



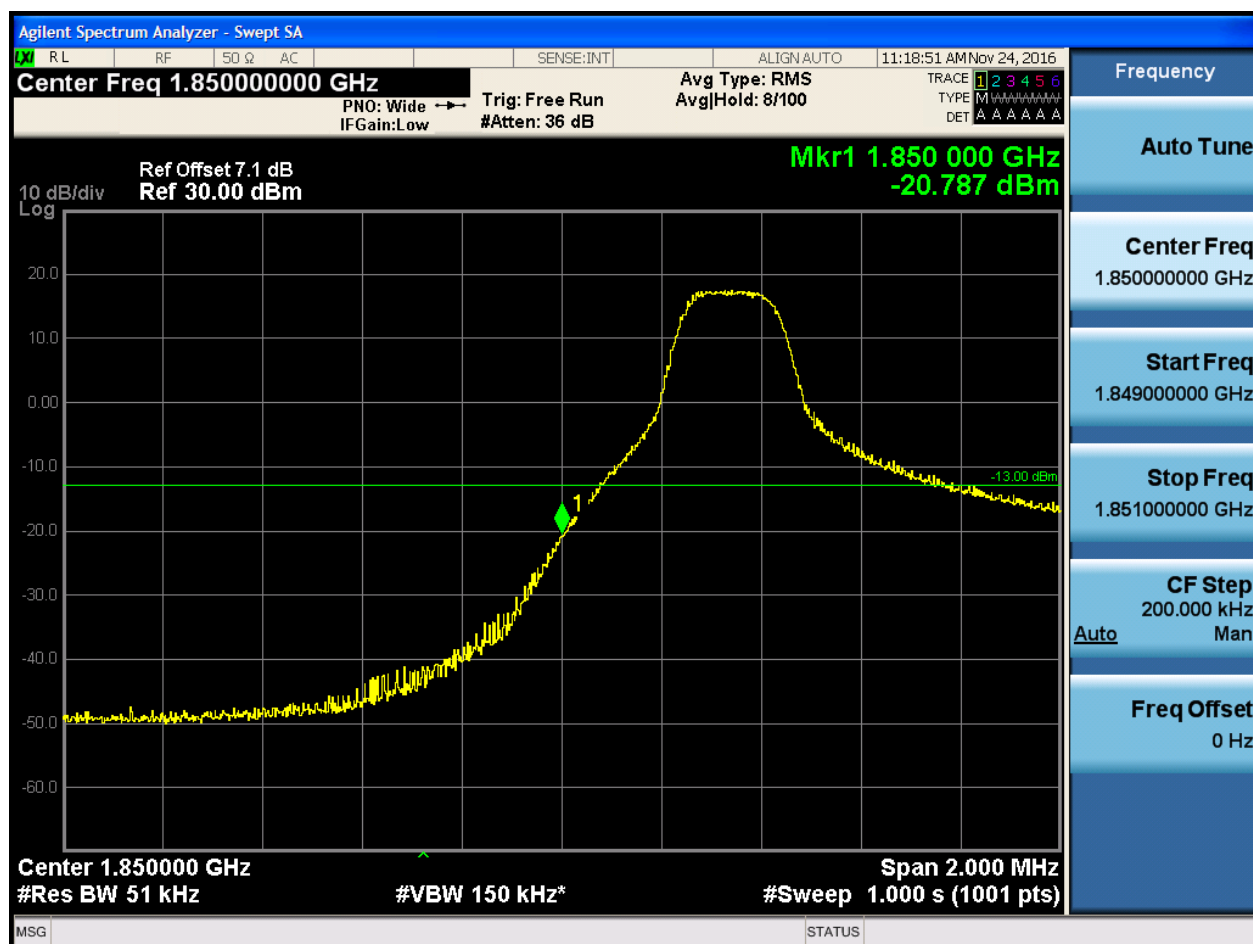
5.1.1.2.2.4 Test RB = RB15#0



5.1.1.2.3 Test Bandwidth = 5

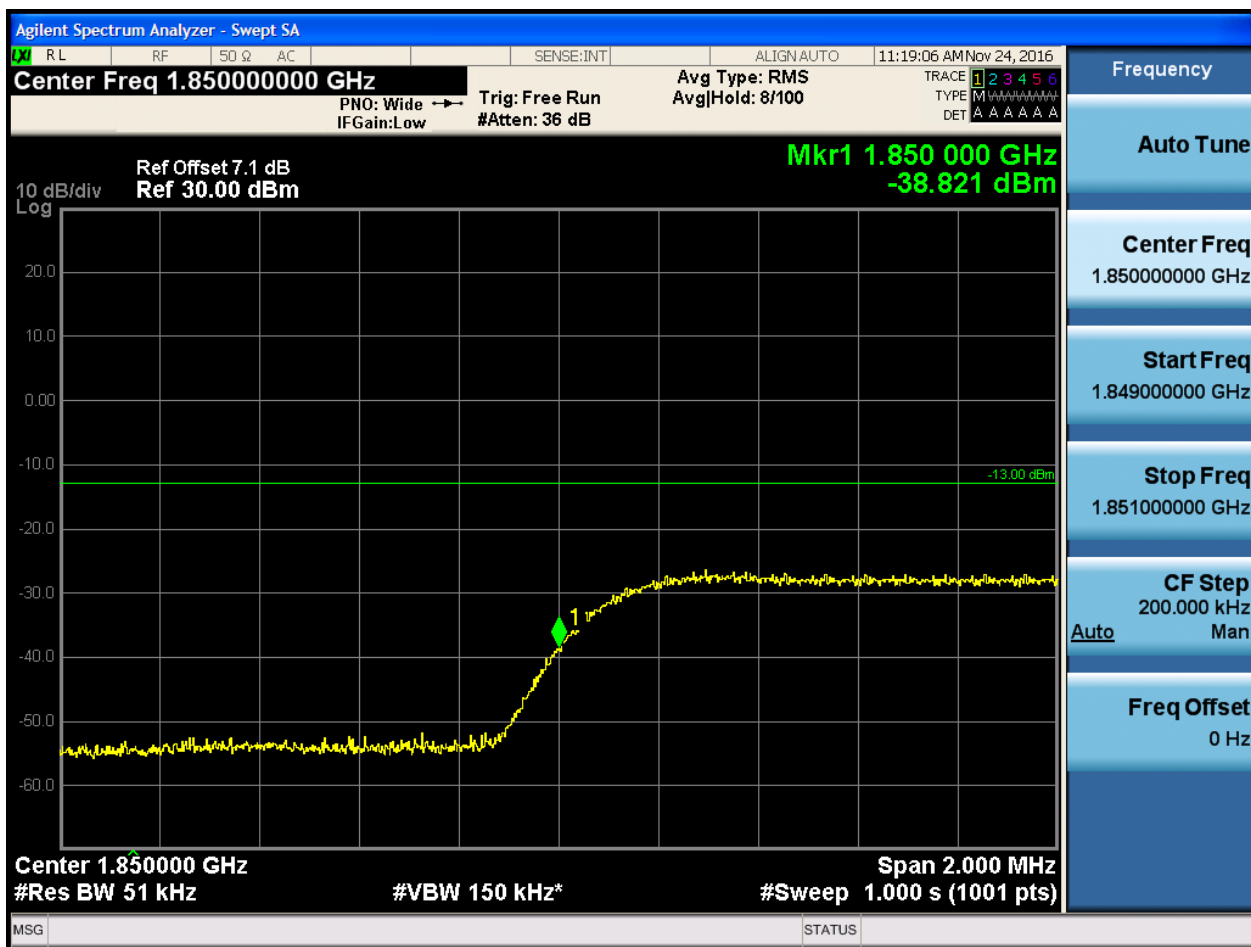
5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0



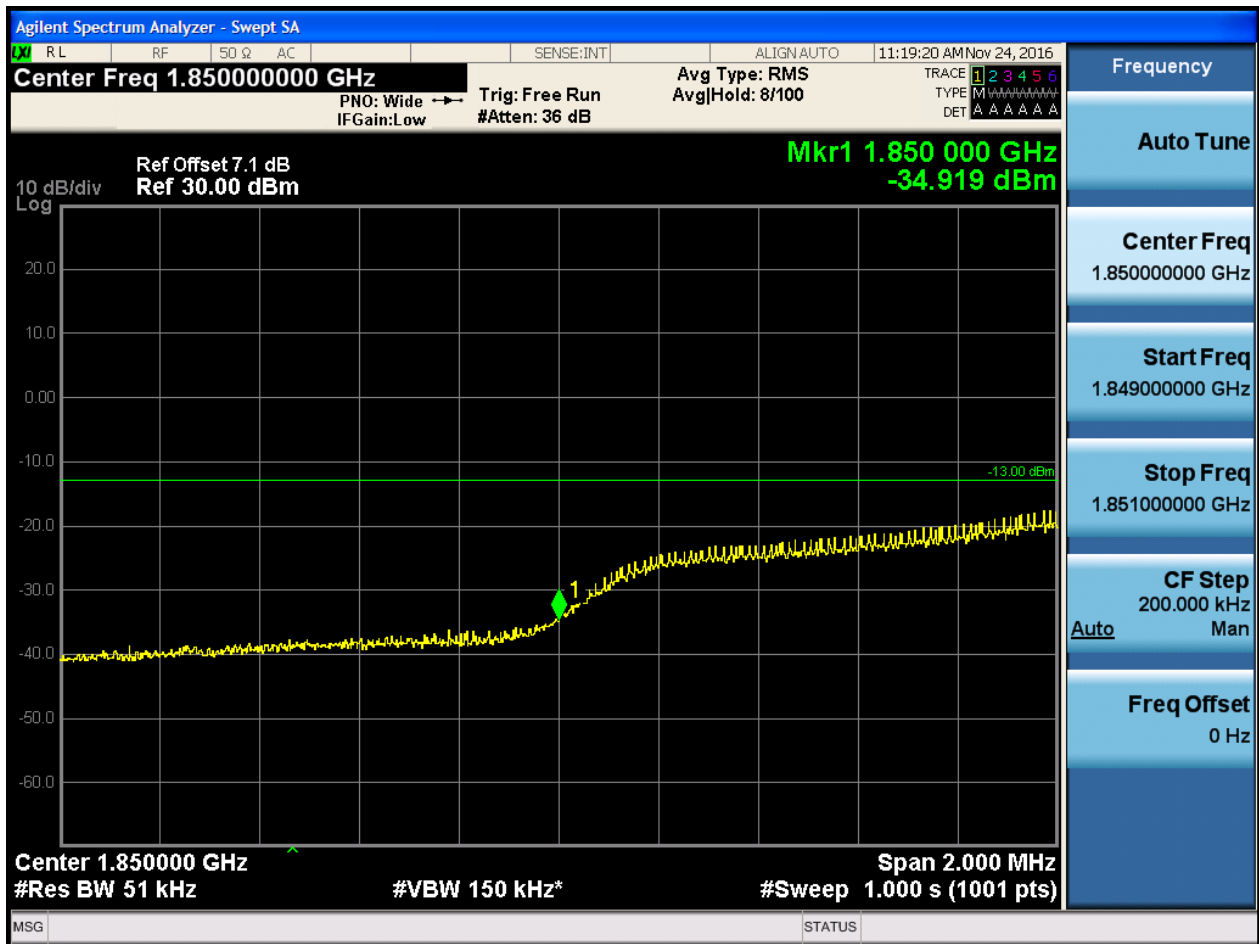


5.1.1.2.3.1.2 Test RB = RB1#24





5.1.1.2.3.1.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.850000000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.850 000 GHz
-32.050 dBm

Center 1.850000 GHz
#Res BW 51 kHz
#VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

Stop Freq
1.851000000 GHz

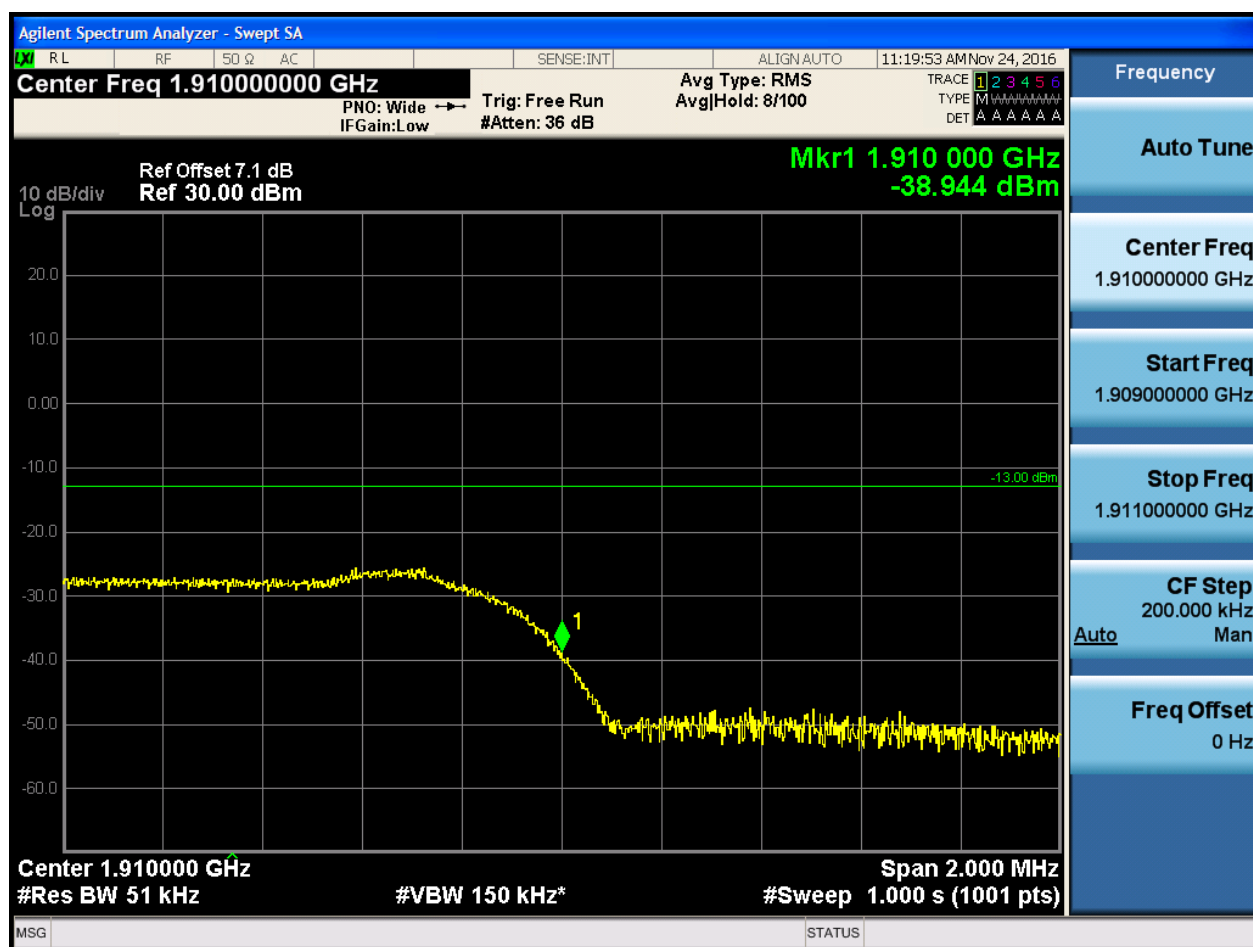
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

The image displays a spectrum analyzer interface. The main plot area shows a signal that is flat at approximately -40 dBm from 1.849 GHz to 1.850 GHz, then rises sharply to 0 dBm by 1.851 GHz. A green horizontal line is drawn at -13.00 dBm. A yellow marker labeled '1' is positioned on the rising edge of the signal. The right-hand side of the screen contains a vertical stack of blue panels with white text, providing various settings and measurement data. The top panel shows 'Frequency' and 'Auto Tune'. The second panel shows 'Center Freq' as 1.850000000 GHz. The third panel shows 'Start Freq' as 1.849000000 GHz and 'Stop Freq' as 1.851000000 GHz. The fourth panel shows 'CF Step' as 200.000 kHz, with 'Auto' and 'Man' options. The bottom panel shows 'Freq Offset' as 0 Hz. The top status bar includes 'Agilent Spectrum Analyzer - Swept SA', 'Center Freq 1.850000000 GHz', 'Ref Offset 7.1 dB', 'Ref 30.00 dBm', '10 dB/div', 'Log', 'Mkr1 1.850 000 GHz', '-32.050 dBm', 'Center 1.850000 GHz', '#Res BW 51 kHz', '#VBW 150 kHz*', 'Span 2.000 MHz', and '#Sweep 1.000 s (1001 pts)'. The bottom status bar shows 'MSG' and 'STATUS'.

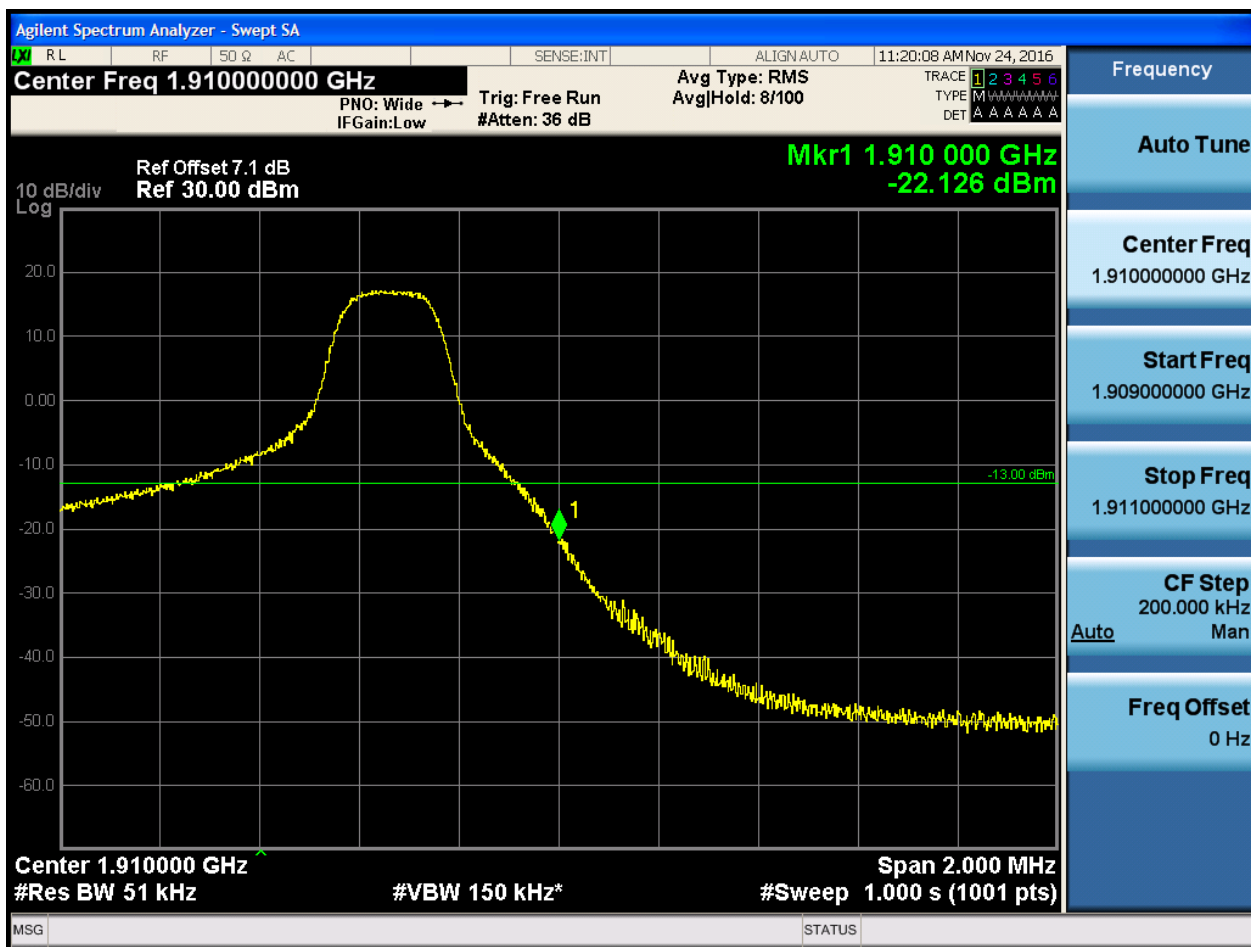
5.1.1.2.3.2 Test Channel = HCH

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





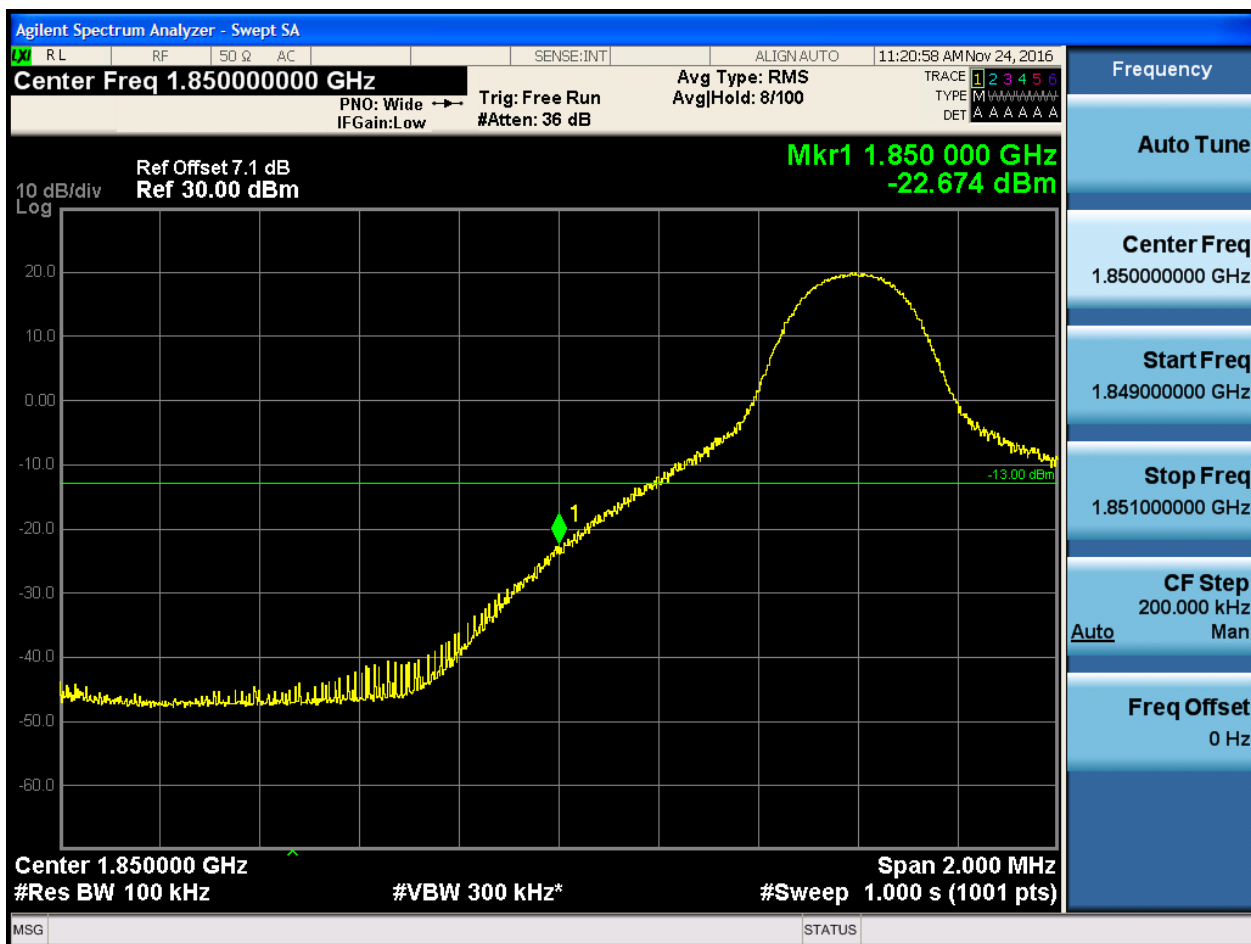
5.1.1.2.3.2.4 Test RB = RB25#0



5.1.1.2.4 Test Bandwidth = 10

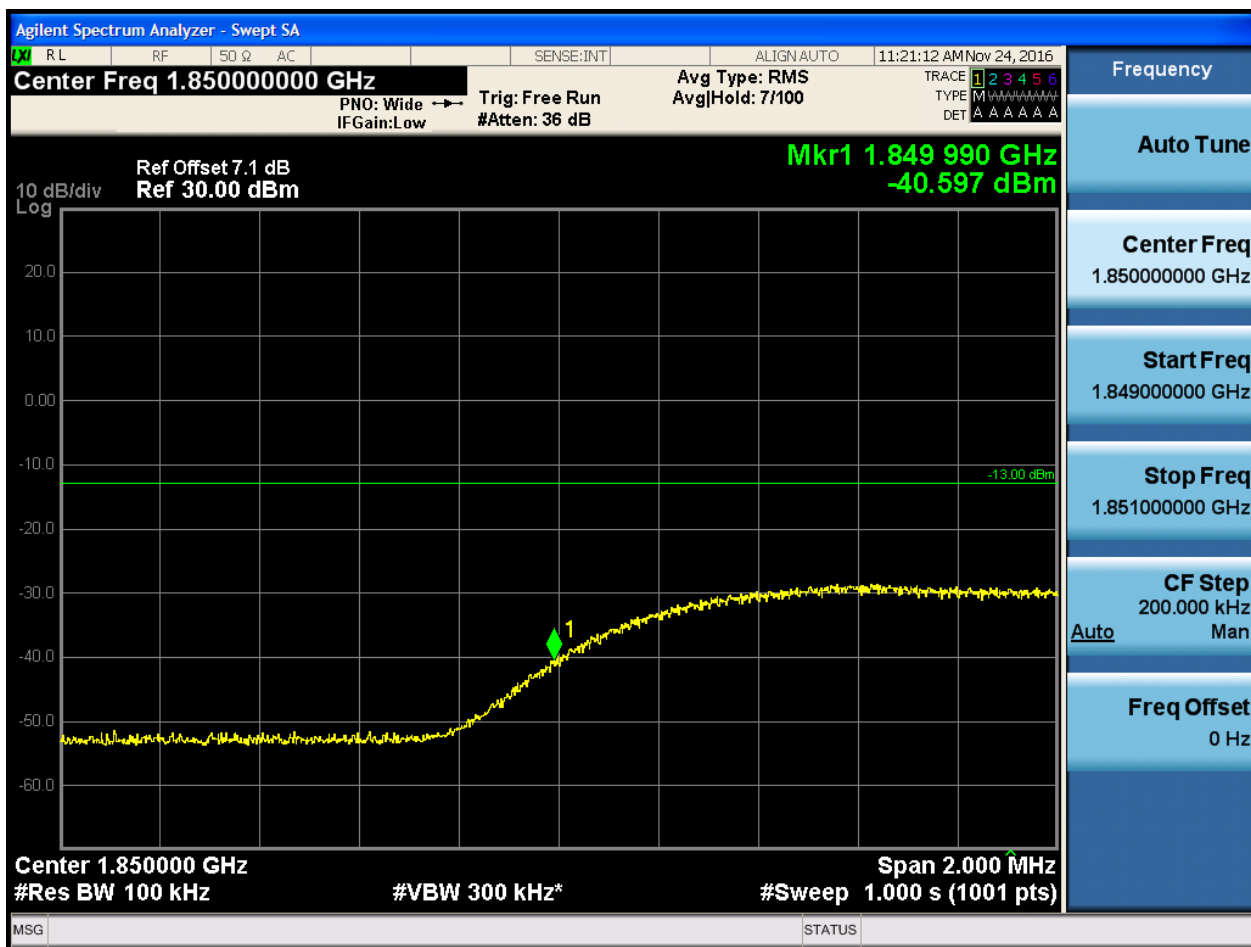
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0



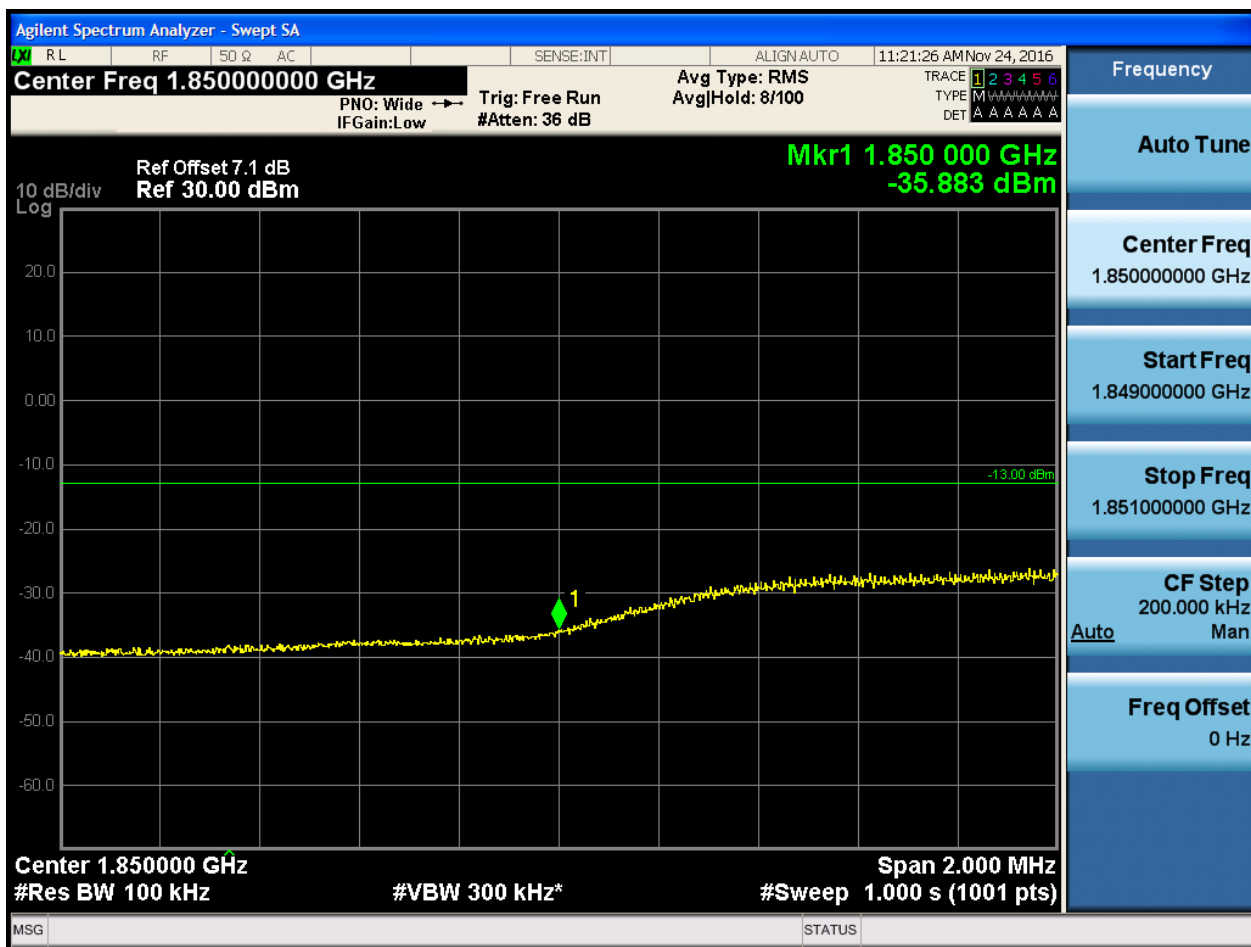


5.1.1.2.4.1.2 Test RB = RB1#49





5.1.1.2.4.1.3 Test RB = RB25#13





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.850000000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.850 000 GHz
-33.468 dBm

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

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz

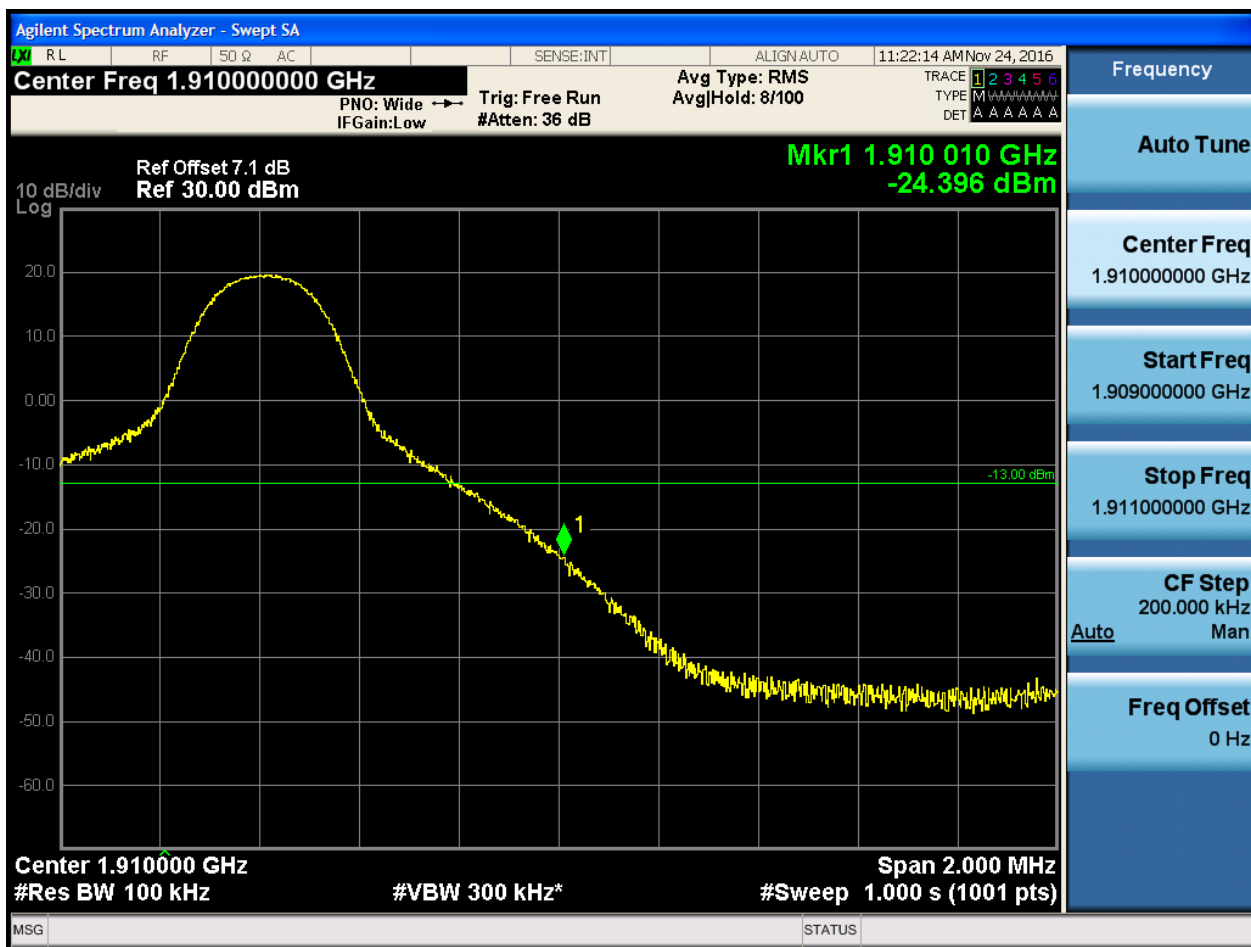


5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0

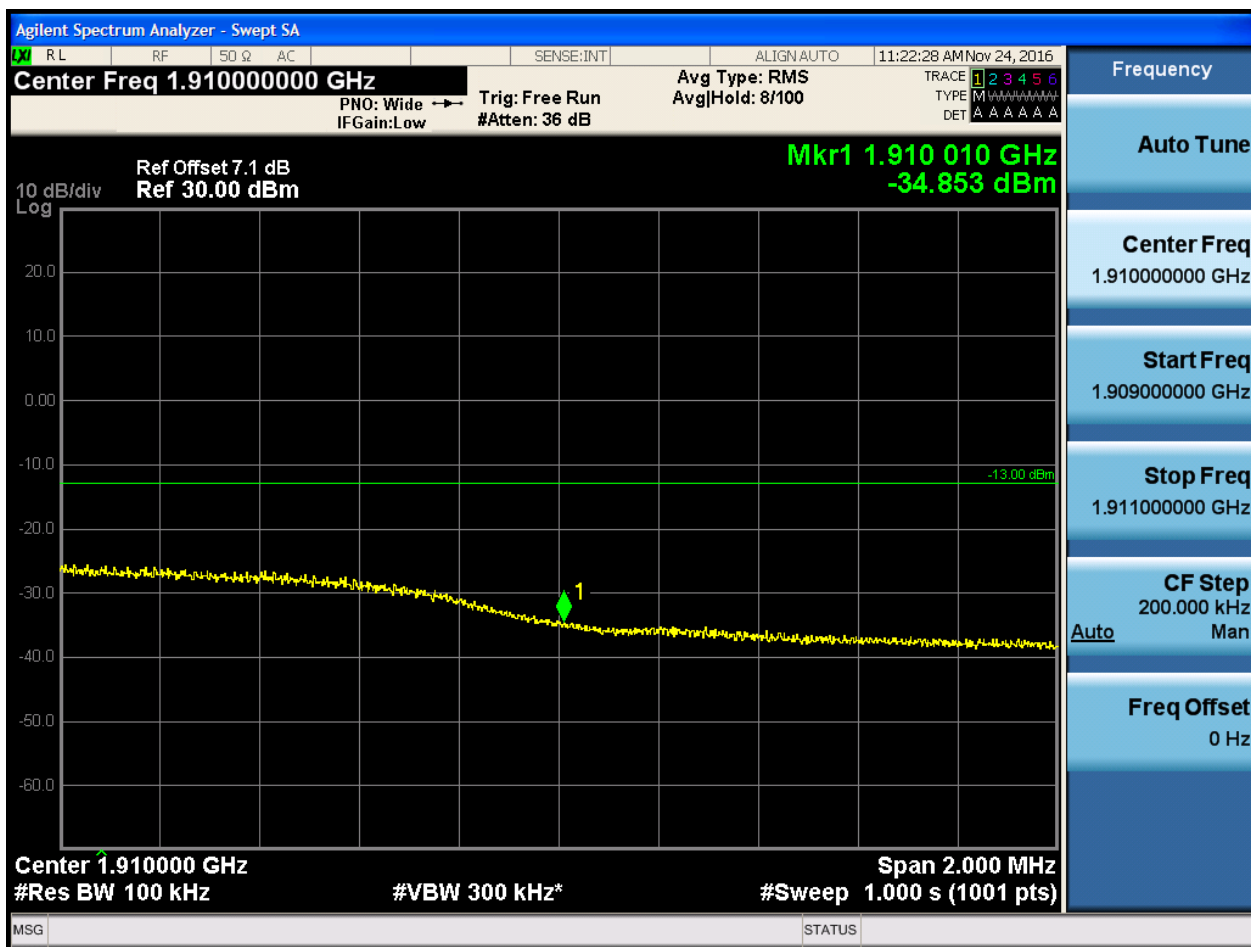


5.1.1.2.4.2.2 Test RB = RB1#49





5.1.1.2.4.2.3 Test RB = RB25#13





5.1.1.2.4.2.4 Test RB = RB50#0

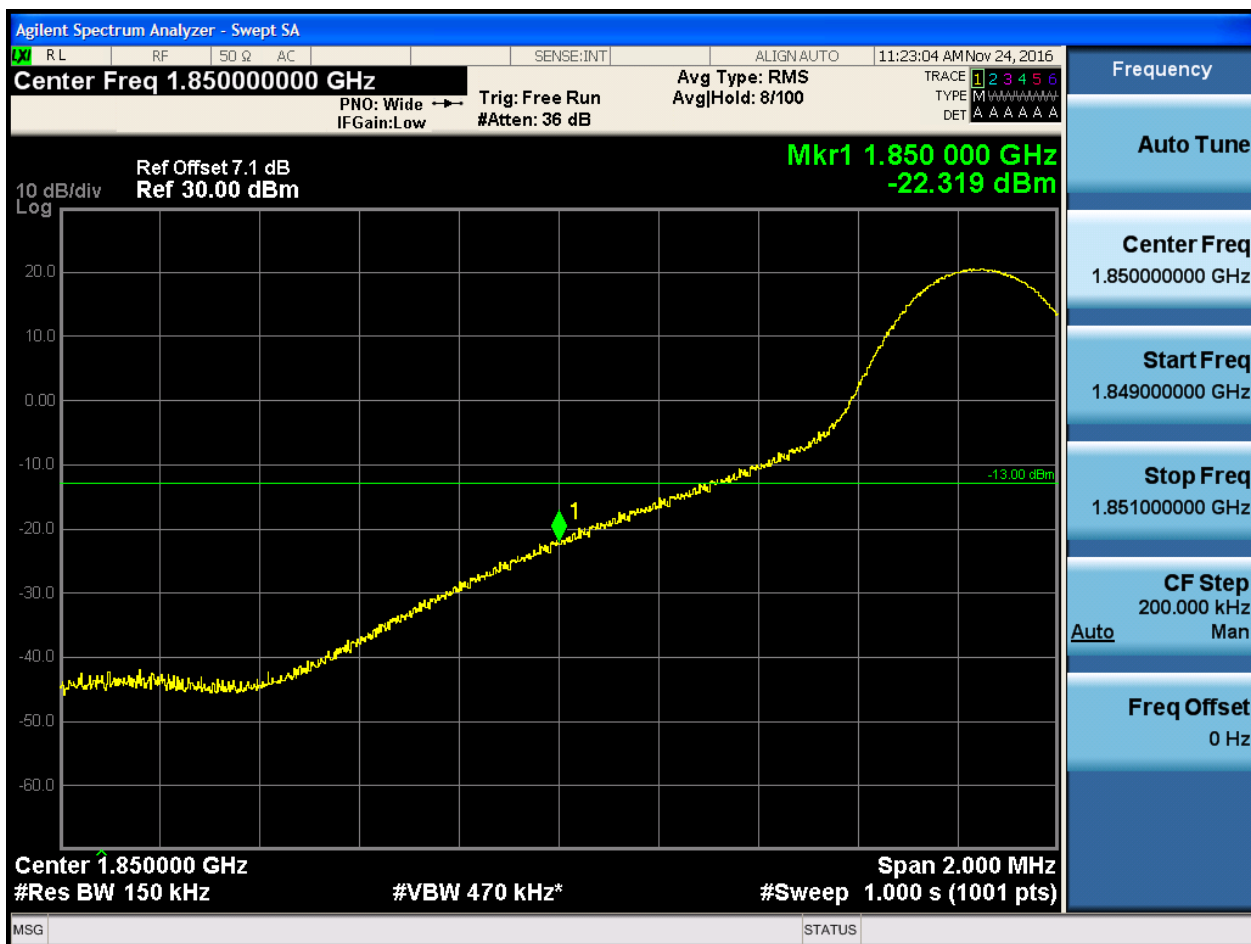




5.1.1.2.5 Test Bandwidth = 15

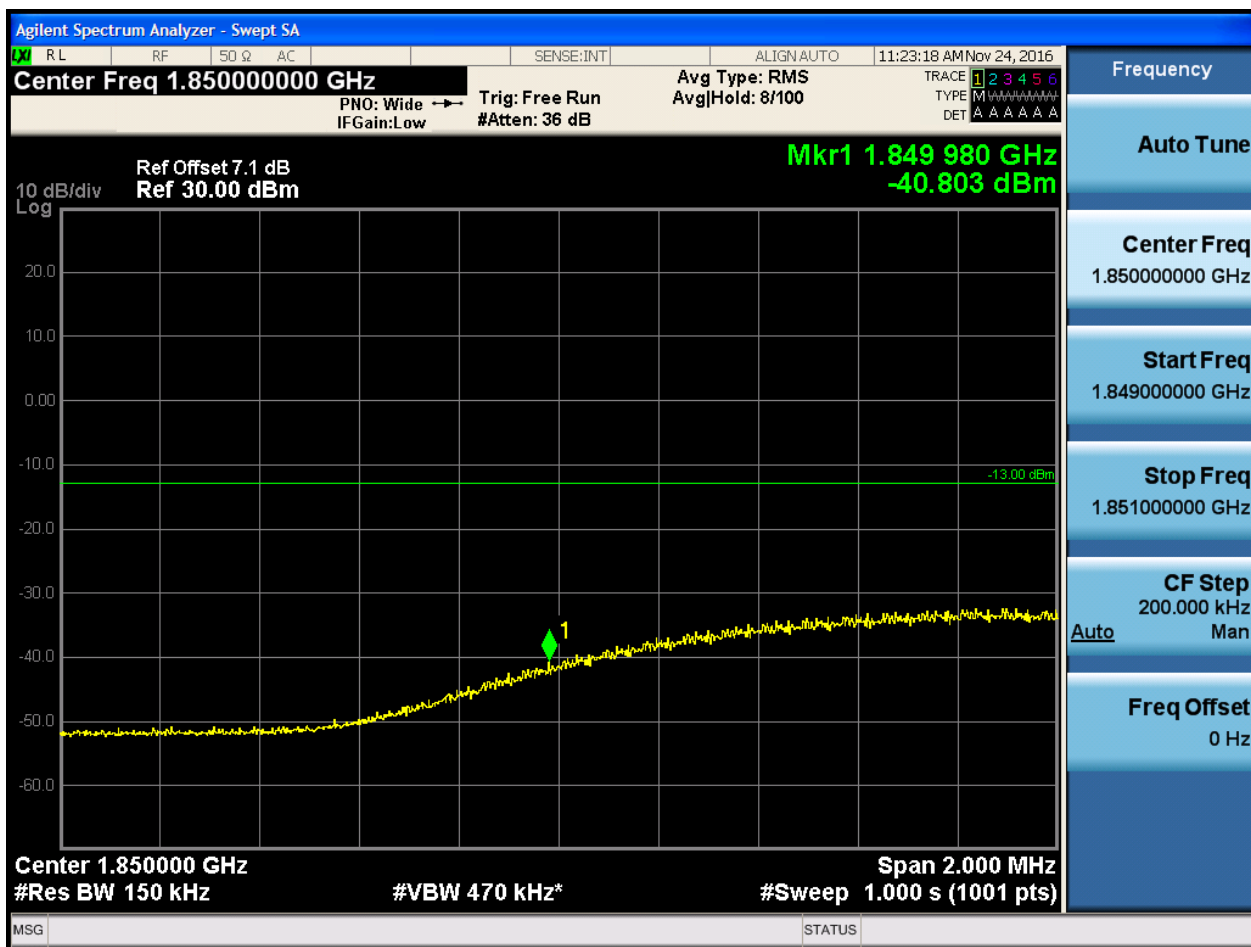
5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0



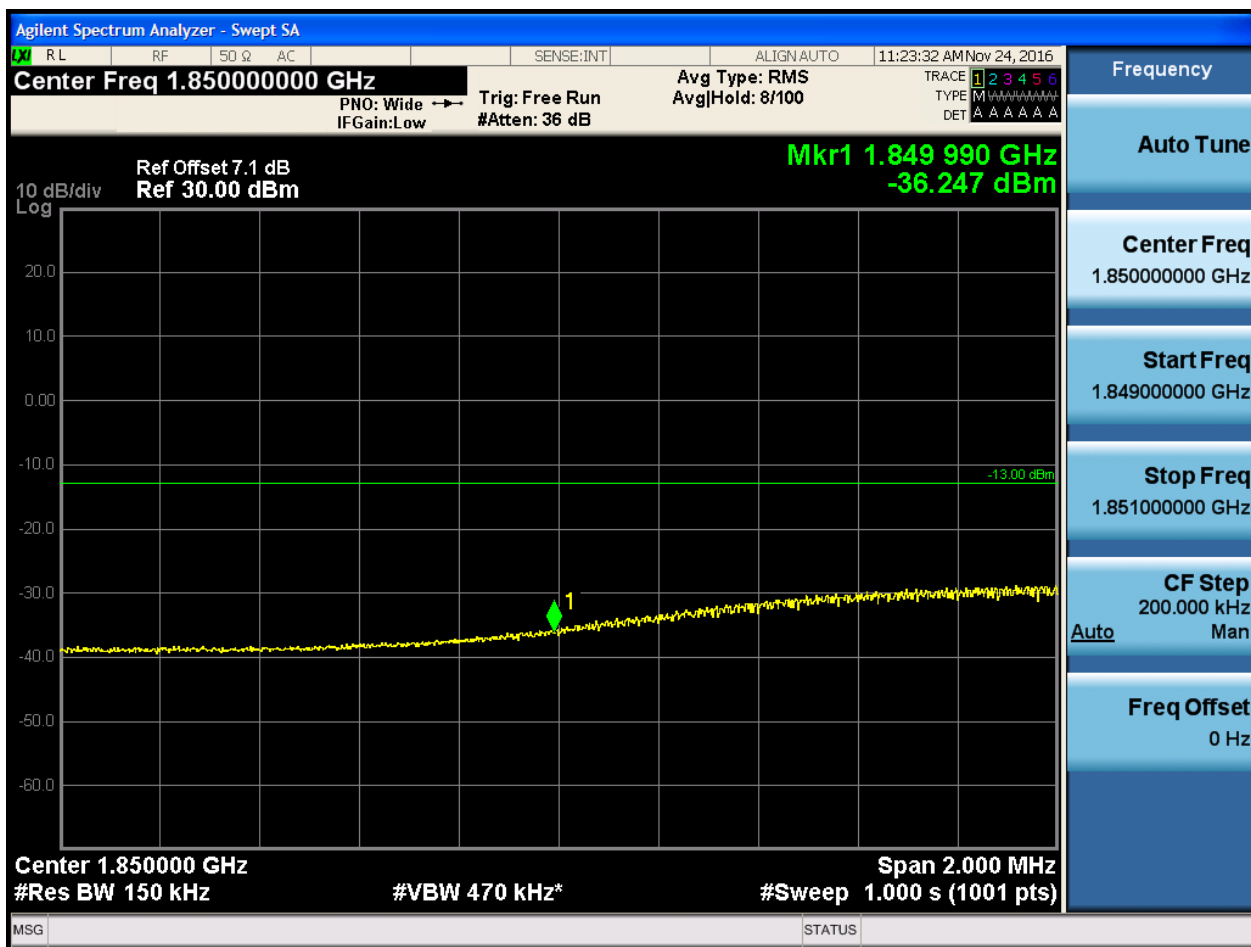


5.1.1.2.5.1.2 Test RB = RB1#74





5.1.1.2.5.1.3 Test RB = RB38#19





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:23:46 AM Nov 24, 2016

Center Freq 1.850000000 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
 DET A A A A A A

Ref Offset 7.1 dB
 Ref 30.00 dBm

Mkr1 1.850 000 GHz
 -33.215 dBm

10 dB/div
 Log

Center 1.850000 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 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 11:24:20 AM Nov 24, 2016

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 A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-24.057 dBm

10 dB/div
Log

20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0

-13.00 dBm

1

Center 1.910000 GHz
#Res BW 150 kHz

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

#VBW 470 kHz*

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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:24:34 AM Nov 24, 2016

Center Freq 1.910000000 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 W W
DET A A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 030 GHz
-35.392 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



5.1.1.2.5.2.4 Test RB = RB75#0

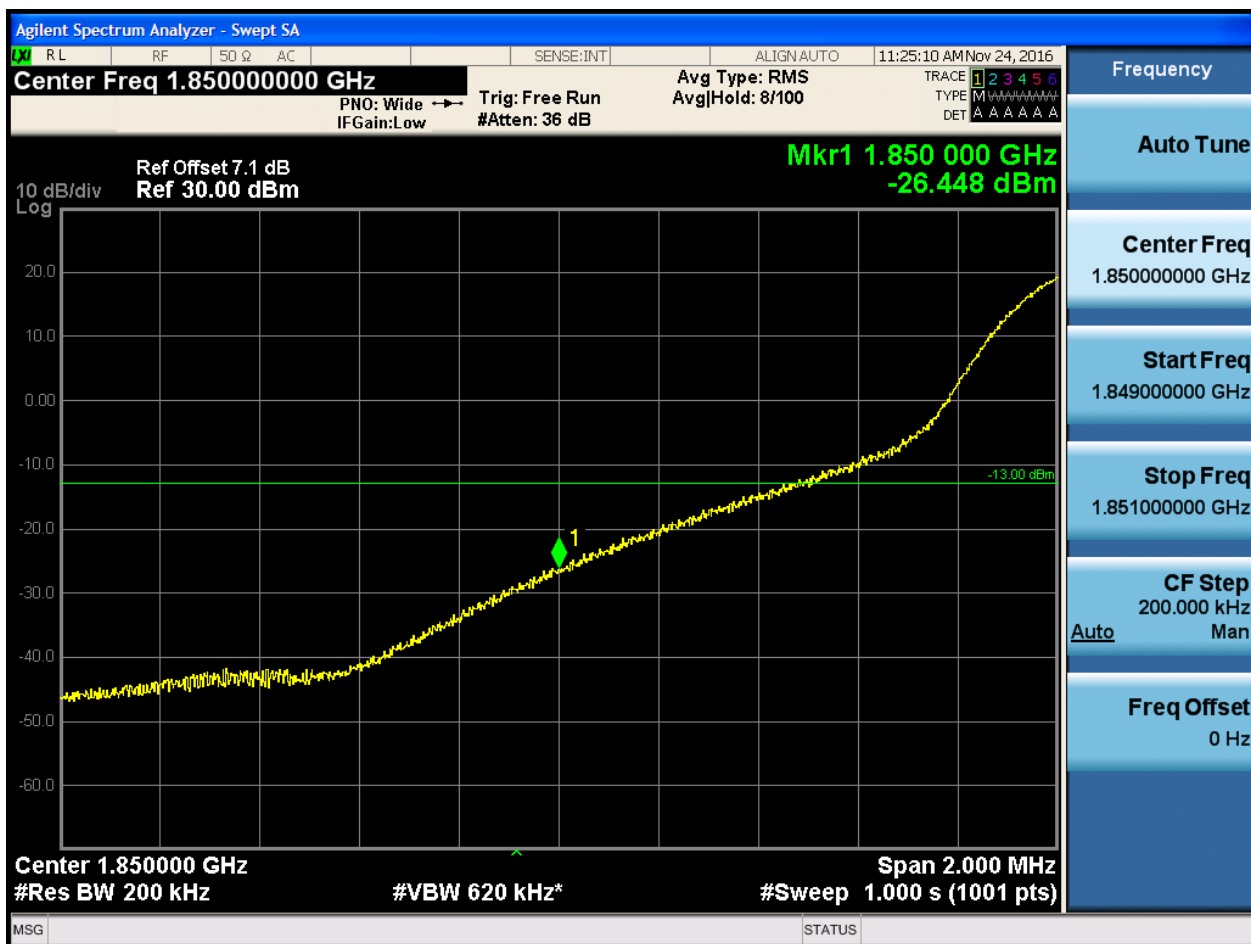




5.1.1.2.6 Test Bandwidth = 20

5.1.1.2.6.1 Test Channel = LCH

5.1.1.2.6.1.1 Test RB = RB1#0



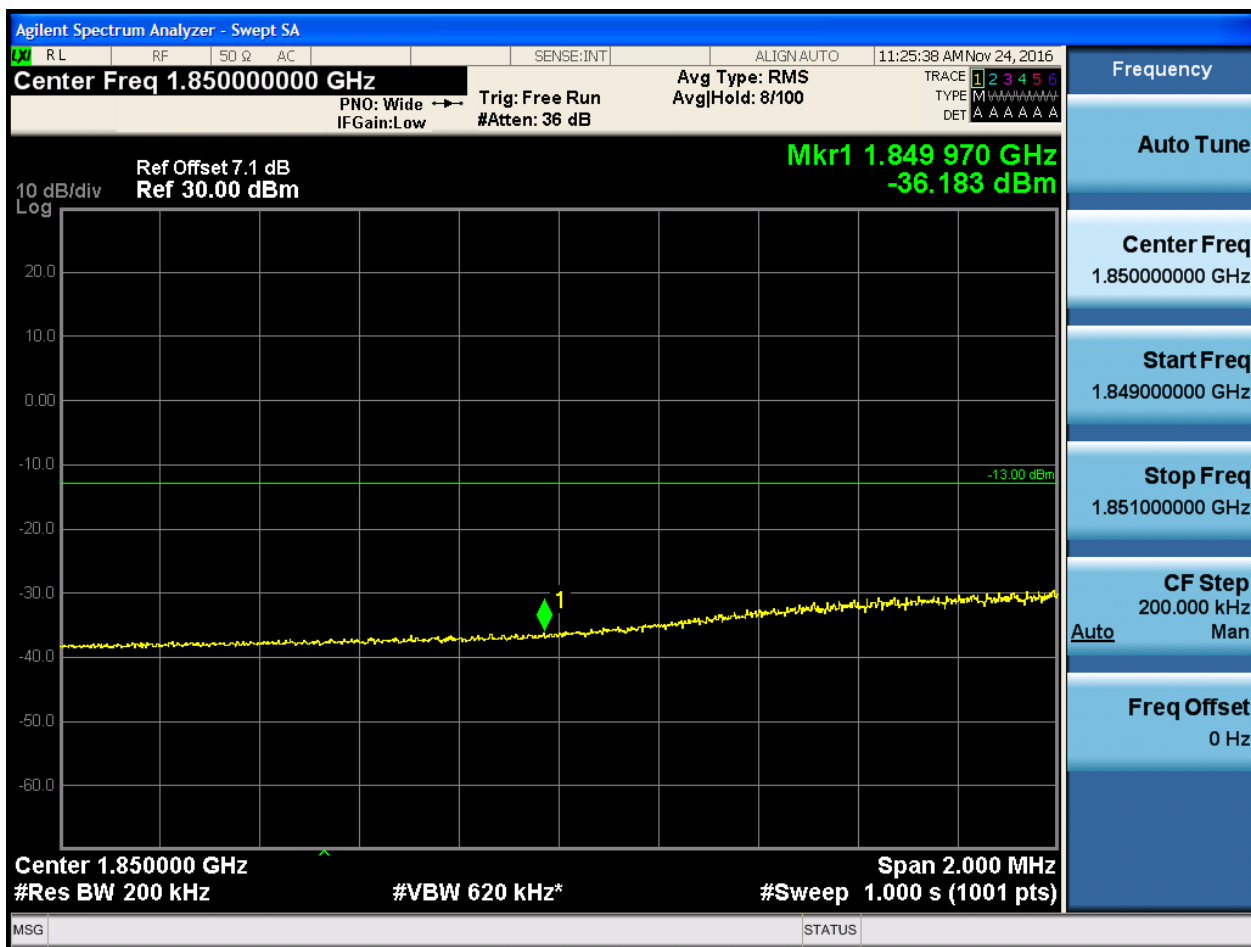


5.1.1.2.6.1.2 Test RB = RB1#99



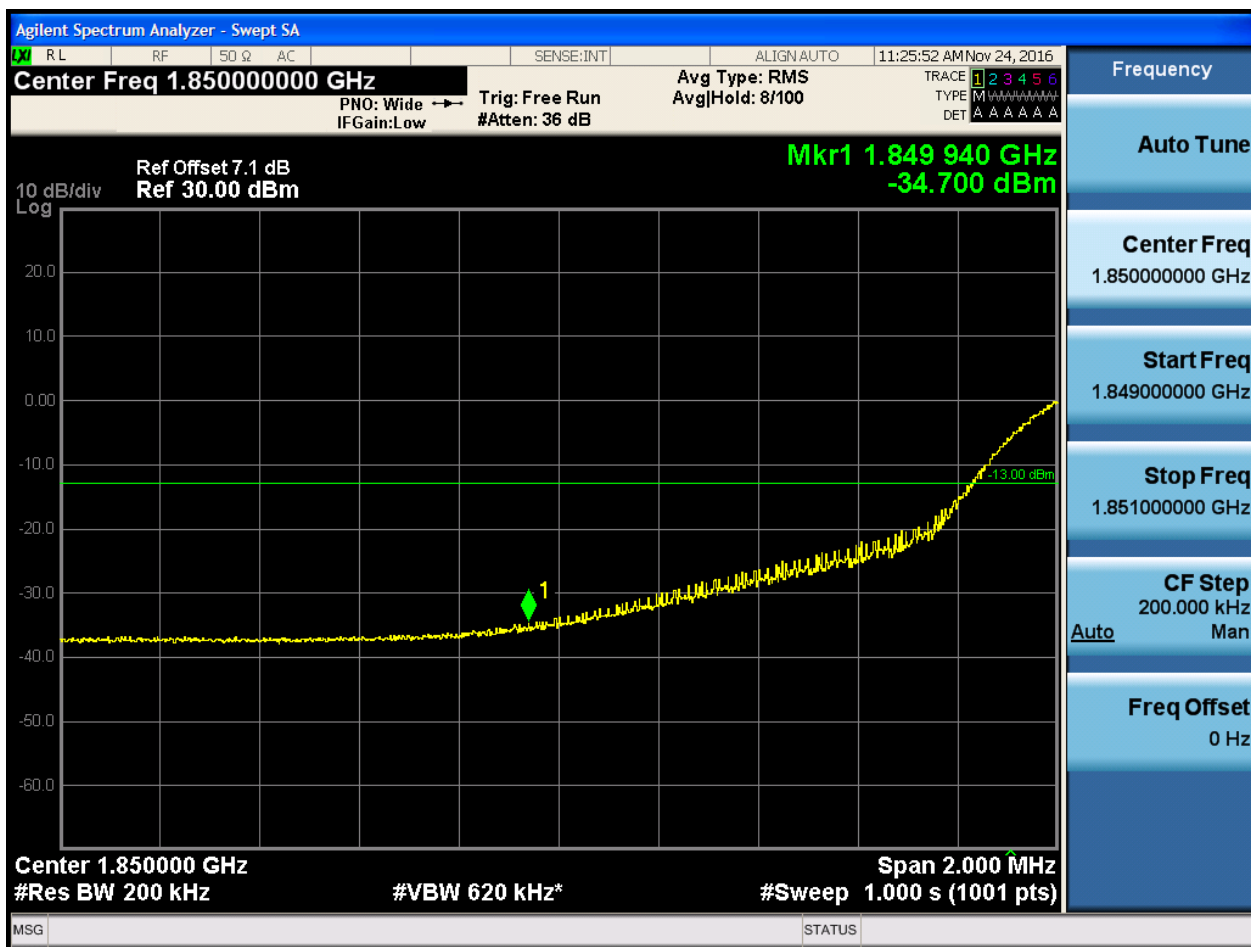


5.1.1.2.6.1.3 Test RB = RB50#25





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

Center Freq 1.91000000 GHz

PNO: Wide → Trig: Free Run
IFGain: Low #Atten: 36 dB

Avg Type: RMS
Avg/Hold: 8/100

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 010 GHz
-28.516 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 1.91000000 GHz
Start Freq 1.909000000 GHz
Stop Freq 1.911000000 GHz
CF Step 200.000 kHz <u>Auto</u> Man
Freq Offset 0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:26:40 AM Nov 24, 2016

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide Trg: Free Run AvgHold: 8/100
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 A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 010 GHz
-36.903 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

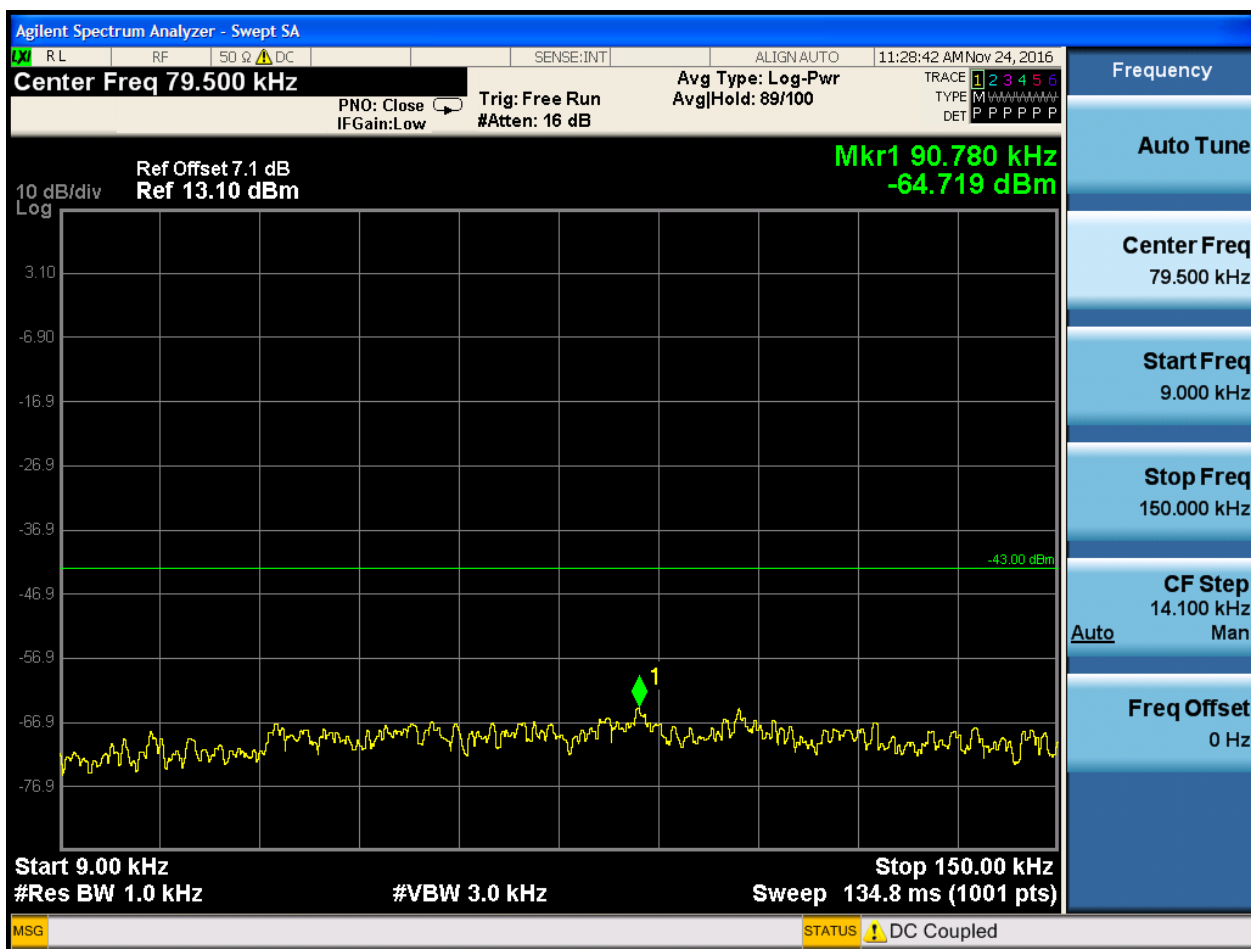
6.1.1 Test Band = BAND2

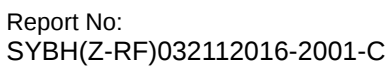
6.1.1.1 Test Mode = LTE/TM1

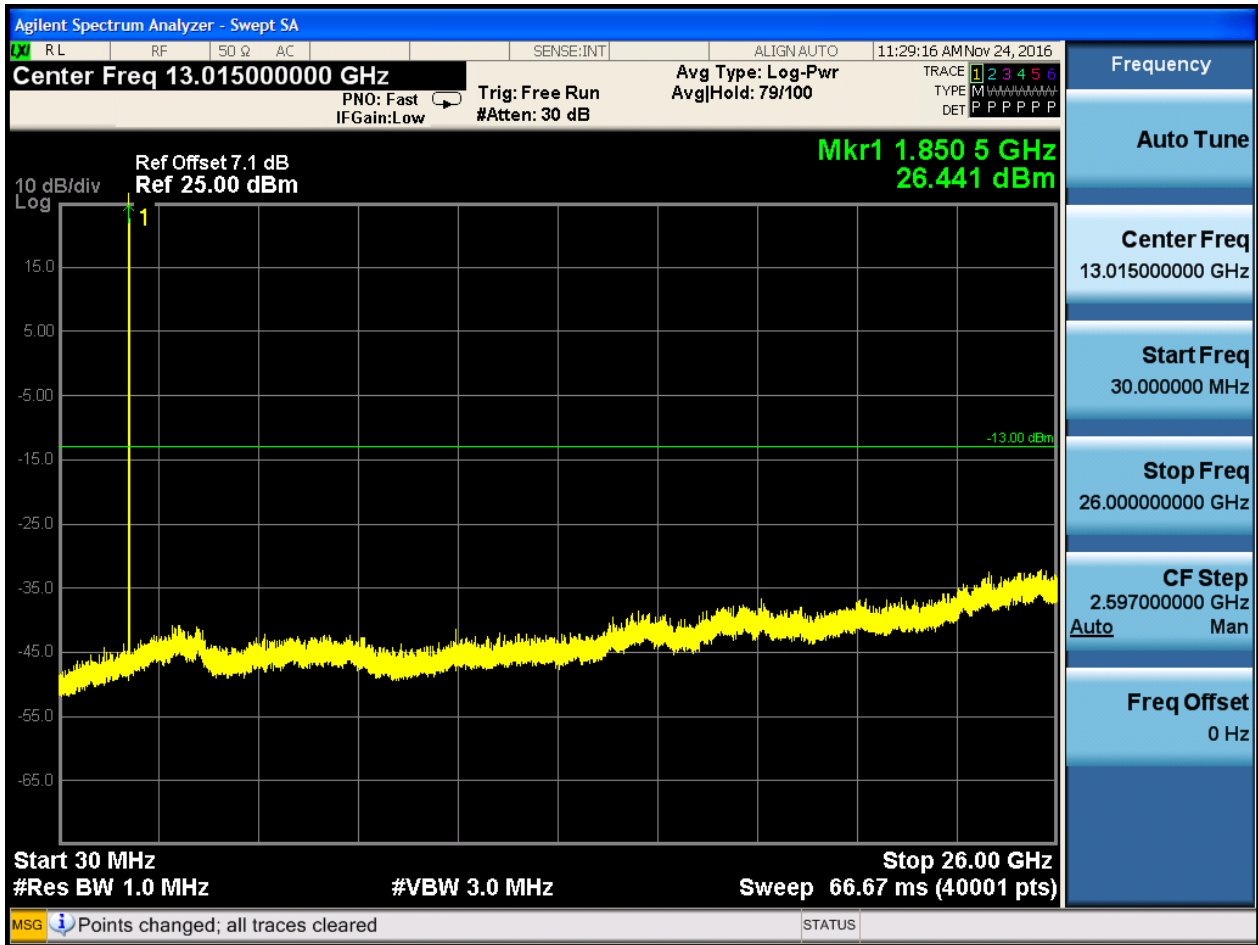
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

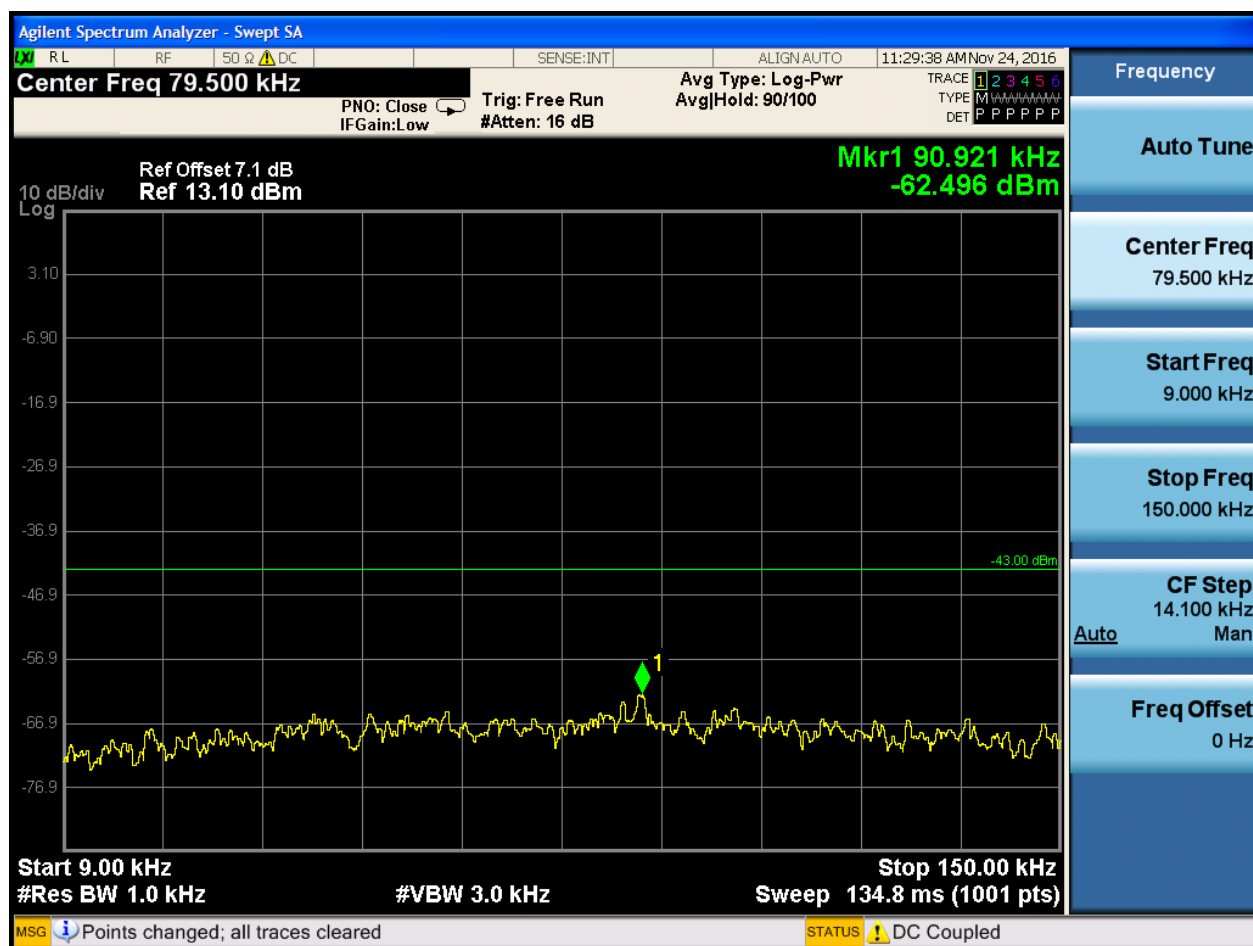


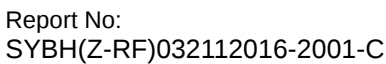


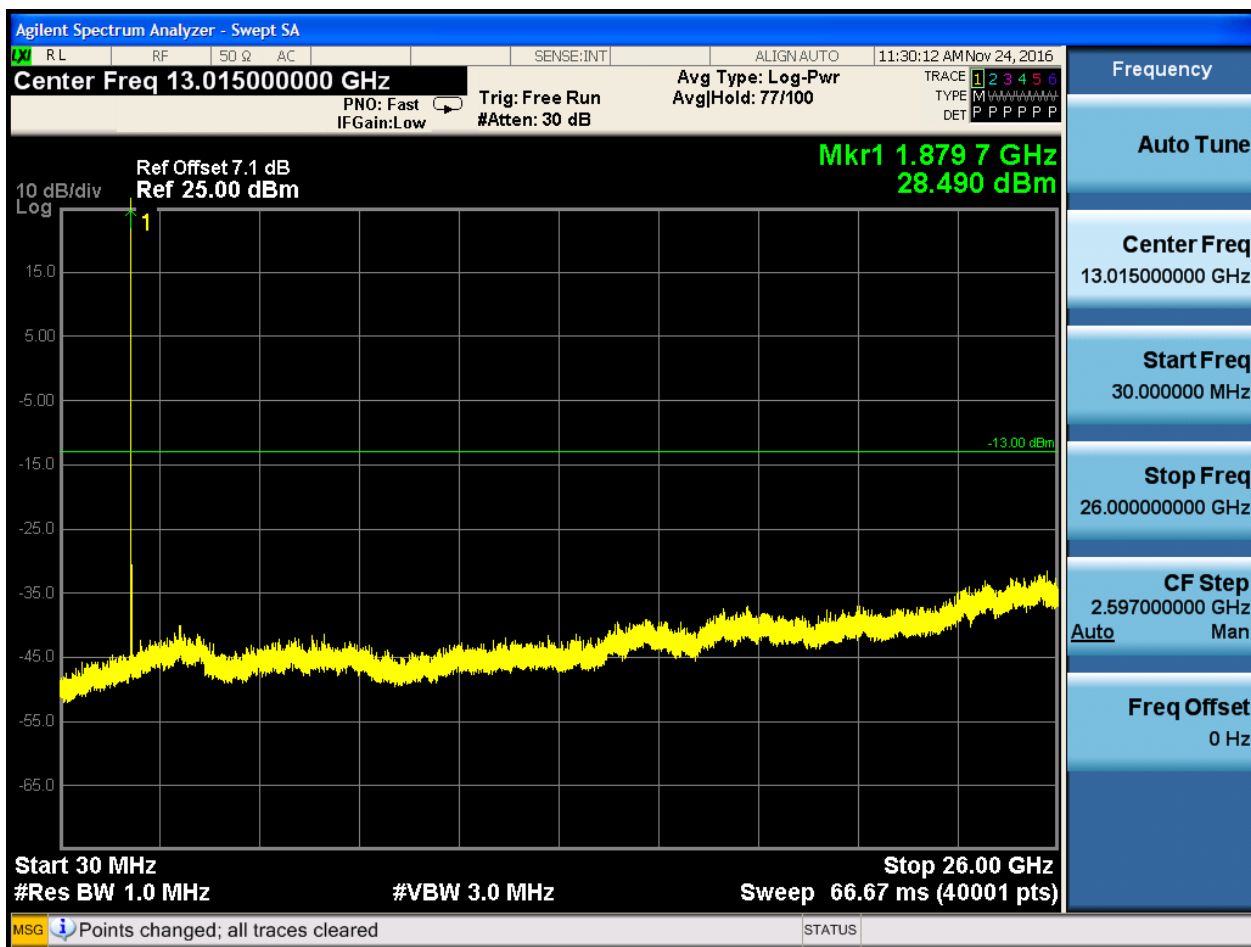


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

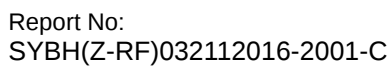


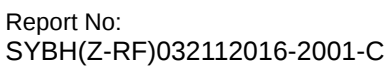


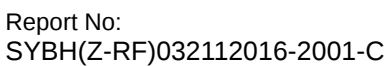




6.1.1.1.1.3.1 Test RB = RB1#0





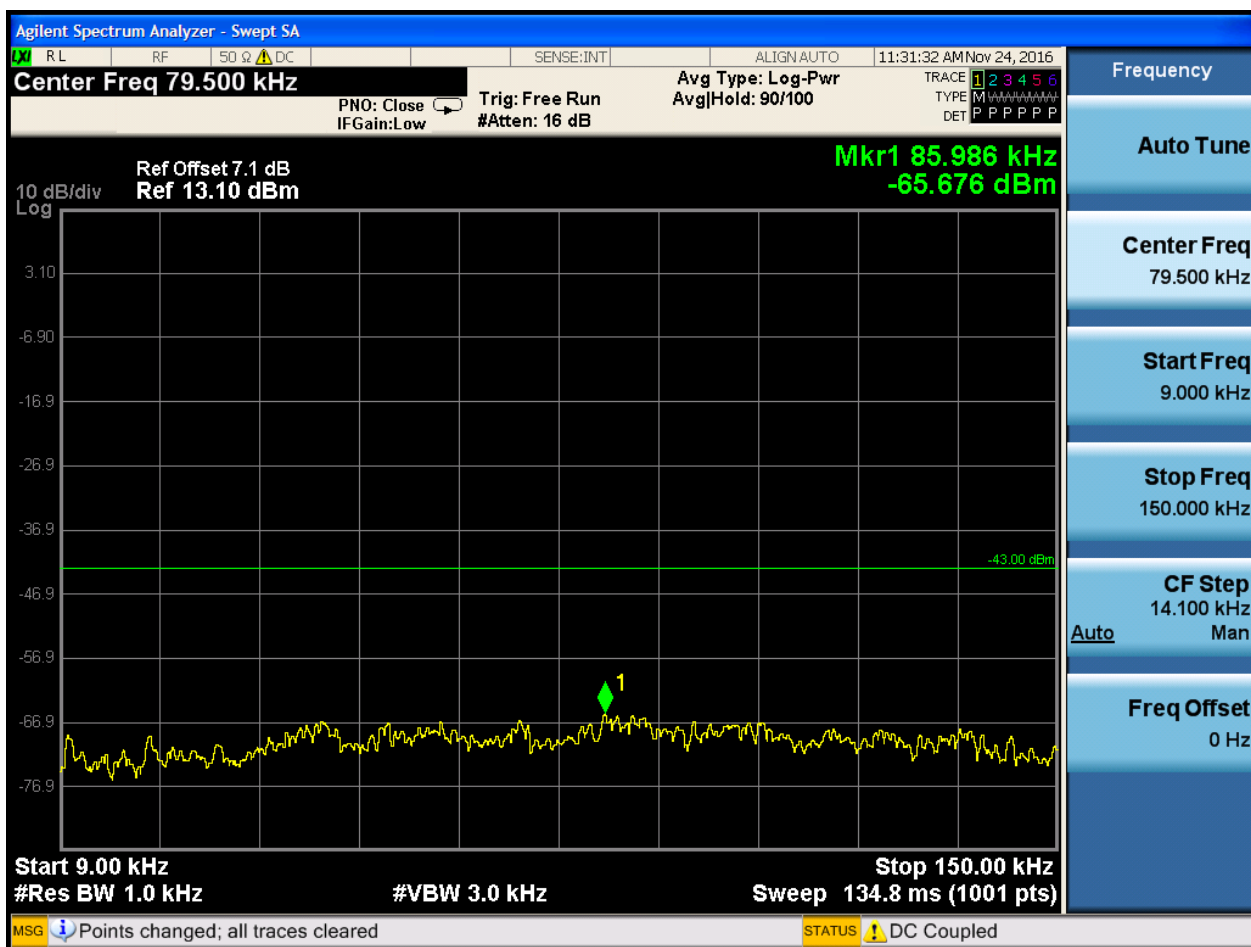


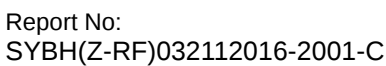


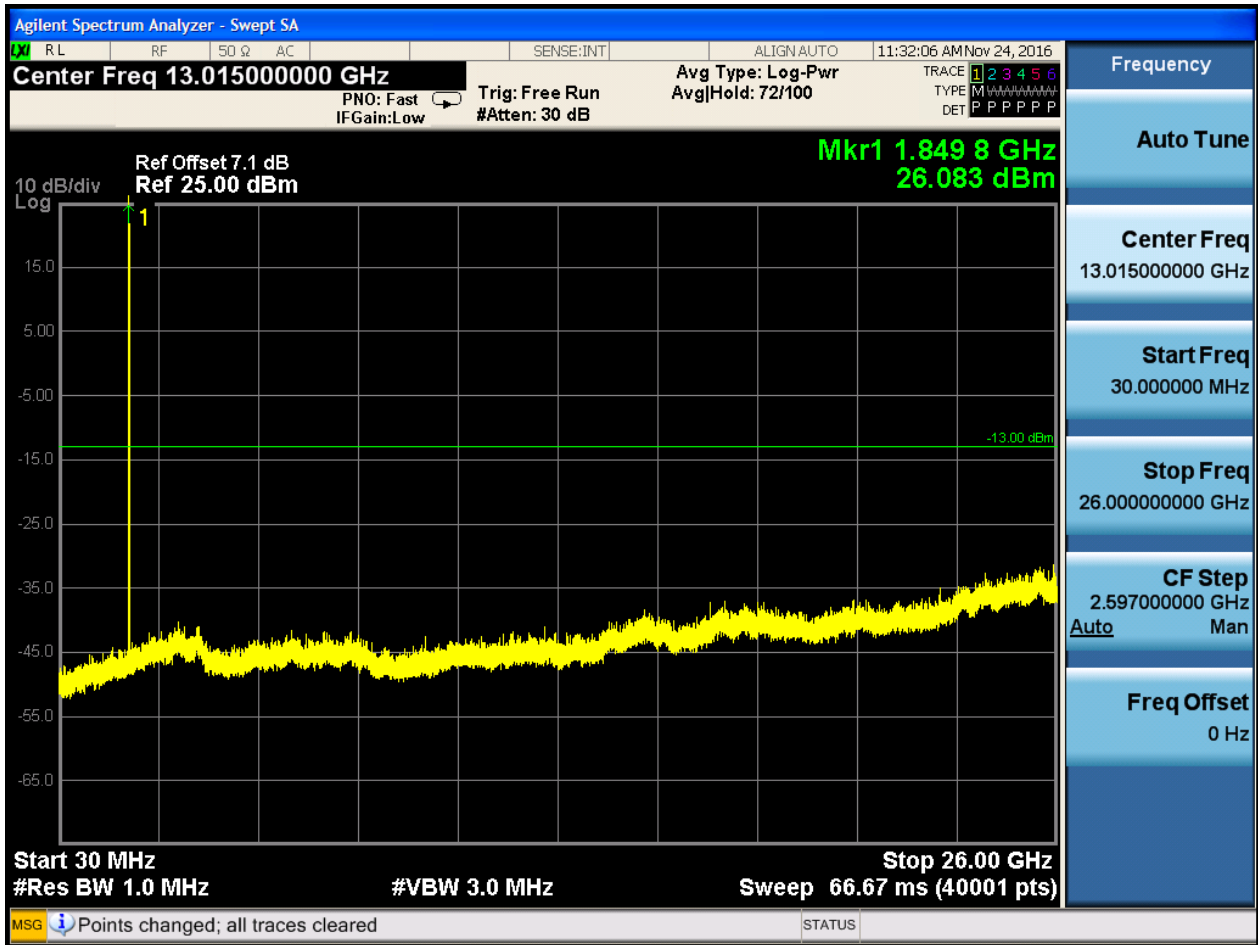
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

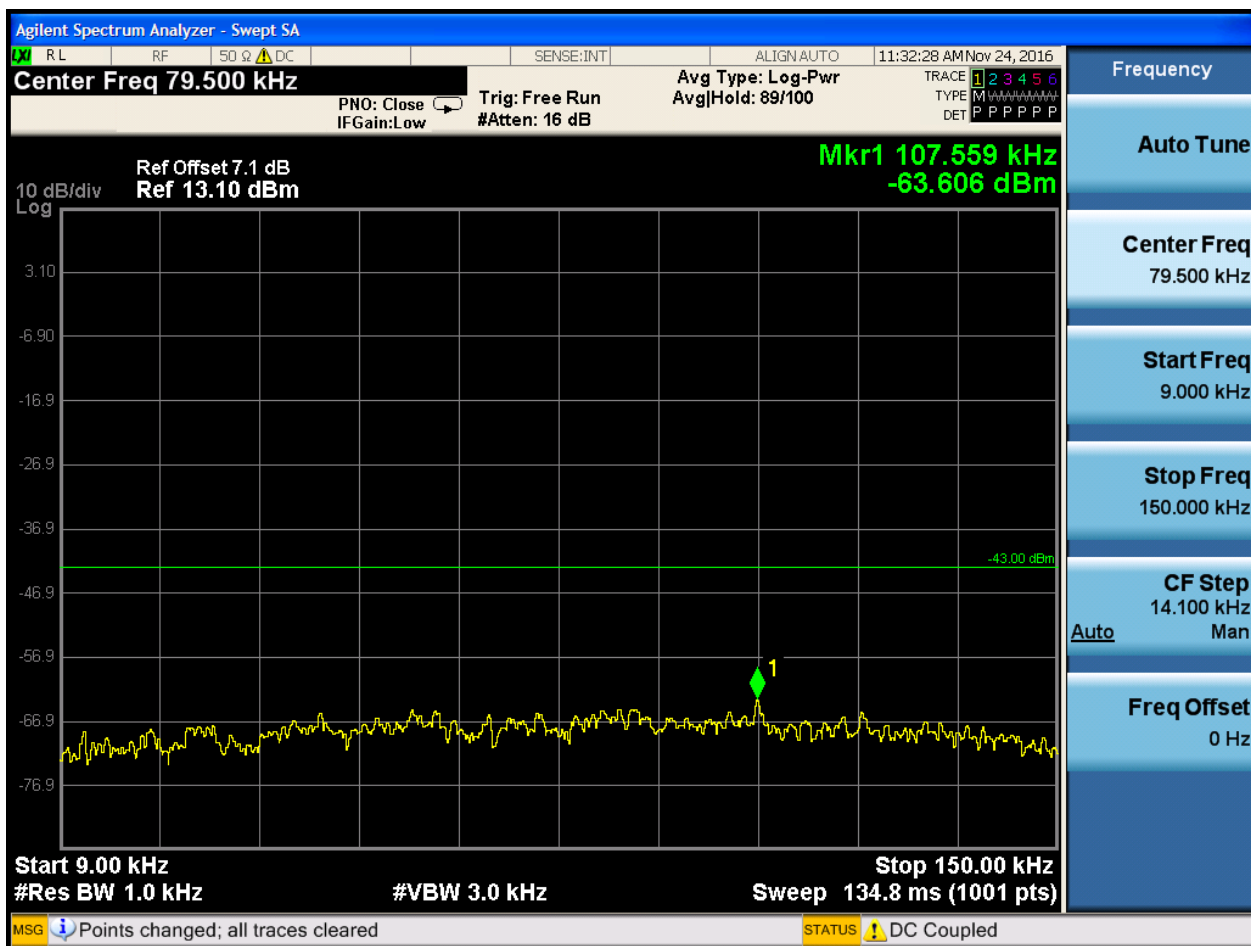


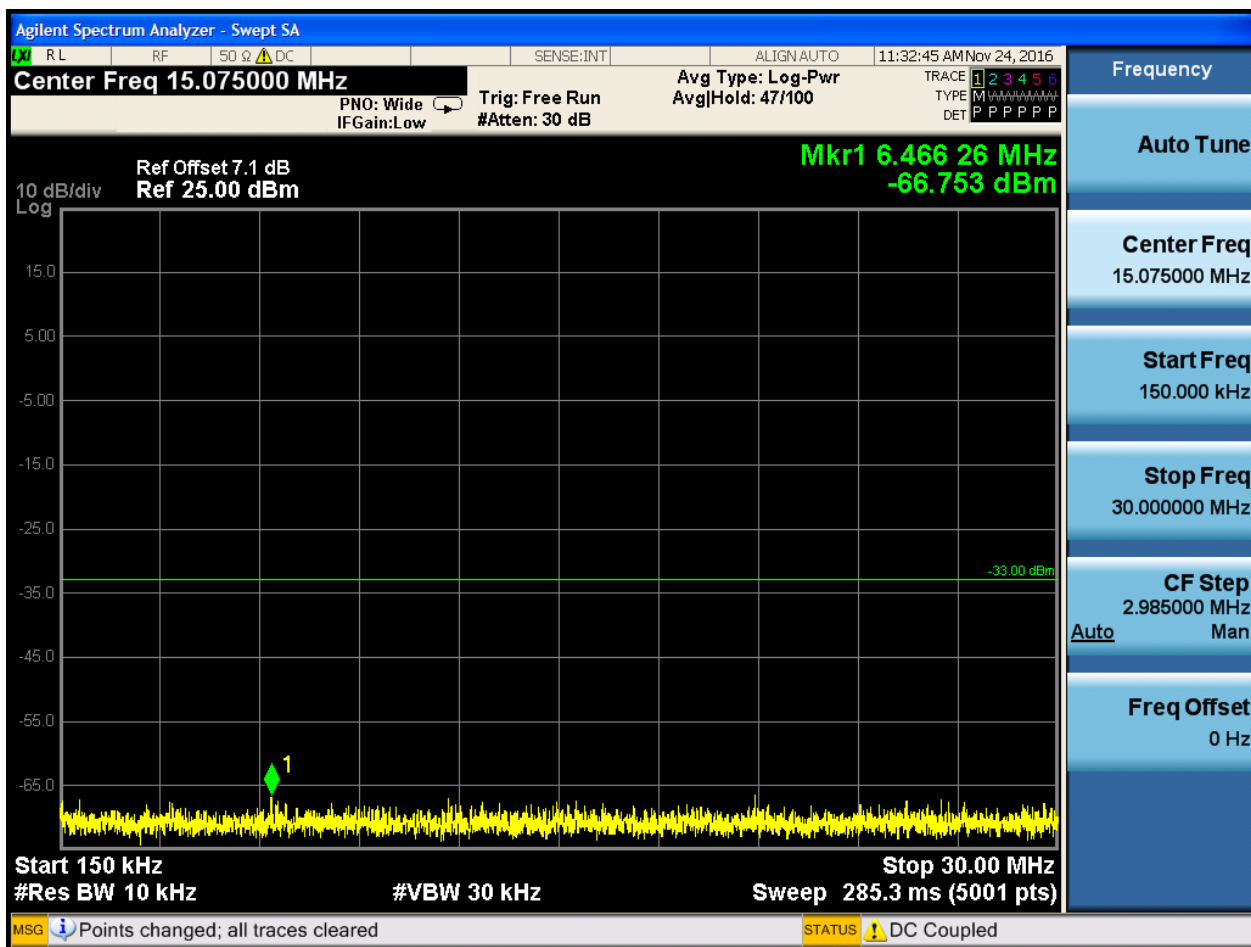


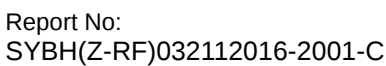


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

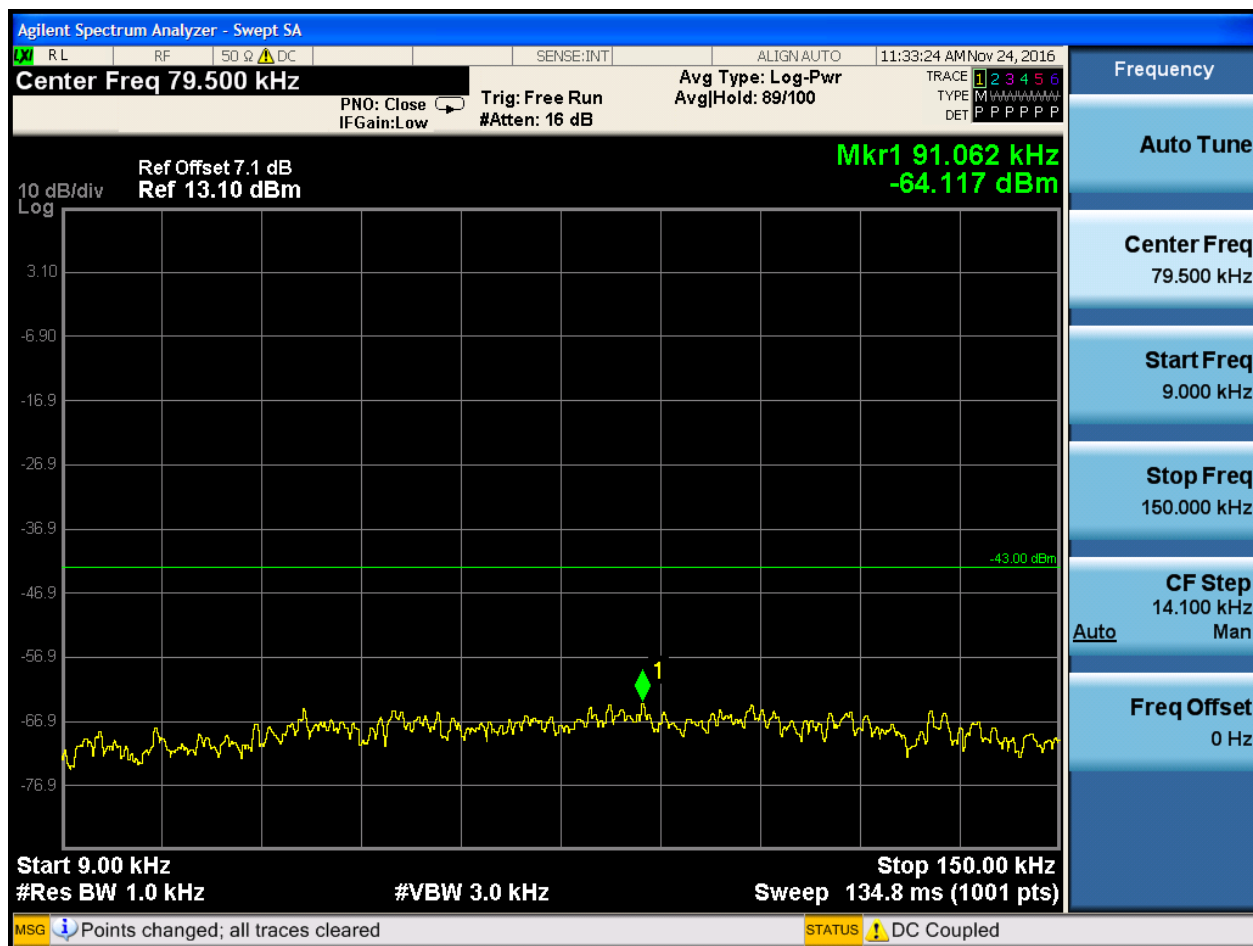


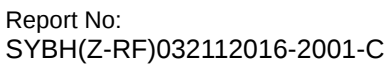


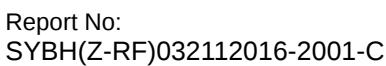


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





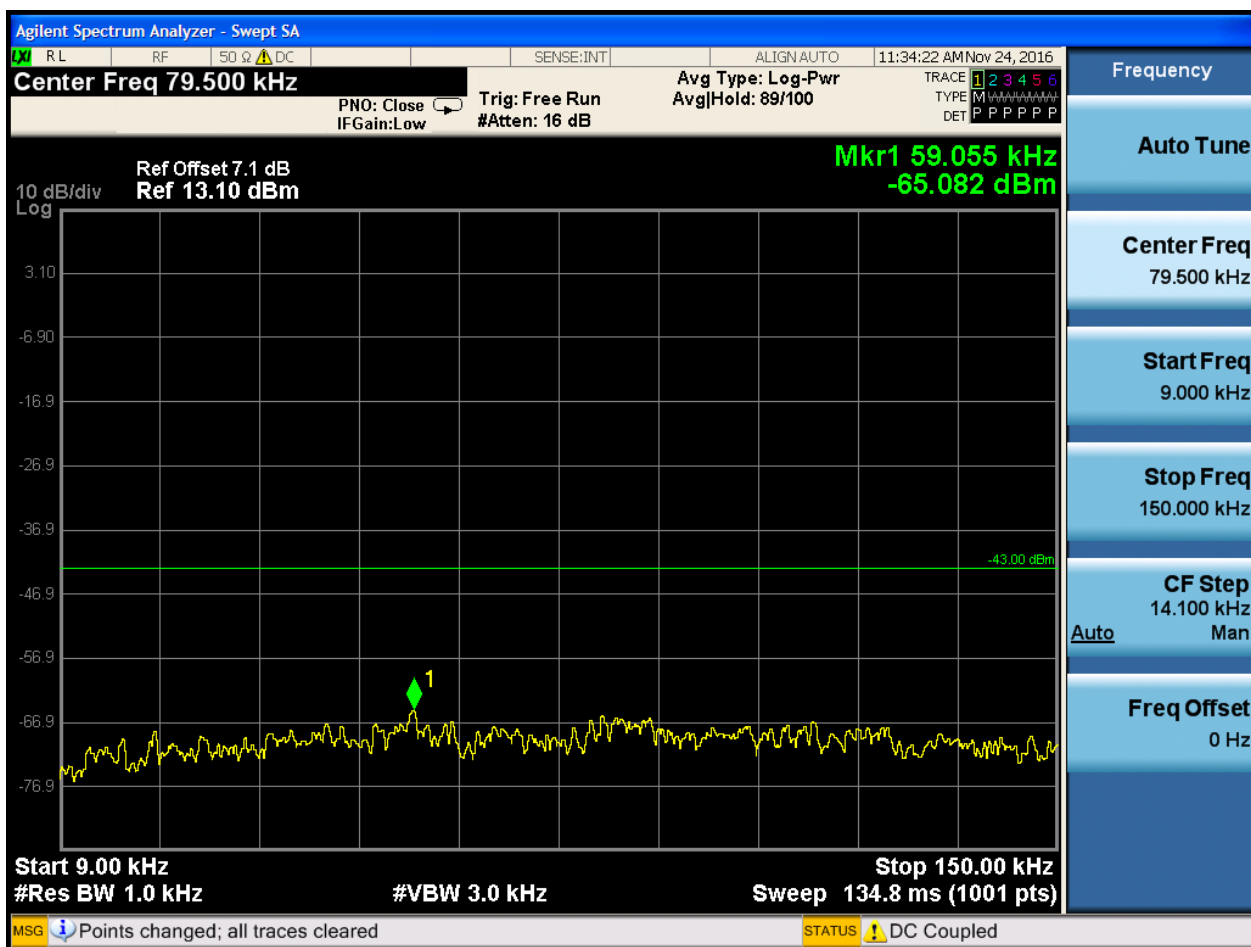


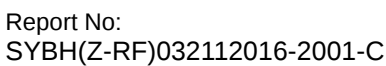


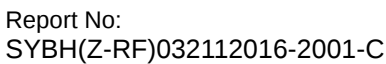
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0

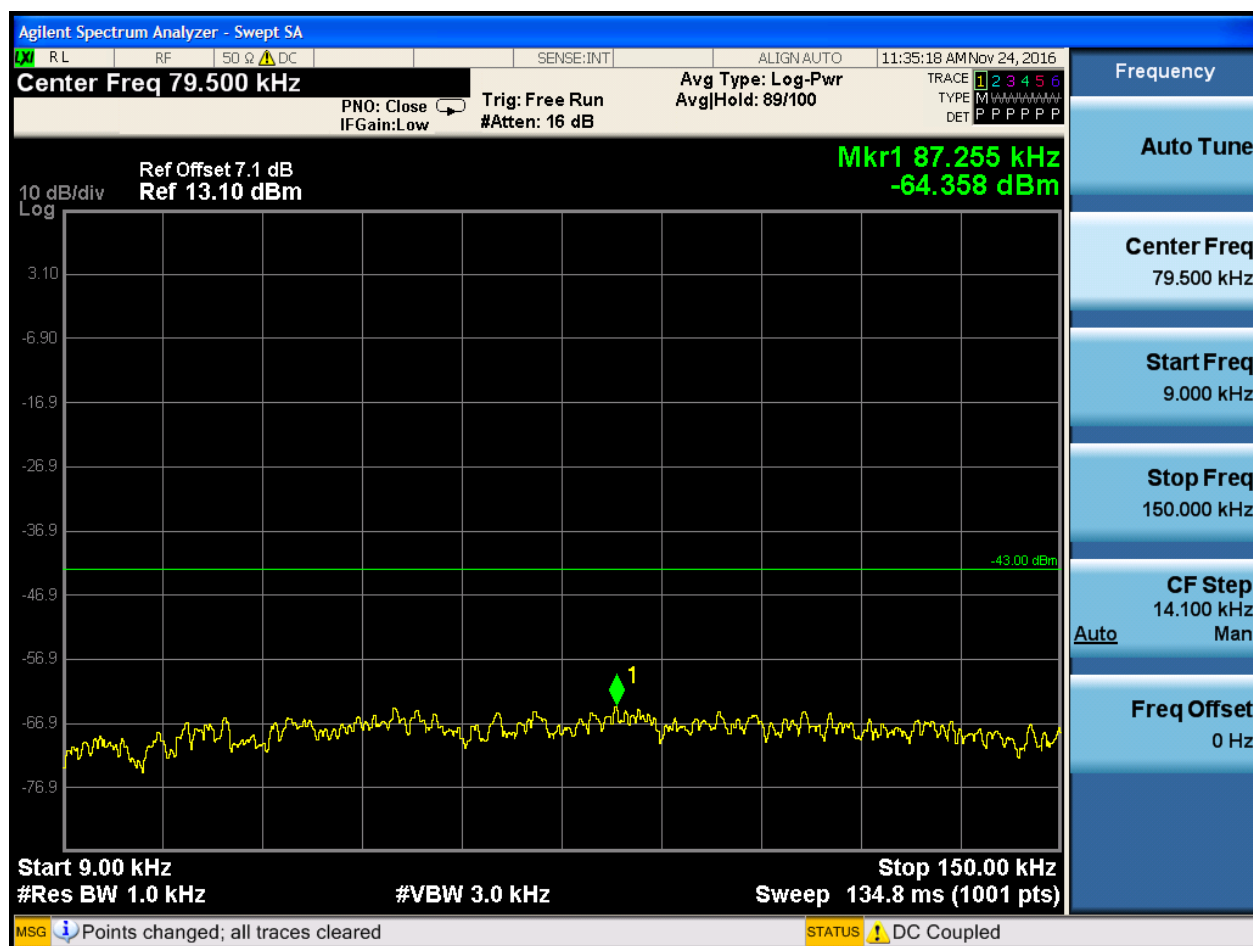


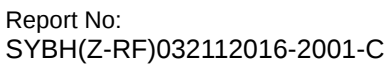




6.1.1.1.3.2 Test Channel = MCH

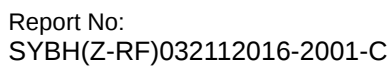
6.1.1.1.3.2.1 Test RB = RB1#0

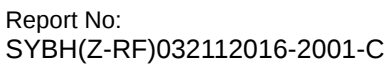


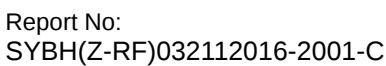




6.1.1.1.3.3.1 Test RB = RB1#0



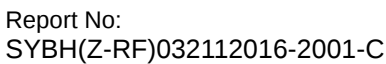


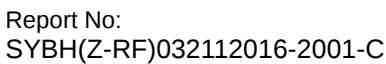




6.1.1.1.4.1.1 Test RB = RB1#0

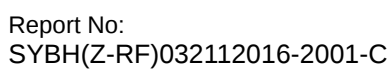


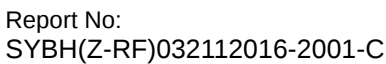


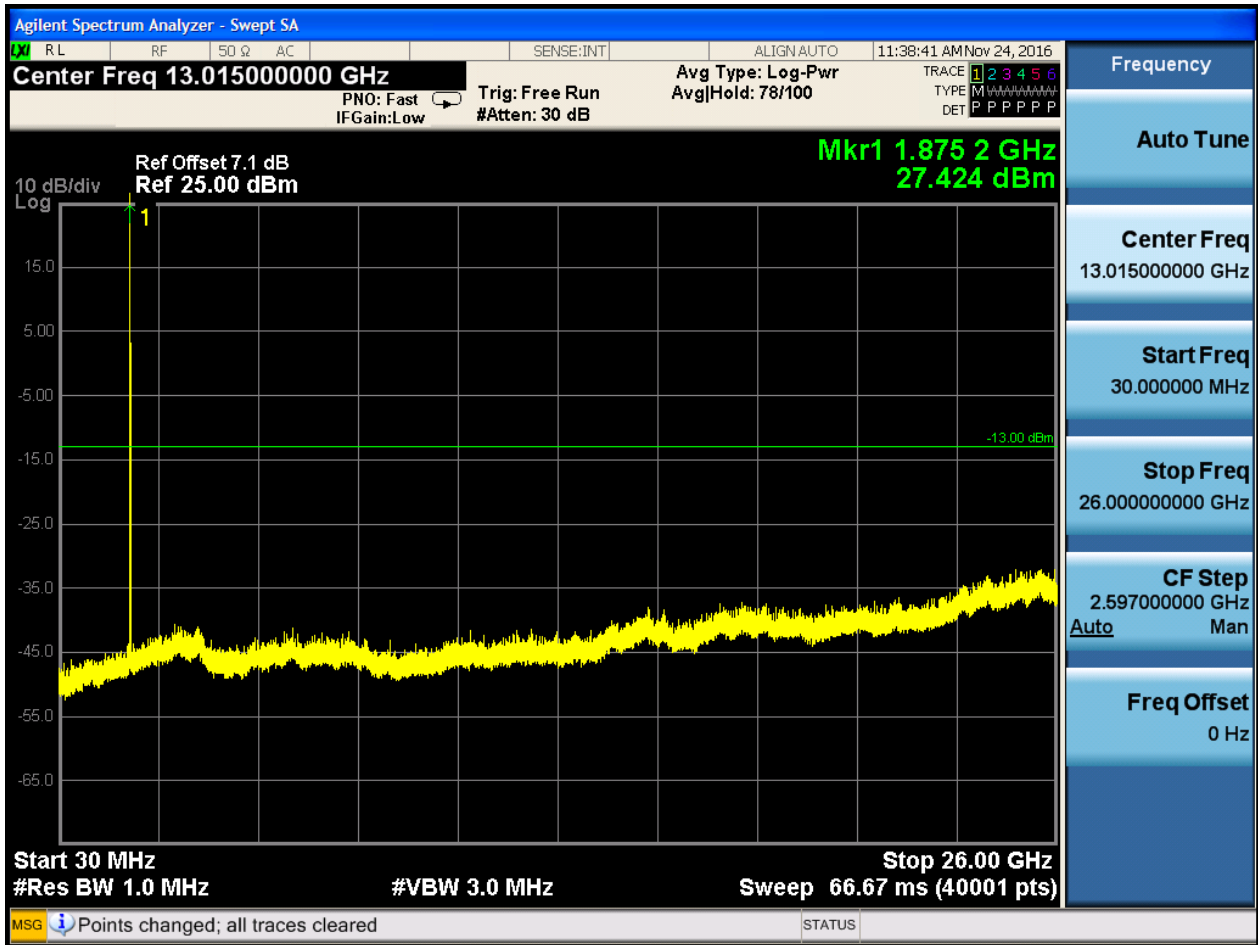




6.1.1.1.4.2.1 Test RB = RB1#0



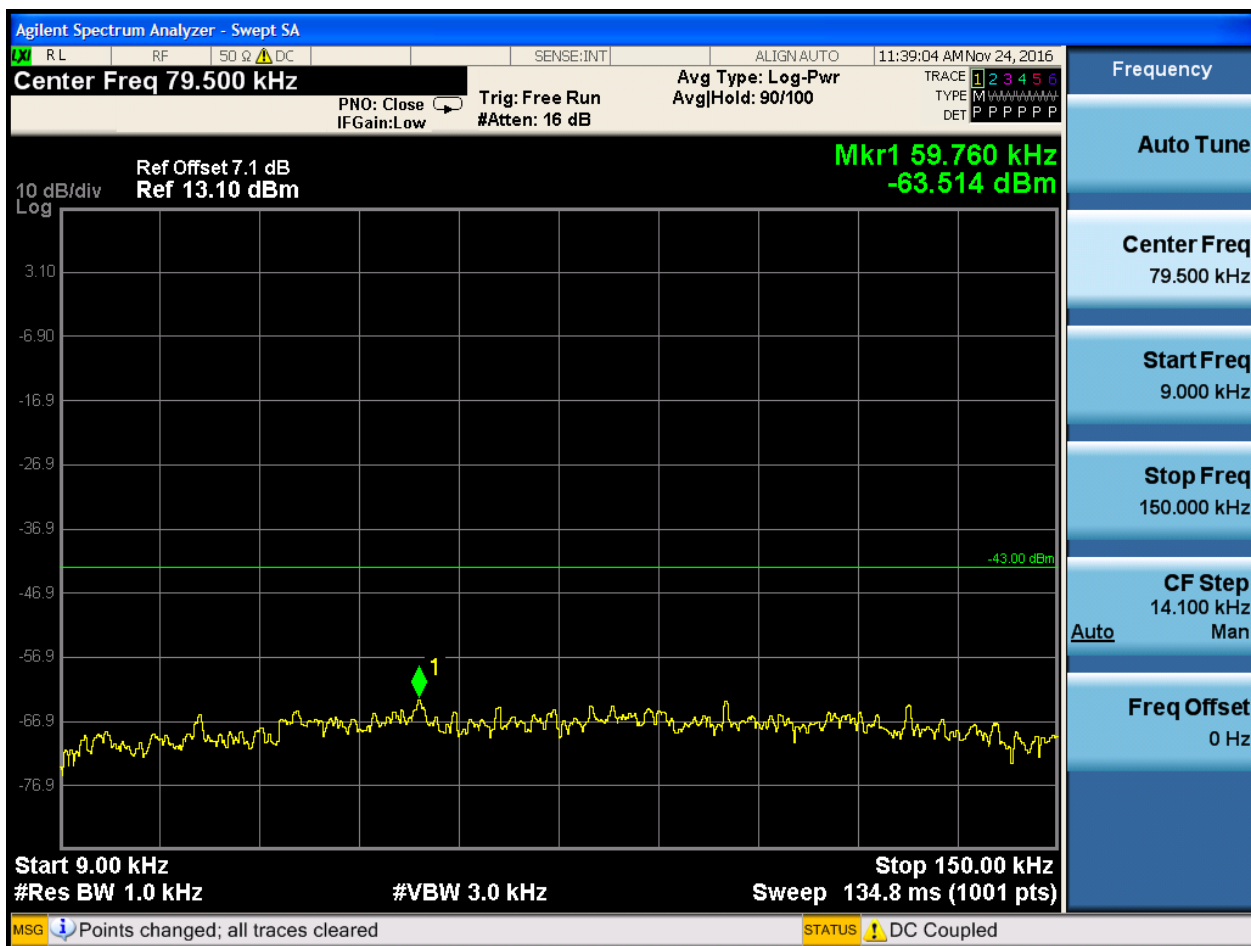


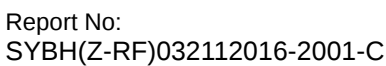


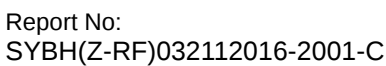


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0

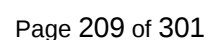


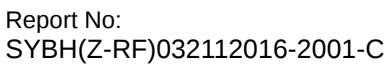


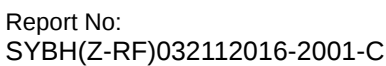




6.1.1.1.5.1.1 Test RB = RB1#0



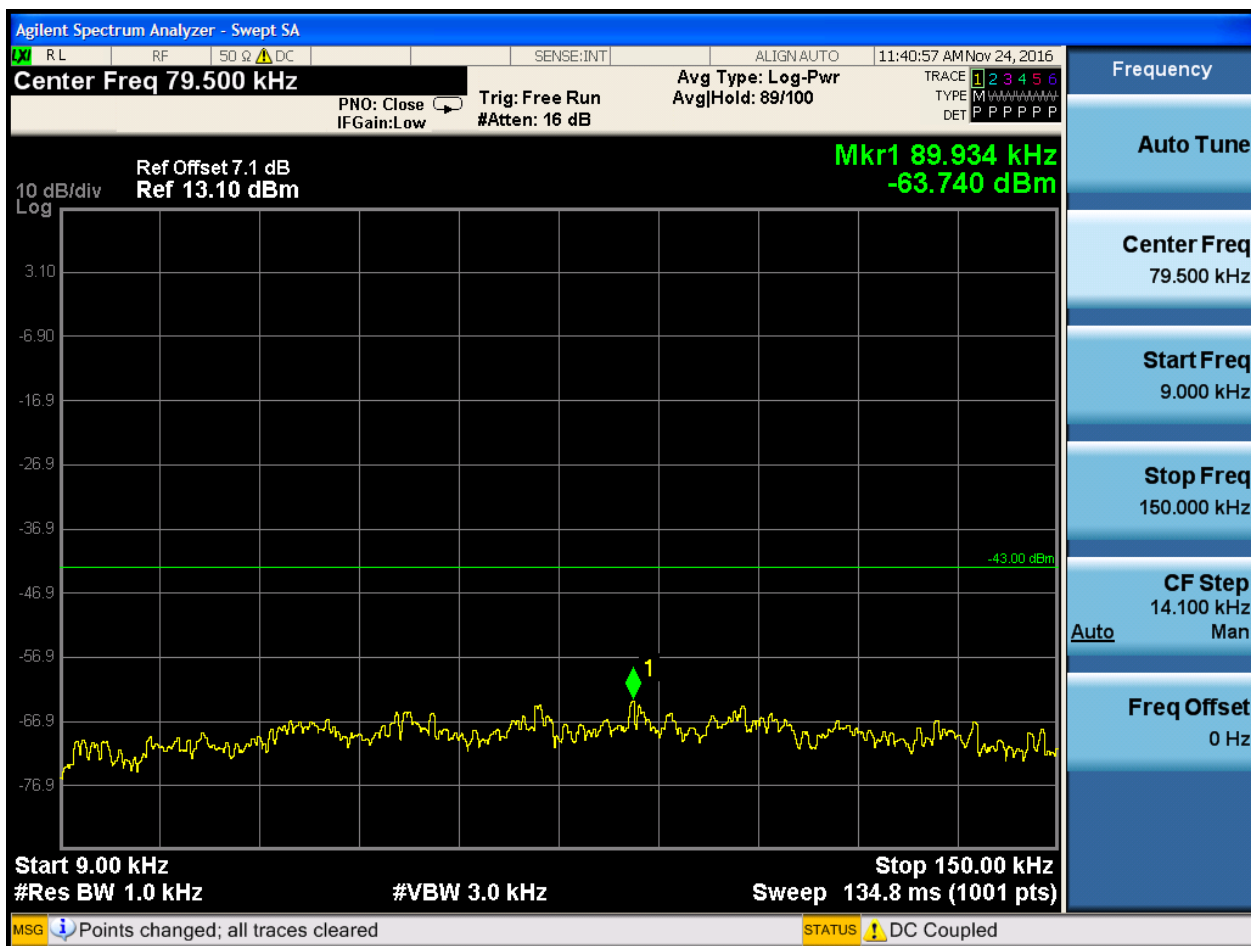


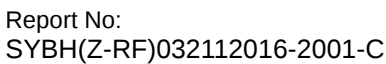


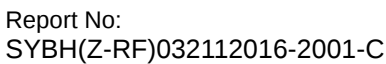


6.1.1.1.5.2 Test Channel = MCH

6.1.1.1.5.2.1 Test RB = RB1#0

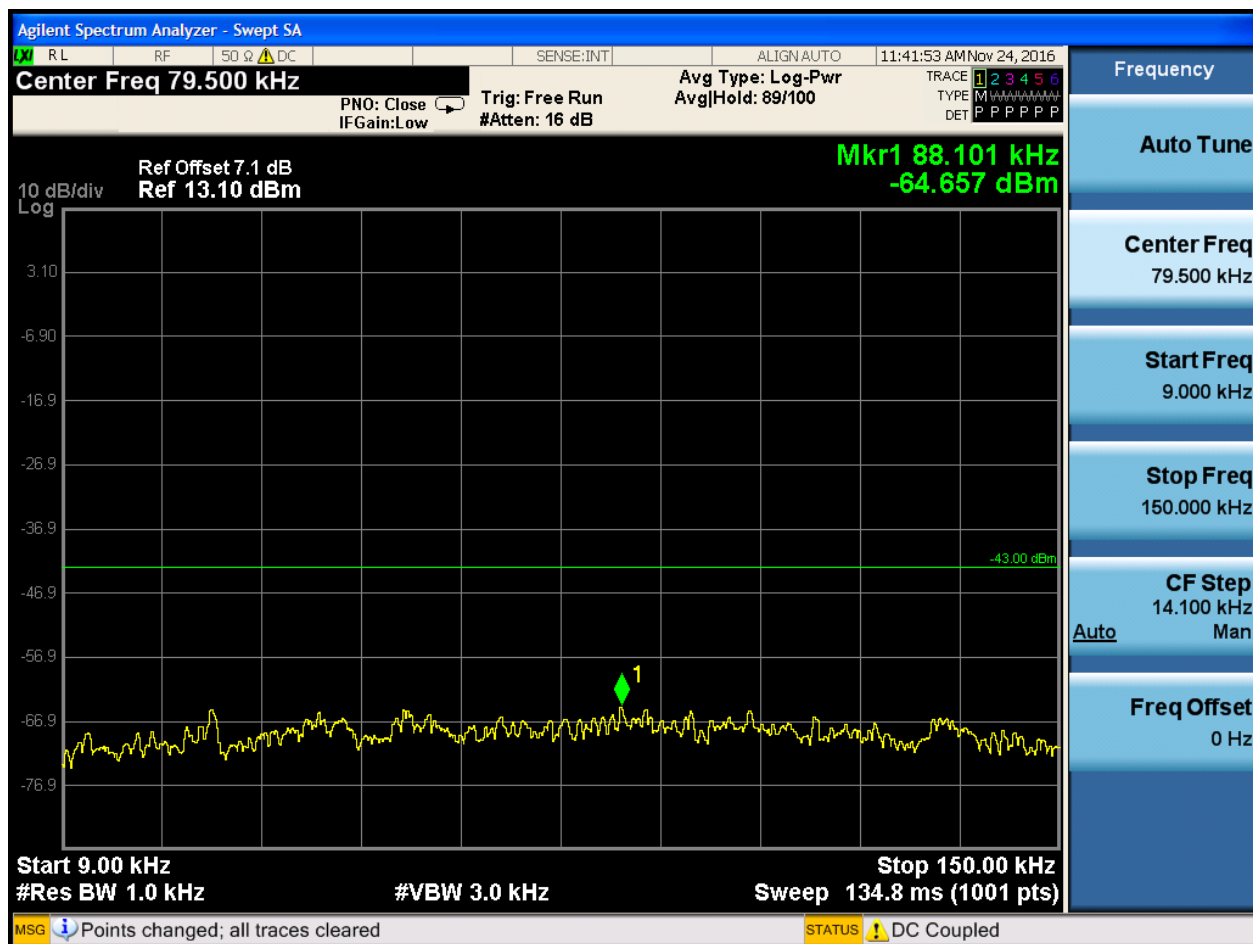


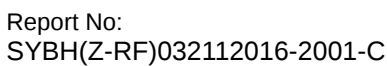


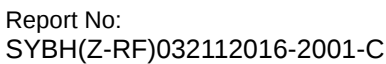


6.1.1.1.5.3 Test Channel = HCH

6.1.1.1.5.3.1 Test RB = RB1#0

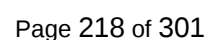


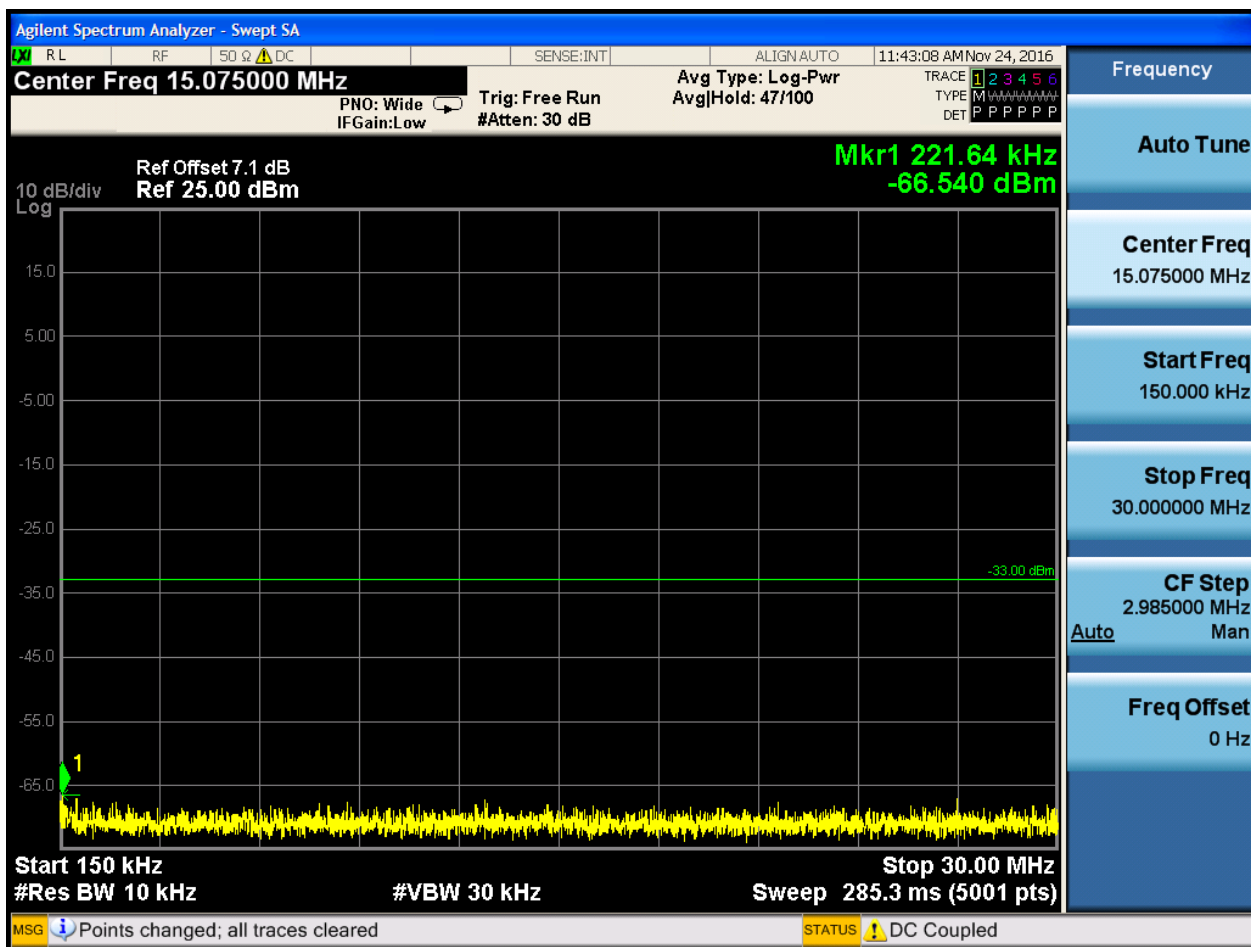


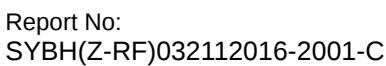




6.1.1.1.6.1.1 Test RB = RB1#0

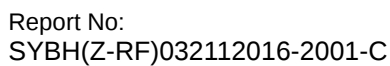


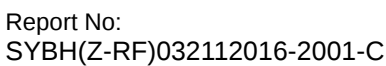


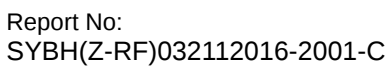




6.1.1.1.6.2.1 Test RB = RB1#0



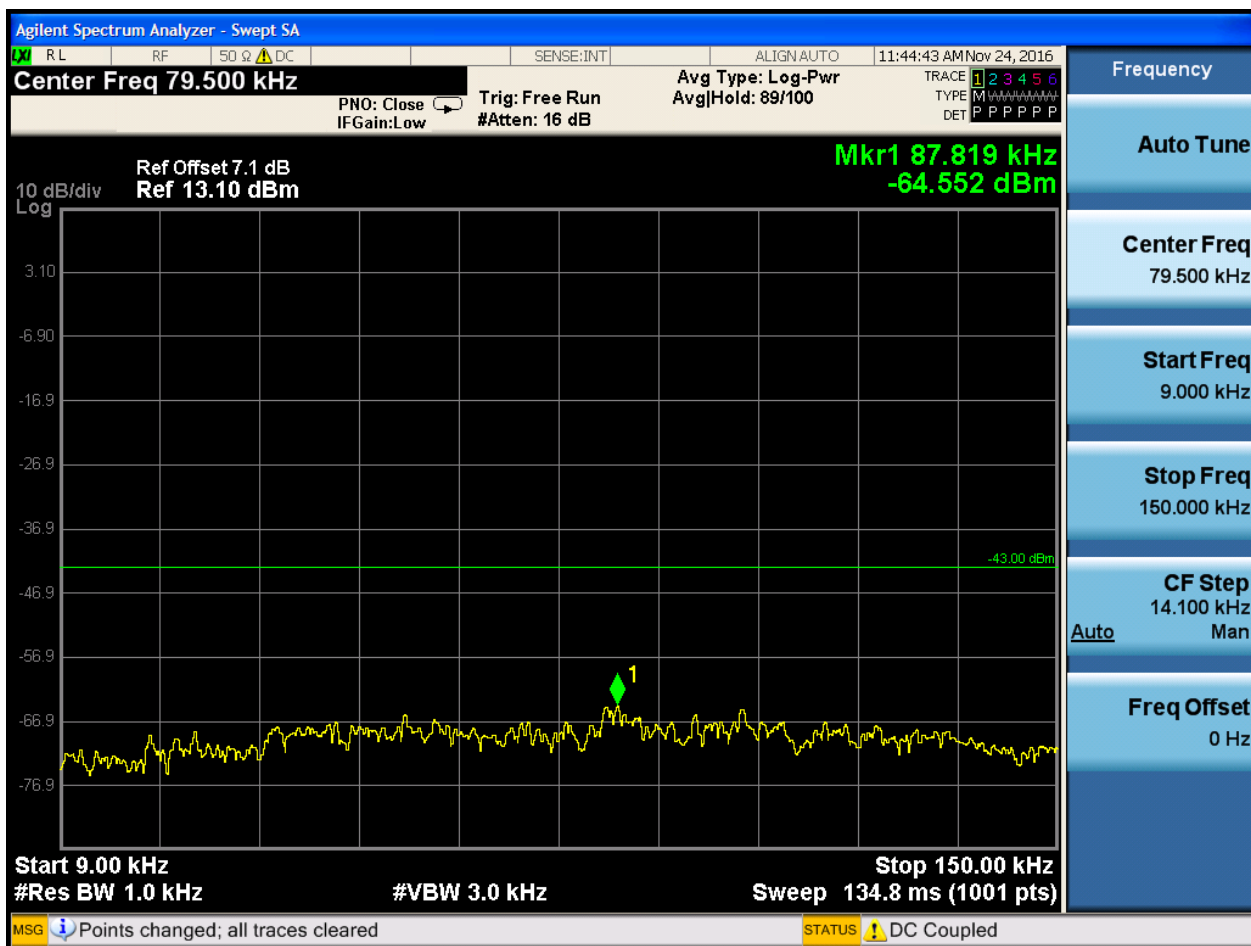


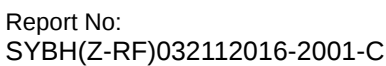




6.1.1.1.6.3 Test Channel = HCH

6.1.1.1.6.3.1 Test RB = RB1#0





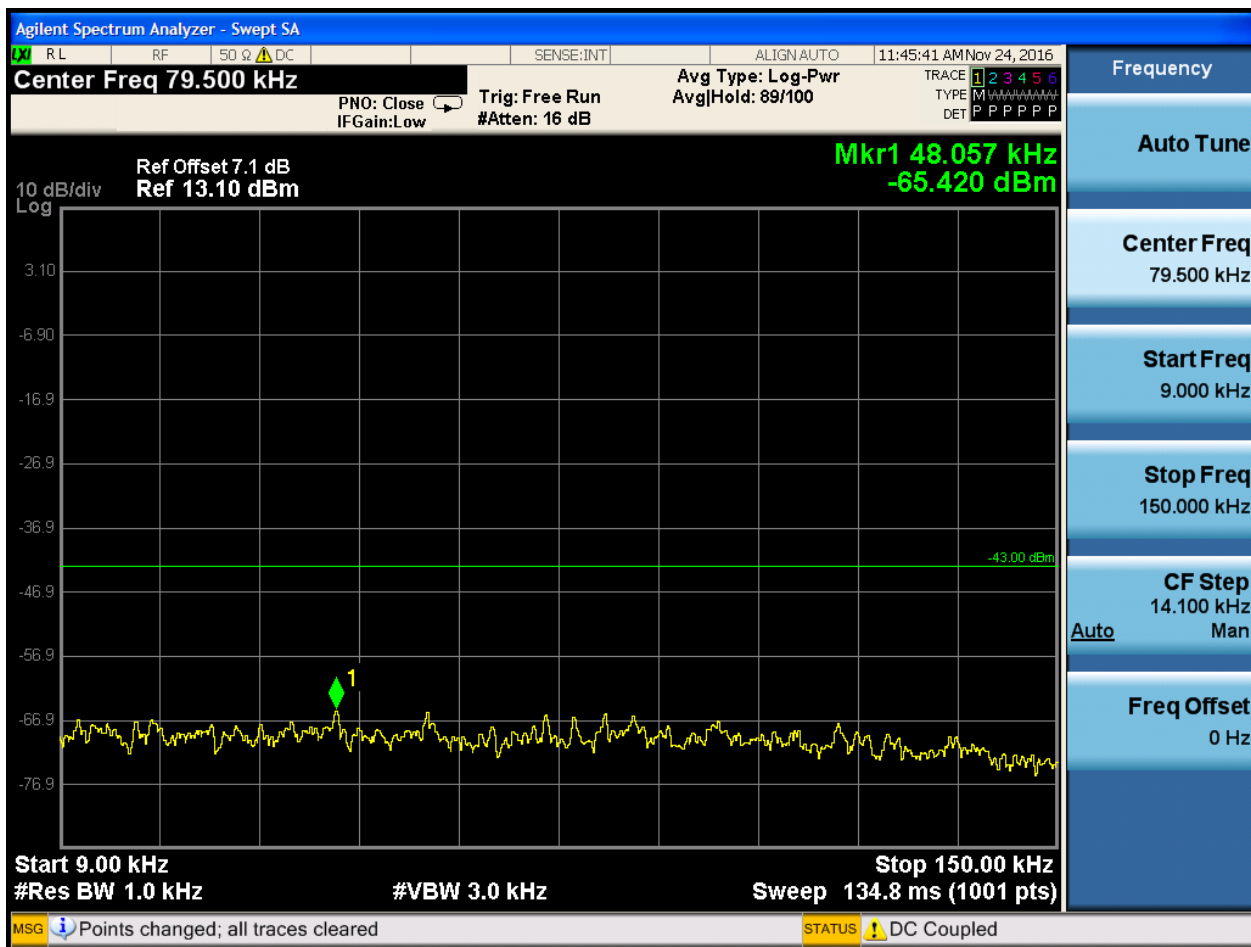


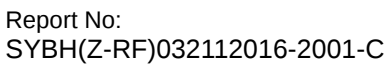
6.1.1.2 Test Mode = LTE/TM2

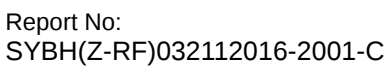
6.1.1.2.1 Test Bandwidth = 1.4

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0

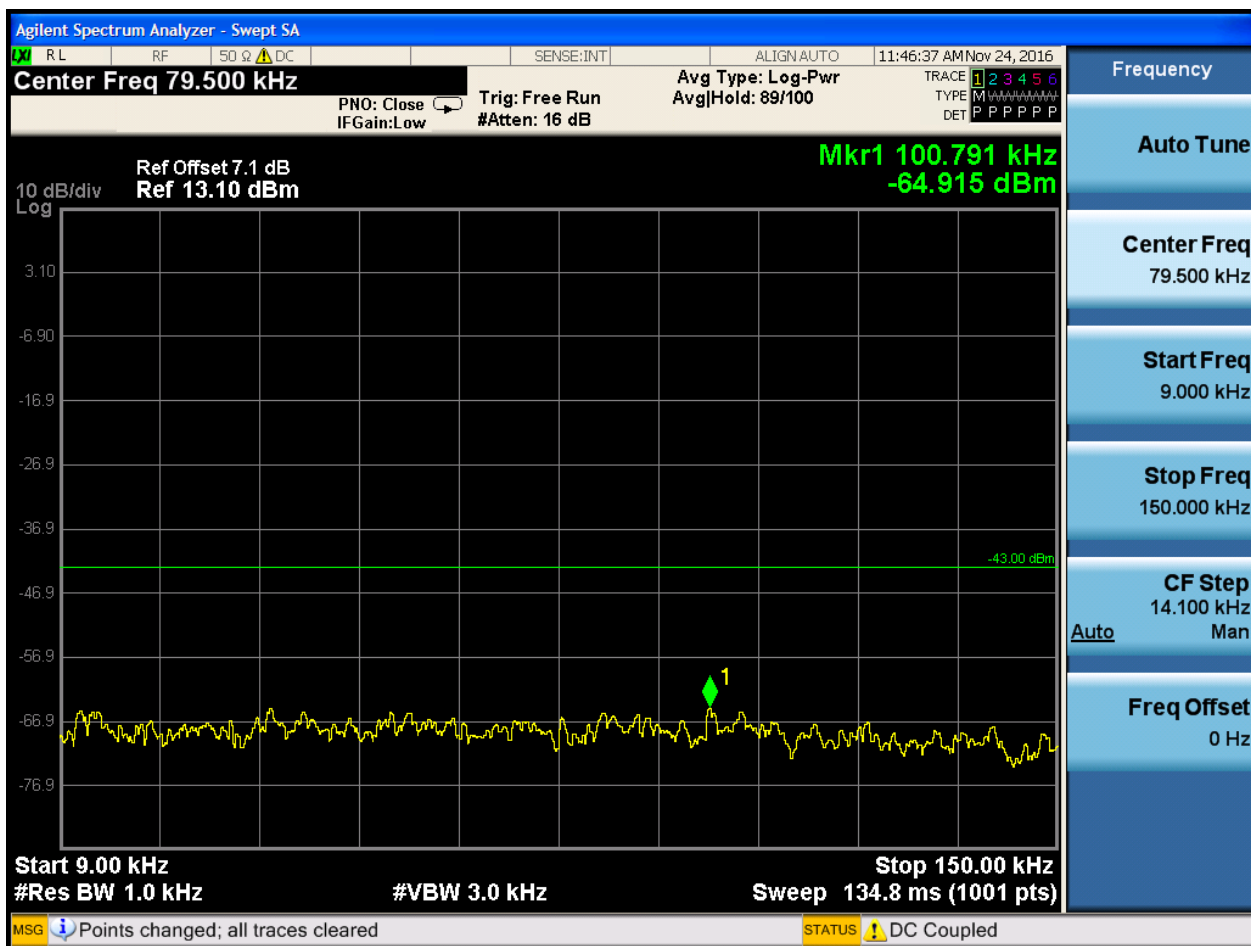


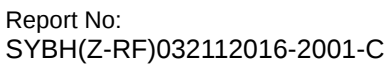


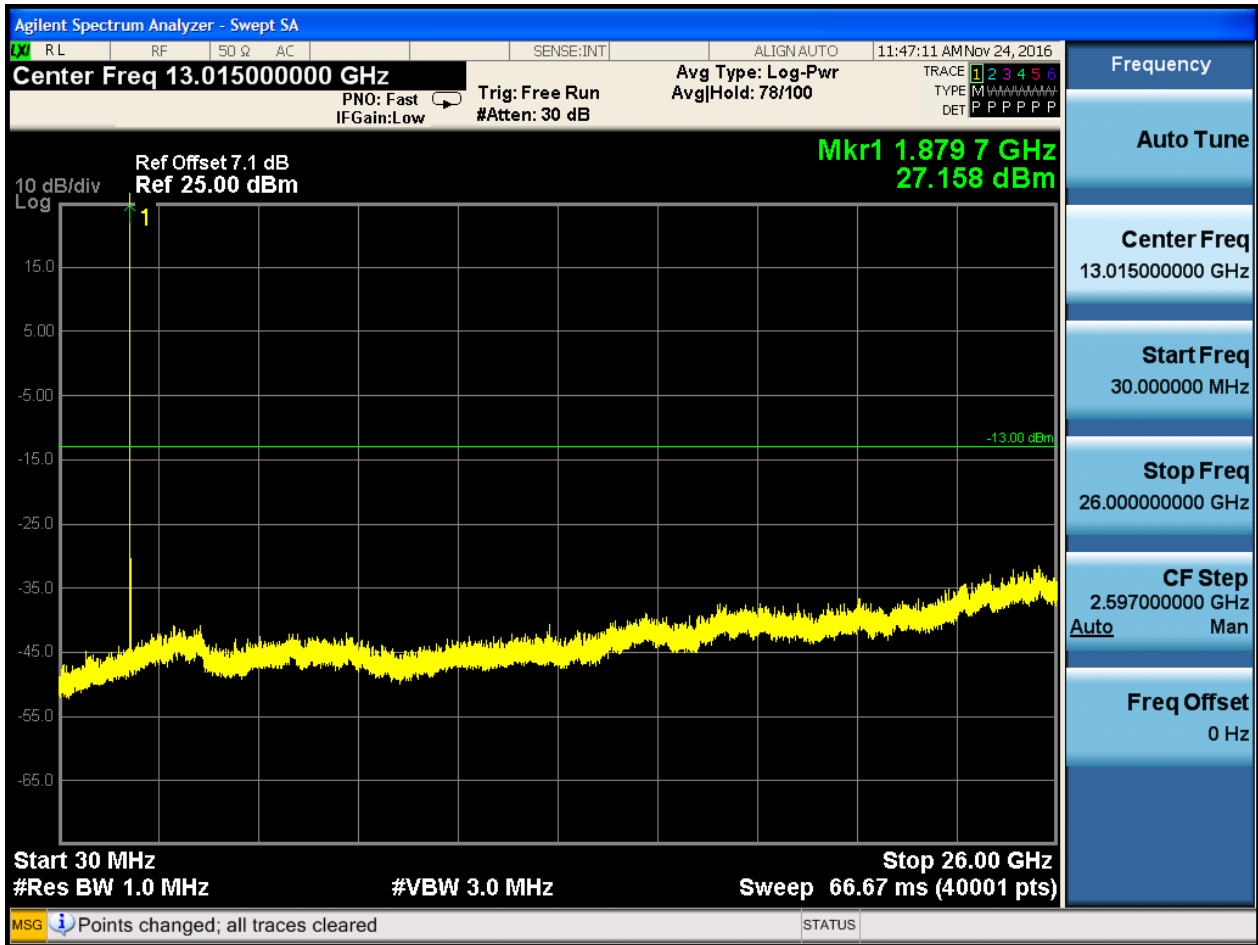


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

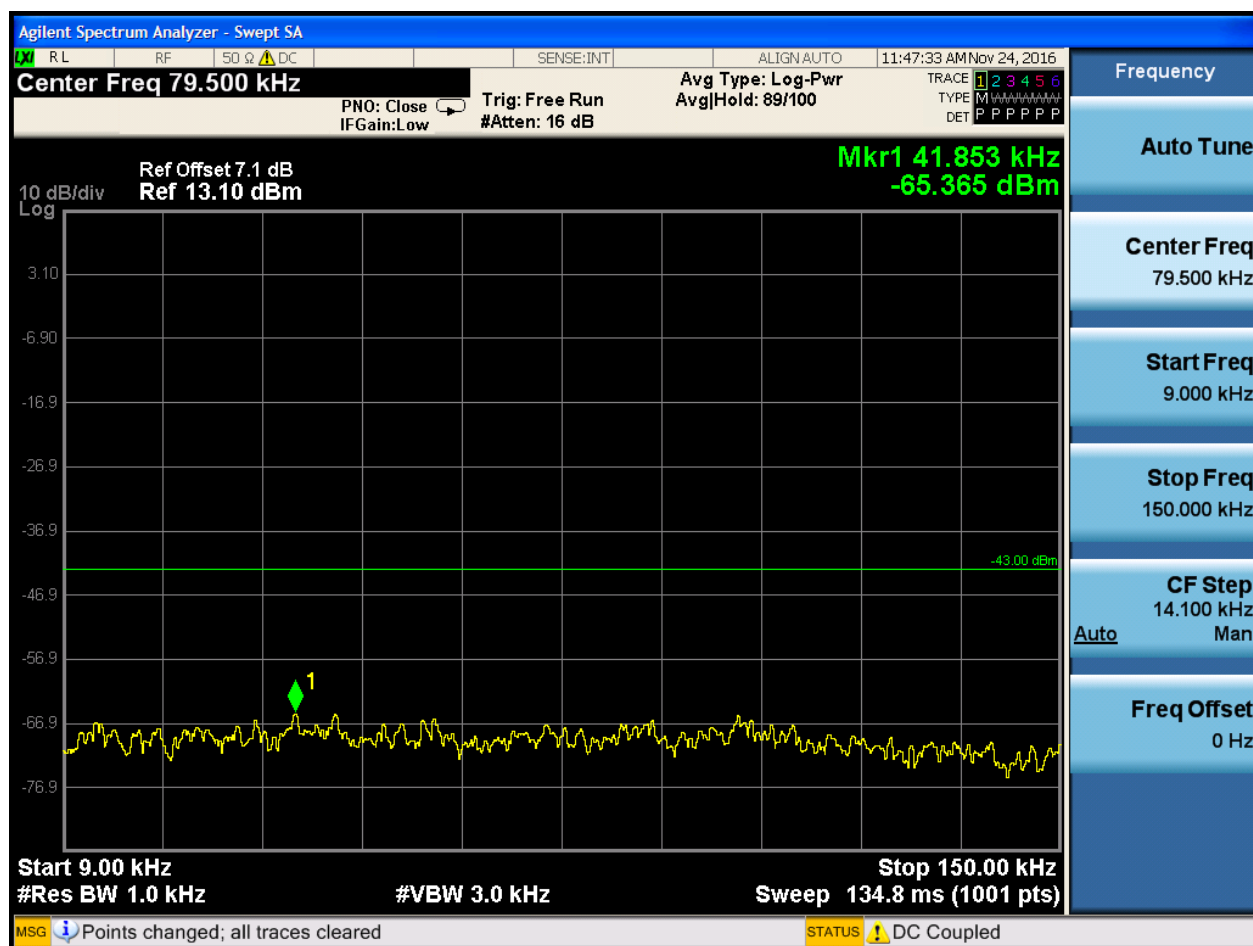


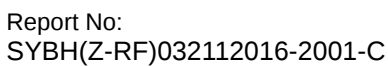


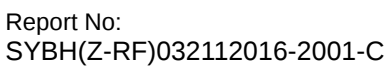


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





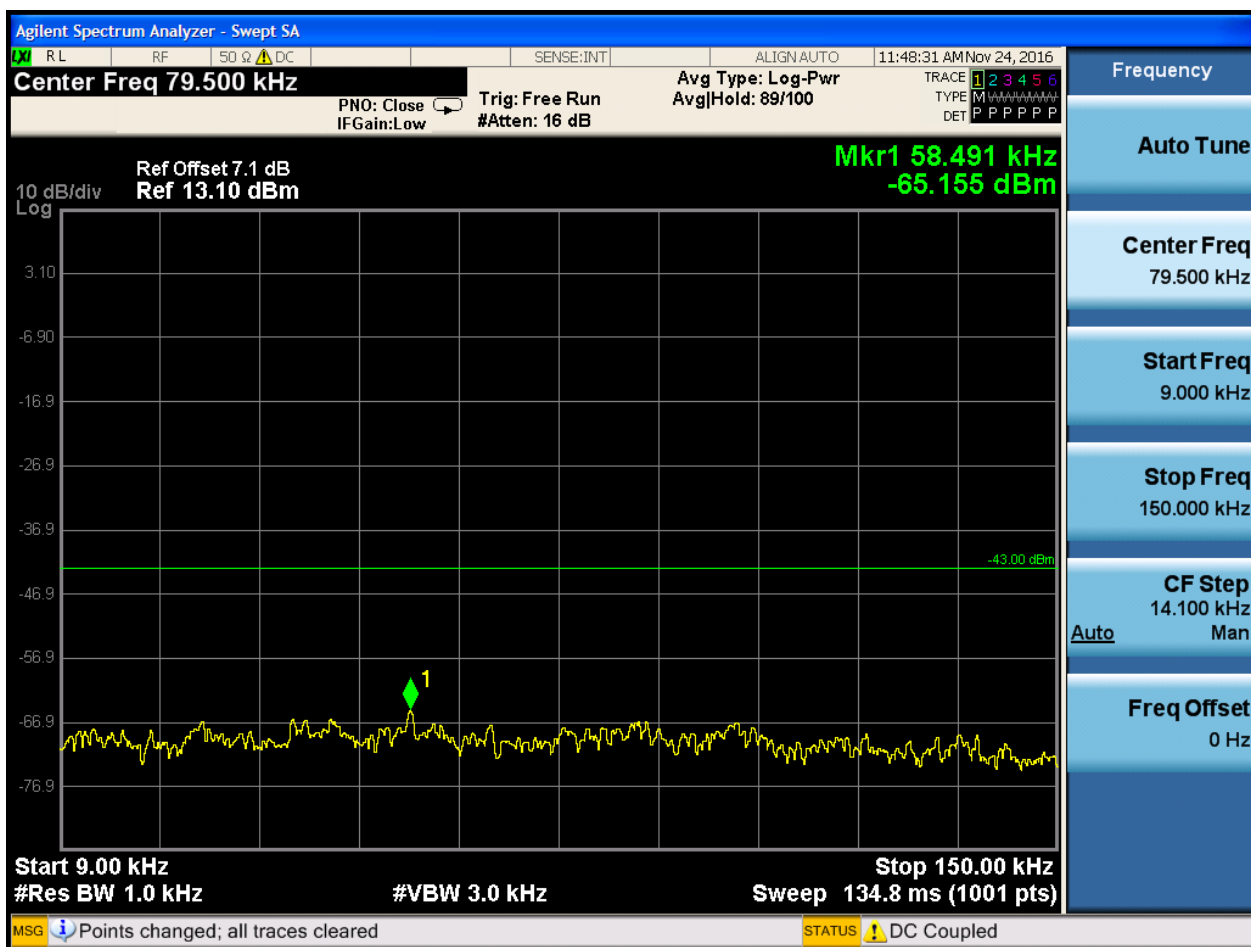


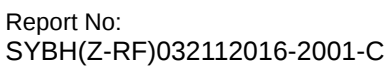


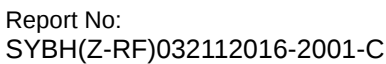
6.1.1.2.2 Test Bandwidth = 3

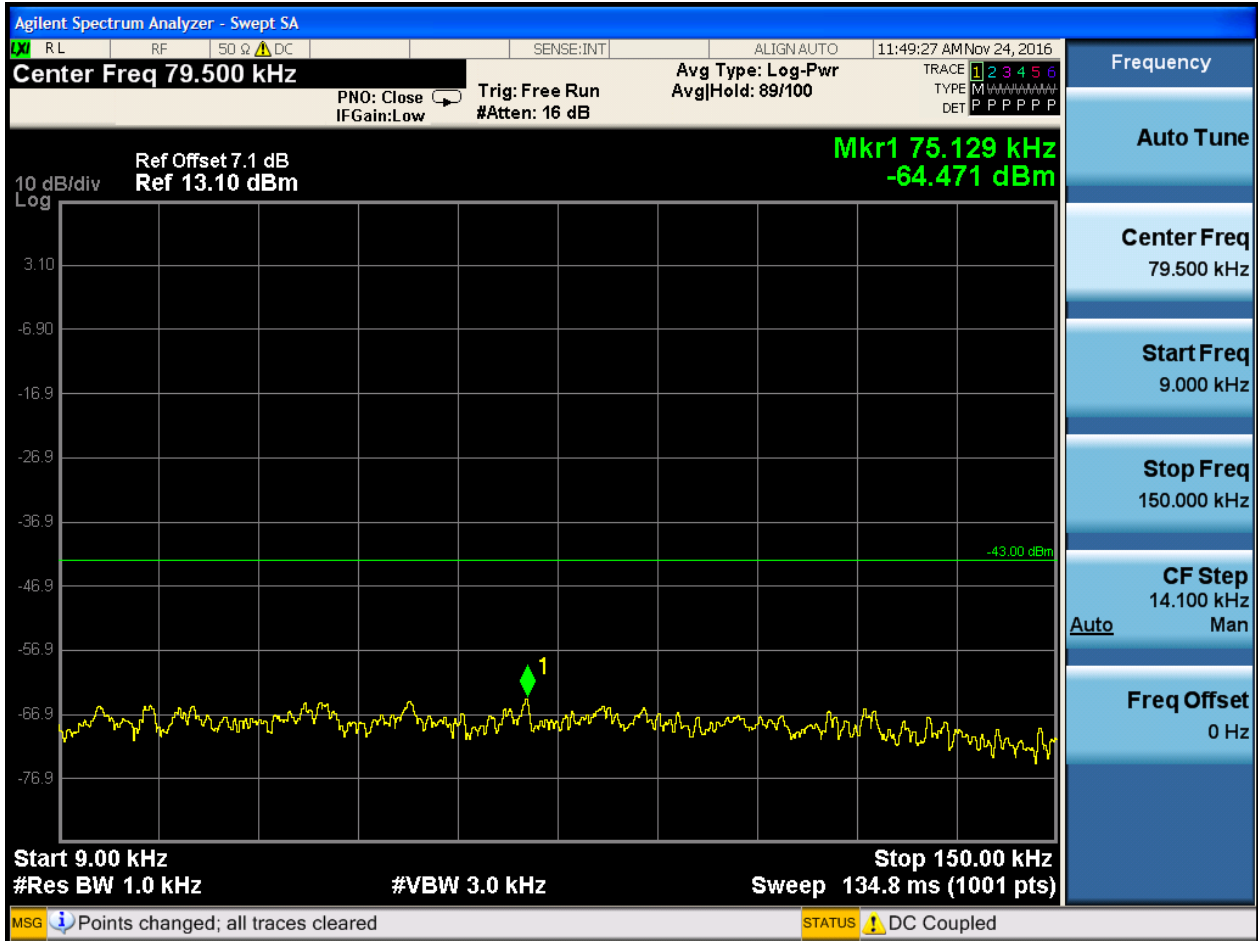
6.1.1.2.2.1 Test Channel = LCH

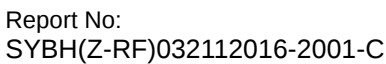
6.1.1.2.2.1.1 Test RB = RB1#0

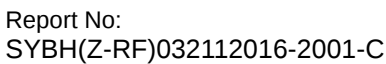




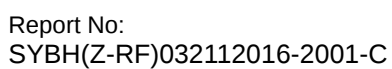


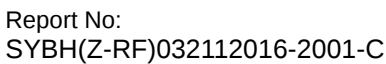










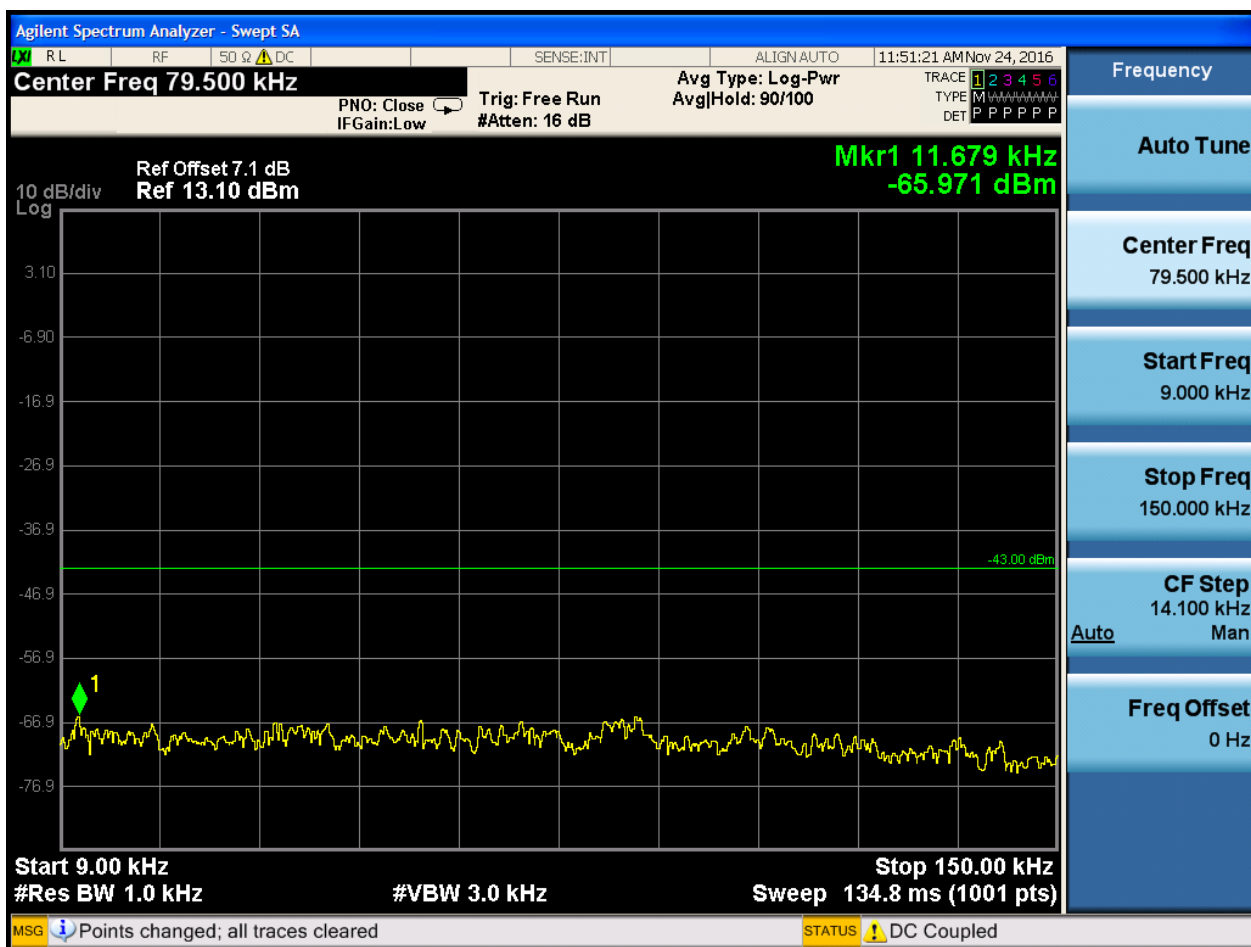


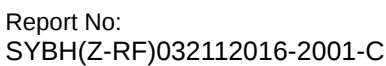


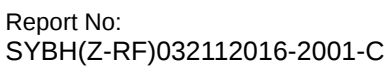
6.1.1.2.3 Test Bandwidth = 5

6.1.1.2.3.1 Test Channel = LCH

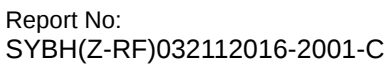
6.1.1.2.3.1.1 Test RB = RB1#0

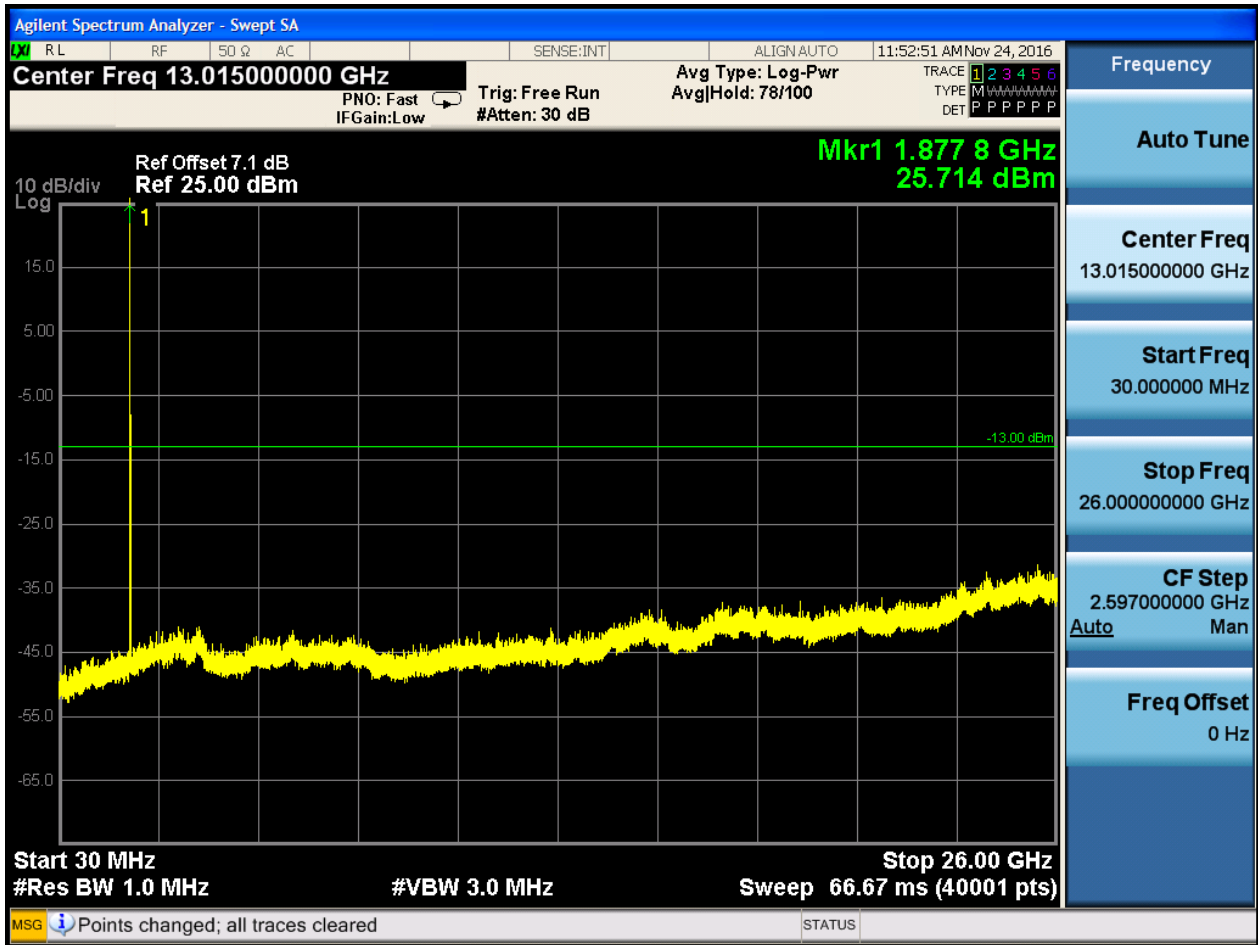






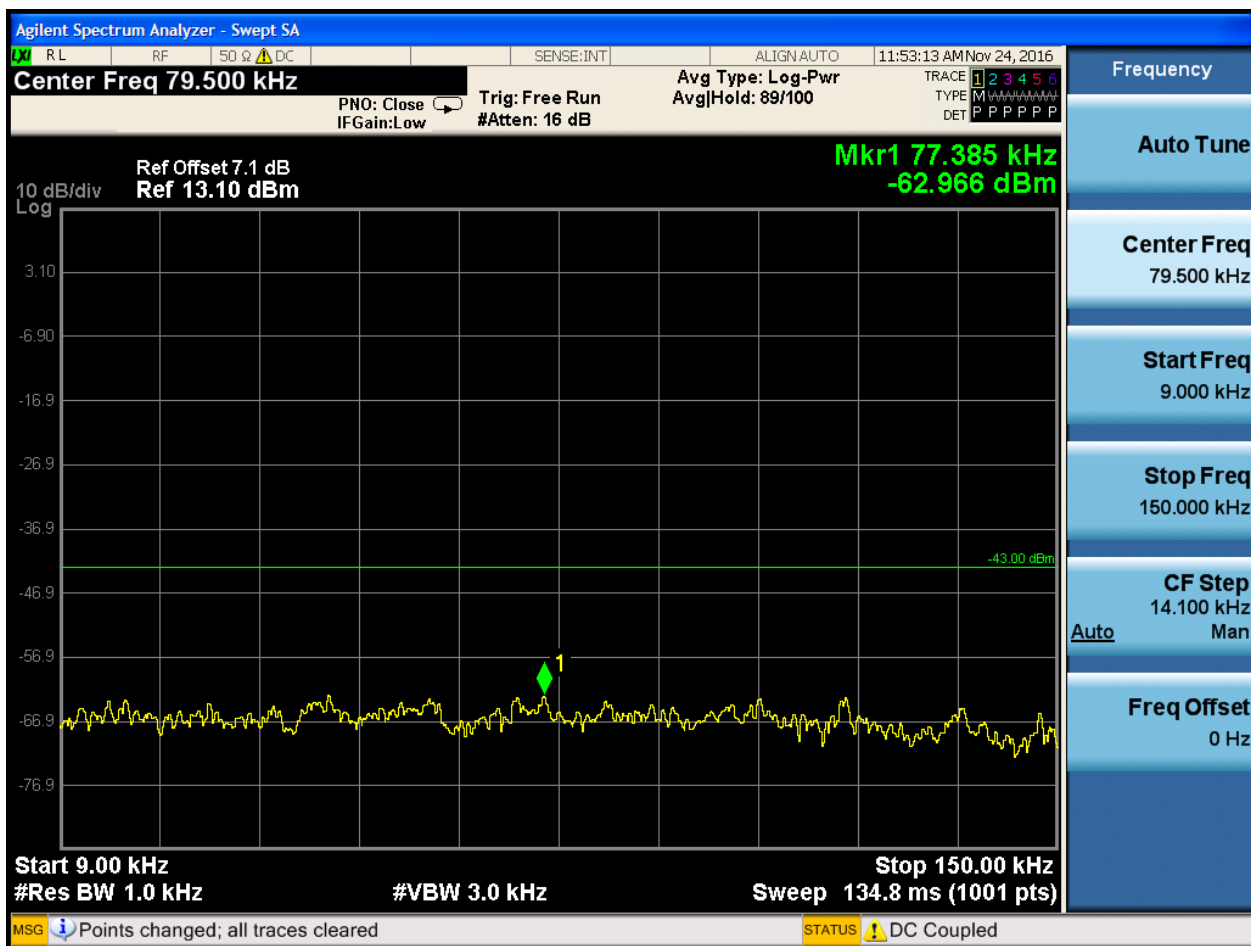


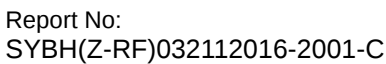


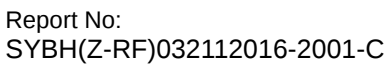


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0



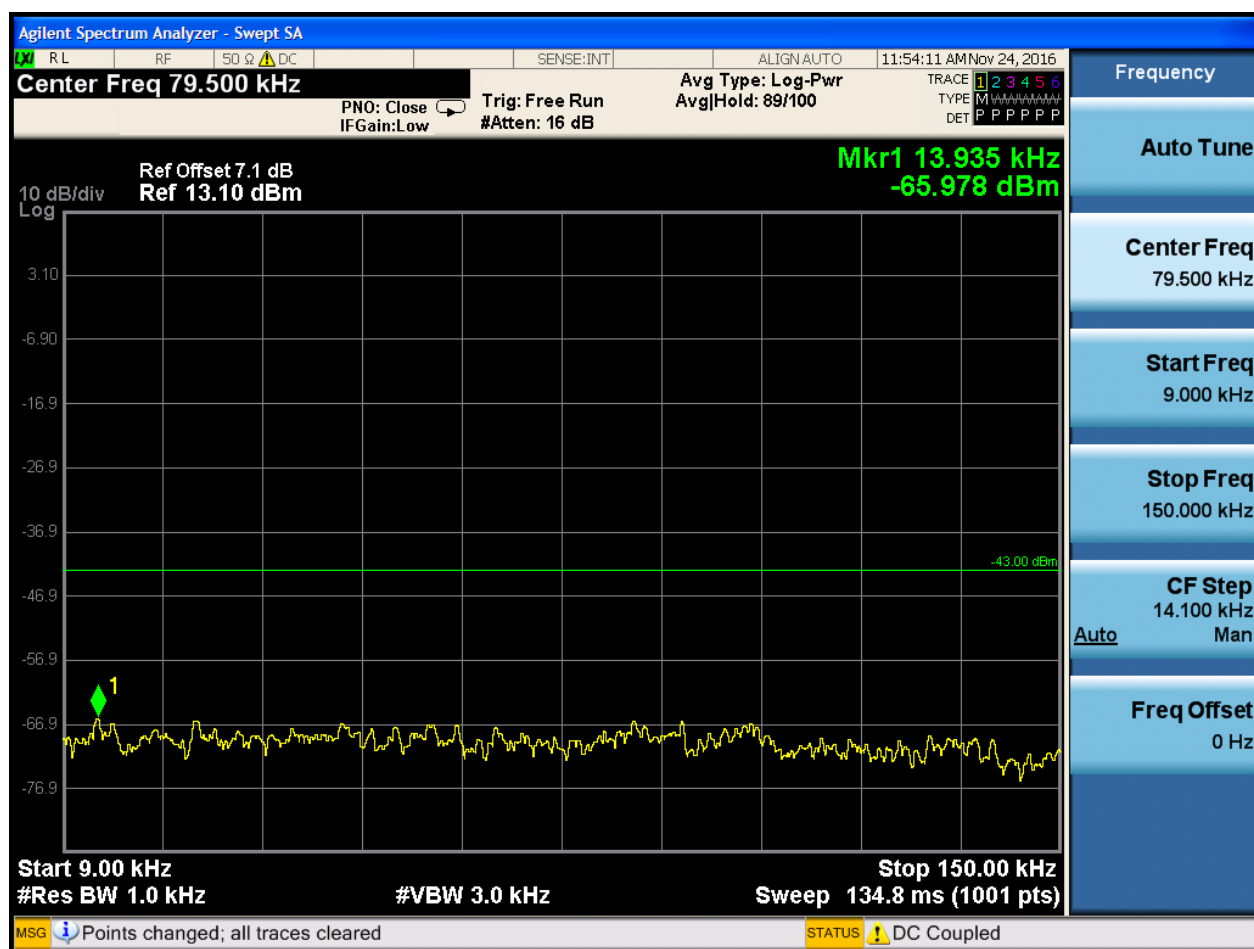


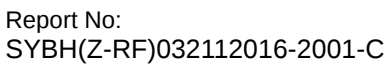


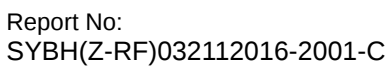
6.1.1.2.4 Test Bandwidth = 10

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

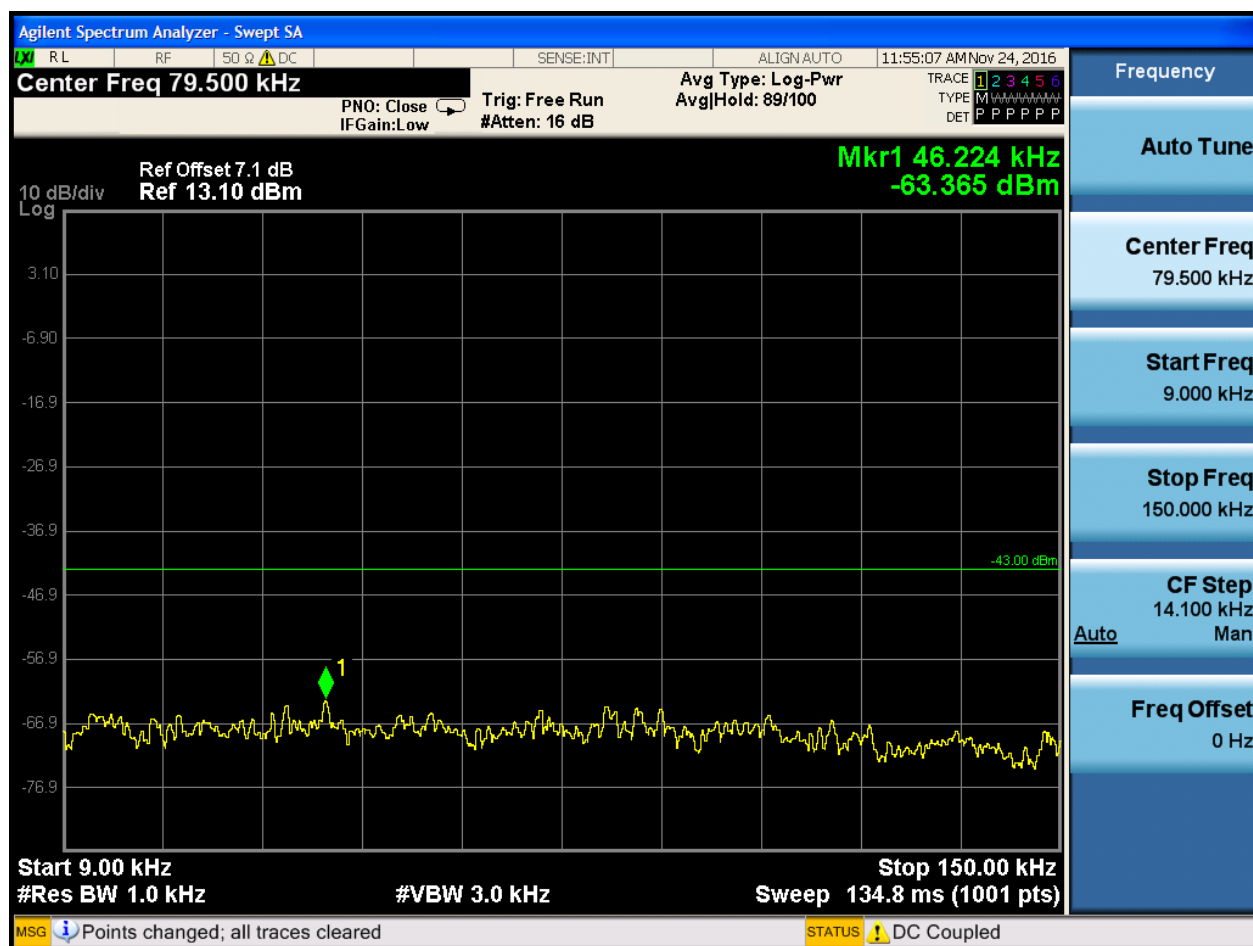


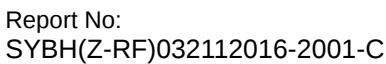


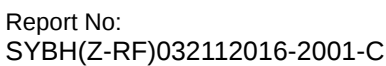


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0

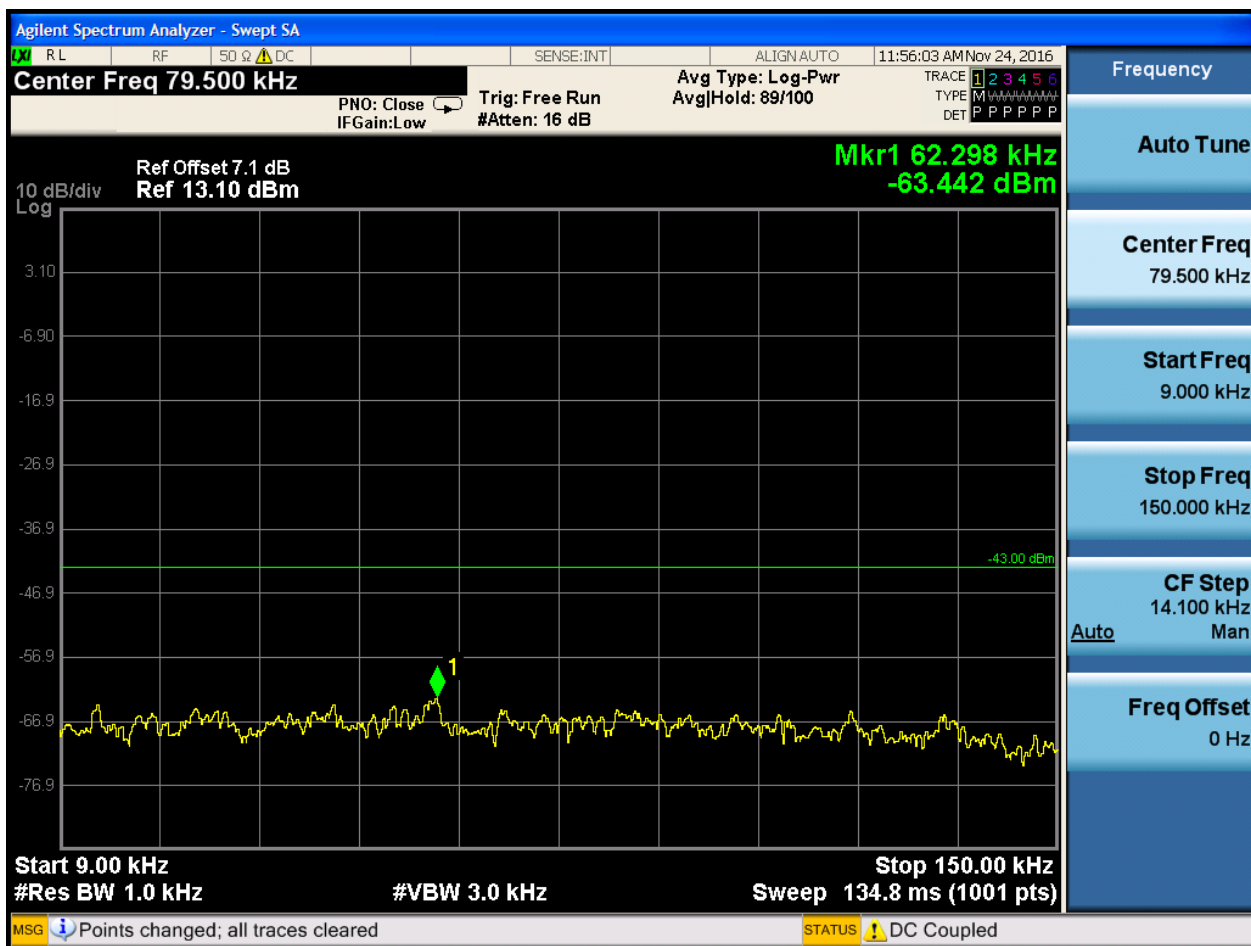


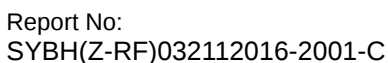


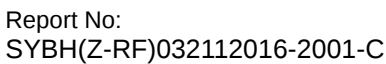


6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0









6.1.1.2.5 Test Bandwidth = 15

6.1.1.2.5.1 Test Channel = LCH

6.1.1.2.5.1.1 Test RB = RB1#0

