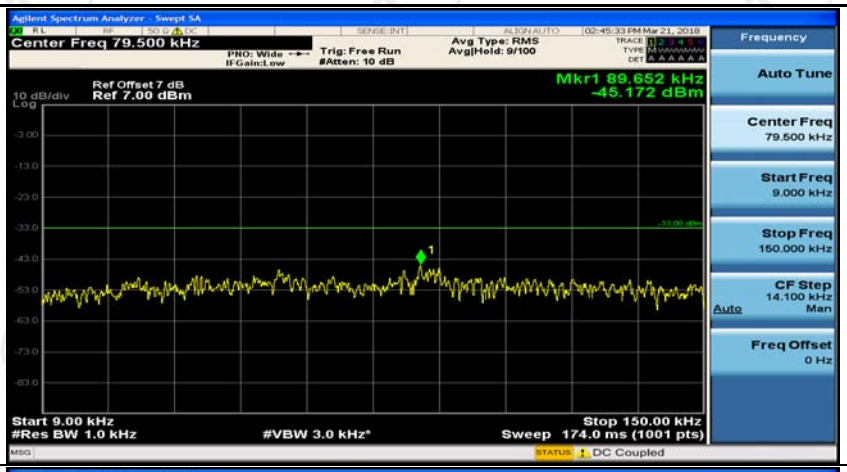
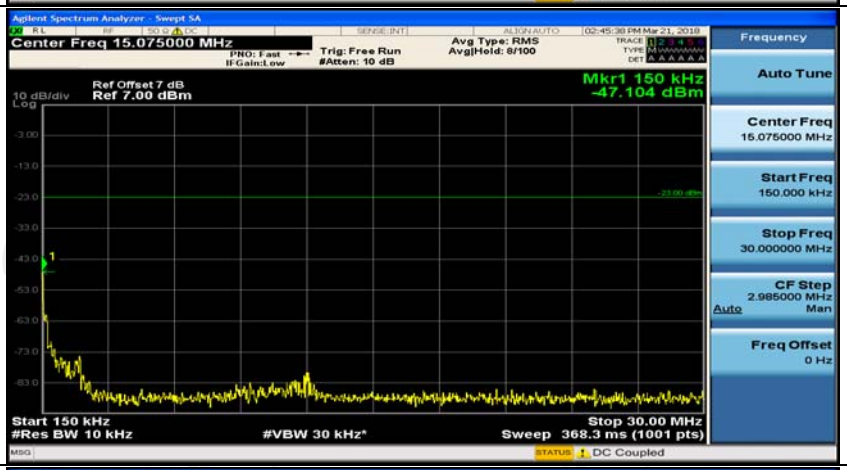
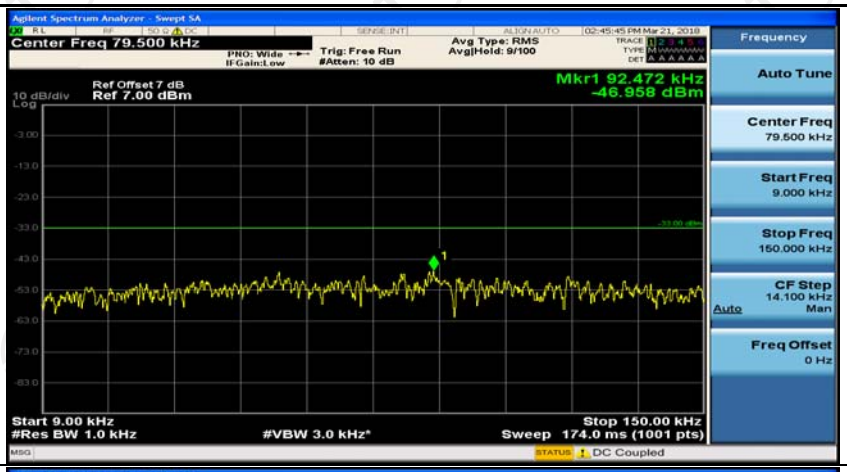
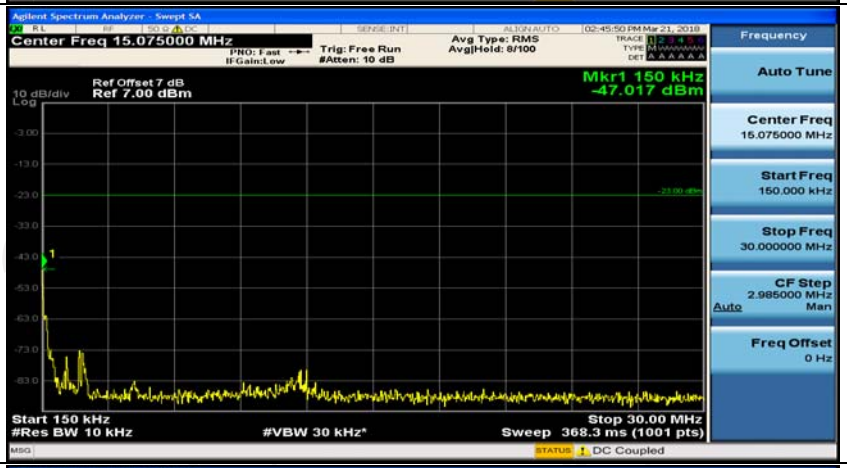


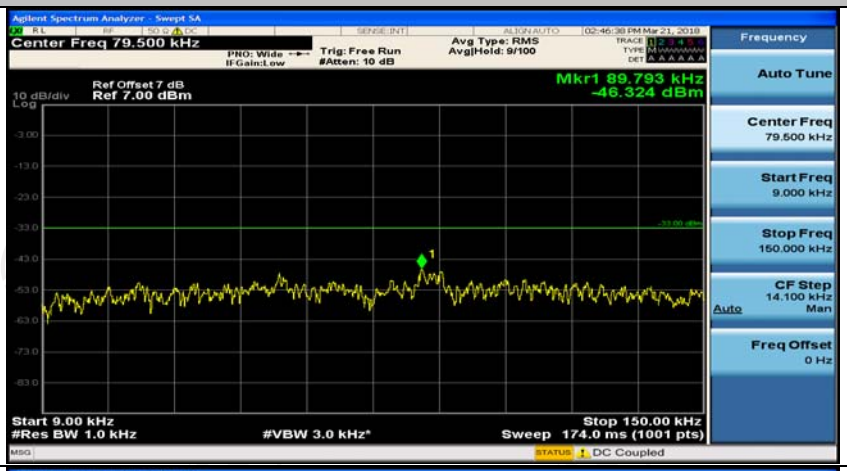
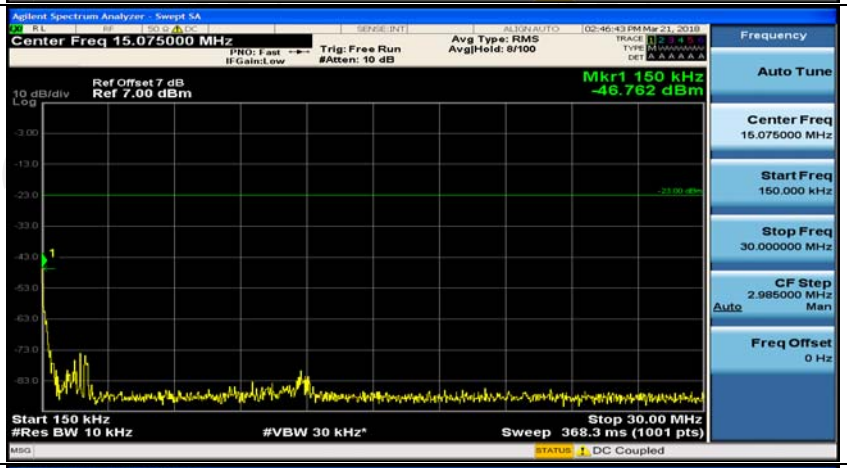


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

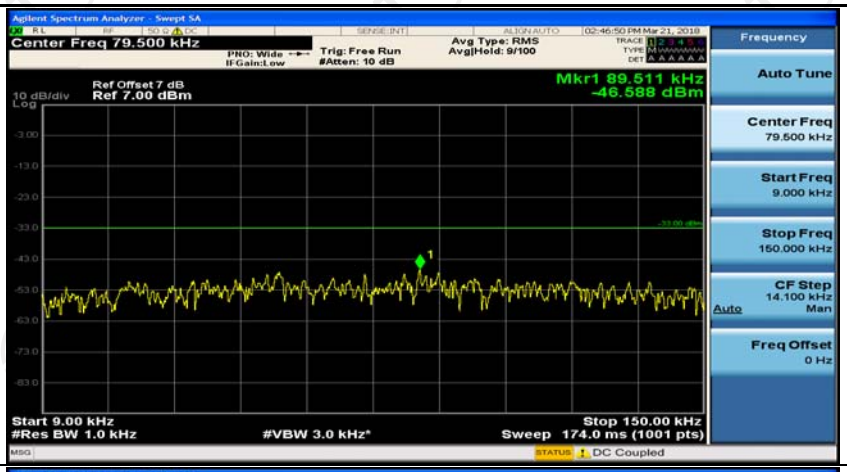

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:45:45 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 92.472 kHz
-46.958 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 ms (1001 pts)
DC Coupled

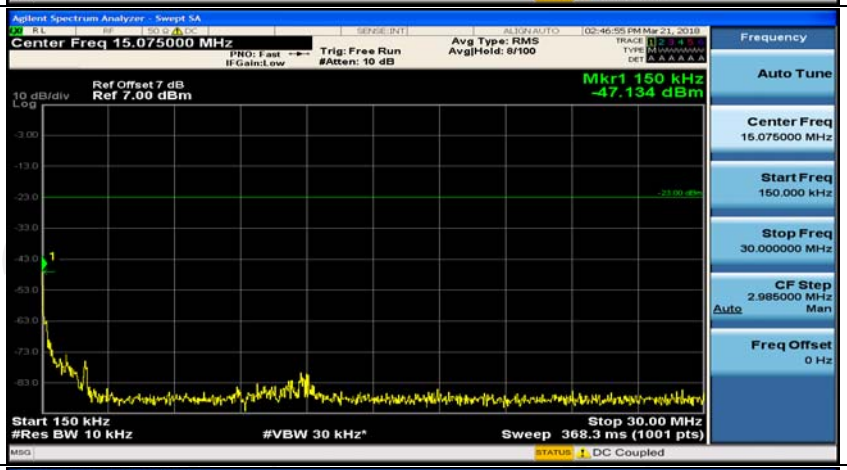

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:45:50 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-47.017 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.3 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
02:45:53 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.559 GHz
-27.769 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 64.93 ms (1001 pts)

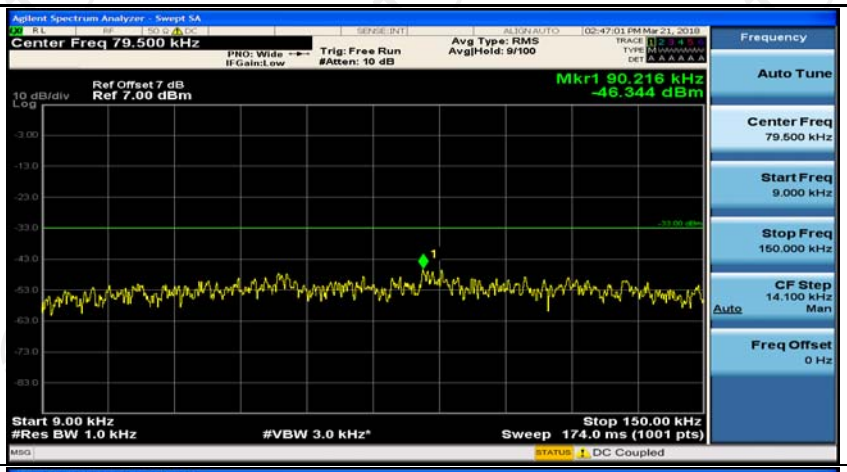
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



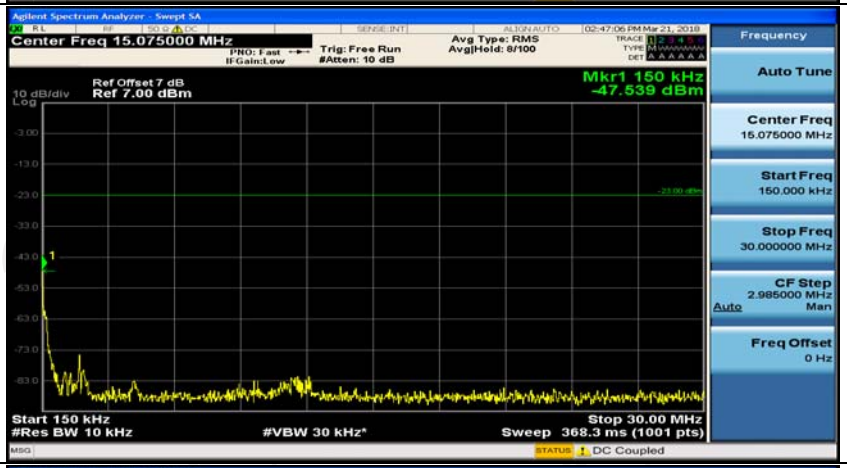
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12





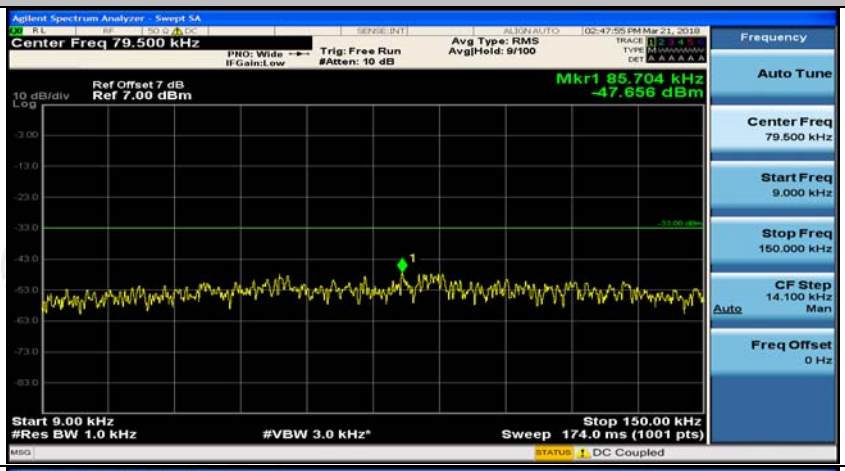
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

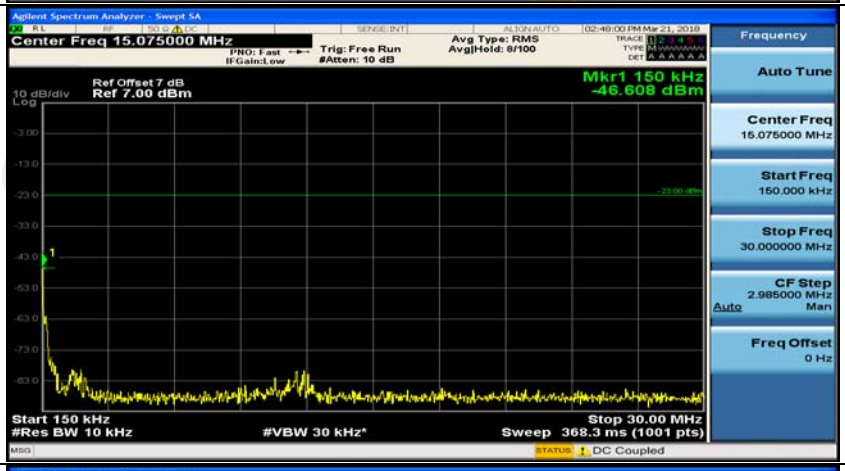

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:47:01 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 90.216 kHz
-46.344 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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
02:47:06 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-47.539 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

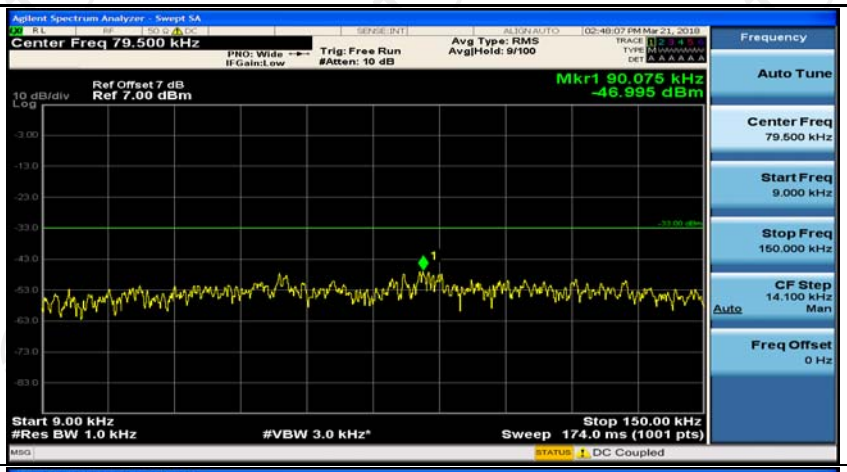

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
02:47:10 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.961 GHz
-27.268 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
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

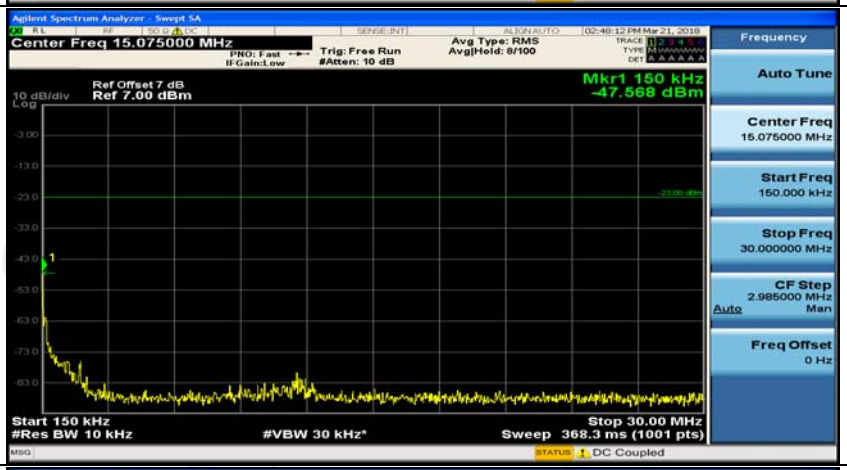
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



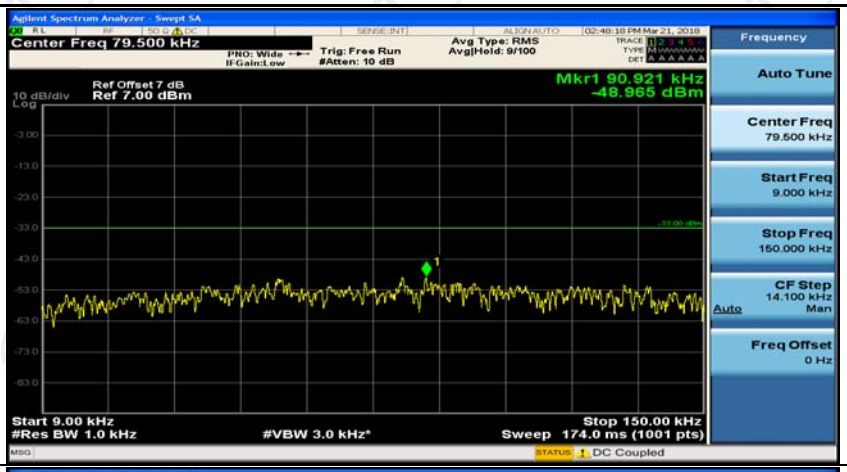


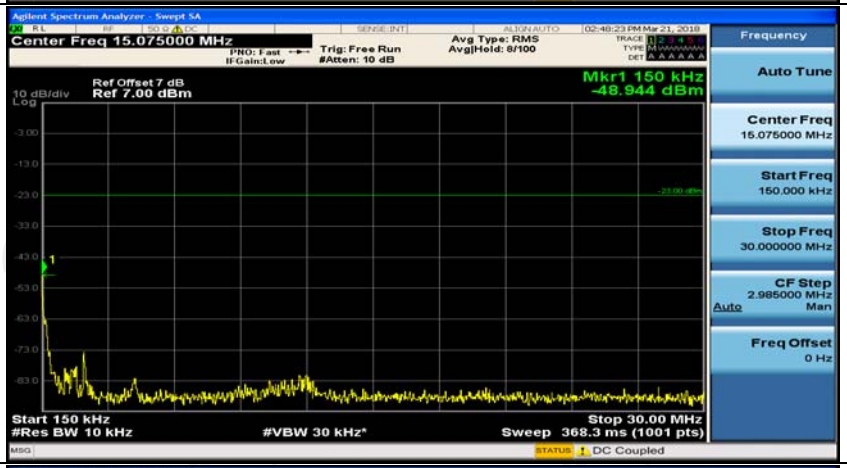
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12





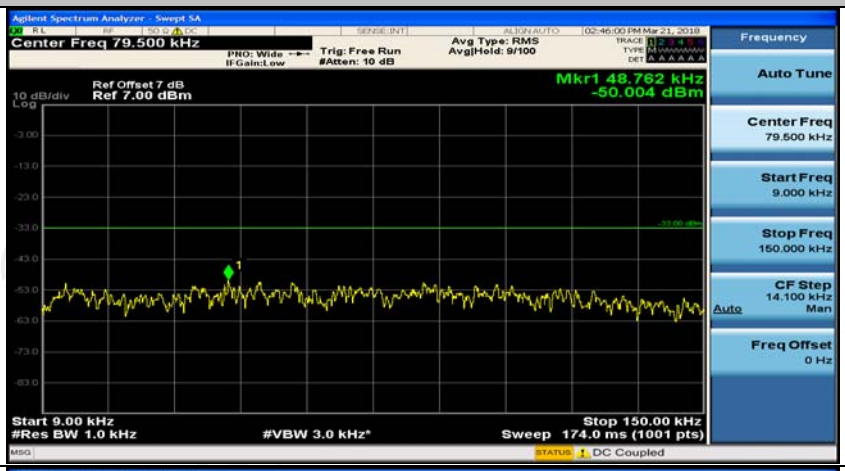
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

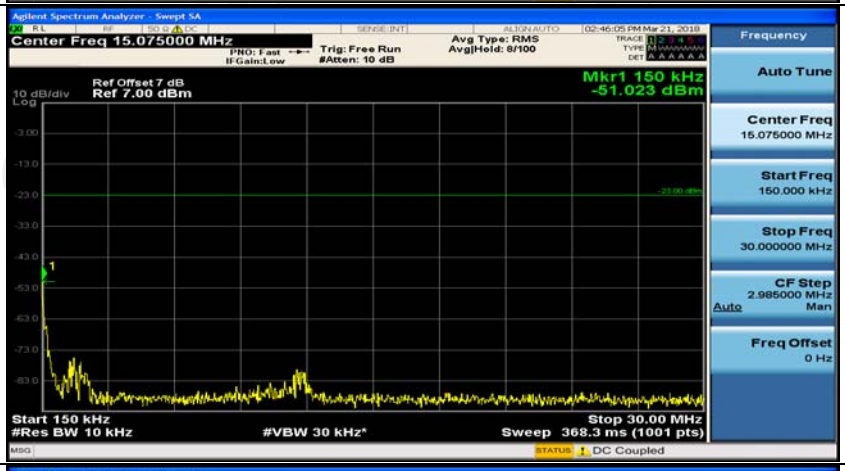

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:48:10 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 90.921 kHz
-48.965 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 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
02:48:23 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-48.944 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 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 368.3 ms (1001 pts)
DC Coupled

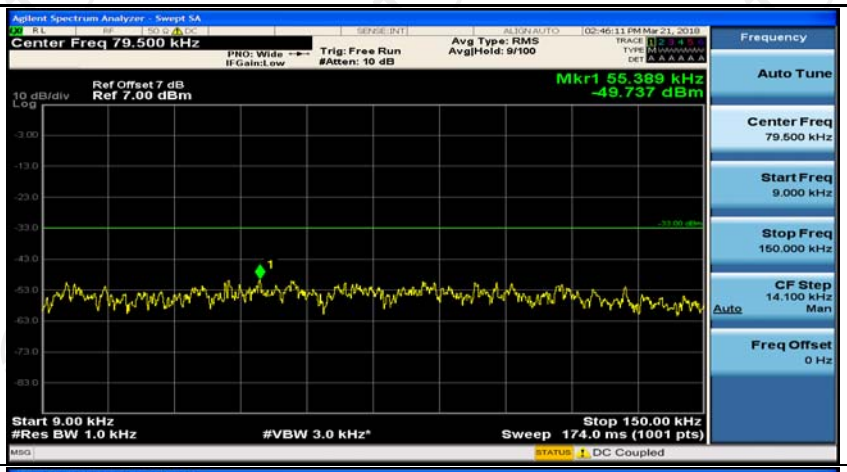

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
02:48:26 PM Mar 21, 2018
Frequency
Auto Tune
Mkr2 25.584 GHz
-27.248 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start Freq
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 64.93 ms (1001 pts)

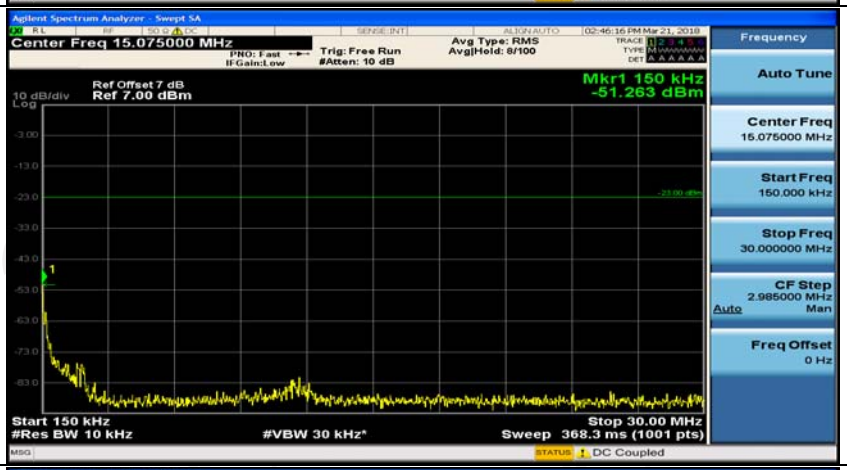
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



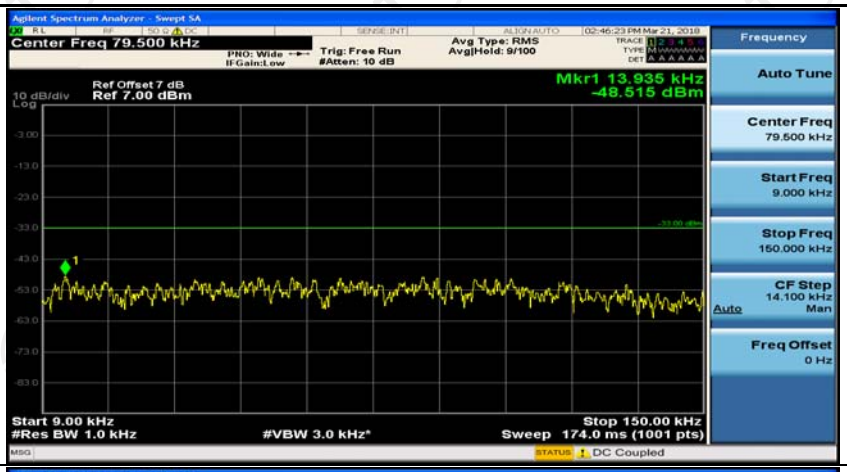


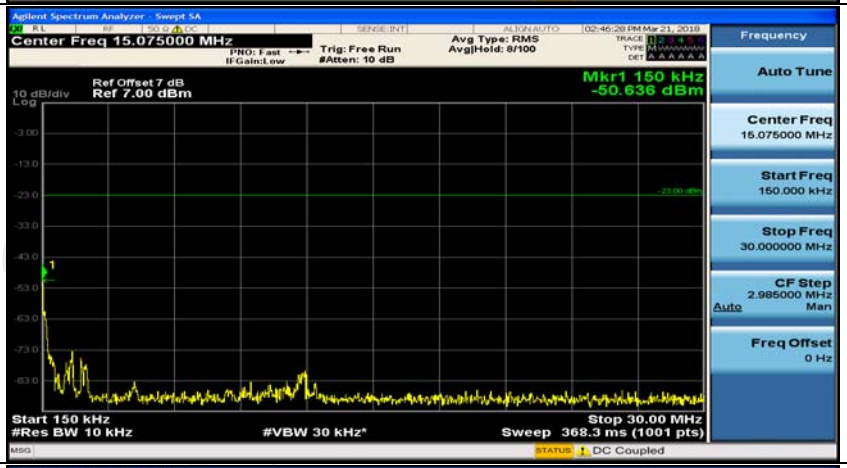
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



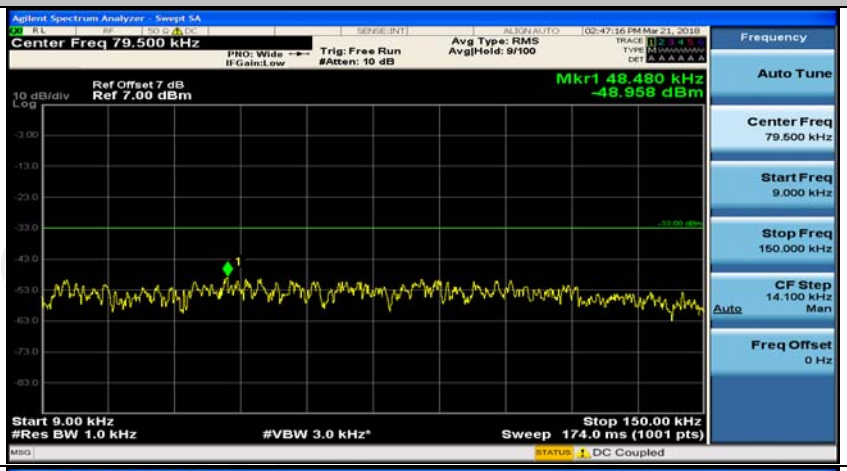
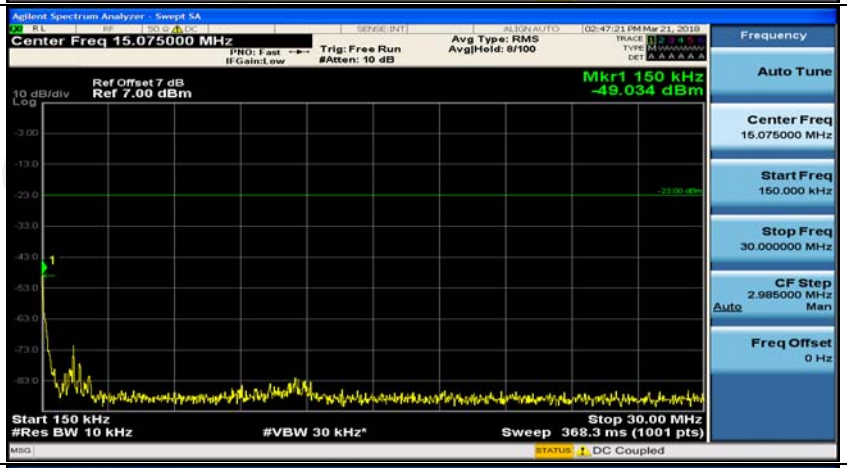


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

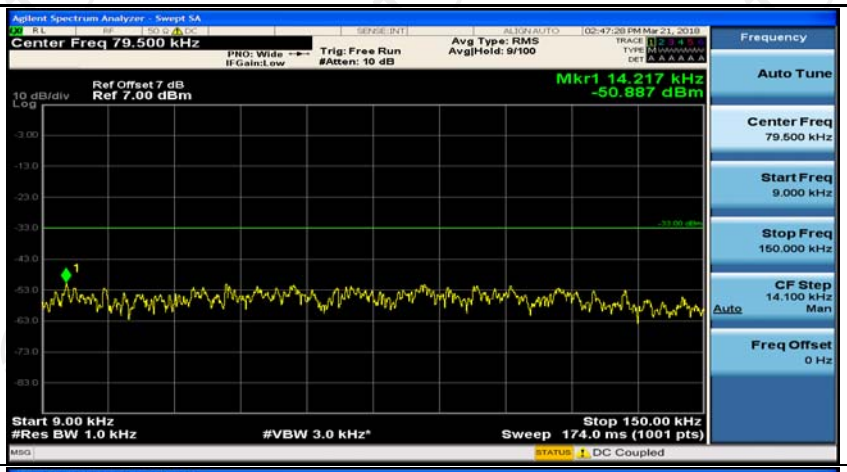

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:46:23 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 13.935 kHz
-48.515 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 ms (1001 pts)
DC Coupled

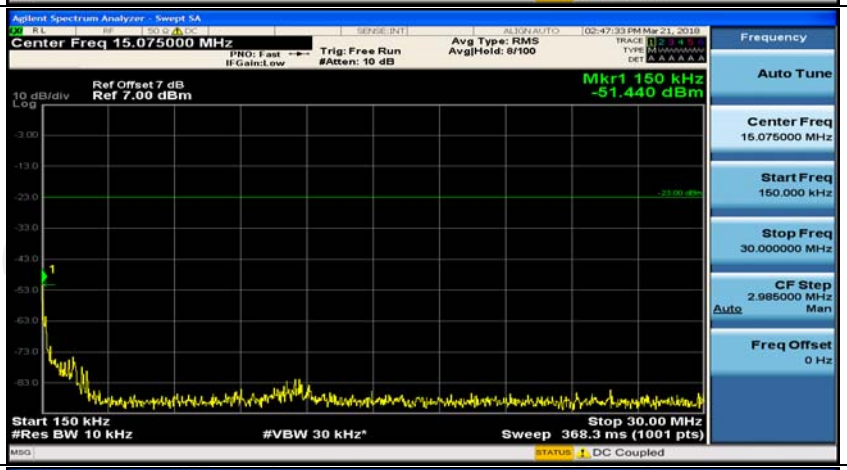

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:46:28 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-50.636 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.3 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
02:46:31 PM Mar 21, 2018
Frequency
Auto Tune
Mkr2 25.533 GHz
-27.254 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 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 64.93 ms (1001 pts)

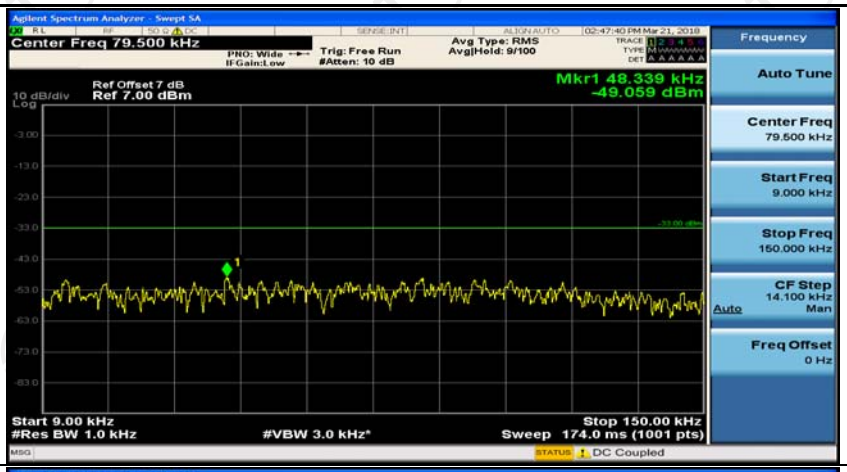
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



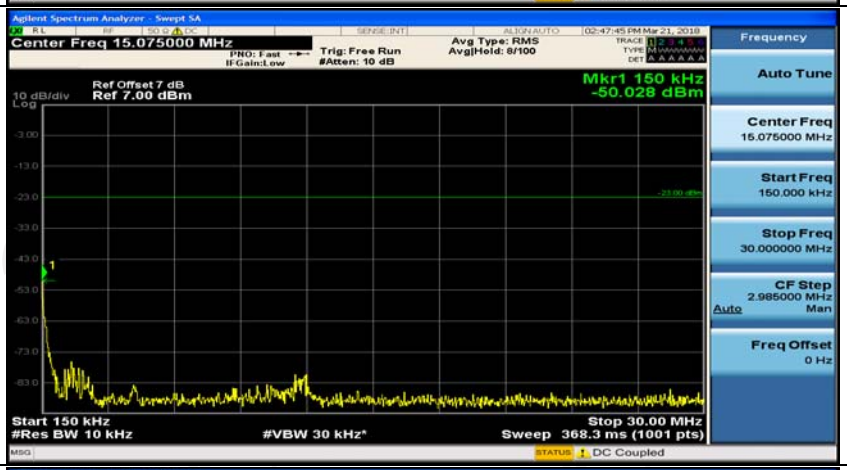
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12





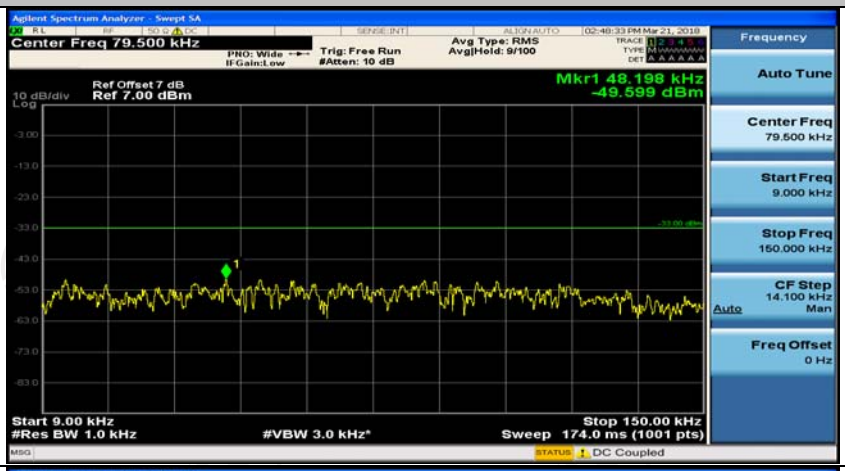
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

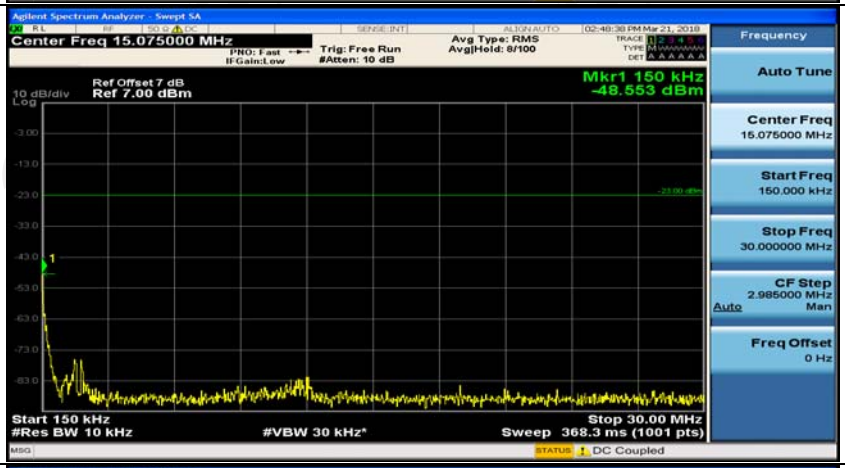

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:47:40 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 48.339 kHz
-49.059 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 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
02:47:45 PM Mar 21, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-50.028 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 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 368.3 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
02:47:48 PM Mar 21, 2018
Frequency
Auto Tune
Mkr2 24.961 GHz
-27.477 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 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 64.93 ms (1001 pts)

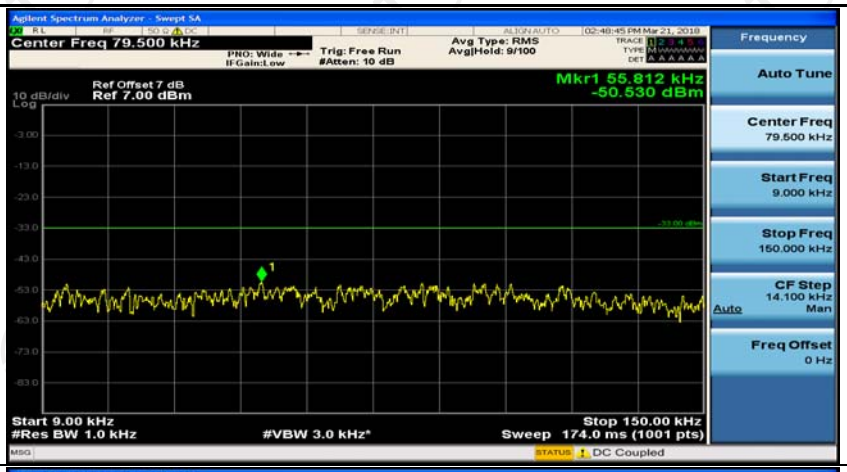
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0

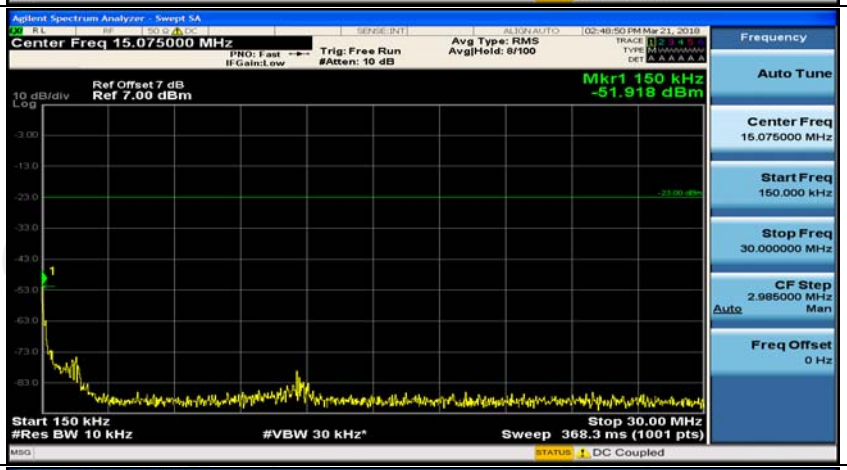




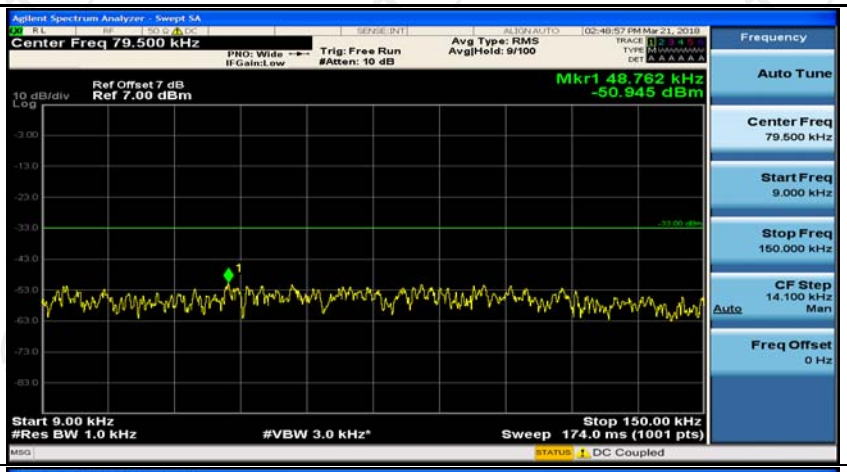
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

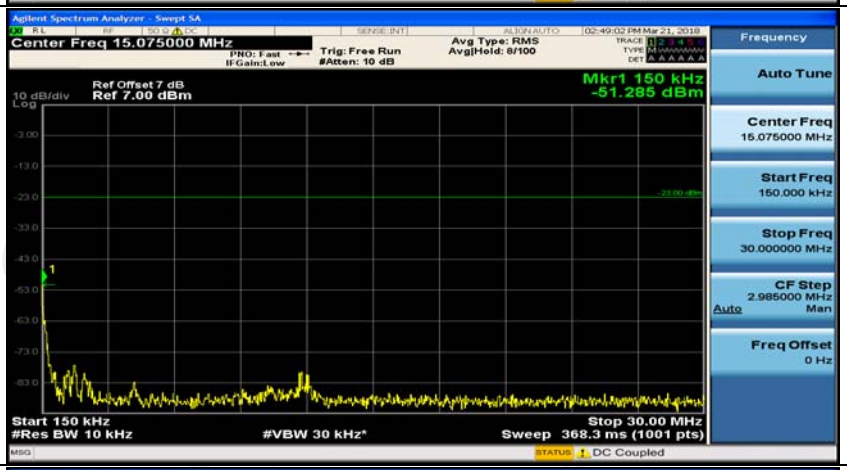
Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com





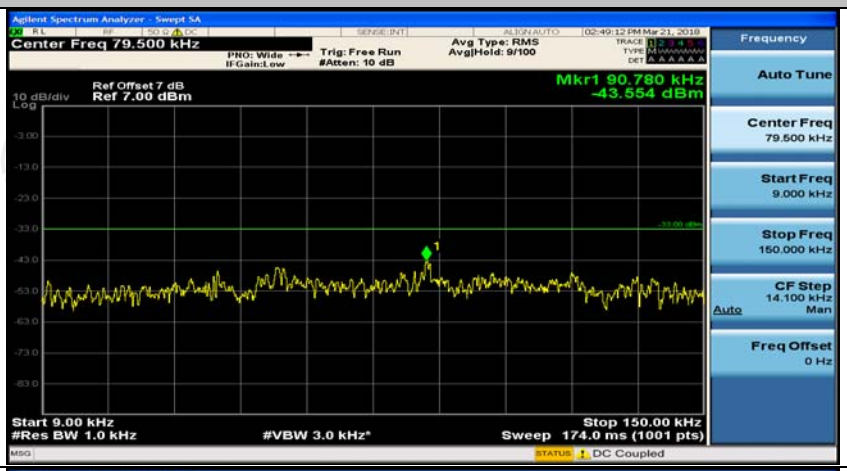
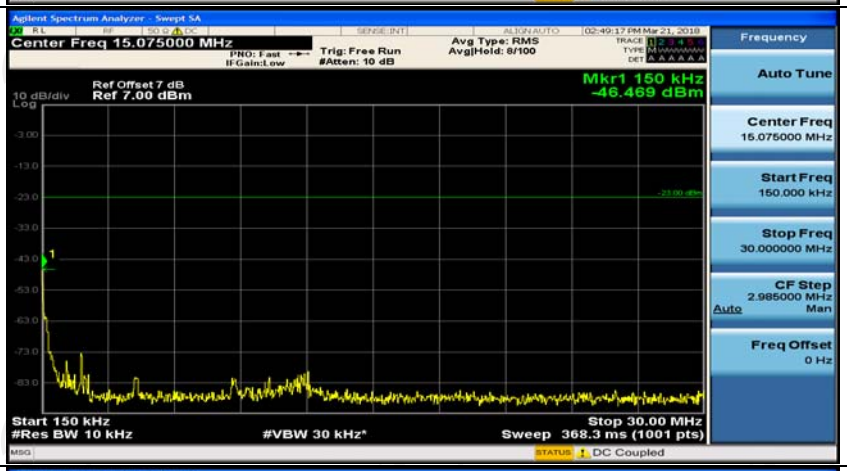
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24


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
02:48:57 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 48.762 kHz
-50.945 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 174.0 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
02:49:02 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-51.285 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 368.3 ms (1001 pts)
DC Coupled

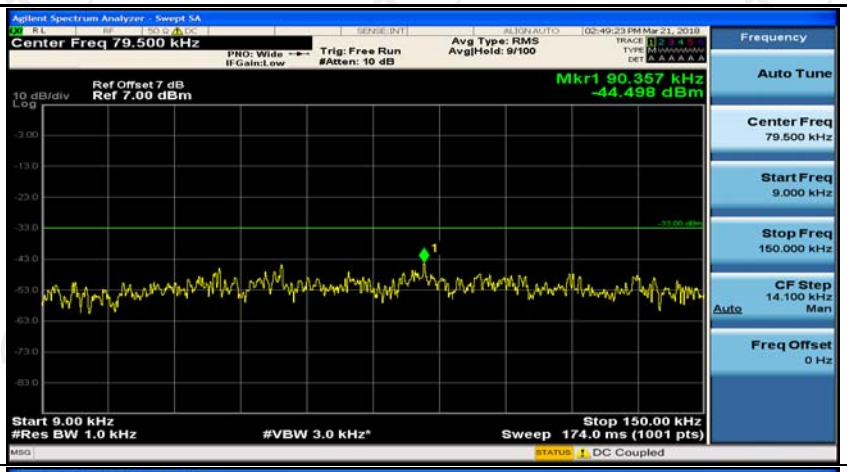

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
02:49:05 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.987 GHz
-27.751 dBm
Center Freq
13.015000000 GHz
Start Freq
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 64.93 ms (1001 pts)

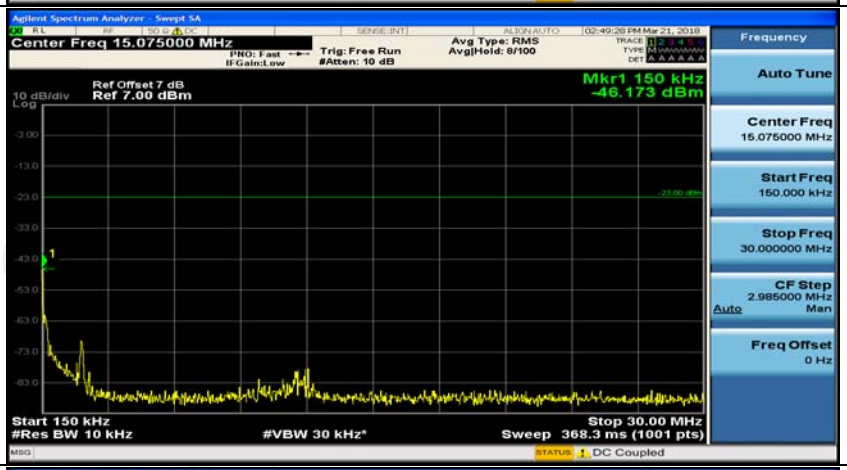
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



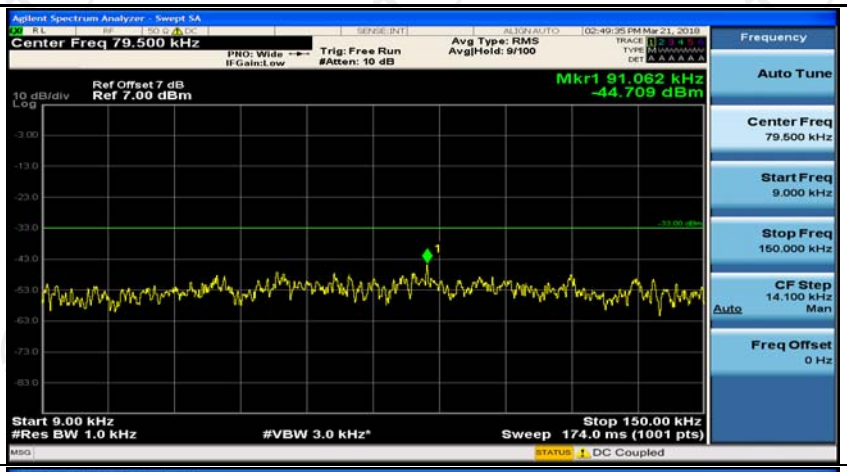
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

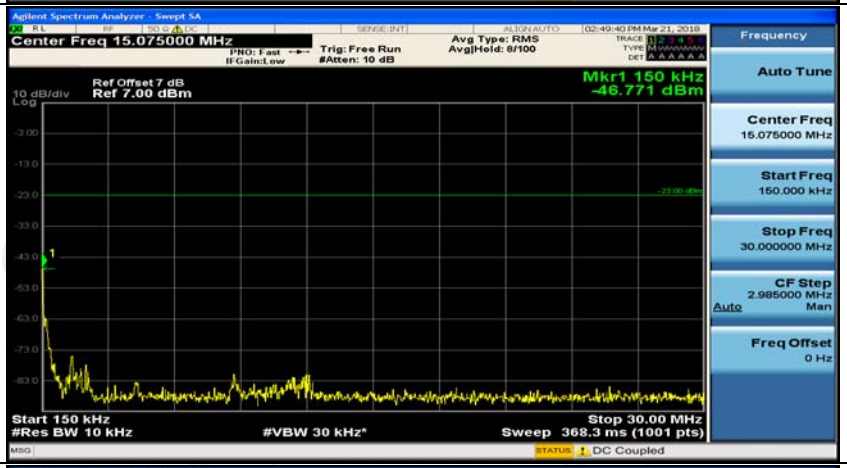
Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



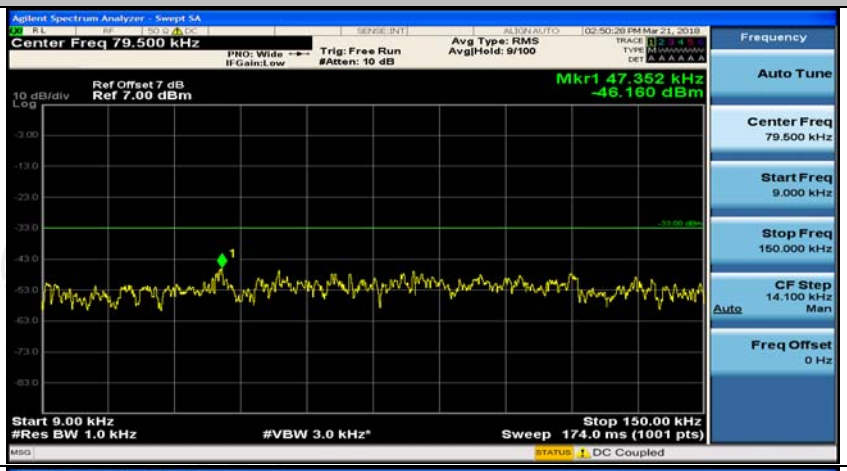
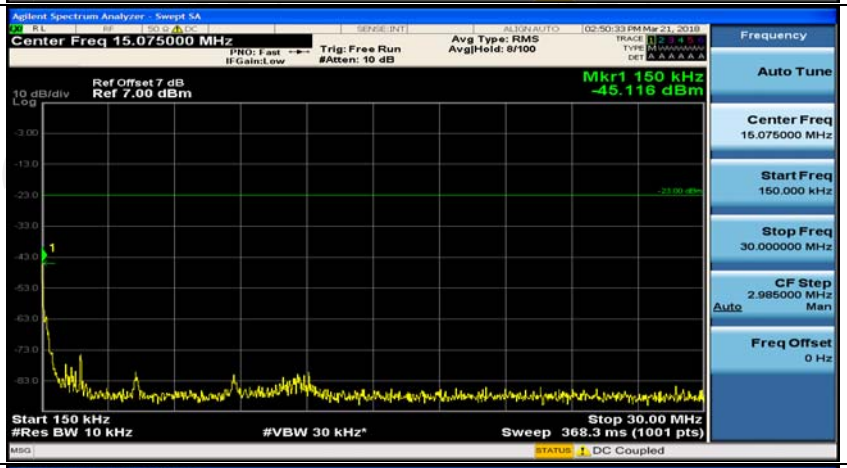


Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49

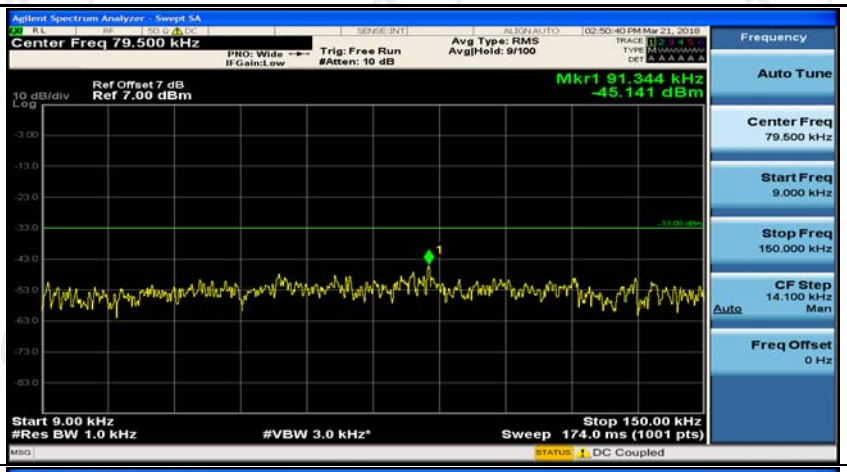

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:49:35 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 91.062 kHz
-44.709 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

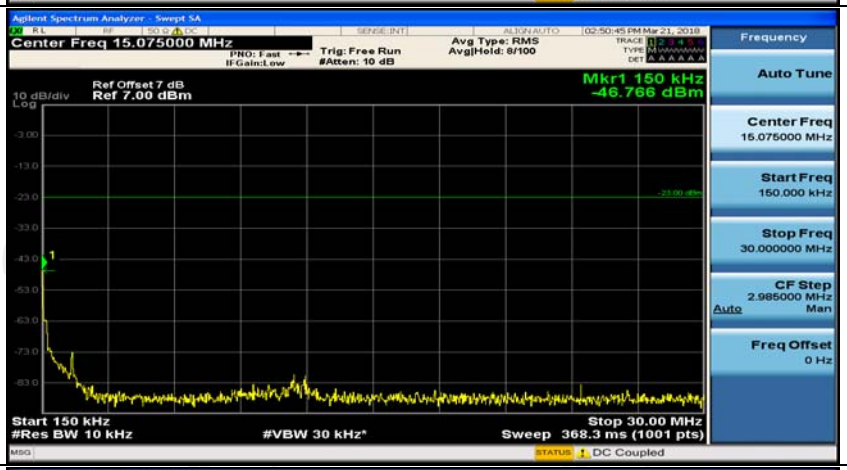

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:49:40 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-46.771 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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
02:49:43 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.013 GHz
-27.358 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)

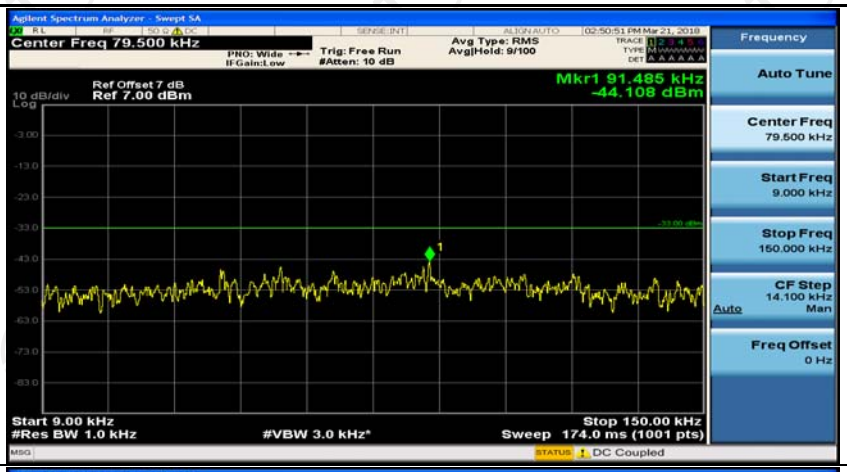
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



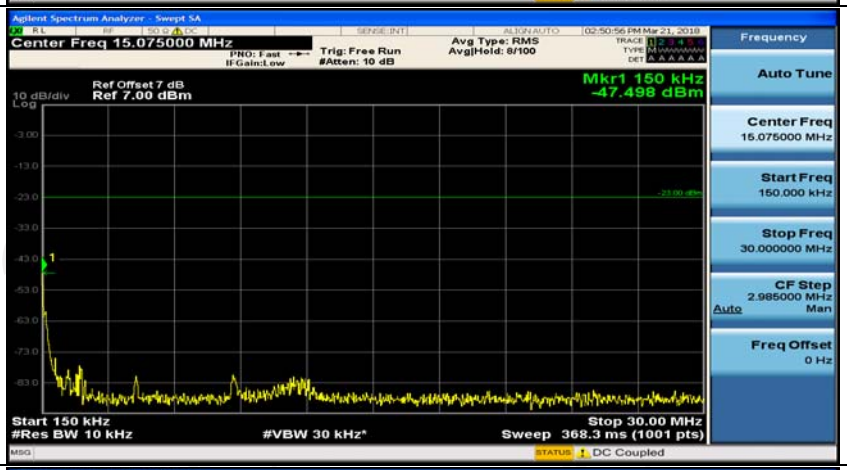
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24



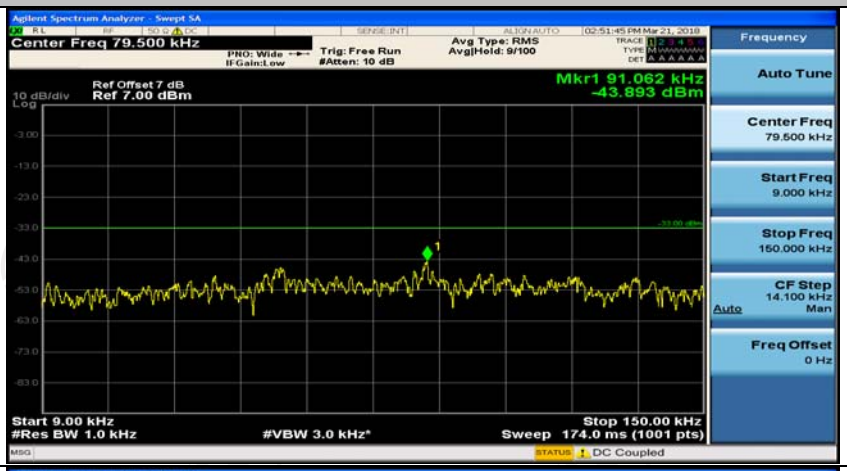
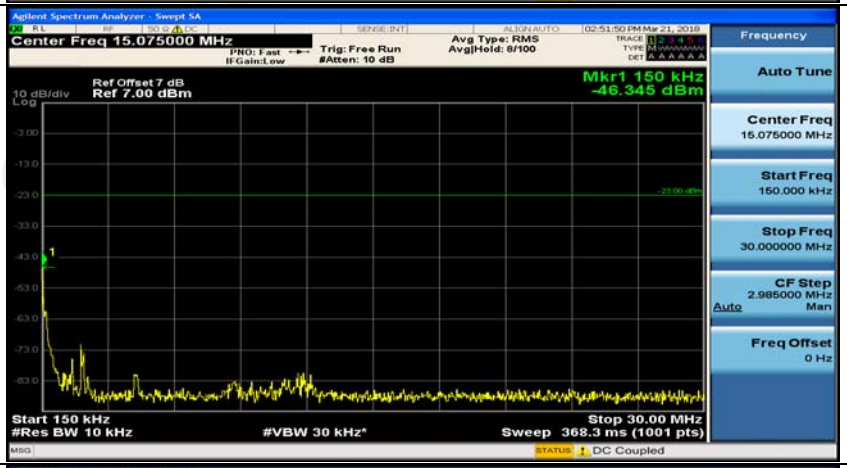


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

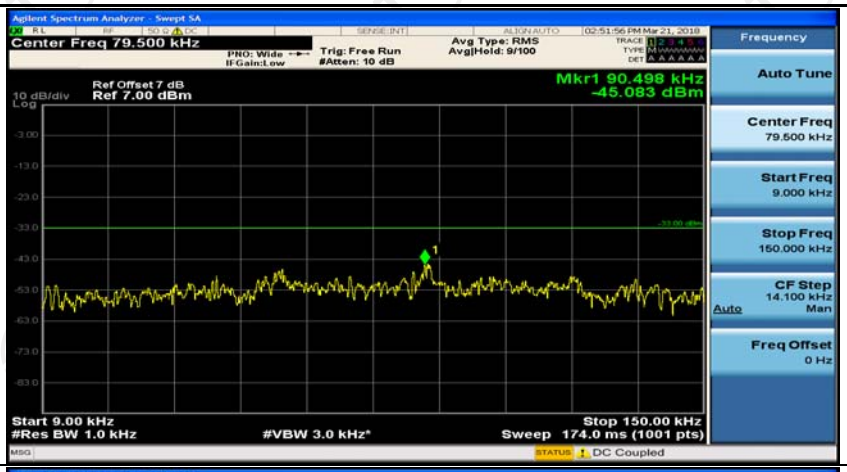

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:50:51 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 91.485 kHz
-44.108 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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

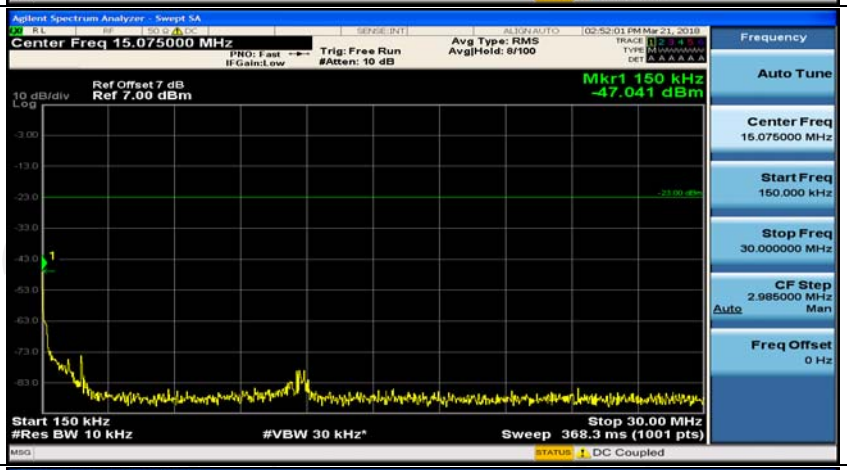

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:50:56 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-47.498 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 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
02:50:59 PM Mar 21, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.987 GHz
-27.719 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

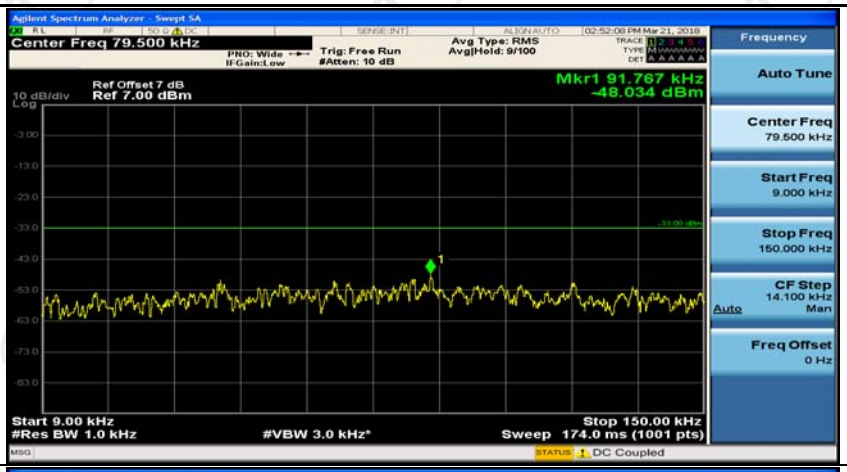
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



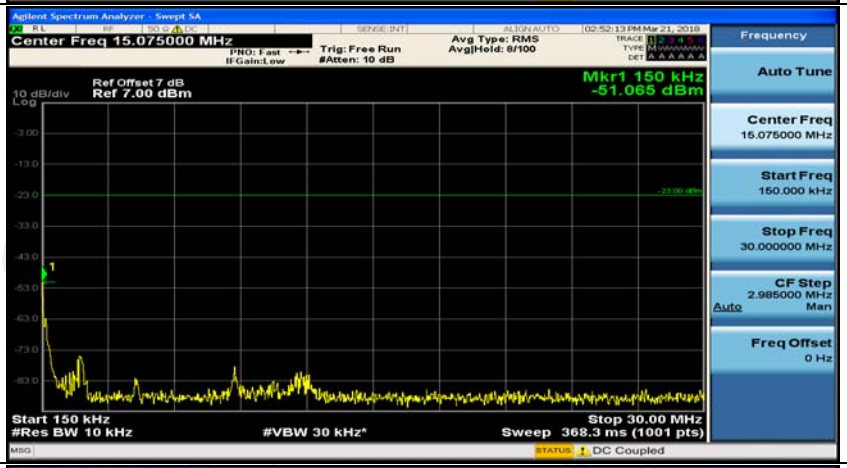
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24



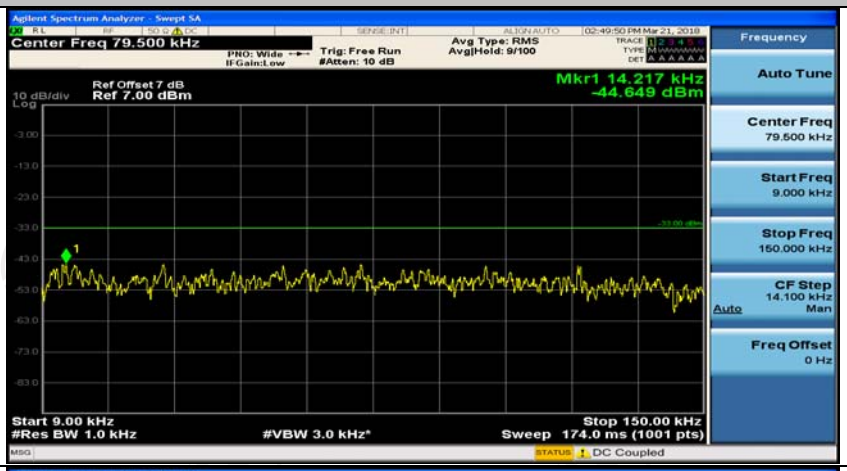
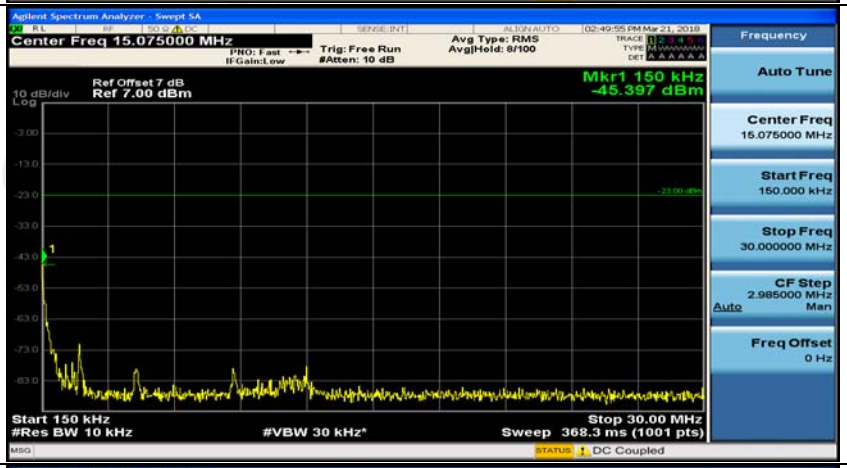


Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

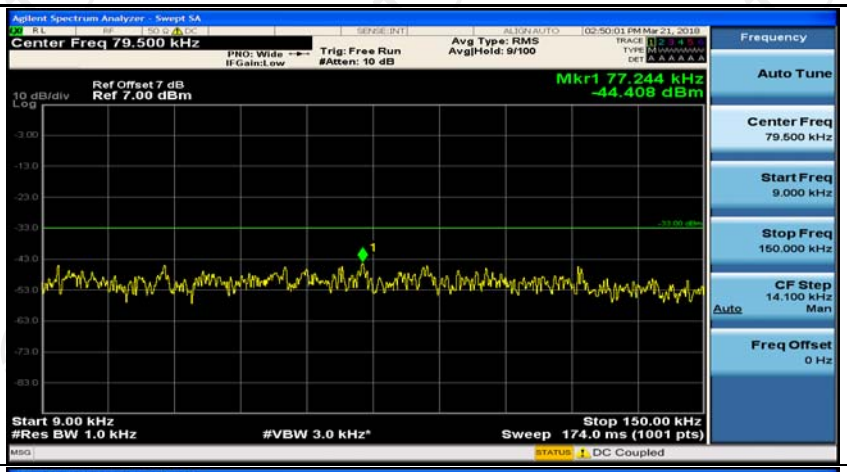

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:52:08 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 91.767 kHz
-48.034 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 ms (1001 pts)
DC Coupled

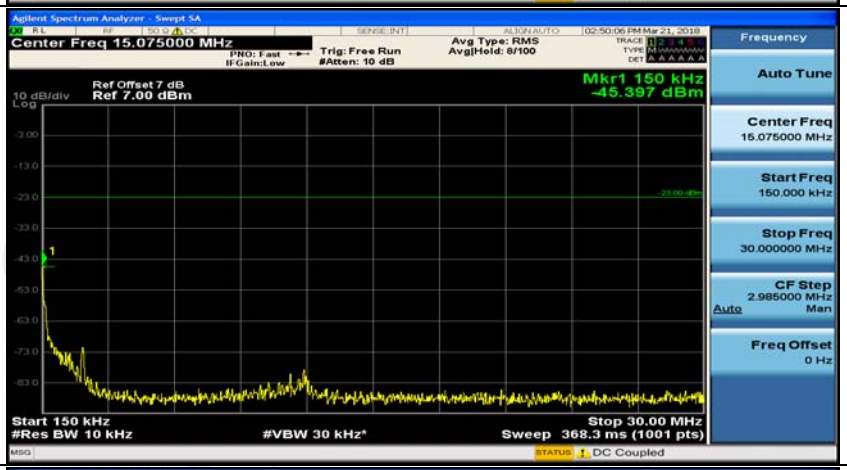

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:52:13 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-51.065 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.3 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
02:52:16 PM Mar 21, 2018
Frequency
Auto Tune
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.584 GHz
-27.412 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 64.93 ms (1001 pts)

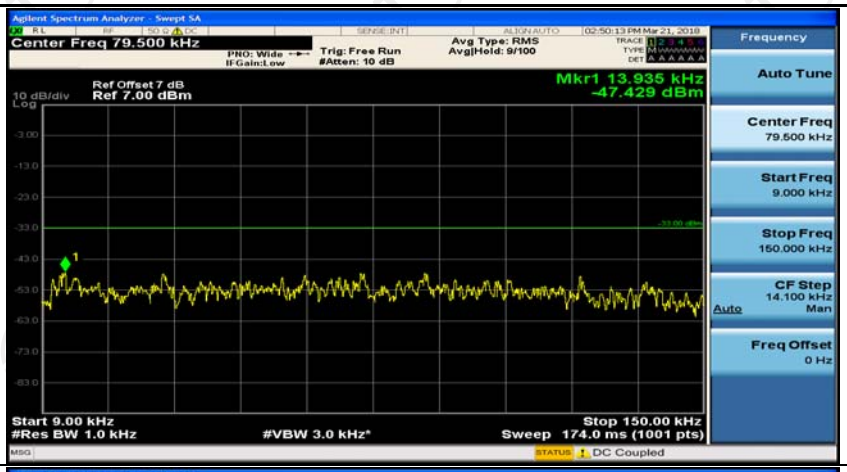
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



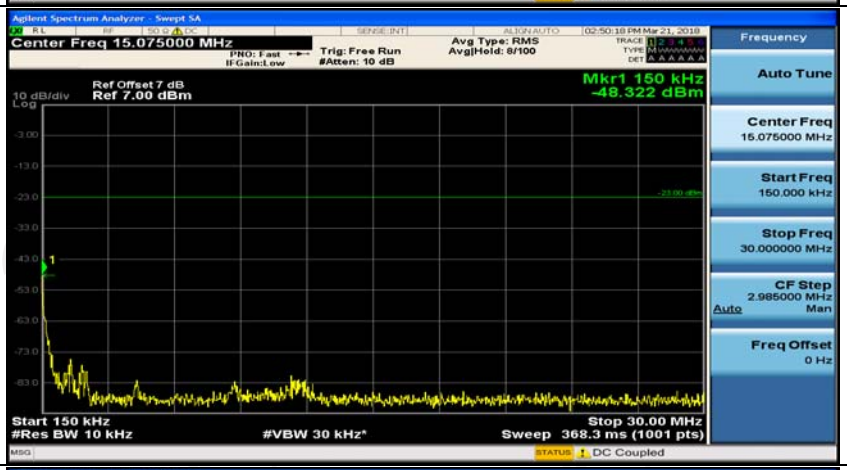
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24



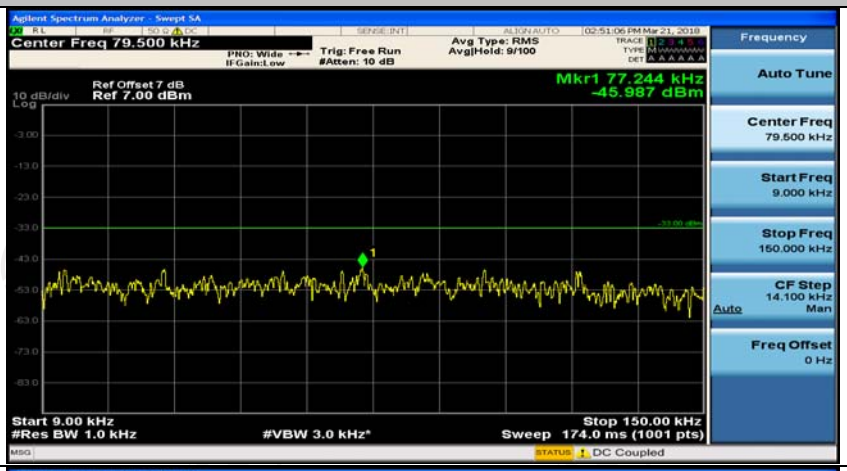
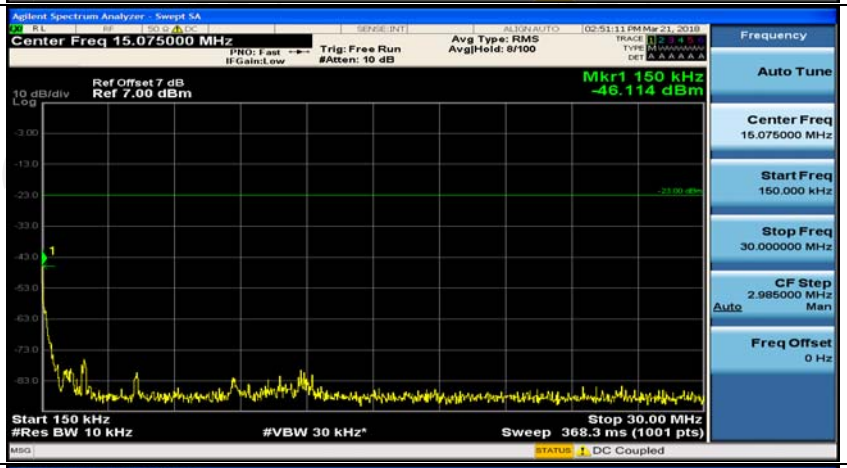


Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

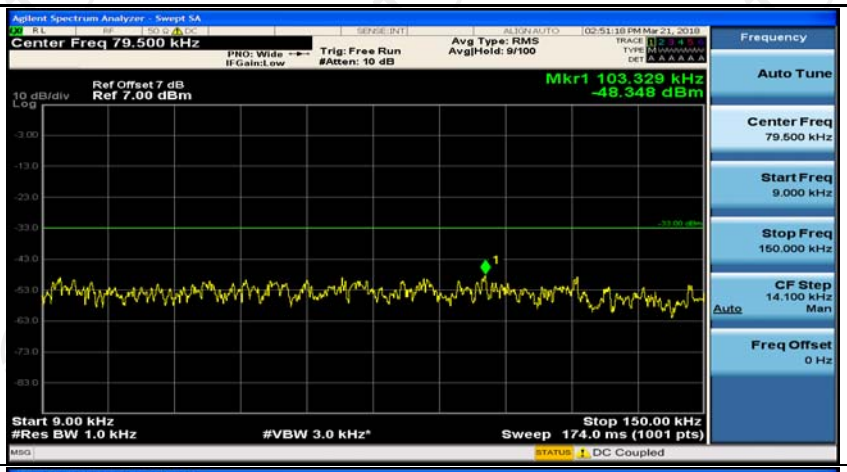

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:50:13 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 13.935 kHz
-47.429 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

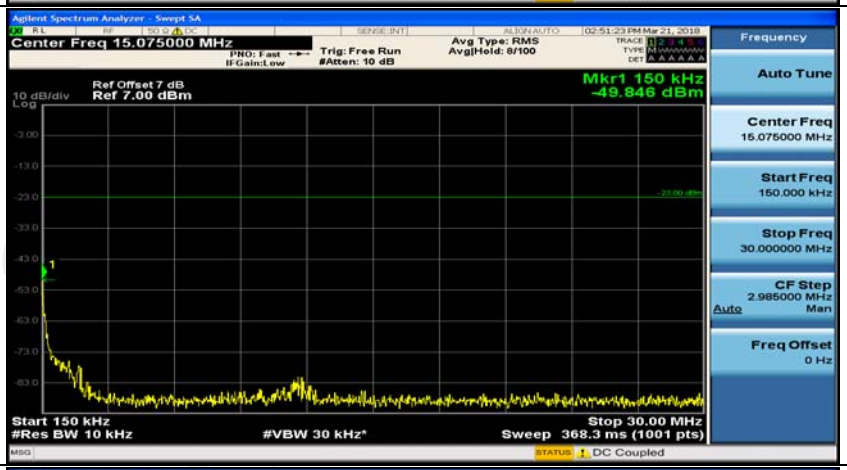

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:50:18 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-48.322 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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
02:50:21 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.961 GHz
-27.193 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)

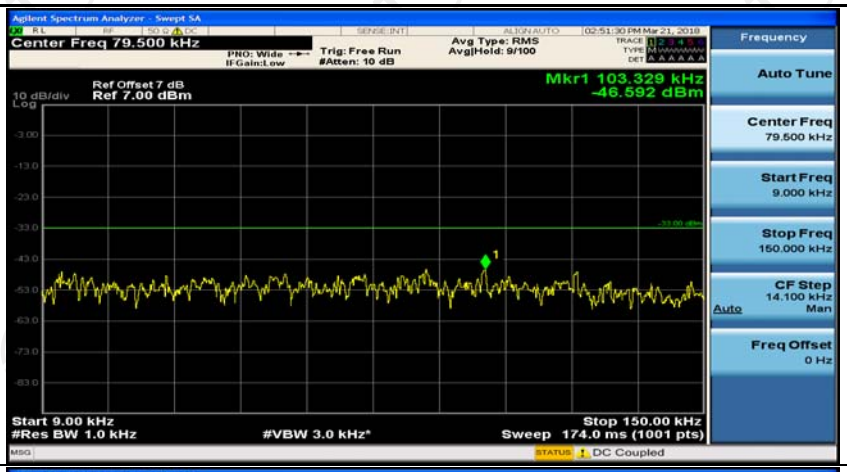
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



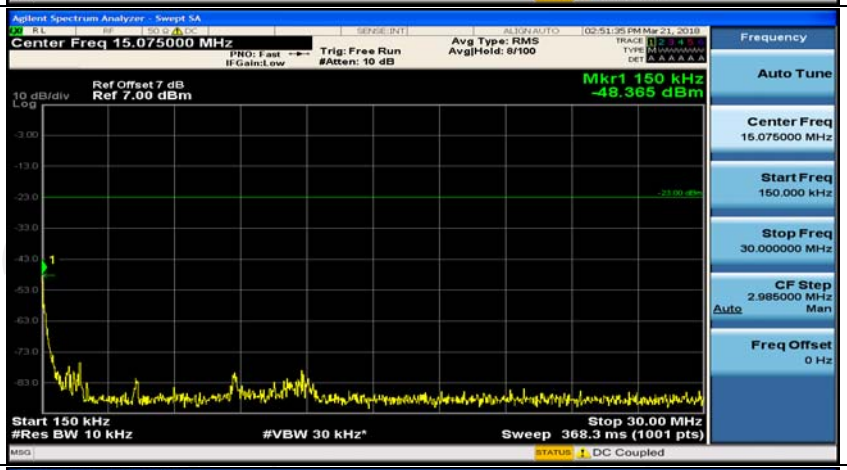
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



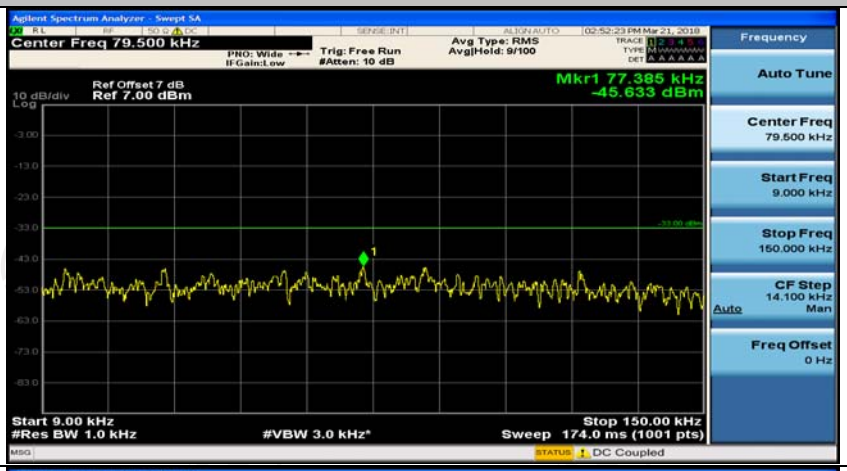
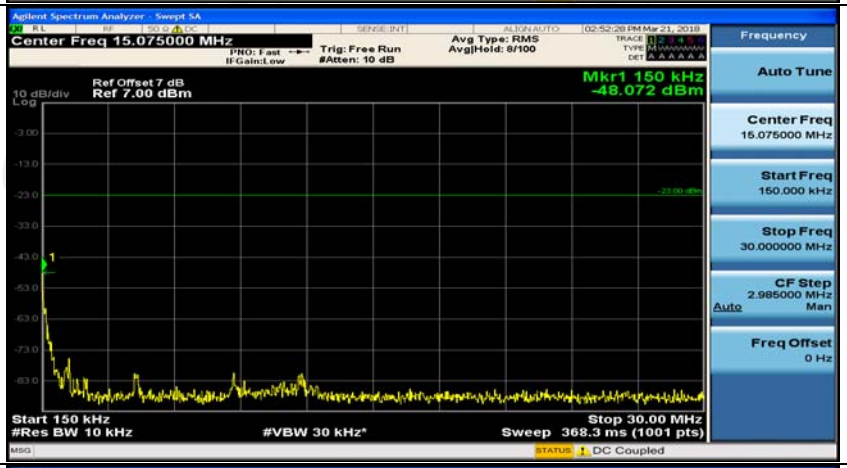


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

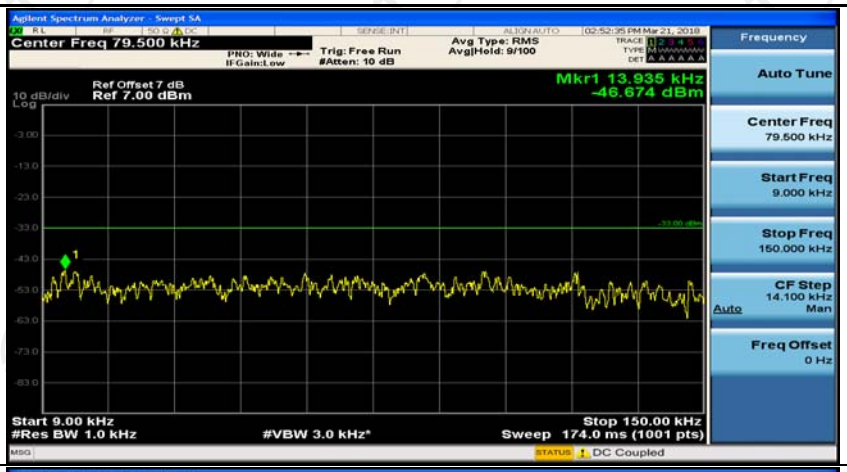

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
02:51:30 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 103.329 kHz
-46.592 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
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

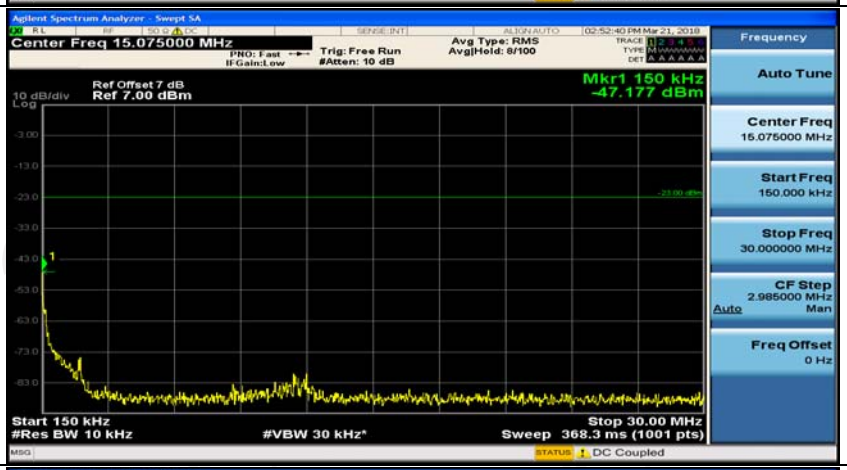

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
02:51:35 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-48.365 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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
02:51:38 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.987 GHz
-27.383 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)

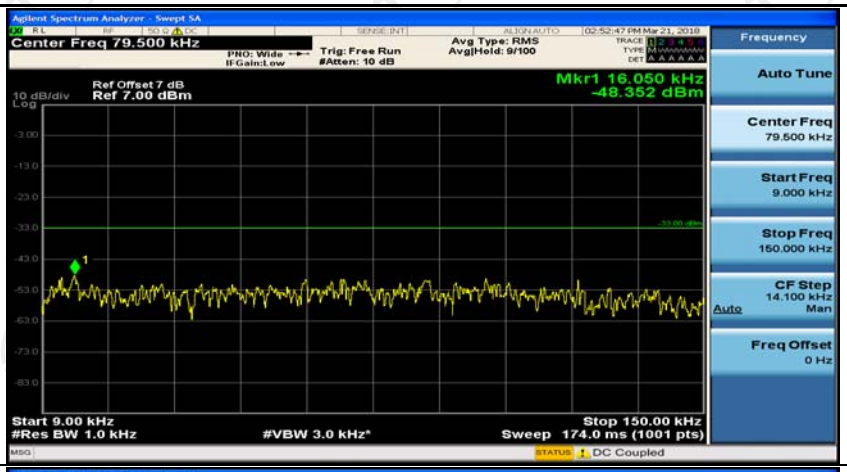
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



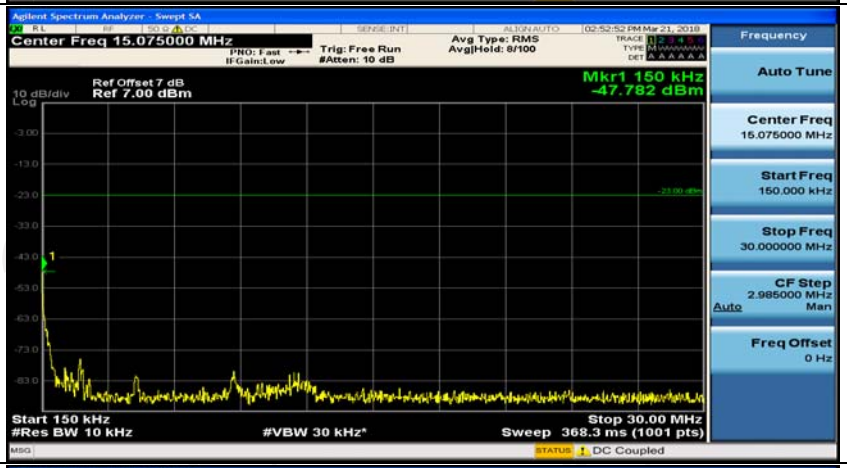
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24





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
02:52:47 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 16.050 kHz
-48.352 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
02:52:52 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-47.782 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
02:52:55 PM Mar 21, 2018
Frequency
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.961 GHz
-27.216 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: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Voltage						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	3.5	25	-0.001127	± 2.5	PASS
		3.7	25	-0.003712	± 2.5	PASS
		4.2	25	-0.000136	± 2.5	PASS
	MCH	3.5	25	-0.001091	± 2.5	PASS
		3.7	25	-0.000855	± 2.5	PASS
		4.2	25	0.001015	± 2.5	PASS
	HCH	3.5	25	0.000449	± 2.5	PASS
		3.7	25	-0.000759	± 2.5	PASS
		4.2	25	0.000312	± 2.5	PASS
16QAM	LCH	3.5	25	-0.005720	± 2.5	PASS
		3.7	25	-0.003712	± 2.5	PASS
		4.2	25	-0.001163	± 2.5	PASS
	MCH	3.5	25	-0.002184	± 2.5	PASS
		3.7	25	-0.001043	± 2.5	PASS
		4.2	25	-0.002132	± 2.5	PASS
	HCH	3.5	25	-0.000778	± 2.5	PASS
		3.7	25	0.000371	± 2.5	PASS
		4.2	25	-0.000691	± 2.5	PASS
Temperature						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	3.7	-30	-0.000104	± 2.5	PASS
		3.7	-20	-0.001196	± 2.5	PASS
		3.7	-10	0.000416	± 2.5	PASS
		3.7	0	-0.000936	± 2.5	PASS
		3.7	10	-0.000892	± 2.5	PASS
		3.7	20	-0.002741	± 2.5	PASS
		3.7	30	-0.002411	± 2.5	PASS
		3.7	40	-0.001960	± 2.5	PASS
		3.7	50	-0.001561	± 2.5	PASS
	MCH	3.7	-30	-0.001248	± 2.5	PASS
		3.7	-20	-0.000479	± 2.5	PASS
		3.7	-10	-0.000496	± 2.5	PASS
		3.7	0	-0.000735	± 2.5	PASS

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		3.7	10	-0.000731	± 2.5	PASS
		3.7	20	-0.001419	± 2.5	PASS
		3.7	30	-0.001590	± 2.5	PASS
		3.7	40	-0.000701	± 2.5	PASS
		3.7	50	-0.000274	± 2.5	PASS
	HCH	3.7	-30	-0.001806	± 2.5	PASS
		3.7	-20	-0.001772	± 2.5	PASS
		3.7	-10	-0.002026	± 2.5	PASS
		3.7	0	-0.000608	± 2.5	PASS
		3.7	10	0.000136	± 2.5	PASS
		3.7	20	-0.000691	± 2.5	PASS
		3.7	30	-0.000472	± 2.5	PASS
		3.7	40	-0.000185	± 2.5	PASS
		3.7	50	-0.000927	± 2.5	PASS
16QAM	LCH	3.7	-30	-0.000849	± 2.5	PASS
		3.7	-20	-0.001144	± 2.5	PASS
		3.7	-10	-0.000918	± 2.5	PASS
		3.7	0	-0.001230	± 2.5	PASS
		3.7	10	-0.001340	± 2.5	PASS
		3.7	20	-0.003400	± 2.5	PASS
		3.7	30	-0.004406	± 2.5	PASS
		3.7	40	-0.003781	± 2.5	PASS
		3.7	50	-0.000954	± 2.5	PASS
	MCH	3.7	-30	-0.000701	± 2.5	PASS
		3.7	-20	-0.001676	± 2.5	PASS
		3.7	-10	-0.000393	± 2.5	PASS
		3.7	0	-0.001300	± 2.5	PASS
		3.7	10	-0.000562	± 2.5	PASS
		3.7	20	-0.000752	± 2.5	PASS
		3.7	30	-0.001368	± 2.5	PASS
		3.7	40	-0.000530	± 2.5	PASS
		3.7	50	-0.001488	± 2.5	PASS
	HCH	3.7	-30	-0.002059	± 2.5	PASS
		3.7	-20	-0.002110	± 2.5	PASS
		3.7	-10	-0.001485	± 2.5	PASS
		3.7	0	-0.001941	± 2.5	PASS
		3.7	10	-0.000541	± 2.5	PASS
		3.7	20	-0.000067	± 2.5	PASS
		3.7	30	-0.000590	± 2.5	PASS
		3.7	40	0.000405	± 2.5	PASS
		3.7	50	0.000118	± 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:	1.4M		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)		
1649.4	Vertical	-40.48	-13.00	PASS
2474.1	V	-47.94		
-	V	-		
1649.4	Horizontal	-42.69		
2474.1	H	-48.19		
-	H	-		
Bandwidth:	1.4M		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)		
1673	Vertical	-41.74	-13.00	PASS
2509.5	V	-49.92		
-	V	-		
1673	Horizontal	-42.42		
2509.5	H	-48.90		
-	H	-		
Bandwidth:	1.4M		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)		
1692.6	Vertical	-41.26	-13.00	PASS
2538.9	V	-46.48		
-	V	-		
1692.6	Horizontal	-40.74		
2538.9	H	-47.90		

-	H	-		

Bandwidth:	**1.4M**		**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)		
1649.4	Vertical	-40.95	-13.00	PASS
2474.1	V	-48.47		
-	V	-		
1649.4	Horizontal	-41.36		
2474.1	H	-46.18		
Bandwidth:	**1.4M**		**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)		
1673	Vertical	-42.94	-13.00	PASS
2509.5	V	-48.47		
-	V	-		
1673	Horizontal	-41.94		
2509.5	H	-47.73		
-	H	-		
Bandwidth:	**1.4M**		**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)		
1692.6	Vertical	-40.96	-13.00	PASS
2538.9	V	-46.17		
-	V	-		
1692.6	Horizontal	-41.51		
2538.9	H	-47.24		
-	H	-		

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

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