

Environmental Conditions

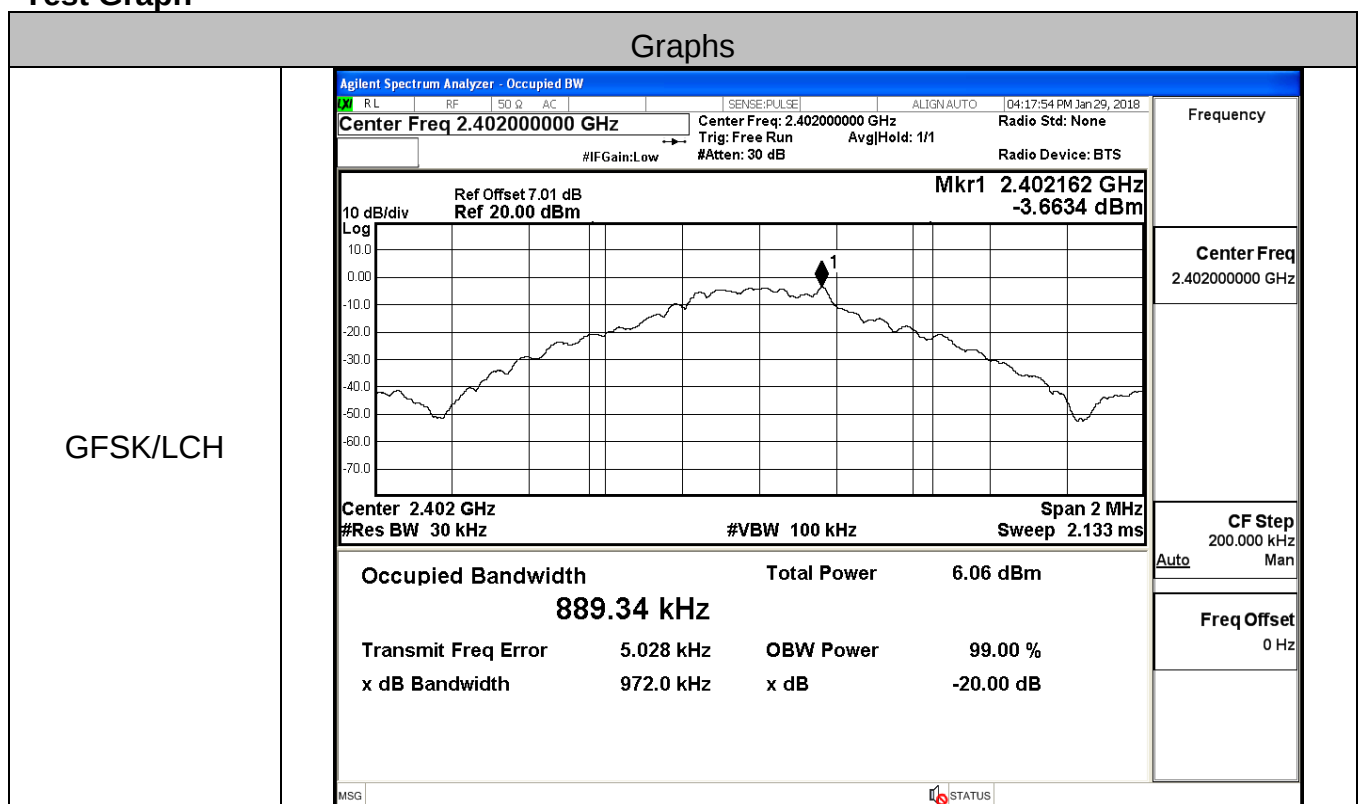
Temperature:	22.9 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.xu
Supervised by:	Tom.Liu

Appendix A): 20dB Bandwidth

Test Result

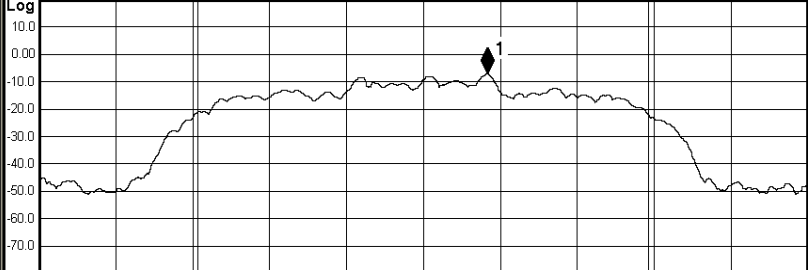
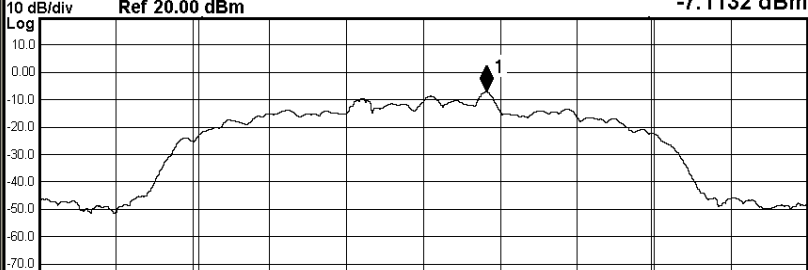
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9720	Not Specified	PASS
	MCH	1.017	Not Specified	PASS
	HCH	1.031	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.287	Not Specified	PASS
	MCH	1.287	Not Specified	PASS
	HCH	1.288	Not Specified	PASS
8DPSK	LCH	1.290	Not Specified	PASS
	MCH	1.290	Not Specified	PASS
	HCH	1.289	Not Specified	PASS

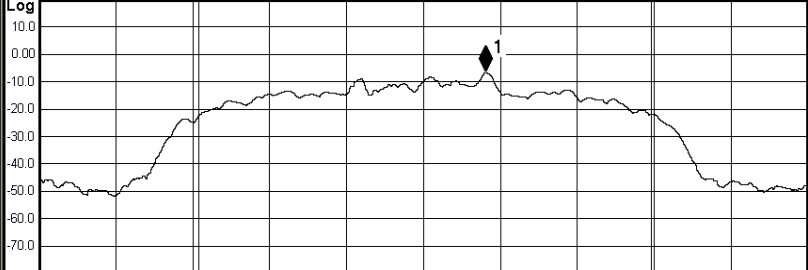
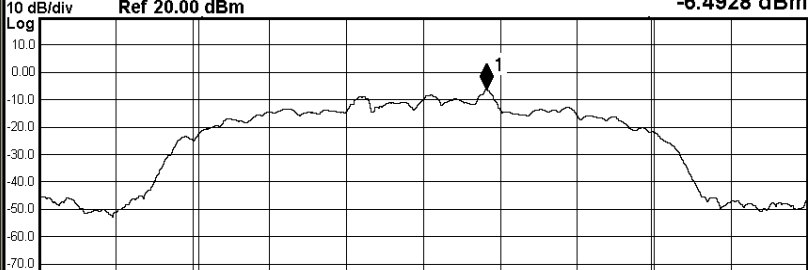
Test Graph



GFSK/MCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:25:06 PM Jan 29, 2018 Center Freq 2.441000000 GHz Center Freq: 2.441000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.441164 GHz -5.6740 dBm Log 10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 -70.0 Center 2.441 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 3.88 dBm 894.38 kHz Transmit Freq Error 5.521 kHz OBW Power 99.00 % x dB Bandwidth 1.017 MHz x dB -20.00 dB MSG STATUS Frequency Center Freq 2.441000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz
GFSK/HCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:26:41 PM Jan 29, 2018 Center Freq 2.480000000 GHz Center Freq: 2.480000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.480162 GHz -5.5818 dBm Log 10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 -70.0 Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 4.14 dBm 889.25 kHz Transmit Freq Error 5.098 kHz OBW Power 99.00 % x dB Bandwidth 1.031 MHz x dB -20.00 dB MSG STATUS Frequency Center Freq 2.480000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz

π/4DQPSK/LCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.40200000 GHz Center Freq: 2.402000000 GHz Trig: Free Run #IFGain:Low #Atten: 30 dB Align: AUTO 04:29:04 PM Jan 29, 2018 Radio Std: None Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.402164 GHz -7.9064 dBm Center 2.402 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth 1.1666 MHz Total Power 2.19 dBm Transmit Freq Error 595 Hz OBW Power 99.00 % x dB Bandwidth 1.287 MHz x dB -20.00 dB Frequency Center Freq 2.40200000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS
π/4DQPSK/MCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.44100000 GHz Center Freq: 2.441000000 GHz Trig: Free Run #IFGain:Low #Atten: 30 dB Align: AUTO 04:31:20 PM Jan 29, 2018 Radio Std: None Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.441164 GHz -7.2292 dBm Center 2.441 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth 1.1654 MHz Total Power 2.75 dBm Transmit Freq Error 655 Hz OBW Power 99.00 % x dB Bandwidth 1.287 MHz x dB -20.00 dB Frequency Center Freq 2.44100000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS

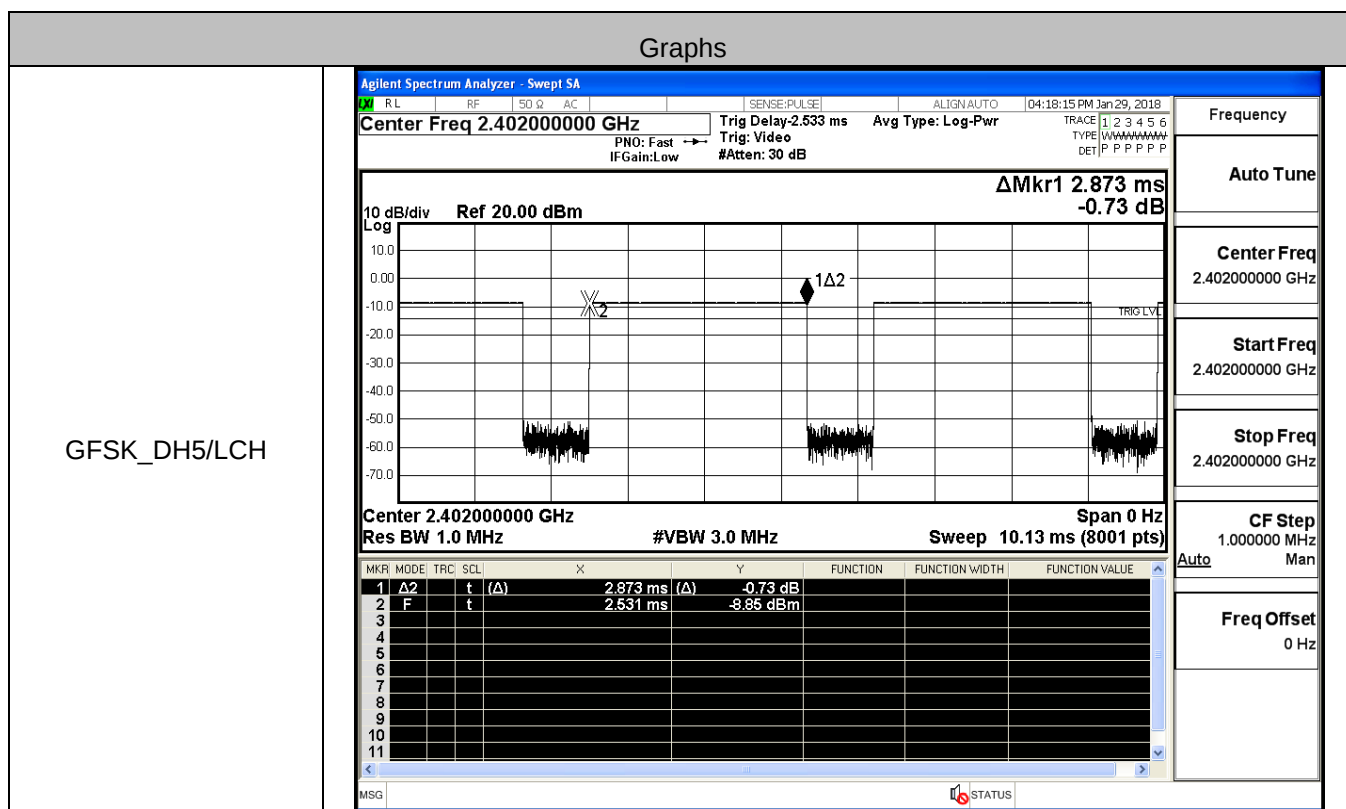
π/4DQPSK/HCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:32:54 PM Jan 29, 2018 Center Freq 2.480000000 GHz Center Freq: 2.480000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.480166 GHz -7.2370 dBm  Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 2.86 dBm 1.1658 MHz Transmit Freq Error 922 Hz OBW Power 99.00 % x dB Bandwidth 1.288 MHz x dB -20.00 dB Frequency Center Freq 2.480000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS
8DPSK/LCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:35:16 PM Jan 29, 2018 Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.402164 GHz -7.1132 dBm  Center 2.402 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 2.11 dBm 1.1729 MHz Transmit Freq Error 4.514 kHz OBW Power 99.00 % x dB Bandwidth 1.290 MHz x dB -20.00 dB Frequency Center Freq 2.402000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS

8DPSK/MCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:37:49 PM Jan 29, 2018 Center Freq 2.441000000 GHz Center Freq: 2.441000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.441162 GHz -6.6163 dBm  Center 2.441 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 2.47 dBm 1.1747 MHz Transmit Freq Error 4.580 kHz OBW Power 99.00 % x dB Bandwidth 1.290 MHz x dB -20.00 dB Frequency Center Freq 2.441000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS
8DPSK/HCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:39:23 PM Jan 29, 2018 Center Freq 2.480000000 GHz Center Freq: 2.480000000 GHz Radio Std: None #IFGain:Low Trig: Free Run Avg Hold: 1/1 Radio Device: BTS 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.480164 GHz -6.4928 dBm  Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 2 MHz Sweep 2.133 ms Occupied Bandwidth Total Power 2.67 dBm 1.1720 MHz Transmit Freq Error 4.658 kHz OBW Power 99.00 % x dB Bandwidth 1.289 MHz x dB -20.00 dB Frequency Center Freq 2.480000000 GHz CF Step 200.000 kHz Auto Man Freq Offset 0 Hz MSG STATUS

Appendix B): Dwell Time Result Table

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.87	106.7	0.306	0.4	PASS
GFSK	DH5	MCH	2.87	106.7	0.306	0.4	PASS
GFSK	DH5	HCH	2.87	106.7	0.306	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.87	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	2.87	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	2.87	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.87	106.7	0.307	0.4	PASS
8DPSK	3DH5	MCH	2.87	106.7	0.307	0.4	PASS
8DPSK	3DH5	HCH	2.87	106.7	0.307	0.4	PASS

Test Graph



Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Ref 20.00 dBm

ΔMkr1 2.873 ms

0.07 dB

10 dB/div

Log

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

Span 0 Hz

Auto

Frequency

Auto Tune

Center Freq

2.441000000 GHz

Start Freq

2.441000000 GHz

Stop Freq

2.441000000 GHz

CF Step

1.000000 MHz

Man

Freq Offset

0 Hz

MSG

STATUS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.480000000 GHz

Ref 20.00 dBm

ΔMkr1 2.873 ms

-0.47 dB

10 dB/div

Log

Center 2.480000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

Span 0 Hz

Auto

Frequency

Auto Tune

Center Freq

2.480000000 GHz

Start Freq

2.480000000 GHz

Stop Freq

2.480000000 GHz

CF Step

1.000000 MHz

Man

Freq Offset

0 Hz

MSG

STATUS

$\pi/4$ DQPSK
_2DH5/LCH

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.402000000 GHz

Trig Delay: 2.533 ms

Avg Type: Log-Pwr

Trig: Video

#Atten: 30 dB

ΔMkr1 2.877 ms

1.17 dB

10 dB/div Ref 20.00 dBm

Center 2.402000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.877 ms	(Δ)	1.17 dB		
2	F	t		1.838 ms		-13.85 dBm		

MSG STATUS

$\pi/4$ DQPSK
_2DH5/MCH

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Trig Delay: 2.533 ms

Avg Type: Log-Pwr

Trig: Video

#Atten: 30 dB

ΔMkr1 2.877 ms

-2.03 dB

10 dB/div Ref 20.00 dBm

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.877 ms	(Δ)	-2.03 dB		
2	F	t		2.300 ms		-12.01 dBm		

MSG STATUS

8DPSK_3DH5/MCH

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Trig Delay: 2.533 ms

Avg Type: Log-Pwr

Trig: Video

#Atten: 30 dB

Frequency

Auto Tune

Center Freq 2.441000000 GHz

Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 1.000000 MHz

Freq Offset 0 Hz

10 dB/div Ref 20.00 dBm

ΔMkr1 2.879 ms -2.13 dB

1Δ2

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.879 ms	(Δ)	-2.13 dB		
2	F	t		2.151 ms		-12.43 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

8DPSK_3DH5/HCH

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.480000000 GHz

Trig Delay: 2.533 ms

Avg Type: Log-Pwr

Trig: Video

#Atten: 30 dB

Frequency

Auto Tune

Center Freq 2.480000000 GHz

Start Freq 2.480000000 GHz

Stop Freq 2.480000000 GHz

CF Step 1.000000 MHz

Freq Offset 0 Hz

10 dB/div Ref 20.00 dBm

ΔMkr1 2.878 ms -1.09 dB

1Δ2

Center 2.480000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)

Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.878 ms	(Δ)	-1.09 dB		
2	F	t		3.544 ms		-11.78 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

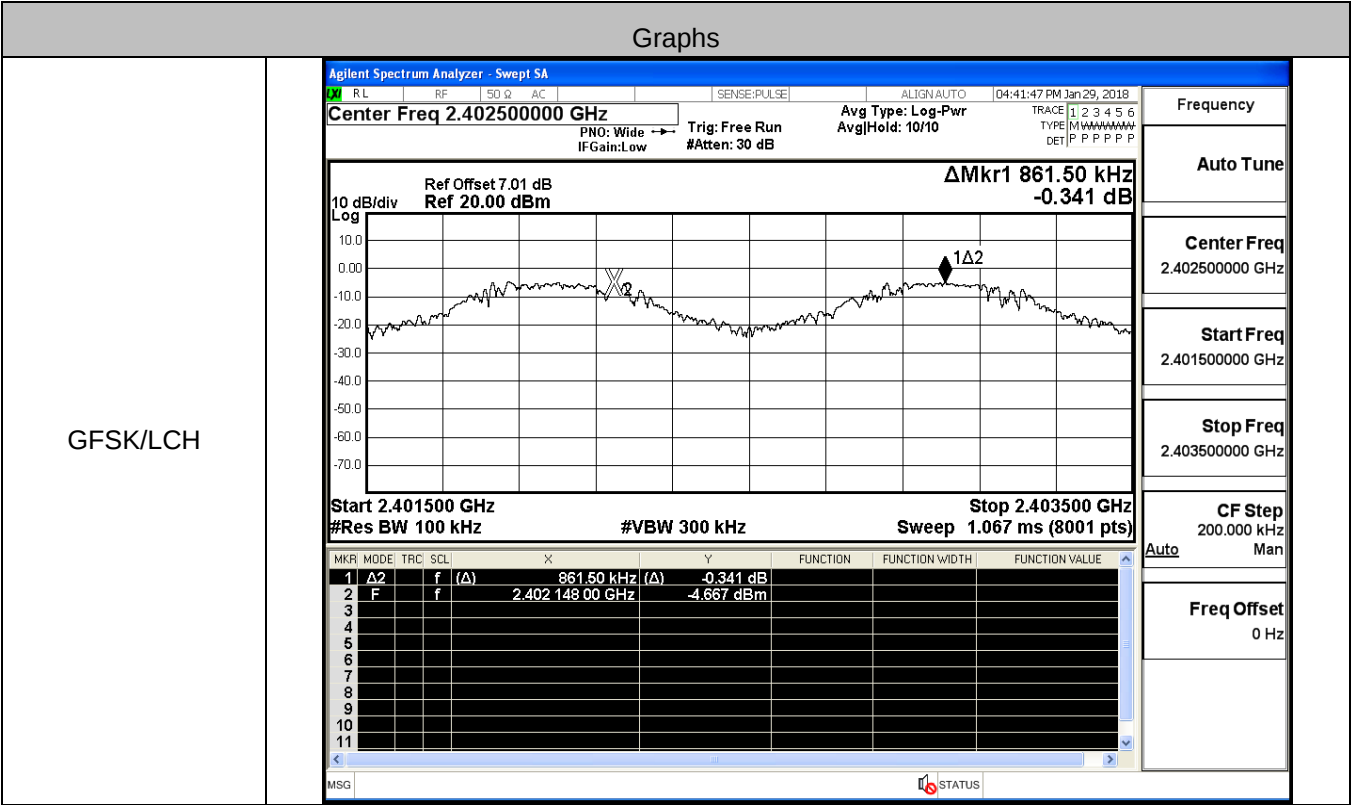
MSG STATUS

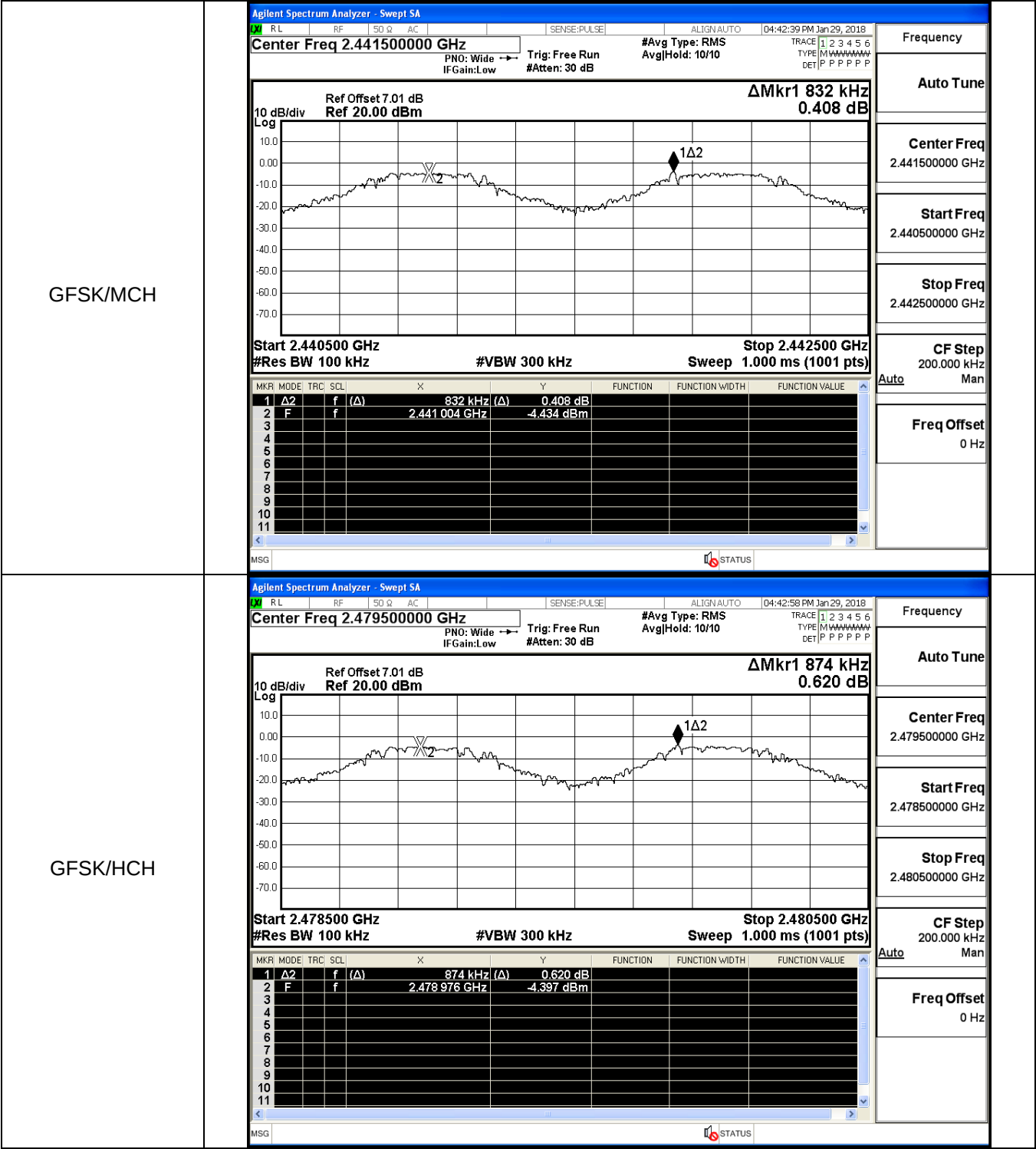
Appendix C): Carrier Frequency Separation

Result Table

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz] 2/3*20dB Bandwidth	Verdict
GFSK	LCH	0.861	0.648	PASS
	MCH	0.832	0.678	PASS
	HCH	0.874	0.687	PASS
π/4DQPSK	LCH	1.010	0.858	PASS
	MCH	0.872	0.858	PASS
	HCH	1.242	0.859	PASS
8DPSK	LCH	1.106	0.860	PASS
	MCH	1.146	0.860	PASS
	HCH	1.312	0.859	PASS

Test Graph





$\pi/4$ DQPSK/LCH

$\pi/4$ DQPSK/MCH

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40250000 GHz

Ref Offset 7.01 dB
Ref 20.00 dBm

ΔMkr1 1.010 MHz
-0.109 dB

Start 2.401500 GHz
Stop 2.403500 GHz
Sweep 1.000 ms (1001 pts)

#Res BW 100 kHz
#VBW 300 kHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	f	(Δ)	1.010 MHz	(Δ)	-0.109 dB		
2	F	f		2.402 012 GHz		-6.184 dBm		

MSG STATUS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.44150000 GHz

Ref Offset 7.01 dB
Ref 20.00 dBm

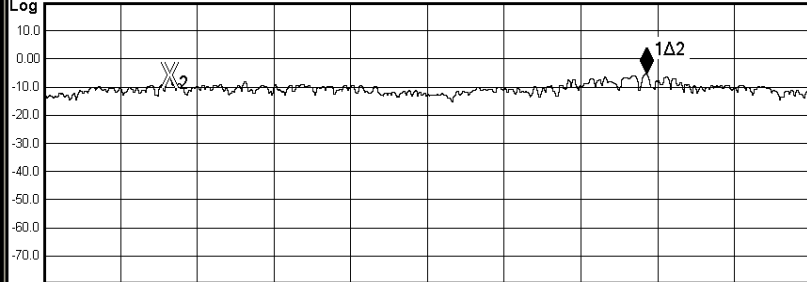
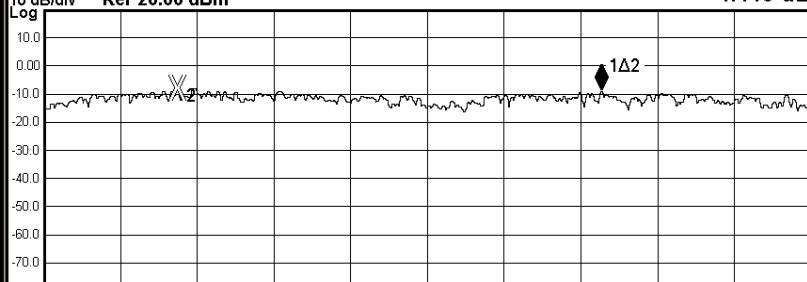
ΔMkr1 872 kHz
-3.077 dB

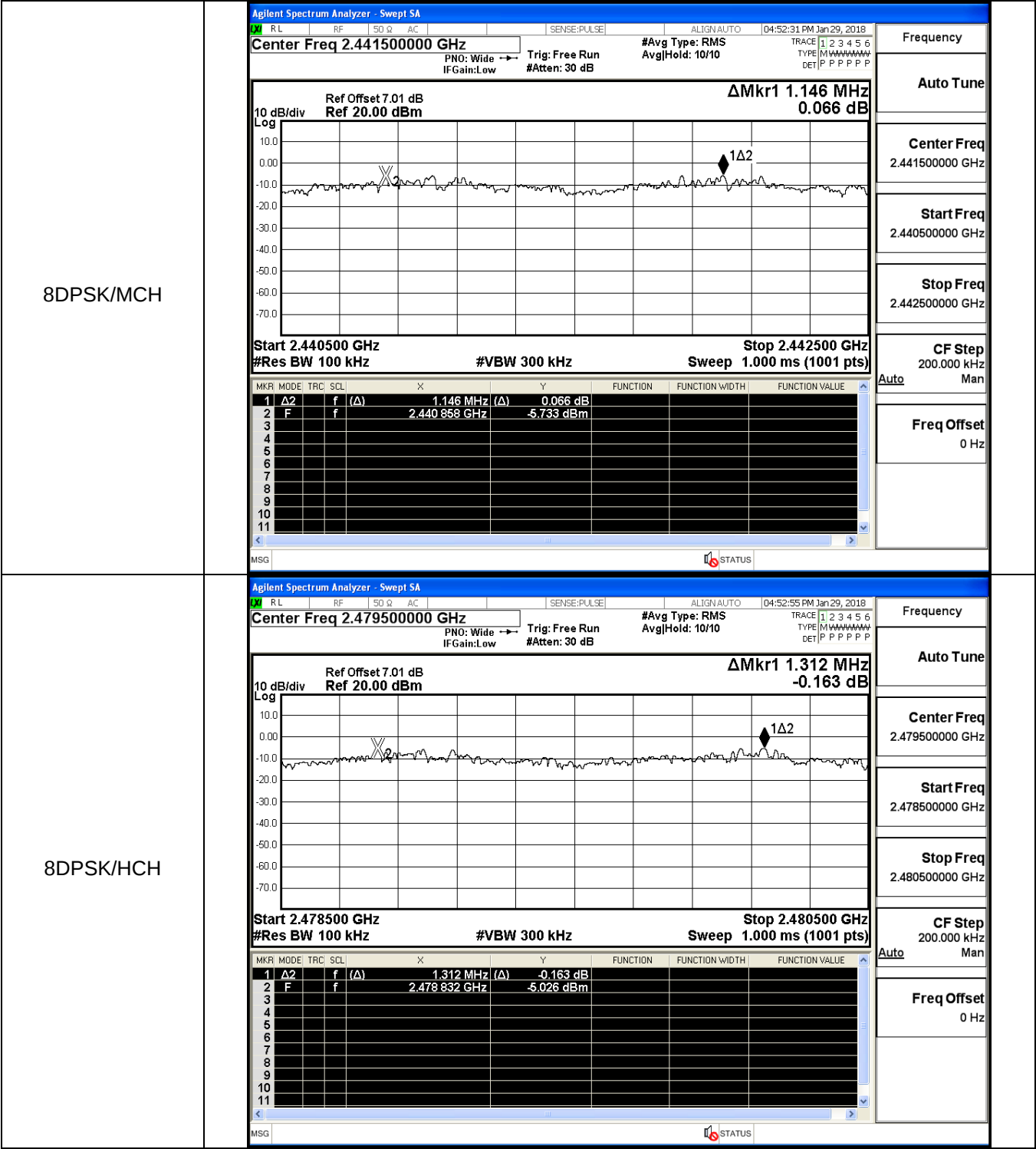
Start 2.440500 GHz
Stop 2.442500 GHz
Sweep 1.000 ms (1001 pts)

#Res BW 100 kHz
#VBW 300 kHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	f	(Δ)	872 kHz	(Δ)	-3.077 dB		
2	F	f		2.441 182 GHz		-5.519 dBm		

MSG STATUS

π/4DQPSK/HCH	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:47:09 PM Jan 29, 2018 Center Freq 2.479500000 GHz PN0: Wide → Trig: Free Run #Avg Type: RMS TRACE 1 2 3 4 5 6 IF Gain: Low #Atten: 30 dB Avg Hold: 10/10 TYPE M W W W W W W W DET P P P P P P Frequency Auto Tune Center Freq2.479500000 GHz Start Freq2.478500000 GHz Stop Freq2.480500000 GHz CF Step200.000 kHz AutoMan Freq Offset0 Hz 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 1.242 MHz 0.288 dB Log  Start 2.478500 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.480500 GHz Sweep 1.000 ms (1001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>Δ2</td><td></td><td>f</td><td>(Δ)</td><td>1.242 MHz</td><td>(Δ)</td><td></td><td>0.288 dB</td></tr><tr><td>2</td><td>F</td><td></td><td>f</td><td></td><td>2.478 828 GHz</td><td></td><td></td><td>-5.764 dBm</td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> MSG STATUS	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2		f	(Δ)	1.242 MHz	(Δ)		0.288 dB	2	F		f		2.478 828 GHz			-5.764 dBm	3									4									5									6									7									8									9									10									11								
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8DPSK/LCH	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:50:54 PM Jan 29, 2018 Center Freq 2.402500000 GHz PN0: Wide → Trig: Free Run #Avg Type: RMS TRACE 1 2 3 4 5 6 IF Gain: Low #Atten: 30 dB Avg Hold: 10/10 TYPE M W W W W W W W DET P P P P P P Frequency Auto Tune Center Freq2.402500000 GHz Start Freq2.401500000 GHz Stop Freq2.403500000 GHz CF Step200.000 kHz AutoMan Freq Offset0 Hz 10 dB/div Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 1.106 MHz -1.119 dB Log  Start 2.401500 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.403500 GHz Sweep 1.000 ms (1001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>Δ2</td><td></td><td>f</td><td>(Δ)</td><td>1.106 MHz</td><td>(Δ)</td><td></td><td>-1.119 dB</td></tr><tr><td>2</td><td>F</td><td></td><td>f</td><td></td><td>2.401 848 GHz</td><td></td><td></td><td>-7.868 dBm</td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> MSG STATUS	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2		f	(Δ)	1.106 MHz	(Δ)		-1.119 dB	2	F		f		2.401 848 GHz			-7.868 dBm	3									4									5									6									7									8									9									10									11								
	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																				
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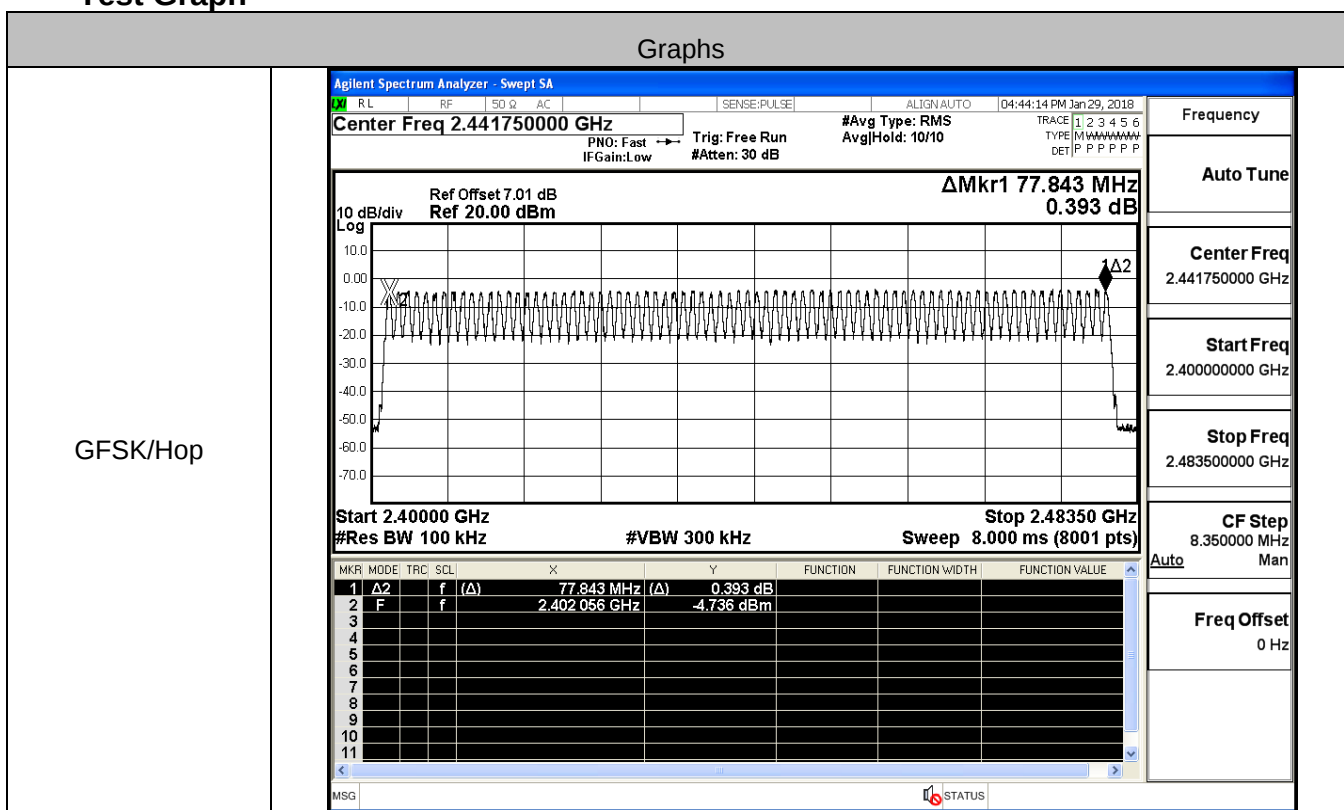


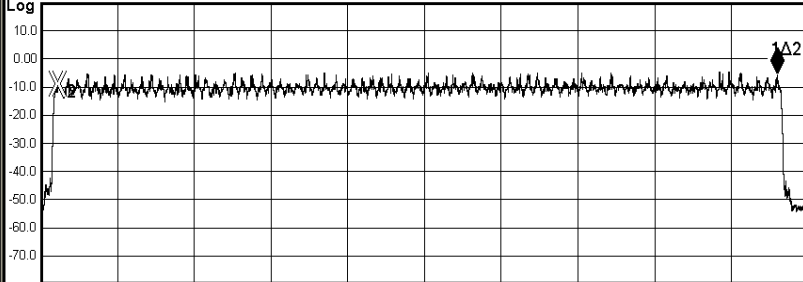
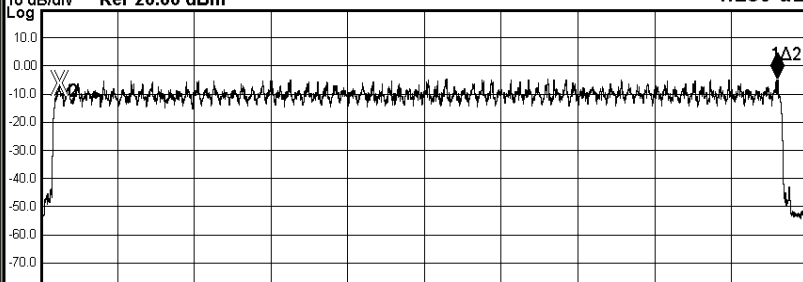
Appendix C): Hopping Channel Number

Result Table

Mode	Channel.	Number of Hopping Channel	Verdict
GFSK	Hop	79	PASS
$\pi/4$ DQPSK	Hop	79	PASS
8DPSK	Hop	79	PASS

Test Graph

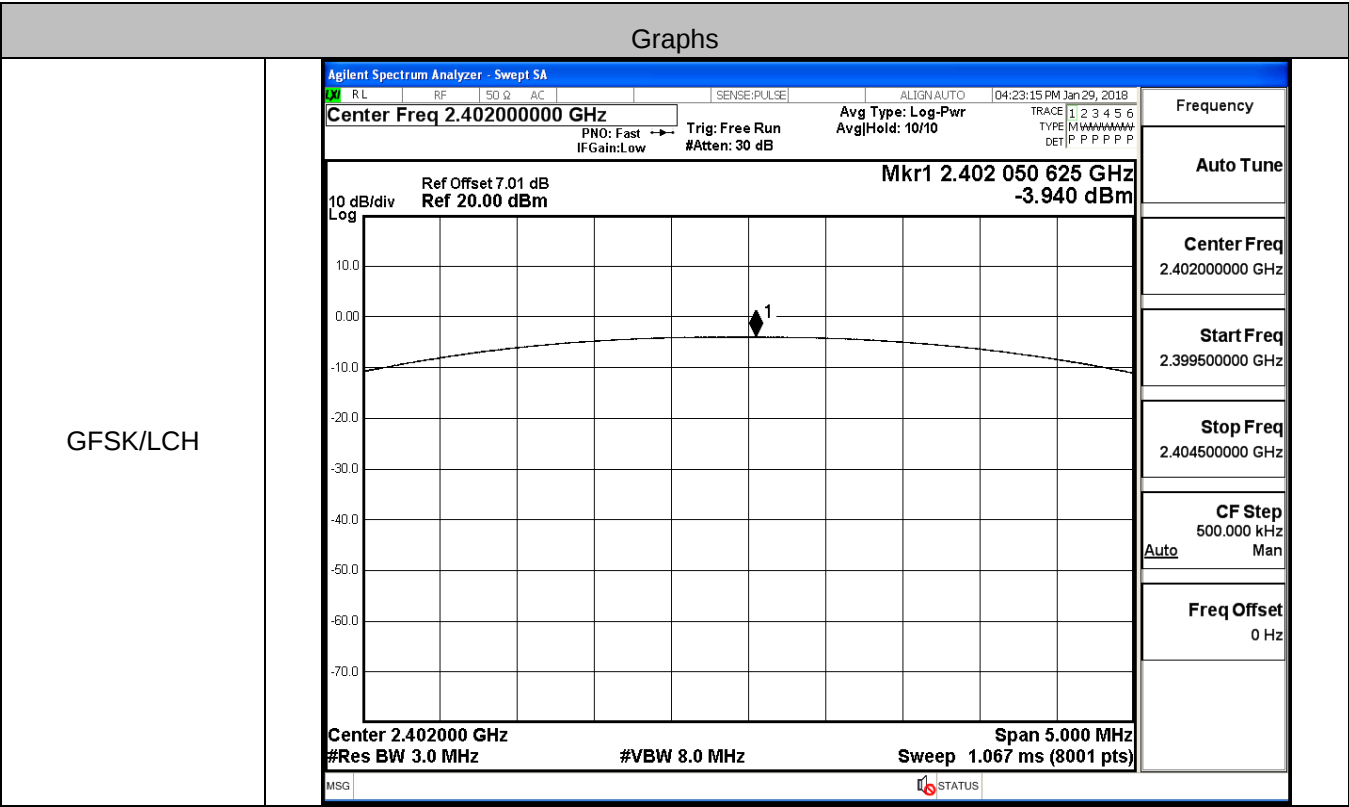


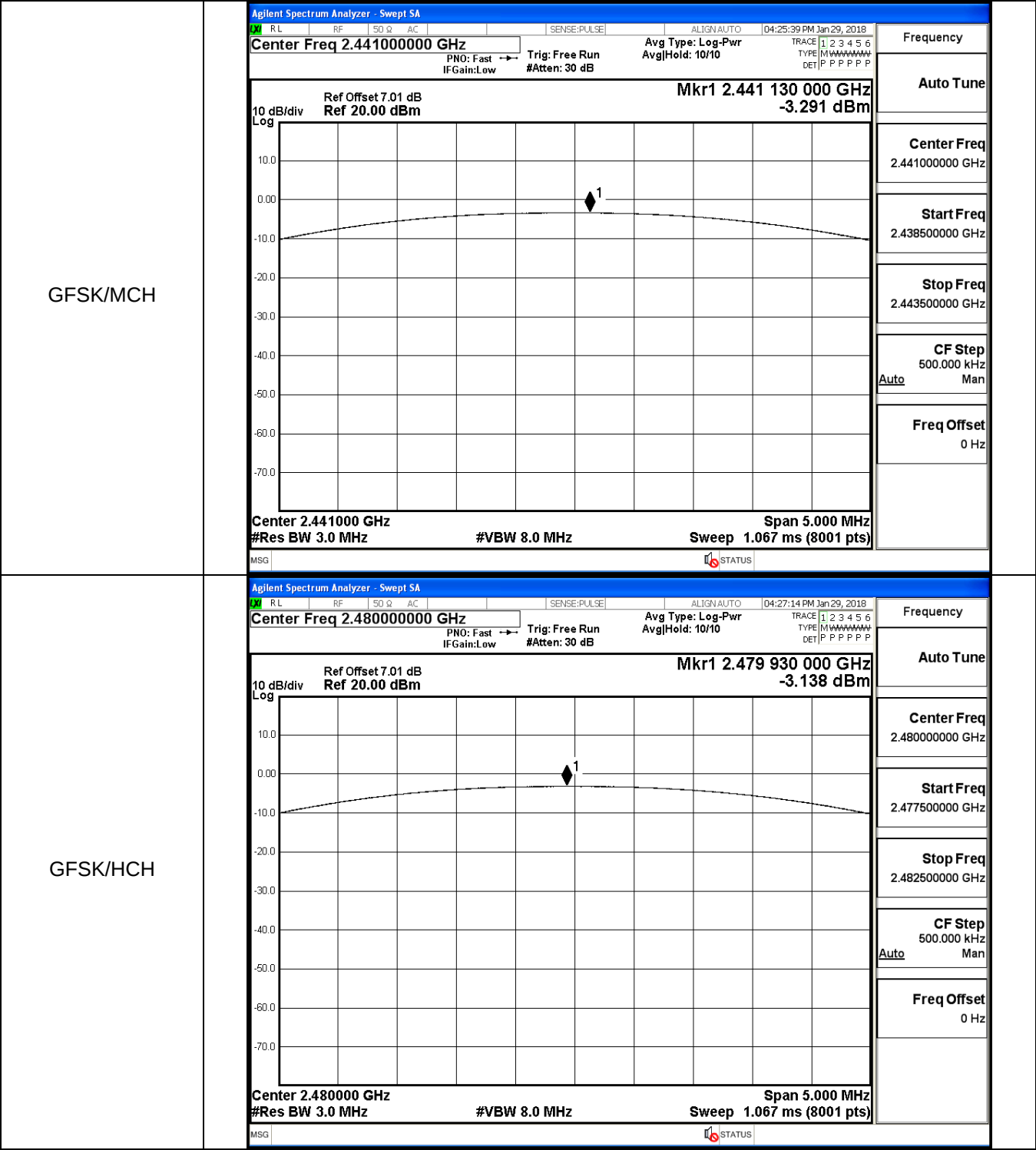
π/4DQPSK/Hop	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:49:35 PM Jan 29, 2018 Center Freq 2.441750000 GHz PN0: Fast IFGain:Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS AvgHld: 10/10 TRACE 1 2 3 4 5 6 TYPE: M W W W W W W W DET: P P P P P P Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 78.354 MHz 3.301 dB 10 dB/div Log  Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>Δ2</td><td>f</td><td>(Δ)</td><td>78.354 MHz</td><td>(Δ)</td><td>3.301 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>f</td><td></td><td>2.401795 GHz</td><td></td><td>-8.957 dBm</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> MSG STATUS Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2	f	(Δ)	78.354 MHz	(Δ)	3.301 dB			2	F	f		2.401795 GHz		-8.957 dBm			3									4									5									6									7									8									9									10									11								
	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																				
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8DPSK/Hop	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 04:55:21 PM Jan 29, 2018 Center Freq 2.441750000 GHz PN0: Fast IFGain:Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS AvgHld: 10/10 TRACE 1 2 3 4 5 6 TYPE: M W W W W W W W DET: P P P P P P Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 78.166 MHz 1.283 dB 10 dB/div Log  Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>Δ2</td><td>f</td><td>(Δ)</td><td>78.166 MHz</td><td>(Δ)</td><td>1.283 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>f</td><td></td><td>2.402004 GHz</td><td></td><td>-6.211 dBm</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> MSG STATUS Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2	f	(Δ)	78.166 MHz	(Δ)	1.283 dB			2	F	f		2.402004 GHz		-6.211 dBm			3									4									5									6									7									8									9									10									11								
	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																				
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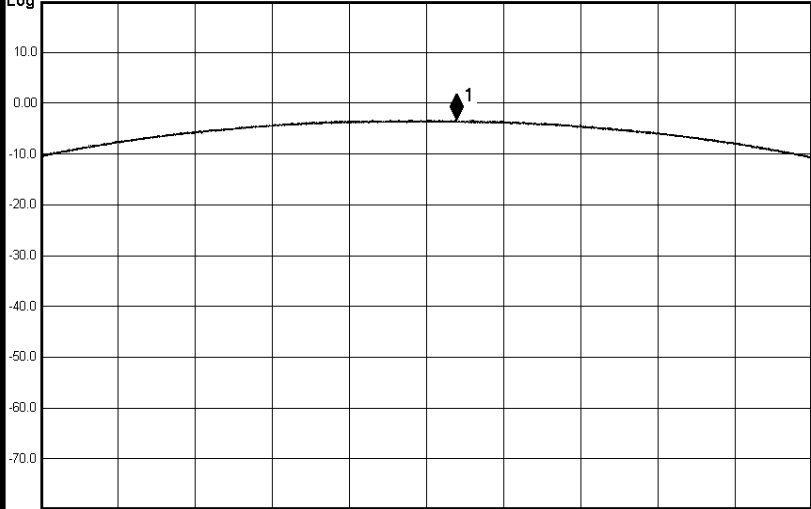
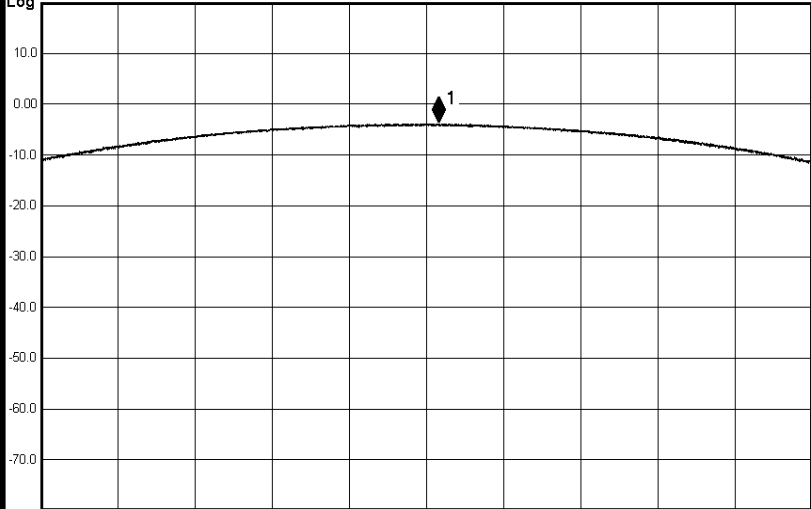
Appendix D): Conducted Peak Output Power
Result Table

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-3.940	21	PASS
	MCH	-3.291	21	PASS
	HCH	-3.138	21	PASS
π /4DQPSK	LCH	-4.059	21	PASS
	MCH	-3.516	21	PASS
	HCH	-3.358	21	PASS
8DPSK	LCH	-3.837	21	PASS
	MCH	-3.291	21	PASS
	HCH	-3.327	21	PASS

Test Graph





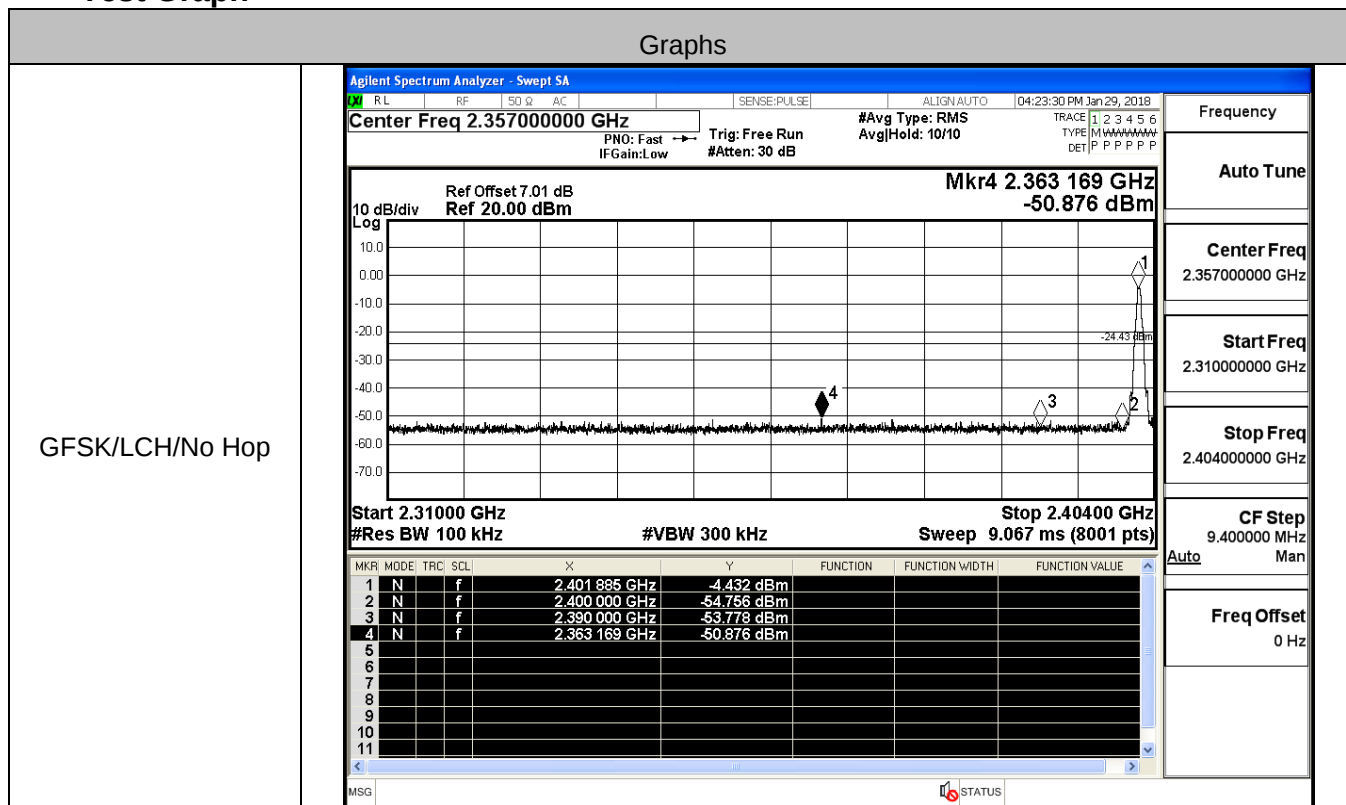
π/4DQPSK/HCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE:PULSE ALIGN:AUTO 04:33:26 PM Jan 29, 2018 Center Freq 2.480000000 GHz PN0: Fast IFGain:Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr AvgHld: 10/10 TRACE 1 2 3 4 5 6 TYPE M W W W W W W W W DET P P P P P P P Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.480 193 750 GHz -3.358 dBm  Center 2.480000 GHz #Res BW 3.0 MHz #VBW 8.0 MHz Span 5.000 MHz Sweep 1.067 ms (8001 pts) MSG  Frequency Auto Tune Center Freq2.480000000 GHz Start Freq2.477500000 GHz Stop Freq2.482500000 GHz CF Step500.000 kHz AutoMan Freq Offset0 Hz
8DPSK/LCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE:PULSE ALIGN:AUTO 04:35:49 PM Jan 29, 2018 Center Freq 2.402000000 GHz PN0: Fast IFGain:Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr AvgHld: 10/10 TRACE 1 2 3 4 5 6 TYPE M W W W W W W W W DET P P P P P P P Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.402 079 375 GHz -3.837 dBm  Center 2.402000 GHz #Res BW 3.0 MHz #VBW 8.0 MHz Span 5.000 MHz Sweep 1.067 ms (8001 pts) MSG  Frequency Auto Tune Center Freq2.402000000 GHz Start Freq2.399500000 GHz Stop Freq2.404500000 GHz CF Step500.000 kHz AutoMan Freq Offset0 Hz

Appendix E): Band-edge for RF Conducted Emissions

Result Table

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-4.432	Off	-50.876	-24.43	PASS
			-4.097	On	-50.690	-24.1	PASS
GFSK	HCH	2480	-3.395	Off	-50.195	-23.4	PASS
			-3.722	On	-49.912	-23.72	PASS
π /4DQPSK	LCH	2402	-4.969	Off	-51.191	-24.97	PASS
			-5.116	On	-49.277	-25.12	PASS
π /4DQPSK	HCH	2480	-4.298	Off	-50.189	-24.3	PASS
			-4.778	On	-50.547	-24.78	PASS
8DPSK	LCH	2402	-5.016	Off	-50.519	-25.02	PASS
			-5.232	On	-50.929	-25.23	PASS
8DPSK	HCH	2480	-4.526	Off	-51.492	-24.53	PASS
			-4.880	On	-50.396	-24.88	PASS

Test Graph



Agilent Spectrum Analyzer - Swept SA

Center Freq 2.483500000 GHz
 #Res BW 100 kHz
 #VBW 300 kHz
 Sweep 5.867 ms (8001 pts)

Ref Offset 7.01 dB
 Ref 20.00 dBm

Mkr4 2.492 425 0 GHz
 -49.912 dBm

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.469 167 5 GHz	-3.722 dBm			
2	N	f		2.483 500 0 GHz	-53.747 dBm			
3	N	f		2.500 000 0 GHz	-51.522 dBm			
4	N	f		2.492 425 0 GHz	-49.912 dBm			

Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.357000000 GHz
 #Res BW 100 kHz
 #VBW 300 kHz
 Sweep 9.067 ms (8001 pts)

Ref Offset 7.01 dB
 Ref 20.00 dBm

Mkr4 2.364 450 GHz
 -51.191 dBm

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.401 850 GHz	-4.969 dBm			
2	N	f		2.400 000 GHz	-54.412 dBm			
3	N	f		2.390 000 GHz	-53.325 dBm			
4	N	f		2.364 450 GHz	-51.191 dBm			

Frequency

Auto Tune

Center Freq
2.357000000 GHz

Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.4188475 GHz	-5.116 dBm			
2	N		f	2.4000000 GHz	-52.906 dBm			
3	N		f	2.3900000 GHz	-53.074 dBm			
4	N		f	2.3850750 GHz	-49.277 dBm			

$\pi/4$ DQPSK/HCH/No Hop

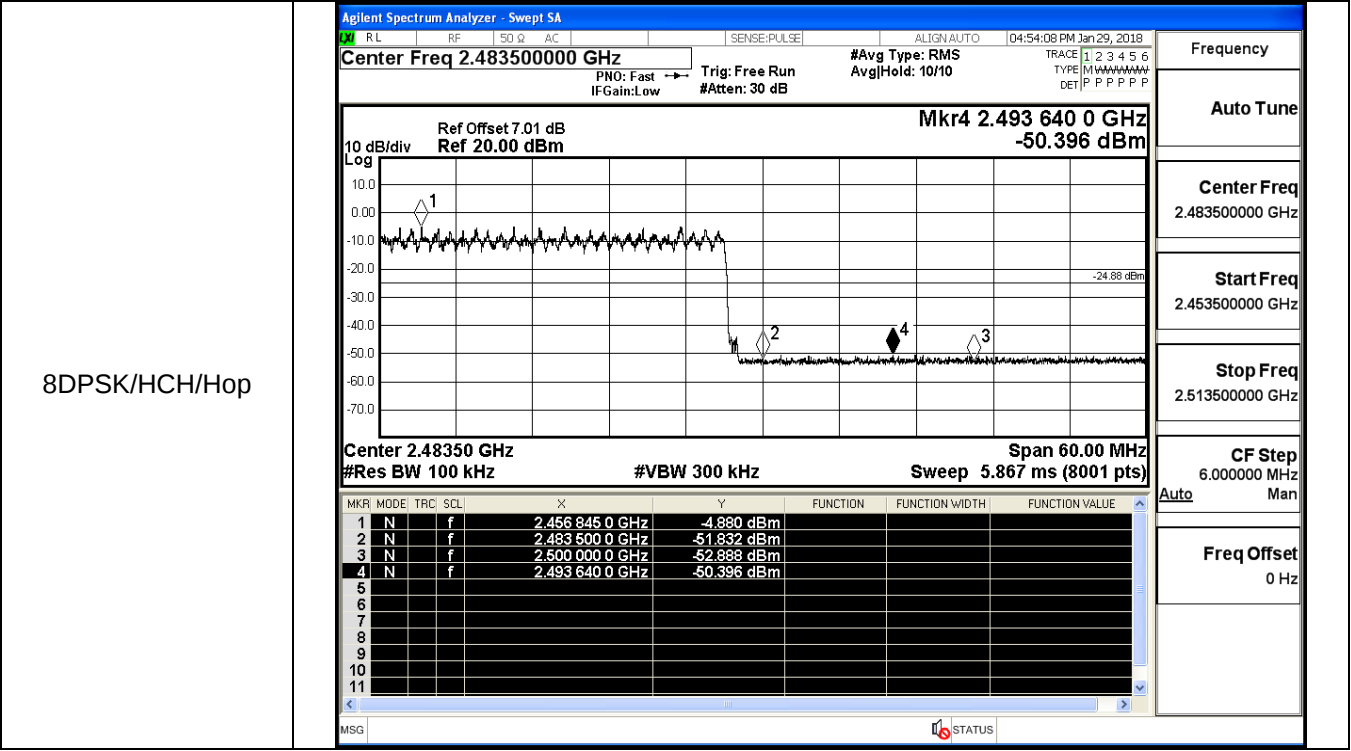
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.4798480 GHz	-4.298 dBm			
2	N		f	2.4835000 GHz	-54.290 dBm			
3	N		f	2.5000000 GHz	-53.616 dBm			
4	N		f	2.4961995 GHz	-50.189 dBm			

$\pi/4$ DQPSK/HCH/Hop

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.463 167 5 GHz	-4.778 dBm			
2	N		f	2.483 500 0 GHz	-52.577 dBm			
3	N		f	2.500 000 0 GHz	-51.973 dBm			
4	N		f	2.499 872 5 GHz	-50.547 dBm			

8DPSK/LCH/No Hop

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.402 167 GHz	-5.016 dBm			
2	N		f	2.400 000 GHz	-54.105 dBm			
3	N		f	2.390 000 GHz	-54.385 dBm			
4	N		f	2.352 253 GHz	-50.519 dBm			

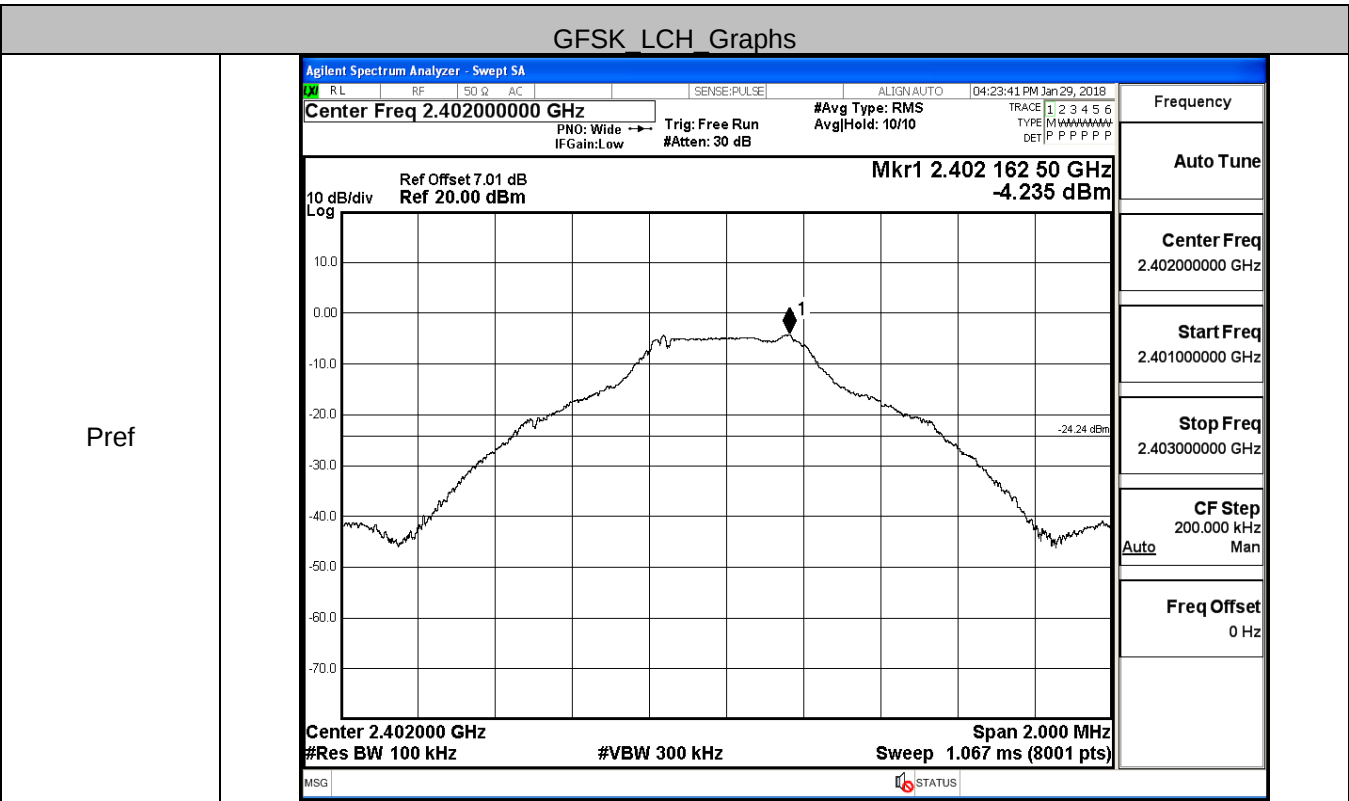


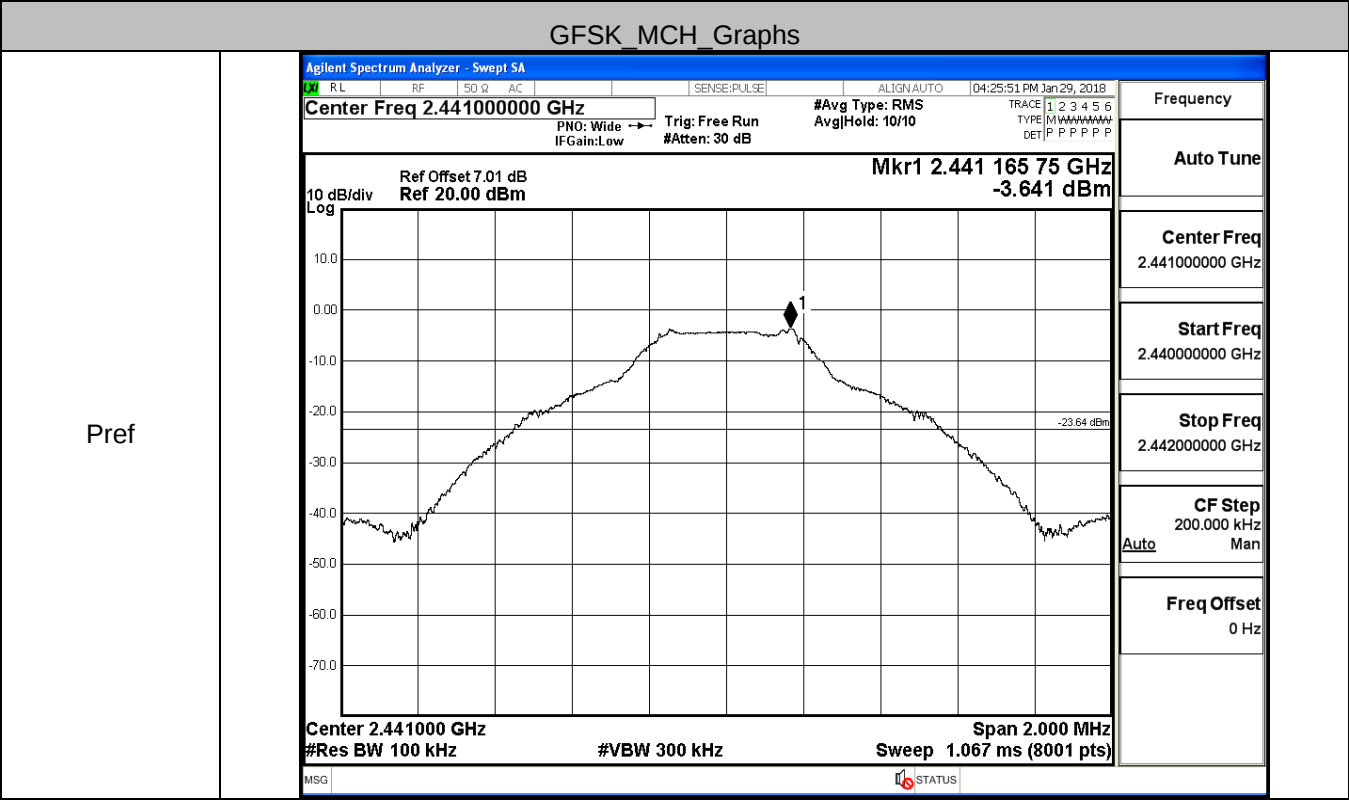
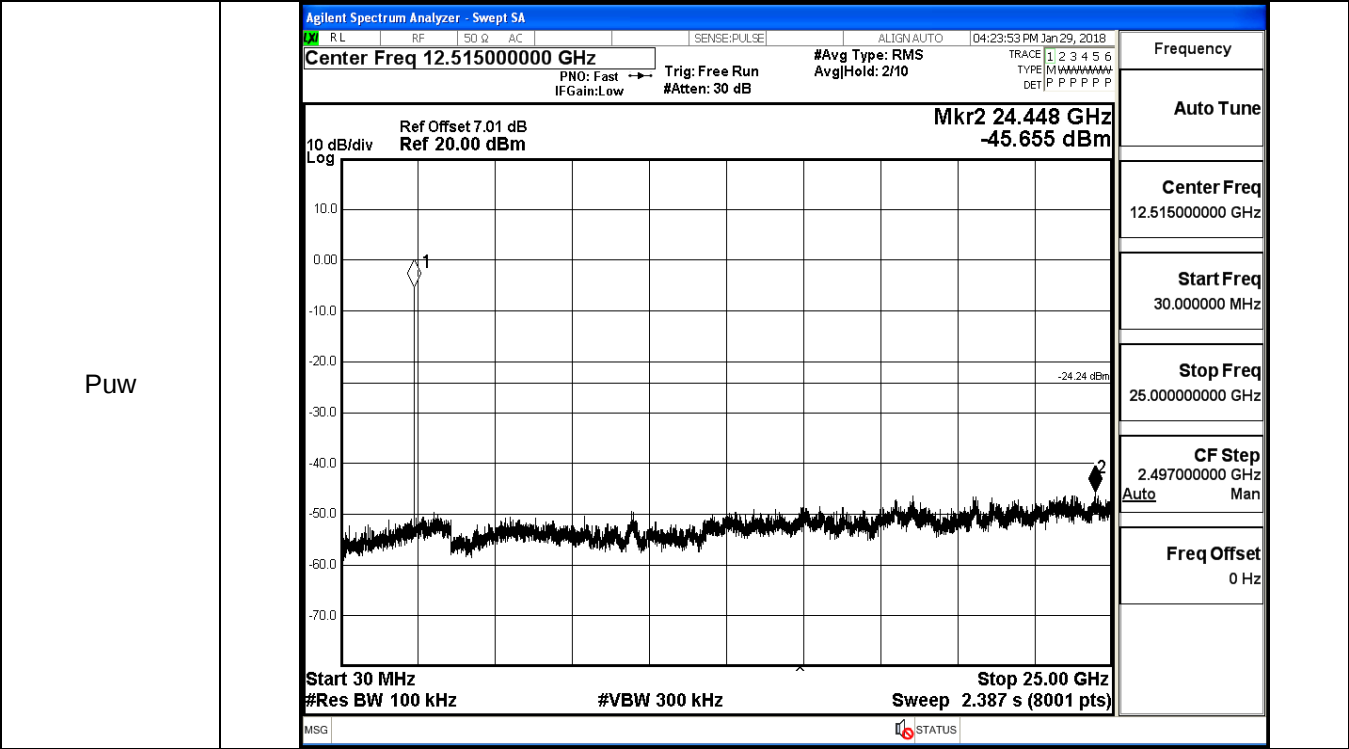
Appendix F): RF Conducted Spurious Emissions

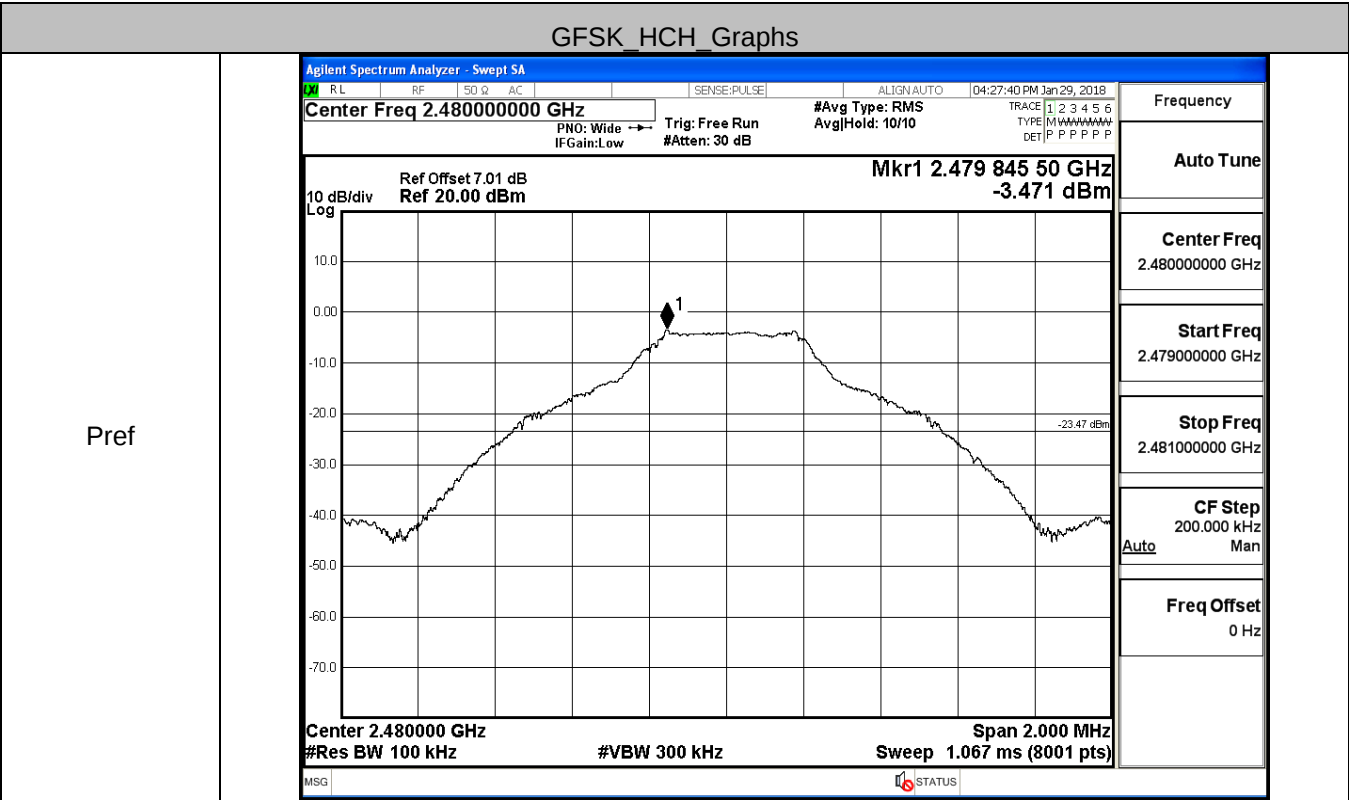
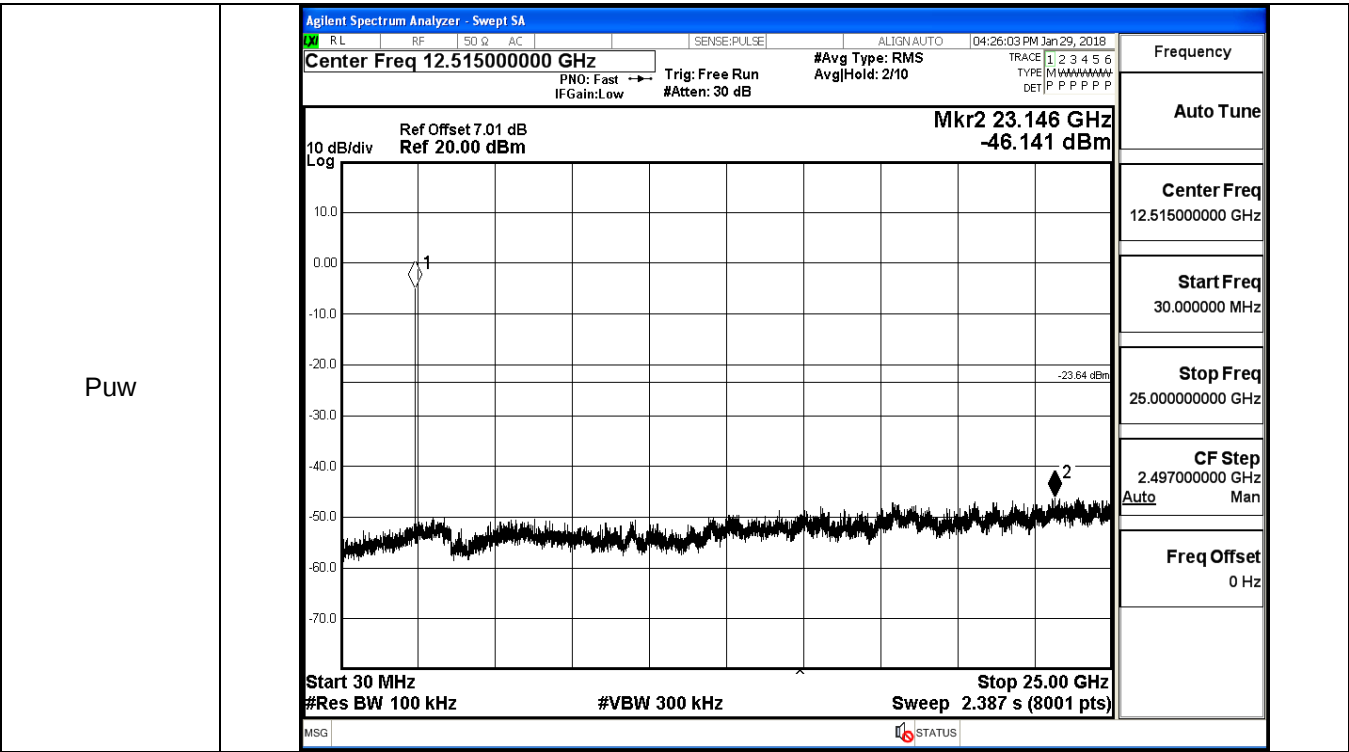
Result Table

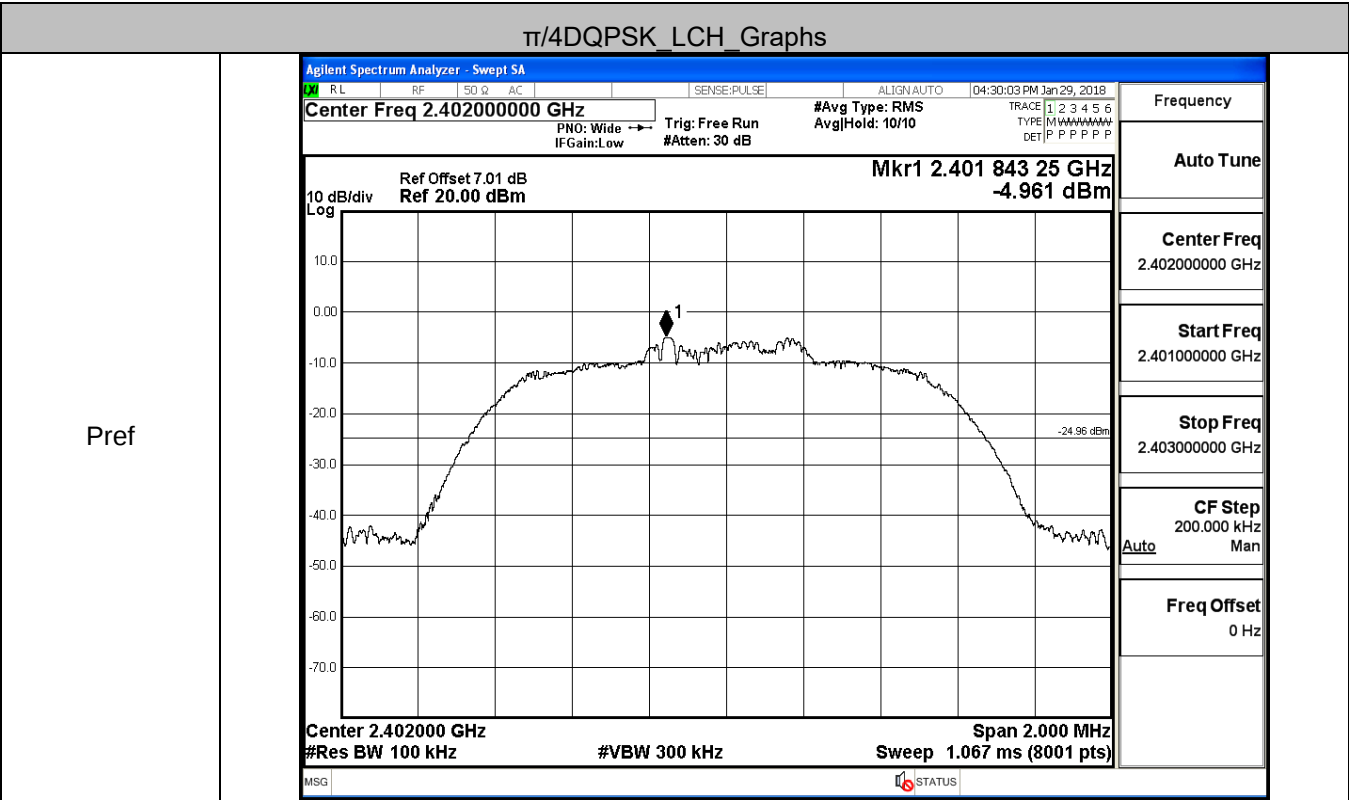
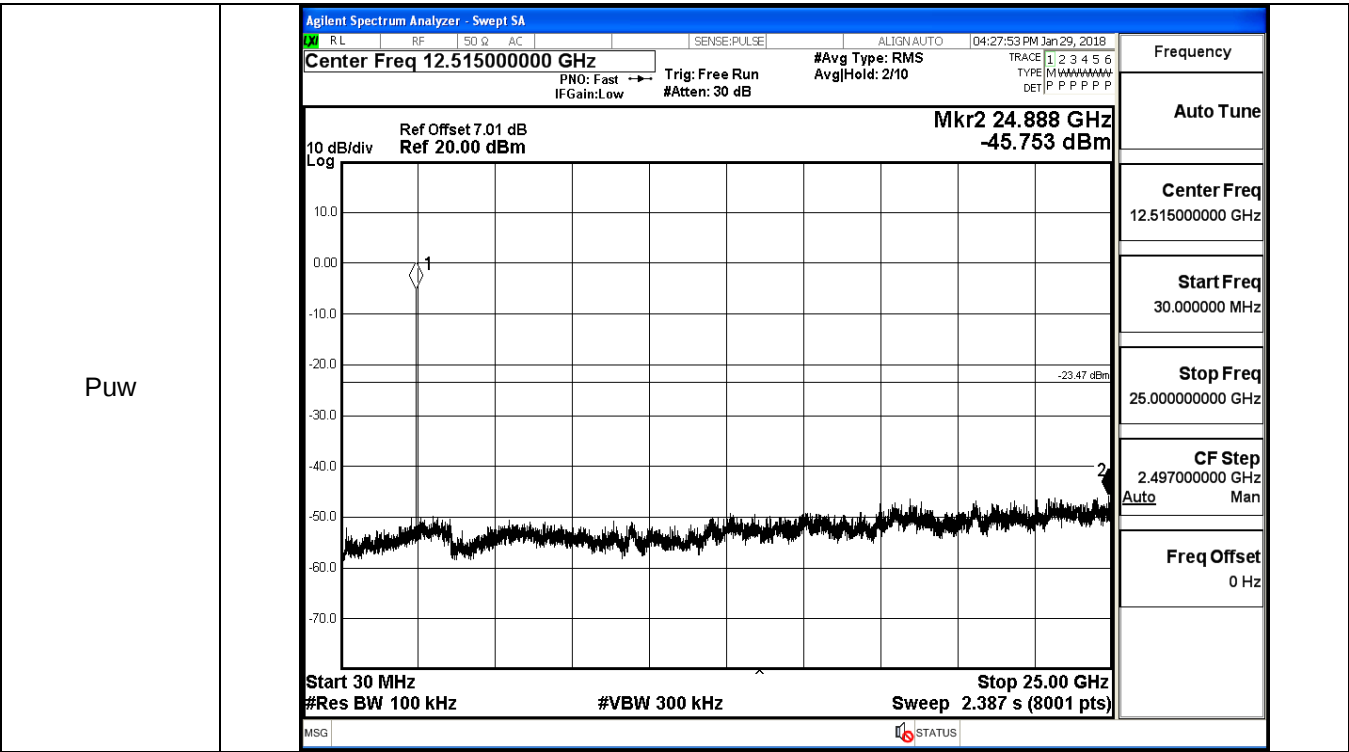
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
GFSK	LCH	-4.235	<Limit	PASS
GFSK	MCH	-3.641	<Limit	PASS
GFSK	HCH	-3.471	<Limit	PASS
π /4DQPSK	LCH	-4.961	<Limit	PASS
π /4DQPSK	MCH	-4.649	<Limit	PASS
π /4DQPSK	HCH	-4.376	<Limit	PASS
8DPSK	LCH	-5.276	<Limit	PASS
8DPSK	MCH	-4.562	<Limit	PASS
8DPSK	HCH	-4.564	<Limit	PASS

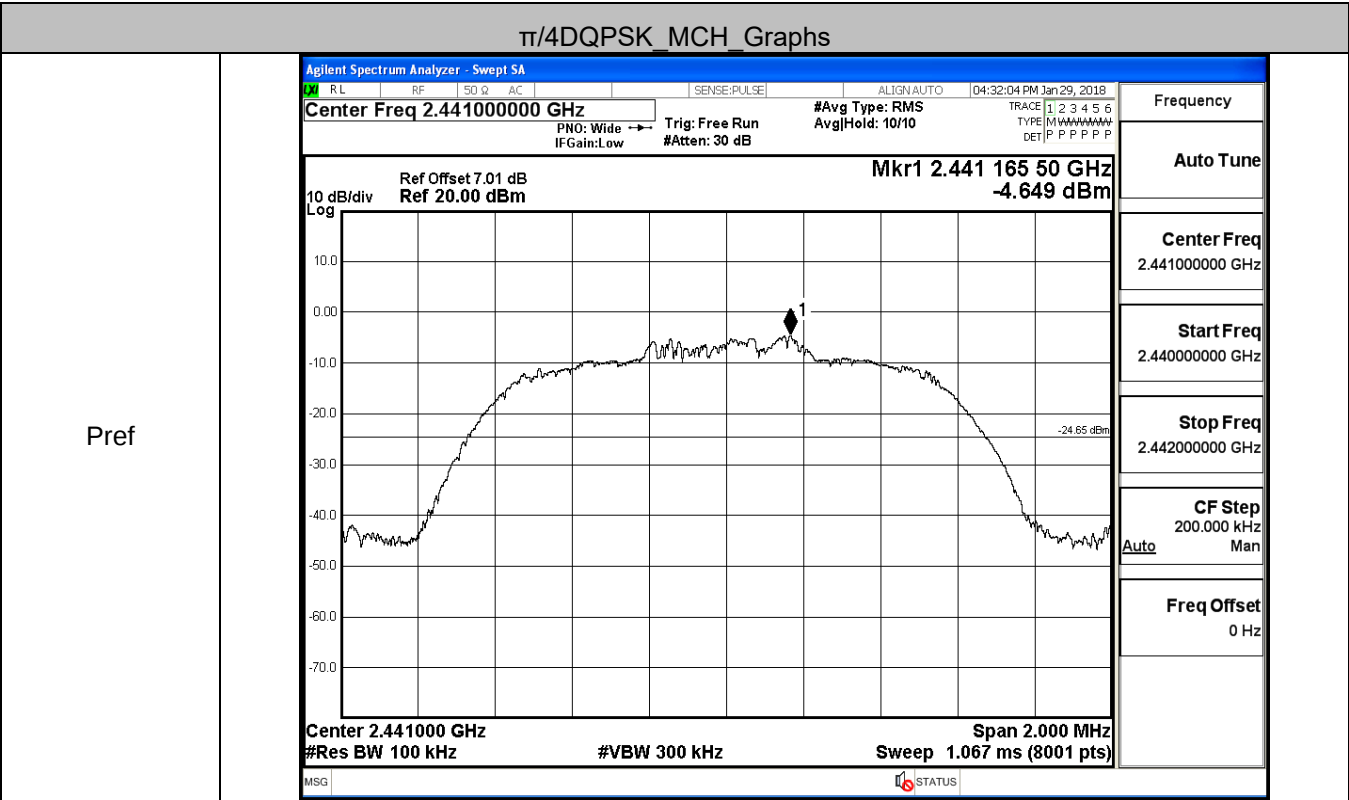
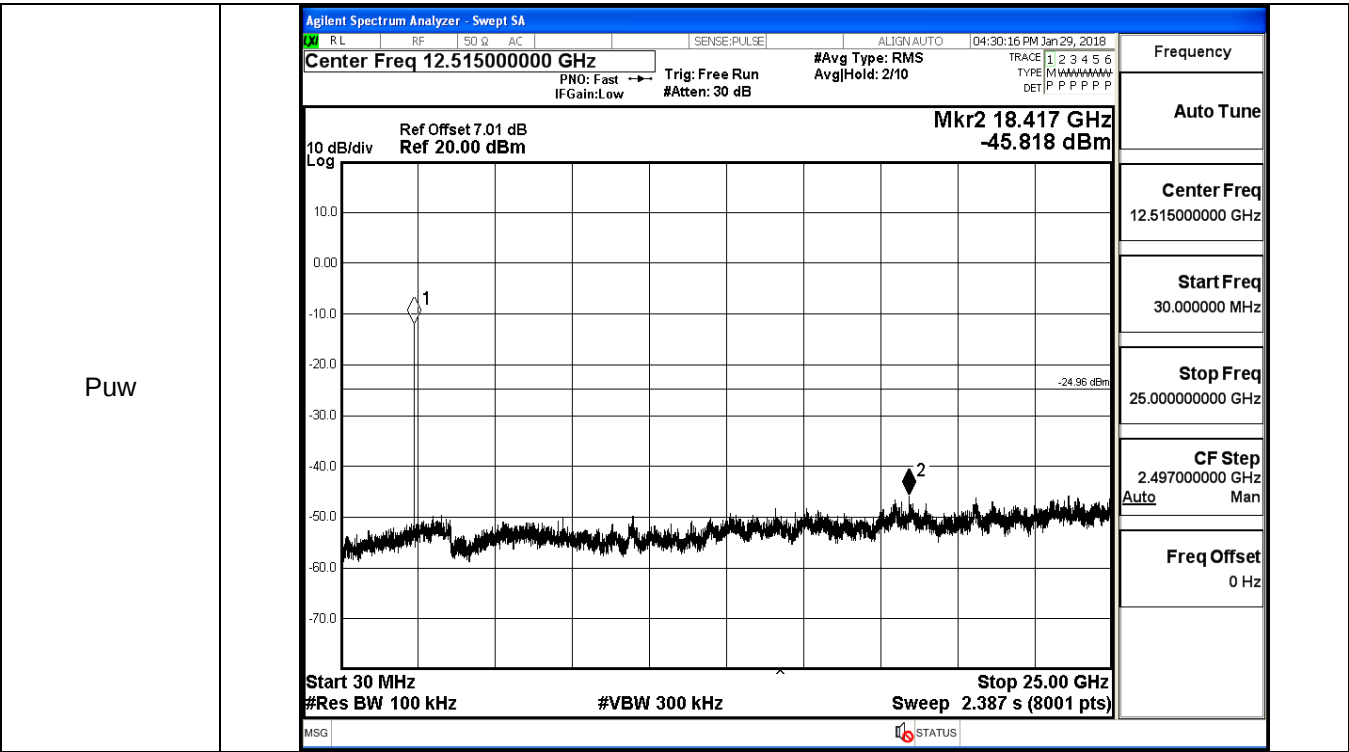
Test Graph

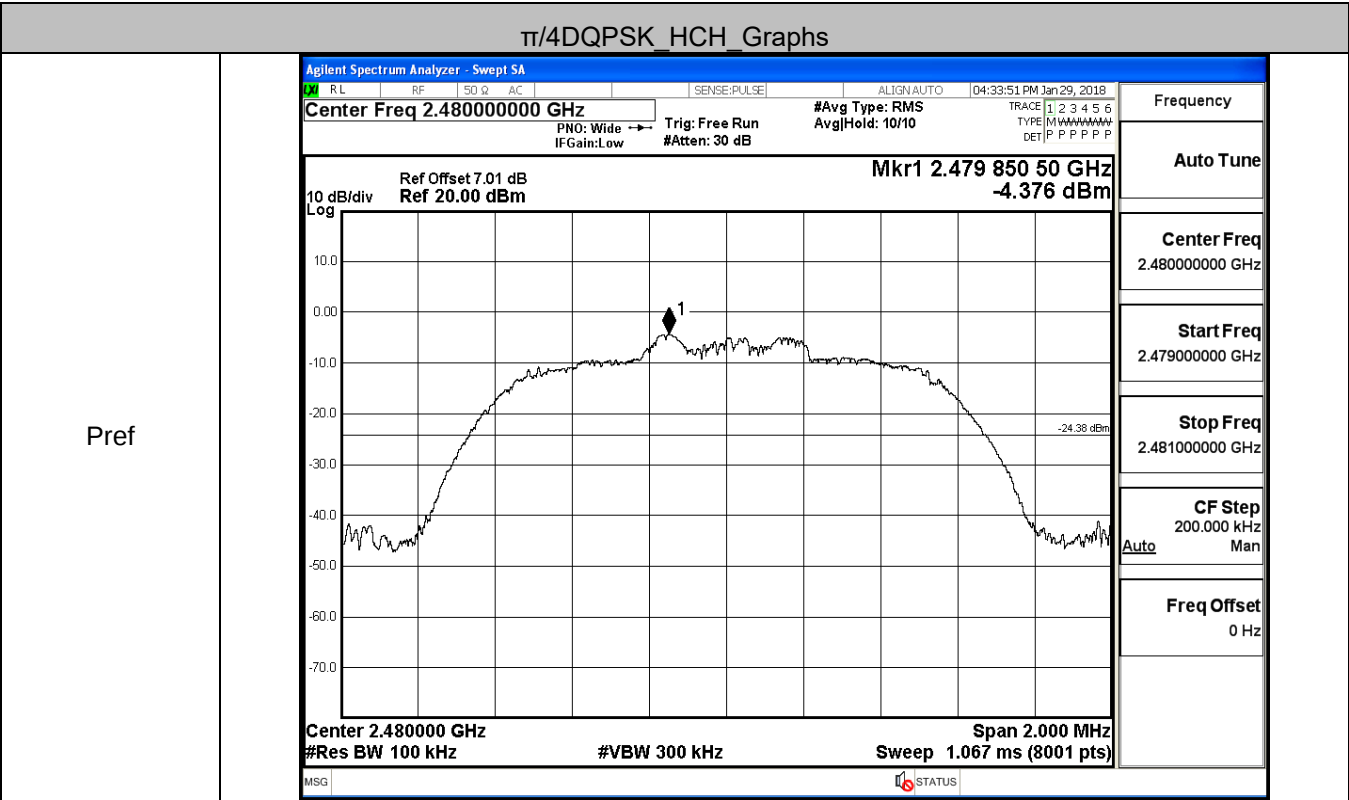
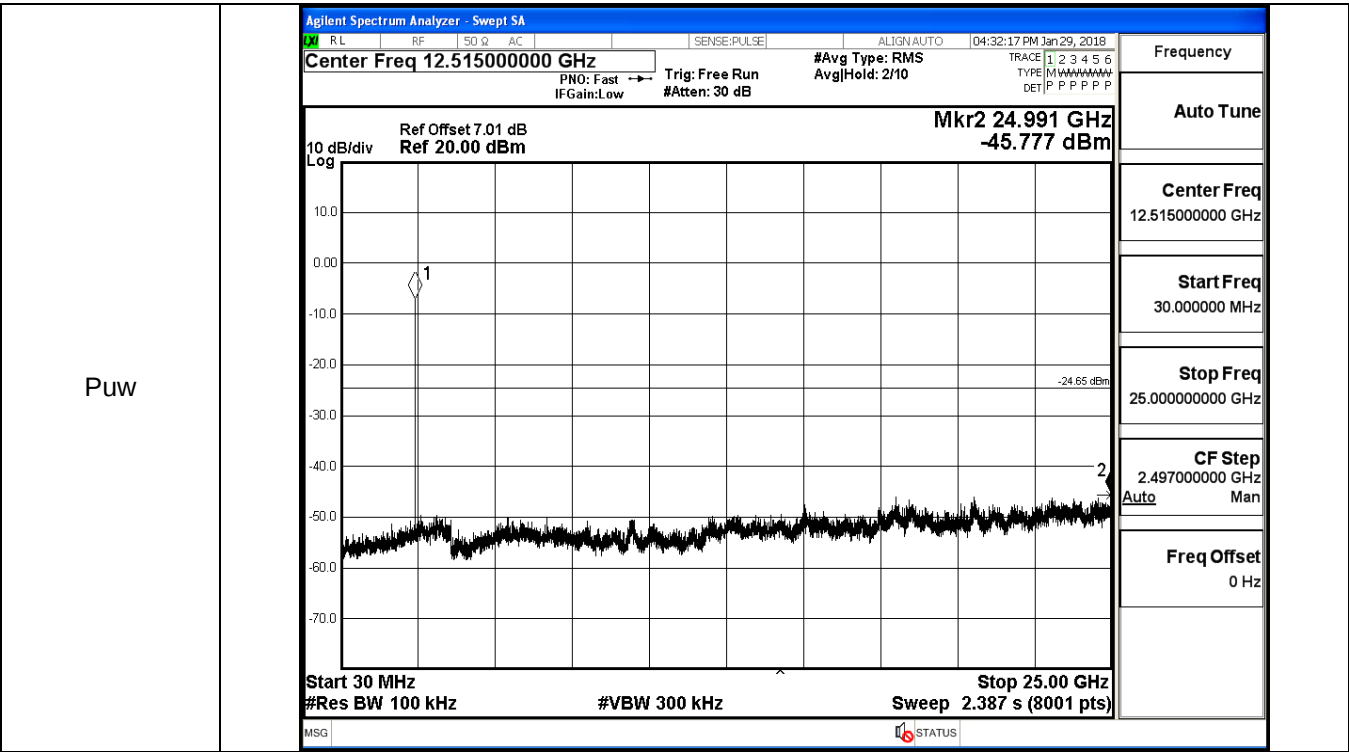


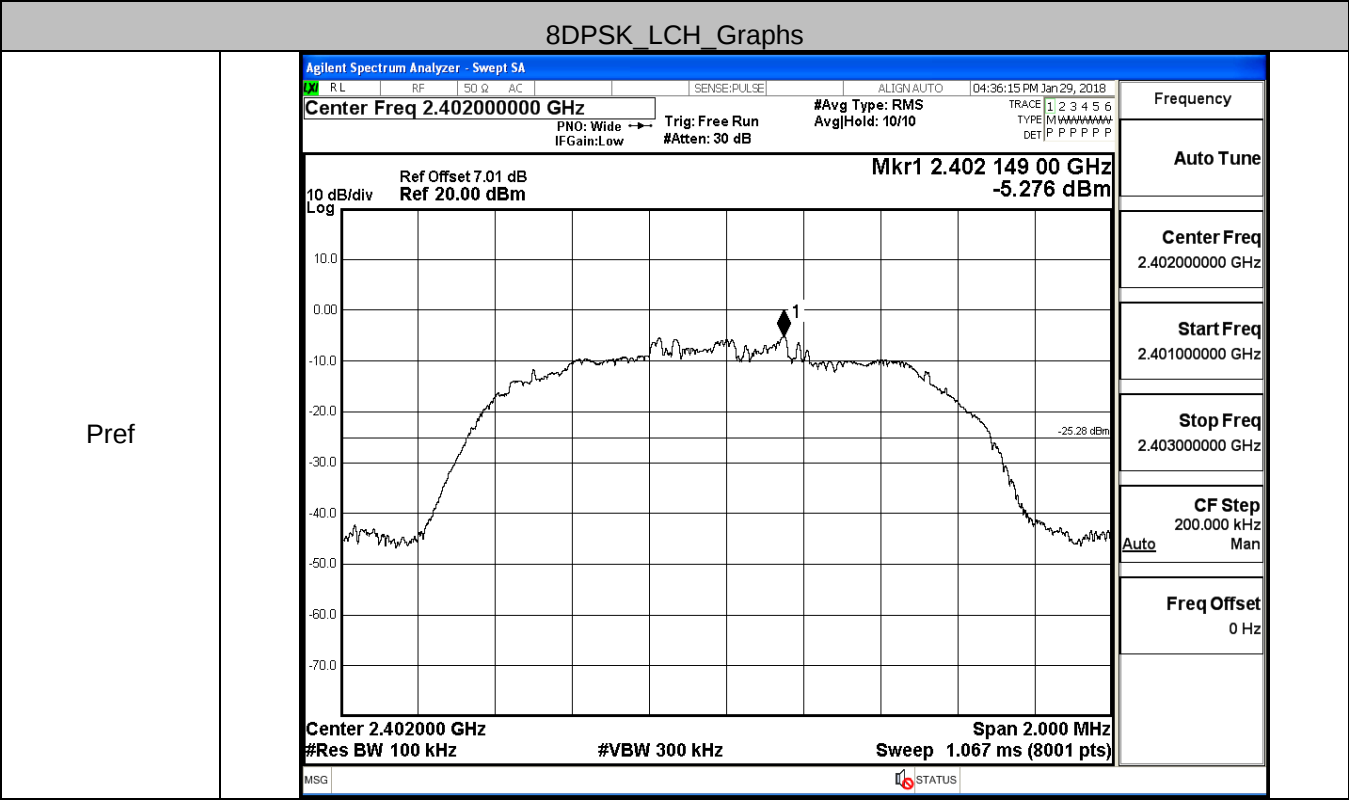
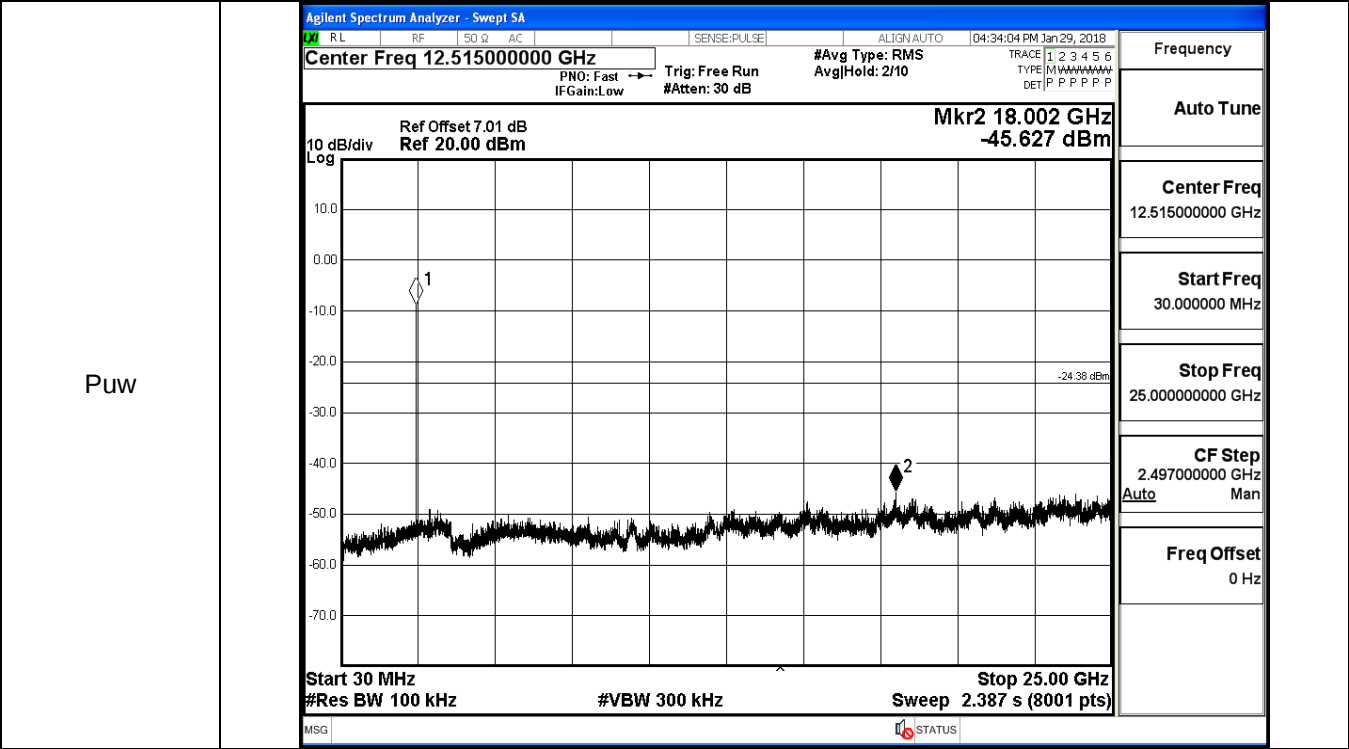


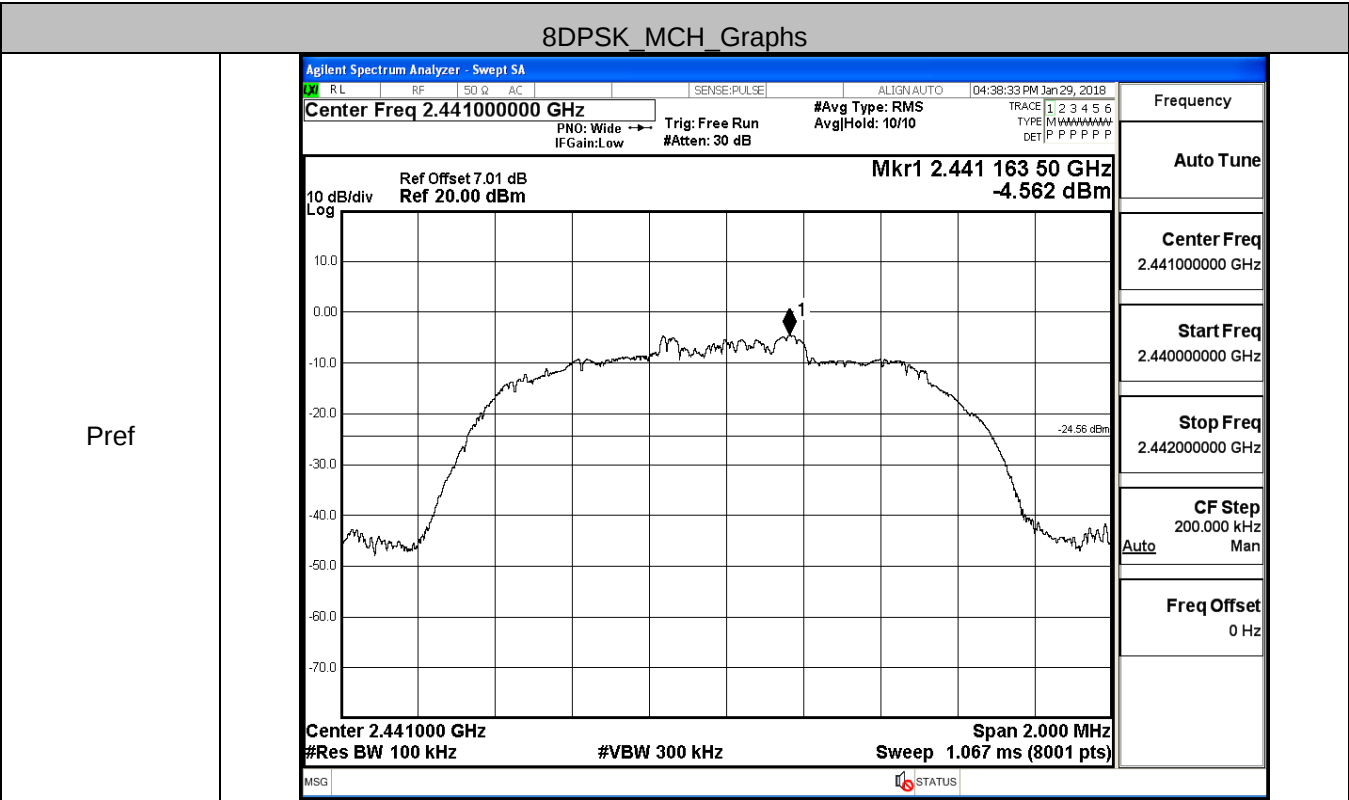
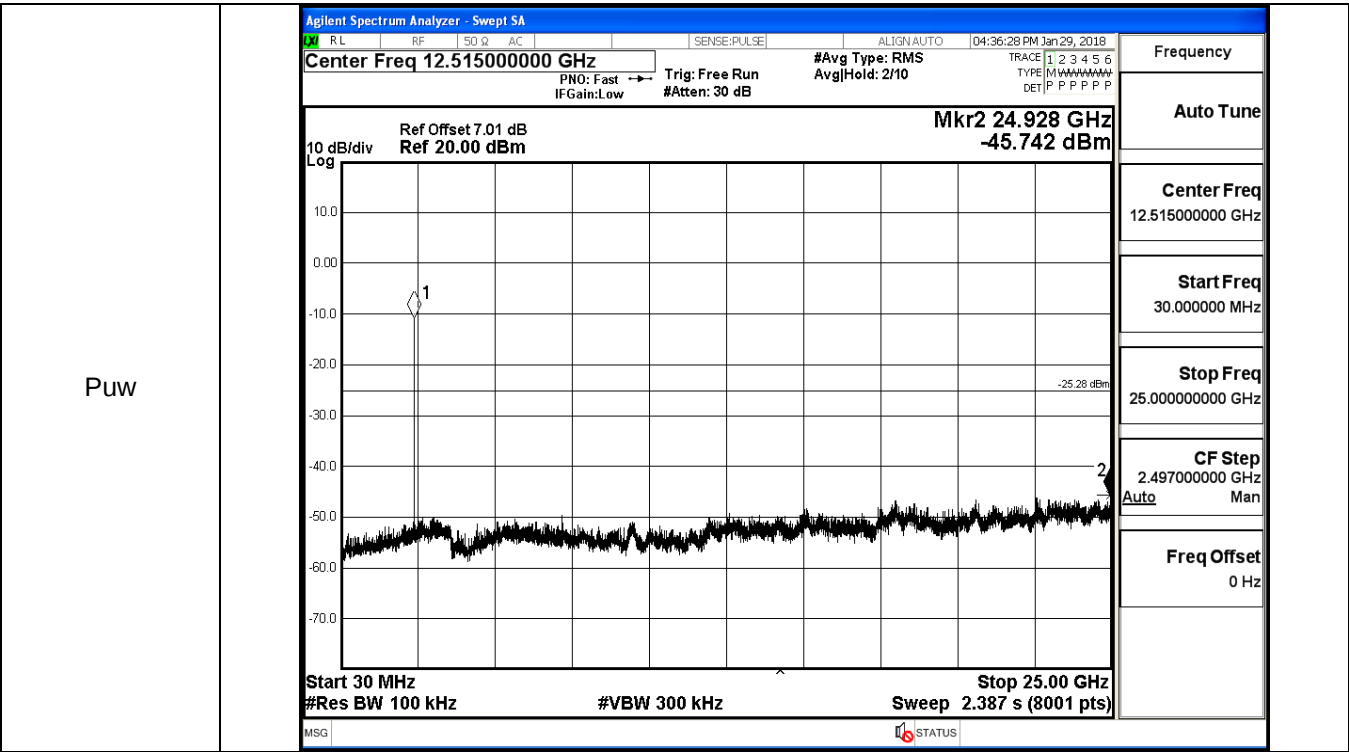


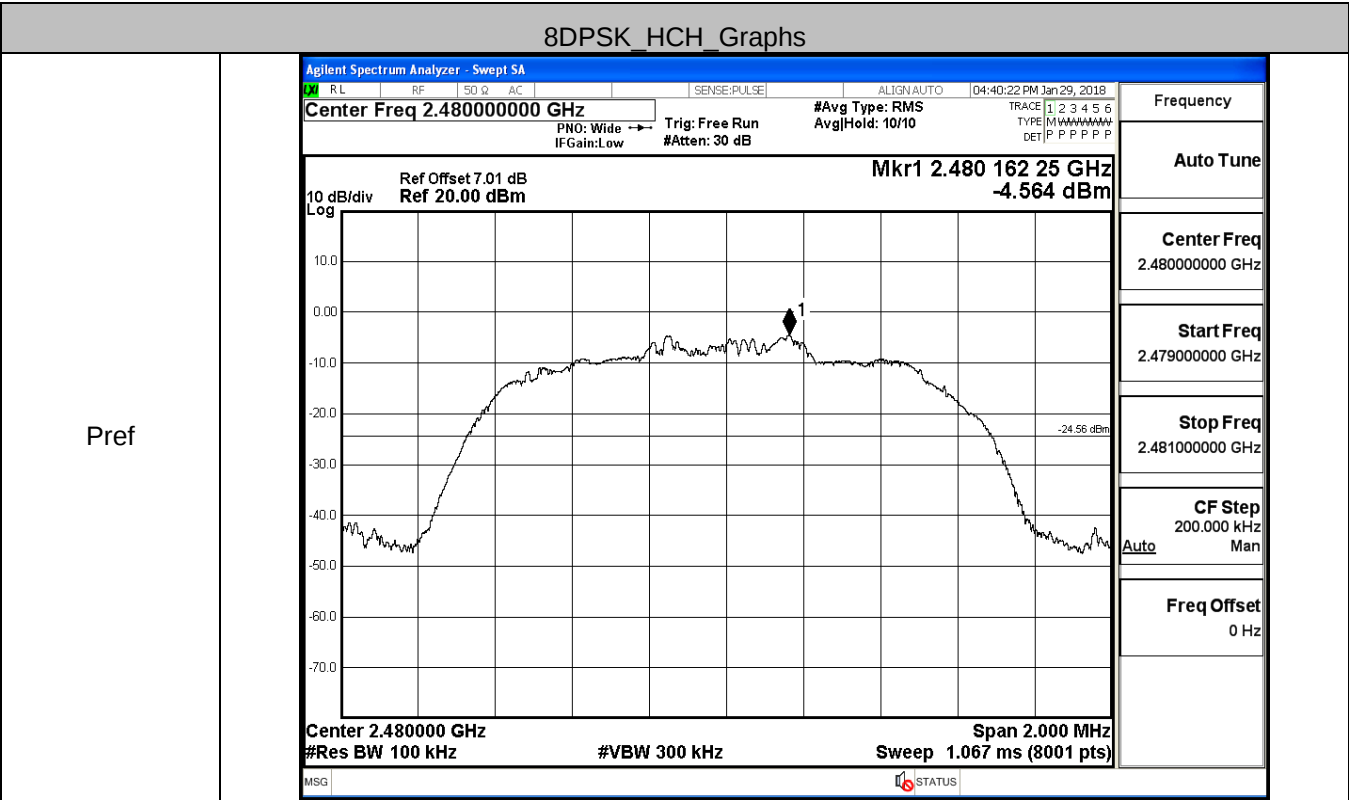
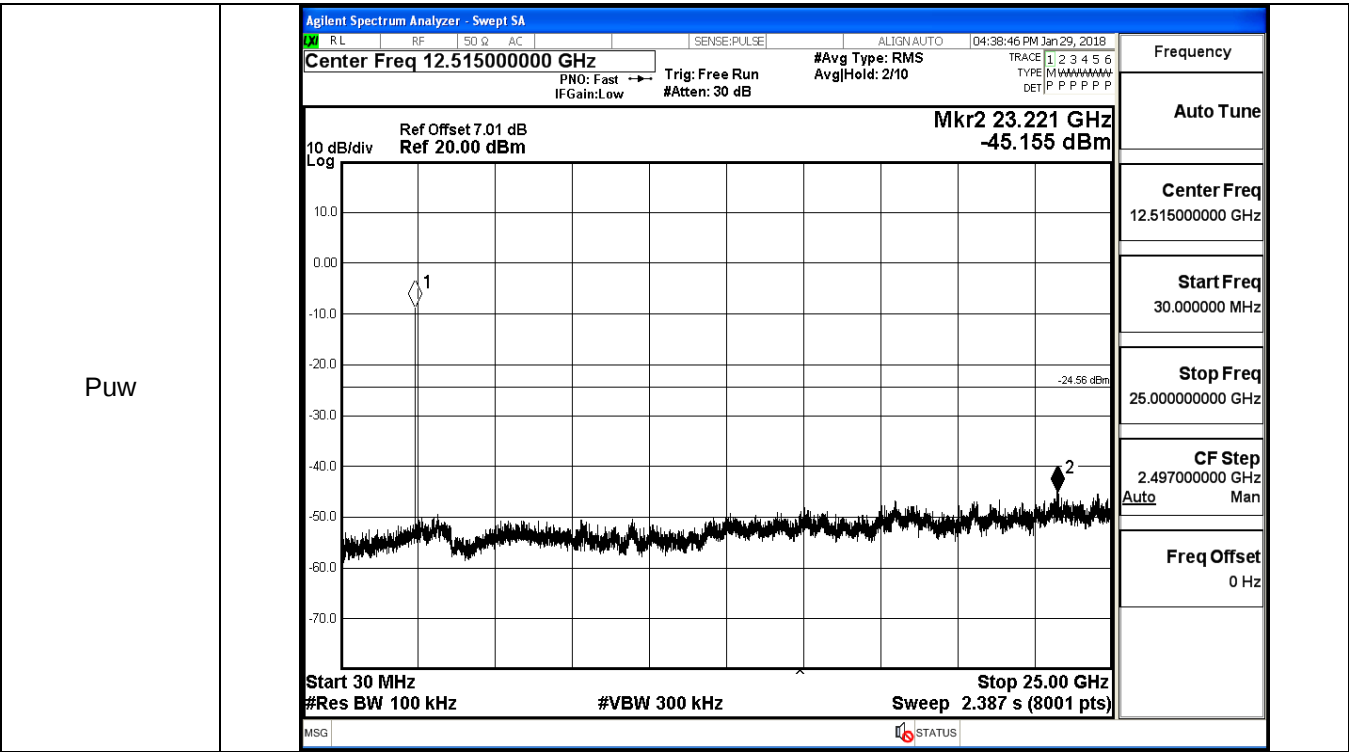


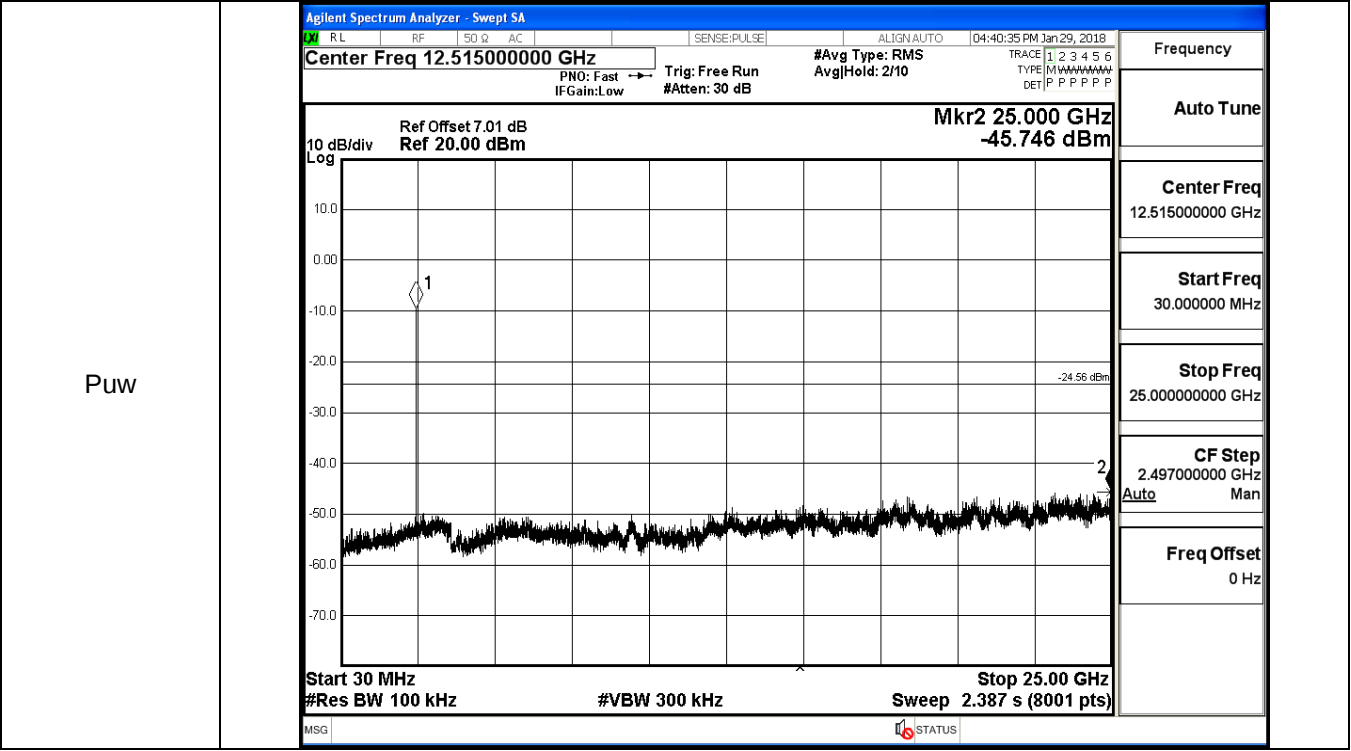










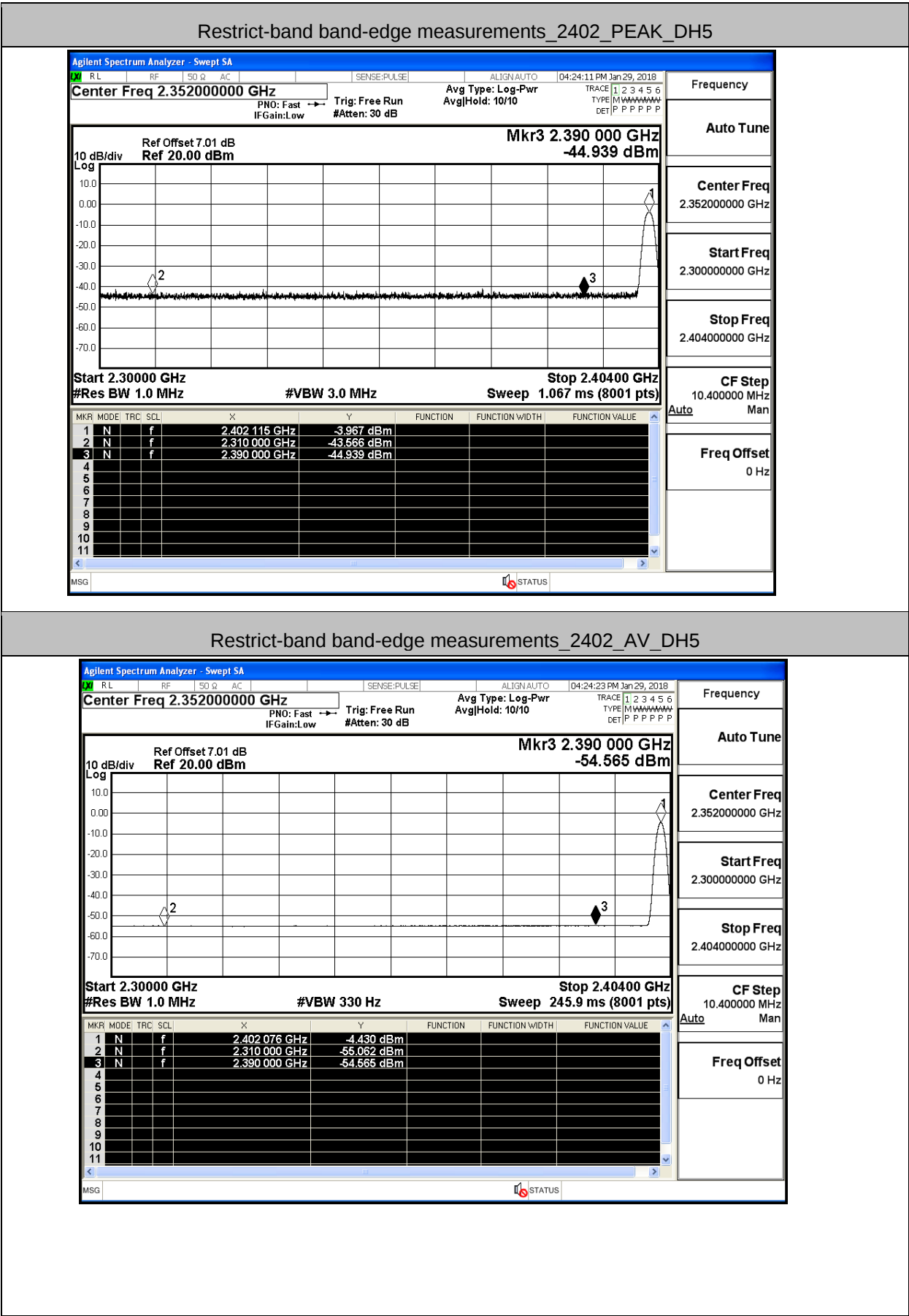


. Appendix G):Restrict-band band-edge measurements

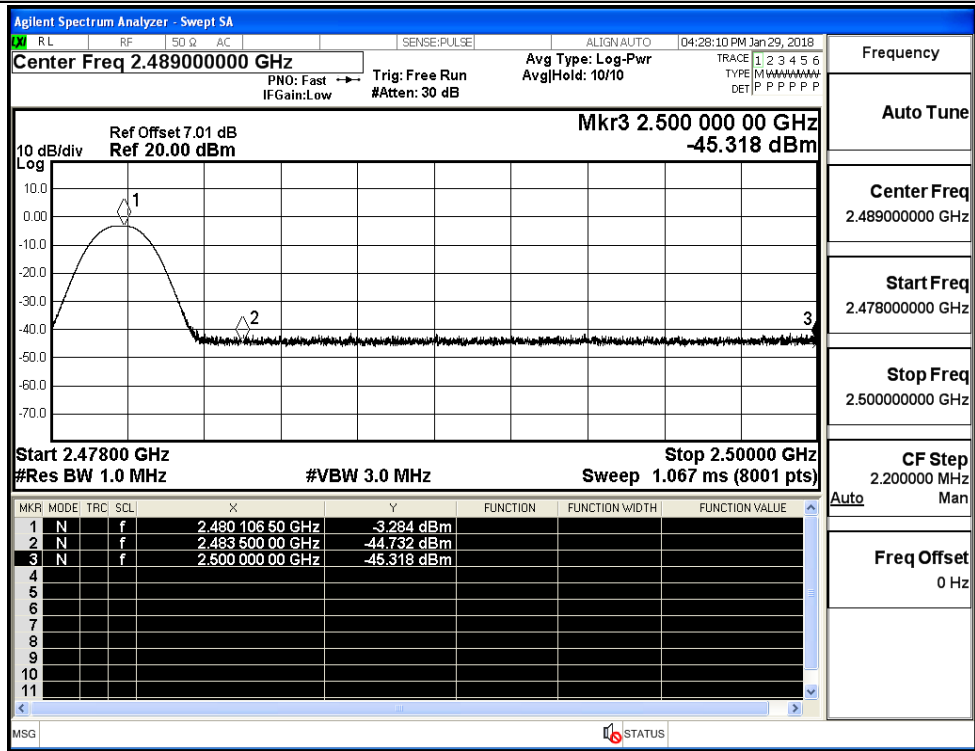
Result Table

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detect or	Limit [dBuV/m]	Verdi
GFSK_DH5	On	2310.0	-43.57	2	0	51.69	PEAK	74	PASS
GFSK_DH5	On	2310.0	-55.06	2	0	40.20	AV	54	PASS
GFSK_DH5	On	2390.0	-44.94	2	0	50.32	PEAK	74	PASS
GFSK_DH5	On	2390.0	-54.57	2	0	40.69	AV	54	PASS
GFSK_DH5	On	2483.5	-44.73	2	0	50.53	PEAK	74	PASS
GFSK_DH5	On	2483.5	-54.39	2	0	40.87	AV	54	PASS
GFSK_DH5	On	2500.0	-45.32	2	0	49.94	PEAK	74	PASS
GFSK_DH5	On	2500.0	-54.30	2	0	40.96	AV	54	PASS
π /4DQPSK_2DH5	On	2310.0	-44.73	2	0	50.53	PEAK	74	PASS
π /4DQPSK_2DH5	On	2310.0	-55.05	2	0	40.21	AV	54	PASS
π /4DQPSK_2DH5	On	2390.0	-45.30	2	0	49.96	PEAK	74	PASS
π /4DQPSK_2DH5	On	2390.0	-54.69	2	0	40.57	AV	54	PASS
π /4DQPSK_2DH5	On	2483.5	-44.92	2	0	50.33	PEAK	74	PASS
π /4DQPSK_2DH5	On	2483.5	-54.46	2	0	40.80	AV	54	PASS
π /4DQPSK_2DH5	On	2500.0	-43.87	2	0	51.38	PEAK	74	PASS
π /4DQPSK_2DH5	On	2500.0	-54.38	2	0	40.87	AV	54	PASS
8DPSK_3DH5	On	2310.0	-44.22	2	0	51.04	PEAK	74	PASS
8DPSK_3DH5	On	2310.0	-54.95	2	0	40.31	AV	54	PASS
8DPSK_3DH5	On	2390.0	-44.99	2	0	50.27	PEAK	74	PASS
8DPSK_3DH5	On	2390.0	-54.75	2	0	40.51	AV	54	PASS
8DPSK_3DH5	On	2483.5	-43.90	2	0	51.36	PEAK	74	PASS
8DPSK_3DH5	On	2483.5	-54.45	2	0	40.81	AV	54	PASS
8DPSK_3DH5	On	2500.0	-43.62	2	0	51.64	PEAK	74	PASS
8DPSK_3DH5	On	2500.0	-54.43	2	0	40.83	AV	54	PASS

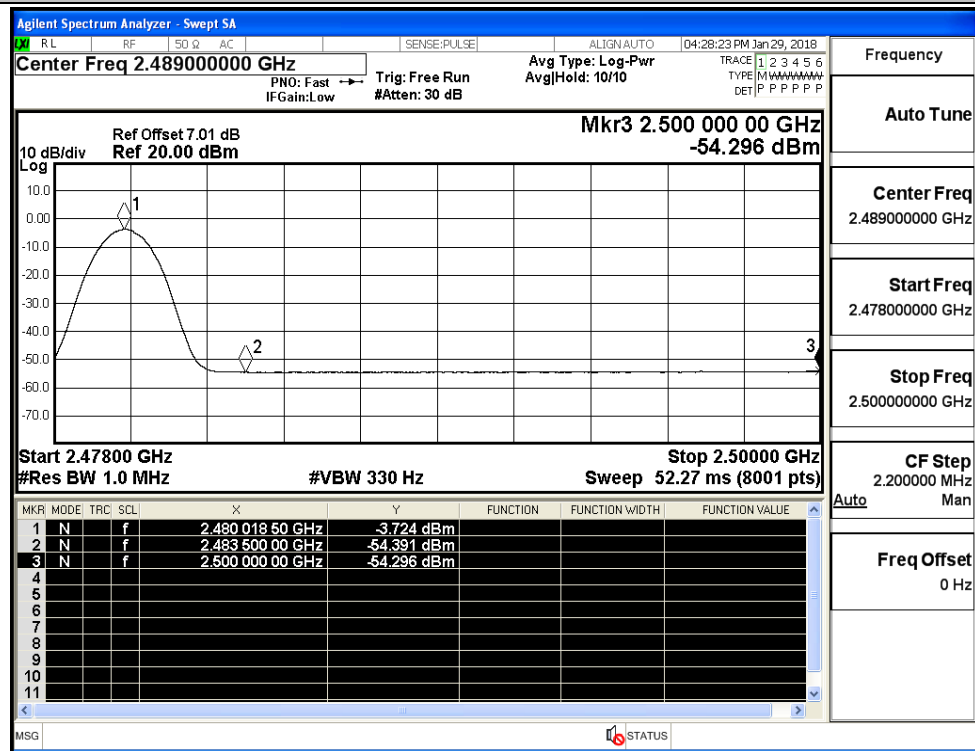
Test Graph



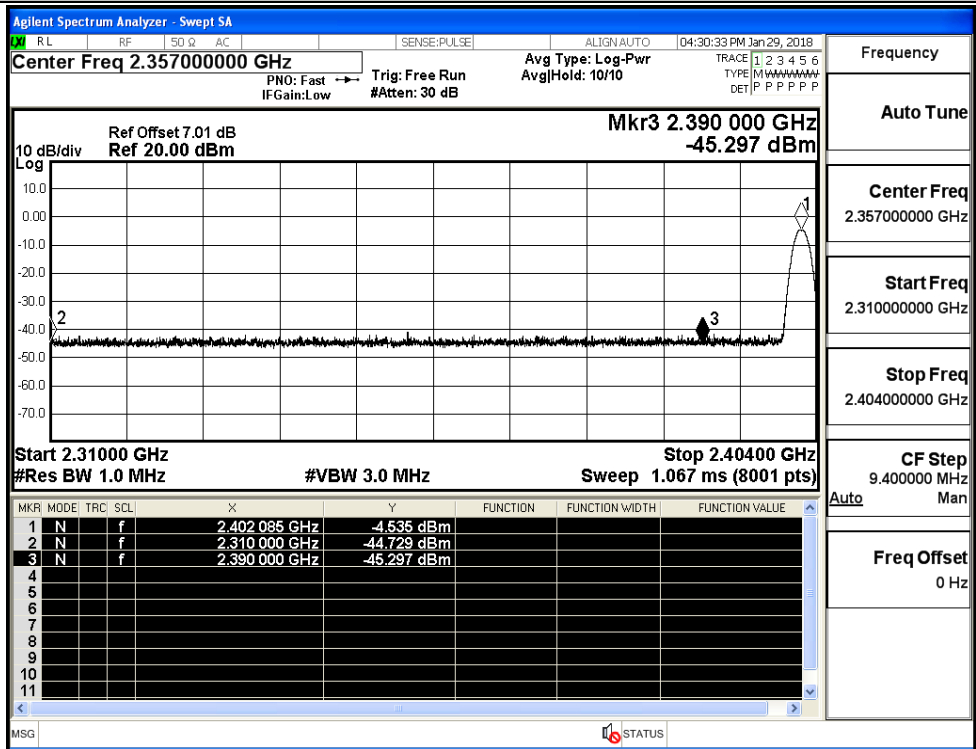
Restrict-band band-edge measurements_2480_PEAK_DH5



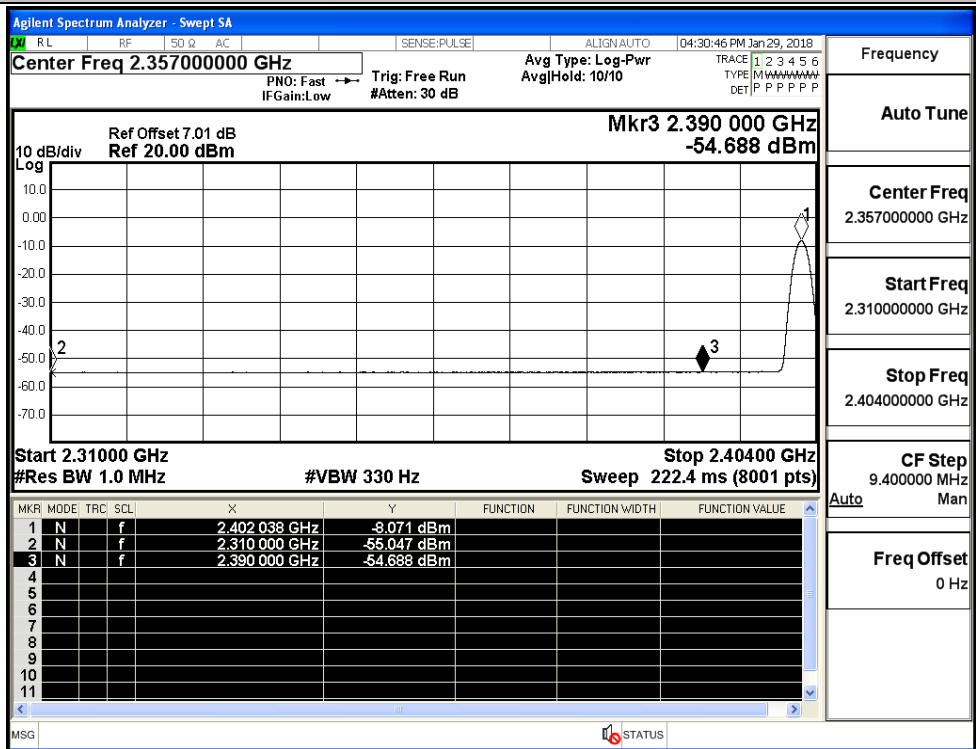
Restrict-band band-edge measurements_2480_AV_DH5



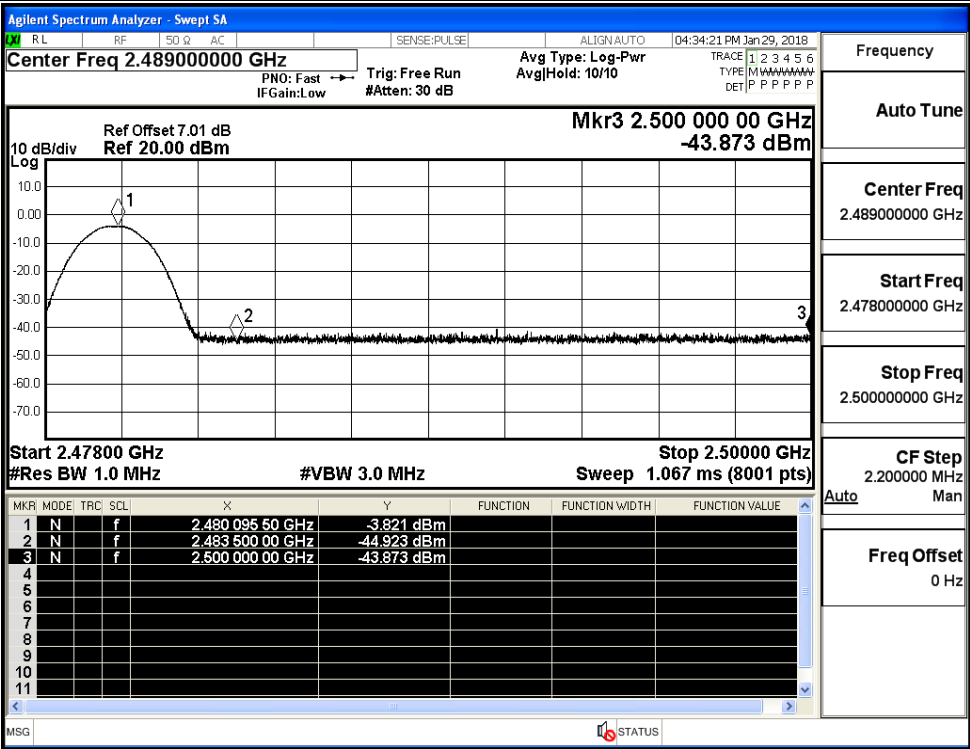
Restrict-band band-edge measurements_2402_PEAK_2DH5



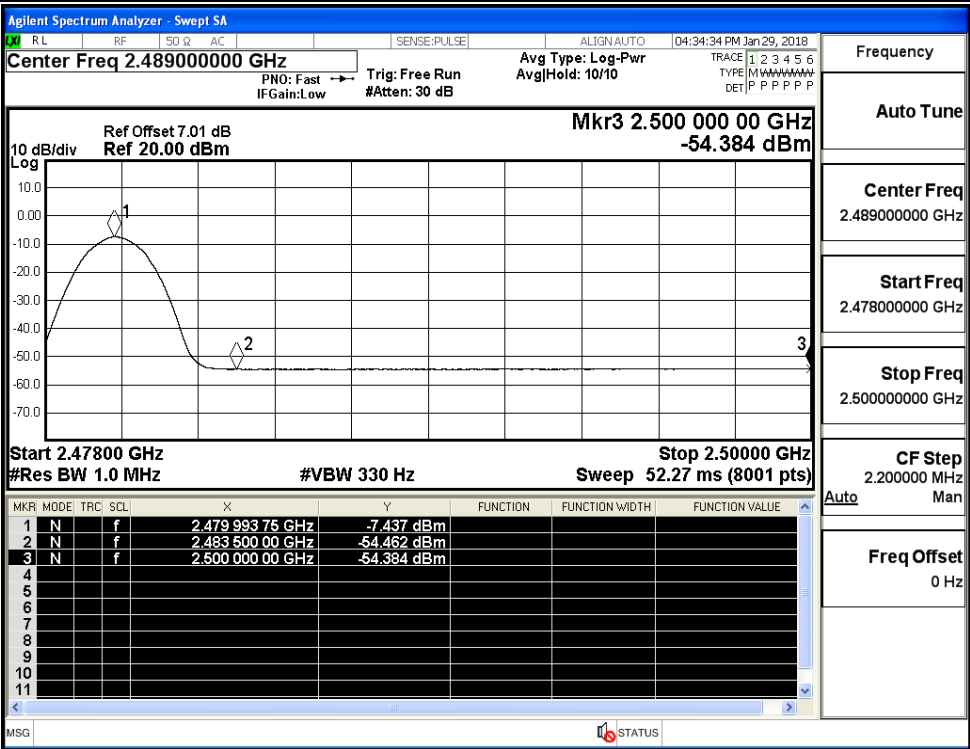
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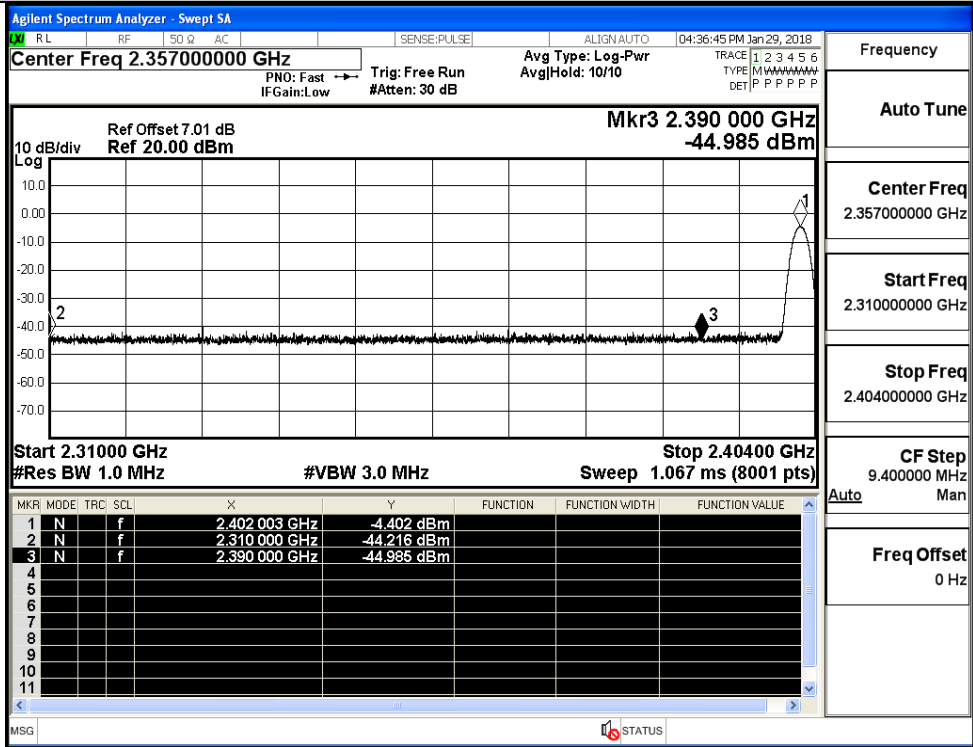
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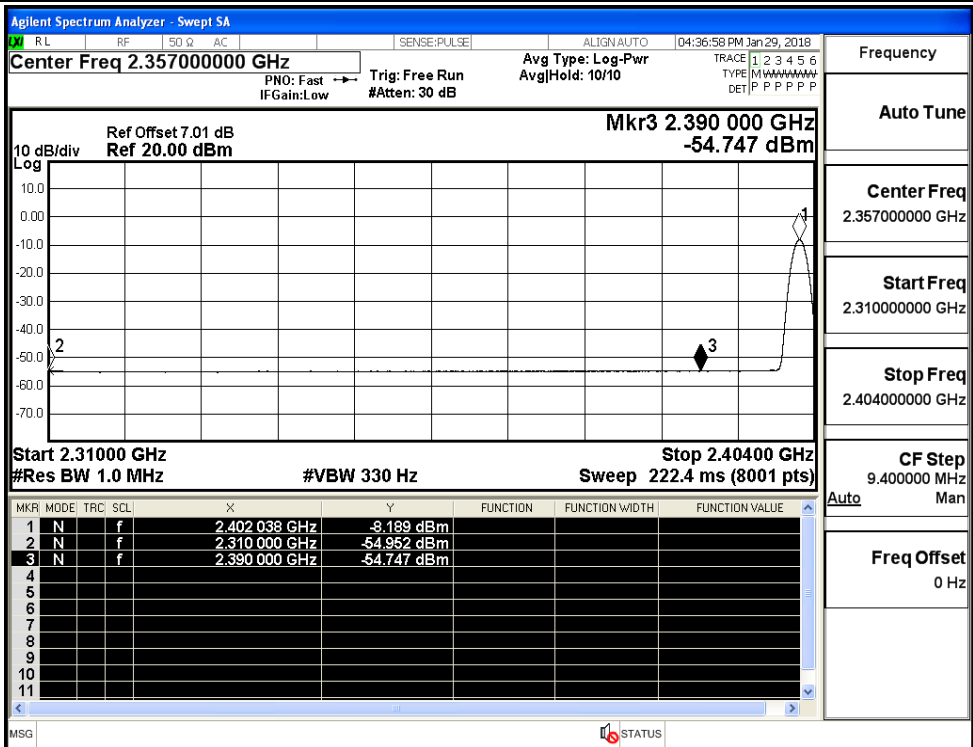
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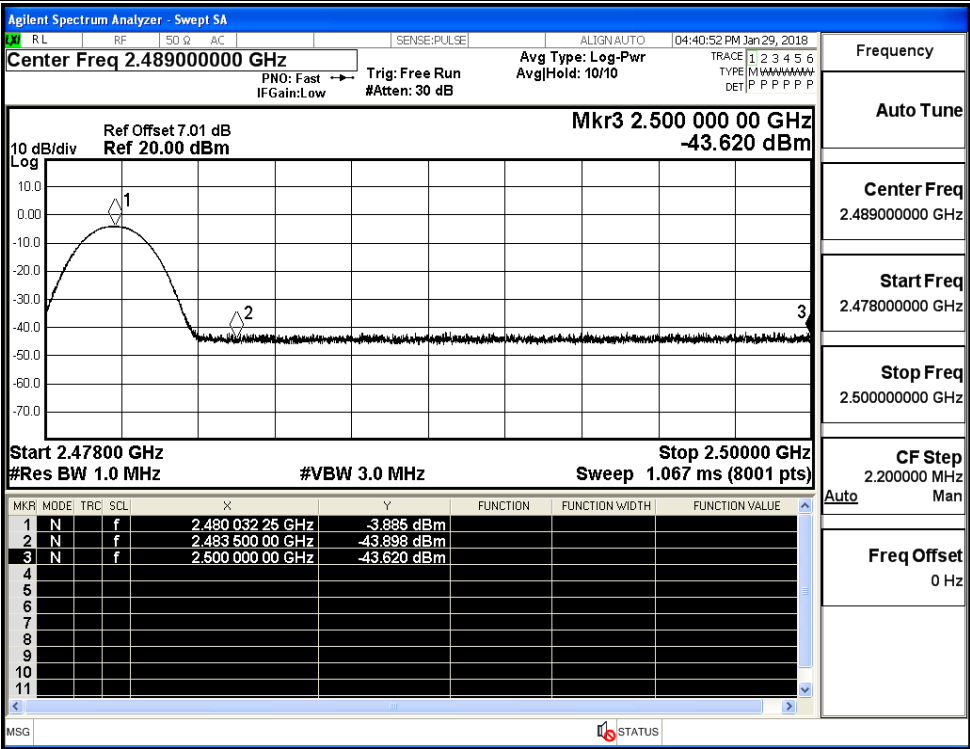
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

