

8DPSK/HCH



## Dwell Time

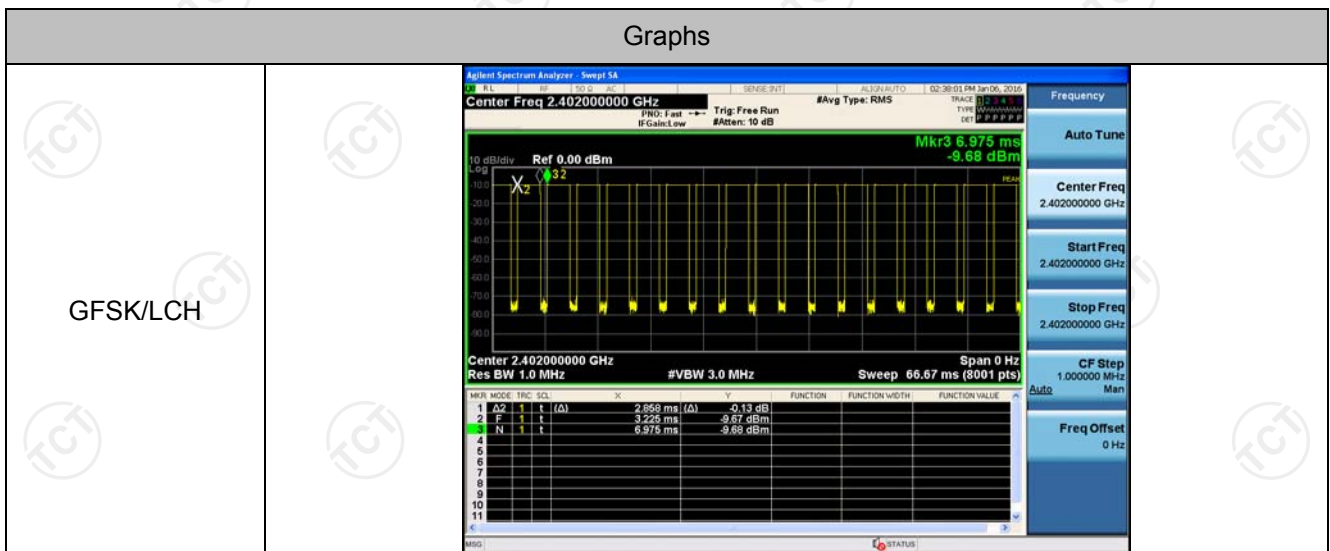
### Result Table

The Dwell Time=Burst Width\*Total Hops. The detailed calculations are showed as follows:

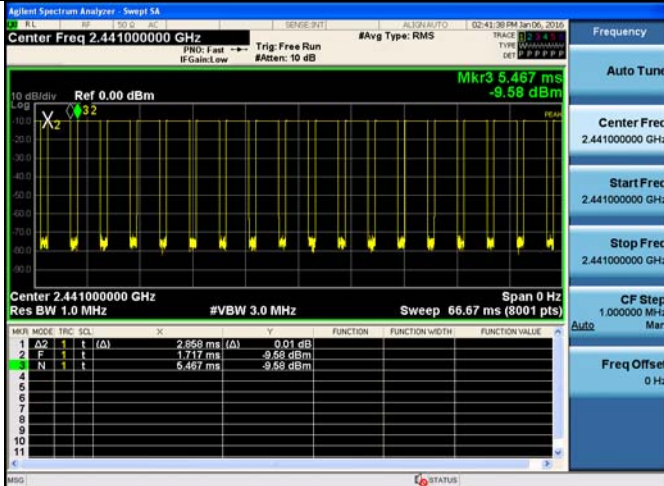
- The duration for dwell time calculation:  $0.4[s] \times \text{hopping number} = 0.4[s] \times 79[\text{ch}] = 31.6[s \cdot \text{ch}]$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch\*hop/s] for all channels. So the final hopping rate for all channels is  $1600/6 = 266.67 [\text{ch} \cdot \text{hop}/\text{s}]$
- The hops per second on one channel:  $266.67 [\text{ch} \cdot \text{hops}/\text{s}] / 79 [\text{ch}] = 3.38 [\text{hop}/\text{s}]$ ;
- The total hops for all channels within the dwell time calculation duration:  $3.38 [\text{hop}/\text{s}] \times 31.6[s \cdot \text{ch}] = 106.67 [\text{hop} \cdot \text{ch}]$ ;
- The dwell time for all channels hopping:  $106.67 [\text{hop} \cdot \text{ch}] \times \text{Burst Width} [\text{ms}/\text{hop}/\text{ch}]$ .

Mode	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Duty Cycle [%]	Verdict
GFSK	LCH	2.858	106.7	0.305	76.22	PASS
GFSK	MCH	2.858	106.7	0.305	76.22	PASS
GFSK	HCH	2.858	106.7	0.305	76.22	PASS
$\pi/4$ DQPSK	LCH	2.858	106.7	0.305	76.22	PASS
$\pi/4$ DQPSK	MCH	2.867	106.7	0.306	76.44	PASS
$\pi/4$ DQPSK	HCH	2.867	106.7	0.306	76.44	PASS
8DPSK	LCH	2.867	106.7	0.306	76.44	PASS
8DPSK	MCH	2.858	106.7	0.305	76.22	PASS
8DPSK	HCH	2.867	106.7	0.306	76.44	PASS

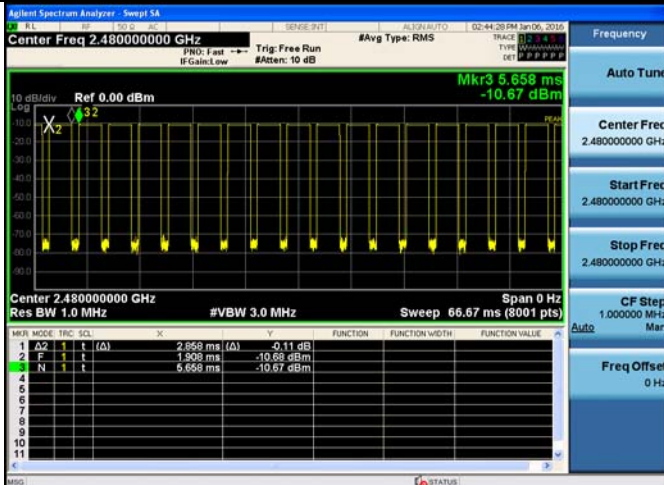
### Test Graph



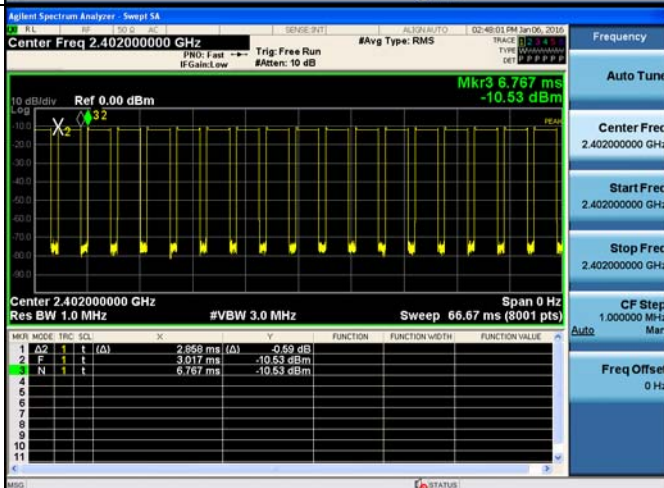
GFSK/MCH



GFSK/HCH

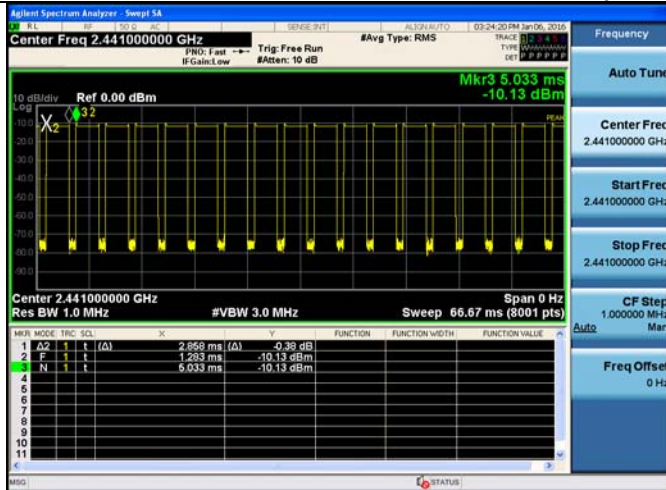


$\pi$ /4DQPSK/LCH

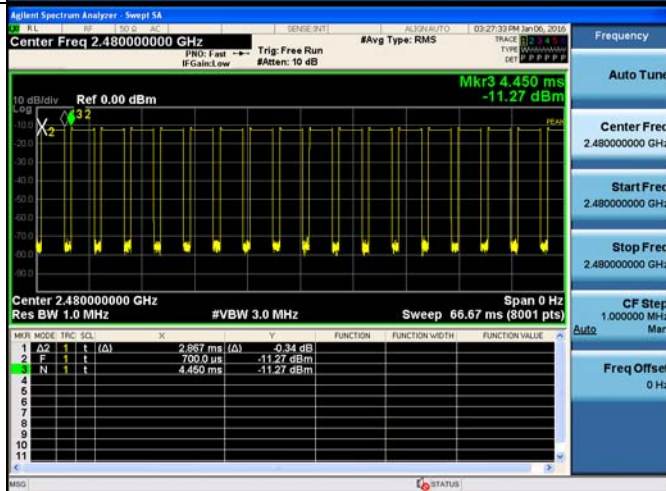


<p><math>\pi/4</math>DQPSK/MCH</p>	<p>Agilent Spectrum Analyzer - Sweep 5A</p> <p>Center Freq 2.441000000 GHz</p> <p>Ref 0.00 dBm</p> <p>Mkr3 7.350 ms -10.23 dBm</p> <p>Center 2.441000000 GHz</p> <p>Res BW 1.0 MHz #VBW 3.0 MHz Sweep 66.67 ms</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>A2</td> <td>1</td> <td>t</td> <td>(Δ)</td> <td>2.887 ms (Δ)</td> <td></td> <td>-0.49 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>t</td> <td></td> <td>3.600 ms</td> <td></td> <td>-10.23 dBm</td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>t</td> <td></td> <td>7.350 ms</td> <td></td> <td>-10.23 dBm</td> </tr> </tbody> </table>	MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	A2	1	t	(Δ)	2.887 ms (Δ)		-0.49 dB	2	F	1	t		3.600 ms		-10.23 dBm	3	N	1	t		7.350 ms		-10.23 dBm	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441000000 GHz</p> <p>Start Freq 2.441000000 GHz</p> <p>Stop Freq 2.441000000 GHz</p> <p>CF Step 1.000000 MHz</p> <p>Freq Offset 0 Hz</p>
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<p>8DPSK/LCH</p>	<p>Agilent Spectrum Analyzer - Sweep 5A</p> <p>Center Freq 2.402000000 GHz</p> <p>Ref 0.00 dBm</p> <p>Mkr3 6.842 ms -10.44 dBm</p> <p>Center 2.402000000 GHz</p> <p>Res BW 1.0 MHz #VBW 3.0 MHz Sweep 66.67 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR 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> </thead> <tbody> <tr> <td>1</td> <td>A2</td> <td>1</td> <td>t</td> <td>(Δ)</td> <td>2.887 ms (Δ)</td> <td></td> <td>-0.37 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>t</td> <td></td> <td>3.092 ms</td> <td></td> <td>-10.44 dBm</td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>t</td> <td></td> <td>6.842 ms</td> <td></td> <td>-10.44 dBm</td> </tr> </tbody> </table>	MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	A2	1	t	(Δ)	2.887 ms (Δ)		-0.37 dB	2	F	1	t		3.092 ms		-10.44 dBm	3	N	1	t		6.842 ms		-10.44 dBm	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.402000000 GHz</p> <p>Start Freq 2.402000000 GHz</p> <p>Stop Freq 2.402000000 GHz</p> <p>CF Step 1.000000 MHz</p> <p>Freq Offset 0 Hz</p>
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8DPSK/MCH



8DPSK/HCH



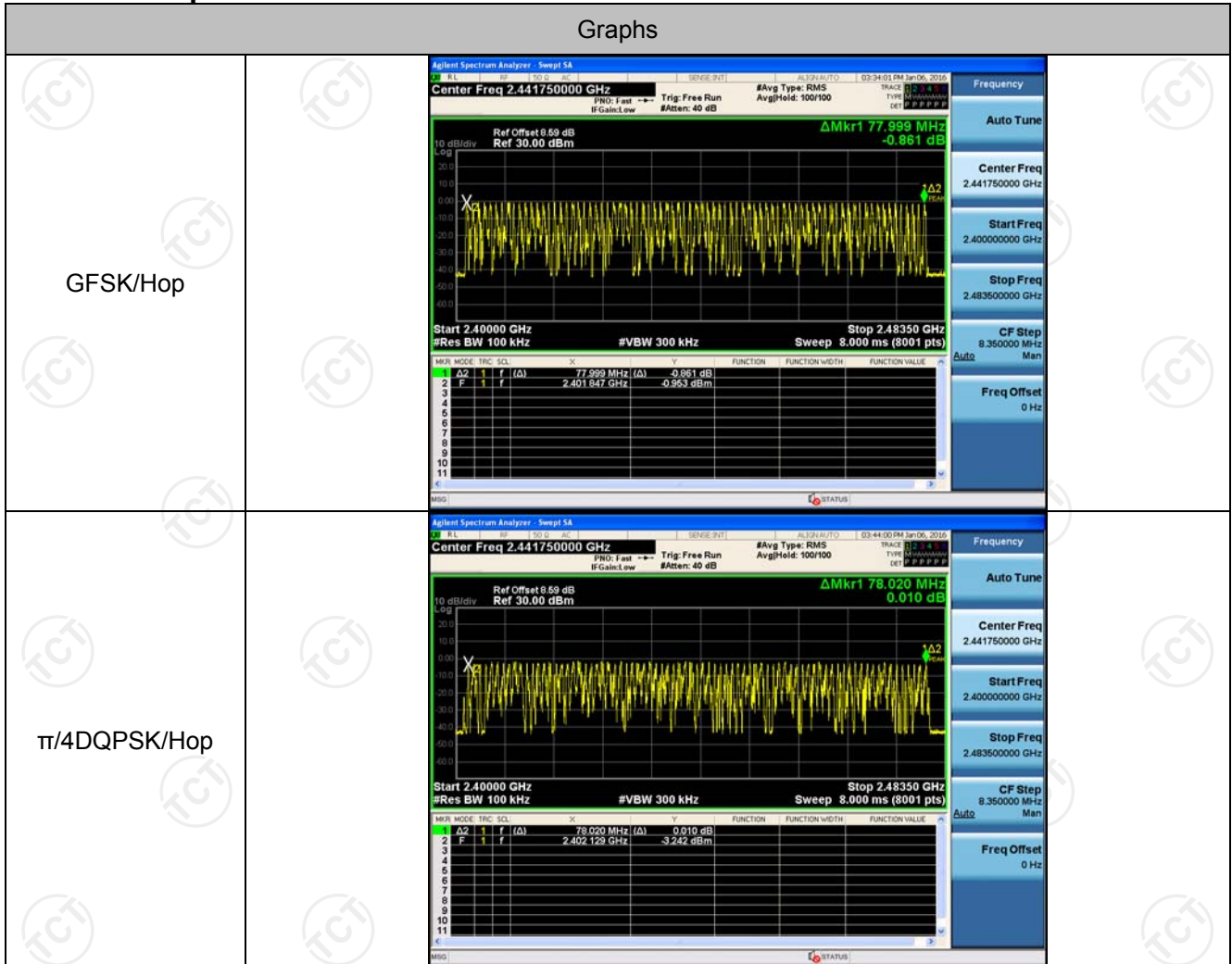


## Hopping Channel Number

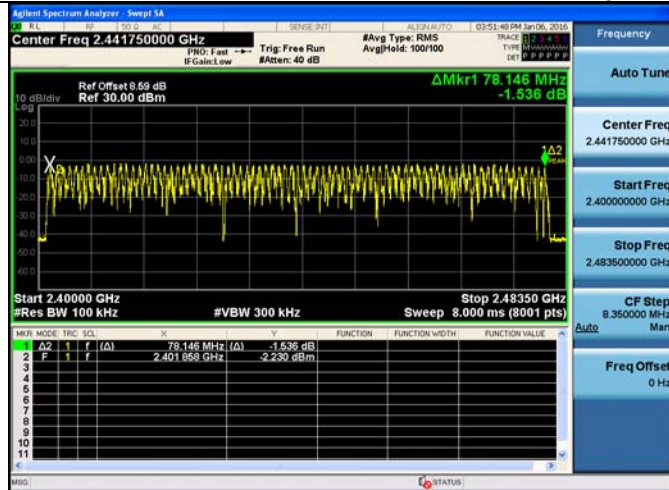
### Result Table

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

### Test Graph



8DPSK/Hop



## Conducted Peak Output Power




### Result Table




Mode	Channel.	Maximum Peak Output Power [dBm]	Verdict
GFSK	LCH	-0.694	PASS
GFSK	MCH	-0.683	PASS
GFSK	HCH	-1.716	PASS
$\pi/4$ DQPSK	LCH	-1.337	PASS
$\pi/4$ DQPSK	MCH	-1.074	PASS
$\pi/4$ DQPSK	HCH	-2.025	PASS
8DPSK	LCH	-1.189	PASS
8DPSK	MCH	-0.992	PASS
8DPSK	HCH	-2.062	PASS

### Test Graph





<p>GFSK/HCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.48000000 GHz</p> <p>Start Freq 2.47750000 GHz</p> <p>Stop Freq 2.48250000 GHz</p> <p>CF Step 500.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p><math>\pi/4</math>DQPSK/LCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.40200000 GHz</p> <p>Start Freq 2.39950000 GHz</p> <p>Stop Freq 2.40450000 GHz</p> <p>CF Step 500.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p><math>\pi/4</math>DQPSK/MCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.44100000 GHz</p> <p>Start Freq 2.43850000 GHz</p> <p>Stop Freq 2.44350000 GHz</p> <p>CF Step 500.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>

<p>TT/4DQPSK/HCH</p>	
<p>8DPSK/LCH</p>	
<p>8DPSK/MCH</p>	

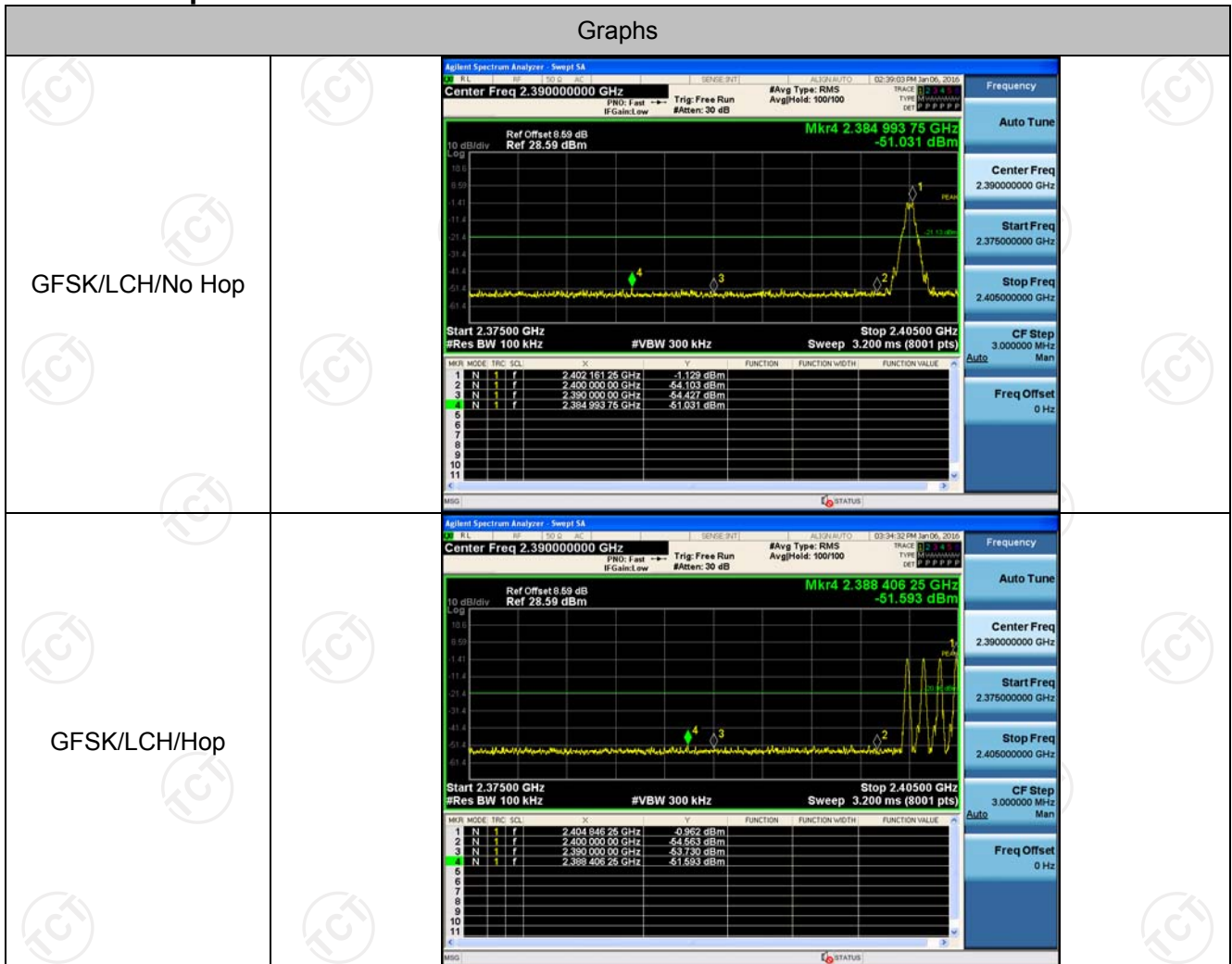


## Band-edge for RF Conducted Emissions

Result Table

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-1.129	Off	-51.031	-21.13	PASS
			-0.962	On	-51.593	-20.96	PASS
GFSK	HCH	2480	-2.186	Off	-51.230	-22.19	PASS
			-1.699	On	-50.622	-21.7	PASS
$\pi/4$ DQPSK	LCH	2402	-2.274	Off	-51.340	-22.27	PASS
			-3.266	On	-51.345	-23.27	PASS
$\pi/4$ DQPSK	HCH	2480	-3.080	Off	-51.214	-23.08	PASS
			-2.897	On	-51.127	-22.9	PASS
8DPSK	LCH	2402	-2.314	Off	-51.694	-22.31	PASS
			-2.314	On	-51.276	-22.31	PASS
8DPSK	HCH	2480	-2.799	Off	-51.101	-22.8	PASS
			-3.359	On	-50.858	-23.36	PASS

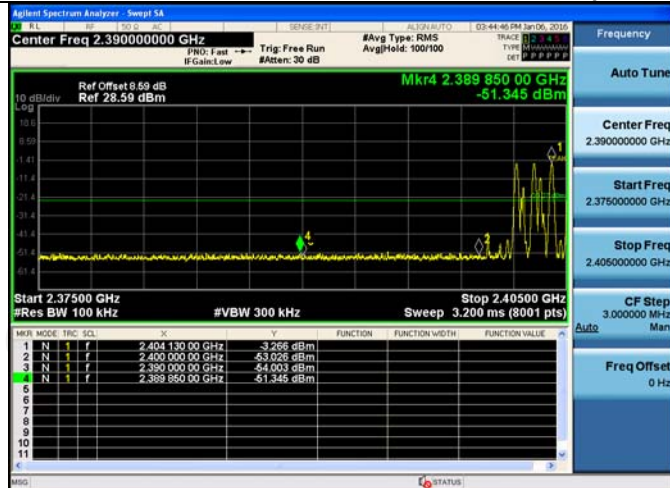
Test Graph



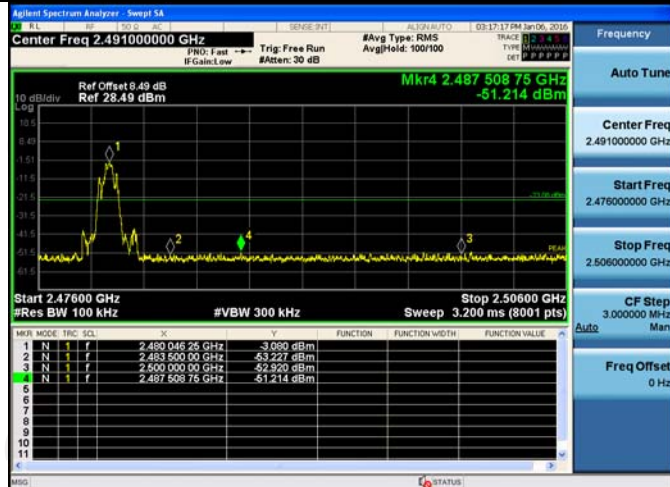
<p>GFSK/HCH/No Hop</p>	
<p>GFSK/HCH/Hop</p>	
<p><math>\pi/4</math>DQPSK/LCH/No Hop</p>	



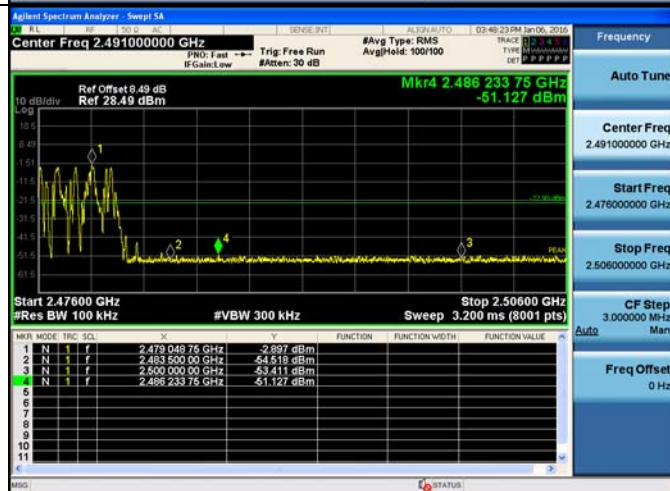
$\pi/4$ DQPSK/LCH/Hop



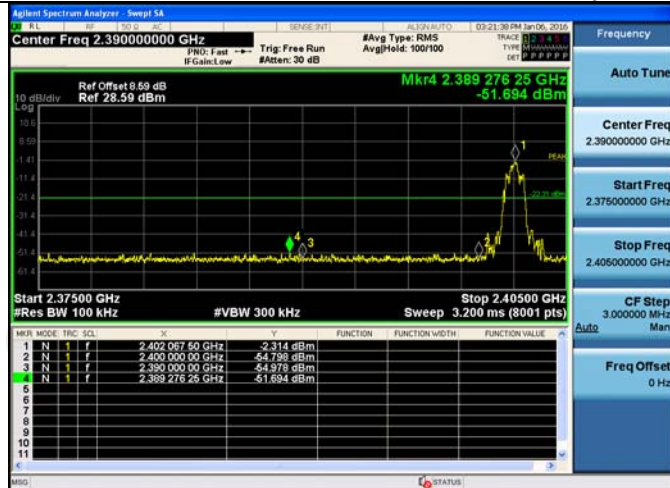
$\pi/4$ DQPSK/HCH/No Hop



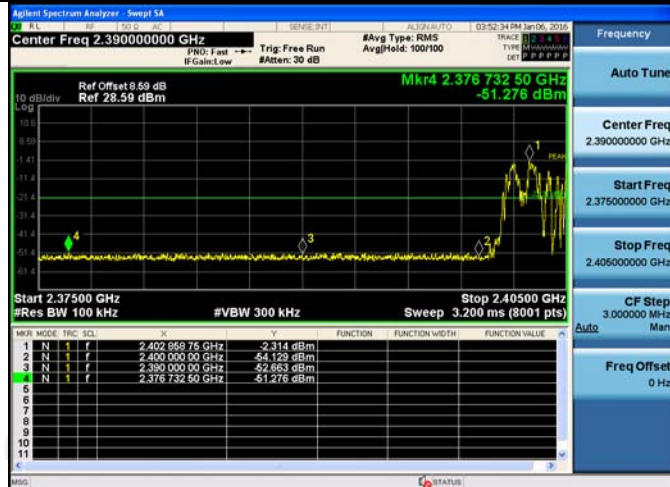
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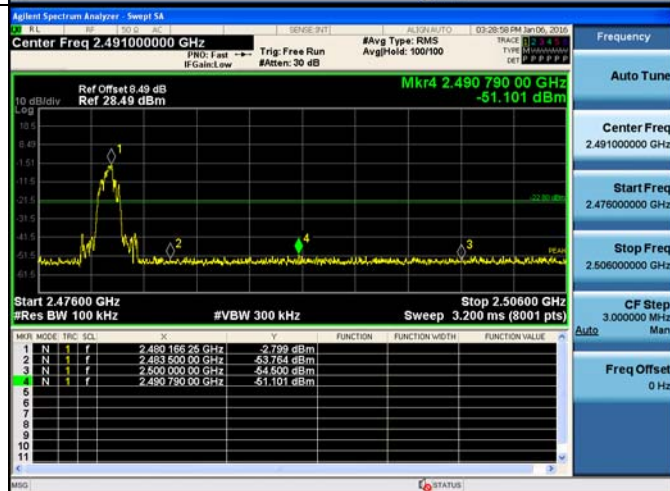
8DPSK/LCH/No Hop



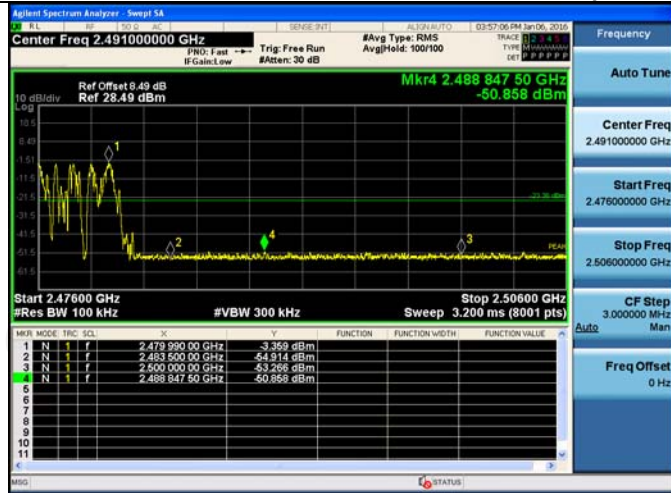
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



8DPSK/HCH/Hop

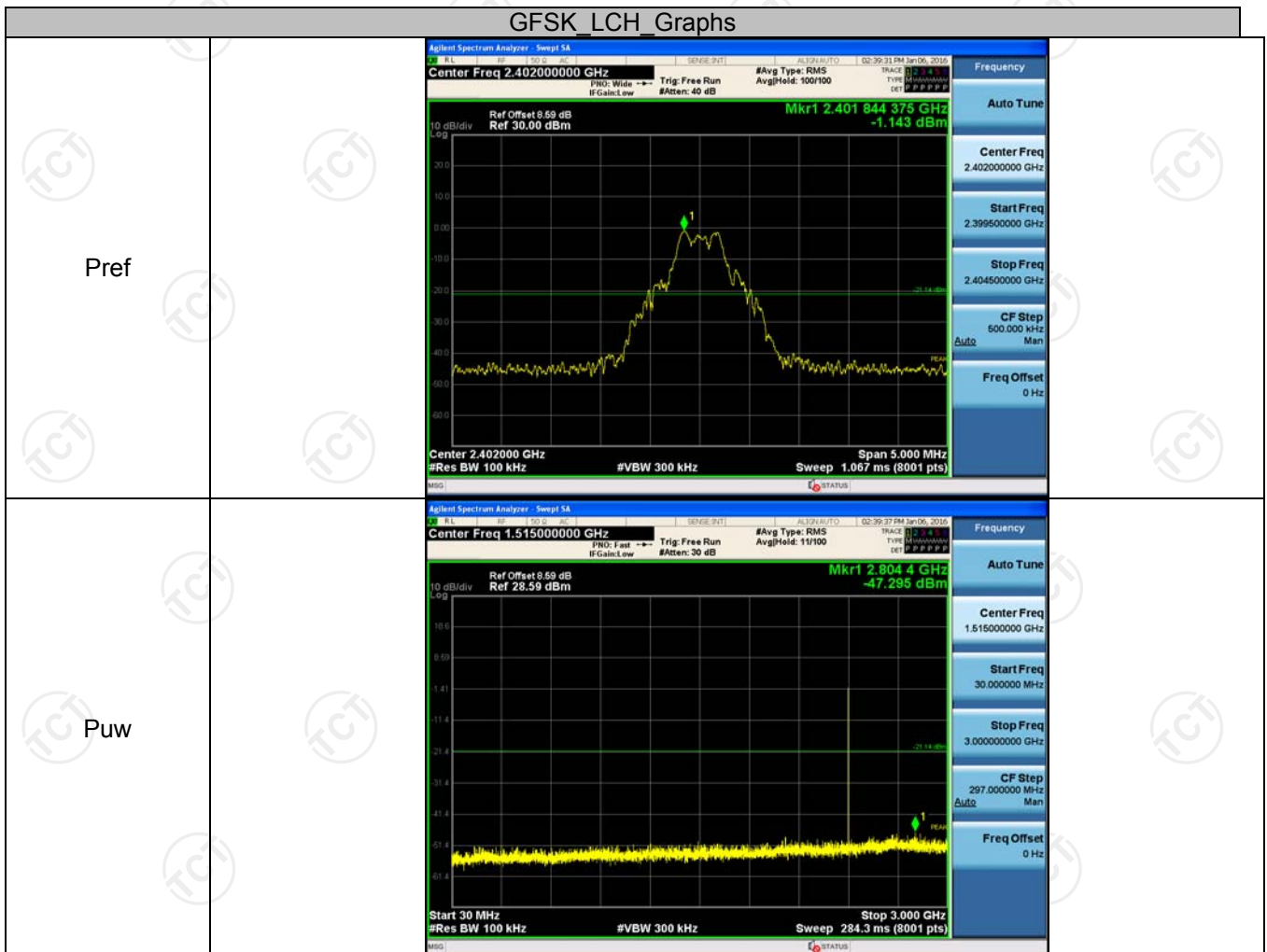


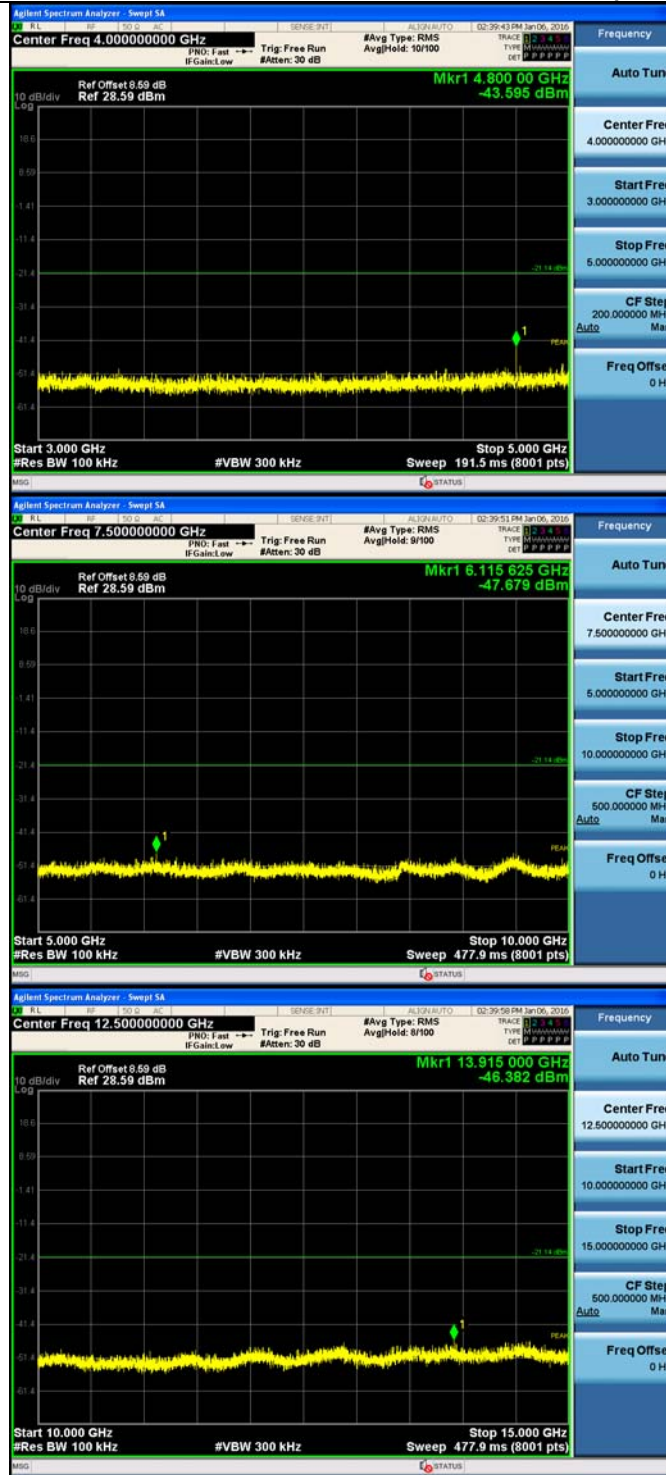
## RF Conducted Spurious Emissions

### Result Table

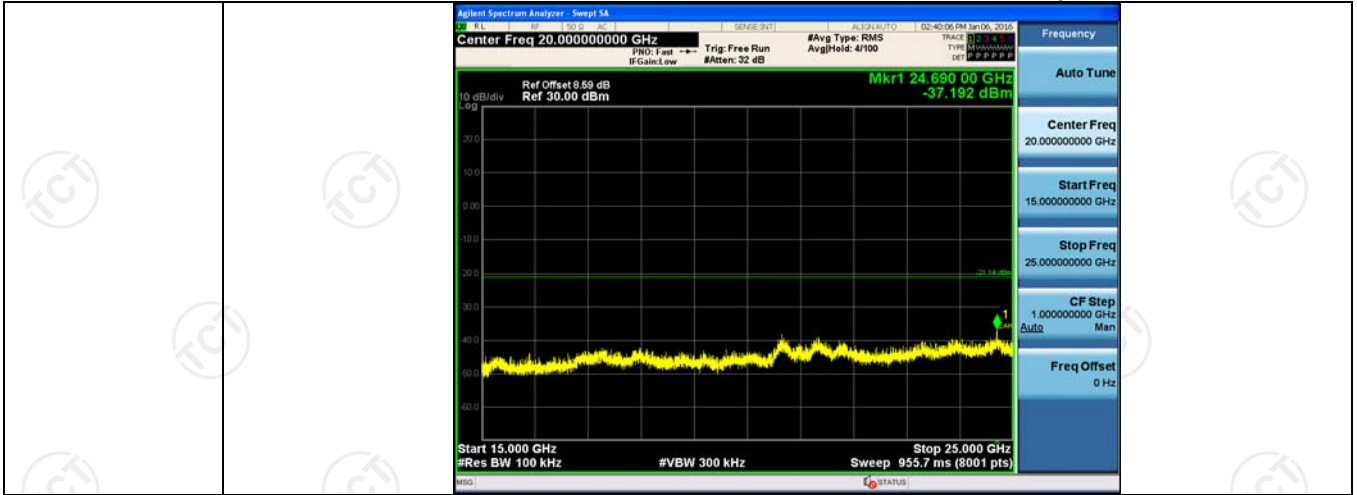
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
GFSK	LCH	-1.143	<Limit	PASS
GFSK	MCH	-1.075	<Limit	PASS
GFSK	HCH	-2.132	<Limit	PASS
$\pi/4$ DQPSK	LCH	-2.204	<Limit	PASS
$\pi/4$ DQPSK	MCH	-2.396	<Limit	PASS
$\pi/4$ DQPSK	HCH	-3.082	<Limit	PASS
8DPSK	LCH	-2.014	<Limit	PASS
8DPSK	MCH	-2.384	<Limit	PASS
8DPSK	HCH	-2.948	<Limit	PASS

### Test Graph

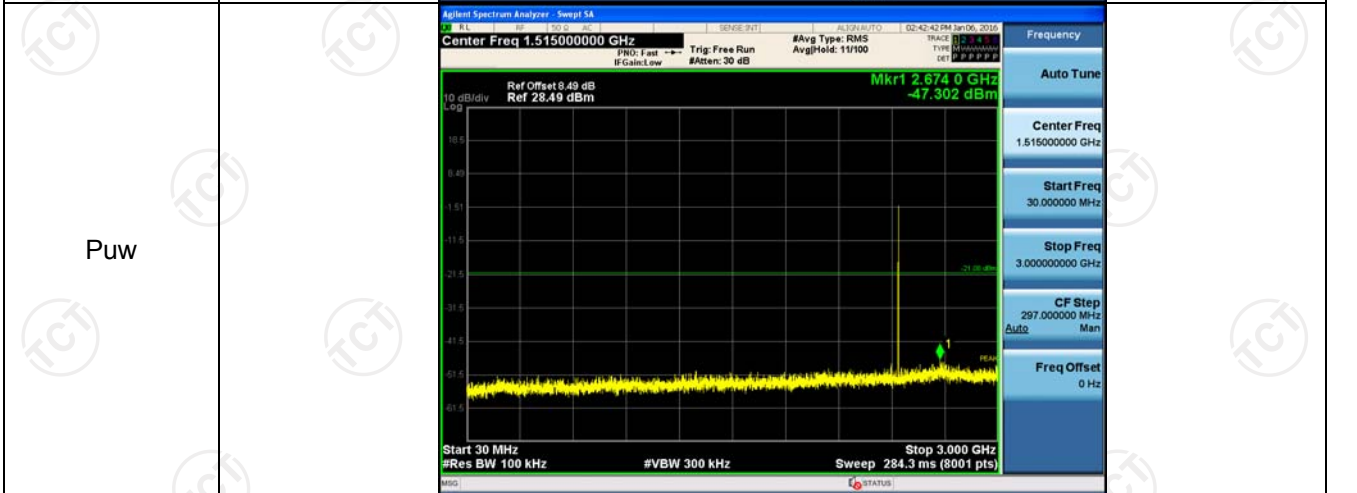
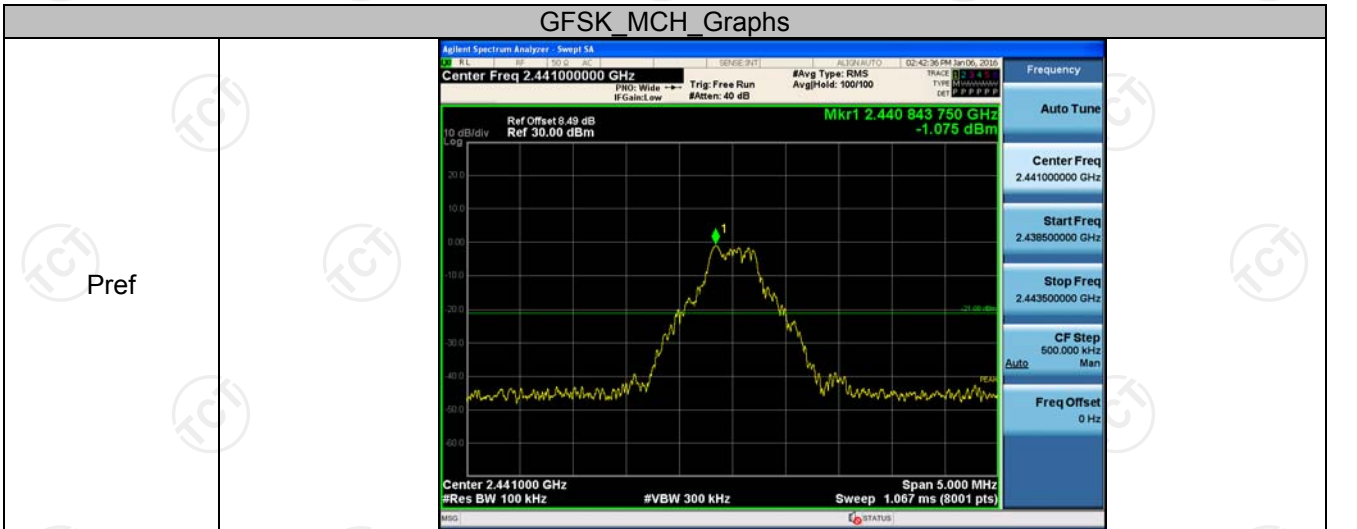


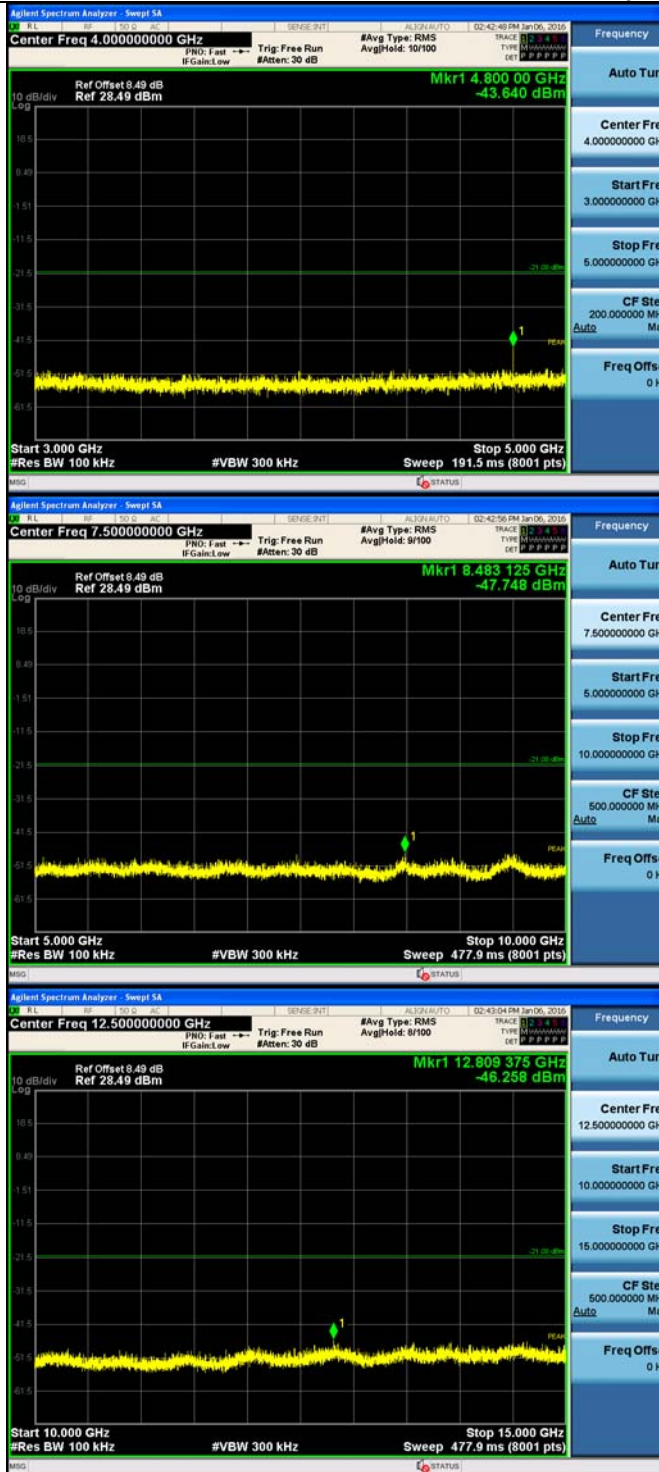


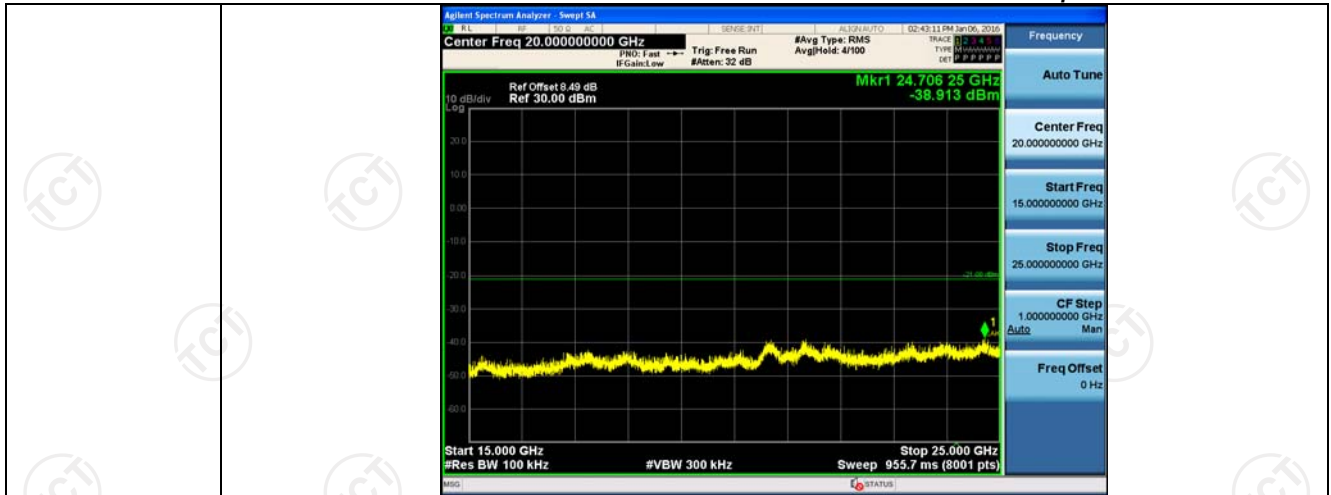




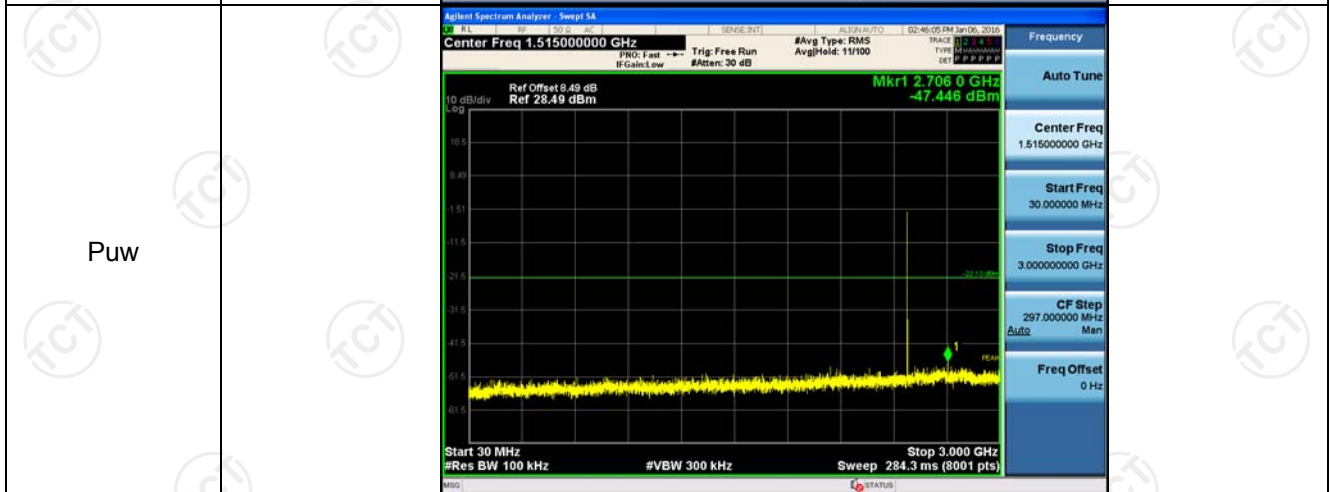
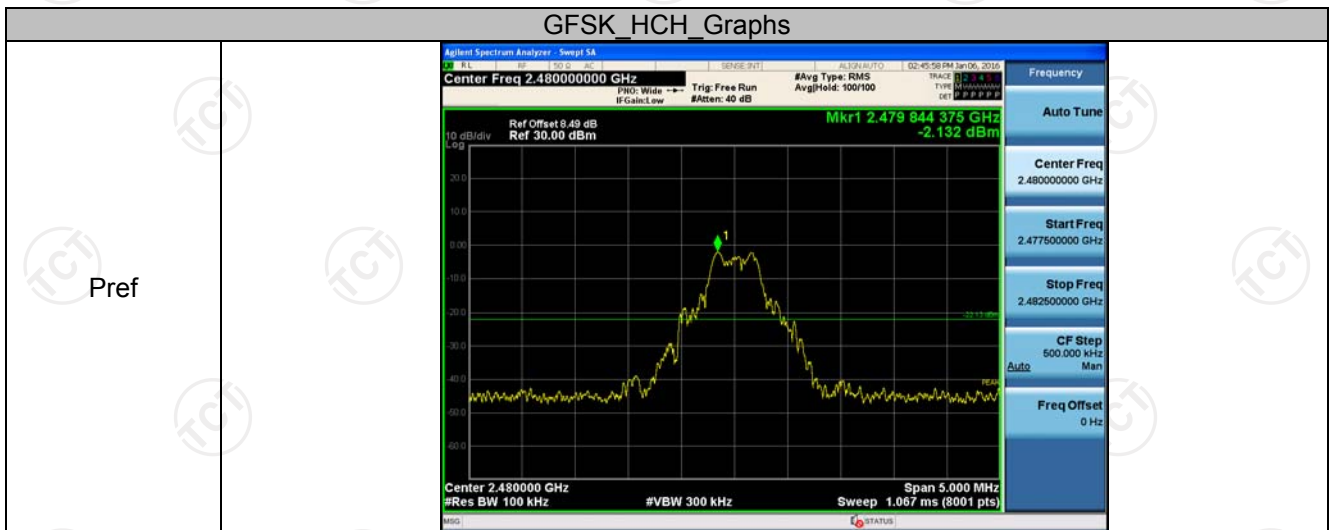
## GFSK MCH Graphs

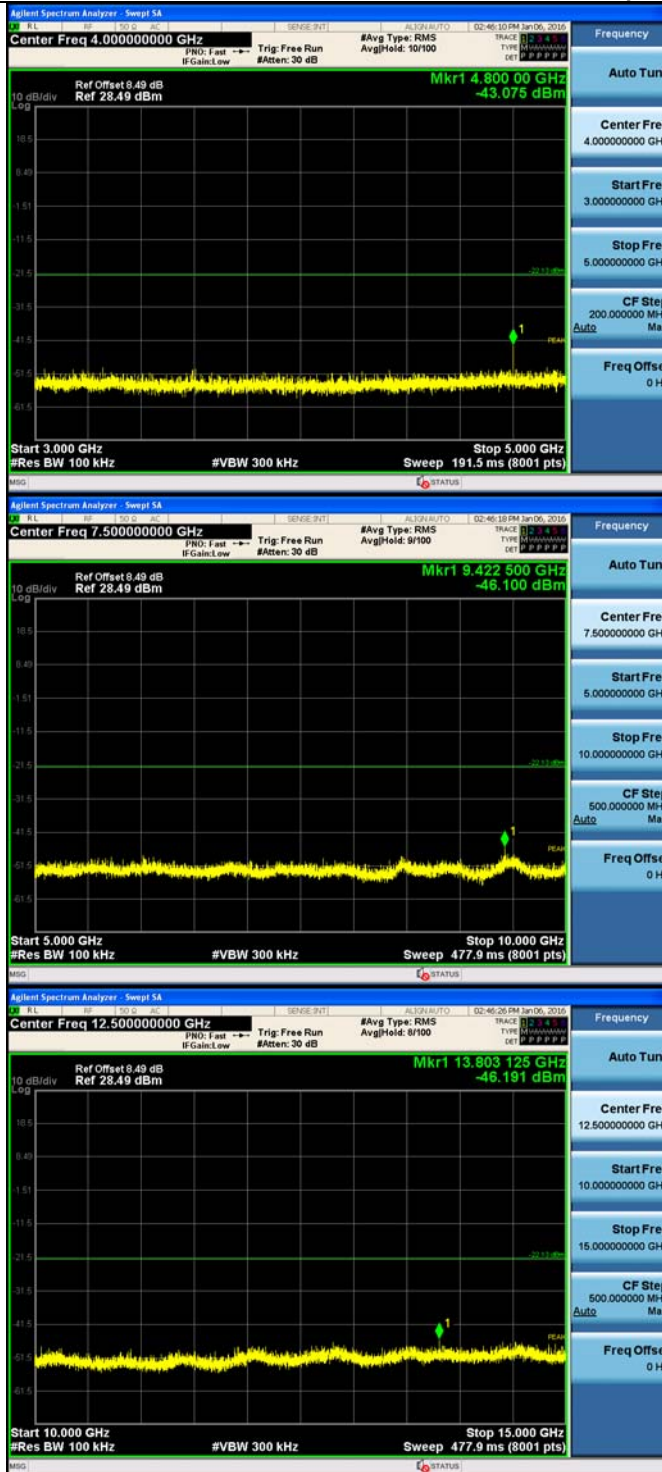


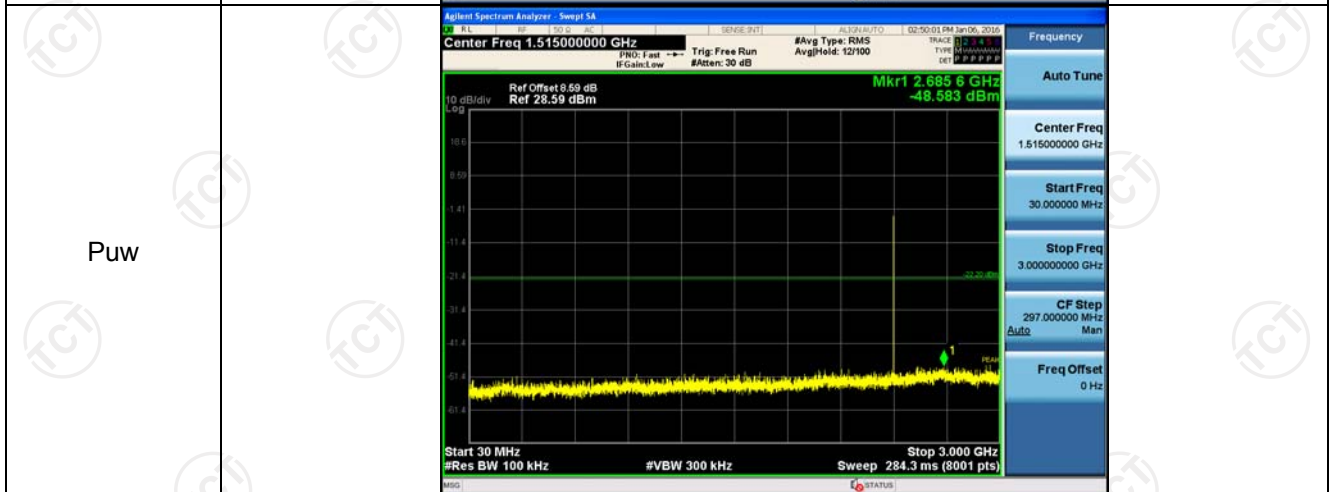
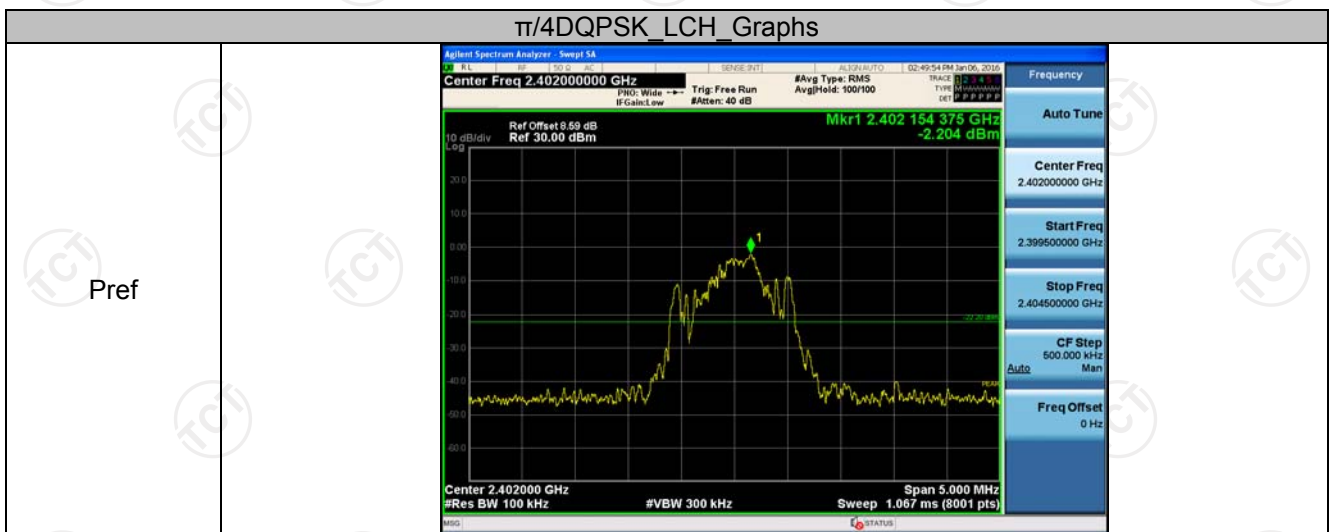
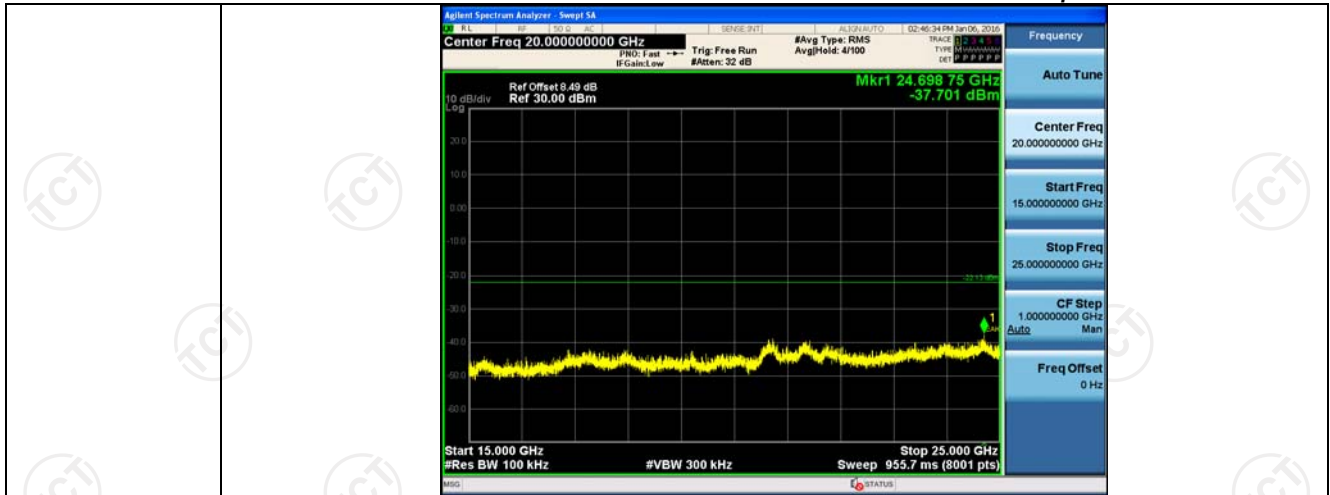




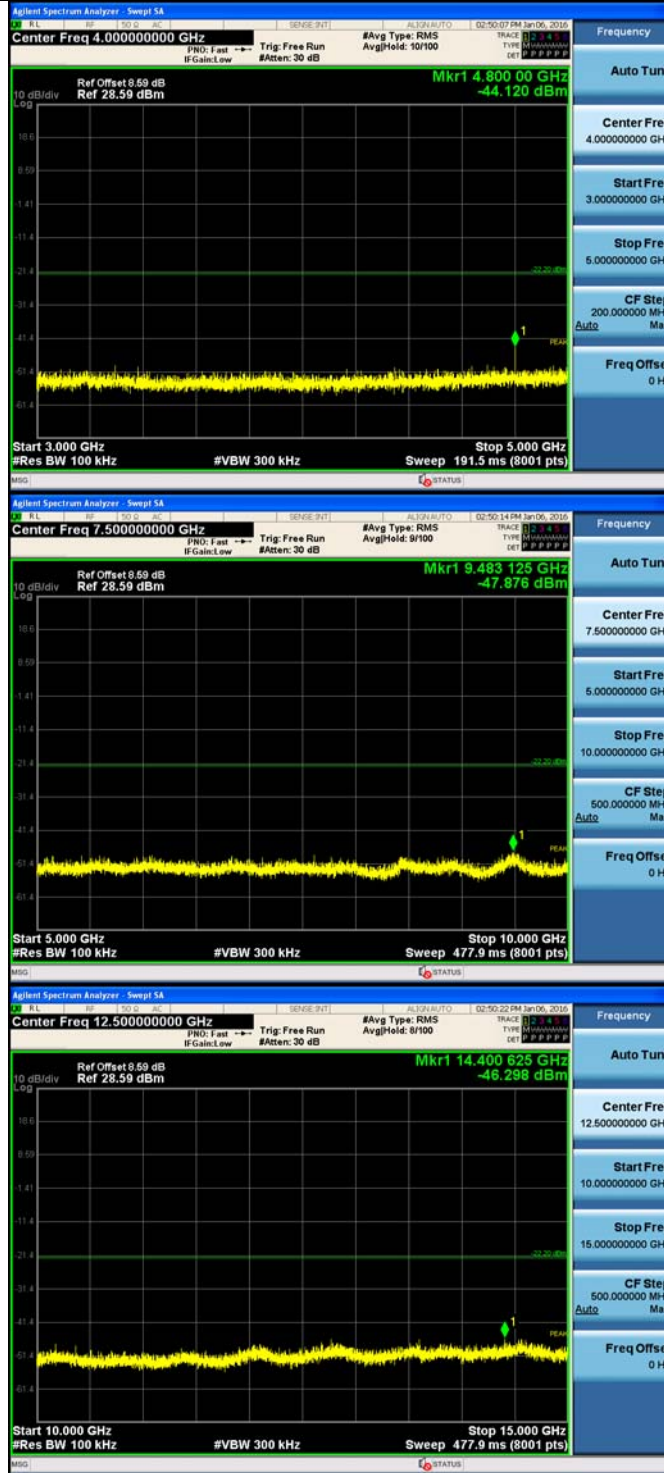
### GFSK HCH Graphs

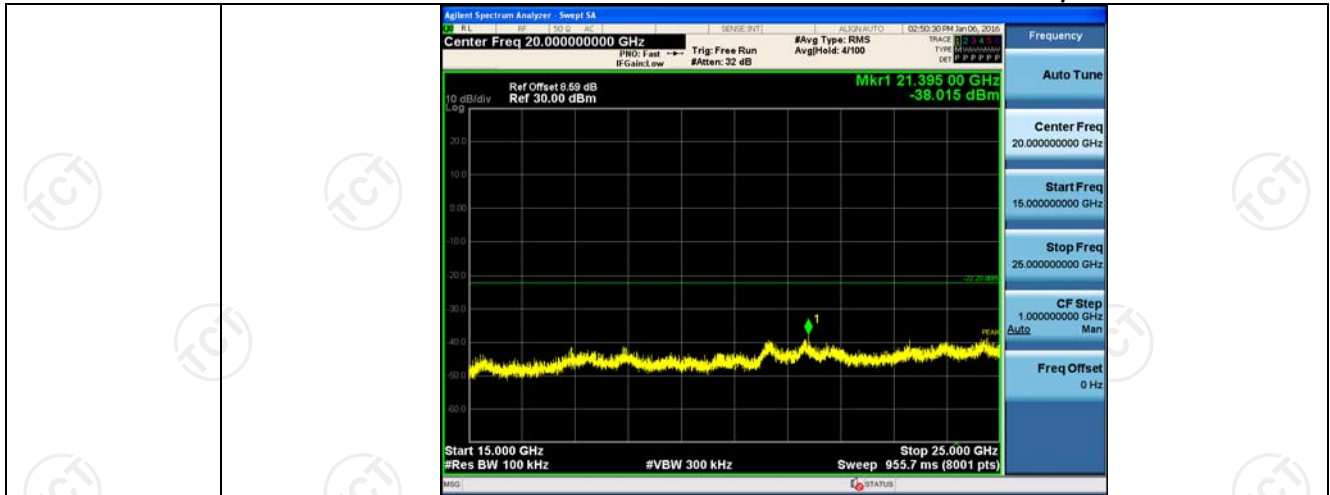




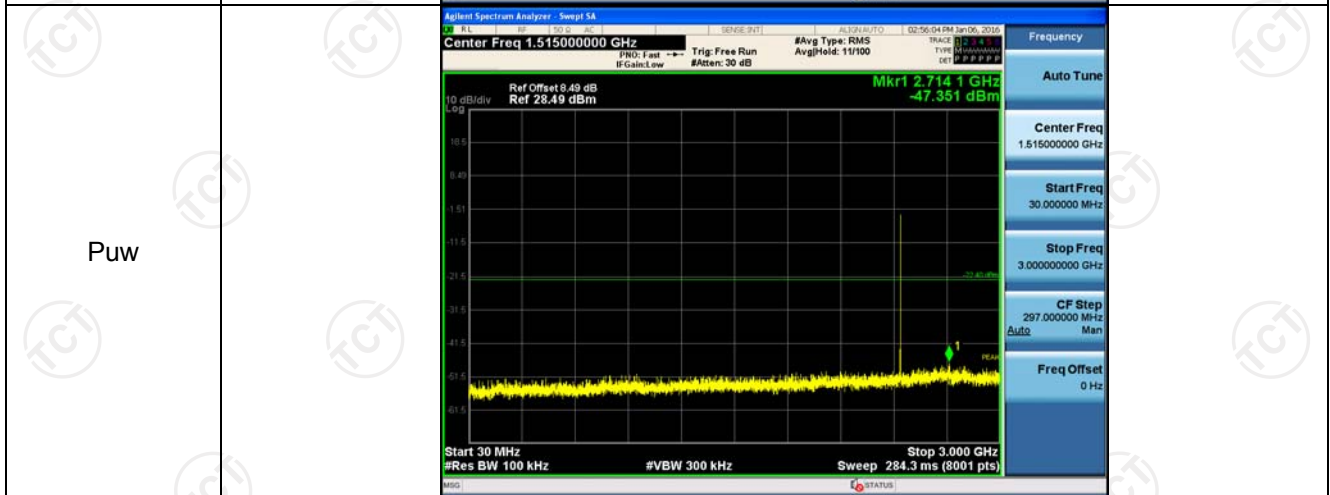
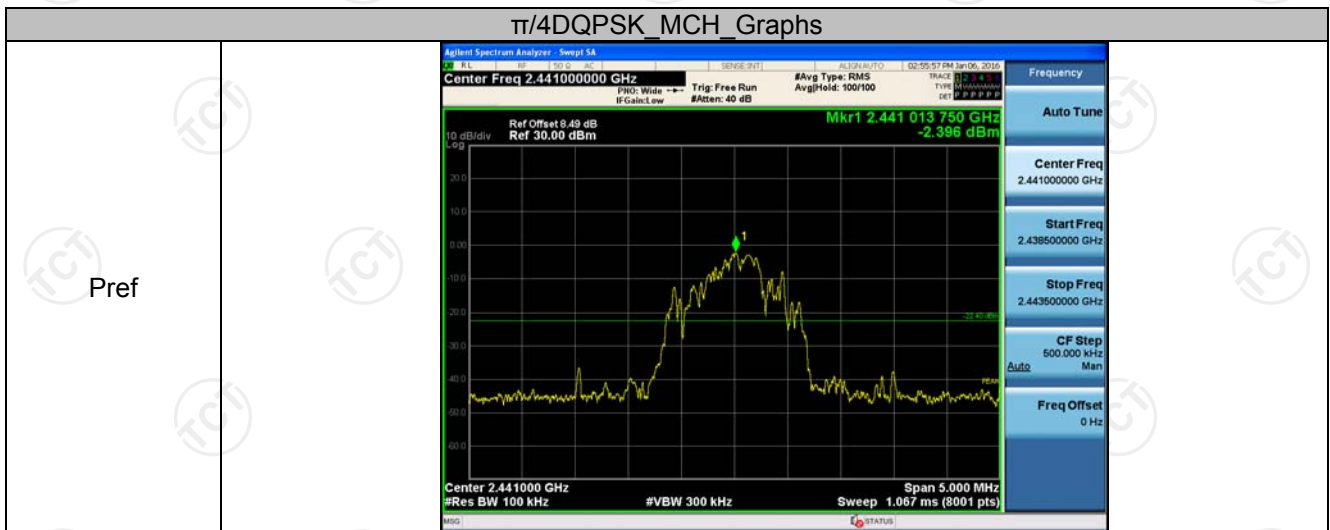


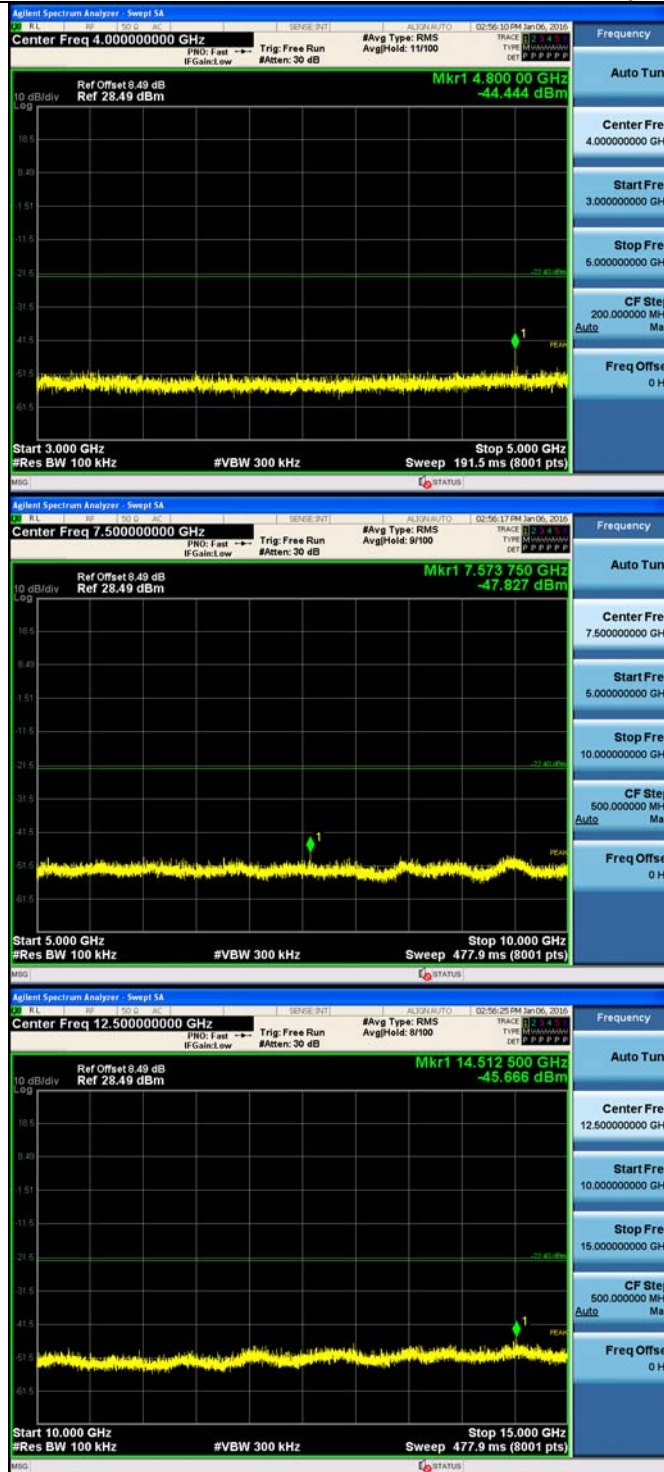


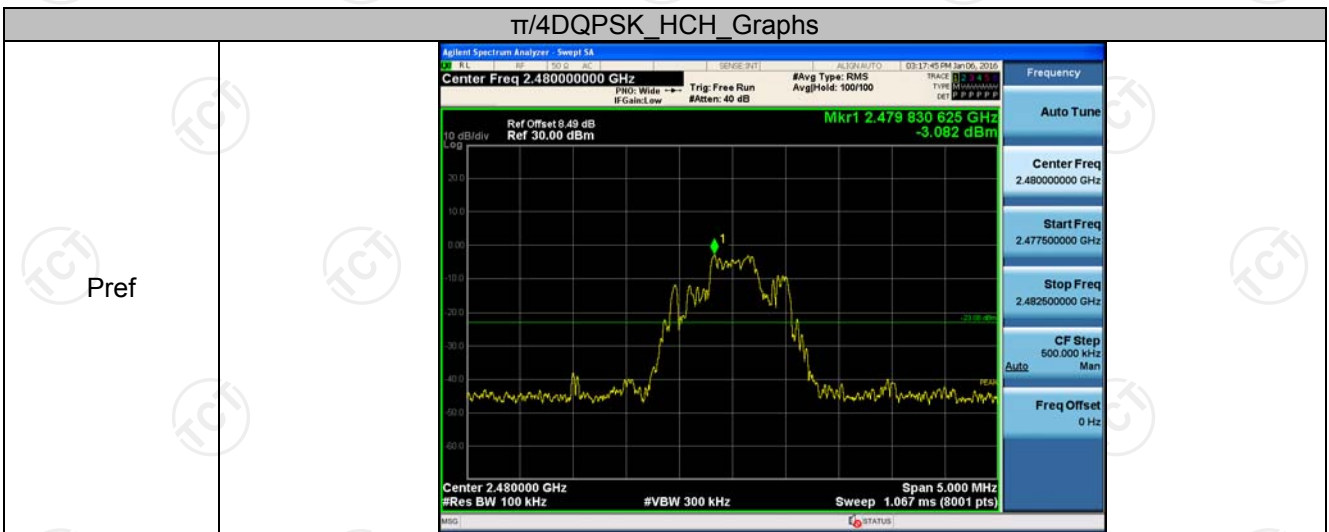
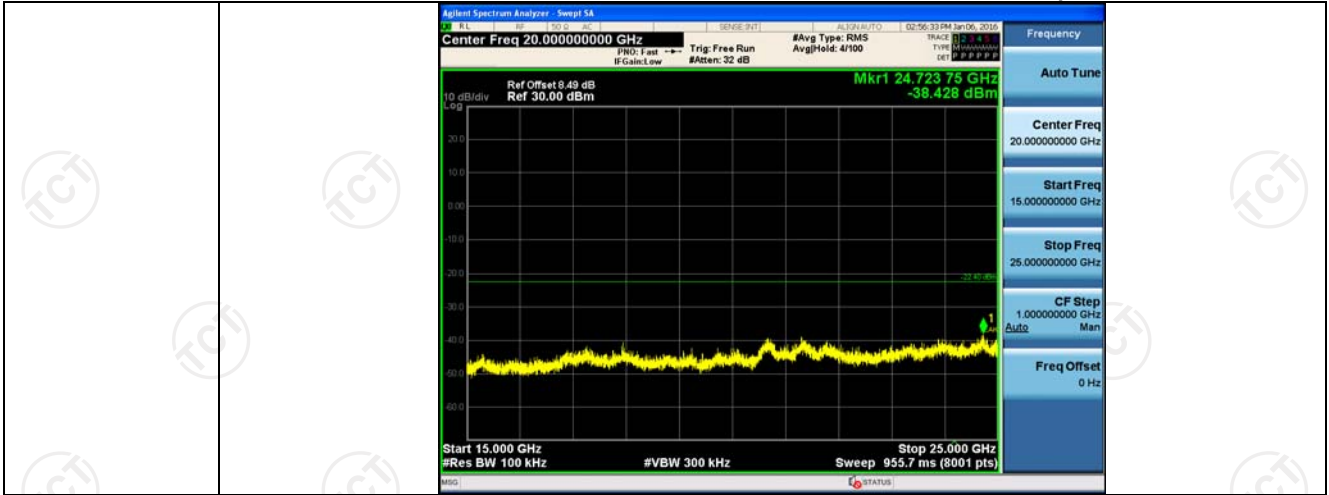




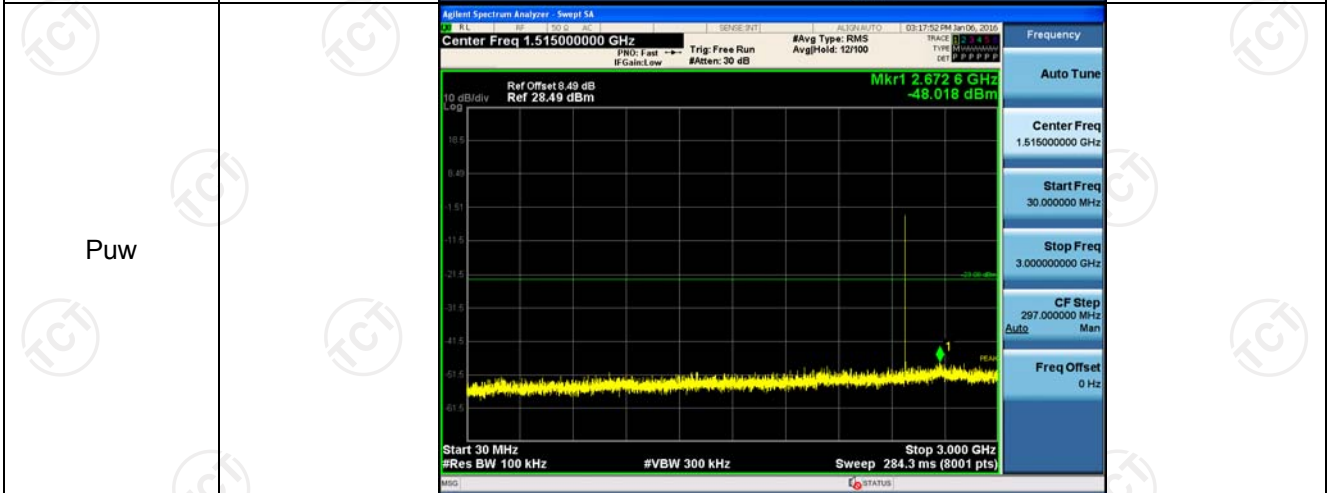
## $\pi/4$ DQPSK\_MCH\_Graphs



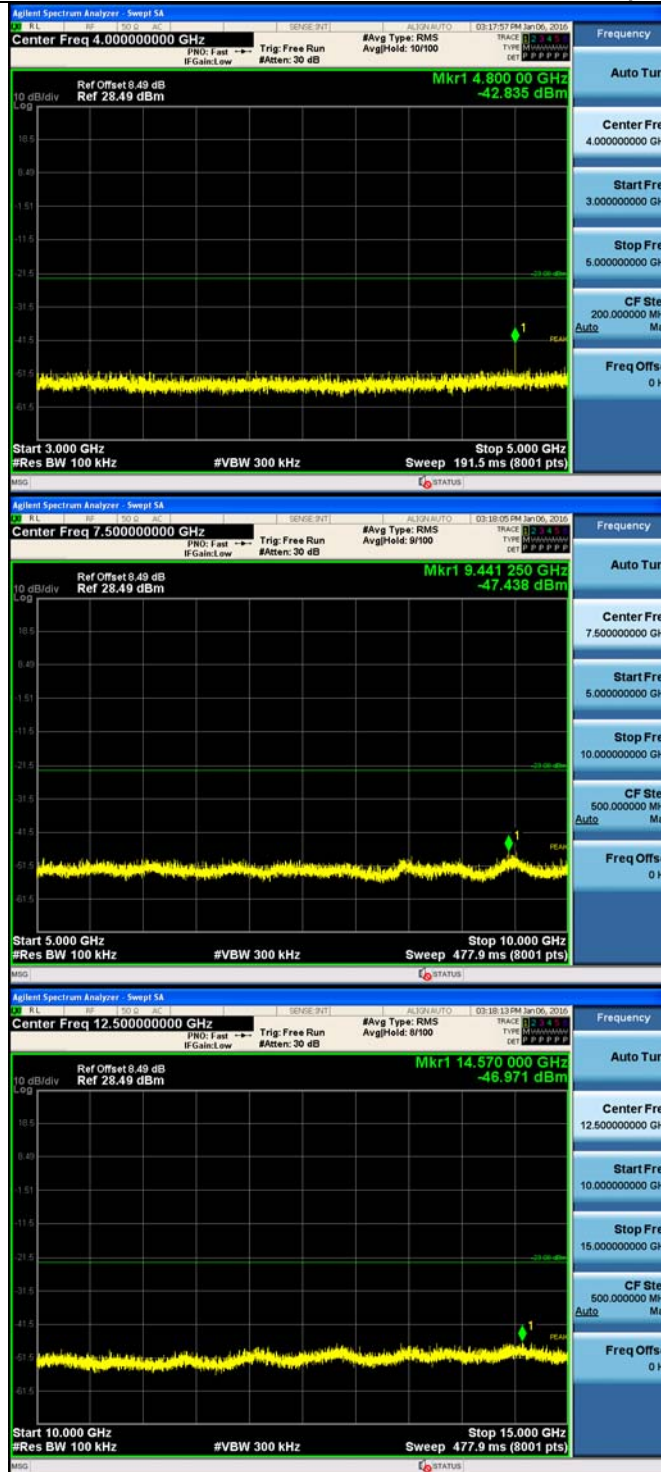




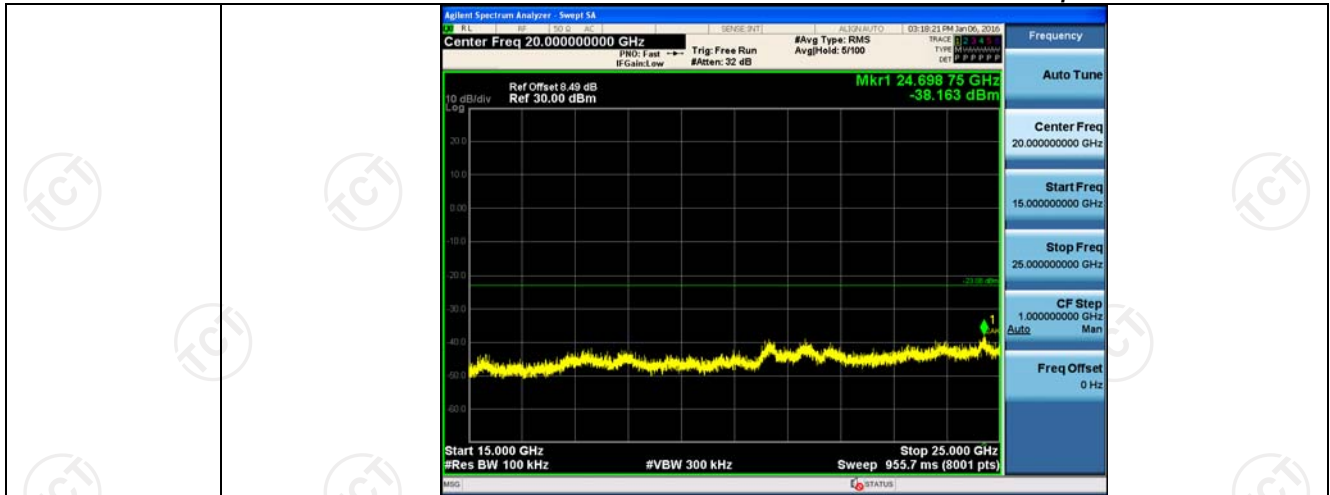
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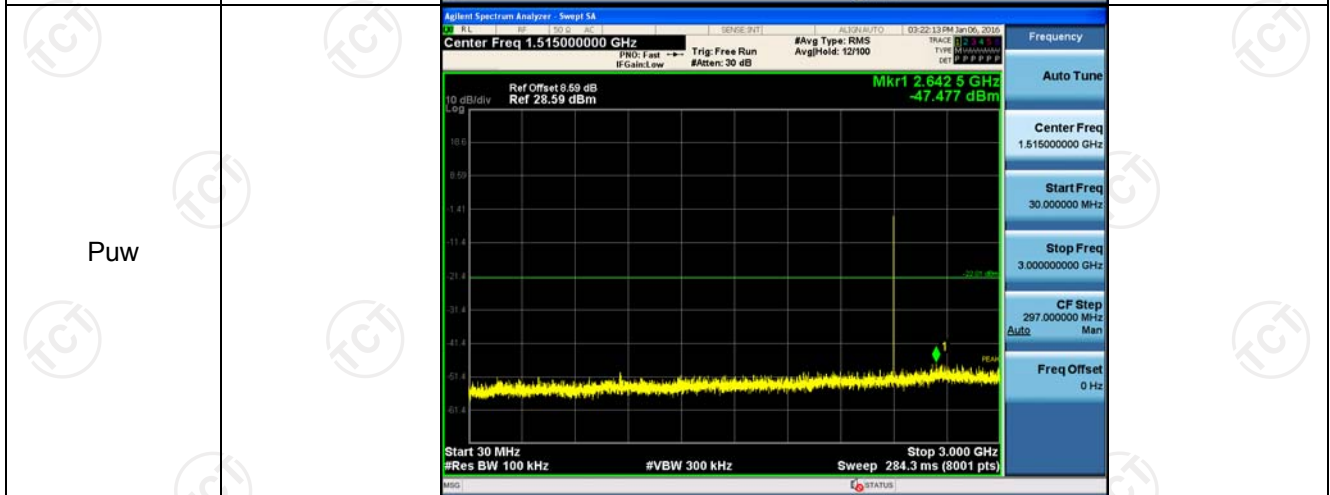
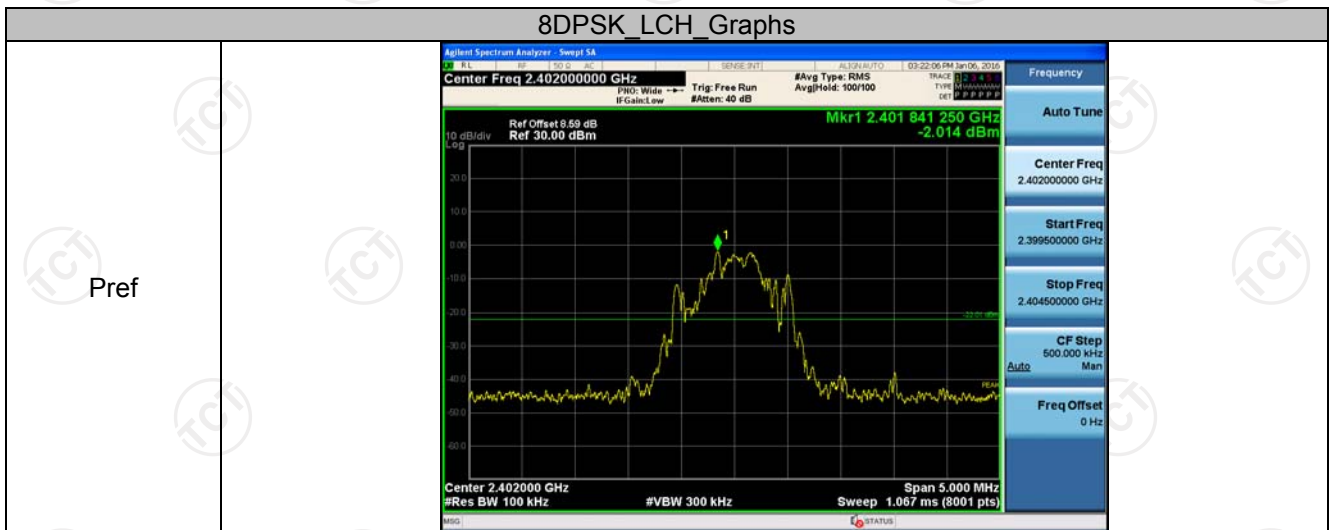
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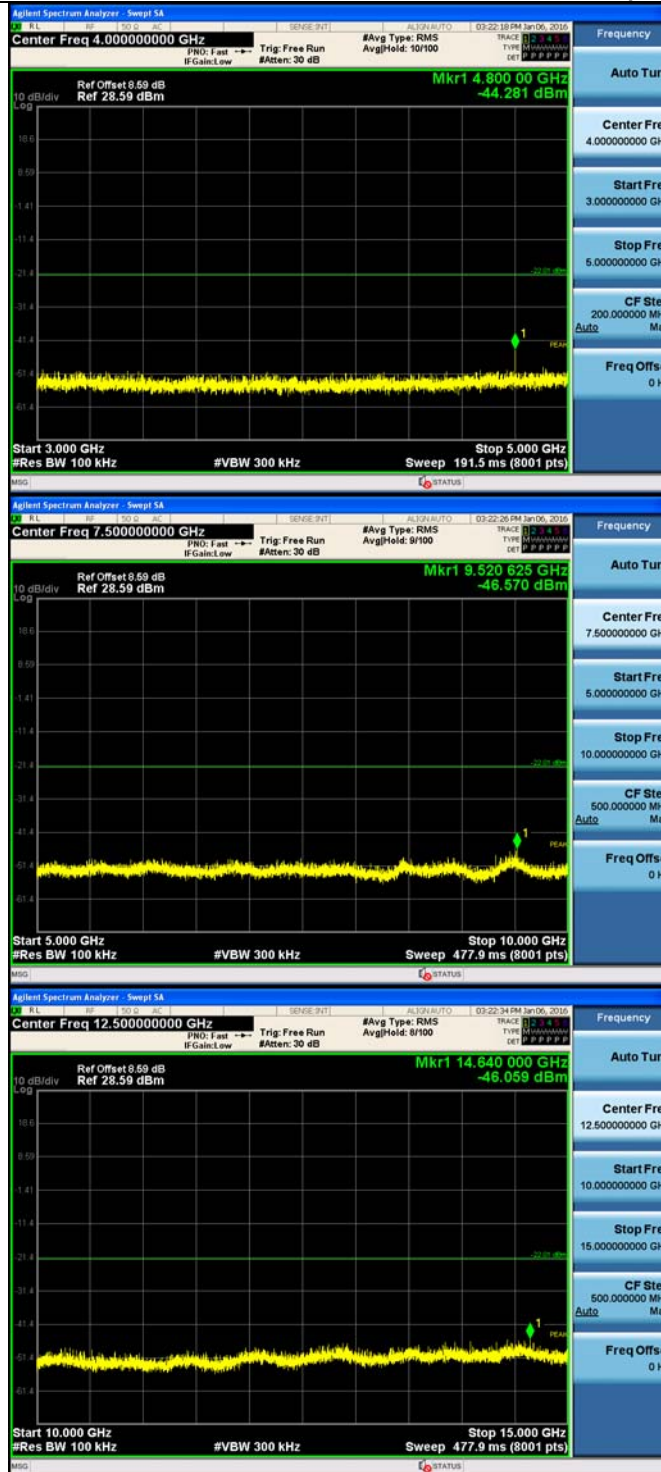


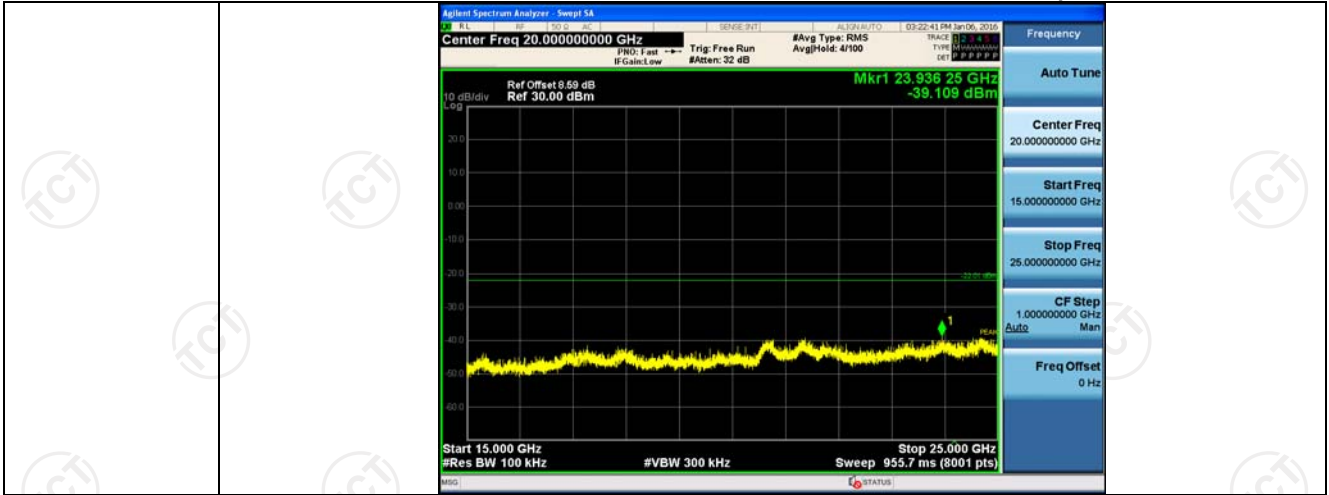




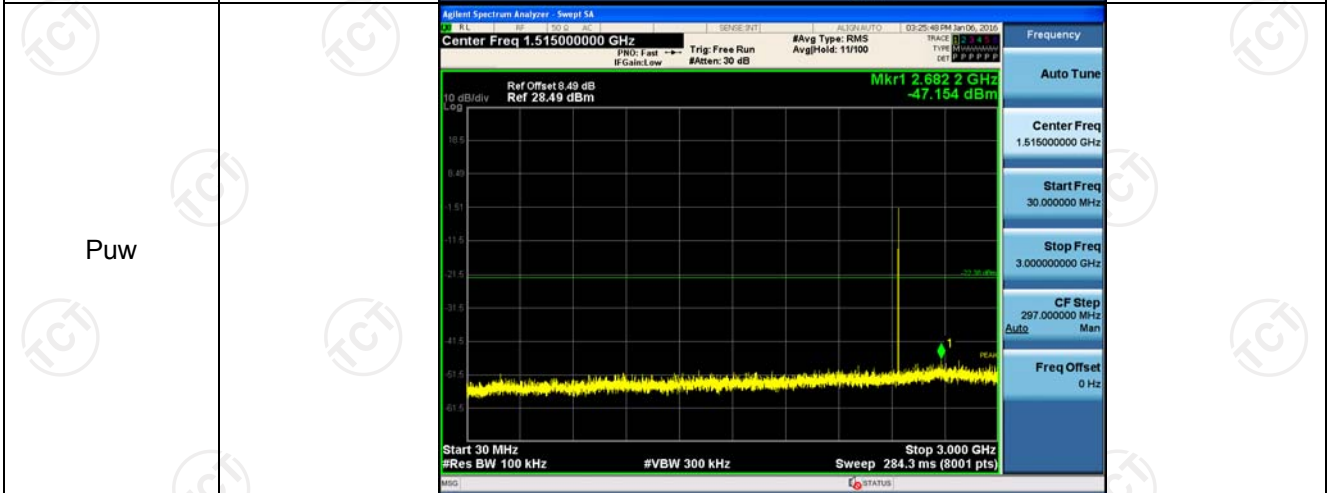
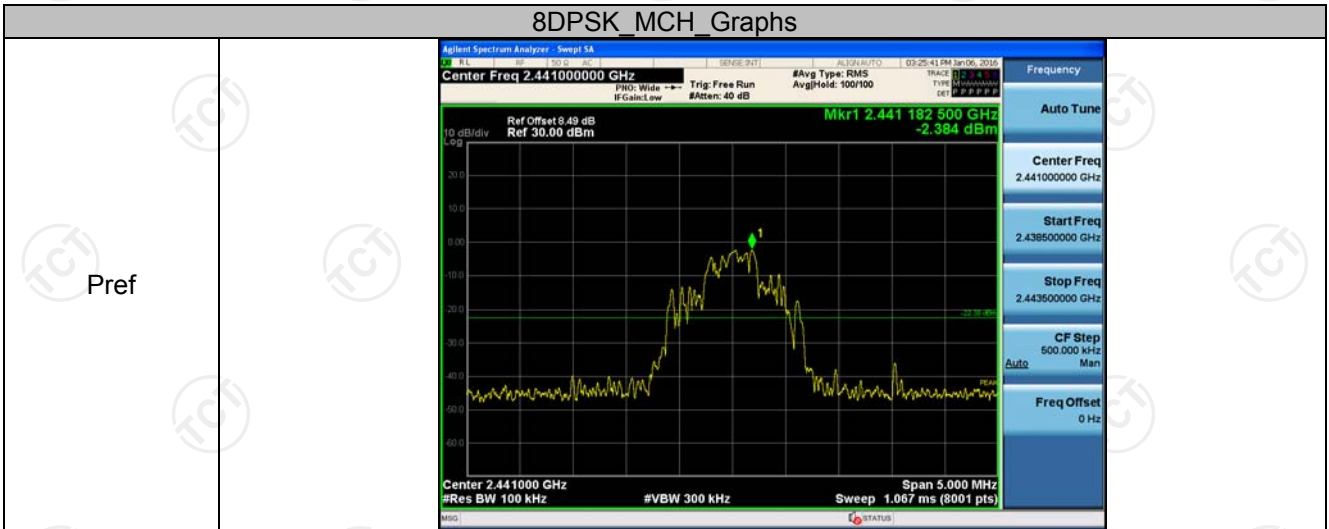
## 8DPSK LCH Graphs

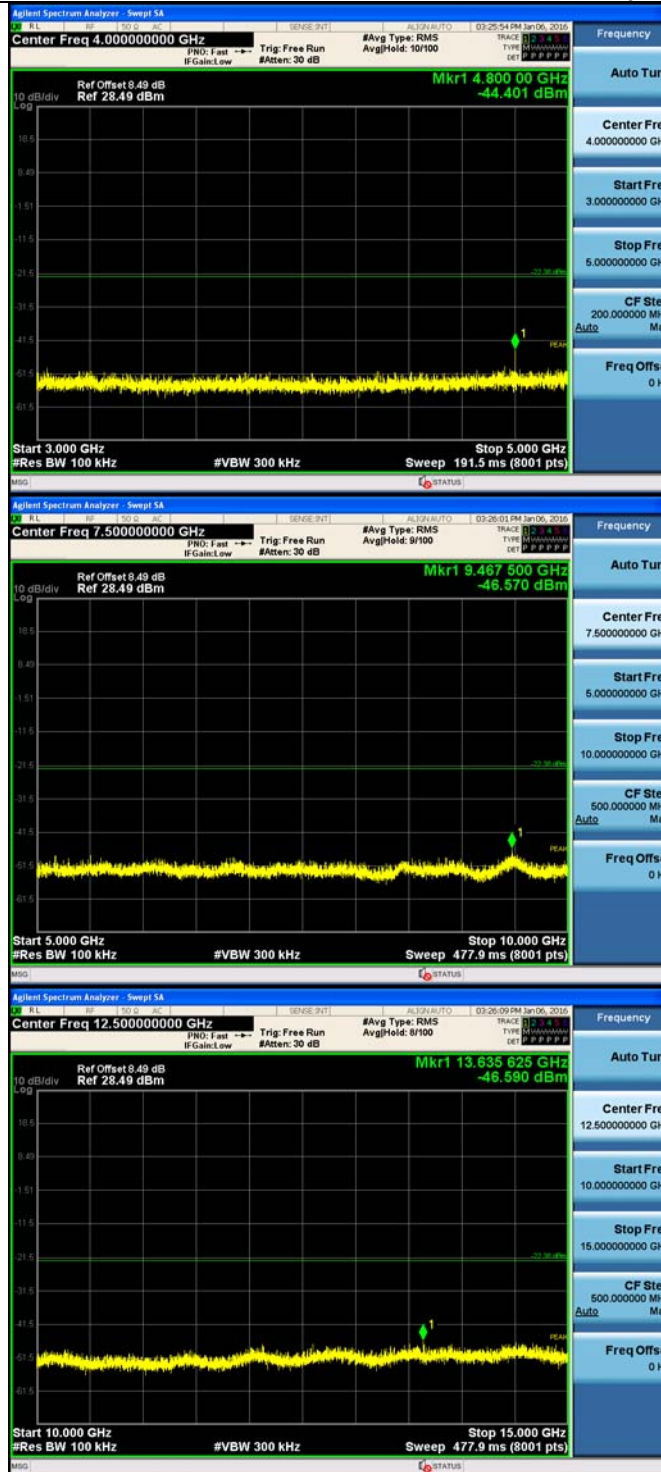


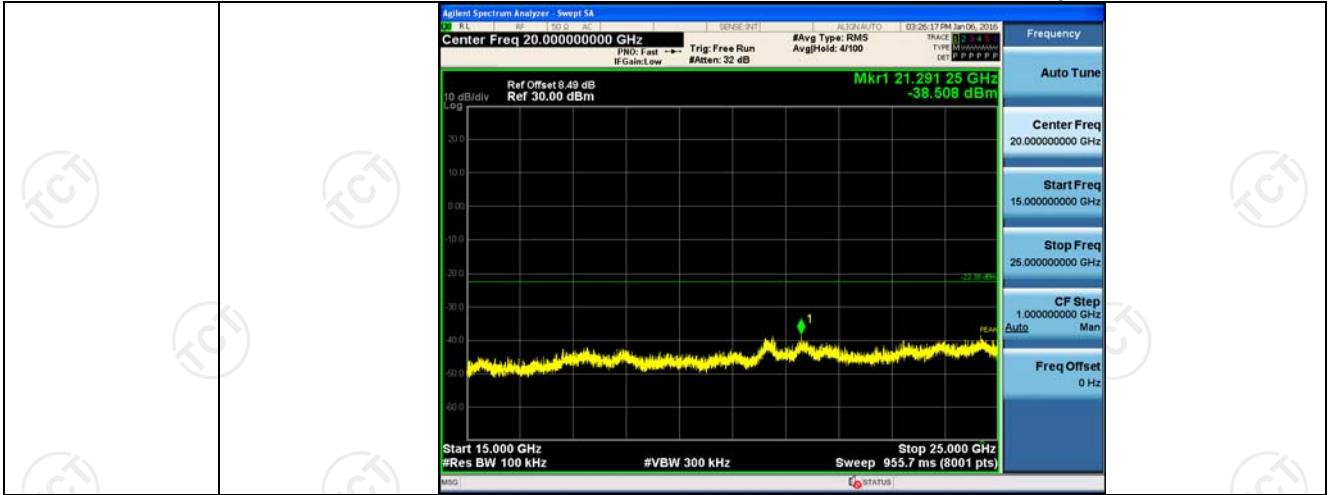




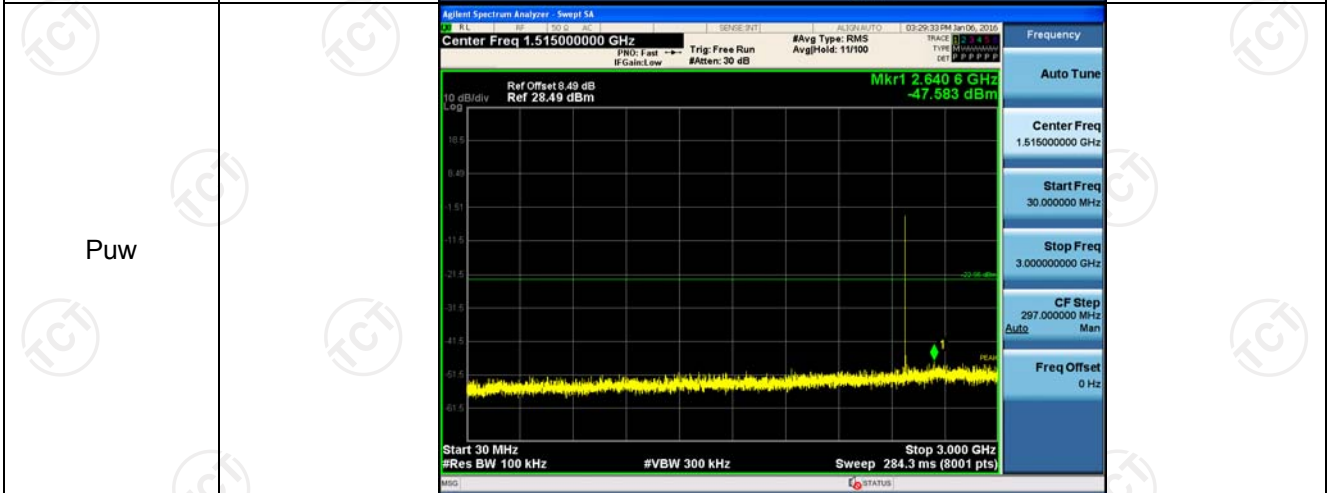
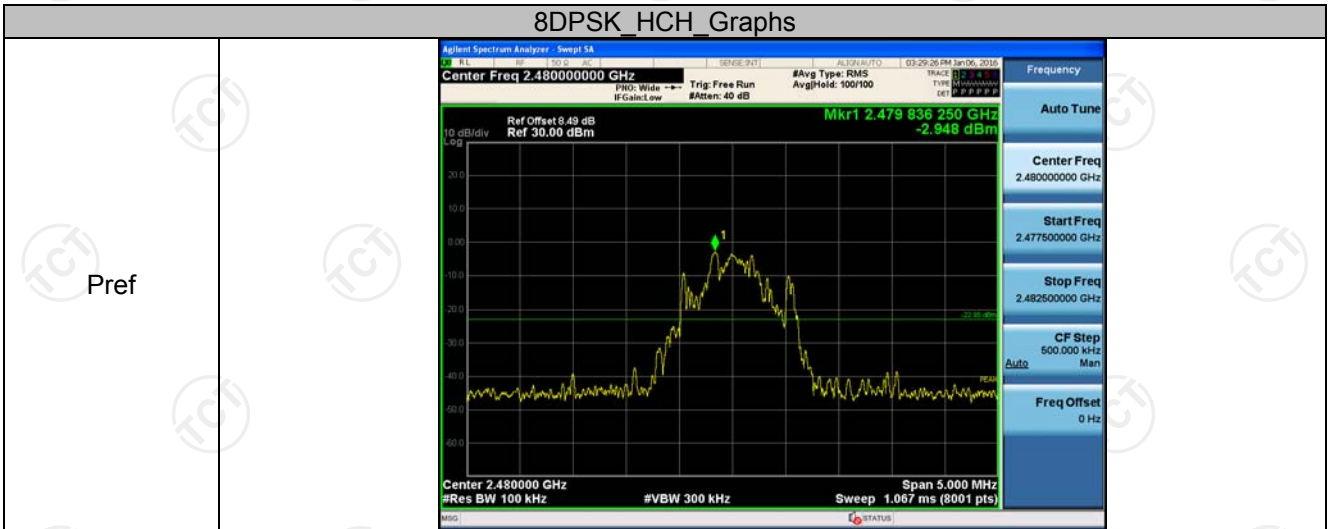
## 8DPSK MCH Graphs



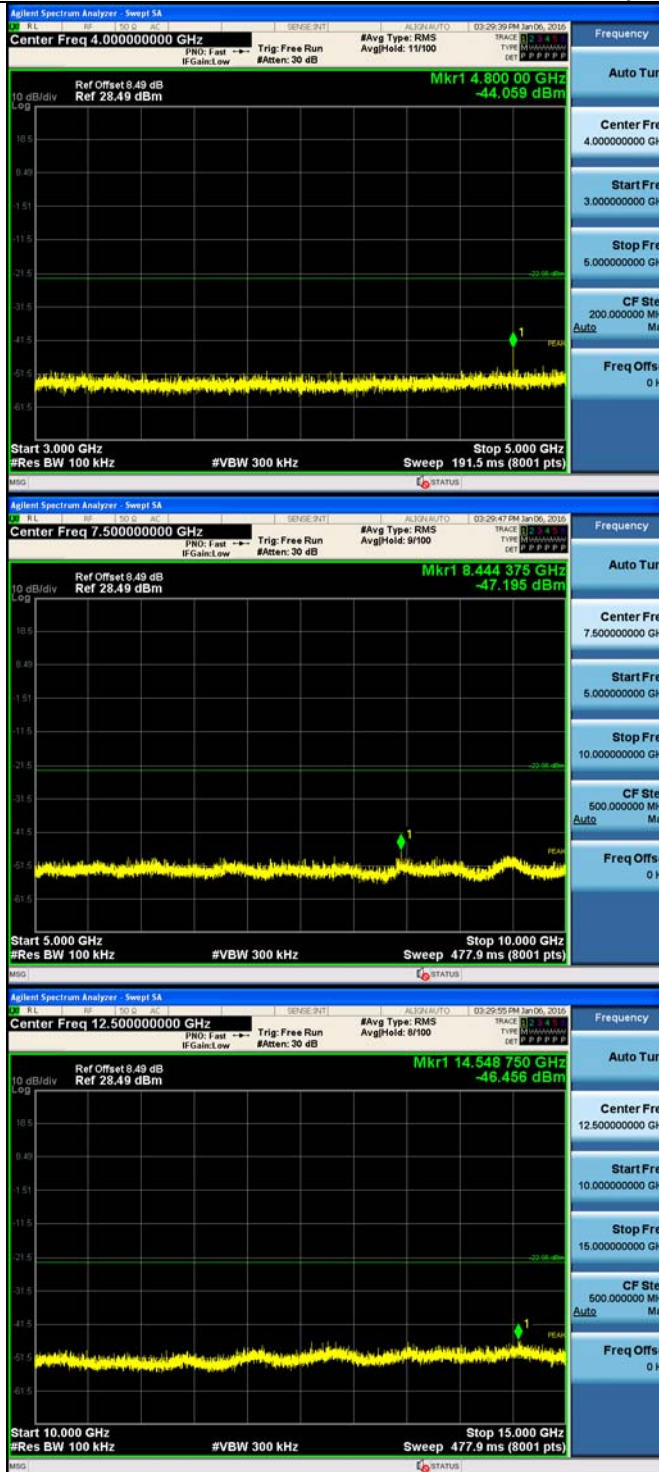


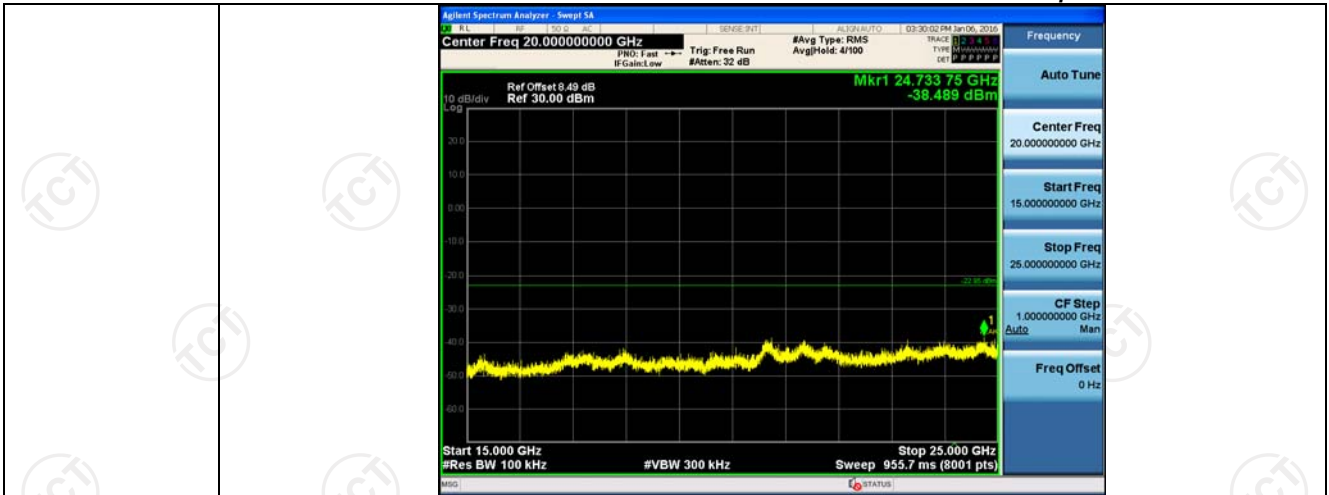


## 8DPSK HCH Graphs









\*\*\*\*\*END OF REPORT\*\*\*\*\*