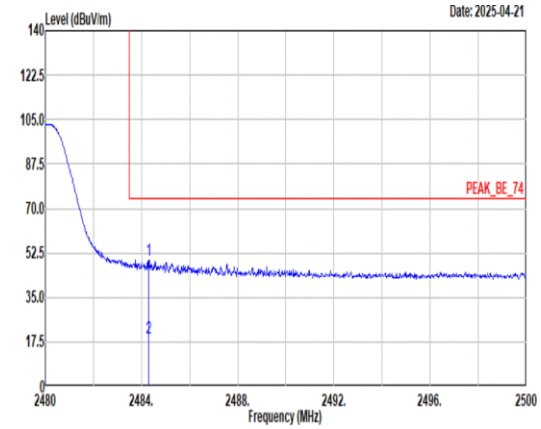
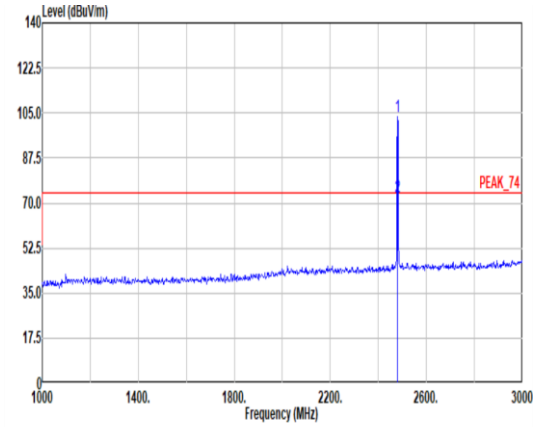
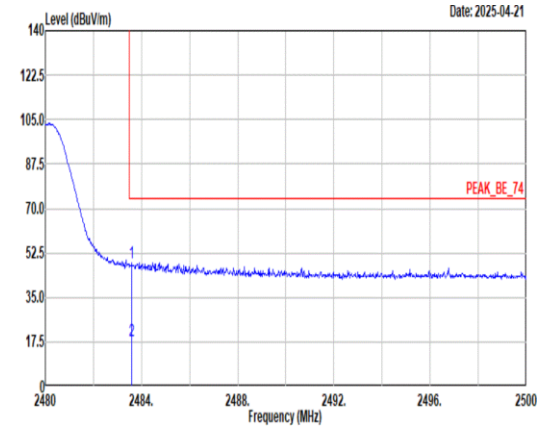
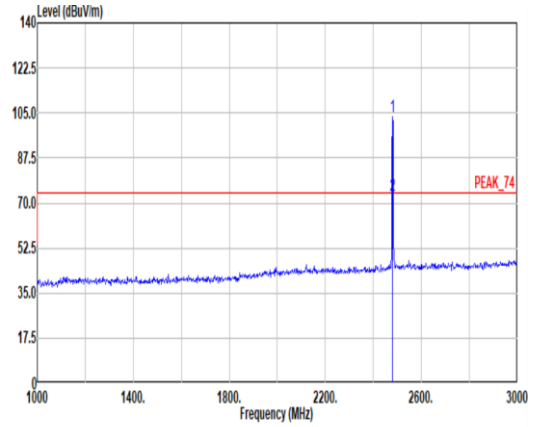
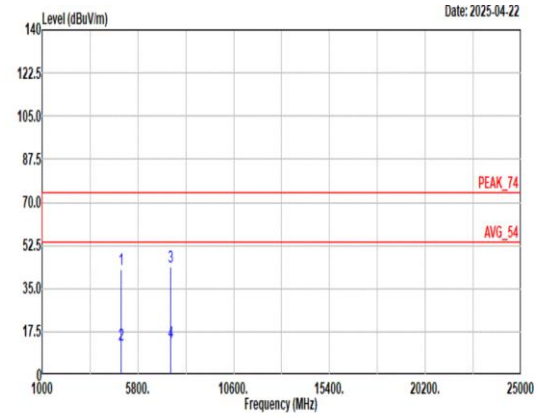
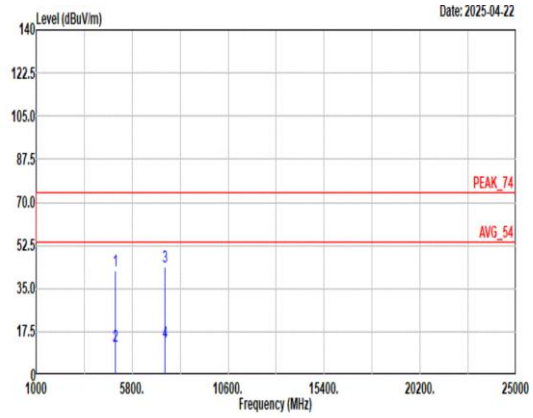
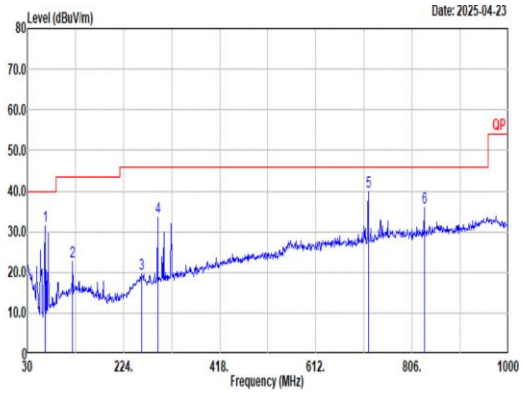
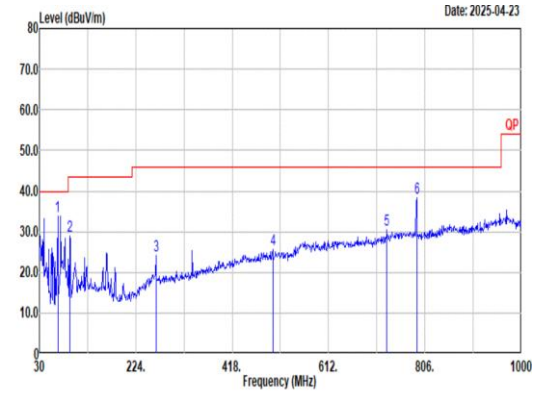
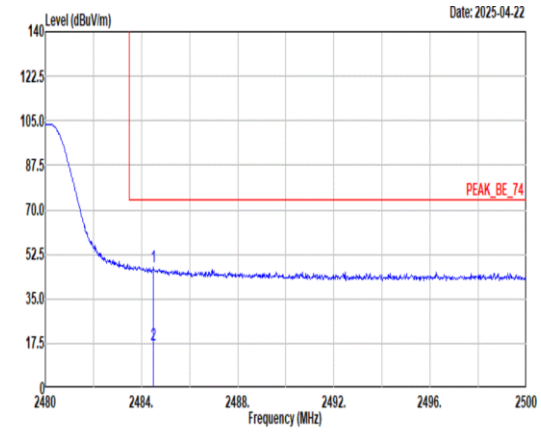
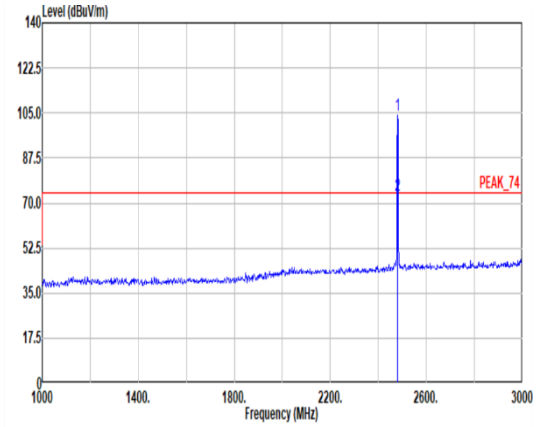
Mode	3	
	Band Edge	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition: PEAK_BE_74 3m 9120D-02114-240711 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.30 49.68 74.00 -24.32 49.04 27.94 6.90 34.20 0.00 278 4 PEAK 2 2484.30 18.87 54.00 -35.13 -- -- -- -- -- 278 4 AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2480.00 103.30 ------ ------ 102.70 27.90 6.90 34.20 0.00 278 4 PEAK 2 2480.00 72.49 ------ ------ -- -- -- -- -- 278 4 AVERAGE

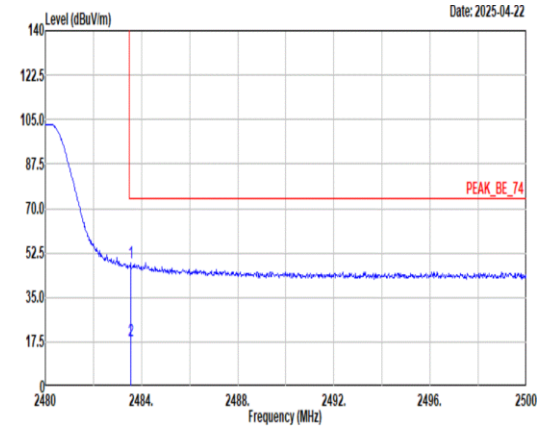
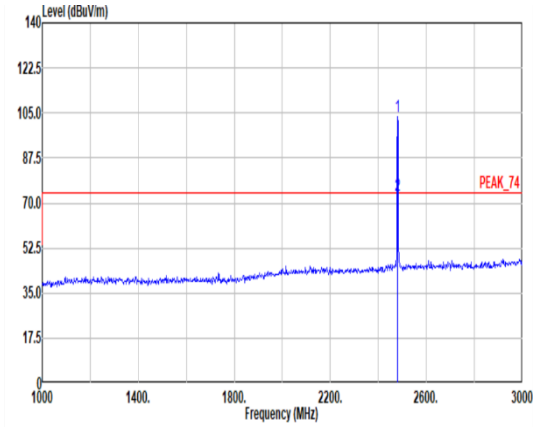
Mode	3	
	Band Edge	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition: PEAK_BE_74 3m 9120D-02114-240711 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.60 48.82 74.00 -25.18 48.18 27.94 6.90 34.20 0.00 392 43 PEAK 2 2483.60 18.01 54.00 -35.99 -- -- -- -- -- 392 43 AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2480.00 103.50 ------ ------ 102.90 27.90 6.90 34.20 0.00 392 43 PEAK 2 2480.00 72.69 ------ ------ -- -- -- -- -- 392 43 AVERAGE

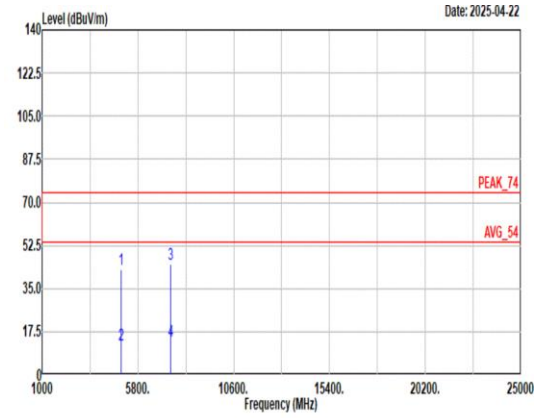
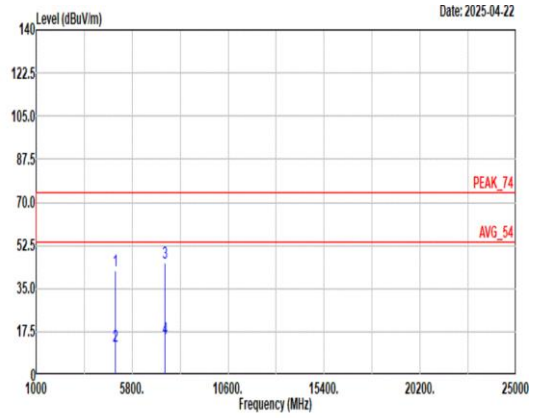
Mode	3	
	Harmonic	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4960.00 42.79 74.00 -31.21 65.63 33.32 10.63 67.38 0.59 -- -- PEAK 2 4960.00 11.98 54.00 -42.02 -- -- -- -- -- -- -- AVERAGE 3 7440.00 43.99 74.00 -30.01 60.51 36.68 13.25 66.66 0.21 -- -- PEAK 4 7440.00 13.18 54.00 -40.82 -- -- -- -- -- -- -- AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4960.00 42.31 74.00 -31.69 65.15 33.32 10.63 67.38 0.59 -- -- PEAK 2 4960.00 11.50 54.00 -42.50 -- -- -- -- -- -- -- AVERAGE 3 7440.00 44.03 74.00 -29.97 60.55 36.68 13.25 66.66 0.21 -- -- PEAK 4 7440.00 13.22 54.00 -40.78 -- -- -- -- -- -- -- AVERAGE

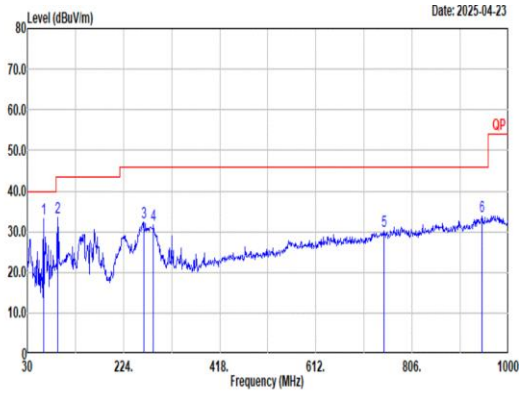
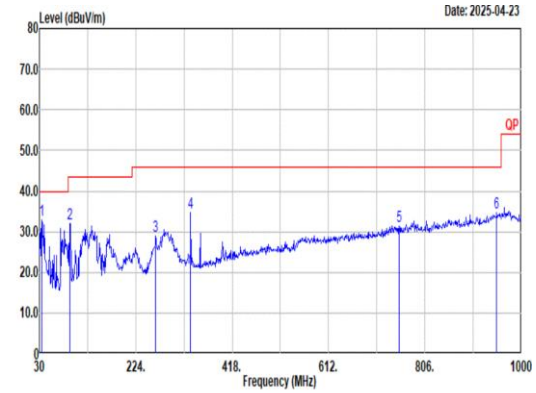
Mode	5	
	LF	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Vertical
QP/ Peak	 Site : 03CH12-HY Condition: QP 3m Bilog_37059_20241127 HORIZONTAL Freq Level Limit Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBm dBm dB dBuV dB/m dB dB dB cm deg 1 65.89 31.35 40.00 -8.65 47.70 12.22 1.15 29.78 0.06 -- -- Peak 2 121.18 22.52 43.50 -20.98 33.02 17.63 1.51 29.74 0.10 -- -- Peak 3 260.86 19.77 46.00 -26.23 26.82 20.09 2.23 29.52 0.15 -- -- Peak 4 292.87 33.49 46.00 -12.51 41.11 19.32 2.39 29.48 0.15 -- -- Peak 5 717.73 39.95 46.00 -6.05 37.40 27.28 3.72 28.76 0.31 -- -- Peak 6 830.25 35.83 46.00 -10.17 31.45 28.63 3.98 28.59 0.36 -- -- Peak	 Site : 03CH12-HY Condition: QP 3m Bilog_37059_20241127 VERTICAL Freq Level Limit Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBm dBm dB dBuV dB/m dB dB dB cm deg 1 66.86 33.84 40.00 -6.16 50.12 12.28 1.15 29.77 0.06 -- -- Peak 2 91.11 28.90 43.50 -14.60 42.12 15.14 1.33 29.78 0.09 -- -- Peak 3 264.74 24.30 46.00 -21.70 31.43 19.99 2.25 29.52 0.15 -- -- Peak 4 499.48 25.55 46.00 -20.45 27.23 24.12 3.15 29.08 0.13 -- -- Peak 5 729.37 30.53 46.00 -15.47 27.40 27.82 3.74 28.75 0.32 -- -- Peak 6 789.51 38.30 46.00 -7.70 34.27 28.49 3.88 28.67 0.33 -- -- Peak

<Sample 3>

Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition: PEAK_BE_74 3m 9120D-02114-240711 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.50 47.75 74.00 -26.25 47.11 27.94 6.90 34.20 0.00 187 174 PEAK 2 2484.50 16.94 54.00 -37.06 -- -- -- -- -- 187 174 AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2480.00 103.88 ------ ------ 103.28 27.90 6.90 34.20 0.00 187 174 PEAK 2 2480.00 73.07 ------ ------ -- -- -- -- -- 187 174 AVERAGE

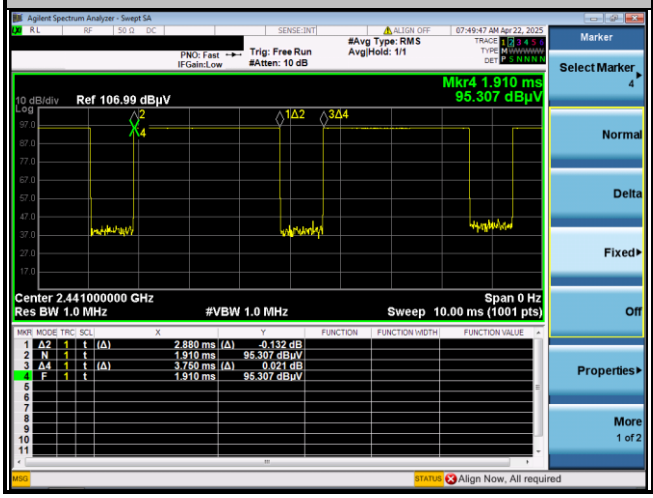
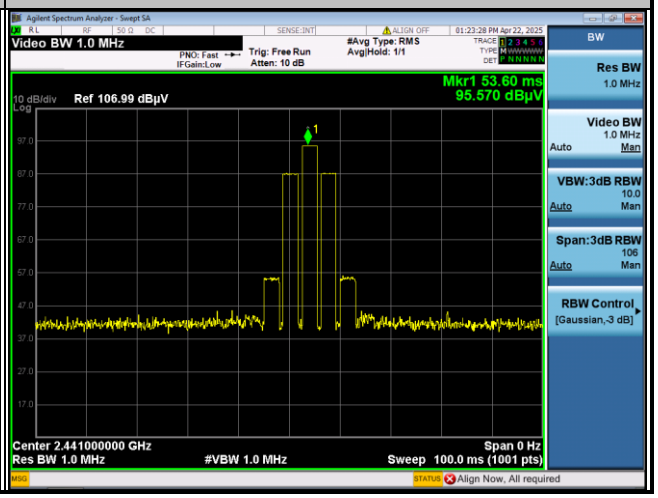
Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition: PEAK_BE_74 3m 9120D-02114-240711 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.54 48.81 74.00 -25.19 48.17 27.94 6.90 34.20 0.00 234 155 PEAK 2 2483.54 18.00 54.00 -36.00 -- -- -- -- -- 234 155 AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2480.00 103.46 ------ ------ 102.86 27.90 6.90 34.20 0.00 234 155 PEAK 2 2480.00 72.65 ------ ------ -- -- -- -- -- 234 155 AVERAGE

Mode	6	
	Harmonic	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4960.00 43.01 74.00 -30.99 65.85 33.32 10.63 67.38 0.59 -- -- PEAK 2 4960.00 12.20 54.00 -41.80 -- -- -- -- -- -- -- AVERAGE 3 7440.00 44.77 74.00 -29.23 61.29 36.68 13.25 66.66 0.21 -- -- PEAK 4 7440.00 13.96 54.00 -40.04 -- -- -- -- -- -- -- AVERAGE	 Site : 03CH12-HY Condition: PEAK_74 3m 9120D-02114-240711 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4960.00 42.46 74.00 -31.54 65.30 33.32 10.63 67.38 0.59 -- -- PEAK 2 4960.00 11.65 54.00 -42.35 -- -- -- -- -- -- -- AVERAGE 3 7440.00 45.47 74.00 -28.53 61.99 36.68 13.25 66.66 0.21 -- -- PEAK 4 7440.00 14.66 54.00 -39.34 -- -- -- -- -- -- -- AVERAGE

Mode	7	
	LF	
	2400-2483.5_Bluetooth BR GFSK_CH78_2480MHz	
ANT	1	
Pol.	Horizontal	Vertical
QP/ Peak	 Site : 03CH12-HY Condition: QP 3m Bilog_37059_20241127 HORIZONTAL Freq Level Limit Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 62.98 33.08 40.00 -6.92 49.50 12.19 1.12 29.79 0.06 -- -- Peak 2 91.11 33.53 43.50 -9.97 46.75 15.14 1.33 29.78 0.09 -- -- Peak 3 264.74 32.41 46.00 -13.59 39.54 19.99 2.25 29.52 0.15 -- -- Peak 4 284.14 31.57 46.00 -14.43 39.49 19.07 2.35 29.49 0.15 -- -- Peak 5 748.77 30.24 46.00 -15.76 26.48 28.39 3.77 28.73 0.33 -- -- Peak 6 946.65 33.88 46.00 -12.12 26.75 30.77 4.25 28.33 0.44 -- -- Peak	 Site : 03CH12-HY Condition: QP 3m Bilog_37059_20241127 VERTICAL Freq Level Limit Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 34.85 32.80 40.00 -7.20 39.25 22.44 0.83 29.76 0.04 -- -- Peak 2 91.11 32.07 43.50 -11.43 45.29 15.14 1.33 29.78 0.09 -- -- Peak 3 263.77 28.85 46.00 -17.15 35.84 20.14 2.24 29.52 0.15 -- -- Peak 4 334.58 34.75 46.00 -11.25 41.29 20.11 2.58 29.41 0.18 -- -- Peak 5 754.59 31.52 46.00 -14.48 27.76 28.37 3.78 28.72 0.33 -- -- Peak 6 950.53 34.71 46.00 -11.29 27.35 30.98 4.26 28.32 0.44 -- -- Peak

Appendix D. Duty Cycle Plots

<Sample 1>

DH5 on time (One Pulse) Plot on Channel 39	on time (Count Pulses) Plot on Channel 39
	

Note:

1. Worst case Duty cycle = on time/100 milliseconds = 1 * 2.88 / 100 = 2.88 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -30.81 dB
3. **DH5** 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 ms x 20 channels = 57.6 ms

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, only one hop can be possibly observed within the period.

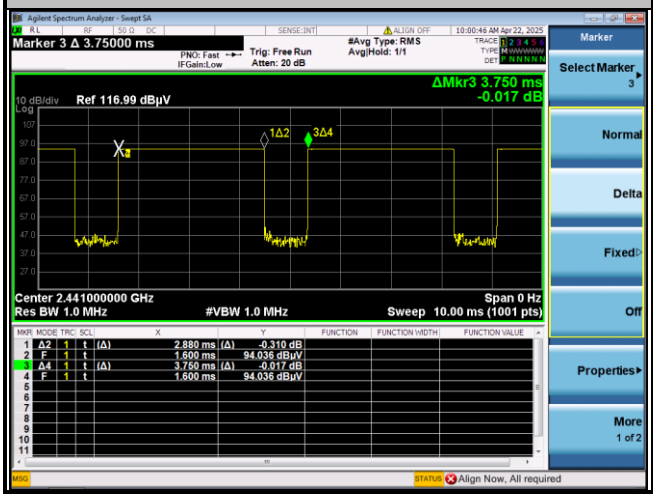
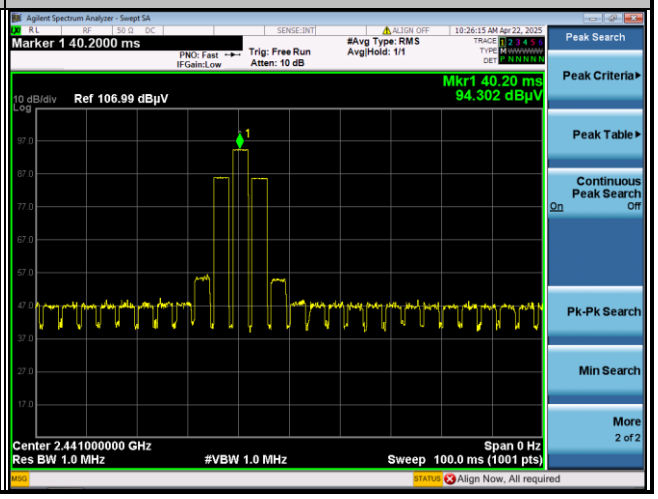
Thus, the maximum possible ON time:

2.88 ms x 1 = 2.88 ms

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

20 x log(2.88ms/100 ms) = -30.81 dB

<Sample 3>

DH5 on time (One Pulse) Plot on Channel 39	on time (Count Pulses) Plot on Channel 39
	

Note:

1. Worst case Duty cycle = on time/100 milliseconds = 1 * 2.88 / 100 = 2.88 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -30.81 dB
3. **DH5** 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 ms x 20 channels = 57.6 ms

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, one one hops can be possibly observed within the period.

Thus, the maximum possible ON time:

2.88 ms x 1 = 2.88 ms

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

20 x log(2.88ms/100 ms) = -30.81 dB