



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

BT	Note	Frequency	Level	Over	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. Over Limit(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. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average 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) + 42.6(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
2. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 43.54(dBμV/m) – 54(dBμV/m)  
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



## Appendix D. Radiated Spurious Emission Plots

### Note symbol

-L	Low channel location
-R	High channel location



2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

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ANT	BT CH78 2480MHz																																																															
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<p>Peak</p>	<p>Site : 030905-K5            Condition : FCC PART 15C 3m 3117 SN 79597 HORIZONTAL            Project : FR263001            Mode : 2            Plane : Full-directivity            IPE1 : 82            PowerSetting : 8</p> <table border="1"> <thead> <tr> <th>Over</th> <th>Limit</th> <th>ReadAntenna</th> <th>Cable</th> <th>Preamp</th> <th>A/Pos</th> <th>T/Pos</th> <th>Remark</th> <th>Pol/Phas</th> </tr> <tr> <th>Level</th> <th>Level</th> <th>Level</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2483.98</td> <td>52.72</td> <td>-21.28</td> <td>74.00</td> <td>49.31</td> <td>32.98</td> <td>7.25</td> <td>36.82</td> <td>153</td> <td>180</td> <td>Peak</td> <td>HORIZONTAL</td> </tr> </tbody> </table>	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	Level	Level	Level	Loss	Loss	Loss	Loss	Loss	Loss	1	2483.98	52.72	-21.28	74.00	49.31	32.98	7.25	36.82	153	180	Peak	HORIZONTAL	<p>Site : 030905-K5            Condition : FCC PART 15C 3m 3117 SN 79597 HORIZONTAL            Project : FR263001            Mode : 2            Plane : Full-directivity            IPE1 : 82            PowerSetting : 8</p> <table border="1"> <thead> <tr> <th>Over</th> <th>Limit</th> <th>ReadAntenna</th> <th>Cable</th> <th>Preamp</th> <th>A/Pos</th> <th>T/Pos</th> <th>Remark</th> <th>Pol/Phas</th> </tr> <tr> <th>Level</th> <th>Level</th> <th>Level</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> <th>Loss</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2480.00</td> <td>108.77</td> <td>34.77</td> <td>74.00</td> <td>105.36</td> <td>32.98</td> <td>7.25</td> <td>36.82</td> <td>153</td> <td>180</td> <td>Peak</td> <td>HORIZONTAL</td> </tr> </tbody> </table>	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	Level	Level	Level	Loss	Loss	Loss	Loss	Loss	Loss	1	2480.00	108.77	34.77	74.00	105.36	32.98	7.25	36.82	153	180	Peak	HORIZONTAL
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Note: Pre-scanned for 18GHz to 26GHz, there are no signals, thus only test data below 18GHz are shown in the report.

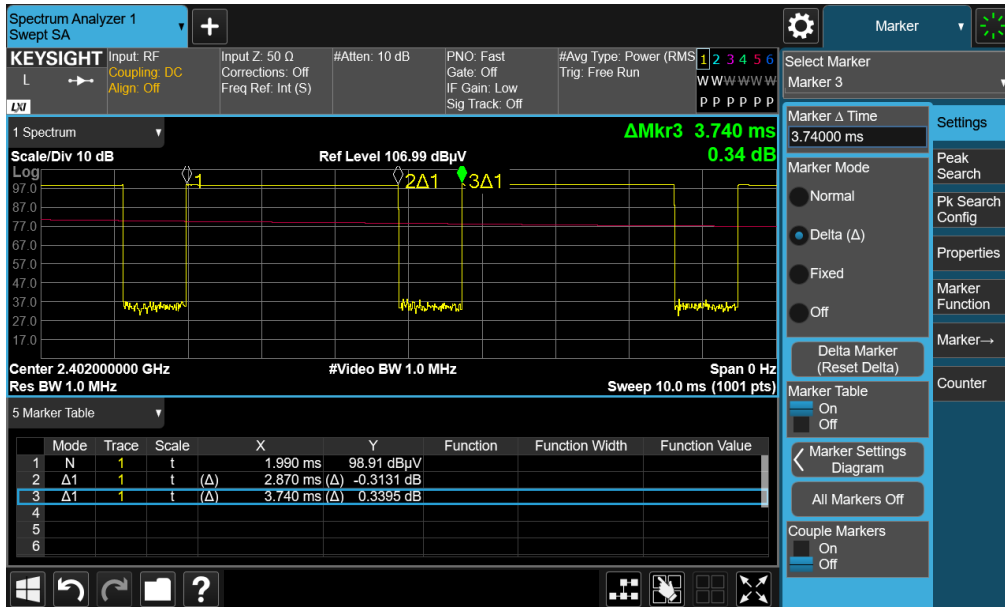


Emission below 1GHz  
2.4GHz BT (LF)

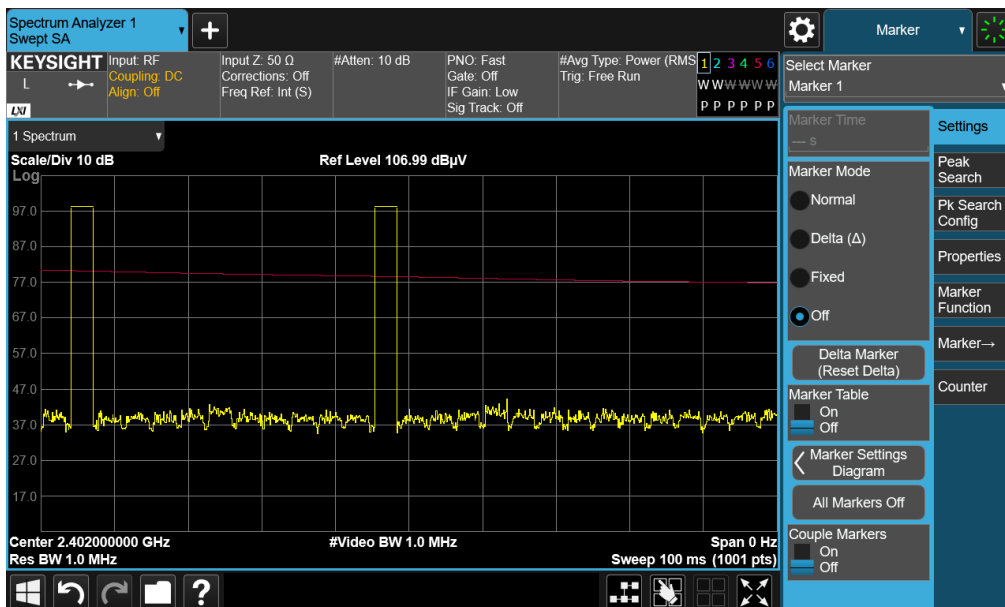
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6	480.08	27.38	-18.62	40.00	32.65	24.14	3.35	32.76	---	Peak	HORIZONTAL																																																																																																																																																																																							
IME1	Freq	Level	Over Limit	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas																																																																																																																																																																																							
	MHz	dBm/100MHz	dB	dBm/100MHz	dB	dB	dB	dB	dB	dB	dB																																																																																																																																																																																							
1	30.00	33.29	-6.71	40.00	39.78	25.50	0.71	32.70	---	Peak	VERTICAL																																																																																																																																																																																							
2	37.76	28.80	-11.14	40.00	39.07	21.10	0.85	32.76	---	Peak	VERTICAL																																																																																																																																																																																							
3	61.04	21.65	-18.35	40.00	42.10	13.38	1.17	33.10	---	Peak	VERTICAL																																																																																																																																																																																							
4	159.98	23.00	-17.00	40.00	36.69	17.26	1.93	32.86	---	Peak	VERTICAL																																																																																																																																																																																							
5	239.52	28.95	-11.07	40.00	38.43	20.48	2.72	32.90	---	Peak	VERTICAL																																																																																																																																																																																							
6	480.08	25.36	-13.64	40.00	30.63	24.14	3.35	32.76	---	Peak	VERTICAL																																																																																																																																																																																							

## Appendix E. Duty Cycle Plots

### 3DH5 on time (One Pulse) Plot on Channel 00



### 3DH5 on time (Count Pulses) Plot on Channel 00



**Note:**

1. Worst case Duty cycle = on time/100 milliseconds =  $2 * 2.87 / 100 = 5.74 \%$
2. Worst case Duty cycle correction factor =  $20 * \log(\text{Duty cycle}) = -24.82 \text{ dB}$
3. 3DH5 has the highest duty cycle worst case and is reported.