Appendix F: Test Data for E-UTRA Band 13

Product Name: Cellular Wi-Fi Router

Trade Mark: Connecting things Hongdian

Test Model: H8951-NA

Environmental Conditions

Temperature:	24.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Li Huan
Supervised by:	Tom.Liu

F.1: Effective (Isotropic) Radiated Power Output Data

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	23.91	23.15	PASS
		1	12	24.08	23.51	PASS
		1	24	**24.19**	23.43	PASS
		12	0	23.03	21.98	PASS
		12	6	23.03	22.14	PASS
		12	13	23.05	22.27	PASS
		25	0	23.05	22.37	PASS
	MCH	1	0	24.29	23.68	PASS
		1	12	**24.69**	24.11	PASS
		1	24	24.38	23.85	PASS
		12	0	23.25	22.37	PASS
		12	6	23.51	22.61	PASS
		12	13	23.52	22.55	PASS
		25	0	23.26	22.21	PASS
	HCH	1	0	24.59	22.68	PASS
		1	12	**24.71**	22.95	PASS

		1	24	24.59	22.67	PASS
		12	0	23.39	22.34	PASS
		12	6	23.62	22.59	PASS
		12	13	23.44	22.53	PASS
		25	0	23.48	22.61	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	MCH	1	0	23.86	23.25	PASS
		1	24	24.60	24.12	PASS
		1	49	24.62	24.14	PASS
		25	0	23.19	22.23	PASS
		25	12	23.45	22.43	PASS
		25	25	23.51	22.55	PASS
		50	0	23.41	22.47	PASS

F.2: Peak-to-Average Ratio

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio	Limit	Verdict
		Size	Offset	[dB]	[dB]	
QPSK	LCH	1	0	2.72	<13	PASS
		1	12	2.7	<13	PASS
		1	24	3.46	<13	PASS
		12	0	3.43	<13	PASS
		12	6	3.52	<13	PASS
		12	13	3.96	<13	PASS
		25	0	4.35	<13	PASS
	MCH	1	0	2.92	<13	PASS
		1	12	3.38	<13	PASS
		1	24	3.73	<13	PASS
		12	0	4.08	<13	PASS
		12	6	4.15	<13	PASS
		12	13	4.45	<13	PASS
		25	0	4.74	<13	PASS
	HCH	1	0	3.68	<13	PASS
		1	12	3.36	<13	PASS
		1	24	3.09	<13	PASS
		12	0	4.45	<13	PASS
		12	6	4.24	<13	PASS
		12	13	4.09	<13	PASS
		25	0	4.7	<13	PASS
16QAM	LCH	1	0	3.44	<13	PASS
		1	12	3.59	<13	PASS
		1	24	4.31	<13	PASS
		12	0	4.5	<13	PASS
		12	6	4.69	<13	PASS
		12	13	5.03	<13	PASS
		25	0	5.14	<13	PASS
	MCH	1	0	3.82	<13	PASS
		1	12	4.26	<13	PASS
		1	24	5.12	<13	PASS
		12	0	5.08	<13	PASS
		12	6	5.1	<13	PASS

		12	13	5.37	<13	PASS
		25	0	5.63	<13	PASS
	HCH	1	0	4.59	<13	PASS
		1	12	4.35	<13	PASS
		1	24	3.98	<13	PASS
		12	0	5.4	<13	PASS
		12	6	5.18	<13	PASS
		12	13	5.05	<13	PASS
		25	0	5.54	<13	PASS

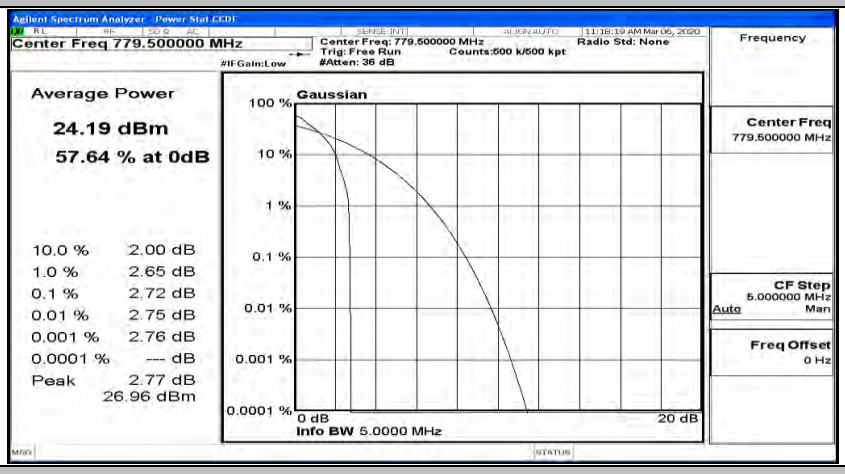
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio	Limit	Verdict
		Size	Offset	[dB]	[dB]	
QPSK	MCH	1	0	2.83	<13	PASS
		1	24	3.39	<13	PASS
		1	49	2.94	<13	PASS
		25	0	4.05	<13	PASS
		25	12	4.28	<13	PASS
		25	25	4.46	<13	PASS
		50	0	4.65	<13	PASS
16QAM	MCH	1	0	3.24	<13	PASS
		1	24	3.91	<13	PASS
		1	49	3.84	<13	PASS
		25	0	4.95	<13	PASS
		25	12	5.23	<13	PASS
		25	25	5.41	<13	PASS
		50	0	5.5	<13	PASS

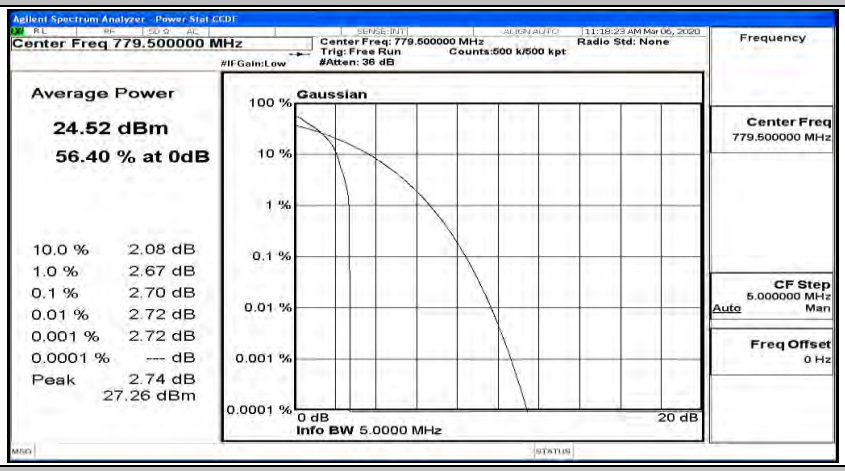
Test Graphs

Channel Bandwidth: 5 MHz

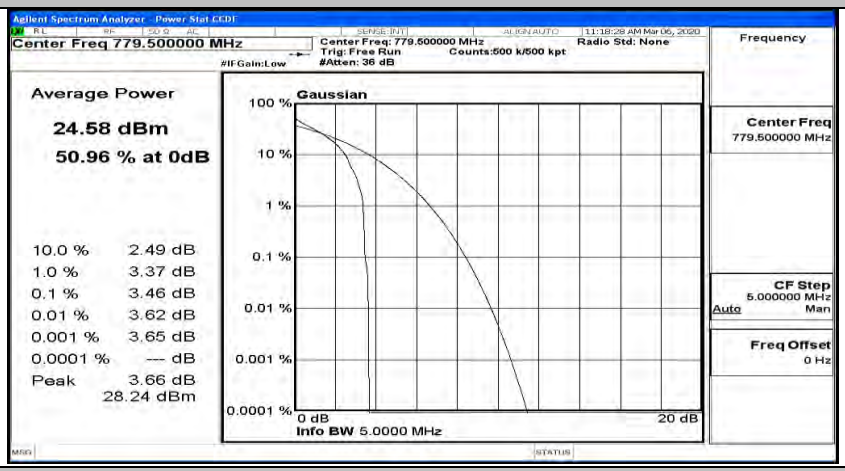
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



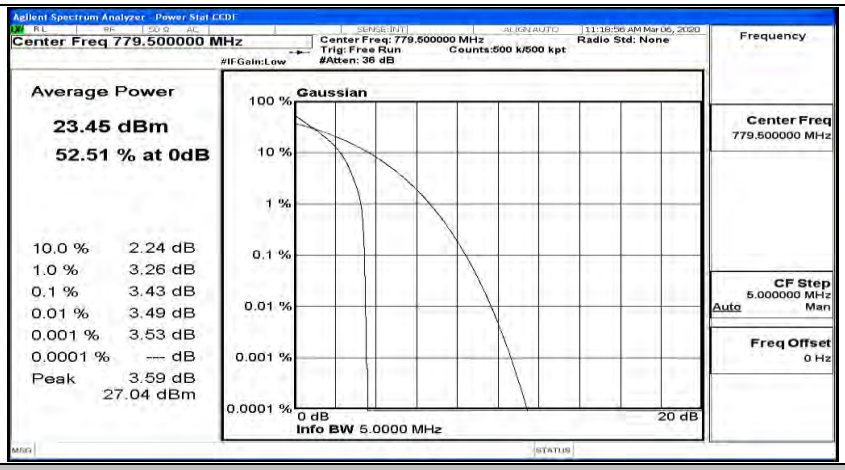
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



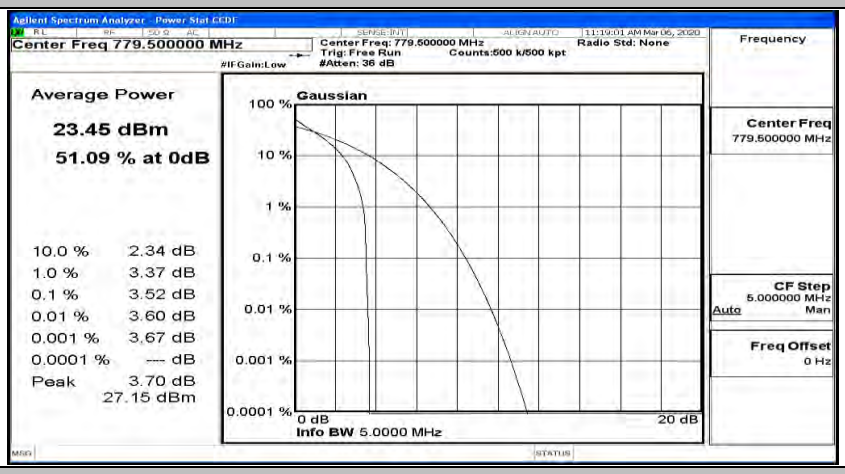
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



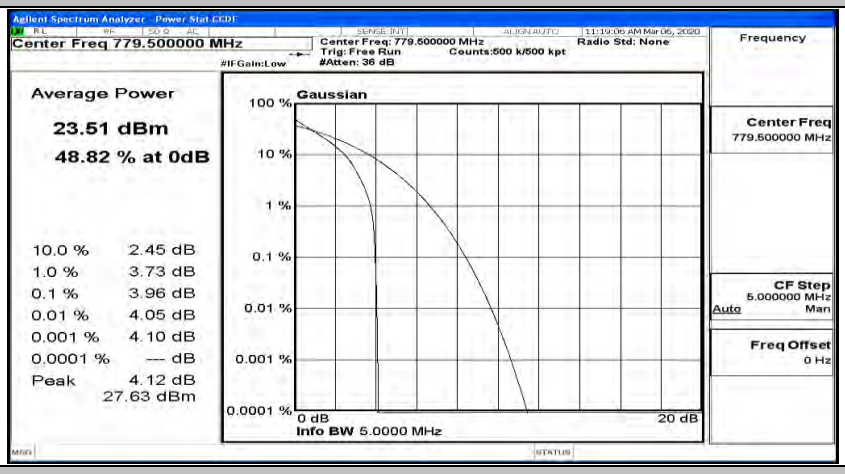
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



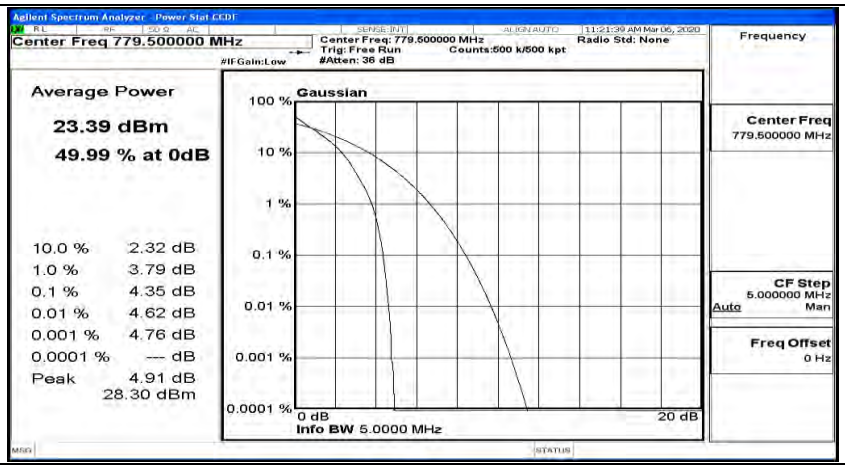
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



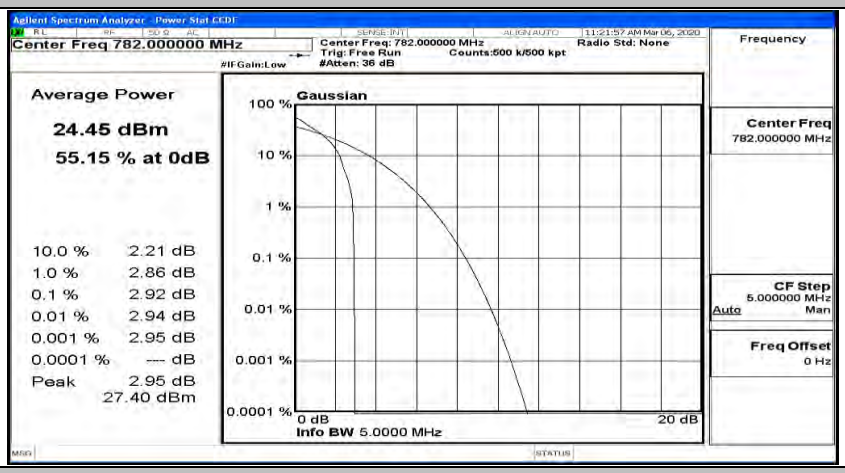
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13



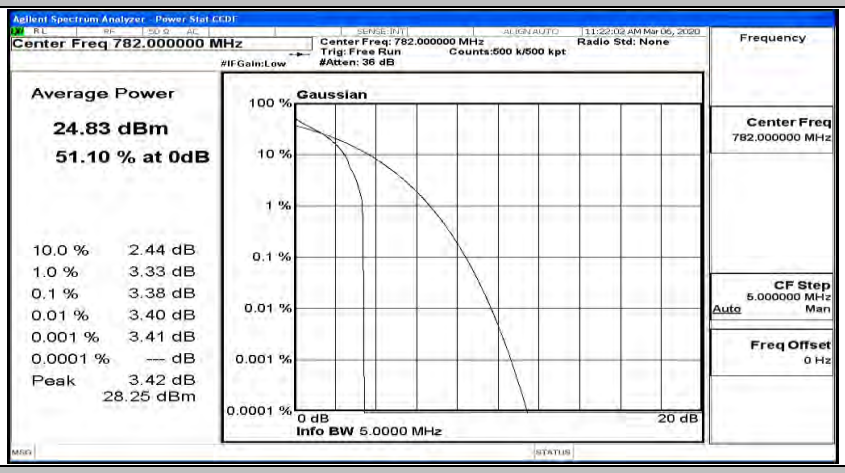
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



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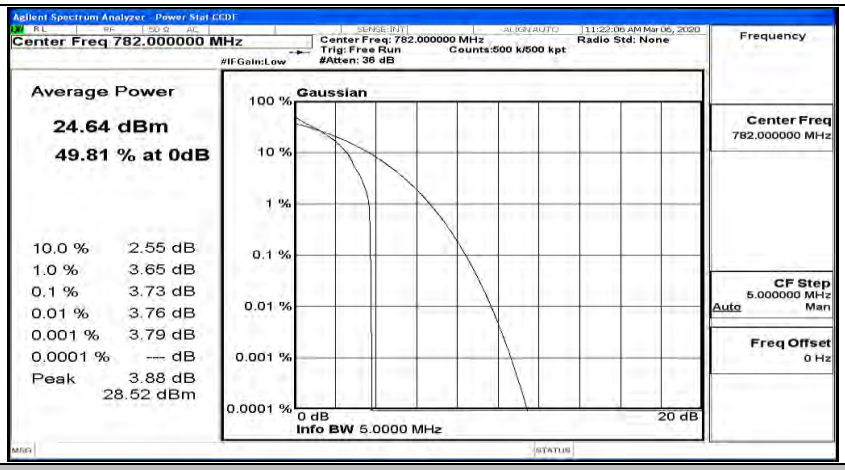
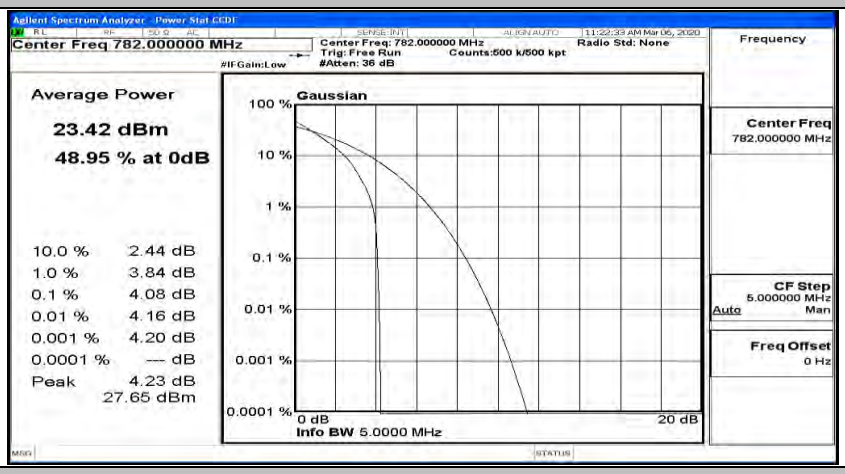
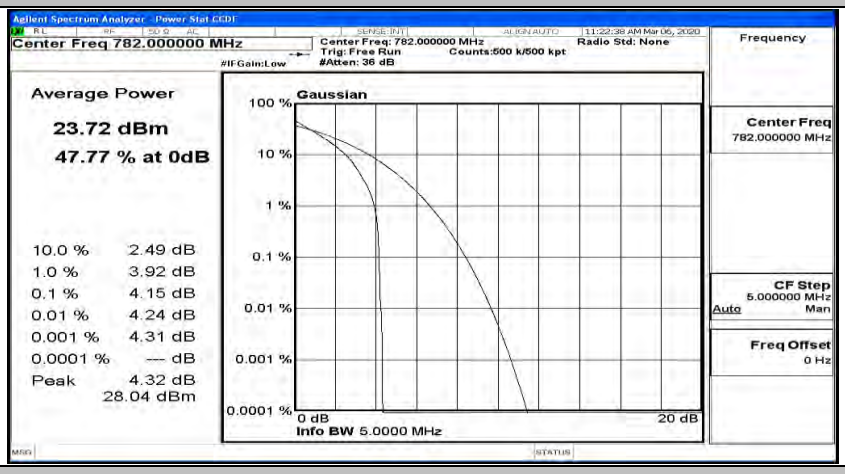


(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#0



(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#6



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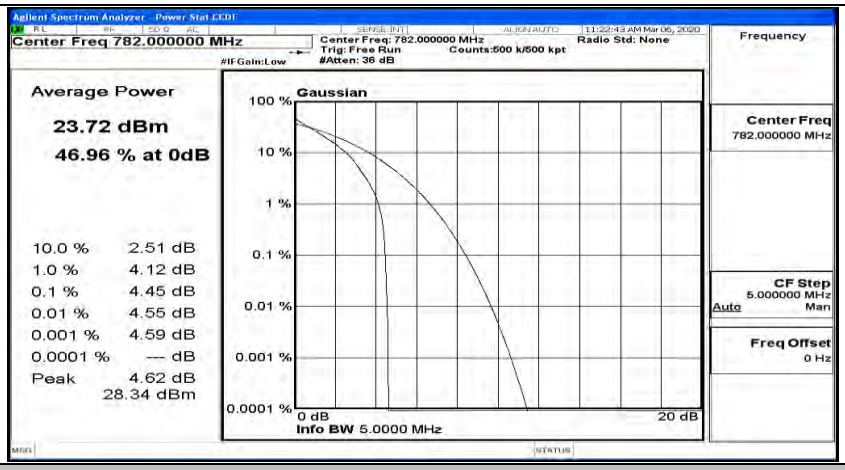
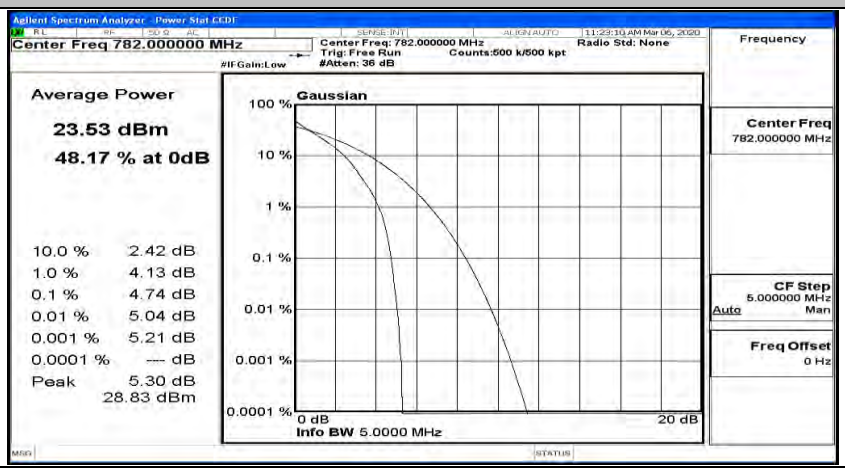
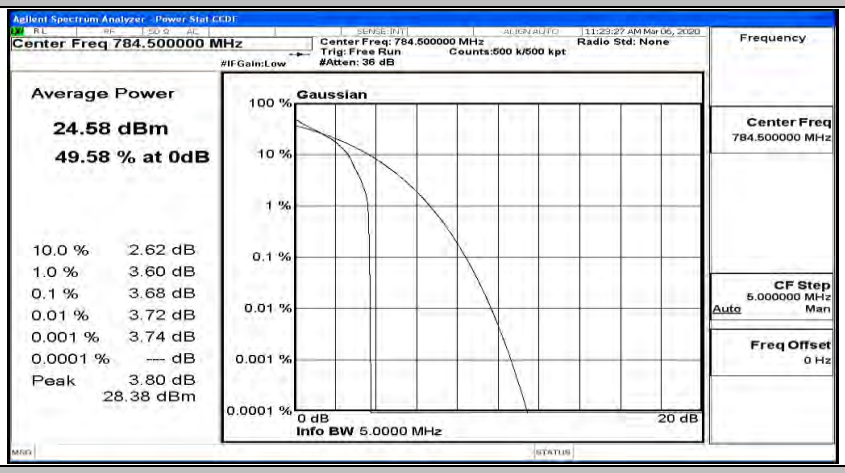


(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



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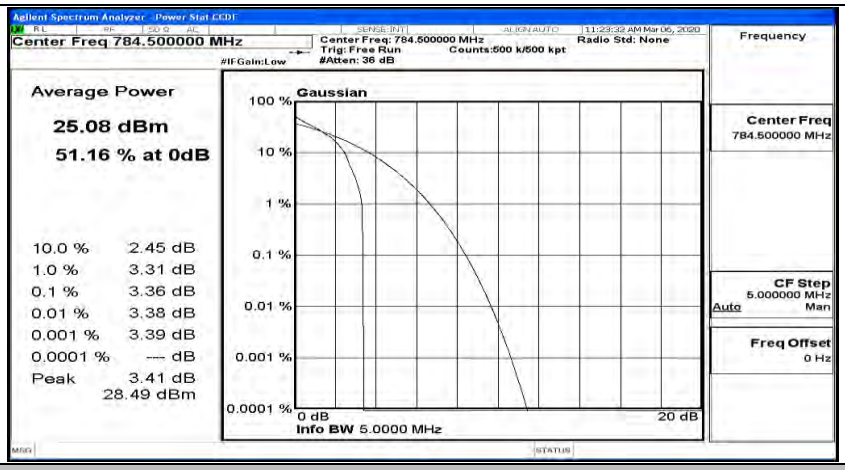

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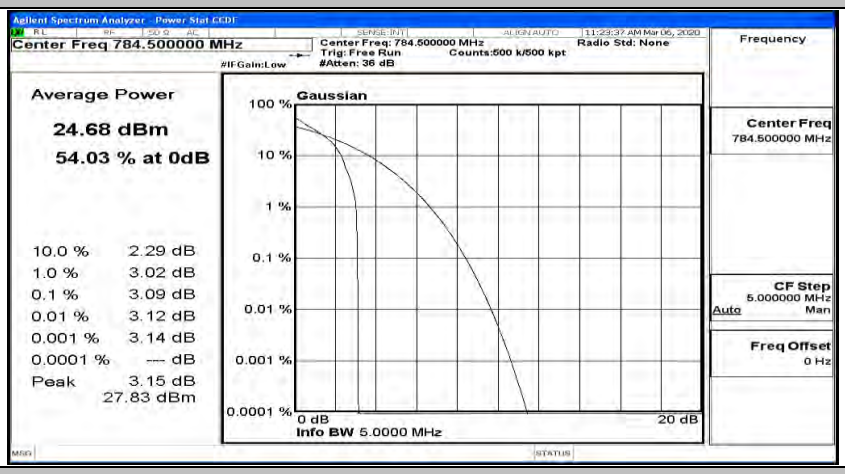
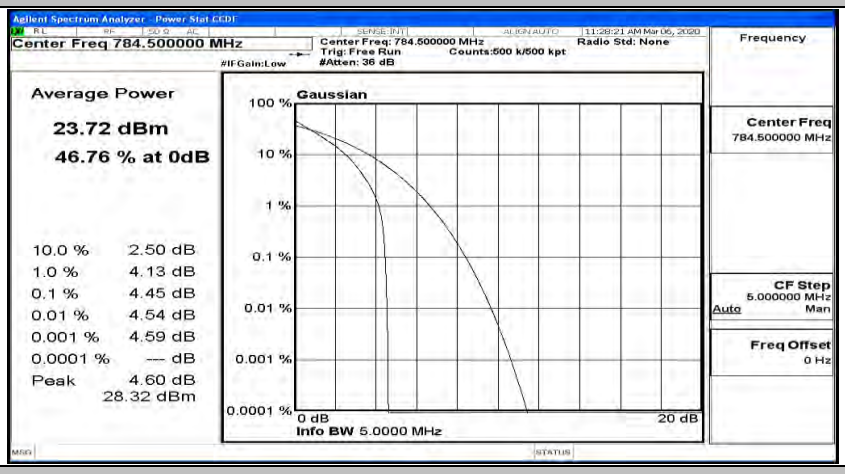
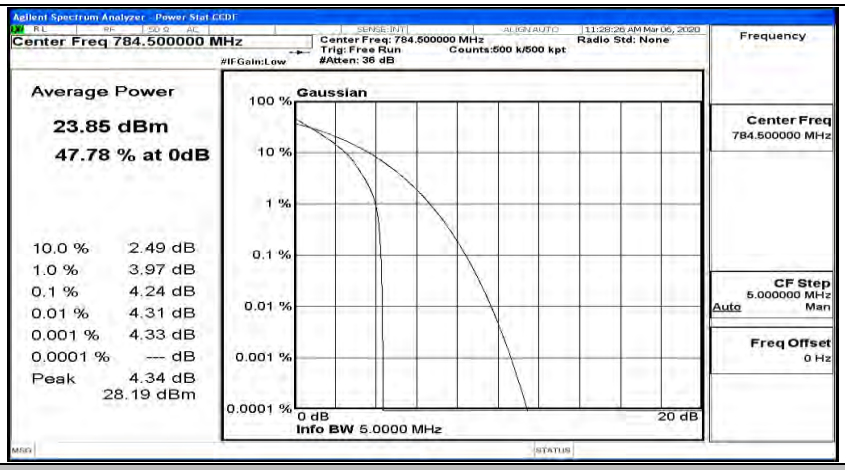


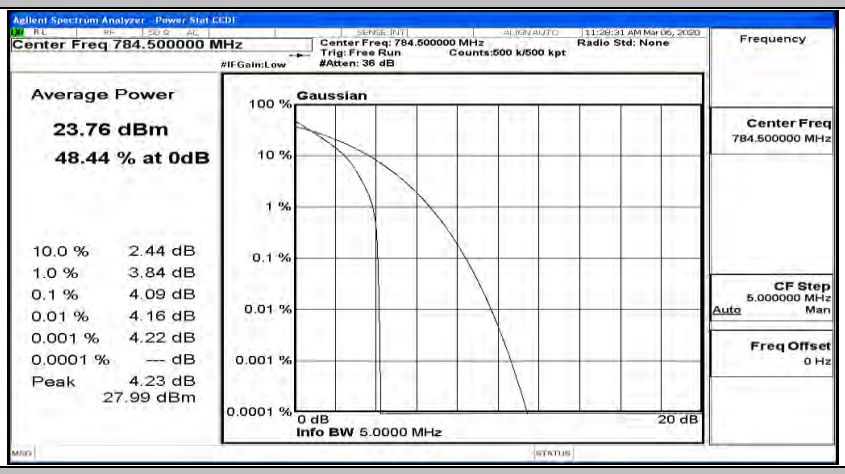
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6



(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13



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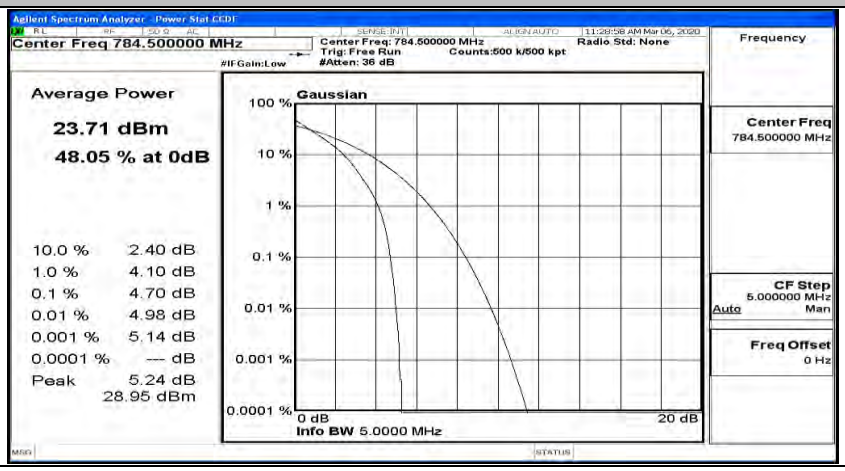
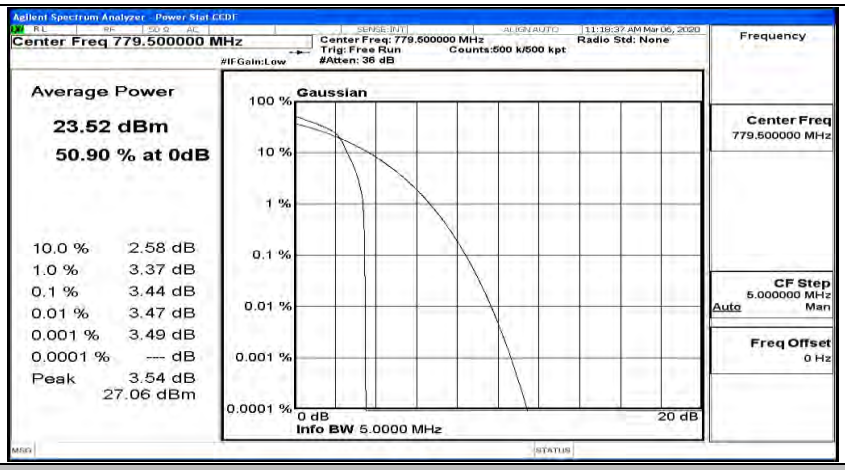


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



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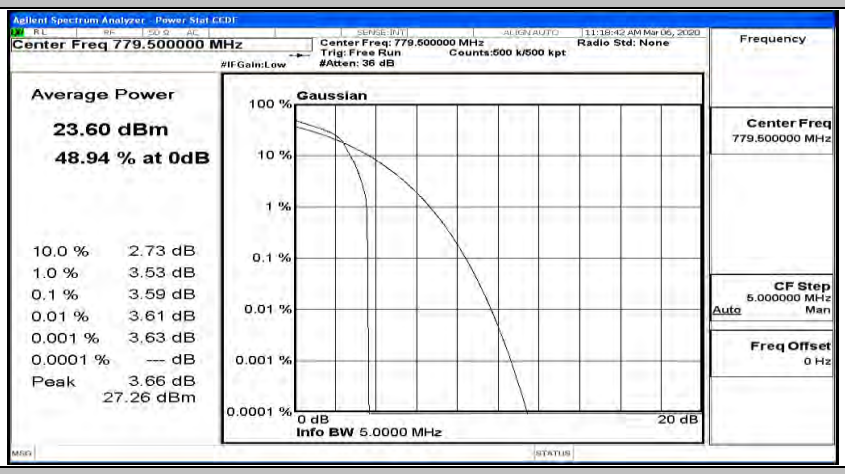

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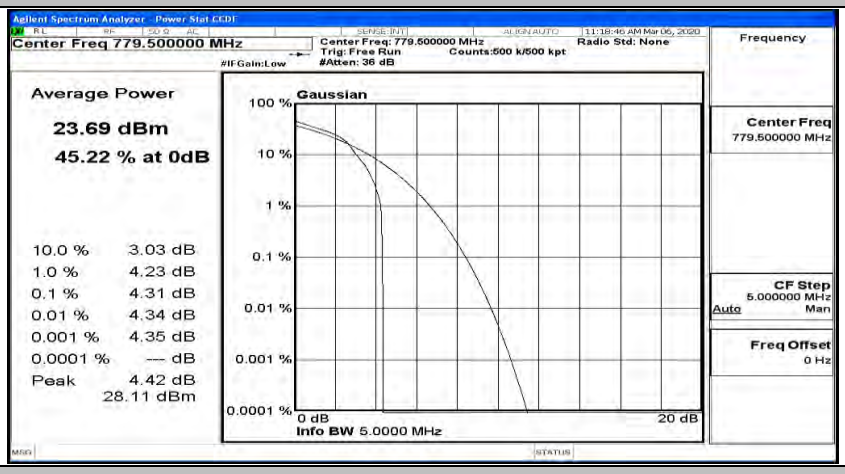

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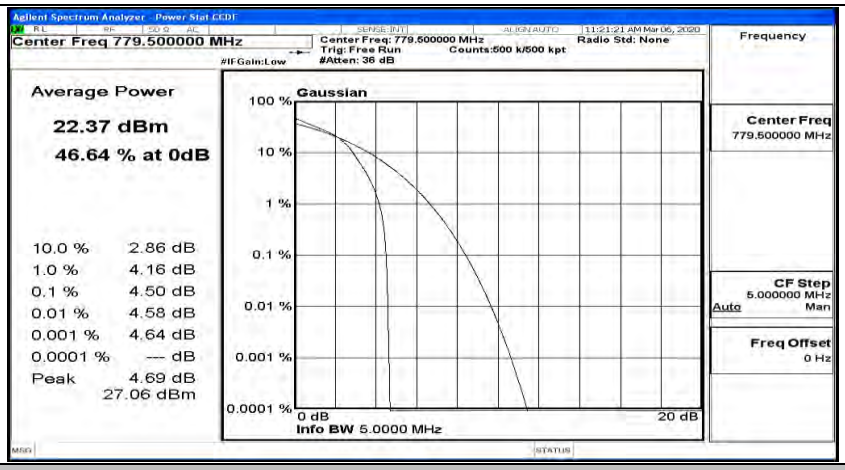
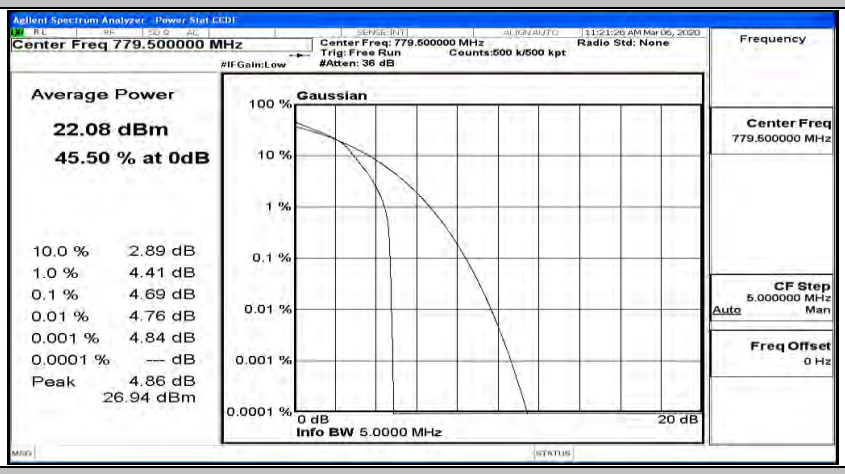
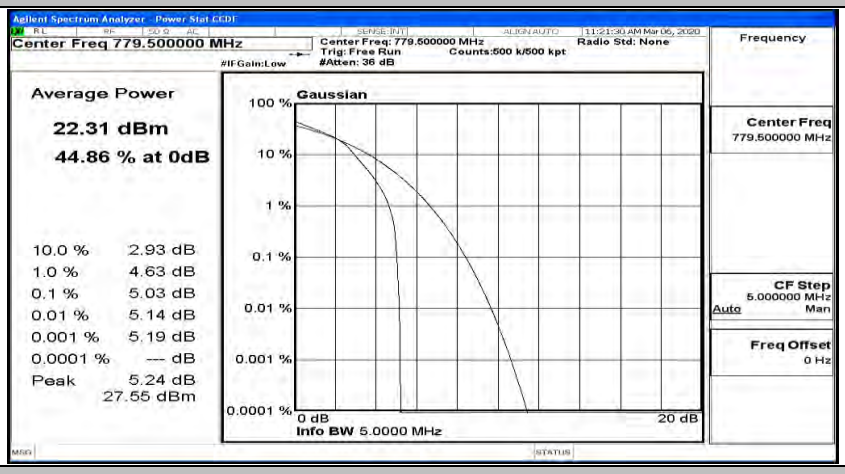


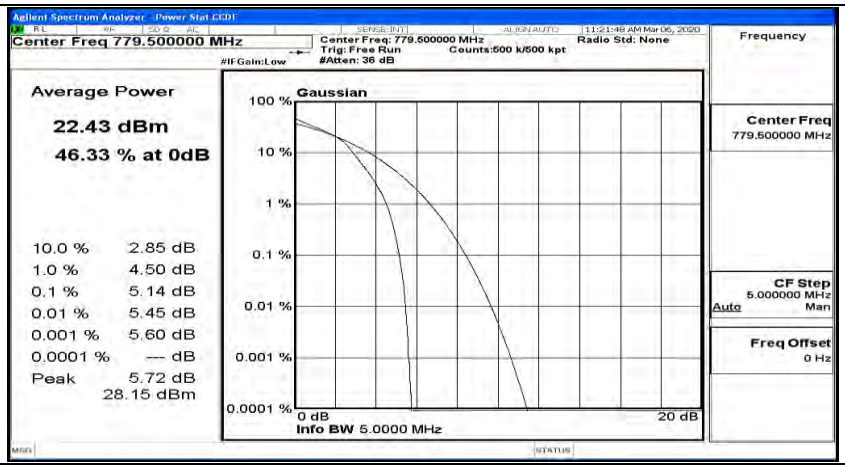
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6



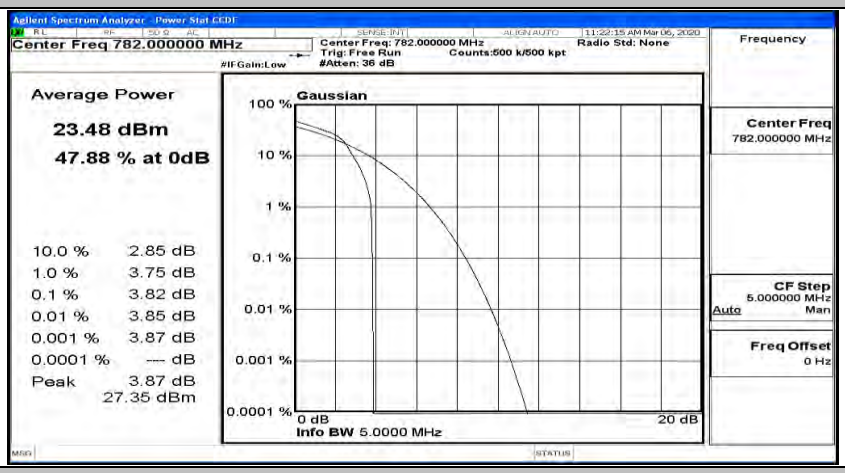
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13



(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



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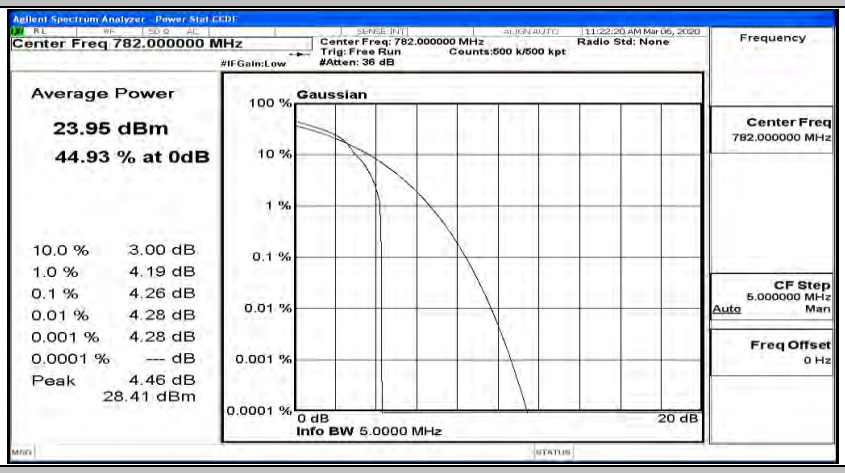

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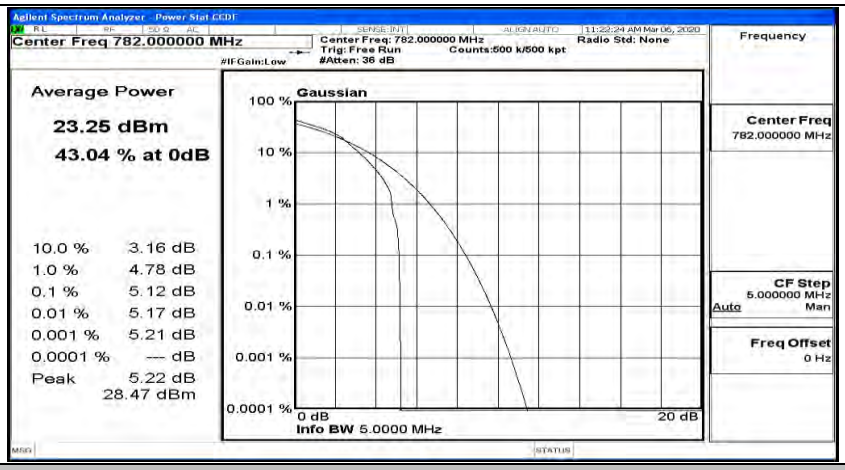

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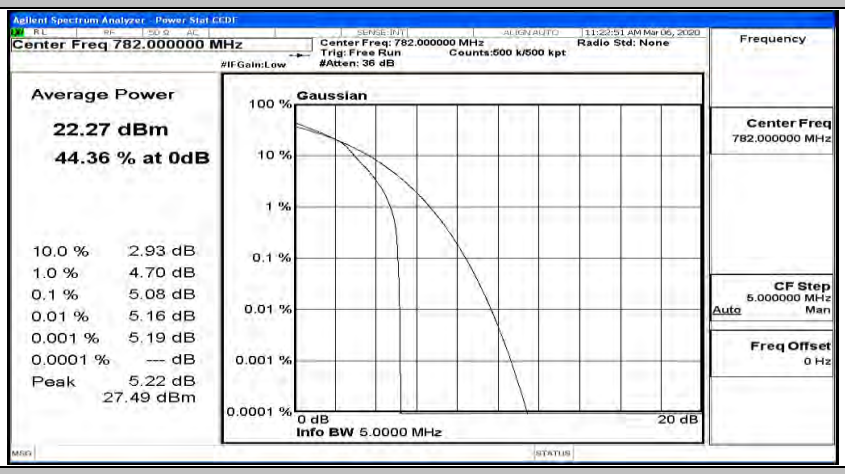
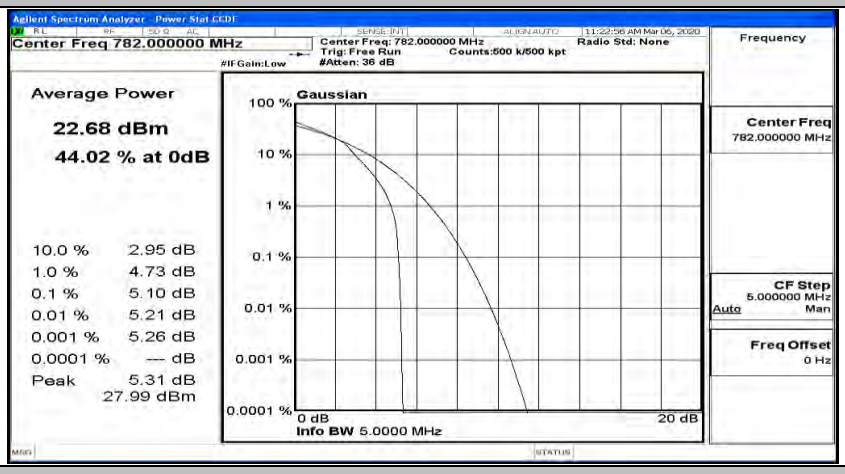


(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#6



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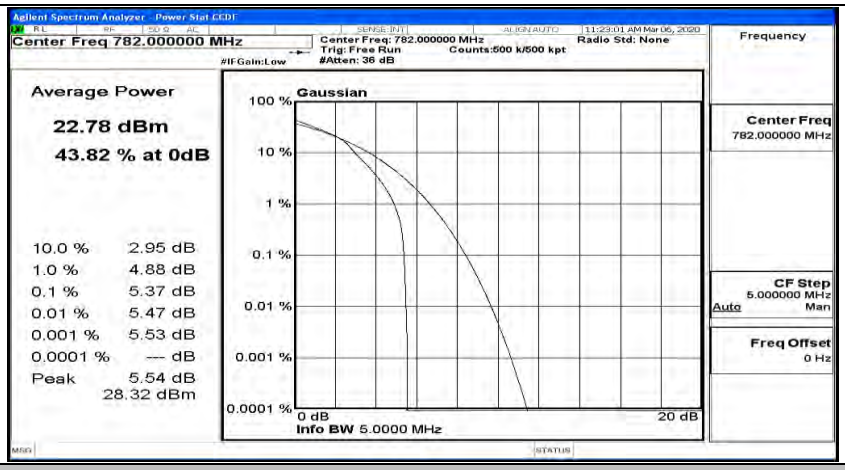
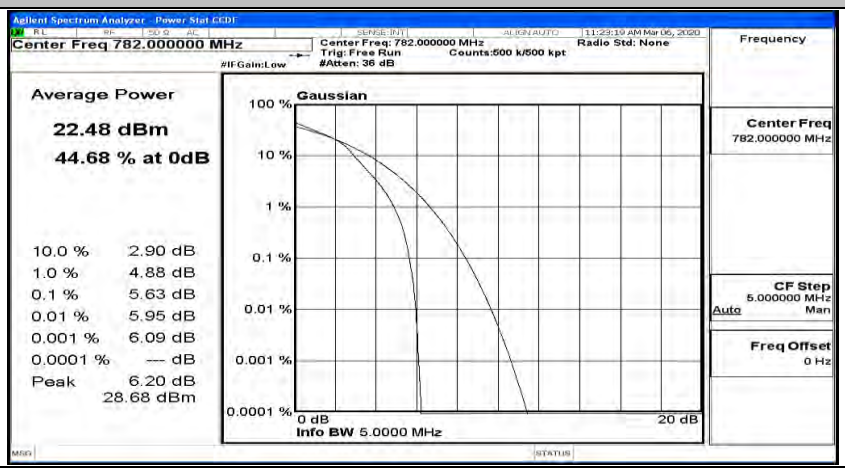


(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0



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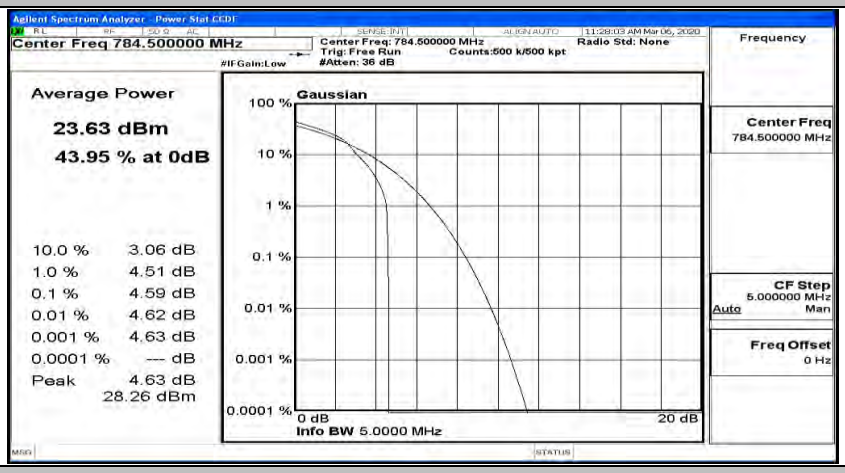
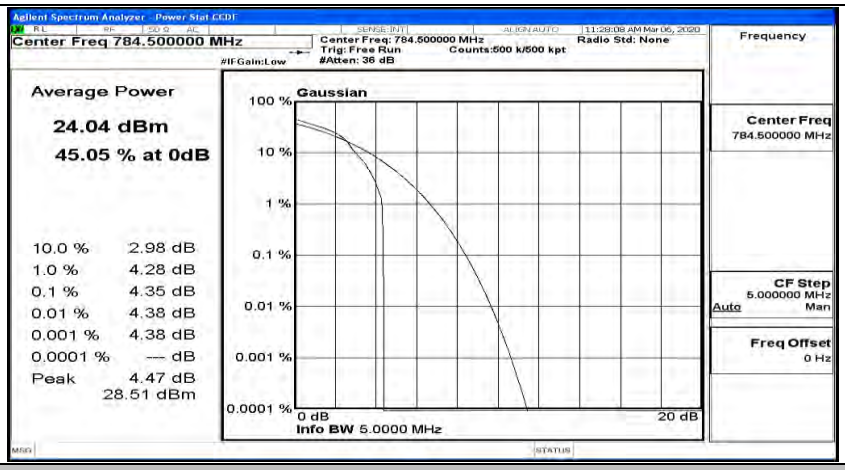
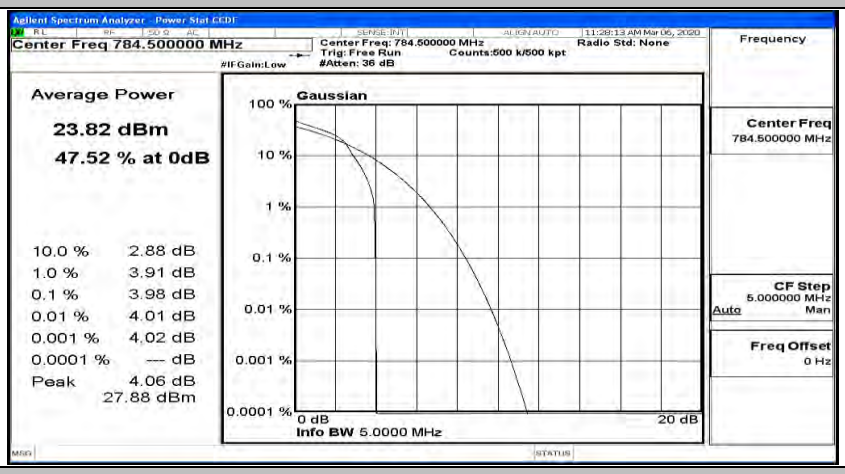


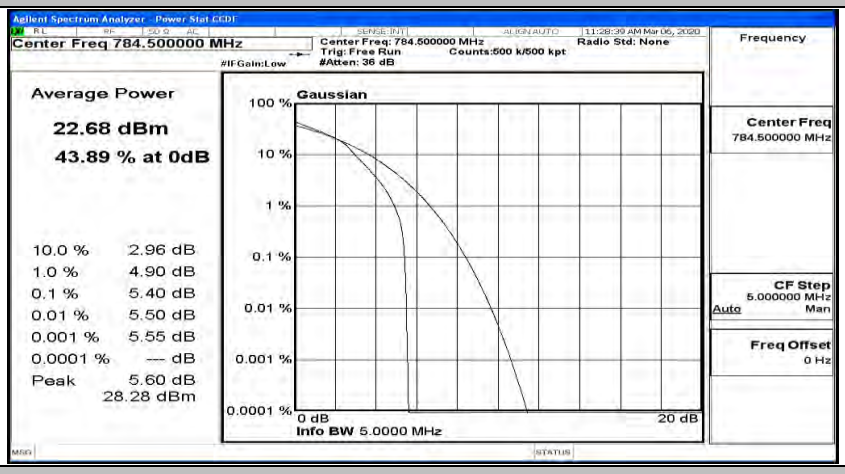
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



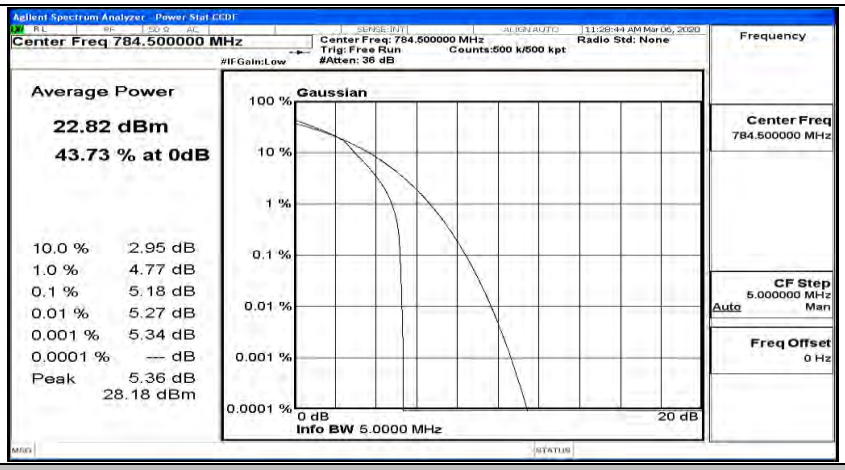
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24



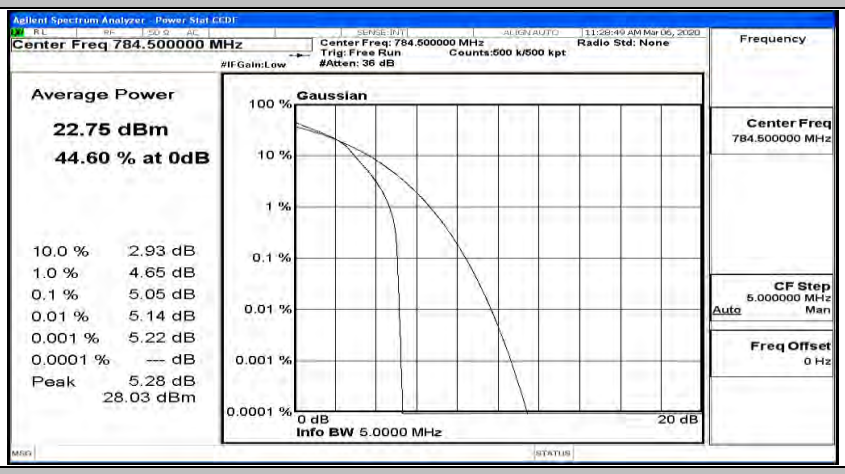
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0



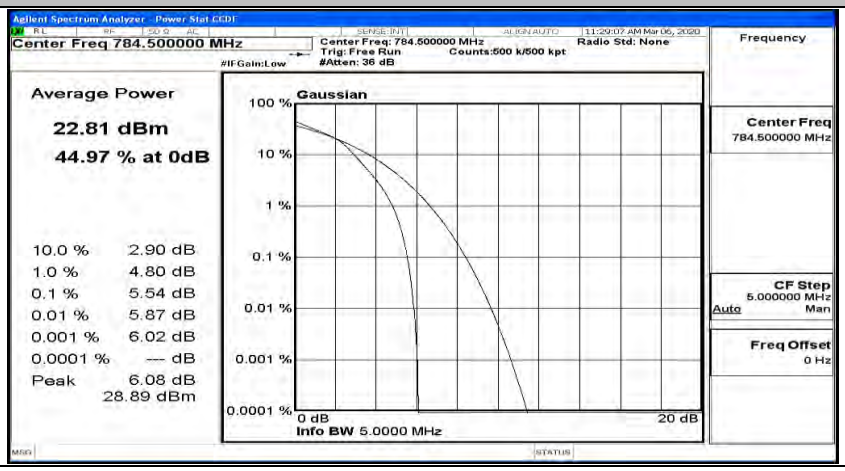
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#6



(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13

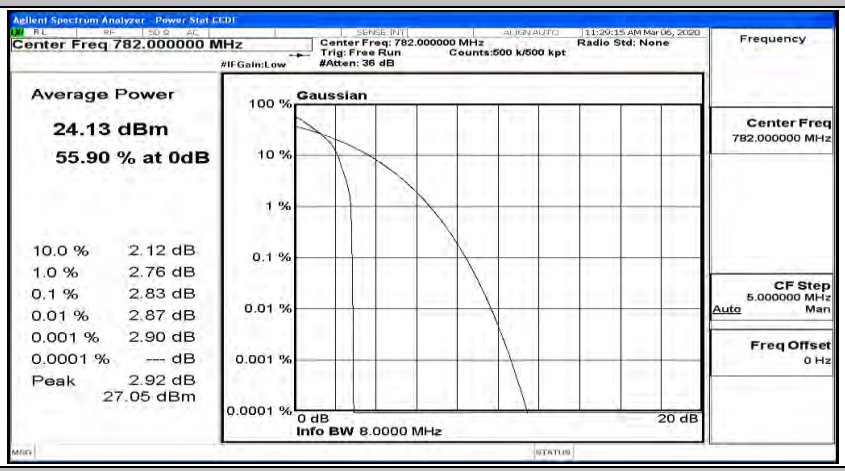


(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

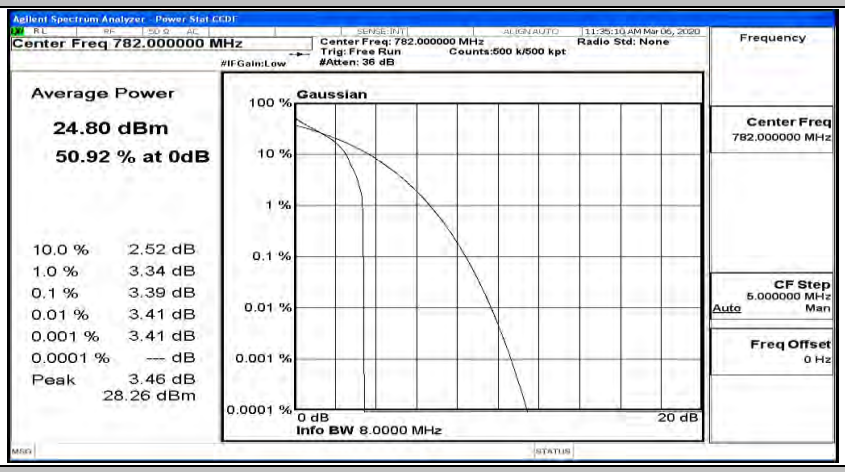


Channel Bandwidth: 10 MHz

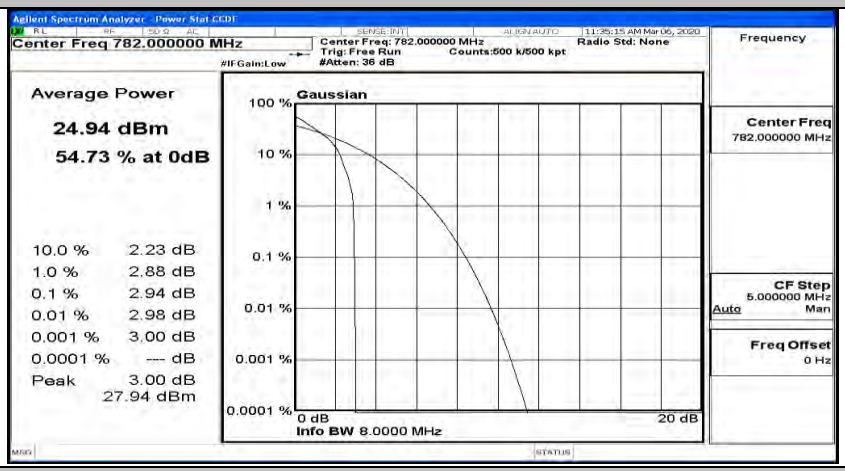
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



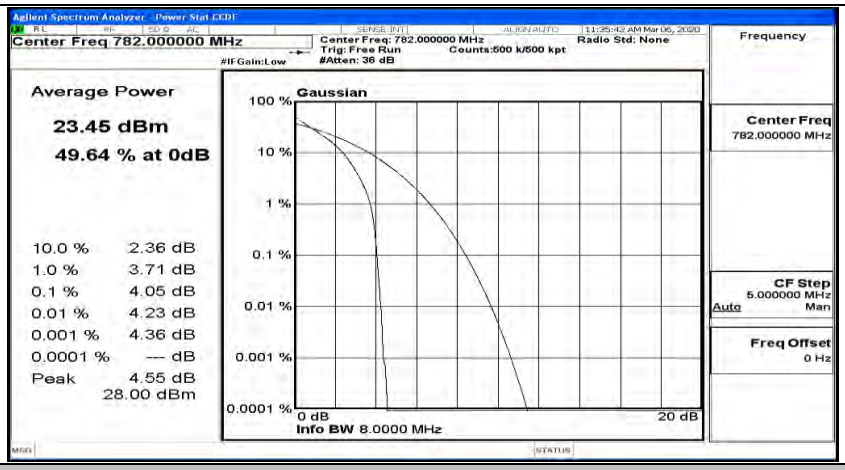
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24



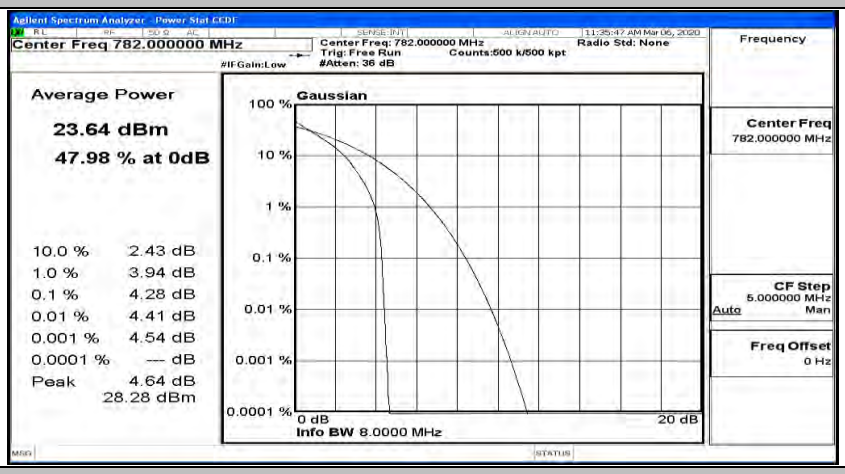
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49



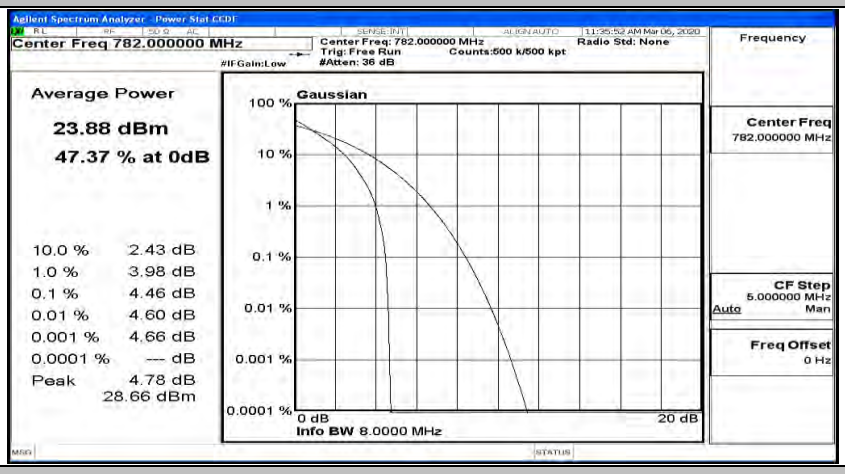
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#0



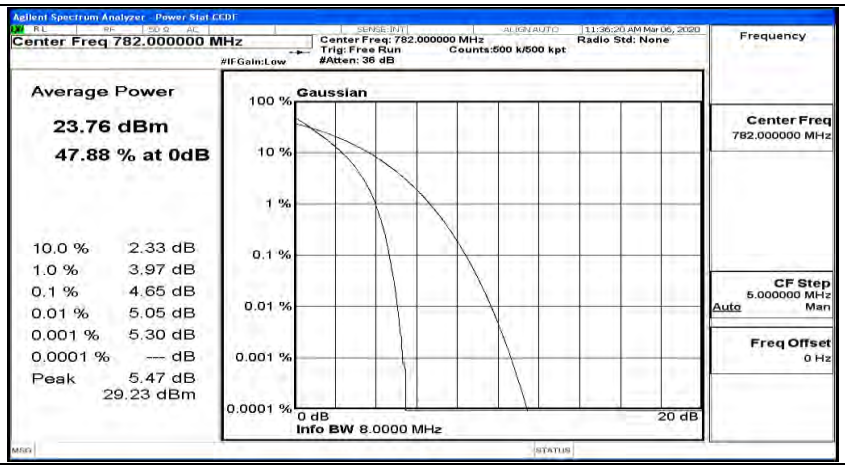
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12



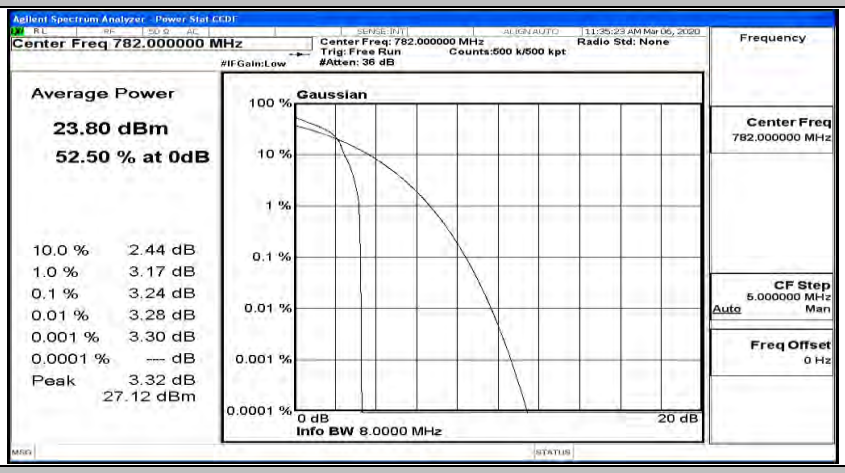
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25



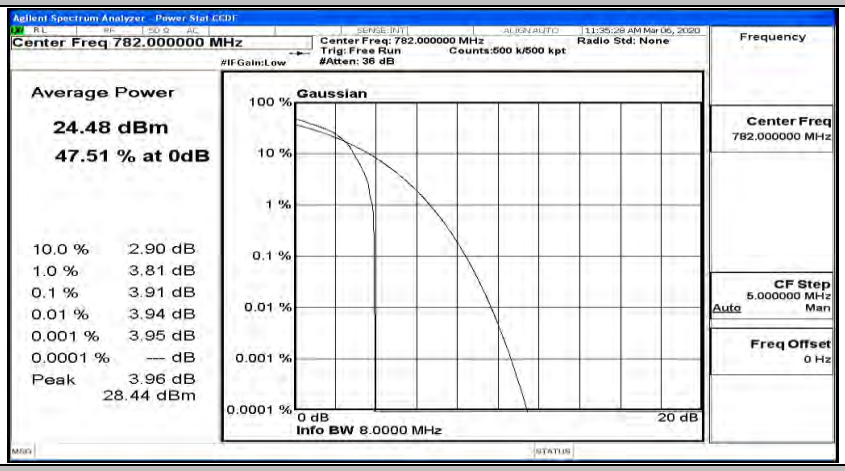
Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0



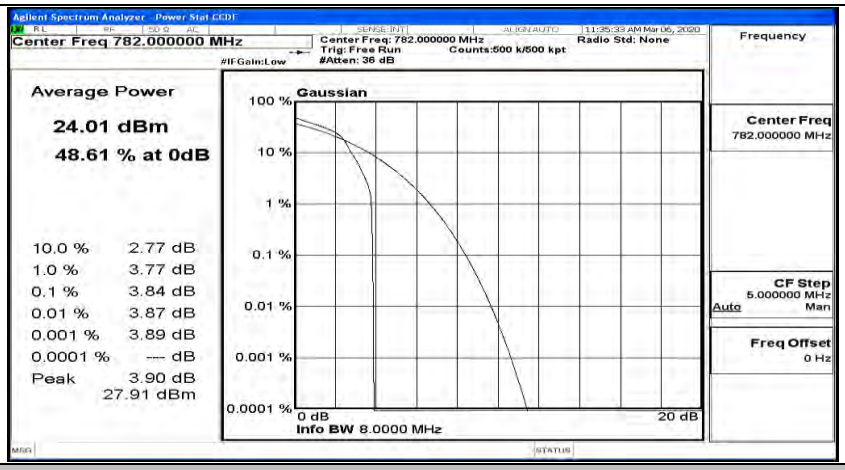
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



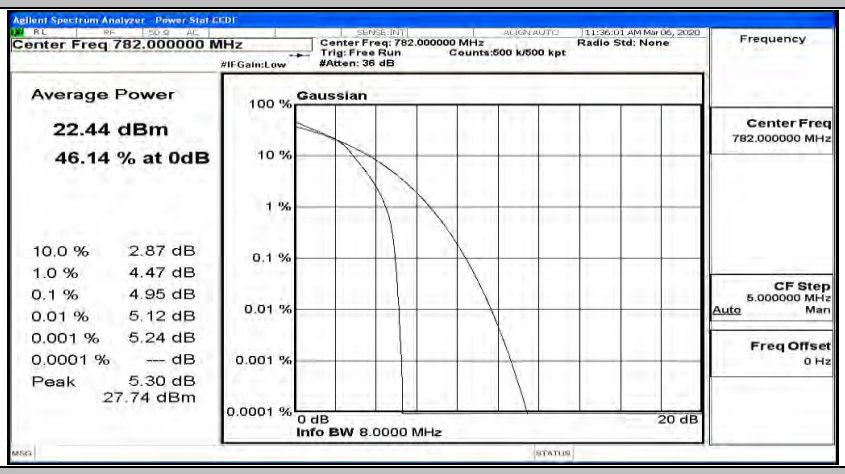
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



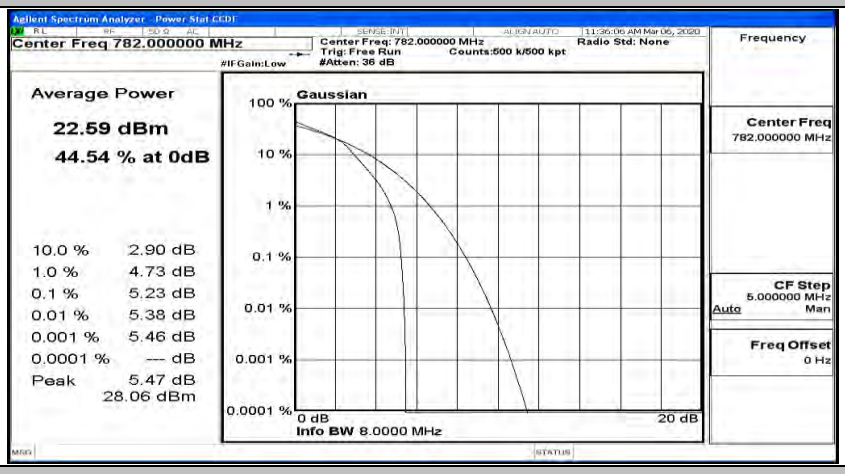
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49



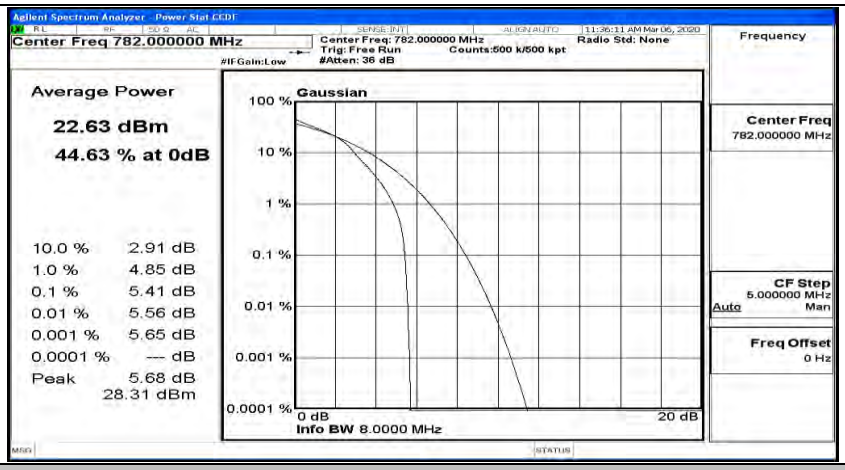
Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#0



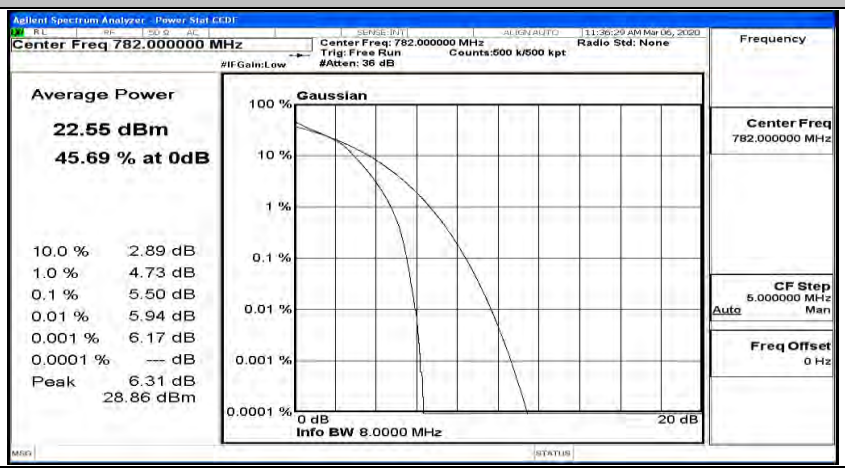
Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#12



Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#25



Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0



F.3: 26dB Bandwidth and Occupied Bandwidth

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	1	0	0.28979	0.4537	PASS
		1	12	0.38407	0.6208	PASS
		1	24	0.28392	0.4285	PASS
		12	0	2.1802	2.637	PASS
		12	6	2.1872	2.826	PASS
		12	13	2.1770	2.524	PASS
		25	0	4.4715	4.754	PASS
	MCH	1	0	0.29222	0.4609	PASS
		1	12	0.38556	0.6394	PASS
		1	24	0.29151	0.4287	PASS
		12	0	2.1747	2.533	PASS
		12	6	2.1826	2.781	PASS
		12	13	2.1747	2.547	PASS
		25	0	4.4744	4.806	PASS
	HCH	1	0	0.28942	0.4616	PASS
		1	12	0.38018	0.6231	PASS
		1	24	0.28663	0.4299	PASS
		12	0	2.1725	2.494	PASS
		12	6	2.1807	2.668	PASS
		12	13	2.1773	2.510	PASS
		25	0	4.4743	4.796	PASS
16QAM	LCH	1	0	0.29748	0.4875	PASS
		1	12	0.40374	0.5934	PASS
		1	24	0.29147	0.4687	PASS
		12	0	2.1755	2.588	PASS
		12	6	2.1788	2.998	PASS
		12	13	2.1683	2.538	PASS
		25	0	4.4769	4.793	PASS
	MCH	1	0	0.28908	0.4734	PASS
		1	12	0.39594	0.5952	PASS
		1	24	0.29353	0.4341	PASS

		12	0	2.1720	2.561	PASS
		12	6	2.1748	2.705	PASS
		12	13	2.1731	2.539	PASS
		25	0	4.4701	4.821	PASS
	HCH	1	0	0.29134	0.4438	PASS
		1	12	0.41311	0.6419	PASS
		1	24	0.29938	0.4793	PASS
		12	0	2.1778	2.547	PASS
		12	6	2.1797	2.689	PASS
		12	13	2.1727	2.557	PASS
		25	0	4.4734	4.767	PASS

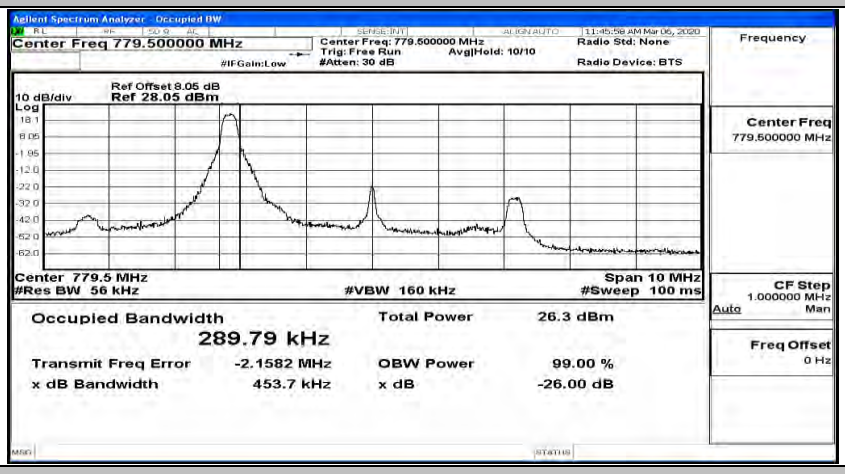
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	MCH	1	0	0.39031	0.5690	PASS
		1	25	0.46778	0.6906	PASS
		1	49	0.38963	0.5796	PASS
		25	0	4.5190	5.076	PASS
		25	12	4.5234	5.100	PASS
		25	25	4.5205	4.976	PASS
		50	0	8.9222	9.532	PASS
16QAM	MCH	1	0	0.39625	0.5937	PASS
		1	25	0.46915	0.6870	PASS
		1	49	0.38375	0.5790	PASS
		25	0	4.5154	4.948	PASS
		25	12	4.5105	5.119	PASS
		25	25	4.5104	4.923	PASS
		50	0	8.9263	9.465	PASS

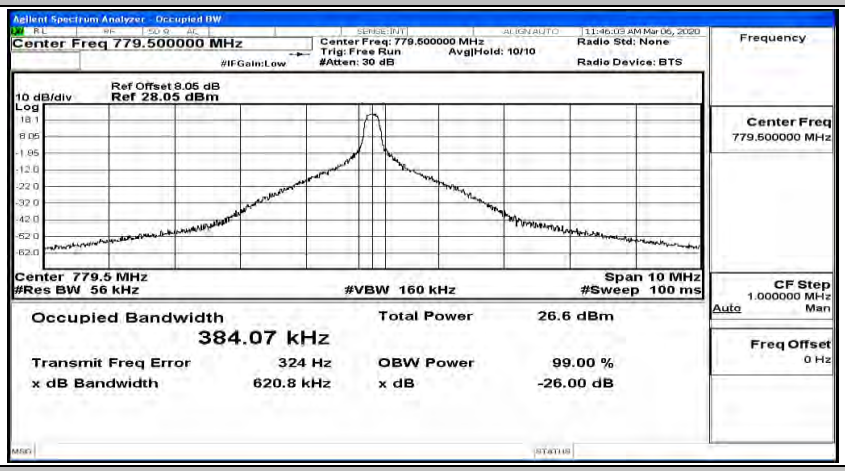
Test Graphs

Channel Bandwidth: 5 MHz

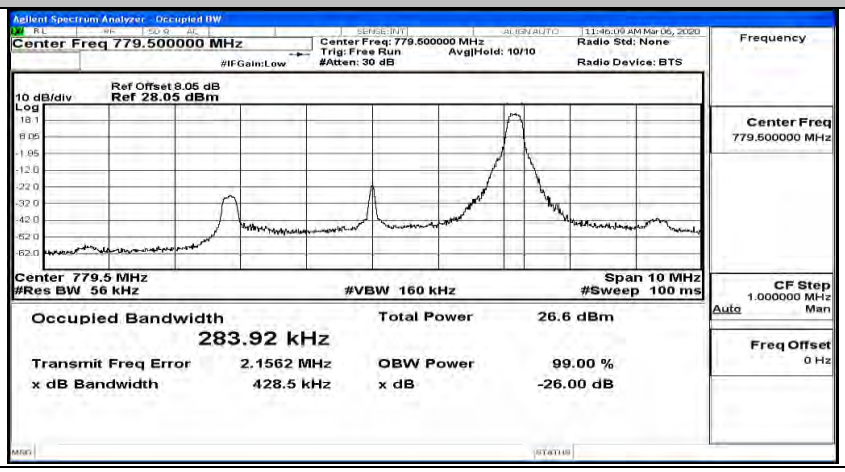
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



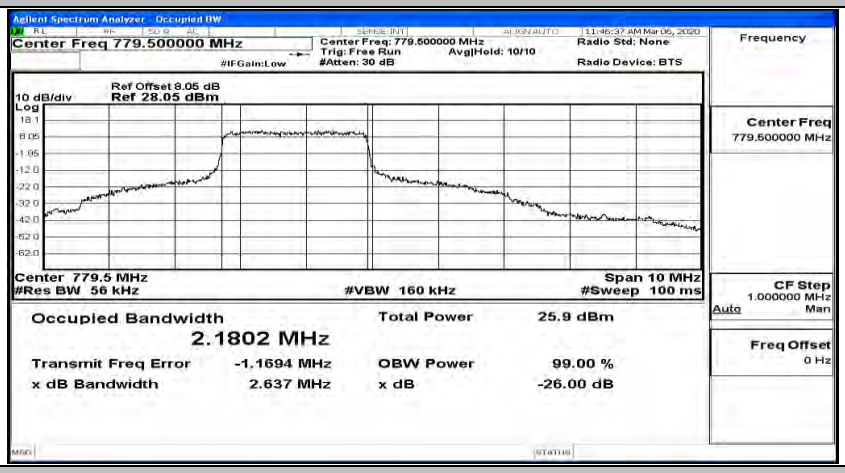
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



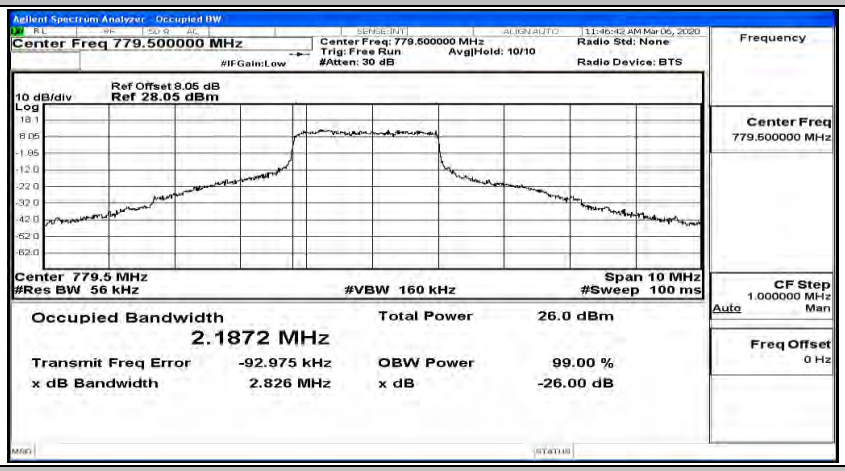
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



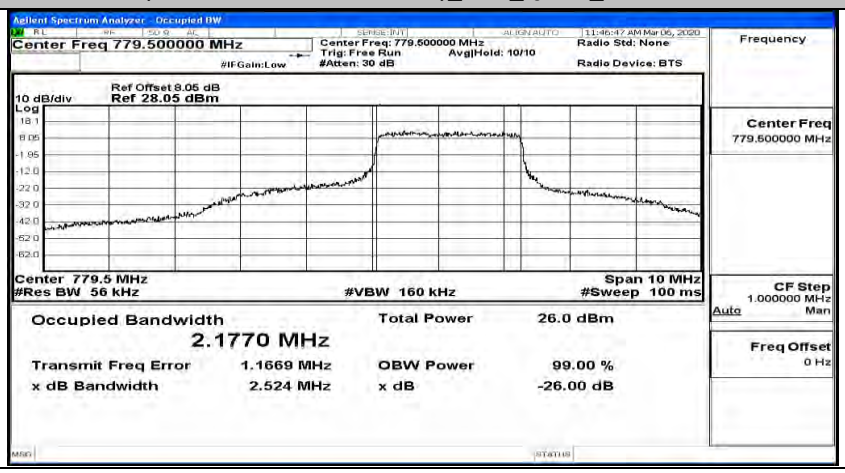
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



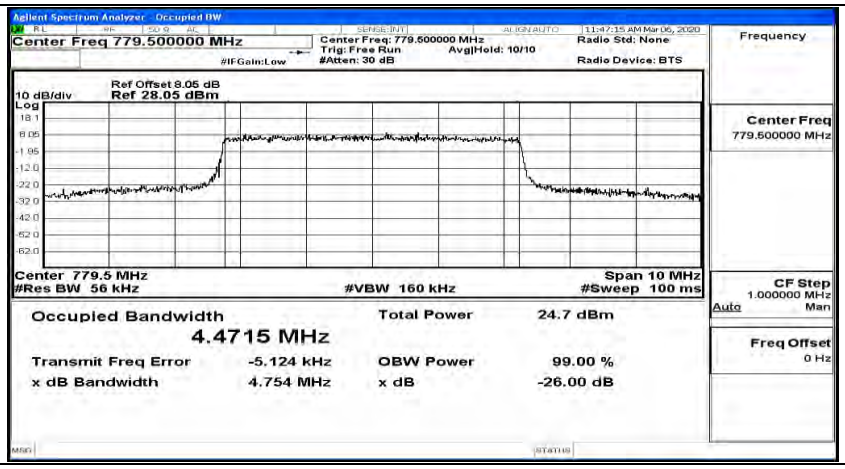
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



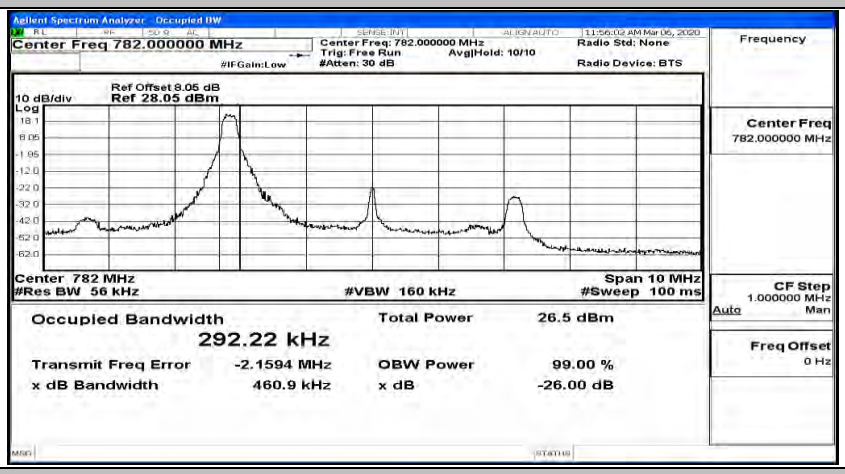
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13



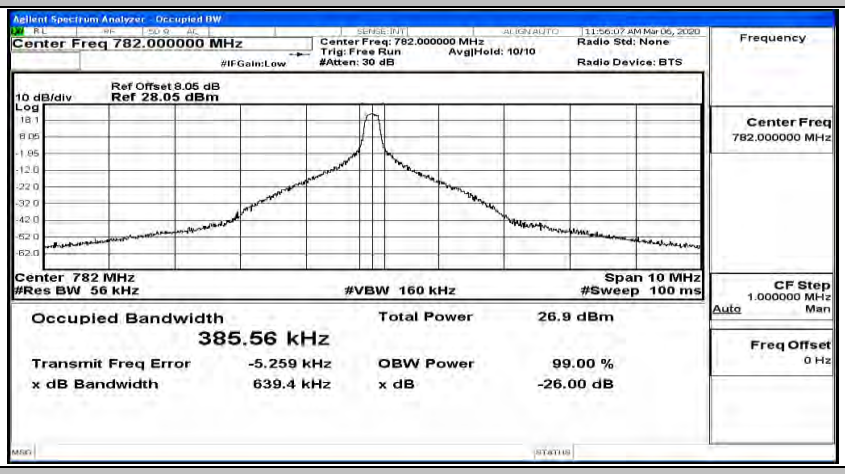
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



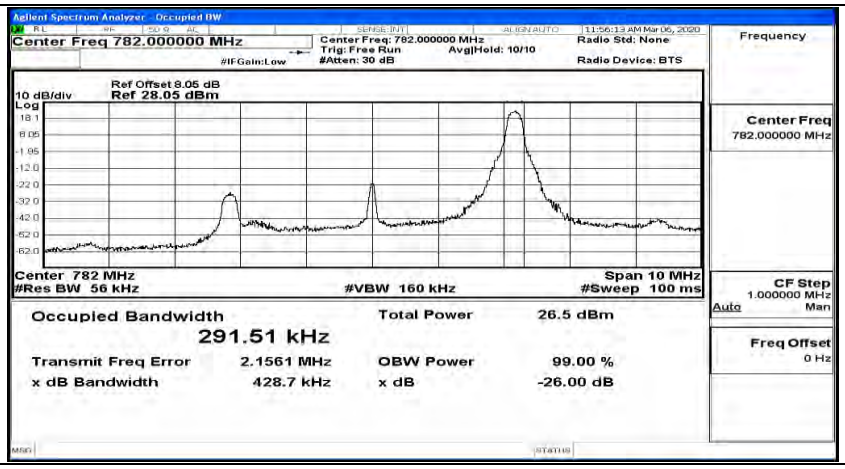
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



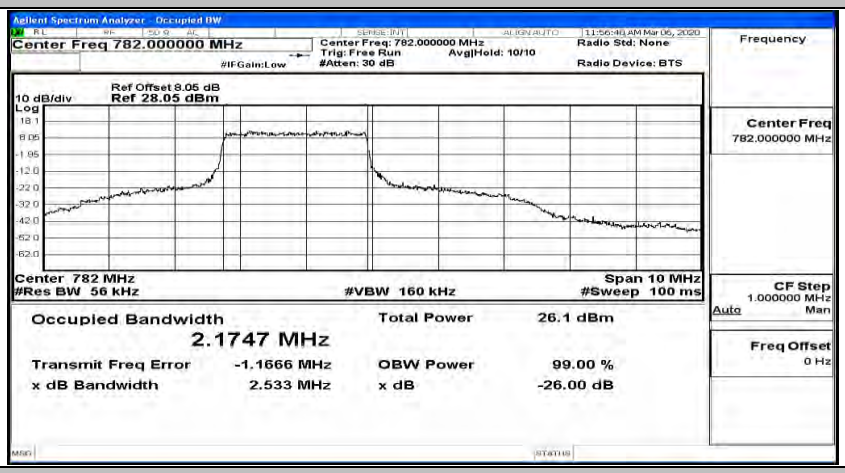
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



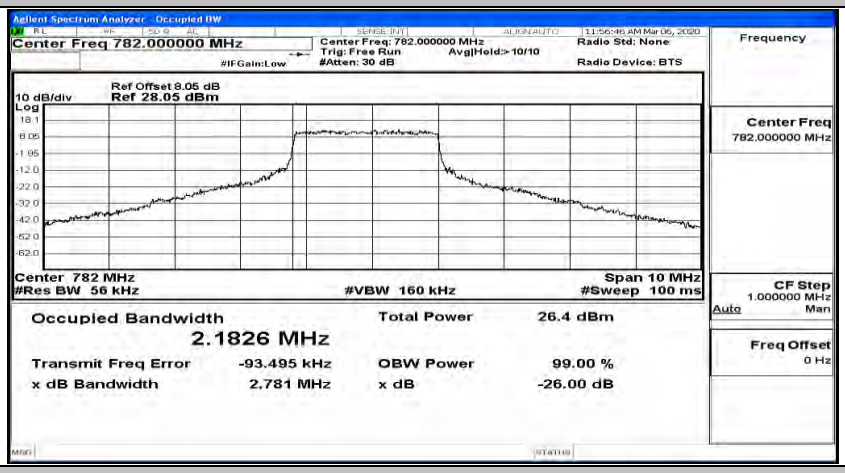
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24



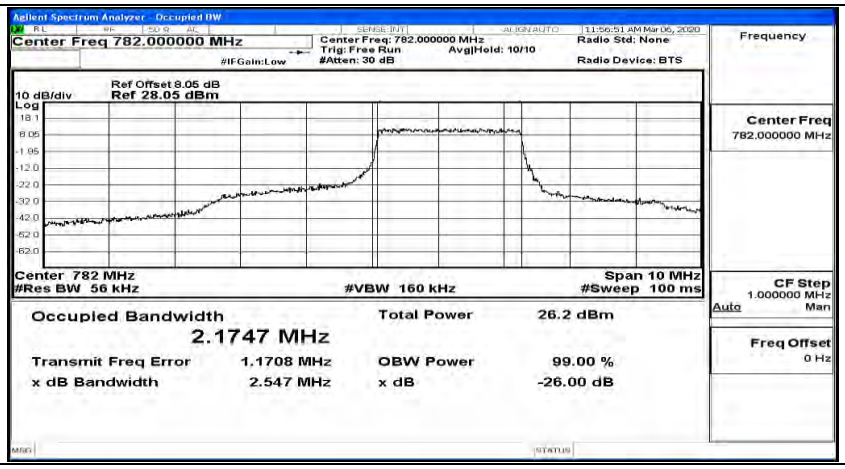
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#0



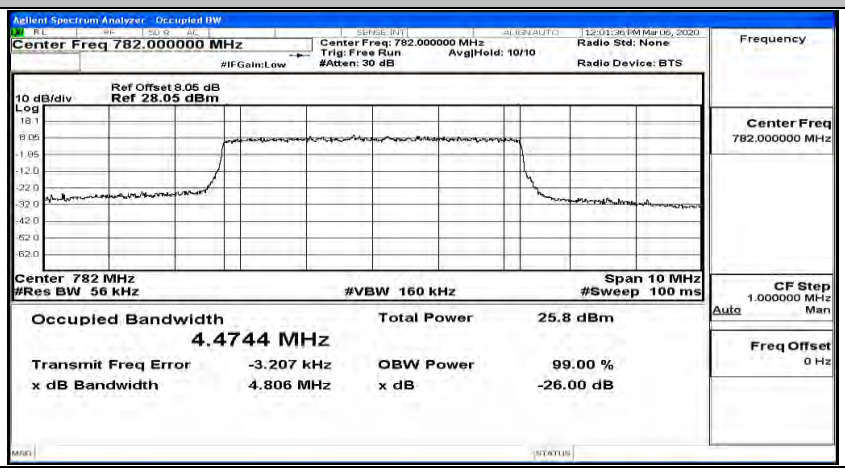
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#6



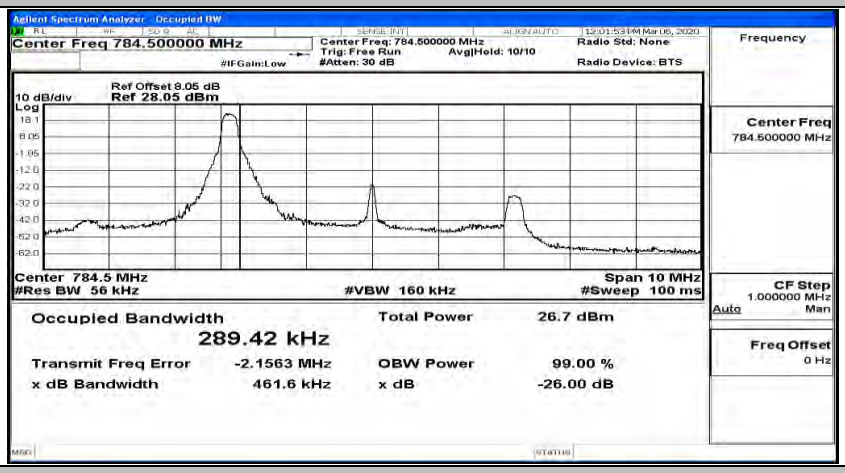
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#13



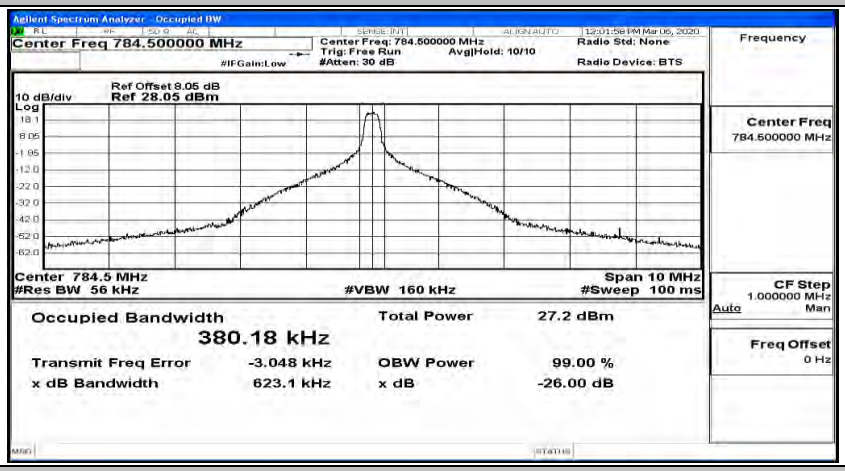
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



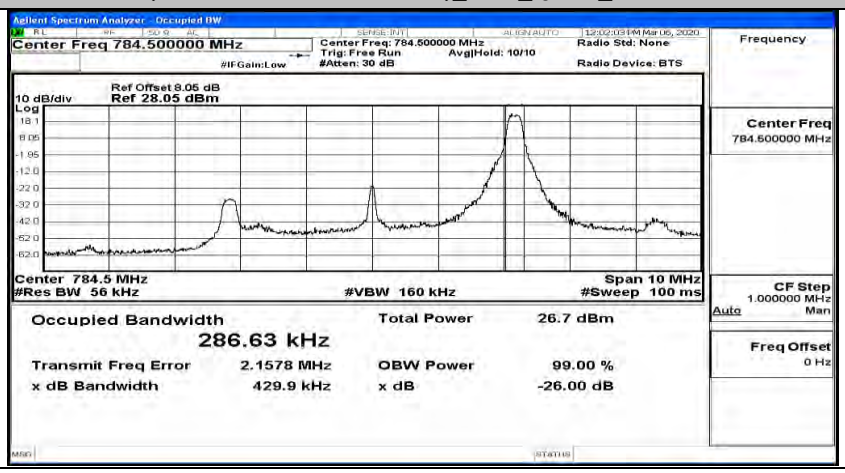
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



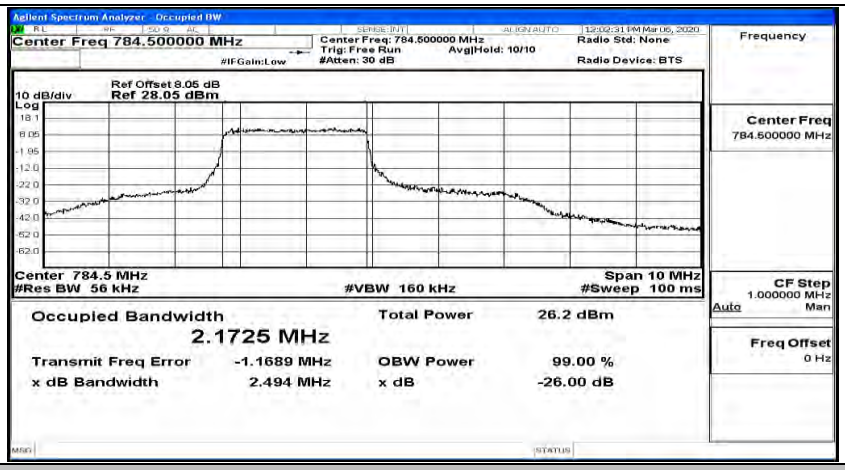
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



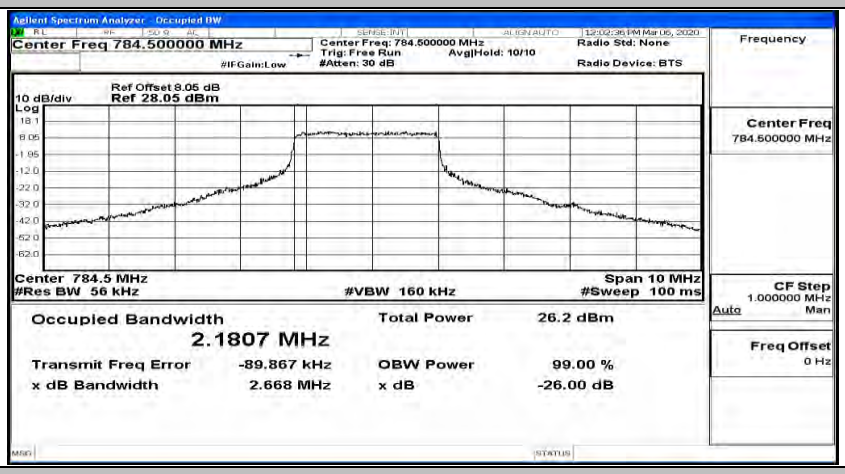
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24



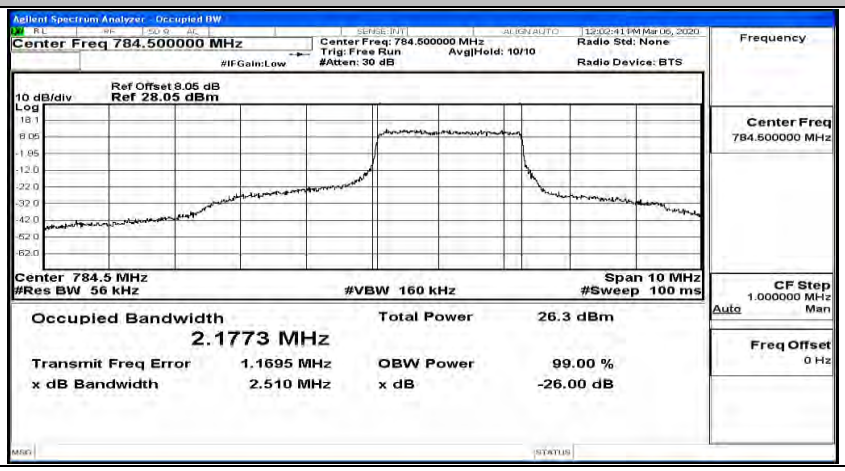
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0



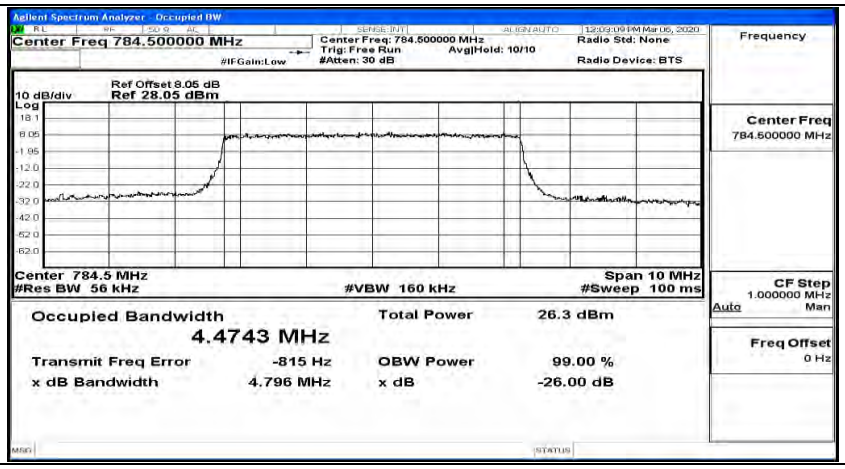
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6



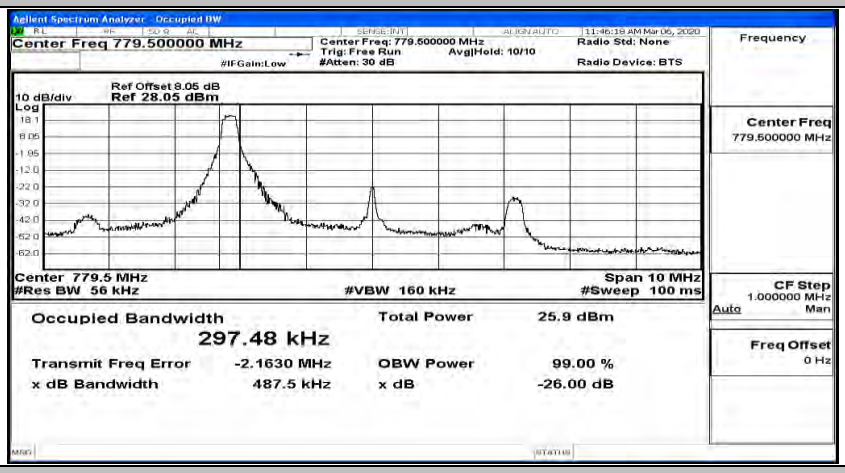
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13



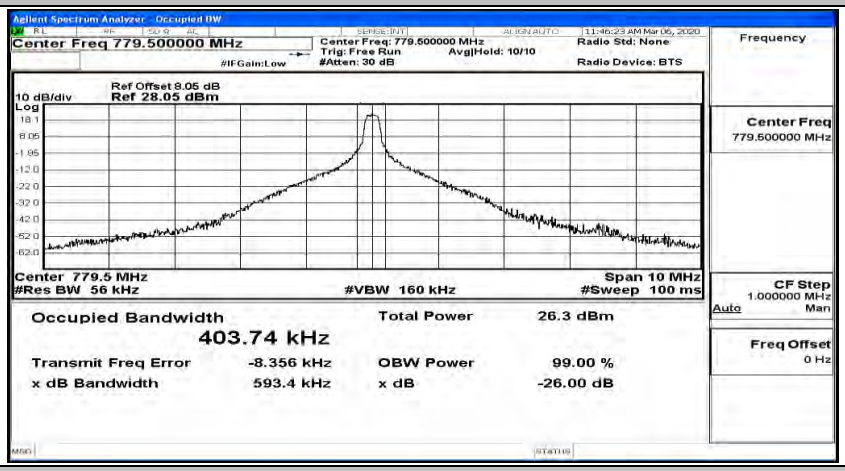
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0


Agilent Spectrum Analyzer - Occupied BW
Center Freq 784.500000 MHz
Center Freq: 784.500000 MHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 8.05 dB
10 dB/div
Ref 28.05 dBm
Log
18.1
8.05
-1.95
-12.0
-22.0
-32.0
-42.0
-52.0
-62.0
Center 784.5 MHz
#Res BW 56 kHz
#VBW 160 kHz
Span 10 MHz
#Sweep 100 ms
Center Freq
784.500000 MHz
CF Step
1.000000 MHz
Auto
Man
Occupied Bandwidth
4.4743 MHz
Total Power
26.3 dBm
Transmit Freq Error
-815 Hz
OBW Power
99.00 %
x dB Bandwidth
4.796 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

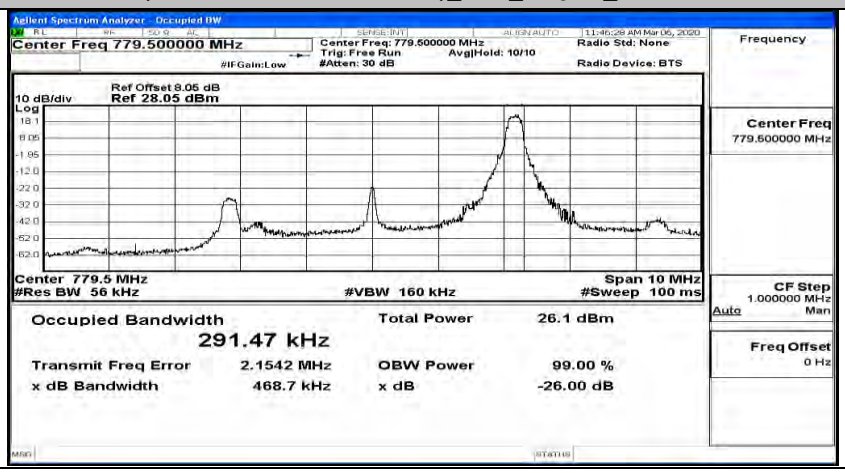
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



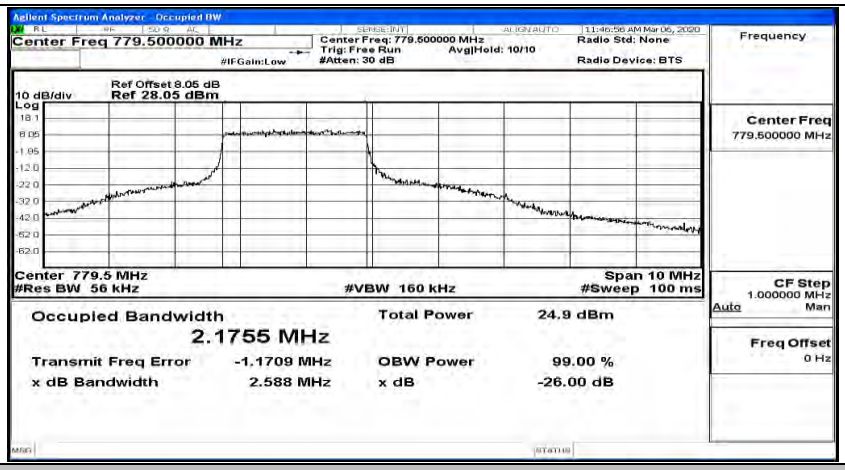
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



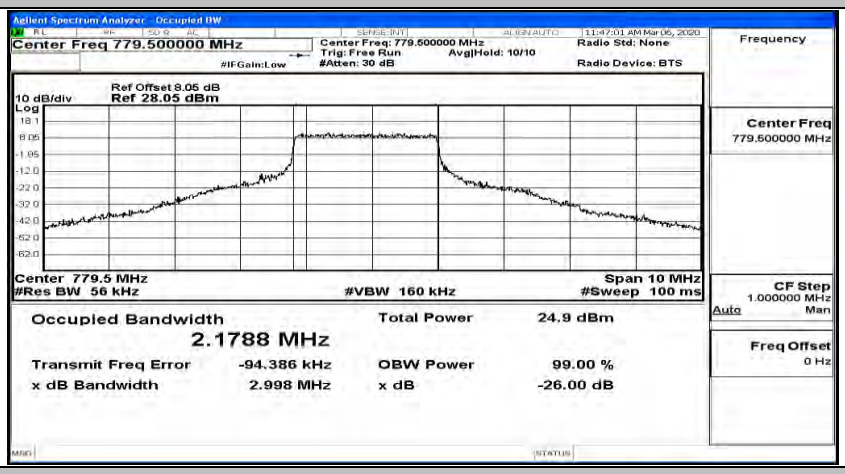
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24



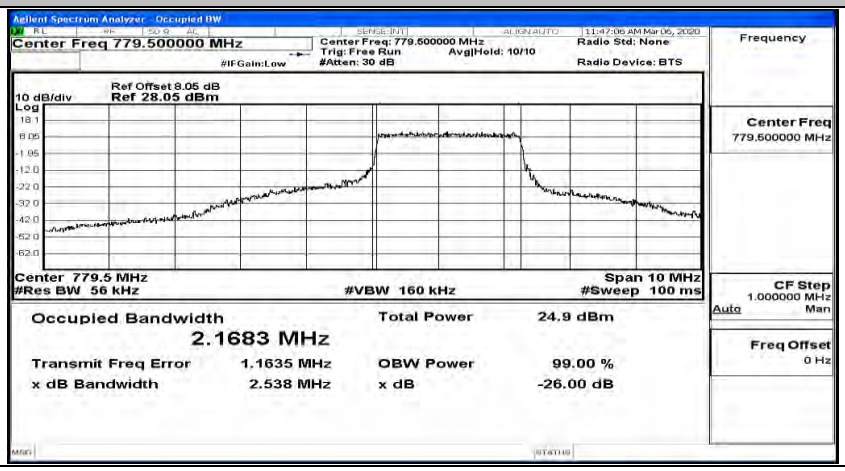
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0



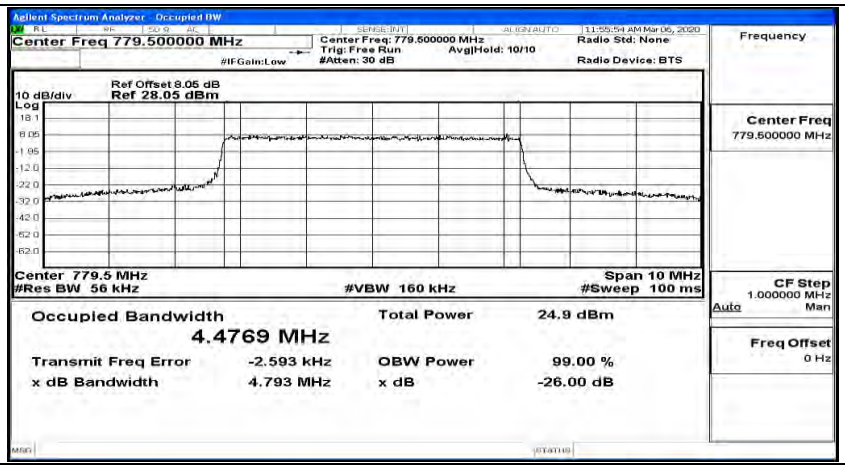
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6



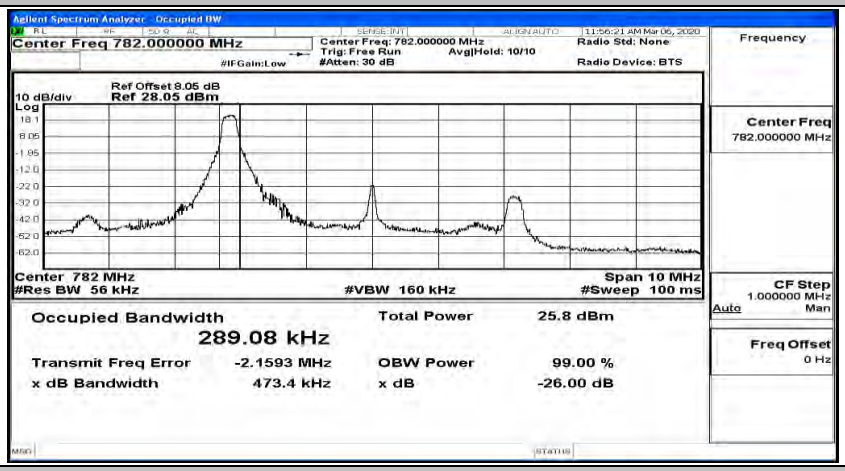
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13



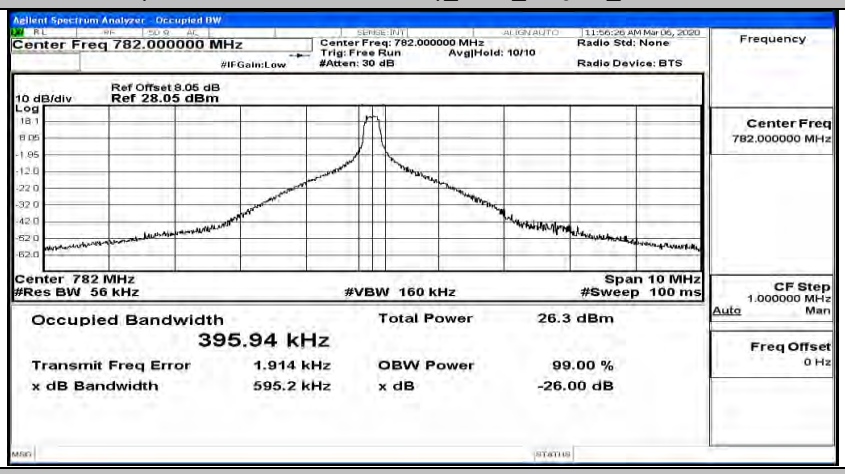
(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0



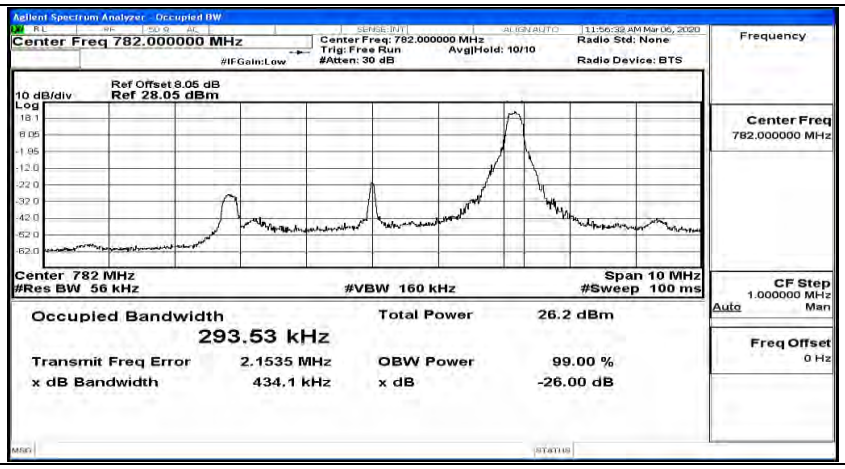
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



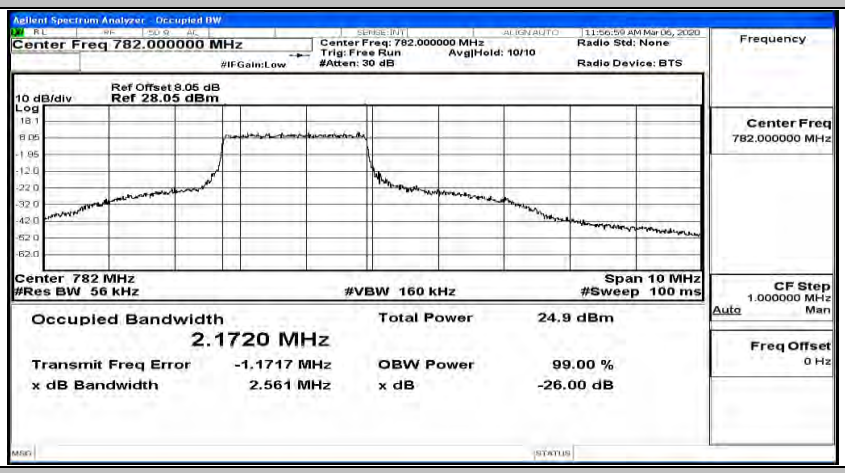
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



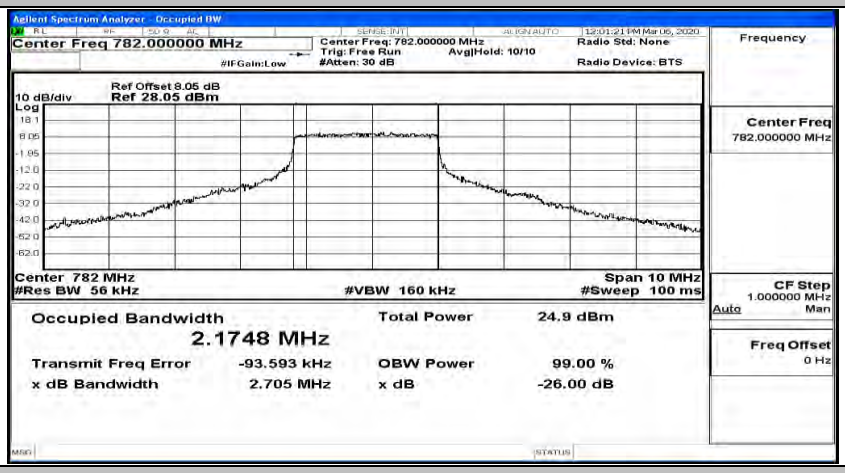
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24



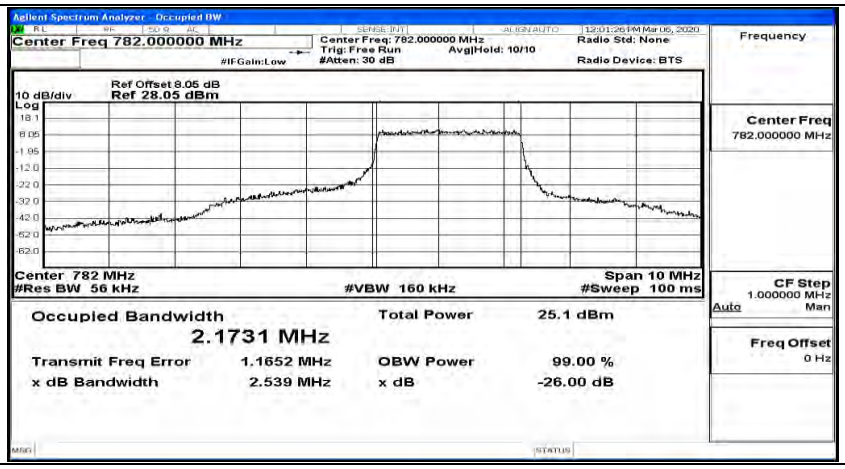
(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#0



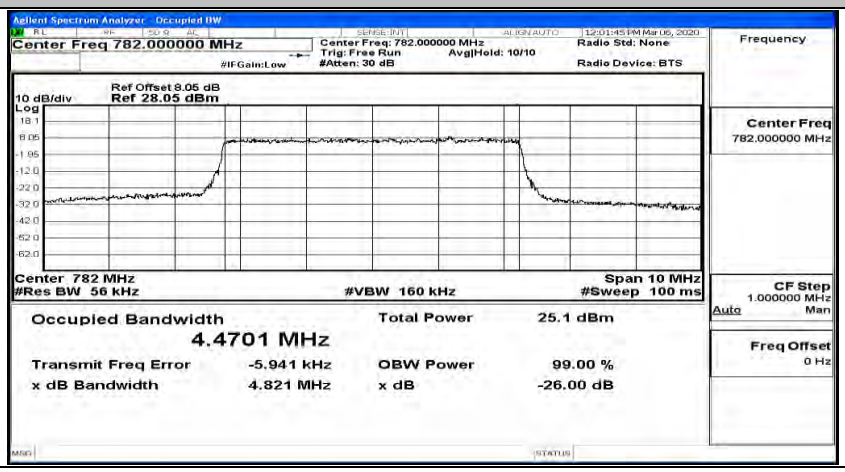
(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#6



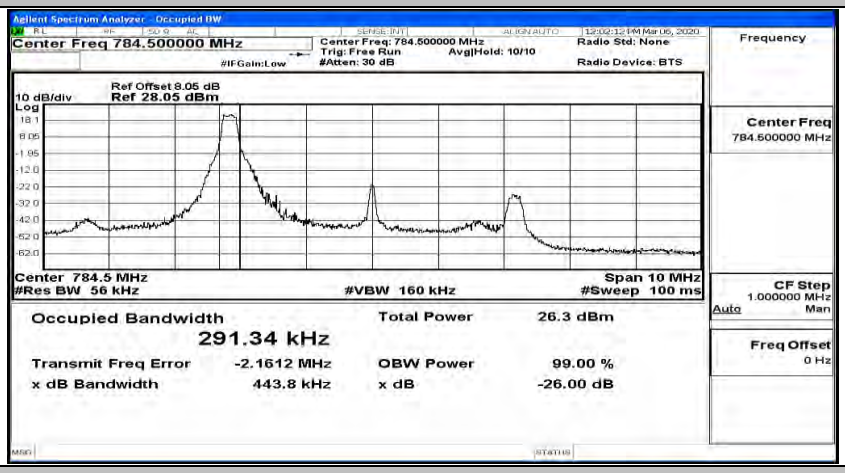
(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#13



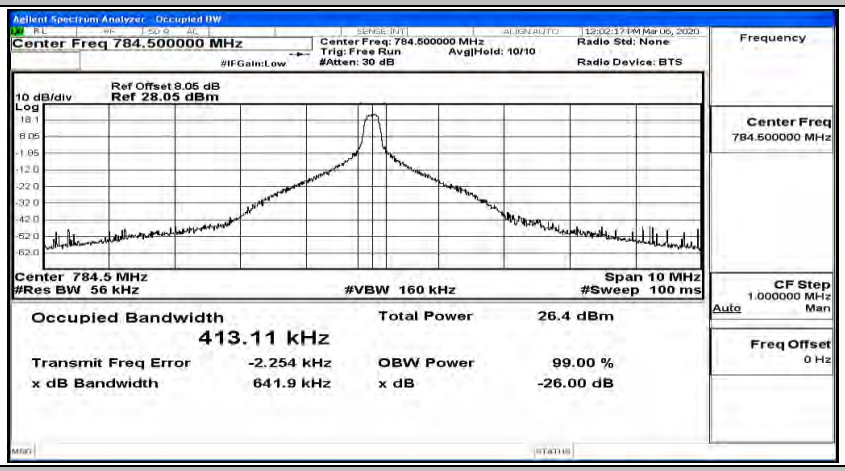
(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0



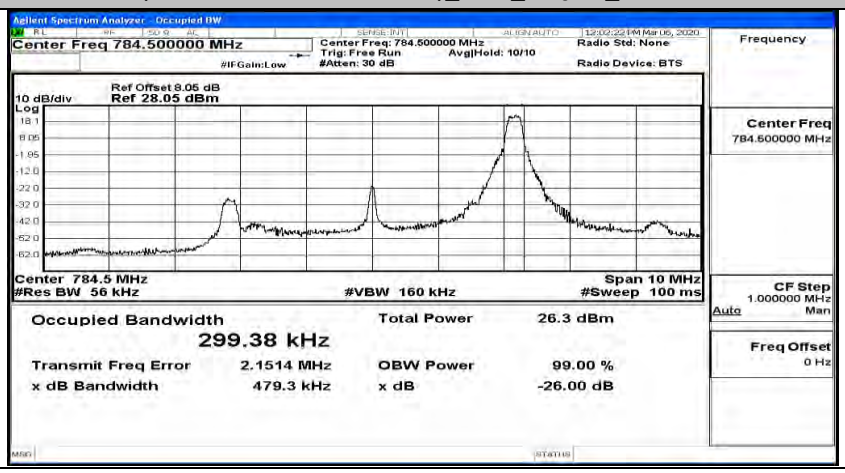
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



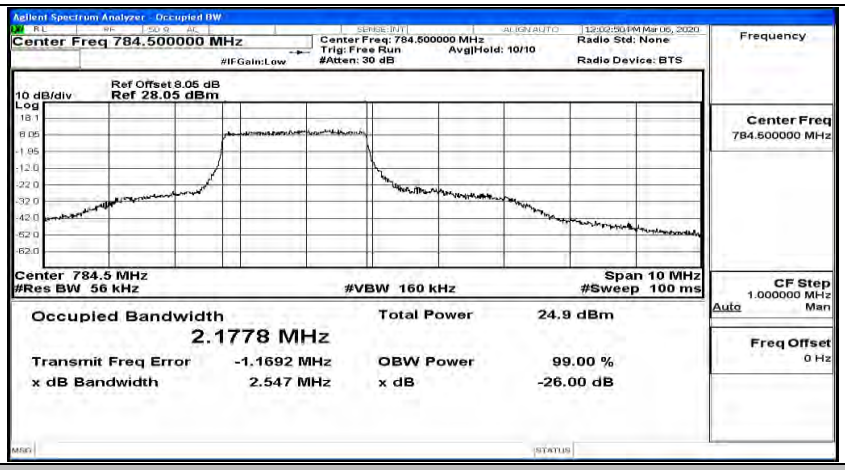
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



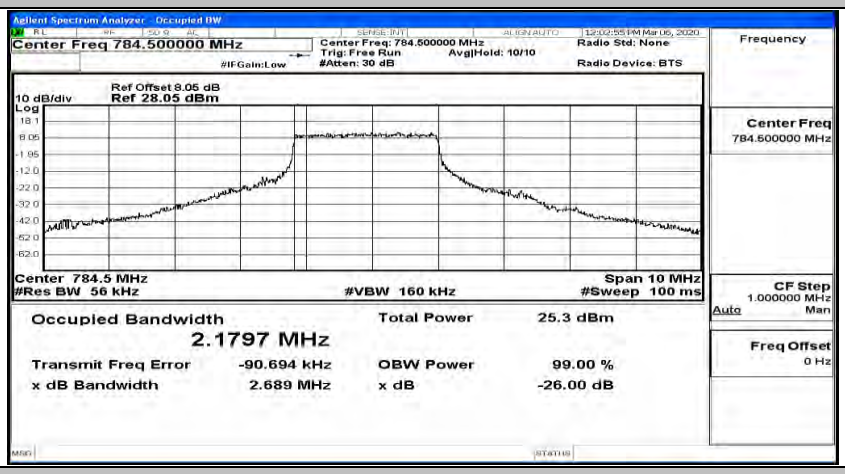
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24



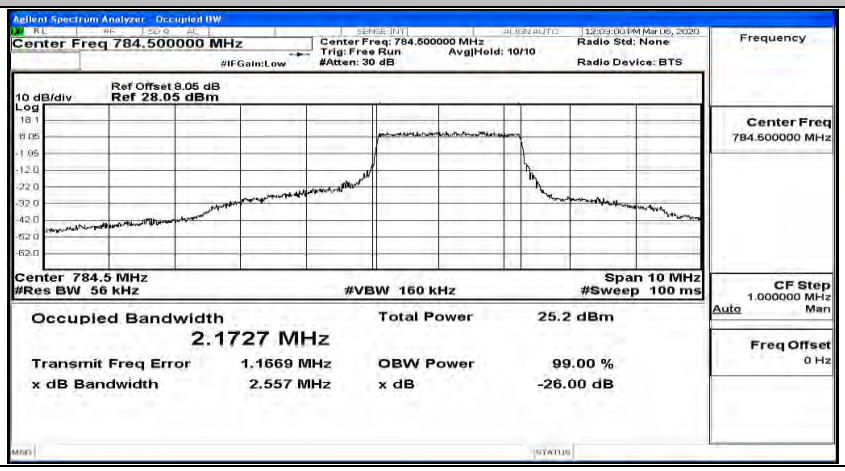
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0



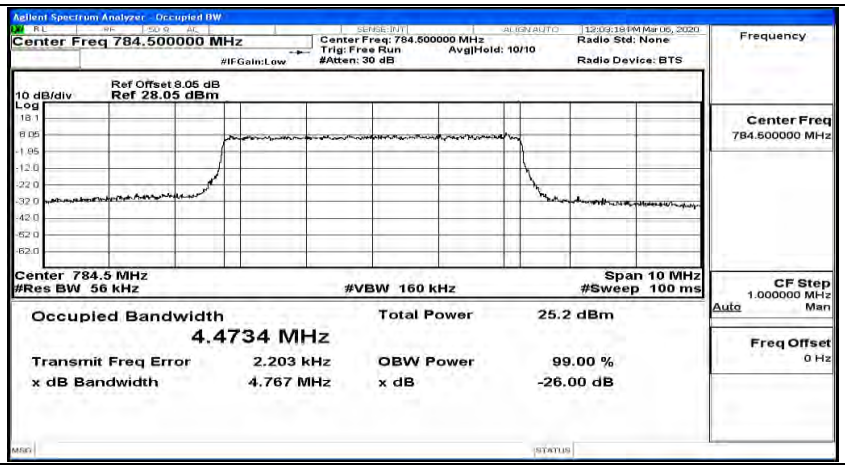
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#6



(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13

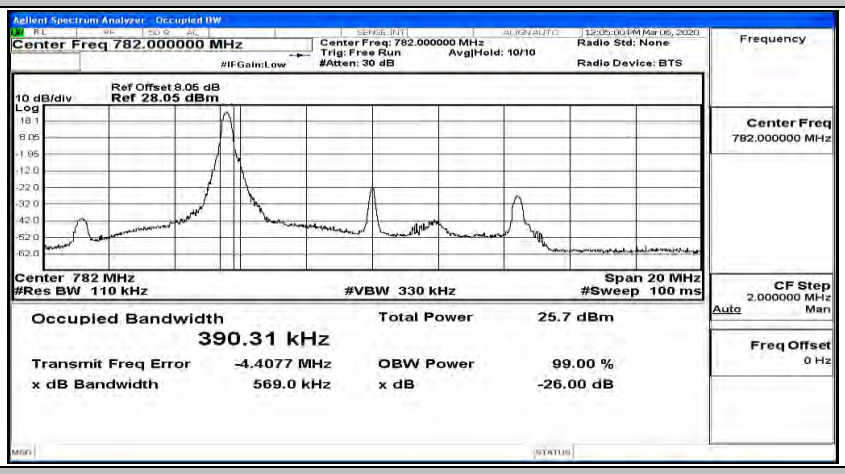


(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

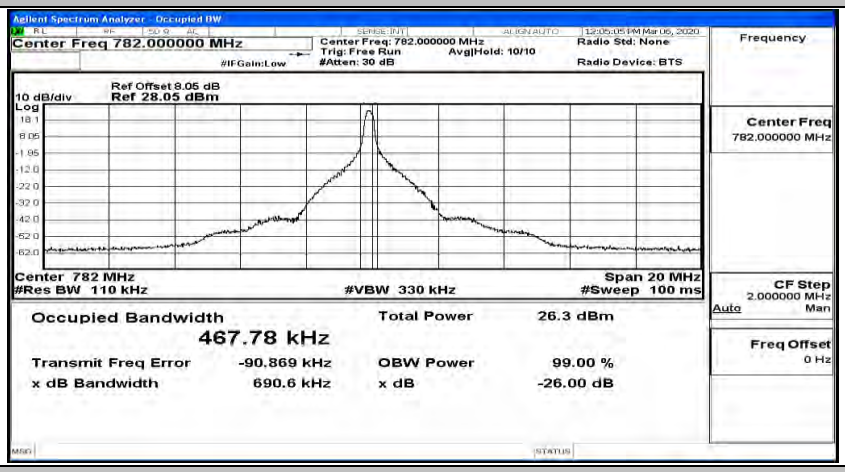

Agilent Spectrum Analyzer - Occupied BW
Center Freq 784.500000 MHz
Center Freq: 784.500000 MHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
12:09:18 PM Mar 06, 2020
Frequency
Ref Offset 8.05 dB
10 dB/div
Ref 28.05 dBm
Log
Center Freq
784.500000 MHz
Center 784.5 MHz
#Res BW 56 kHz
#VBW 160 kHz
Span 10 MHz
#Sweep 100 ms
CF Step
1.000000 MHz
Auto
Man
Occupied Bandwidth
4.4734 MHz
Total Power
25.2 dBm
Transmit Freq Error
2.203 kHz
OBW Power
99.00 %
x dB Bandwidth
4.767 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

Channel Bandwidth: 10 MHz

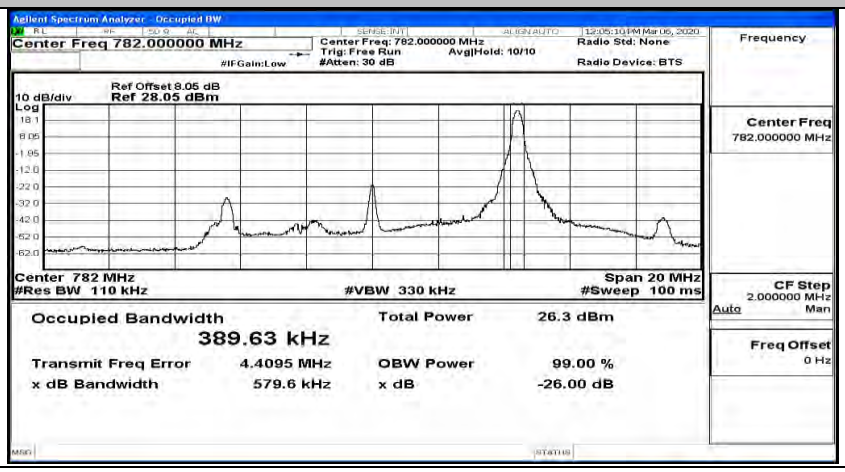
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



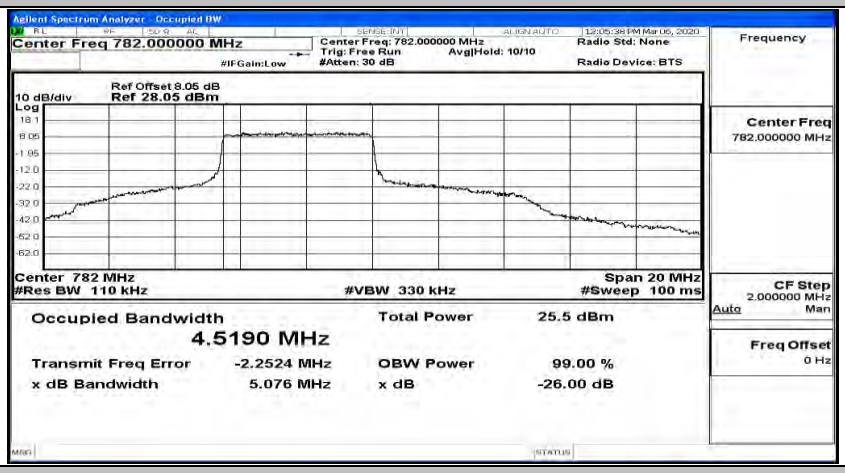
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#25



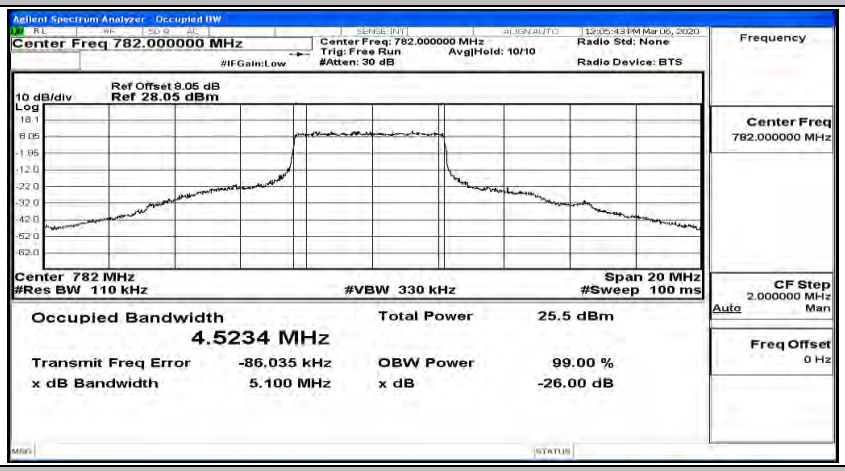
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49



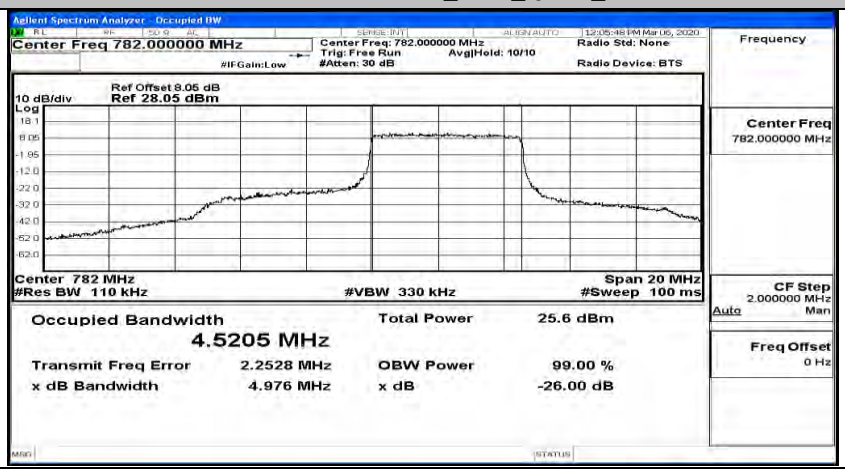
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#0



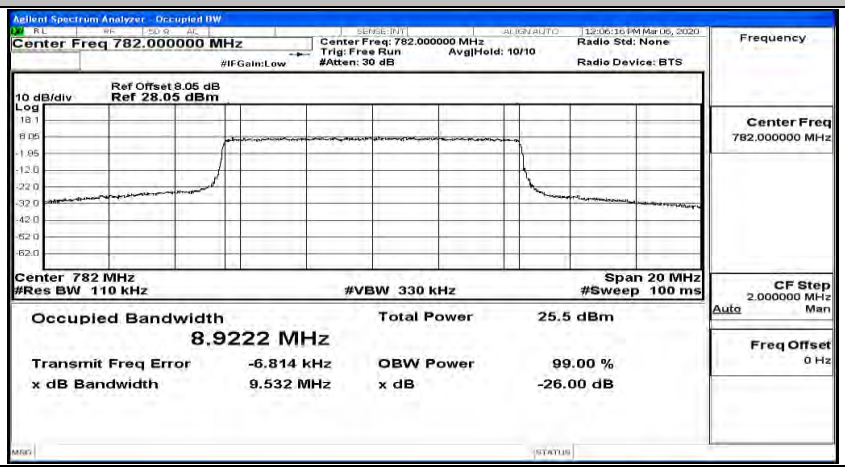
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12



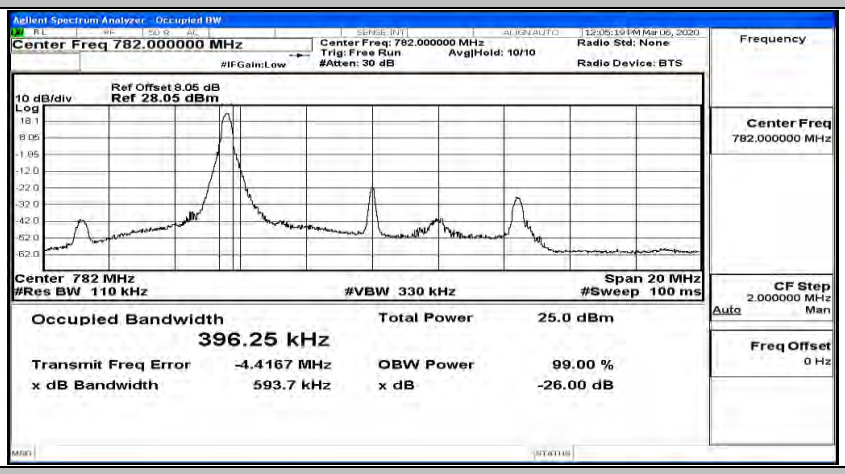
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25



Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



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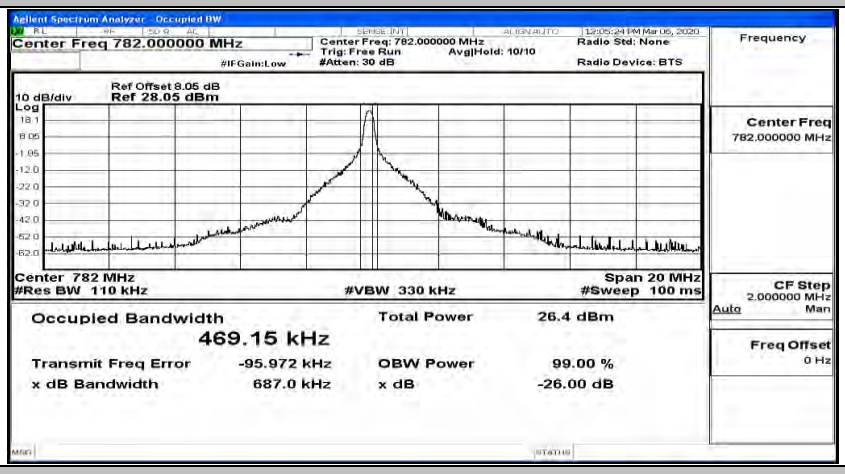
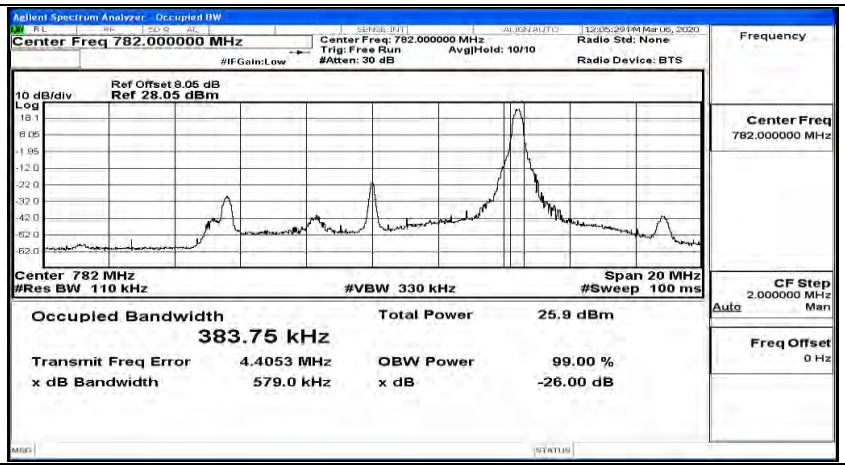
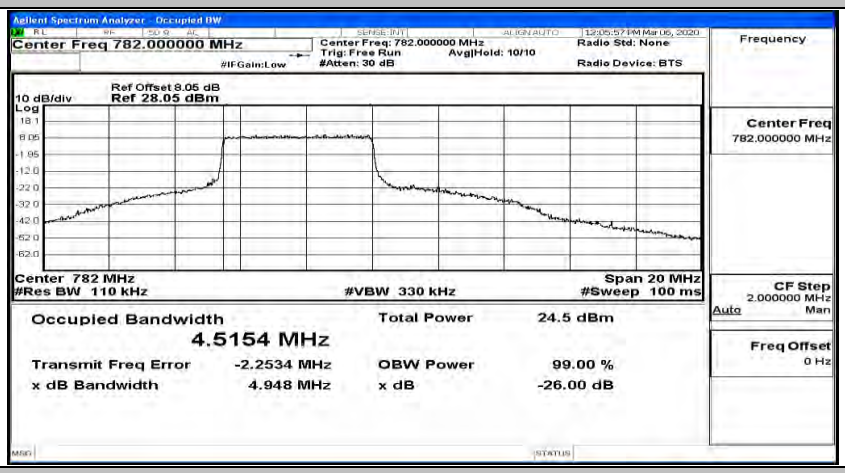


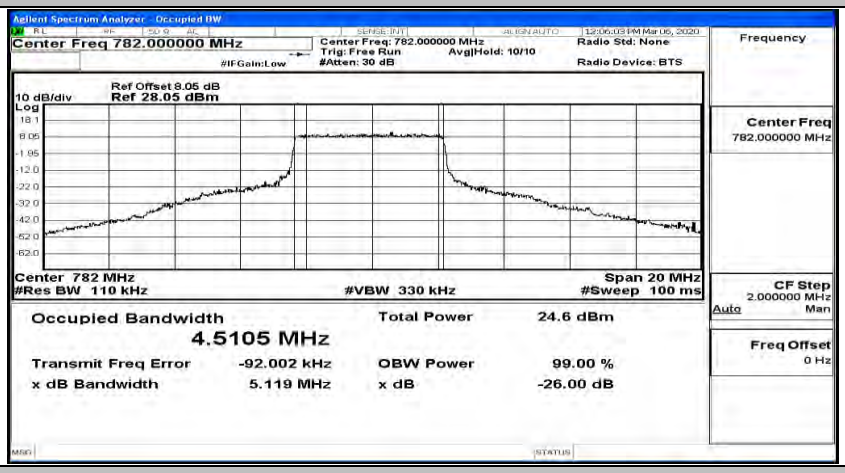
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49



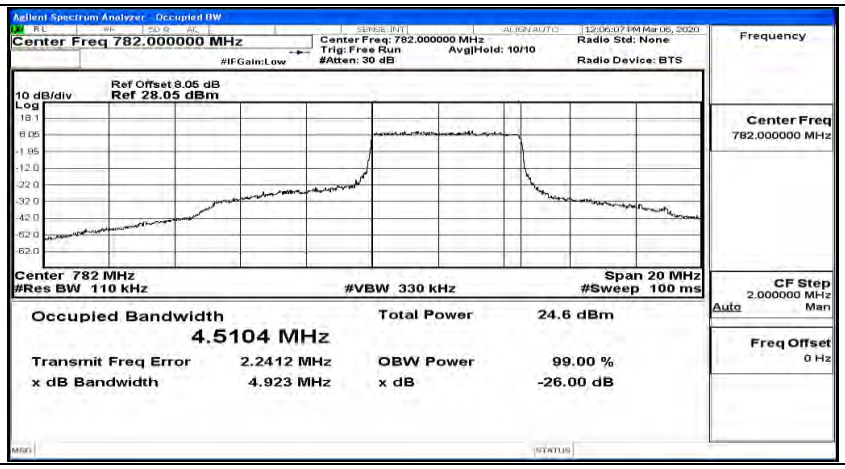
Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#



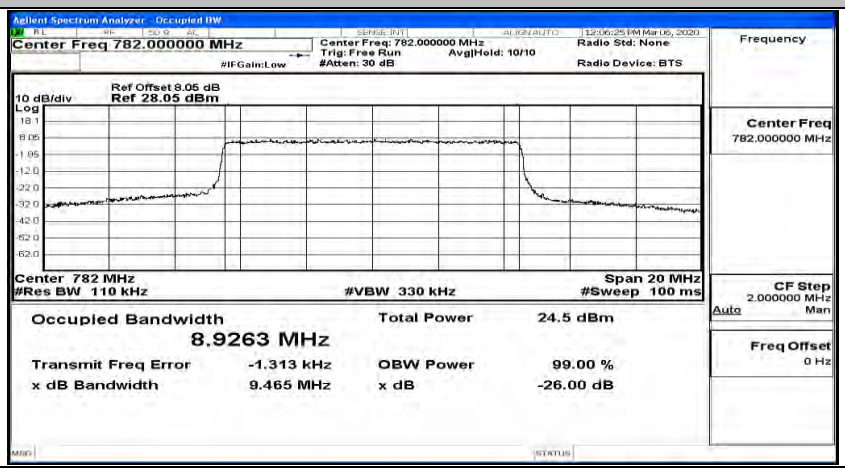
Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#12



Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#25



Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0

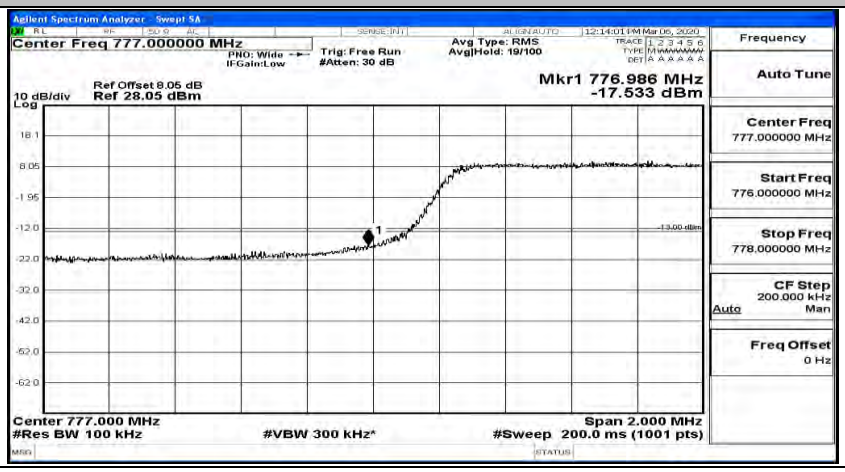


F.4: Band Edge

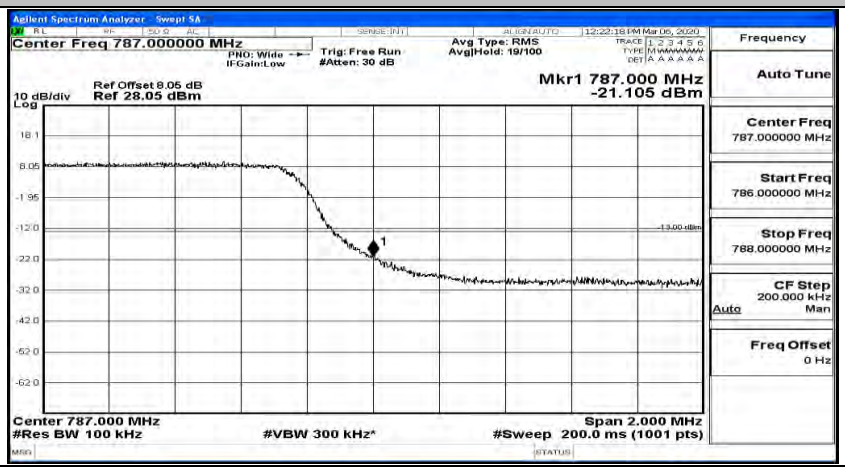
Test Graphs

Channel Bandwidth: 5 MHz

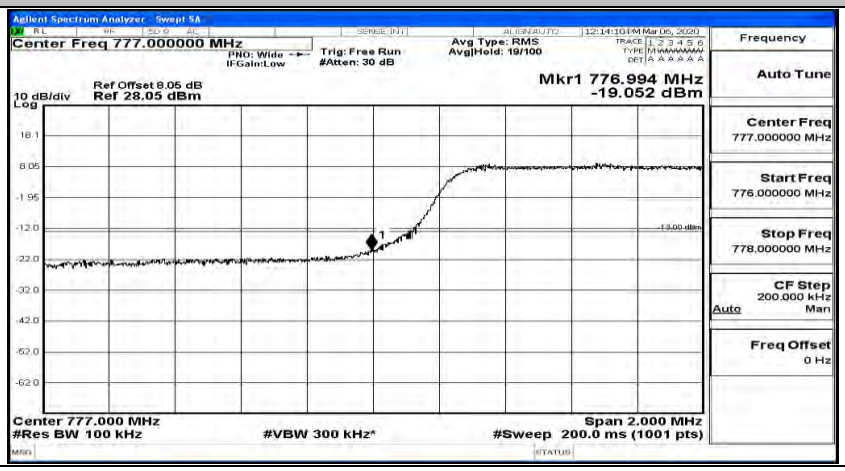
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



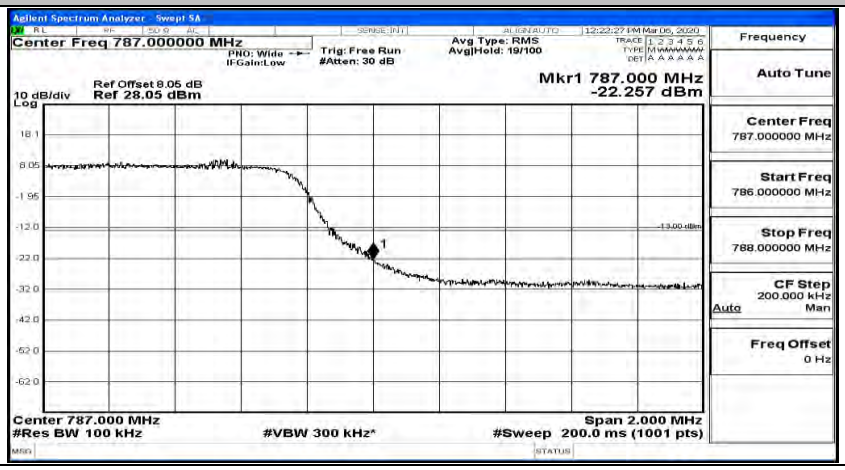
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0

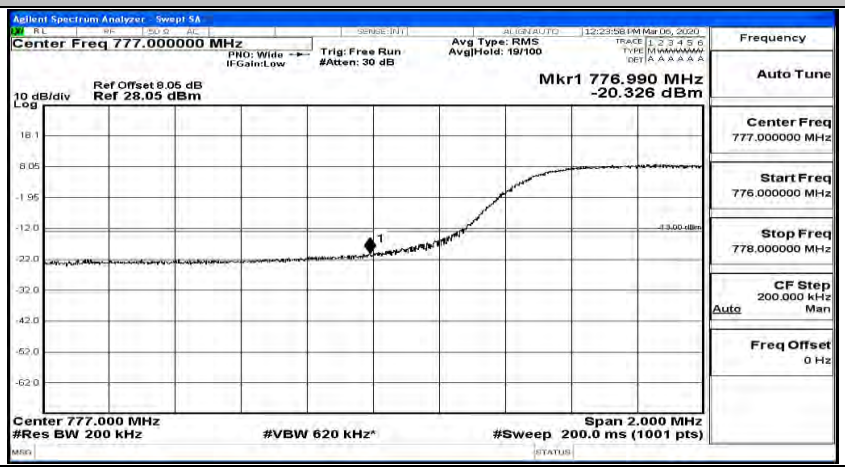


(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

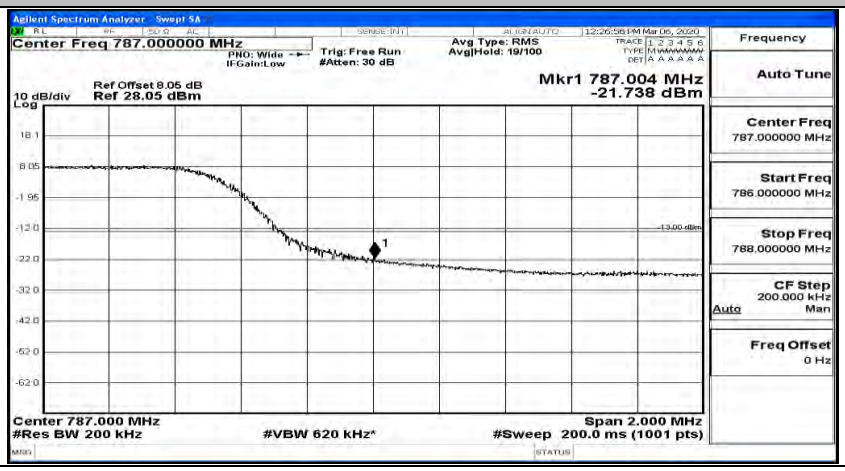


Channel Bandwidth: 10 MHz

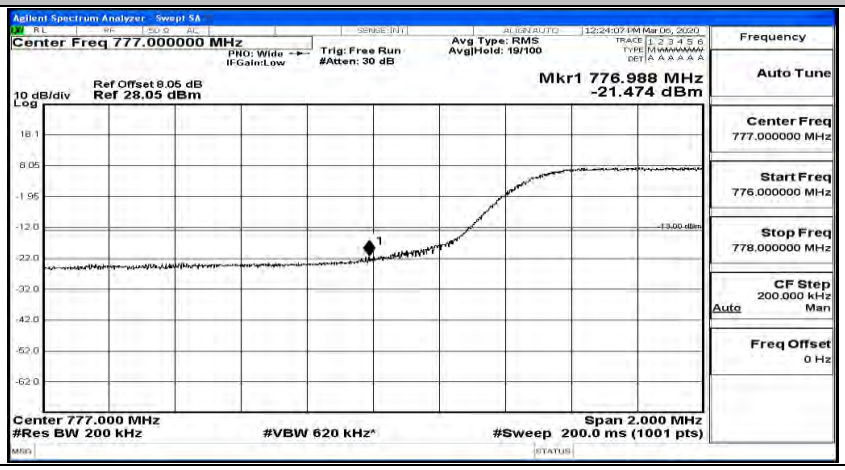
Channel Bandwidth: 10 MHz_ MCH_L _QPSK_50RB#0



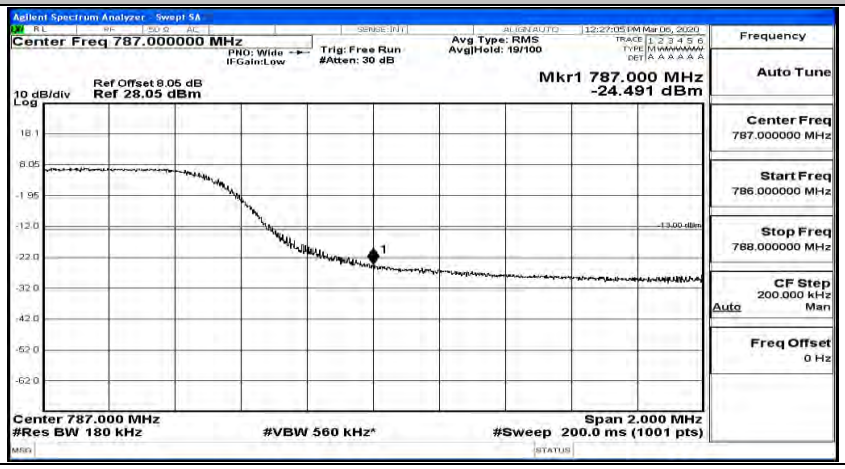
Channel Bandwidth: 10 MHz_ MCH_H _QPSK_50RB#0



Channel Bandwidth: 10 MHz_ MCH_L _16QAM_50RB#0



Channel Bandwidth: 10 MHz_ MCH_H _16QAM_50RB#0

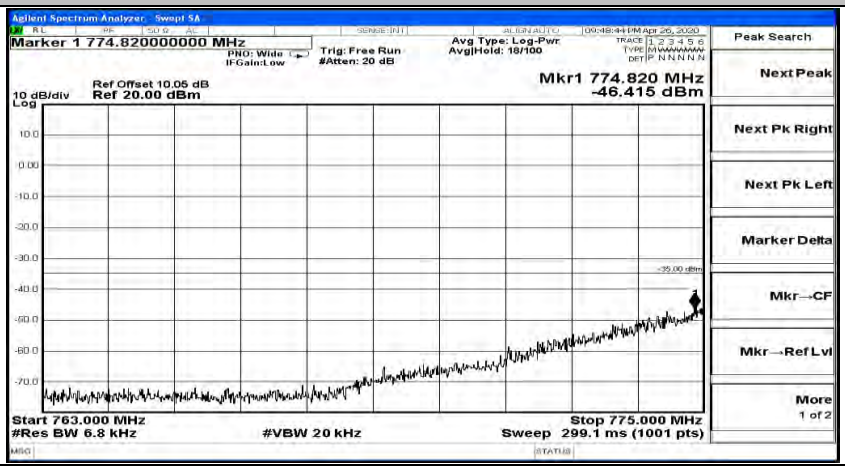


Band Edge(Additional requirement at 763MHz~775MHz,793MHz~805MHz)

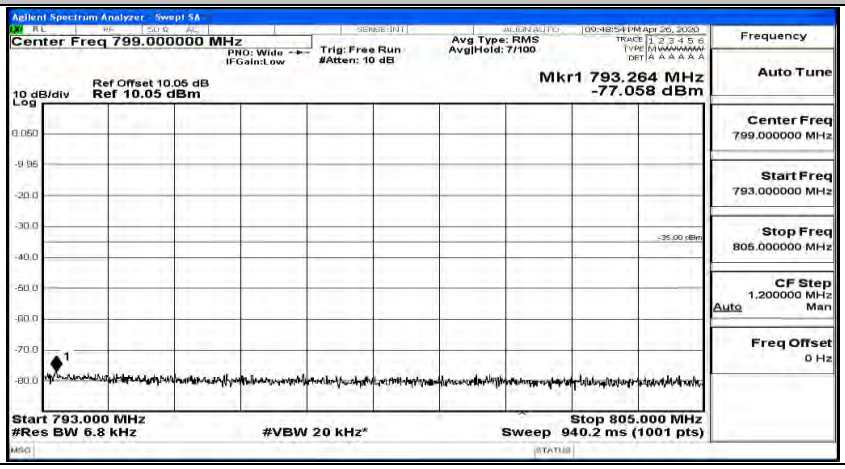
Test Graphs

Channel Bandwidth: 5 MHz

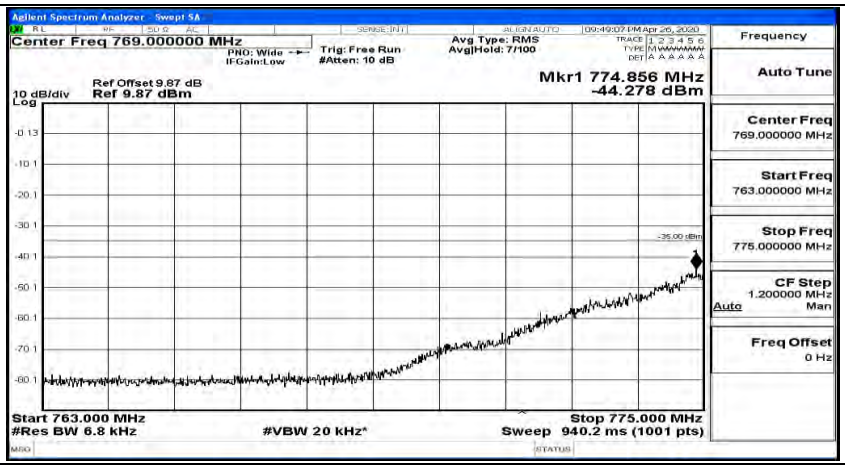
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



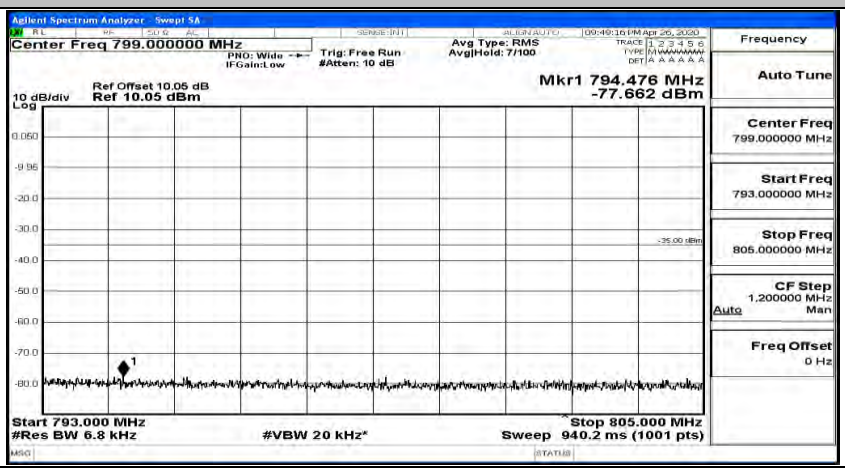
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0

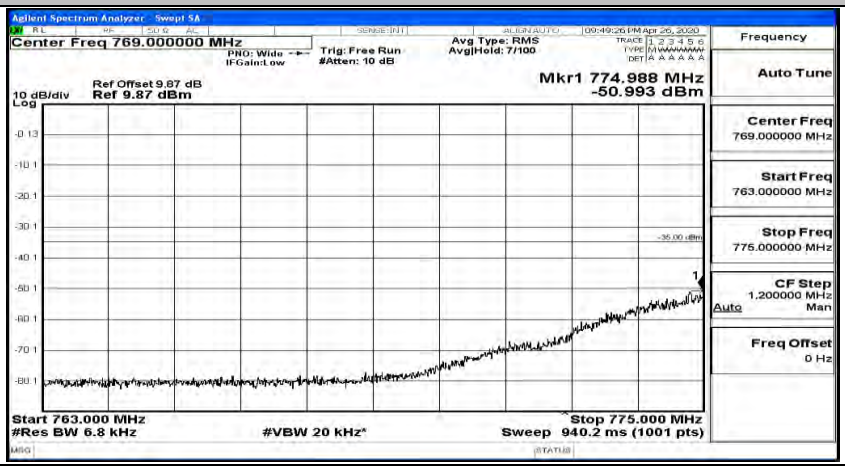


(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

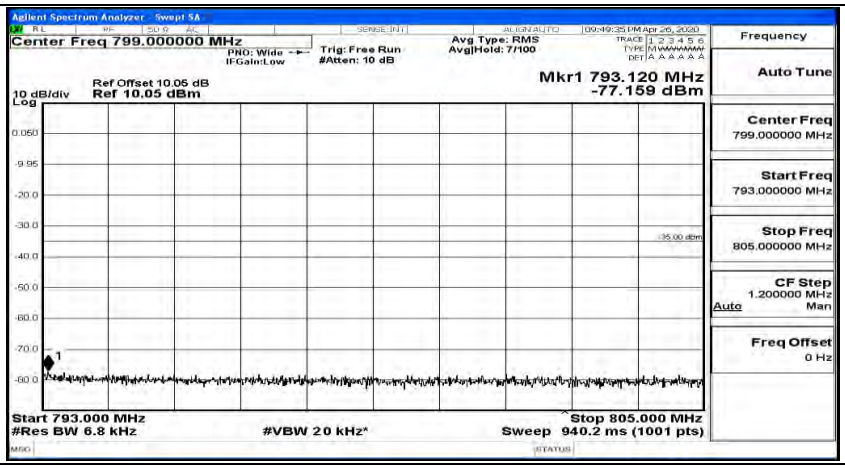


Channel Bandwidth: 10 MHz

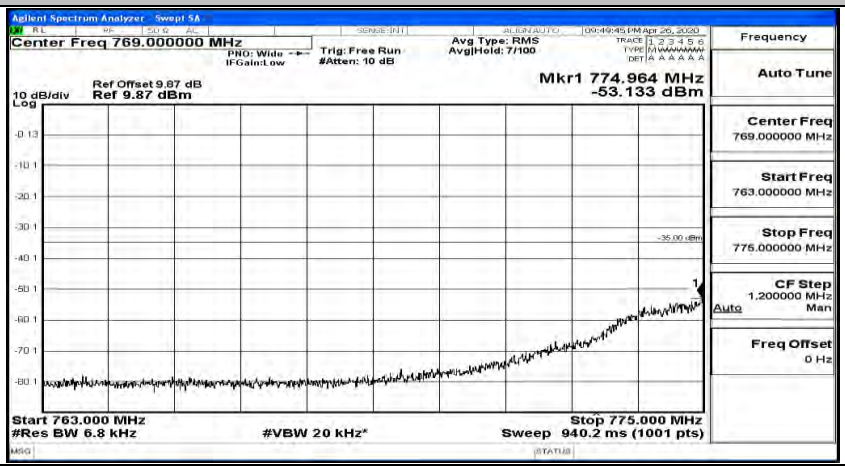
Channel Bandwidth: 10 MHz_LCH_QPSK_50RB#0



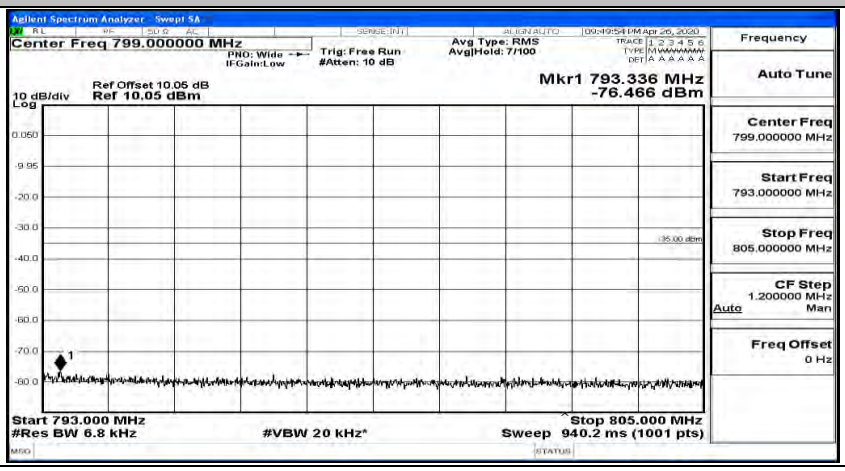
Channel Bandwidth: 10 MHz_HCH_QPSK_50RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_50RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_50RB#0

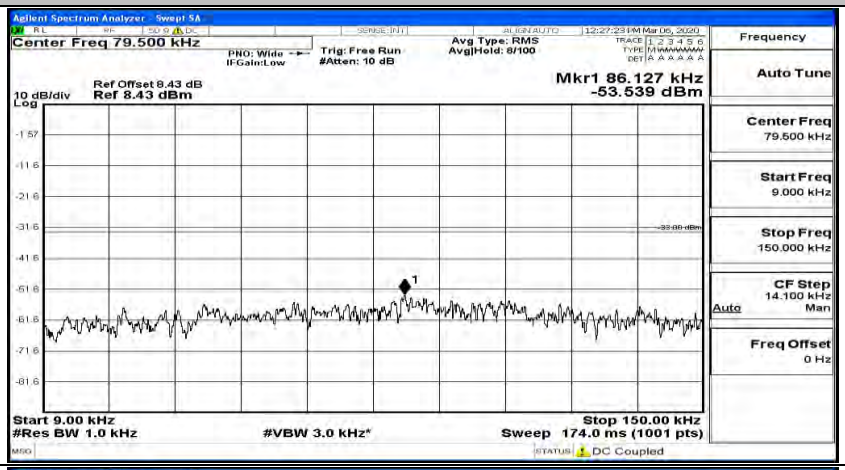


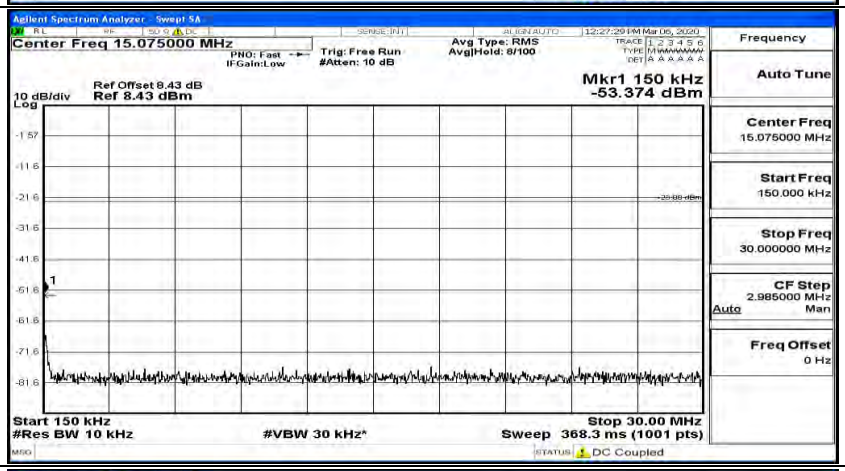
Appendix E: Conducted Spurious Emission

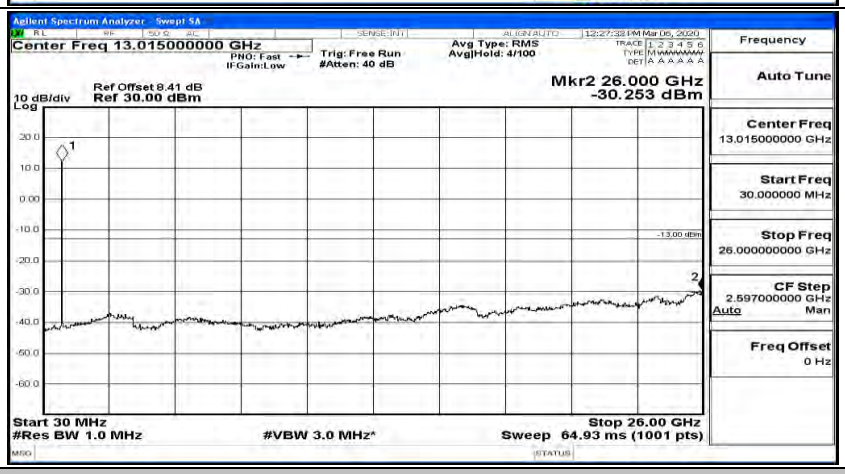
Test Graphs

Channel Bandwidth: 5 MHz

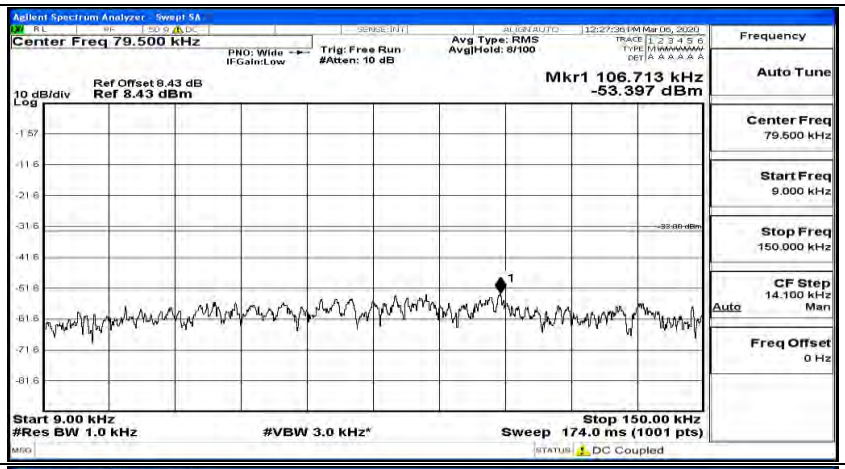
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0

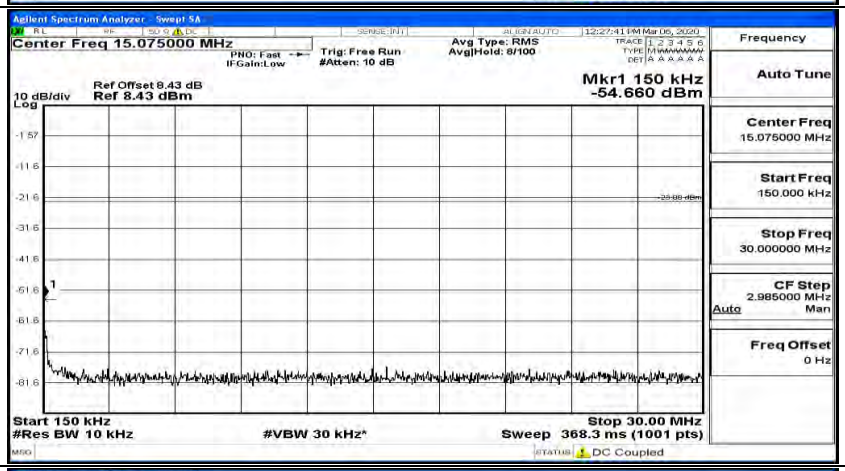




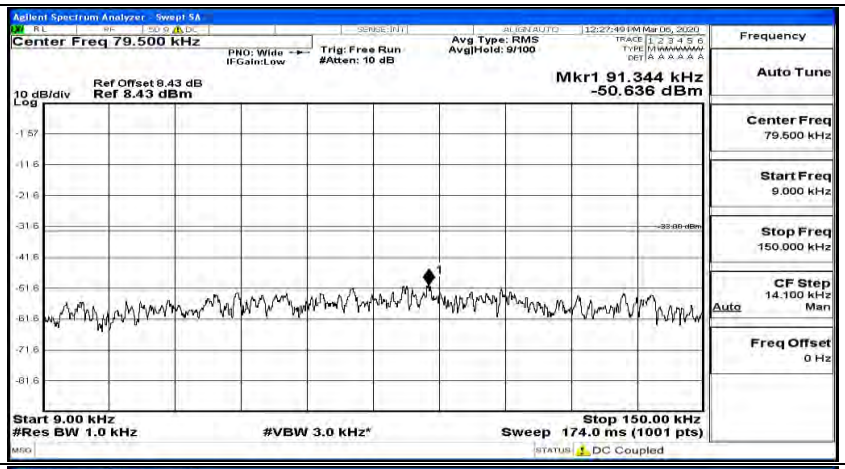


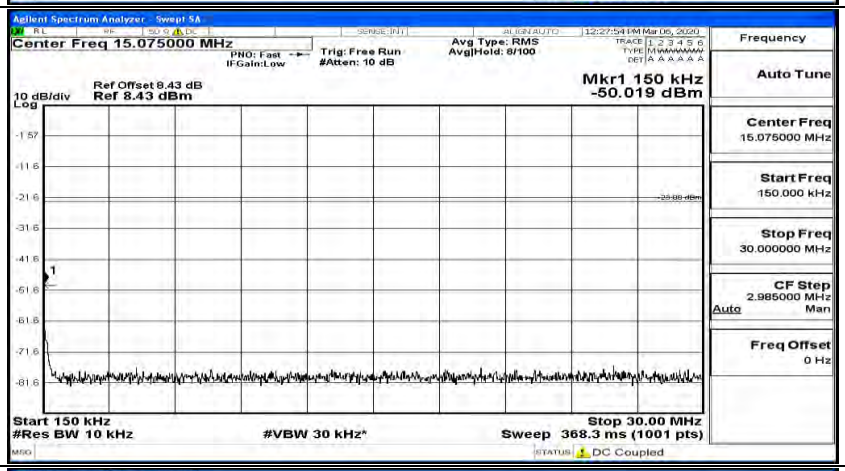
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12





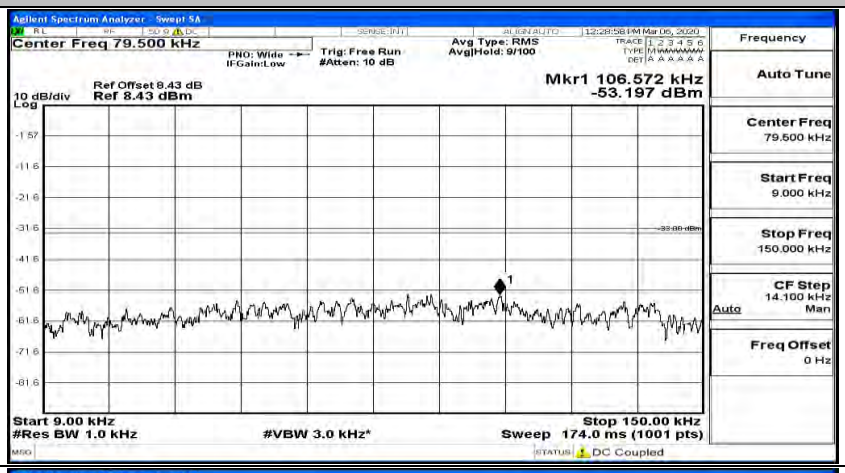
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

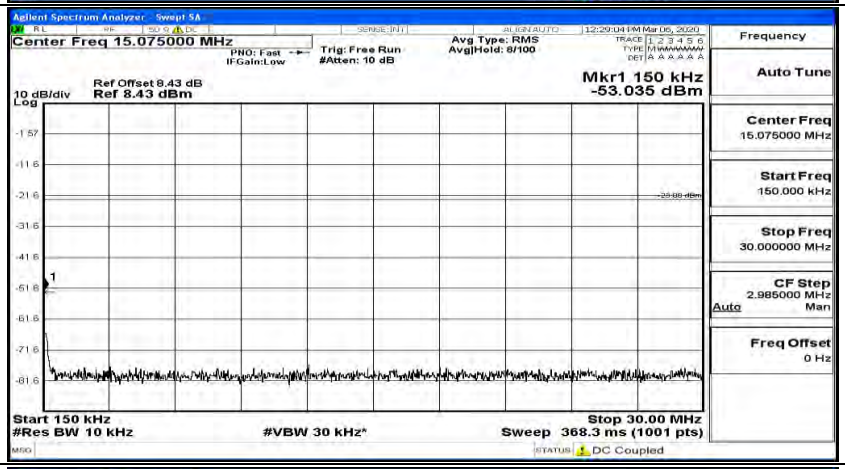

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
12:27:49 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 91.344 kHz
-50.636 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:27:54 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-50.019 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

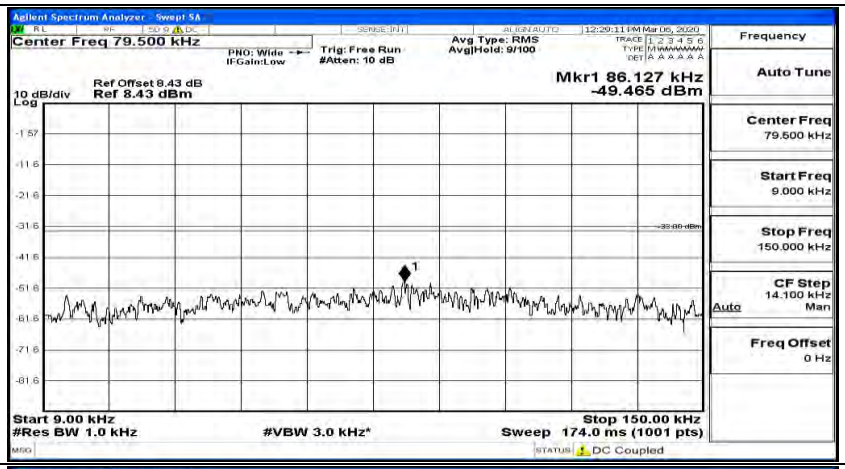
Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:27:57 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 25.766 GHz
-29.905 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

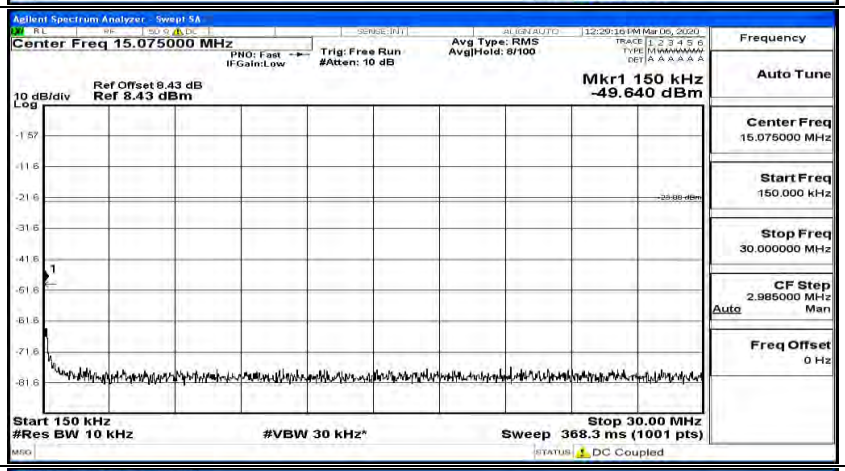
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



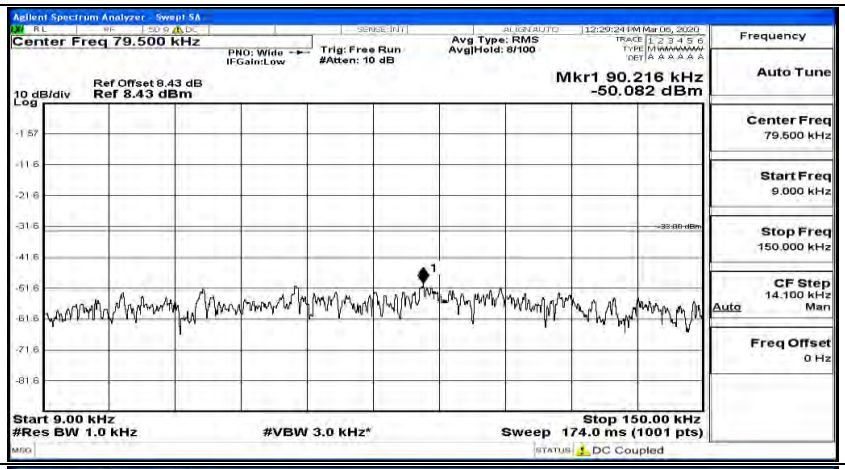


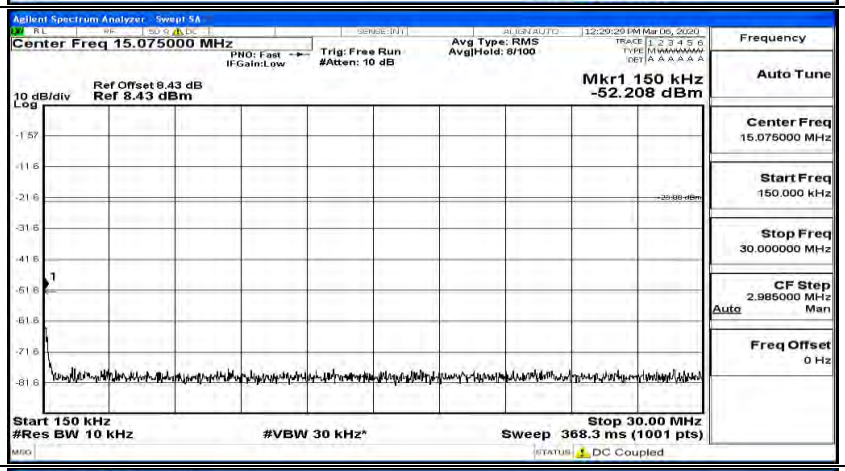
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12





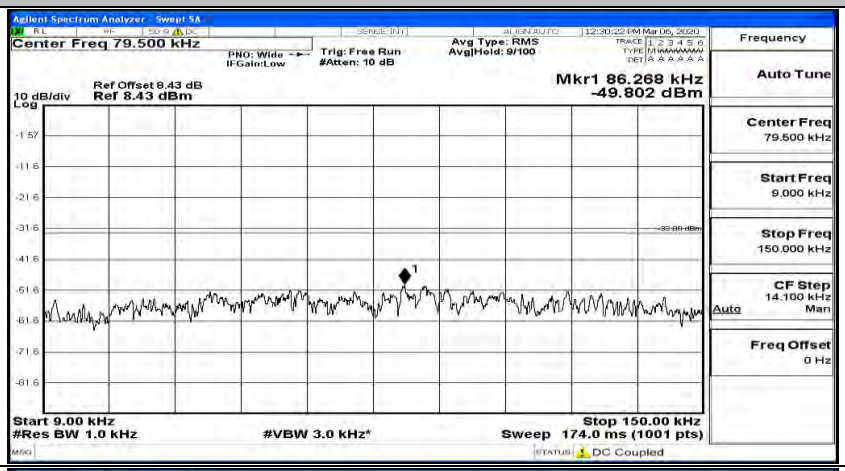
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

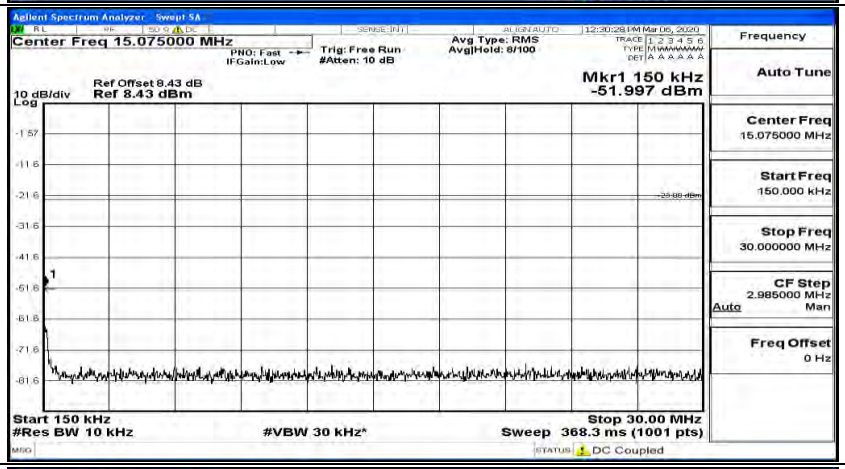

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:29:24 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 90.216 kHz
-50.082 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:29:29 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-52.208 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

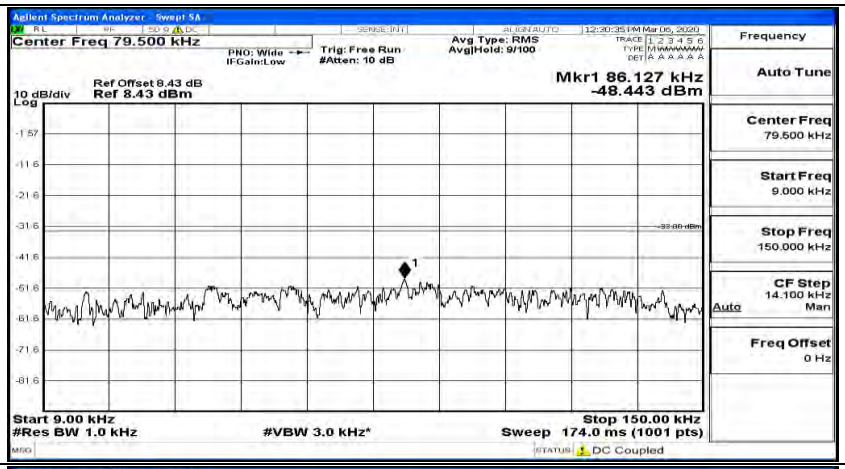
Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:29:33 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 25.688 GHz
-30.248 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

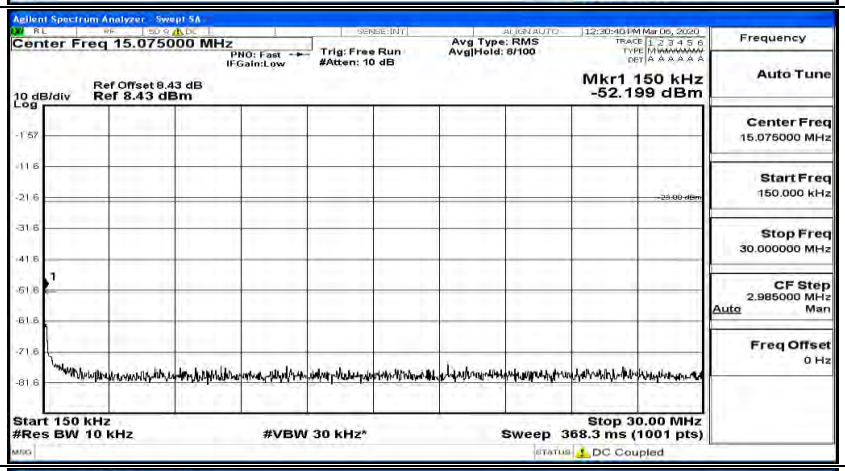
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



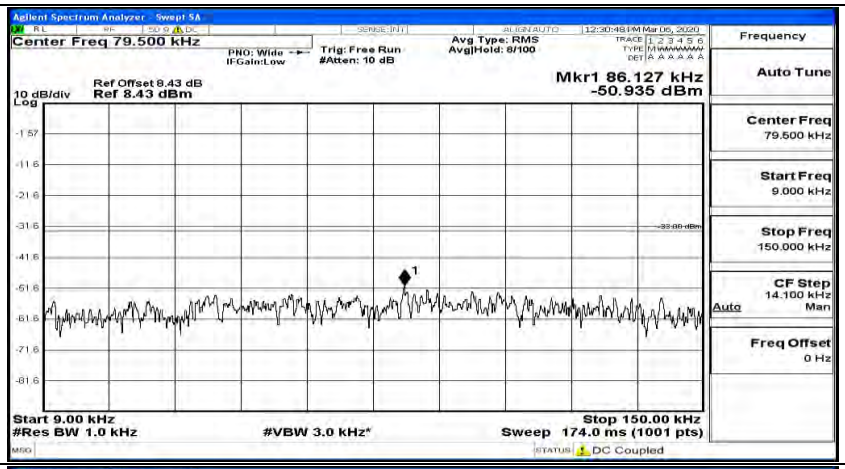


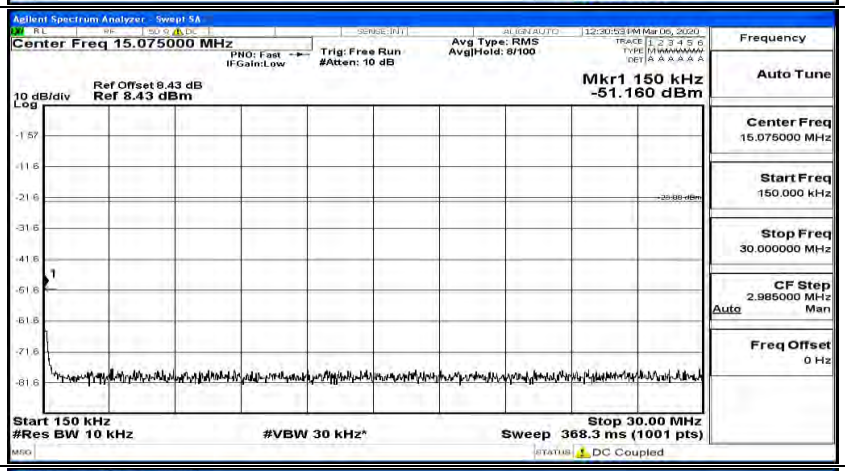
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12





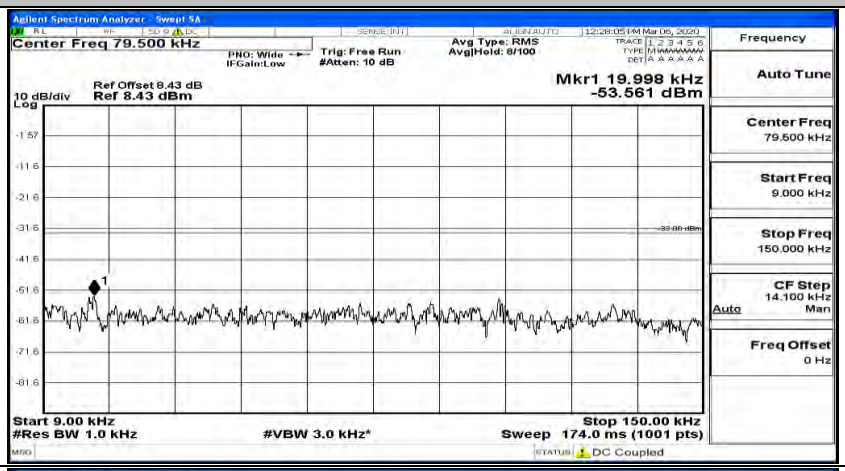
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

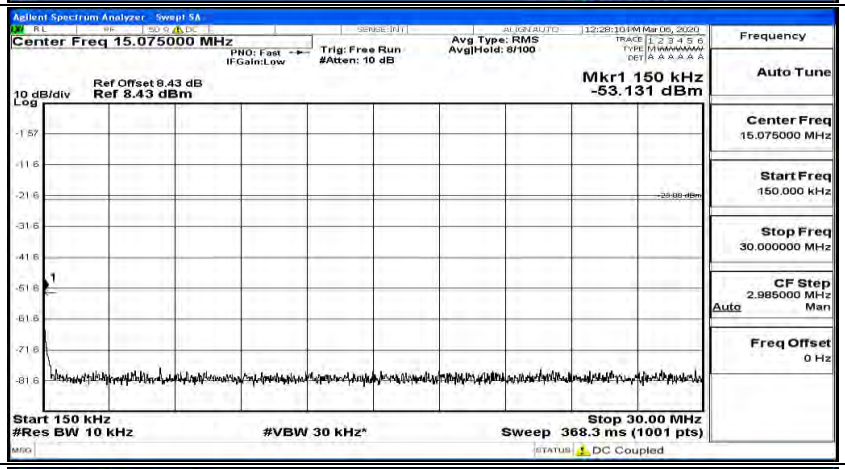

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:30:48 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 86.127 kHz
-50.935 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz

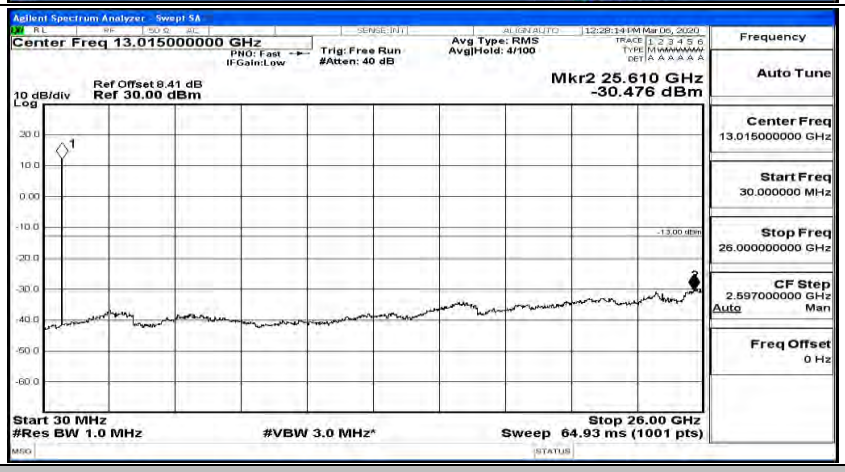

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:30:53 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-51.160 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:30:56 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 25.662 GHz
-29.871 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

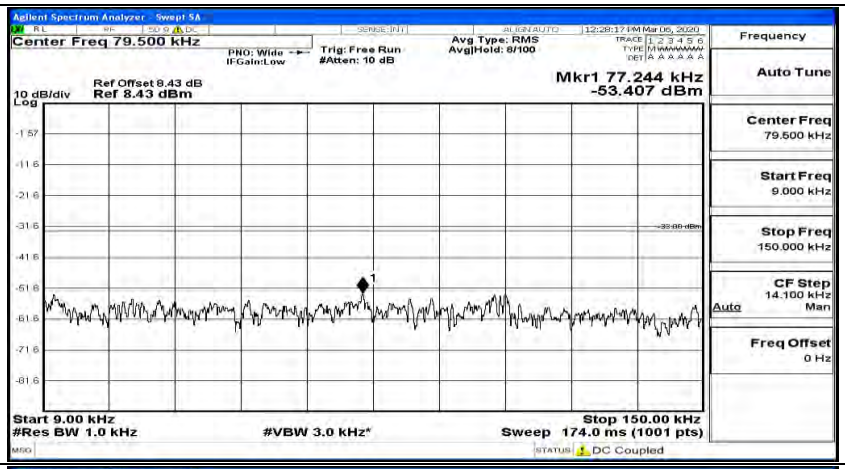
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0

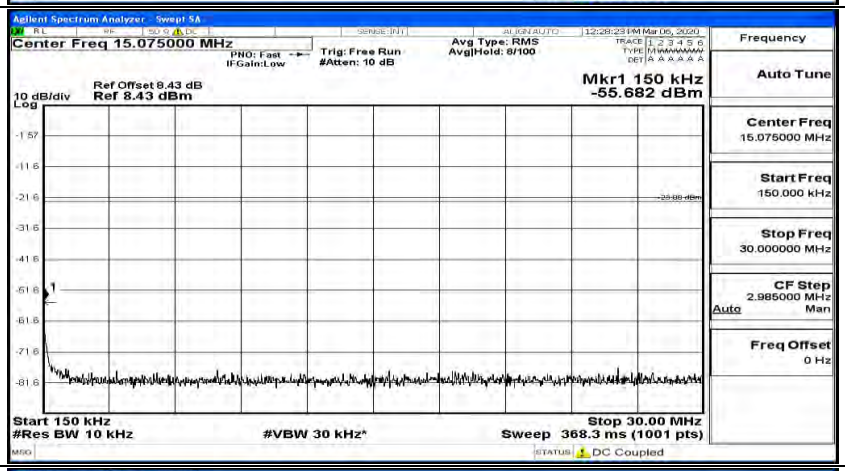




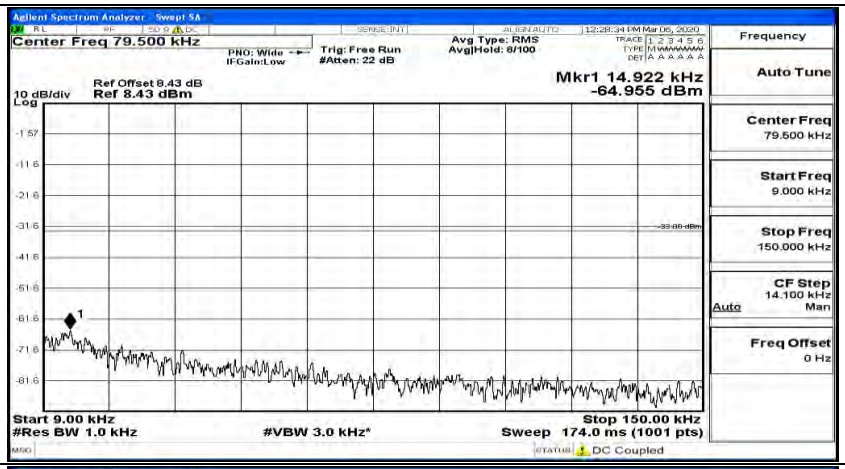


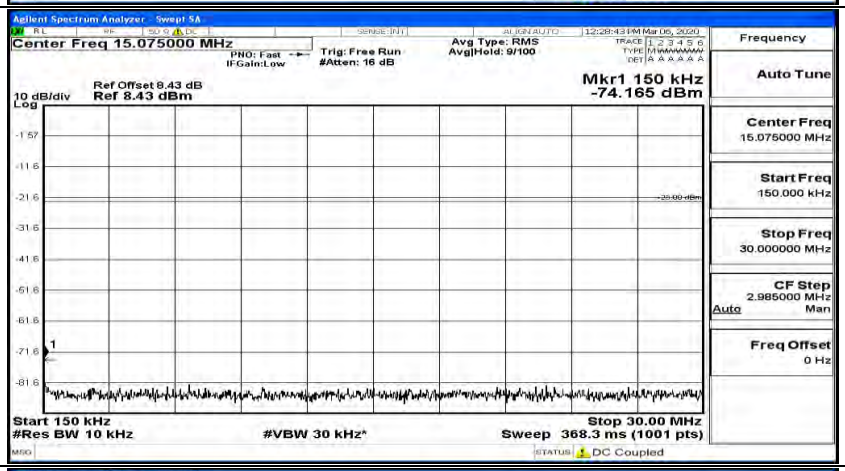
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12





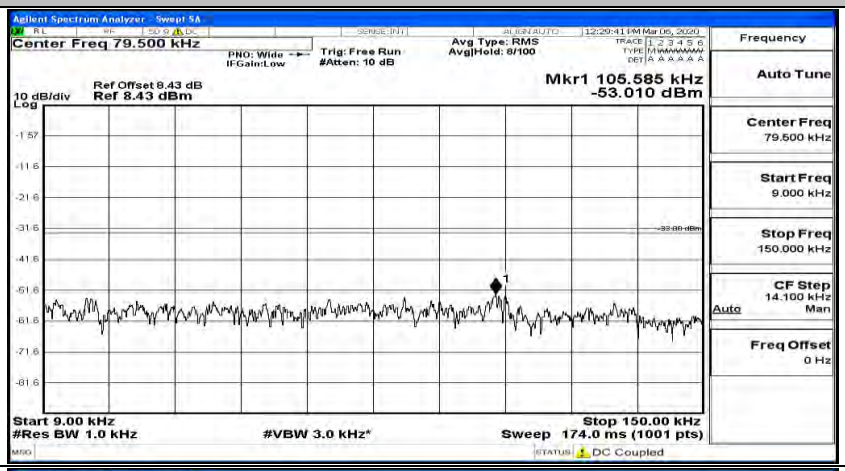
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

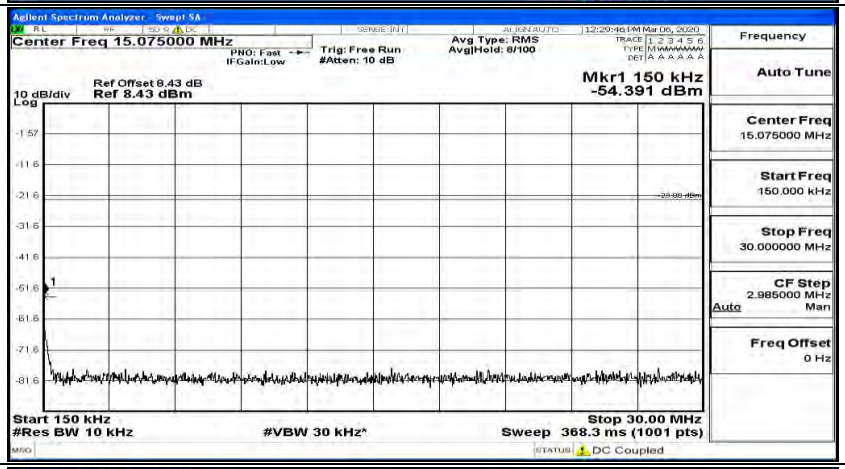

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 22 dB
Avg Type: RMS
Avg|Hold: 8/100
12:28:34 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 14.922 kHz
-64.955 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
12:28:43 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-74.165 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

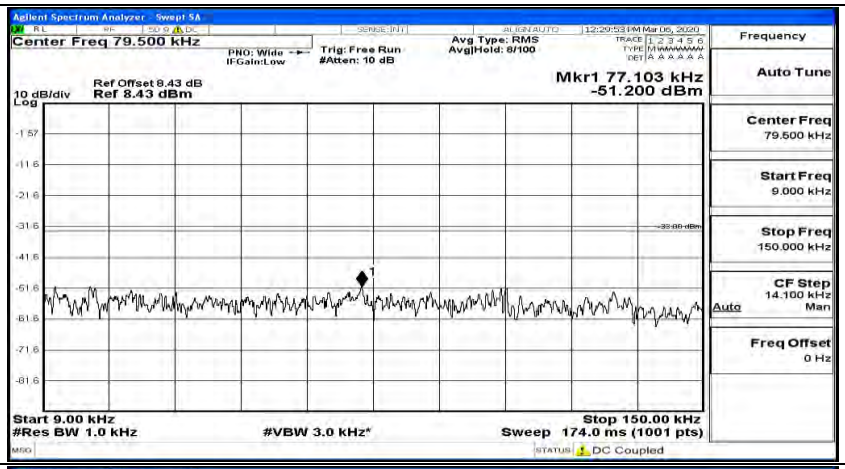
Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:28:47 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 26.000 GHz
-29.964 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

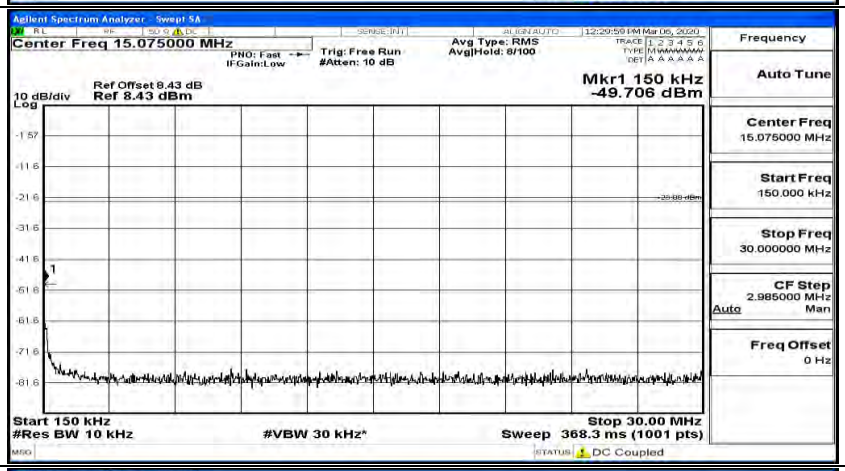
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



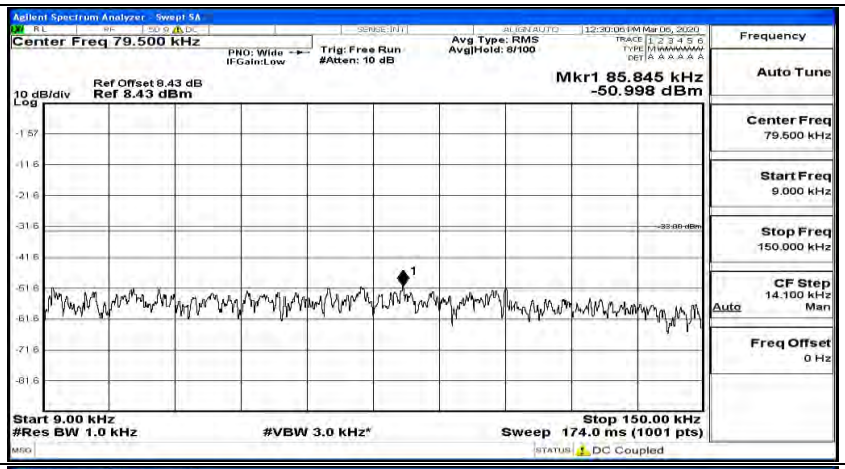


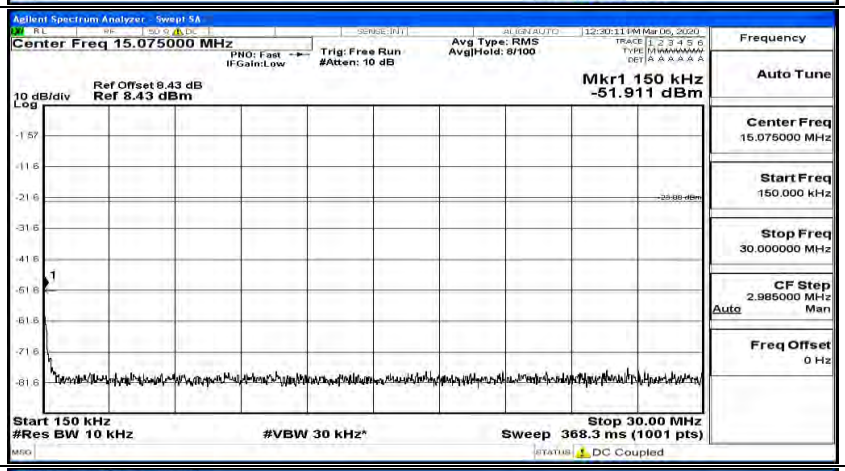
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12





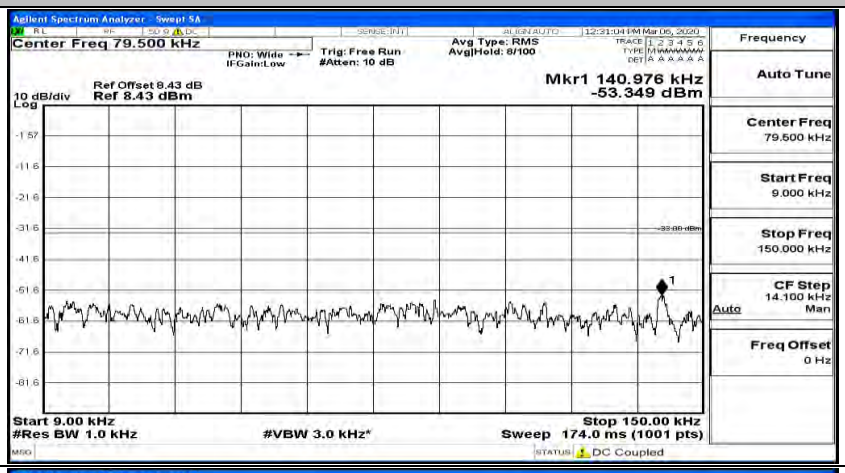
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

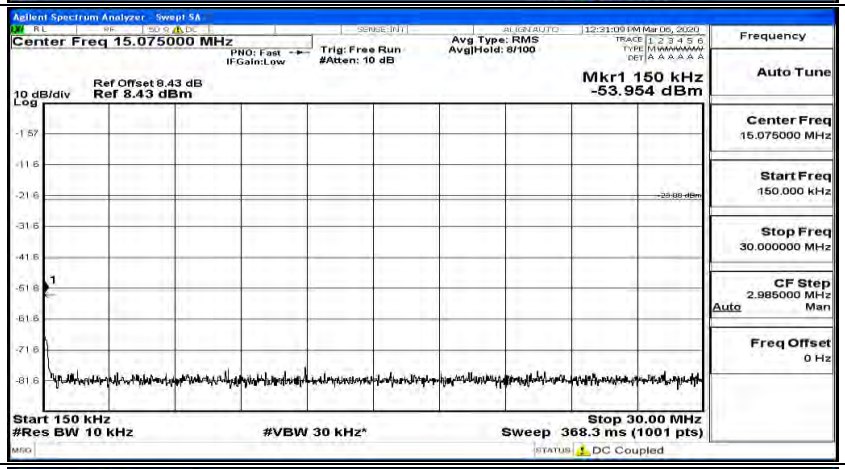

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:20:06 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 85.845 kHz
-50.998 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz

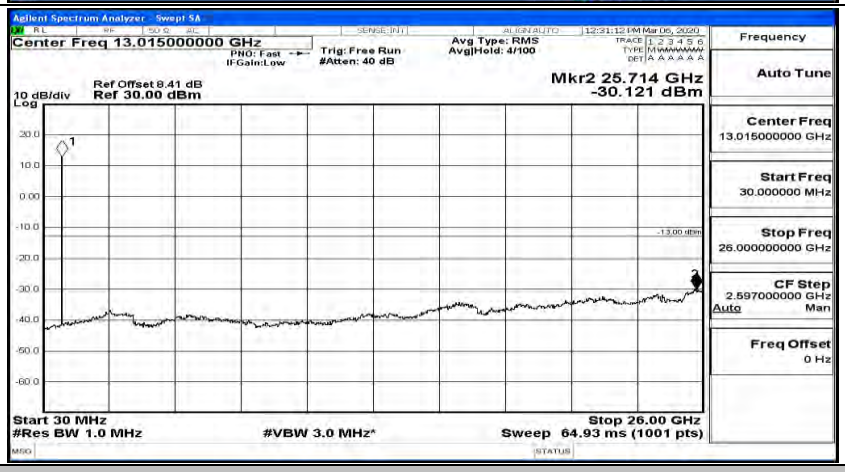

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:30:11 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-51.911 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:30:15 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 25.610 GHz
-30.233 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

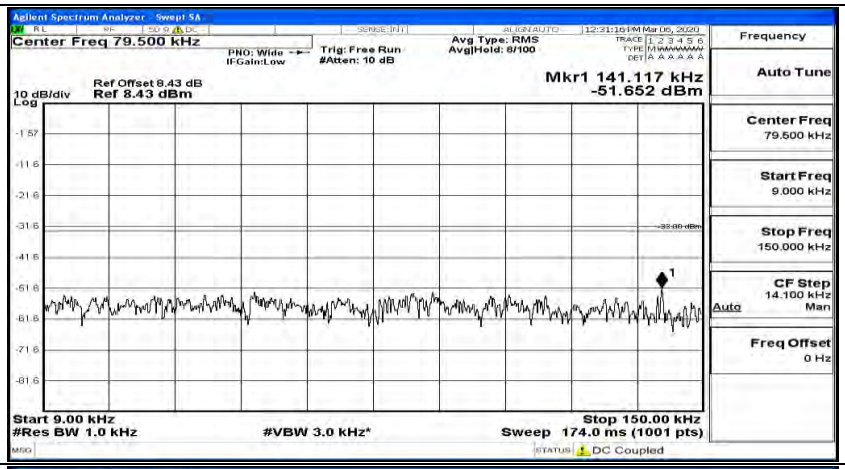
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0

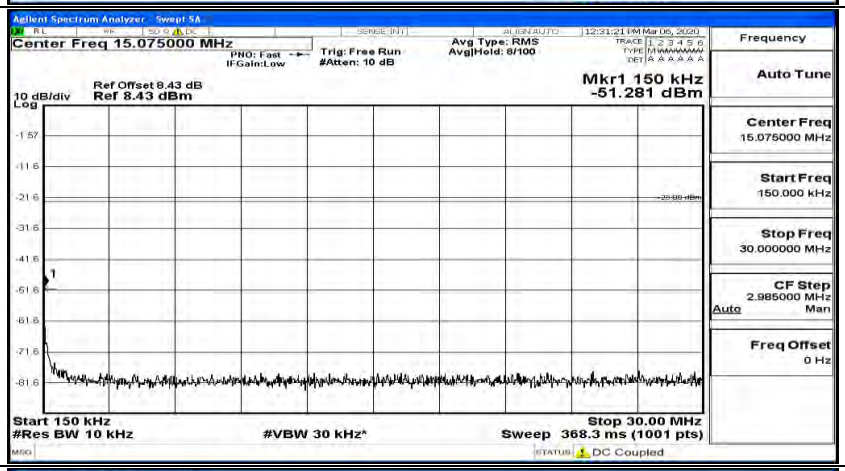




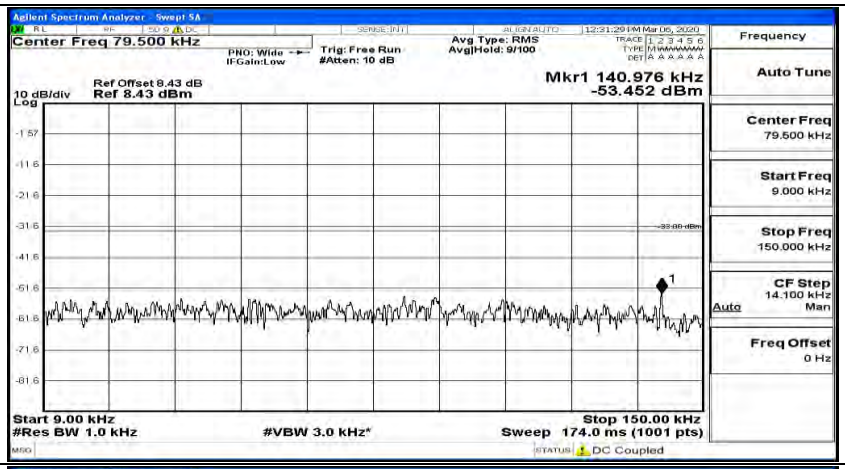


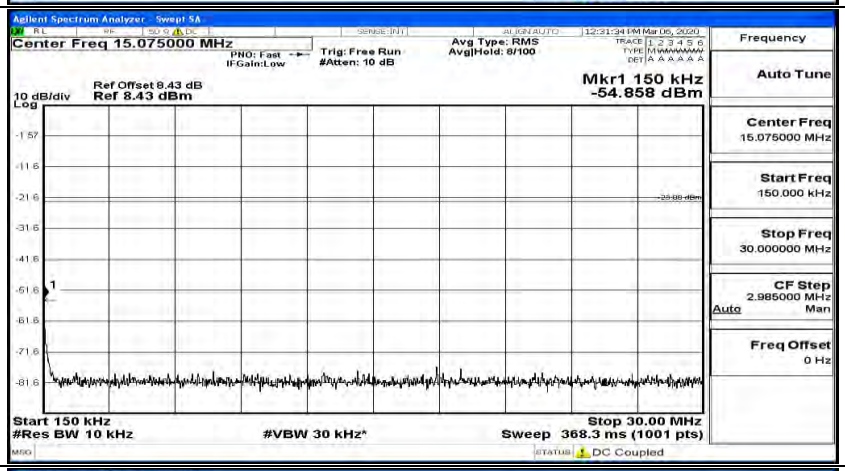
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12





(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

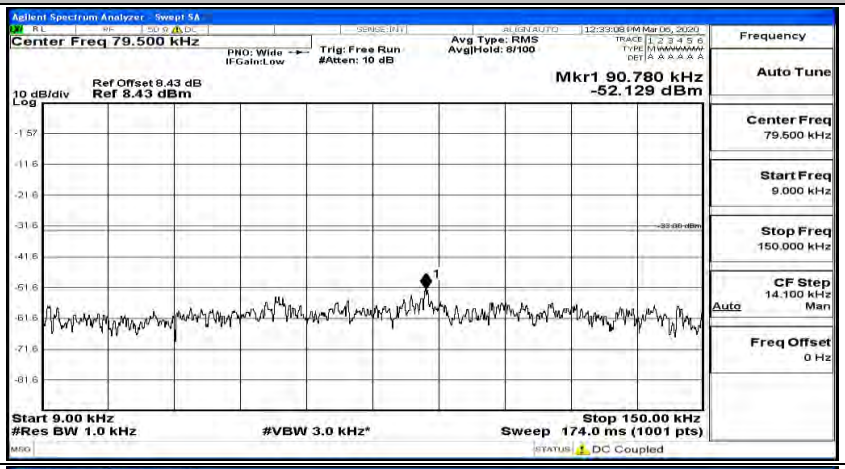

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
12:31:29 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 140.976 kHz
-53.452 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 79.500 kHz
Start Freq 9.000 kHz
Stop Freq 150.000 kHz
CF Step 14.100 kHz
Auto Man
Freq Offset 0 Hz

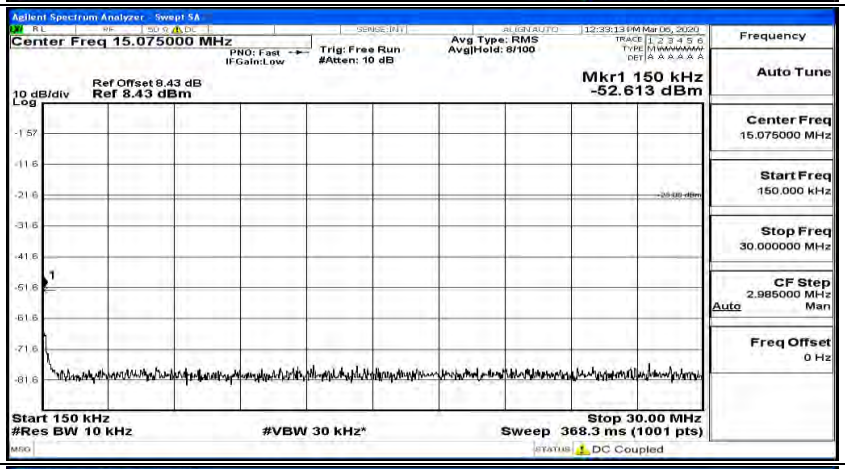

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:31:34 PM Mar 06, 2020
Ref Offset 8.43 dB
10 dB/div Ref 8.43 dBm
Log
Mkr1 150 kHz
-54.858 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq 15.075000 MHz
Start Freq 150.000 kHz
Stop Freq 30.000000 MHz
CF Step 2.985000 MHz
Auto Man
Freq Offset 0 Hz

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:31:37 PM Mar 06, 2020
Ref Offset 8.41 dB
10 dB/div Ref 30.00 dBm
Log
Mkr2 25.559 GHz
-30.295 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz
Auto Man
Freq Offset 0 Hz

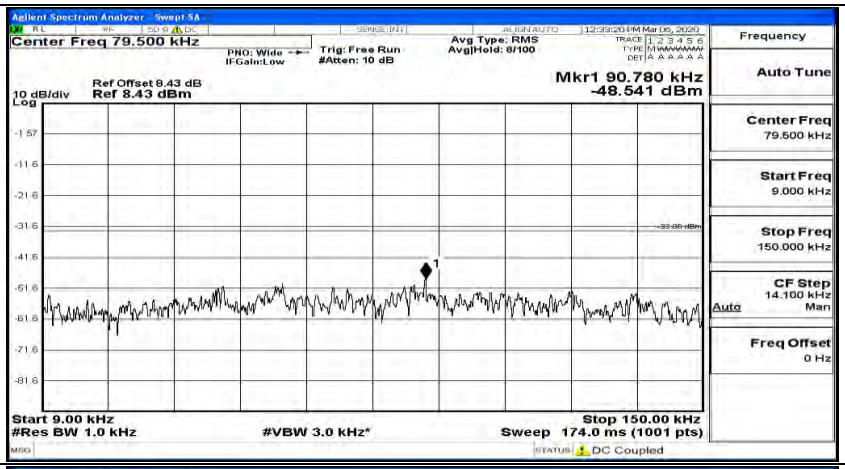
Channel Bandwidth: 10 MHz

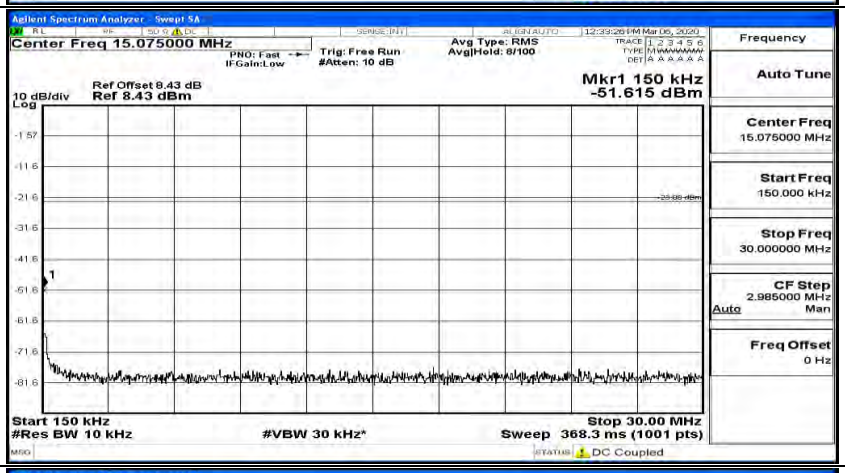
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



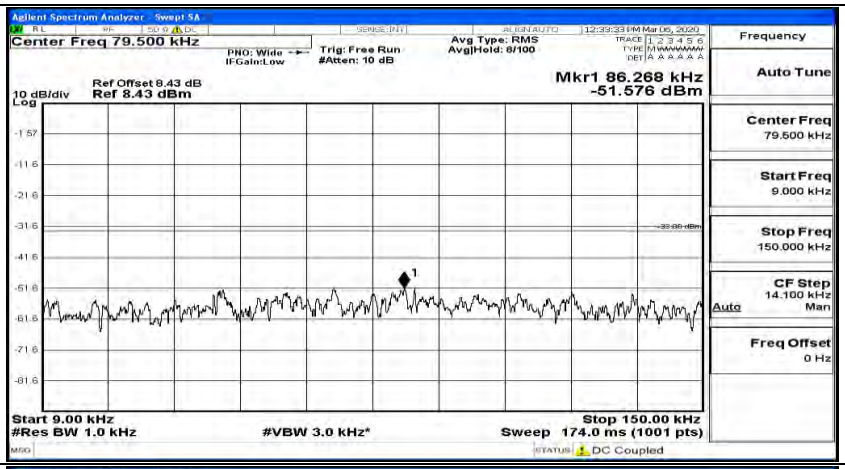


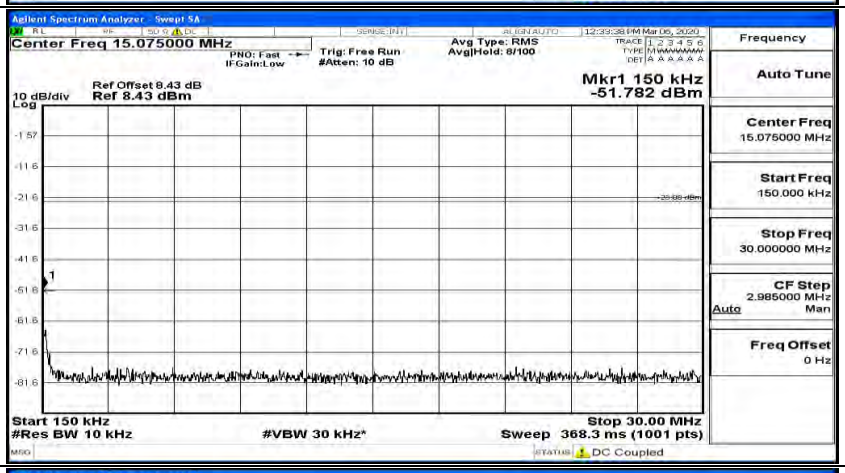
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24





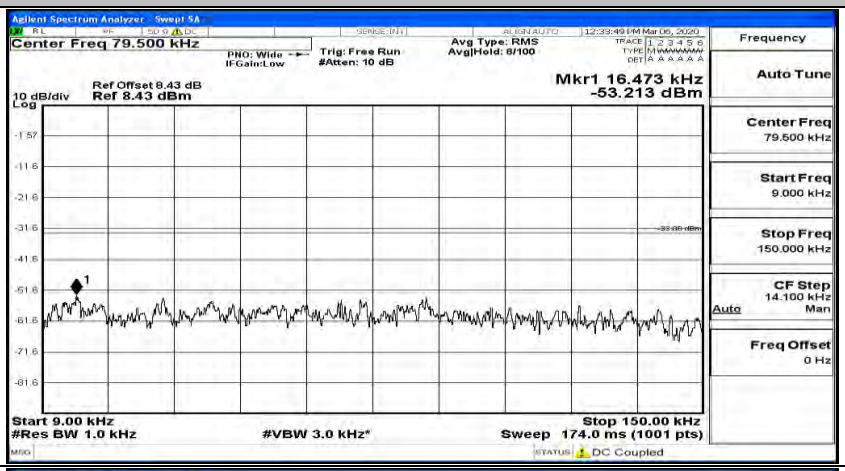
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

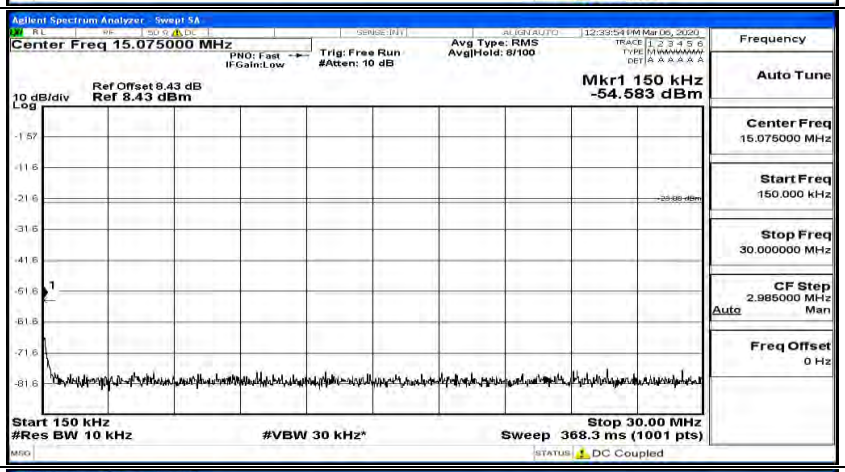

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:39:33 PM Mar 06, 2020
Mkr1 86.268 kHz
-51.576 dBm
Ref Offset 8.43 dB
10 dB/div
Ref 8.43 dBm
Log
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
12:39:38 PM Mar 06, 2020
Mkr1 150 kHz
-51.782 dBm
Ref Offset 8.43 dB
10 dB/div
Ref 8.43 dBm
Log
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz

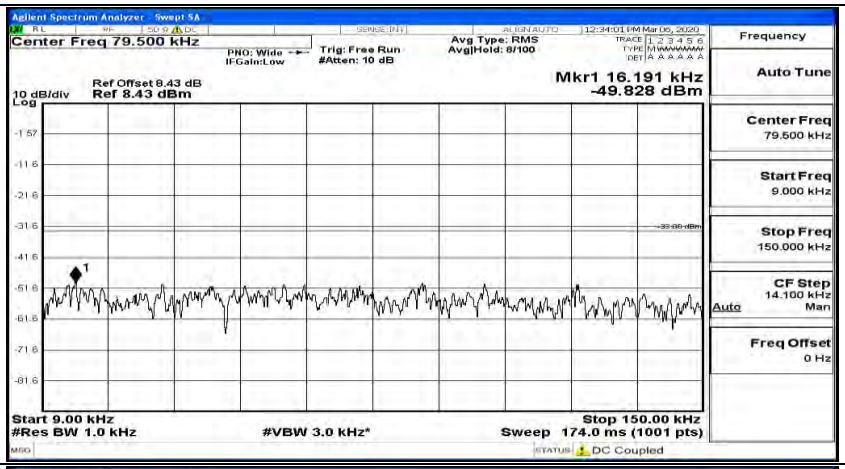
Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 4/100
12:39:41 PM Mar 06, 2020
Mkr2 26.000 GHz
-29.825 dBm
Ref Offset 8.41 dB
10 dB/div
Ref 30.00 dBm
Log
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

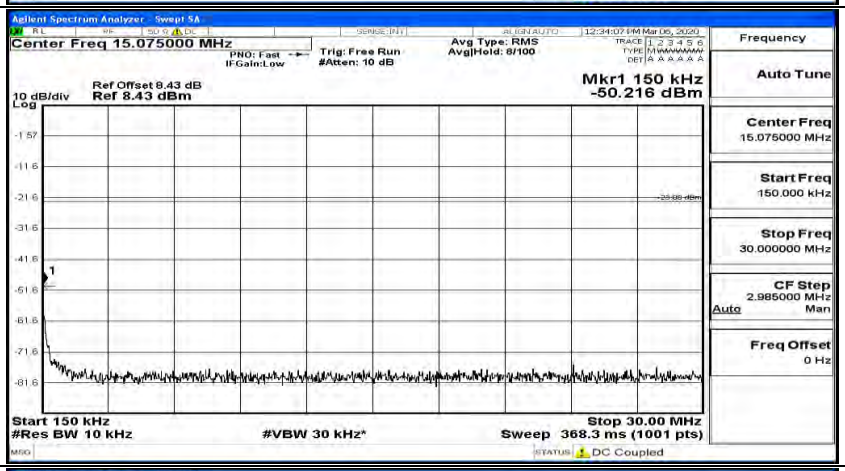
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



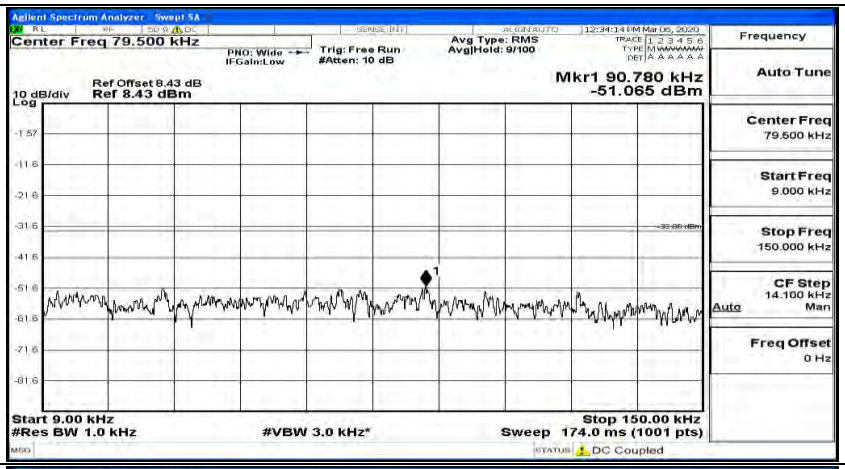


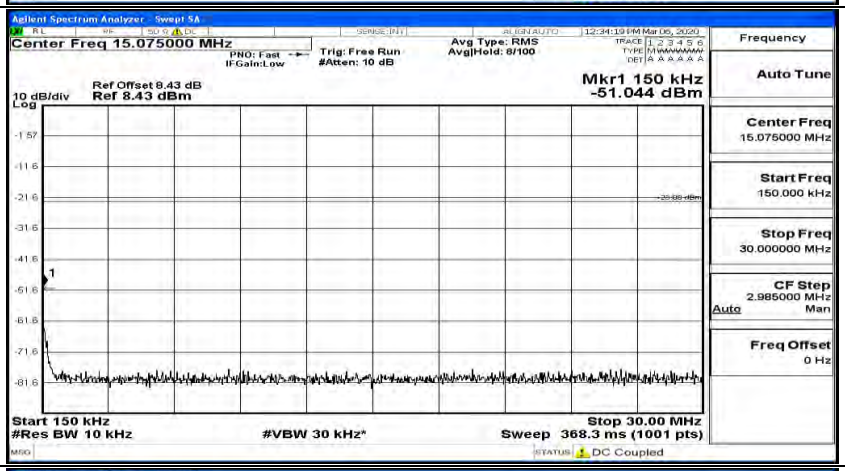
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

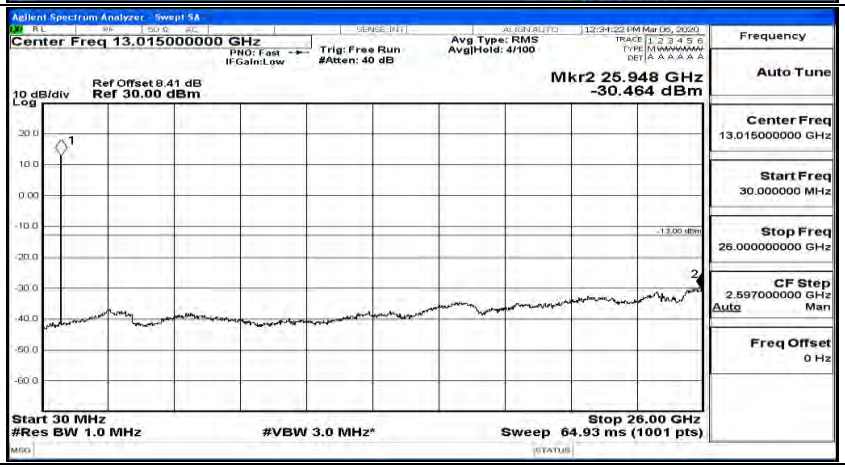




Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49





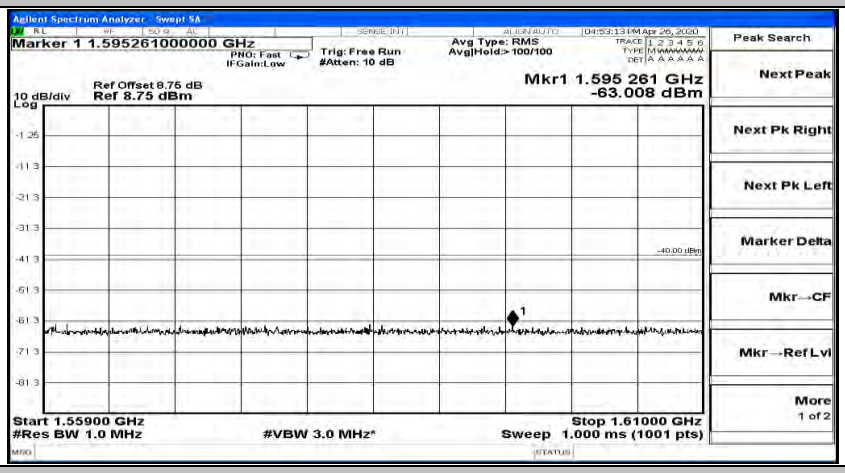


Appendix F: Additional Spurious requirement(1559MHz~1610MHz)

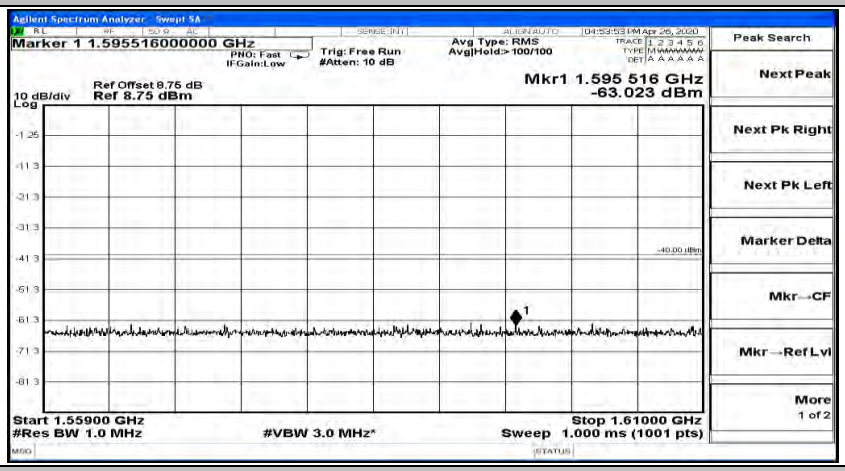
Test Graphs

Channel Bandwidth: 5 MHz

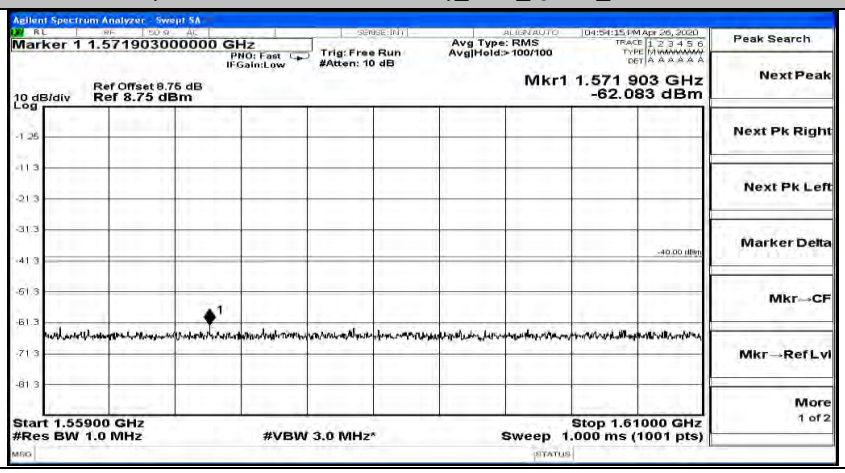
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



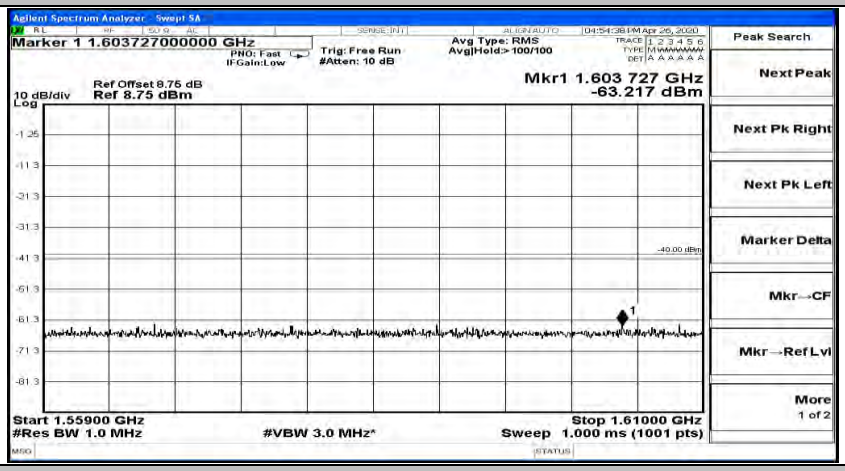
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



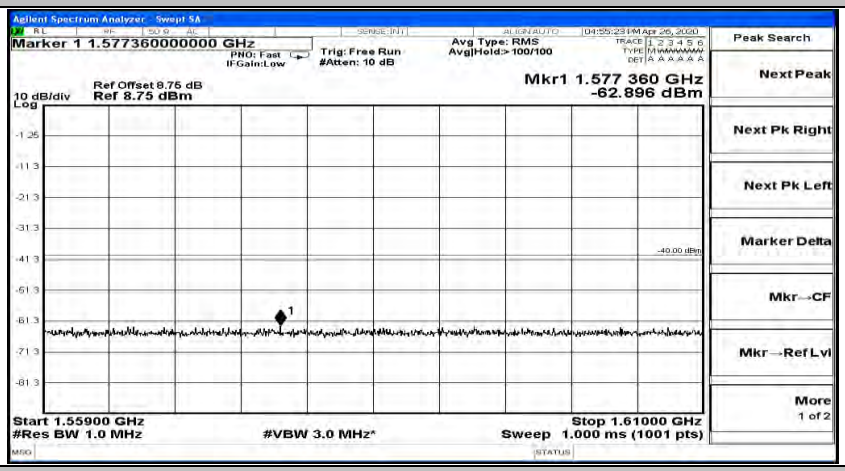
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



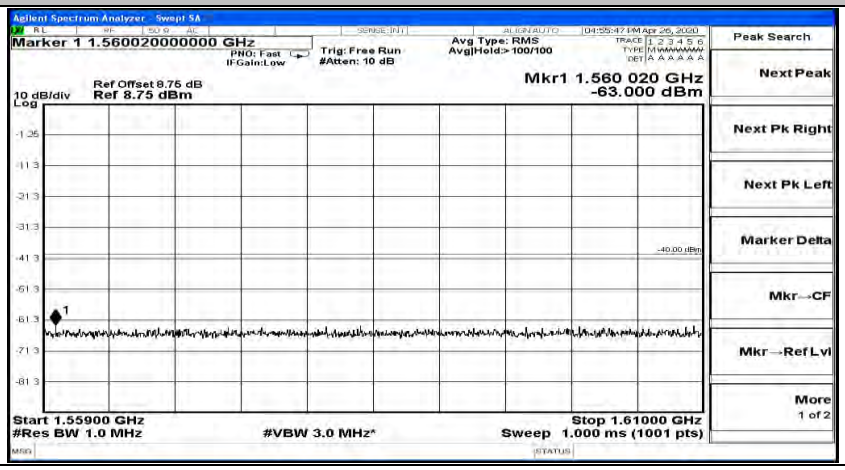
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



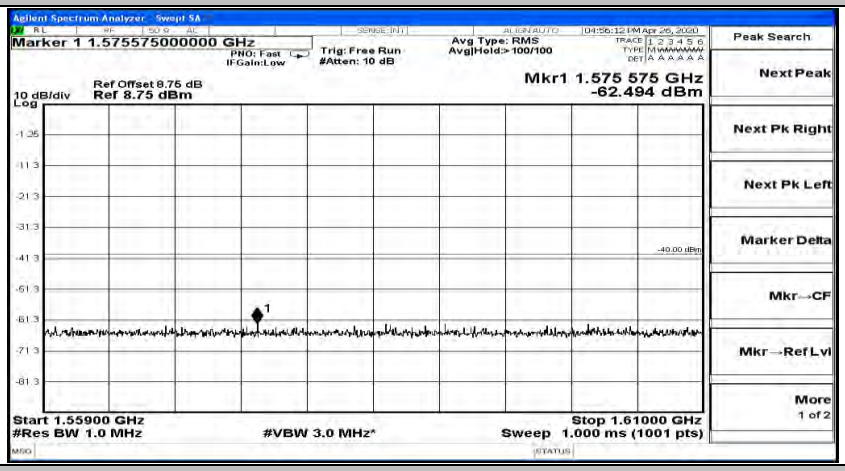
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



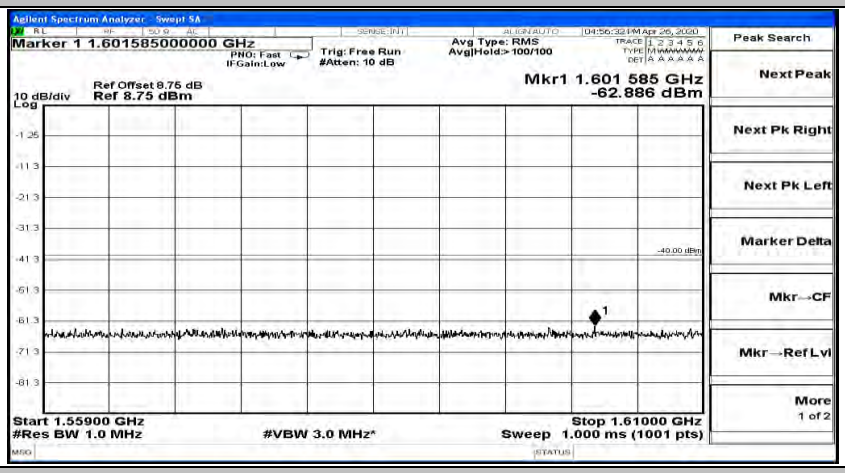
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24



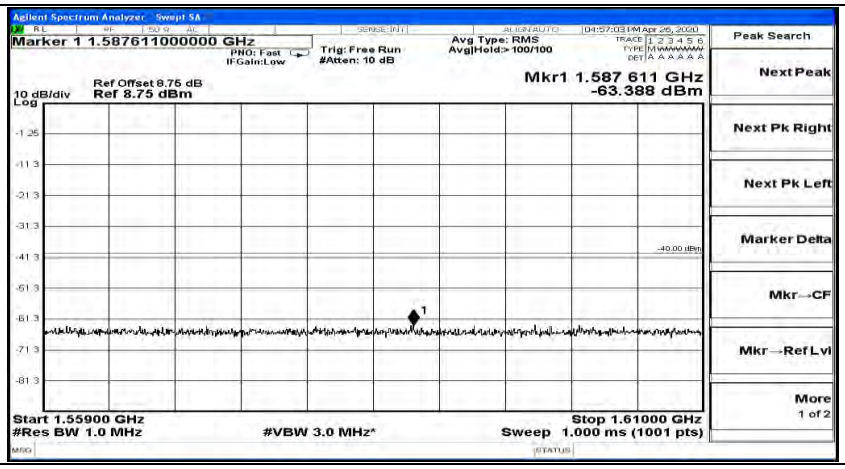
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



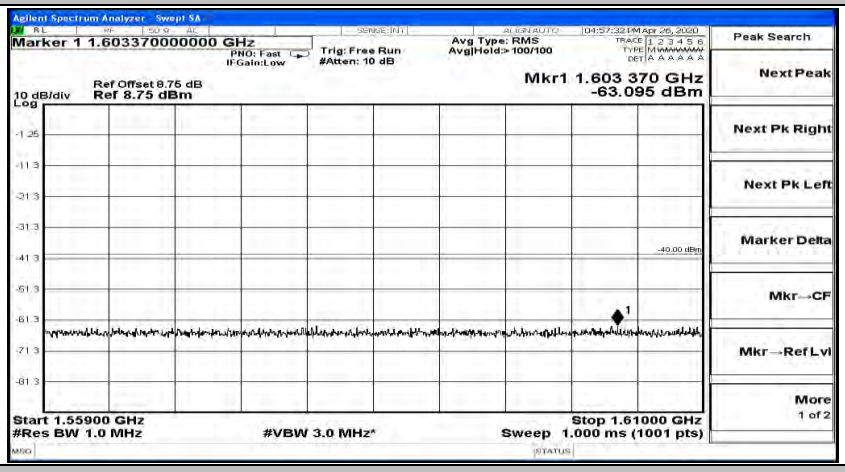
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



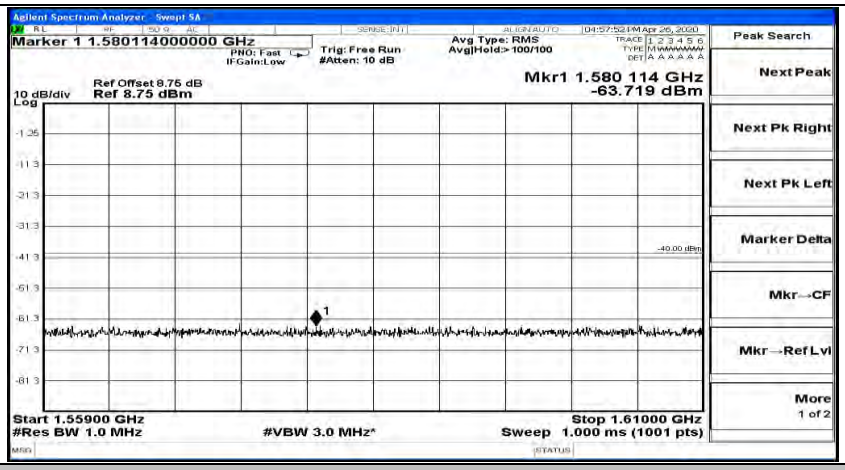
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24



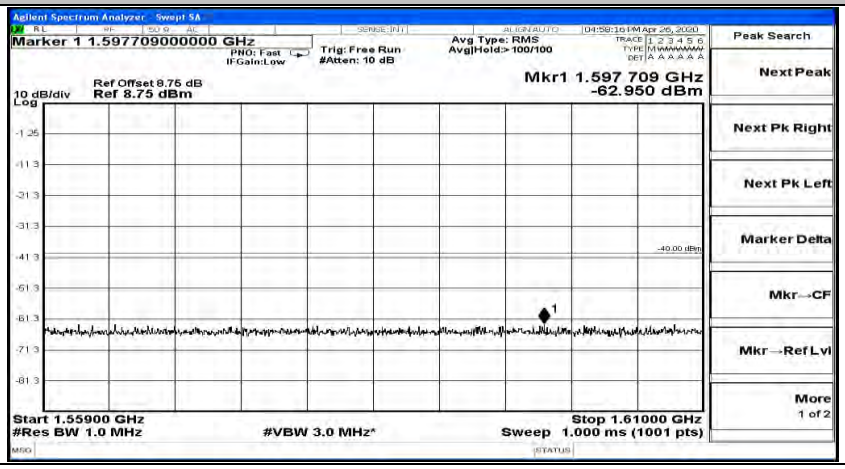
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



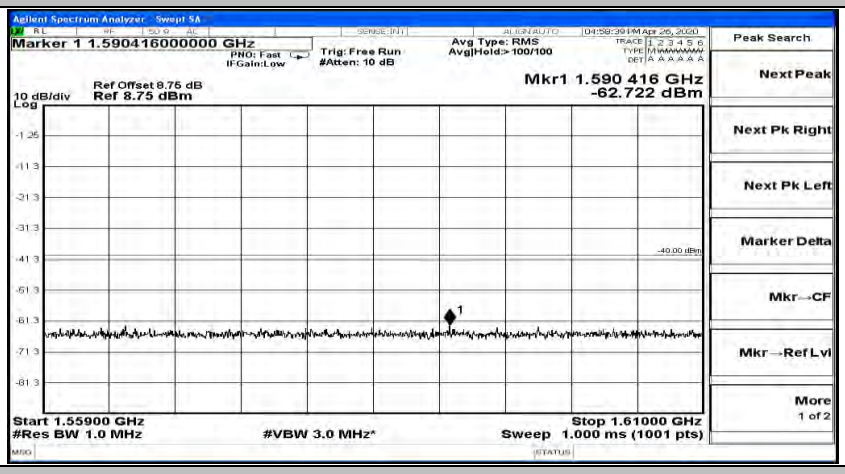
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



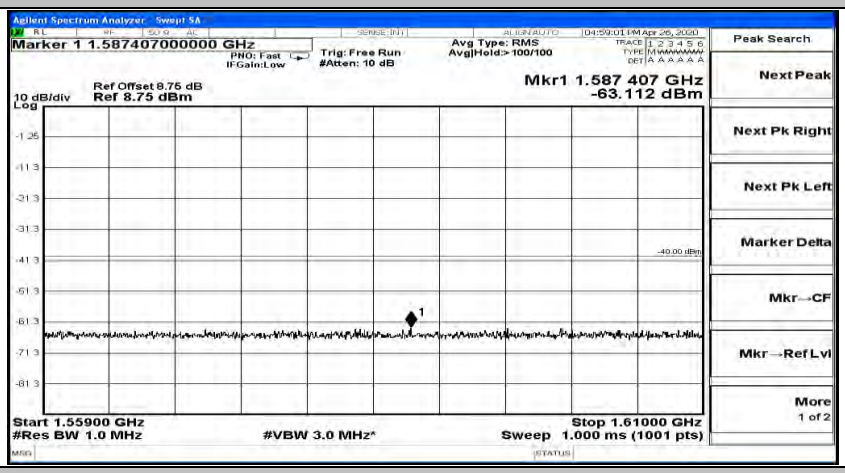
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24



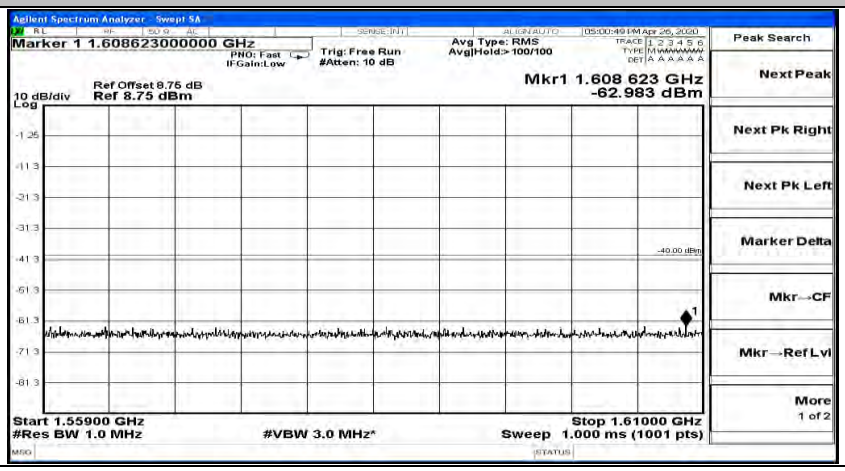
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



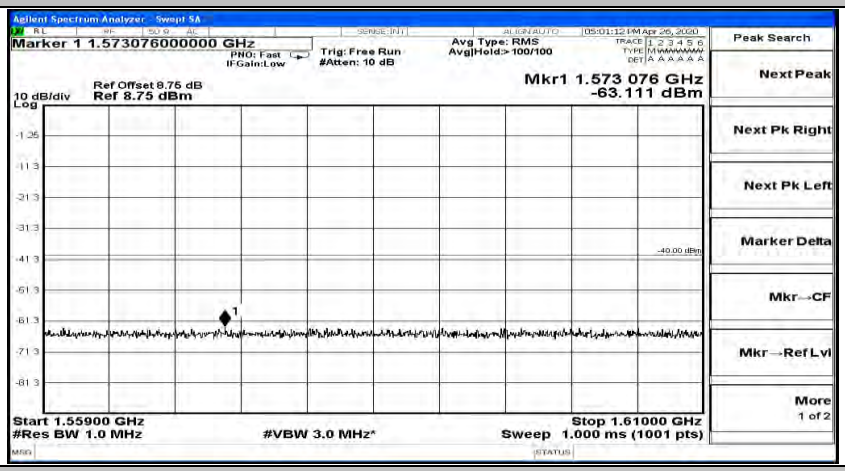
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



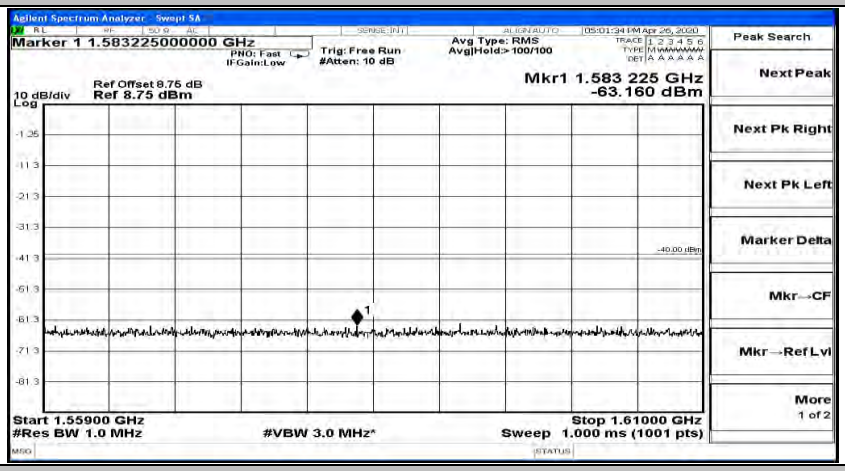
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24



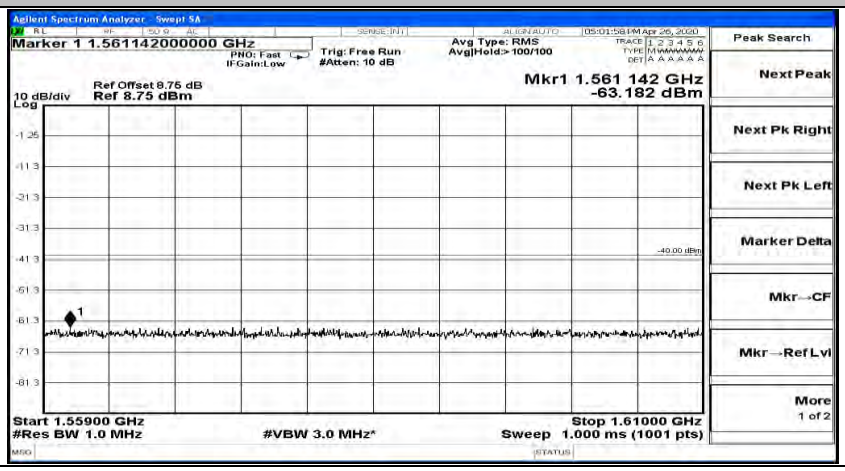
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

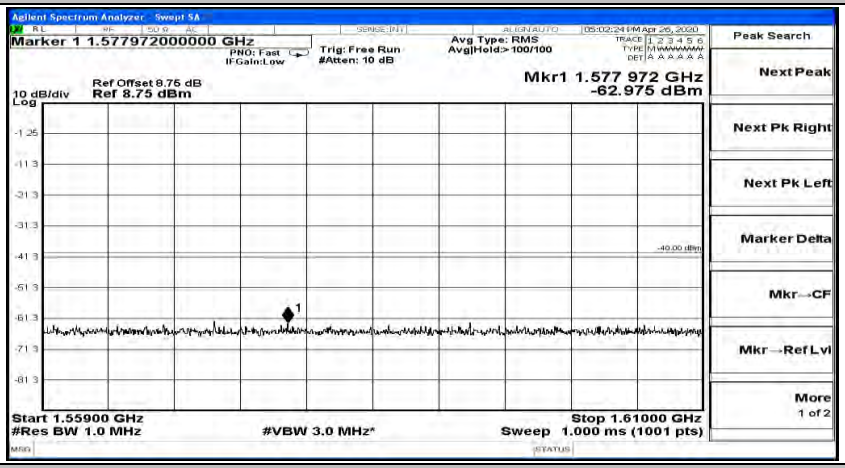


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

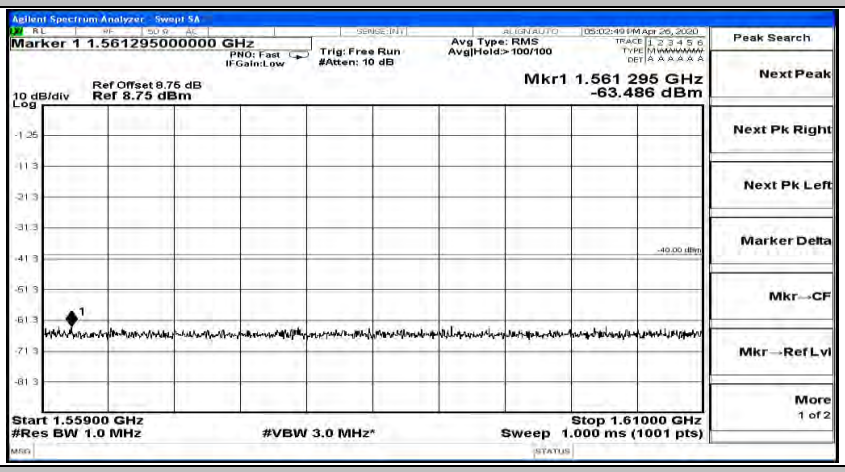


Channel Bandwidth: 10 MHz

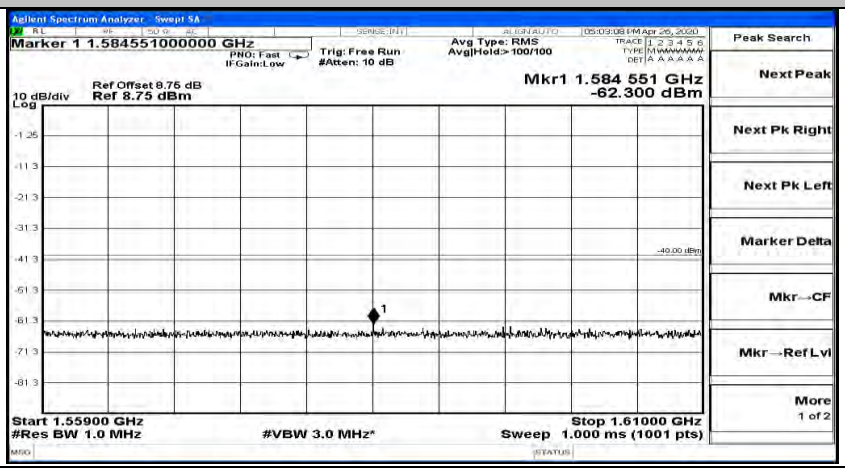
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



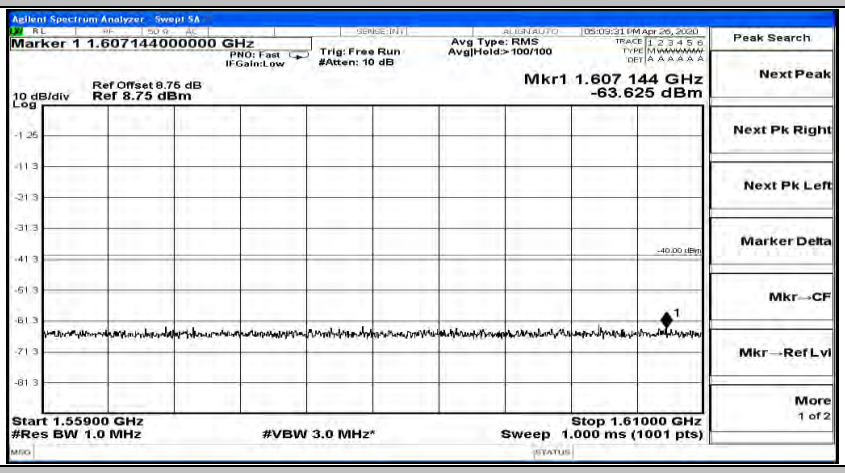
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24



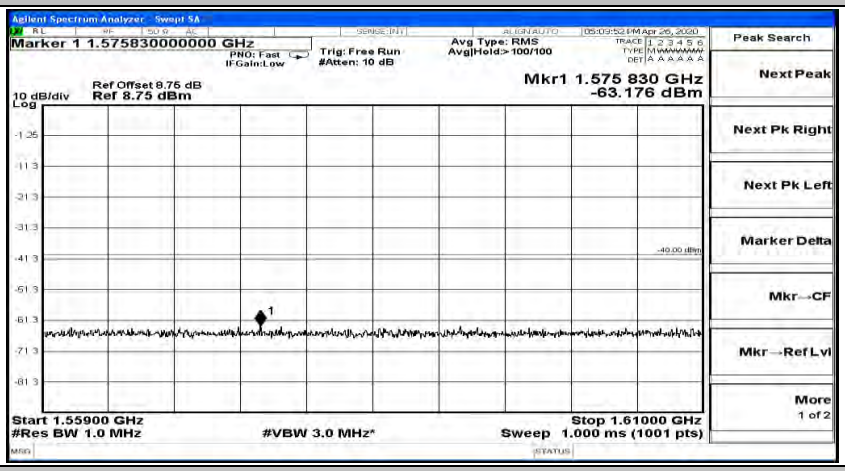
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24



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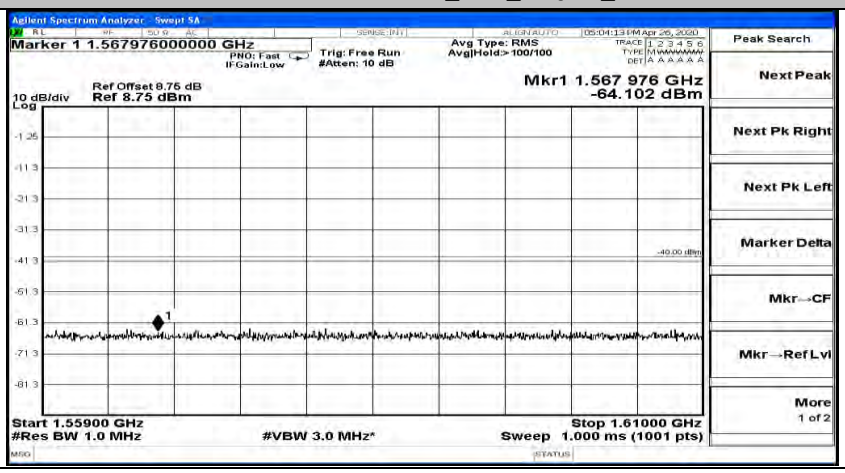
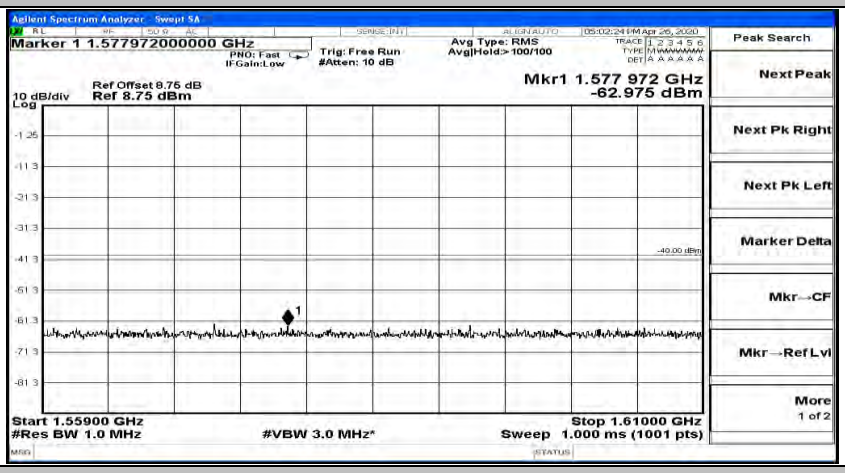
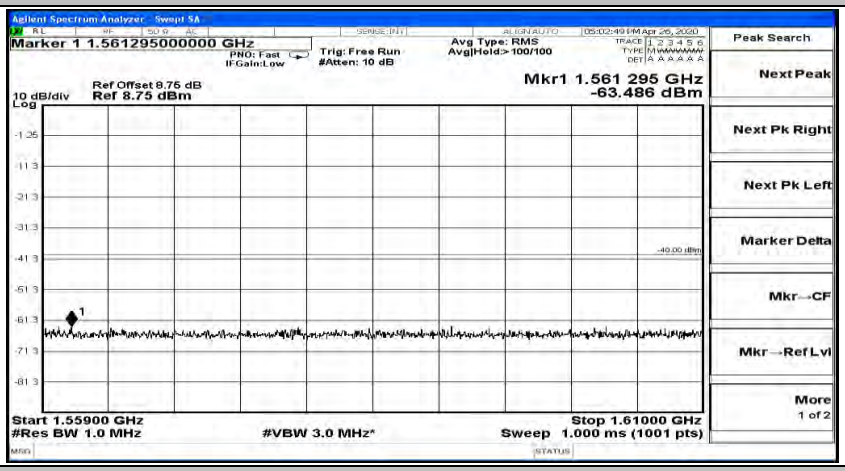


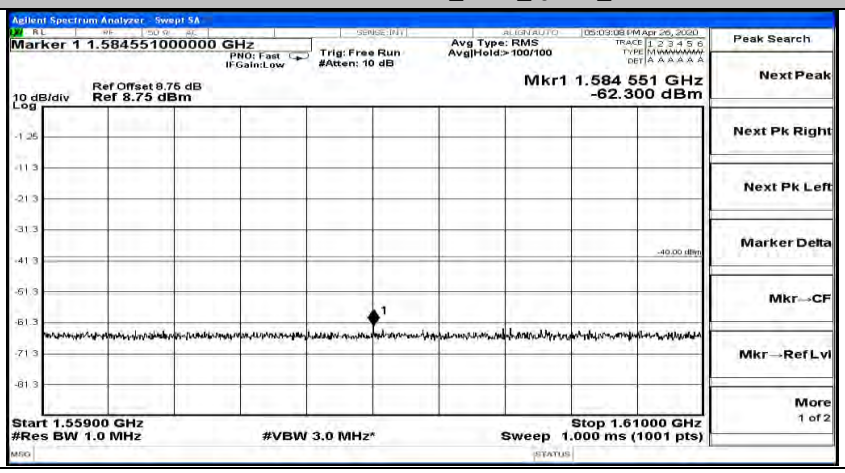
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



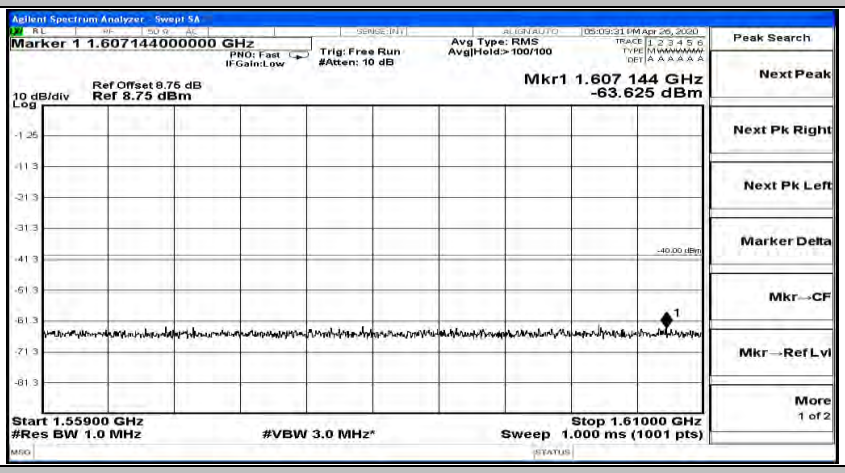
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24



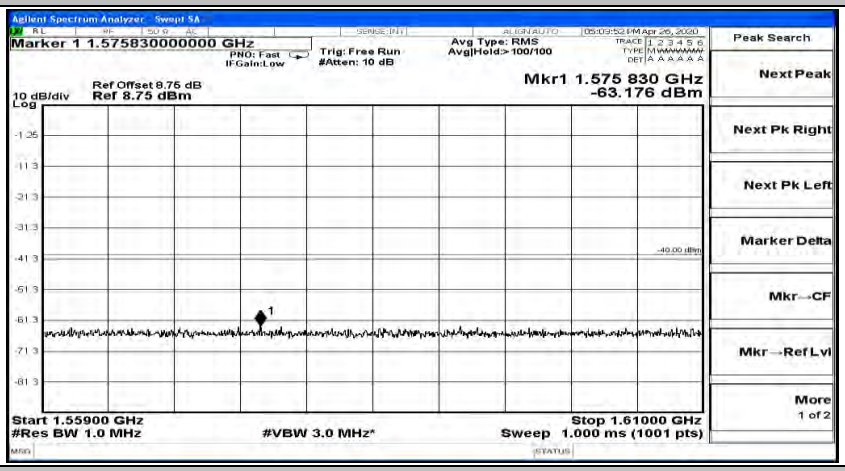
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49



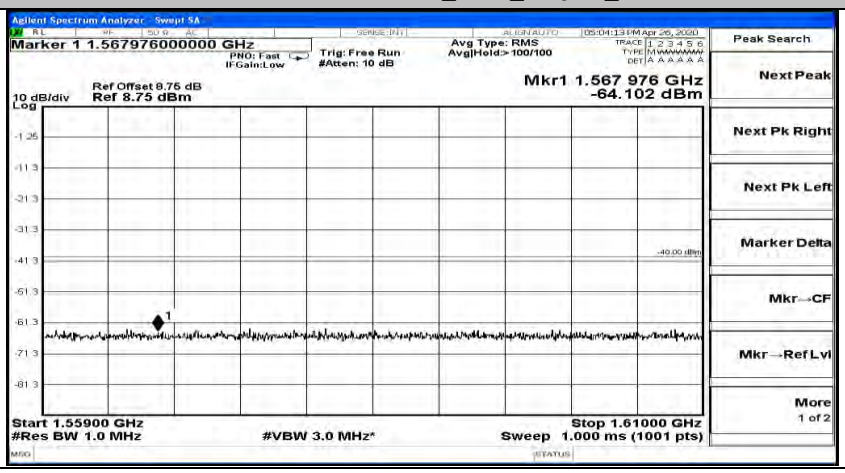
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



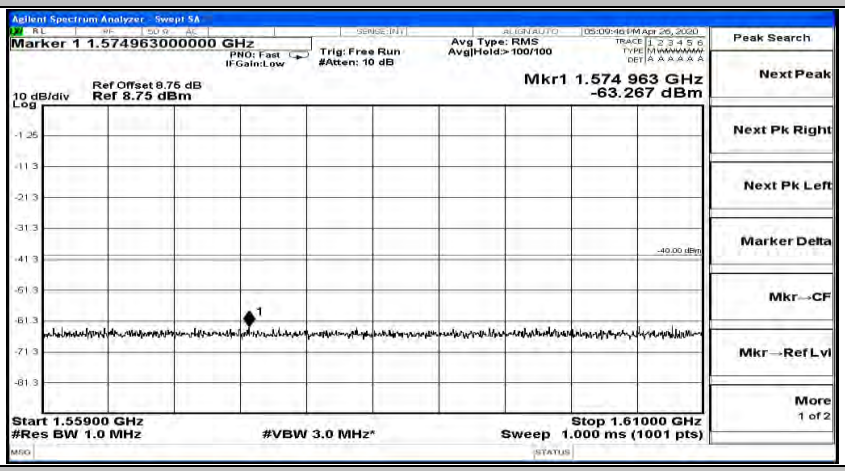
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



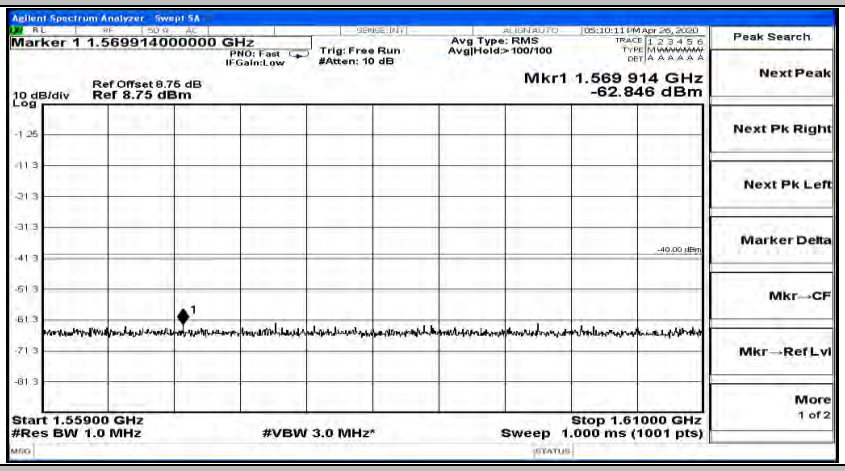
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49



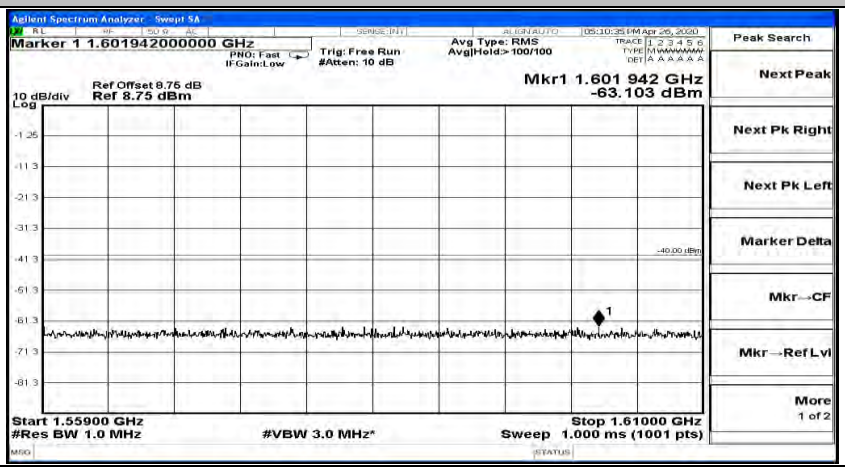
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



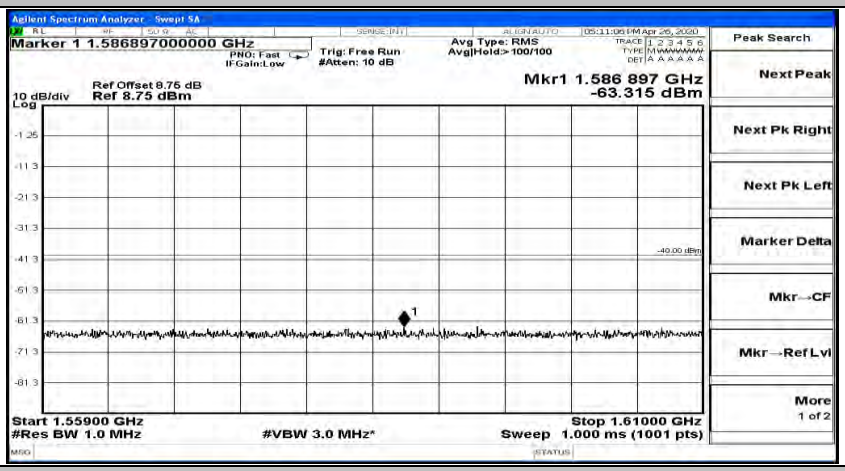
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24



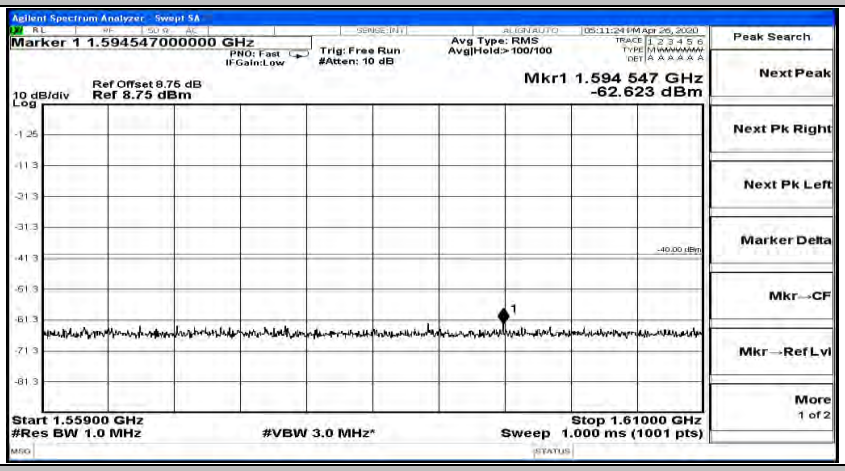
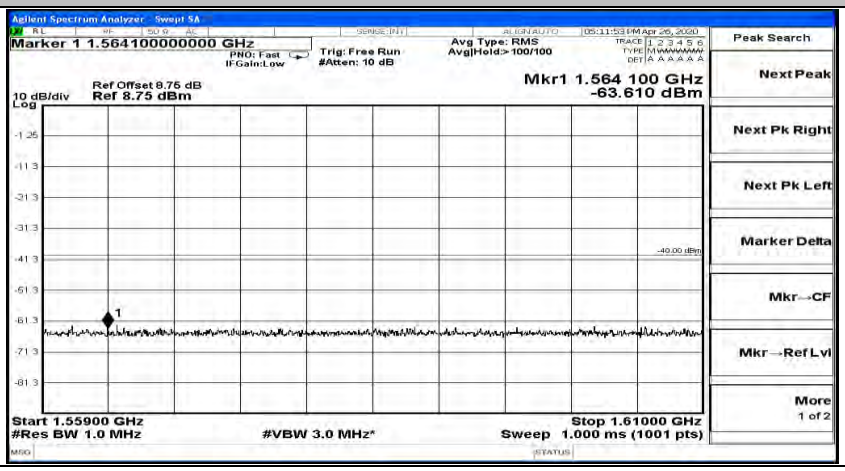
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49