



5.1.1.1.5.2.4 Test RB = RB75#0

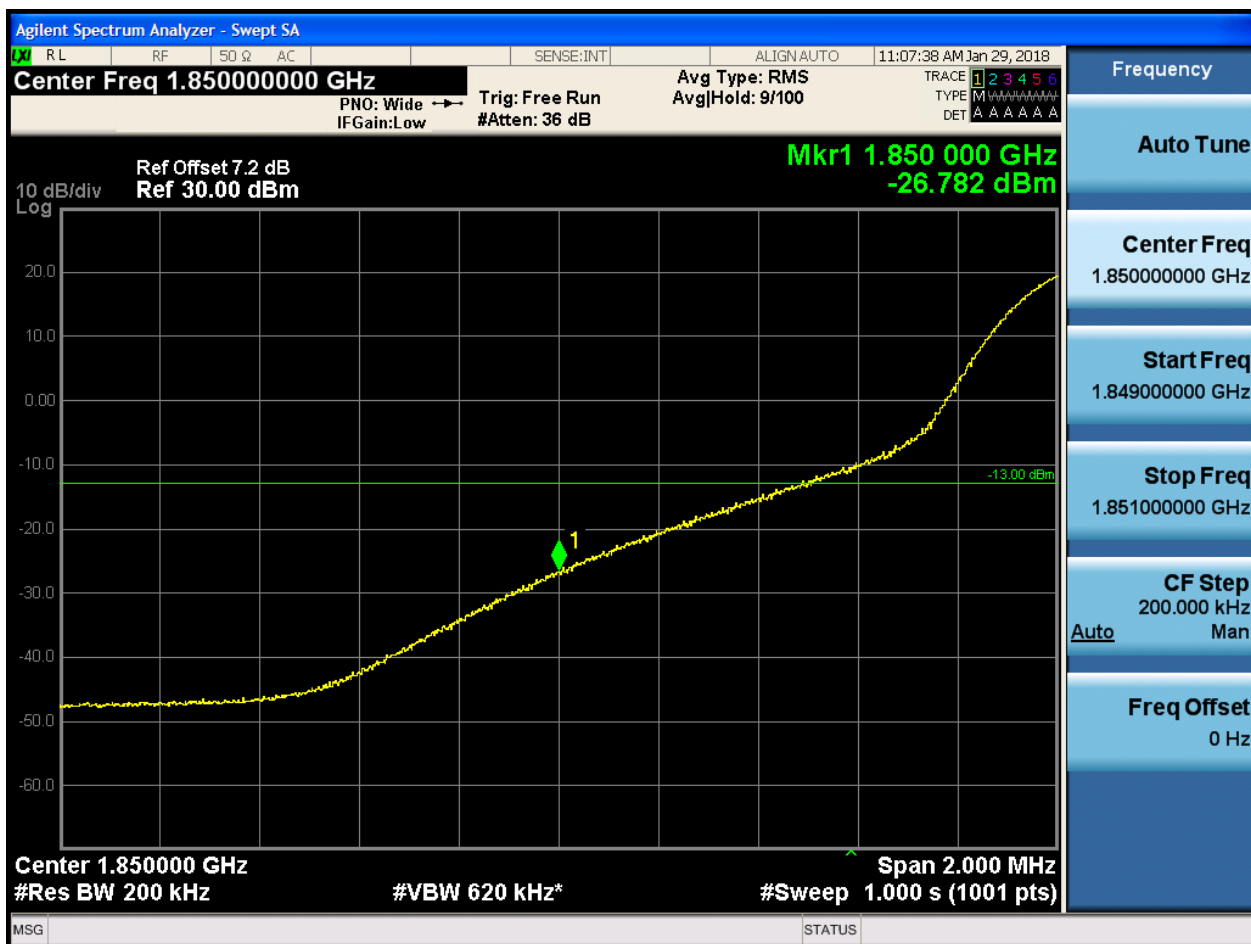




5.1.1.1.6 Test Bandwidth = 20

5.1.1.1.6.1 Test Channel = LCH

5.1.1.1.6.1.1 Test RB = RB1#0



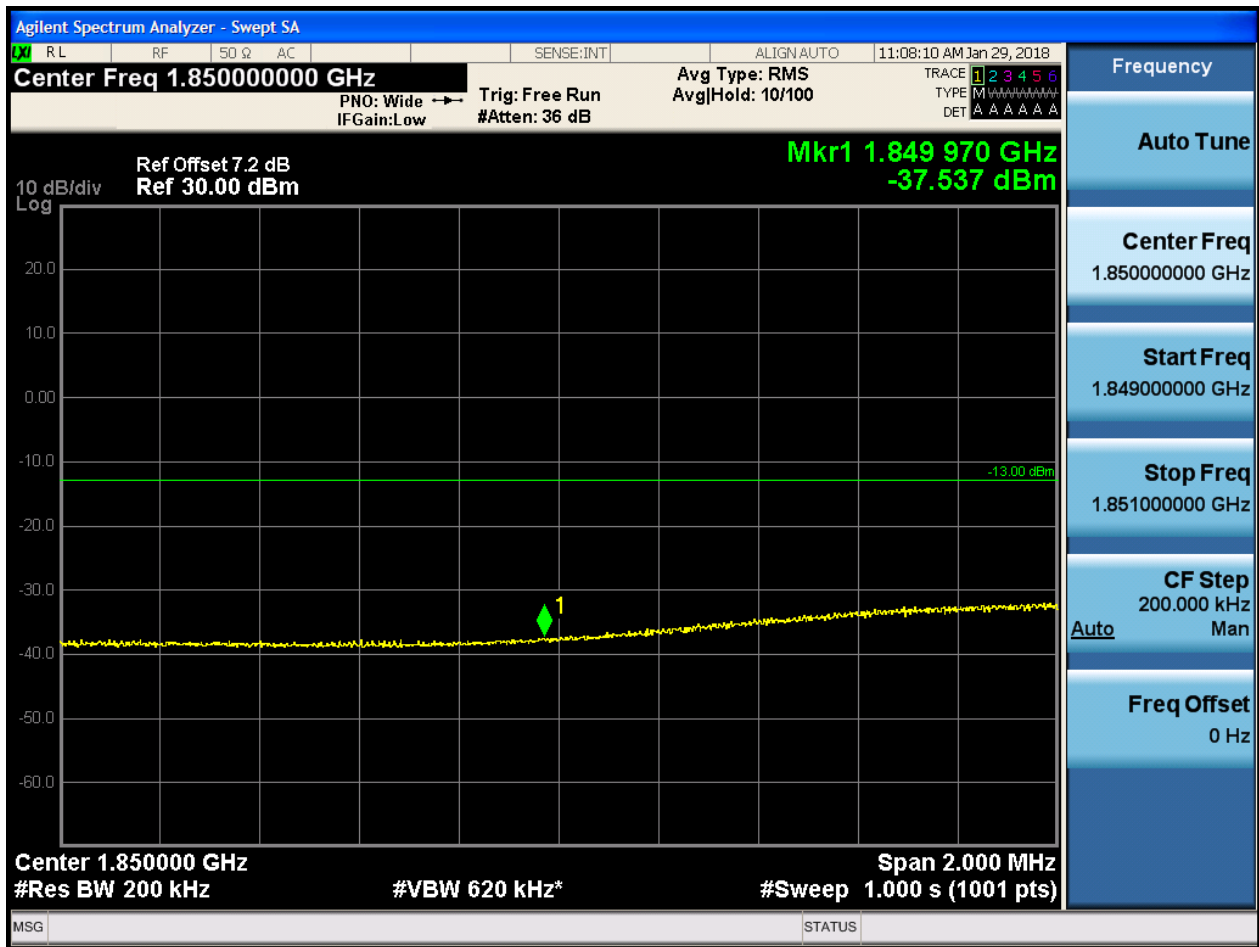


5.1.1.1.6.1.2 Test RB = RB1#99





5.1.1.1.6.1.3 Test RB = RB50#25





5.1.1.1.6.1.4 Test RB = RB100#0





5.1.1.1.6.2 Test Channel = HCH

5.1.1.1.6.2.1 Test RB = RB1#0



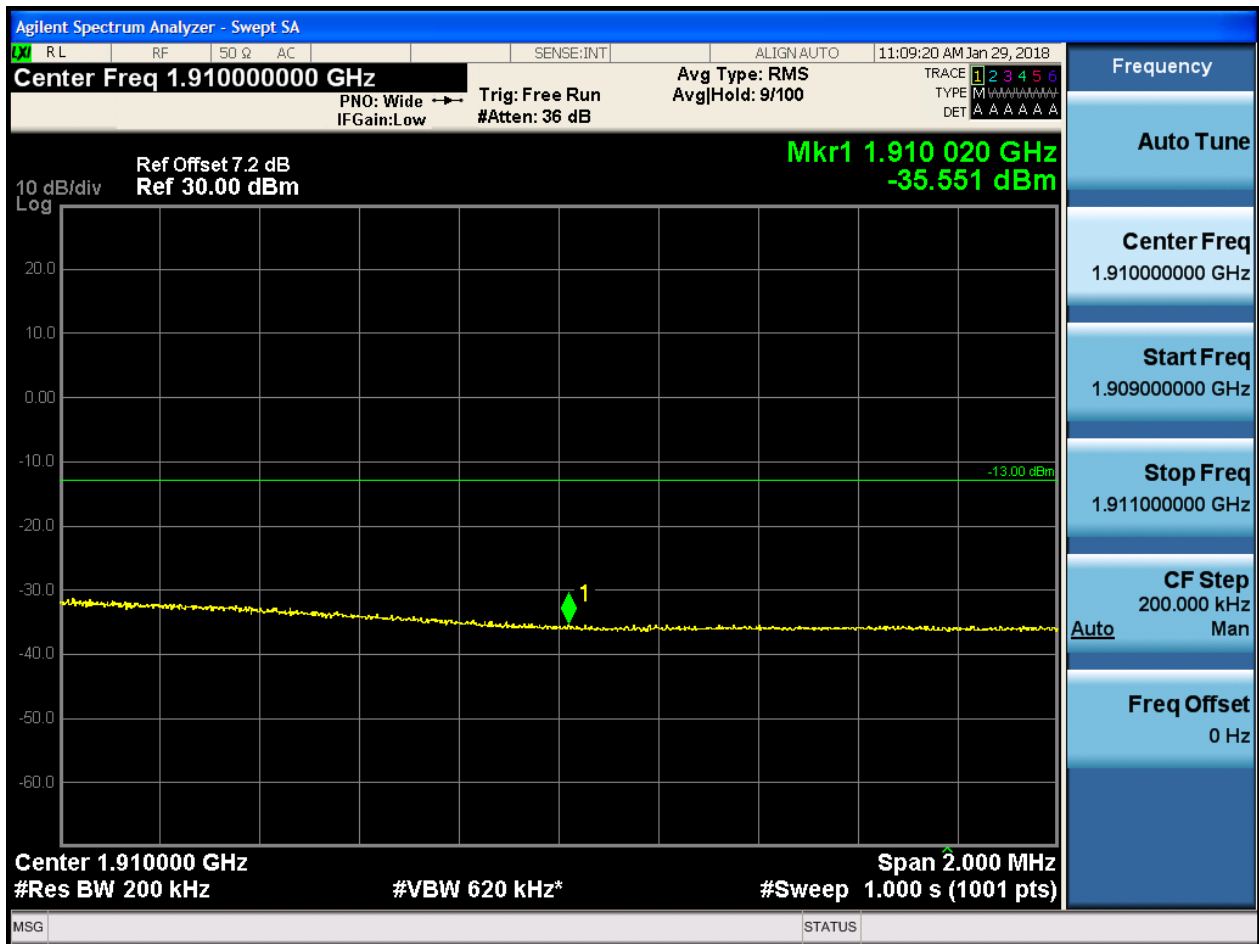


5.1.1.1.6.2.2 Test RB = RB1#99





5.1.1.1.6.2.3 Test RB = RB50#25





5.1.1.1.6.2.4 Test RB = RB100#0



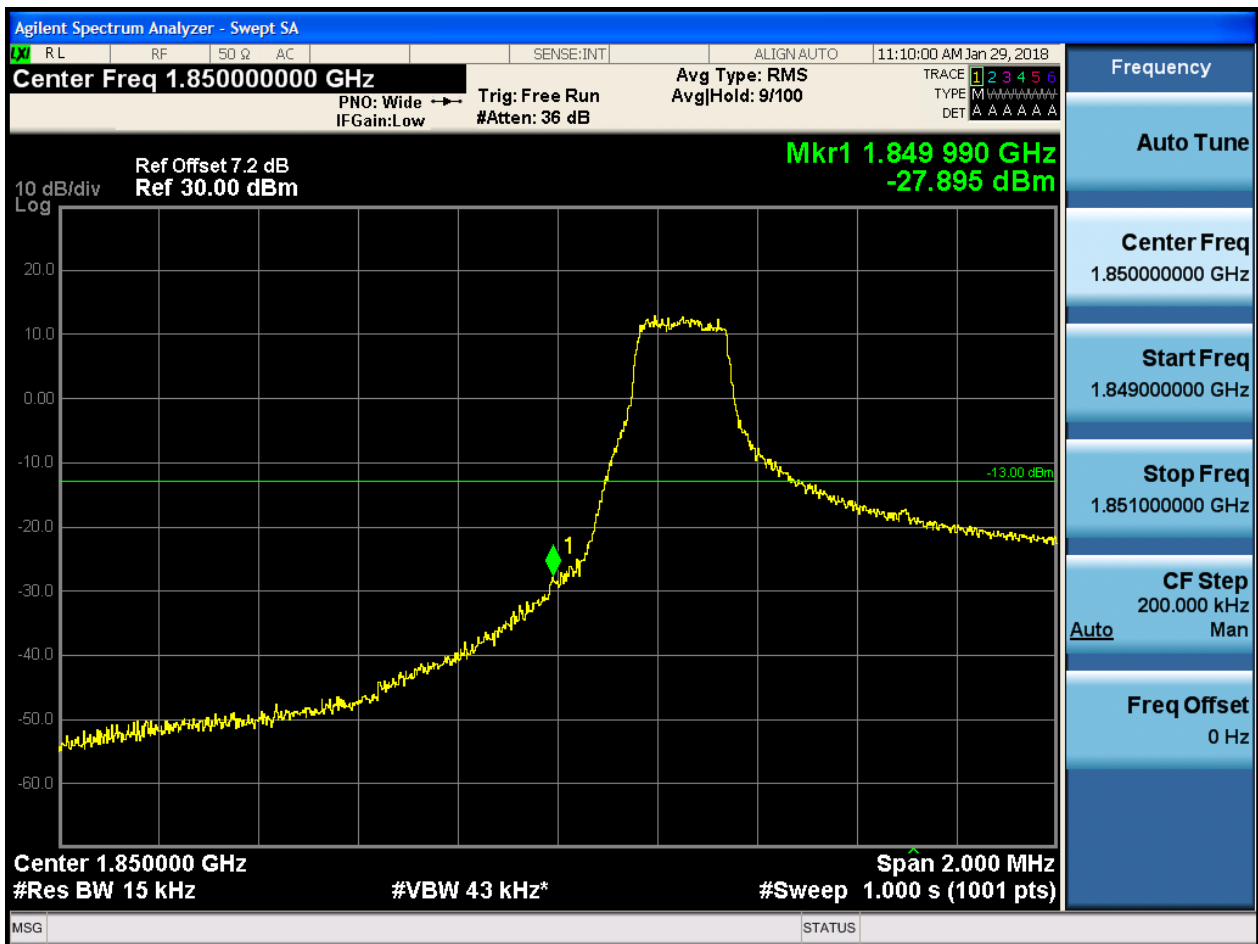


5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 1.4

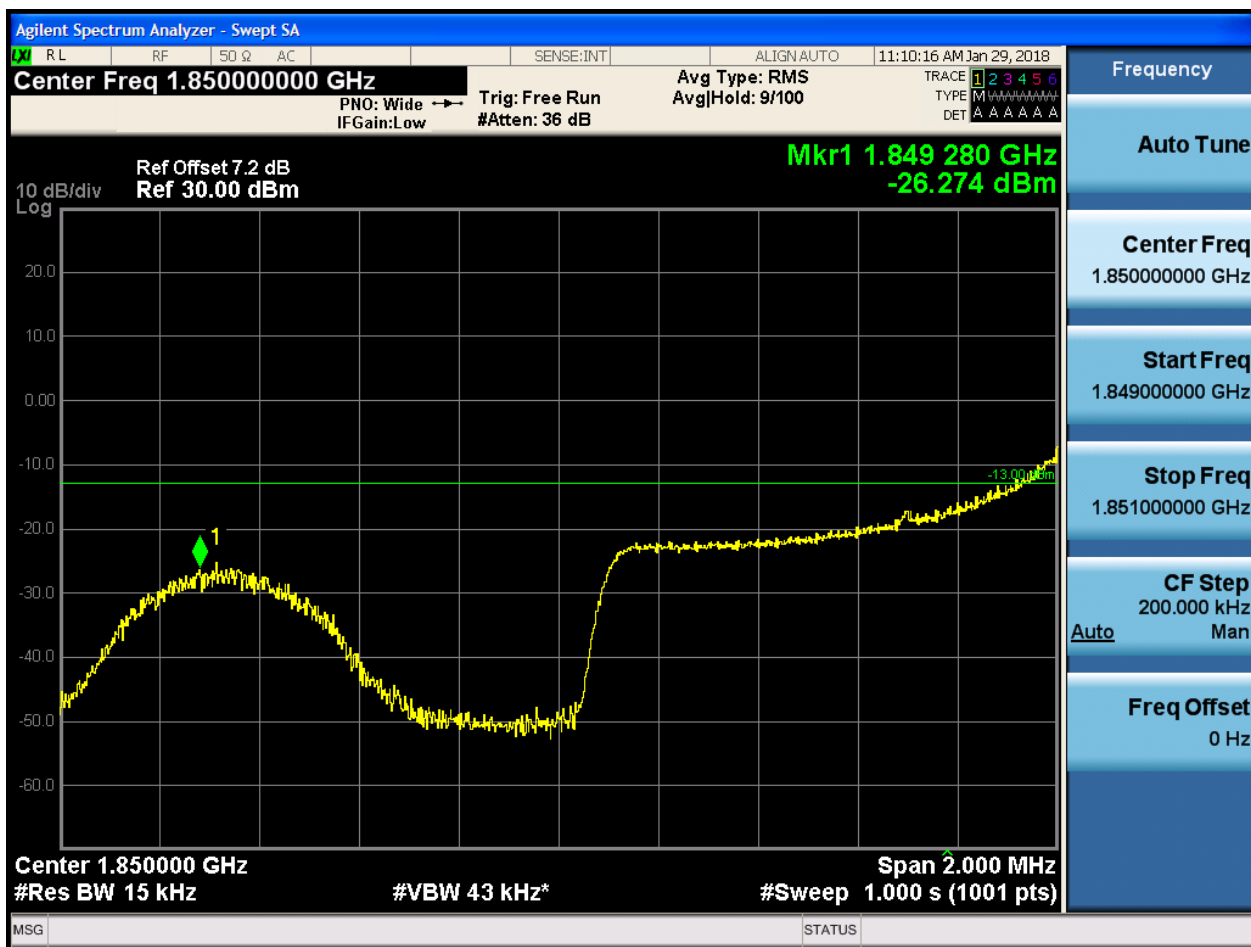
5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 Test RB = RB1#0



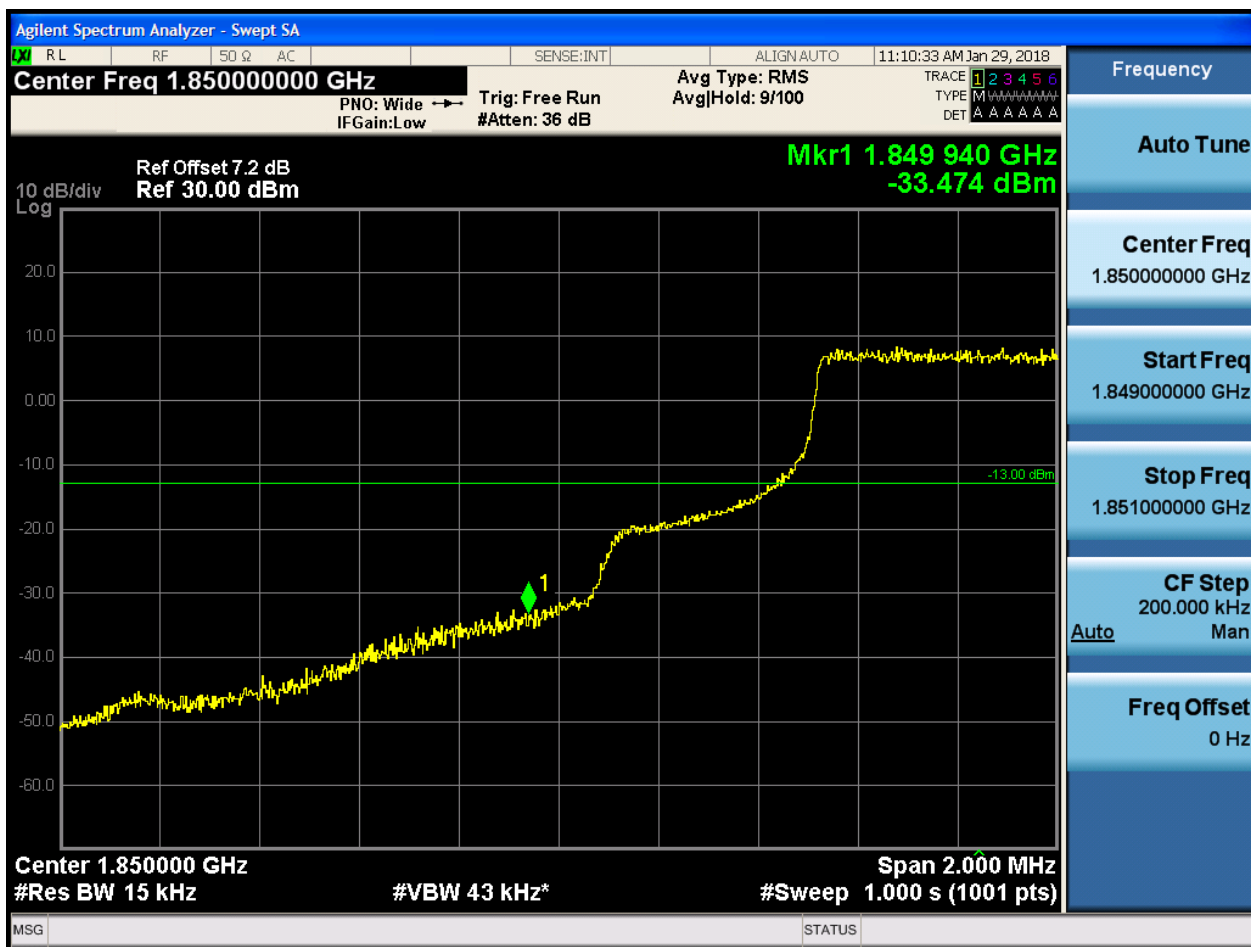


5.1.1.2.1.1.2 Test RB = RB1#5



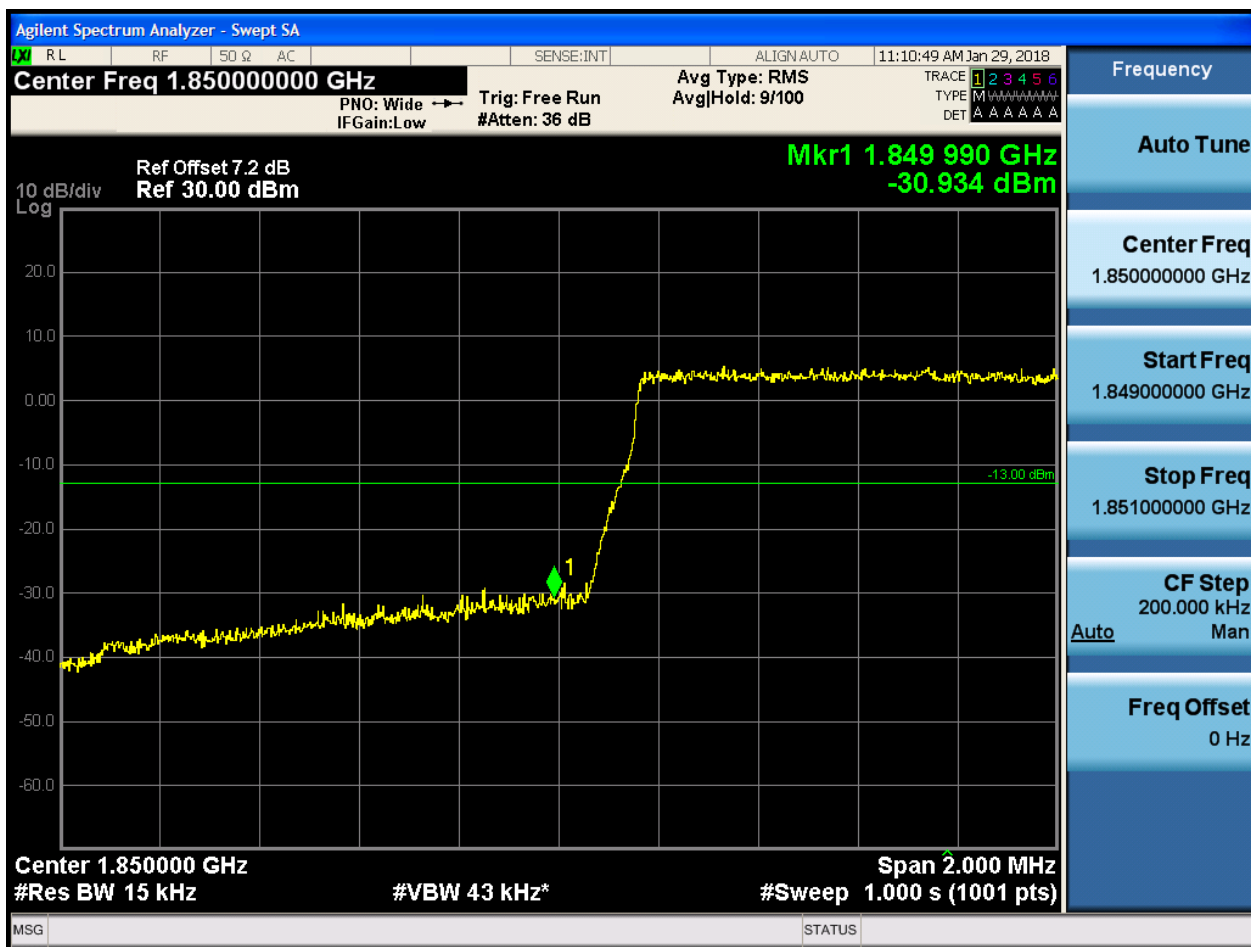


5.1.1.2.1.1.3 Test RB = RB3#2



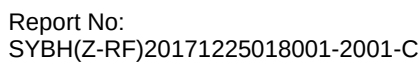


5.1.1.2.1.1.4 Test RB = RB6#0





5.1.1.2.1.2.1 Test RB = RB1#0





5.1.1.2.1.2.2 Test RB = RB1#5





5.1.1.2.1.2.3 Test RB = RB3#2





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:11:58 AM Jan 29, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100
#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 1.910 010 GHz
-27.296 dBm

10 dB/div
Log

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

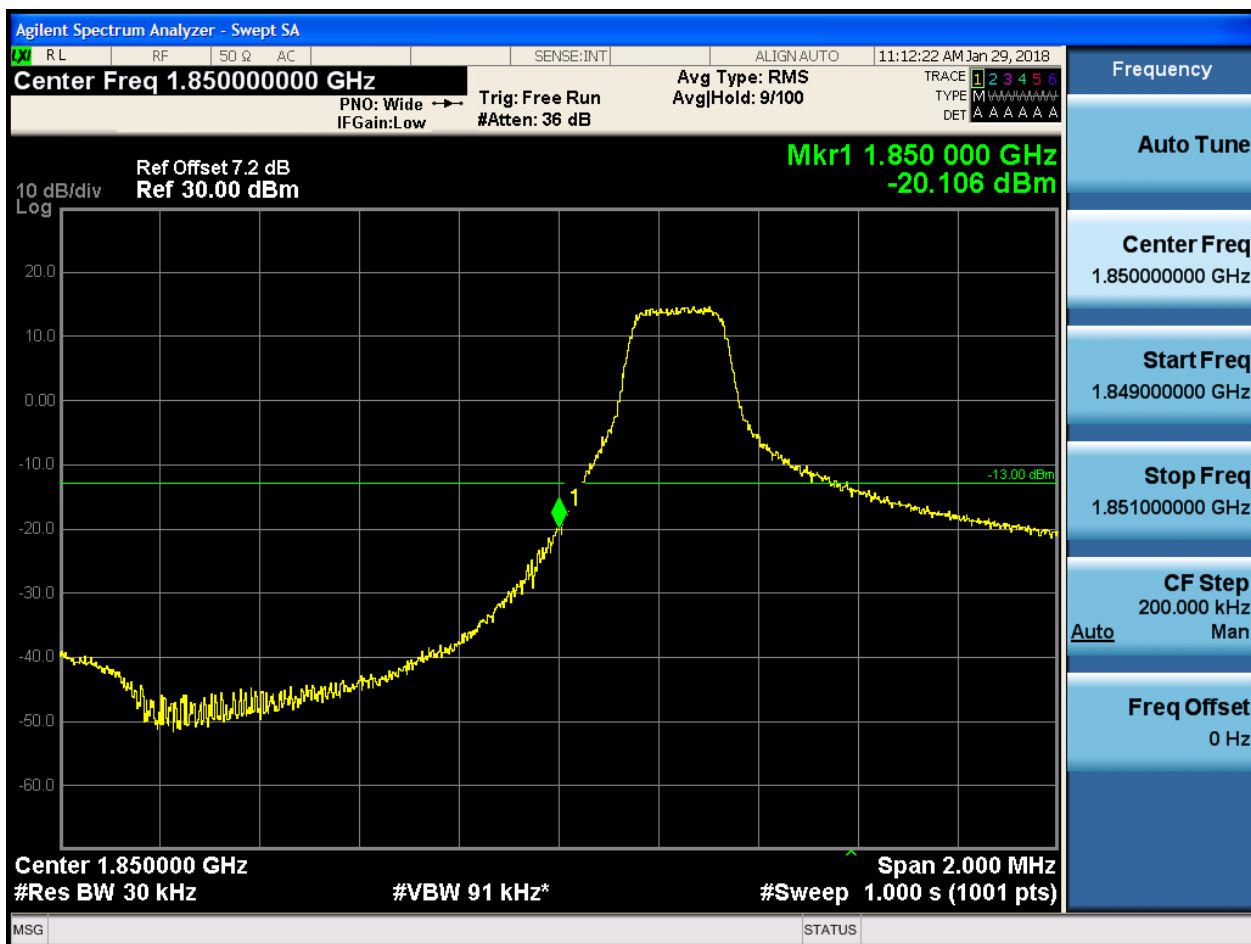
MSG STATUS



5.1.1.2.2 Test Bandwidth = 3

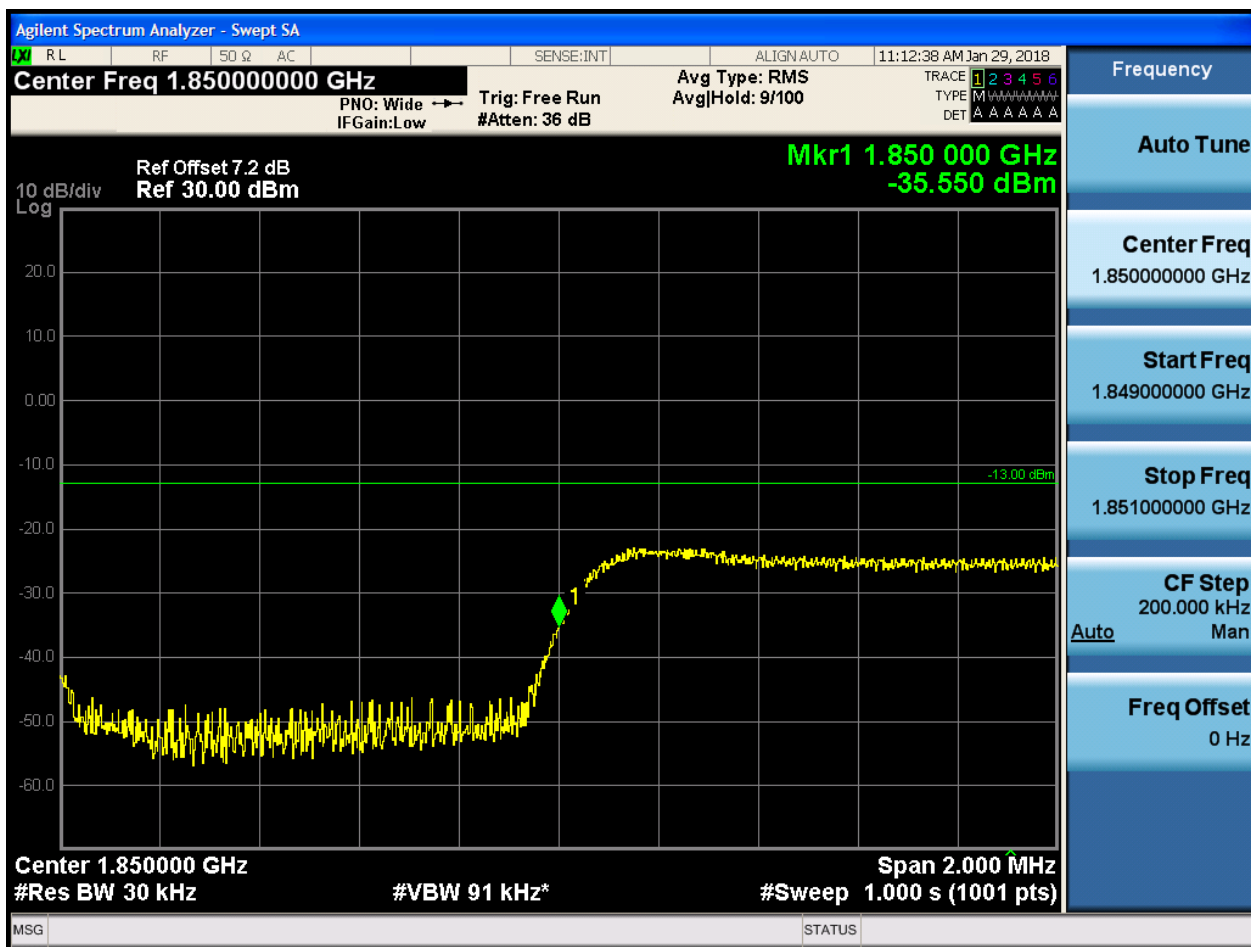
5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0





5.1.1.2.2.1.2 Test RB = RB1#14





5.1.1.2.2.1.3 Test RB = RB8#4





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:13:10 AM Jan 29, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100
#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 1.850 000 GHz
-29.989 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

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

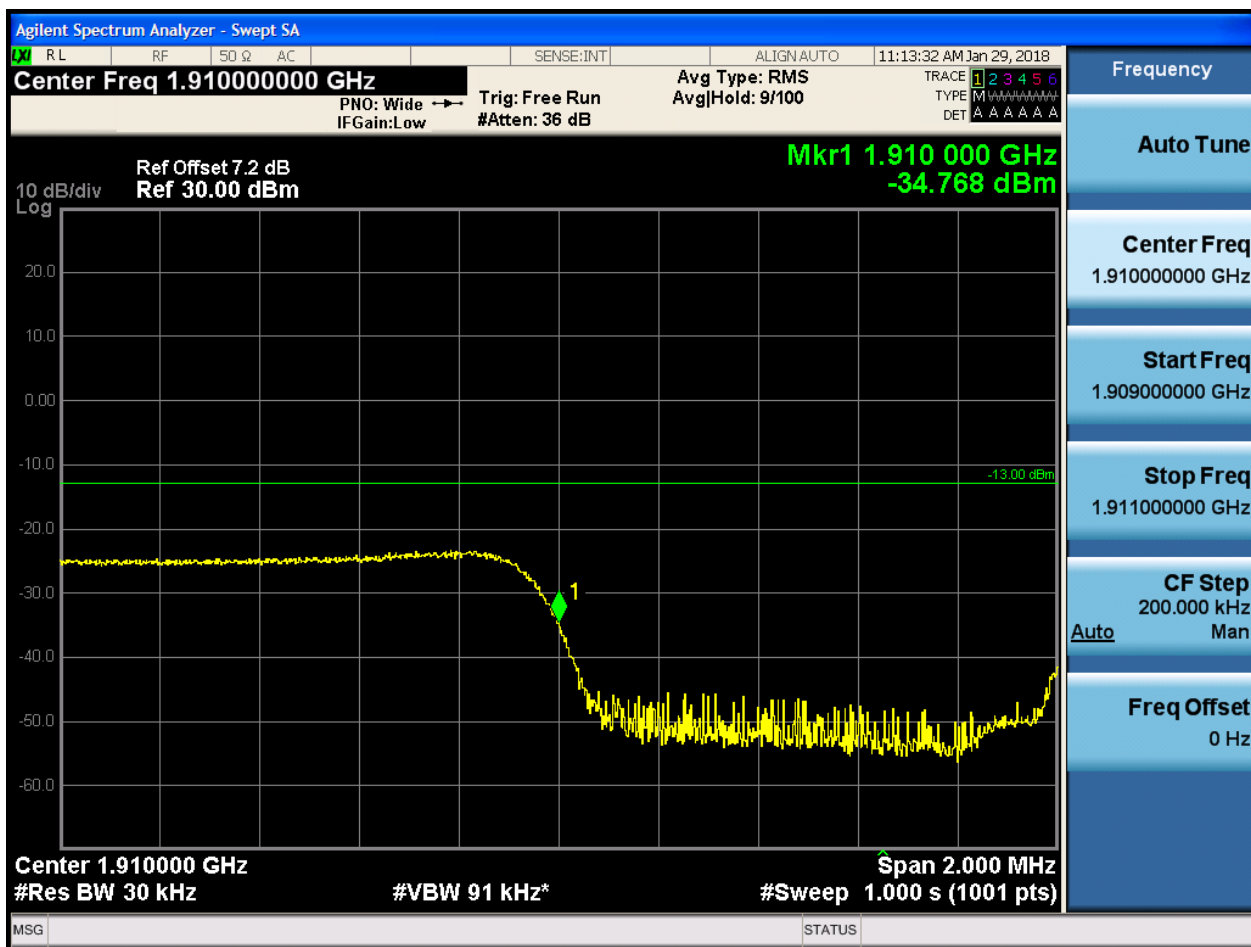
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

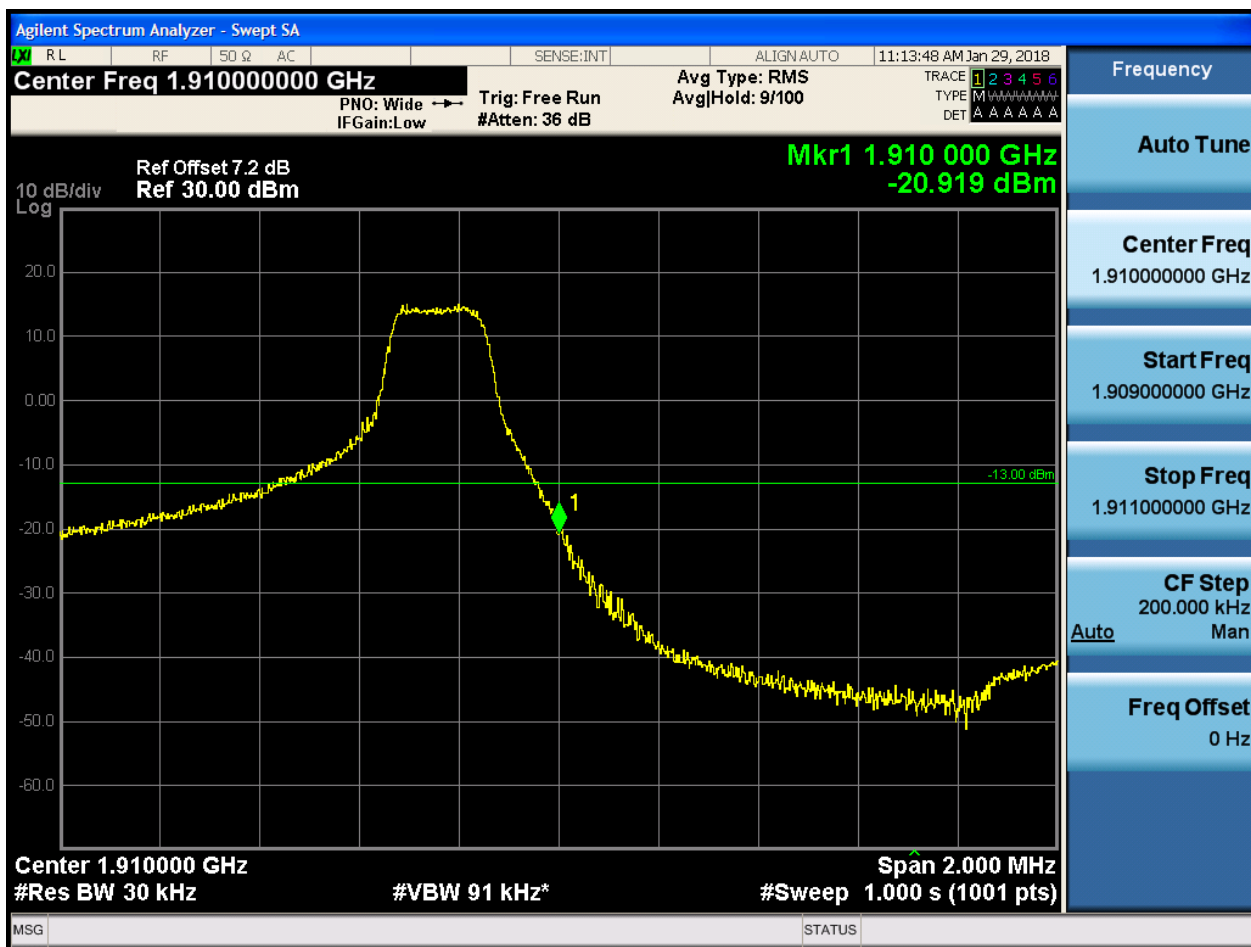


5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0



5.1.1.2.2.2.2 Test RB = RB1#14





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:14:04 AM Jan 29, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide → Trig: Free Run AvgHold: 9/100
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

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-28.723 dBm

10 dB/div
Log

-13.00 dBm

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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:14:20 AM Jan 29, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100
#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 1.910 000 GHz
-27.651 dBm

10 dB/div
Log

-13.00 dBm

Center 1.910000 GHz
#Res BW 30 kHz
#VBW 91 kHz

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

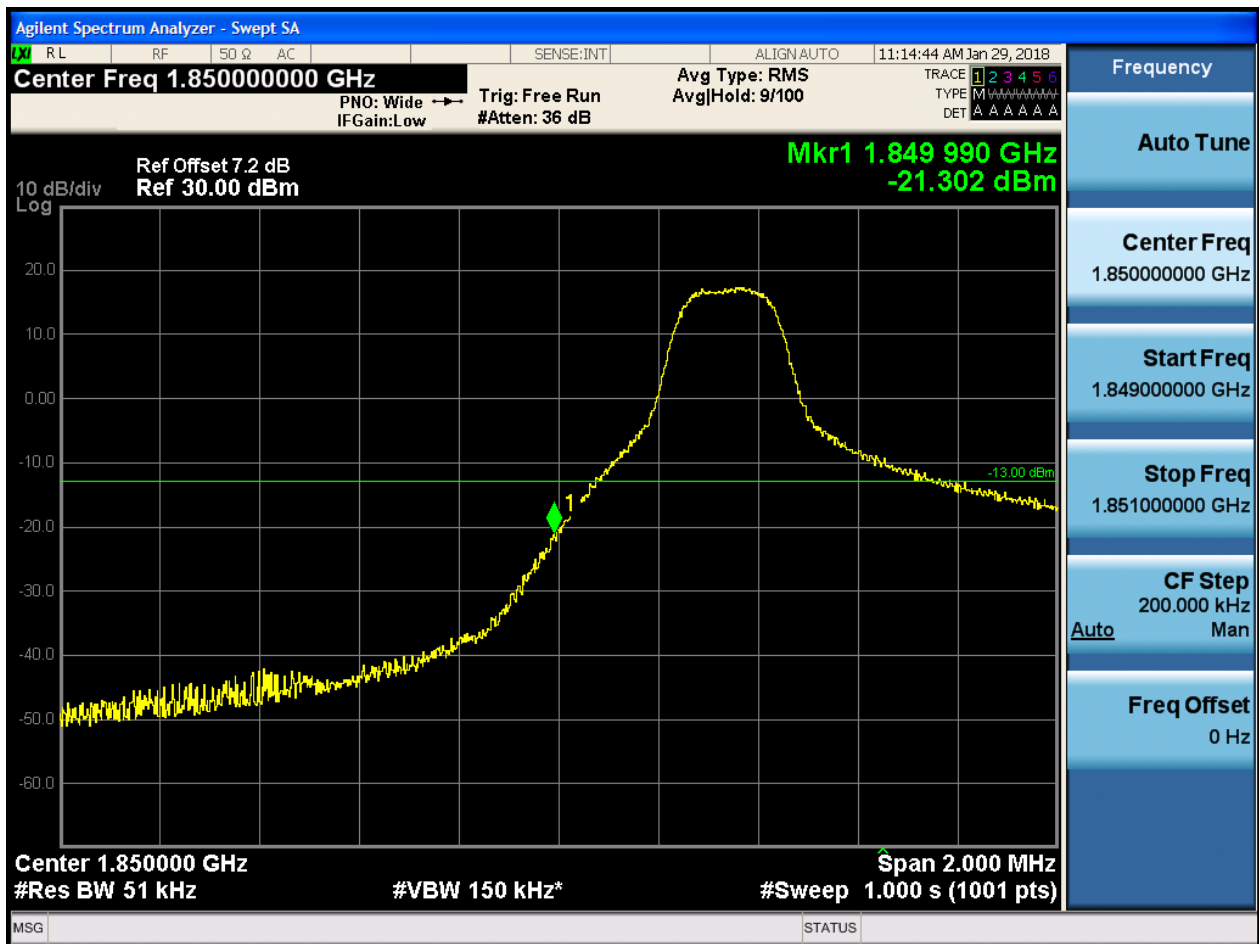
Frequency
Auto Tune
Center Freq
1.910000000 GHz
Start Freq
1.909000000 GHz
Stop Freq
1.911000000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz



5.1.1.2.3 Test Bandwidth = 5

5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:15:00 AM Jan 29, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100
#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 1.850 000 GHz
-39.861 dBm

10 dB/div
Log

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



5.1.1.2.3.1.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.850000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.850 000 GHz
-30.389 dBm

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

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Frequency

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

Stop Freq
1.851000000 GHz

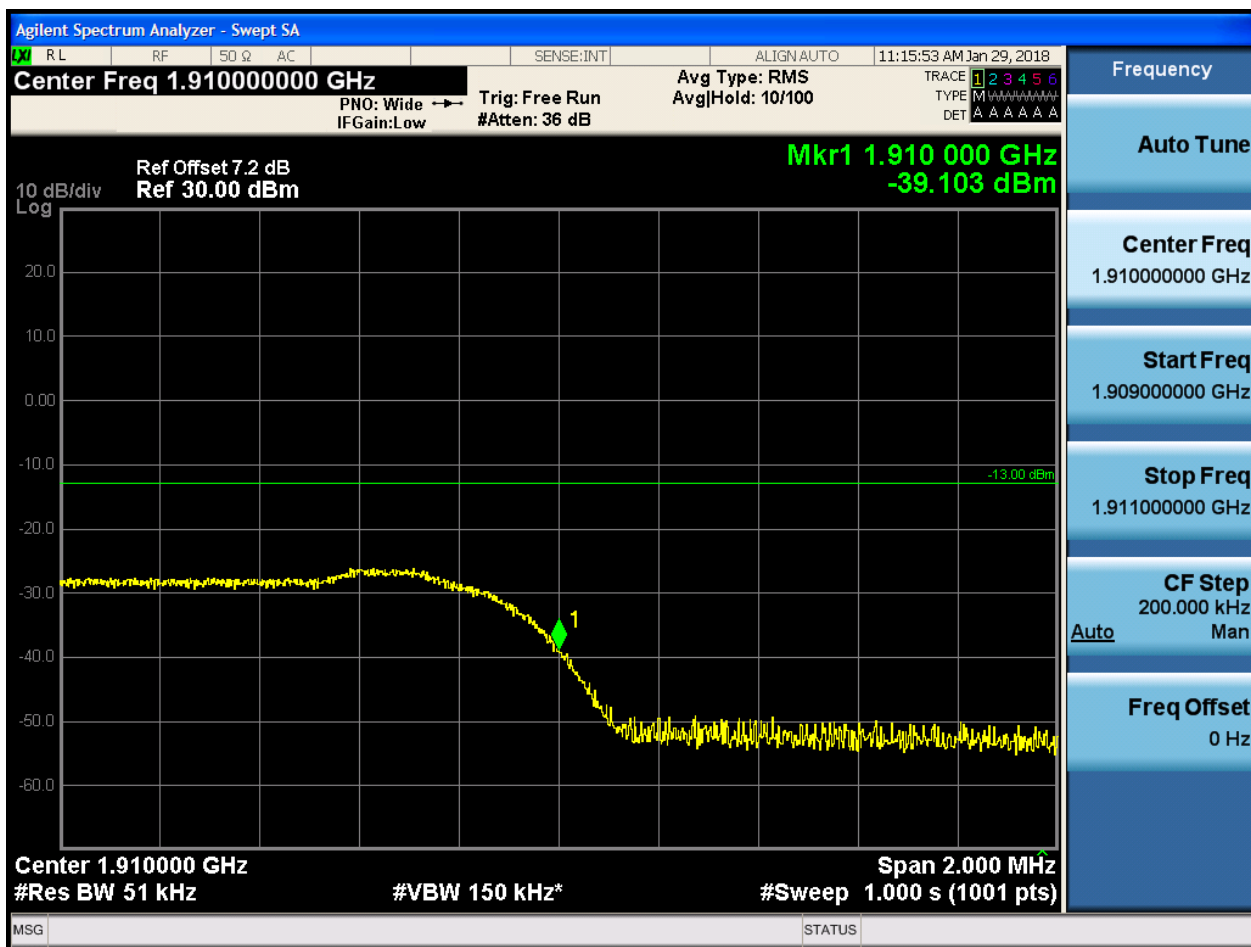
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



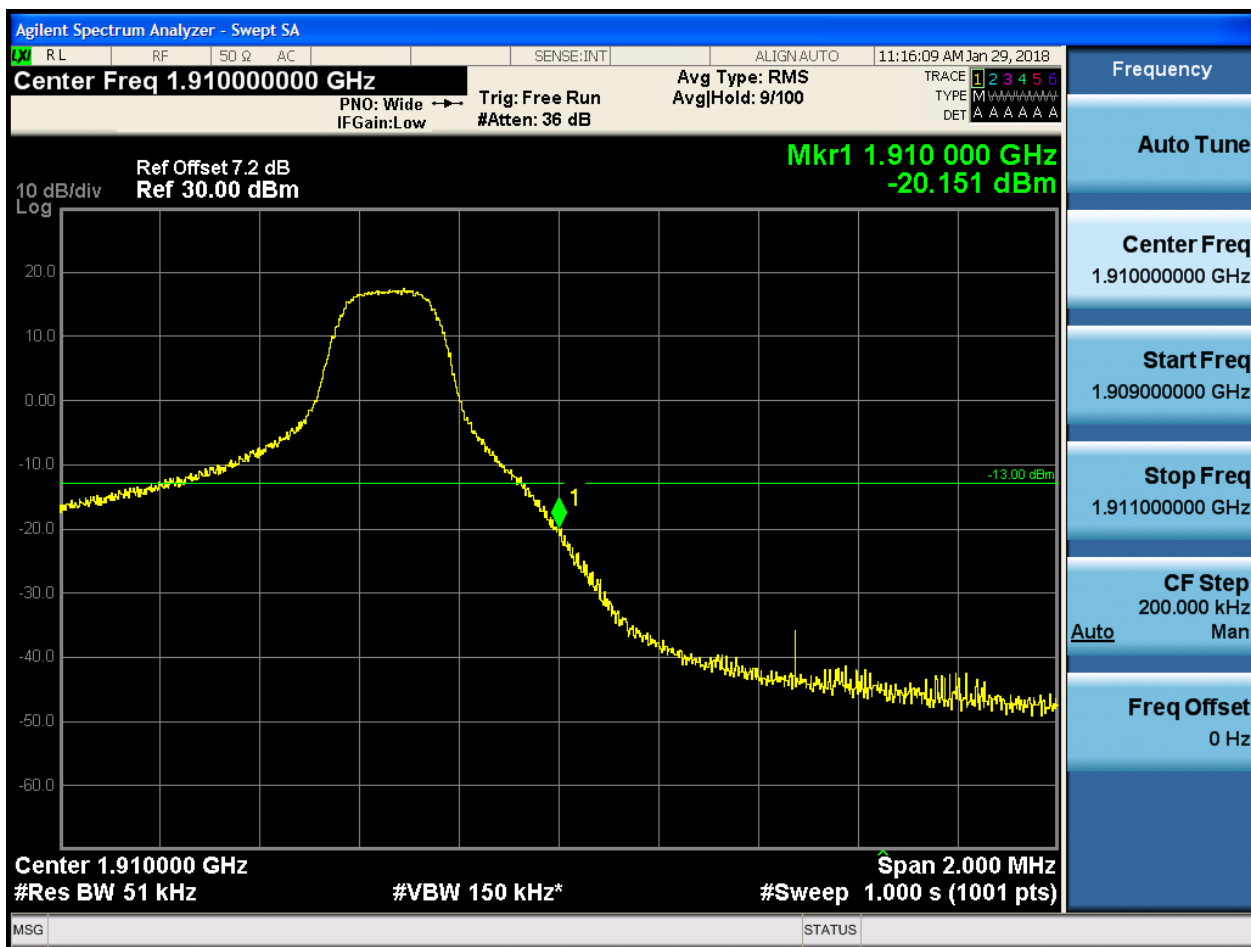
5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





5.1.1.2.3.2.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.91000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.910 010 GHz
-31.392 dBm

10 dB/div
Log

Center 1.910000 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
1.910000000 GHz

Start Freq
1.909000000 GHz

Stop Freq
1.911000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

Center Freq 1.91000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 000 GHz
-28.476 dBm

Center Freq 1.91000000 GHz

Start Freq 1.909000000 GHz

Stop Freq 1.911000000 GHz

CF Step 200.000 kHz
Auto

Freq Offset 0 Hz

Center 1.910000 GHz
#Res BW 51 kHz

#VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Center 1.910000 GHz
#Res BW 51 kHz

#VBW 150 kHz*

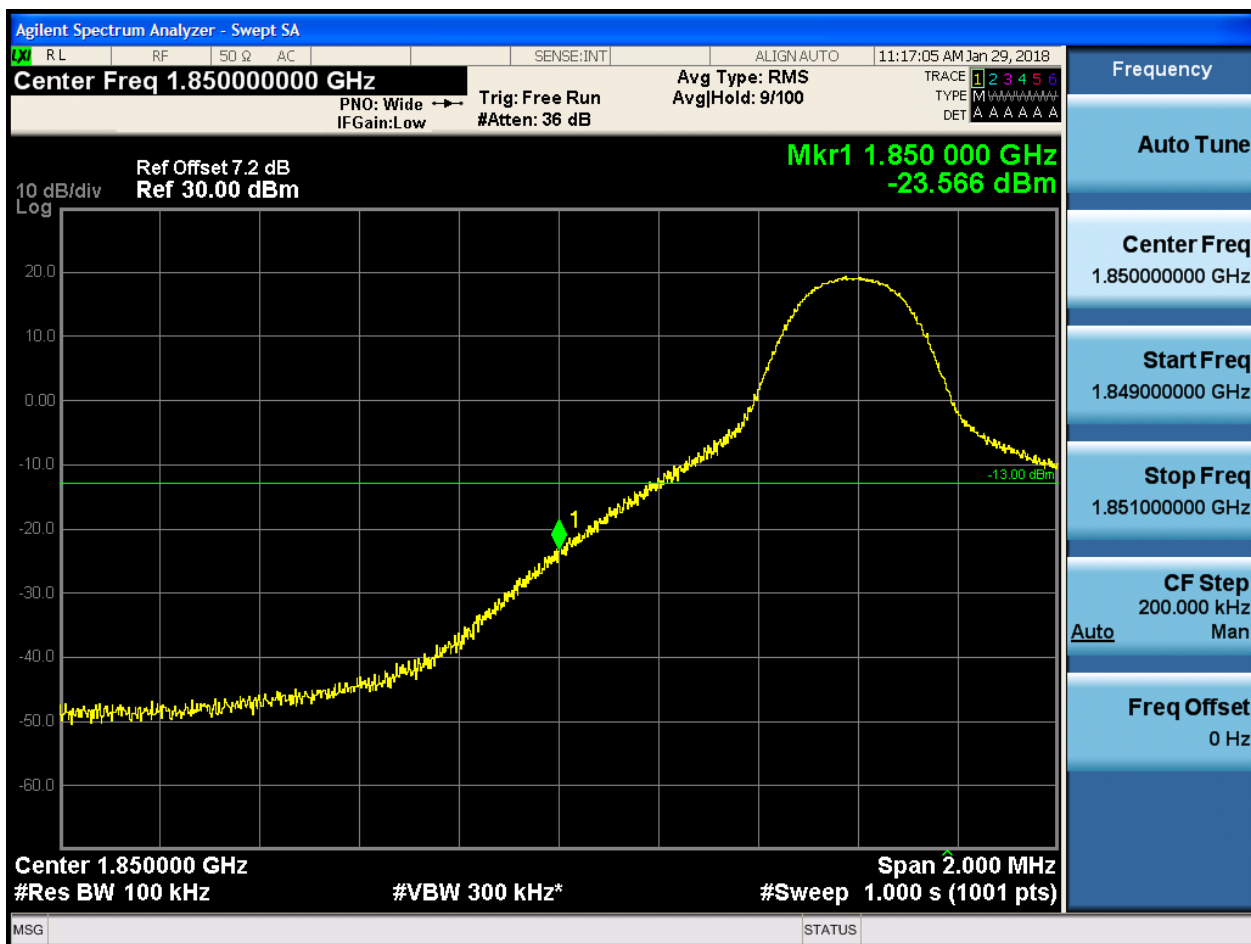
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)



5.1.1.2.4 Test Bandwidth = 10

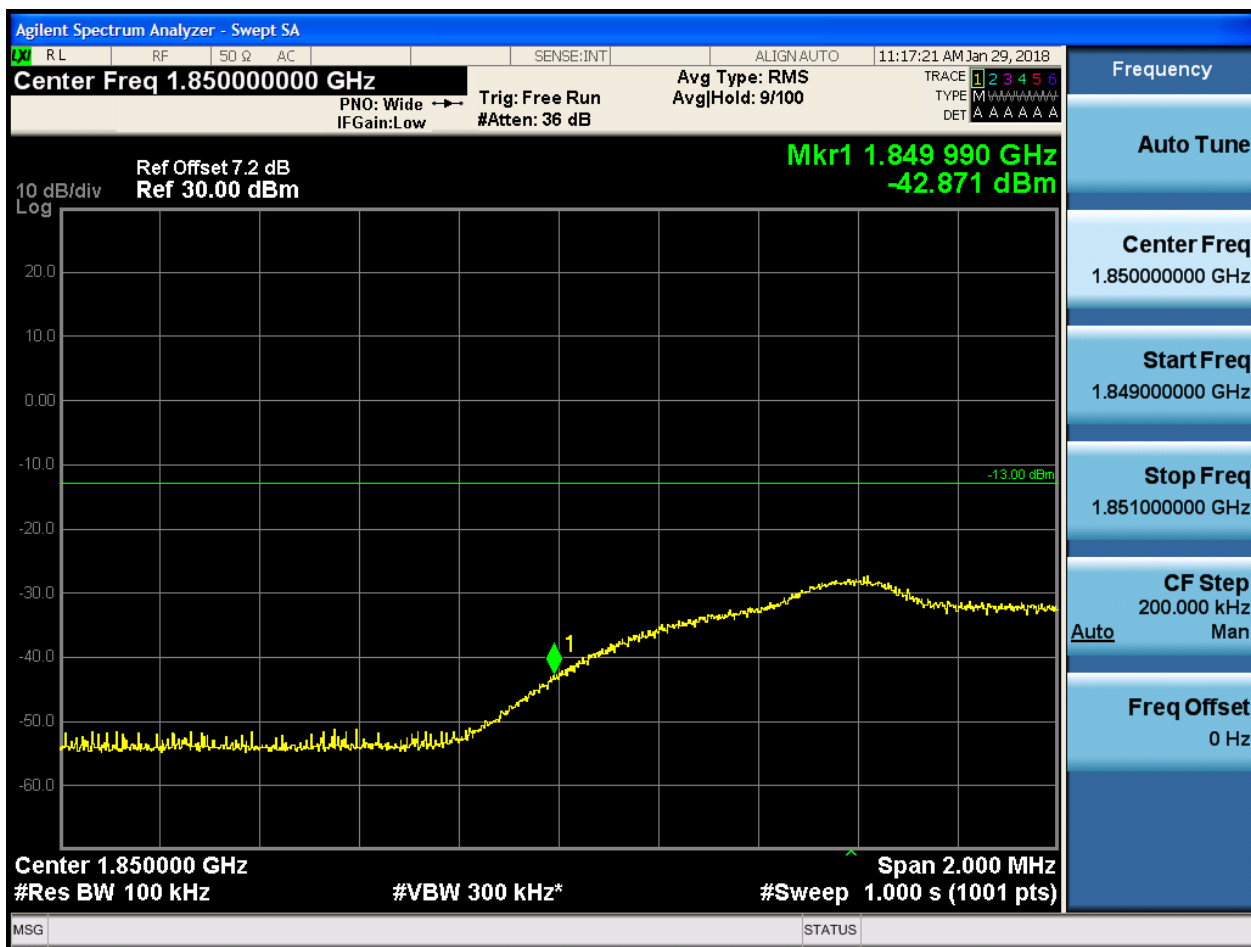
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0



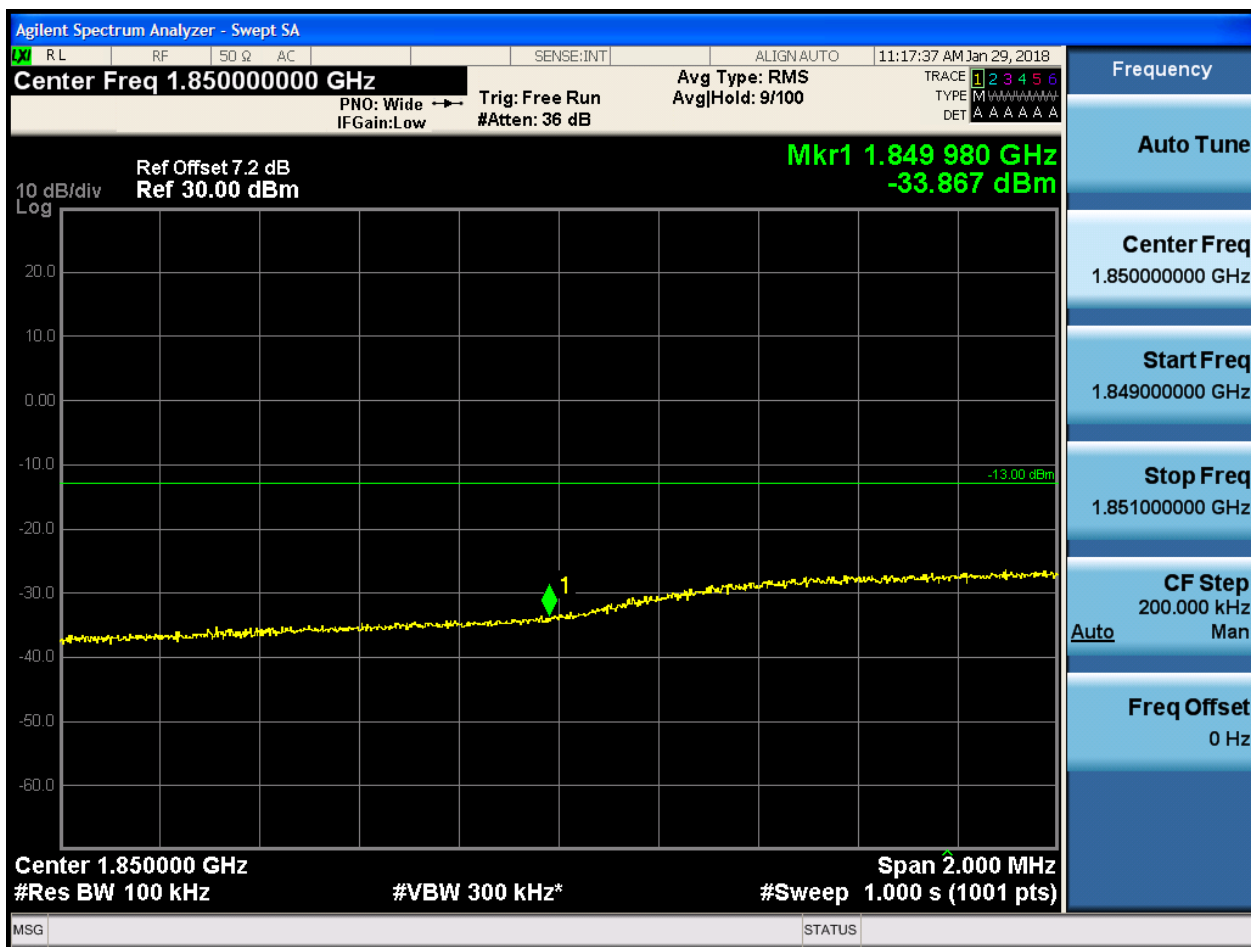


5.1.1.2.4.1.2 Test RB = RB1#49





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 11:17:53 AM Jan 29, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100
#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
-32.025 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

Center 1.850000 GHz
#Res BW 100 kHz

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

#VBW 300 kHz*

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

MSG STATUS



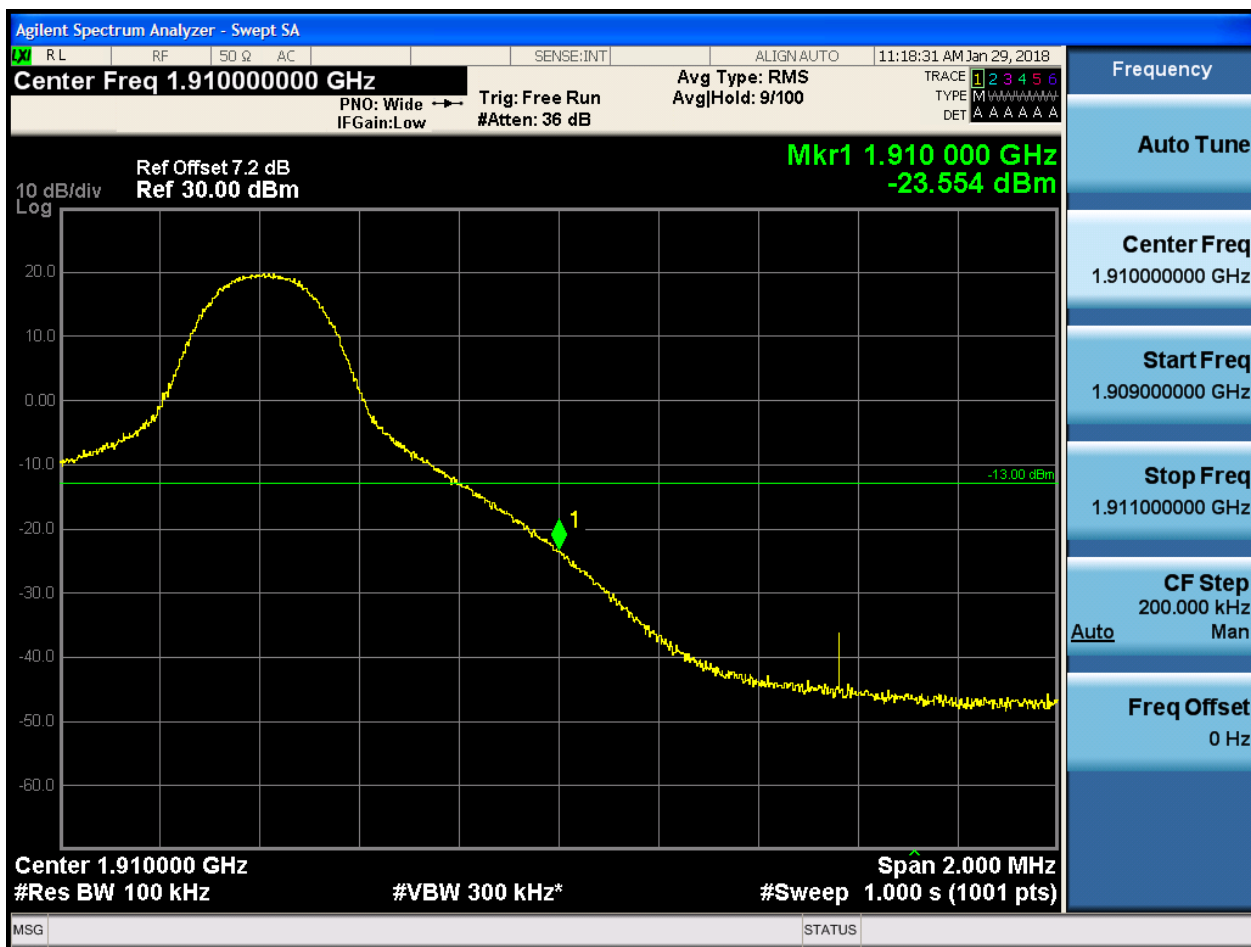
5.1.1.2.4.2 Test Channel = HCH

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





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.91000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 000 GHz
-29.533 dBm

Center Freq 1.91000000 GHz

Start Freq 1.909000000 GHz

Stop Freq 1.911000000 GHz

CF Step 200.000 kHz
Auto

Freq Offset 0 Hz

Center 1.910000 GHz
#Res BW 100 kHz
#VBW 300 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

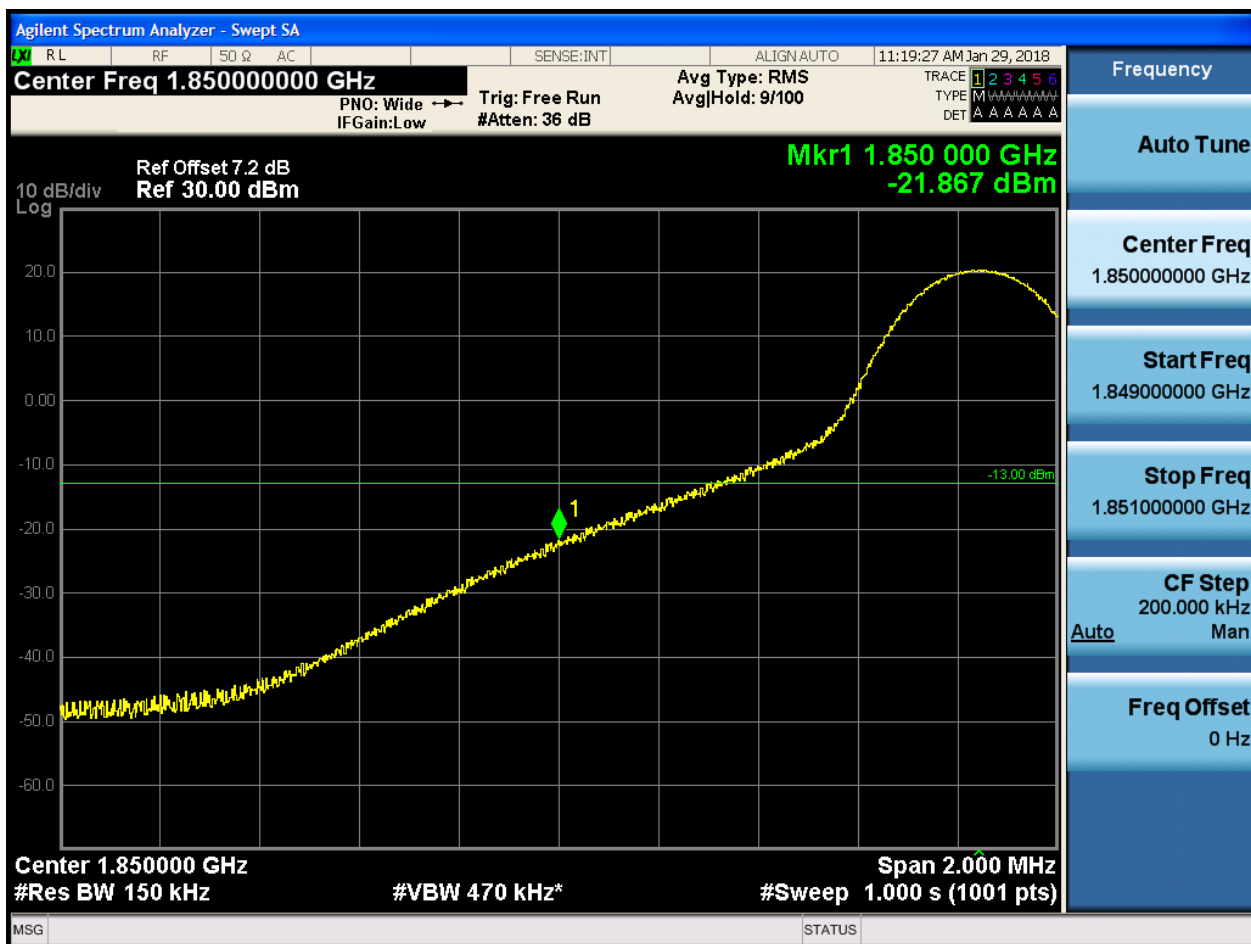
MSG STATUS



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



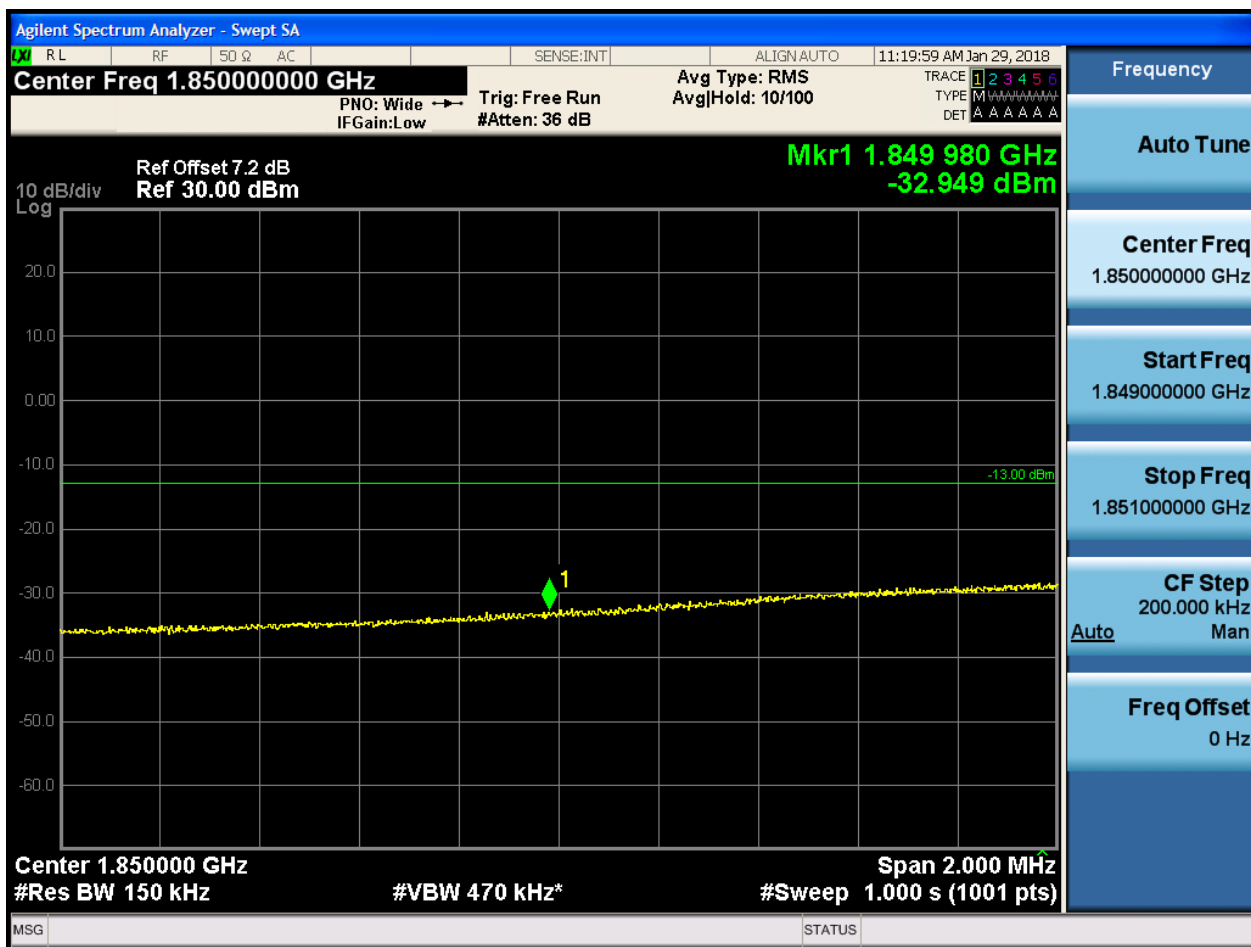


5.1.1.2.5.1.2 Test RB = RB1#74





5.1.1.2.5.1.3 Test RB = RB38#19





5.1.1.2.5.1.4 Test RB = RB75#0





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 11:20:54 AM Jan 29, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
 PNO: Wide → Trig: Free Run AvgHold: 10/100
 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

Ref Offset 7.2 dB
 Ref 30.00 dBm

**Mkr1 1.910 000 GHz
 -22.175 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





5.1.1.2.5.2.4 Test RB = RB75#0

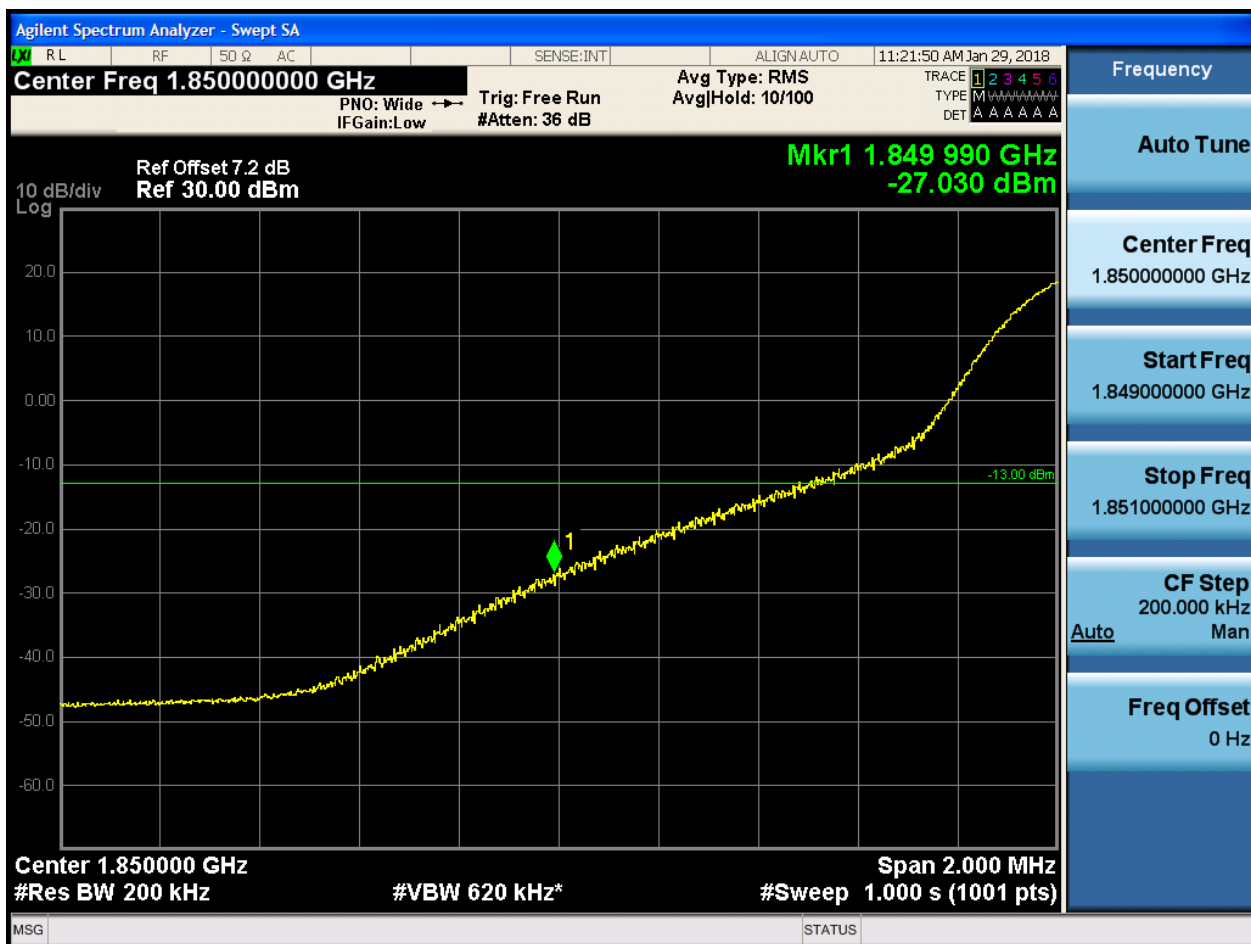




5.1.1.2.6 Test Bandwidth = 20

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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:22:39 AM Jan 29, 2018

Center Freq 1.850000000 GHz Avg Type: RMS
 PNO: Wide → Trig: Free Run AvgHold: 10/100
 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 7.2 dB
 Ref 30.00 dBm

Mkr1 1.850 000 GHz
 -34.439 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



5.1.1.2.6.2 Test Channel = HCH

5.1.1.2.6.2.1 Test RB = RB1#0





5.1.1.2.6.2.2 Test RB = RB1#99





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:23:33 AM Jan 29, 2018

Center Freq 1.910000000 GHz Avg Type: RMS
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 10/100
#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 1.910 410 GHz
-34.178 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

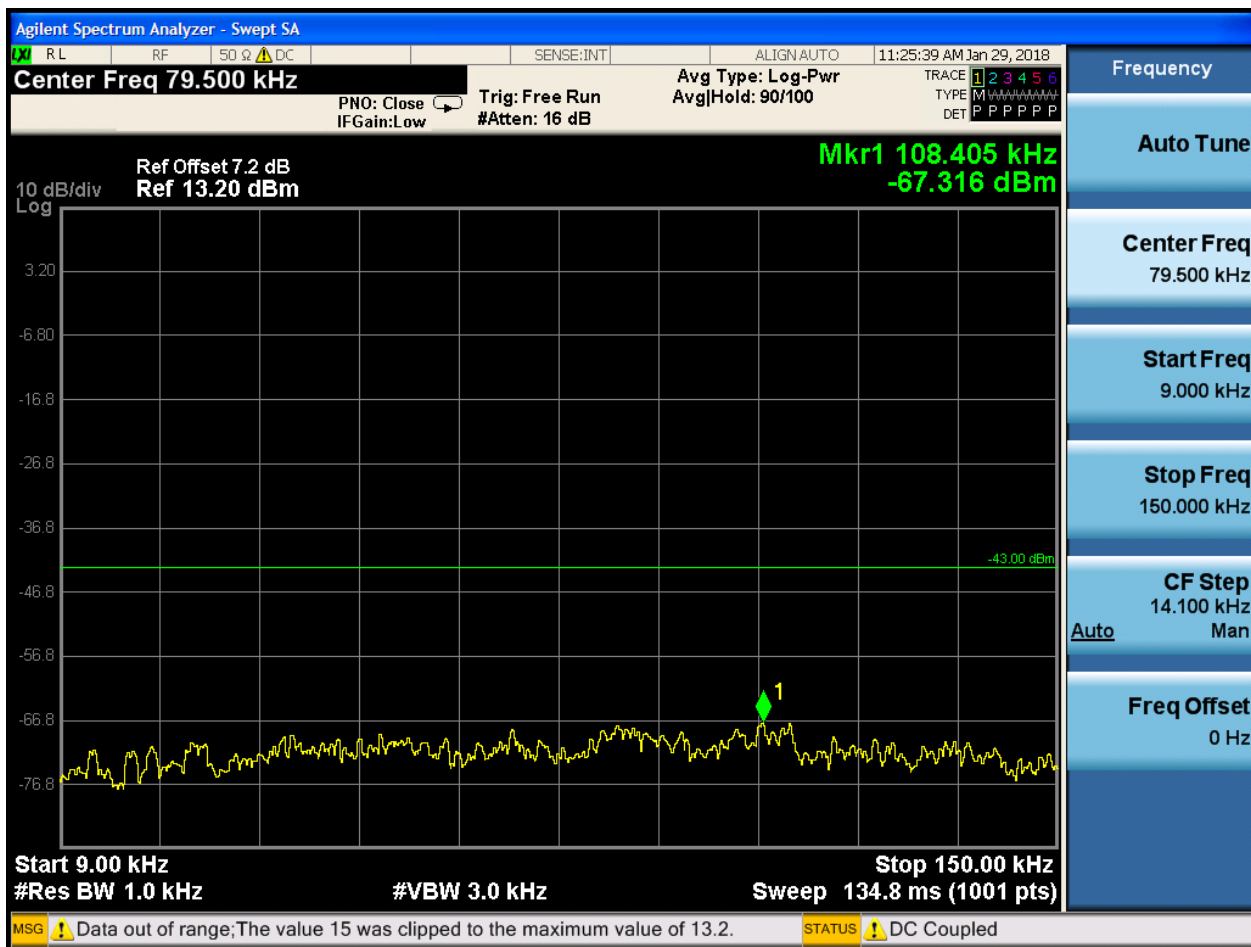
6.1.1 Test Band = BAND2

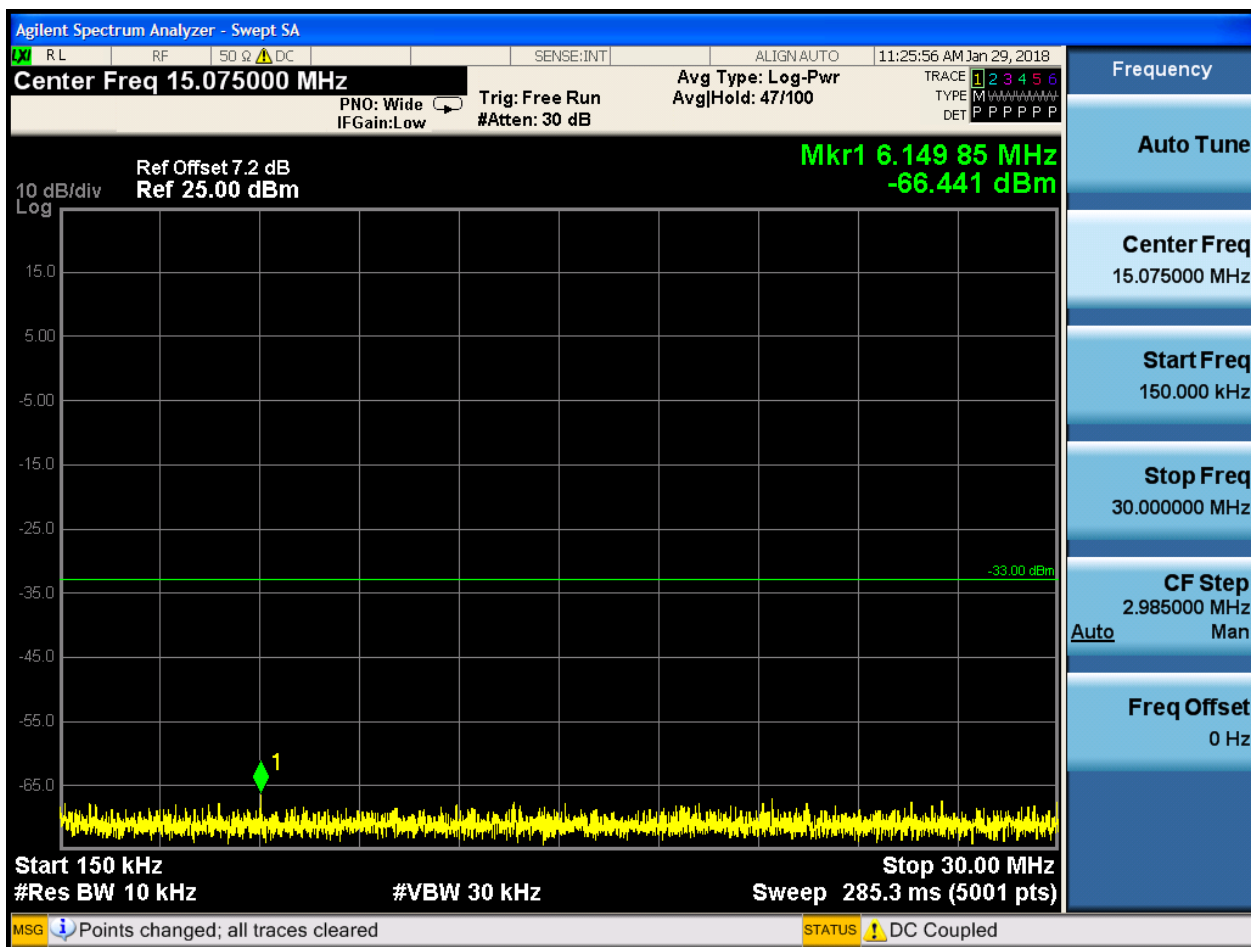
6.1.1.1 Test Mode = LTE/TM1

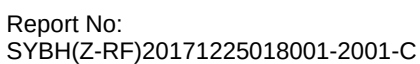
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



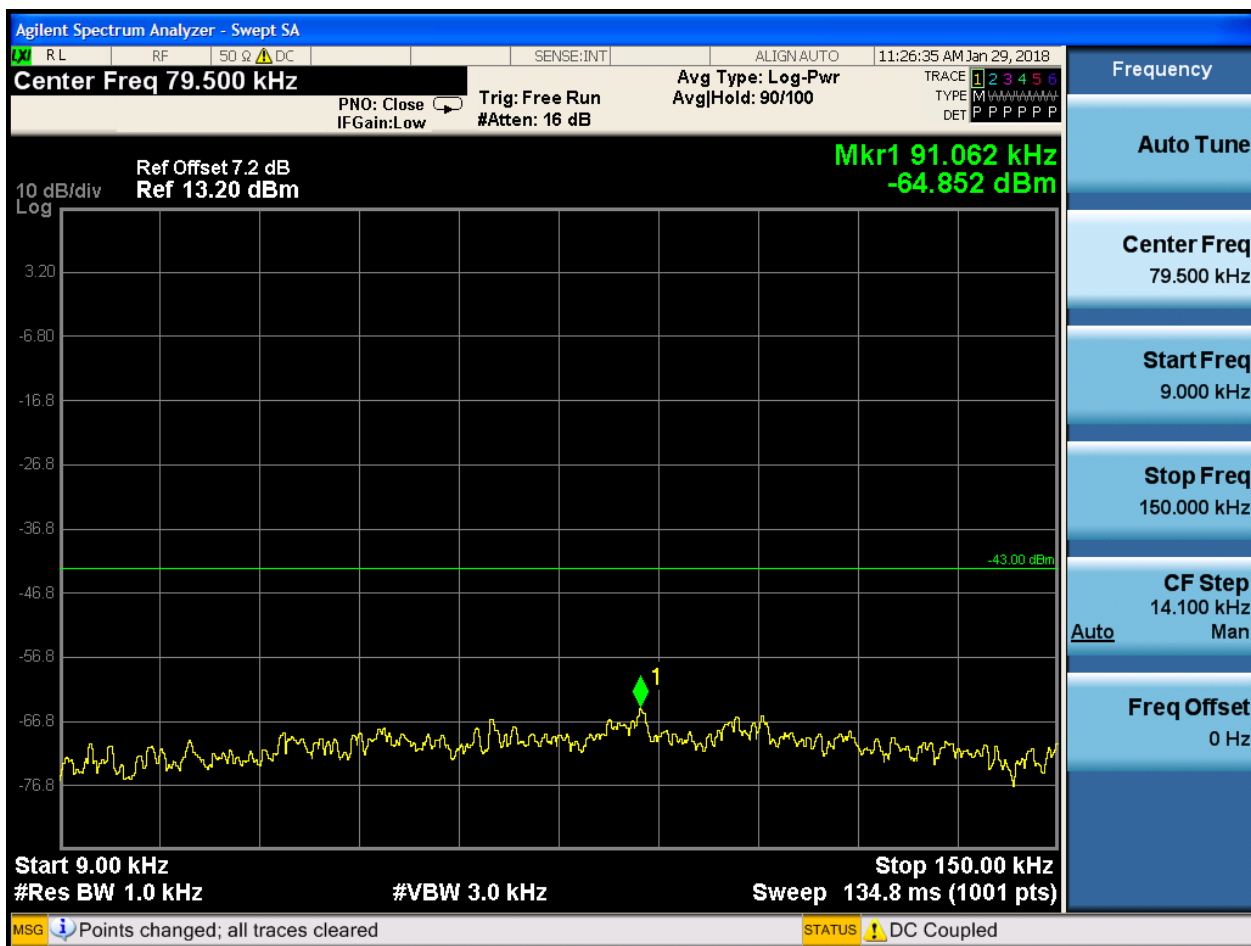


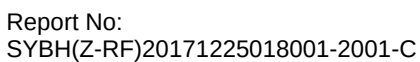


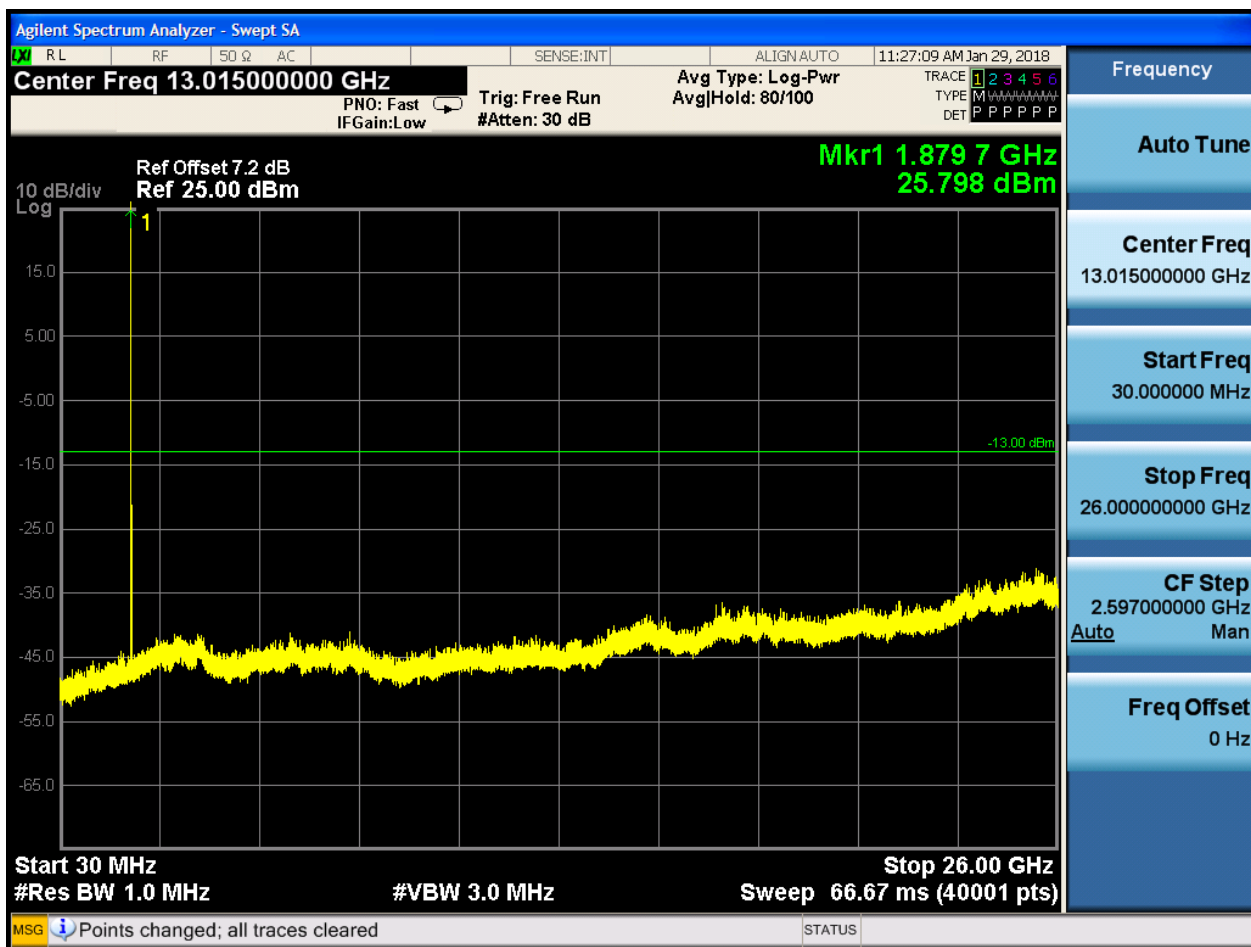


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



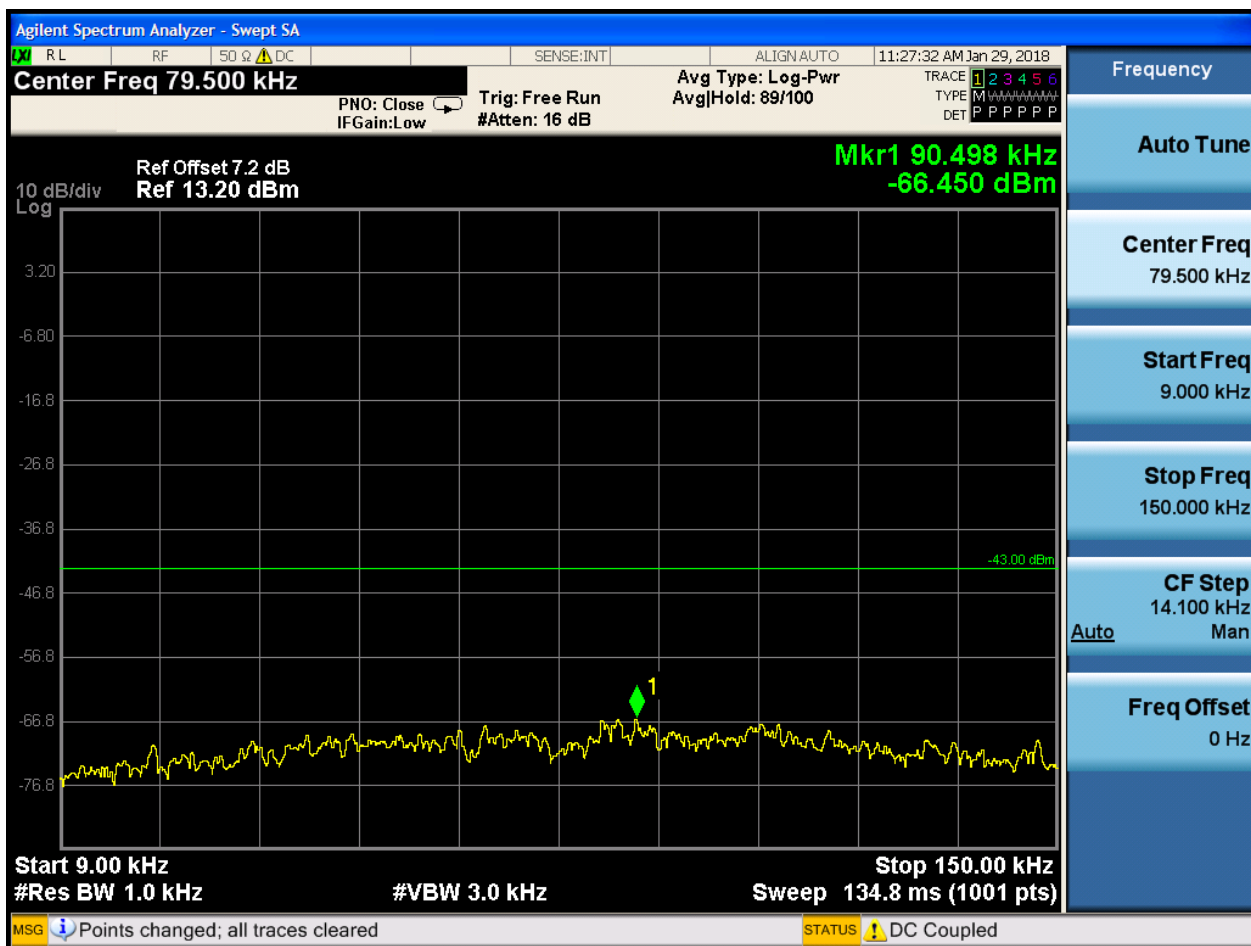


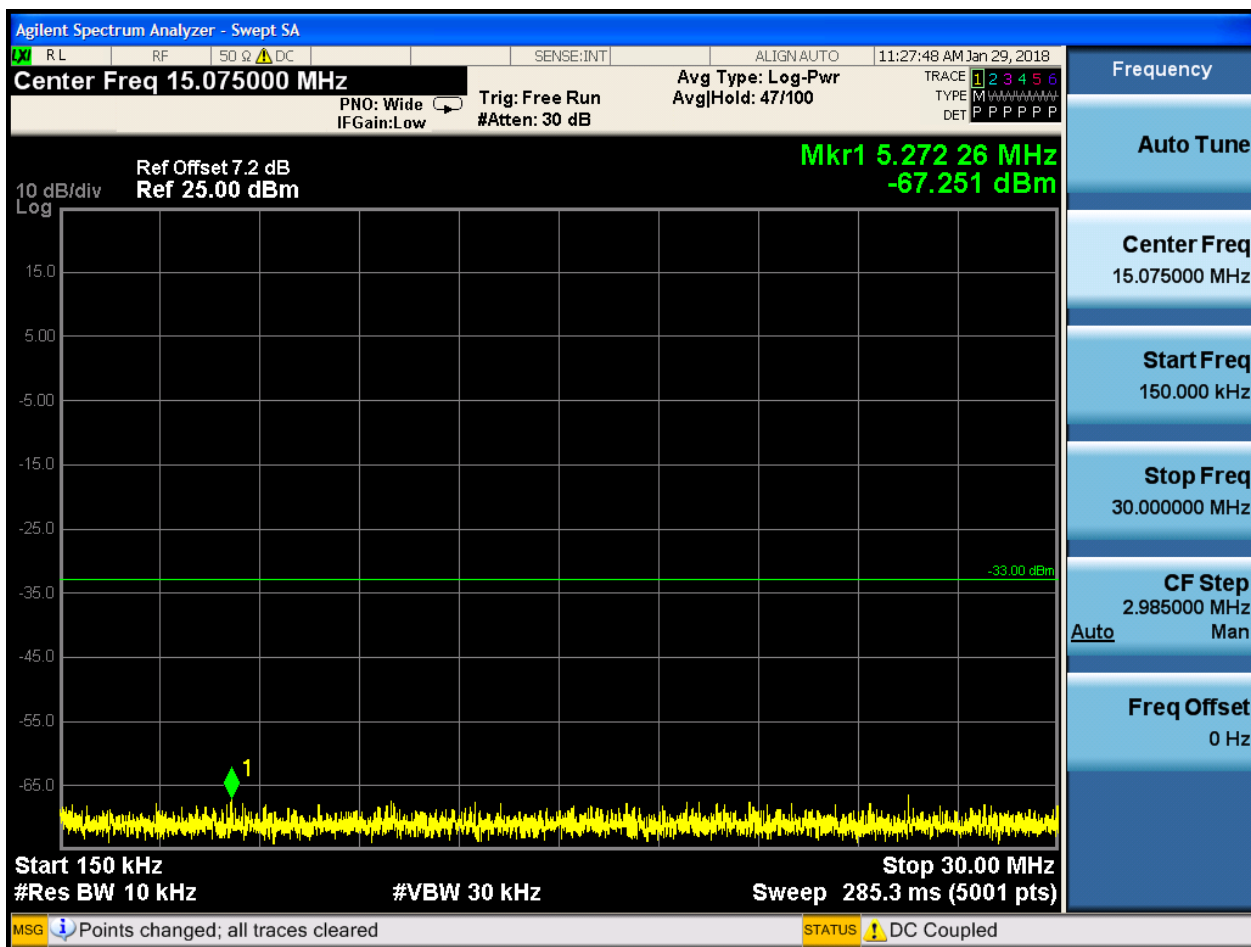


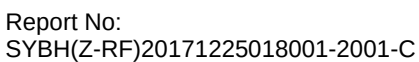


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





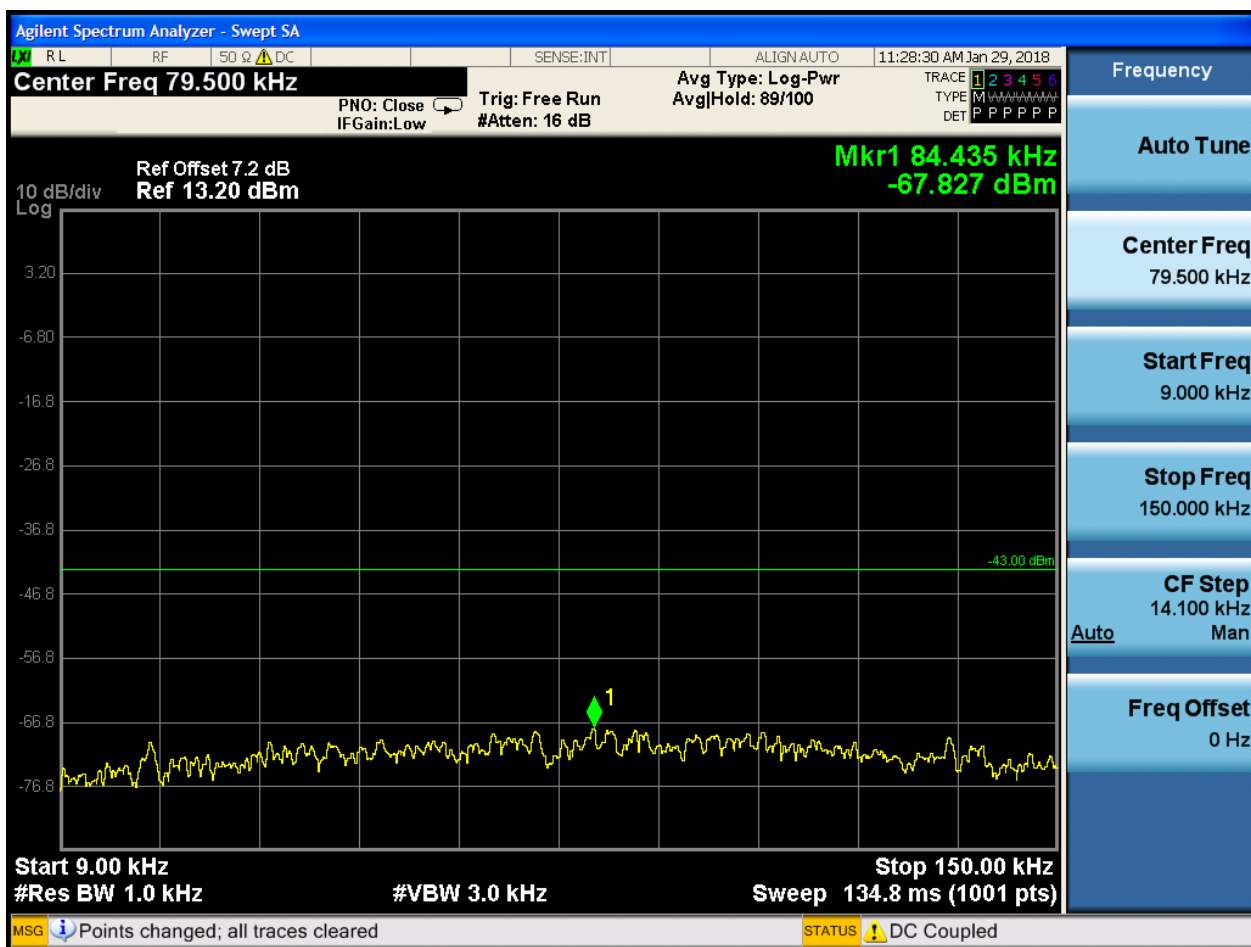


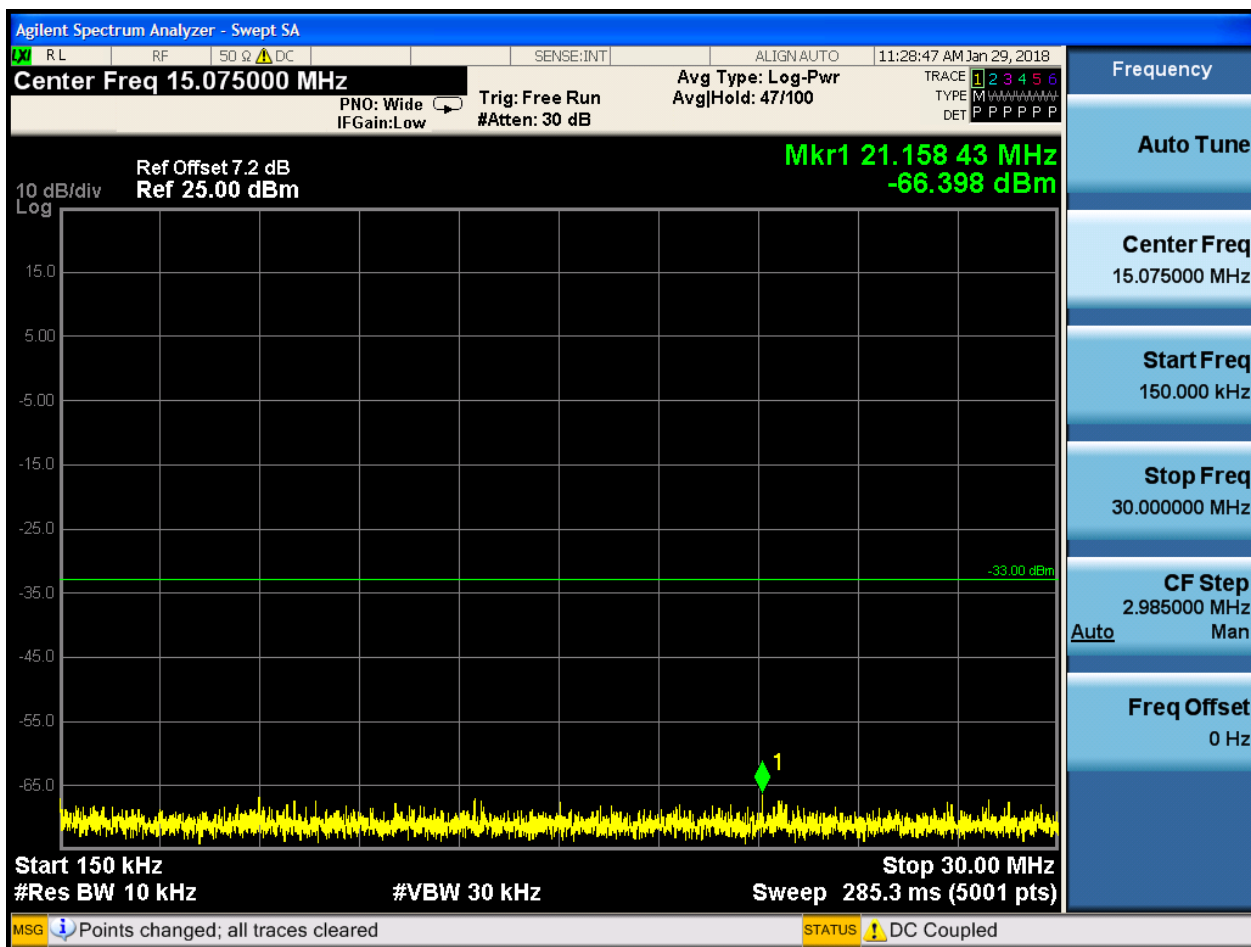


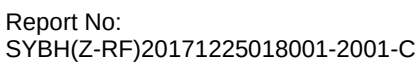
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



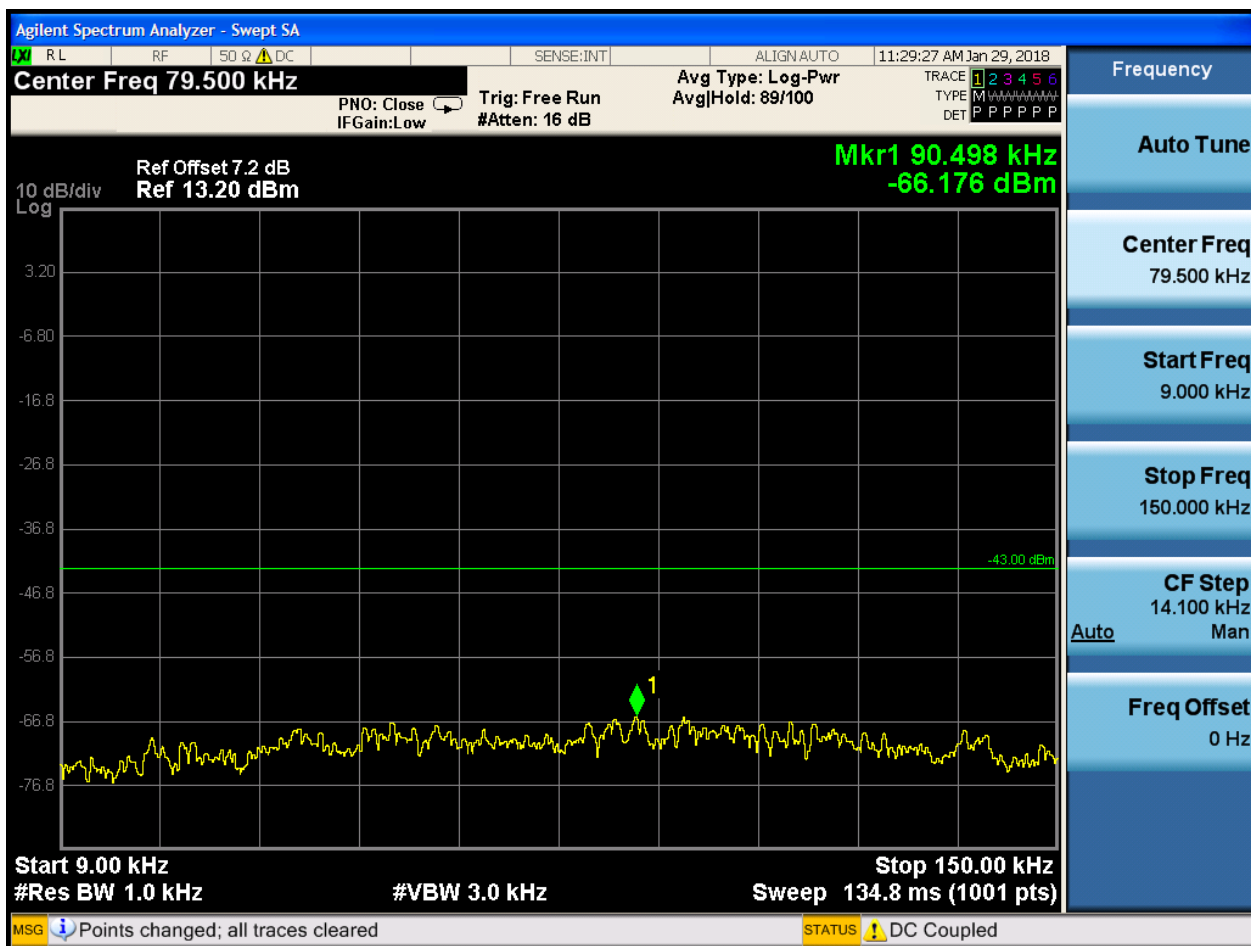


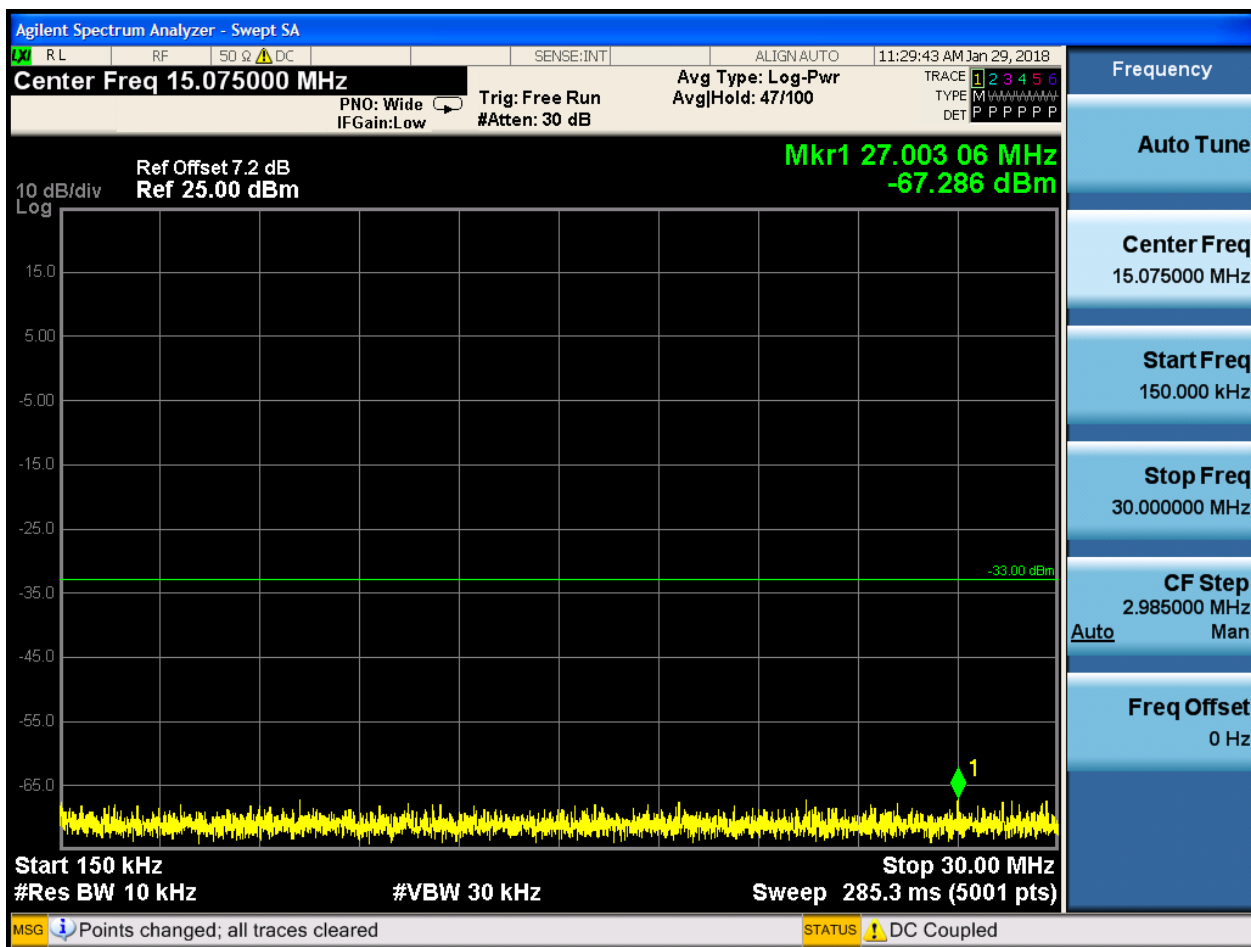


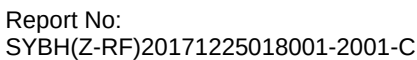


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



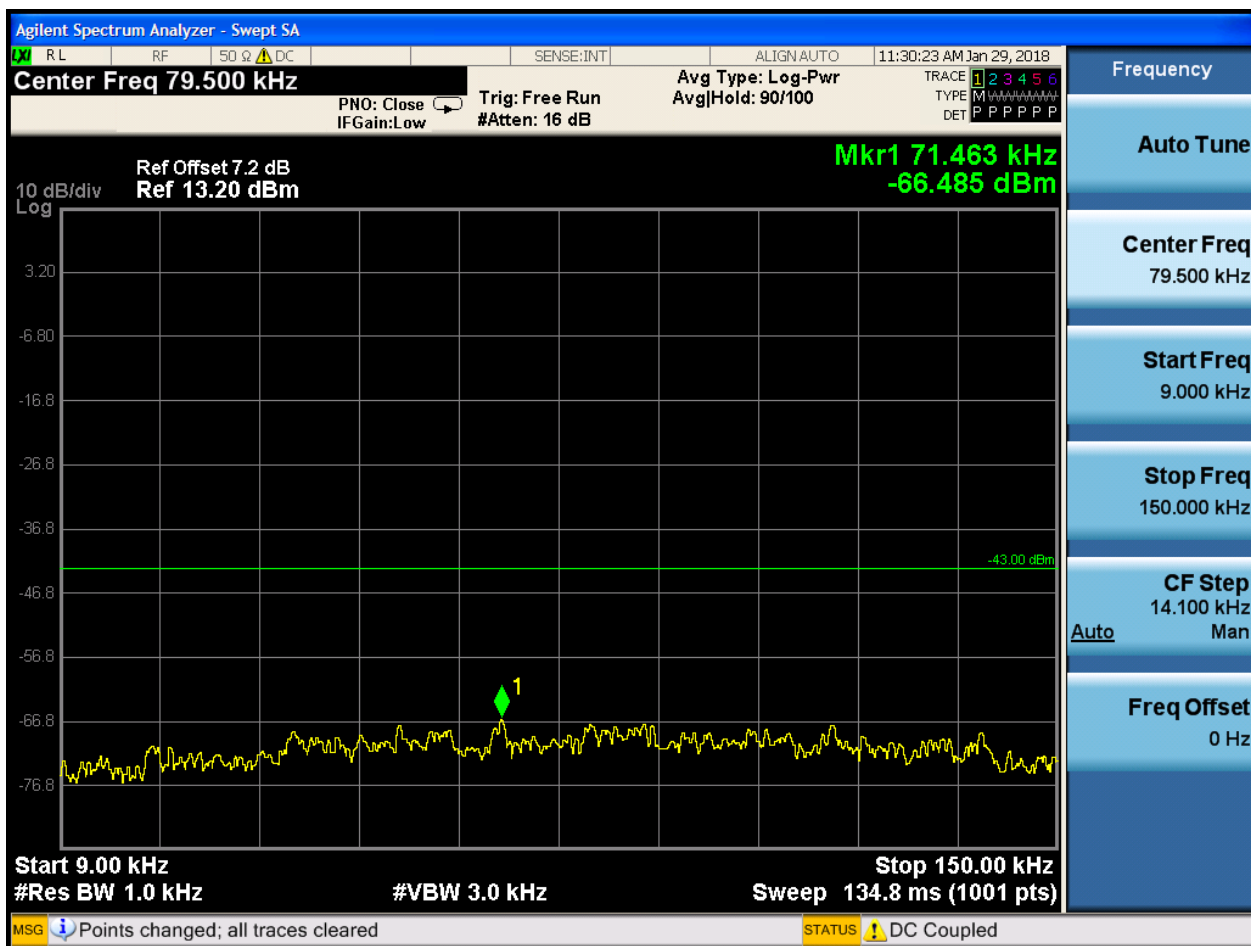


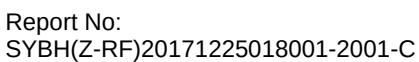


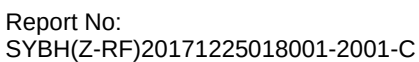


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





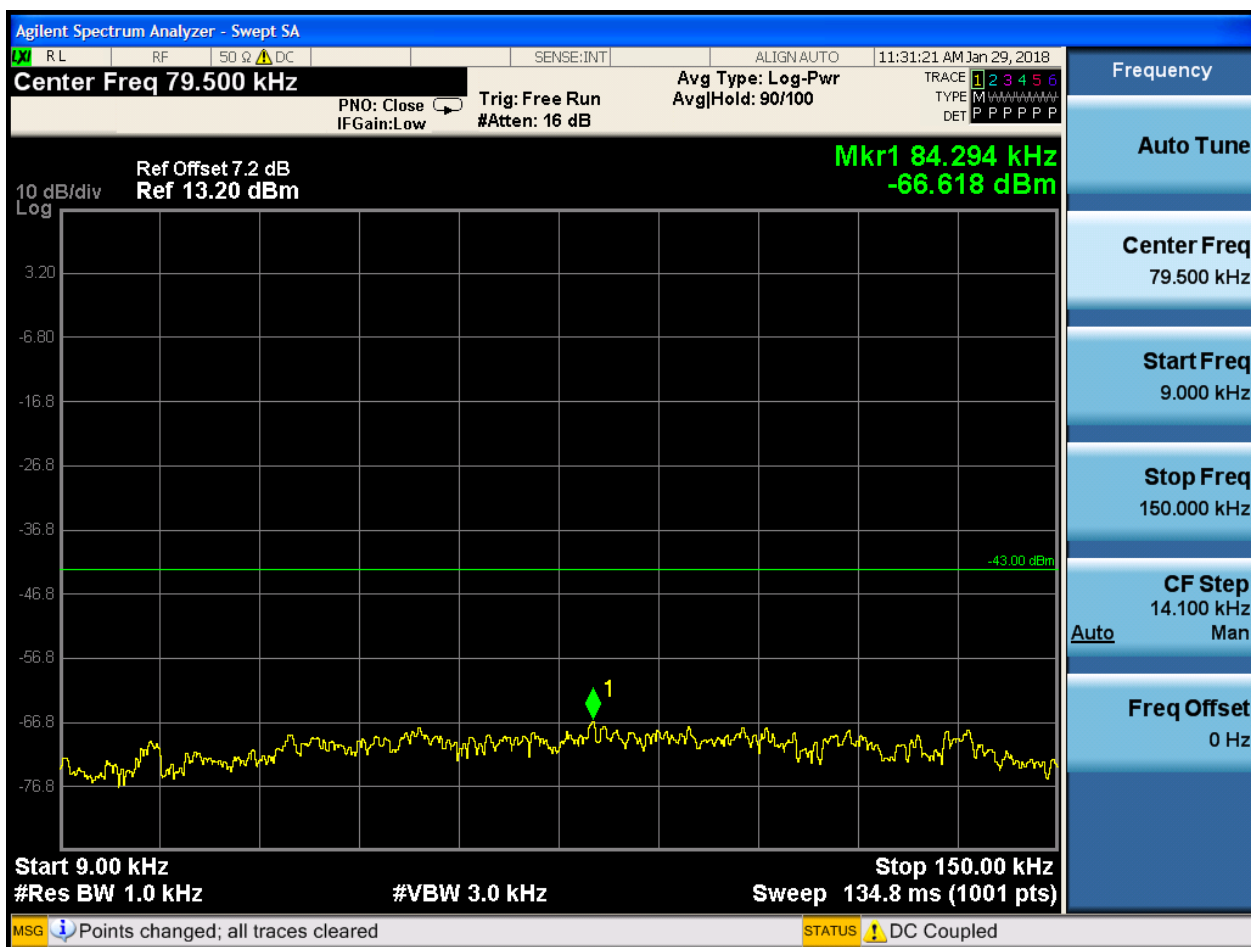


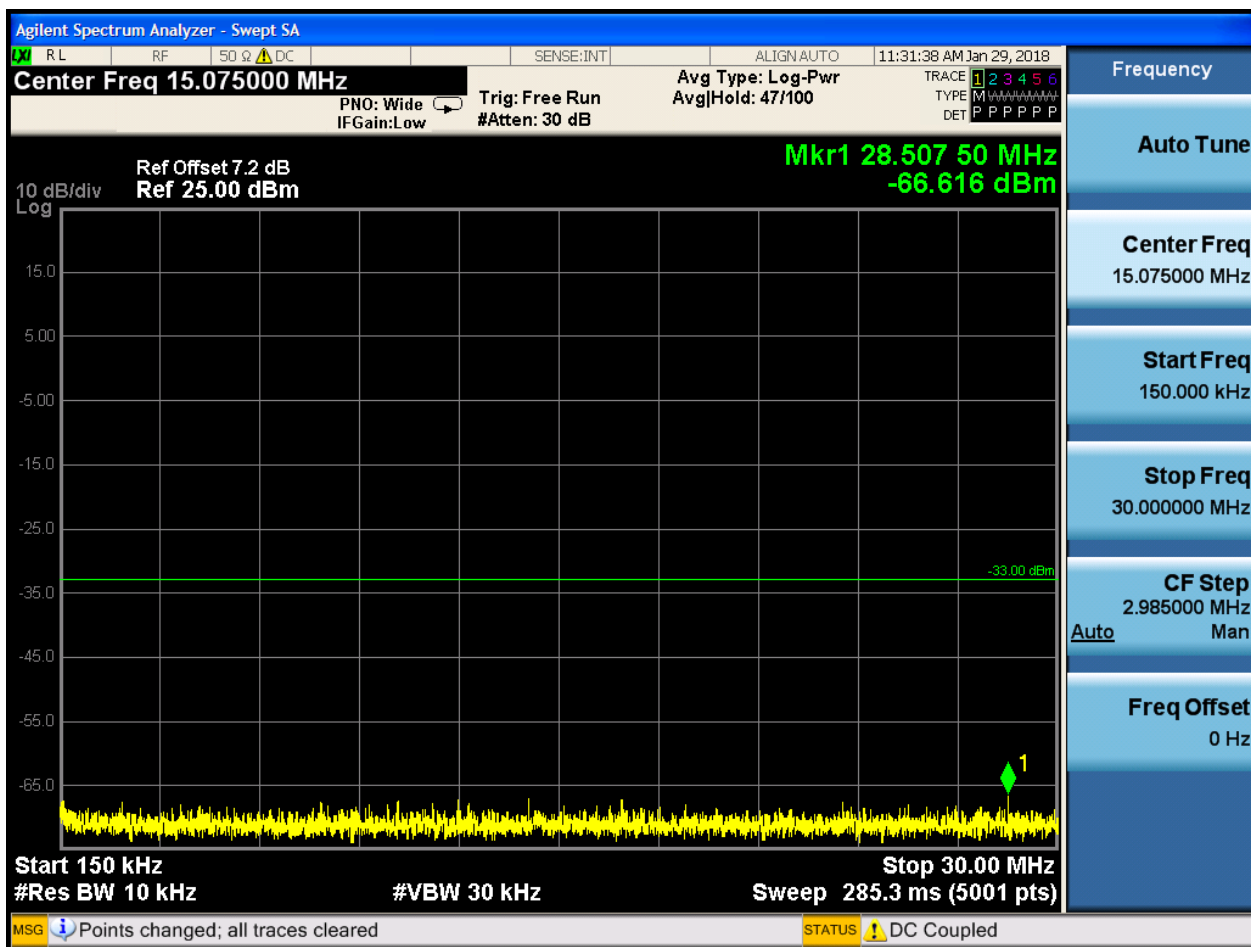


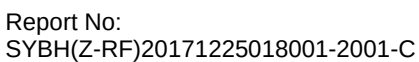
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



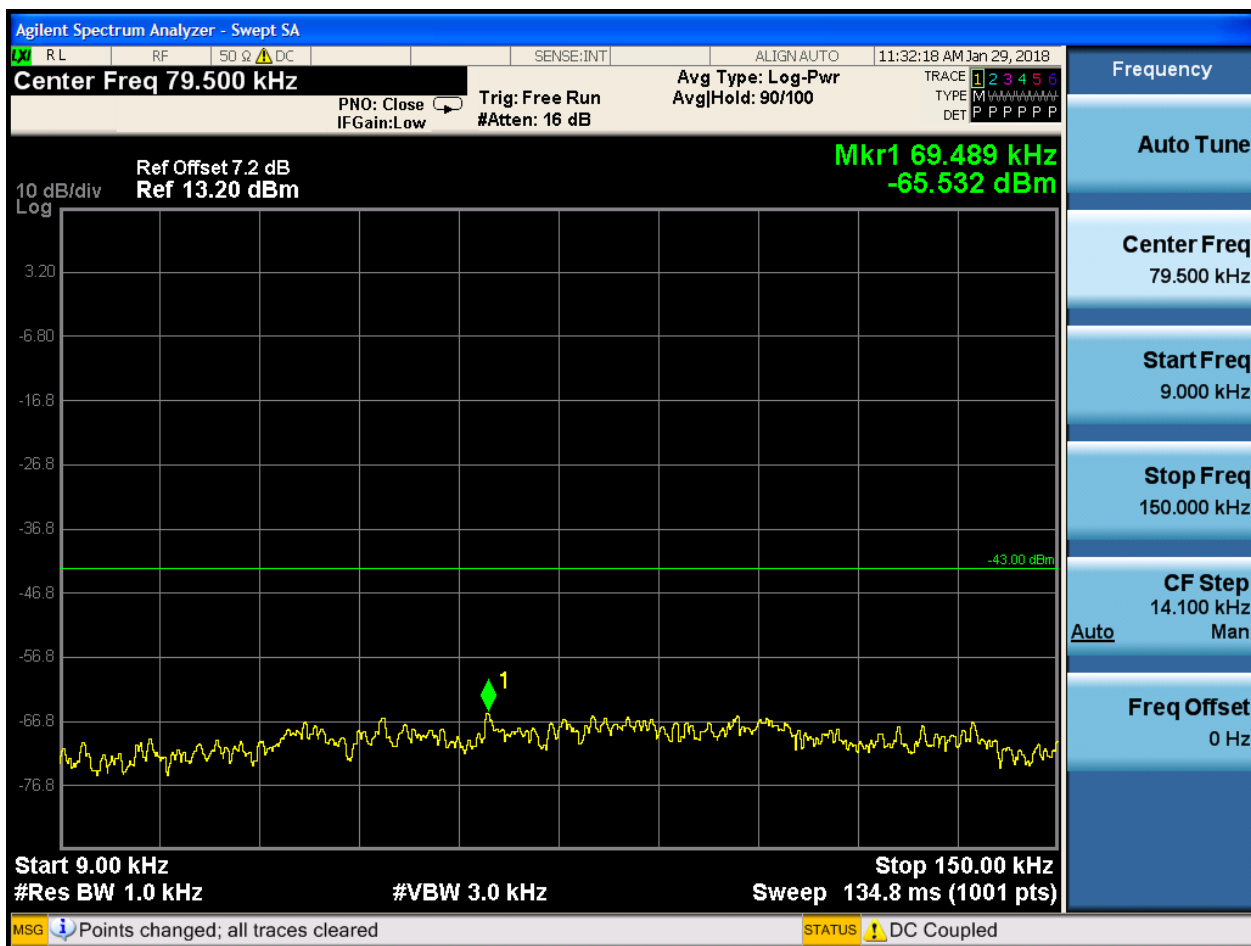


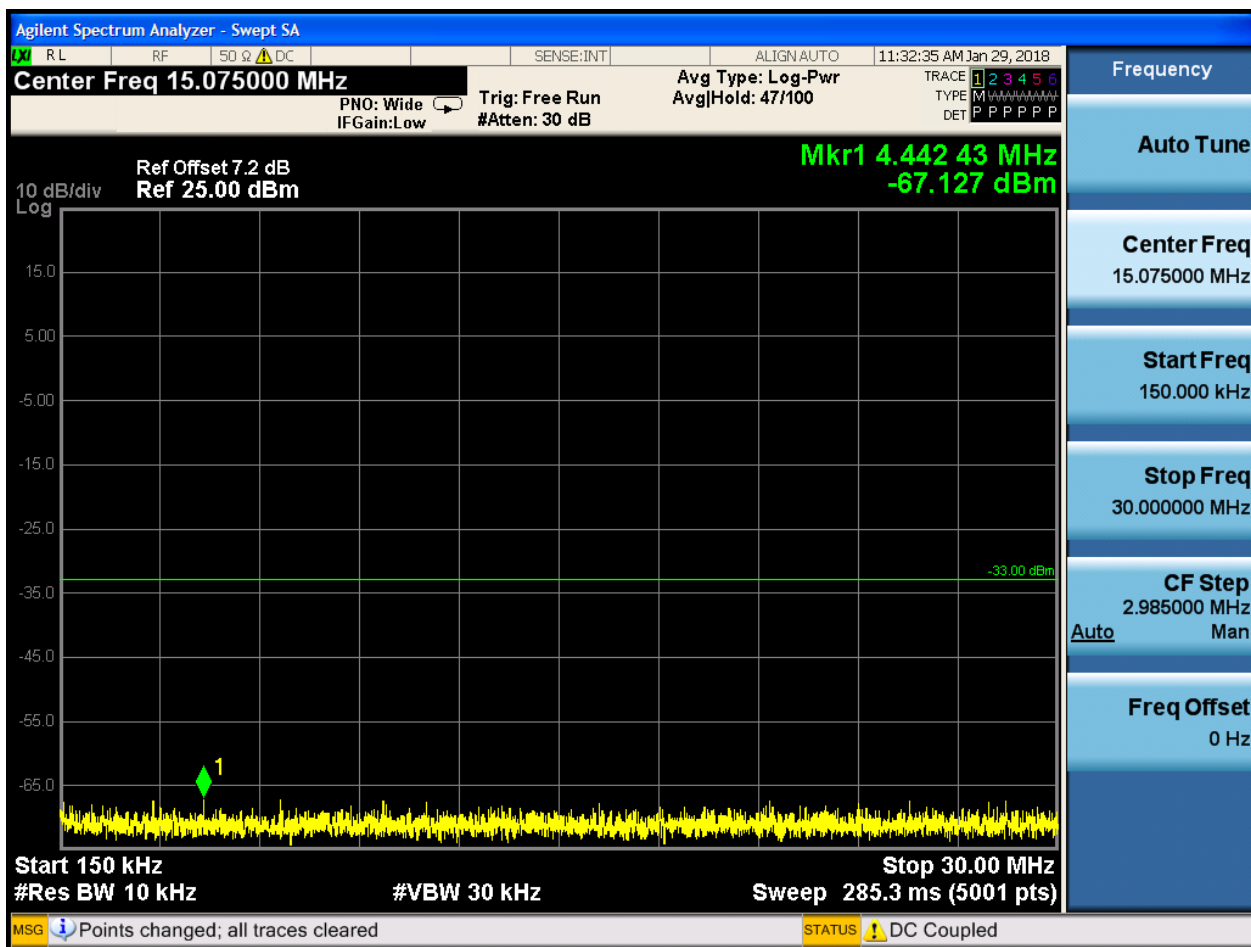


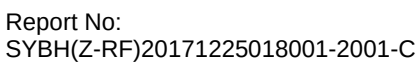


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



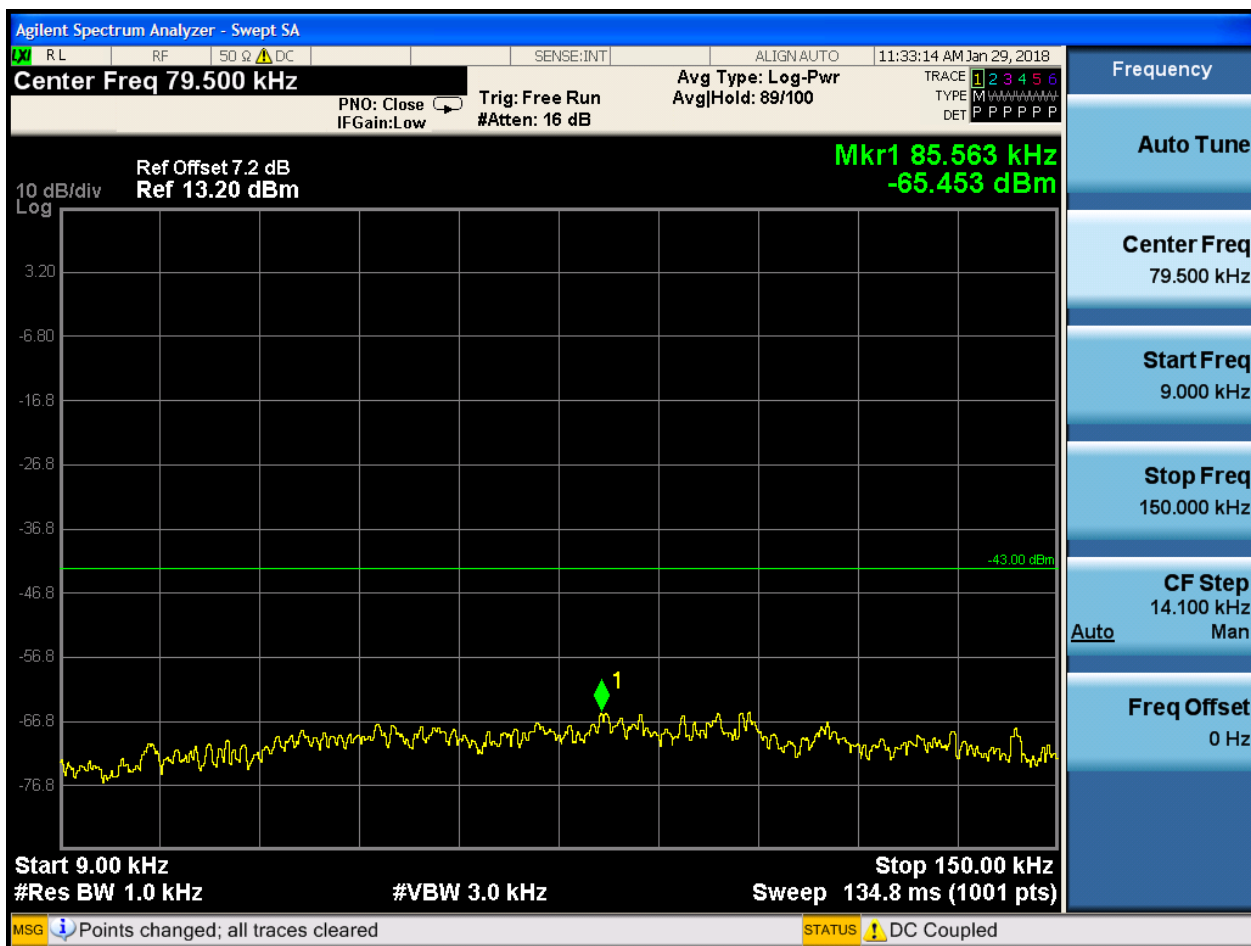


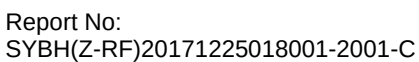


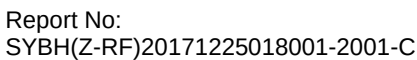


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





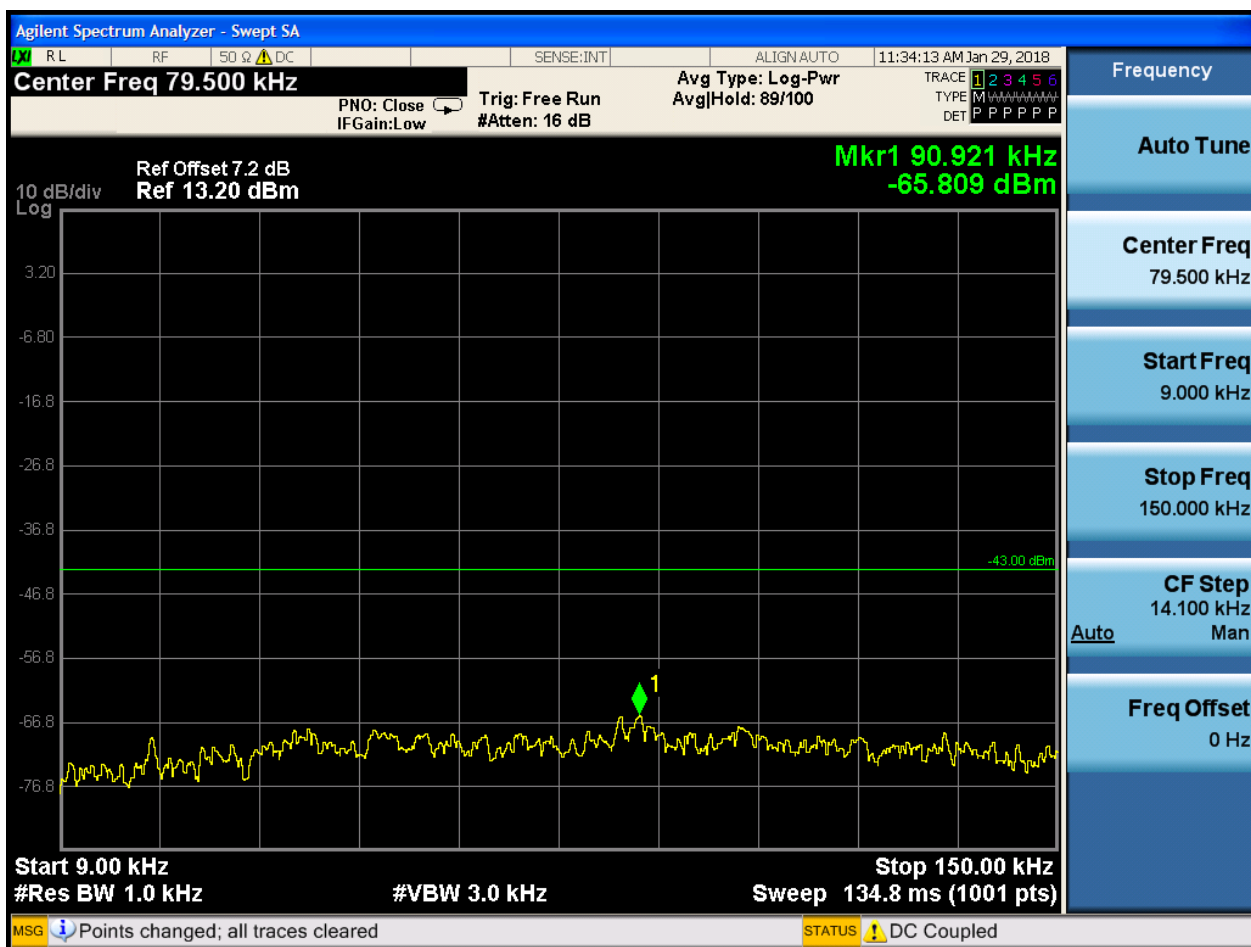


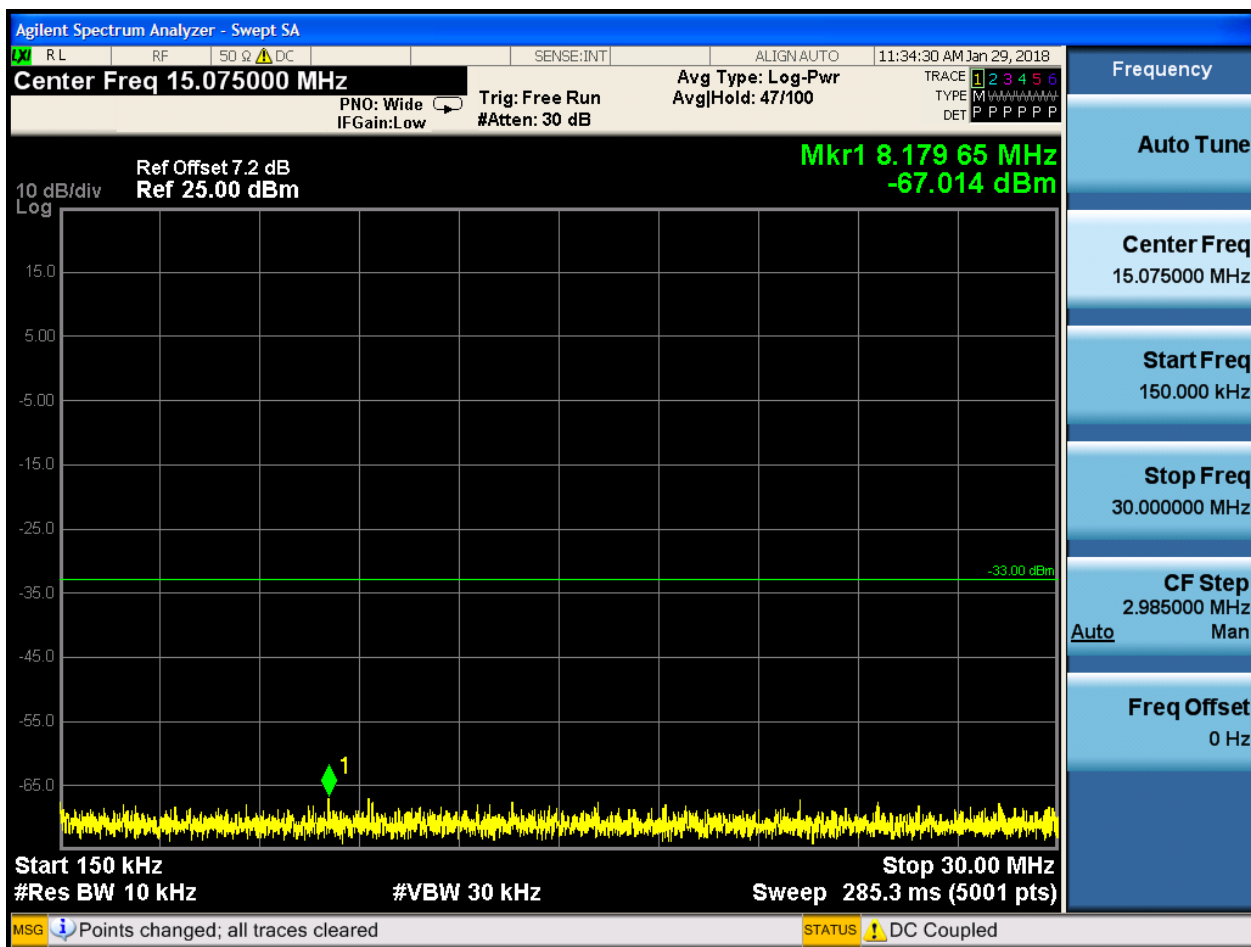


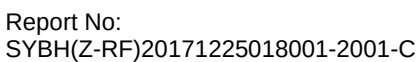
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



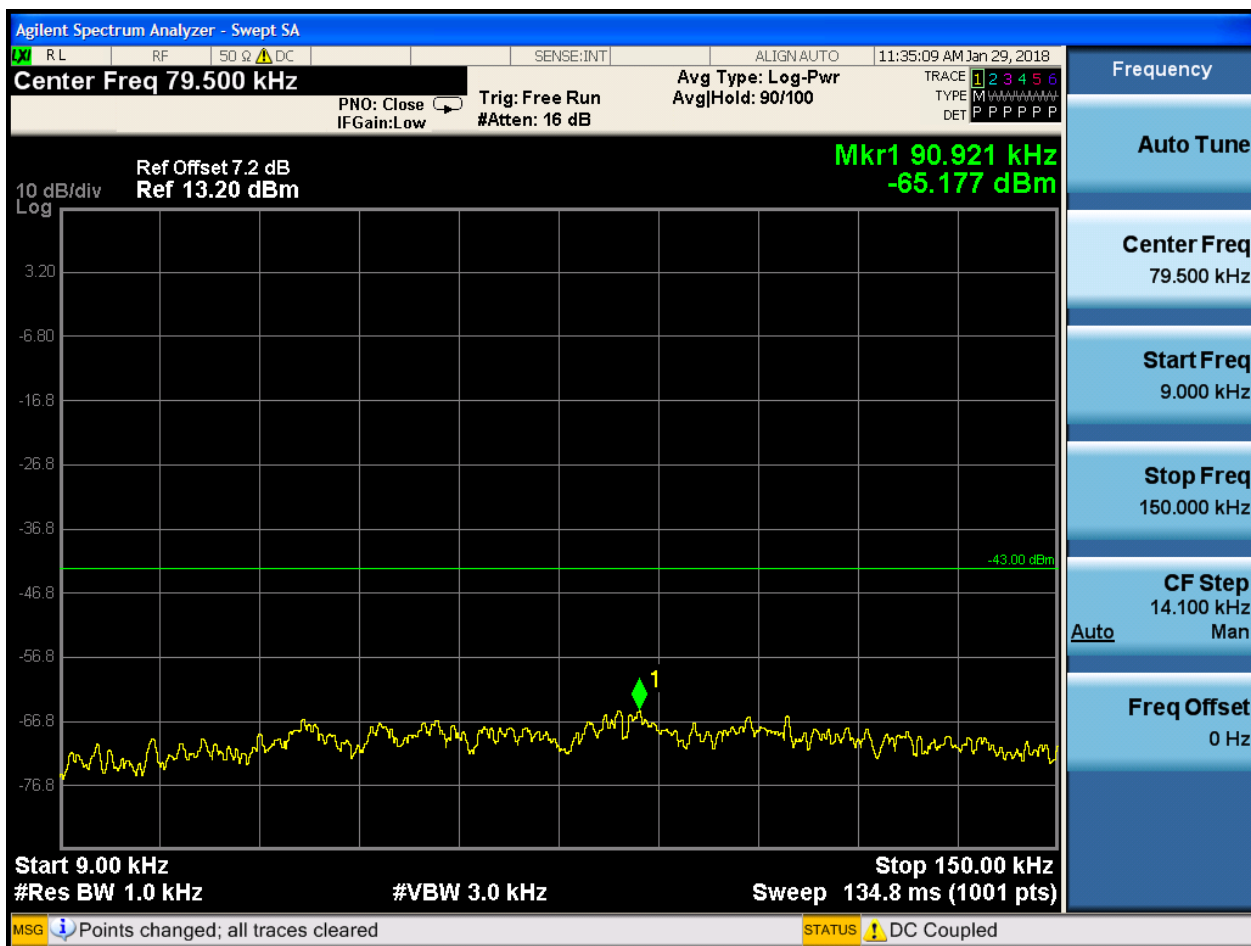


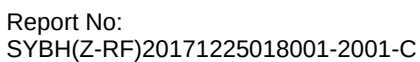


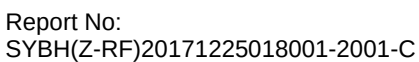


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



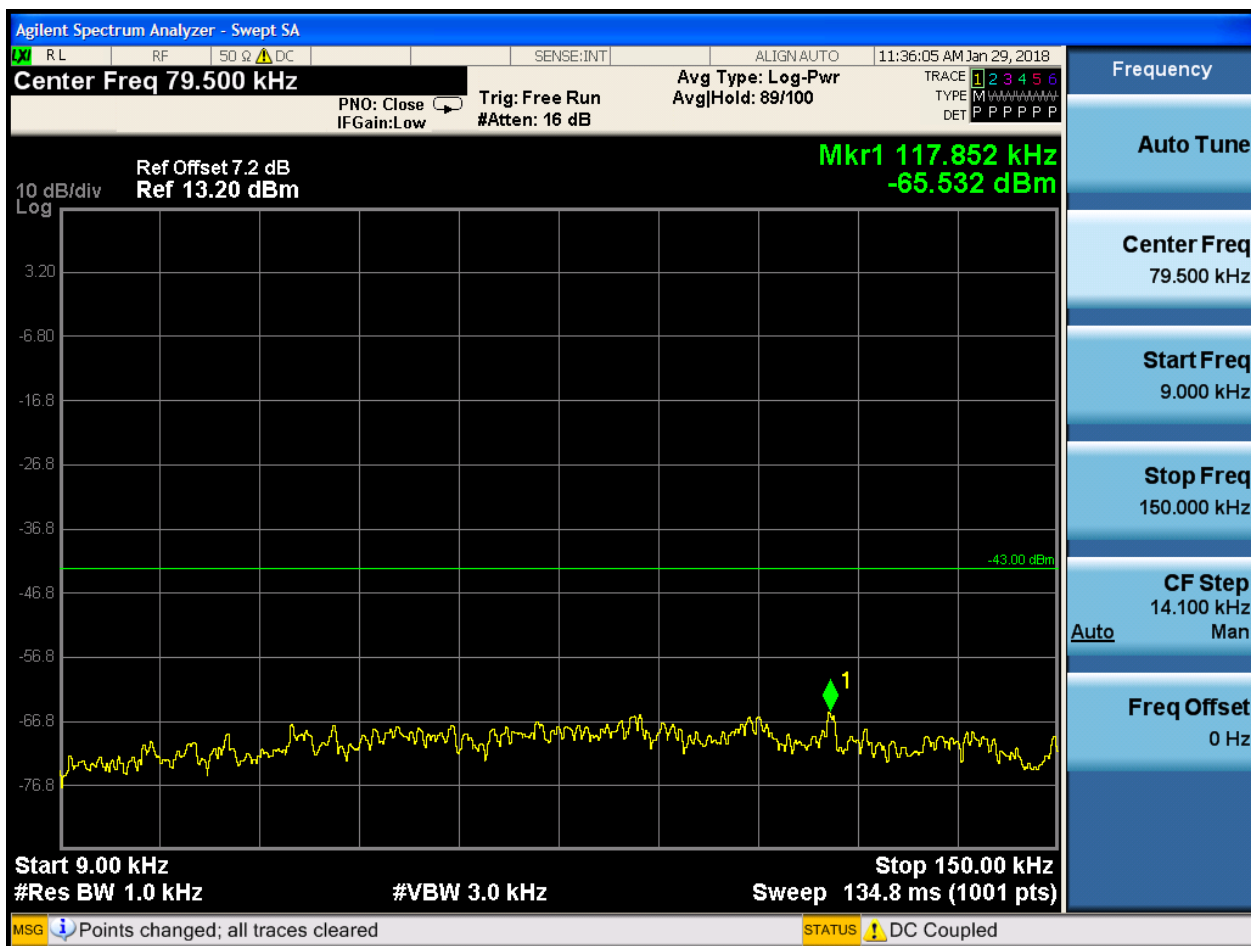


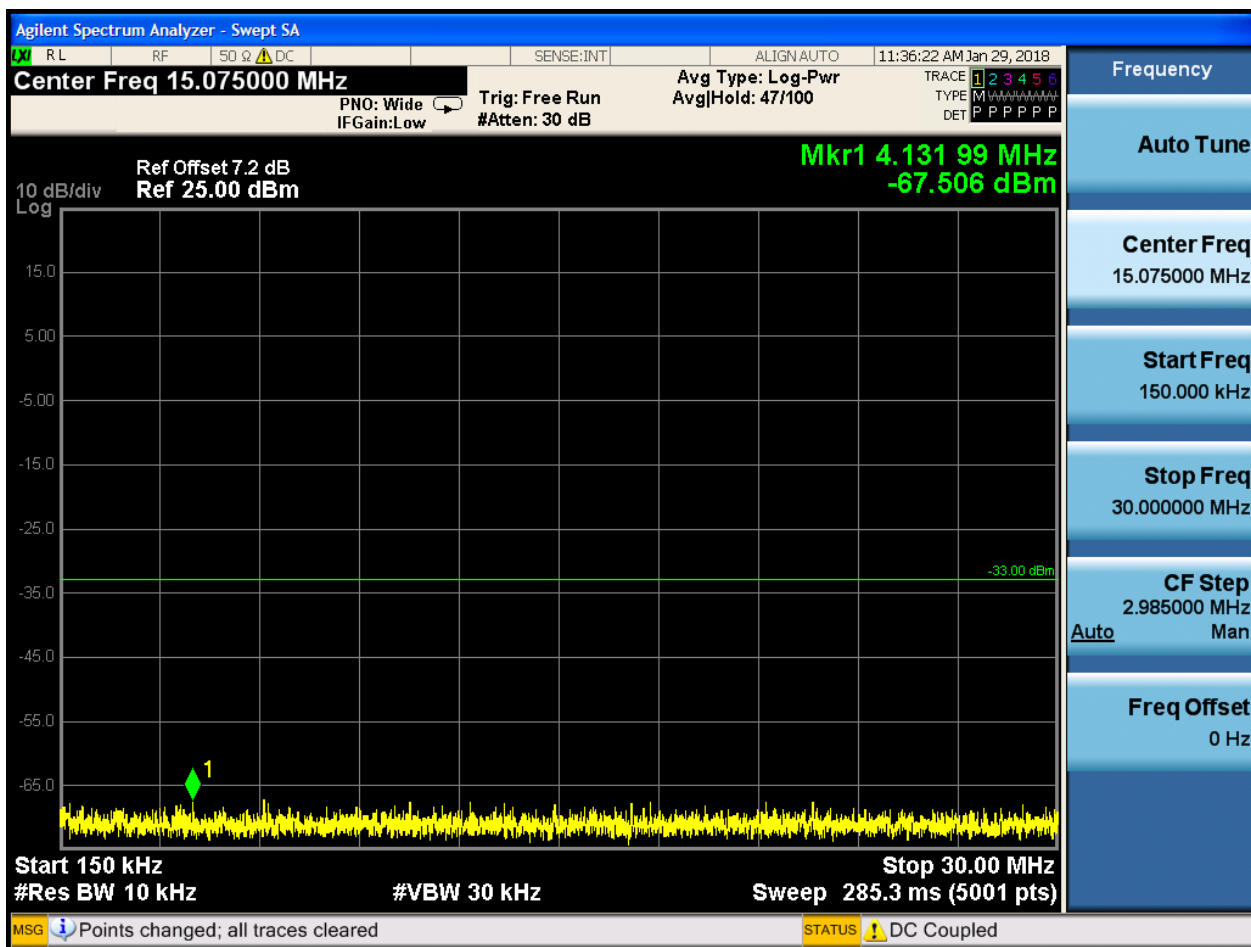


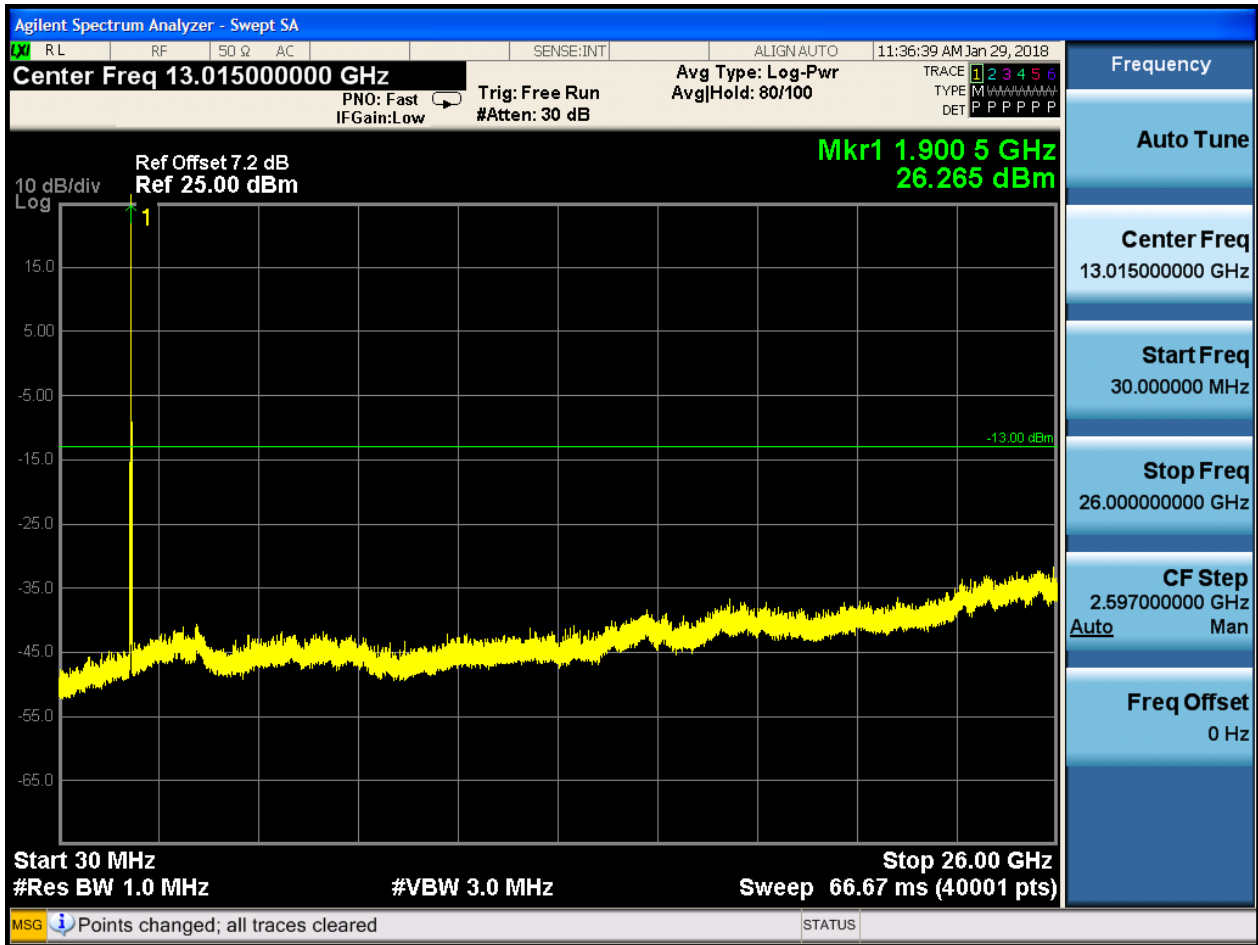


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0





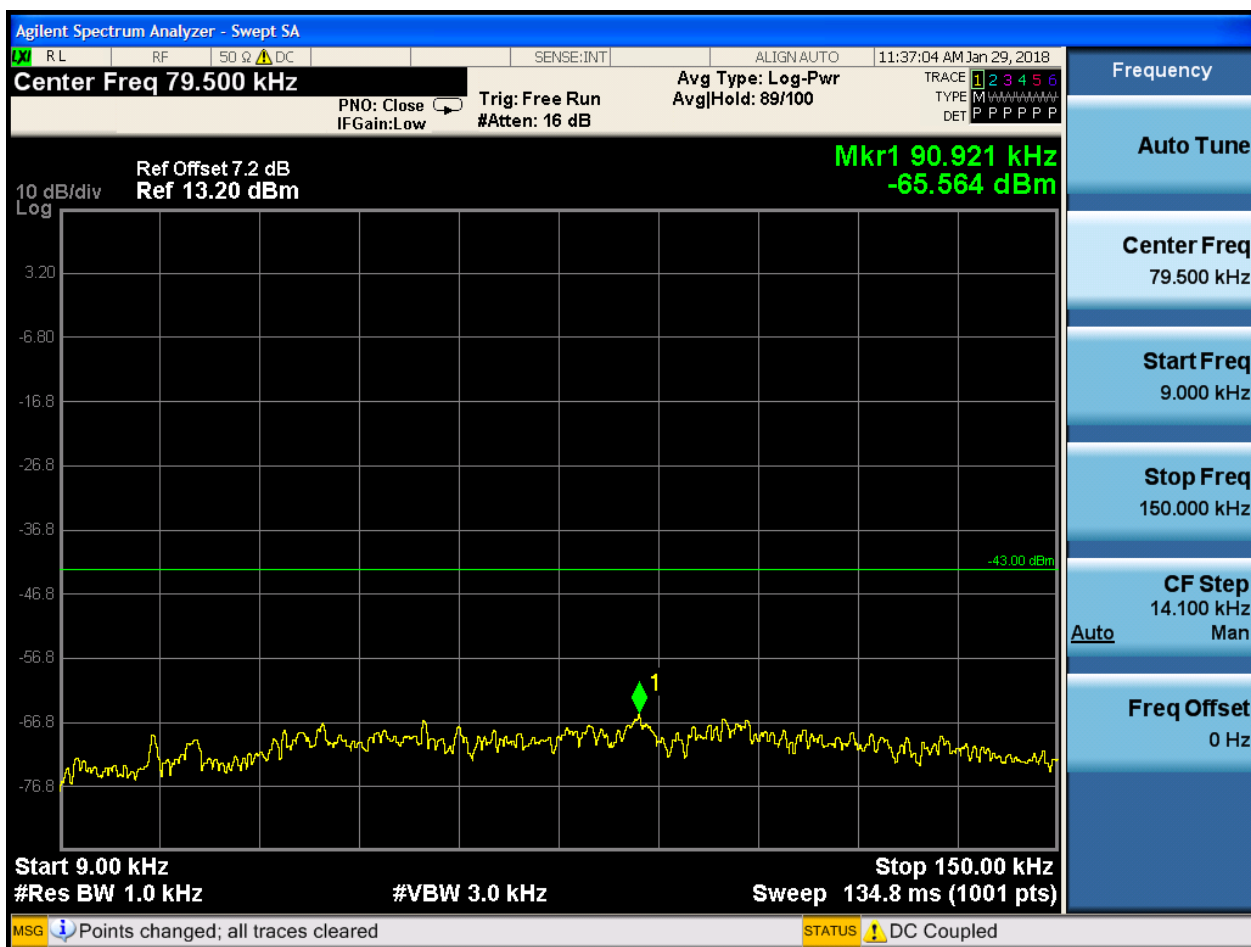


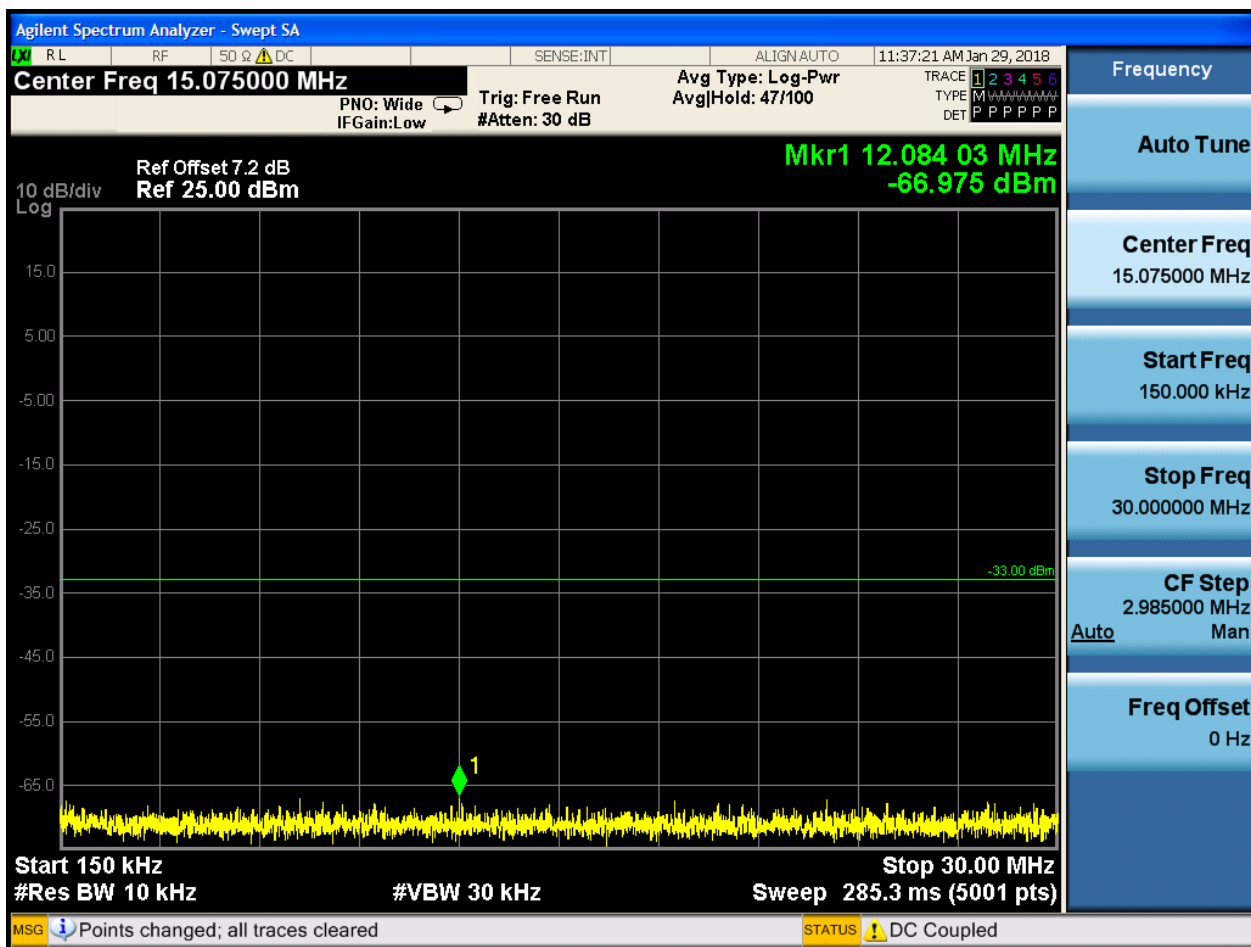


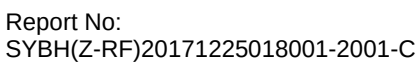
6.1.1.1.5 Test Bandwidth = 15

6.1.1.1.5.1 Test Channel = LCH

6.1.1.1.5.1.1 Test RB = RB1#0

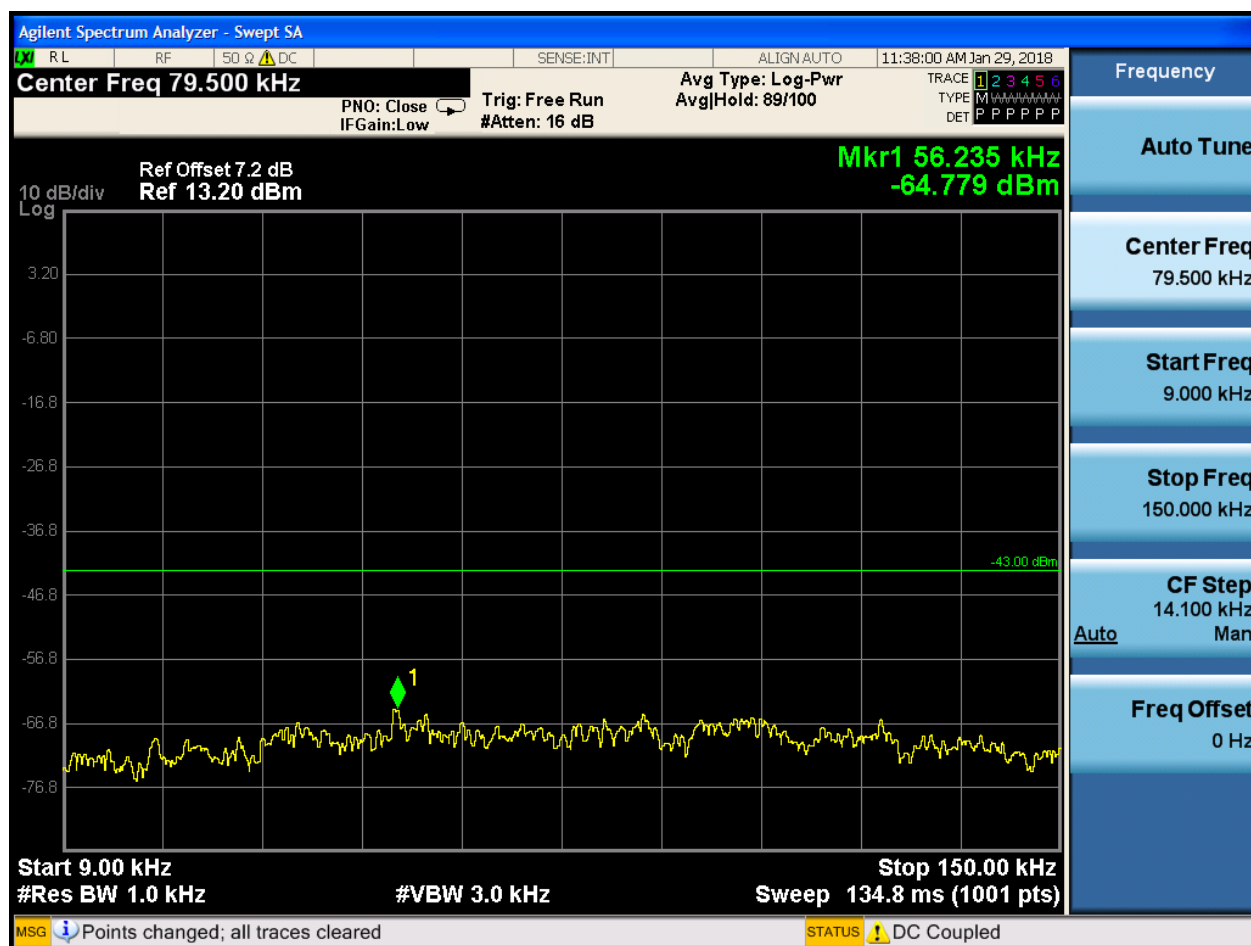


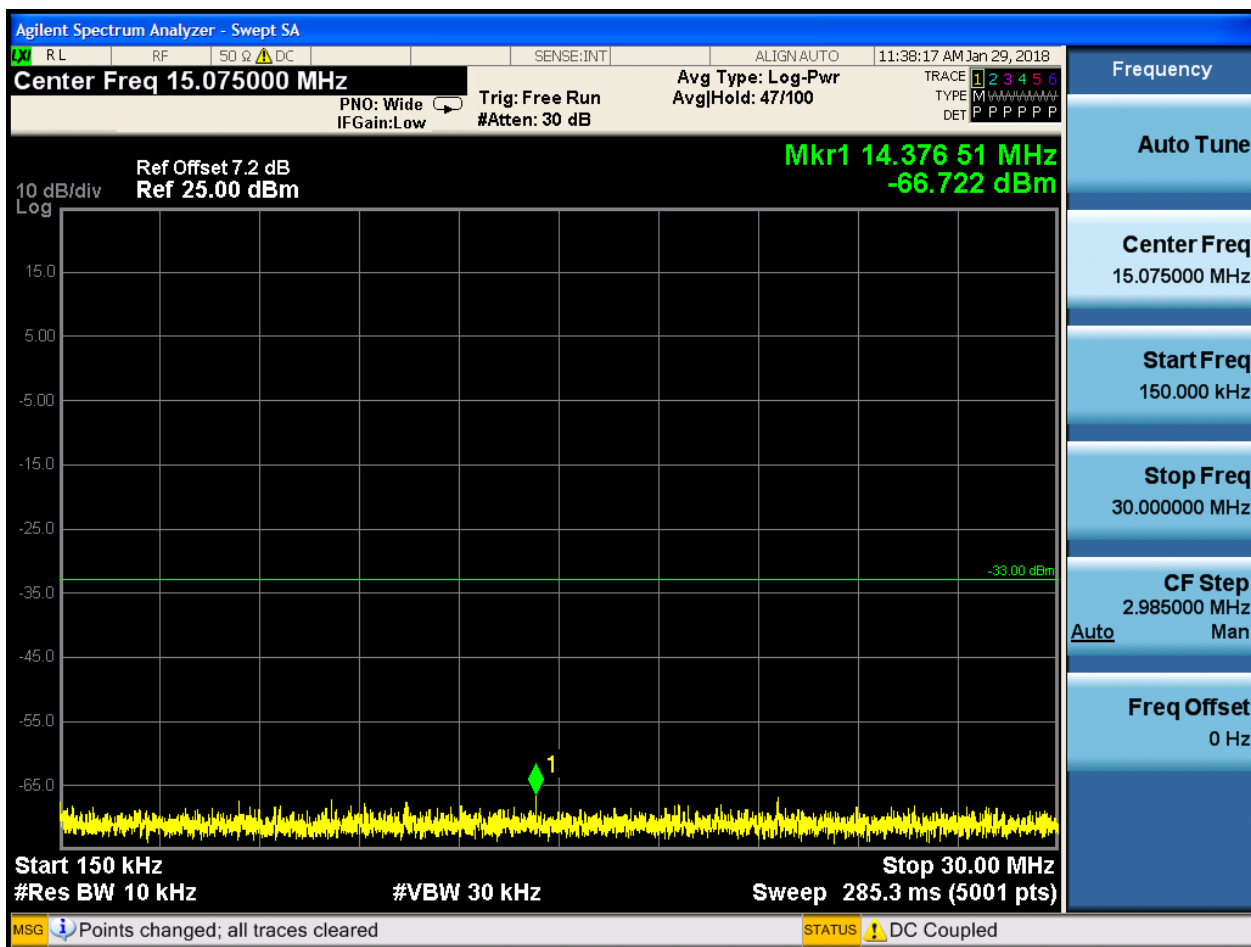


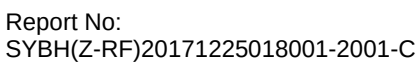


6.1.1.1.5.2 Test Channel = MCH

6.1.1.1.5.2.1 Test RB = RB1#0



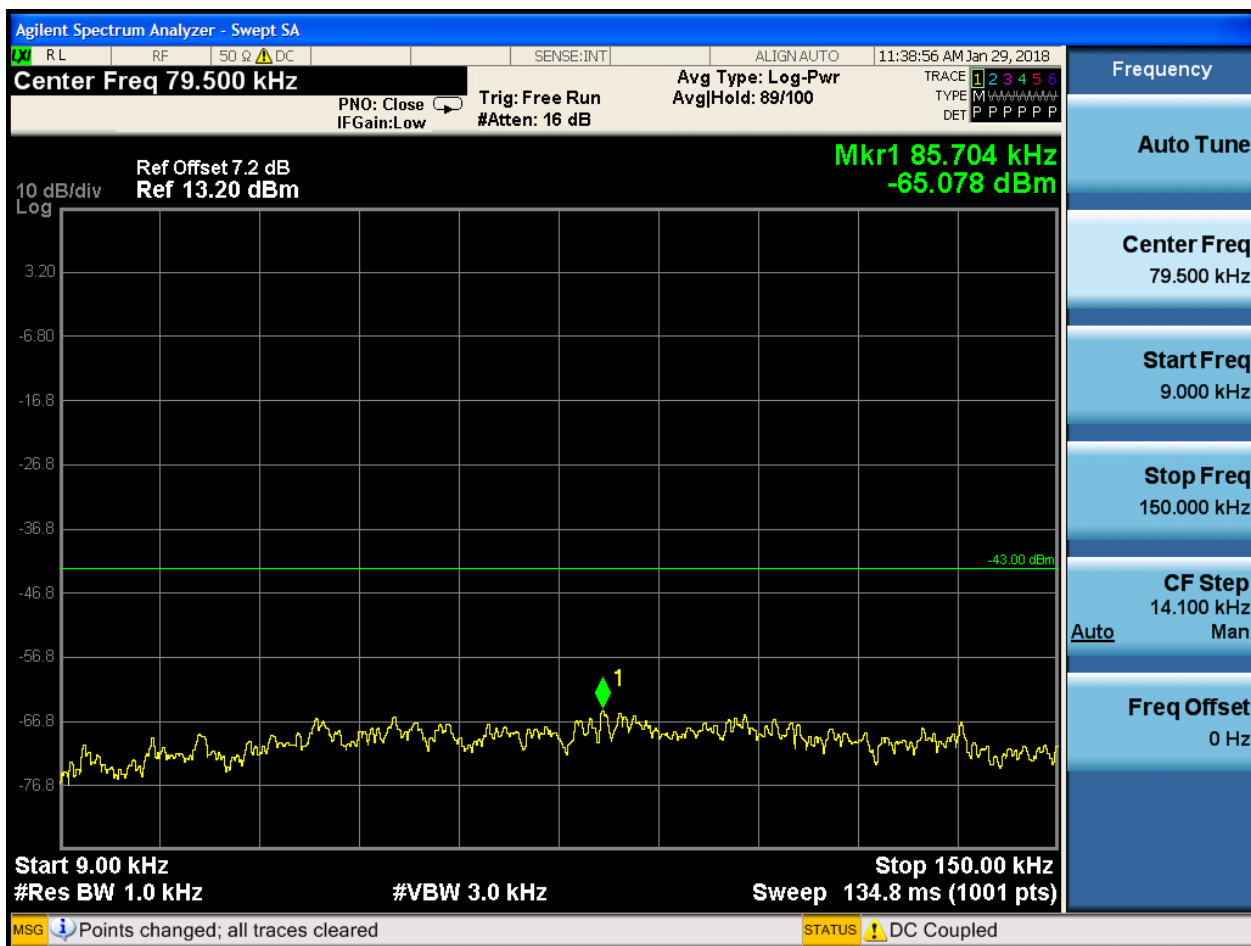


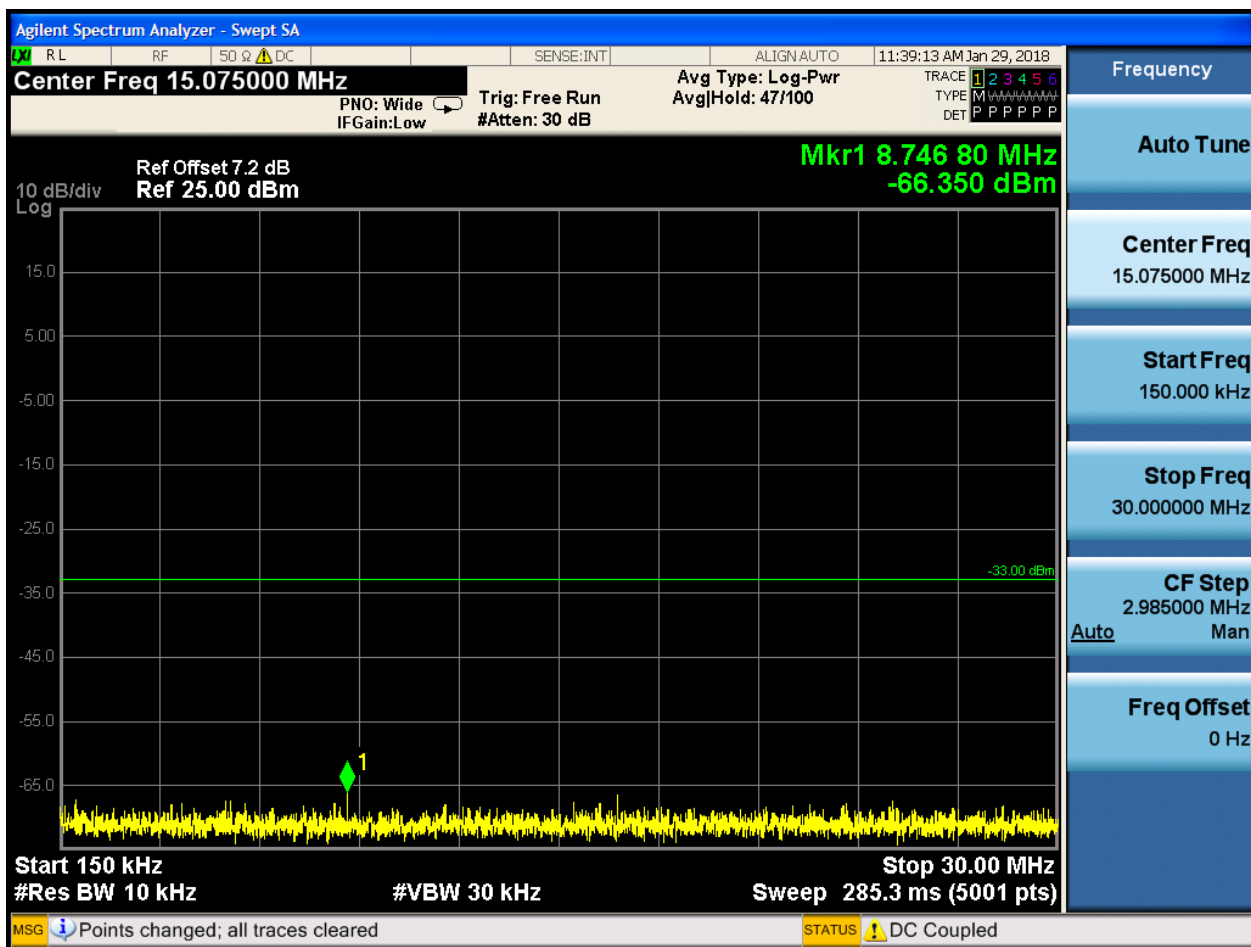


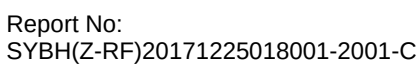


6.1.1.1.5.3 Test Channel = HCH

6.1.1.1.5.3.1 Test RB = RB1#0





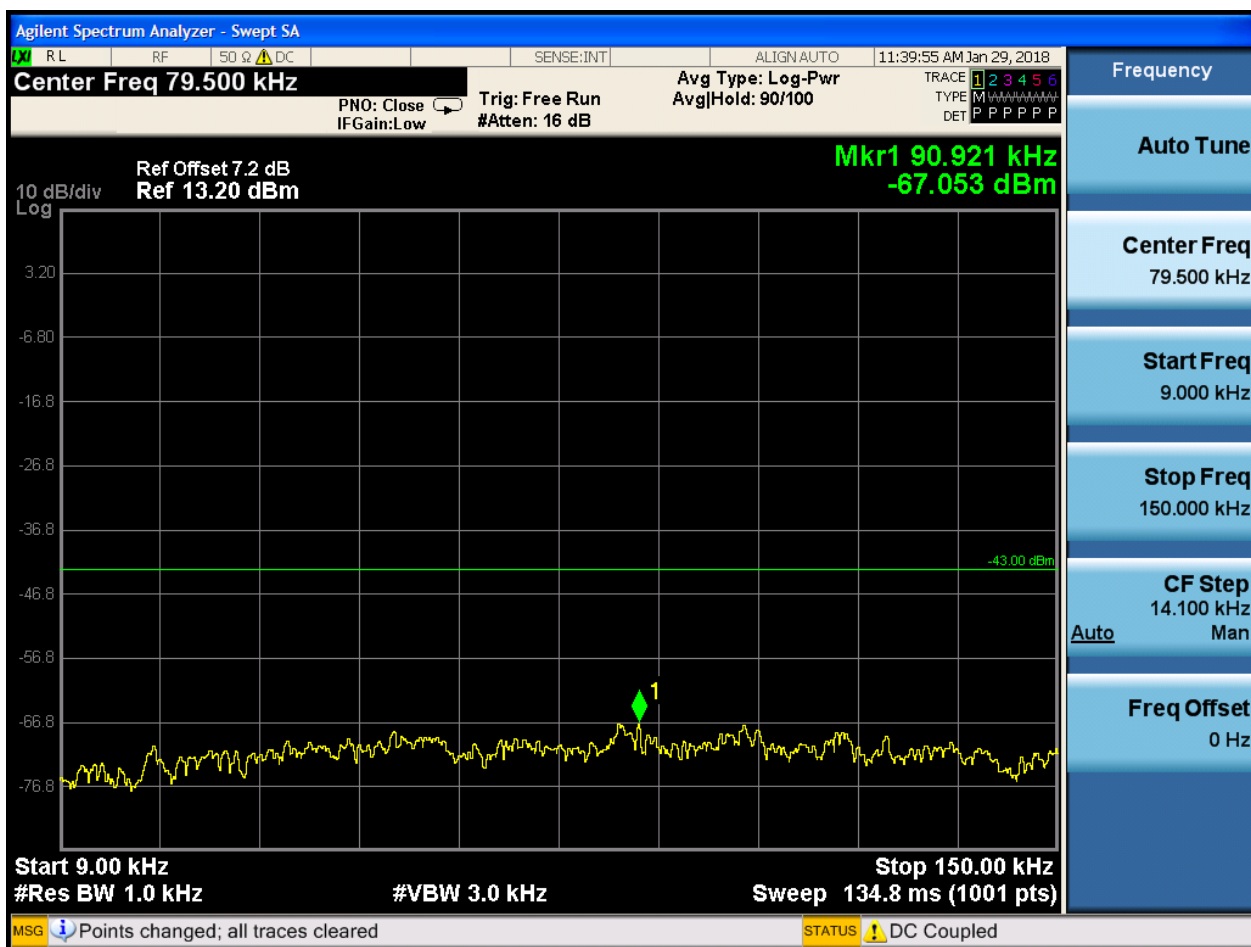




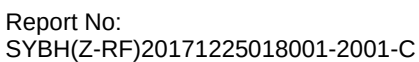
6.1.1.1.6 Test Bandwidth = 20

6.1.1.1.6.1 Test Channel = LCH

6.1.1.1.6.1.1 Test RB = RB1#0









6.1.1.1.6.2 Test Channel = MCH

6.1.1.1.6.2.1 Test RB = RB1#0

