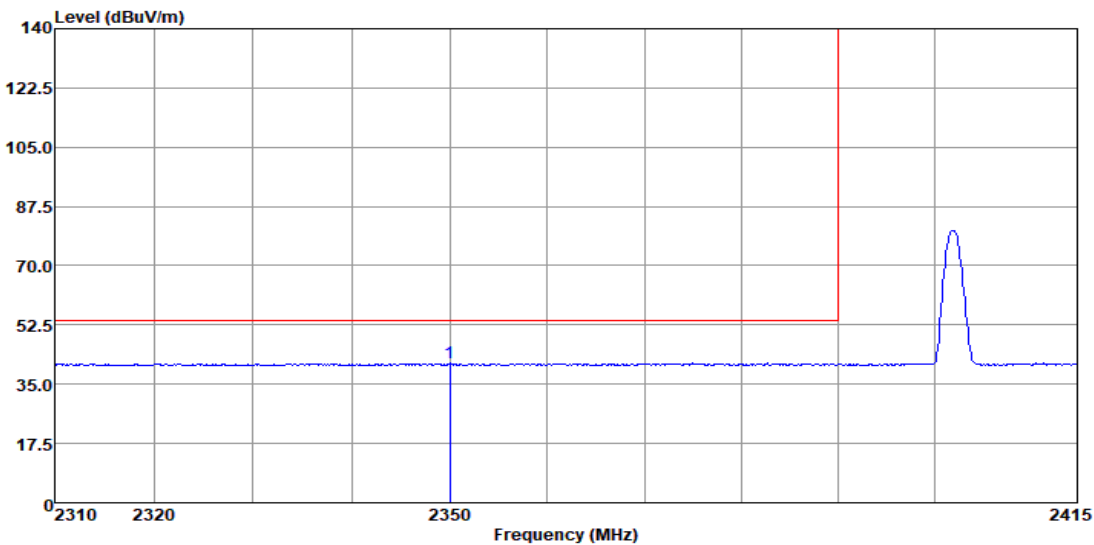
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1 pp	2375.10	51.88	-22.12	74.00	46.63	31.52	6.73	33.00 Peak

MEASUREMENT

RESULT:

AV

Detector



Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 pp 2350.01	41.23	-12.77	54.00	35.95	31.55	6.73	33.00	Average

Note:

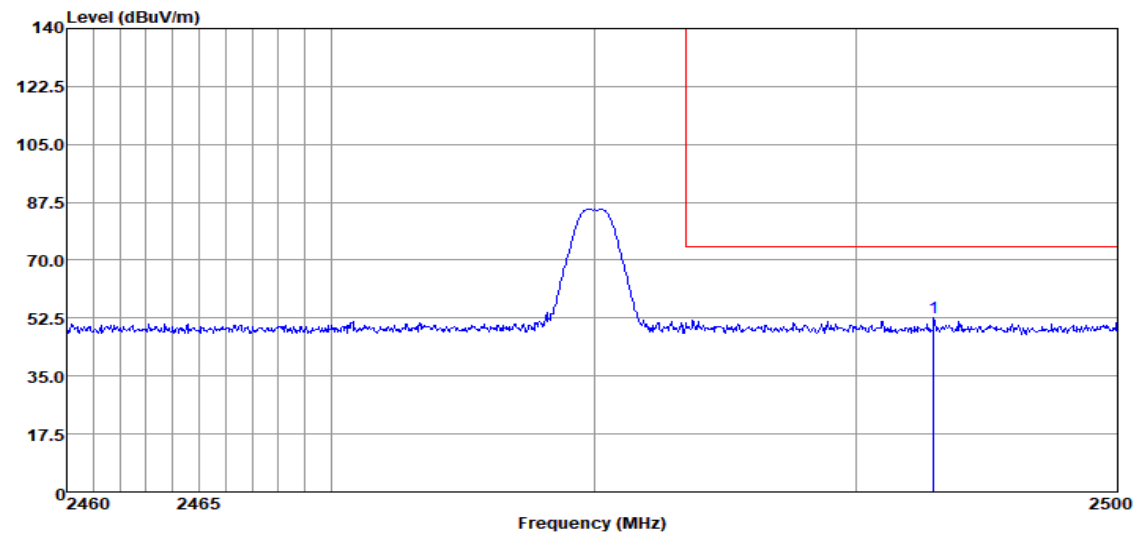
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level



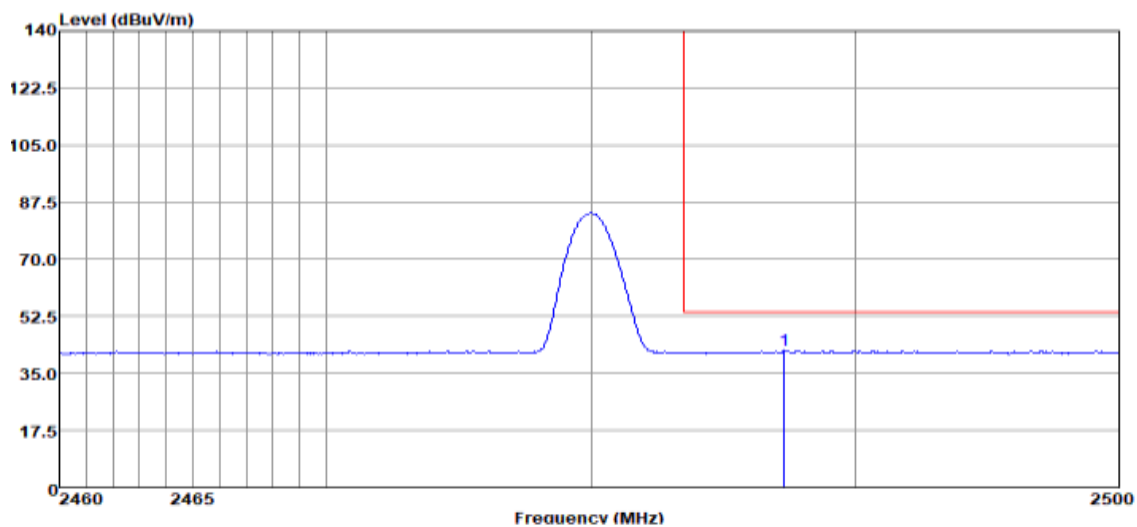
1.3.1.2 Channel 39

MEASUREMENT RESULT: PK Detector



Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		
MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	
1 pp	2492.96	52.64	-21.36	74.00	46.80	31.93	6.91	33.00 Peak

MEASUREMENT RESULT: AV Detector



Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1 pp 2487.28	41.94	-12.06	54.00	36.17	31.86	6.91	33.00 Average

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.

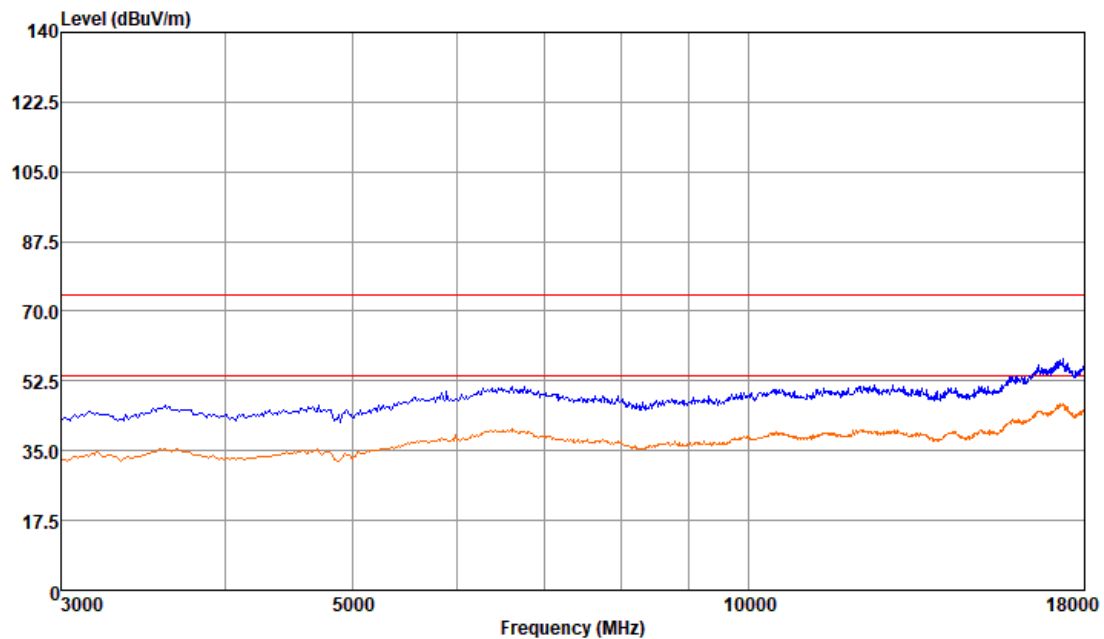
2, Margin=Limit - Level

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.

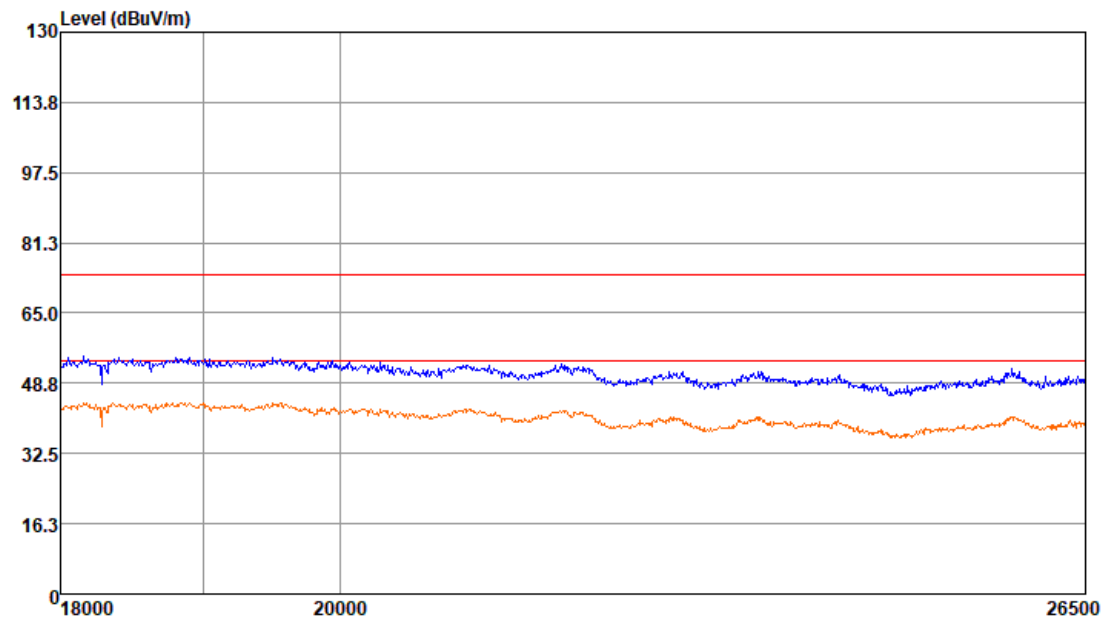
Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

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”

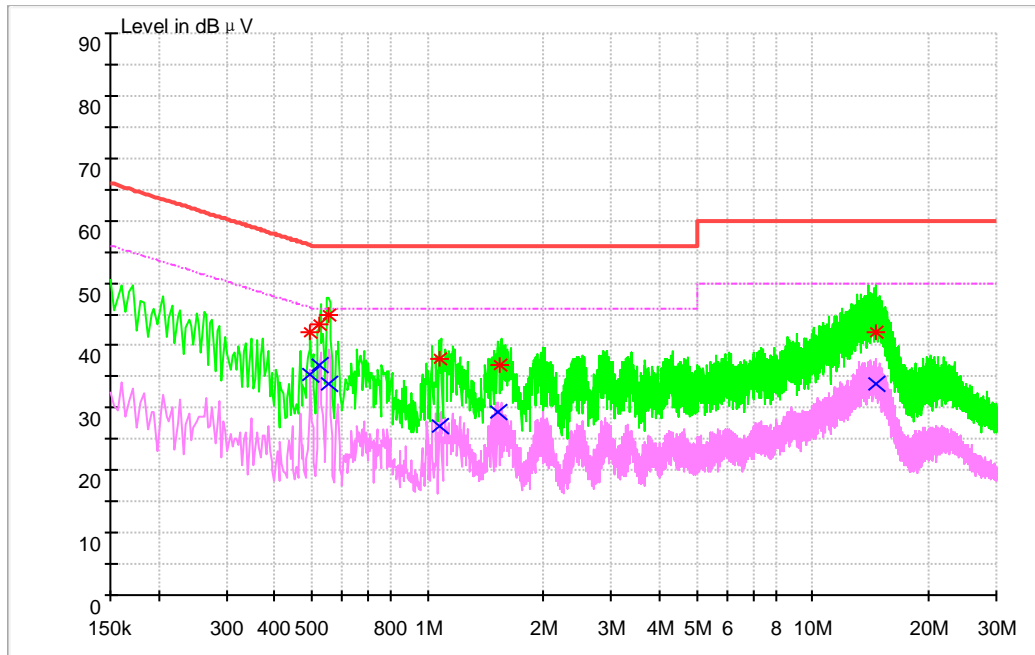
- Note 1: The test results and plot for testing range of “18 GHz to 26.5 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions 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

Note: RBW =9 kHz, VBW = 30 kHz

Channel 0



MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dB μV)	Limit (dB μV)	Transd. (dB)	Margin (dB)	Line	PE
0.49698	42.04	56.17	9.7	14.13	N	FLO
0.523763	43.25	56	9.7	12.75	N	FLO
0.556076	44.91	56	9.7	11.09	N	FLO
1.075724	37.94	56	9.8	18.06	N	FLO
1.54712	36.81	56	9.9	19.19	N	FLO
14.5315	42.08	60	11.3	17.92	N	FLO

**MEASUREMENT RESULT: AV Detector**

Frequency (MHz)	Level (dB μ V)	Limit (dB μ V)	Transd. (dB)	Margin (dB)	Line	PE
0.497005	35.32	46.08	9.7	10.76	N	FLO
0.523952	36.75	46	9.7	9.25	N	FLO
0.556121	33.75	46	9.7	12.25	N	FLO
1.07341	27.08	46	9.8	18.92	N	FLO
1.516861	29.43	46	9.9	16.57	N	FLO
14.526418	33.94	50	11.3	16.06	N	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