

# APPENDIX REPORT

Project No.	SHT1911051203EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT19110512009	Model No.	iData K1S
Start test date	2019/12/20	Finish date	2019/12/20
Temperature	25°C	Humidity	50%
Test Engineer	Ximing.Huang	Auditor	<i>William.wang</i>

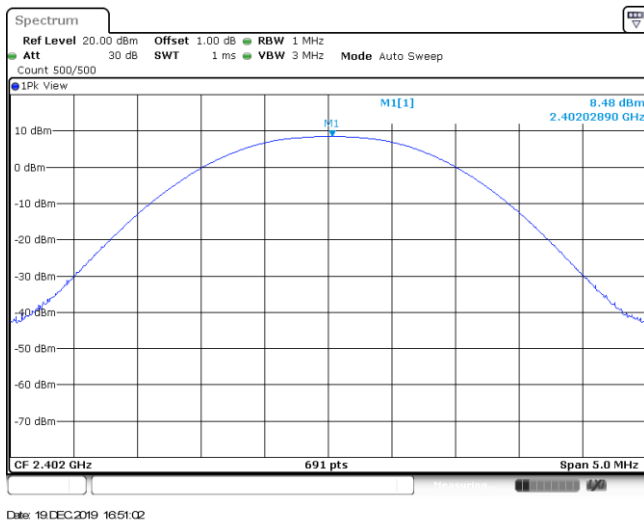
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	20 dB Bandwidth	PASS
C	99% Occupied Bandwidth	PASS
D	Carrier Frequencies Separation	PASS
E	Hopping Channel Number	PASS
F	Dwell Time	PASS
G	Duty Cycle Correction Factor (DCCF)	PASS
H	Band edge and Spurious Emissions(coducted)	PASS

**Appendix A: Peak Output Power**

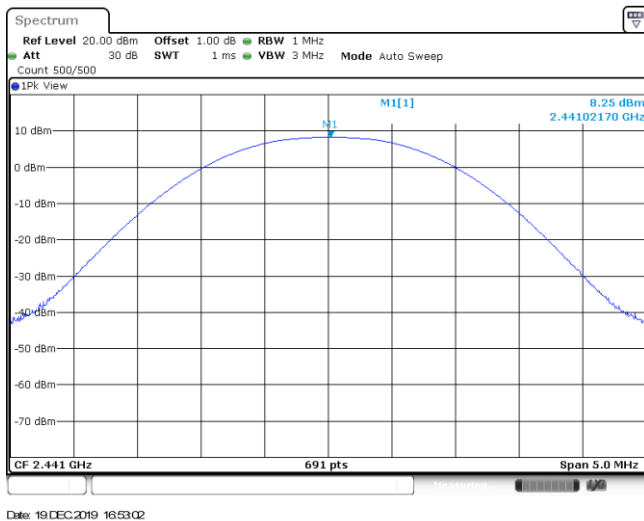
Modulation type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
GFSK	00	8.48	8.46	≤ 30.00	Pass
	39	8.25	8.24		
	78	8.36	8.34		
π/4DQPSK	00	7.91	7.18	≤ 21.00	Pass
	39	7.67	6.85		
	78	7.93	7.02		
8DPSK	00	7.81	6.87	≤ 21.00	Pass
	39	7.72	6.63		
	78	7.73	6.65		

**Modulation Type: GFSK**

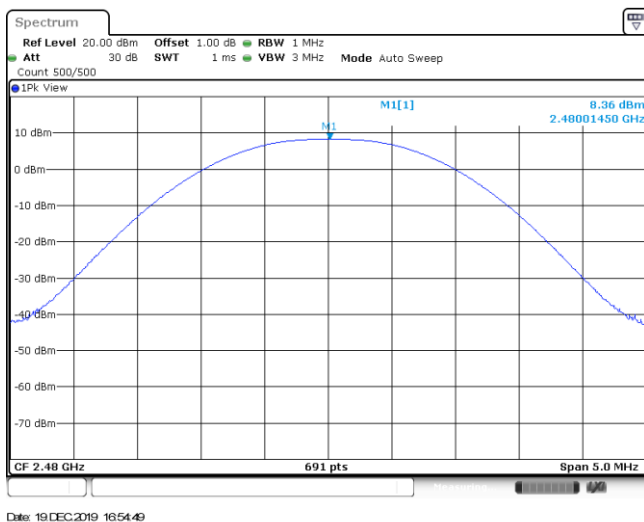
CH00



CH39

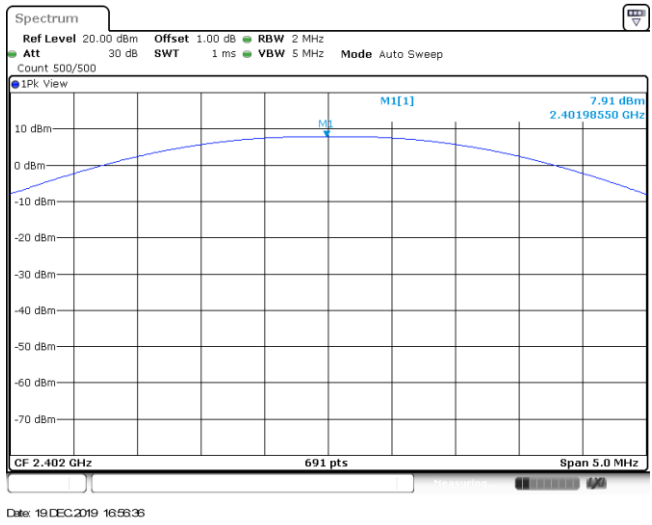


CH78

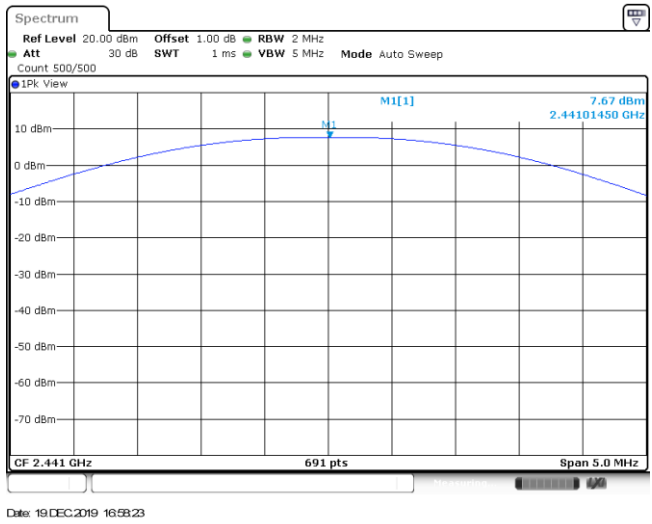


**Modulation Type:**  $\pi/4$ DQPSK

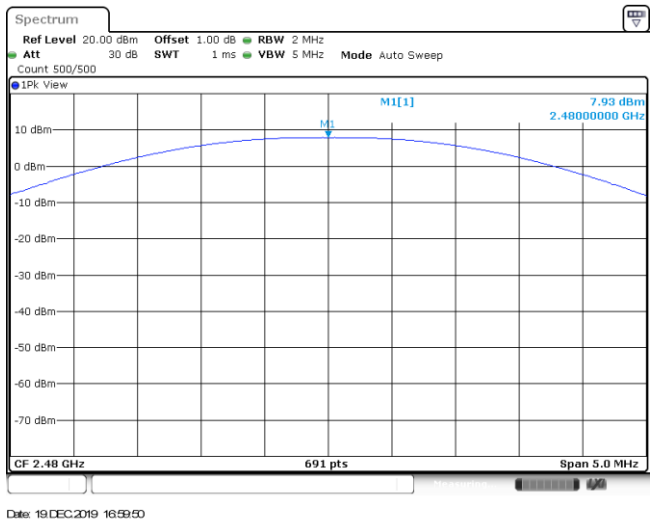
CH00



CH39



CH78



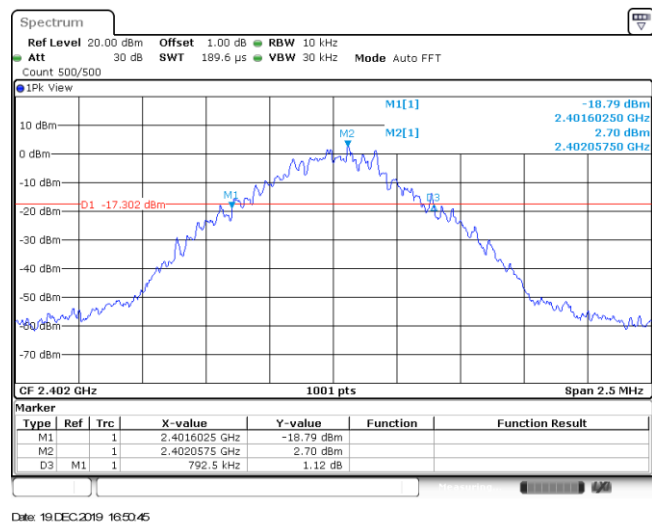
Modulation Type: 8DPSK	
CH00	<p>Ref Level 20.00 dBm    Offset 1.00 dB    RBW 2 MHz          Att 30 dB    SWT 1 ms    VBW 5 MHz    Mode Auto Sweep          Count 500/500          1Pk View          M1[1] 7.81 dBm          2.40202890 GHz          CF 2.402 GHz    691 pts    Span 5.0 MHz          Date: 19 DEC 2019 17:03:17</p>
CH39	<p>Ref Level 20.00 dBm    Offset 1.00 dB    RBW 2 MHz          Att 30 dB    SWT 1 ms    VBW 5 MHz    Mode Auto Sweep          Count 500/500          1Pk View          M1[1] 7.72 dBm          2.44100720 GHz          CF 2.441 GHz    691 pts    Span 5.0 MHz          Date: 20 DEC 2019 09:17:20</p>
CH78	<p>Ref Level 20.00 dBm    Offset 1.00 dB    RBW 2 MHz          Att 30 dB    SWT 1 ms    VBW 5 MHz    Mode Auto Sweep          Count 500/500          1Pk View          M1[1] 7.73 dBm          2.48000000 GHz          CF 2.48 GHz    691 pts    Span 5.0 MHz          Date: 20 DEC 2019 09:19:32</p>

**Appendix B : 20 dB Bandwidth**

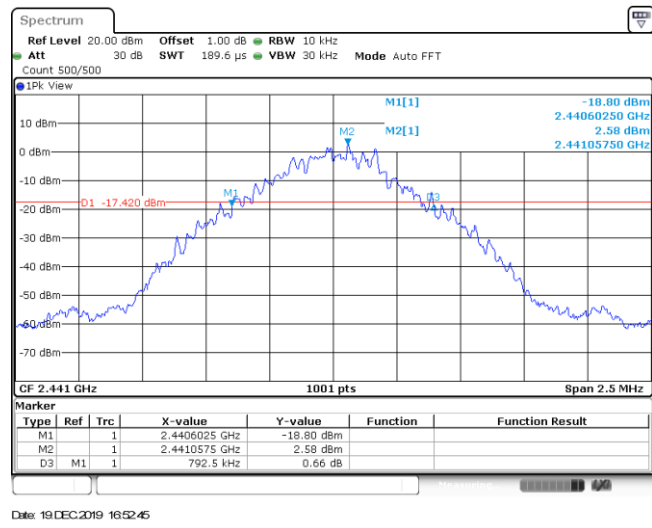
Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	793.00	-	Pass
	39	793.00		
	78	793.00		
$\pi/4$ DQPSK	00	1267.00	-	Pass
	39	1258.00		
	78	1260.00		
8DPSK	00	1260.00	-	Pass
	39	1253.00		
	78	1255.00		

**Modulation Type: GFSK**

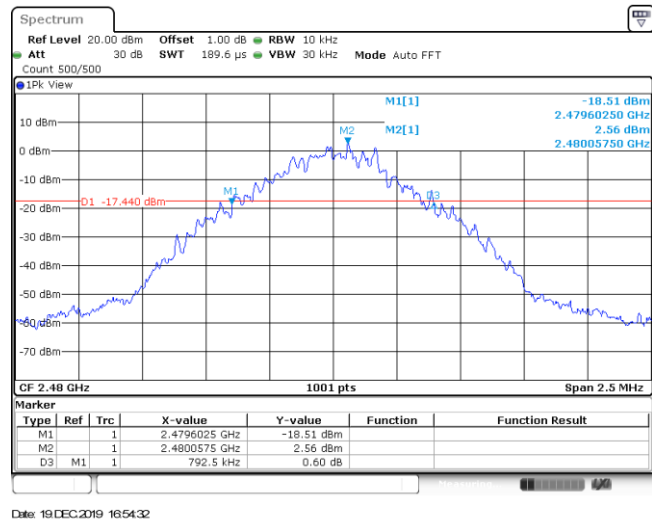
CH00



CH39

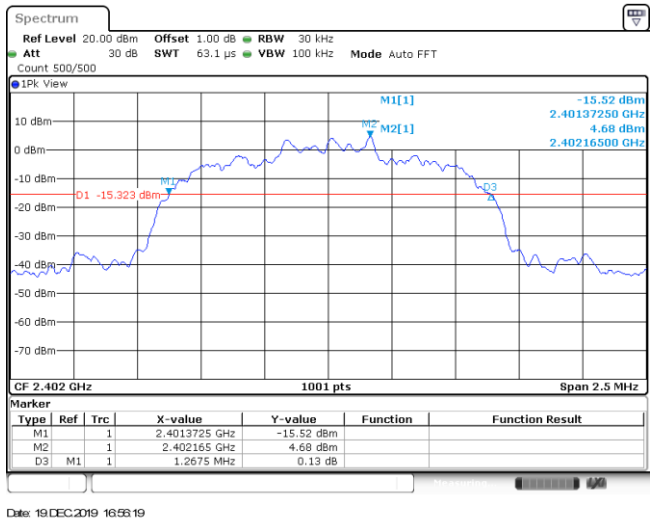


CH78

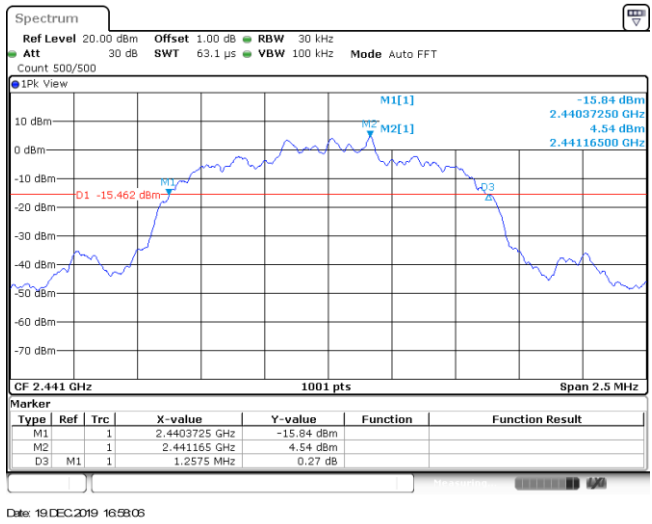


**Modulation Type:**  $\pi/4$ DQPSK

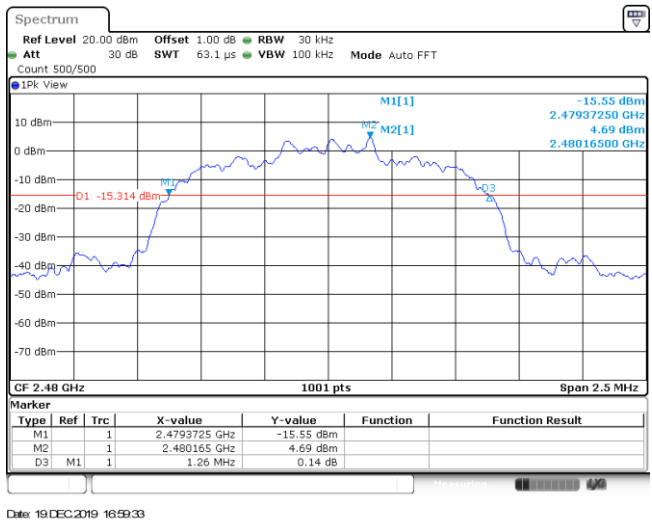
CH00



CH39



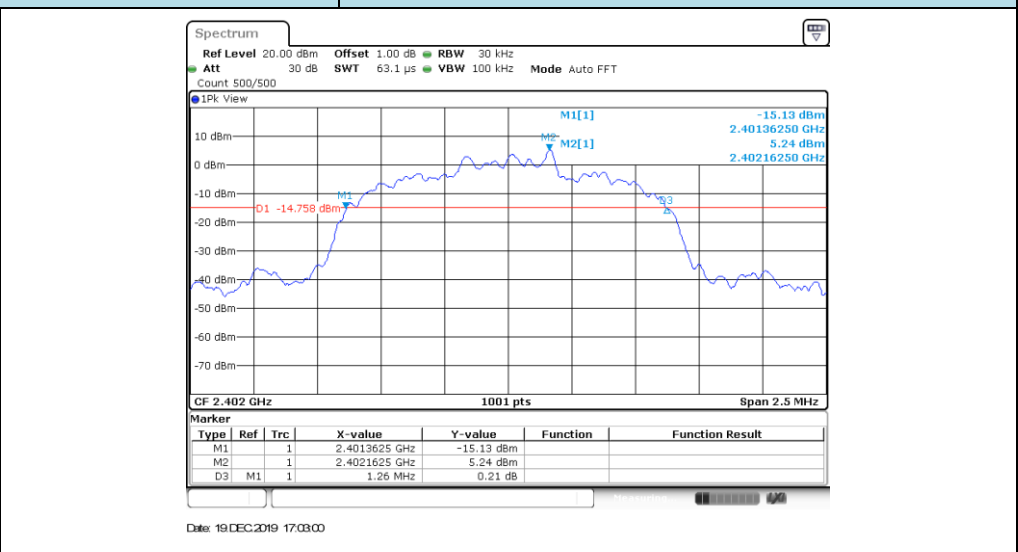
CH78



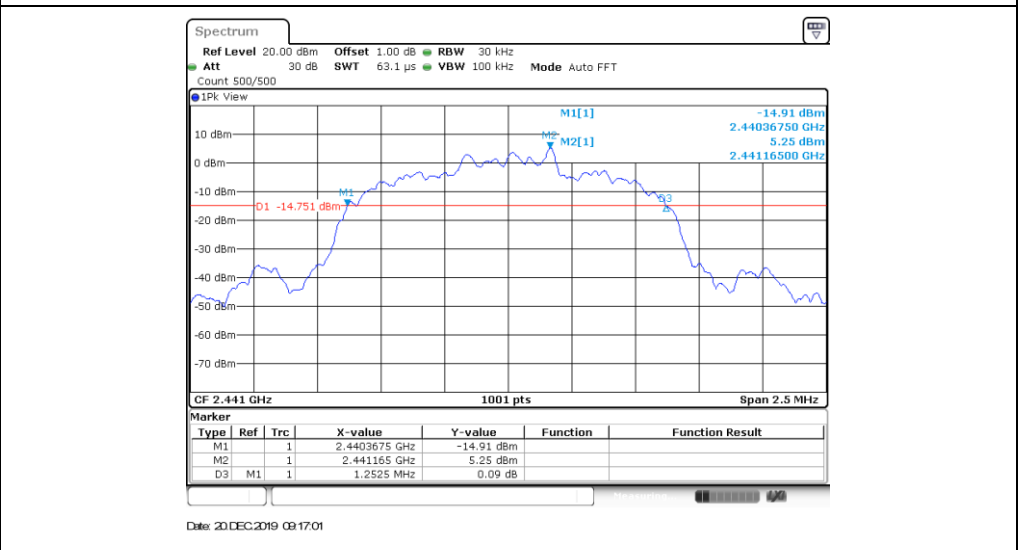


**Modulation Type: 8DPSK**

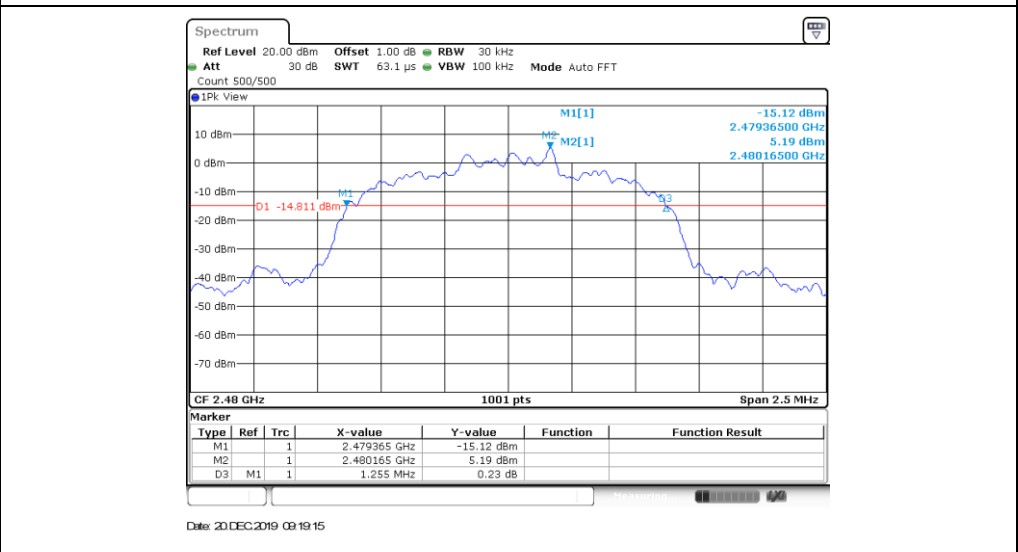
CH00



CH39



CH78



**Appendix C: 99% Occupied Bandwidth**

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.76	-	Pass
	39	0.75		
	78	0.76		
$\pi/4$ DQPSK	00	1.14	-	Pass
	39	1.14		
	78	1.14		
8DPSK	00	1.15	-	Pass
	39	1.14		
	78	1.15		

Modulation Type: GFSK	
CH00	<p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 63.1 μs VBW 100 kHz Mode Auto FFT Count 500/500</p> <p>1Pk View</p> <p>5.69 dBm 2.40216230 GHz 759.240759241 kHz</p> <p>CF 2.402 GHz 1001 pts Span 2.5 MHz</p> <p>Date: 19 DEC 2019 16:50:53</p>
CH39	<p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 63.1 μs VBW 100 kHz Mode Auto FFT Count 500/500</p> <p>1Pk View</p> <p>5.58 dBm 2.44116230 GHz 754.245754246 kHz</p> <p>CF 2.441 GHz 1001 pts Span 2.5 MHz</p> <p>Date: 19 DEC 2019 16:52:53</p>
CH78	<p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 63.1 μs VBW 100 kHz Mode Auto FFT Count 500/500</p> <p>1Pk View</p> <p>5.57 dBm 2.48016230 GHz 759.240759241 kHz</p> <p>CF 2.48 GHz 1001 pts Span 2.5 MHz</p> <p>Date: 19 DEC 2019 16:54:40</p>

Modulation Type: $\pi/4$ DQPSK	
CH00	<p><b>Spectrum</b>            Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz            Att 30 dB SWT 63.1 <math>\mu</math>s VBW 100 kHz Mode Auto FFT            Count 500/500            1Pk View            10 dBm            0 dBm            -10 dBm            -20 dBm            -30 dBm            -40 dBm            -50 dBm            -60 dBm            -70 dBm            CF 2.402 GHz 1001 pts Span 2.5 MHz            Date: 19 DEC 2019 16:58:27</p>
CH39	<p><b>Spectrum</b>            Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz            Att 30 dB SWT 63.1 <math>\mu</math>s VBW 100 kHz Mode Auto FFT            Count 500/500            1Pk View            10 dBm            0 dBm            -10 dBm            -20 dBm            -30 dBm            -40 dBm            -50 dBm            -60 dBm            -70 dBm            CF 2.441 GHz 1001 pts Span 2.5 MHz            Date: 19 DEC 2019 16:58:14</p>
CH78	<p><b>Spectrum</b>            Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz            Att 30 dB SWT 63.1 <math>\mu</math>s VBW 100 kHz Mode Auto FFT            Count 500/500            1Pk View            10 dBm            0 dBm            -10 dBm            -20 dBm            -30 dBm            -40 dBm            -50 dBm            -60 dBm            -70 dBm            CF 2.48 GHz 1001 pts Span 2.5 MHz            Date: 19 DEC 2019 16:59:41</p>

Modulation Type: 8DPSK	
CH00	<p>Date: 19 DEC 2019 17:03:08</p>
CH39	<p>Date: 20 DEC 2019 09:17:11</p>
CH78	<p>Date: 20 DEC 2019 09:19:23</p>

**Appendix D: Carrier Frequencies Separation**

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥	Pass
$\pi/4$ DQPSK	39	1.00	≥	Pass
8DPSK	39	1.00	≥	Pass

**Note:**

\*: GFSK limit = The maximum 20 dB Bandwidth for GFSK modulation on the appendix B.

$\pi/4$ DQPSK limit =  $2/3$  \* The maximum 20 dB Bandwidth for  $\pi/4$ DQPSK modulation on the appendix B.

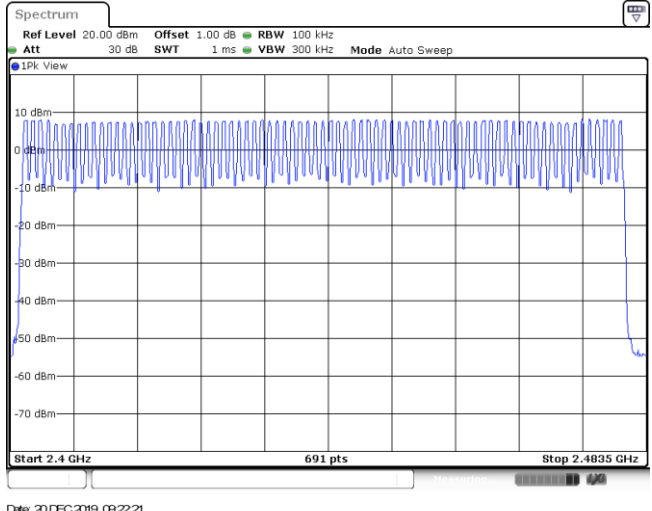
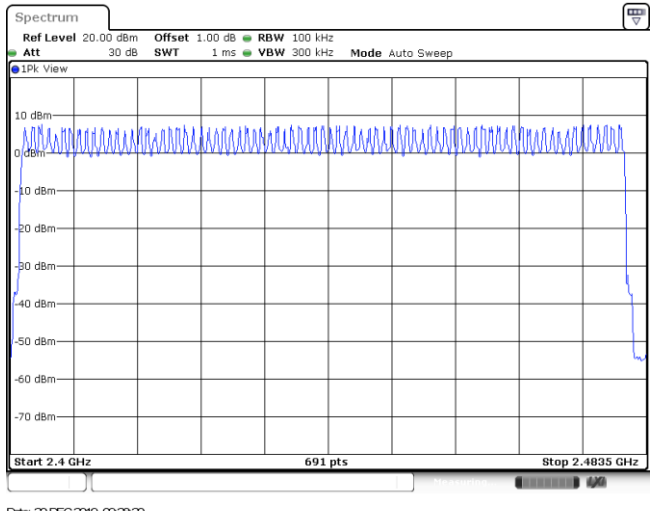
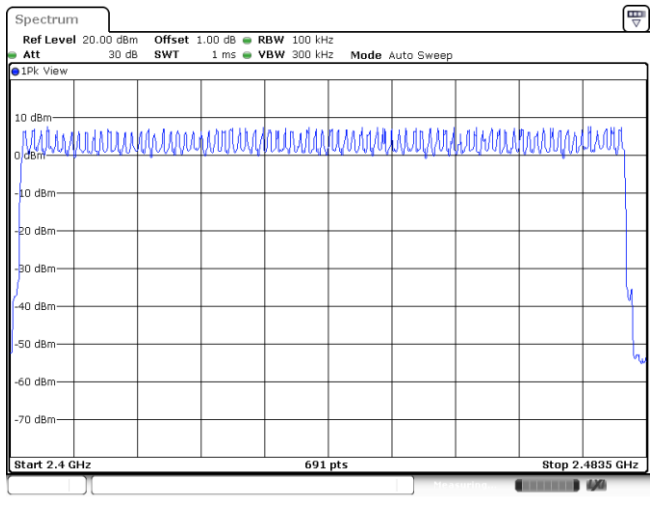
8DPSK limit =  $2/3$  \* The maximum 20 dB Bandwidth for 8DPSK modulation on the appendix B

<p style="text-align: center;">GFSK</p>	<p style="text-align: right;">5.50 dBm 2.44116522 GHz 0.01 dB 1.00000 MHz</p> <p style="text-align: center;">Start 2.44 GHz      691 pts      Stop 2.443 GHz</p> <p style="text-align: left;">Date: 20 DEC 2019 09:28:02</p>
<p style="text-align: center;"><math>\pi/4</math>DQPSK</p>	<p style="text-align: right;">4.35 dBm 2.44116522 GHz 0.02 dB 1.00000 MHz</p> <p style="text-align: center;">Start 2.44 GHz      691 pts      Stop 2.443 GHz</p> <p style="text-align: left;">Date: 20 DEC 2019 09:27:10</p>
<p style="text-align: center;">8DPSK</p>	<p style="text-align: right;">4.98 dBm 2.44116522 GHz 0.01 dB 1.00000 MHz</p> <p style="text-align: center;">Start 2.44 GHz      691 pts      Stop 2.443 GHz</p> <p style="text-align: left;">Date: 20 DEC 2019 09:30:32</p>

**Appendix E: Hopping Channel Number**

Modulation type	Channel number	Limit	Result
GFSK	79	≥15.00	Pass
π/4DQPSK	79		
8DPSK	79		



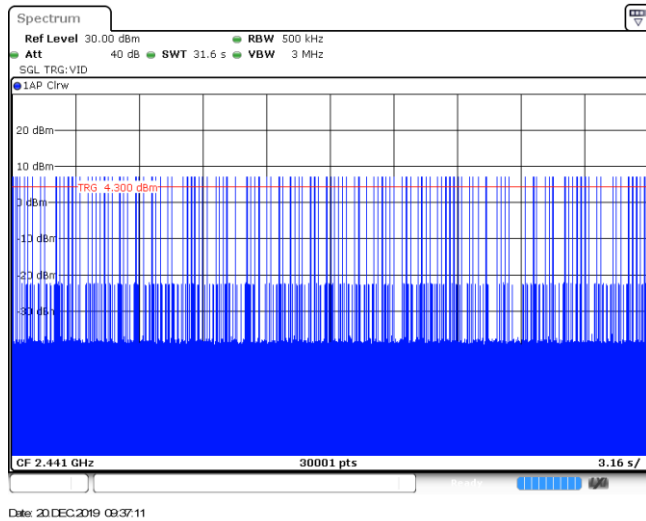
<p>GFSK</p>	 <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk View</p> <p>10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm</p> <p>Start 2.4 GHz 691 pts Stop 2.4835 GHz</p> <p>Date: 20 DEC 2019 09:22:21</p>
<p><math>\pi/4</math>DQPSK</p>	 <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk View</p> <p>10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm</p> <p>Start 2.4 GHz 691 pts Stop 2.4835 GHz</p> <p>Date: 20 DEC 2019 09:28:20</p>
<p>8DPSK</p>	 <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk View</p> <p>10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm</p> <p>Start 2.4 GHz 691 pts Stop 2.4835 GHz</p> <p>Date: 20 DEC 2019 09:32:59</p>

**Appendix F: Dwell Time**

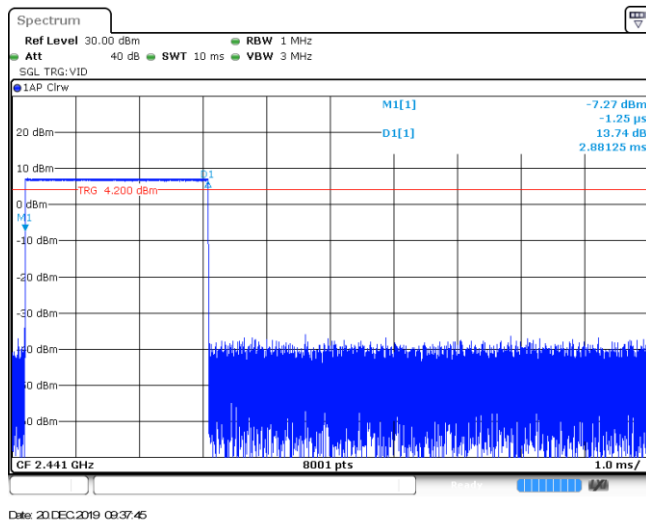
Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.38	315	0.12	≤ 0.40	Pass
	DH3	1.63	162	0.26		
	DH5	2.88	102	0.29		
π/4DQPSK	2DH1	0.39	313	0.12	≤ 0.40	Pass
	2DH3	1.64	160	0.26		
	2DH5	2.88	101	0.29		
8DPSK	3DH1	0.38	314	0.12	≤ 0.40	Pass
	3DH3	1.64	159	0.26		
	3DH5	2.89	102	0.29		

Modulation Type: GFSK	
DH1 Burst width	
DH1 Burst number	
DH3 Burst width	

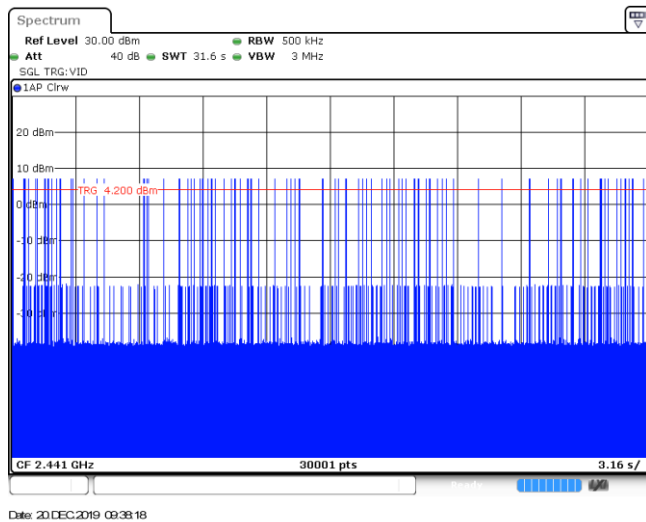
DH3  
Burst number



DH5  
Burst width

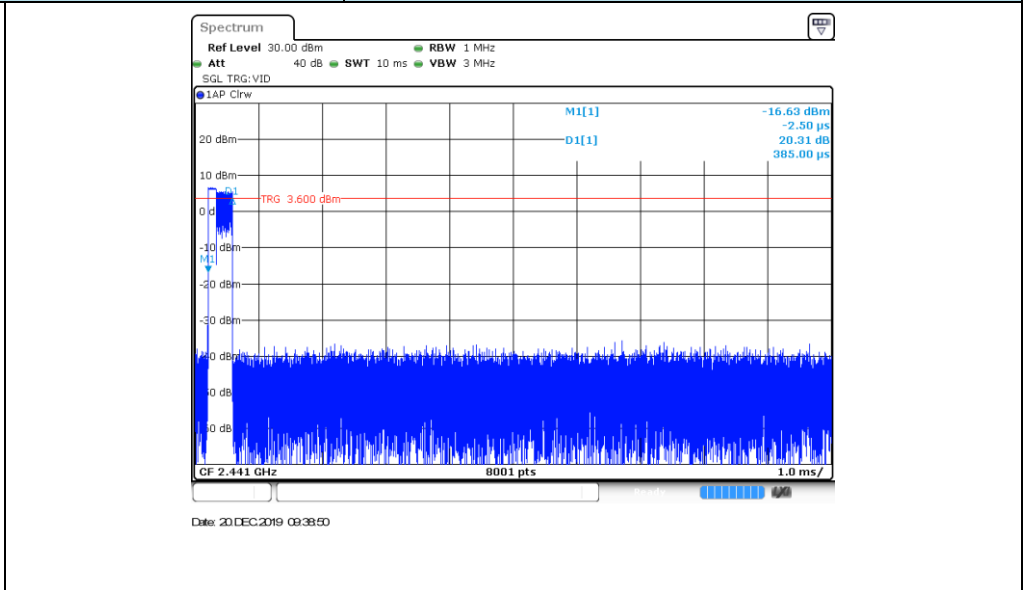


DH5  
Burst number

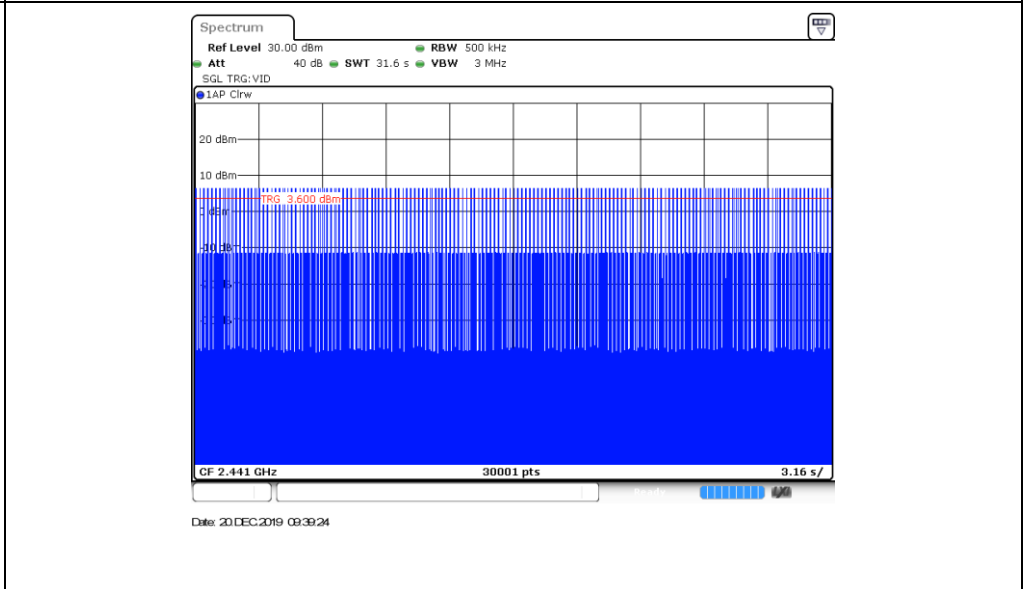


**Modulation Type:**  $\pi/4$ QPSK

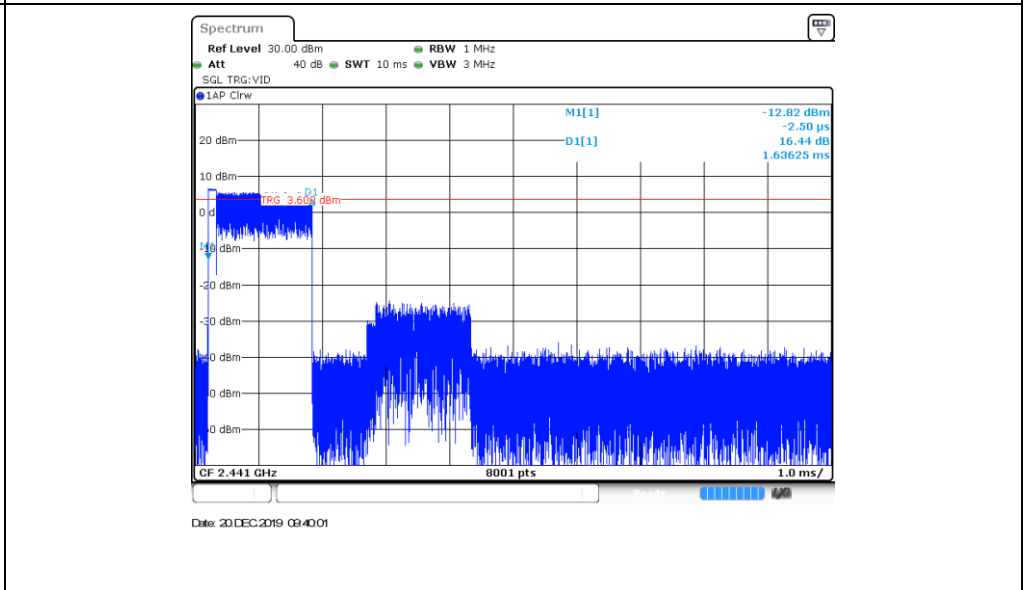
2DH1  
Burst width



2DH1  
Burst number



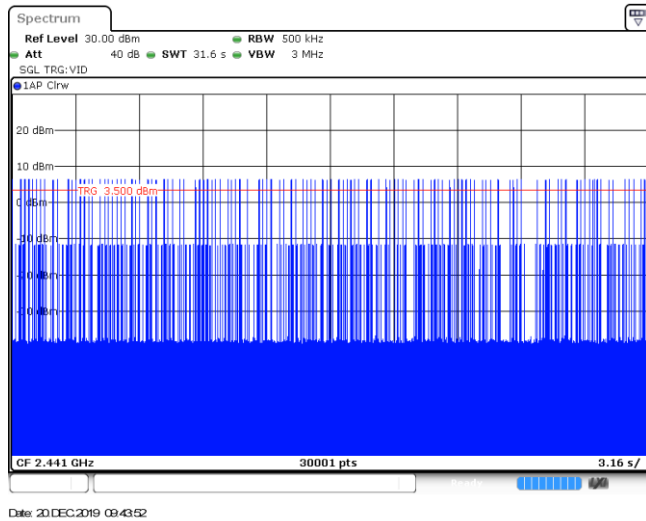
2DH3  
Burst width



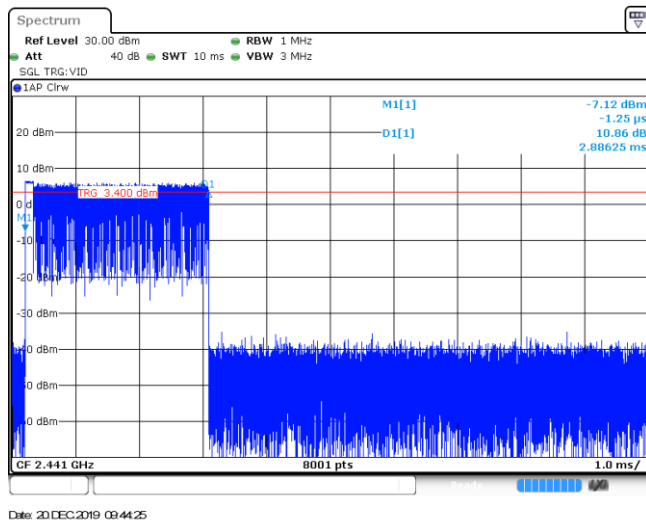
<p>2DH3 Burst number</p>	
<p>2DH5 Burst width</p>	
<p>2DH5 Burst number</p>	

Modulation Type: 8DPSK	
3DH1 Burst width	
3DH1 Burst number	
3DH3 Burst width	

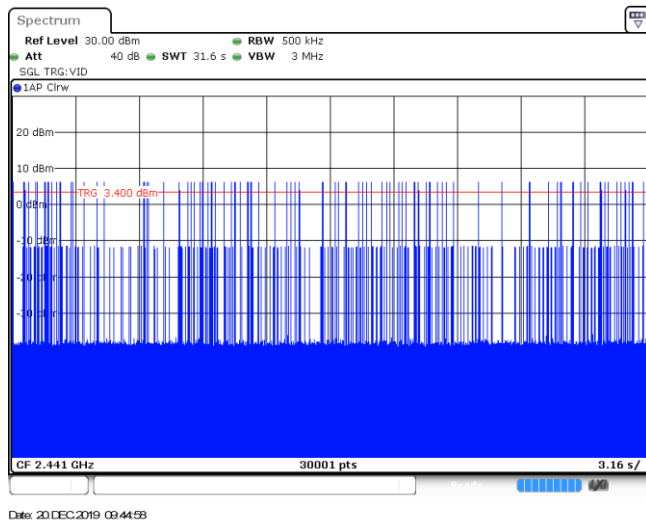
3DH3  
Burst number



3DH5  
Burst width



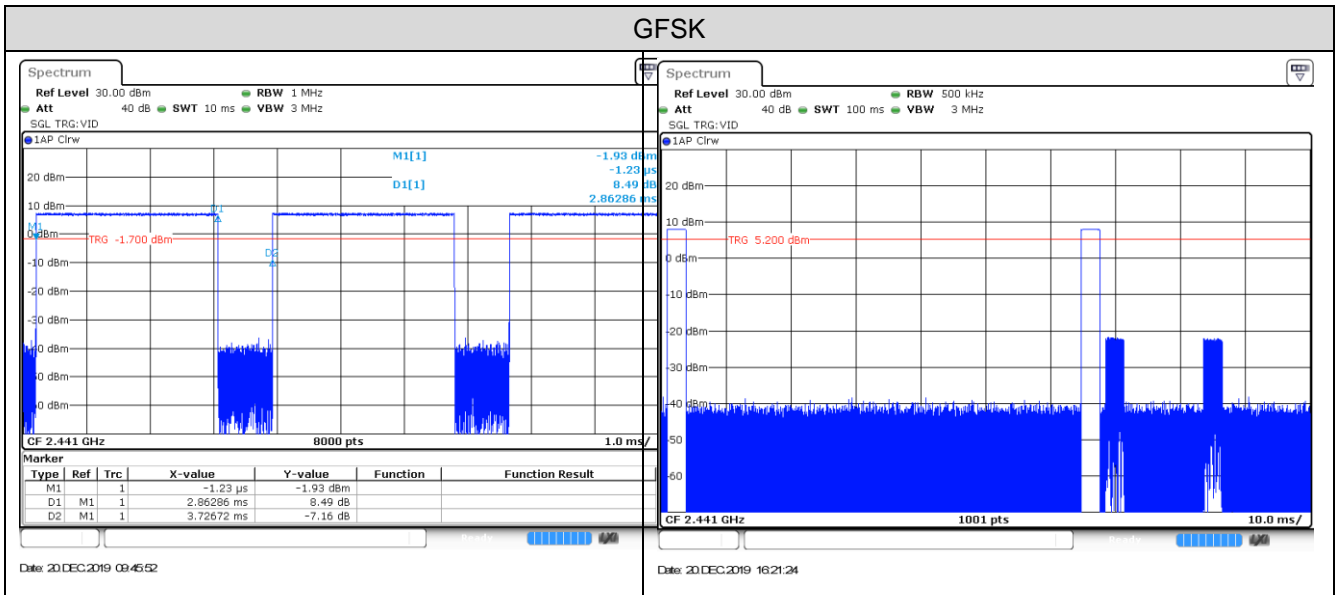
3DH5  
Burst number





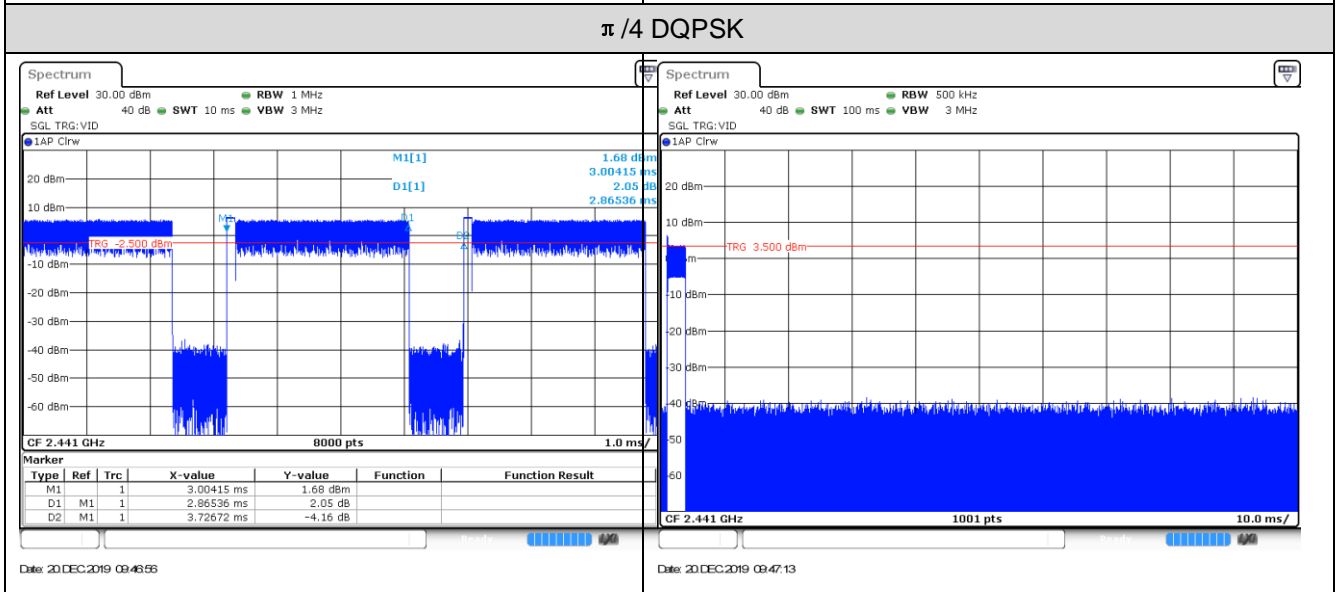
**Appendix G: Duty Cycle Correction Factor (DCCF)**

DCCF Calculate Formula					
DCCF=20 * Log(duty cycle) = 20 * Log( $T_{on\ time} / T_{period}$ )					
Modulation type	Test Frequency (MHz)	$T_{on\ time}$ for single burst [ms]	$T_{period}$ [ms]	Burst Quantity	DCCF [dB]
GFSK	2441	2.86	100	4	-18.83
$\pi/4$ DQPSK	2441	2.87	100	1	-30.84
8DPSK	2441	2.87	100	2	-24.82



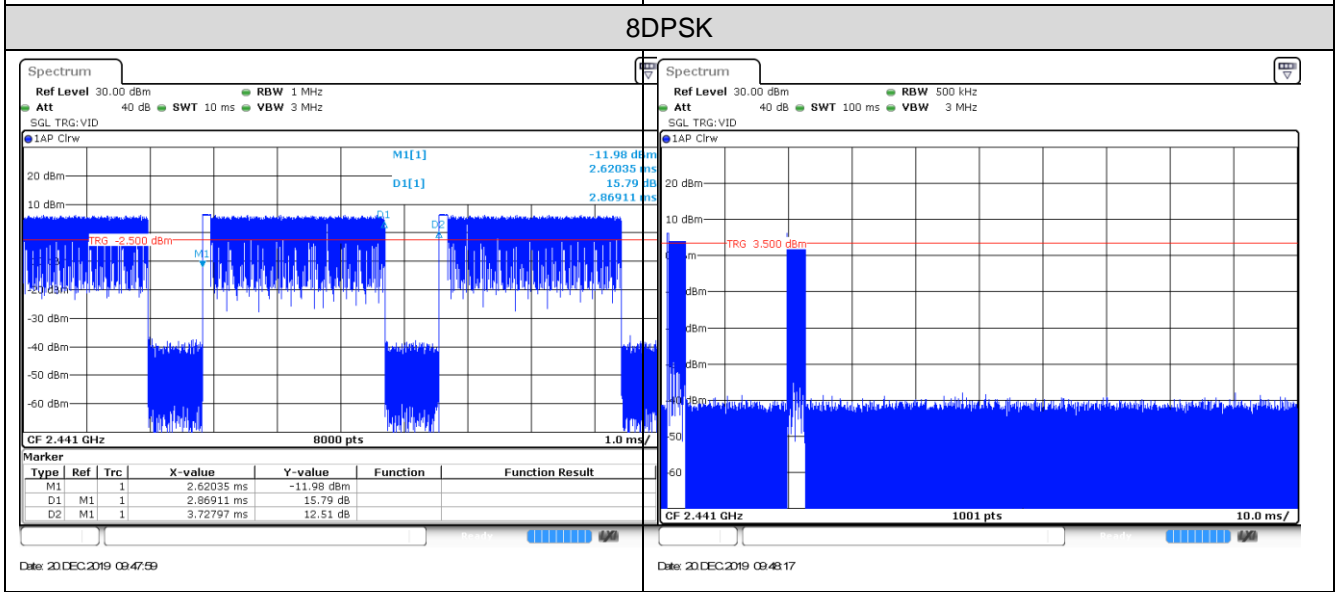
T<sub>on</sub> time for single burst

Burst Quantity



T<sub>on</sub> time for single burst

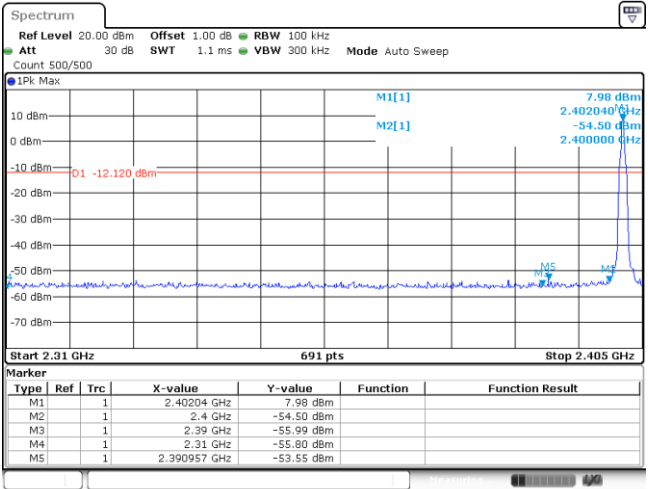
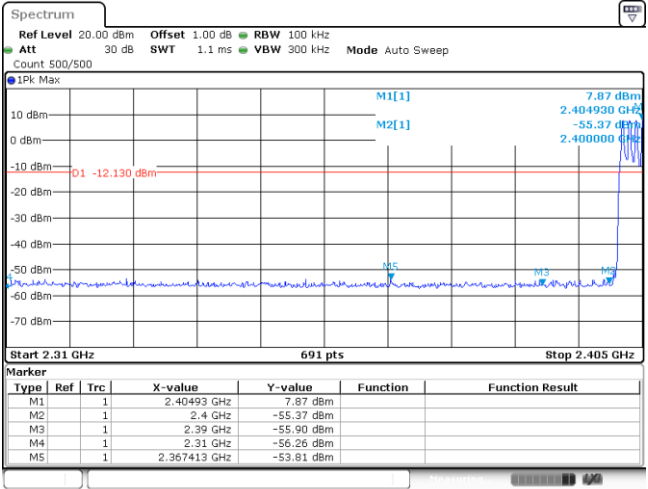
Burst Quantity



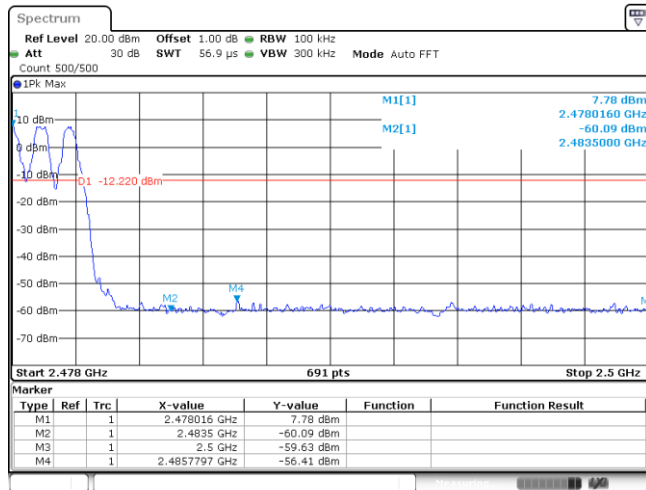
T<sub>on</sub> time for single burst

Burst Quantity

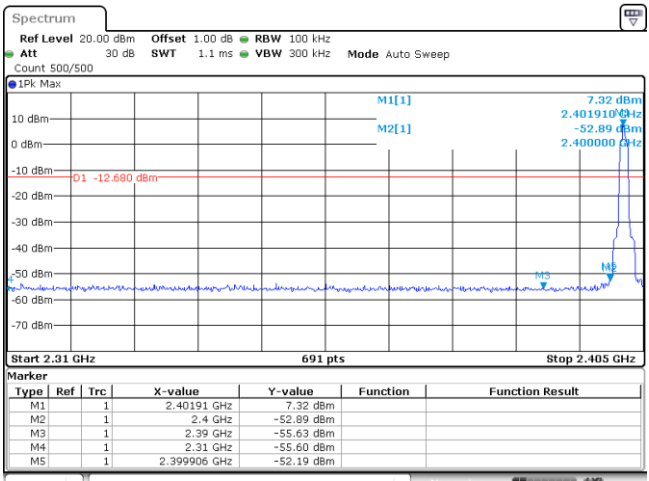
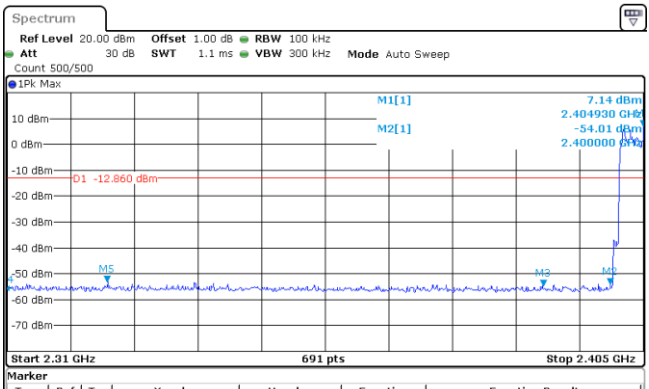
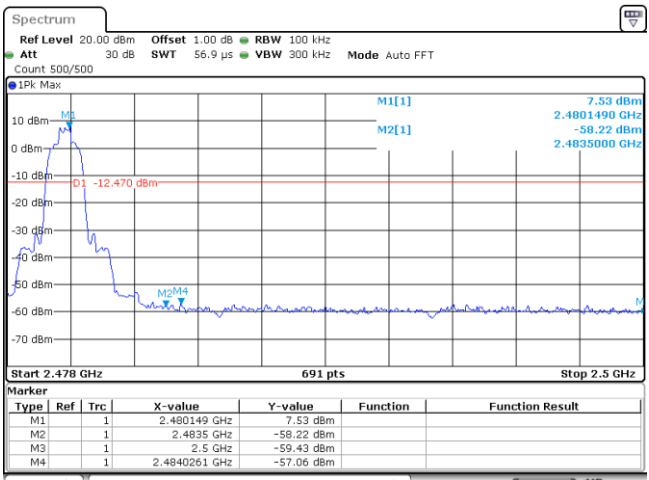
### Appendix H: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Modulation type:	GFSK																																										
<p>CH00 No hopping mode</p>	 <table border="1" data-bbox="687 719 1337 840"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40204 GHz</td> <td>7.98 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-54.50 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-55.99 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-55.80 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.390957 GHz</td> <td>-53.55 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 19 DEC 2019 16:51:16</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40204 GHz	7.98 dBm			M2	1		2.4 GHz	-54.50 dBm			M3	1		2.39 GHz	-55.99 dBm			M4	1		2.31 GHz	-55.80 dBm			M5	1		2.390957 GHz	-53.55 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.40204 GHz	7.98 dBm																																									
M2	1		2.4 GHz	-54.50 dBm																																									
M3	1		2.39 GHz	-55.99 dBm																																									
M4	1		2.31 GHz	-55.80 dBm																																									
M5	1		2.390957 GHz	-53.55 dBm																																									
<p>CH00 Hopping mode</p>	 <table border="1" data-bbox="687 1267 1337 1388"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40493 GHz</td> <td>7.87 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-55.37 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-55.90 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-55.26 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.357413 GHz</td> <td>-53.81 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 20 DEC 2019 09:22:34</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40493 GHz	7.87 dBm			M2	1		2.4 GHz	-55.37 dBm			M3	1		2.39 GHz	-55.90 dBm			M4	1		2.31 GHz	-55.26 dBm			M5	1		2.357413 GHz	-53.81 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.40493 GHz	7.87 dBm																																									
M2	1		2.4 GHz	-55.37 dBm																																									
M3	1		2.39 GHz	-55.90 dBm																																									
M4	1		2.31 GHz	-55.26 dBm																																									
M5	1		2.357413 GHz	-53.81 dBm																																									
<p>CH78 No hopping mode</p>	 <table border="1" data-bbox="687 1832 1337 1937"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.480149 GHz</td> <td>7.86 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-59.29 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-58.38 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4934638 GHz</td> <td>-57.35 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 19 DEC 2019 16:55:02</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.480149 GHz	7.86 dBm			M2	1		2.4835 GHz	-59.29 dBm			M3	1		2.5 GHz	-58.38 dBm			M4	1		2.4934638 GHz	-57.35 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.480149 GHz	7.86 dBm																																									
M2	1		2.4835 GHz	-59.29 dBm																																									
M3	1		2.5 GHz	-58.38 dBm																																									
M4	1		2.4934638 GHz	-57.35 dBm																																									

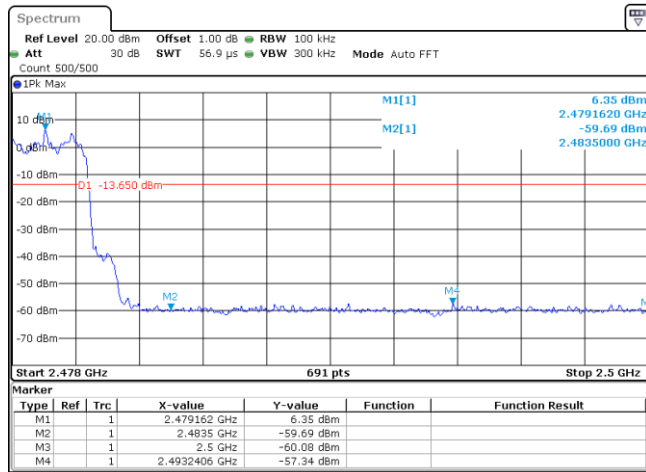
CH78  
Hopping mode



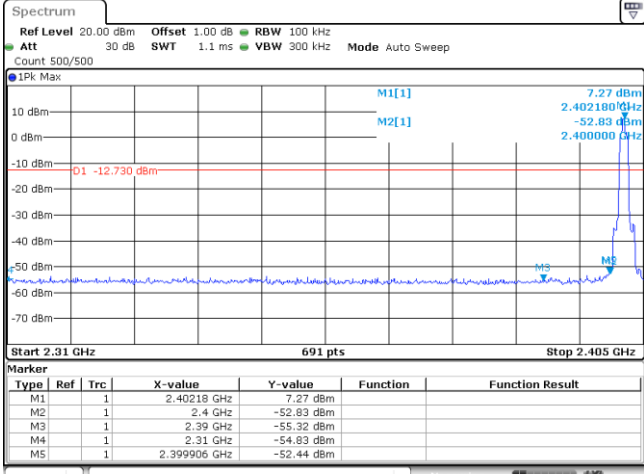
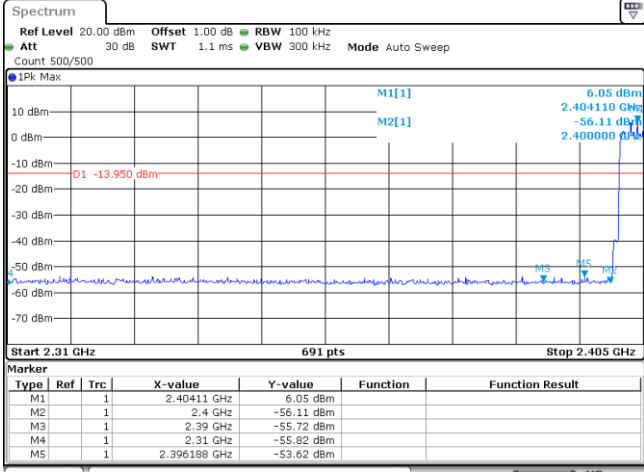
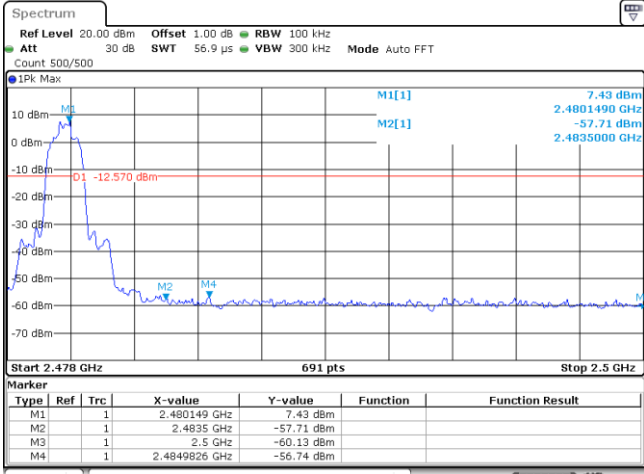
Date: 20 DEC 2019 08:22:48

Test Item:	Band edge	Modulation type:	π/4DQPSK																																										
<p>CH00 No hopping mode</p>	 <p><b>Marker</b></p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40191 GHz</td> <td>7.32 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-52.89 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-55.63 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-55.60 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399906 GHz</td> <td>-52.19 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 19 DEC 2019 16:53:49</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40191 GHz	7.32 dBm			M2	1		2.4 GHz	-52.89 dBm			M3	1		2.39 GHz	-55.63 dBm			M4	1		2.31 GHz	-55.60 dBm			M5	1		2.399906 GHz	-52.19 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.40191 GHz	7.32 dBm																																									
M2	1		2.4 GHz	-52.89 dBm																																									
M3	1		2.39 GHz	-55.63 dBm																																									
M4	1		2.31 GHz	-55.60 dBm																																									
M5	1		2.399906 GHz	-52.19 dBm																																									
<p>CH00 Hopping mode</p>	 <p><b>Marker</b></p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40493 GHz</td> <td>7.14 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-54.01 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-54.77 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-55.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.325007 GHz</td> <td>-52.96 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 20 DEC 2019 03:23:34</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40493 GHz	7.14 dBm			M2	1		2.4 GHz	-54.01 dBm			M3	1		2.39 GHz	-54.77 dBm			M4	1		2.31 GHz	-55.74 dBm			M5	1		2.325007 GHz	-52.96 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.40493 GHz	7.14 dBm																																									
M2	1		2.4 GHz	-54.01 dBm																																									
M3	1		2.39 GHz	-54.77 dBm																																									
M4	1		2.31 GHz	-55.74 dBm																																									
M5	1		2.325007 GHz	-52.96 dBm																																									
<p>CH78 No hopping mode</p>	 <p><b>Marker</b></p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.480149 GHz</td> <td>7.53 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-59.22 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-59.43 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4840261 GHz</td> <td>-57.06 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 19 DEC 2019 17:00:04</p>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.480149 GHz	7.53 dBm			M2	1		2.4835 GHz	-59.22 dBm			M3	1		2.5 GHz	-59.43 dBm			M4	1		2.4840261 GHz	-57.06 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.480149 GHz	7.53 dBm																																									
M2	1		2.4835 GHz	-59.22 dBm																																									
M3	1		2.5 GHz	-59.43 dBm																																									
M4	1		2.4840261 GHz	-57.06 dBm																																									

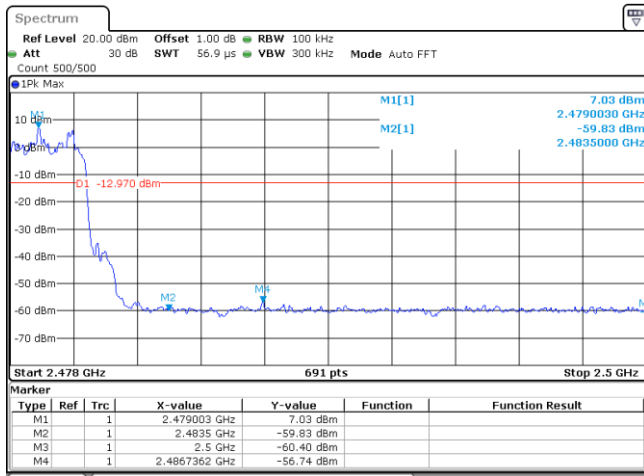
CH78  
Hopping mode



Date: 20 DEC 2019 08:28:48

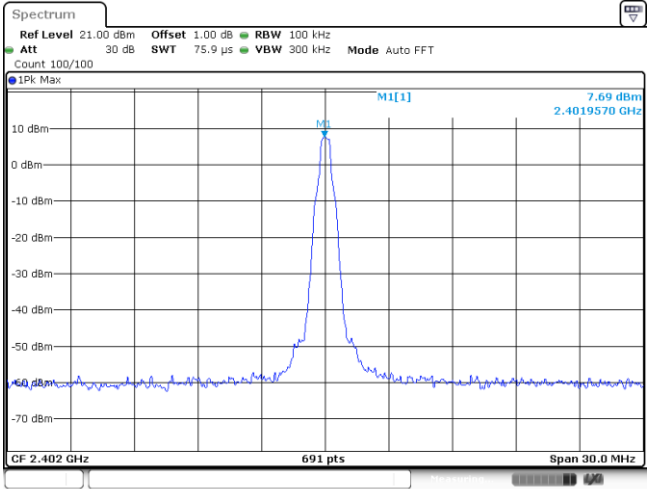
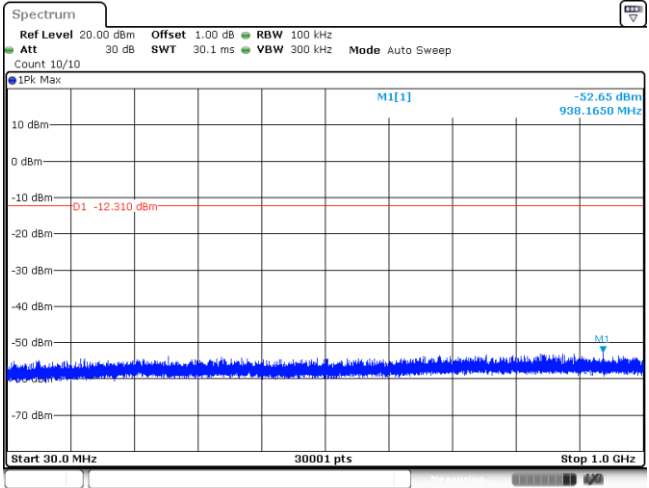
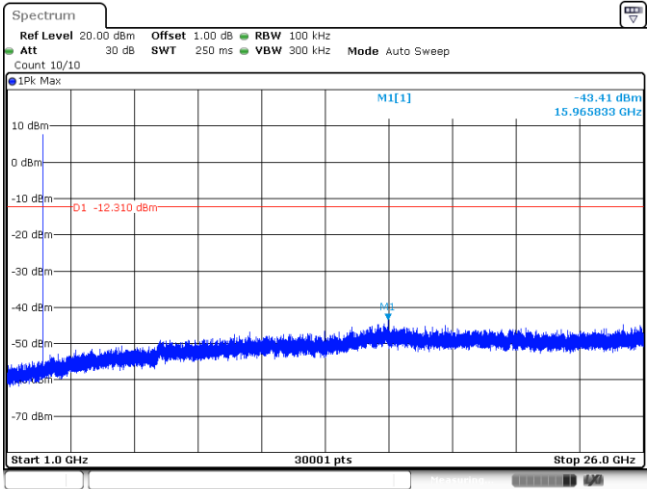
Test Item:	Band edge	Modulation type:	8DPSK																																																
<p>CH00 No hopping mode</p>	 <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 500/500</p> <p>1Pk Max</p> <p>10 dBm M1[1] 7.27 dBm 0 dBm M2[1] 2.402180 GHz -10 dBm D1 -12.730 dBm -20 dBm -30 dBm -40 dBm -50 dBm M3 M4 -60 dBm -70 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.405 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.40218 GHz</td> <td>7.27 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.4 GHz</td> <td>-52.83 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td></td> <td>2.39 GHz</td> <td>-55.32 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td></td> <td>2.31 GHz</td> <td>-54.83 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td></td> <td>2.399906 GHz</td> <td>-52.44 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 19 DEC 2019 17:03:31</p>			Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.40218 GHz	7.27 dBm			M2	1			2.4 GHz	-52.83 dBm			M3	1			2.39 GHz	-55.32 dBm			M4	1			2.31 GHz	-54.83 dBm			M5	1			2.399906 GHz	-52.44 dBm		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																												
M1	1			2.40218 GHz	7.27 dBm																																														
M2	1			2.4 GHz	-52.83 dBm																																														
M3	1			2.39 GHz	-55.32 dBm																																														
M4	1			2.31 GHz	-54.83 dBm																																														
M5	1			2.399906 GHz	-52.44 dBm																																														
<p>CH00 Hopping mode</p>	 <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 500/500</p> <p>1Pk Max</p> <p>10 dBm M1[1] 6.05 dBm 0 dBm M2[1] 2.404110 GHz -10 dBm D1 -13.950 dBm -20 dBm -30 dBm -40 dBm -50 dBm M3 M4 M5 -60 dBm -70 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.405 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.40411 GHz</td> <td>6.05 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.4 GHz</td> <td>-56.11 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td></td> <td>2.39 GHz</td> <td>-55.72 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td></td> <td>2.31 GHz</td> <td>-55.82 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td></td> <td>2.396188 GHz</td> <td>-53.62 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 20 DEC 2019 09:33:12</p>			Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.40411 GHz	6.05 dBm			M2	1			2.4 GHz	-56.11 dBm			M3	1			2.39 GHz	-55.72 dBm			M4	1			2.31 GHz	-55.82 dBm			M5	1			2.396188 GHz	-53.62 dBm		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																												
M1	1			2.40411 GHz	6.05 dBm																																														
M2	1			2.4 GHz	-56.11 dBm																																														
M3	1			2.39 GHz	-55.72 dBm																																														
M4	1			2.31 GHz	-55.82 dBm																																														
M5	1			2.396188 GHz	-53.62 dBm																																														
<p>CH78 No hopping mode</p>	 <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 56.9 μs VBW 300 kHz Mode Auto FFT Count 500/500</p> <p>1Pk Max</p> <p>10 dBm M1 7.43 dBm 0 dBm M2[1] 2.4801490 GHz -10 dBm D1 -12.570 dBm -20 dBm -30 dBm -40 dBm M2 M4 -50 dBm -60 dBm -70 dBm</p> <p>Start 2.478 GHz 691 pts Stop 2.5 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.480149 GHz</td> <td>7.43 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.4835 GHz</td> <td>-57.71 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td></td> <td>2.5 GHz</td> <td>-60.13 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td></td> <td>2.4849826 GHz</td> <td>-56.74 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 20 DEC 2019 09:19:45</p>			Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.480149 GHz	7.43 dBm			M2	1			2.4835 GHz	-57.71 dBm			M3	1			2.5 GHz	-60.13 dBm			M4	1			2.4849826 GHz	-56.74 dBm										
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																												
M1	1			2.480149 GHz	7.43 dBm																																														
M2	1			2.4835 GHz	-57.71 dBm																																														
M3	1			2.5 GHz	-60.13 dBm																																														
M4	1			2.4849826 GHz	-56.74 dBm																																														

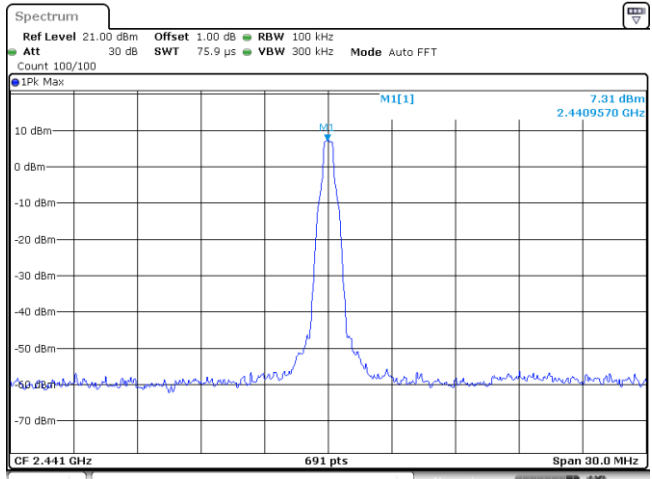
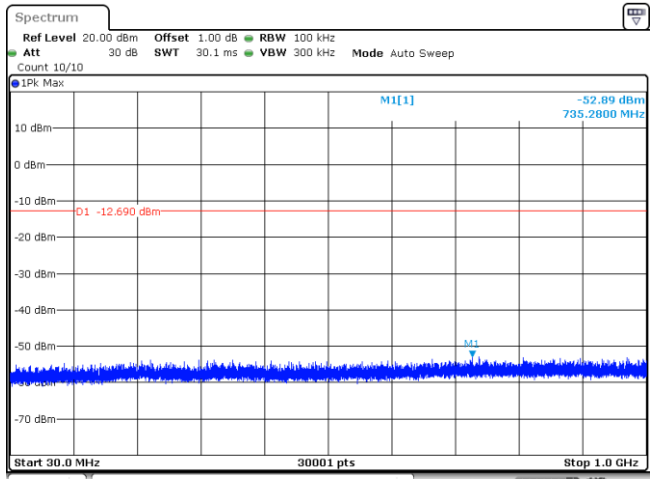
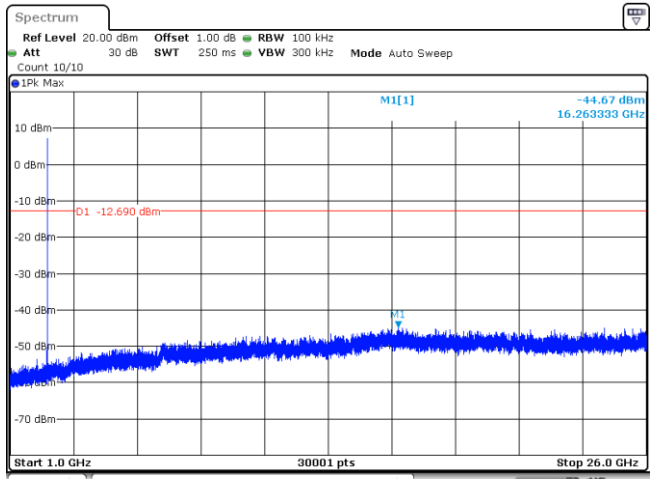
CH78  
Hoppig mode



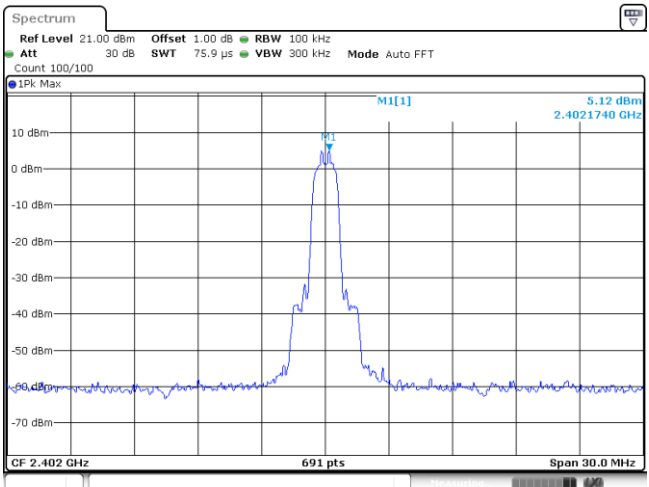
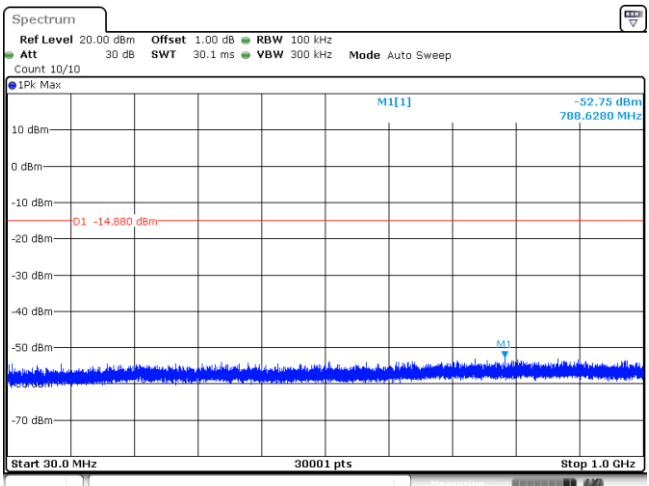
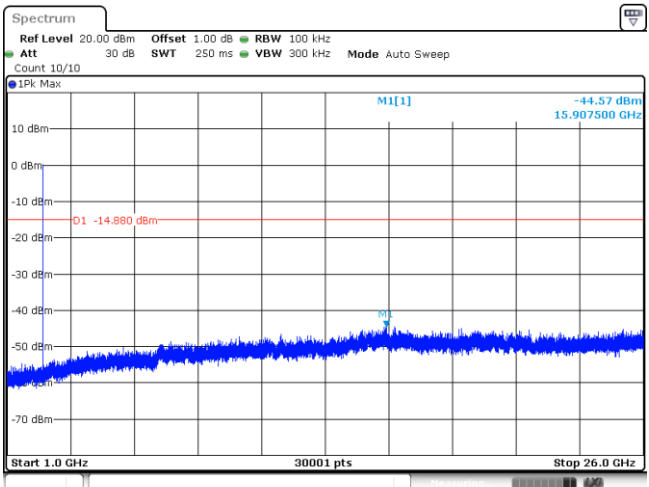
Date: 20 DEC 2019 08:33:26



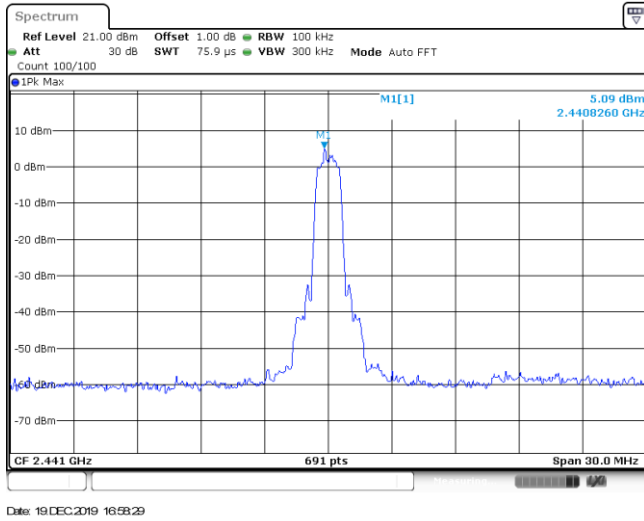
Test Item:	Spurious Emission	Modulation type:	GFSK
<p>CH00 Reference level</p>	 <p>Date: 19 DEC 2019 16:51:22</p>		
<p>CH00 30MHz~1000MHz</p>	 <p>Date: 19 DEC 2019 16:51:33</p>		
<p>CH00 1GHz~26GHz</p>	 <p>Date: 19 DEC 2019 16:51:54</p>		

<p>CH39 Reference level</p>	 <p>Date: 19 DEC 2019 16:53:09</p>
<p>CH39 30MHz~1000MHz</p>	 <p>Date: 19 DEC 2019 16:53:23</p>
<p>CH39 1GHz~26GHz</p>	 <p>Date: 19 DEC 2019 16:53:30</p>

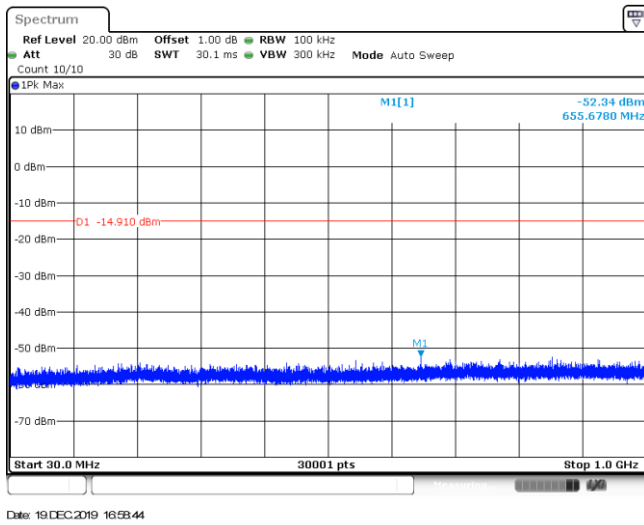
<p>CH78 Reference level</p>	<p>7.33 dBm 2.4799130 GHz</p> <p>CF 2.48 GHz 691 pts Span 30.0 MHz</p> <p>Date: 19 DEC 2019 16:55:09</p>
<p>CH78 30MHz~1000MHz</p>	<p>-12.670 dBm</p> <p>-52.61 dBm 827.3940 MHz</p> <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 19 DEC 2019 16:55:25</p>
<p>CH78 1GHz~26GHz</p>	<p>-12.670 dBm</p> <p>-44.29 dBm 16.333333 GHz</p> <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 19 DEC 2019 16:55:41</p>

Test Item:	Spurious Emission	Modulation type:	π/4DQPSK
<p>CH00 Reference level</p>	 <p>CF 2.402 GHz 691 pts Span 30.0 MHz</p> <p>Date: 19 DEC 2019 16:58:55</p>		
<p>CH00 30MHz~1000MHz</p>	 <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 19 DEC 2019 16:57:12</p>		
<p>CH00 1GHz~26GHz</p>	 <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 19 DEC 2019 16:57:28</p>		

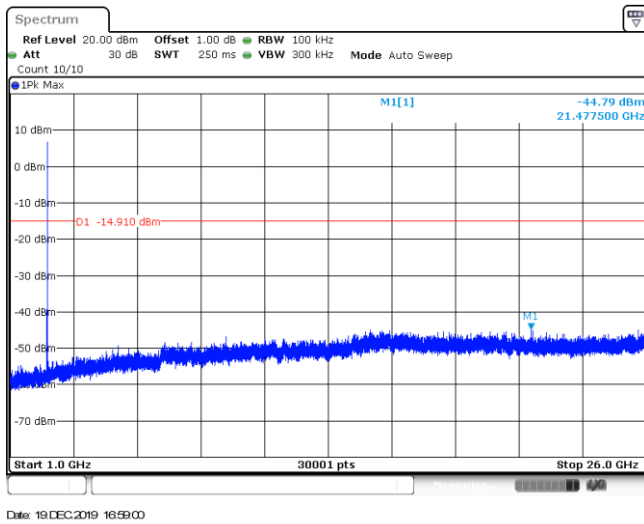
CH39  
Reference level

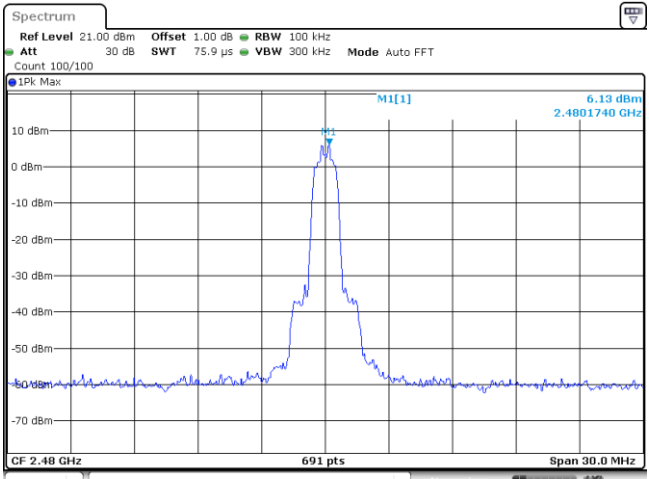
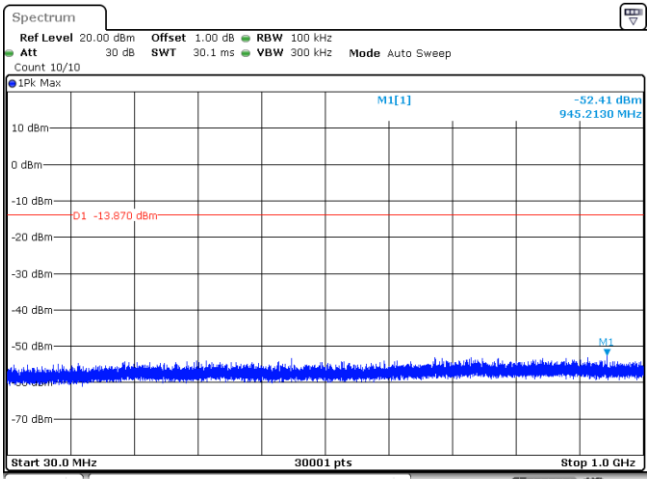
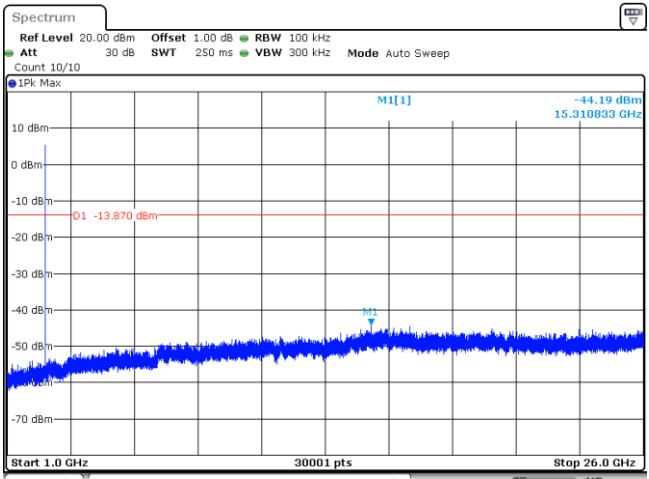


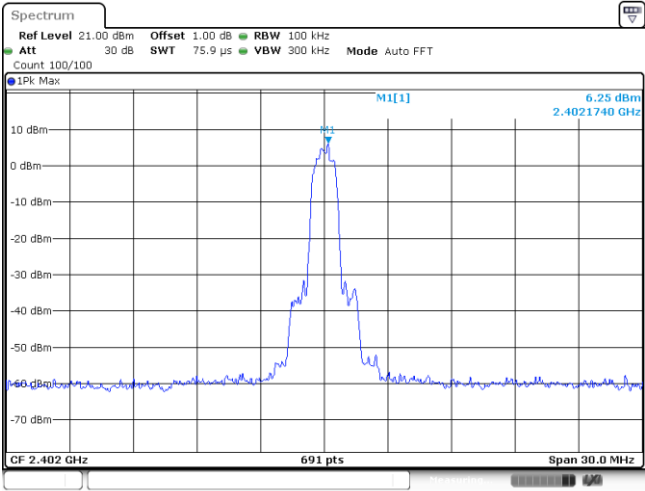
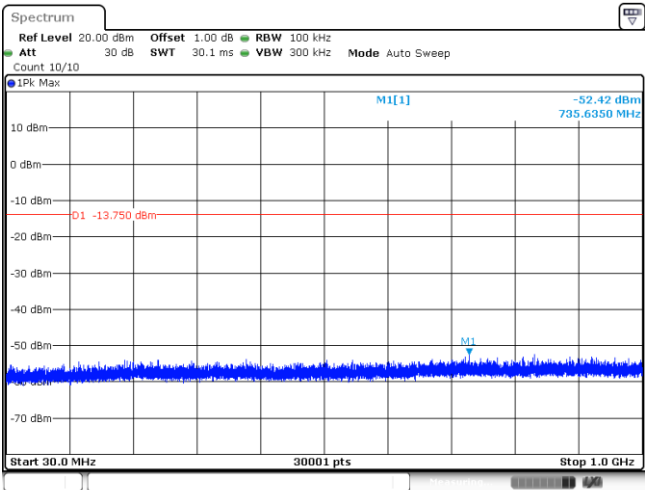
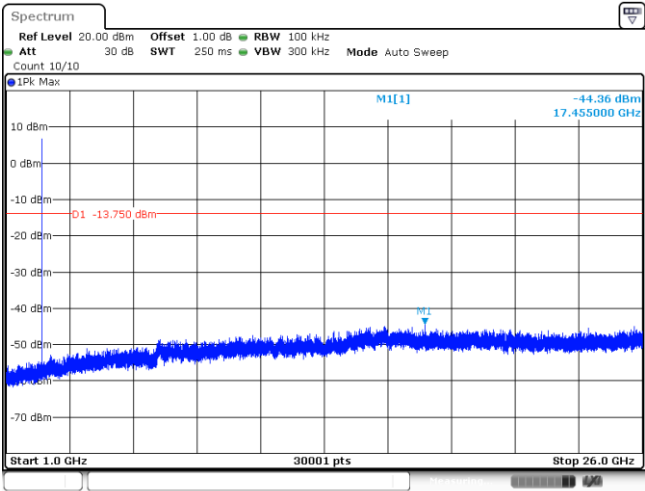
CH39  
30MHz~1000MHz



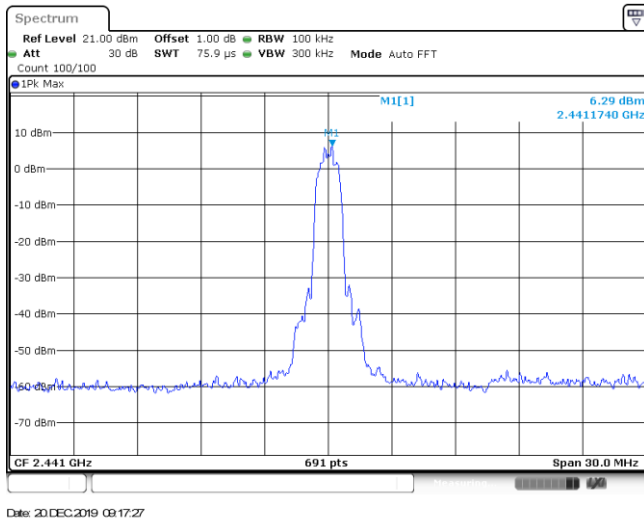
CH39  
1GHz~26GHz



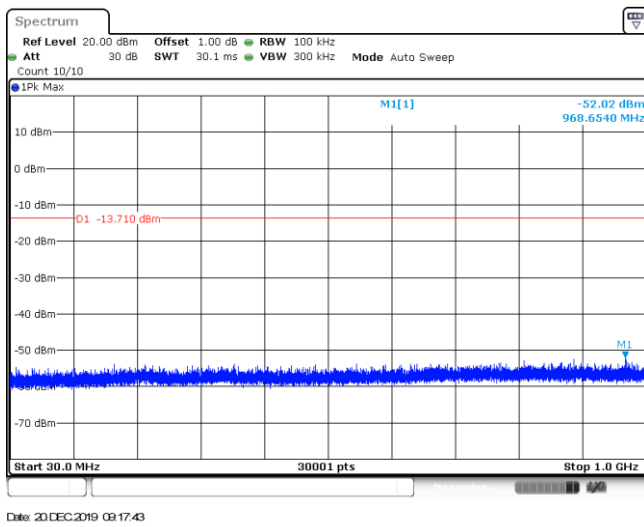
<p>CH78 Reference level</p>	 <p>Spectrum              Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz              Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT              Count 100/100              IPK Max              M1[1] 6.13 dBm 2.4801740 GHz              CF 2.48 GHz 691 pts Span 30.0 MHz              Date: 19 DEC 2019 17:00:10</p>
<p>CH78 30MHz~1000MHz</p>	 <p>Spectrum              Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz              Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweep              Count 10/10              IPK Max              M1[1] -52.41 dBm 945.2130 MHz              D1 -13.870 dBm              Start 30.0 MHz 30001 pts Stop 1.0 GHz              Date: 19 DEC 2019 17:00:25</p>
<p>CH78 1GHz~26GHz</p>	 <p>Spectrum              Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz              Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep              Count 10/10              IPK Max              M1[1] -44.19 dBm 15.310833 GHz              D1 -13.870 dBm              Start 1.0 GHz 30001 pts Stop 26.0 GHz              Date: 19 DEC 2019 17:00:42</p>

Test Item:	Spurious Emission	Modulation type:	8DPSK
<p>CH00 Reference level</p>	 <p>1Pk Max: 6.25 dBm 2.4021740 GHz</p> <p>CF 2.402 GHz 691 pts Span 30.0 MHz</p> <p>Date: 19 DEC 2019 17:03:37</p>		
<p>CH00 30MHz~1000MHz</p>	 <p>1Pk Max: -52.42 dBm 735.6350 MHz</p> <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 19 DEC 2019 17:03:53</p>		
<p>CH00 1GHz~26GHz</p>	 <p>1Pk Max: -44.36 dBm 17.455000 GHz</p> <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 19 DEC 2019 17:04:09</p>		

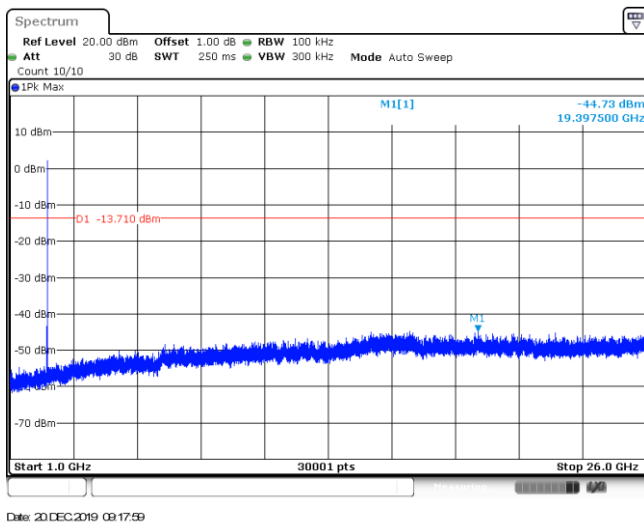
CH39  
Reference level



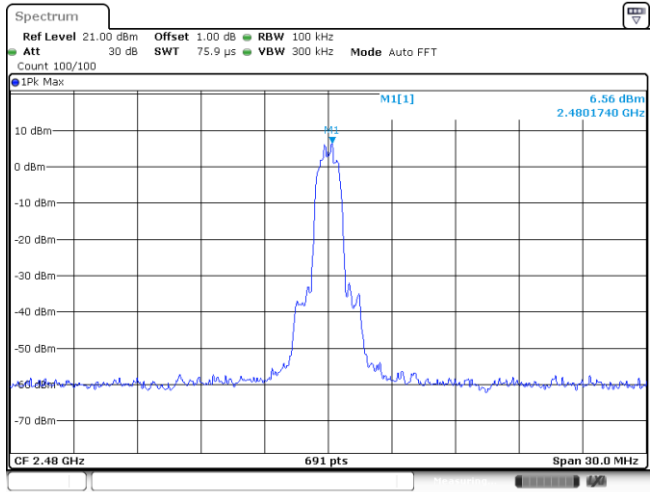
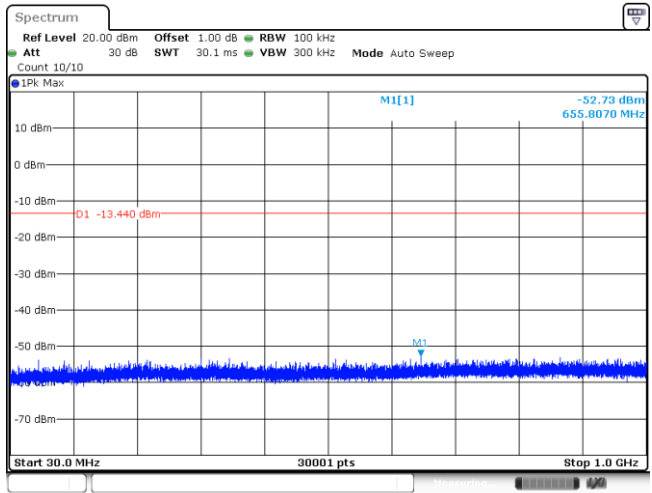
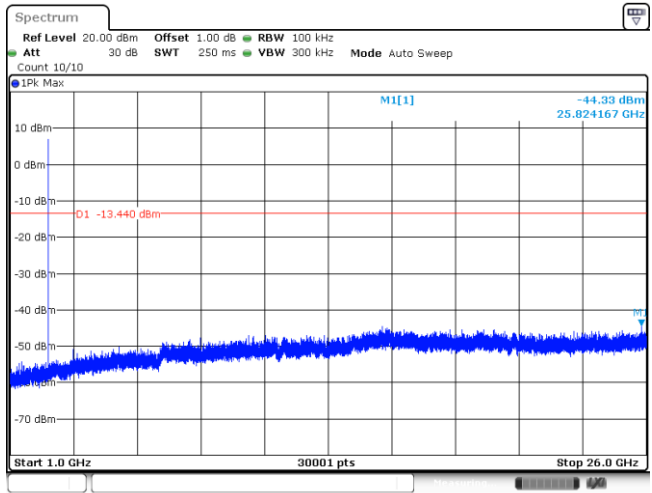
CH39  
30MHz~1000MHz



CH39  
1GHz~26GHz





<p>CH78 Reference level</p>	 <p>Date: 20 DEC 2019 08:19:52</p>
<p>CH78 30MHz~1000MHz</p>	 <p>Date: 20 DEC 2019 09:20:07</p>
<p>CH78 1GHz~26GHz</p>	 <p>Date: 20 DEC 2019 09:20:23</p>

-----End of Report-----