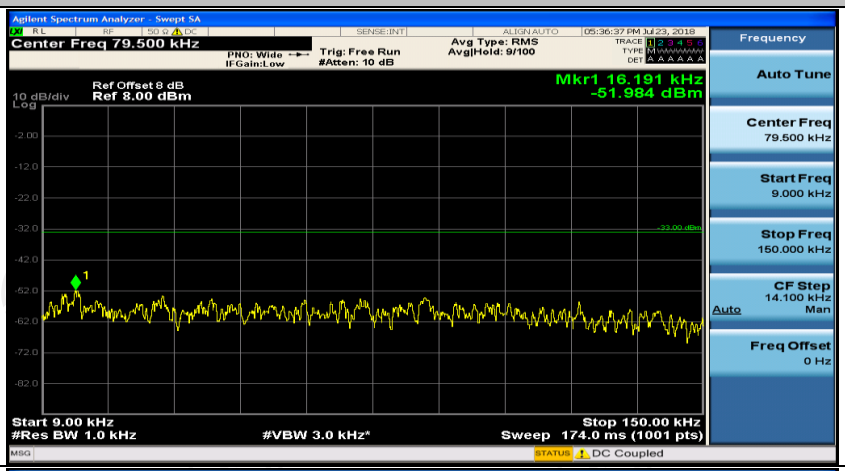
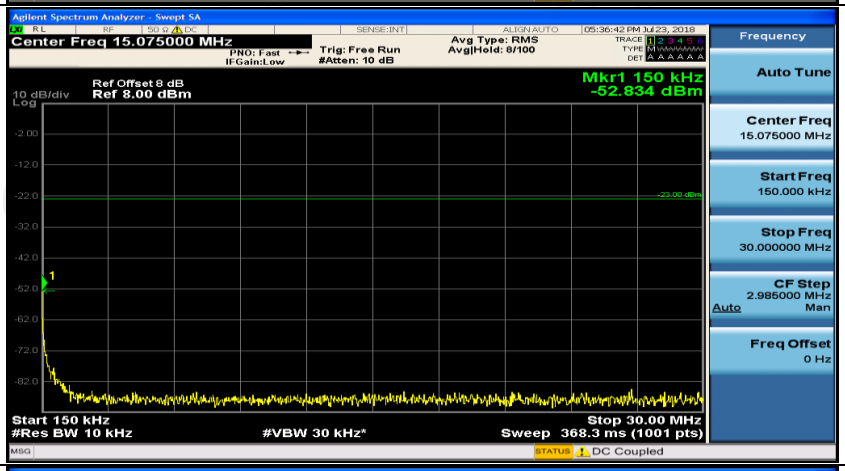
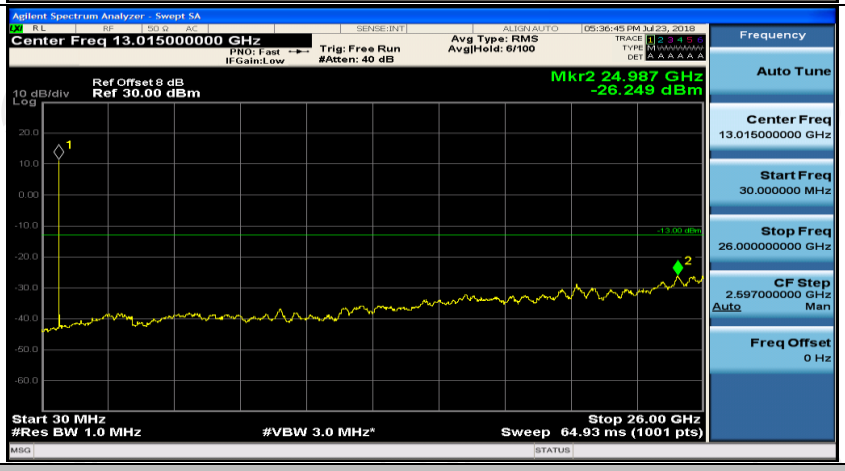
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

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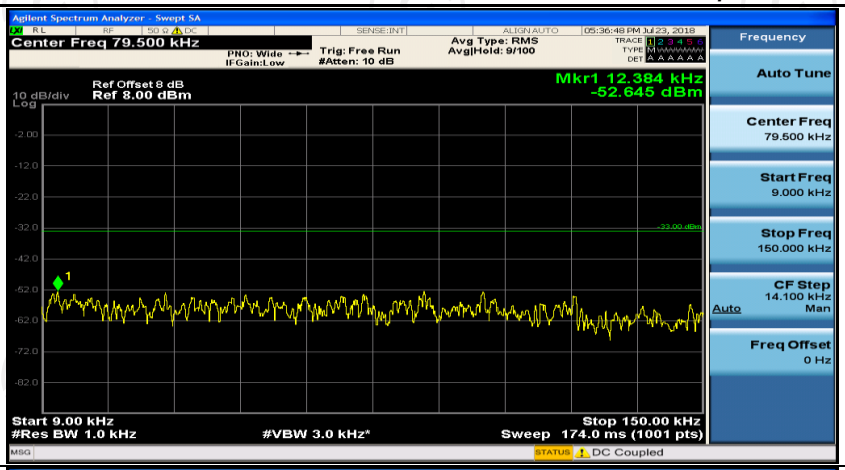
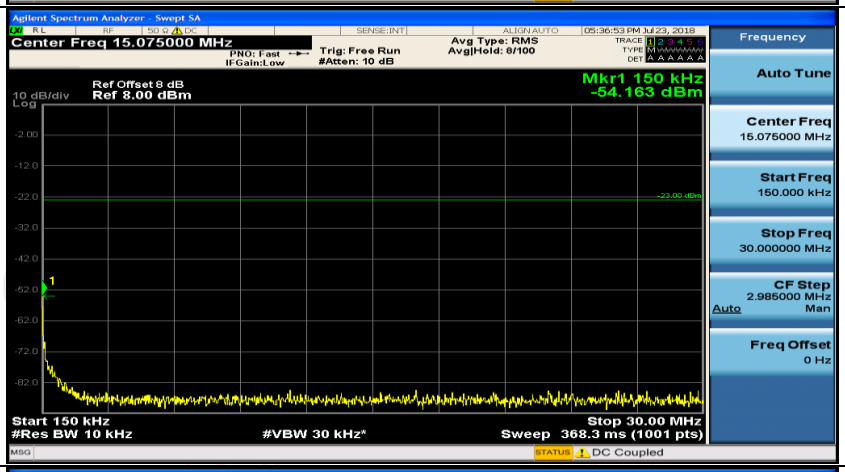
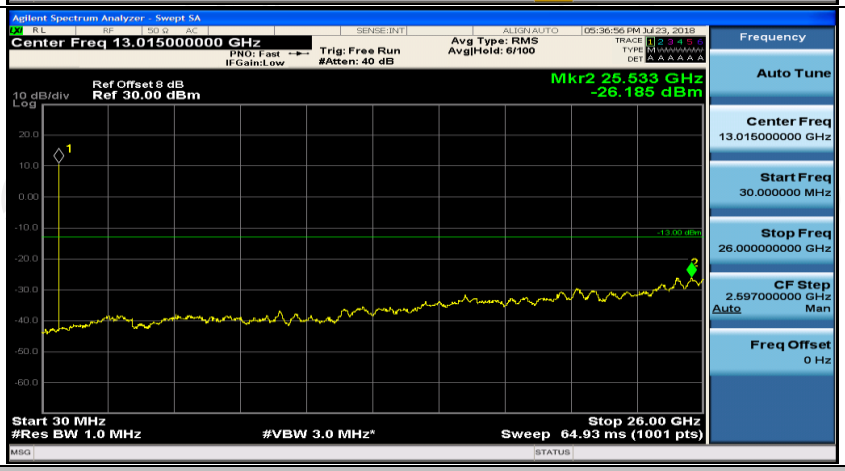
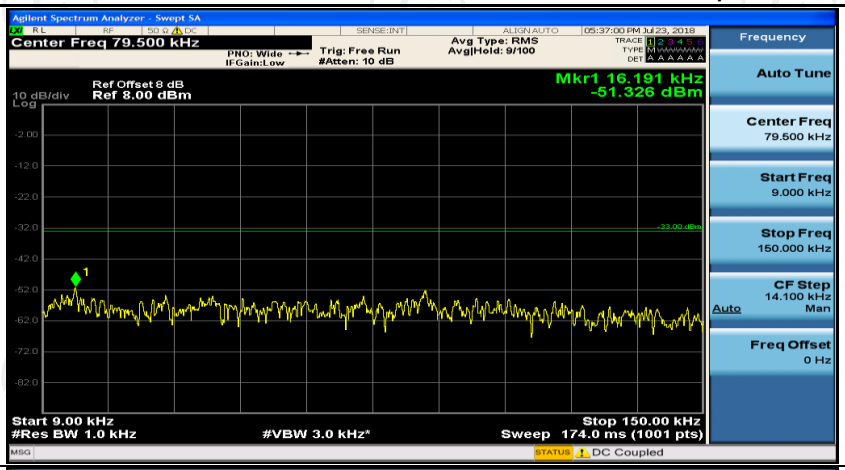
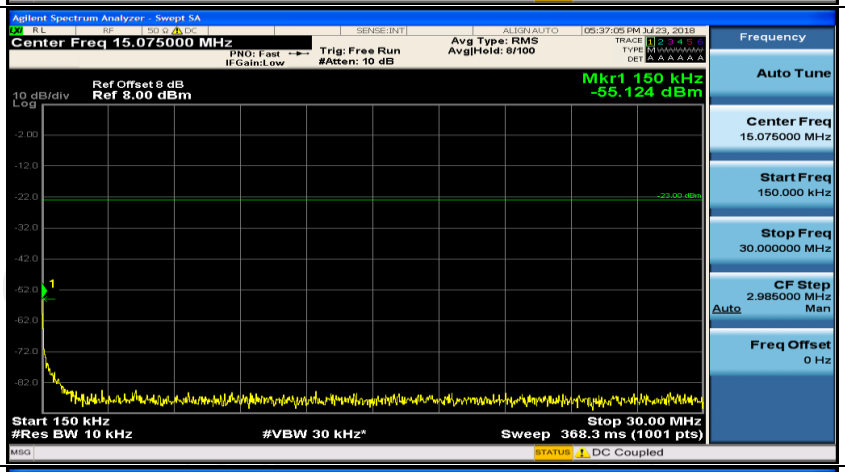


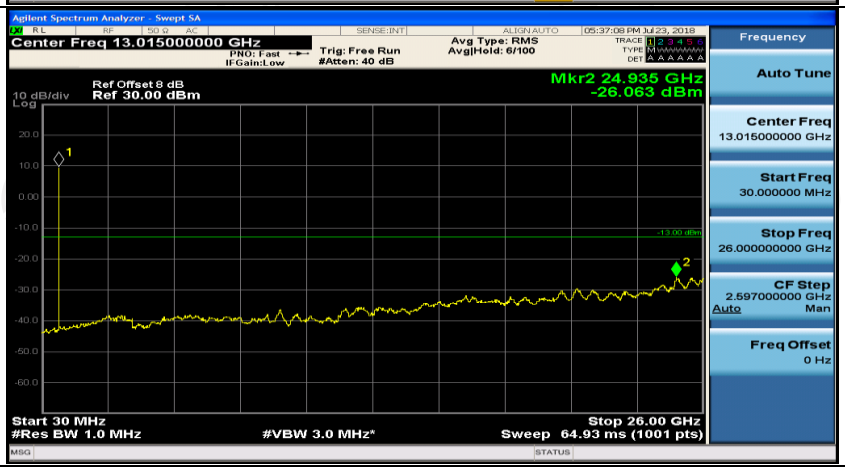


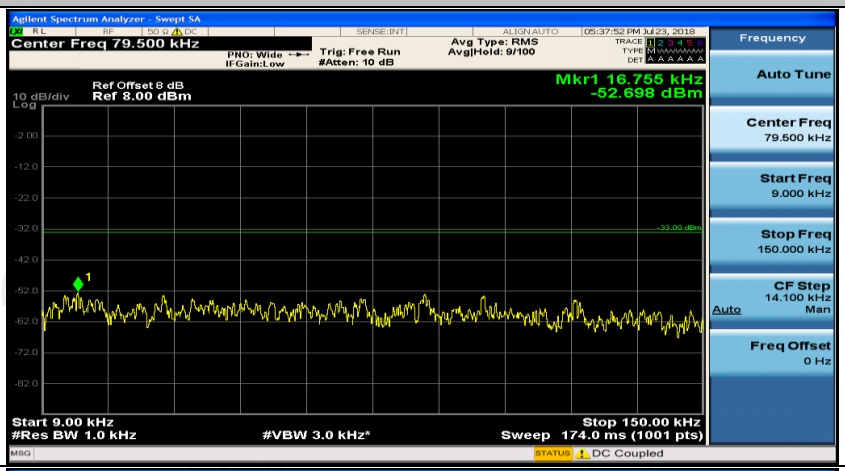
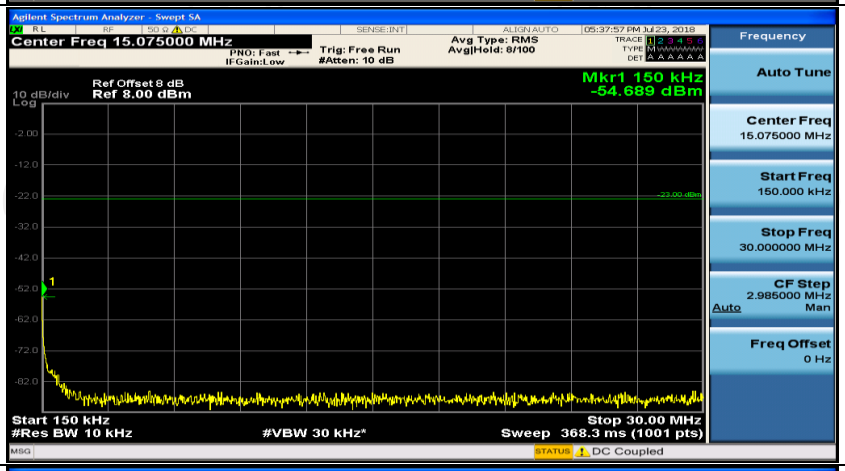
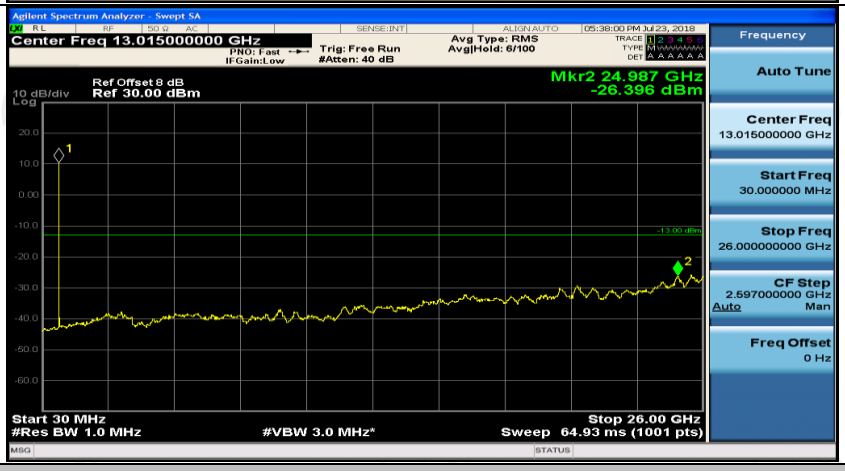


Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49


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: 9/100
05:37:00 PM Jul 23, 2018
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
Mkr1 16.191 kHz
-51.326 dBm
-33.00 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
05:37:05 PM Jul 23, 2018
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
Mkr1 150 kHz
-55.124 dBm
-23.00 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: 6/100
05:37:08 PM Jul 23, 2018
Ref Offset 8 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.935 GHz
-26.063 dBm
-13.00 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_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

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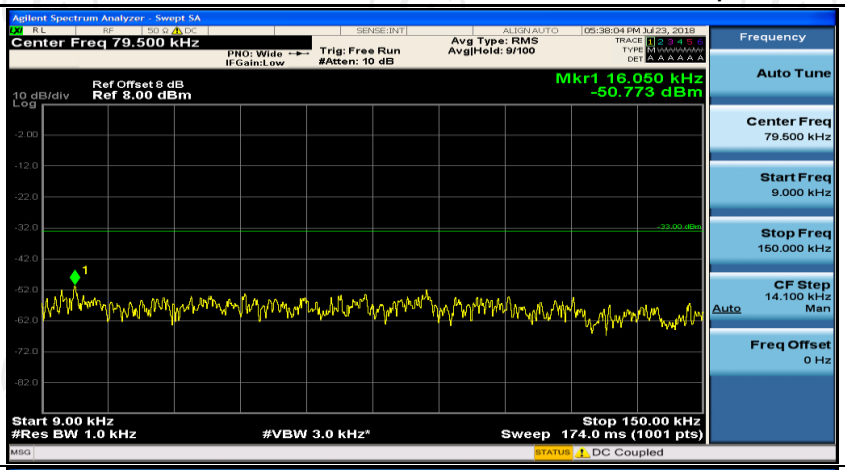
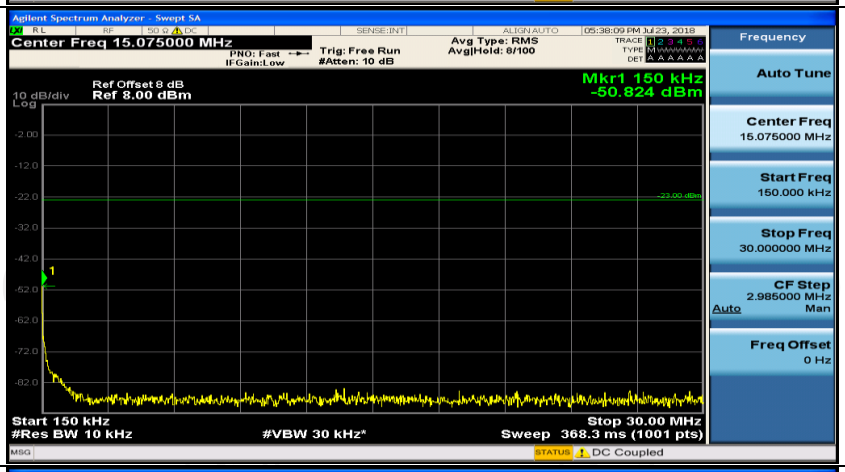
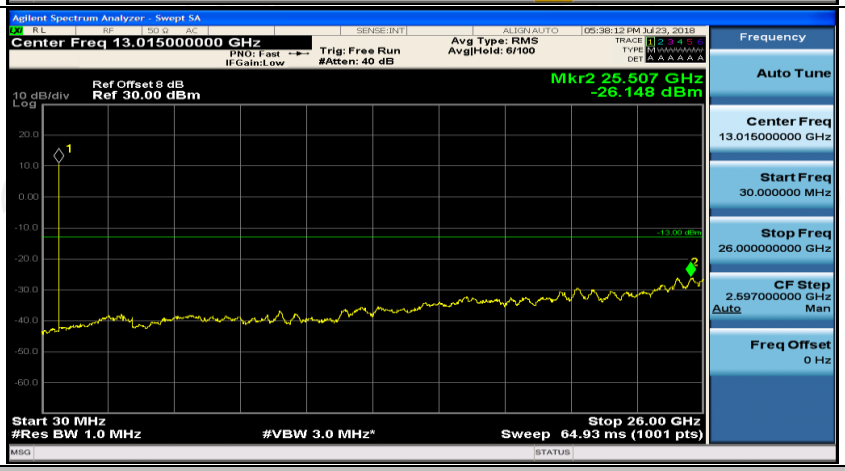
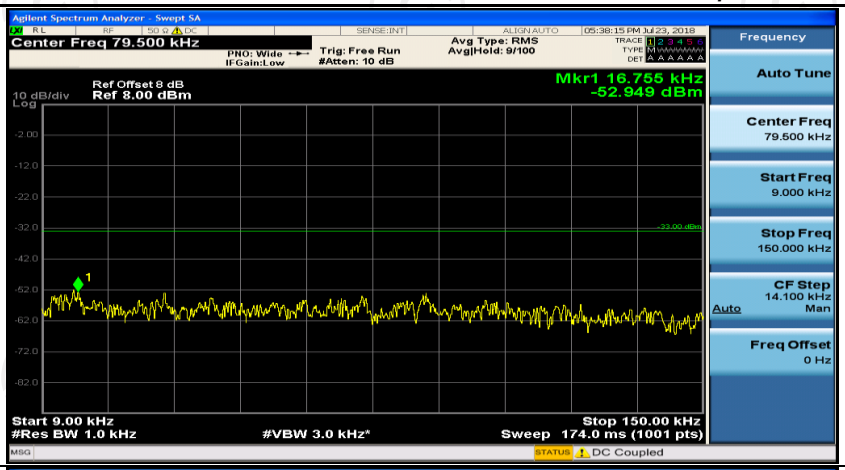
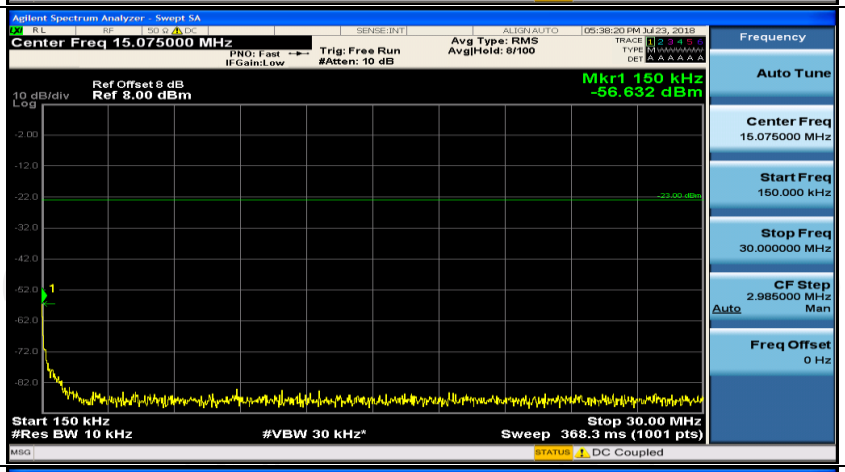


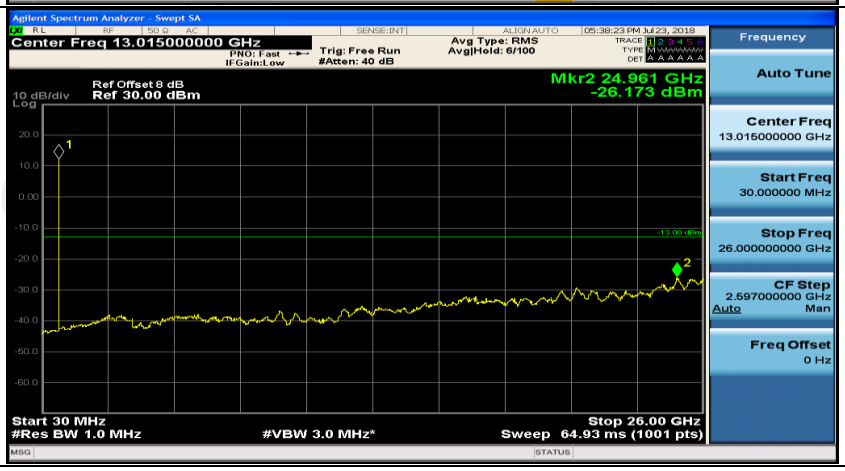


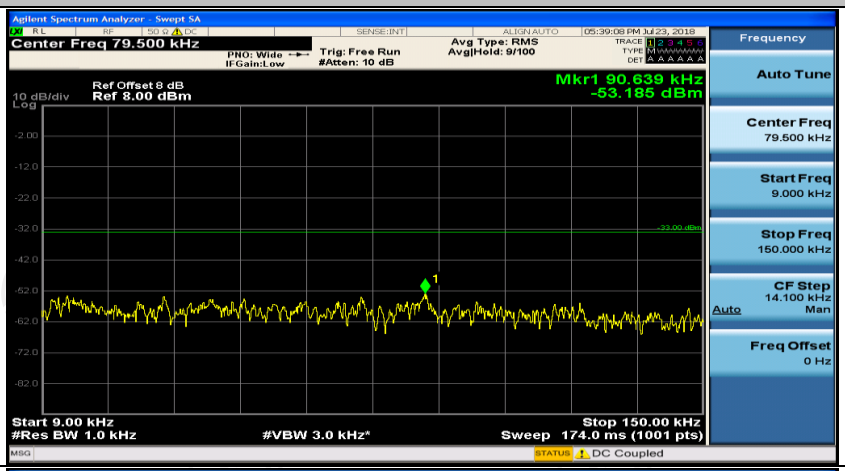
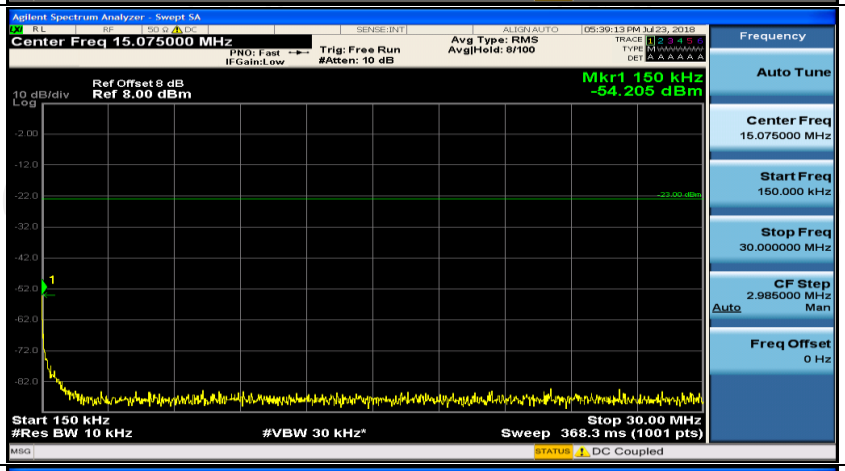
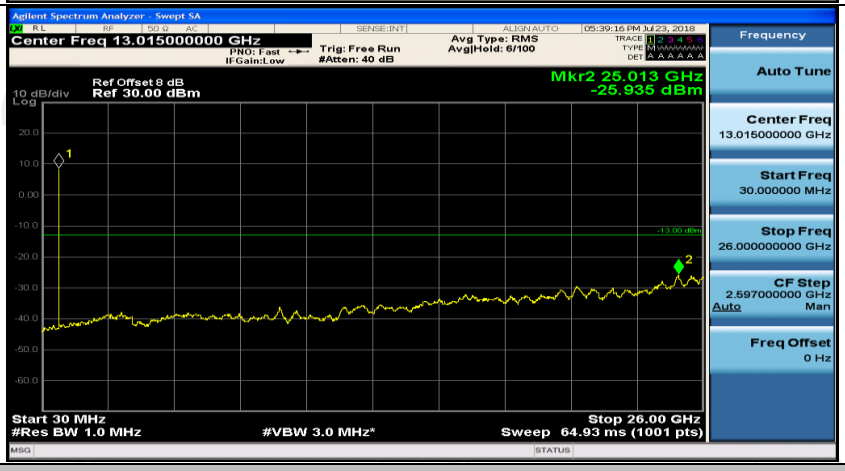


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49


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: 9/100
05:38:15 PM Jul 23, 2018
Mkr1 16.755 kHz
-52.949 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
-33.00 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
05:38:20 PM Jul 23, 2018
Mkr1 150 kHz
-56.632 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
-23.00 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: 6/100
05:38:23 PM Jul 23, 2018
Mkr2 24.961 GHz
-26.173 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 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_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

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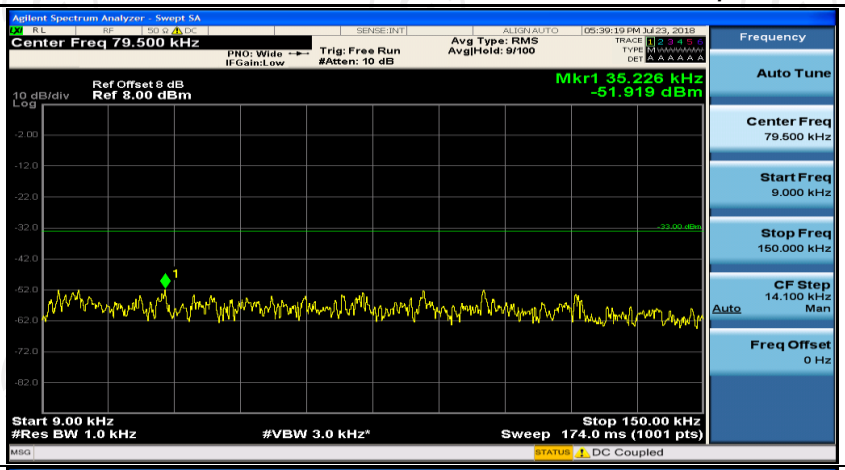
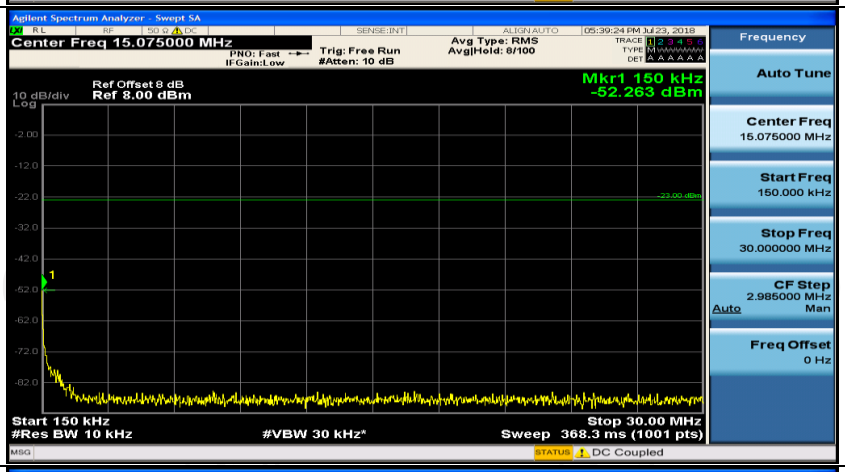
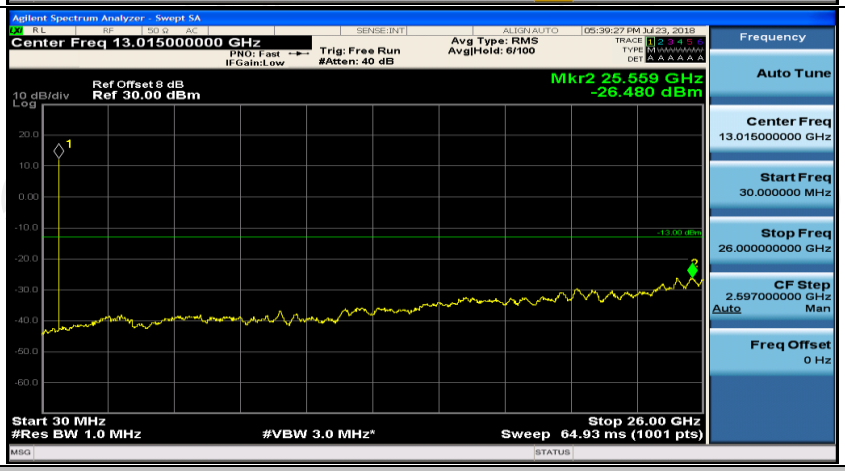
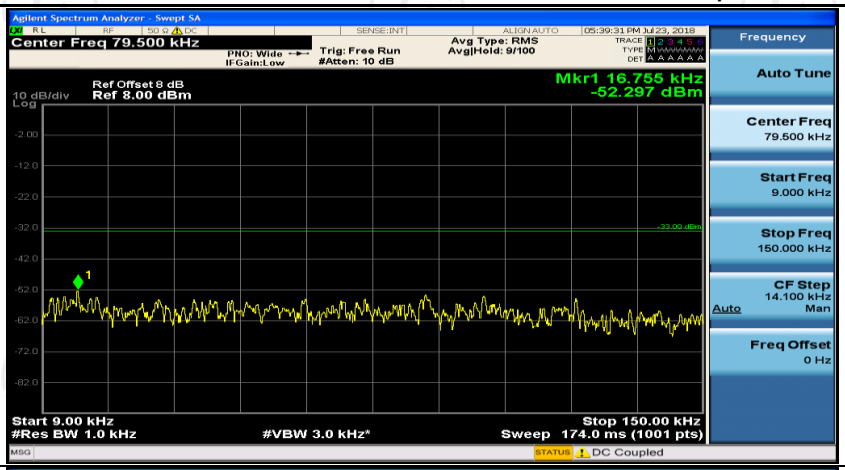
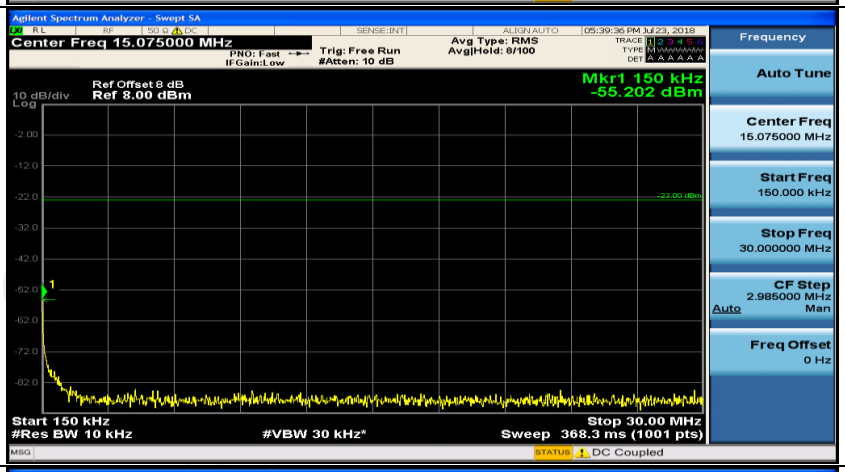


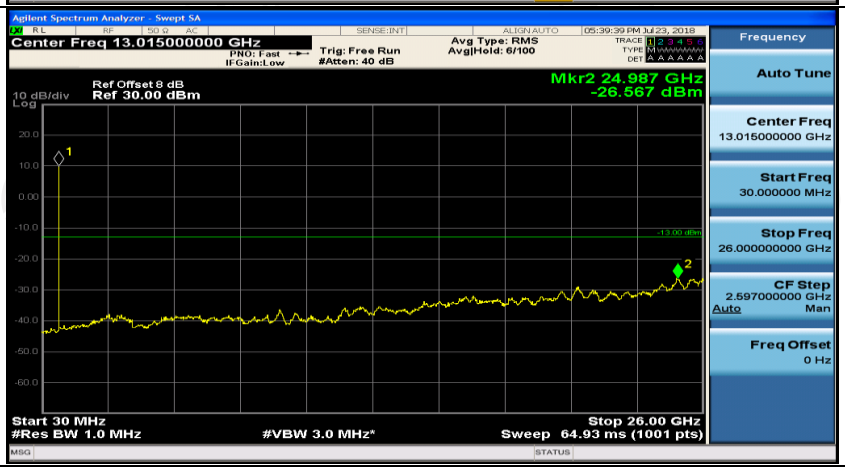




Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49


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: 9/100
05:39:31 PM Jul 23, 2018
Frequency
Mkr1 16.755 kHz
-52.297 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
-33.00 dBm
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
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


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
05:39:36 PM Jul 23, 2018
Frequency
Mkr1 150 kHz
-55.202 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 8.00 dBm
-23.00 dBm
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
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


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: 6/100
05:39:39 PM Jul 23, 2018
Frequency
Mkr2 24.987 GHz
-26.567 dBm
Ref Offset 8 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
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
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Voltage						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	3.5	25	-0.010653	± 2.5	PASS
		3.7	25	-0.003948	± 2.5	PASS
		4.2	25	-0.002710	± 2.5	PASS
	MCH	3.5	25	-0.010598	± 2.5	PASS
		3.7	25	-0.006326	± 2.5	PASS
		4.2	25	-0.000773	± 2.5	PASS
	HCH	3.5	25	-0.003259	± 2.5	PASS
		3.7	25	-0.006396	± 2.5	PASS
		4.2	25	-0.000759	± 2.5	PASS
16QAM	LCH	3.5	25	-0.008716	± 2.5	PASS
		3.7	25	-0.003138	± 2.5	PASS
		4.2	25	-0.003183	± 2.5	PASS
	MCH	3.5	25	-0.009228	± 2.5	PASS
		3.7	25	-0.010356	± 2.5	PASS
		4.2	25	-0.001433	± 2.5	PASS
	HCH	3.5	25	-0.000865	± 2.5	PASS
		3.7	25	-0.009724	± 2.5	PASS
		4.2	25	-0.001267	± 2.5	PASS
Temperature						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	3.7	-30	-0.010512	± 2.5	PASS
		3.7	-20	-0.001574	± 2.5	PASS
		3.7	-10	-0.001675	± 2.5	PASS
		3.7	0	-0.003148	± 2.5	PASS
		3.7	10	-0.002295	± 2.5	PASS
		3.7	20	-0.003786	± 2.5	PASS
		3.7	30	-0.008585	± 2.5	PASS
		3.7	40	-0.008160	± 2.5	PASS
		3.7	50	-0.002430	± 2.5	PASS
	MCH	3.7	-30	-0.005500	± 2.5	PASS
		3.7	-20	-0.010598	± 2.5	PASS
		3.7	-10	-0.005641	± 2.5	PASS
		3.7	0	-0.002257	± 2.5	PASS
		3.7	10	-0.003059	± 2.5	PASS
		3.7	20	-0.005782	± 2.5	PASS

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		3.7	30	-0.006206	± 2.5	PASS
		3.7	40	-0.008563	± 2.5	PASS
		3.7	50	-0.001572	± 2.5	PASS
	HCH	3.7	-30	-0.005500	± 2.5	PASS
		3.7	-20	-0.010598	± 2.5	PASS
		3.7	-10	-0.005641	± 2.5	PASS
		3.7	0	-0.002257	± 2.5	PASS
		3.7	10	-0.002114	± 2.5	PASS
		3.7	20	-0.003328	± 2.5	PASS
		3.7	30	-0.006275	± 2.5	PASS
		3.7	40	-0.005193	± 2.5	PASS
		3.7	50	-0.003348	± 2.5	PASS
16QAM	LCH	3.7	-30	-0.006699	± 2.5	PASS
		3.7	-20	-0.010431	± 2.5	PASS
		3.7	-10	-0.003914	± 2.5	PASS
		3.7	0	-0.002926	± 2.5	PASS
		3.7	10	-0.003879	± 2.5	PASS
		3.7	20	-0.004920	± 2.5	PASS
		3.7	30	-0.014801	± 2.5	PASS
		3.7	40	-0.004110	± 2.5	PASS
		3.7	50	-0.007147	± 2.5	PASS
	MCH	3.7	-30	-0.007294	± 2.5	PASS
		3.7	-20	-0.001249	± 2.5	PASS
		3.7	-10	-0.005843	± 2.5	PASS
		3.7	0	-0.002035	± 2.5	PASS
		3.7	10	-0.001377	± 2.5	PASS
		3.7	20	-0.011021	± 2.5	PASS
		3.7	30	-0.011222	± 2.5	PASS
		3.7	40	-0.005541	± 2.5	PASS
		3.7	50	-0.005863	± 2.5	PASS
	HCH	3.7	-30	-0.004044	± 2.5	PASS
		3.7	-20	-0.006217	± 2.5	PASS
		3.7	-10	-0.001348	± 2.5	PASS
		3.7	0	-0.009577	± 2.5	PASS
		3.7	10	-0.004947	± 2.5	PASS
		3.7	20	-0.012210	± 2.5	PASS
		3.7	30	-0.009624	± 2.5	PASS
		3.7	40	-0.011388	± 2.5	PASS
		3.7	50	-0.009423	± 2.5	PASS

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

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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	Level (dBm)		
1413.0	Vertical	-34.64	-13.00	PASS
2119.5	V	-45.35		
-	V	-		
1413.0	Horizontal	-33.41		
2119.5	H	-44.80		
-	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	Level (dBm)		
1420.0	Vertical	-35.57	-13.00	PASS
2130.0	V	-43.27		
-	V	-		
1420.0	Horizontal	-34.56		
2130.0	H	-45.04		
-	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	Level (dBm)		
1427.0	Vertical	-33.18	-13.00	PASS
2140.5	V	-45.92		
-	V	-		
1427.0	Horizontal	-32.56		
2140.5	H	-45.28		
-	H	-		

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	Level (dBm)		
1413.0	Vertical	-35.80	-13.00	PASS
2119.5	V	-45.34		
-	V	-		
1413.0	Horizontal	-34.38		
2119.5	H	-46.14		
-	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	Level (dBm)		
1420.0	Vertical	-33.50	-13.00	PASS
2130.0	V	-42.02		
-	V	-		
1420.0	Horizontal	-35.48		
2130.0	H	-46.59		
-	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	Level (dBm)		
1427.0	Vertical	-34.27	-13.00	PASS
2140.5	V	-46.68		
-	V	-		
1427.0	Horizontal	-33.30		
2140.5	H	-45.77		
-	H	-		

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