

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:14:48 PM May 09, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 7/100
#Atten: 36 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET A A A A A A

Frequency

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

10 dB/div Log

Ref Offset 6.8 dB
Ref 30.00 dBm

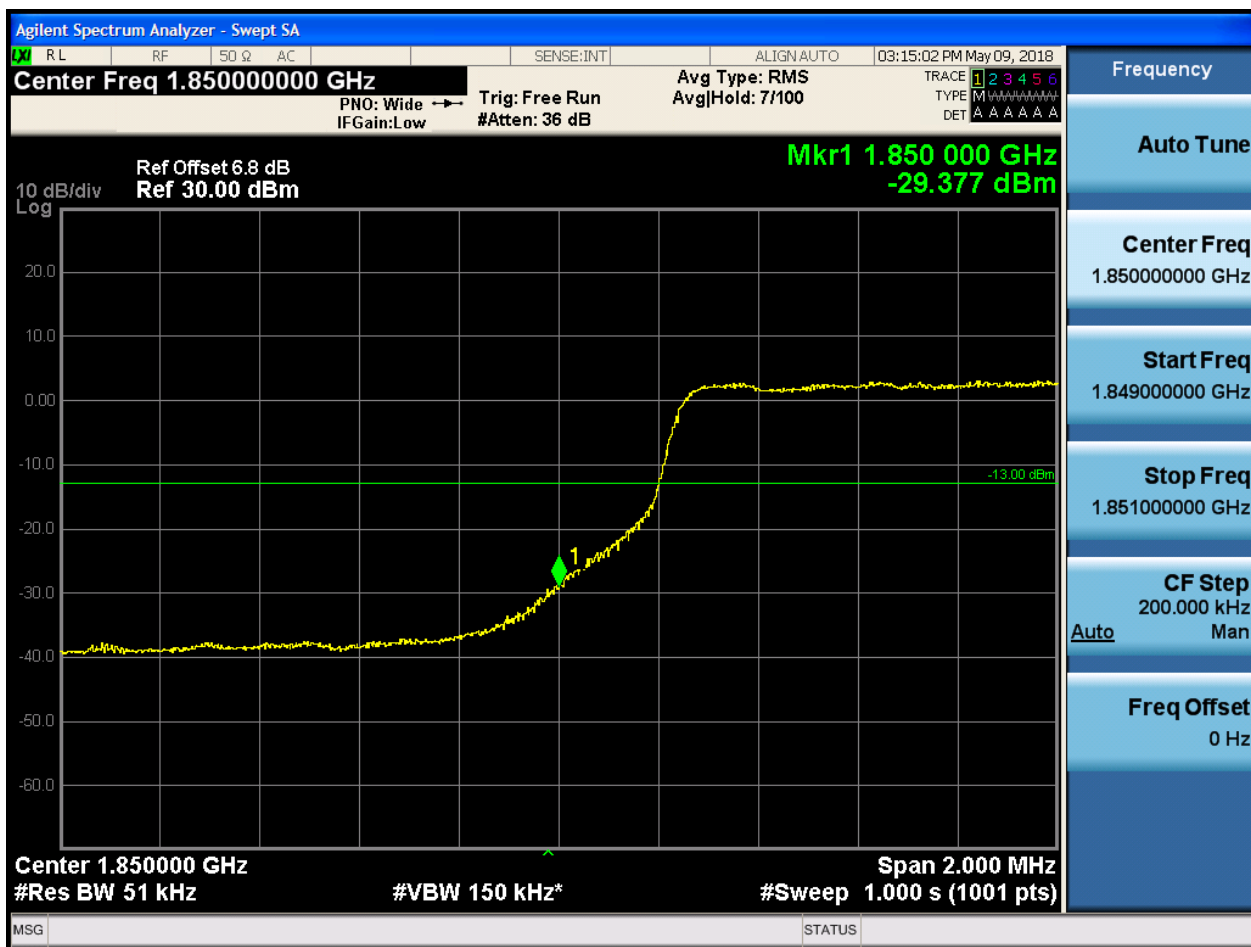
Mkr1 1.850 000 GHz
-35.425 dBm

Center 1.850000 GHz
#Res BW 51 kHz #VBW 150 kHz* Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

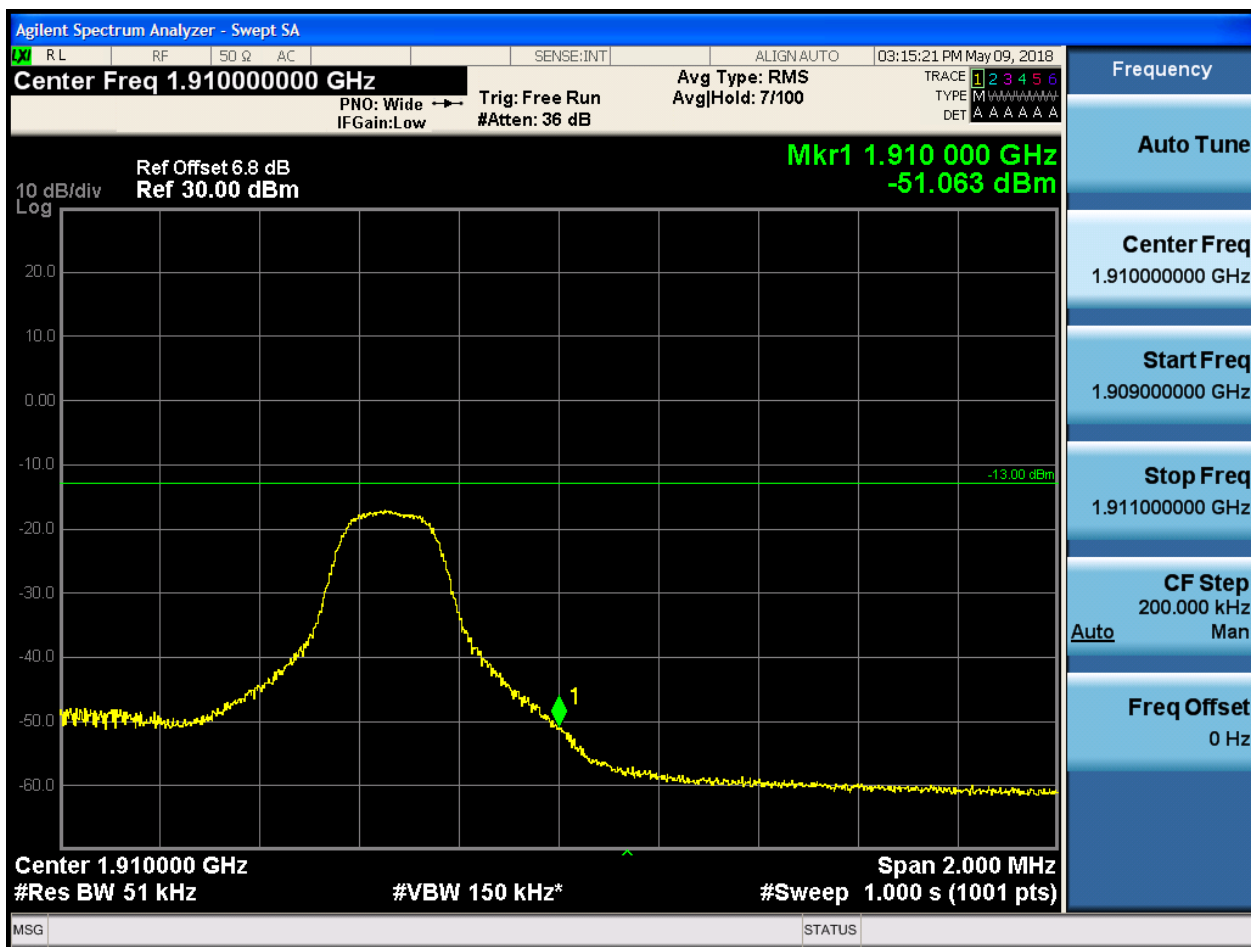


5.1.1.2.3.1.4 Test RB = RB25#0



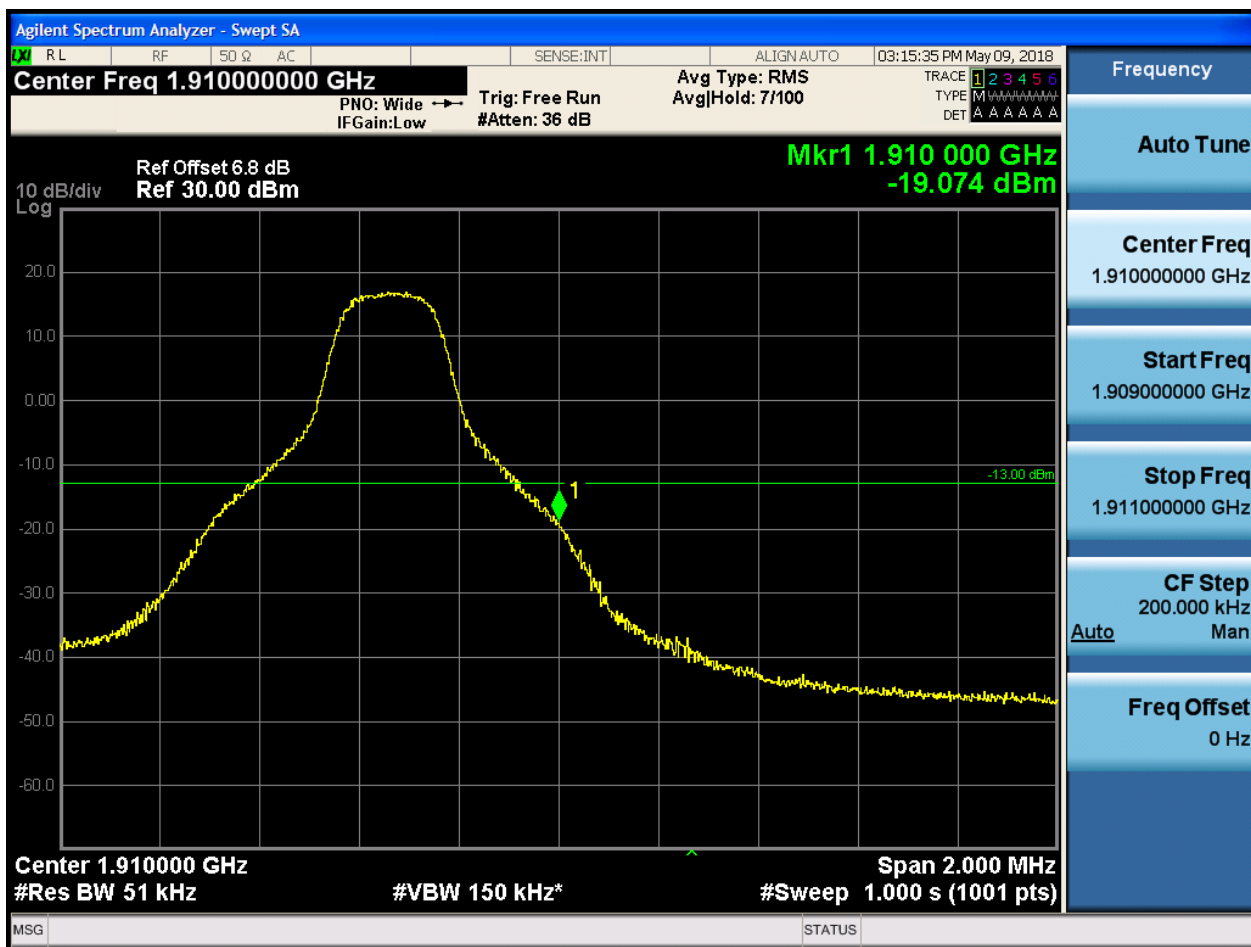
5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





5.1.1.2.3.2.2 Test RB = RB1#24





5.1.1.2.3.2.3 Test RB = RB12#6





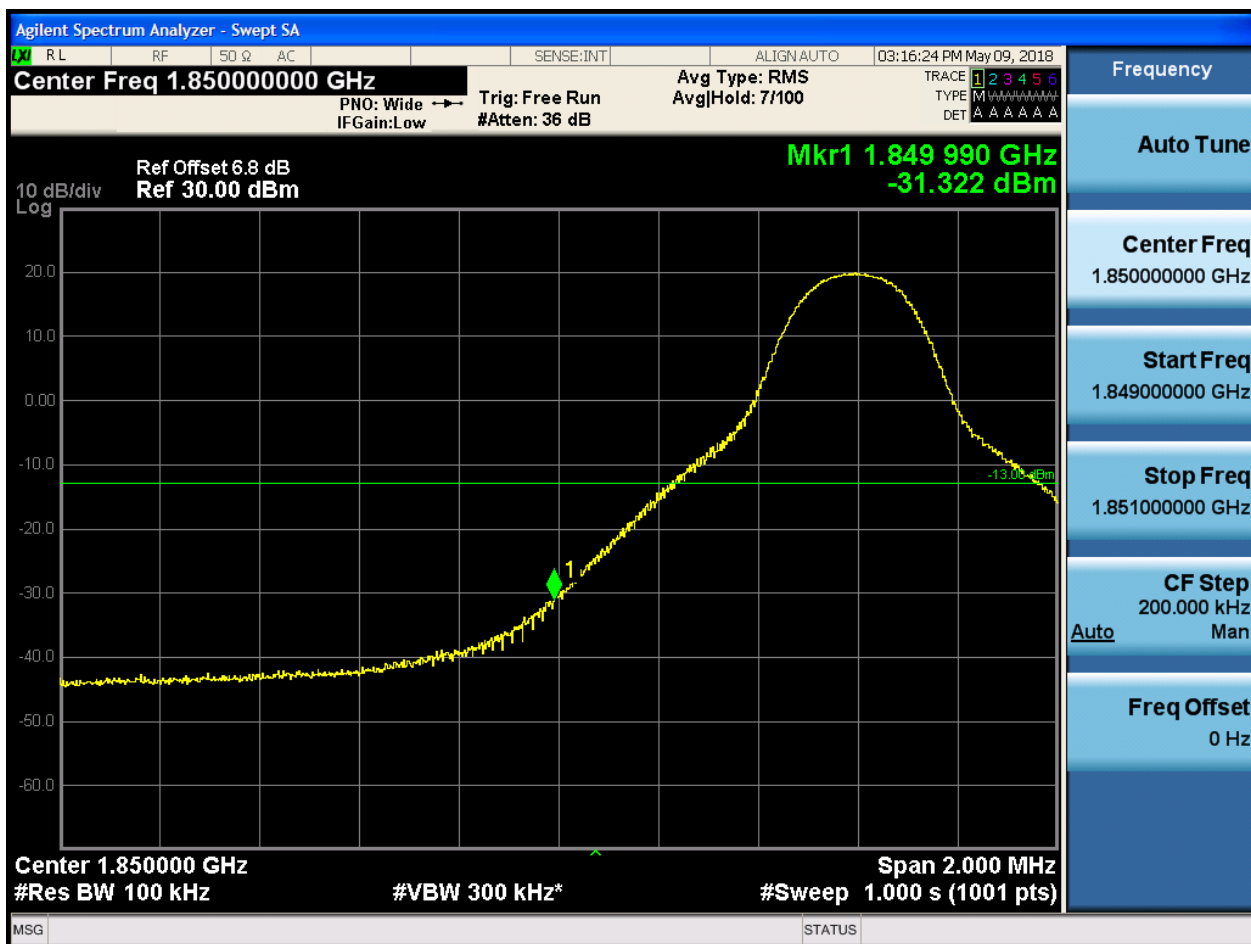
5.1.1.2.3.2.4 Test RB = RB25#0

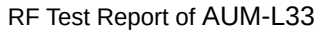


5.1.1.2.4 Test Bandwidth = 10

5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:16:37 PM May 09, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 7/100
#Atten: 36 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET A A A A A A

Ref Offset 6.8 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-50.450 dBm

10 dB/div
Log

Center 1.850000 GHz
#Res BW 100 kHz
#VBW 300 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



5.1.1.2.4.1.3 Test RB = RB25#13



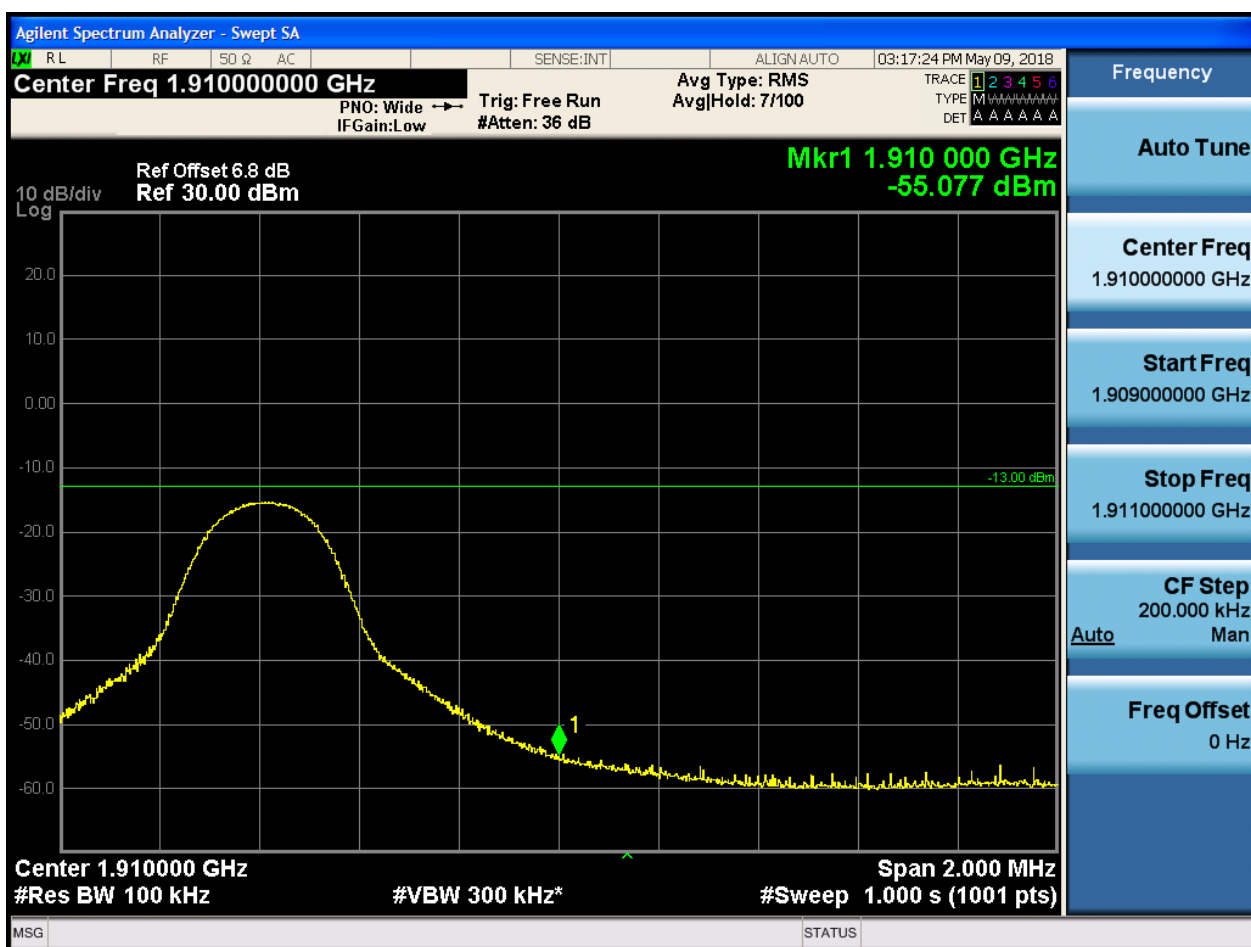


5.1.1.2.4.1.4 Test RB = RB50#0



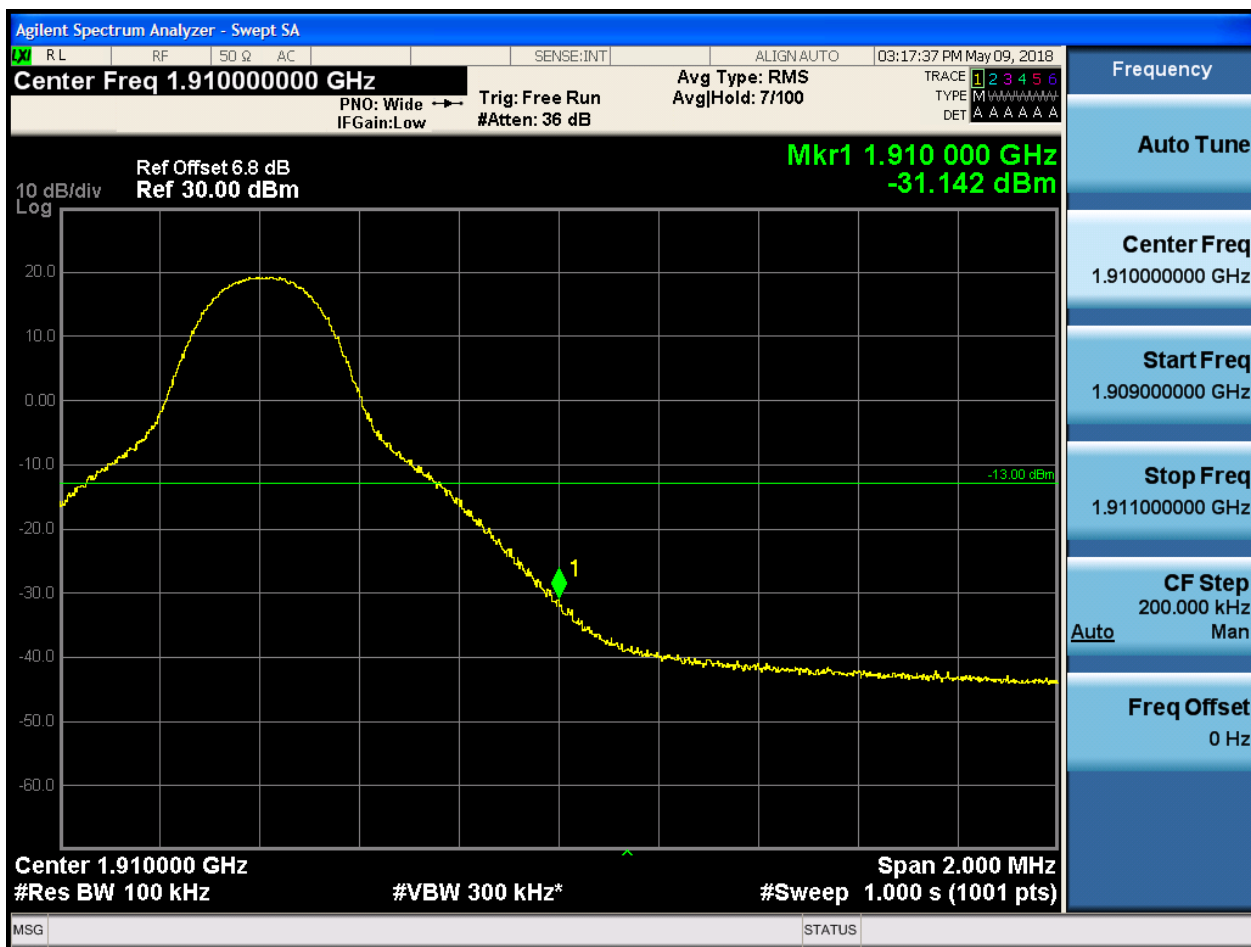
5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0



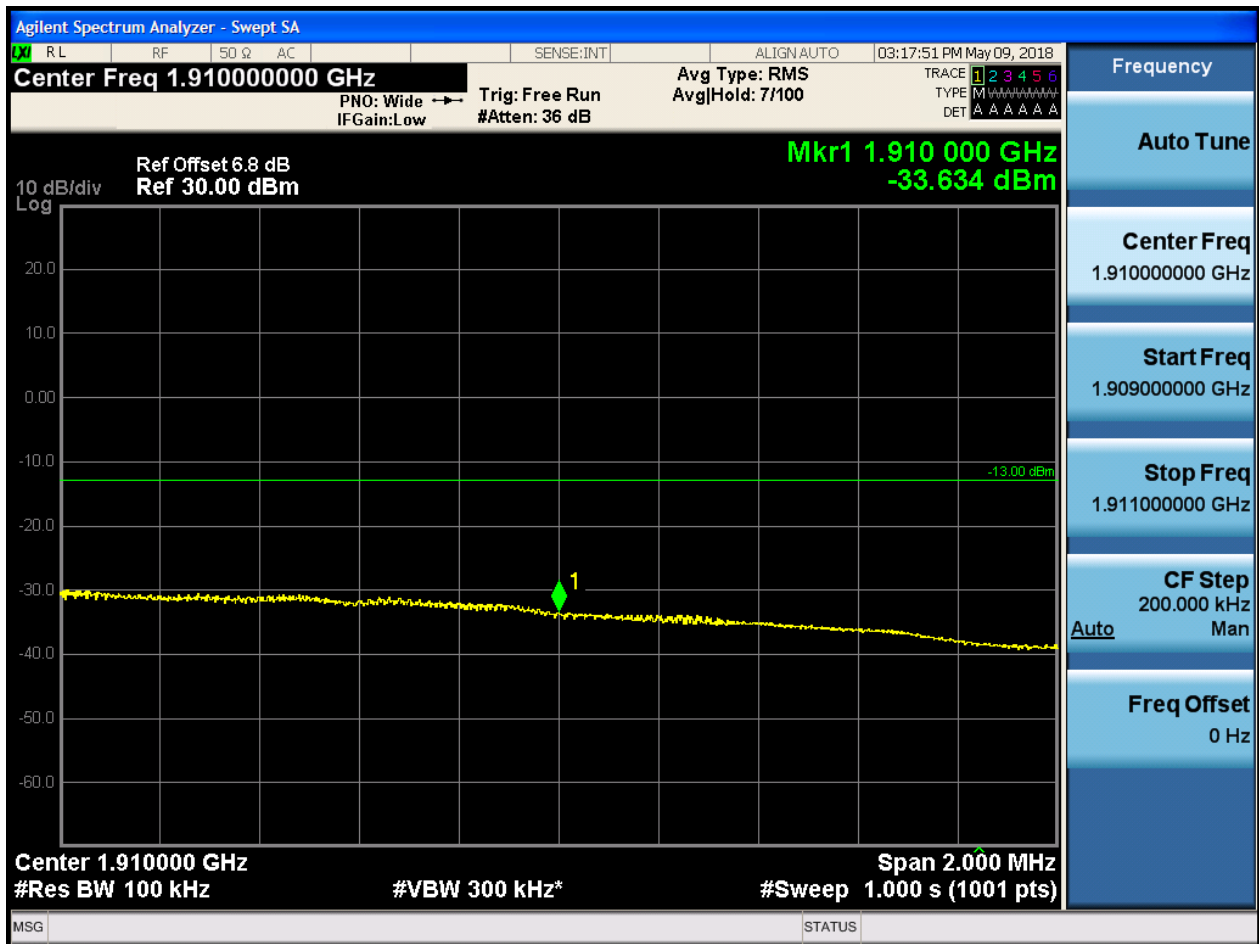


5.1.1.2.4.2.2 Test RB = RB1#49

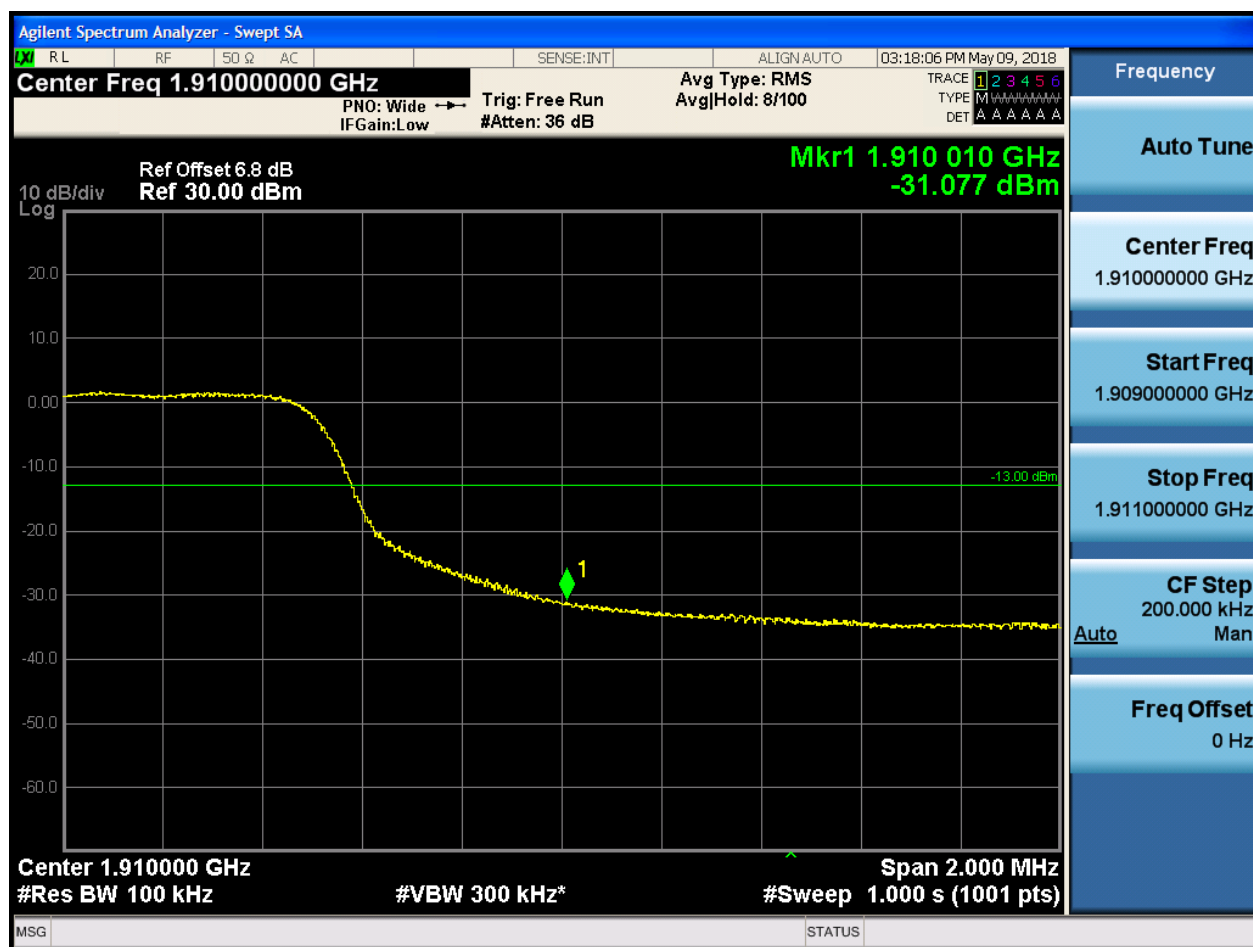




5.1.1.2.4.2.3 Test RB = RB25#13



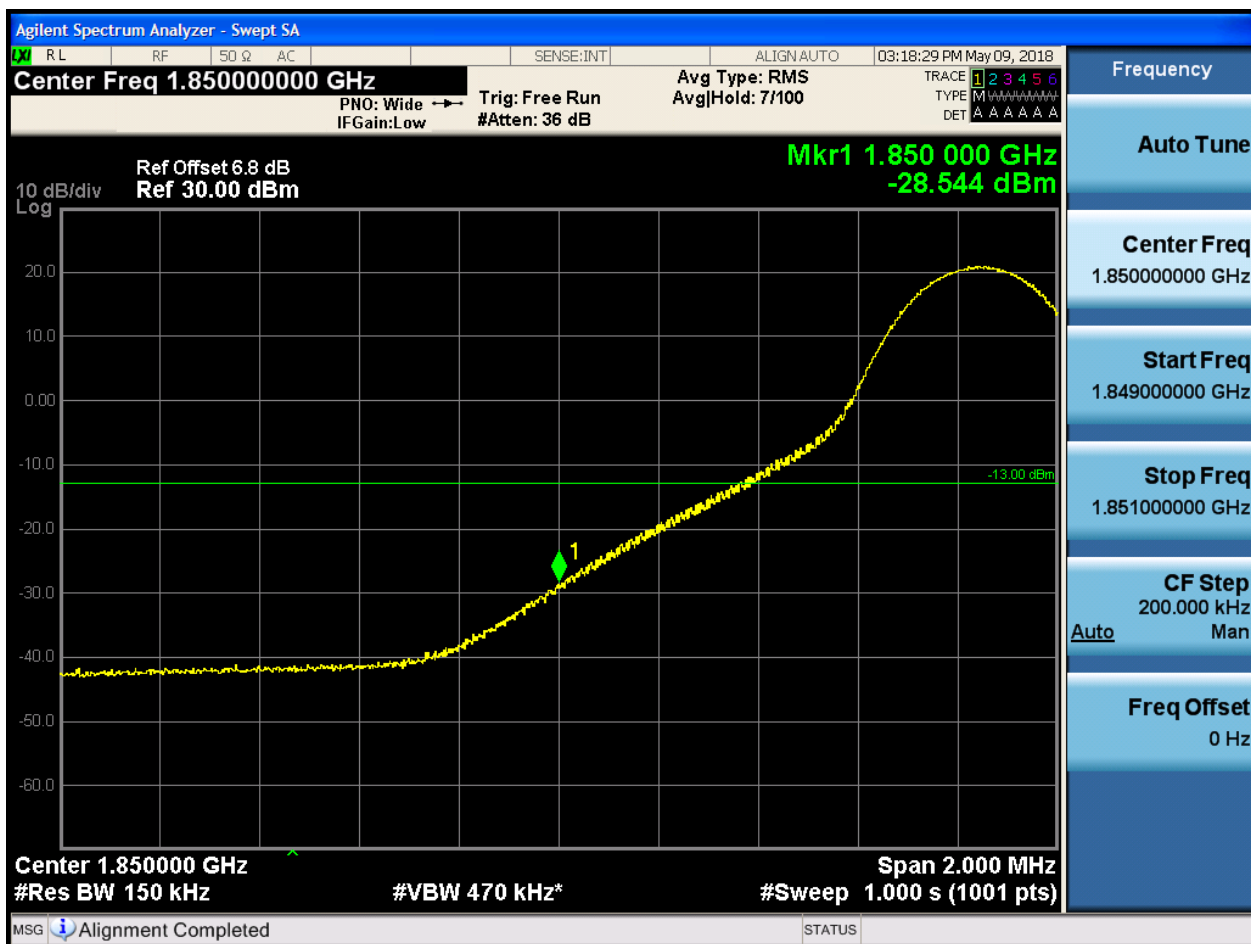
5.1.1.2.4.2.4 Test RB = RB50#0



5.1.1.2.5 Test Bandwidth = 15

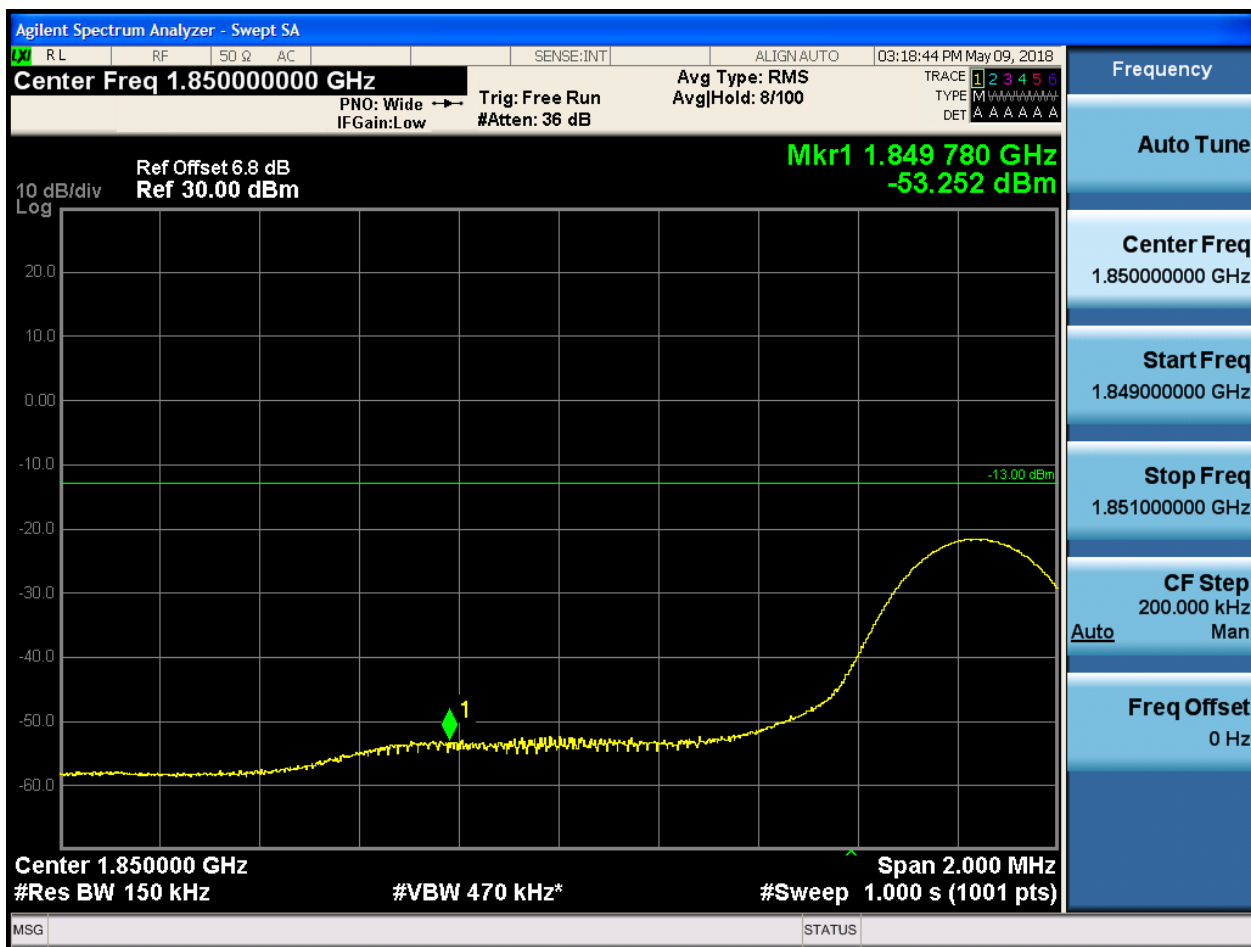
5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0





5.1.1.2.5.1.2 Test RB = RB1#74





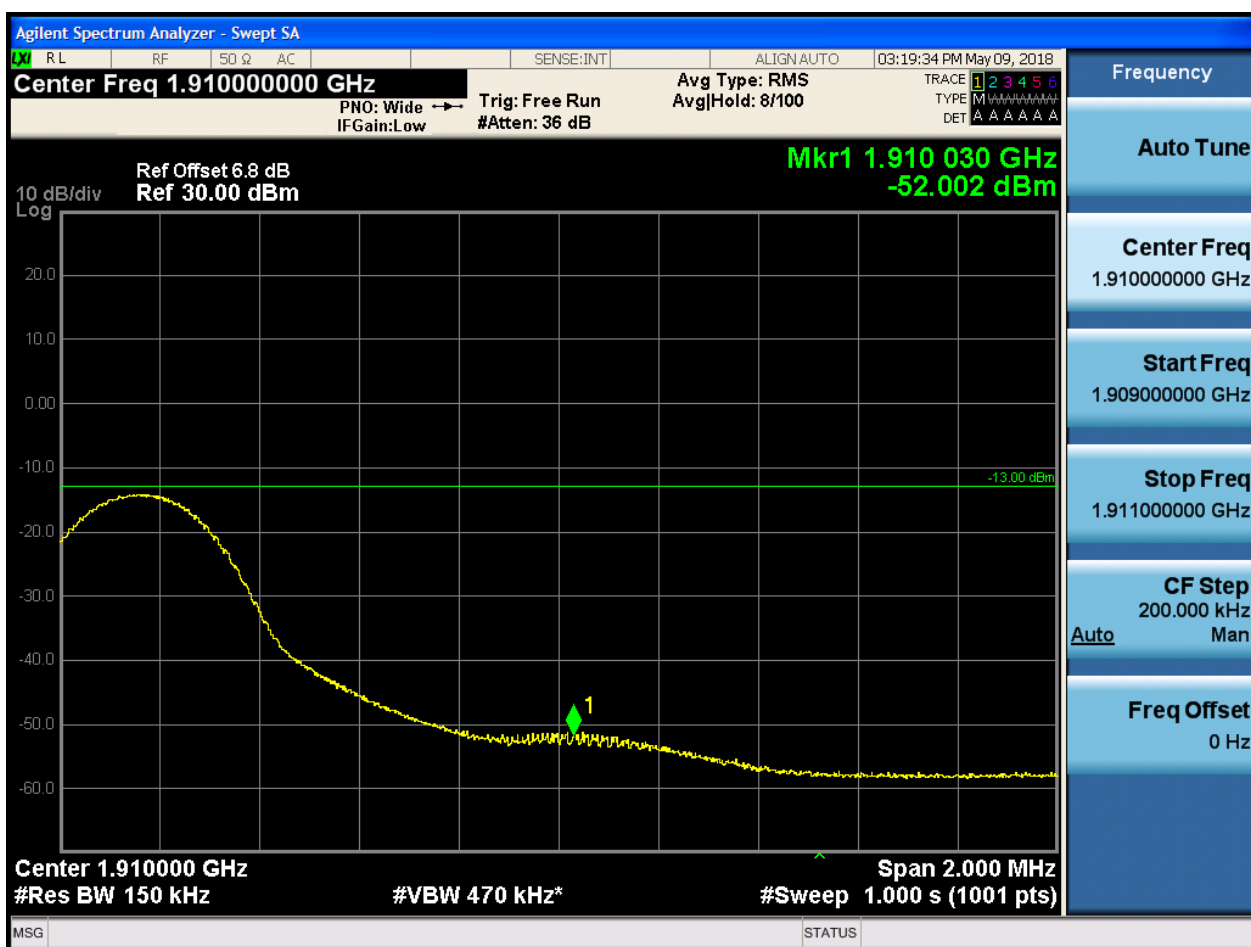
5.1.1.2.5.1.3 Test RB = RB38#19

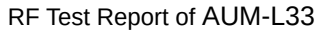




5.1.1.2.5.2 Test Channel = HCH

5.1.1.2.5.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:19:49 PM May 09, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
 PNO: Wide → Trig: Free Run
 IFGain: Low #Atten: 36 dB

TRACE 1 2 3 4 5 6
 TYPE M W W W W W W W W W
 DET A A A A A A

Ref Offset 6.8 dB
 Ref 30.00 dBm

Mkr1 1.910 000 GHz
 -28.897 dBm

10 dB/div
 Log

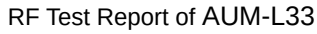
Center 1.910000 GHz
 #Res BW 150 kHz
 #VBW 470 kHz*
 Span 2.000 MHz
 #Sweep 1.000 s (1001 pts)

MSG STATUS



5.1.1.2.5.2.3 Test RB = RB38#19





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:20:19 PM May 09, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 8/100
#Atten: 36 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET A A A A A A

Ref Offset 6.8 dB
Ref 30.00 dBm

Mkr1 1.910 080 GHz
-32.275 dBm

10 dB/div
Log

-13.00 dBm

Center 1.910000 GHz
#Res BW 150 kHz
#VBW 470 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Frequency

Auto Tune

Center Freq
1.910000000 GHz

Start Freq
1.909000000 GHz

Stop Freq
1.911000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

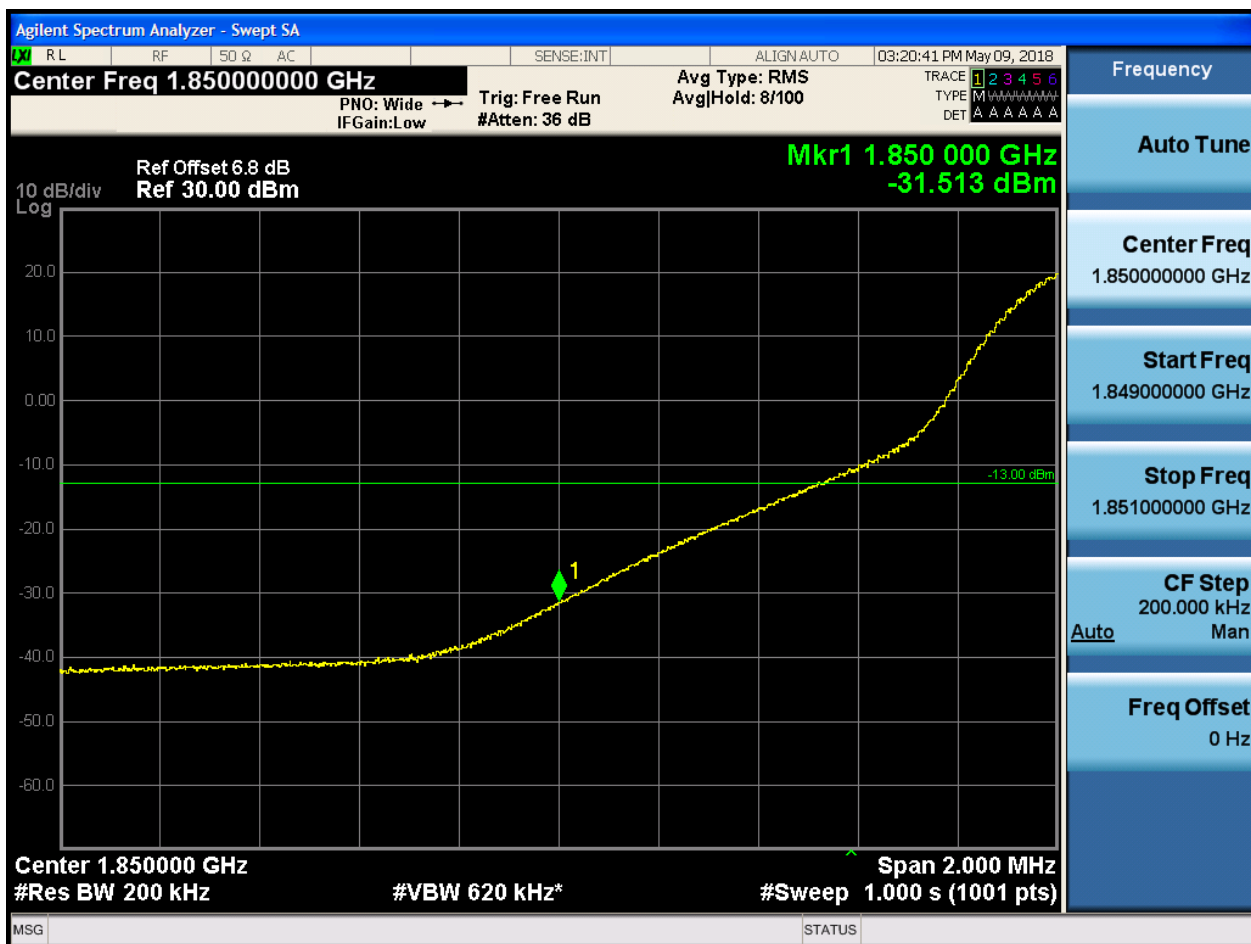
MSG STATUS



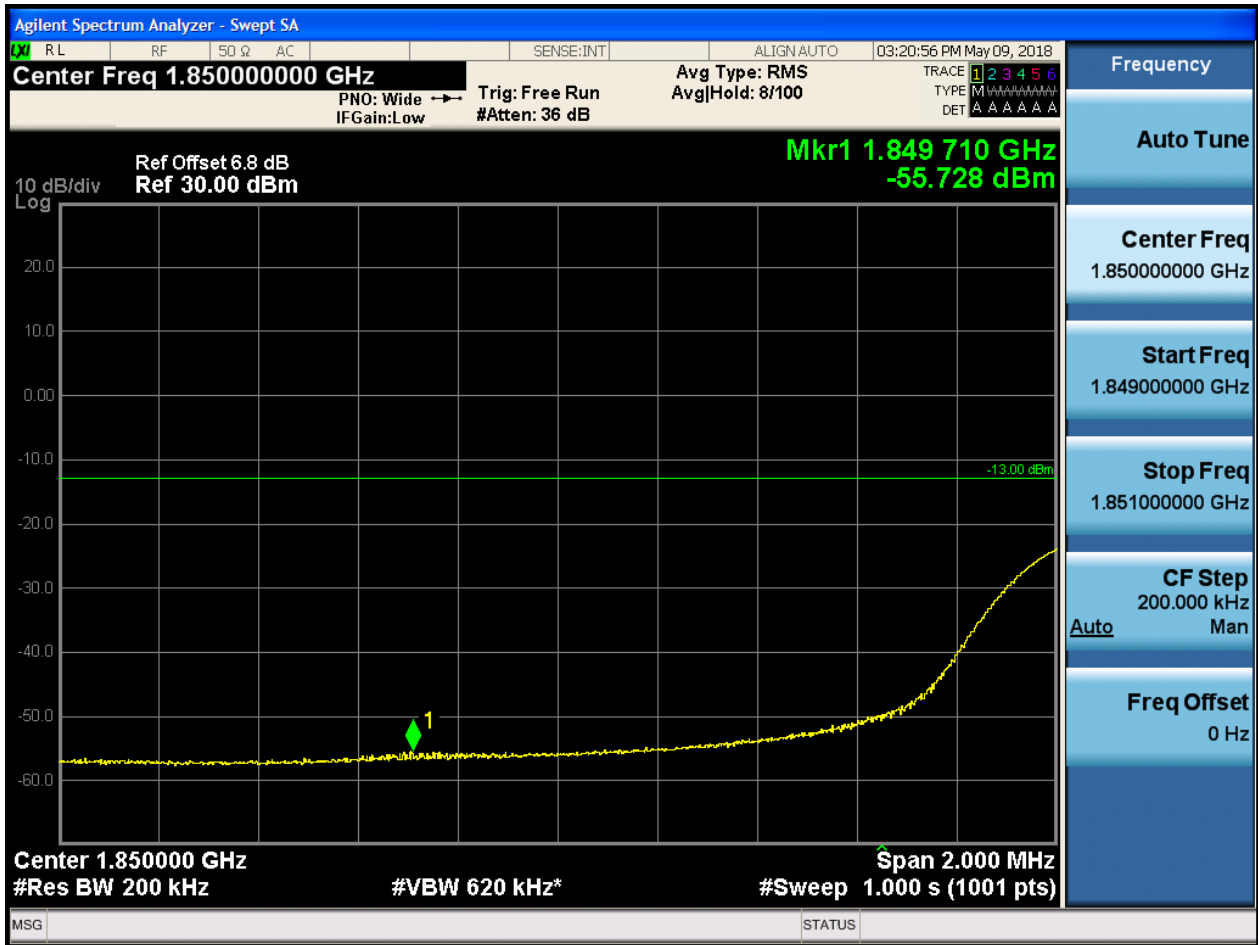
5.1.1.2.6 Test Bandwidth = 20

5.1.1.2.6.1 Test Channel = LCH

5.1.1.2.6.1.1 Test RB = RB1#0



5.1.1.2.6.1.2 Test RB = RB1#99



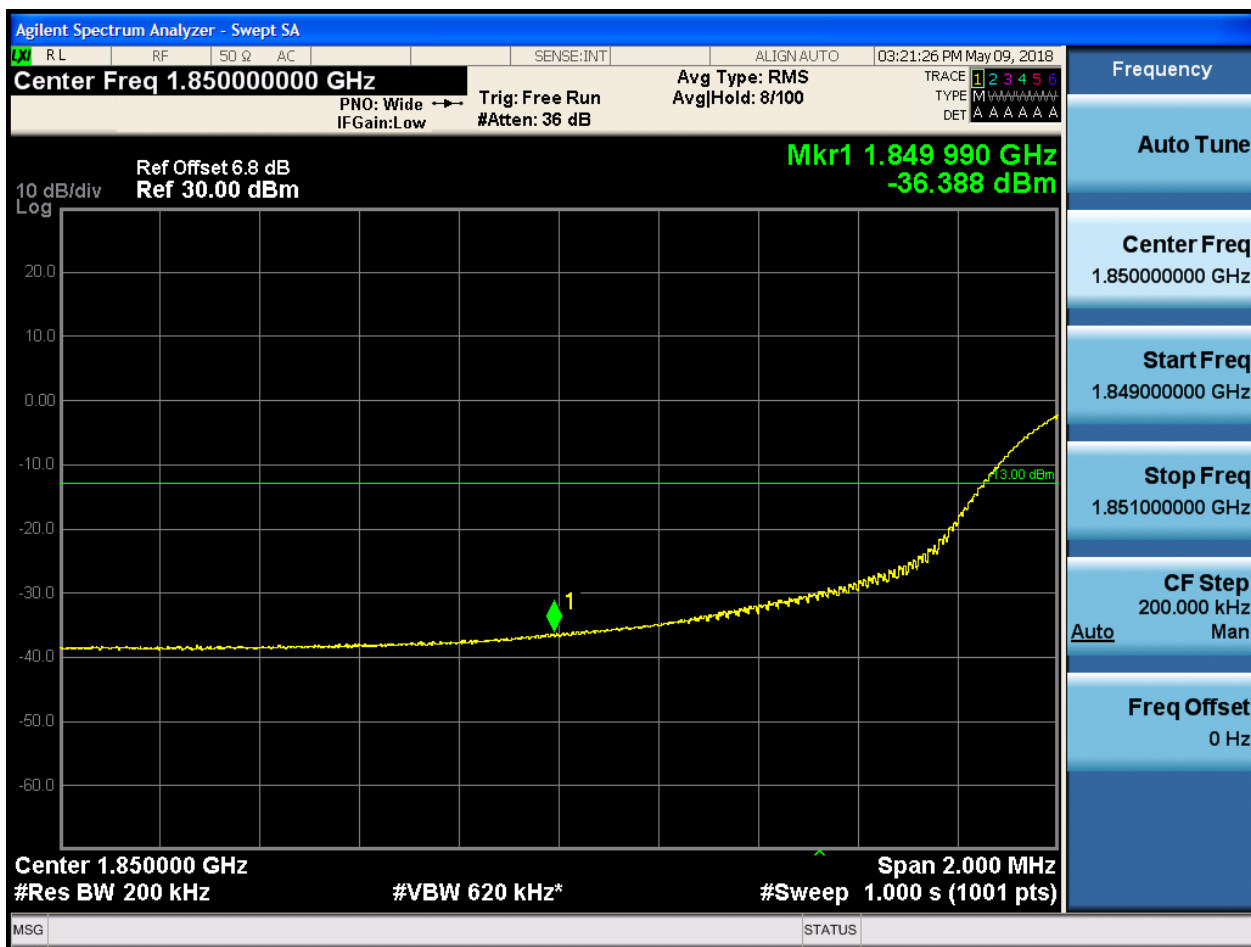


5.1.1.2.6.1.3 Test RB = RB50#25



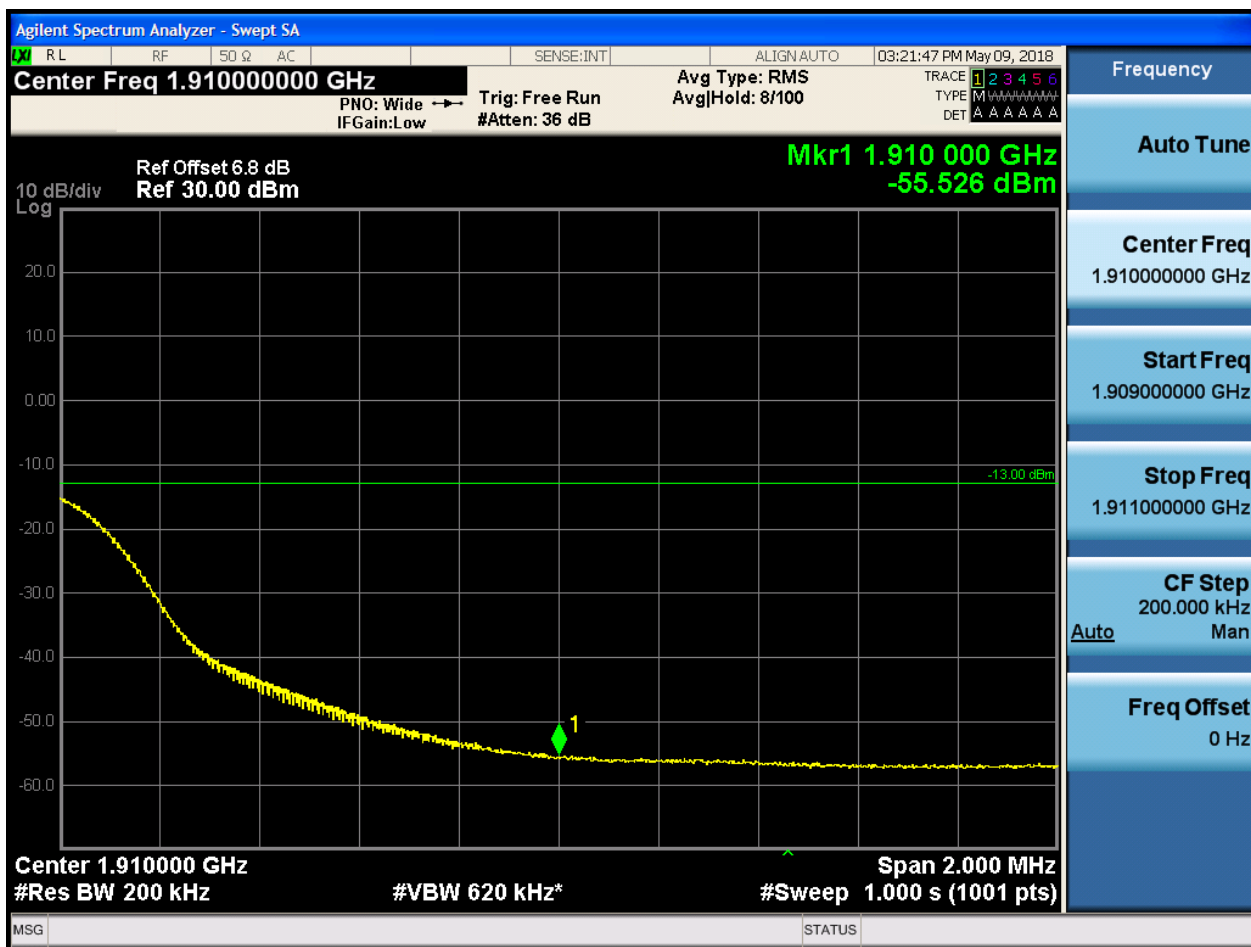


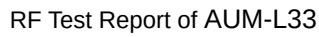
5.1.1.2.6.1.4 Test RB = RB100#0



5.1.1.2.6.2 Test Channel = HCH

5.1.1.2.6.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:22:02 PM May 09, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide Trig: Free Run
IFGain: Low #Atten: 36 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A

Ref Offset 6.8 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-32.306 dBm

10 dB/div
Log

-13.00 dBm

Center 1.910000 GHz
#Res BW 200 kHz
#VBW 620 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Frequency

Auto Tune

Center Freq
1.910000000 GHz

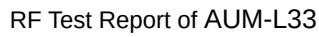
Start Freq
1.909000000 GHz

Stop Freq
1.911000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

MSG STATUS



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:22:17 PM May 09, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 8/100
#Atten: 36 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A

Ref Offset 6.8 dB
Ref 30.00 dBm

Mkr1 1.910 010 GHz
-35.401 dBm

10 dB/div
Log

Center 1.910000 GHz
#Res BW 200 kHz
#VBW 620 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency
Auto Tune
Center Freq
1.910000000 GHz
Start Freq
1.909000000 GHz
Stop Freq
1.911000000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz



5.1.1.2.6.2.4 Test RB = RB100#0



6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

6.1 For LTE

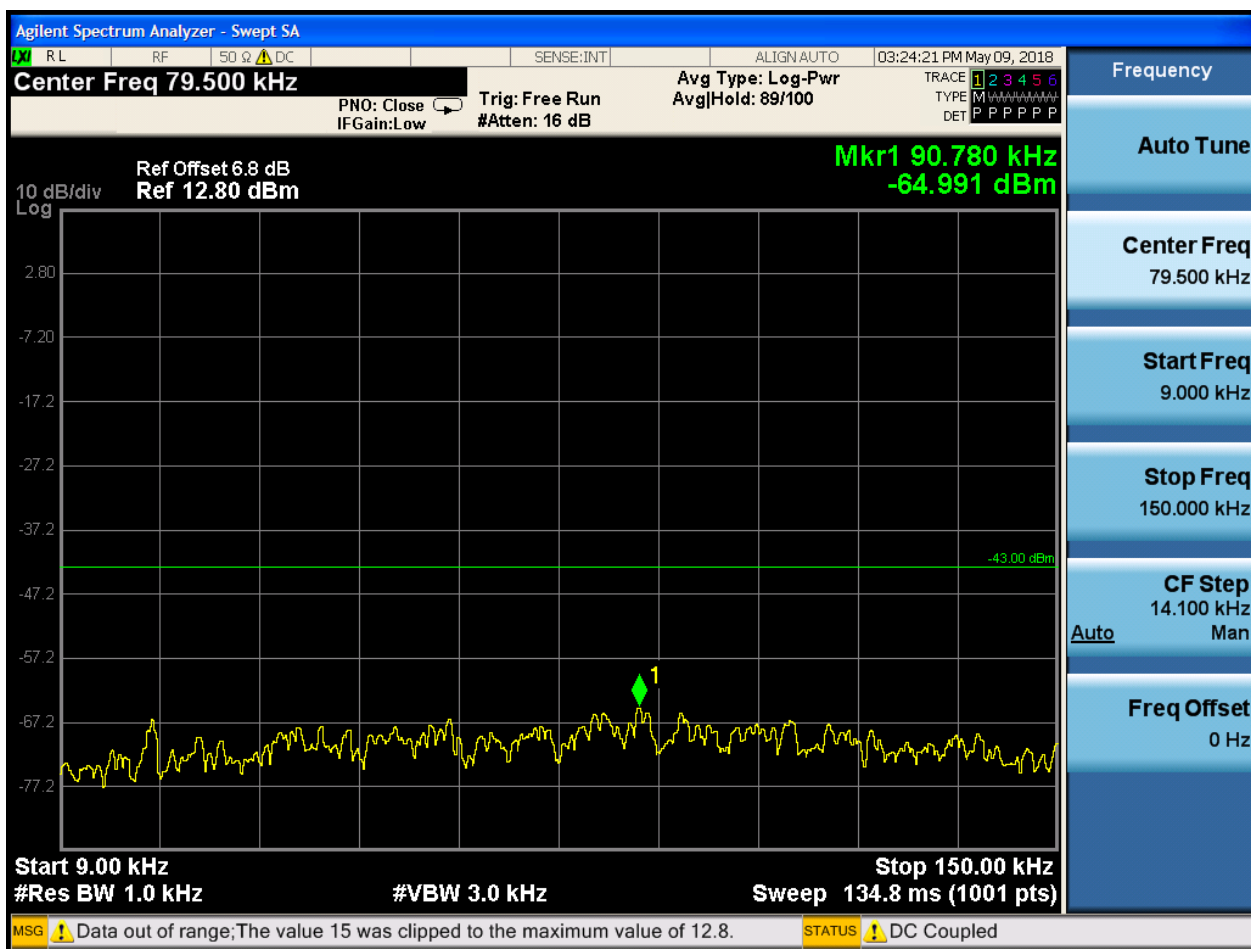
6.1.1 Test Band = BAND2

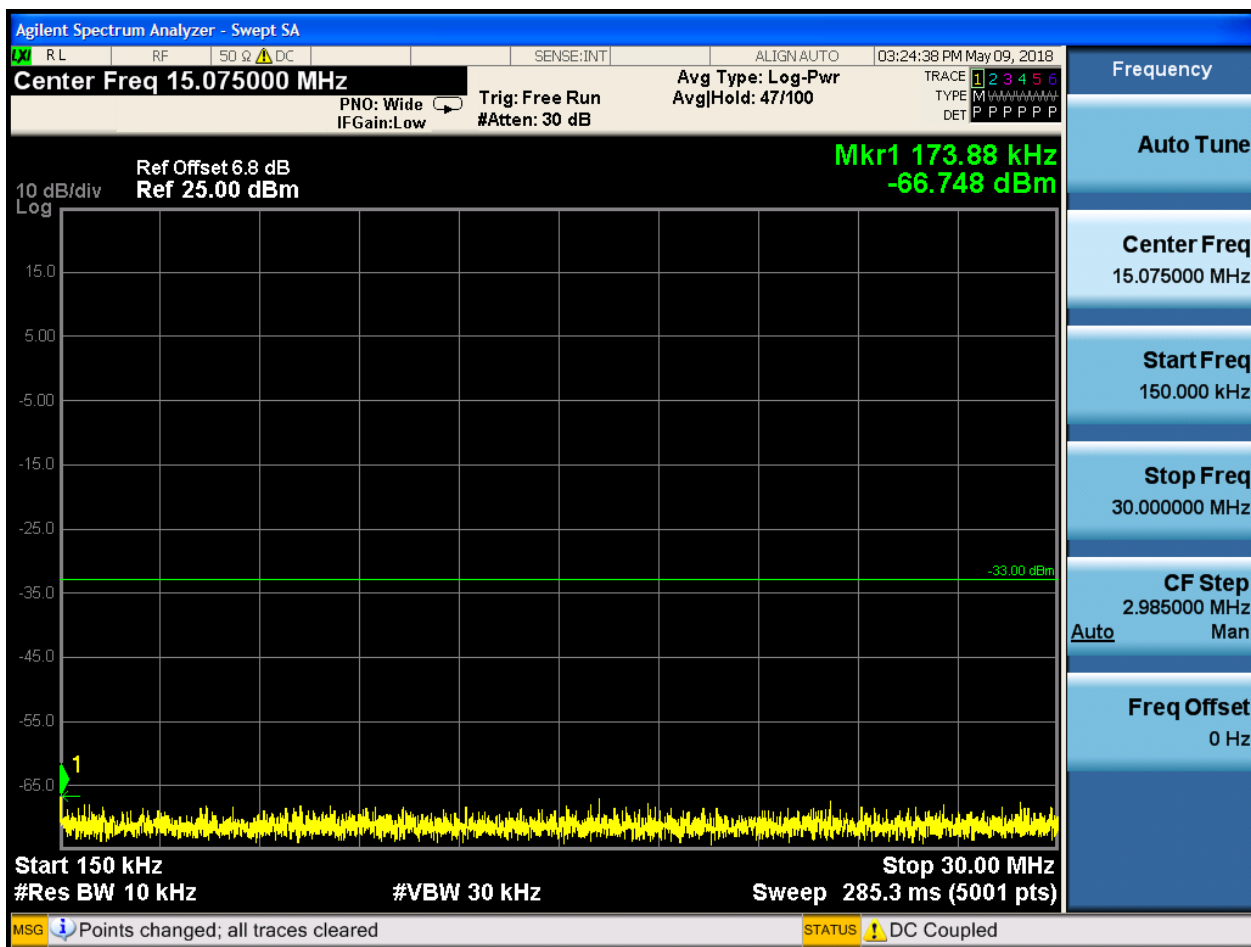
6.1.1.1 Test Mode = LTE/TM1

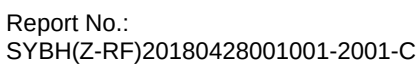
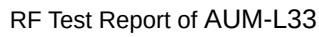
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

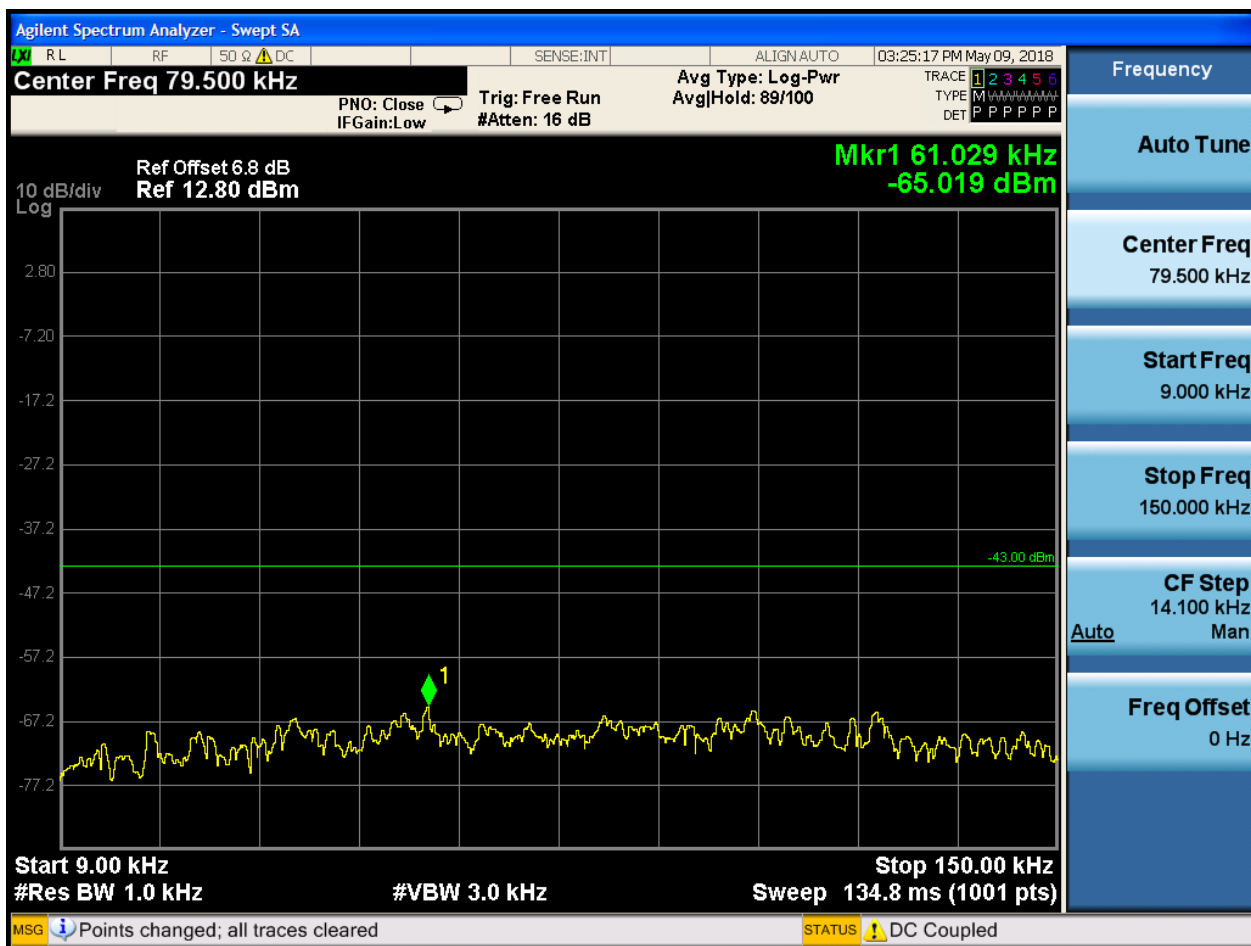


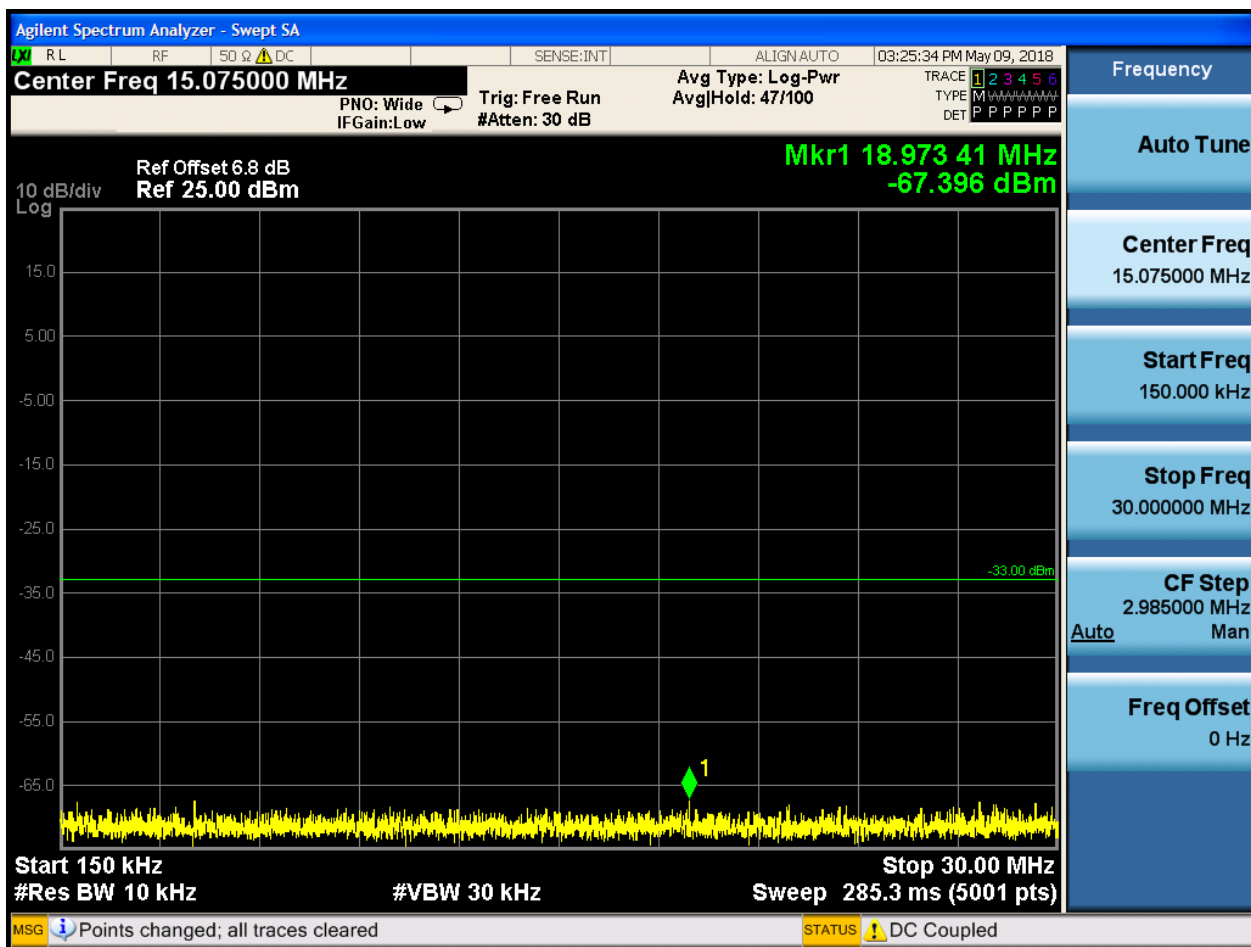


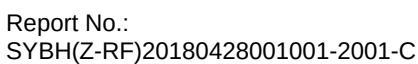
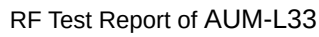


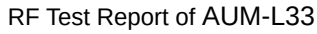
6.1.1.1.1.2 Test Channel = MCH

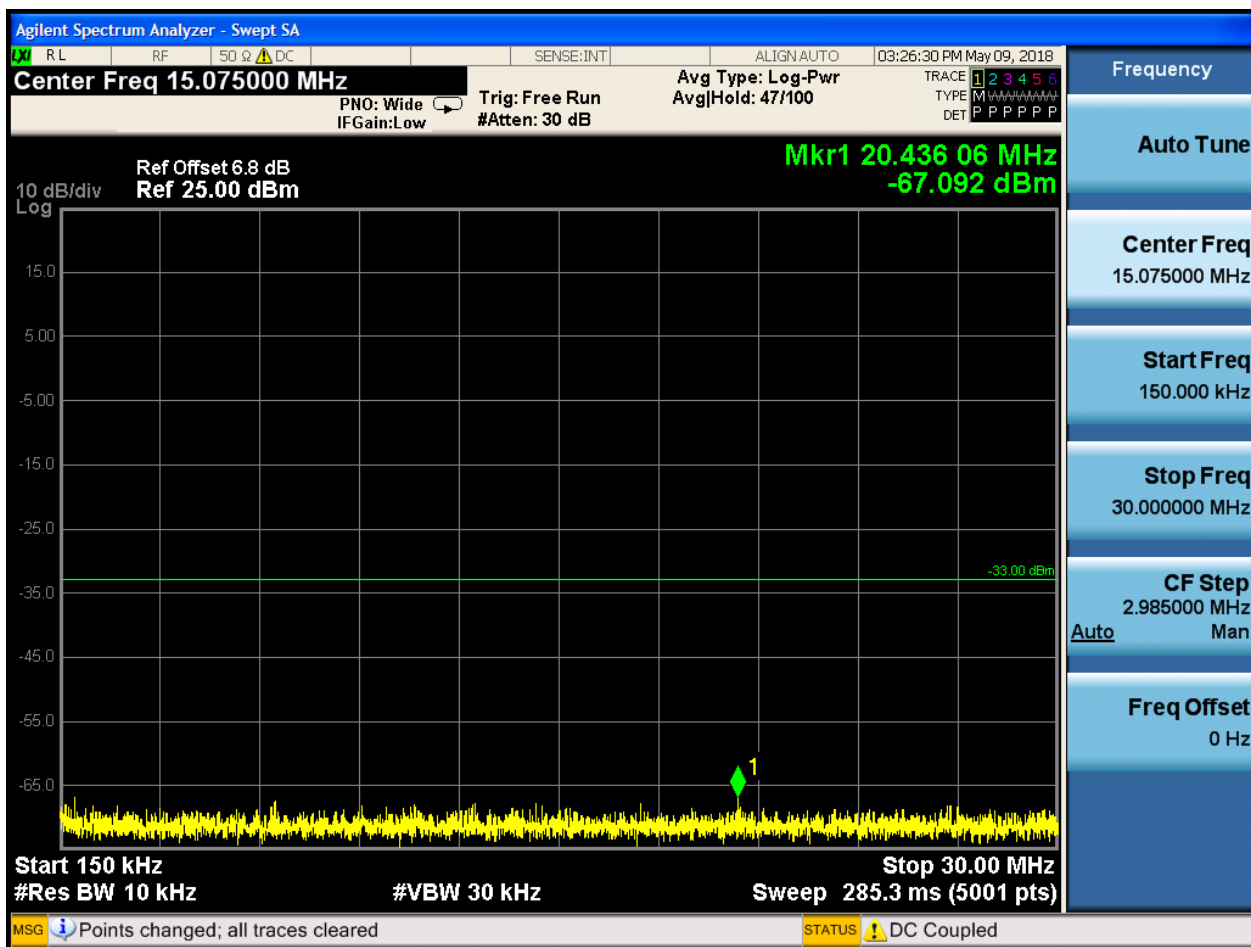
6.1.1.1.1.2.1 Test RB = RB1#0

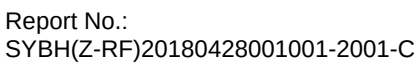
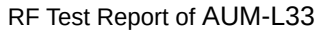








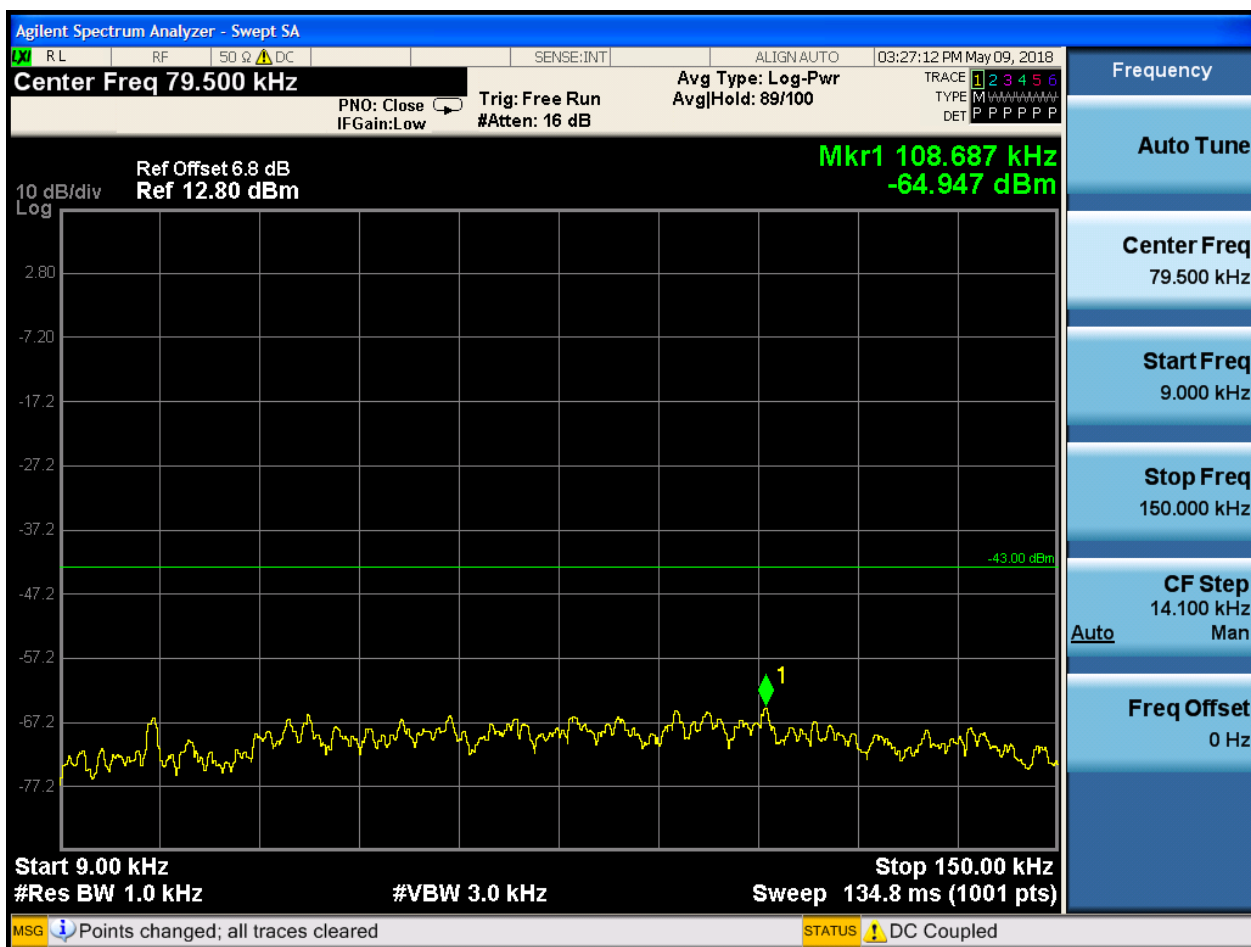


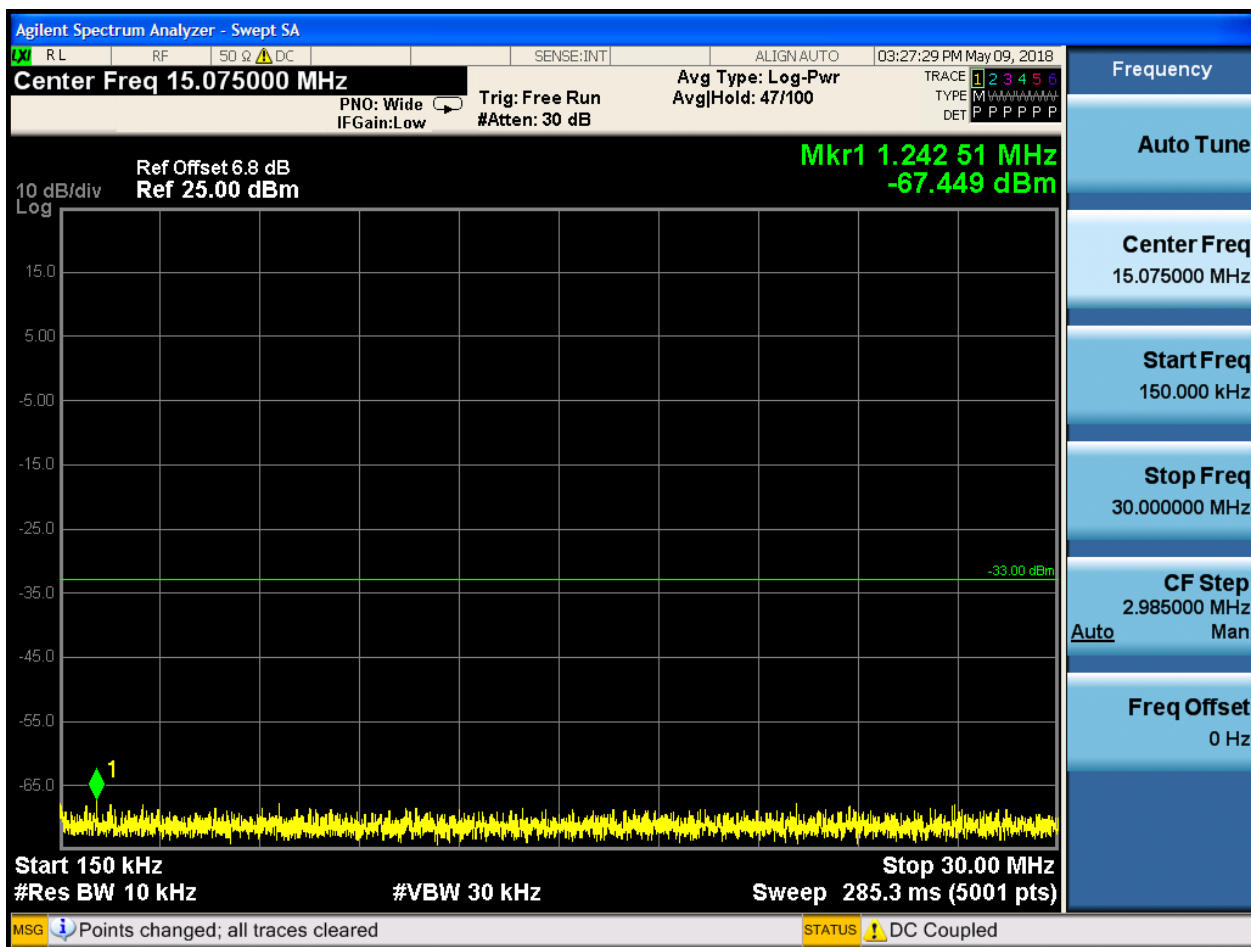


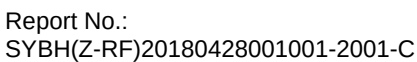
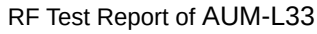
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

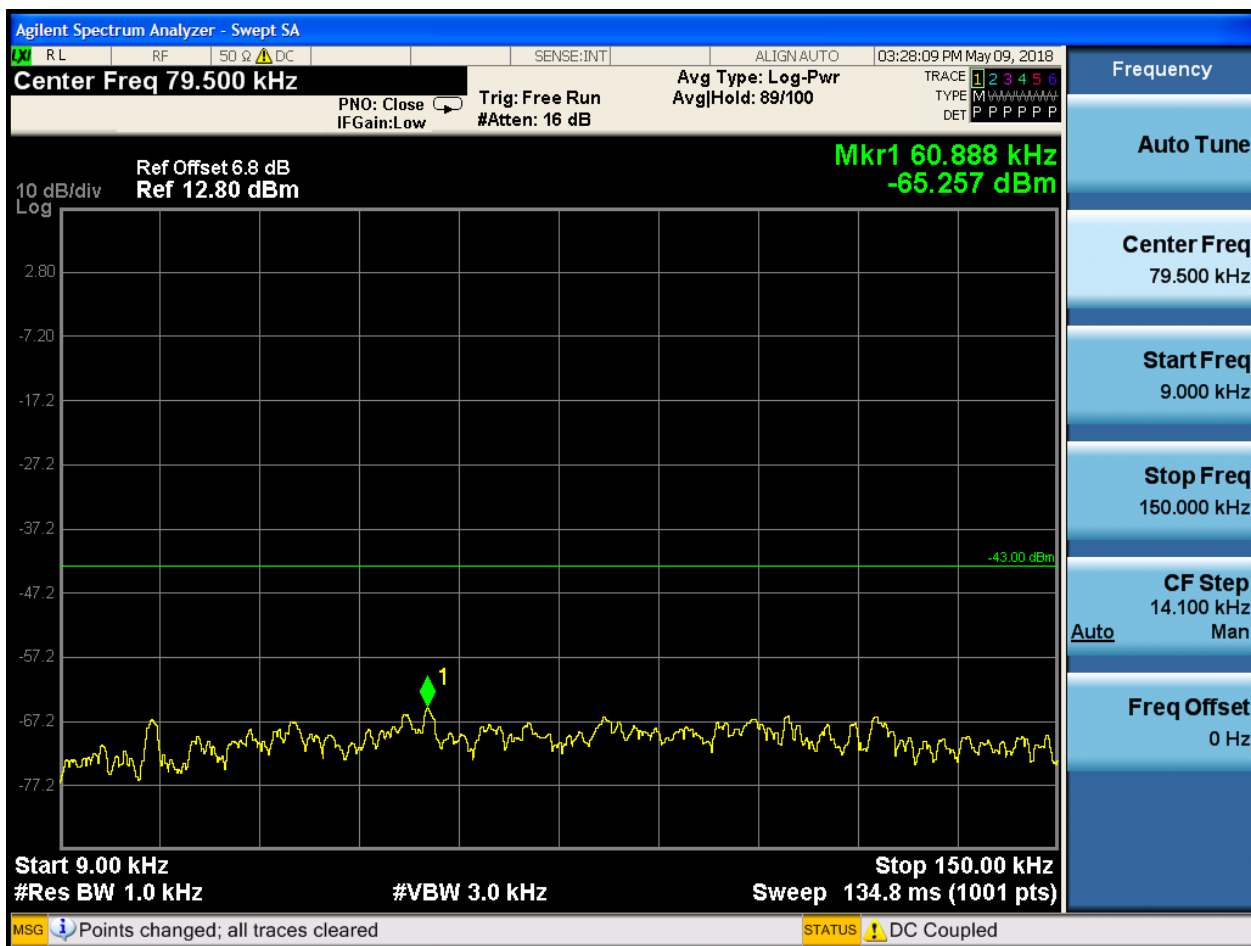


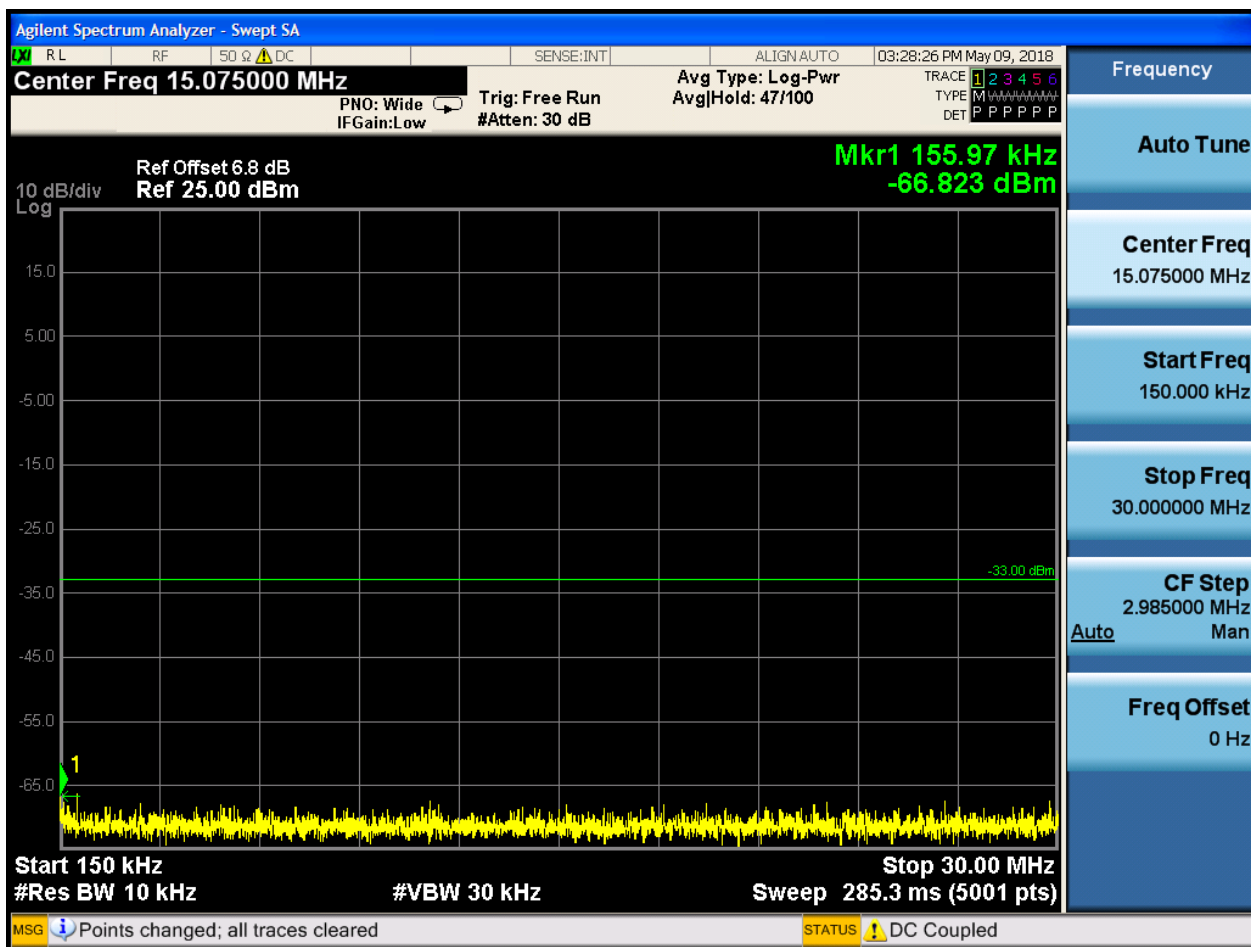


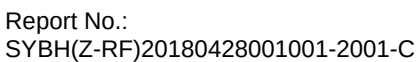
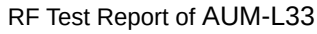


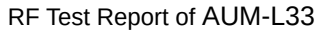
6.1.1.1.2.2 Test Channel = MCH

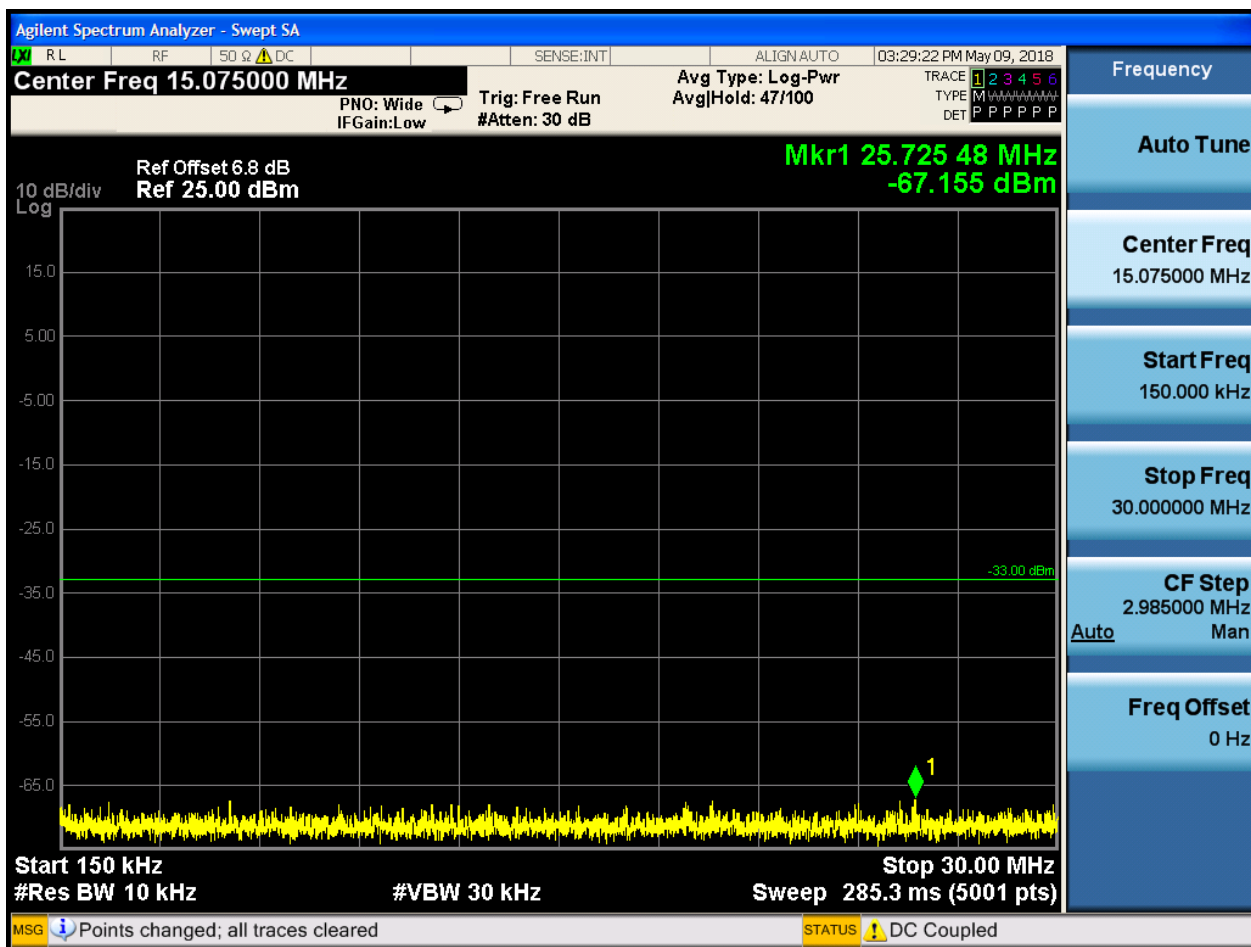
6.1.1.1.2.2.1 Test RB = RB1#0

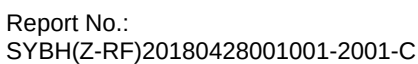
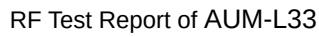








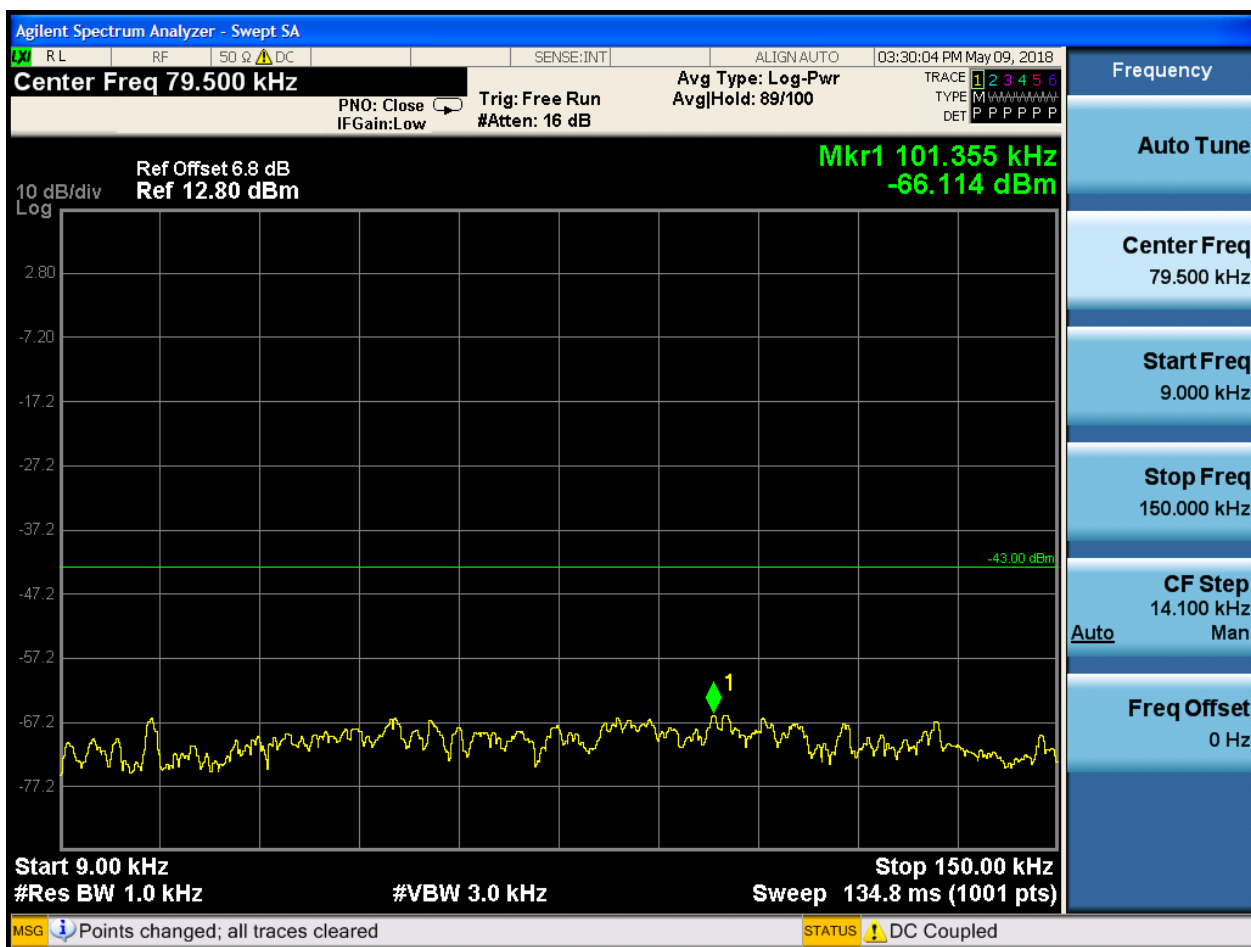


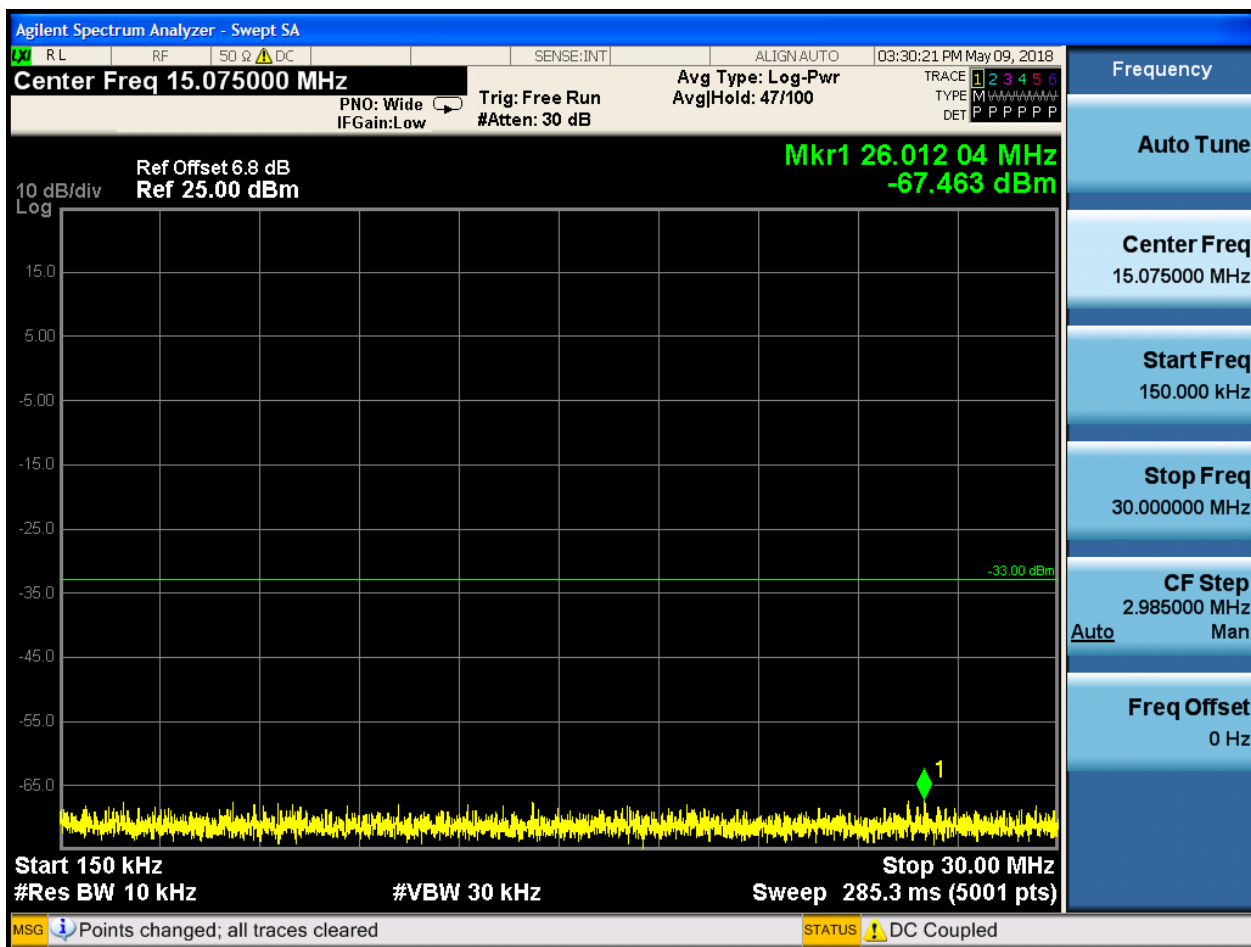


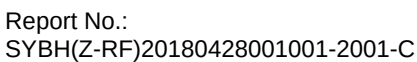
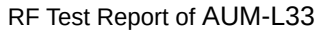
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0

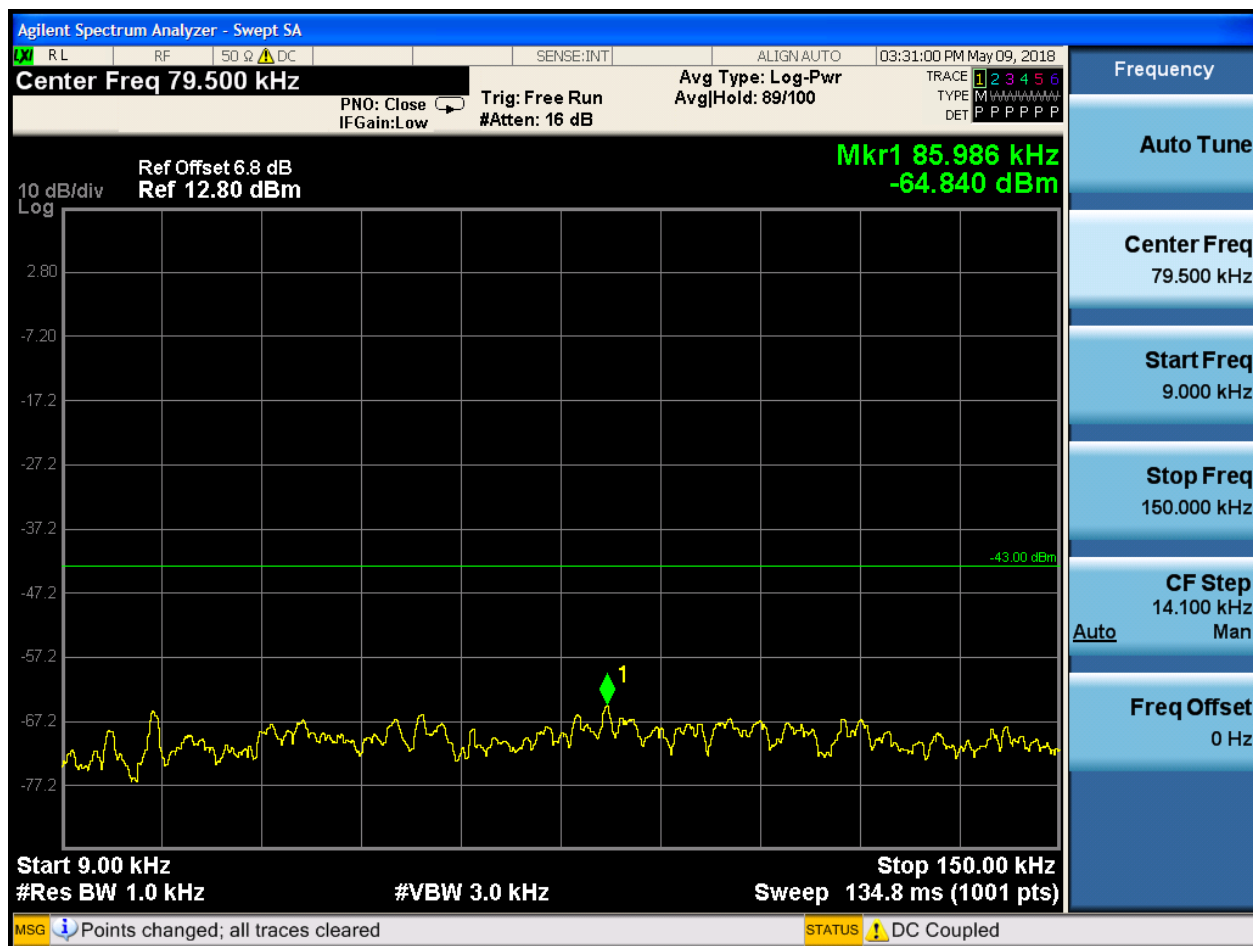


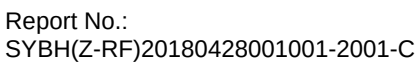
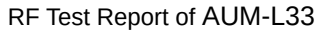


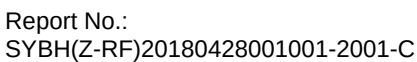
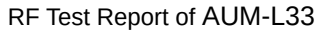


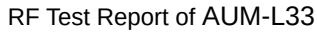
6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

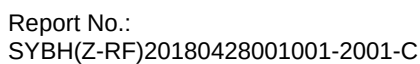


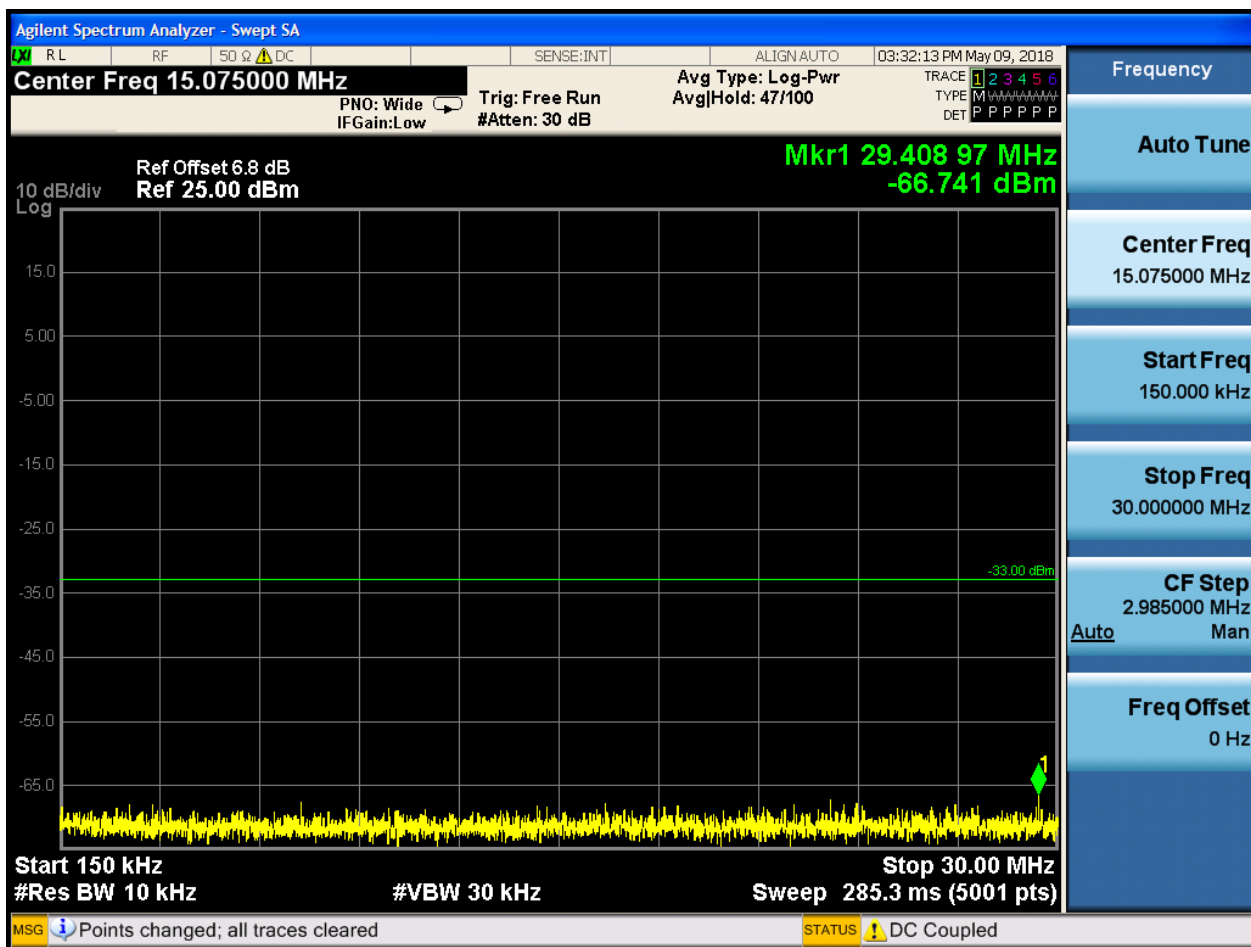


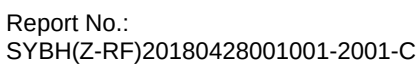
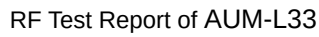




6.1.1.1.3.3.1 Test RB = RB1#0



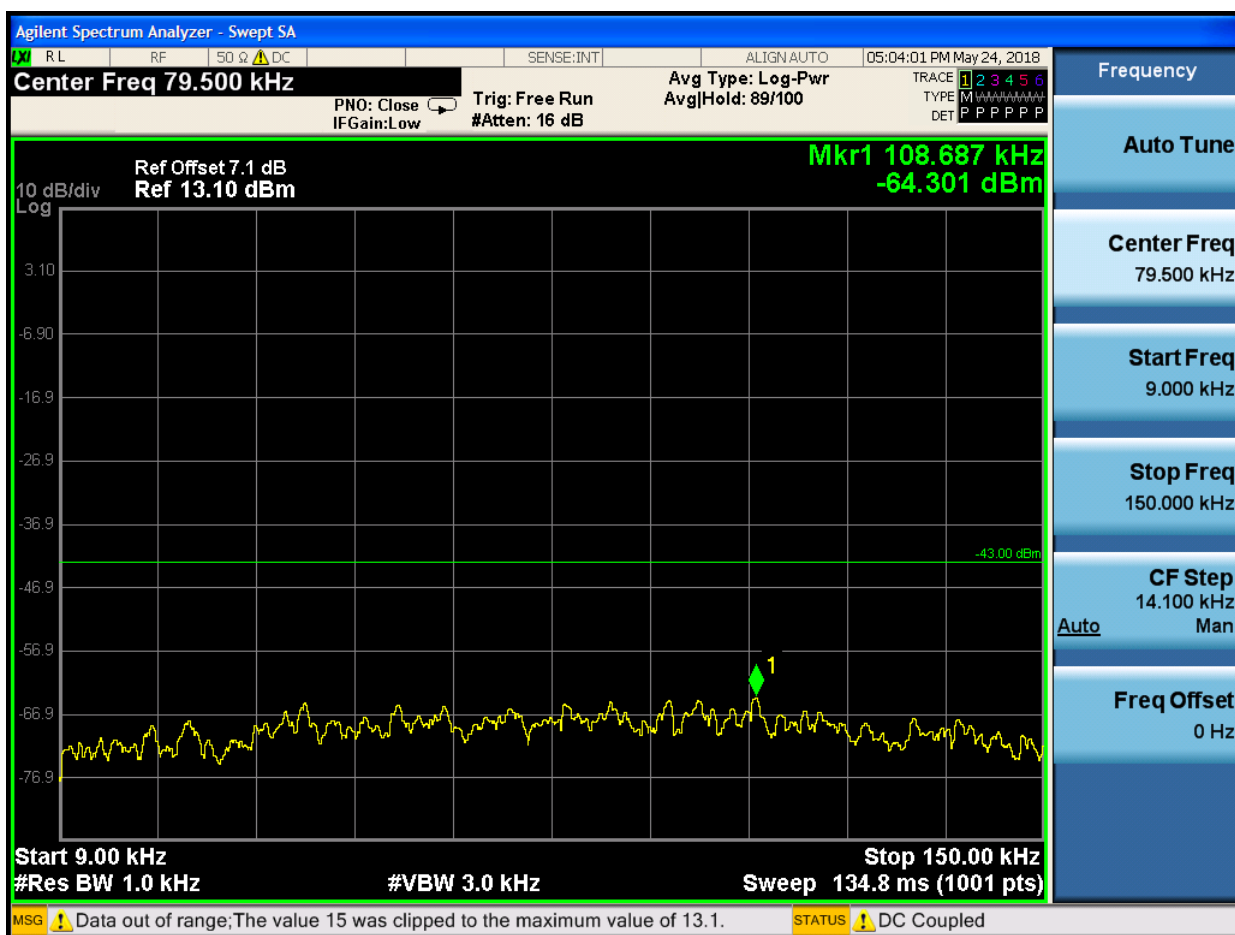


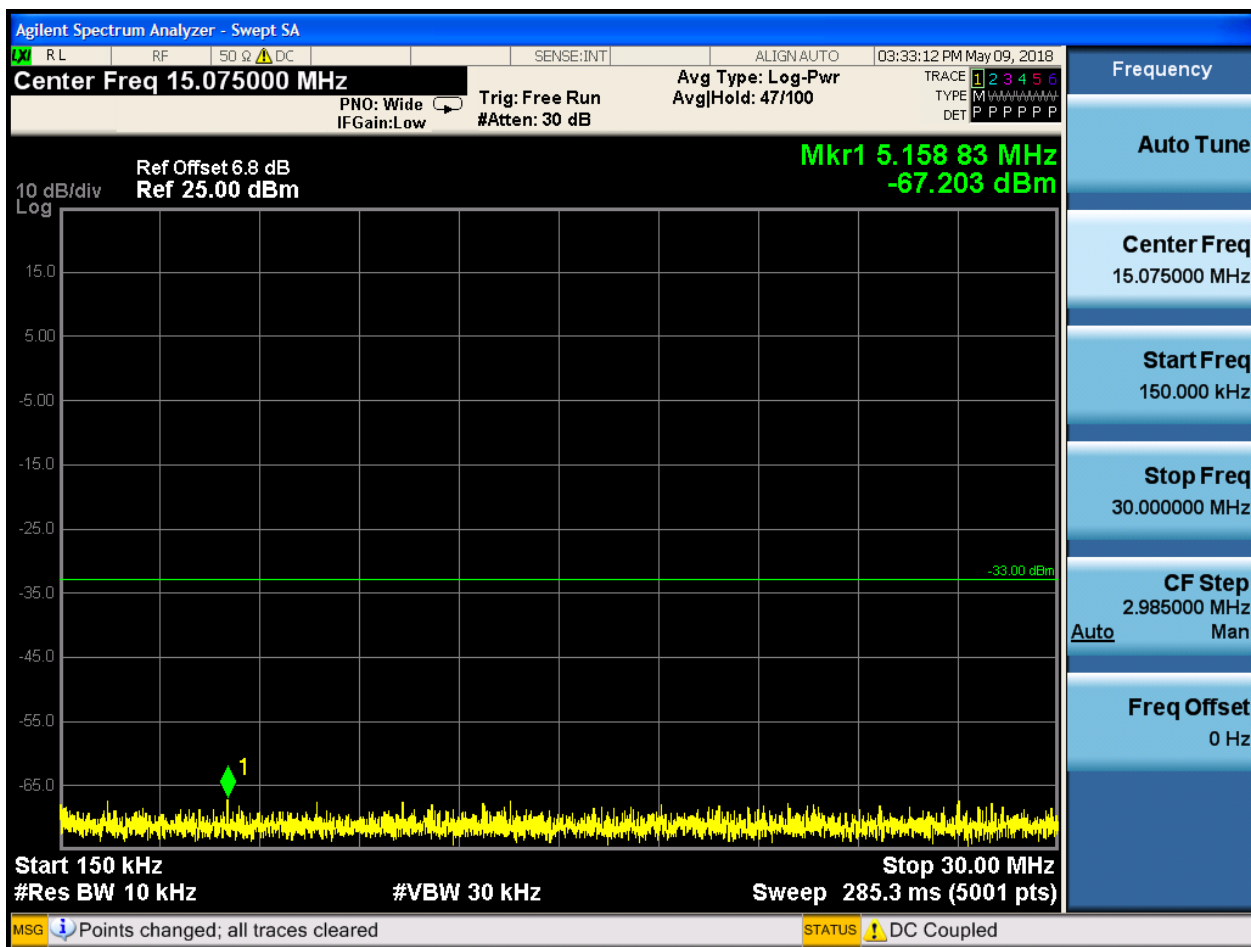


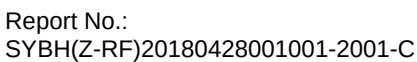
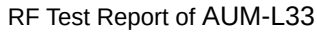
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



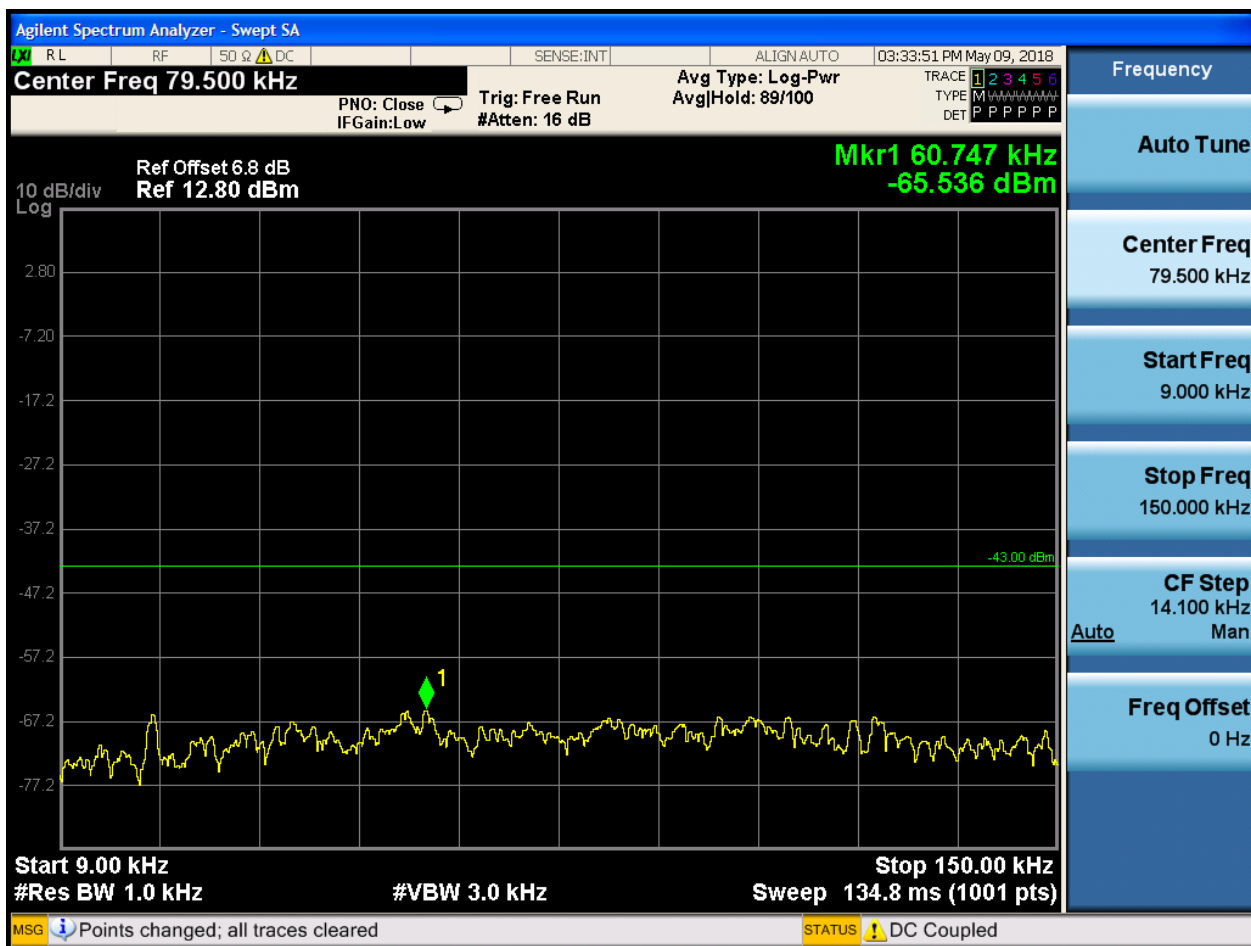


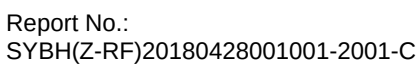
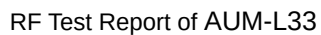


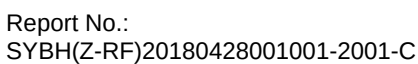
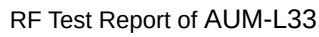


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0

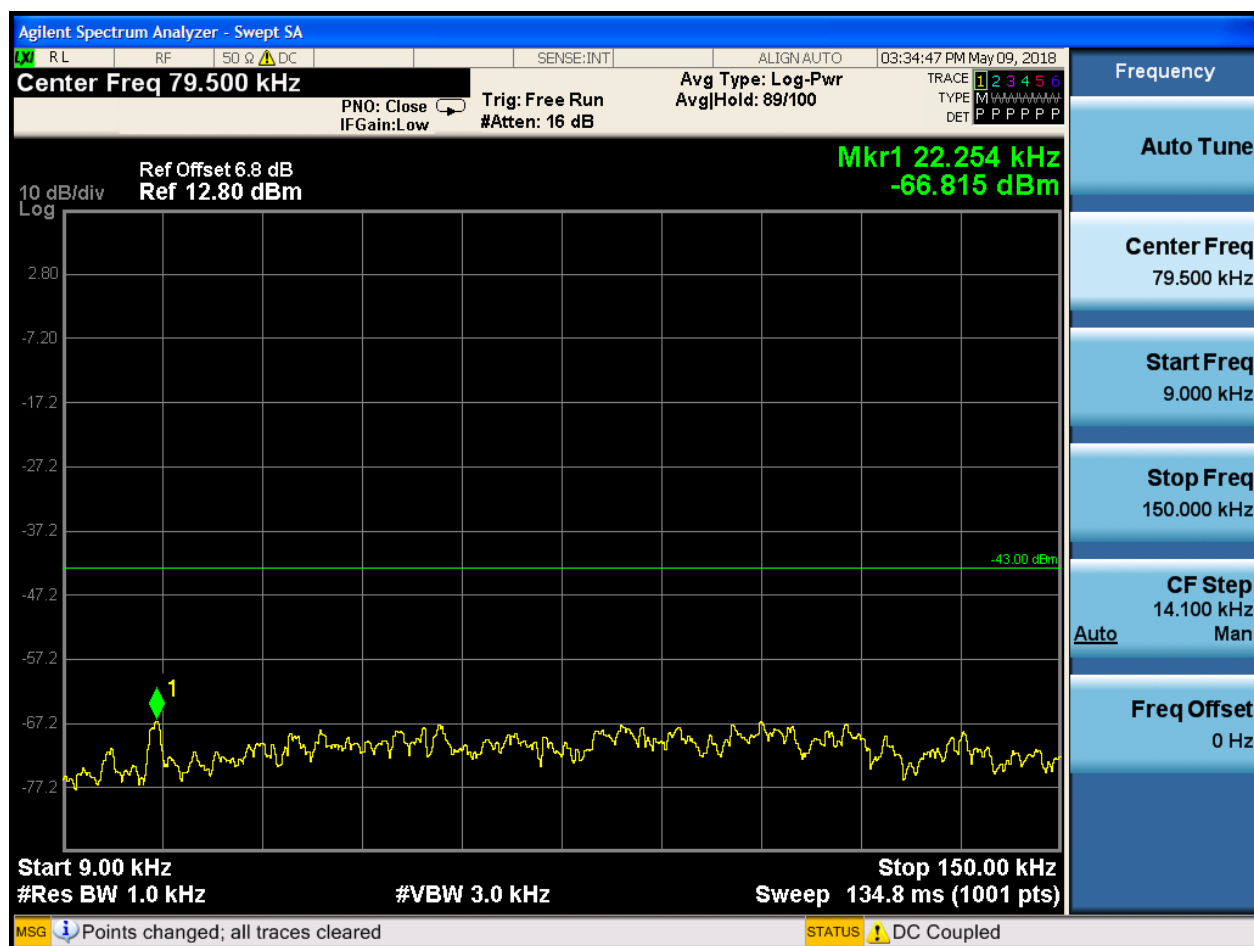


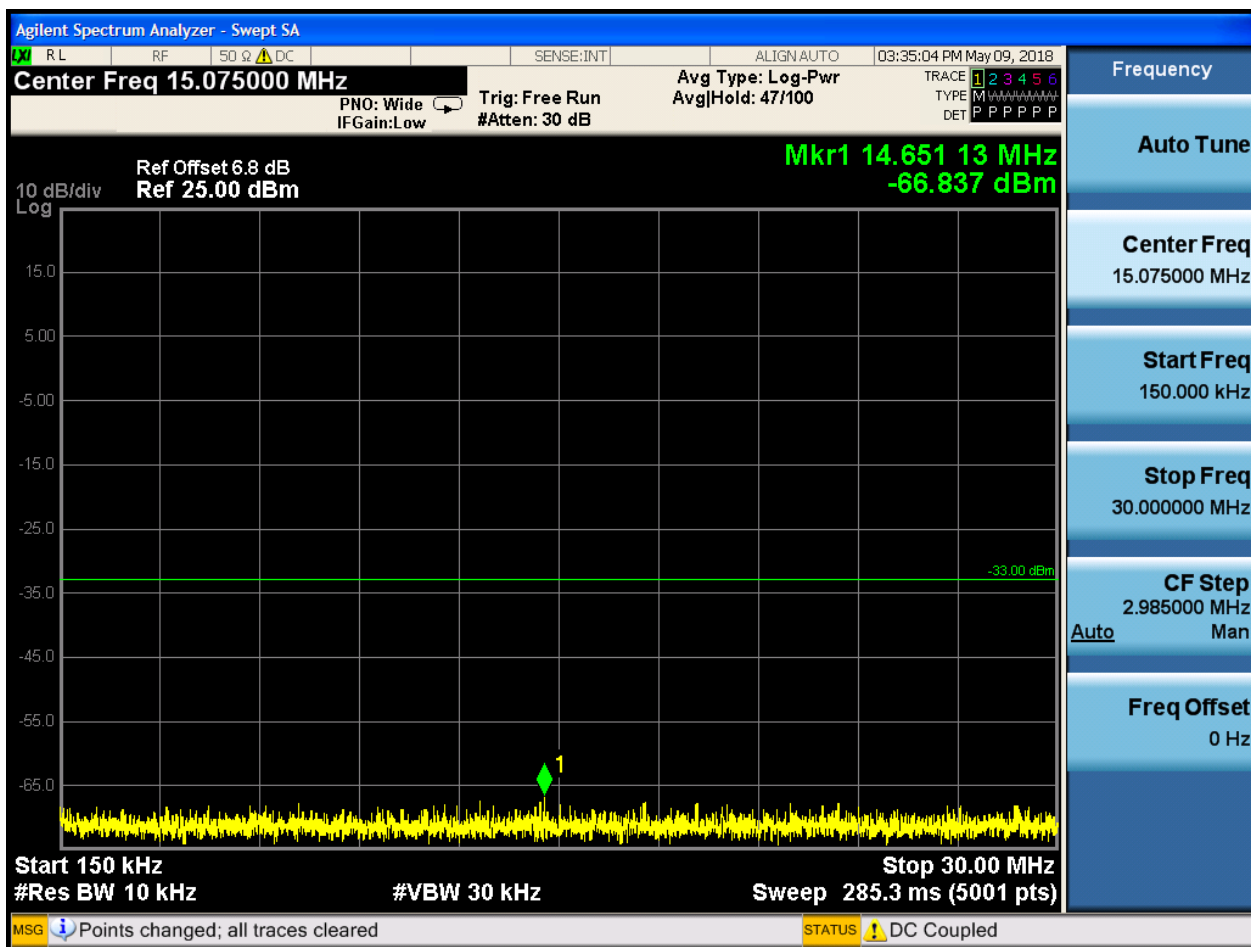


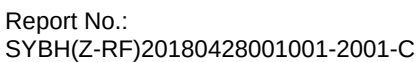
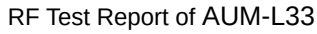


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0



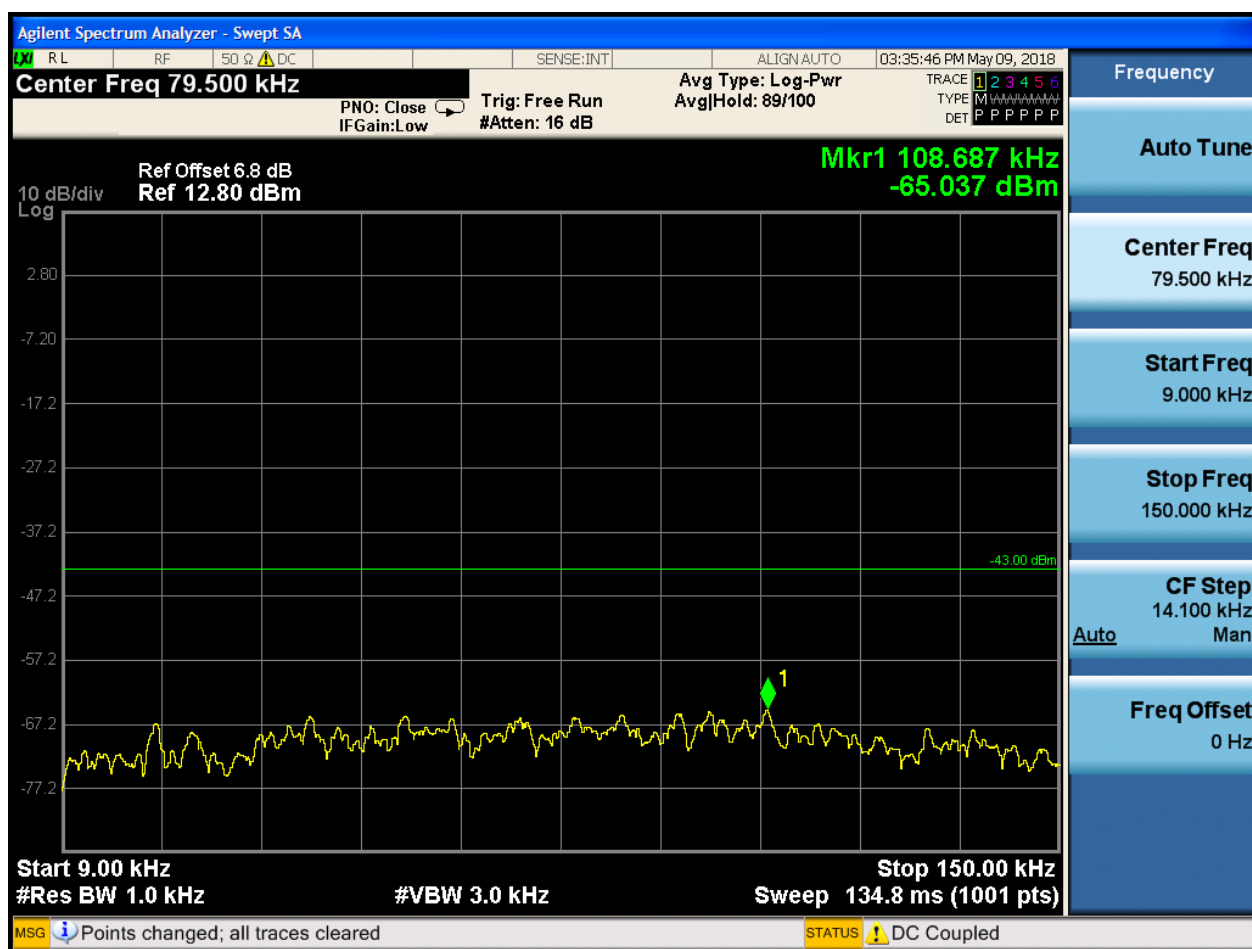


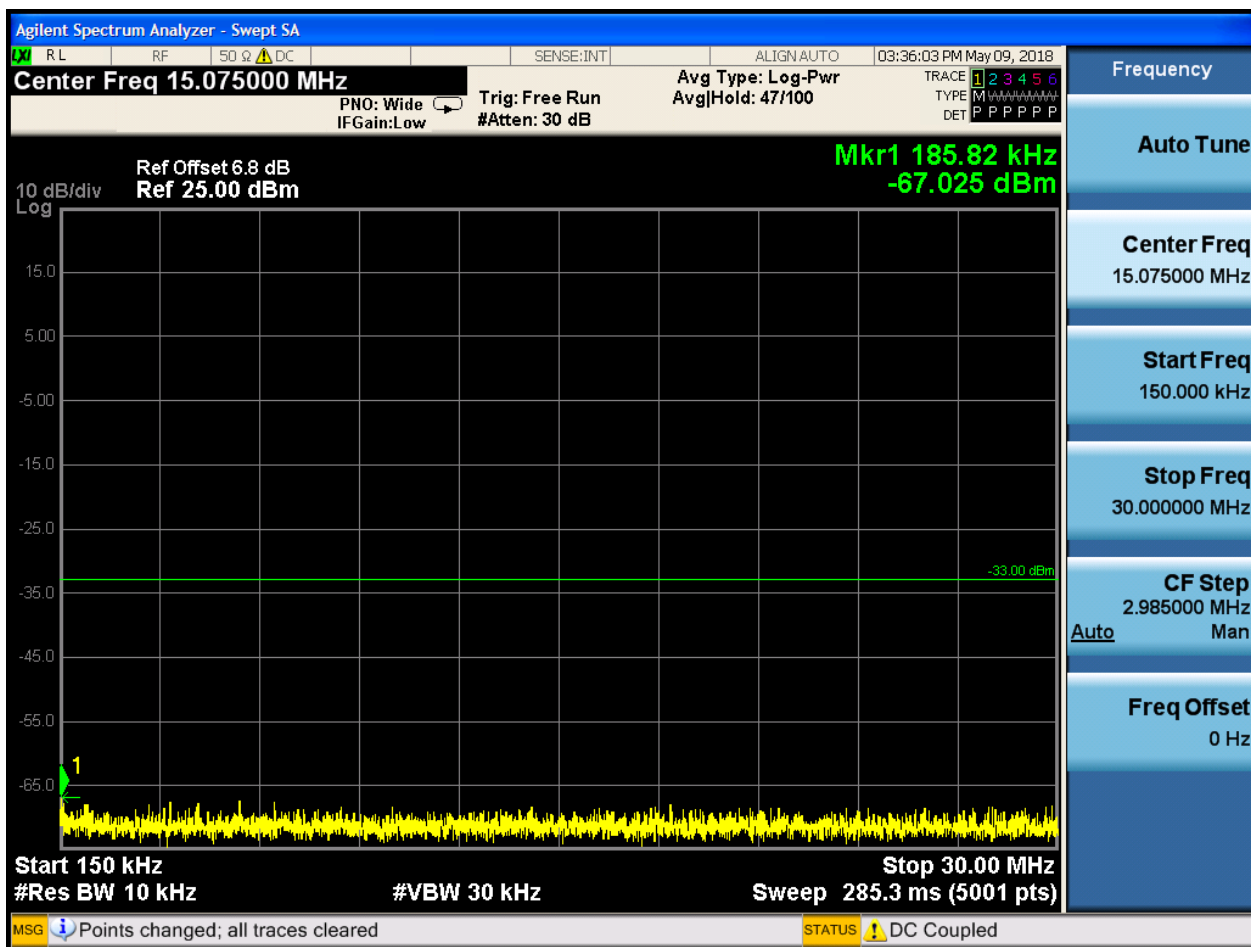


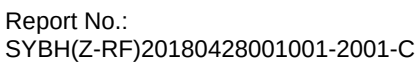
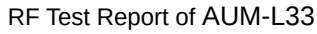
6.1.1.1.5 Test Bandwidth = 15

6.1.1.1.5.1 Test Channel = LCH

6.1.1.1.5.1.1 Test RB = RB1#0

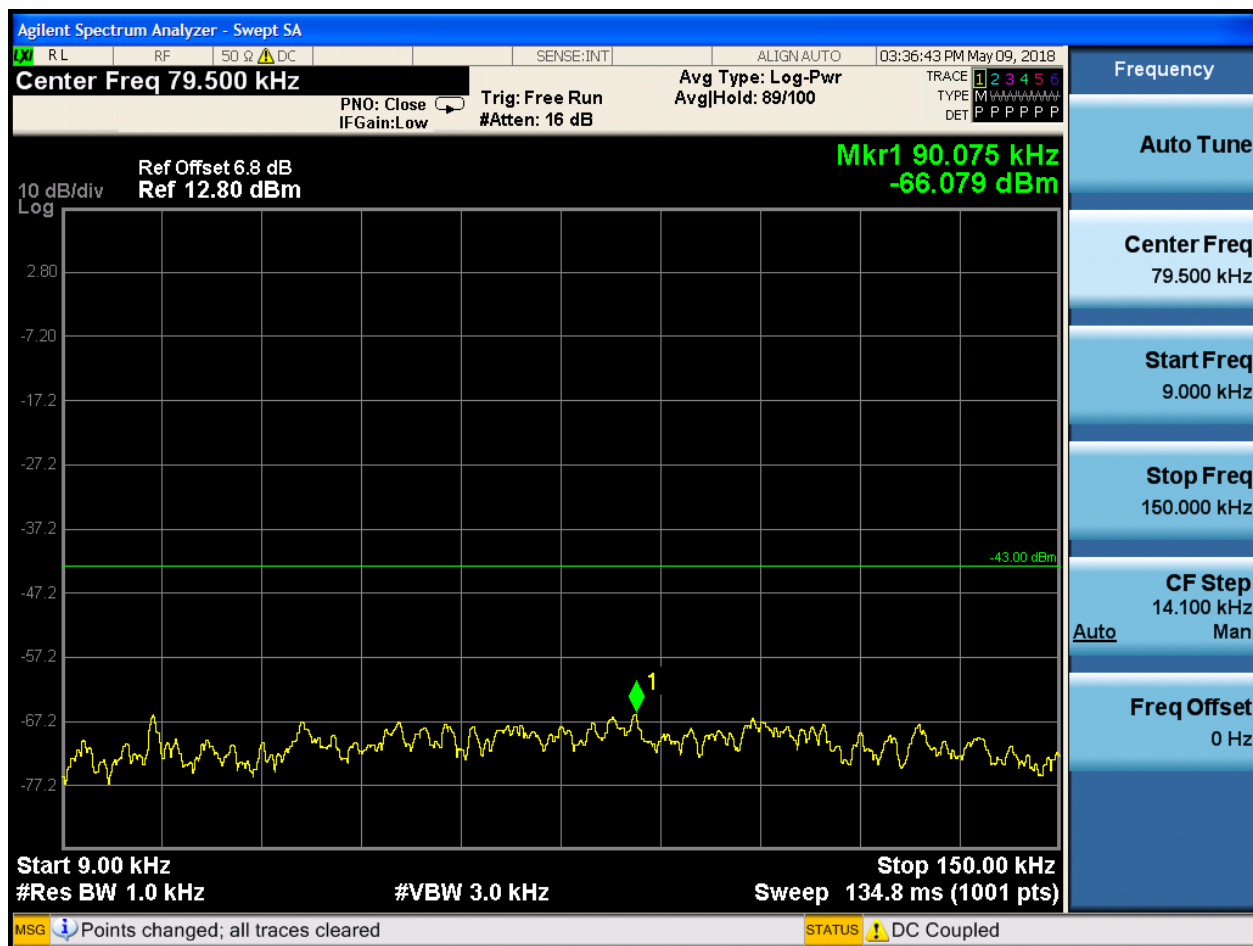


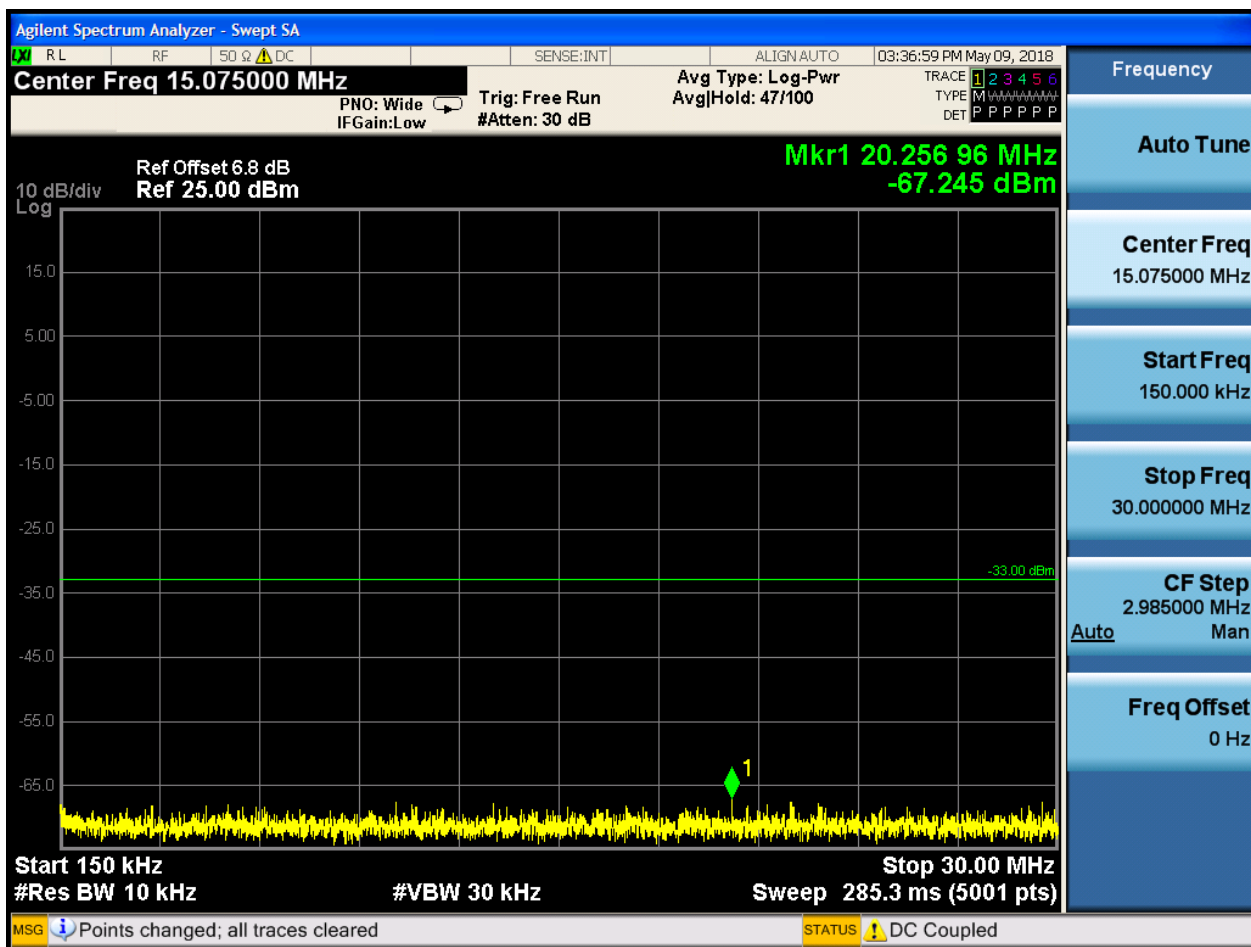


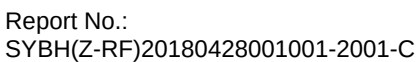
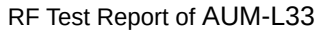


6.1.1.1.5.2 Test Channel = MCH

6.1.1.1.5.2.1 Test RB = RB1#0

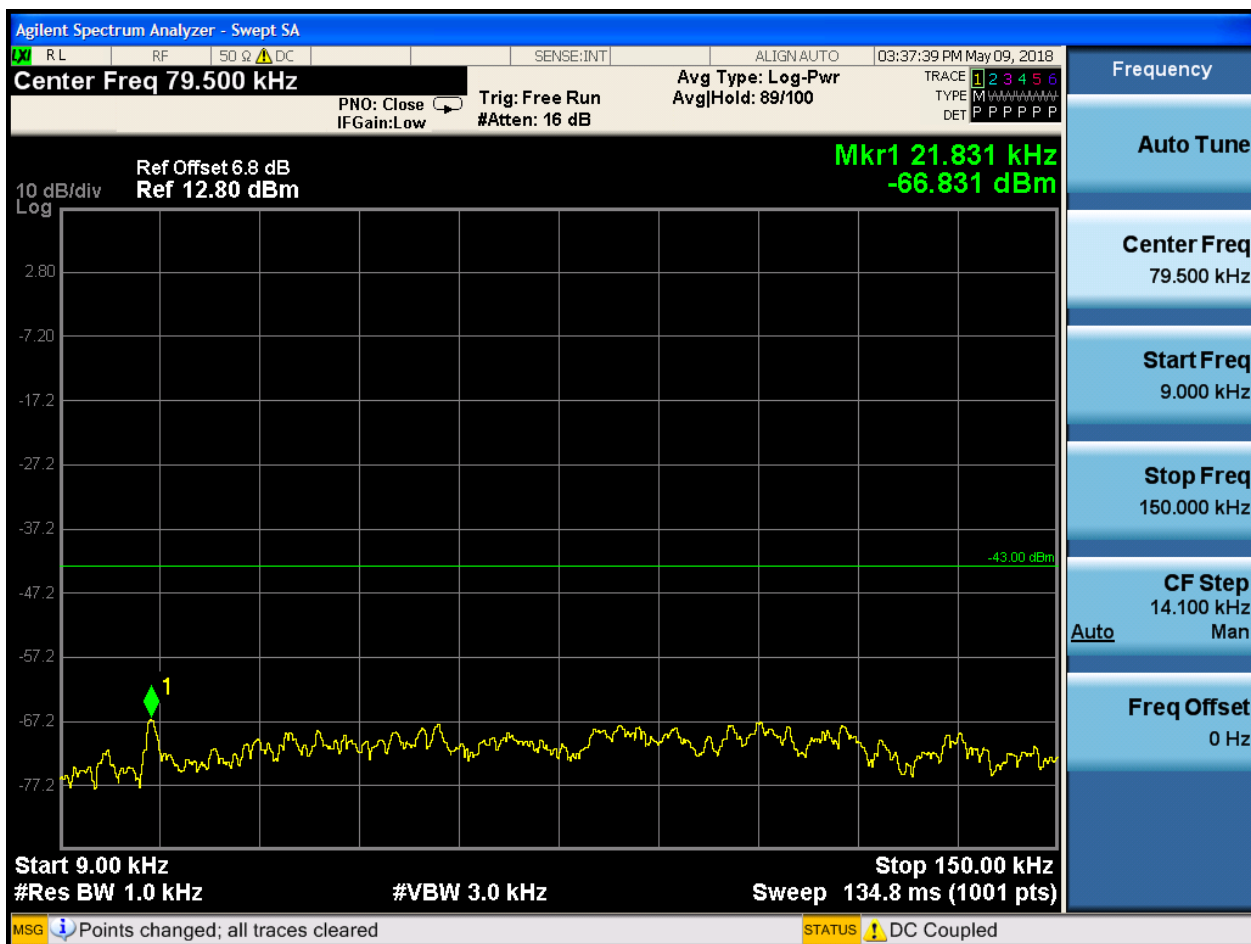




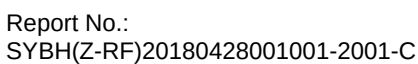
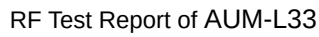


6.1.1.1.5.3 Test Channel = HCH

6.1.1.1.5.3.1 Test RB = RB1#0



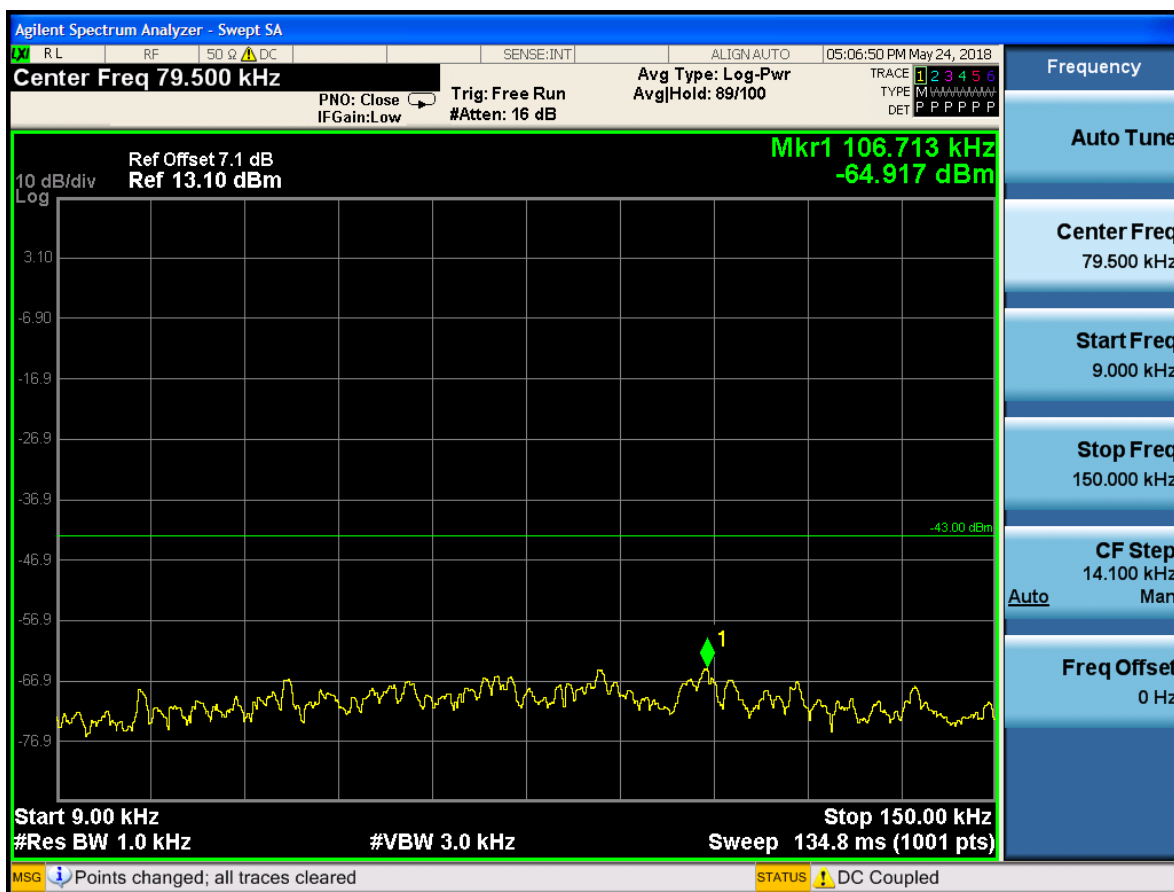


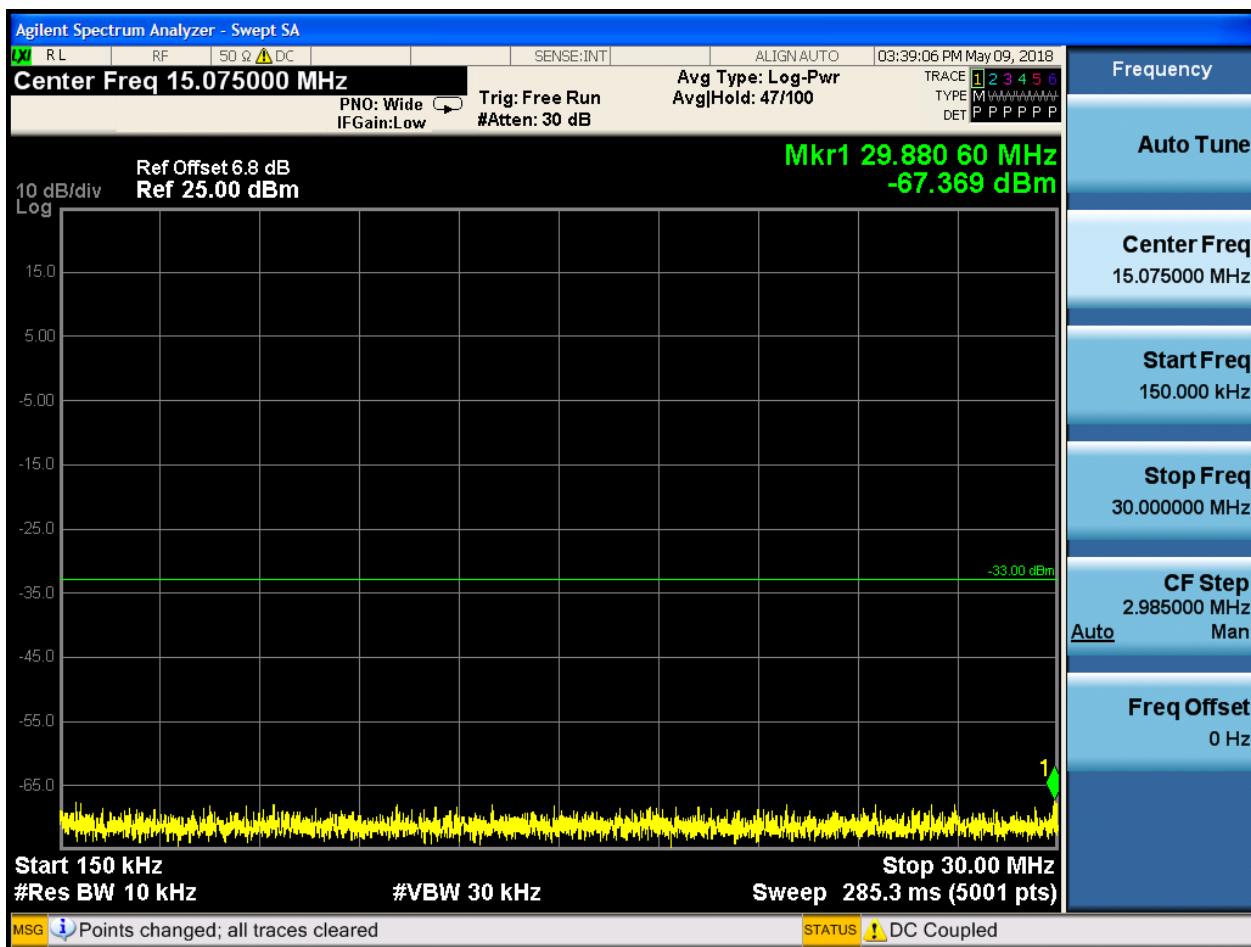


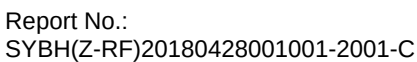
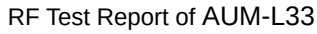
6.1.1.1.6 Test Bandwidth = 20

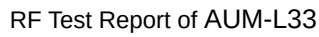
6.1.1.1.6.1 Test Channel = LCH

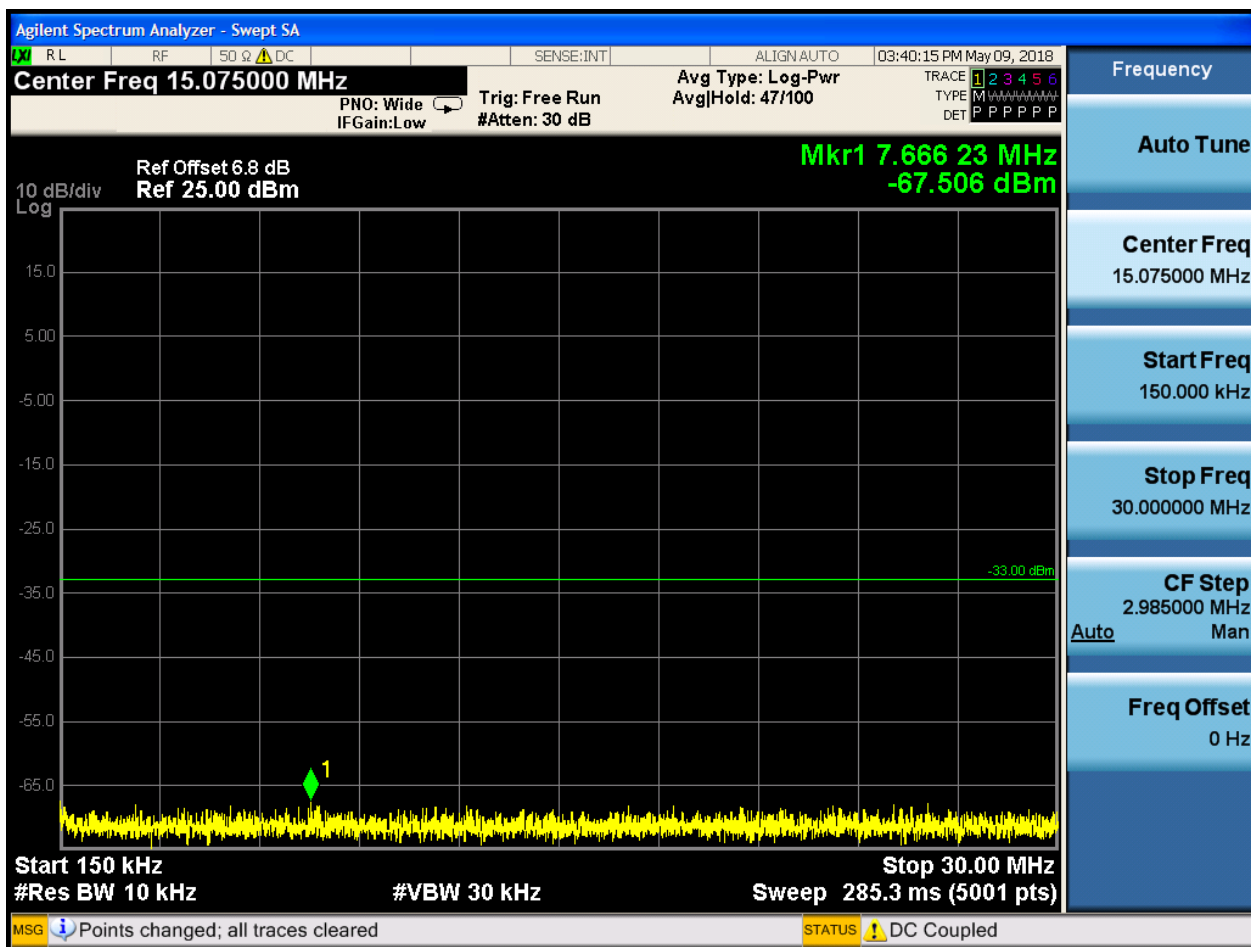
6.1.1.1.6.1.1 Test RB = RB1#0

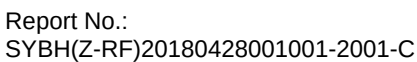
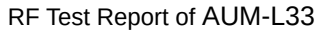






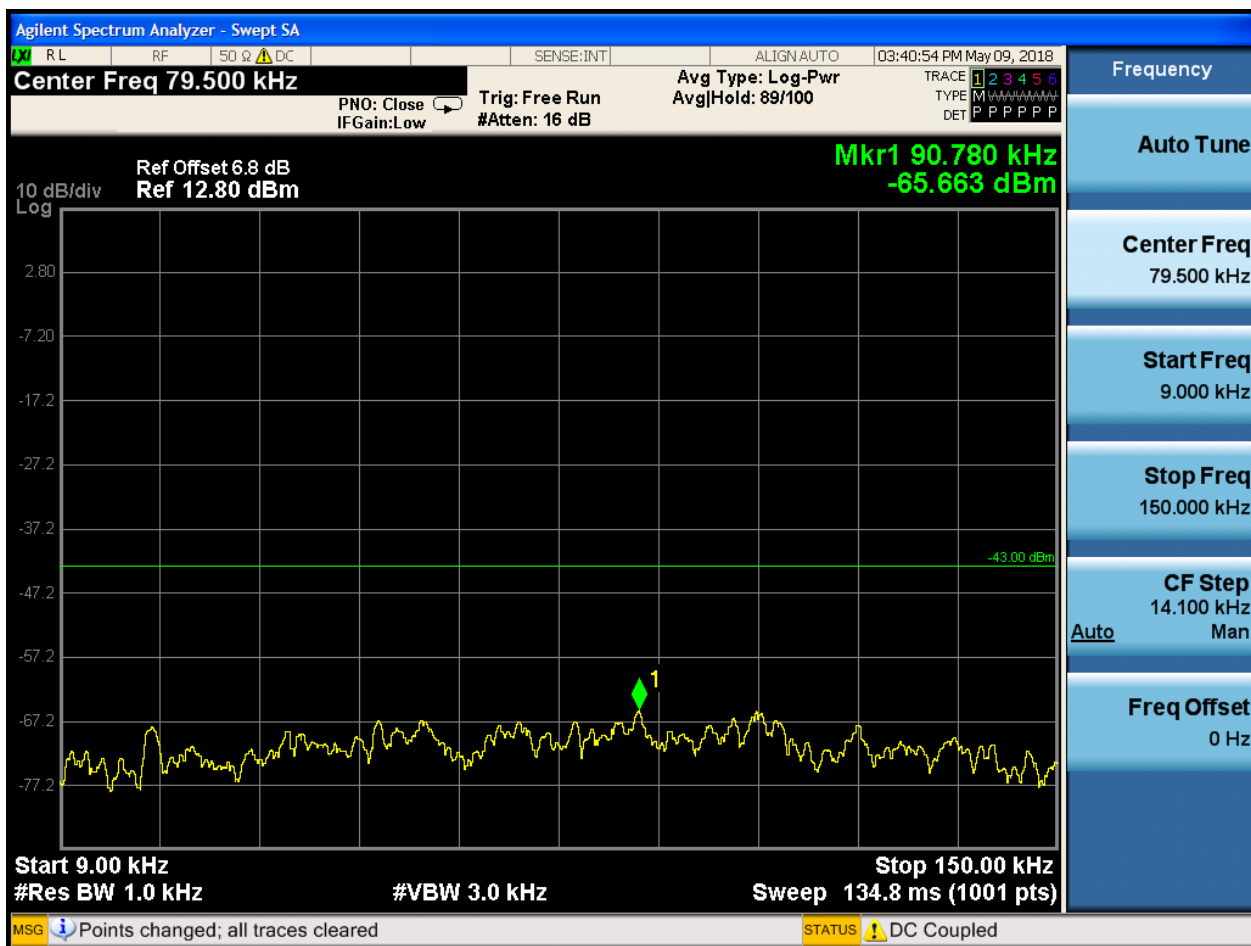


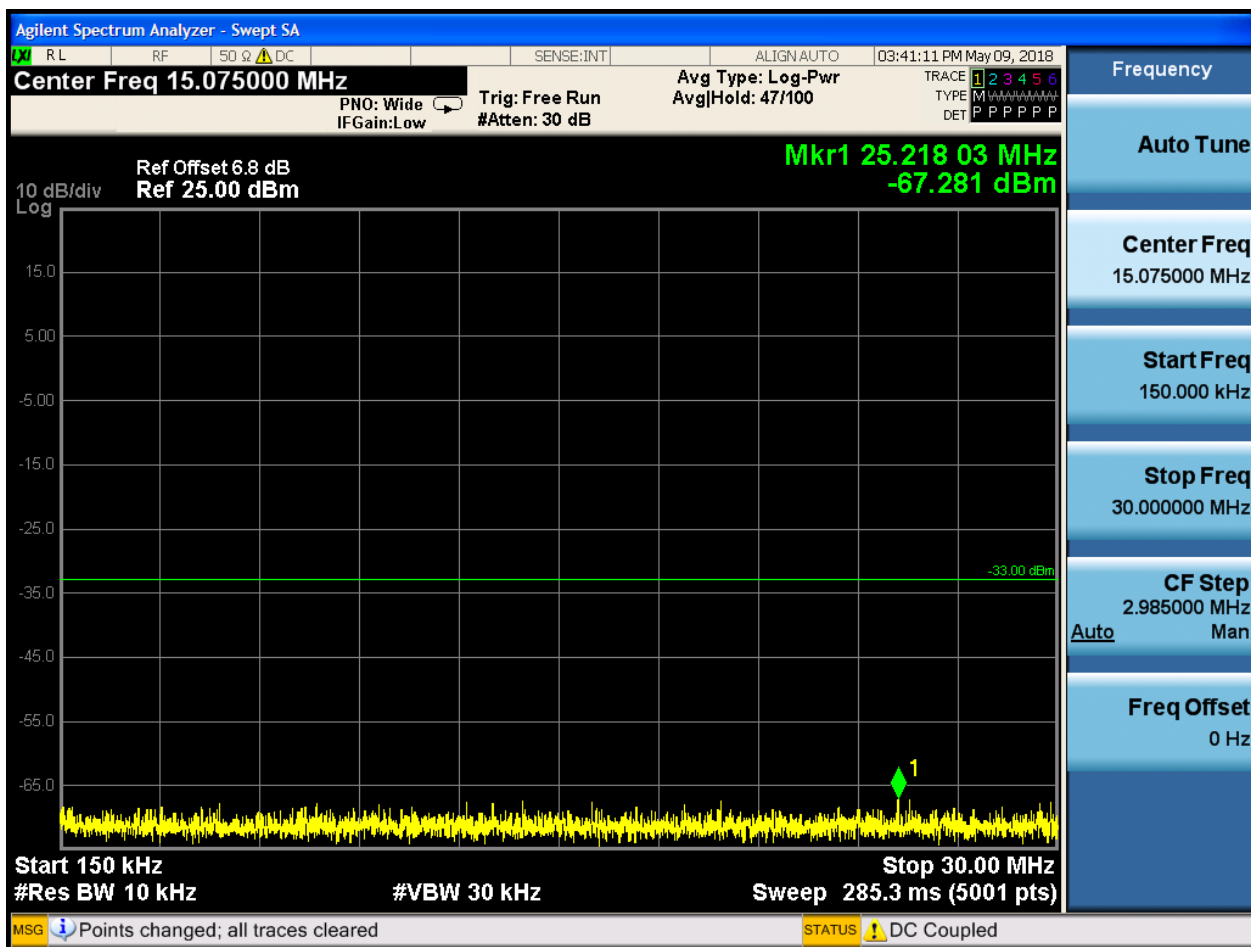


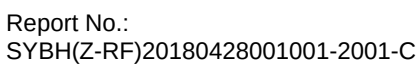
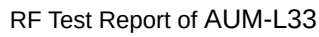


6.1.1.1.6.3 Test Channel = HCH

6.1.1.1.6.3.1 Test RB = RB1#0

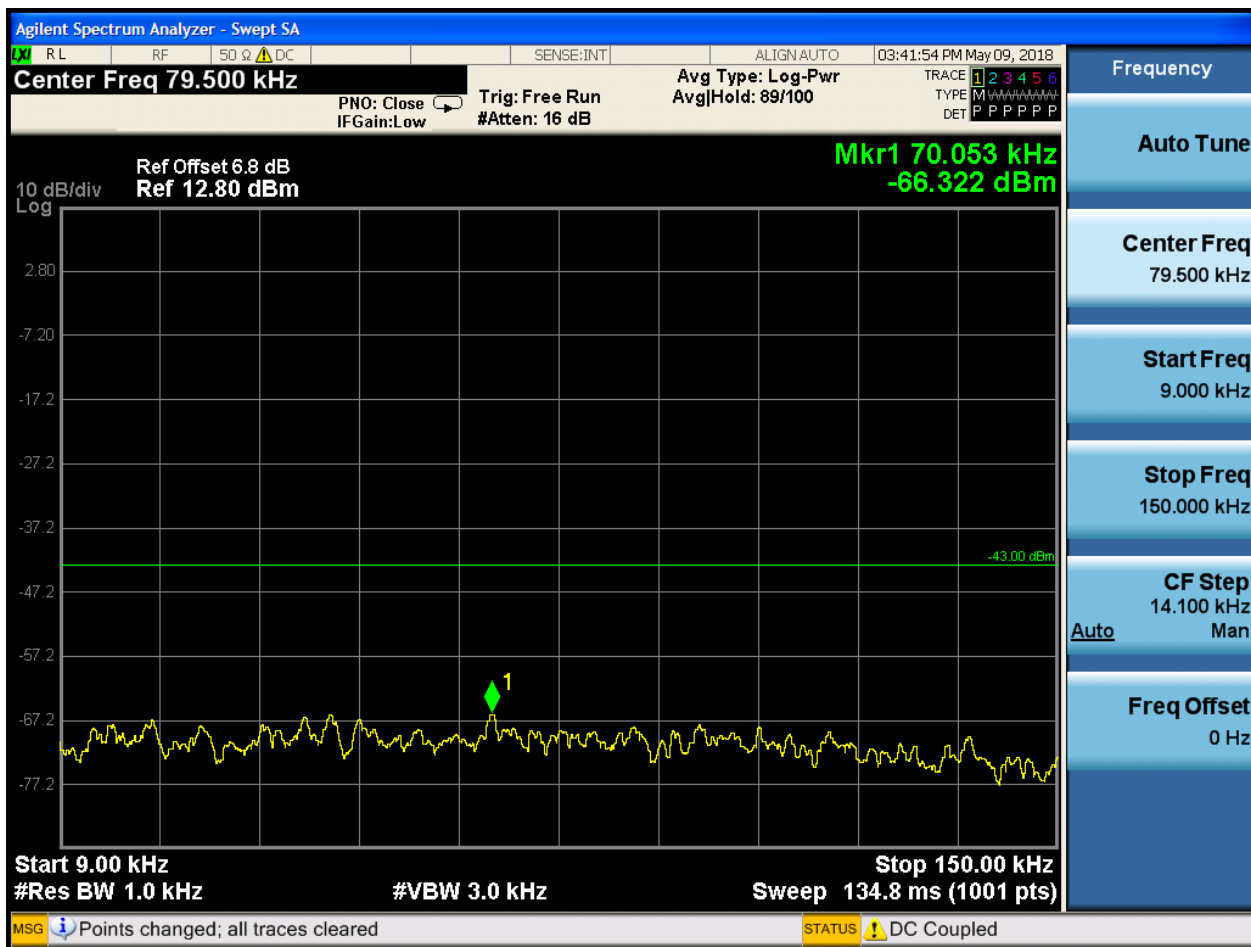


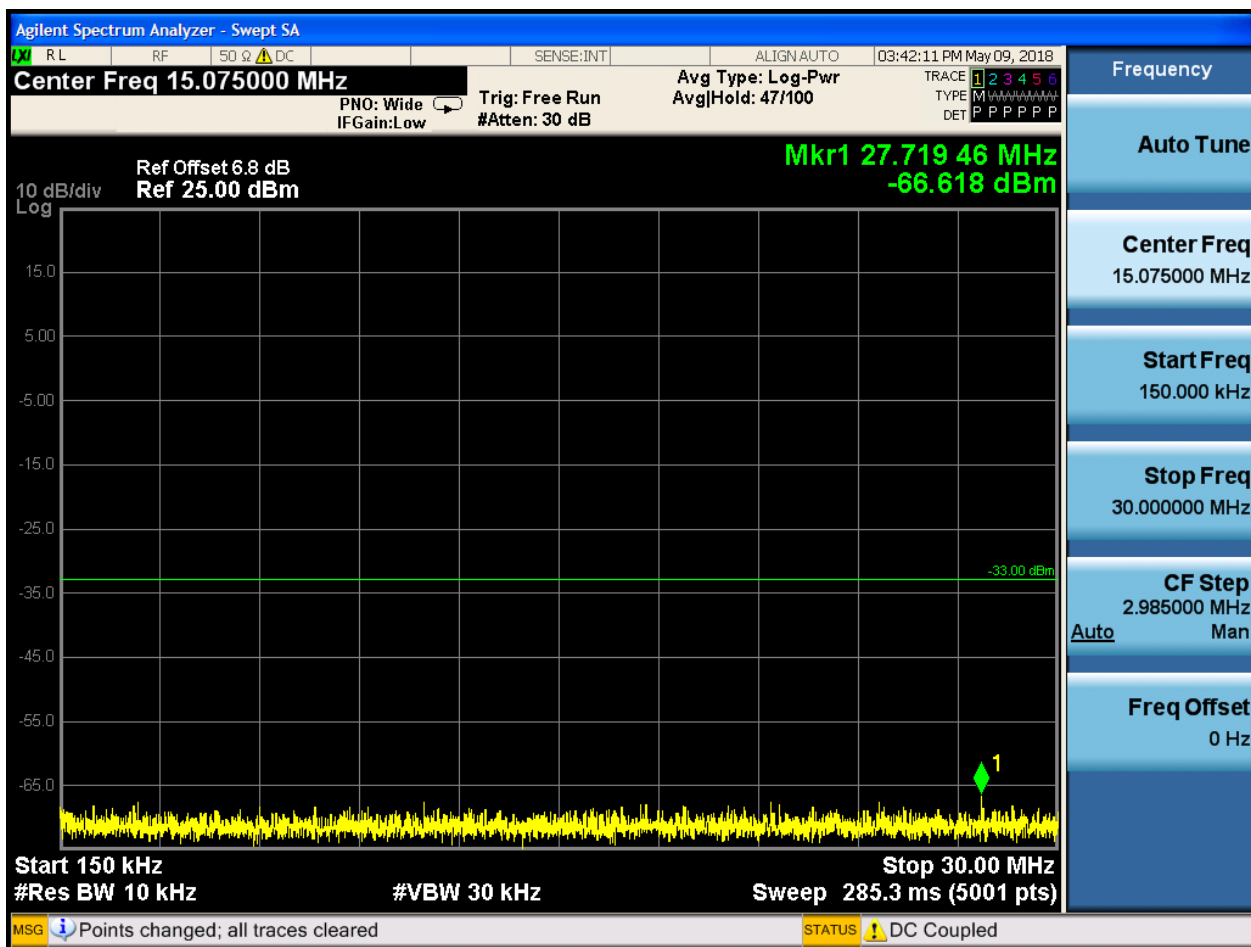


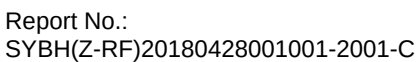
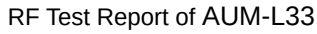




6.1.1.2.1.1.1 Test RB = RB1#0

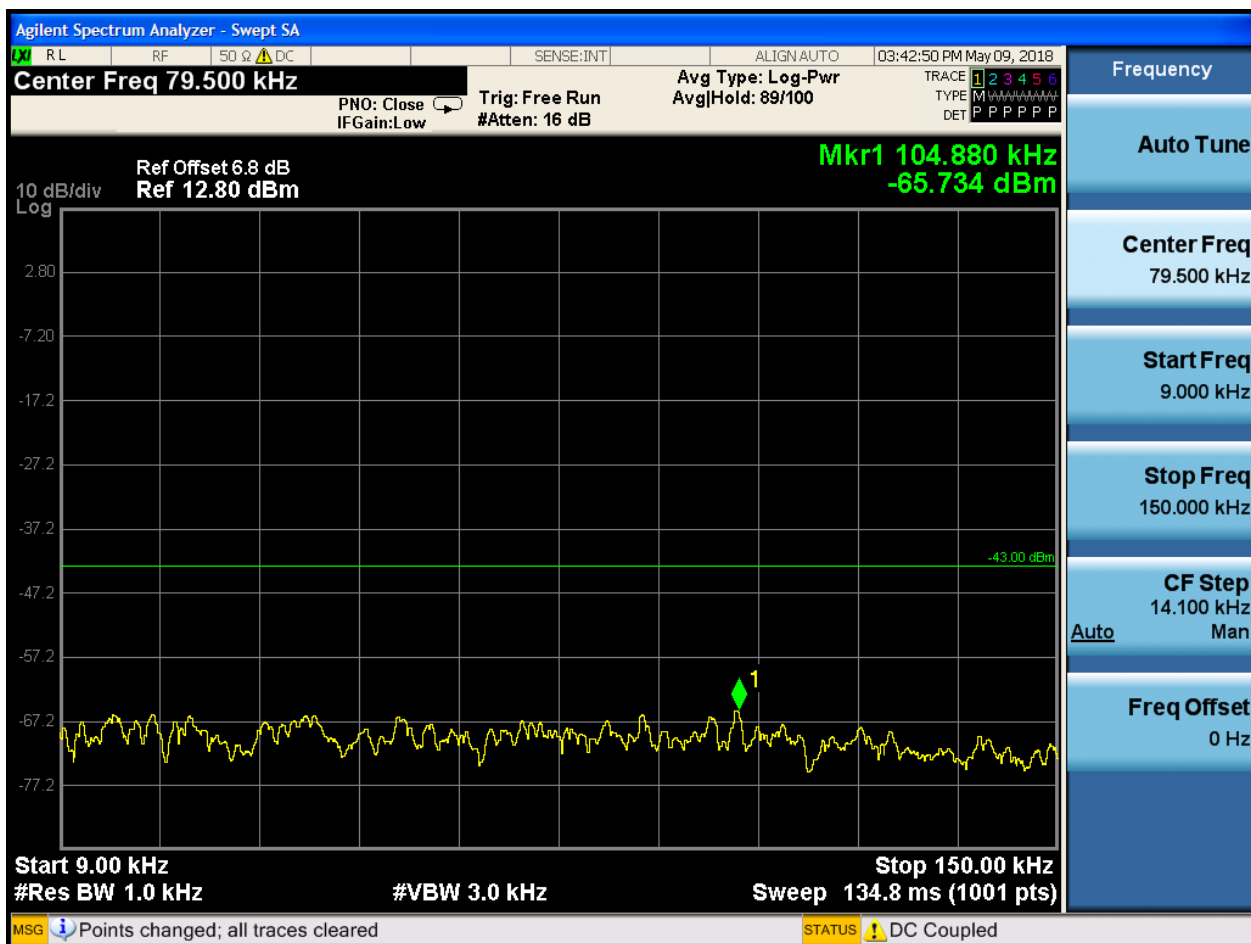


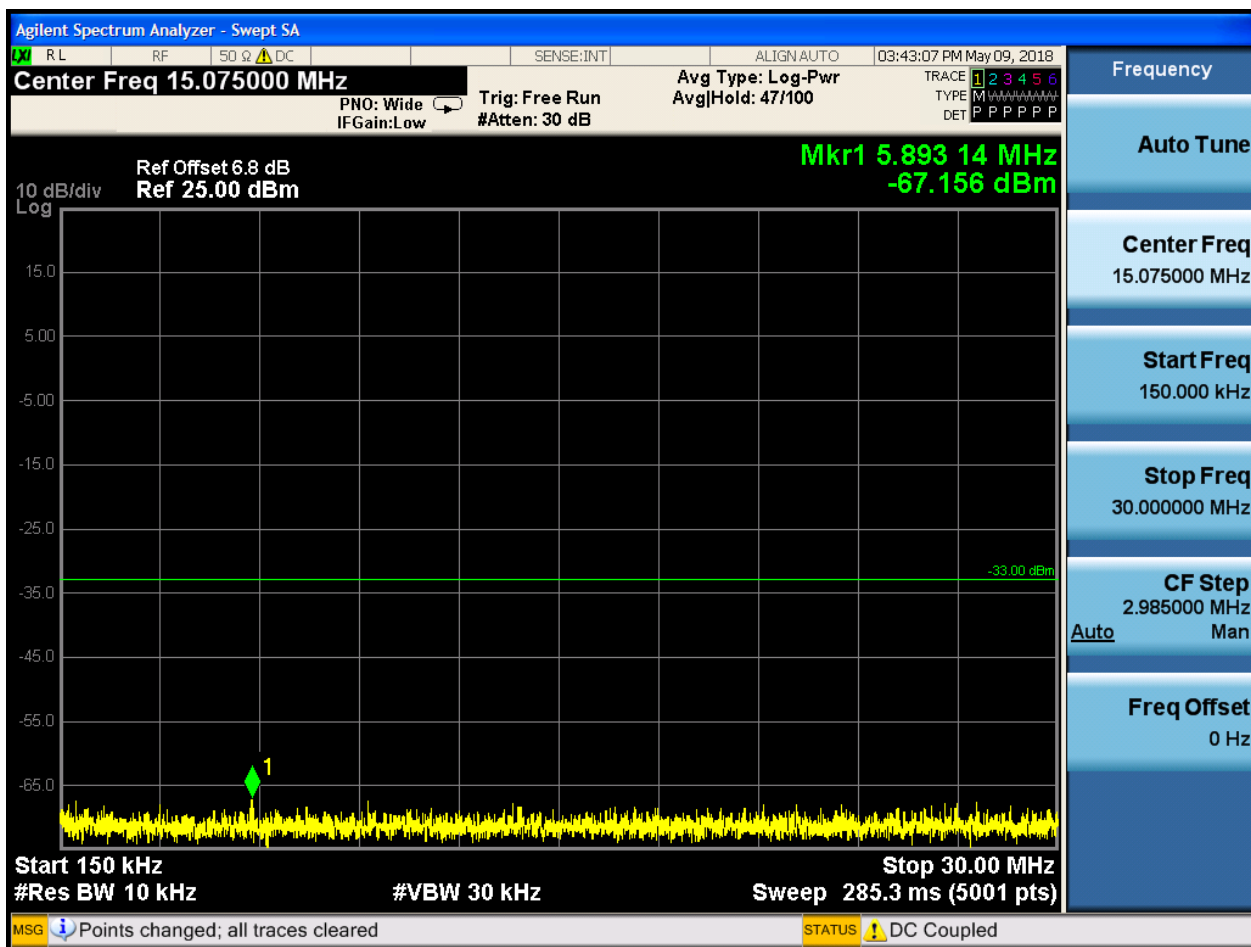


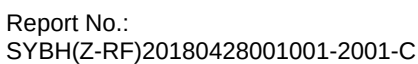
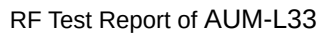


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

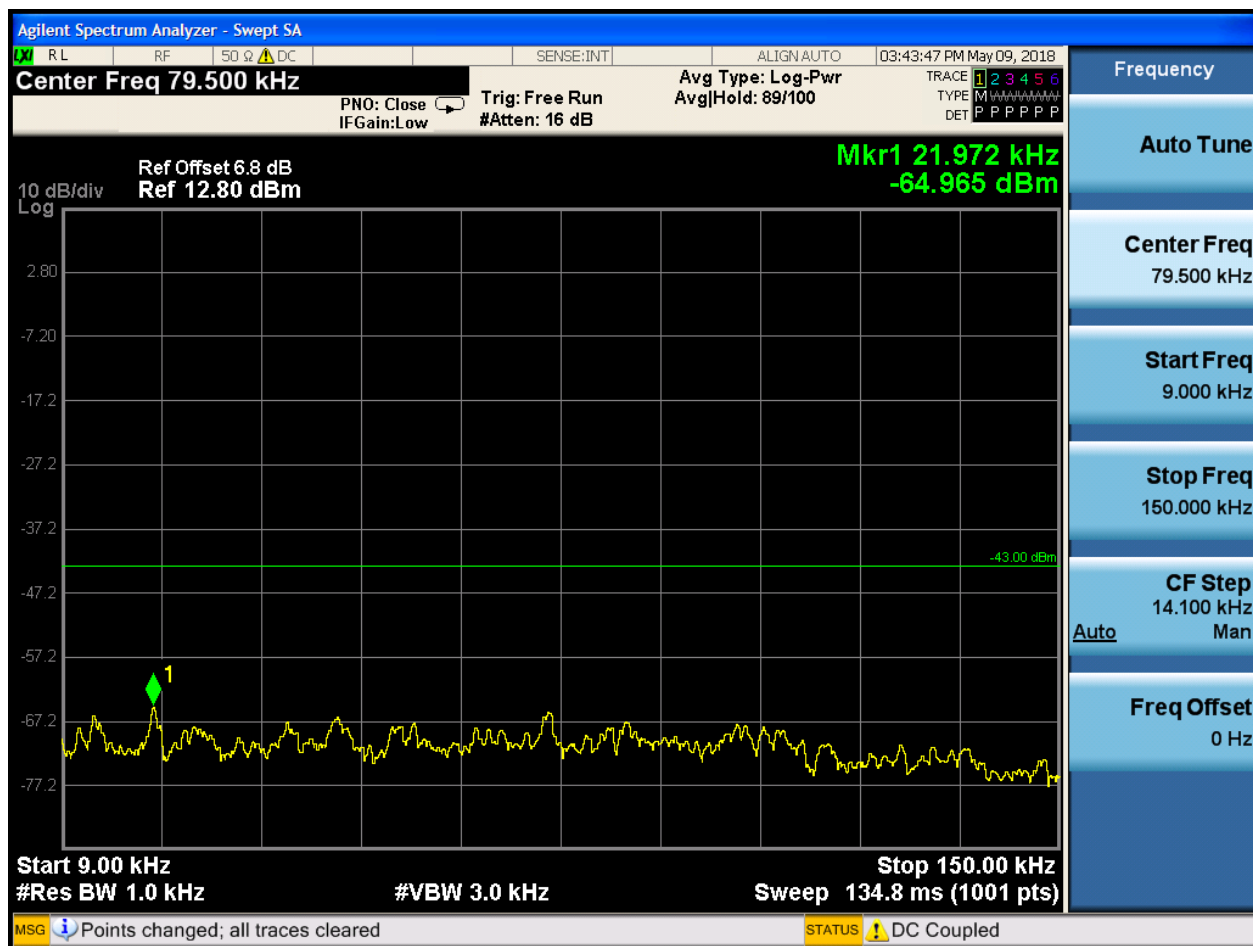


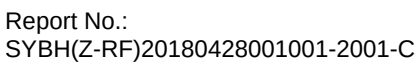
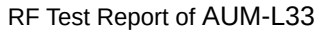


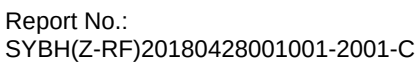
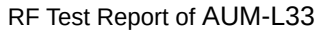


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0



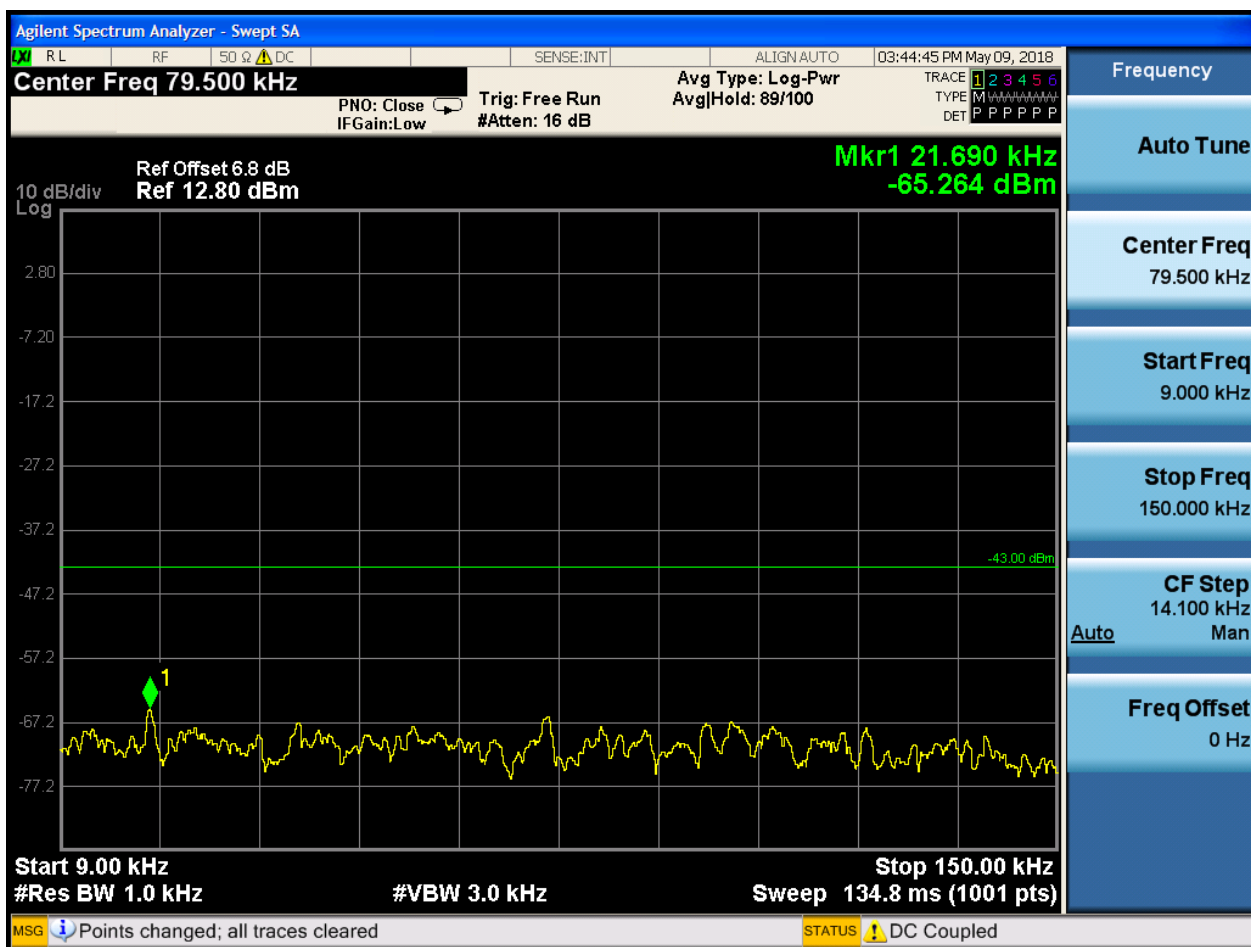


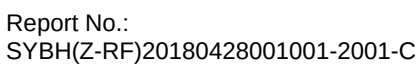
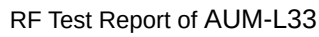


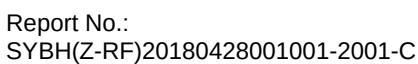
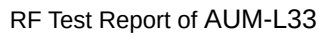
6.1.1.2.2 Test Bandwidth = 3

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

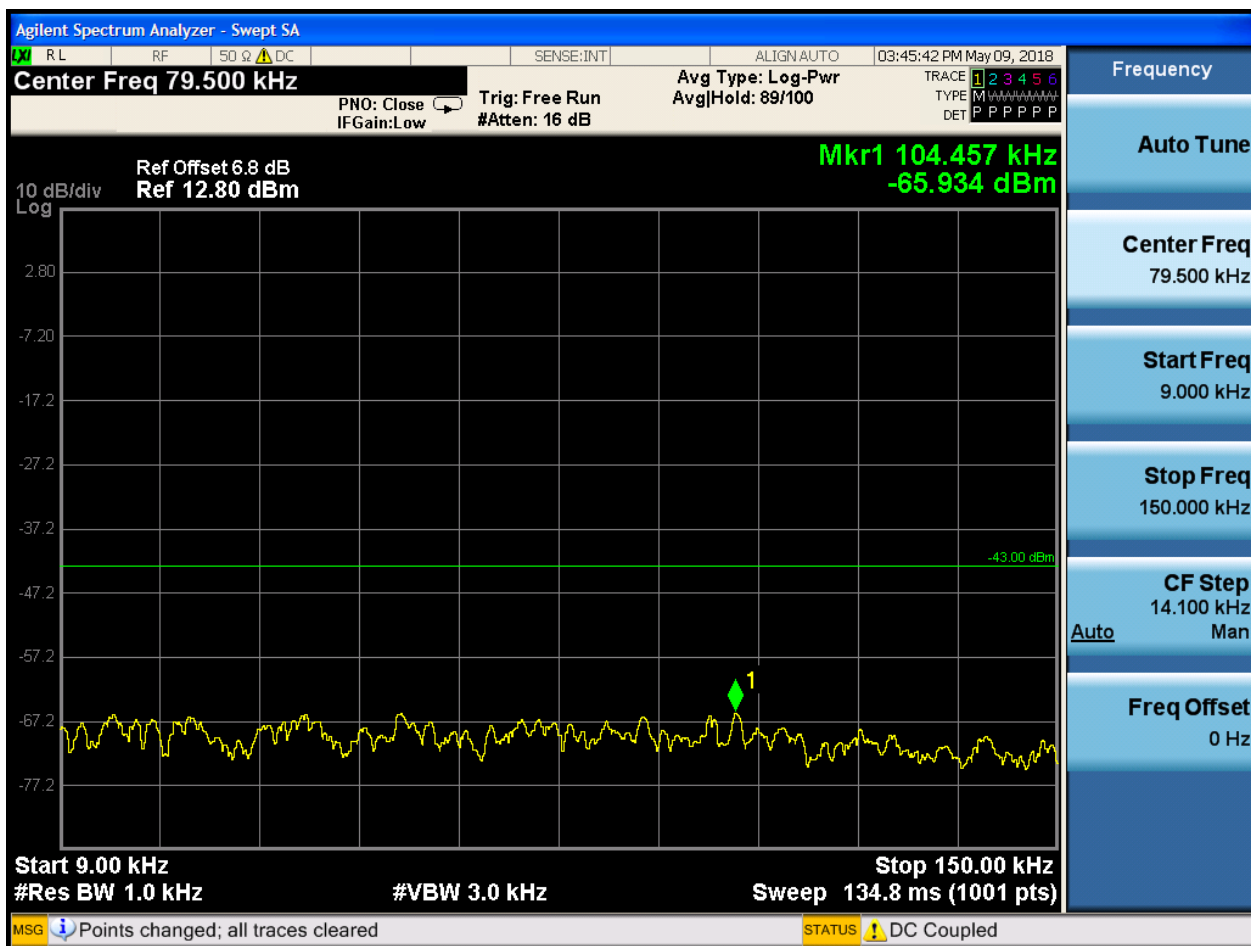


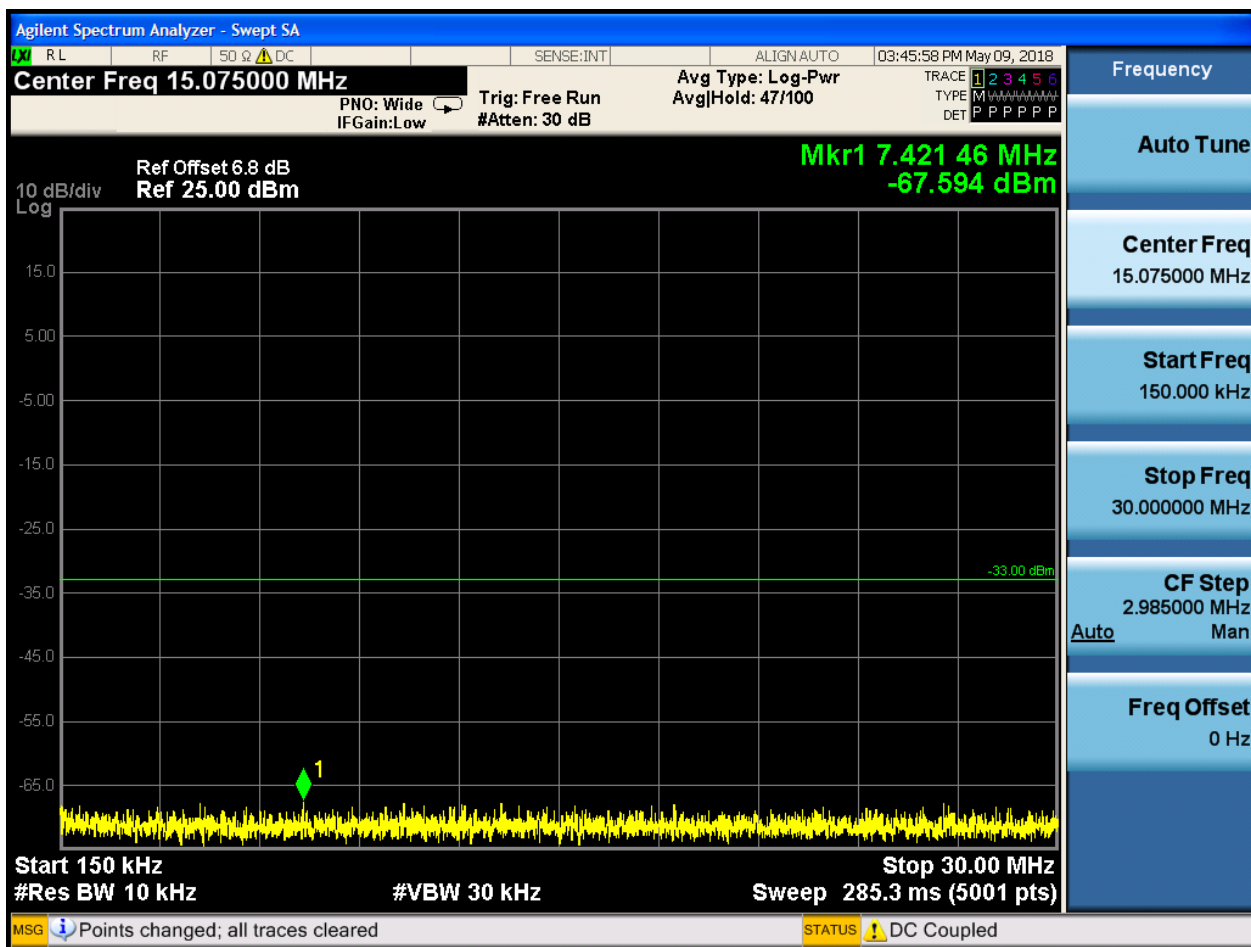


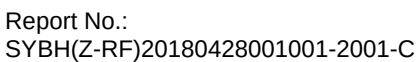
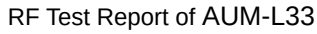


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

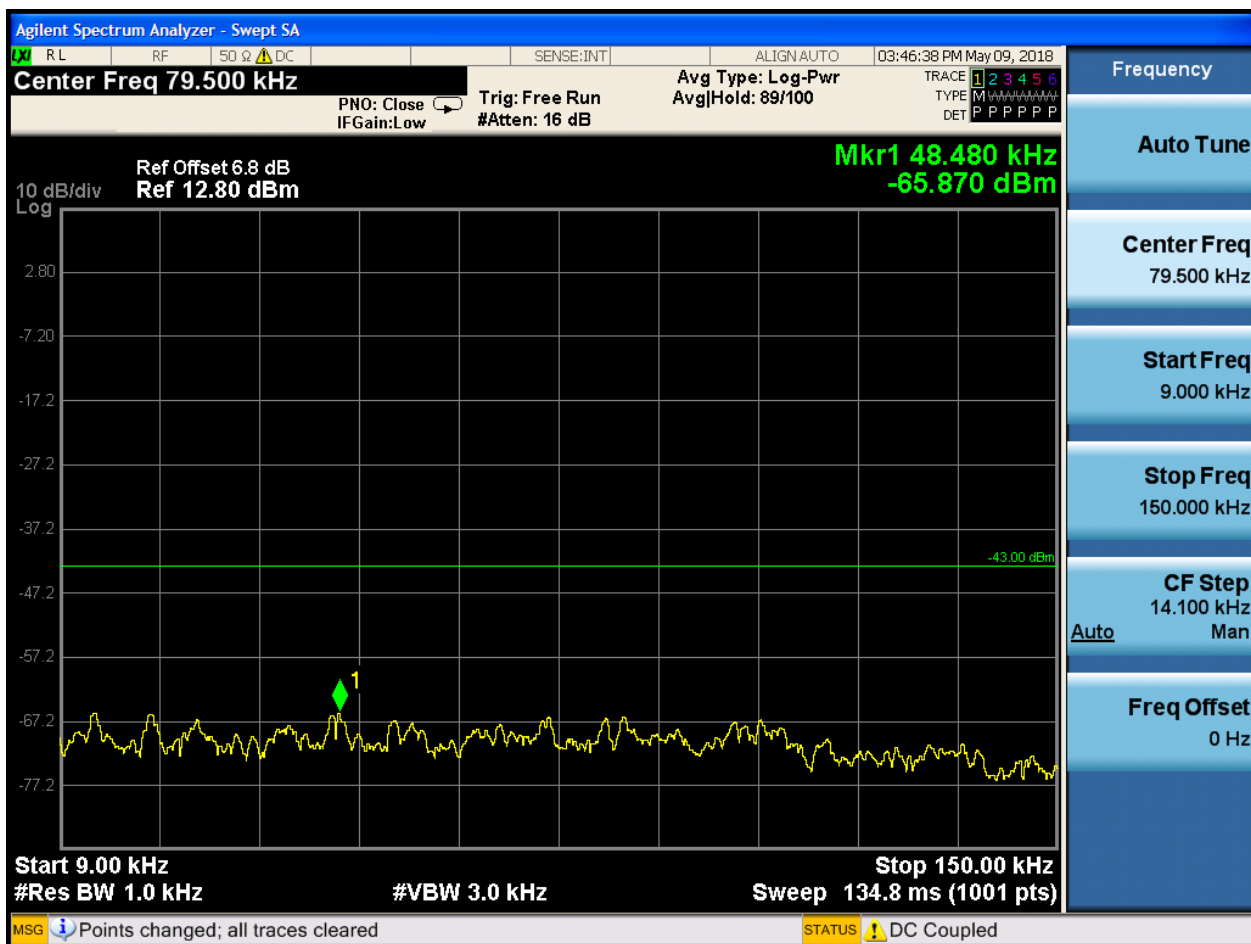


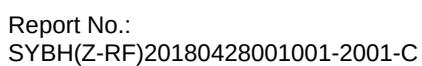
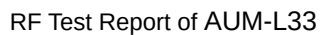


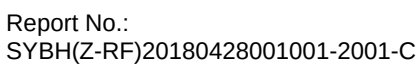
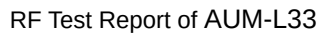


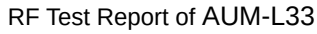
6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0

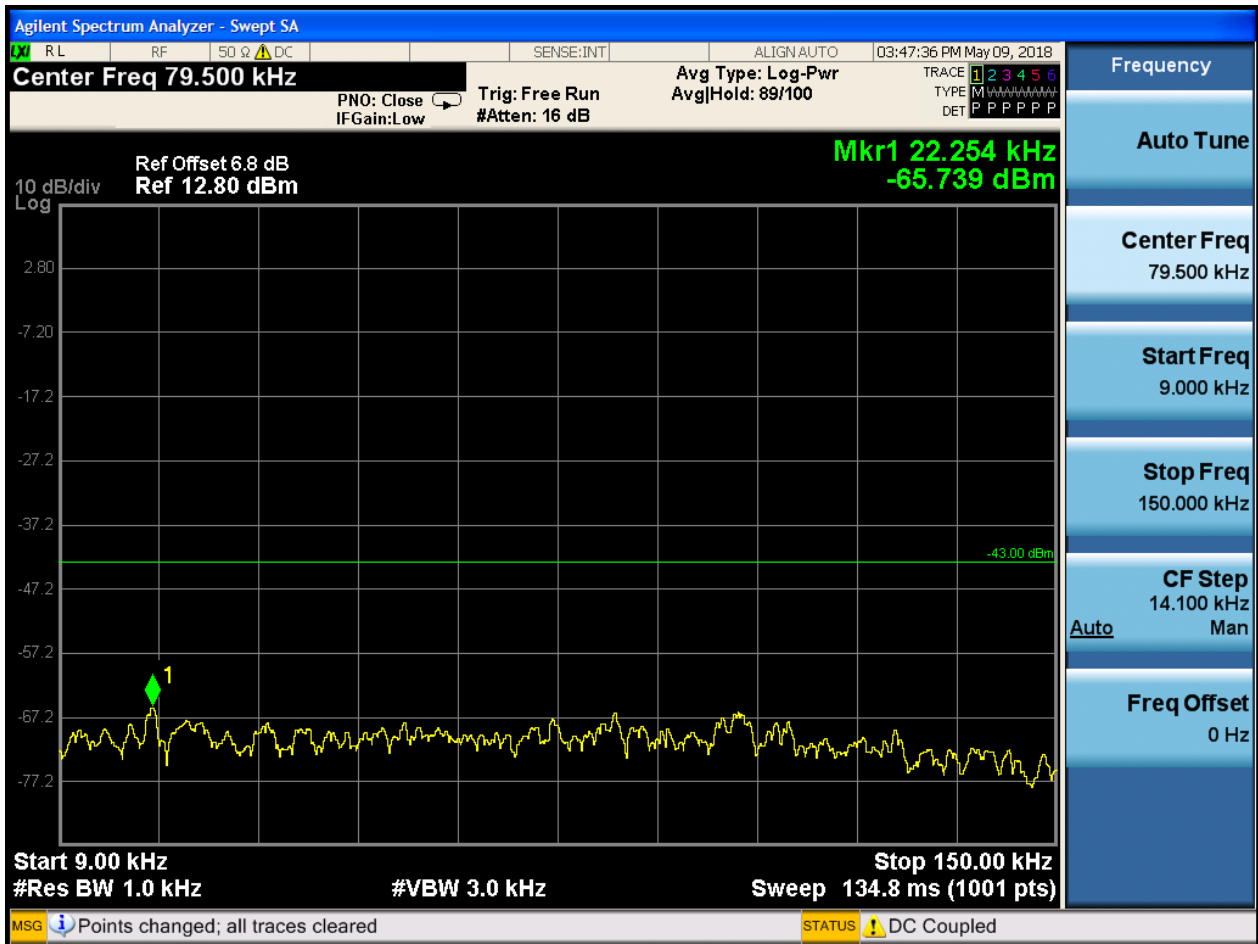


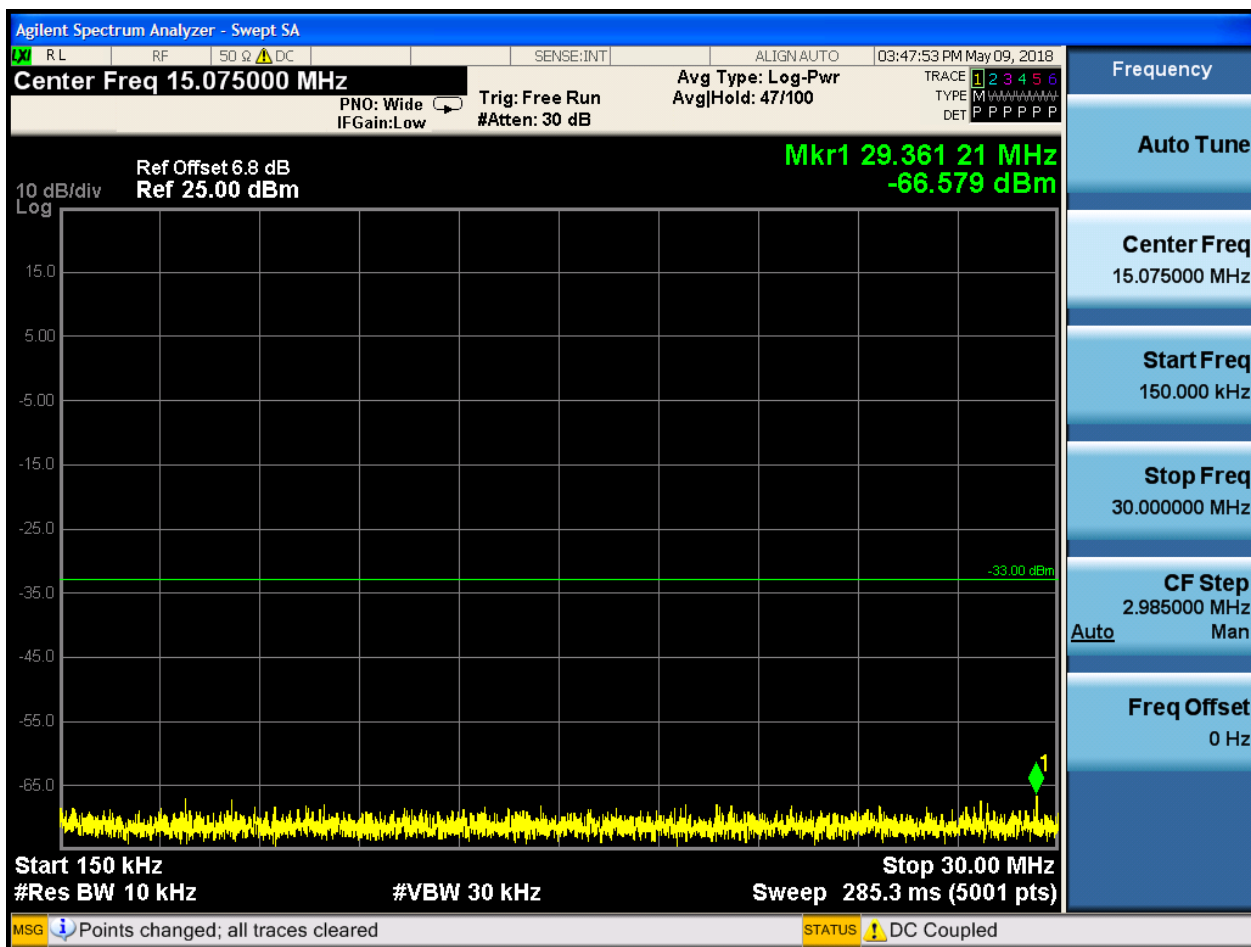


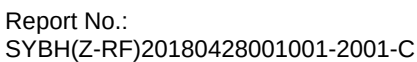
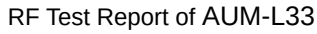


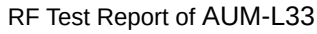


6.1.1.2.3.1.1 Test RB = RB1#0

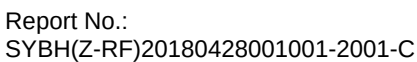
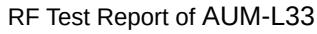






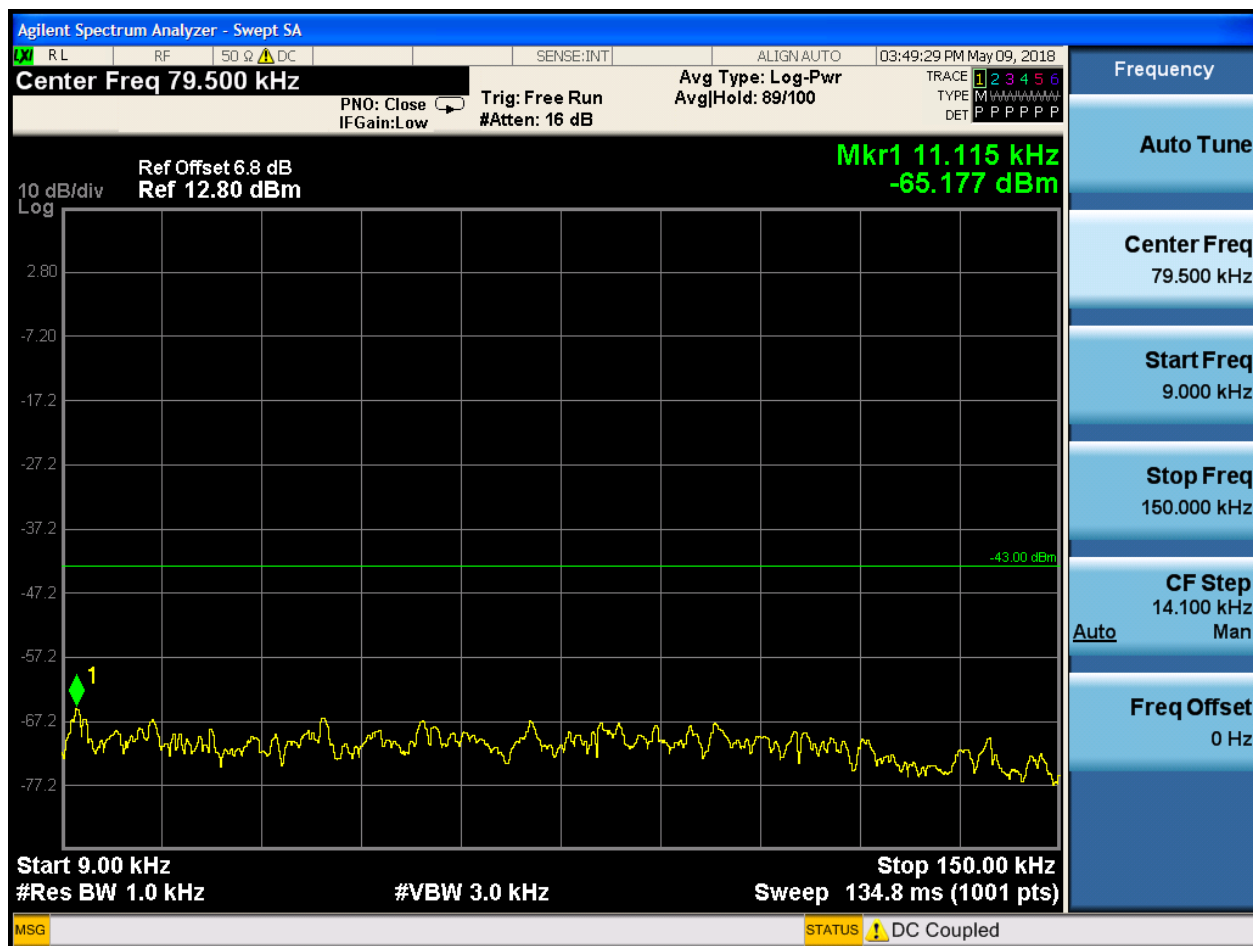


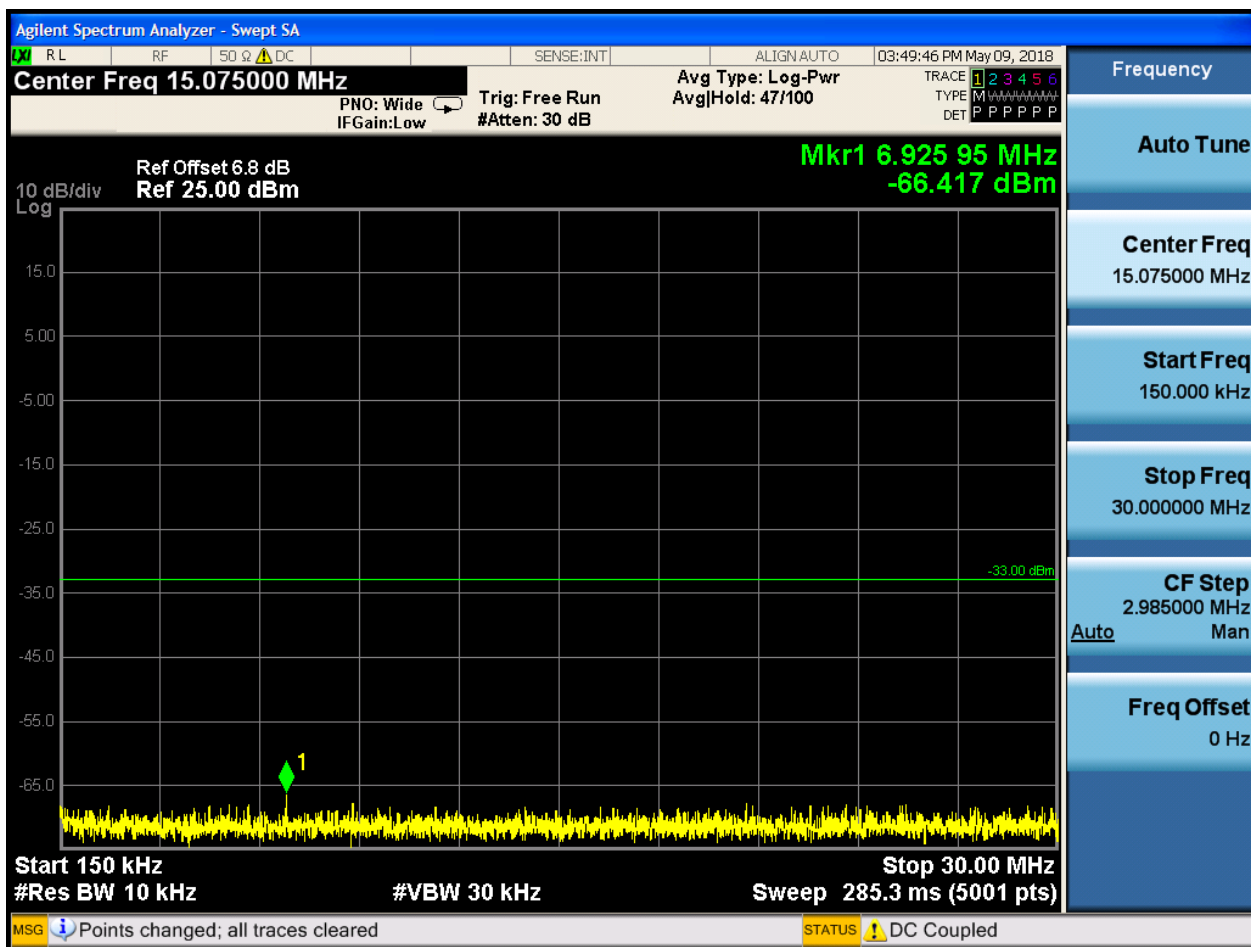


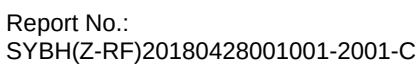
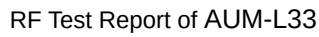


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0







6.1.1.2.4 Test Bandwidth = 10

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

