



5.1.1.2.1.2.3 Test RB = RB3#2





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.910000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 060 GHz
-29.650 dBm

Center 1.910000 GHz
#Res BW 15 kHz
#VBW 43 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg/Hold: 8/100

Frequency

Auto Tune

Center Freq
1.910000000 GHz

Start Freq
1.909000000 GHz

Stop Freq
1.911000000 GHz

CF Step
200.000 kHz
Auto

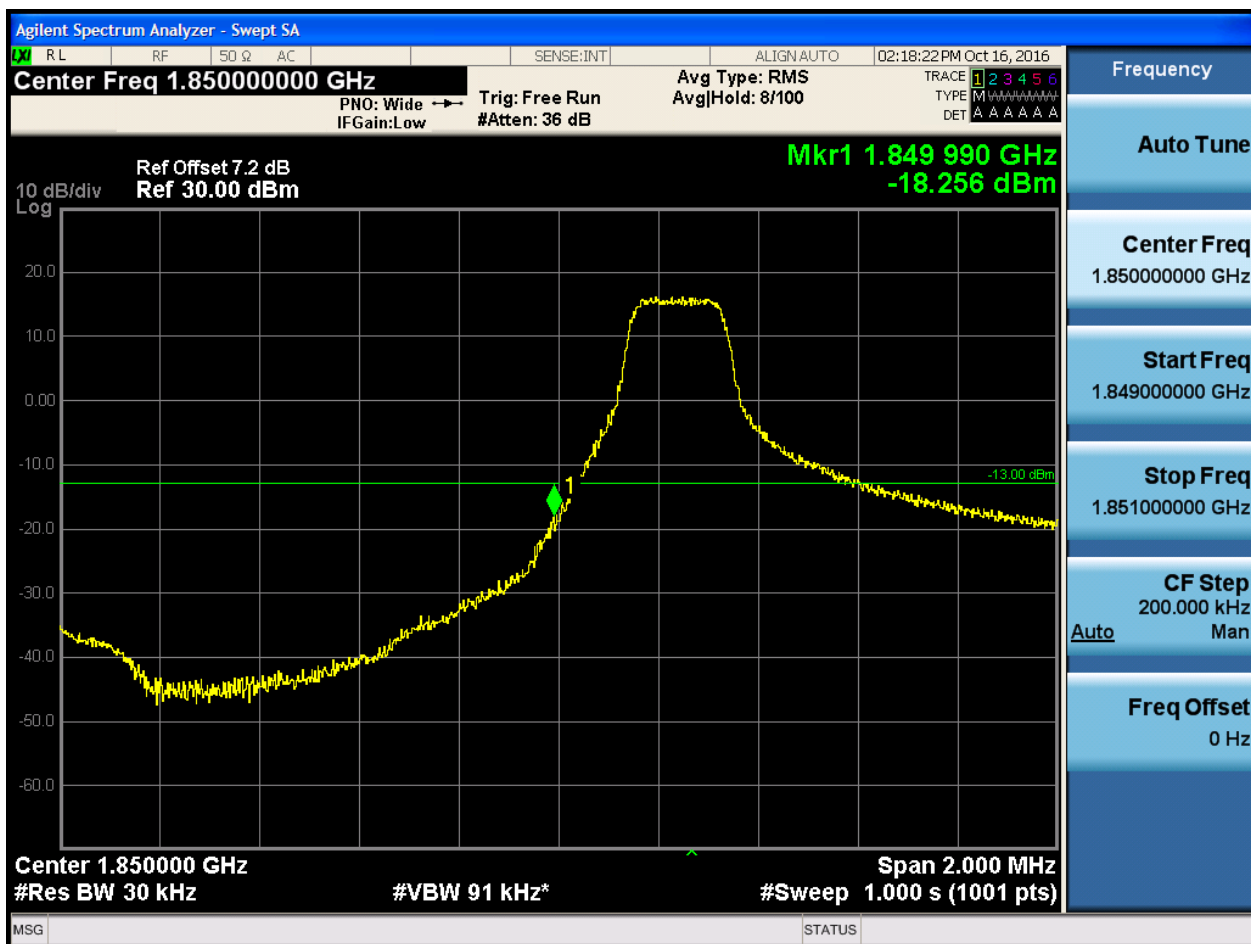
Freq Offset
0 Hz



5.1.1.2.2 Test Bandwidth = 3

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 02:18:36 PM Oct 16, 2016

Center Freq 1.850000000 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 7.2 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-33.901 dBm

10 dB/div
Log

-13.00 dBm

Center 1.850000 GHz
#Res BW 30 kHz

#VBW 91 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

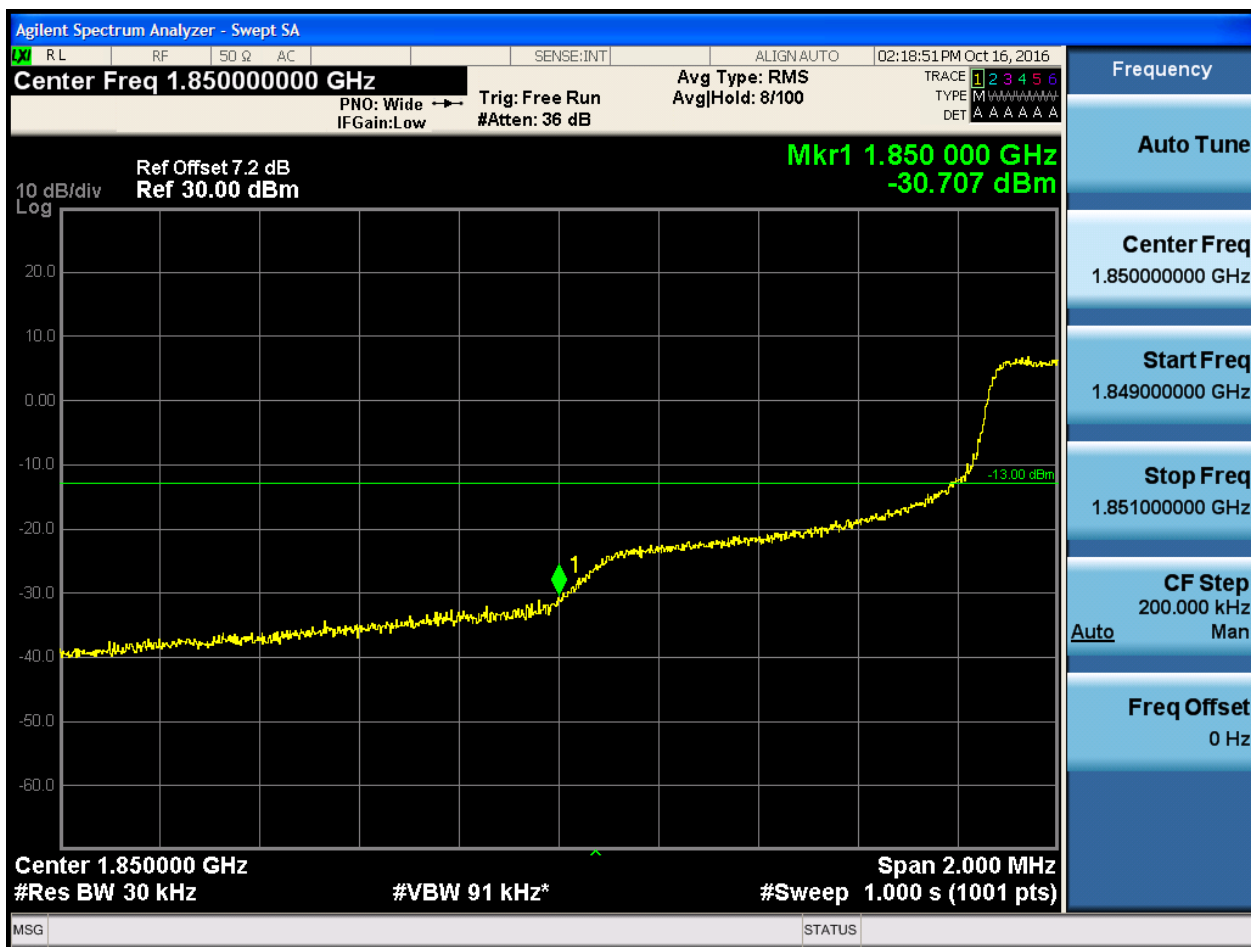
Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

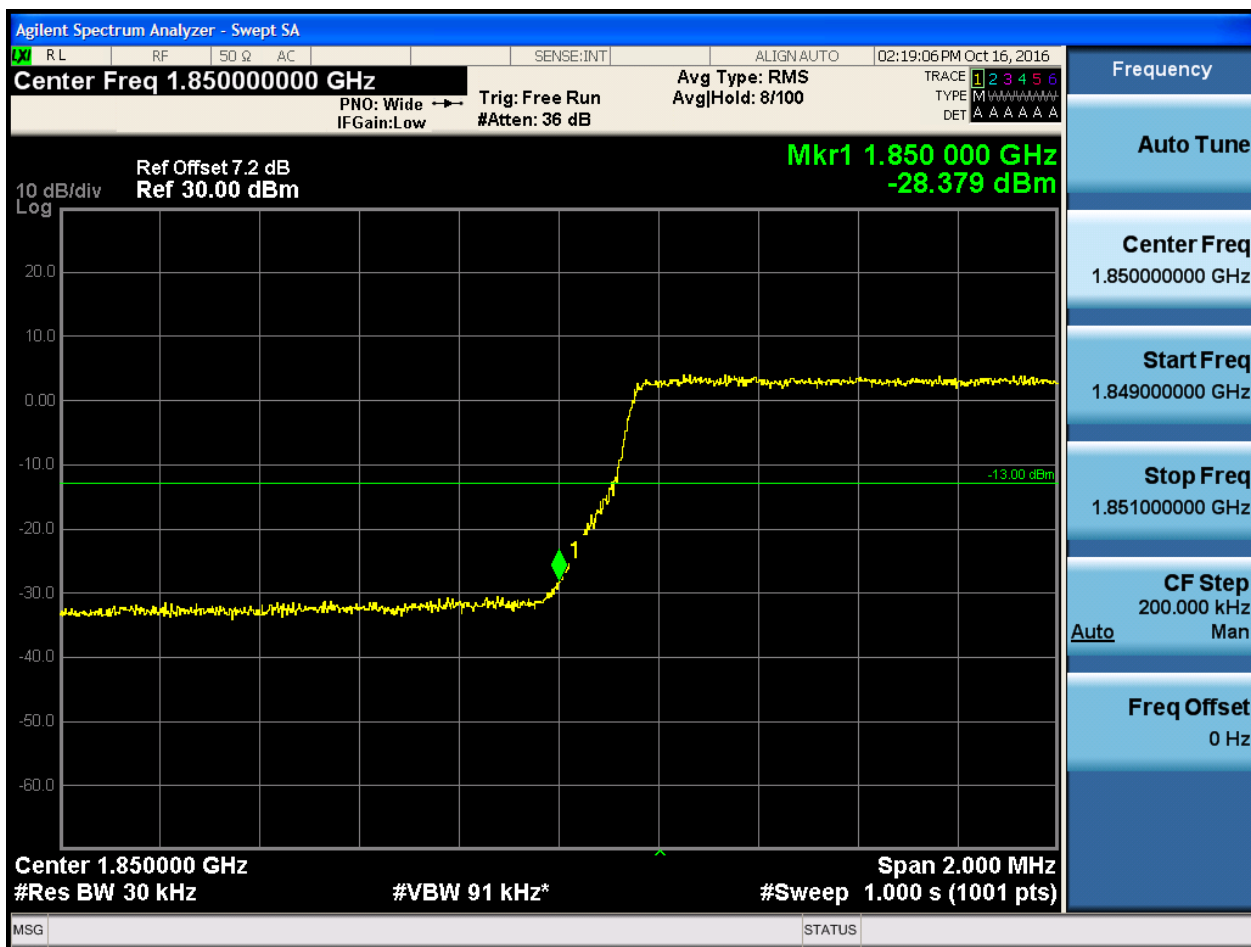


5.1.1.2.2.1.3 Test RB = RB8#4





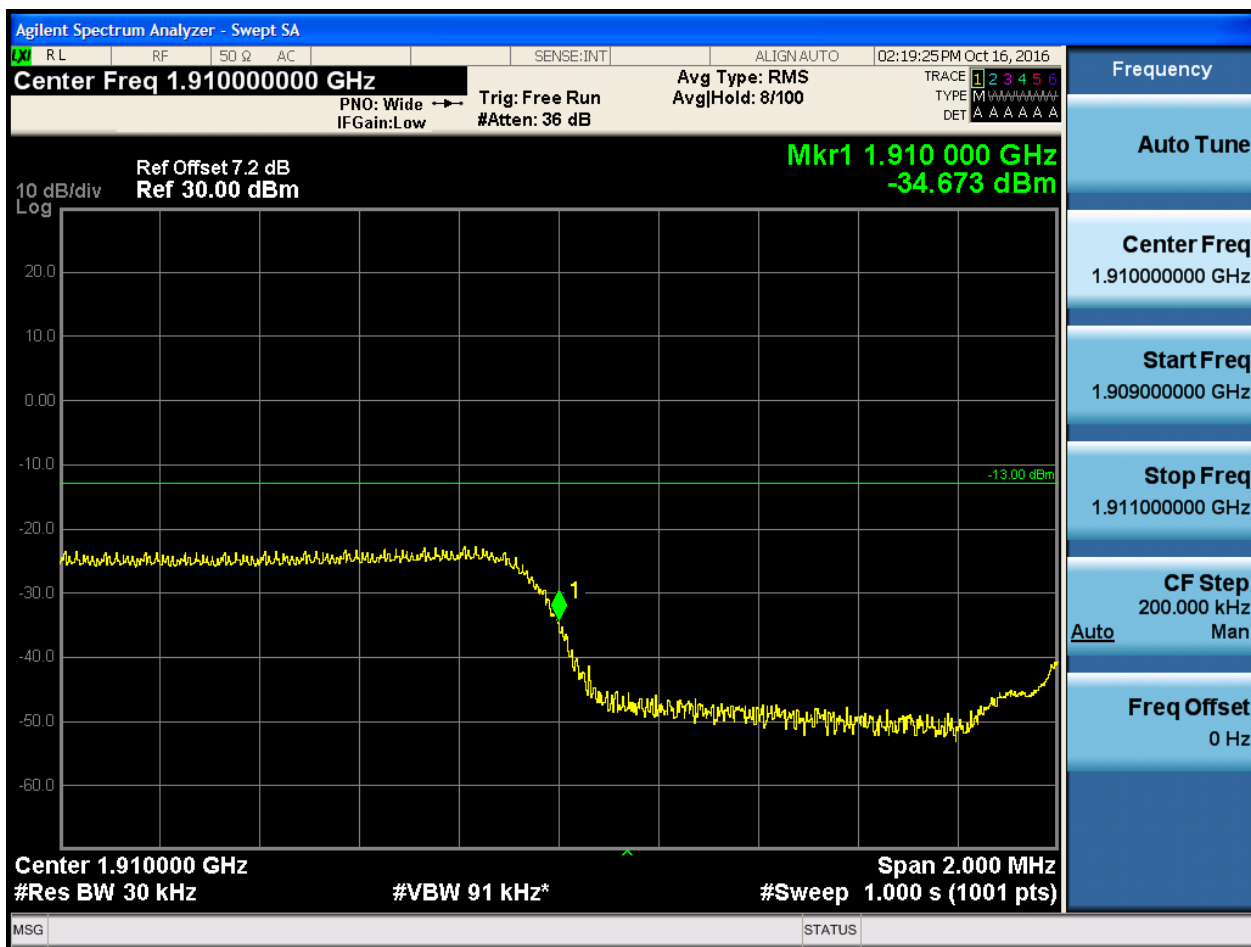
5.1.1.2.2.1.4 Test RB = RB15#0





5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:19:40 PM Oct 16, 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

Ref Offset 7.2 dB
 Ref 30.00 dBm

Mkr1 1.910 000 GHz
 -18.645 dBm

10 dB/div
 Log

Center 1.910000 GHz
 #Res BW 30 kHz
 #VBW 91 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



5.1.1.2.2.3 Test RB = RB8#4





5.1.1.2.2.4 Test RB = RB15#0

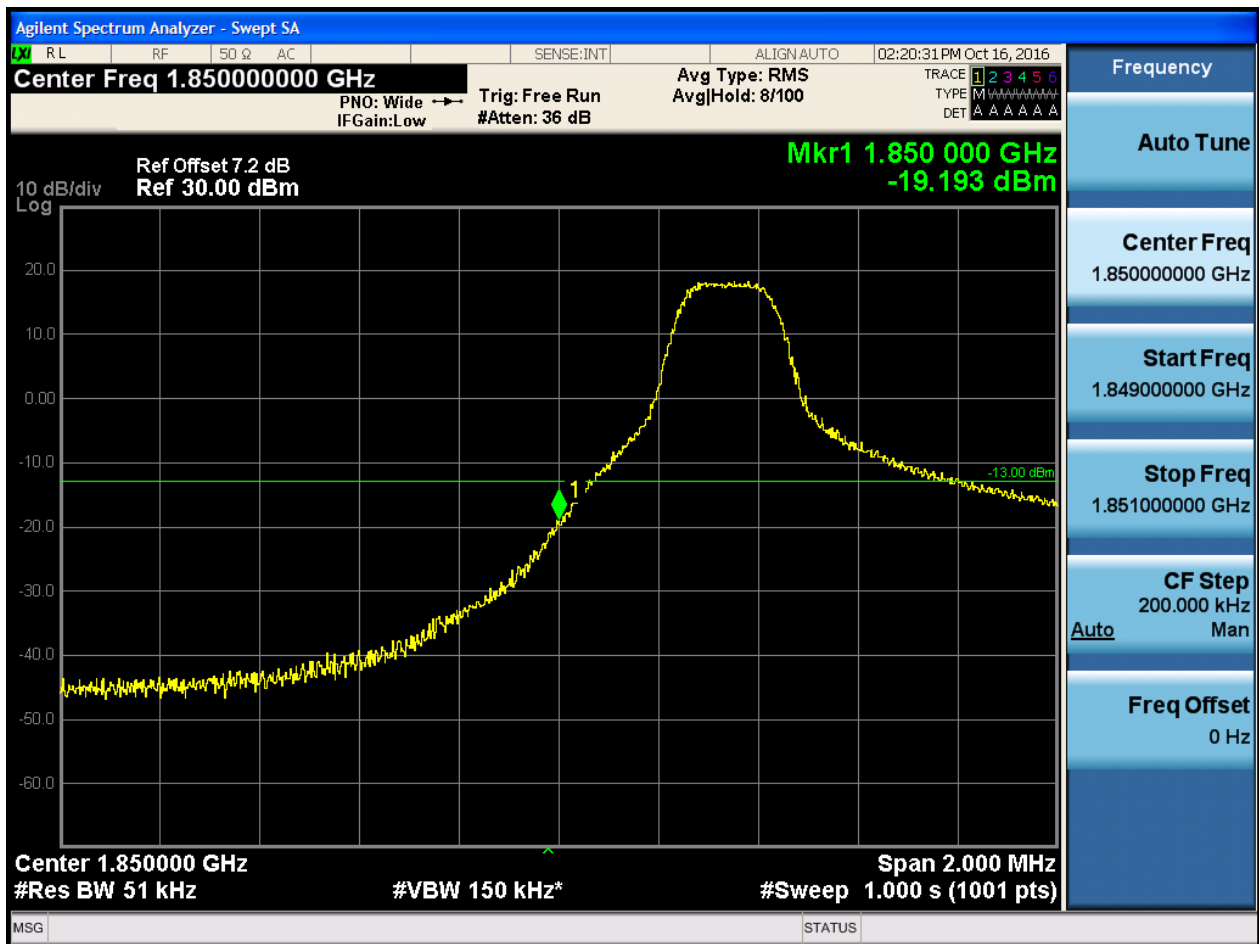




5.1.1.2.3 Test Bandwidth = 5

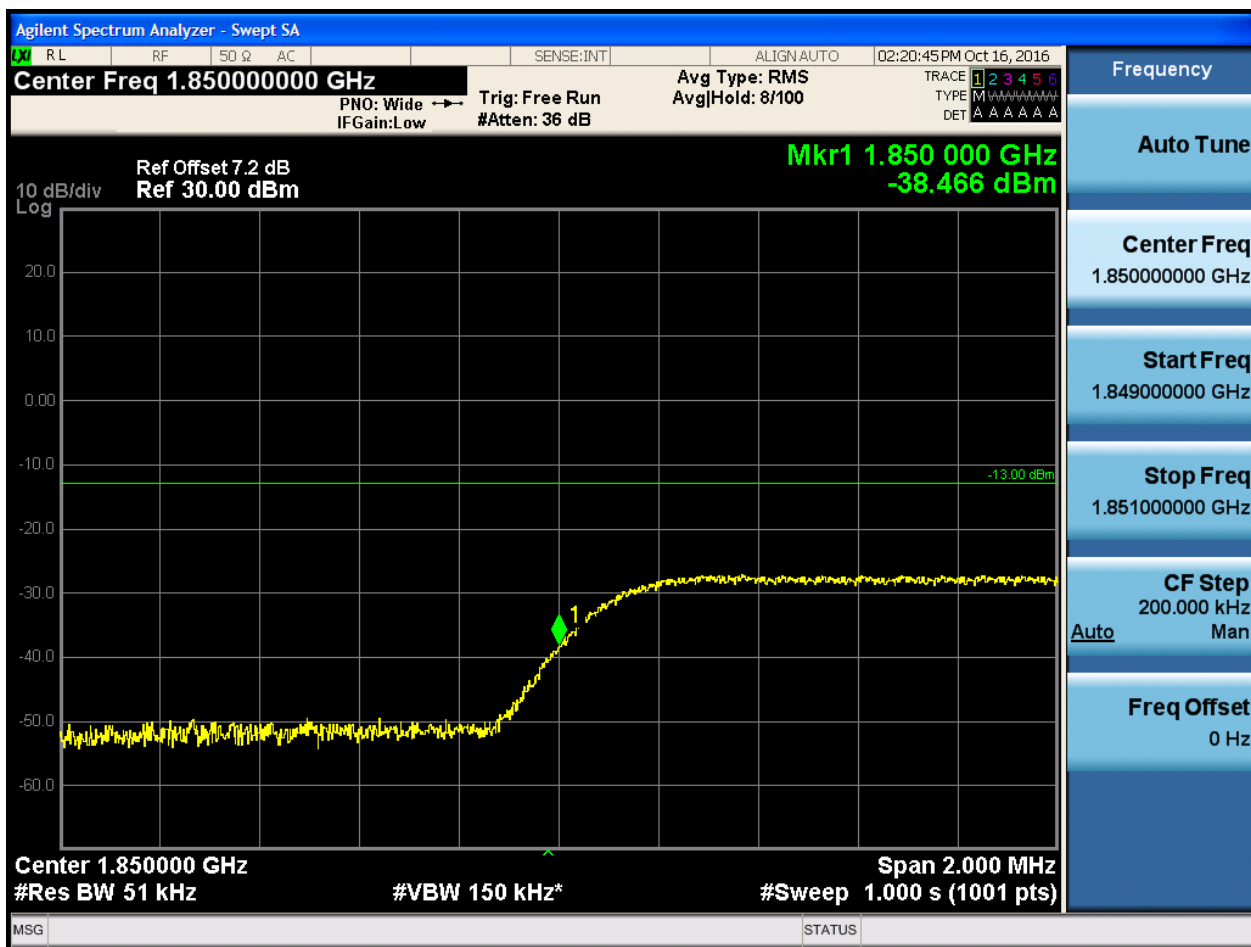
5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0





5.1.1.2.3.1.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:21:00 PM Oct 16, 2016

Center Freq 1.850000000 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 7.2 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-30.107 dBm

10 dB/div
Log

-13.00 dBm

Center 1.850000 GHz
#Res BW 51 kHz

#VBW 150 kHz*

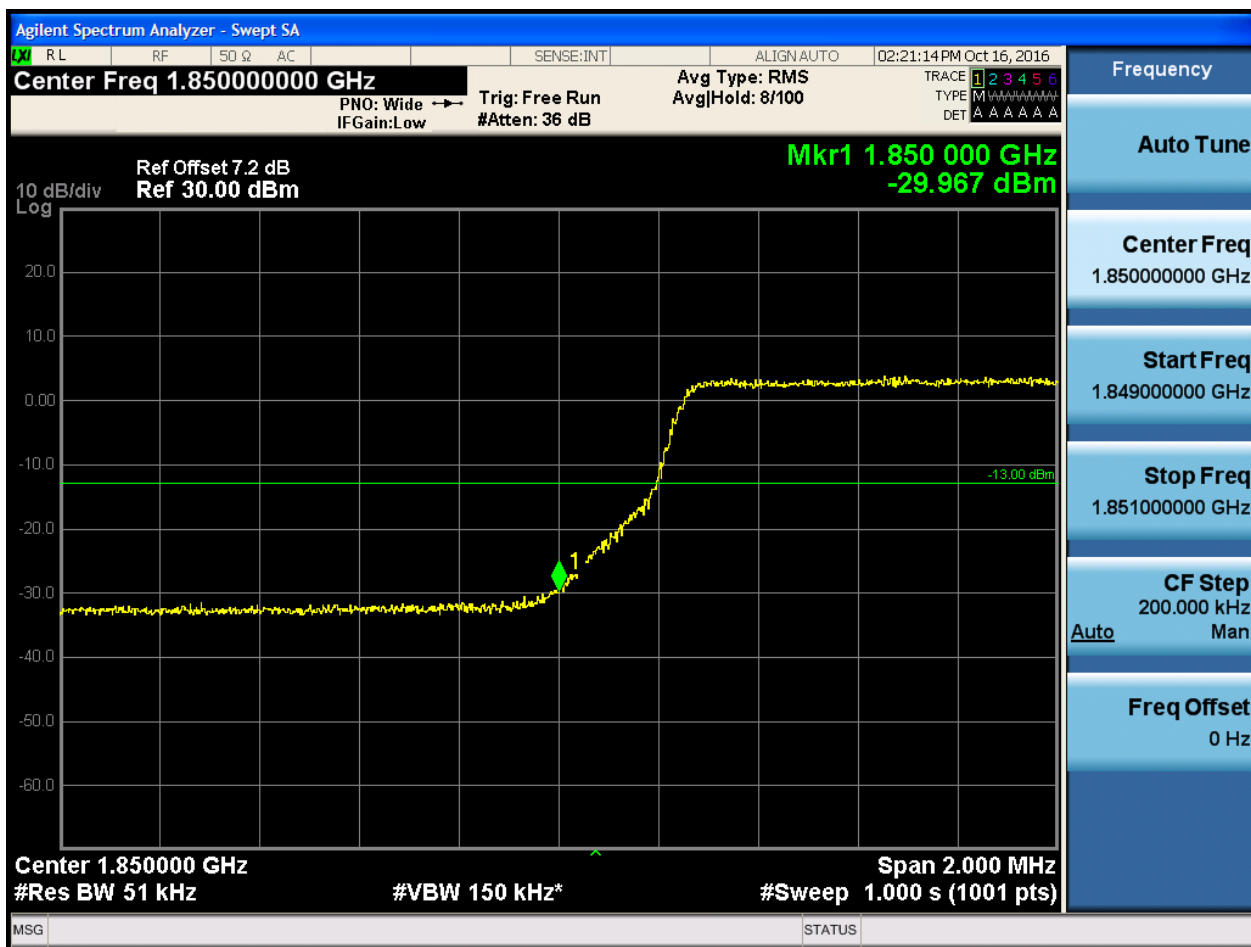
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

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



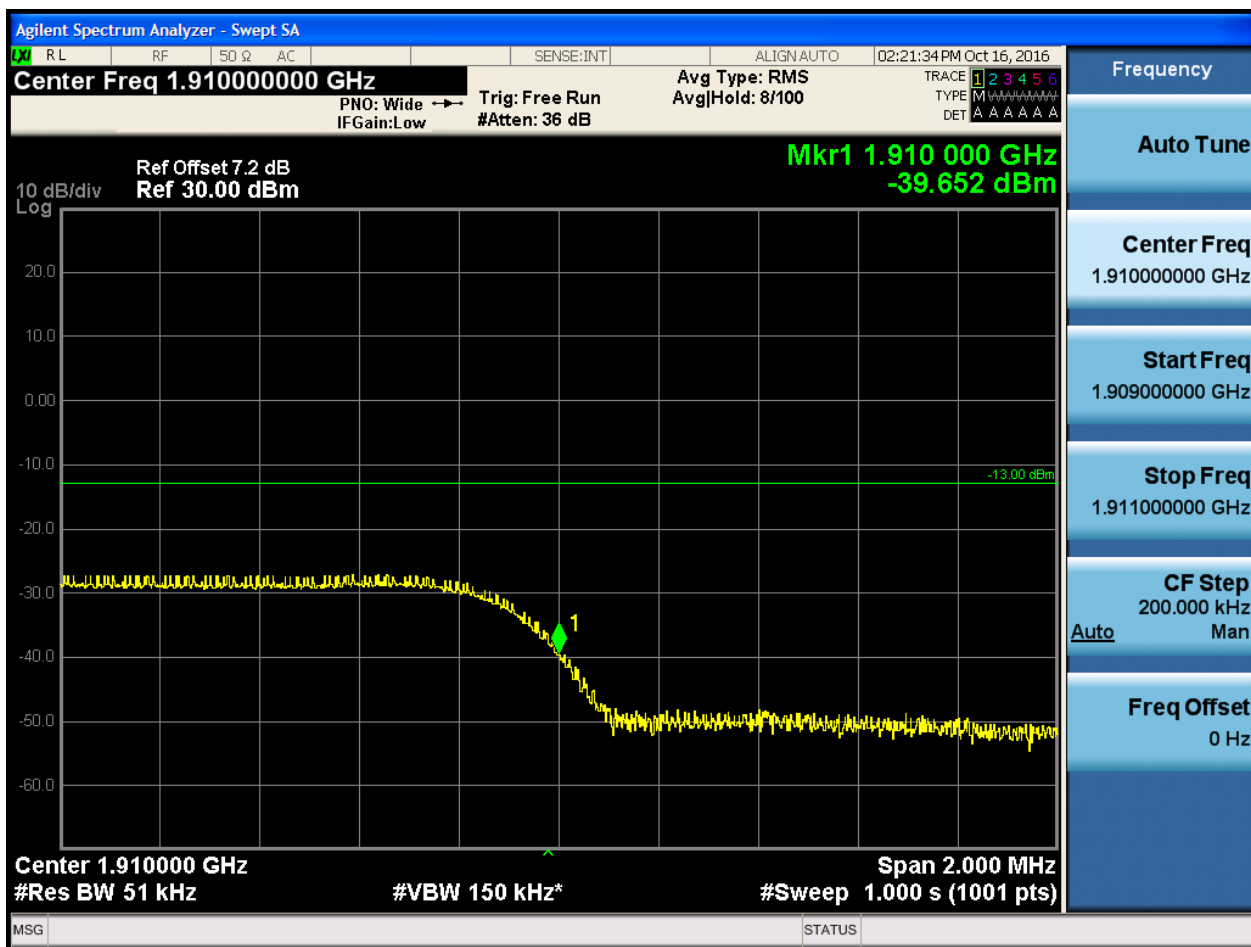
5.1.1.2.3.1.4 Test RB = RB25#0





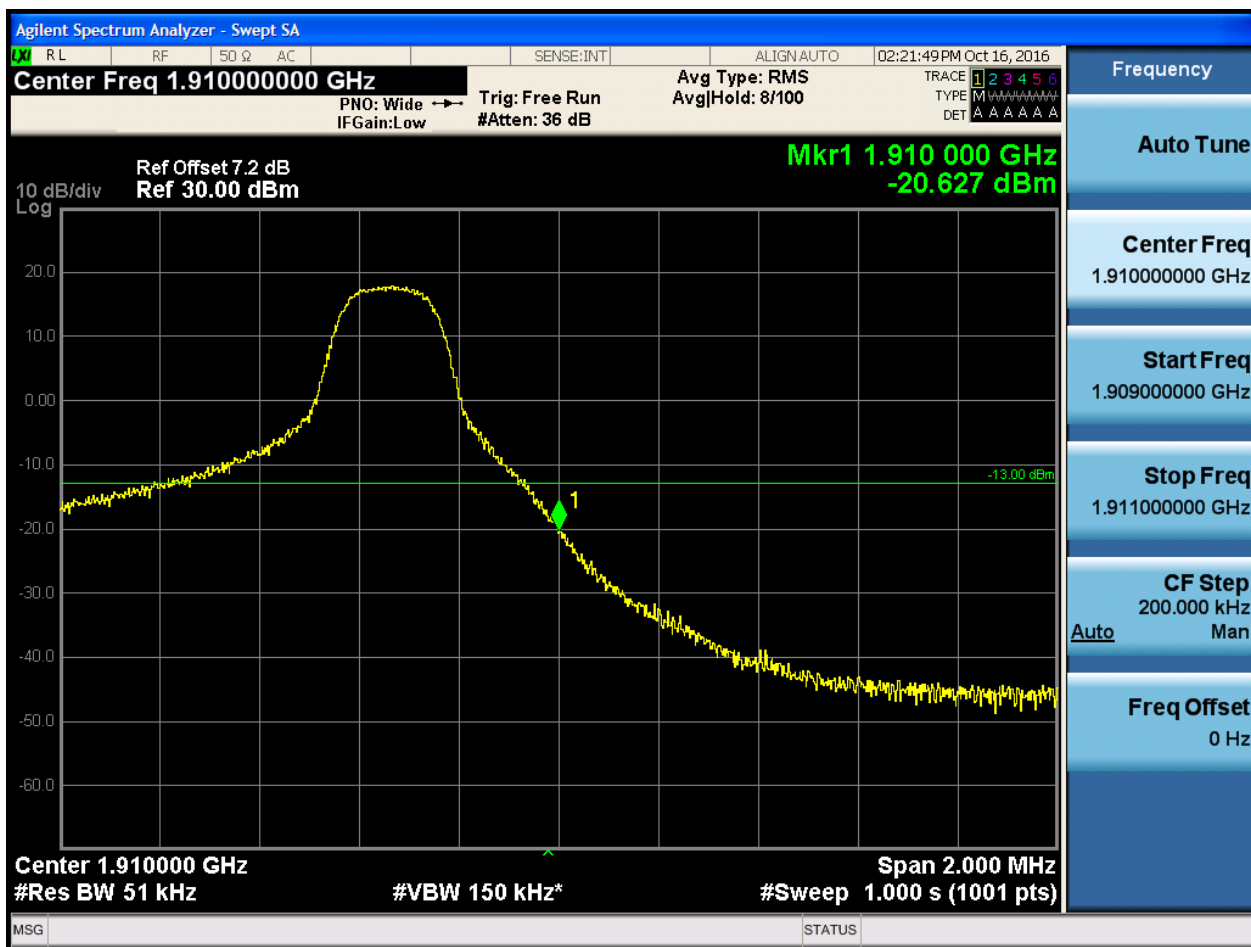
5.1.1.2.3.2 Test Channel = HCH

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

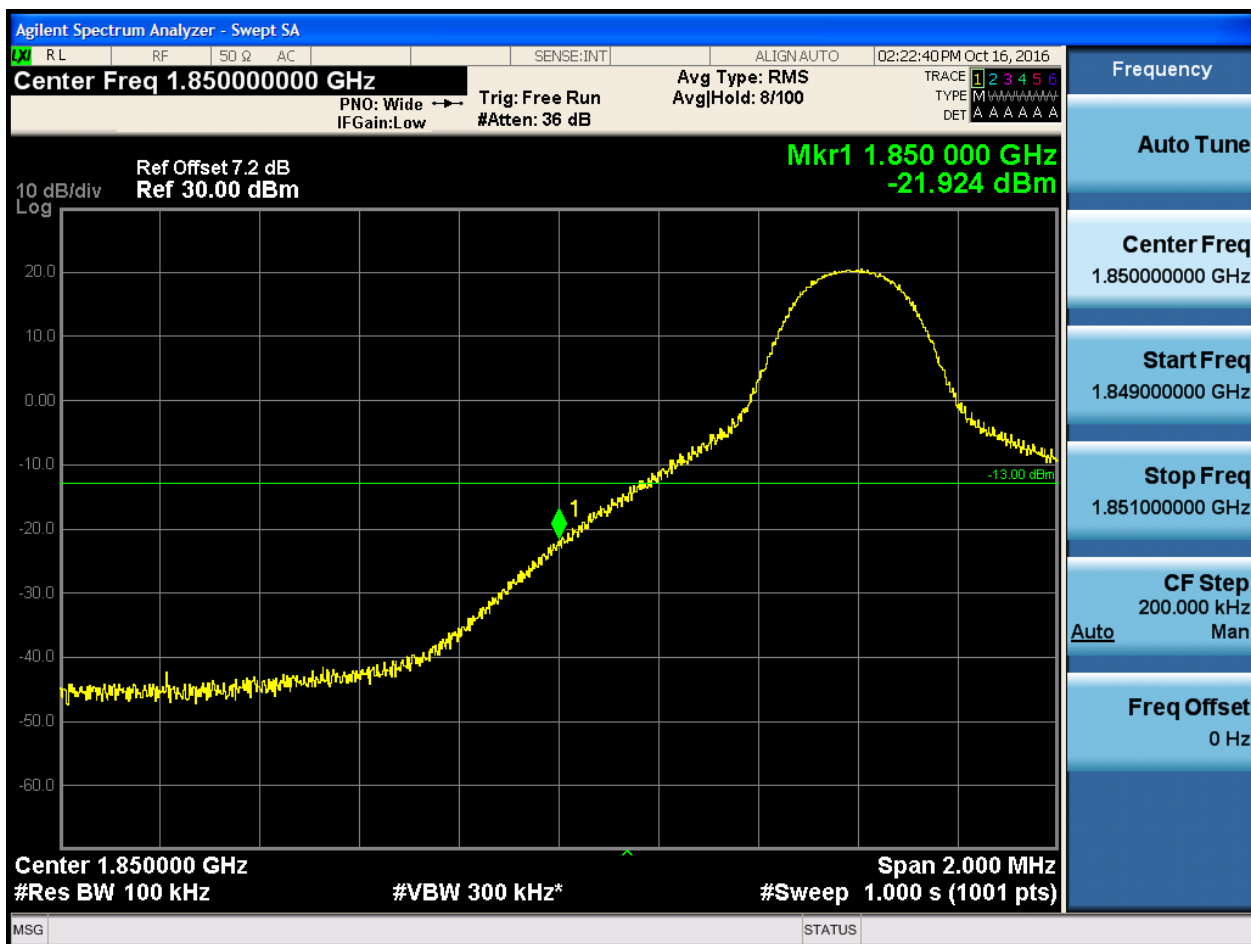




5.1.1.2.4 Test Bandwidth = 10

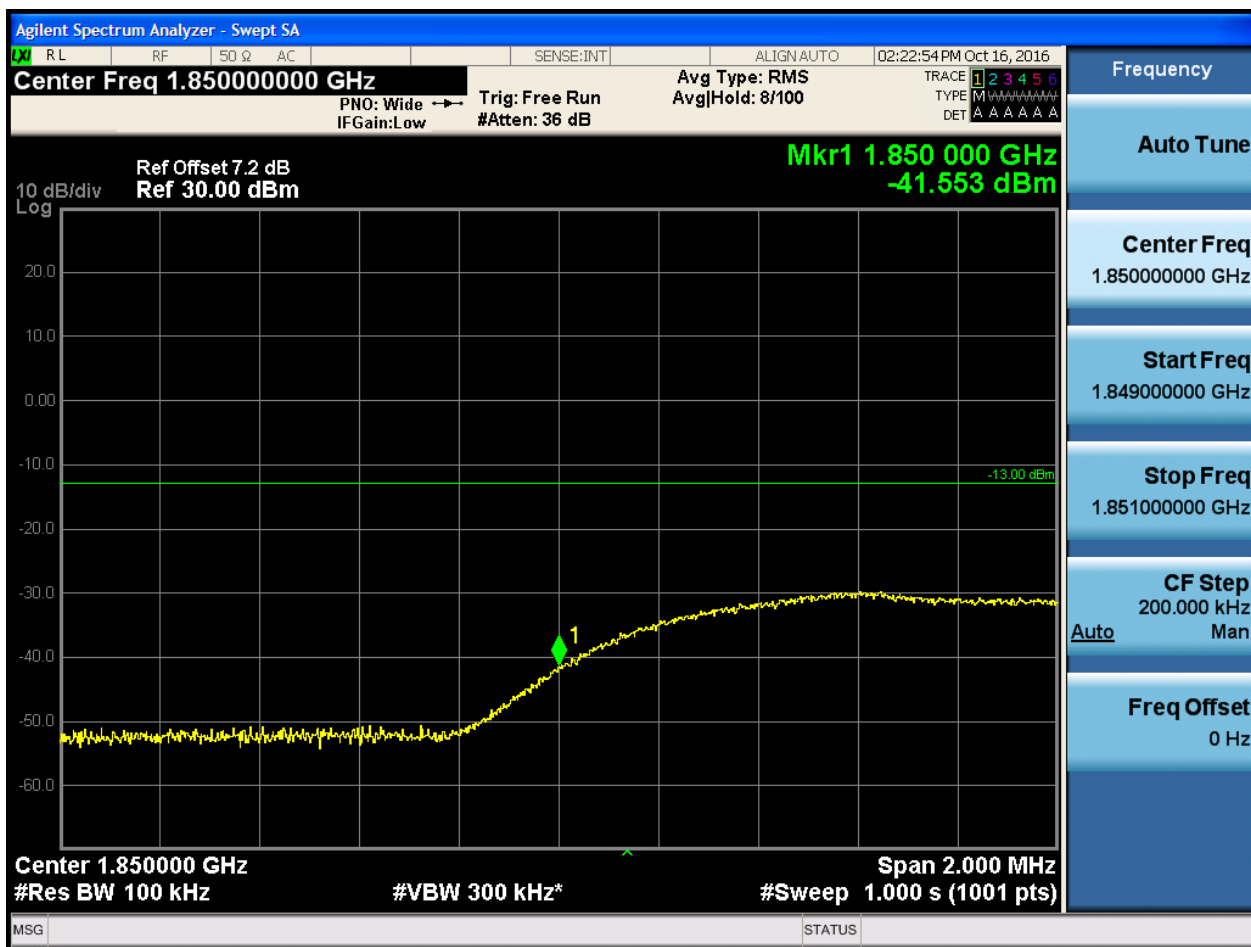
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0





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

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:23:24 PM Oct 16, 2016

Center Freq 1.850000000 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 7.2 dB
Ref 30.00 dBm

Mkr1 1.849 990 GHz
-32.073 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

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



5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 02:23:58 PM Oct 16, 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 7.2 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-23.404 dBm

10 dB/div
Log

Center 1.910000 GHz
#Res BW 100 kHz
#VBW 300 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:24:13 PM Oct 16, 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
DET A A A A A A

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.910 030 GHz
-31.603 dBm

10 dB/div
Log

-13.00 dBm

1

Center 1.910000 GHz Span 2.000 MHz
#Res BW 100 kHz #VBW 300 kHz #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



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

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-31.291 dBm

10 dB/div
Log

The plot shows a spectrum with a yellow trace representing the signal. The signal starts at approximately 0 dBm at 1.909 GHz and drops sharply to about -31.3 dBm at 1.910 GHz, where it levels off. A green horizontal line indicates the noise floor at -13.00 dBm. A yellow marker labeled '1' points to the signal level at 1.910 GHz.

Center 1.91000 GHz
#Res BW 100 kHz
#VBW 300 kHz*

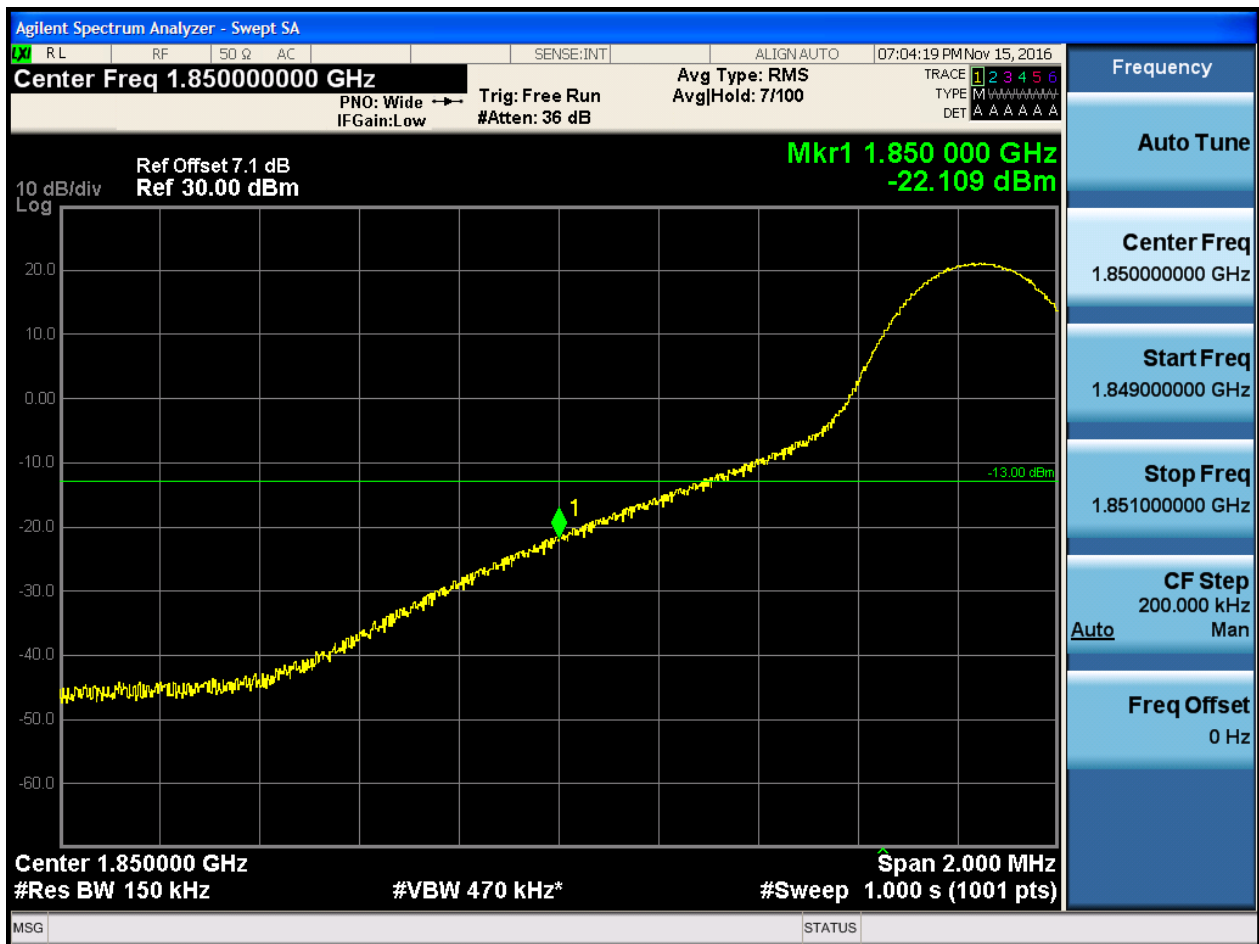
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)



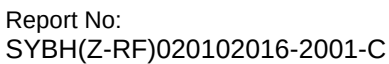
5.1.1.2.5 Test Bandwidth = 15

5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0

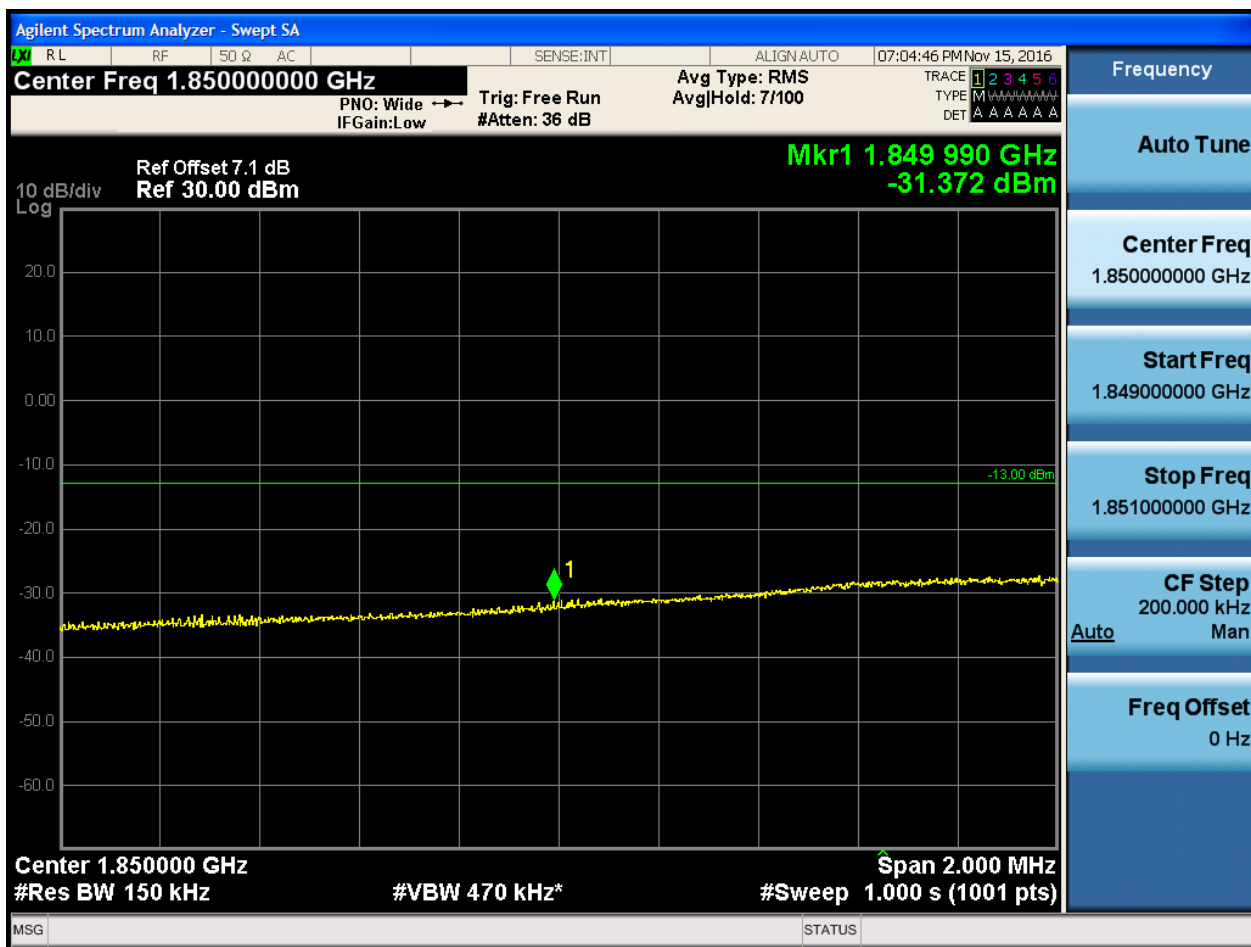


2.1.1.2.5.1.2 Test RB = RB1#74





2.1.1.2.5.1.3 Test RB = RB38#19





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 07:05:00 PM Nov 15, 2016

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 W W
DET A A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.849 950 GHz
-30.426 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



2.1.1.2.5.2 Test Channel = HCH

2.1.1.2.5.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 07:05:33 PM Nov 15, 2016

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 71/100
#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 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-21.849 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

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



2.1.1.2.5.2.3 Test RB = RB38#19





2.1.1.2.5.2.4 Test RB = RB75#0

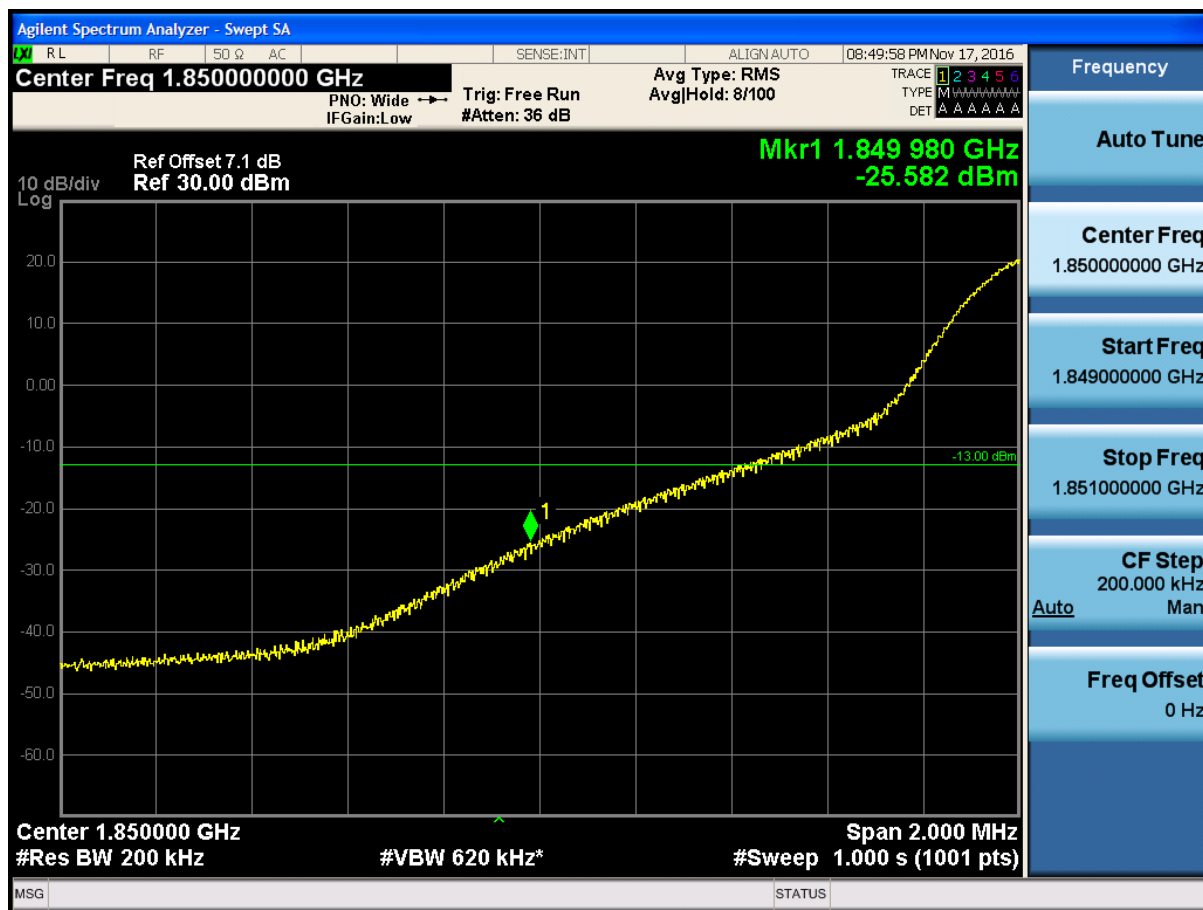




2.1.1.2.6 Test Bandwidth = 20

2.1.1.2.6.1 Test Channel = LCH

2.1.1.2.6.1.1 Test RB = RB1#0



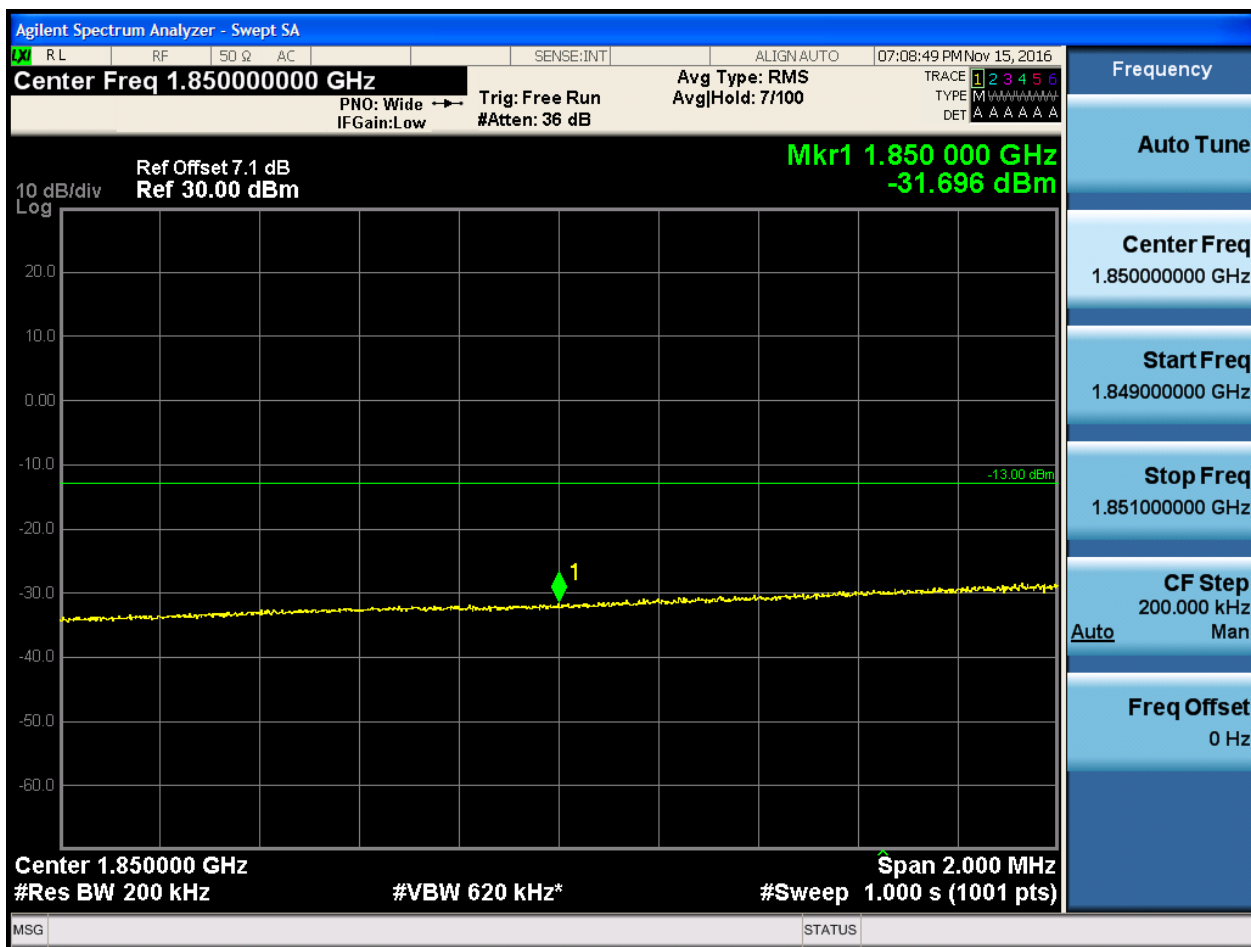


2.1.1.2.6.1.2 Test RB = RB1#99





2.1.1.2.6.1.3 Test RB = RB50#25





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 07:09:04 PM Nov 15, 2016

Center Freq 1.850000000 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 7.1 dB
Ref 30.00 dBm

Mkr1 1.849 950 GHz
-30.606 dBm

10 dB/div
Log

Center 1.850000 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
1.850000000 GHz

Start Freq
1.849000000 GHz

Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



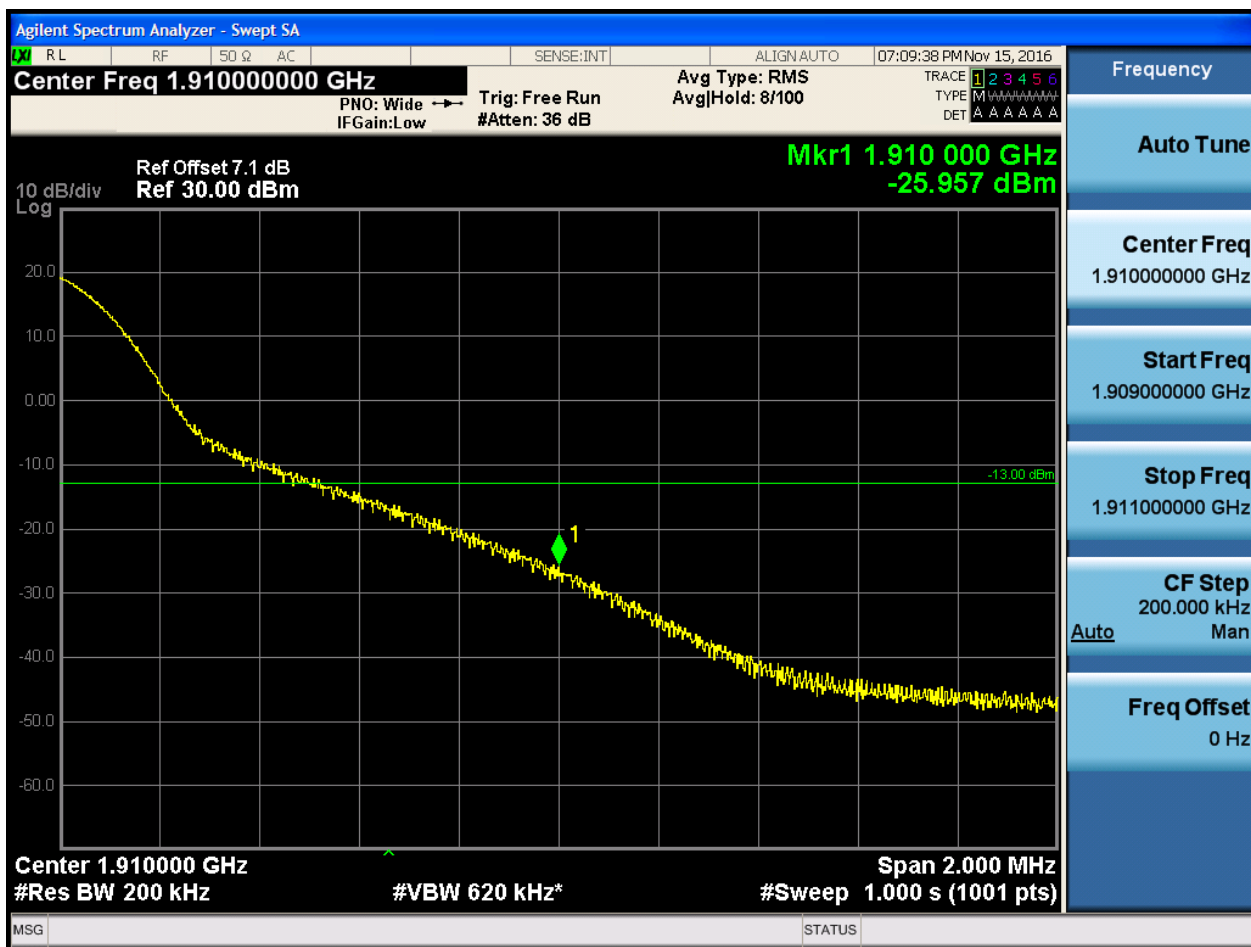
2.1.1.2.6.2 Test Channel = HCH

2.1.1.2.6.2.1 Test RB = RB1#0





2.1.1.2.6.2.2 Test RB = RB1#99





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 07:09:52 PM Nov 15, 2016

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide Trg: 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 A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 050 GHz
-33.245 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 07:10:06 PM Nov 15, 2016

Center Freq 1.910000000 GHz Avg Type: RMS
 PNO: Wide IF Gain: Low Trig: Free Run Avg Hold: 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 7.1 dB
 Ref 30.00 dBm

Mkr1 1.910 020 GHz
 -31.675 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

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

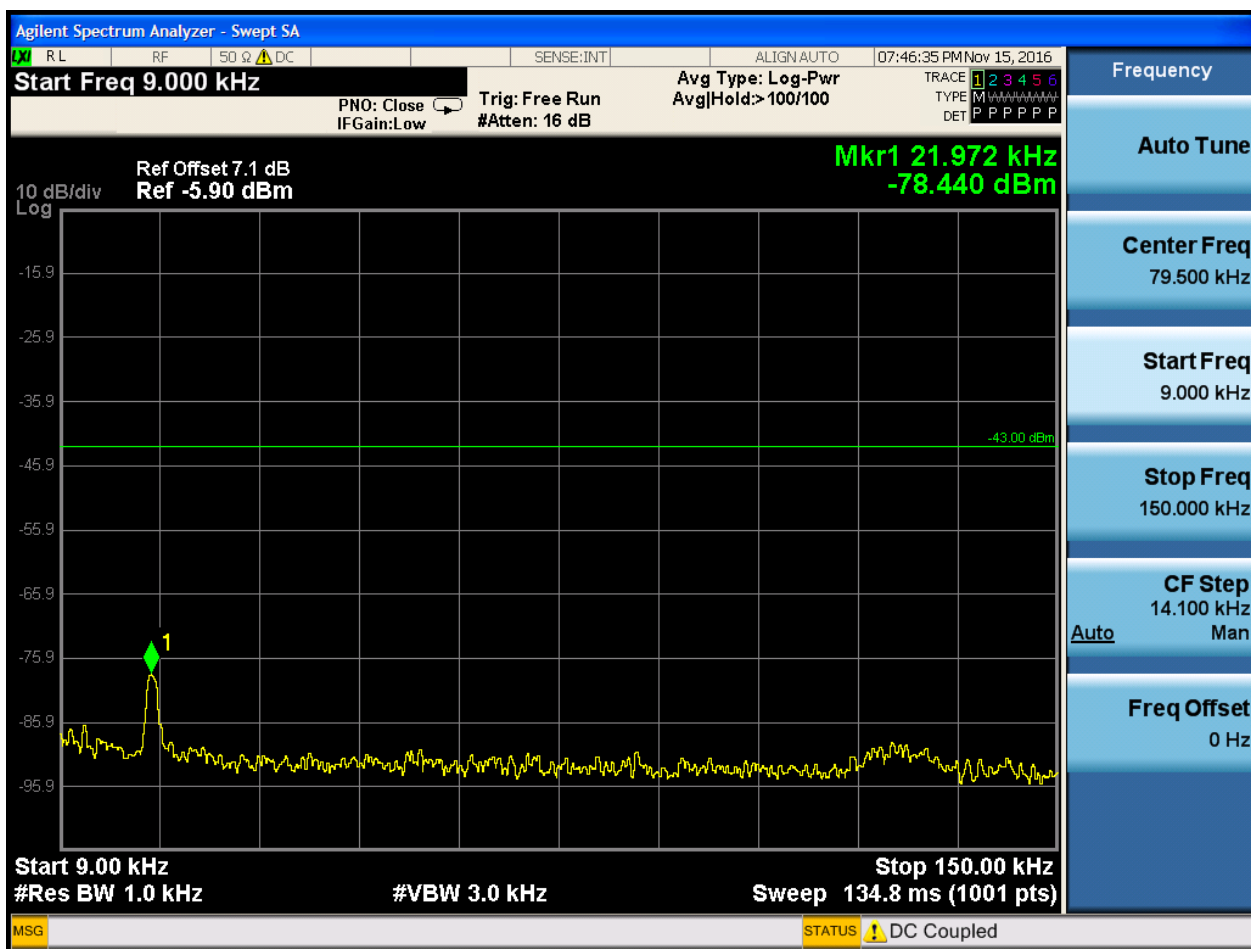
6.1.1 Test Band = BAND2

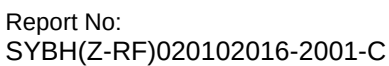
6.1.1.1 Test Mode = LTE/TM1

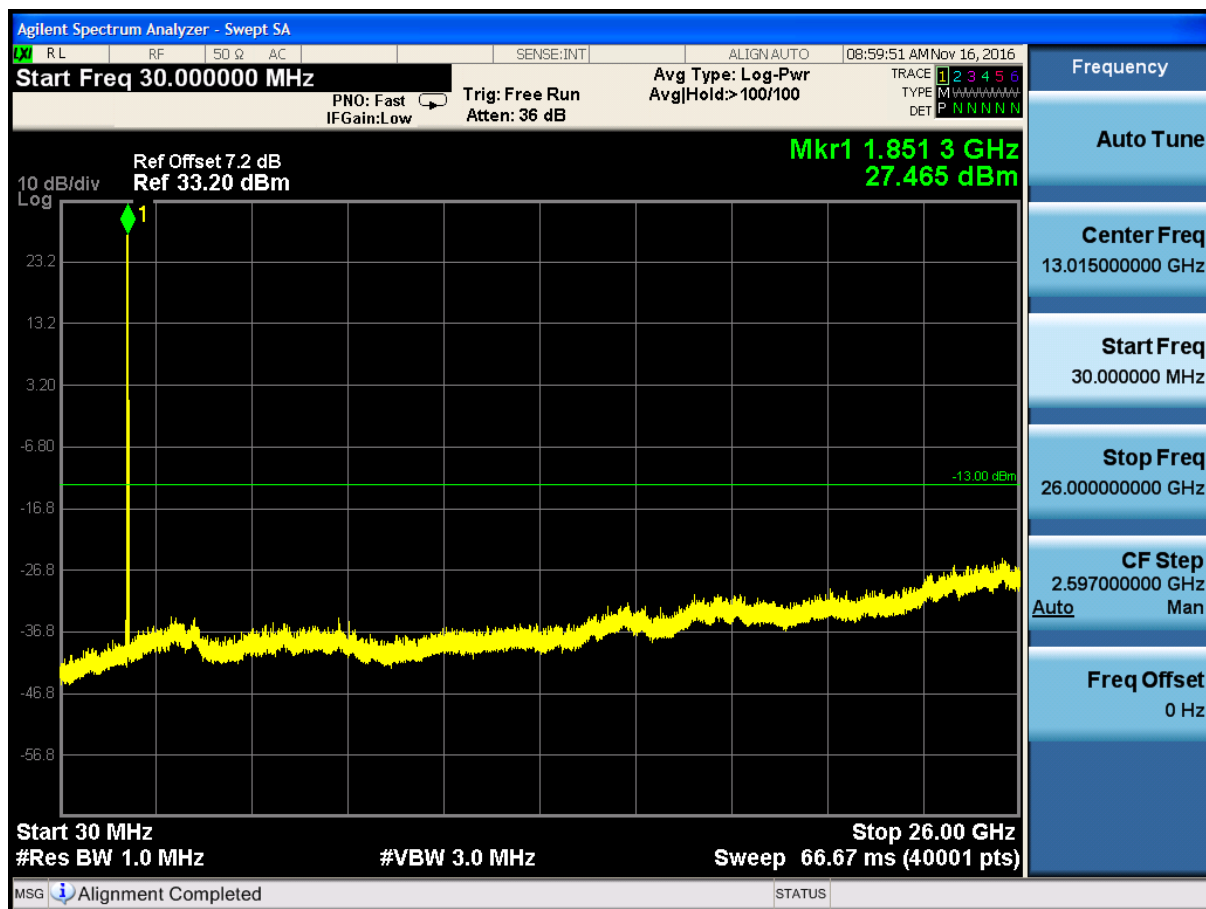
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

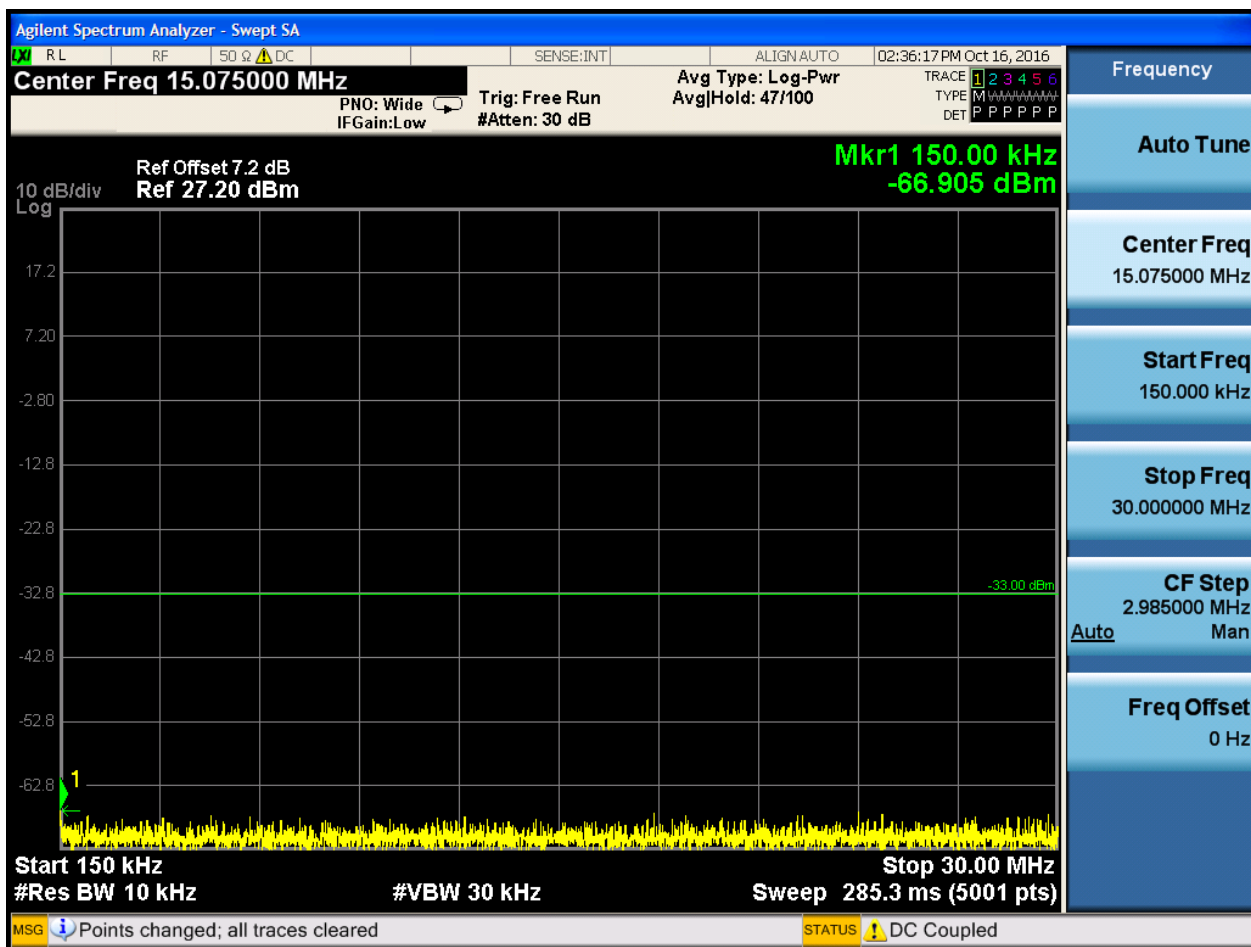
6.1.1.1.1.1.1 Test RB = RB1#0

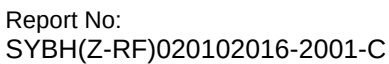








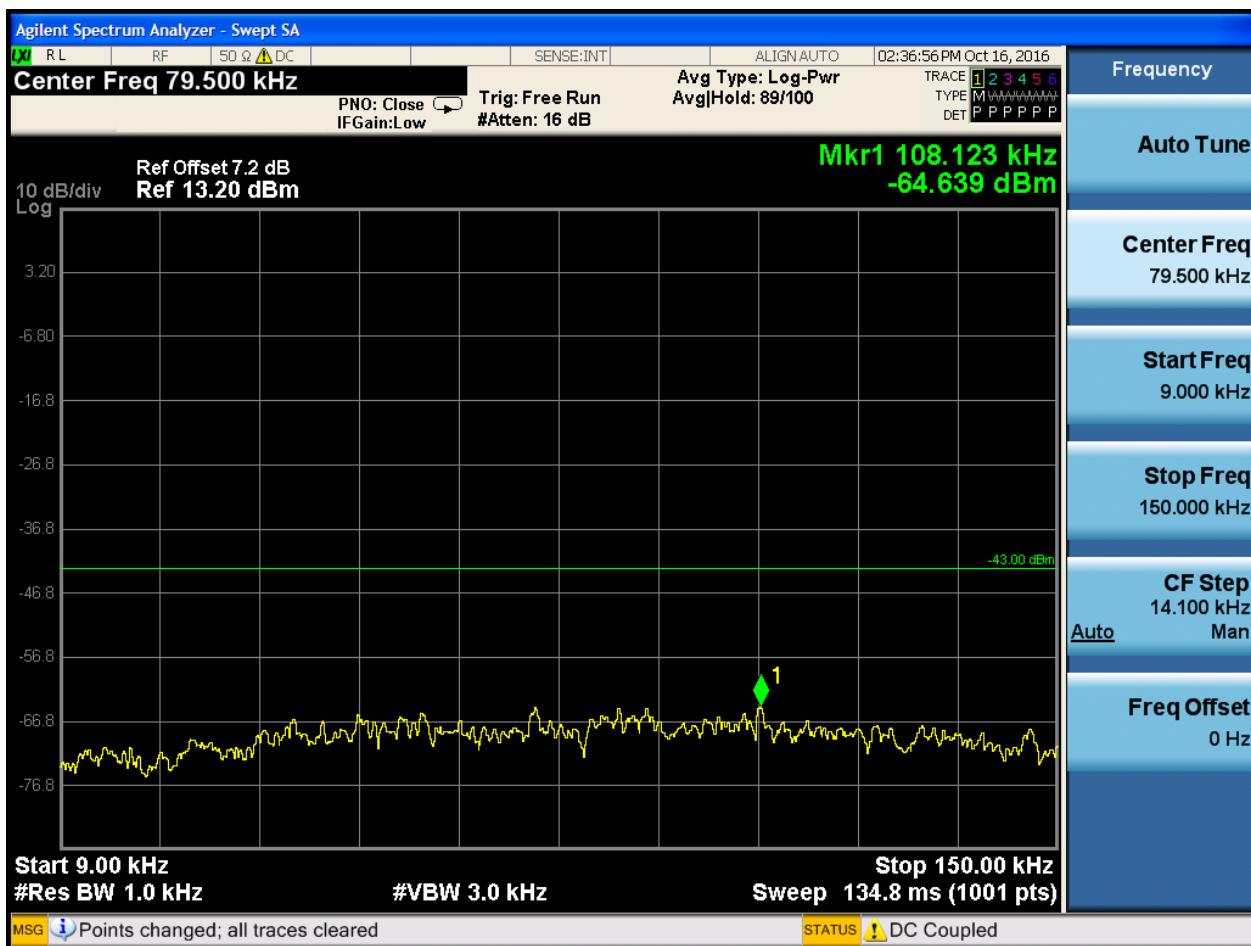


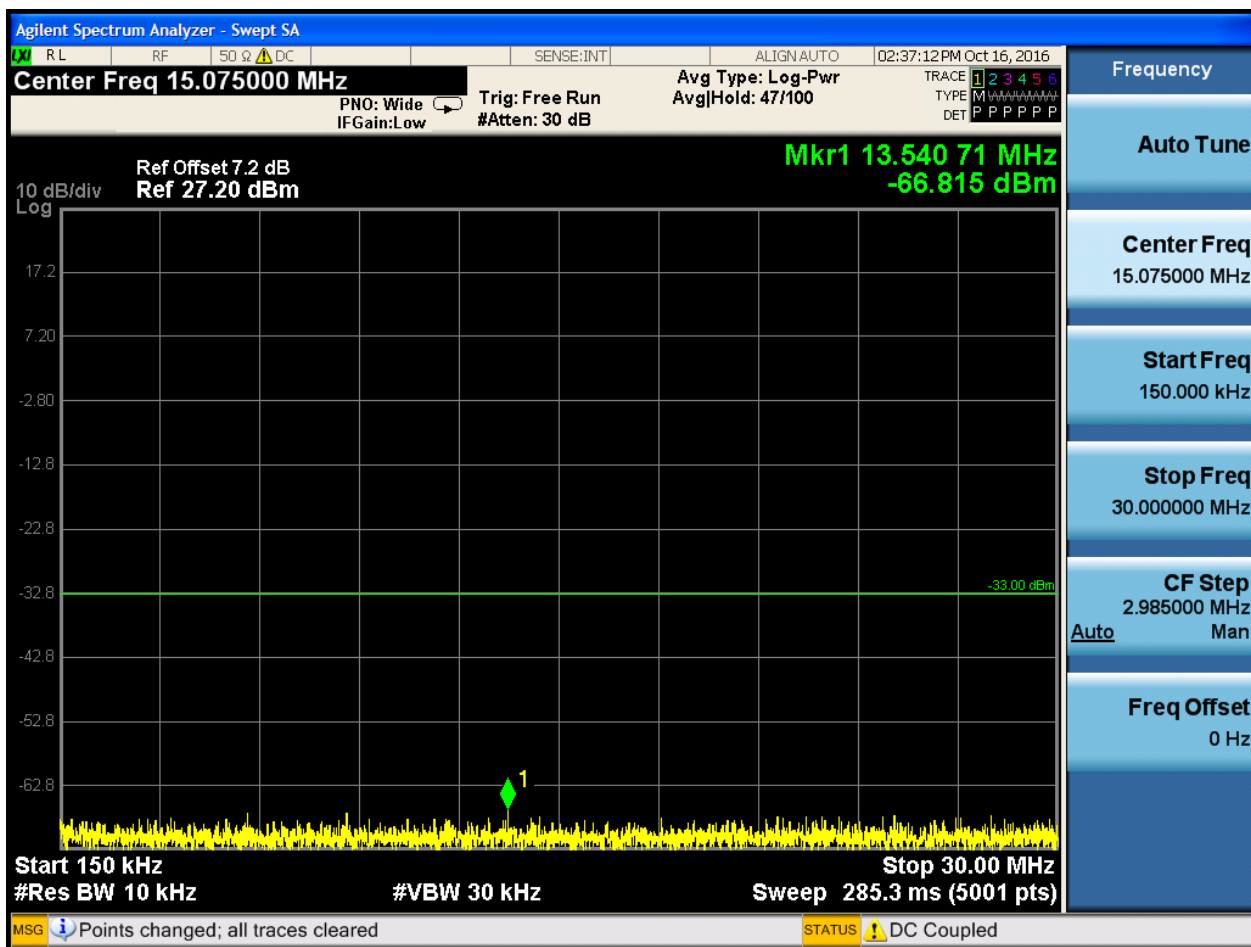




6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0

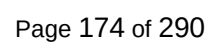


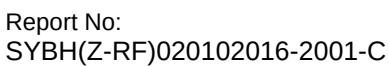






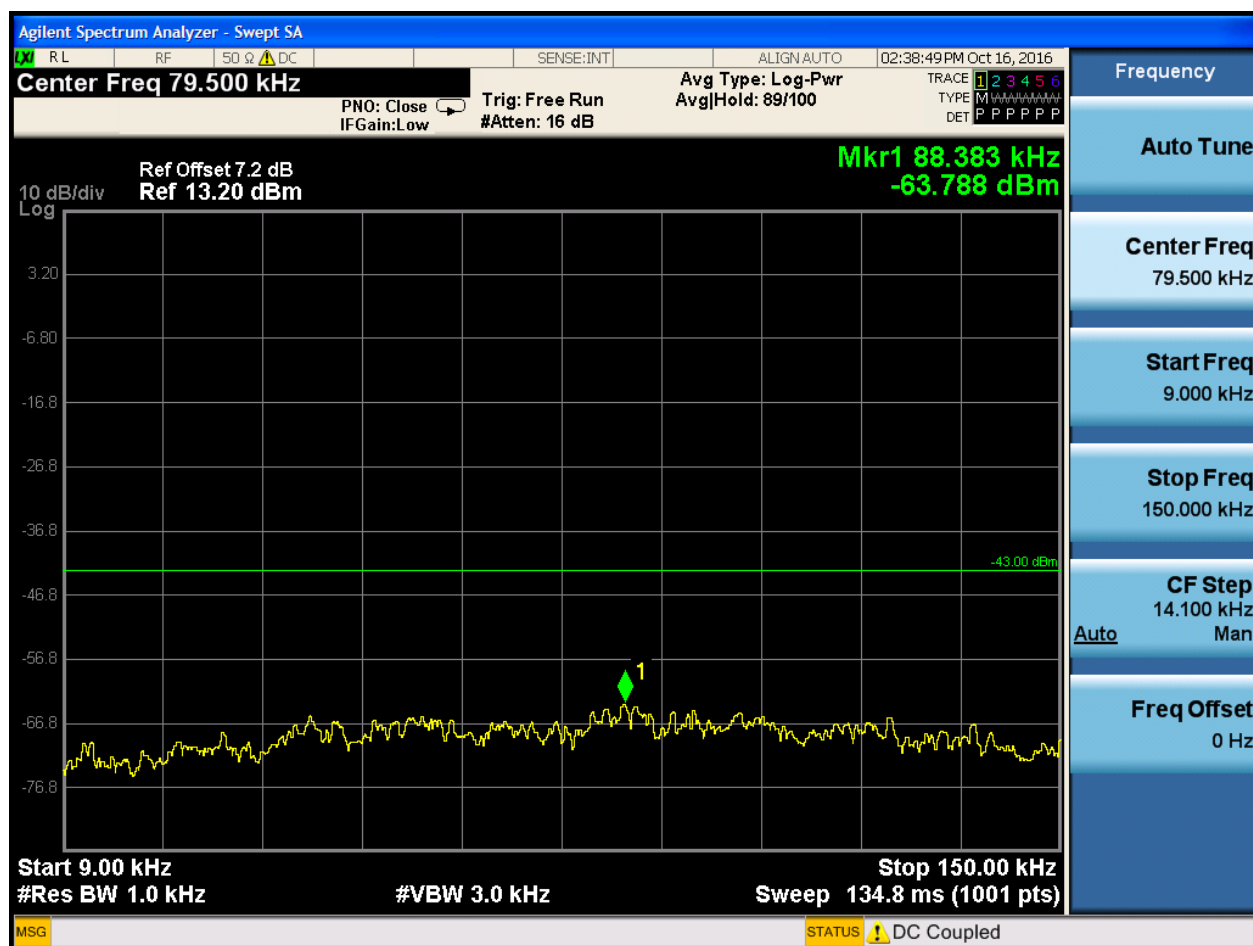
6.1.1.1.2.1.1 Test RB = RB1#0

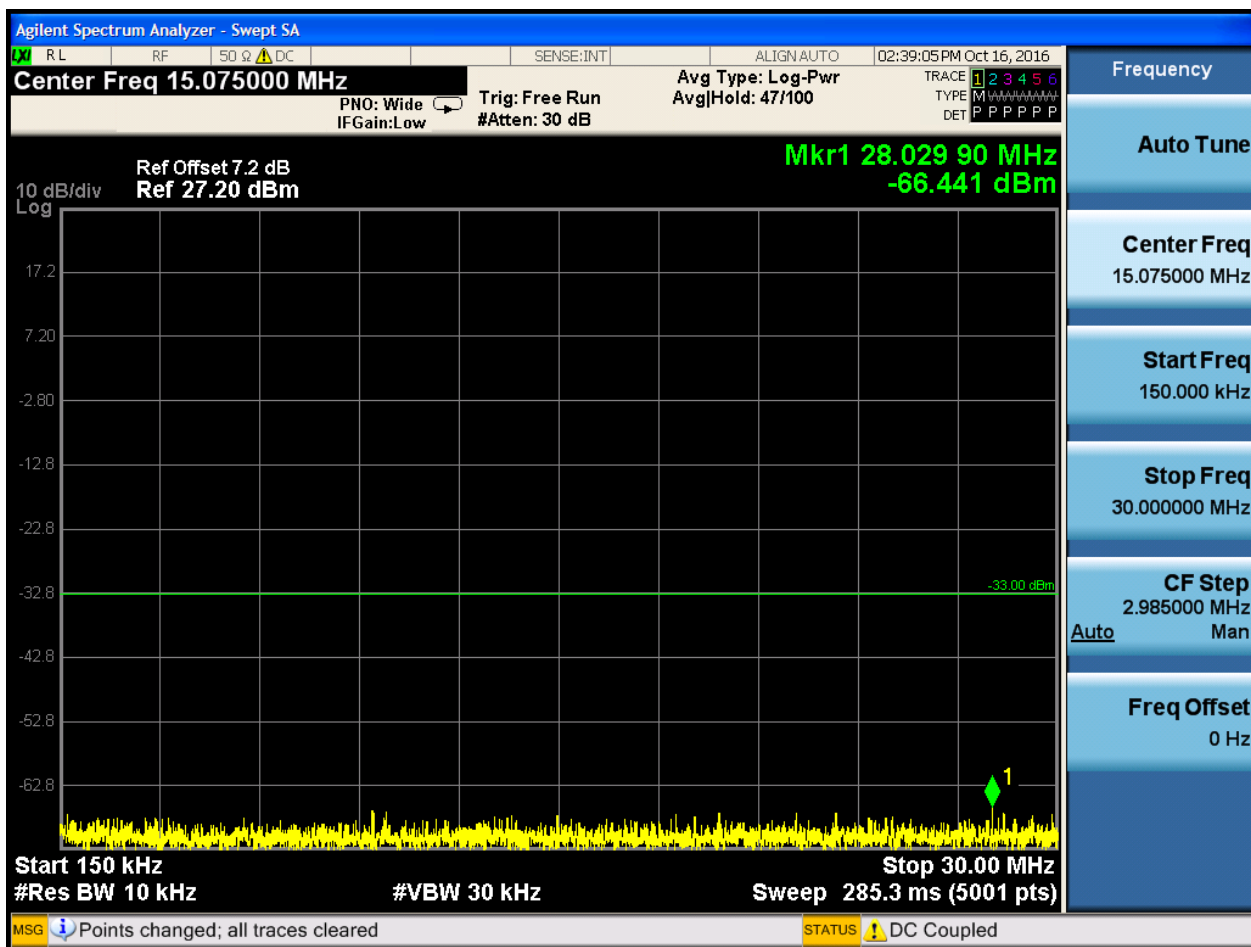


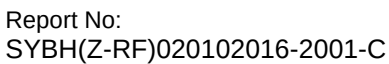


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



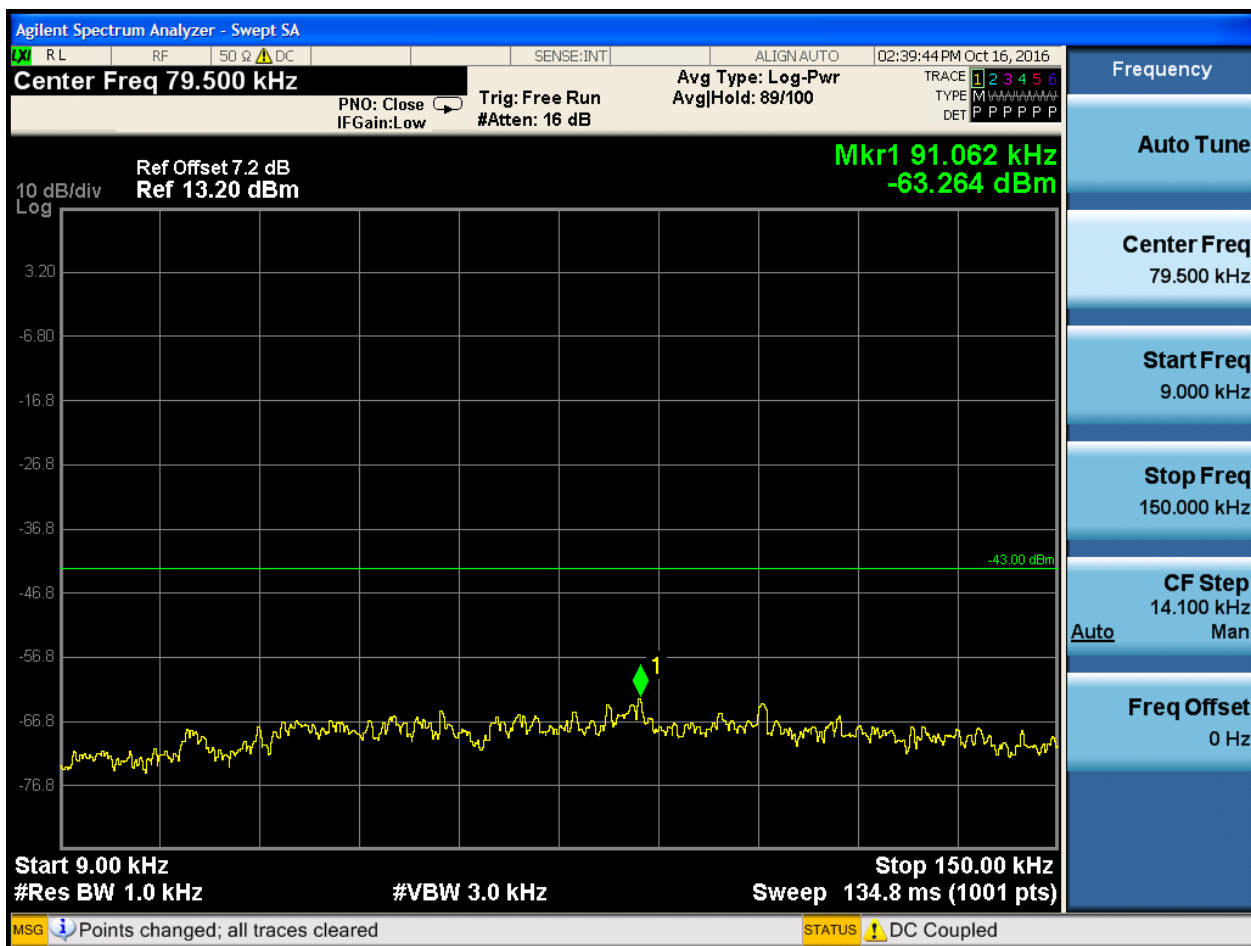


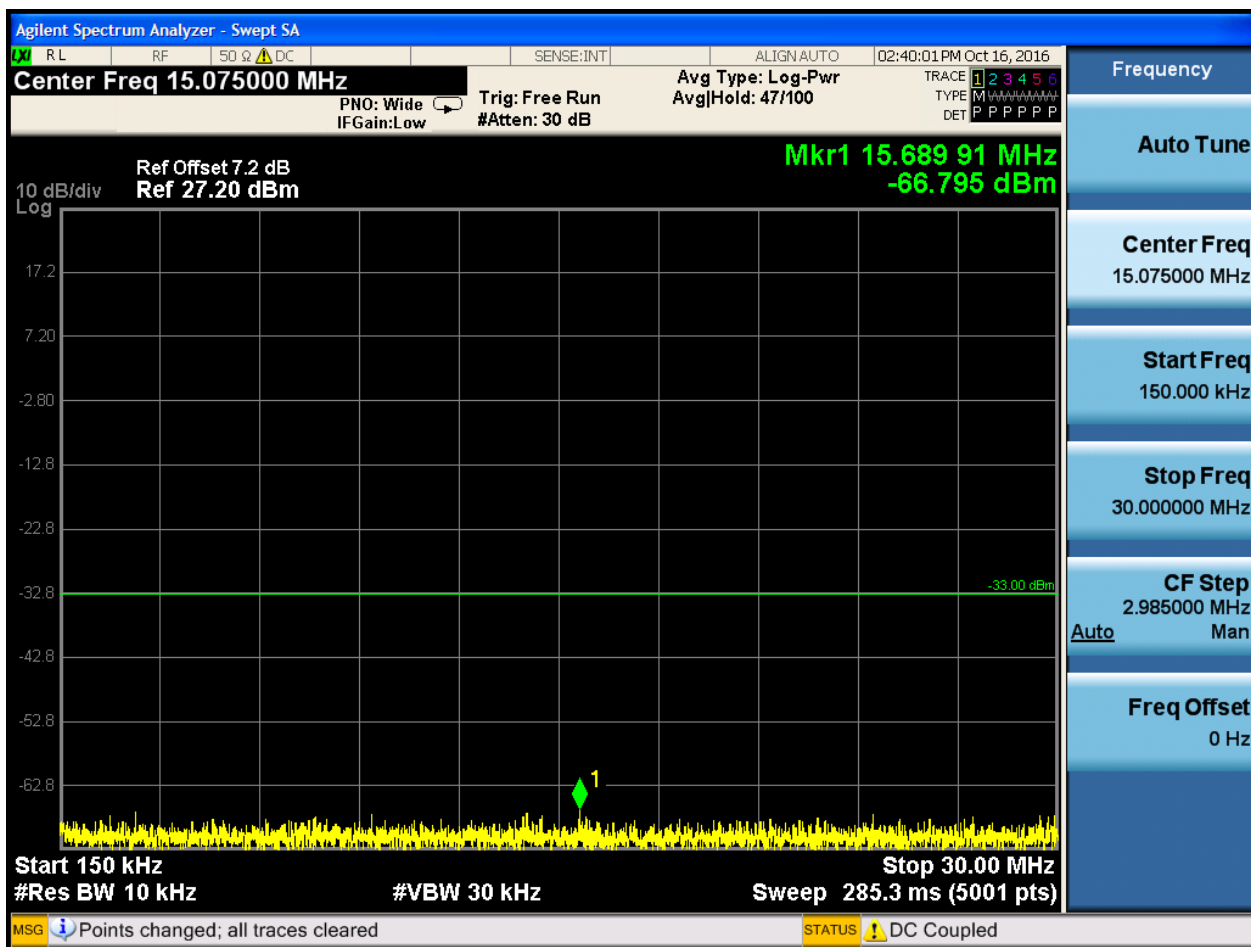


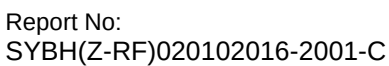


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0

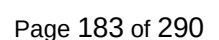


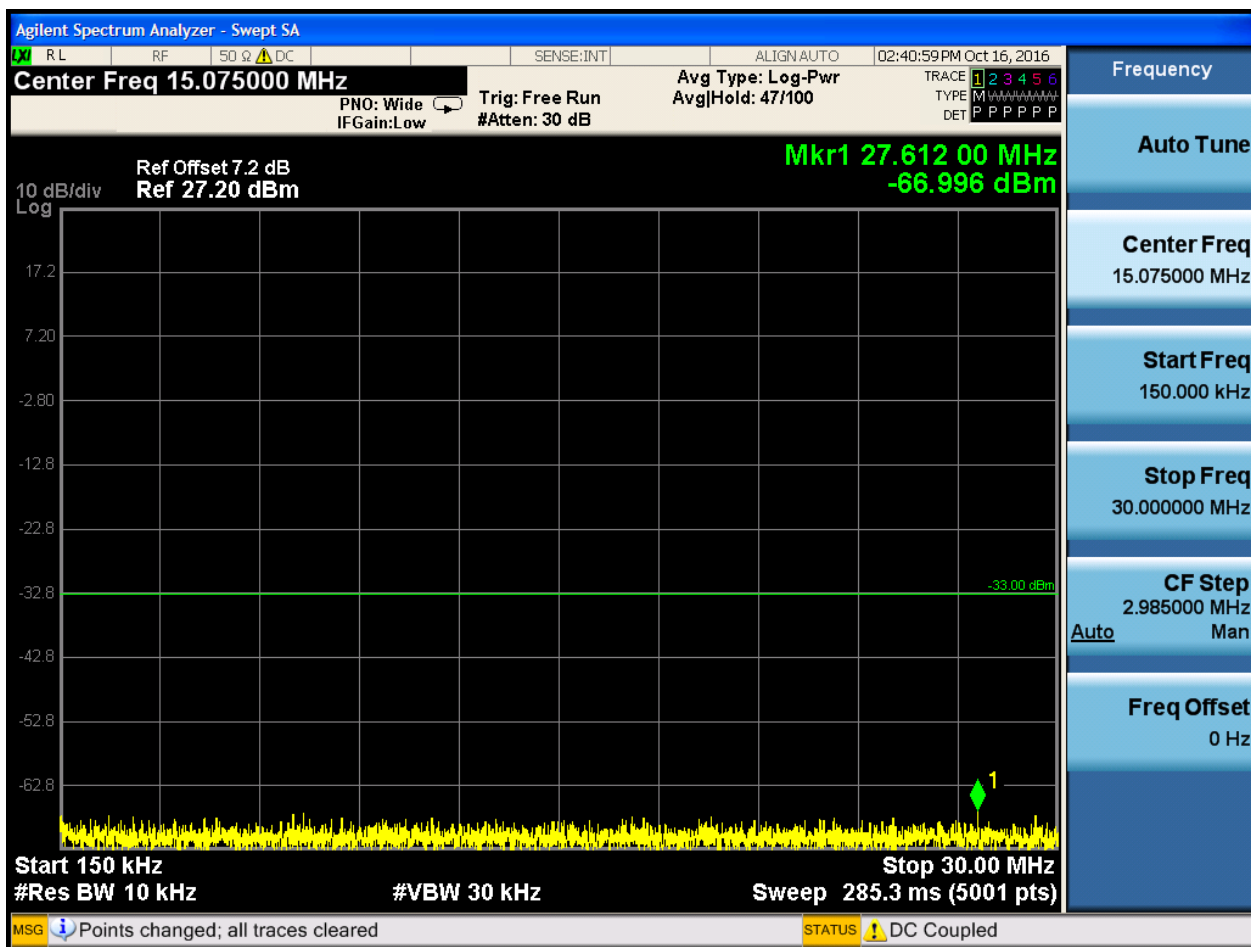


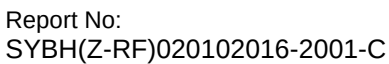




6.1.1.1.3.1.1 Test RB = RB1#0









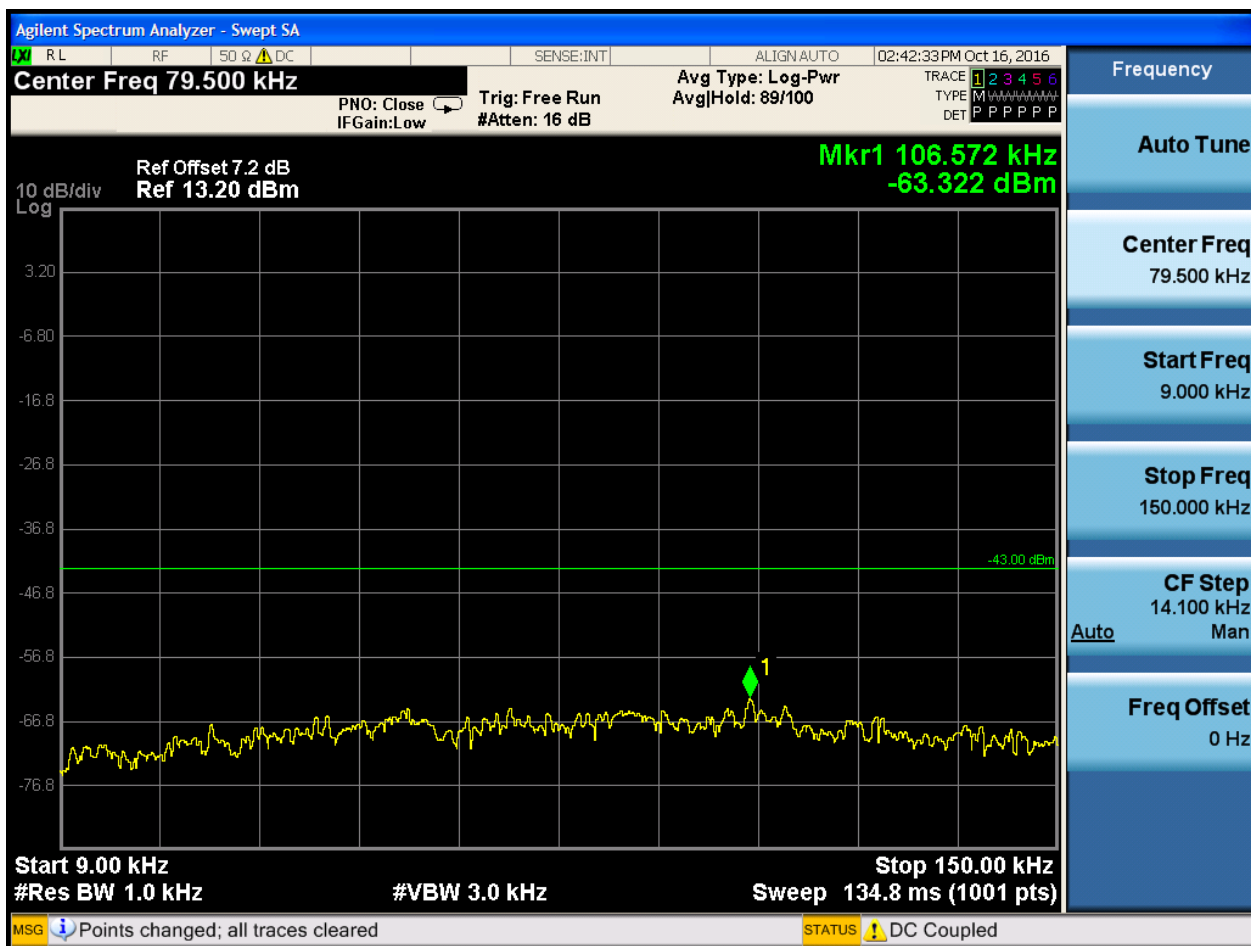


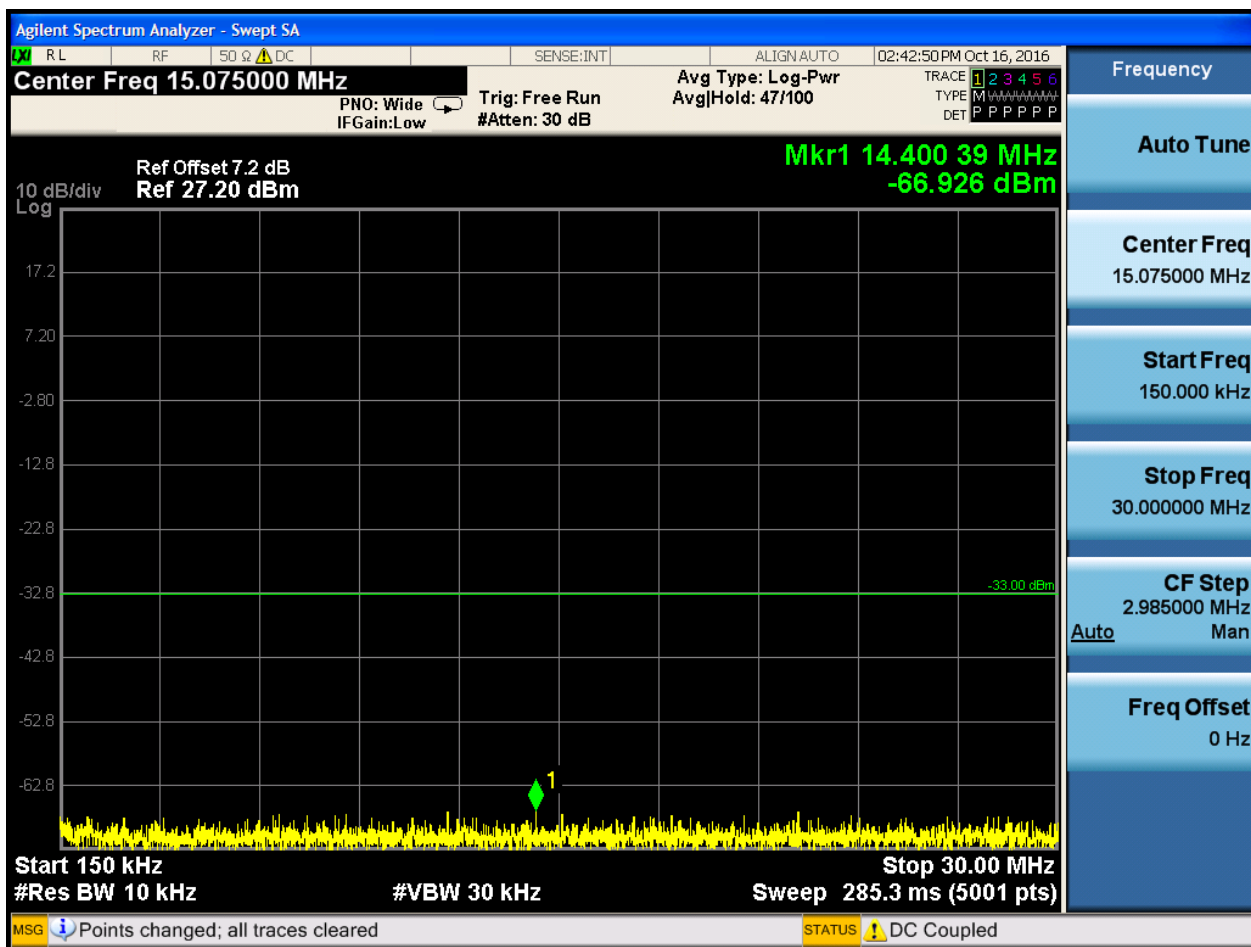


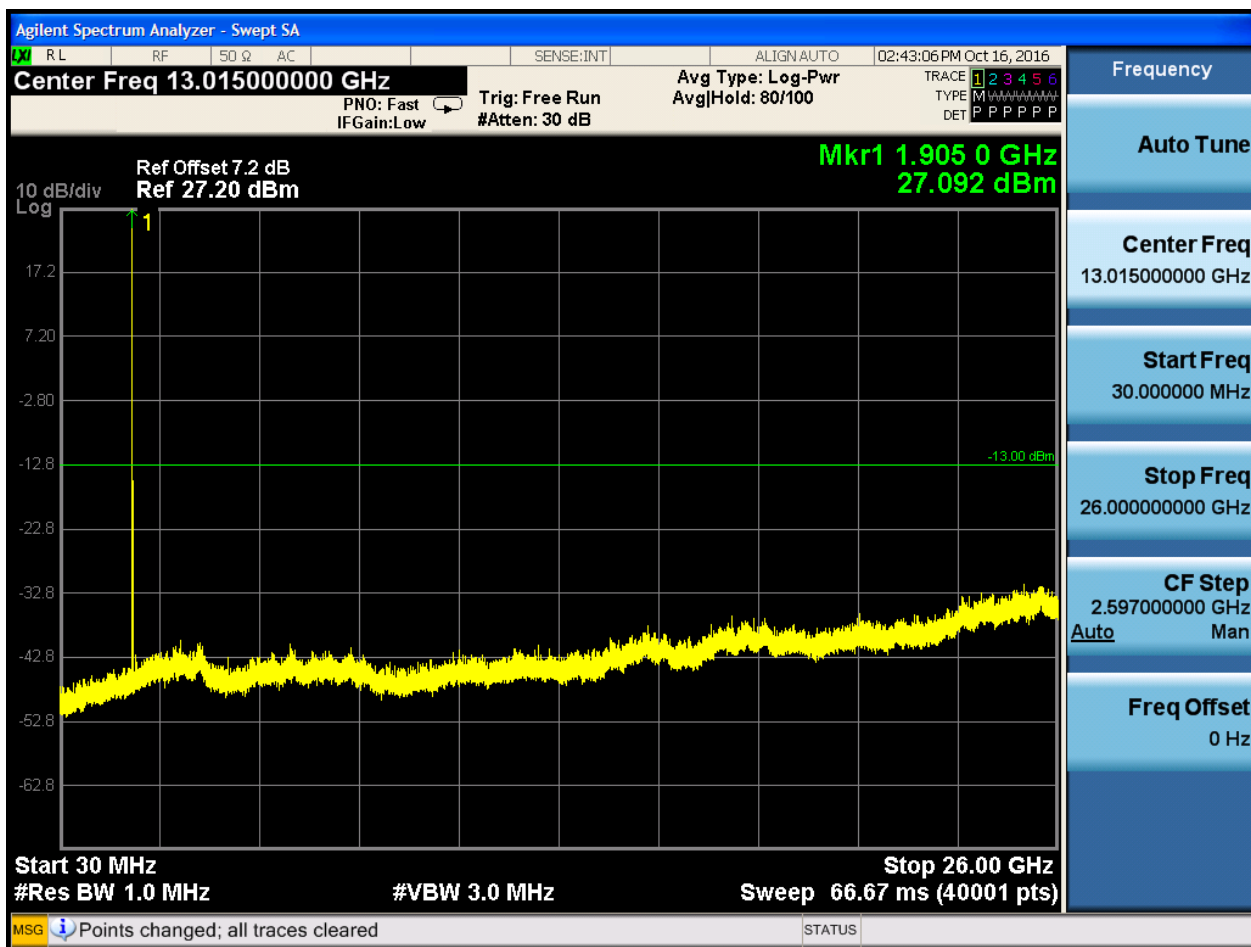


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0

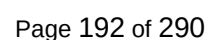


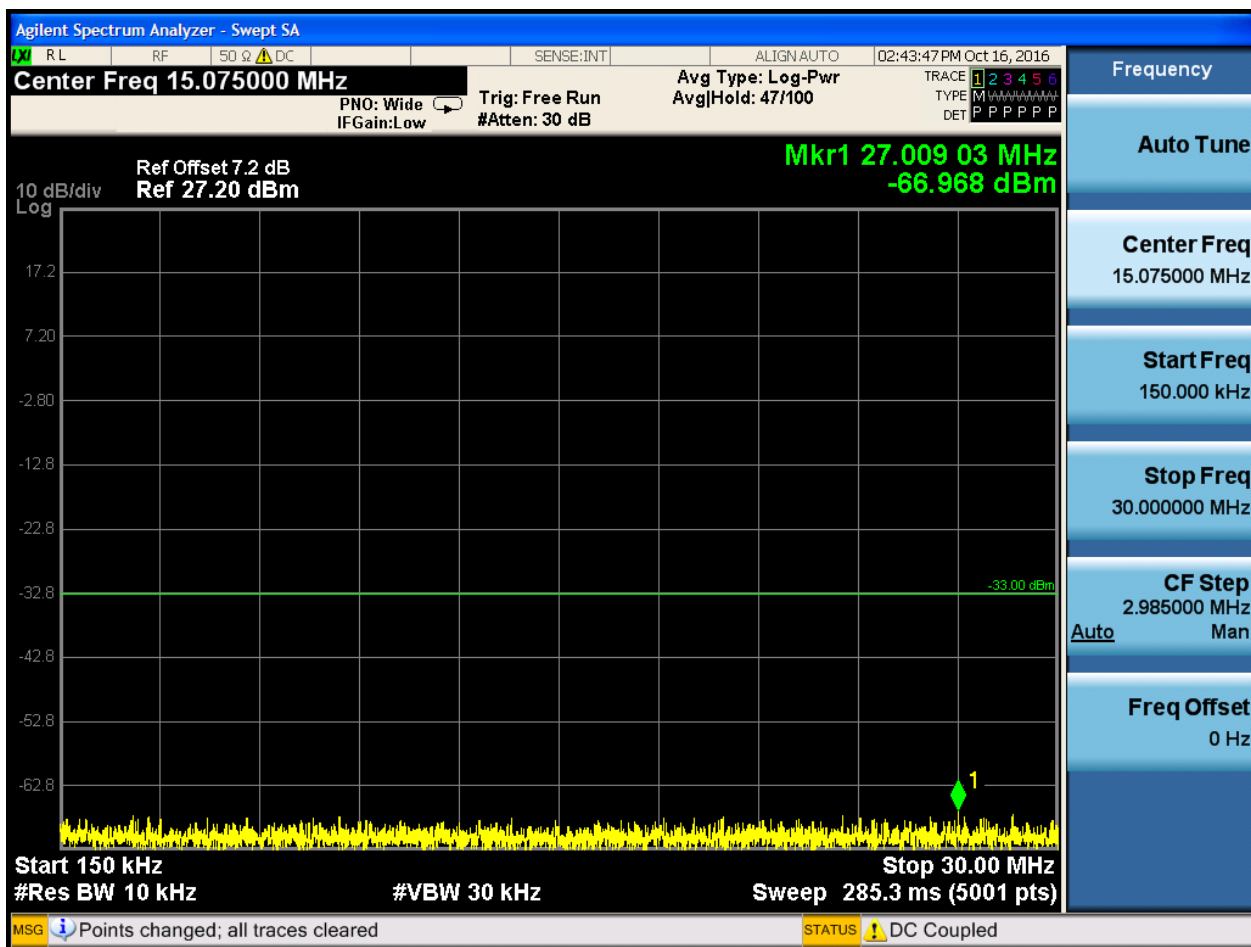


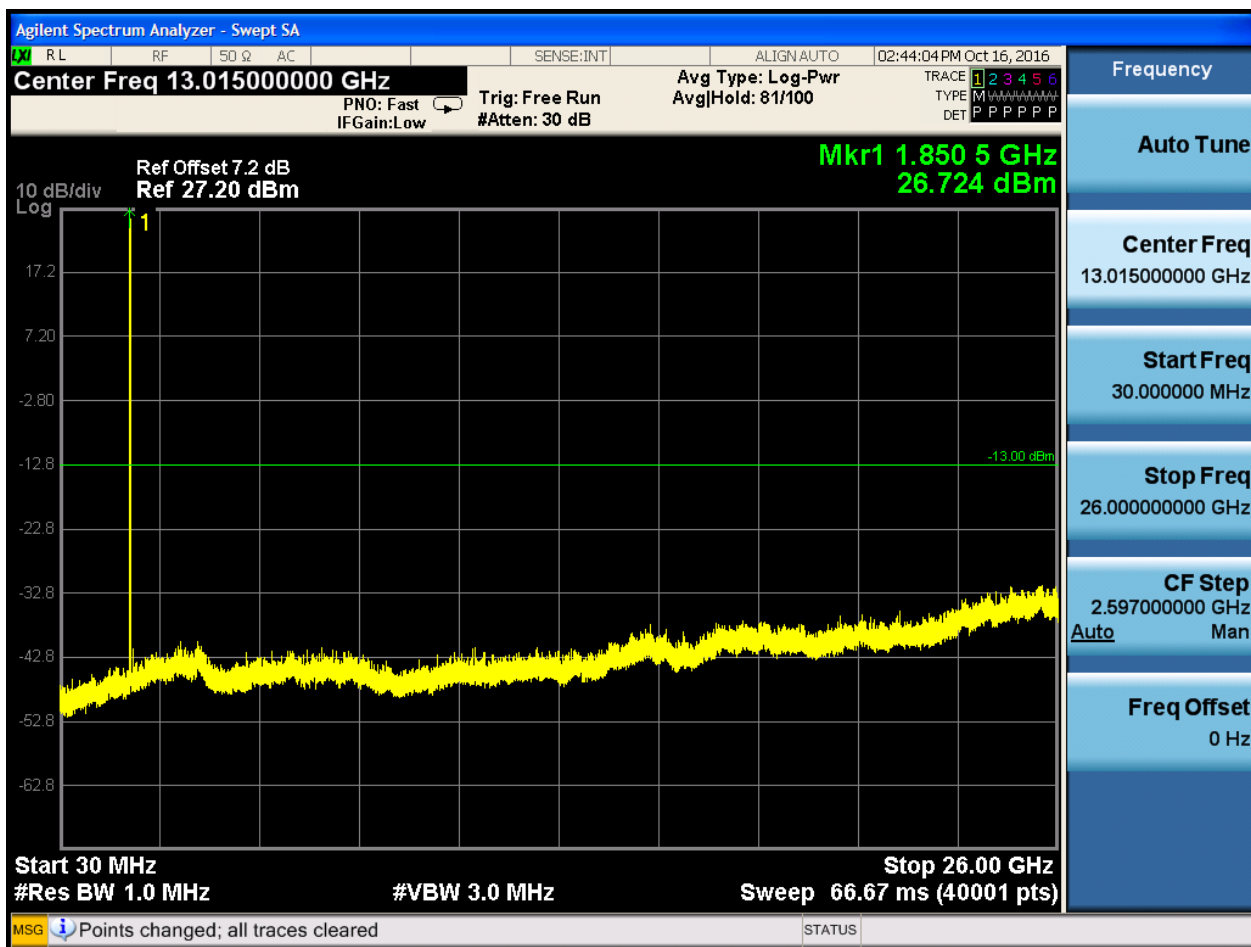




6.1.1.1.4.1.1 Test RB = RB1#0



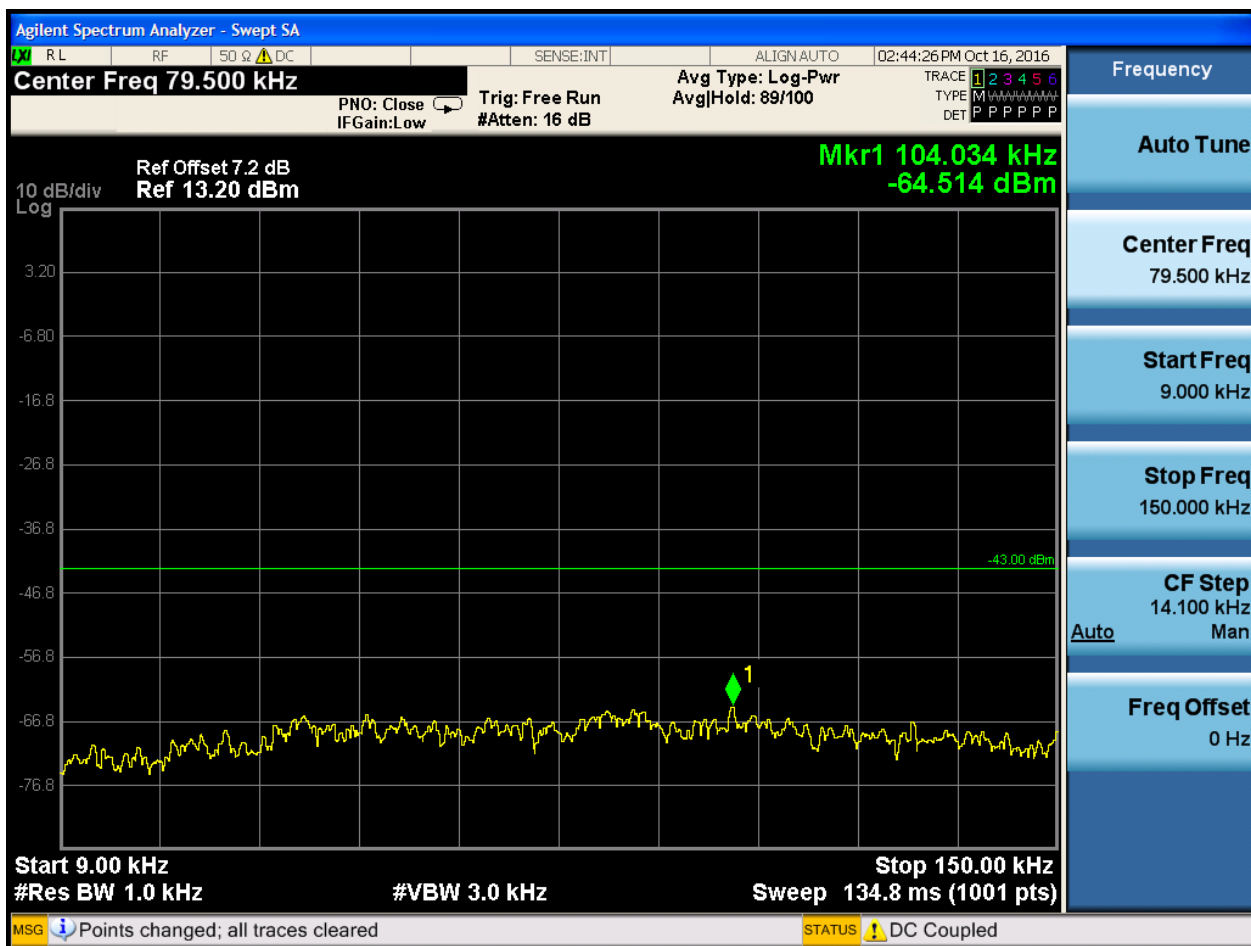


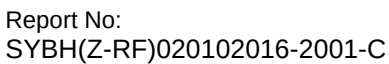


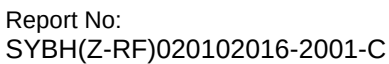


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



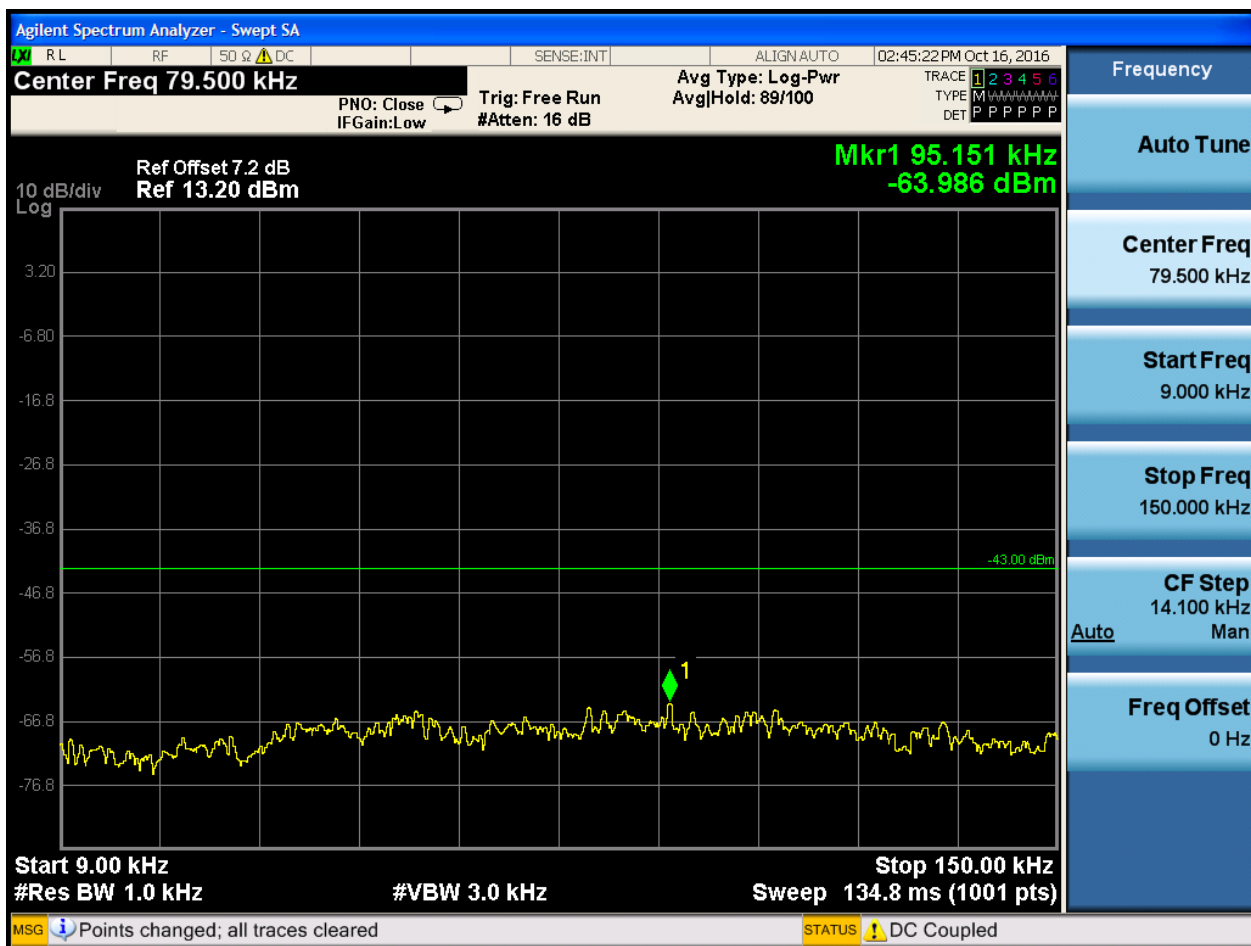


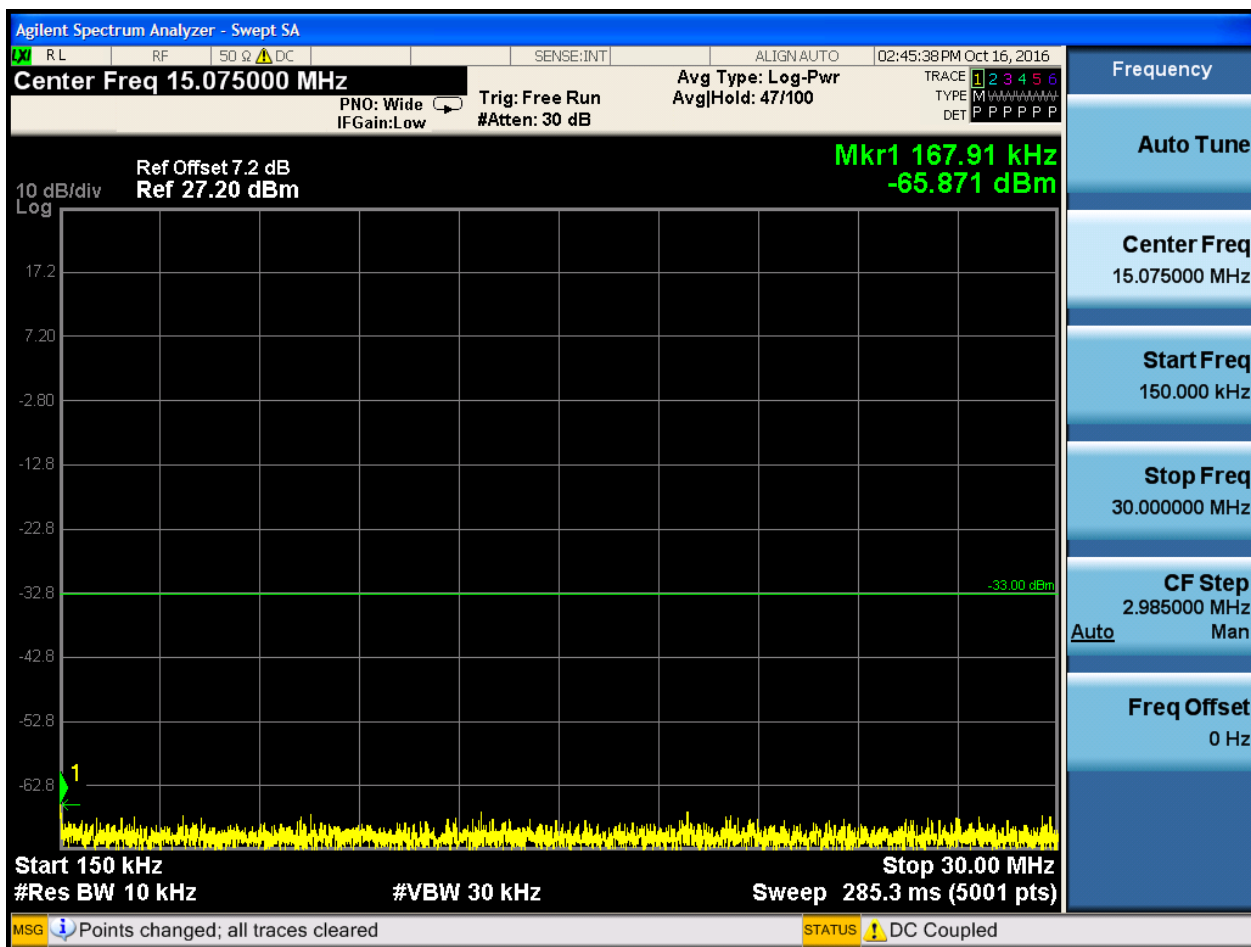


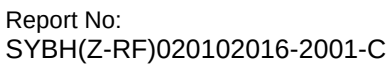


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0



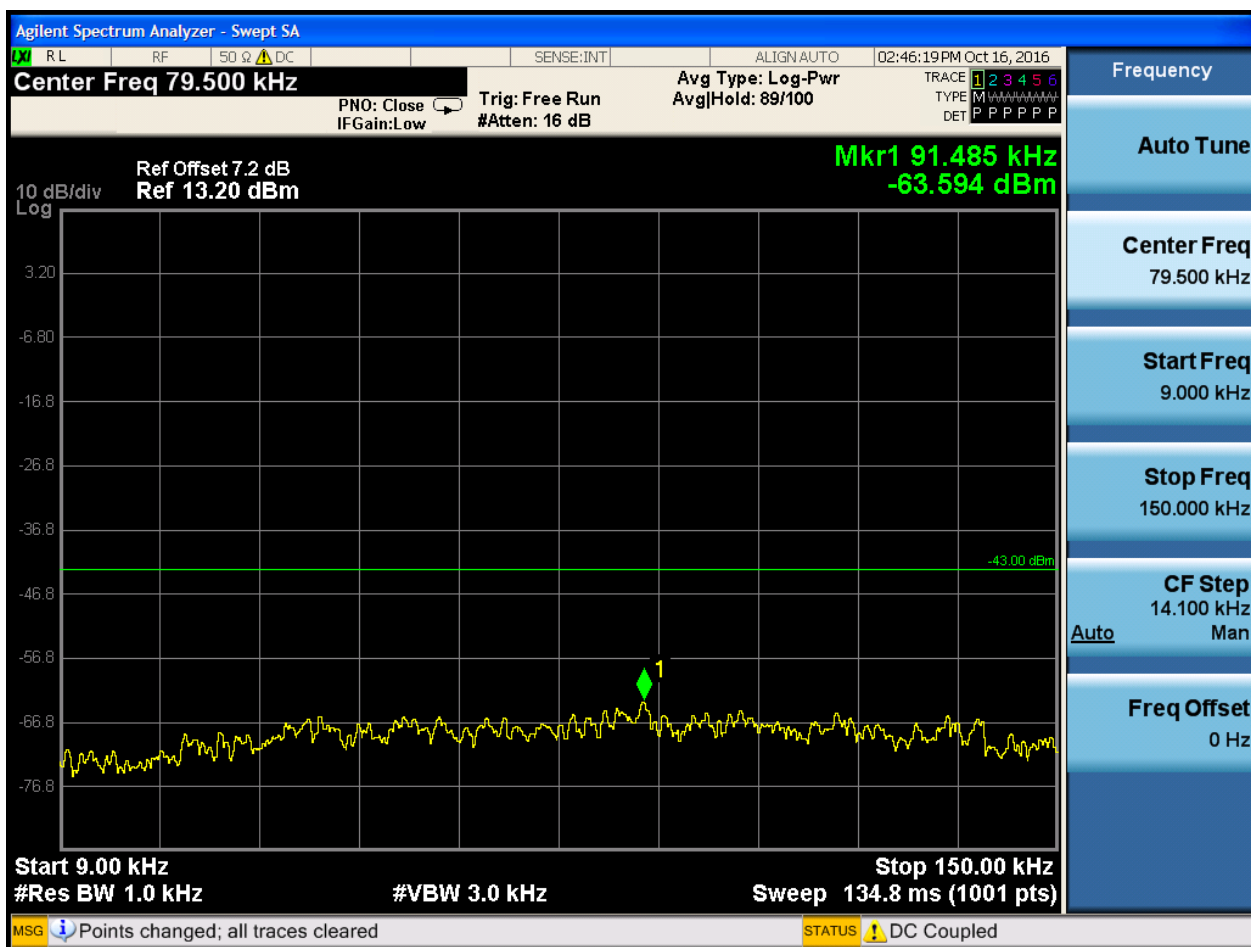


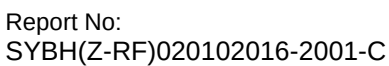


6.1.1.1.5 Test Bandwidth = 15

6.1.1.1.5.1 Test Channel = LCH

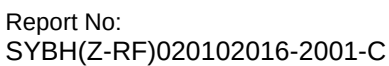
6.1.1.1.5.1.1 Test RB = RB1#0

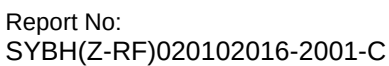






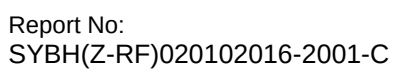


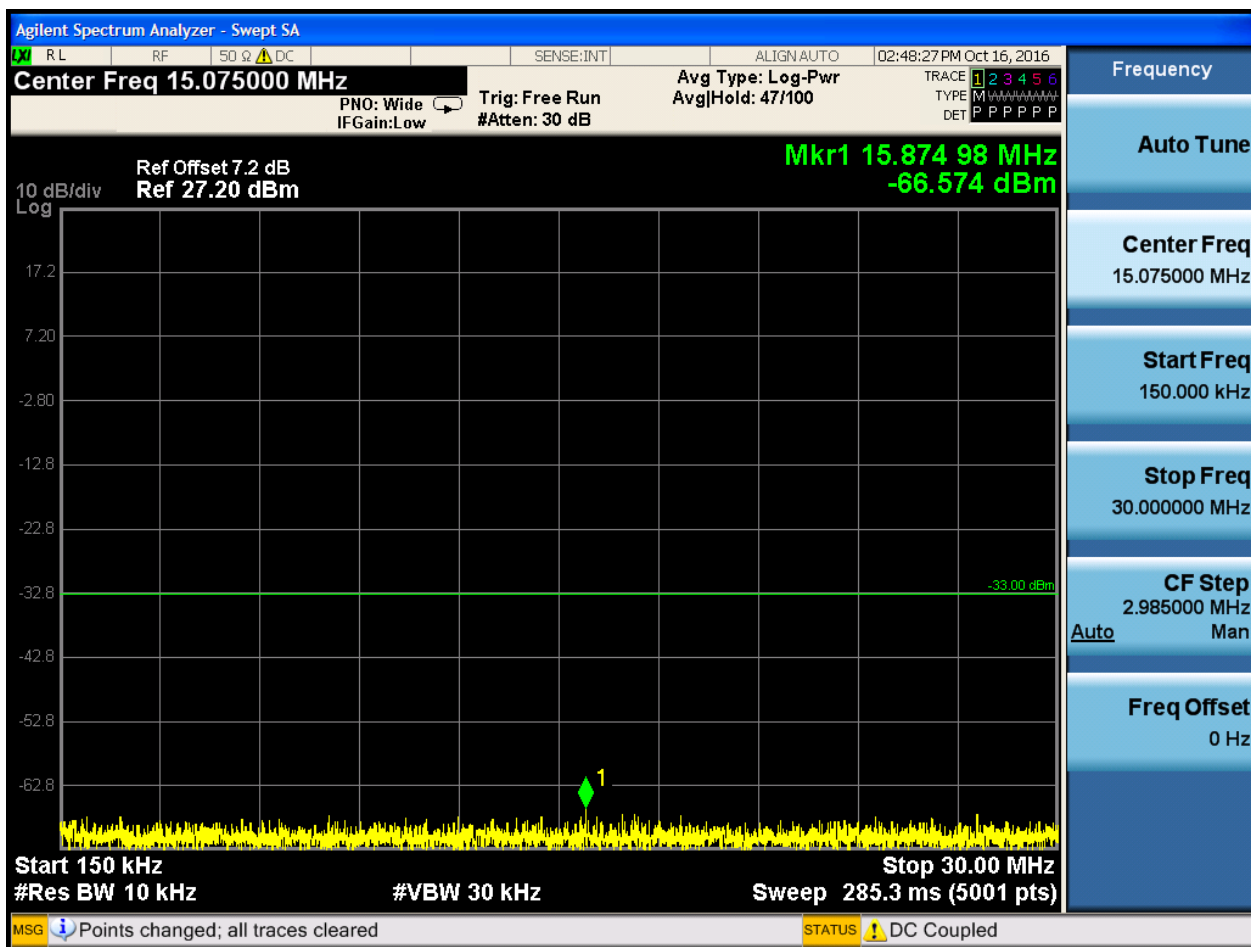


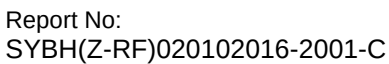




6.1.1.1.5.3.1 Test RB = RB1#0



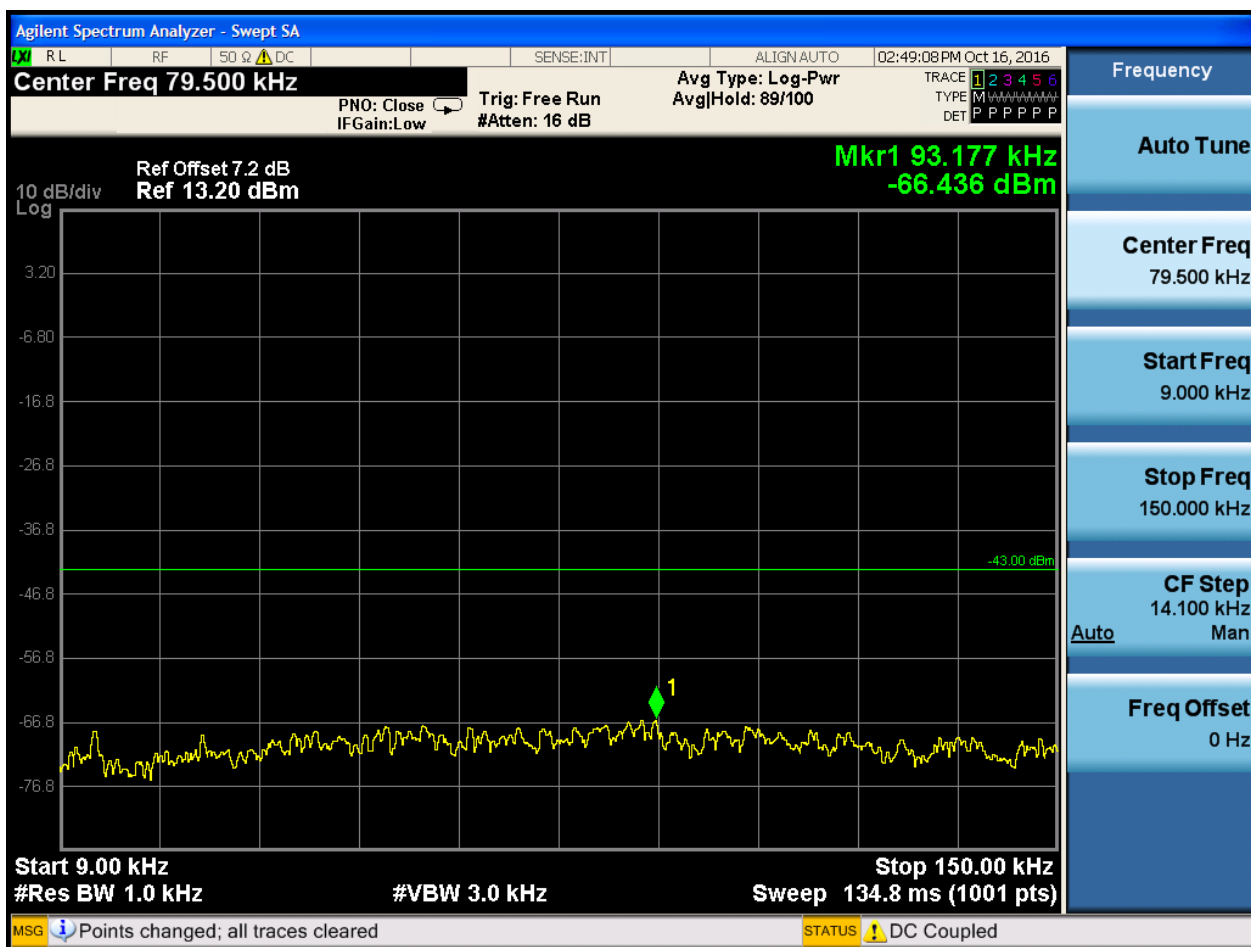


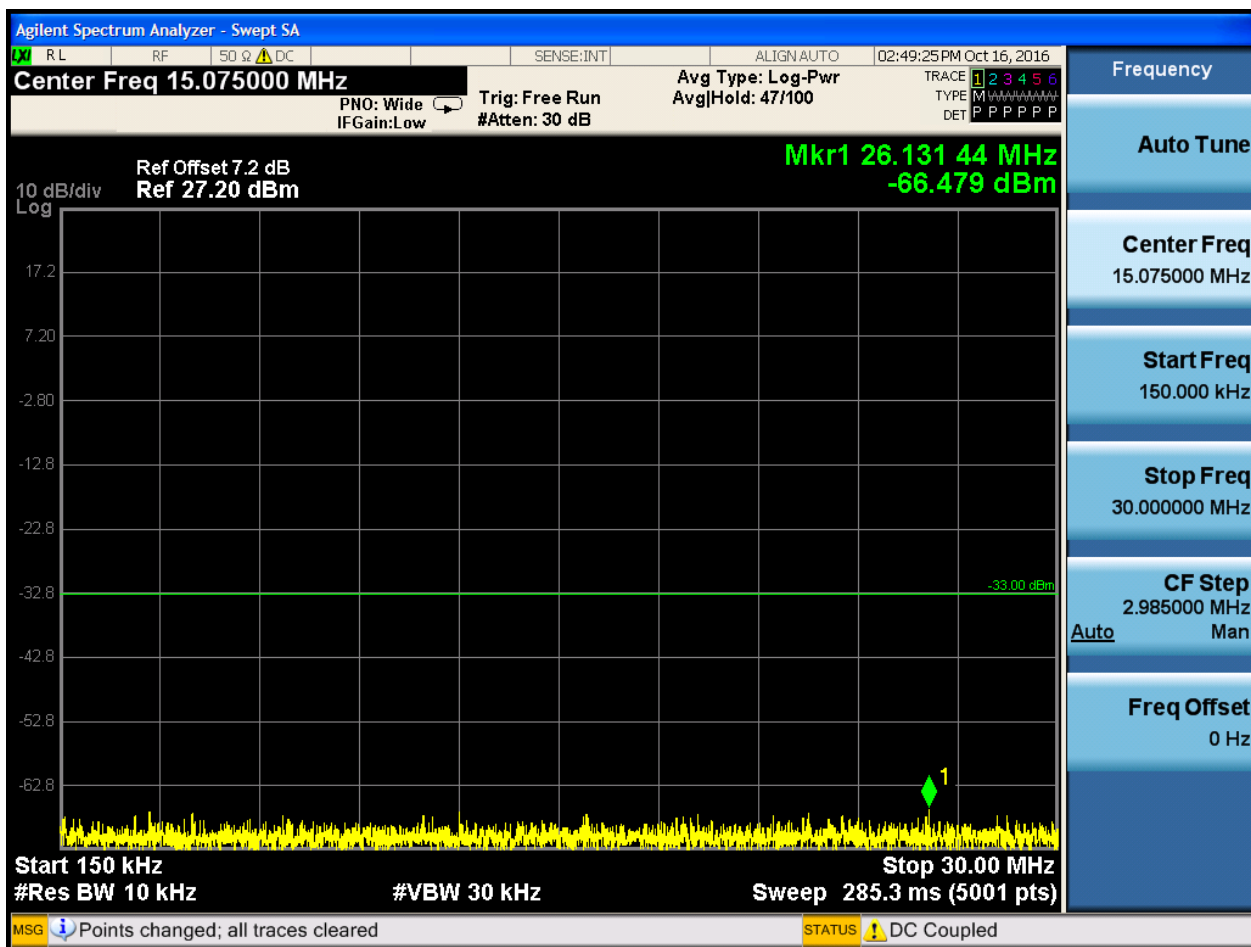


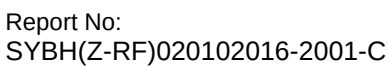
6.1.1.1.6 Test Bandwidth = 20

6.1.1.1.6.1 Test Channel = LCH

6.1.1.1.6.1.1 Test RB = RB1#0



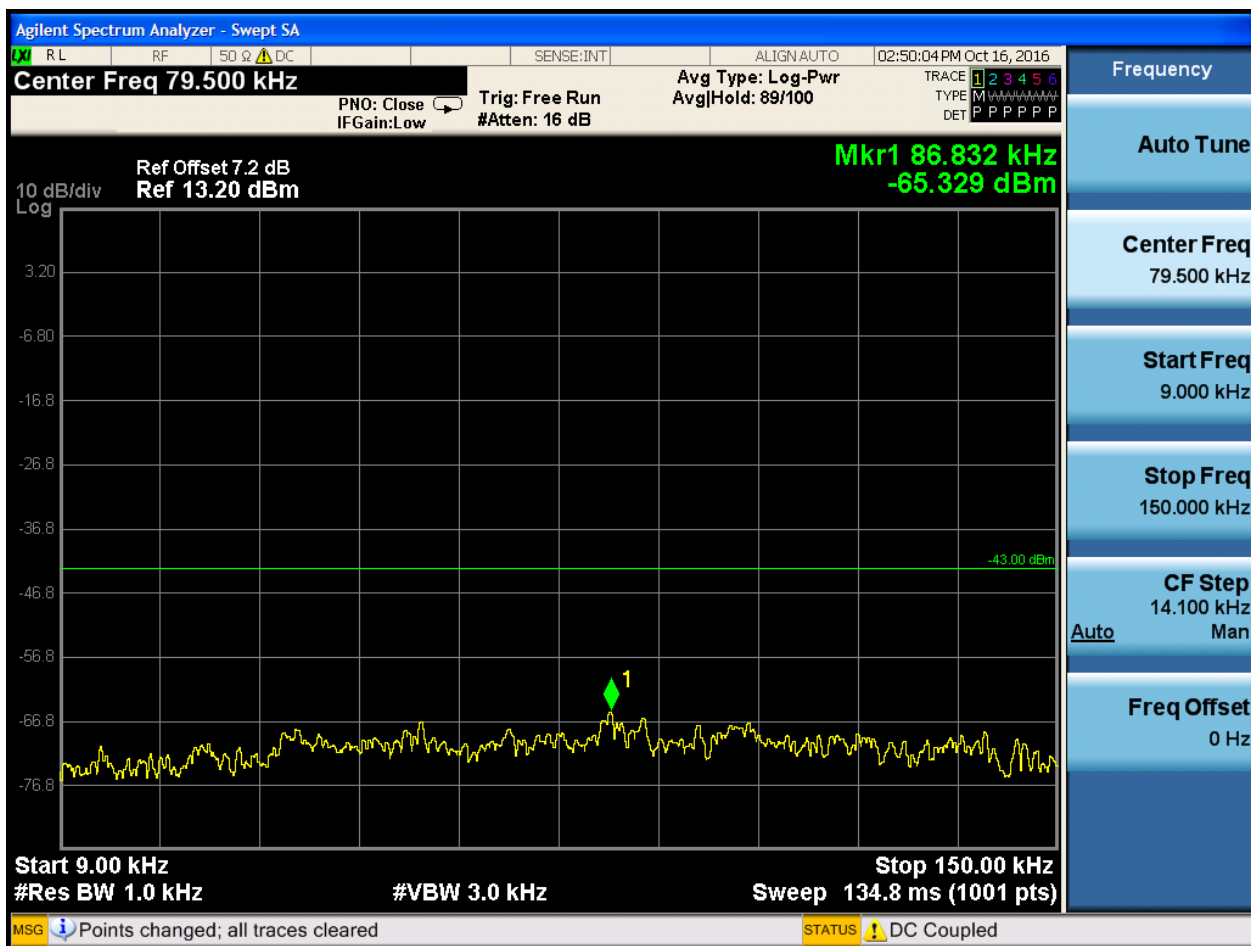


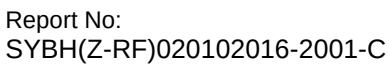


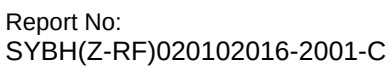


6.1.1.1.6.2 Test Channel = MCH

6.1.1.1.6.2.1 Test RB = RB1#0

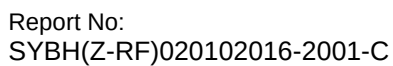


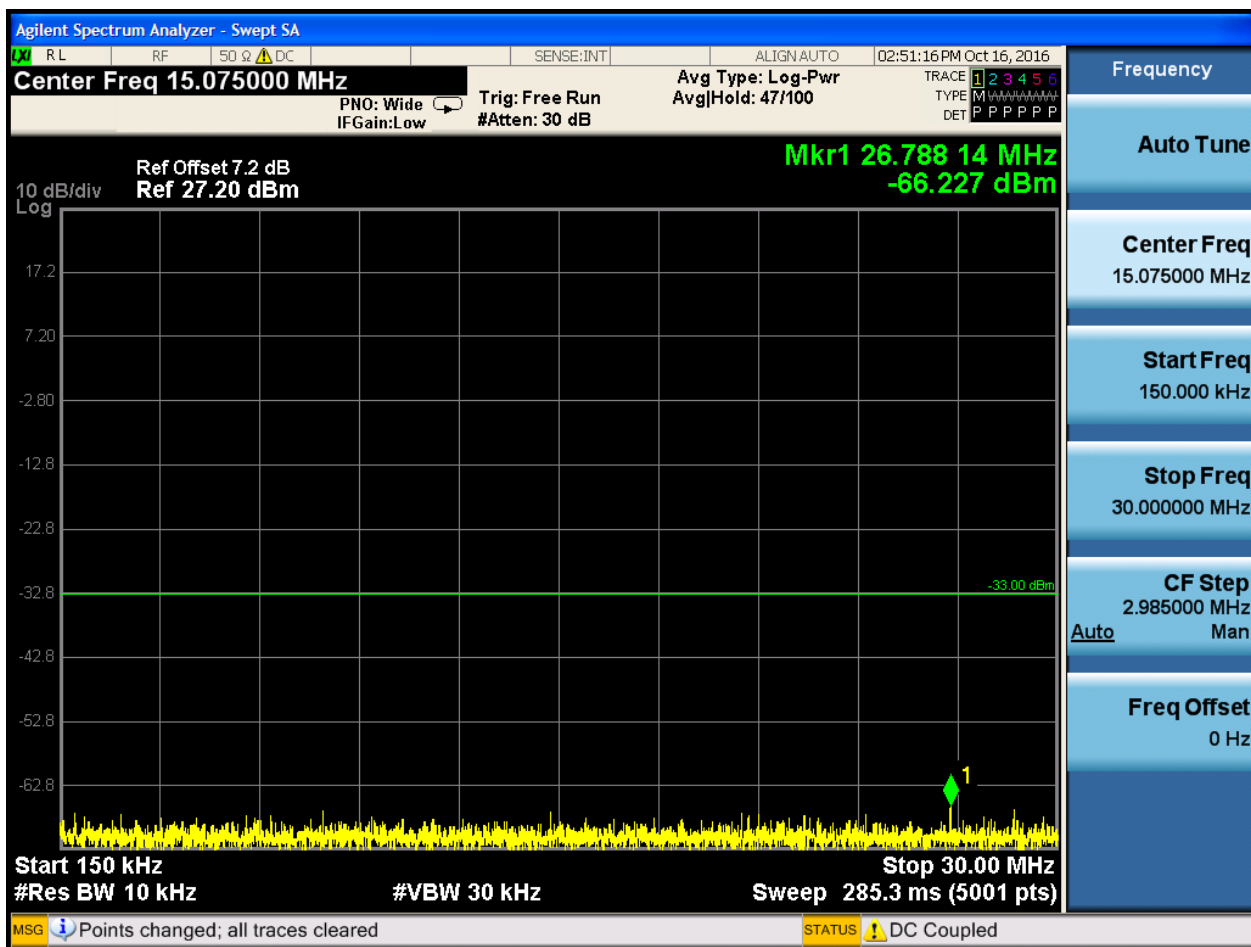


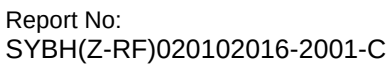




6.1.1.1.6.3.1 Test RB = RB1#0







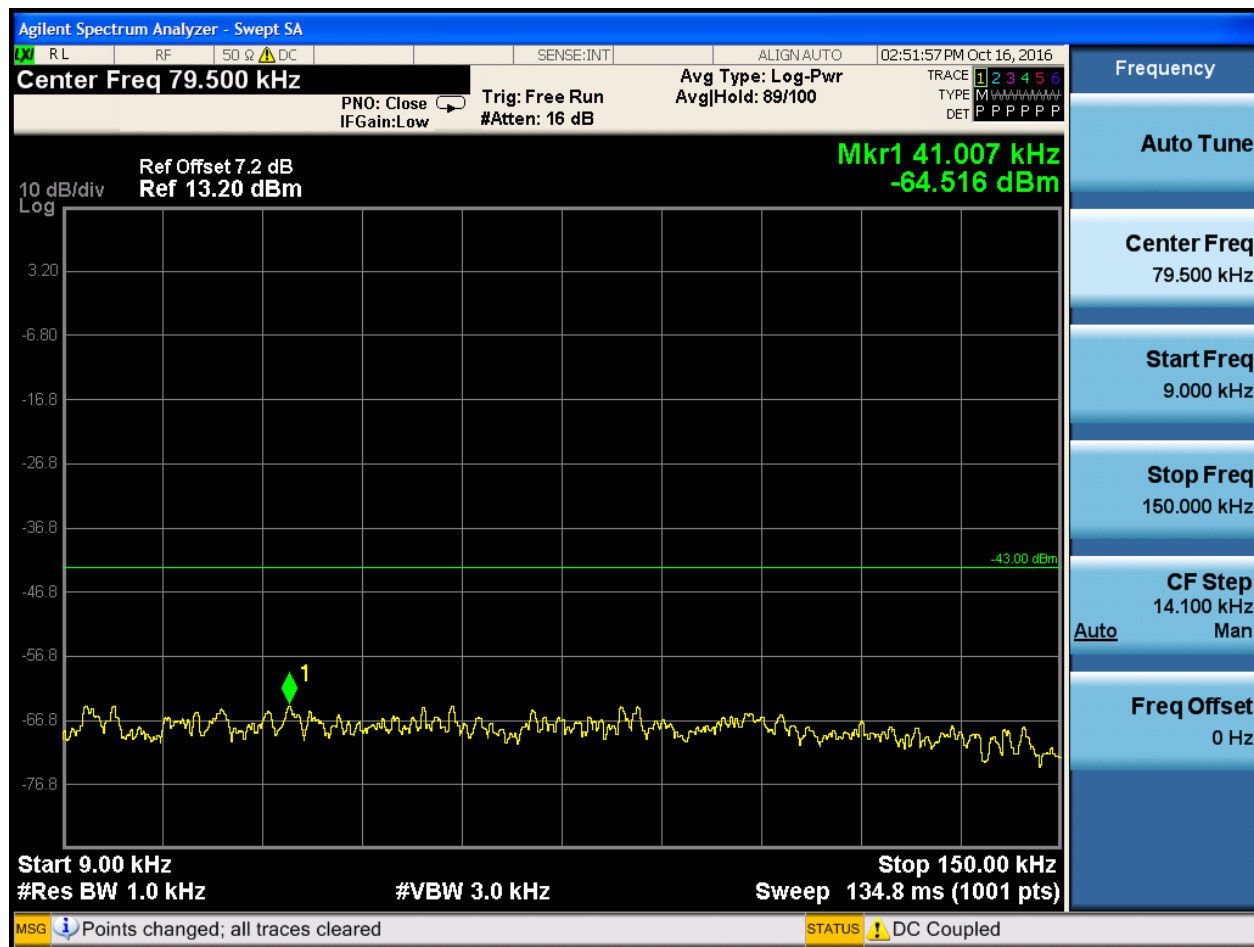


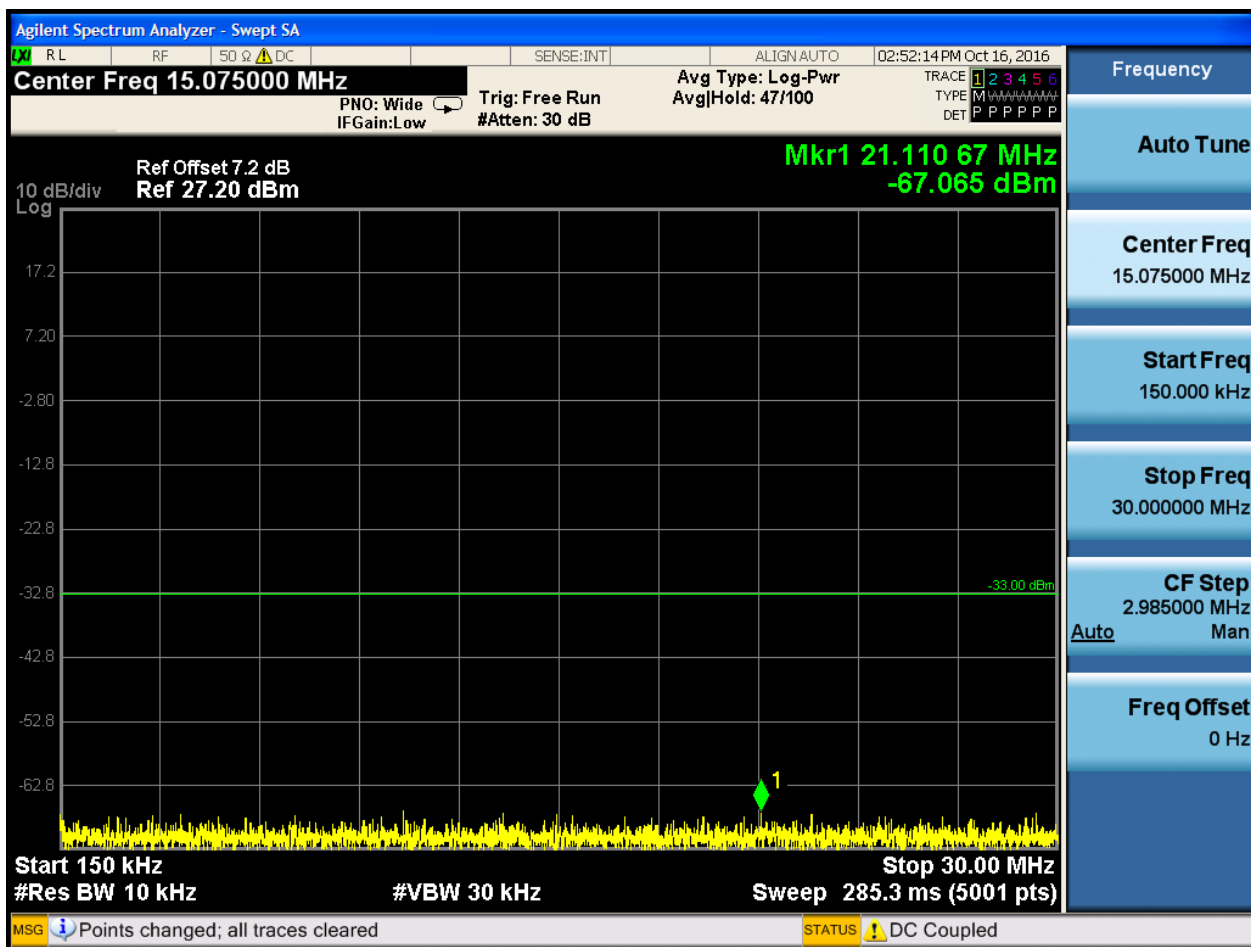
6.1.1.2 Test Mode = LTE/TM2

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

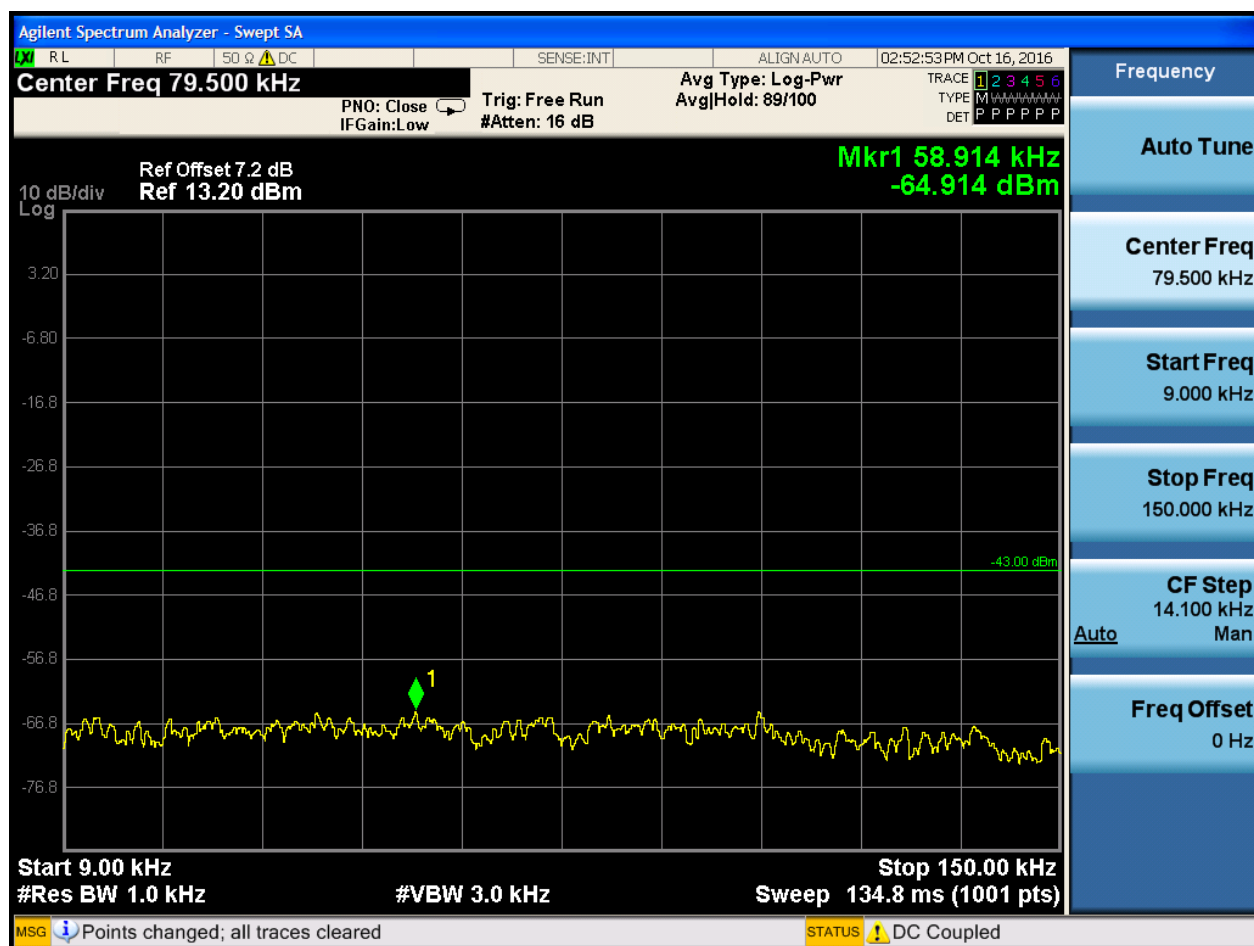


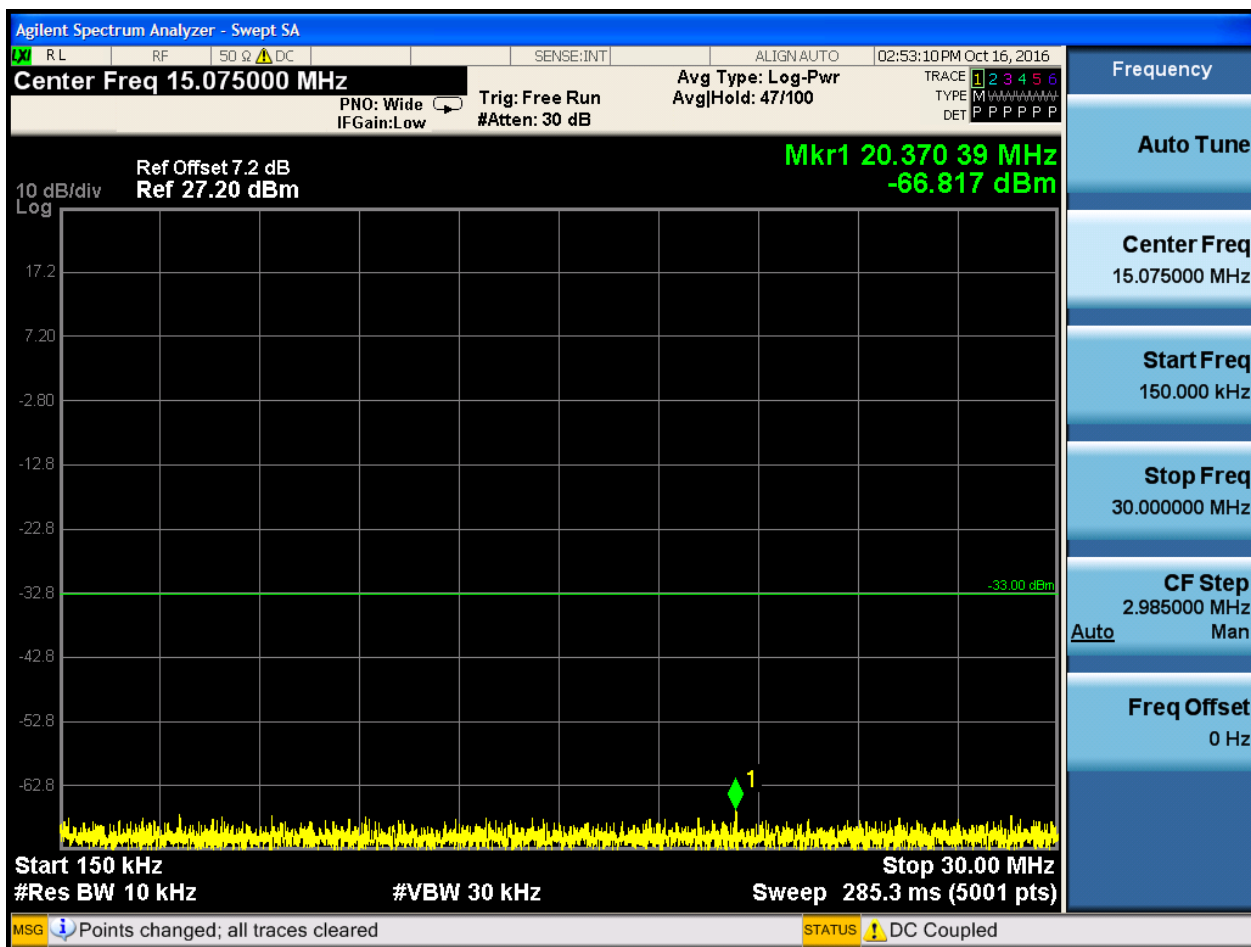


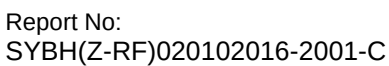


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



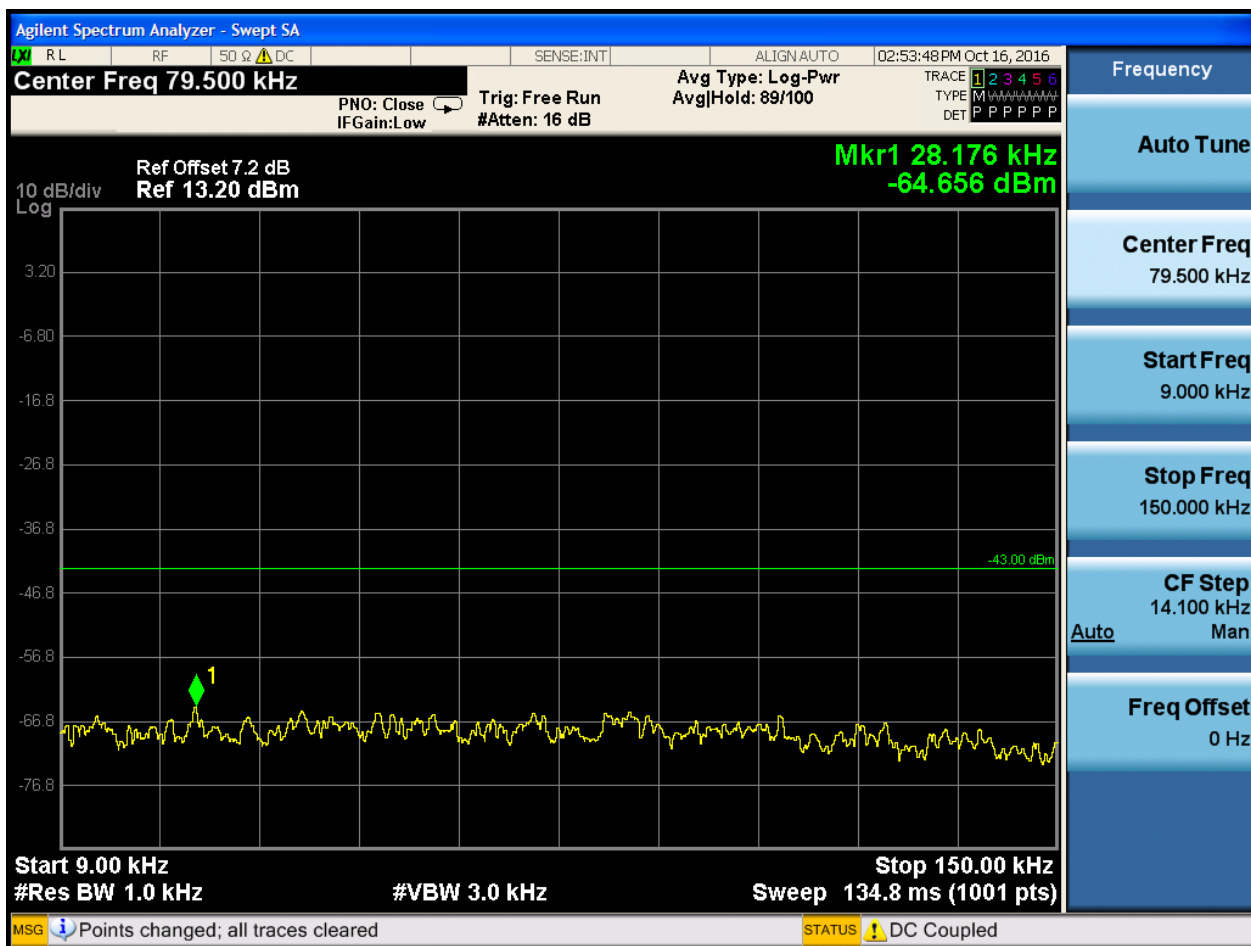


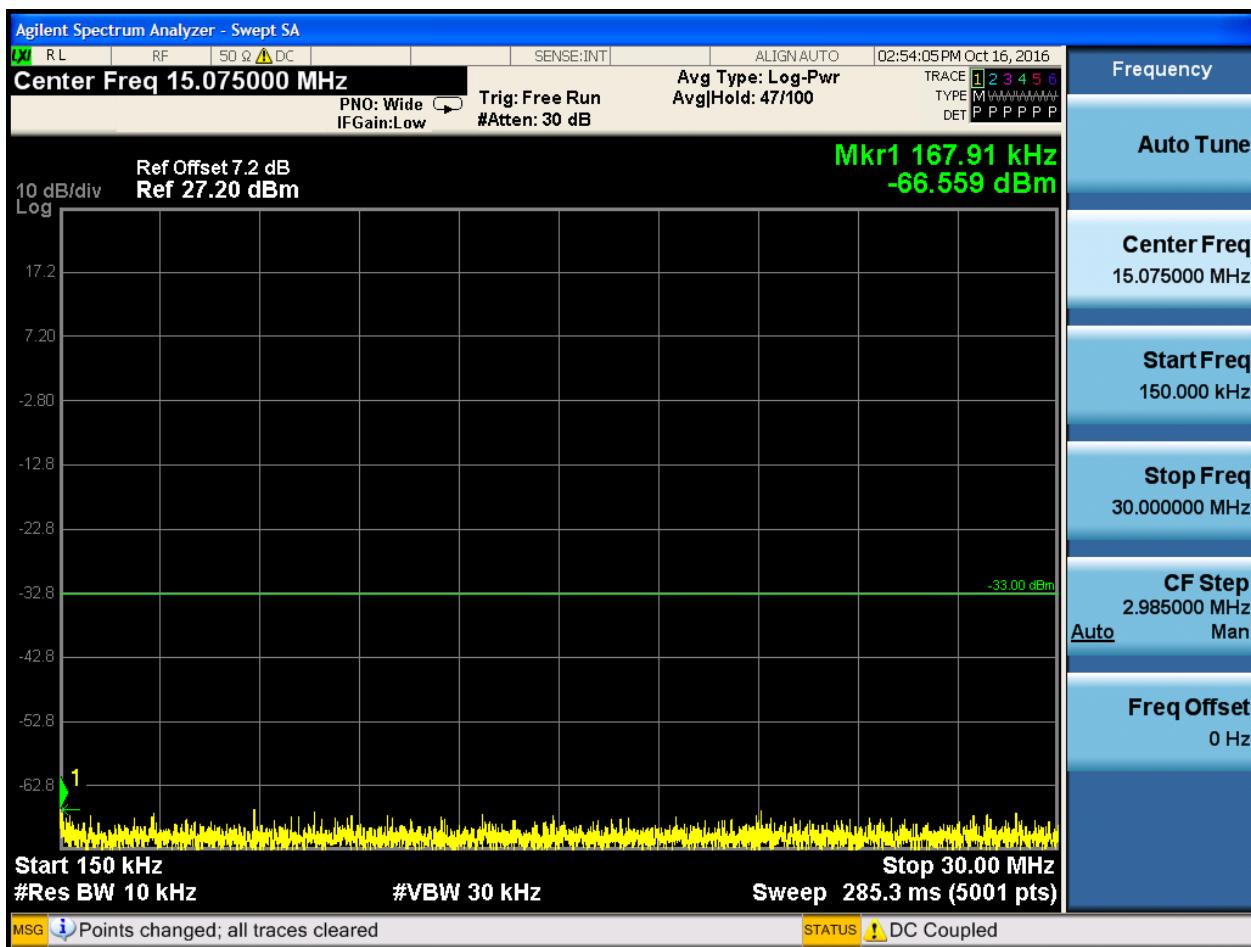


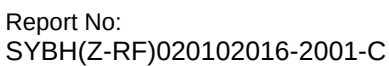


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0

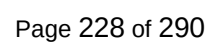


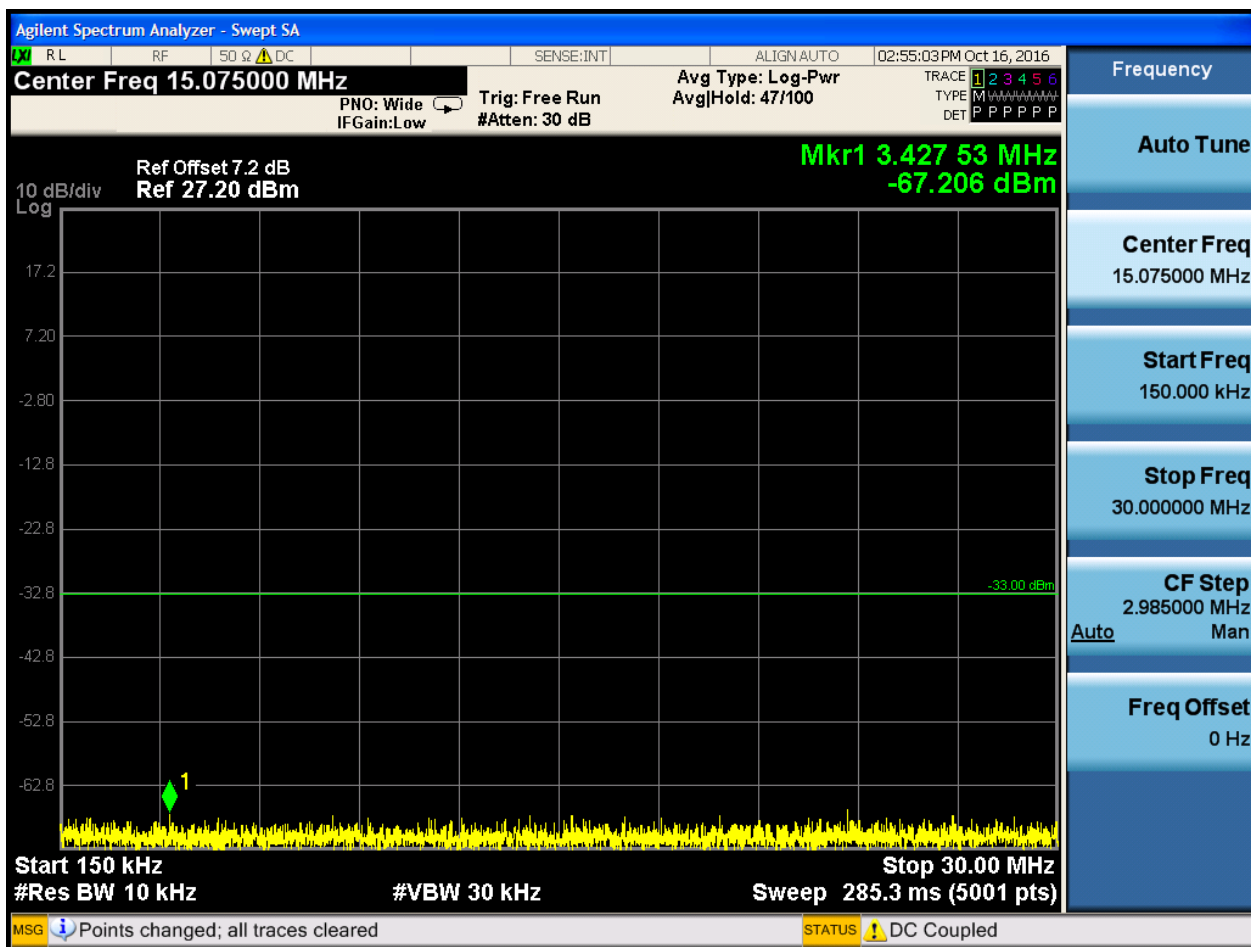


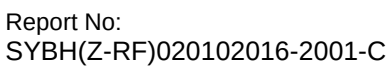




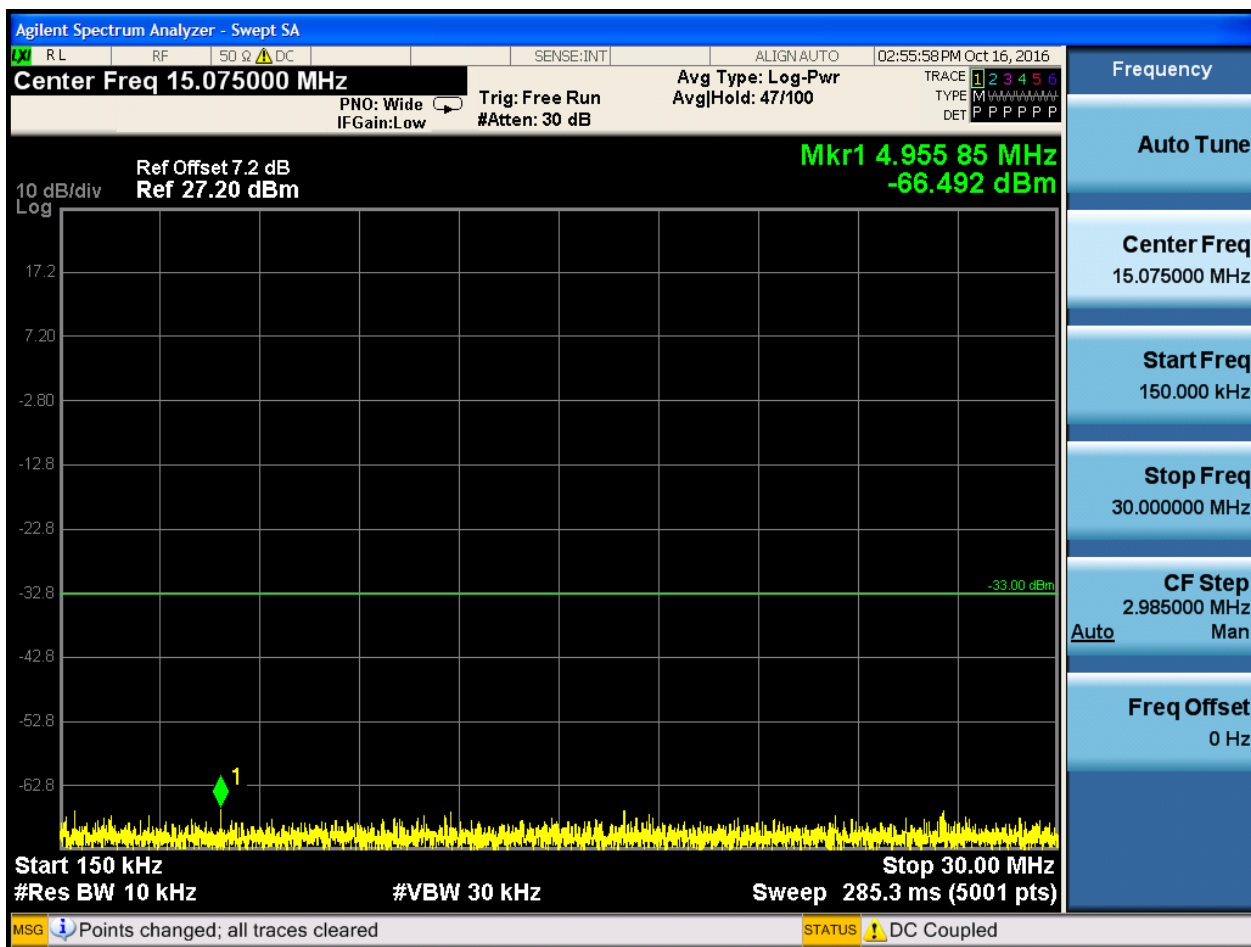
6.1.1.2.2.1.1 Test RB = RB1#0

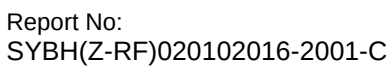






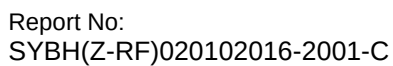


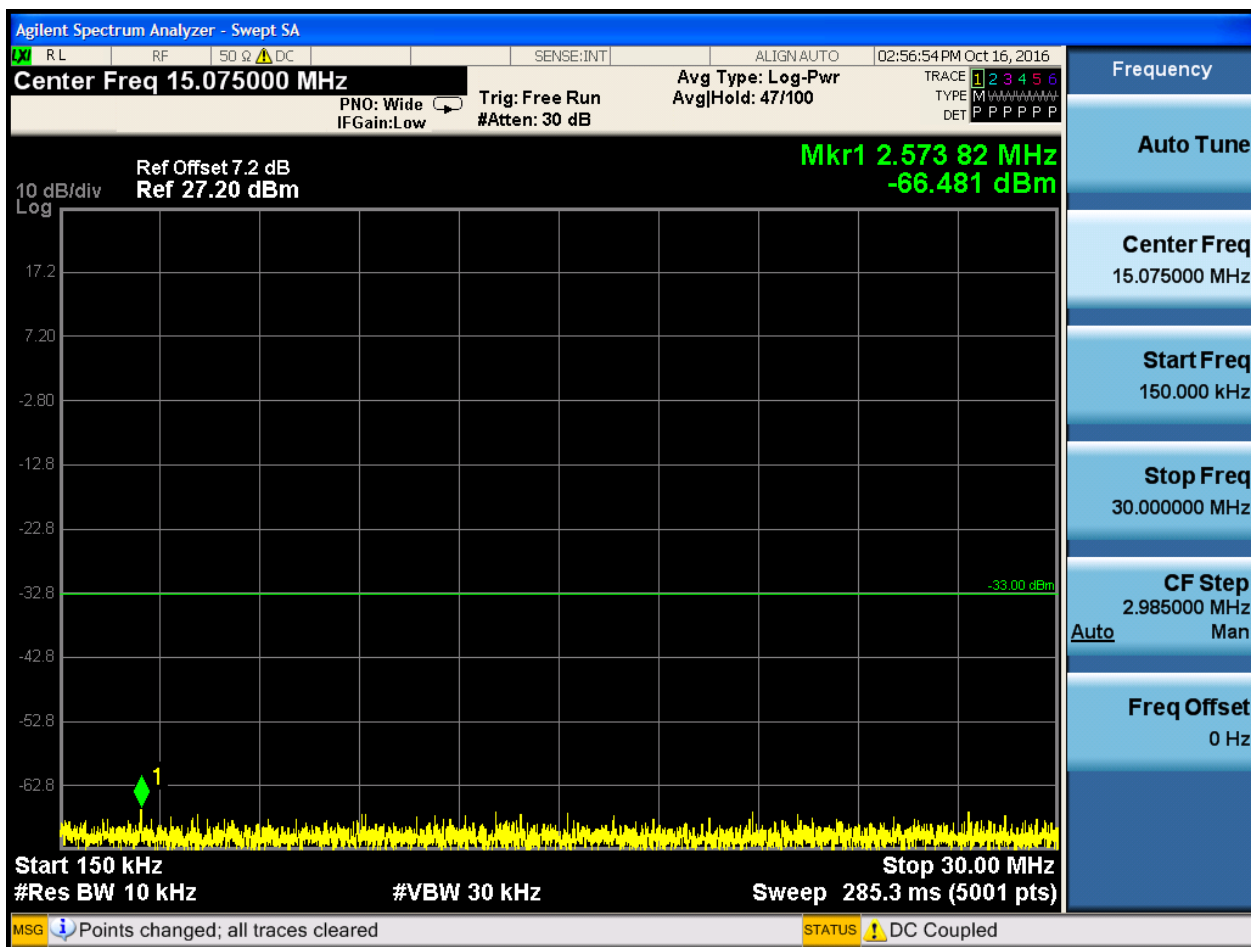






6.1.1.2.2.3.1 Test RB = RB1#0







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

