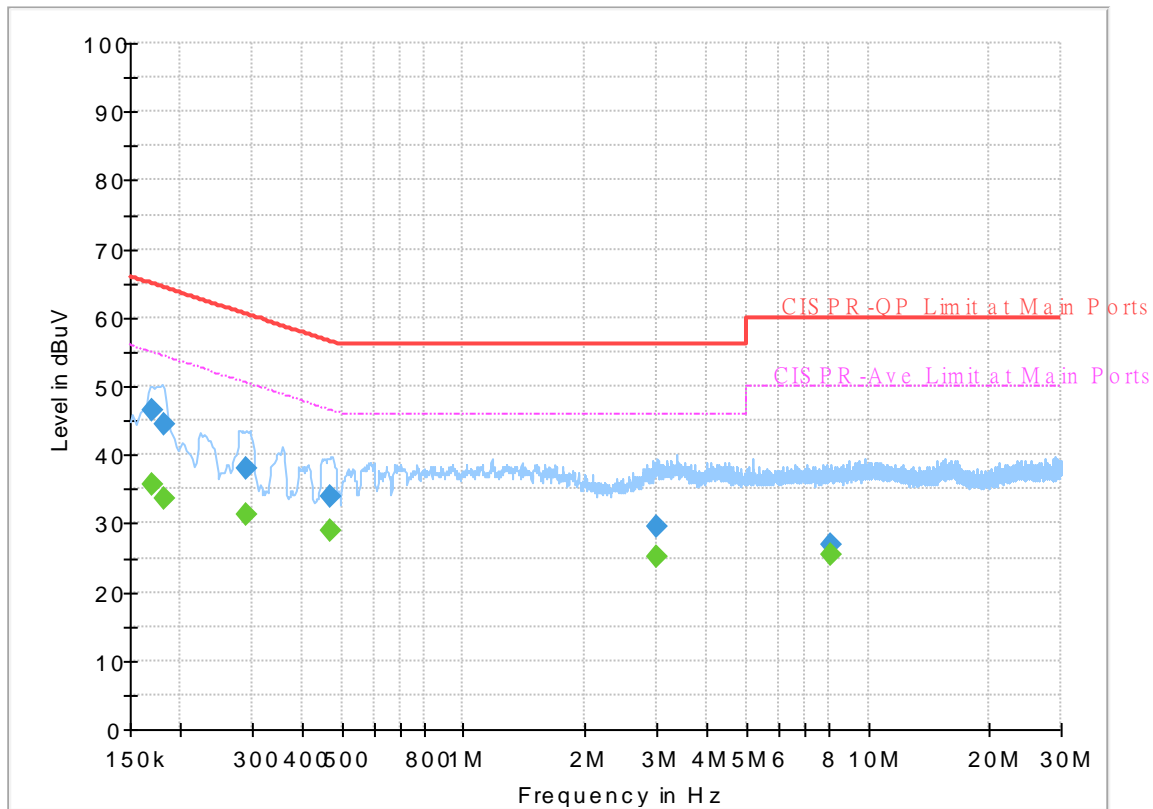


EUT Information

Report NO : 3N2802
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.170250	---	35.76	54.95	19.19	N	OFF	19.9
0.170250	46.48	---	64.95	18.47	N	OFF	19.9
0.181500	---	33.77	54.42	20.65	N	OFF	19.9
0.181500	44.30	---	64.42	20.12	N	OFF	19.9
0.289500	---	31.35	50.54	19.19	N	OFF	19.9
0.289500	37.98	---	60.54	22.56	N	OFF	19.9
0.469500	---	29.02	46.52	17.50	N	OFF	19.9
0.469500	33.95	---	56.52	22.57	N	OFF	19.9
3.016500	---	25.15	46.00	20.85	N	OFF	20.0
3.016500	29.54	---	56.00	26.46	N	OFF	20.0
8.072250	---	25.38	50.00	24.62	N	OFF	20.1
8.072250	27.04	---	60.00	32.96	N	OFF	20.1



Appendix C. Radiated Spurious Emission

Test Engineer :	Jack Tasi, Gary Guo and Steven Wu	Temperature :	18.2~20.2°C
		Relative Humidity :	54.2~56.1%



<Ant. 6>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT ANT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2321.025	45.56	-28.44	74	40.73	27.19	7.57	29.93	395	326	P	H	
		2321.025	20.77	-33.23	54	-	-	-	-	-	-	A	H	
	*	2402	98.92	-	-	93.72	27.4	7.71	29.91	395	326	P	H	
	*	2402	74.13	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2346.12	45.59	-28.41	74	40.7	27.2	7.62	29.93	103	358	P	V
			2346.12	20.8	-33.2	54	-	-	-	-	-	-	A	V
	*	2402	100.22	-	-	95.02	27.4	7.71	29.91	103	358	P	V	
	*	2402	75.43	-	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2353.68	44.9	-29.1	74	39.99	27.2	7.63	29.92	392	324	P	H	
		2353.68	20.11	-33.89	54	-	-	-	-	-	-	A	H	
	*	2441	100.56	-	-	95.13	27.6	7.73	29.9	392	324	P	H	
	*	2441	75.77	-	-	-	-	-	-	-	-	A	H	
			2496.85	45.56	-28.44	74	39.88	27.8	7.76	29.88	392	324	P	H
			2496.85	20.77	-33.23	54	-	-	-	-	-	-	A	H
			2389.38	45.67	-28.33	74	40.5	27.39	7.69	29.91	100	356	P	V
			2389.38	20.88	-33.12	54	-	-	-	-	-	-	A	V
	*	2441	102.22	-	-	96.79	27.6	7.73	29.9	100	356	P	V	
	*	2441	77.43	-	-	-	-	-	-	-	-	-	A	V
			2499.16	45.91	-28.09	74	40.23	27.8	7.76	29.88	100	356	P	V
			2499.16	21.12	-32.88	54	-	-	-	-	-	-	A	V



BT ANT 6	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	100.51	-	-	94.95	27.7	7.75	29.89	392	329	P	H	
	*	2480	75.72	-	-	-	-	-	-	-	-	A	H	
		2483.72	46.9	-27.1	74	41.28	27.74	7.76	29.88	392	329	P	H	
		2483.72	22.11	-31.89	54	-	-	-	-	-	-	A	H	
													H	
														H
	*	2480	102.13	-	-	96.57	27.7	7.75	29.89	100	354	P	V	
	*	2480	77.34	-	-	-	-	-	-	-	-	-	A	V
		2491.36	46.67	-27.33	74	40.99	27.8	7.76	29.88	100	354	P	V	
		2491.36	21.88	-32.12	54	-	-	-	-	-	-	A	V	
														V
														V
	Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 												



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT ANT 6	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT ANT 6		4804	38.56	-35.44	74	61.77	32.32	11.12	66.65	-	-	P	H
		4804	13.77	-40.23	54	-	-	-	-	-	-	A	H
													H
													H
													H
													H
													H
													H
													H
													H
BT CH 00 2402MHz		4804	37.78	-36.22	74	60.99	32.32	11.12	66.65	-	-	P	V
		4804	12.99	-41.01	54	-	-	-	-	-	-	A	V
													V
													V
													V
													V
													V
													V
													V
													V



BT ANT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH 39 2441MHz		4882	39.31	-34.69	74	61.91	32.66	11.32	66.58	-	-	P	H	
		4882	14.52	-39.48	54	-	-	-	-	-	-	A	H	
		7323	43.52	-30.48	74	59.2	36.85	13.8	66.33	-	-	P	H	
		7323	18.73	-35.27	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4882	39.19	-34.81	74	61.79	32.66	11.32	66.58	-	-	P	V
			4882	14.4	-39.6	54	-	-	-	-	-	-	A	V
			7323	43.29	-30.71	74	58.97	36.85	13.8	66.33	-	-	P	V
			7323	18.5	-35.5	54	-	-	-	-	-	-	A	V
														V
														V
														V
														V
													V	
													V	



Emission above 18GHz

2.4GHz BT (SHF)

BT	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
ANT					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz BT SHF		24692	40.36	-33.64	74	56.89	39.42	-2.53	53.42	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			24601	40.63	-33.37	74	57.2	39.4	-2.51	53.46	-	-	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												



Emission below 1GHz

2.4GHz BT (LF)

BT	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
ANT					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
2.4GHz BT LF		30.27	22.3	-17.7	40	29.75	24.28	0.71	32.44	-	-	P	H	
		164.19	21.56	-21.94	43.5	35.94	16.22	1.8	32.4	-	-	P	H	
		262.74	21.16	-24.84	46	31.19	20.01	2.38	32.42	-	-	P	H	
		484.1	24.87	-21.13	46	30.66	23.65	3.21	32.65	-	-	P	H	
		745.9	32.07	-13.93	46	32.2	28.17	4.23	32.53	-	-	P	H	
		955.2	33.75	-12.25	46	29.58	30.85	4.79	31.47	-	-	P	H	
														H
														H
														H
														H
														H
														H
			34.86	28.91	-11.09	40	38.33	22.24	0.8	32.46	-	-	P	V
			189.3	29.38	-14.12	43.5	44.91	14.87	1.96	32.36	-	-	P	V
			260.04	20.02	-25.98	46	30.07	20.01	2.36	32.42	-	-	P	V
			414.1	27.59	-18.41	46	34.59	22.42	3.09	32.51	-	-	P	V
			725.6	30.54	-15.46	46	31.56	27.45	4.16	32.63	-	-	P	V
			938.4	34.58	-11.42	46	31.14	30.34	4.72	31.62	-	-	P	V
														V
														V
													V	
													V	
													V	
													V	

Remark

- No other spurious found.
- All results are PASS against limit line.
- The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.



<Ant. 7>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT ANT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
7		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2348.22	44.96	-29.04	74	40.07	27.2	7.62	29.93	394	329	P	H	
		2348.22	20.17	-33.83	54	-	-	-	-	-	-	A	H	
	*	2402	99.13	-	-	93.93	27.4	7.71	29.91	394	329	P	H	
	*	2402	74.34	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2378.25	46.46	-27.54	74	41.43	27.28	7.67	29.92	104	359	P	V
			2378.25	21.67	-32.33	54	-	-	-	-	-	-	A	V
	*	2402	100.05	-	-	94.85	27.4	7.71	29.91	104	359	P	V	
	*	2402	75.26	-	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2388.26	45.17	-28.83	74	40.01	27.38	7.69	29.91	395	324	P	H	
		2388.26	20.38	-33.62	54	-	-	-	-	-	-	A	H	
	*	2441	100.83	-	-	95.4	27.6	7.73	29.9	395	324	P	H	
	*	2441	76.04	-	-	-	-	-	-	-	-	A	H	
			2484.88	46.11	-27.89	74	40.48	27.75	7.76	29.88	395	324	P	H
			2484.88	21.32	-32.68	54	-	-	-	-	-	-	A	H
			2319.24	45.31	-28.69	74	40.47	27.2	7.57	29.93	100	358	P	V
			2319.24	20.52	-33.48	54	-	-	-	-	-	-	A	V
	*	2441	101.92	-	-	96.49	27.6	7.73	29.9	100	358	P	V	
	*	2441	77.13	-	-	-	-	-	-	-	-	-	A	V
		2494.89	45.78	-28.22	74	40.1	27.8	7.76	29.88	100	358	P	V	
		2494.89	20.99	-33.01	54	-	-	-	-	-	-	A	V	



BT ANT 7	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	100.99	-	-	95.43	27.7	7.75	29.89	393	331	P	H	
	*	2480	76.2	-	-	-	-	-	-	-	-	A	H	
		2494.44	46.87	-27.13	74	41.19	27.8	7.76	29.88	393	331	P	H	
		2494.44	22.08	-31.92	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	102.42	-	-	96.86	27.7	7.75	29.89	101	357	P	V	
	*	2480	77.63	-	-	-	-	-	-	-	-	-	A	V
		2483.76	46.75	-27.25	74	41.13	27.74	7.76	29.88	101	357	P	V	
		2483.76	21.96	-32.04	54	-	-	-	-	-	-	A	V	
													V	
													V	
	Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 												



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT ANT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT ANT 7		4804	38.18	-35.82	74	61.39	32.32	11.12	66.65	-	-	P	H
		4804	13.39	-40.61	54	-	-	-	-	-	-	A	H
													H
													H
													H
													H
													H
													H
													H
													H
BT CH 00 2402MHz		4804	38.32	-35.68	74	61.53	32.32	11.12	66.65	-	-	P	V
		4804	13.53	-40.47	54	-	-	-	-	-	-	A	V
													V
													V
													V
													V
													V
													V
													V
													V



BT ANT 7	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 39 2441MHz		4882	39.24	-34.76	74	61.84	32.66	11.32	66.58	-	-	P	H	
		4882	14.45	-39.55	54	-	-	-	-	-	-	A	H	
		7323	42.85	-31.15	74	58.53	36.85	13.8	66.33	-	-	P	H	
		7323	18.06	-35.94	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4882	38.7	-35.3	74	61.3	32.66	11.32	66.58	-	-	P	V
			4882	13.91	-40.09	54	-	-	-	-	-	-	A	V
			7323	43.83	-30.17	74	59.51	36.85	13.8	66.33	-	-	P	V
			7323	19.04	-34.96	54	-	-	-	-	-	-	A	V
														V
														V
														V
													V	
													V	
													V	



BT ANT 7	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz		4960	39.41	-34.59	74	61.5	32.88	11.54	66.51	-	-	P	H	
		4960	14.62	-39.38	54	-	-	-	-	-	-	A	H	
		7440	43.62	-30.38	74	59.65	36.44	13.91	66.38	-	-	P	H	
		7440	18.83	-35.17	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4960	39.74	-34.26	74	61.83	32.88	11.54	66.51	-	-	P	V
			4960	14.95	-39.05	54	-	-	-	-	-	-	A	V
			7440	43.23	-30.77	74	59.26	36.44	13.91	66.38	-	-	P	V
			7440	18.44	-35.56	54	-	-	-	-	-	-	A	V
														V
														V
														V
														V
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is Margin line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

BT	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBµV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)
3. Margin (dB) = Level(dBµV/m) – Limit Line(dBµV/m)

For Peak Limit @ 2390MHz:

1. Level(dBµV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBµV) – 35.86 (dB)
= 55.45 (dBµV/m)
2. Margin (dB)
= Level(dBµV/m) – Limit Line(dBµV/m)
= 55.45(dBµV/m) – 74(dBµV/m)
= -18.55(dB)

Average measured complies with the limit line, so test result is "PASS".



Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Jack Tasi, Gary Guo and Steven Wu	Temperature :	18.2~20.2°C
		Relative Humidity :	54.2~56.1%

<Ant. 6>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH00 2402MHz	
6	Horizontal	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 9120d_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 9120d_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH00 2402MHz	
6	Vertical	Fundamental
Peak	<p>Site : 03CH16-11Y Condition : PEAK_85_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

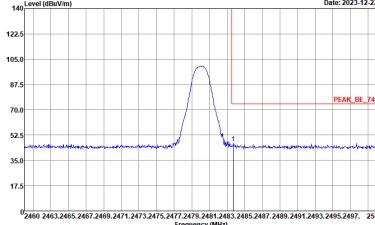
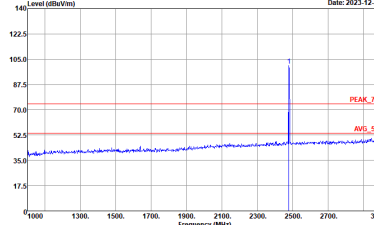


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH39 2441MHz	
6	Horizontal	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank

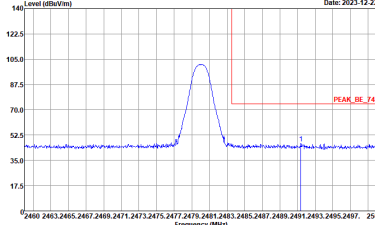
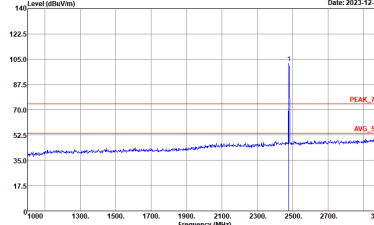


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH39 2441MHz	
6	Vertical	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH78 2480MHz	
6	Horizontal	Fundamental
Peak	 <p>Site : 03CH6-11Y Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH6-11Y Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

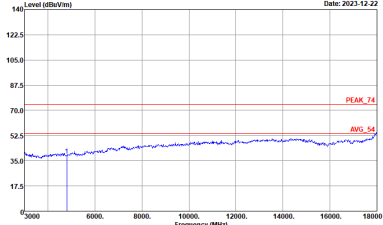
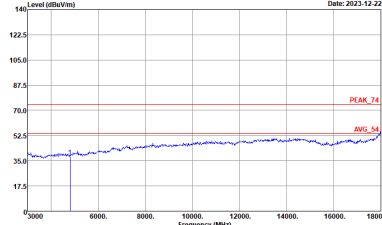


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH78 2480MHz	
6	Vertical	Fundamental
Peak	 <p>Site : 03CH6-11Y Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH6-11Y Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

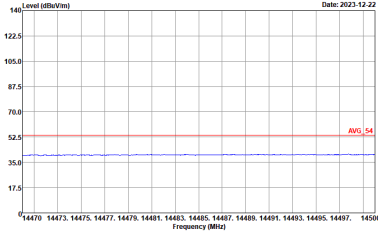
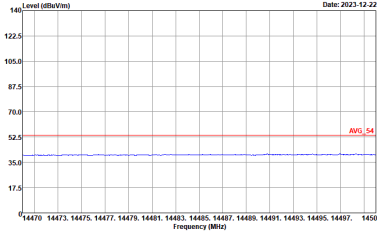
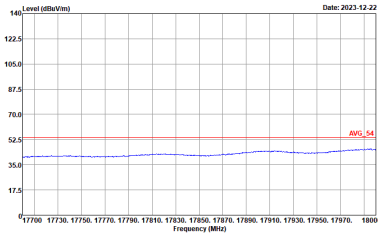
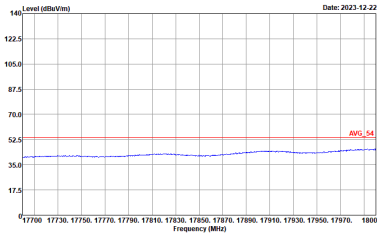


2.4GHz 2400~2483.5MHz

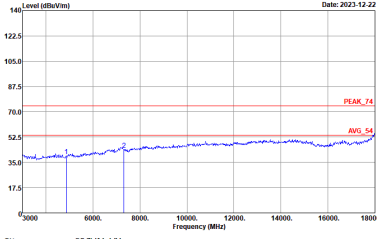
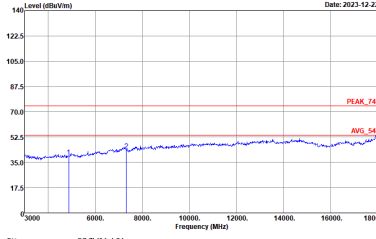
BT (Harmonic @ 3m)

BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH00 2402MHz	
6	Horizontal	Vertical
<p>Peak Avg.</p>	 <p>Site : 03CH16-HY Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>

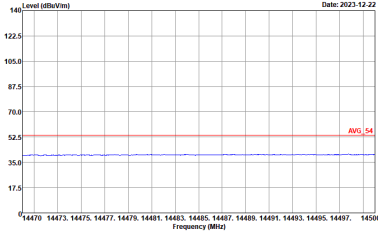
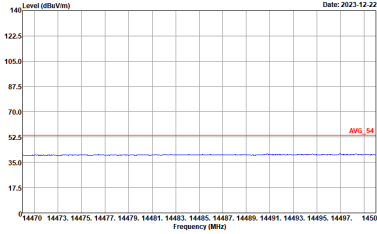
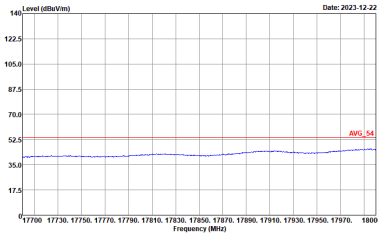
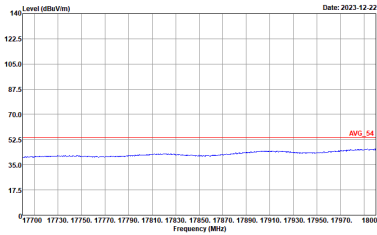


BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH00 2402MHz	
6	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>



BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH39 2441MHz	
6	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>

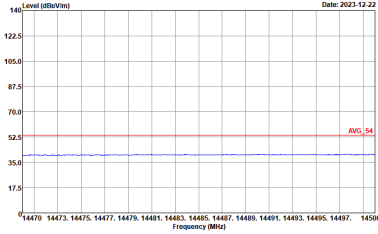
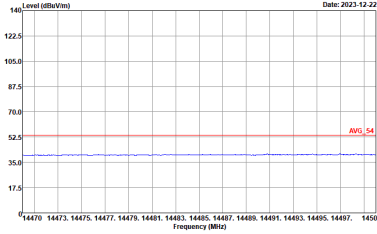
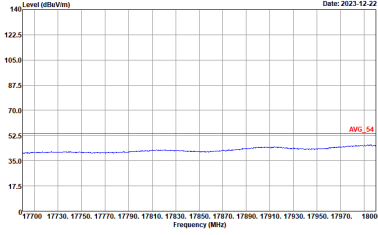
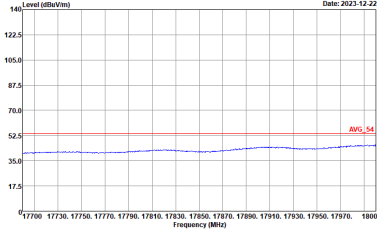


BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH39 2441MHz	
6	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>



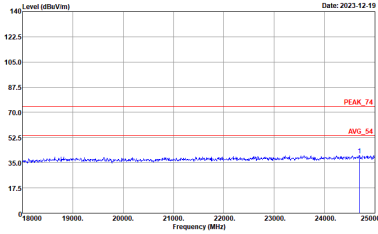
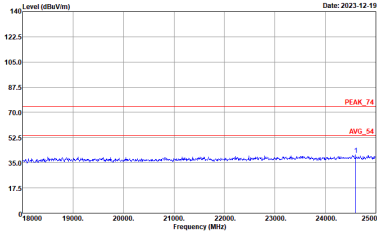
BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH78 2480MHz	
6	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>



BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH78 2480MHz	
6	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>

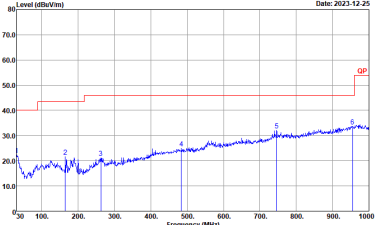
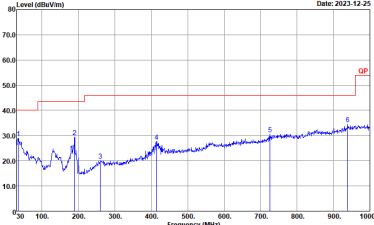


Emission above 18GHz
2.4GHz BT (SHF @ 1m)

BT	2.4GHz 2400~2483.5MHz	
ANT	BT SHF	
6	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH16-HY Condition : PEAK_74 1m SHF_1223_230710 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : PEAK_74 1m SHF_1223_230710 VERTICAL</p>



Emission below 1GHz
2.4GHz BT (LF)

BT	2.4GHz 2400~2483.5MHz	
ANT	BT LF	
6	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH16-HV Condition : QP-3m 811.06_47020_231007_H HORIZONTAL :</p>	 <p>Site : 03CH16-HV Condition : QP-3m 811.06_47020_231007_H VERTICAL :</p>



<Ant. 7>

2.4GHz 2400~2483.5MHz
BT (Band Edge @ 3m)

BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH00 2402MHz	
7	Horizontal	Fundamental
Peak	<p>Site : 03CH15-1FY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-1FY Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH00 2402MHz	
7	Vertical	Fundamental
Peak	<p>Site : 03CH16-11Y Condition : PEAK_86_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

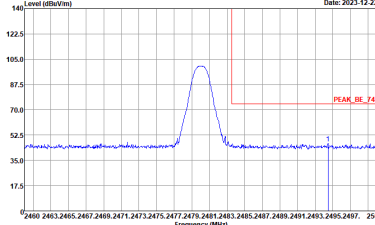
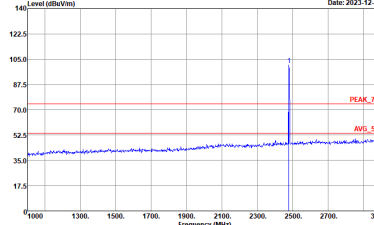


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH39 2441MHz	
7	Horizontal	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank

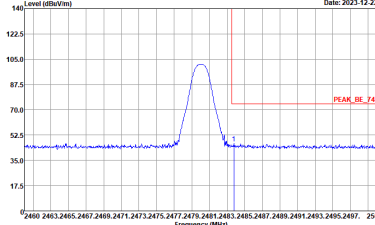
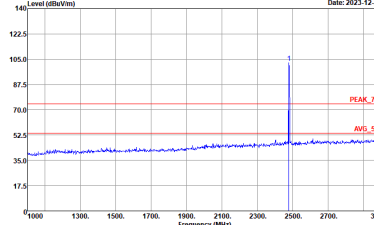


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH39 2441MHz	
7	Vertical	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH78 2480MHz	
7	Horizontal	Fundamental
Peak	 <p>Site : 03CH6-11Y Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH6-11Y Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

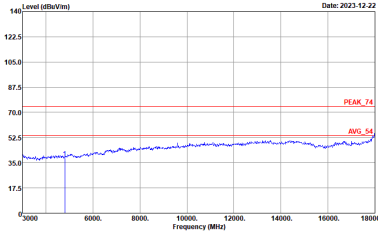
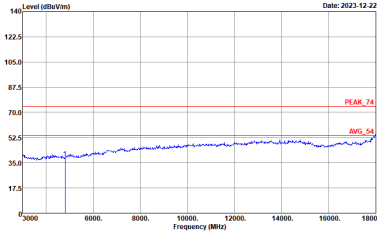


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BT CH78 2480MHz	
7	Vertical	Fundamental
Peak	 <p>Site : 03CH16-11Y Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH16-11Y Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

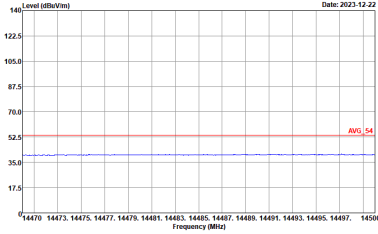
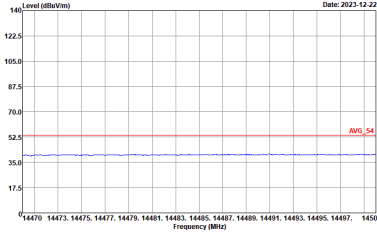
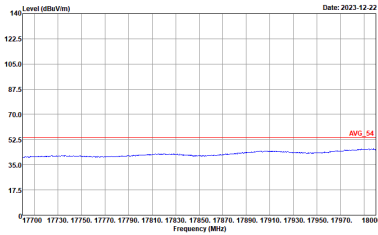
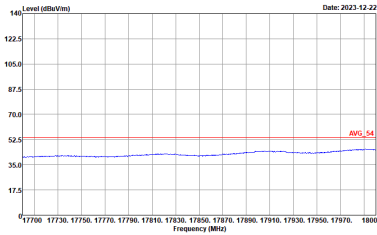


2.4GHz 2400~2483.5MHz

BT (Harmonic @ 3m)

BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH00 2402MHz	
7	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH16-HY Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>

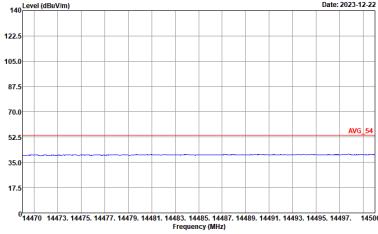
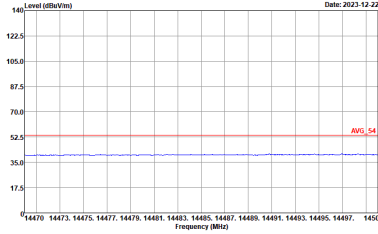
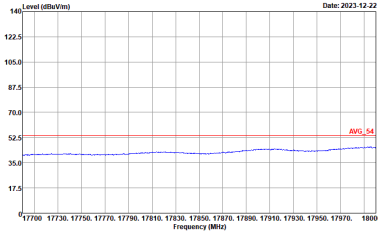
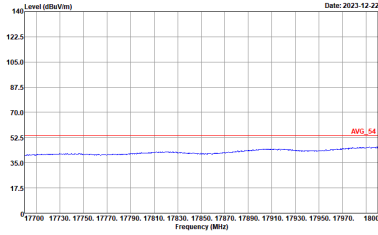


BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH00 2402MHz	
7	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>



BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH39 2441MHz	
7	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>

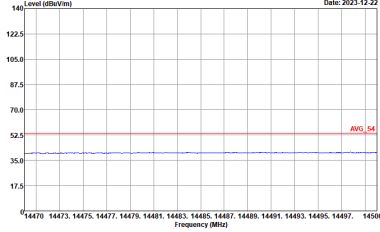
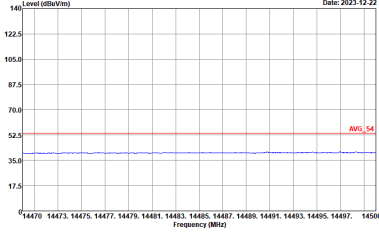
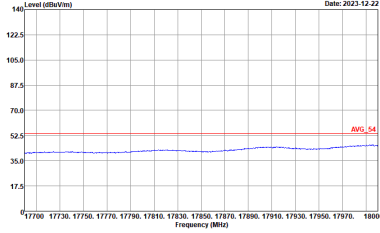
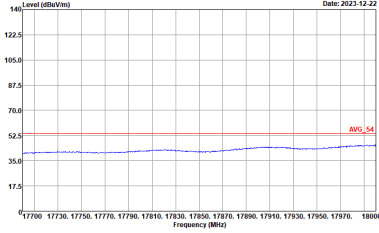


BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH39 2441MHz	
7	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>



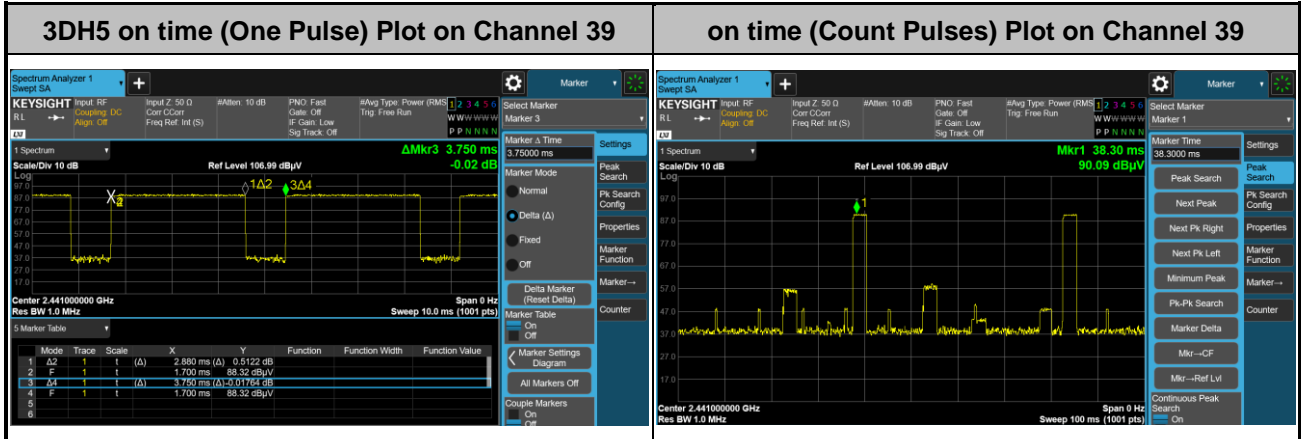
BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH78 2480MHz	
7	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 HORIZONTAL</p>	<p>Site : 03CH16-11Y Condition : PEAK_74 3m 9120D_1522_230323 VERTICAL</p>



BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	BT CH78 2480MHz	
7	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AVG_54 3m 91200_1522_230323 VERTICAL</p>
<p>17.7G ~18G Avg.</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 HORIZONTAL</p>	 <p>Site : 03CH16-HY Condition : AV6_54 3m 91200_1522_230323 VERTICAL</p>

Appendix E. Duty Cycle Plots

<Ant. 6>



Note:

1. Worst case Duty cycle = on time/100 milliseconds = $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor = $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. 3DH5 has the highest duty cycle worst case and is reported.

Duty Cycle Correction Factor Consideration for AFH mode:

Bluetooth normal hopping rate is 1600Hz and reduced to 800Hz in AFH mode; due to the reduced number of hopping frequencies, with the same packet configuration the dwell time in each channel frequency within 100msec period is longer in AFH mode than normal mode.

In AFH mode, the minimum hopping frequencies are 20, to get the longest dwell time DH5 packet is observed; the on time period to have DH5 packet completing one hopping sequence is

$$2.88 \text{ ms} \times 20 \text{ channels} = 57.6 \text{ ms}$$

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, maximum 2 hops can be possibly observed within the period. $[100 \text{ ms} / 57.6 \text{ ms}] = 2 \text{ hops}$

Thus, the maximum possible ON time:

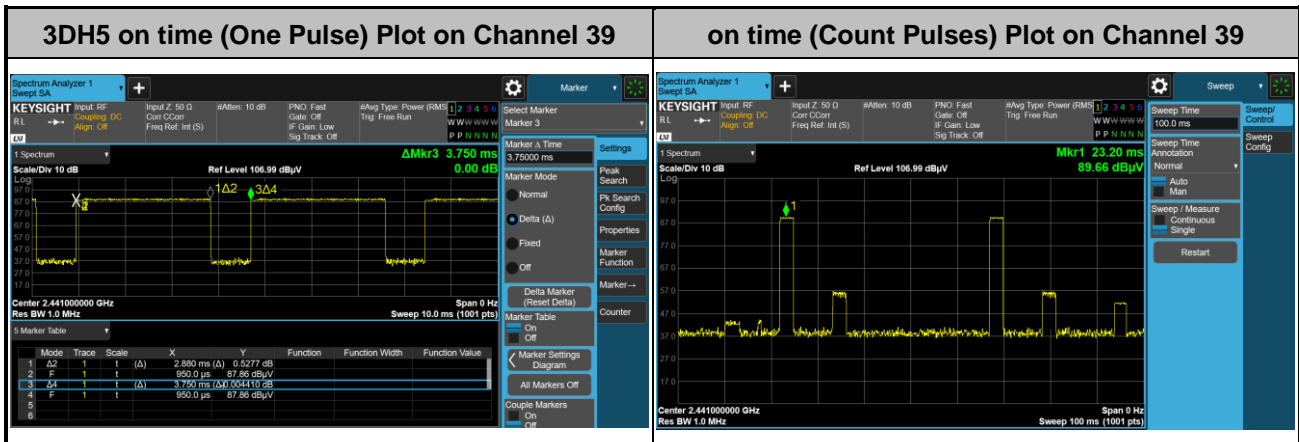
$$2.88 \text{ ms} \times 2 = 5.76 \text{ ms}$$

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

$$20 \times \log(5.76 \text{ ms}/100 \text{ ms}) = -24.79 \text{ dB}$$



<Amt. 7>



Note:

1. Worst case Duty cycle = on time/100 milliseconds = 2 * 2.88 / 100 = 5.76 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -24.79 dB
3. 3DH5 has the highest duty cycle worst case and is reported.

Duty Cycle Correction Factor Consideration for AFH mode:

Bluetooth normal hopping rate is 1600Hz and reduced to 800Hz in AFH mode; due to the reduced number of hopping frequencies, with the same packet configuration the dwell time in each channel frequency within 100msec period is longer in AFH mode than normal mode.

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Thus, the maximum possible ON time:

$$2.88 \text{ ms} \times 2 = 5.76 \text{ ms}$$

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

$$20 \times \log(5.76 \text{ ms}/100 \text{ ms}) = -24.79 \text{ dB}$$