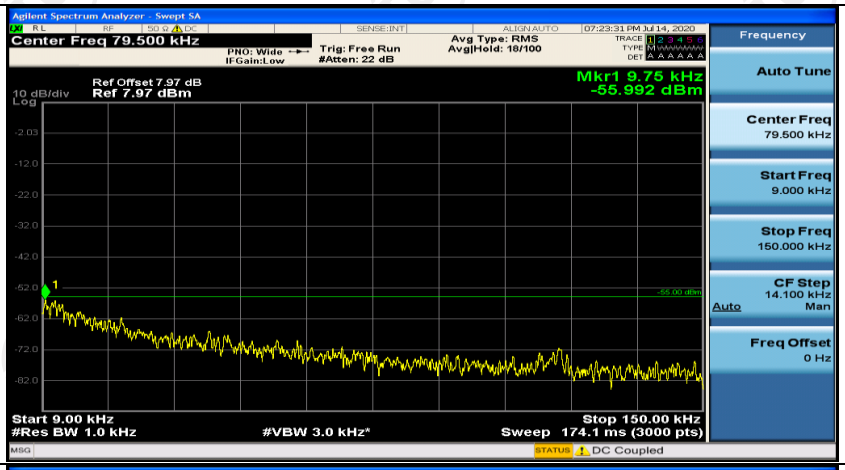
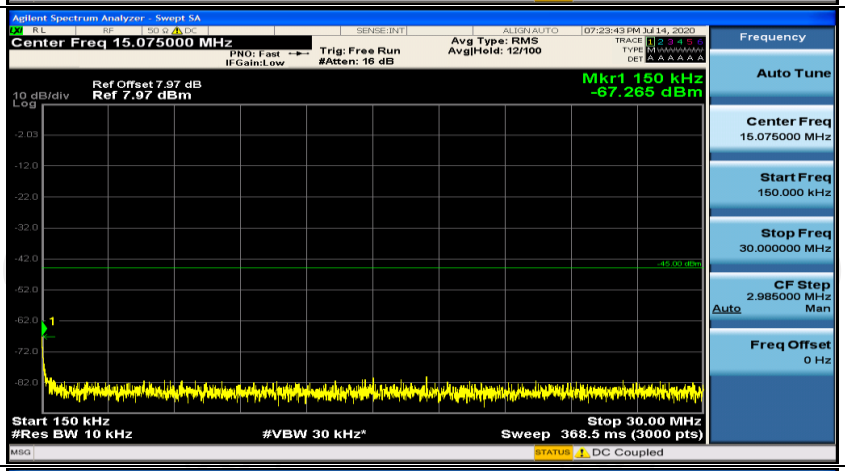
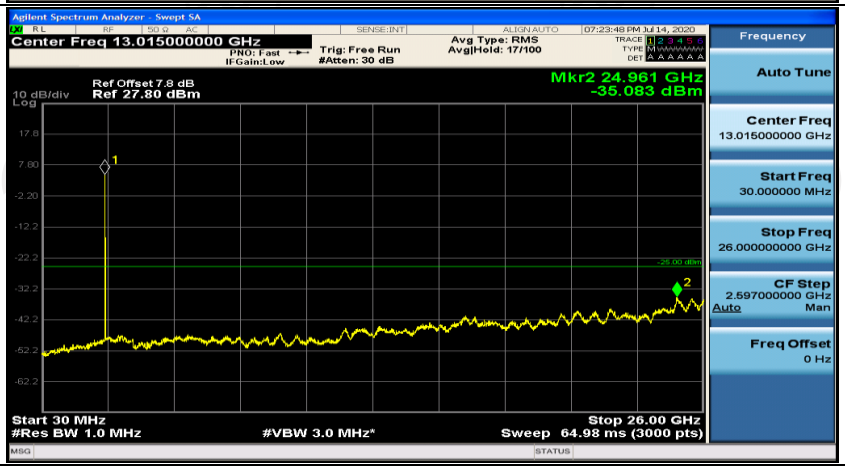
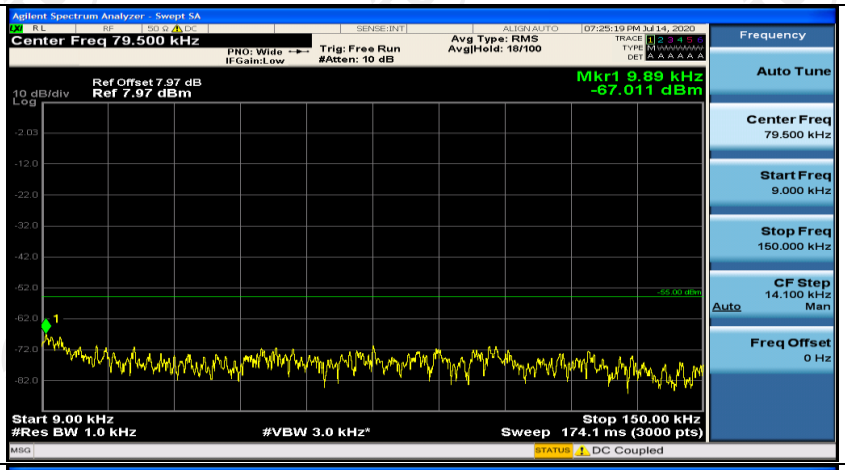
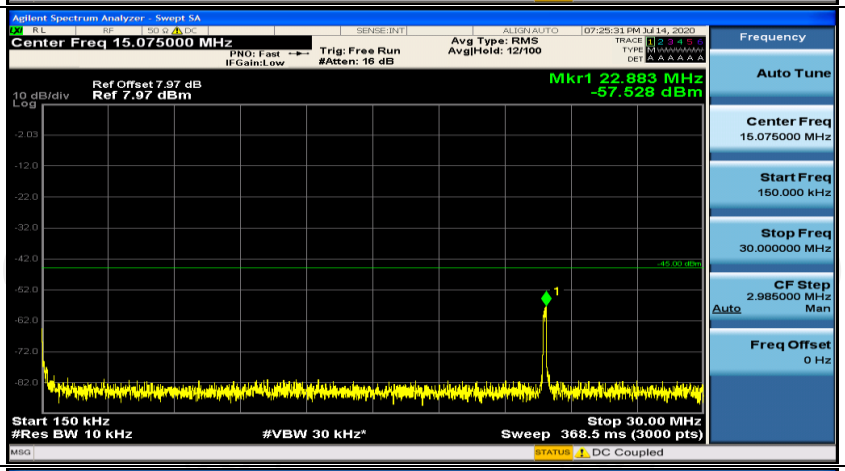


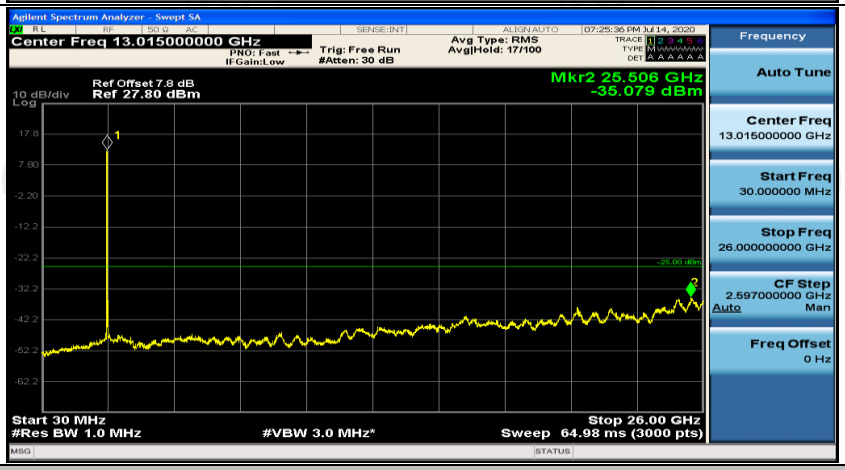




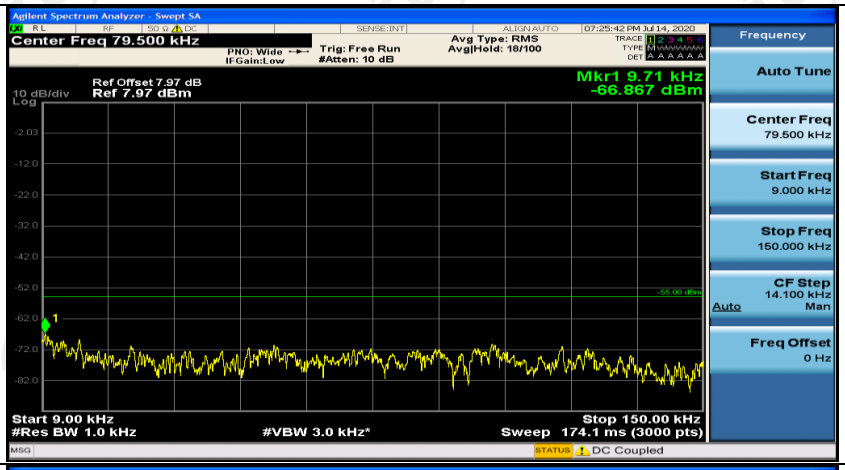
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

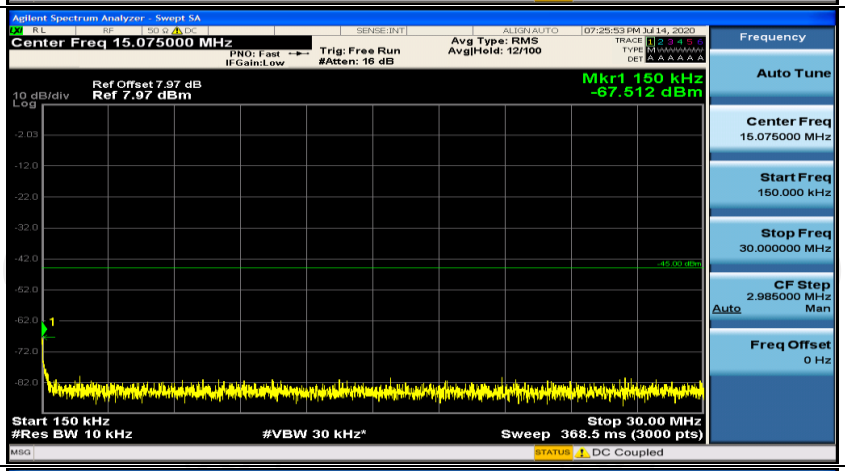


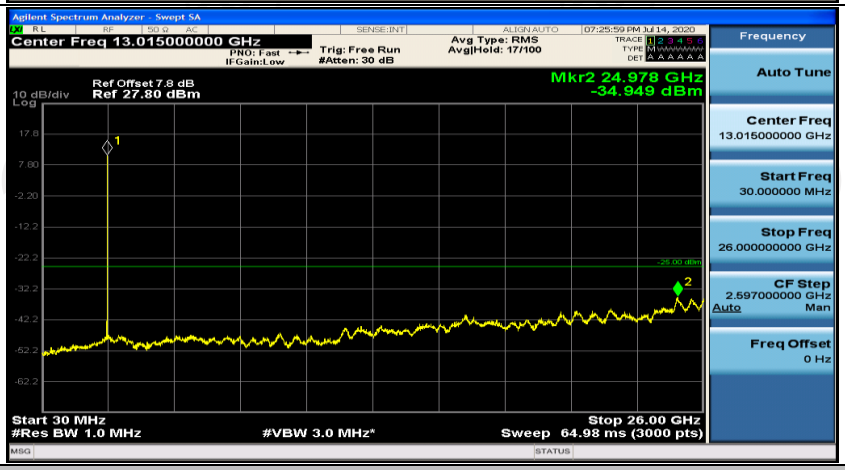




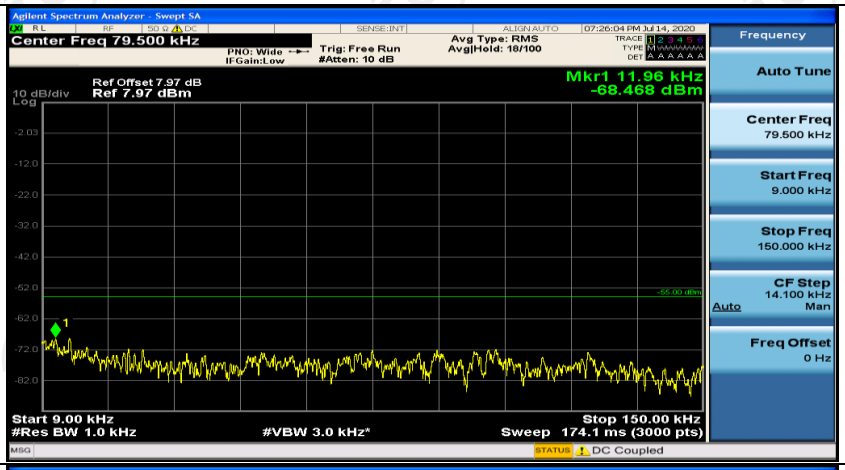
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

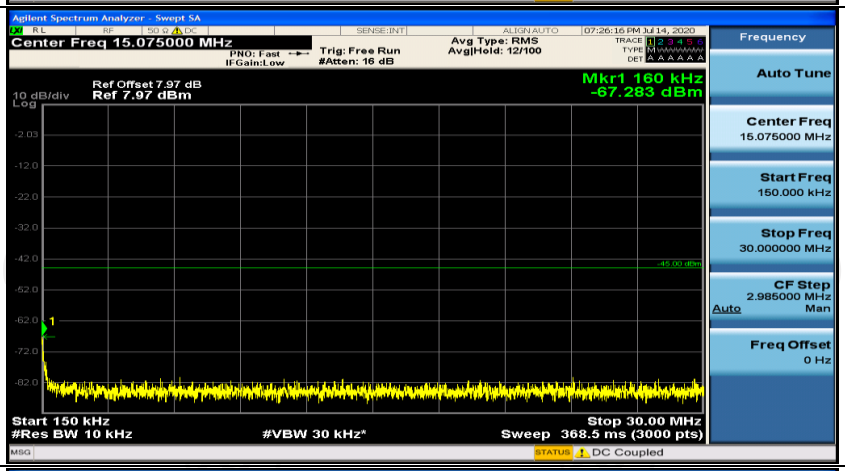


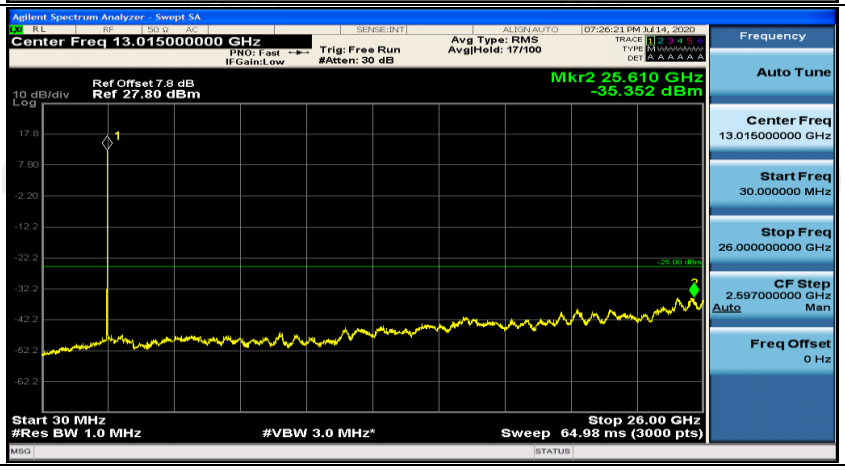




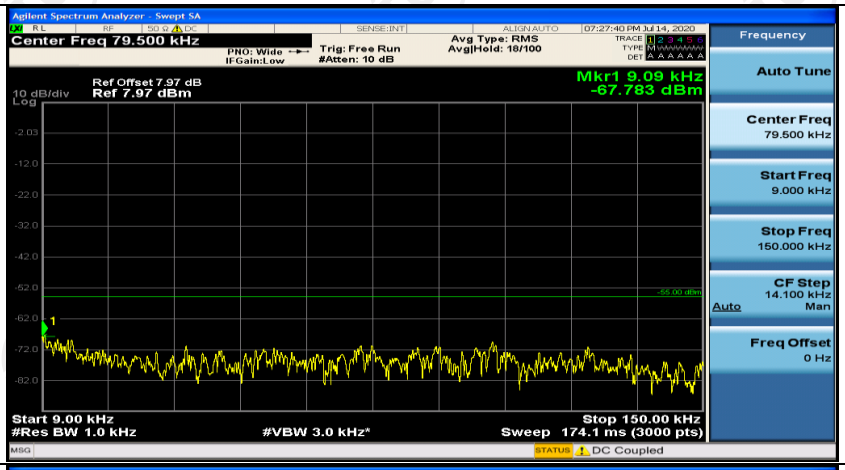
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

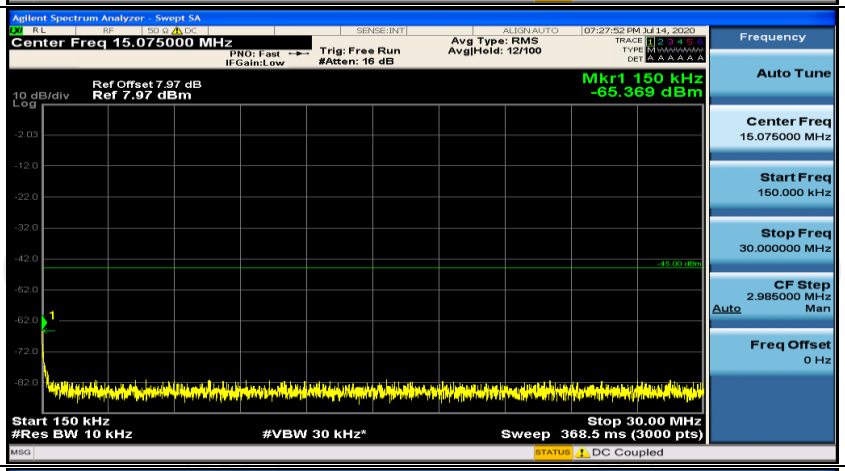


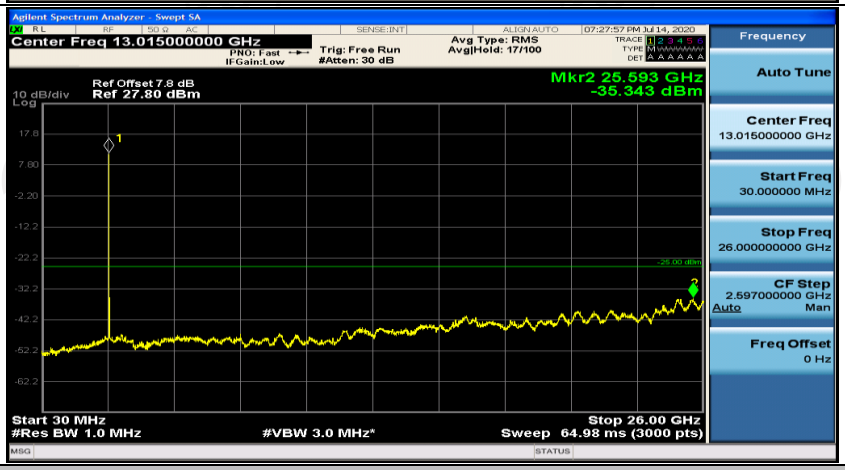




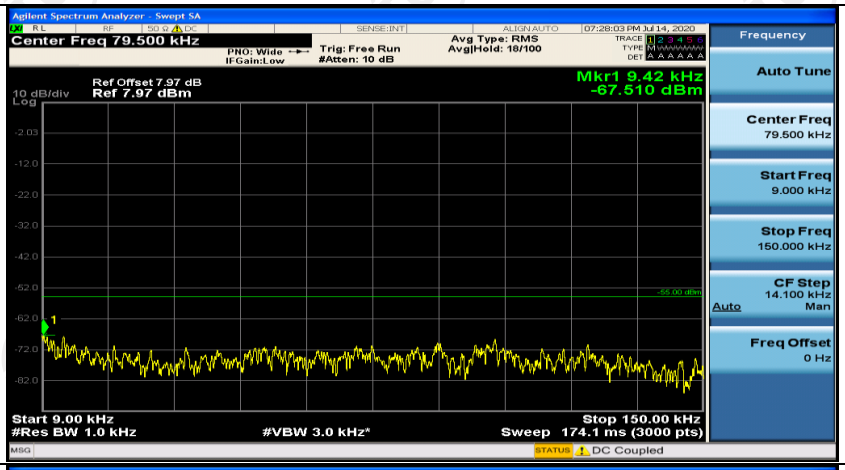
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

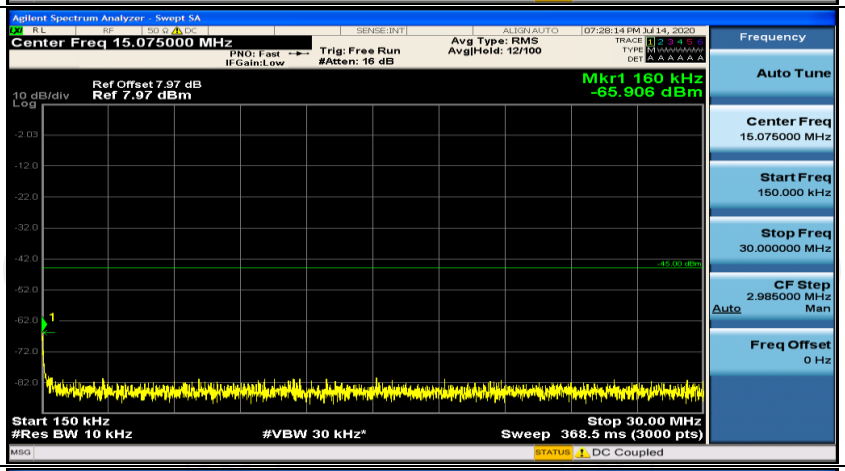


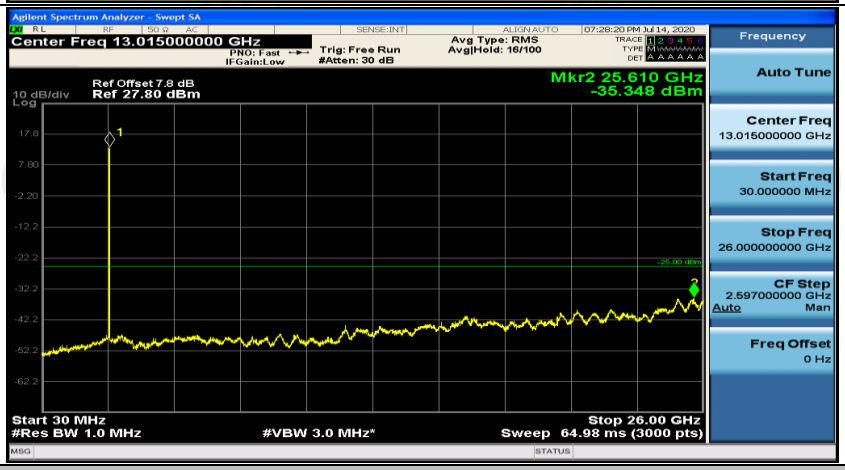




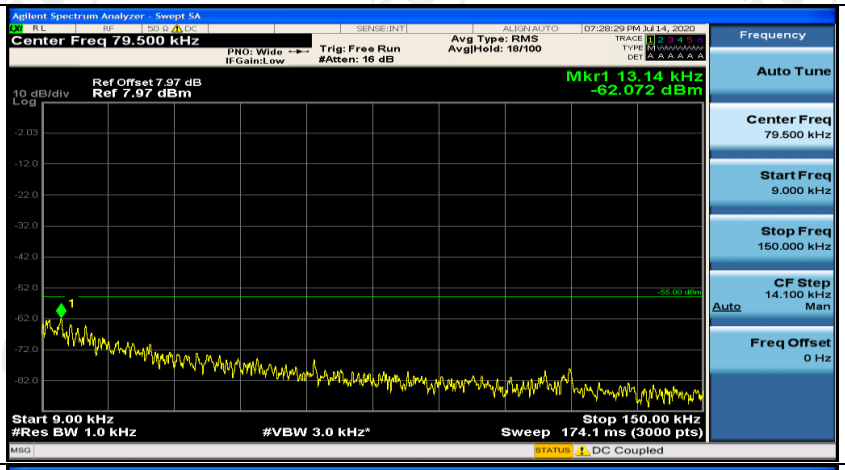
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

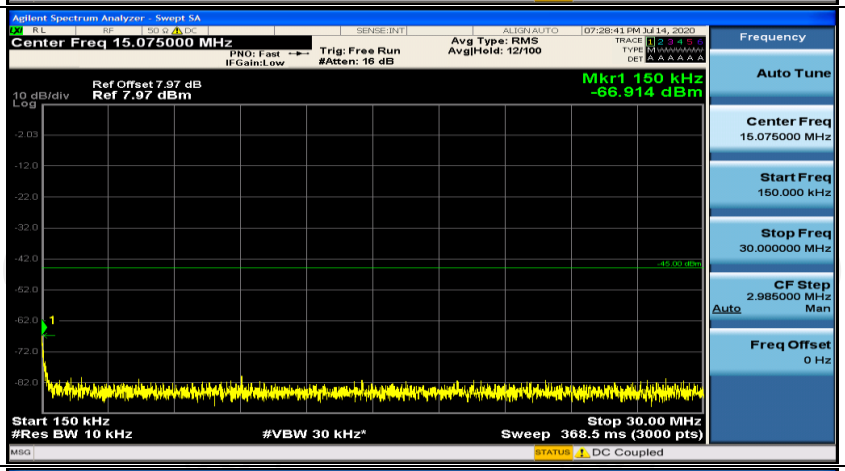


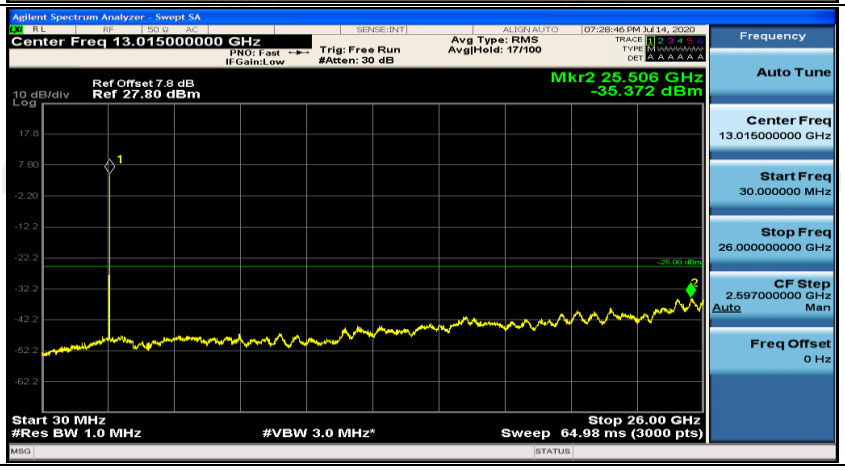




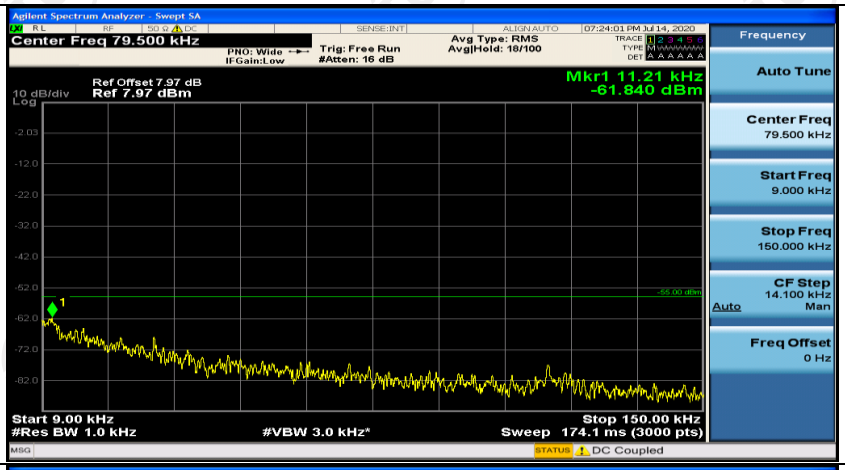
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

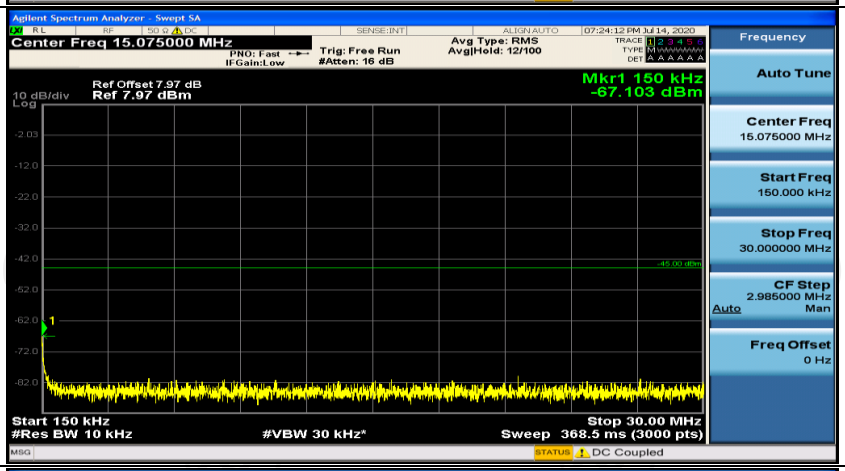


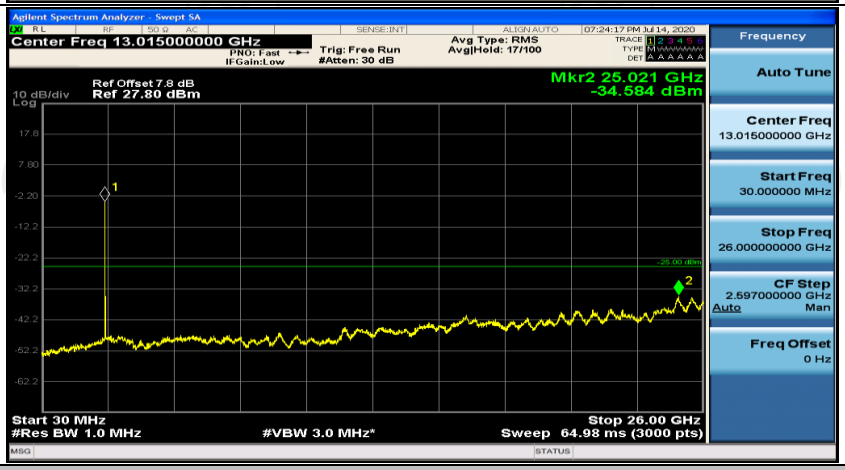




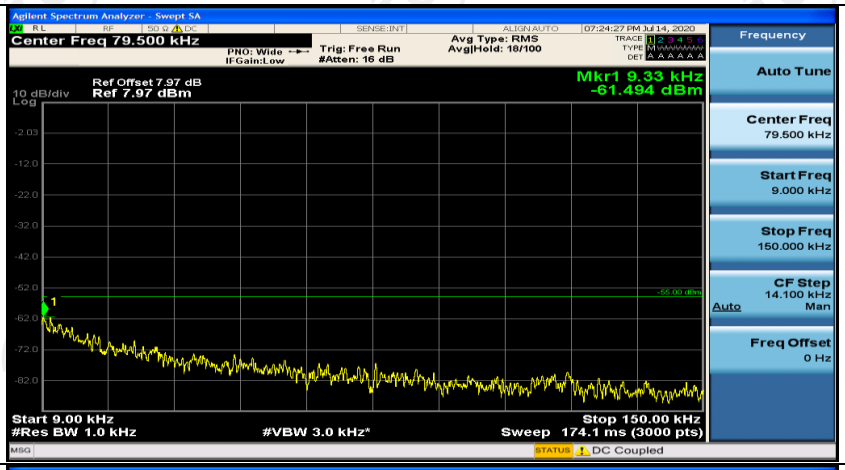
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

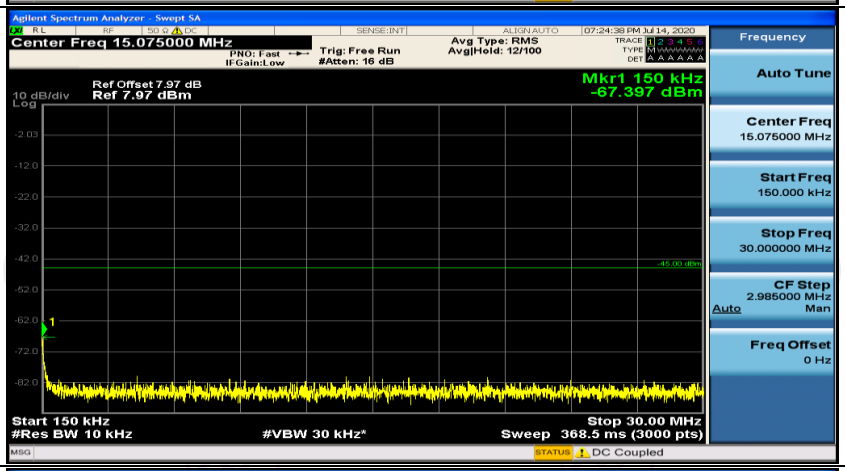


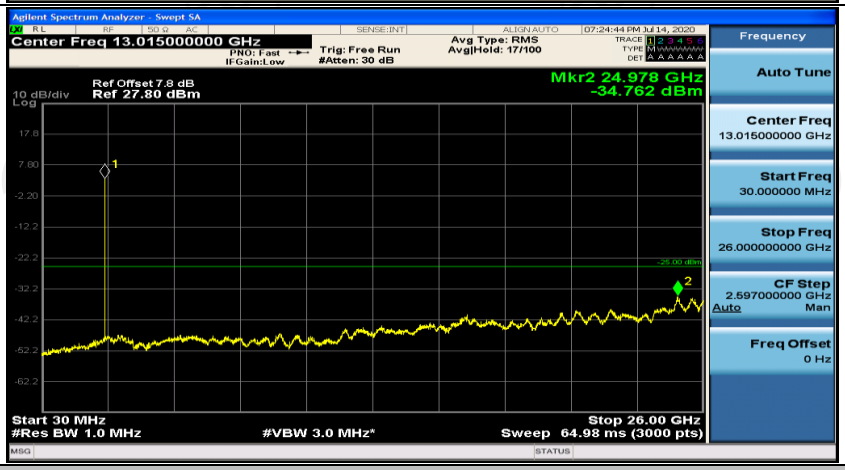




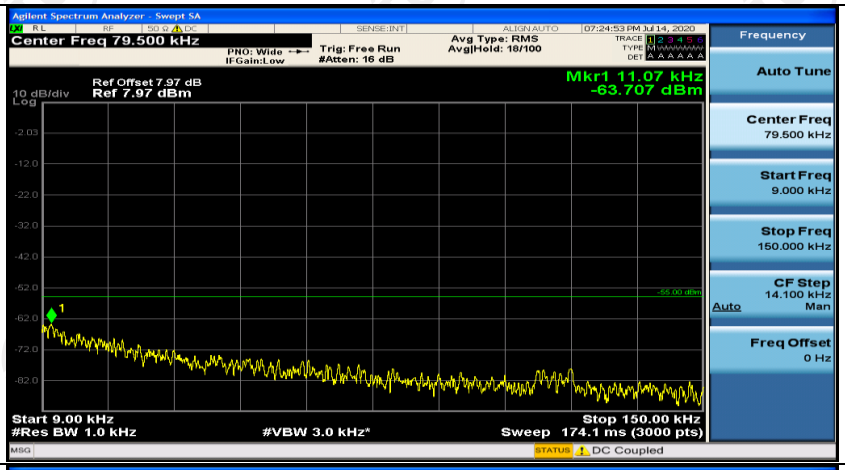
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

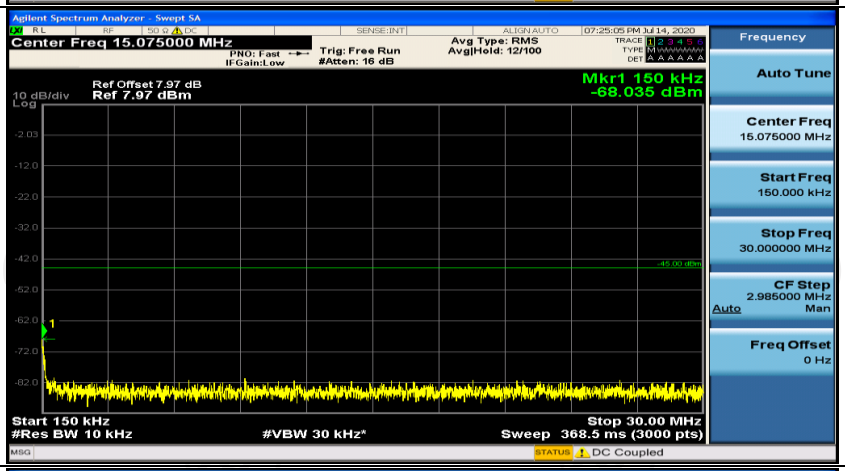


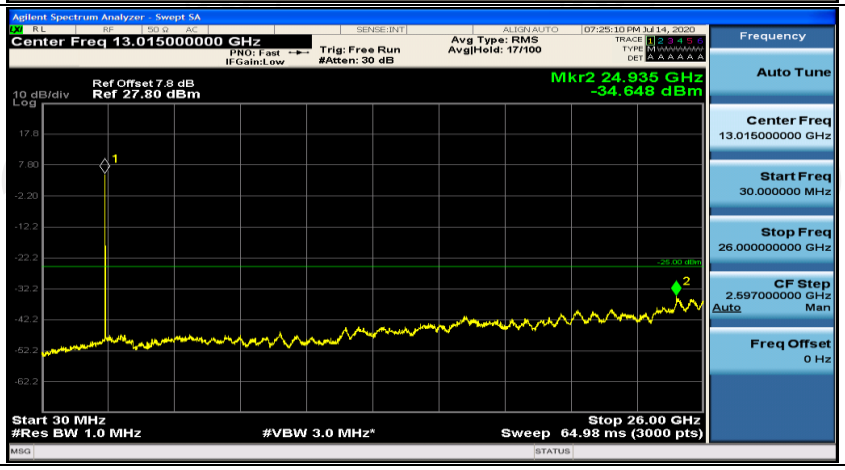




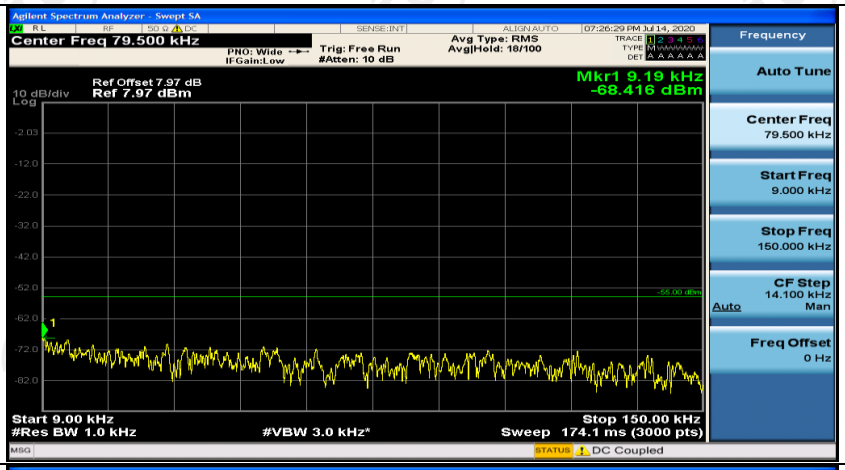
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

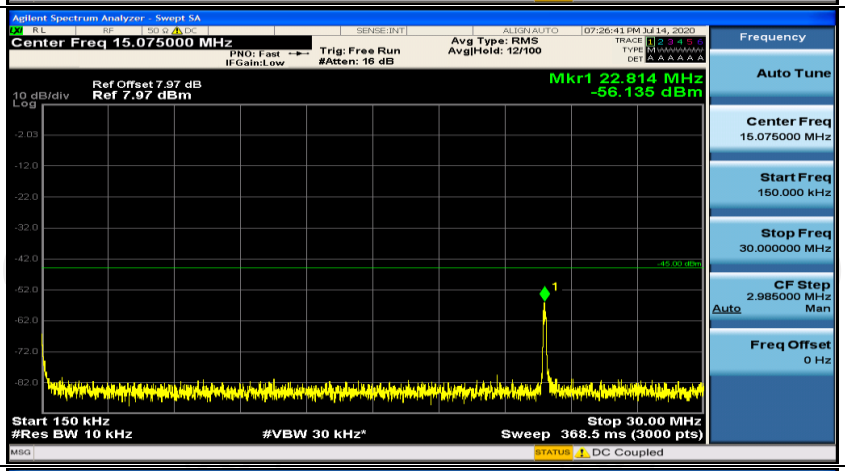


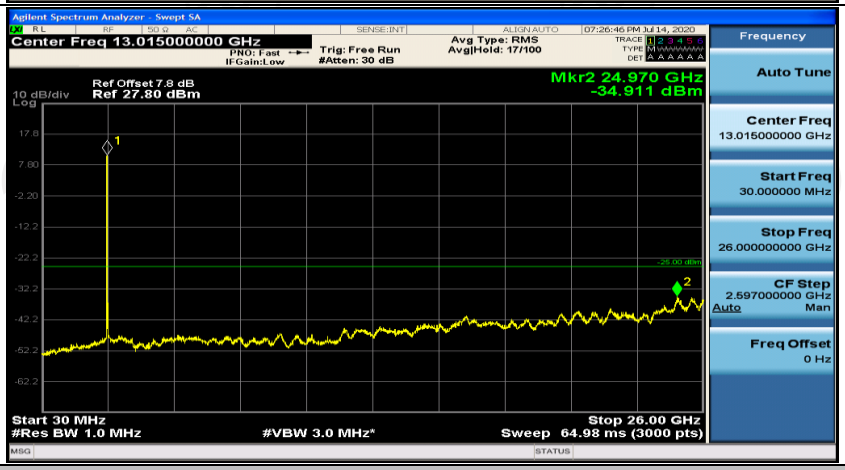




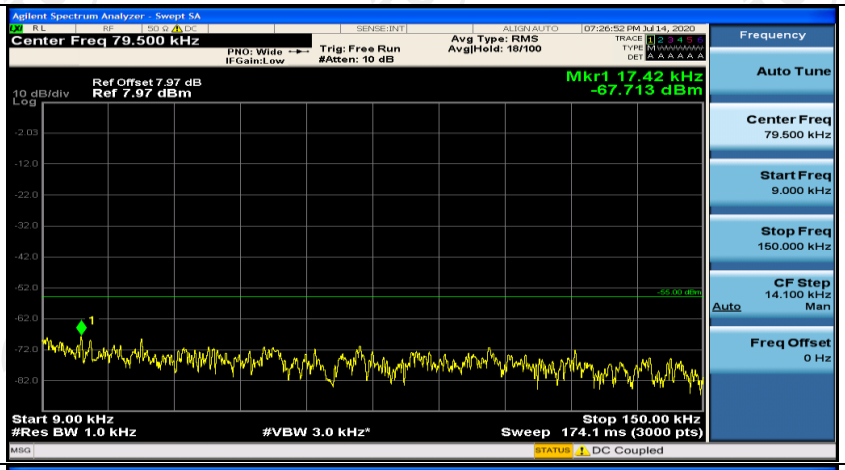
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

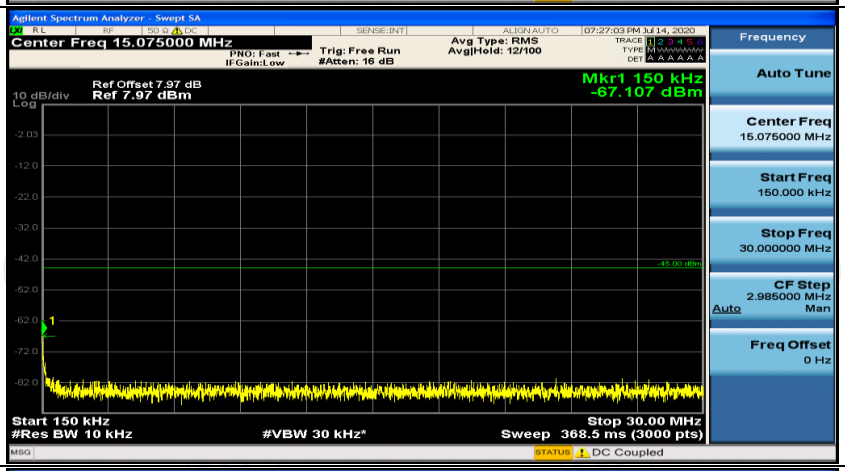


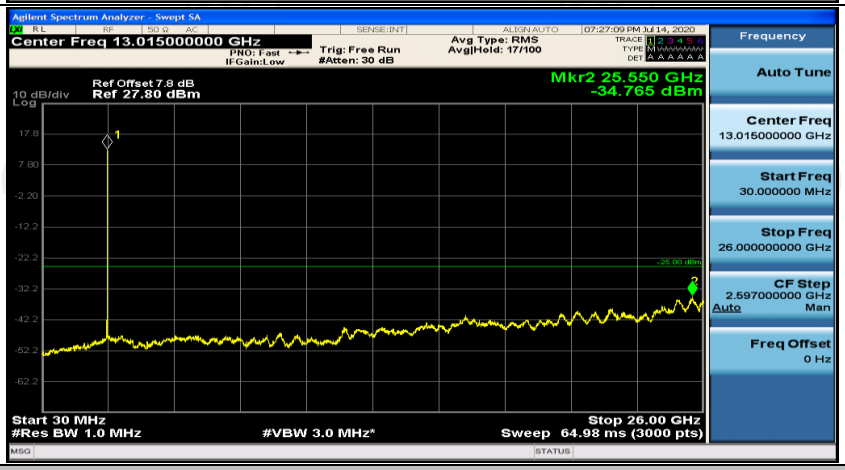




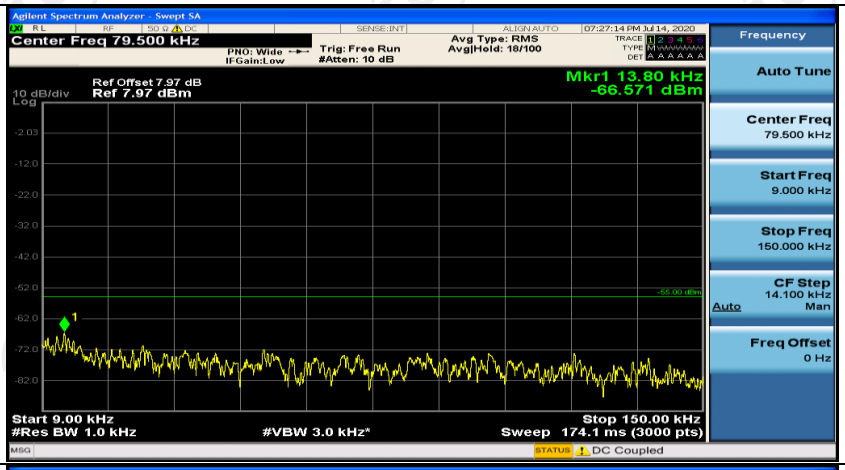
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

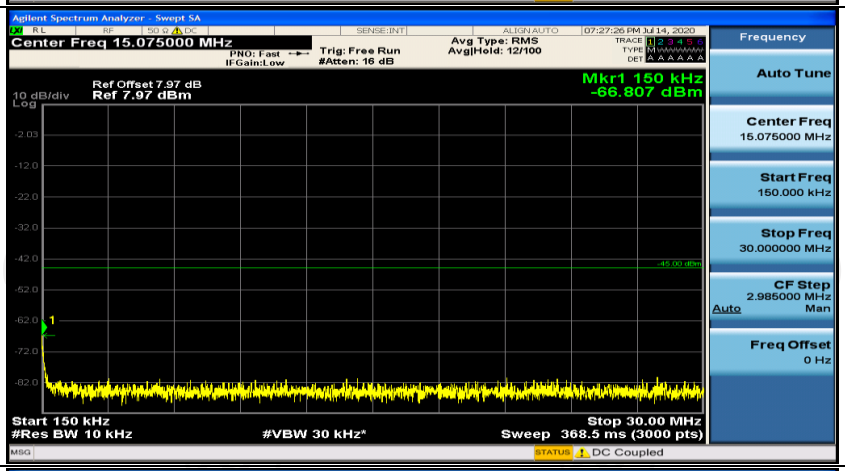


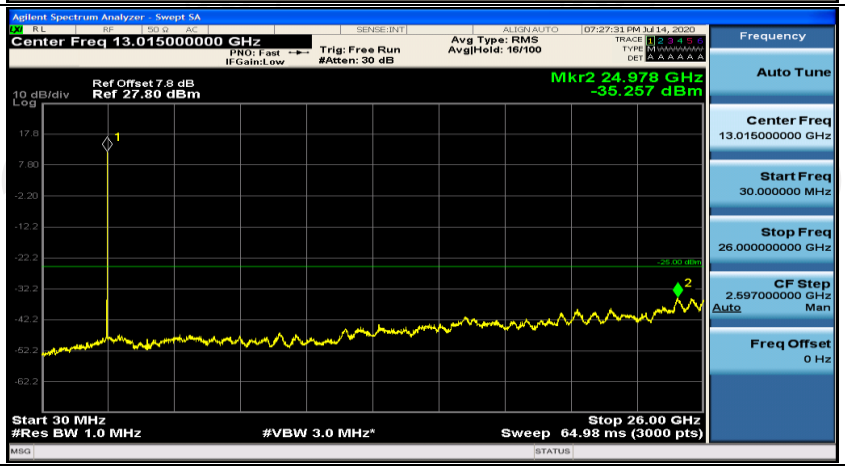




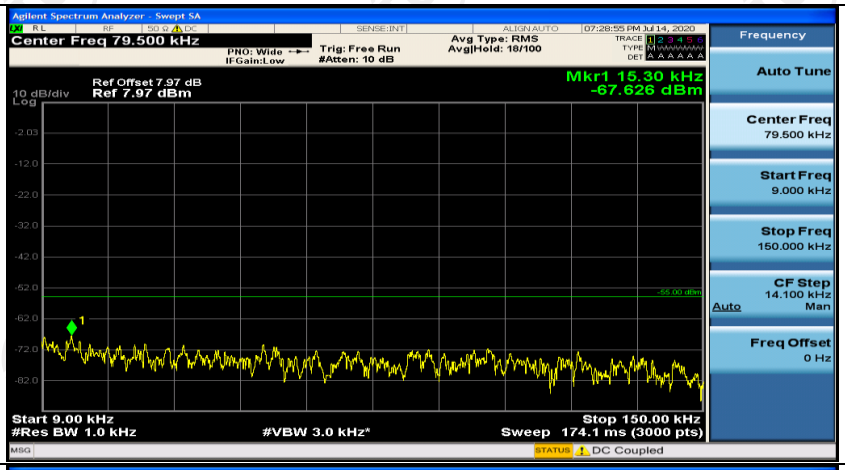
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

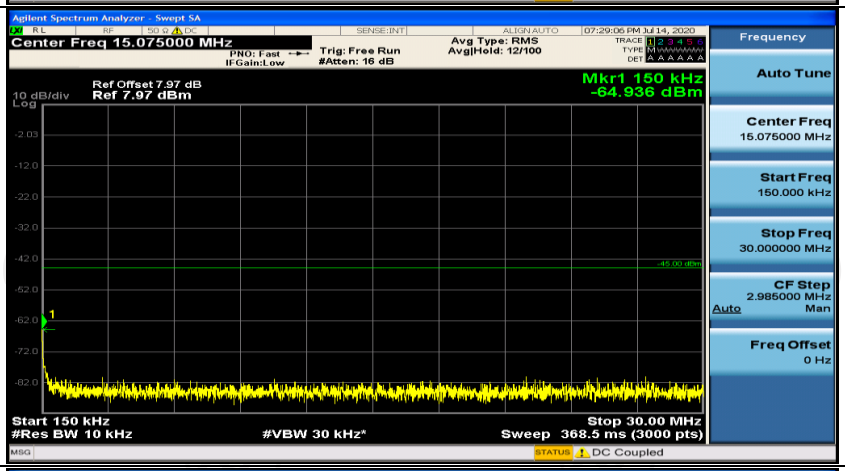


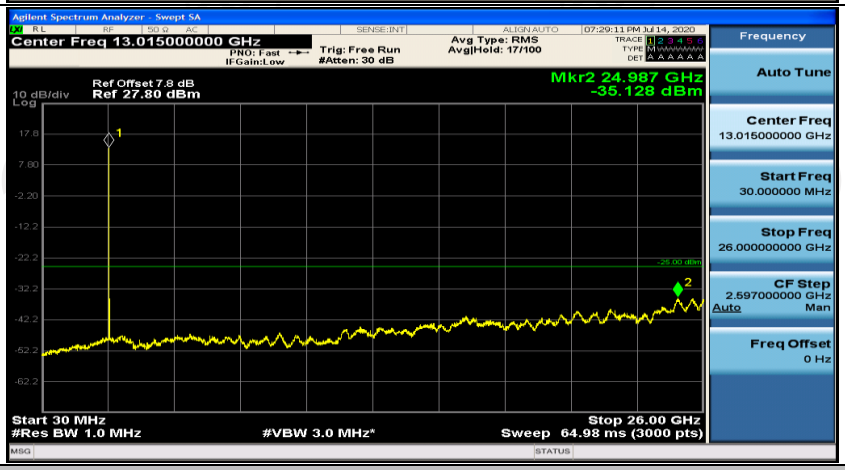




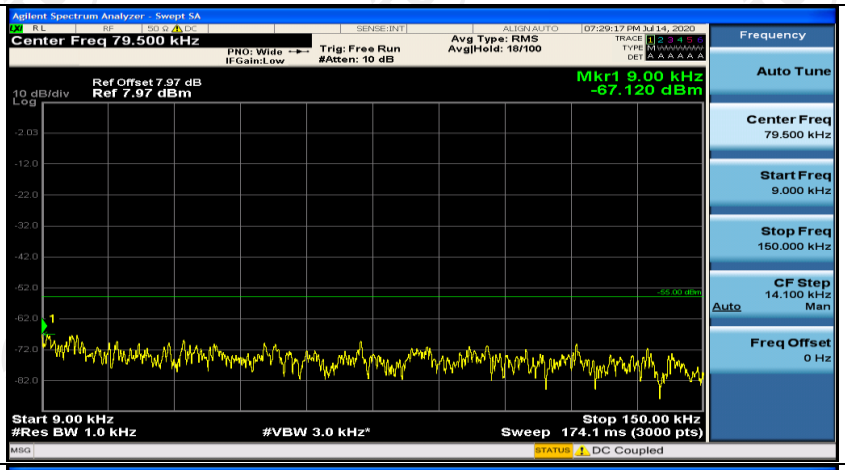
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0

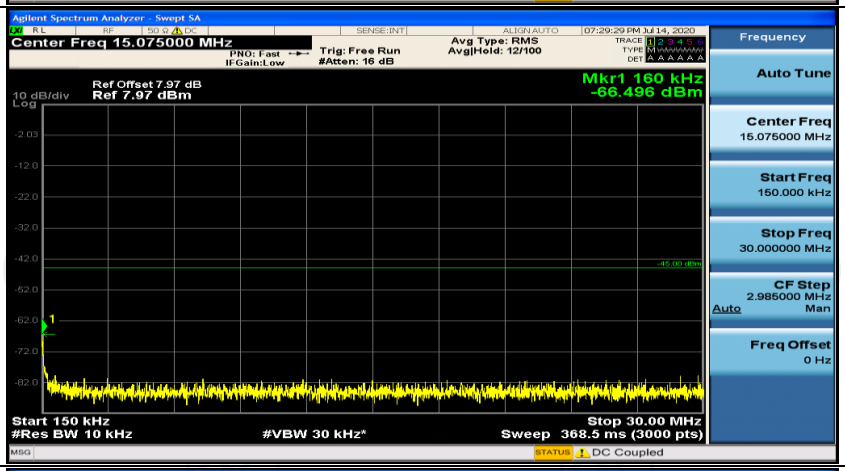


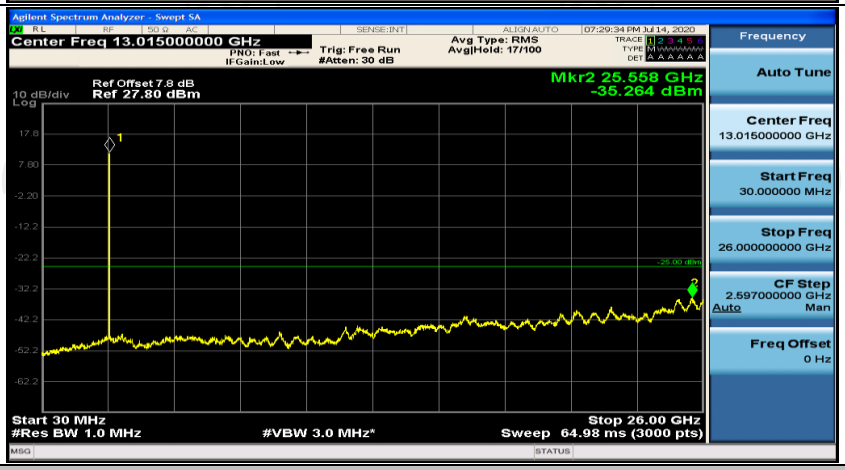




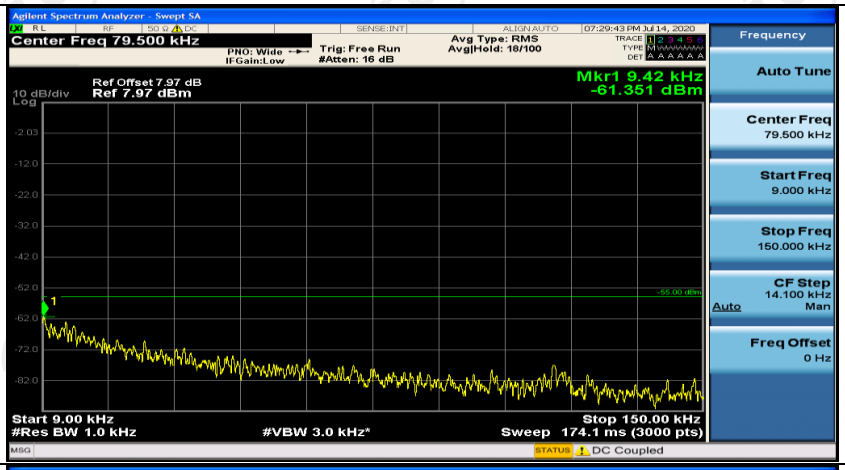
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49

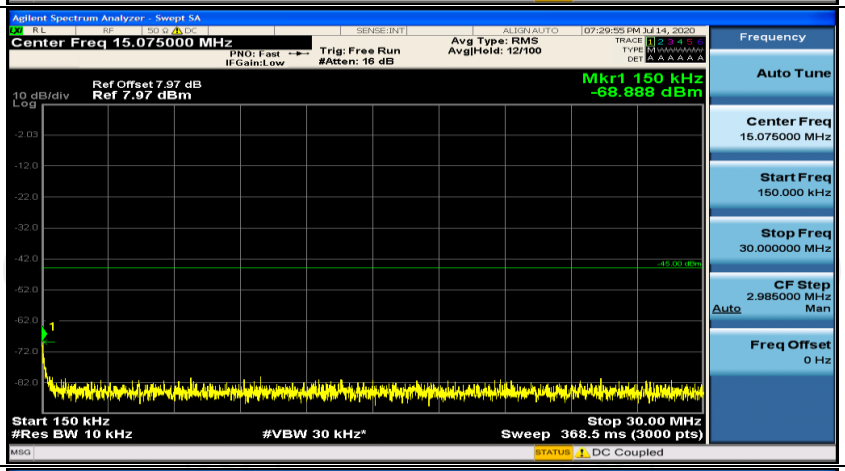


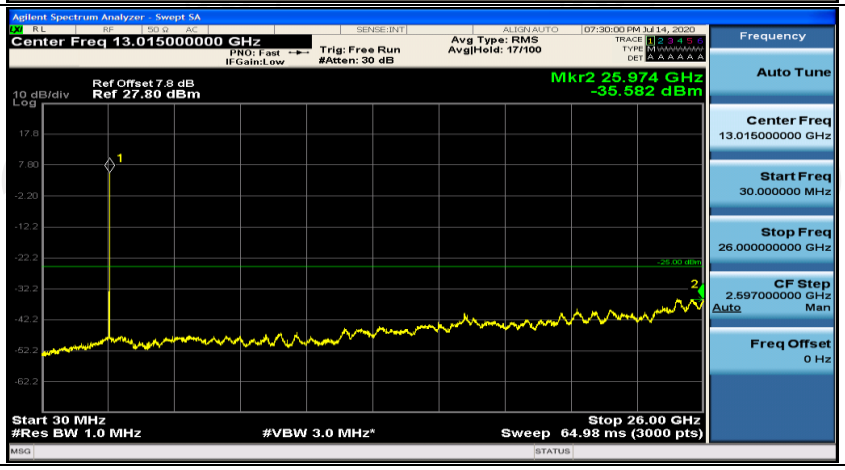




(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99


Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 18/100
07:29:43 PM Jul 14, 2020
Frequency
Auto Tune
Mkr1 9.42 kHz
-61.351 dBm
Ref Offset 7.97 dB
10 dB/div
Log
Ref 7.97 dBm
-55.00 dBm
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
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.1 ms (3000 pts)
DC Coupled


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: 12/100
07:29:55 PM Jul 14, 2020
Frequency
Auto Tune
Mkr1 150 kHz
-68.888 dBm
Ref Offset 7.97 dB
10 dB/div
Log
Ref 7.97 dBm
-45.00 dBm
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
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 ms (3000 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 17/100
07:30:00 PM Jul 14, 2020
Frequency
Auto Tune
Mkr2 25.974 GHz
-35.582 dBm
Ref Offset 7.8 dB
10 dB/div
Log
Ref 27.80 dBm
-25.00 dBm
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
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-0.007531	± 2.5	PASS
		VN	TN	-0.009916	± 2.5	PASS
		VH	TN	-0.005403	± 2.5	PASS
	MCH	VL	TN	-0.007335	± 2.5	PASS
		VN	TN	-0.006896	± 2.5	PASS
		VH	TN	-0.013189	± 2.5	PASS
	HCH	VL	TN	-0.007848	± 2.5	PASS
		VN	TN	-0.006453	± 2.5	PASS
		VH	TN	-0.007335	± 2.5	PASS
16QAM	LCH	VL	TN	-0.004631	± 2.5	PASS
		VN	TN	-0.005029	± 2.5	PASS
		VH	TN	-0.004805	± 2.5	PASS
	MCH	VL	TN	-0.005413	± 2.5	PASS
		VN	TN	-0.010924	± 2.5	PASS
		VH	TN	-0.001164	± 2.5	PASS
	HCH	VL	TN	-0.009018	± 2.5	PASS
		VN	TN	-0.005240	± 2.5	PASS
		VH	TN	-0.014996	± 2.5	PASS
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.002982	± 2.5	PASS
		VN	-20	-0.011232	± 2.5	PASS
		VN	-10	-0.007390	± 2.5	PASS
		VN	0	-0.012238	± 2.5	PASS
		VN	10	-0.007079	± 2.5	PASS
		VN	20	-0.011708	± 2.5	PASS
		VN	30	-0.004482	± 2.5	PASS
		VN	40	-0.002975	± 2.5	PASS
		VN	50	-0.006717	± 2.5	PASS
	MCH	VN	-30	-0.009475	± 2.5	PASS
		VN	-20	-0.006915	± 2.5	PASS
		VN	-10	-0.007441	± 2.5	PASS
		VN	0	-0.006167	± 2.5	PASS
		VN	10	-0.004364	± 2.5	PASS
		VN	20	-0.007744	± 2.5	PASS
		VN	30	-0.006713	± 2.5	PASS
		VN	40	-0.011485	± 2.5	PASS
		VN	50	-0.006430	± 2.5	PASS
	HCH	VN	-30	-0.011252	± 2.5	PASS

		VN	-20	-0.010491	± 2.5	PASS
		VN	-10	-0.005911	± 2.5	PASS
		VN	0	-0.005606	± 2.5	PASS
		VN	10	-0.002345	± 2.5	PASS
		VN	20	-0.007435	± 2.5	PASS
		VN	30	-0.005780	± 2.5	PASS
		VN	40	-0.011299	± 2.5	PASS
		VN	50	-0.006120	± 2.5	PASS
16QAM	LCH	VN	-30	-0.007535	± 2.5	PASS
		VN	-20	-0.012988	± 2.5	PASS
		VN	-10	-0.005636	± 2.5	PASS
		VN	0	-0.00874	± 2.5	PASS
		VN	10	-0.004367	± 2.5	PASS
		VN	20	-0.004436	± 2.5	PASS
		VN	30	-0.010365	± 2.5	PASS
		VN	40	-0.004572	± 2.5	PASS
		VN	50	-0.005441	± 2.5	PASS
	MCH	VN	-30	-0.013304	± 2.5	PASS
		VN	-20	-0.001199	± 2.5	PASS
		VN	-10	-0.003821	± 2.5	PASS
		VN	0	-0.002233	± 2.5	PASS
		VN	10	-0.006475	± 2.5	PASS
		VN	20	-0.014376	± 2.5	PASS
		VN	30	-0.012435	± 2.5	PASS
		VN	40	-0.004357	± 2.5	PASS
		VN	50	-0.005601	± 2.5	PASS
	HCH	VN	-30	-0.007448	± 2.5	PASS
		VN	-20	-0.003677	± 2.5	PASS
		VN	-10	-0.00991	± 2.5	PASS
		VN	0	-0.004305	± 2.5	PASS
		VN	10	-0.005183	± 2.5	PASS
		VN	20	-0.007480	± 2.5	PASS
		VN	30	-0.009119	± 2.5	PASS
		VN	40	-0.005127	± 2.5	PASS
		VN	50	-0.011439	± 2.5	PASS

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Appendix G :Field Strength of Spurious Radiation

Measurement

Test Result

Bandwidth:	5M				Test channel:	Lowest
Modulation:	QPSK				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5115.0	Vertical	-45.37	12.86	-32.51	-25.00	PASS
7672.5	V	-51.04	16.42	-34.62		
-	V	-	-	-		
5115.0	Horizontal	-45.36	11.91	-33.45		
7672.5	H	-50.35	14.84	-35.51		
-	H	-	-	-		
Bandwidth:	5M				Test channel:	Middle
Modulation:	QPSK				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5210.0	Vertical	-45.32	12.99	-32.33	-25.00	PASS
7815.0	V	-50.77	16.69	-34.08		
-	V	-	-	-		
5210.0	Horizontal	-56.63	12.04	-44.59		
7815.0	H	-50.92	15.14	-35.78		
-	H	-	-	-		
Bandwidth:	5M				Test channel:	Highest
Modulation:	QPSK				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5305.0	Vertical	-46.45	13.11	-33.34	-25.00	PASS
7957.5	V	-52.12	16.96	-35.16		
-	V	-	-	-		
5305.0	Horizontal	-45.59	12.18	-33.41		
7957.5	H	-52.03	15.45	-36.58		
-	H	-	-	-		

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Bandwidth:	5M				Test channel:	Lowest
Modulation:	16QAM				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5115.0	Vertical	-45.57	12.86	-32.71	-25.00	PASS
7672.5	V	-51.46	16.42	-35.04		
-	V	-	-	-		
5115.0	Horizontal	-45.52	11.91	-33.61		
7672.5	H	-50.99	14.84	-36.15		
-	H	-	-	-		
Bandwidth:	5M				Test channel:	Middle
Modulation:	16QAM				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5210.0	Vertical	-45.57	12.99	-32.58	-25.00	PASS
7815.0	V	-51.38	16.69	-34.69		
-	V	-	-	-		
5210.0	Horizontal	-45.92	12.04	-33.88		
7815.0	H	-51.17	15.14	-36.03		
-	H	-	-	-		
Bandwidth:	5M				Test channel:	Highest
Modulation:	16QAM				Temperature :	23~24°C
RB #:	1RB #0				Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.					
Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Reading Level (dBm)	Substitution factor	Measurement Level (dBm)		
5305.0	Vertical	-46.42	13.11	-33.31	-25.00	PASS
7957.5	V	-52.6	16.96	-35.64		
-	V	-	-	-		
5305.0	Horizontal	-46	12.18	-33.82		
7957.5	H	-51.92	15.45	-36.47		
-	H	-	-	-		

Note: All bandwidth and modulation are tested, only the worst result is reported.