



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 08:59:11 AM Jul 01, 2017

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 1.850 000 GHz
 -33.567 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

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



5.1.1.1.5.2 Test Channel = HCH

5.1.1.1.5.2.1 Test RB = RB1#0



5.1.1.1.5.2.2 Test RB = RB1#74





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 08:59:59 AM Jul 01, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 050 GHz
-36.247 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)

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

5.1.1.1.5.2.4 Test RB = RB75#0

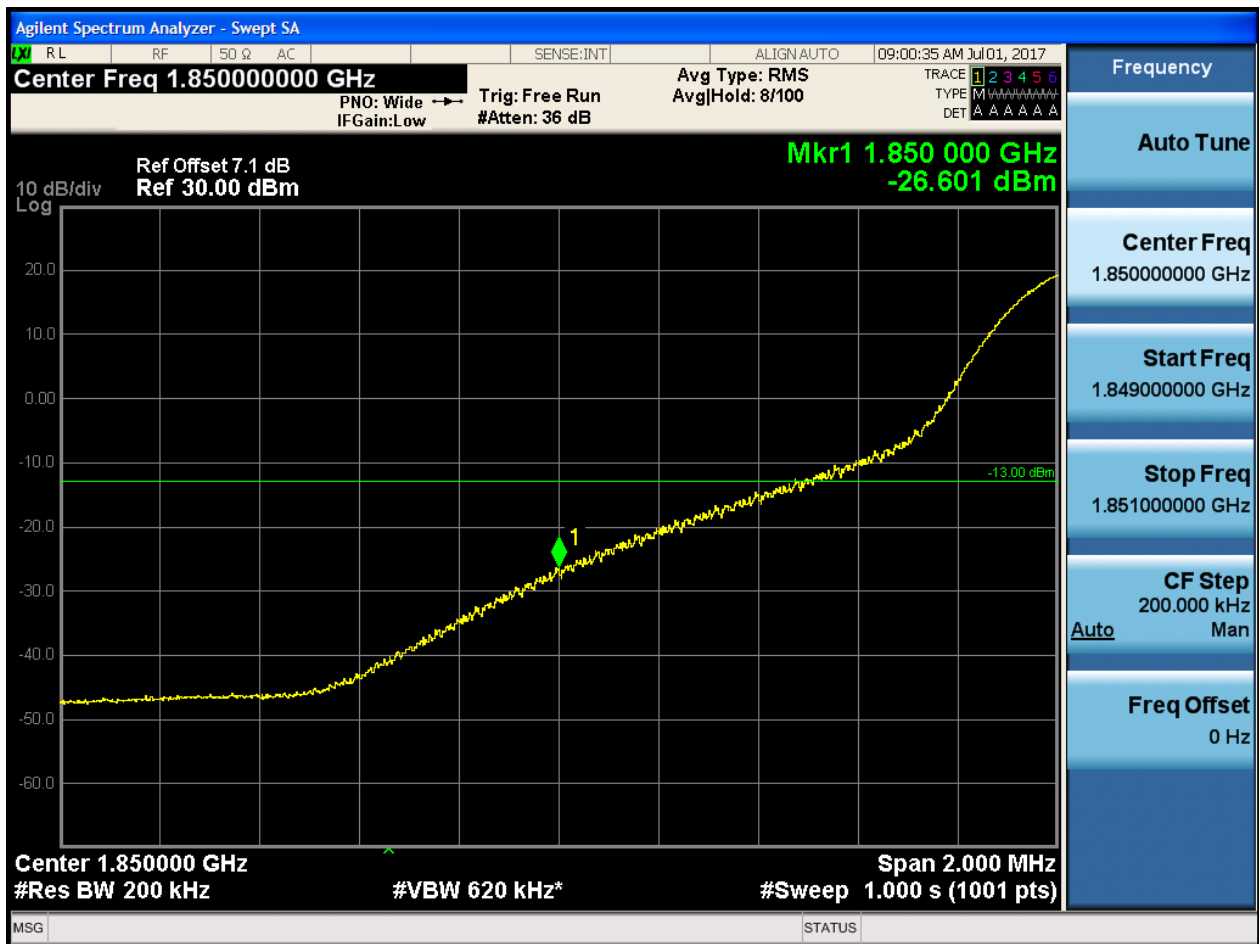




5.1.1.1.6 Test Bandwidth = 20

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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:01:04 AM Jul 01, 2017

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 1.849 990 GHz
-38.175 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



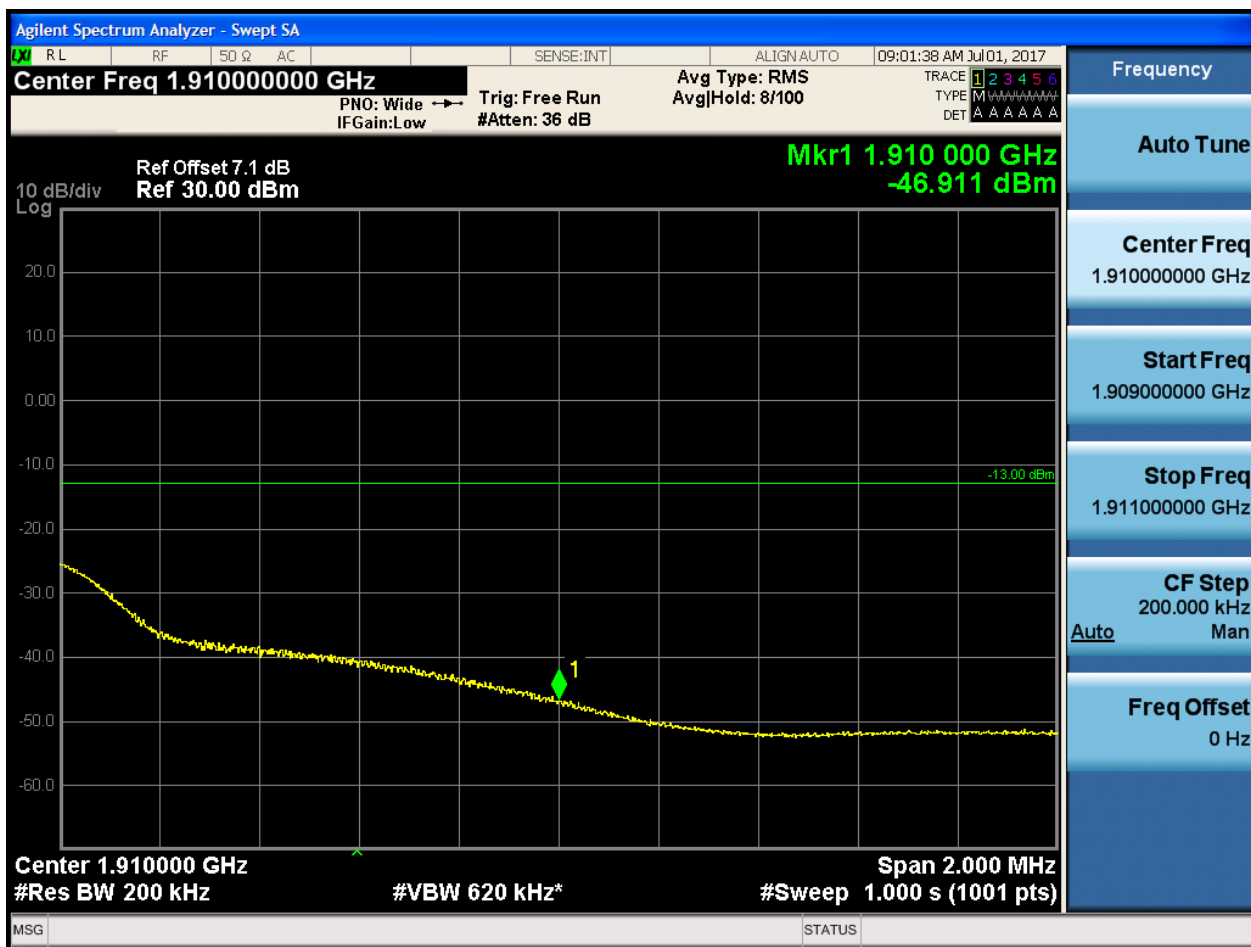
5.1.1.1.6.1.4 Test RB = RB100#0





5.1.1.1.6.2 Test Channel = HCH

5.1.1.1.6.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.910000000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 000 GHz
-26.990 dBm

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

Center 1.910000 GHz
#Res BW 200 kHz

#VBW 620 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:02:06 AM Jul 01, 2017

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 1.910 400 GHz
-34.301 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)

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

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 020 GHz
-35.460 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 200 kHz

#VBW 620 kHz*

Span 2.000 MHz

#Sweep 1.000 s (1001 pts)

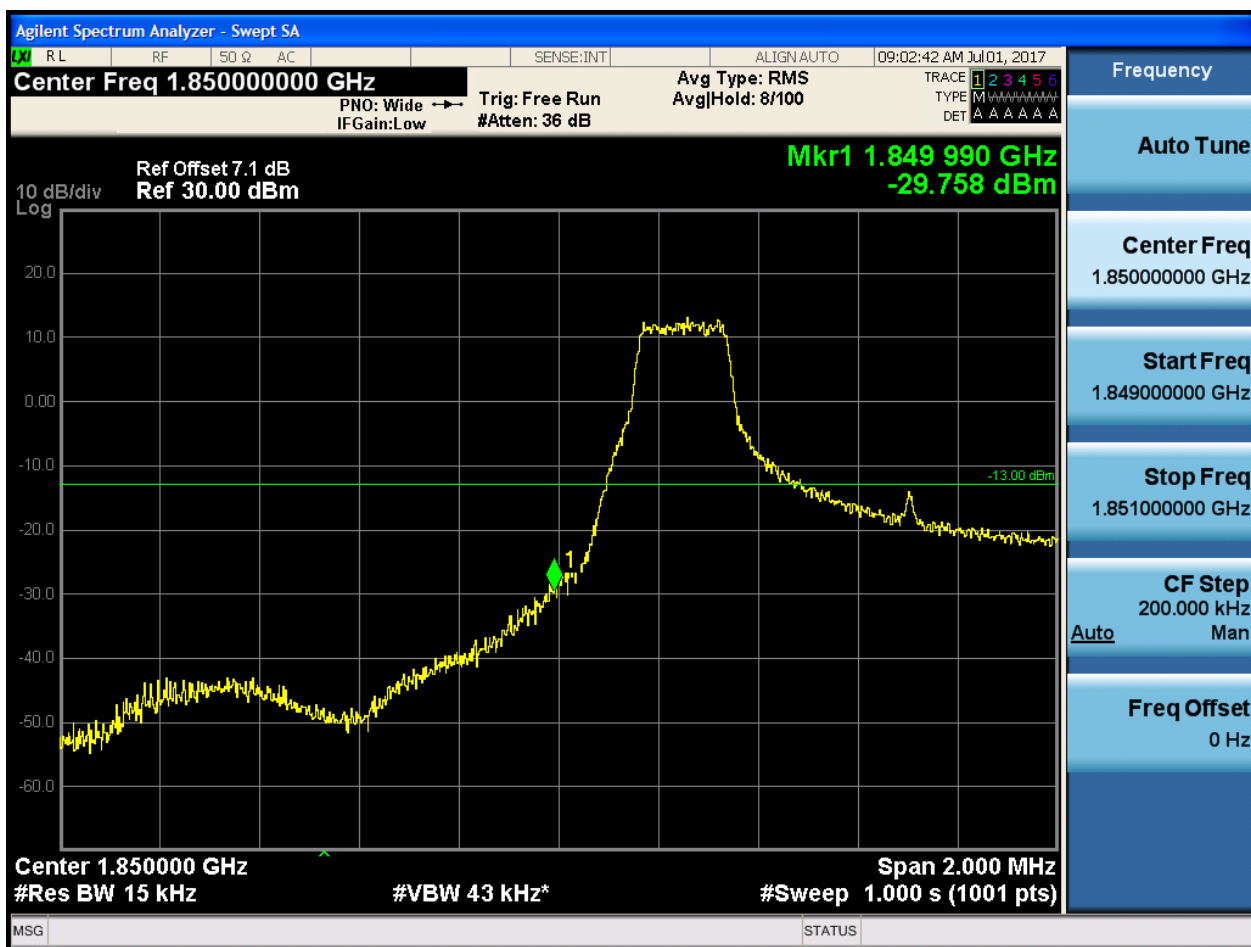


5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 1.4

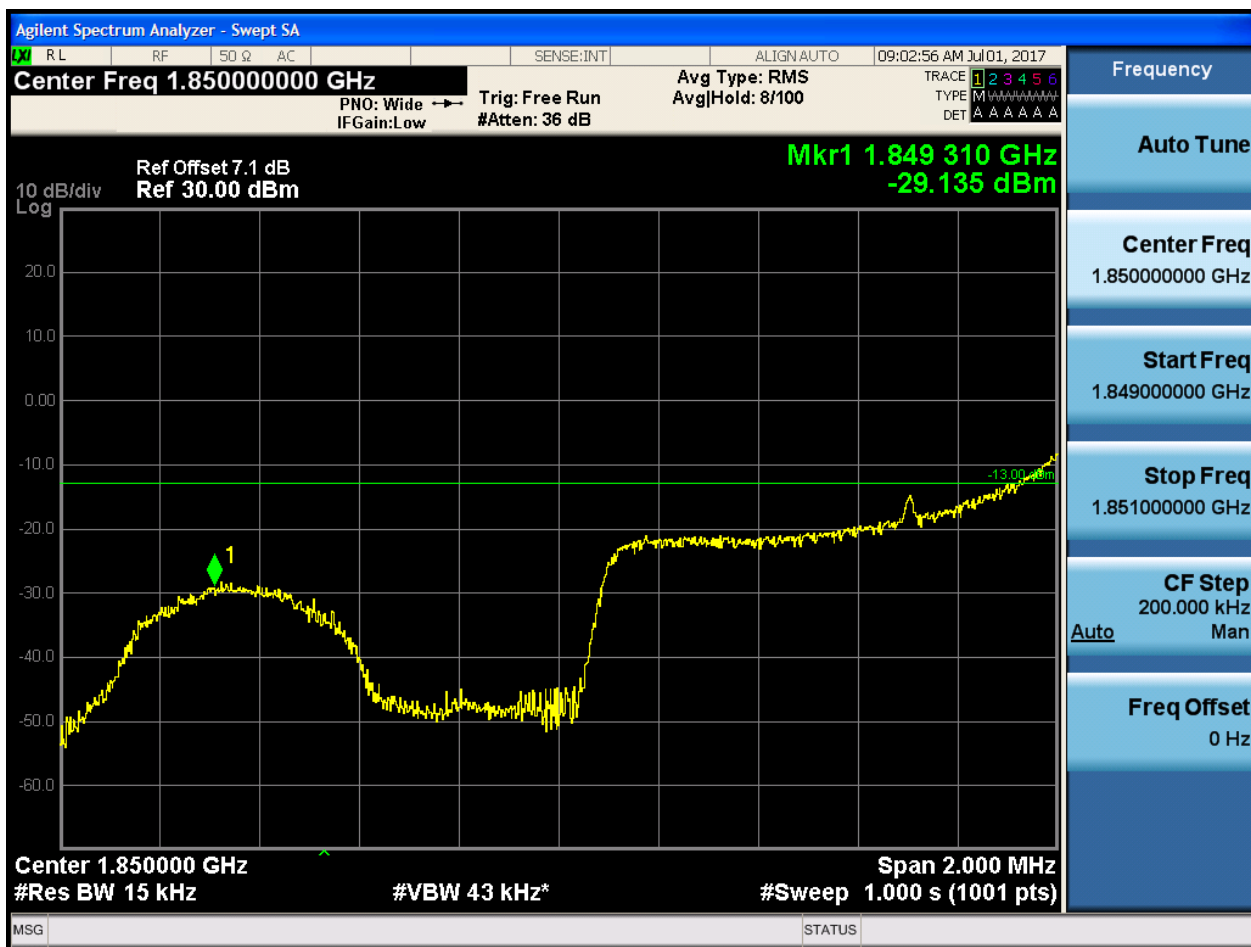
5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 Test RB = RB1#0



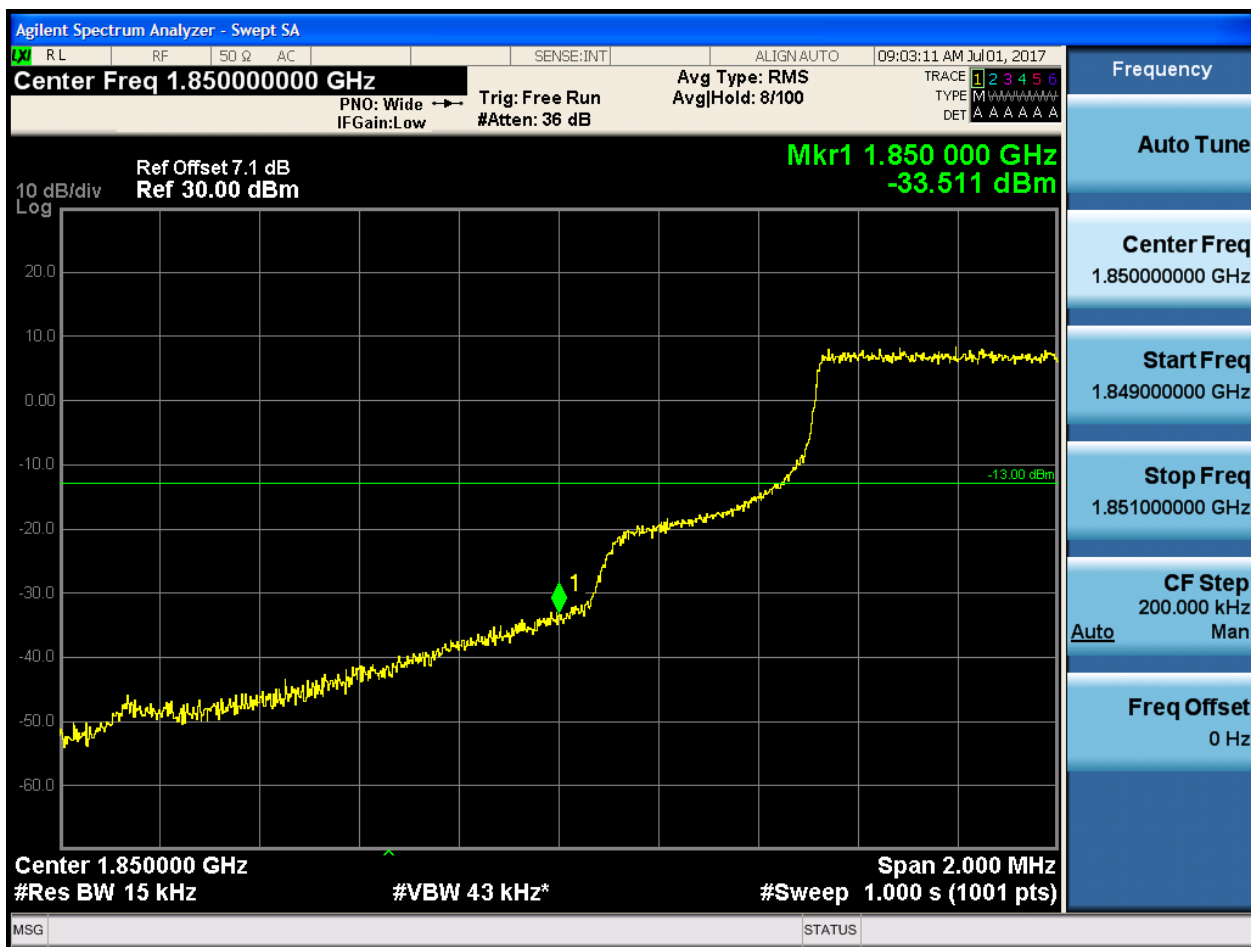


5.1.1.2.1.1.2 Test RB = RB1#5

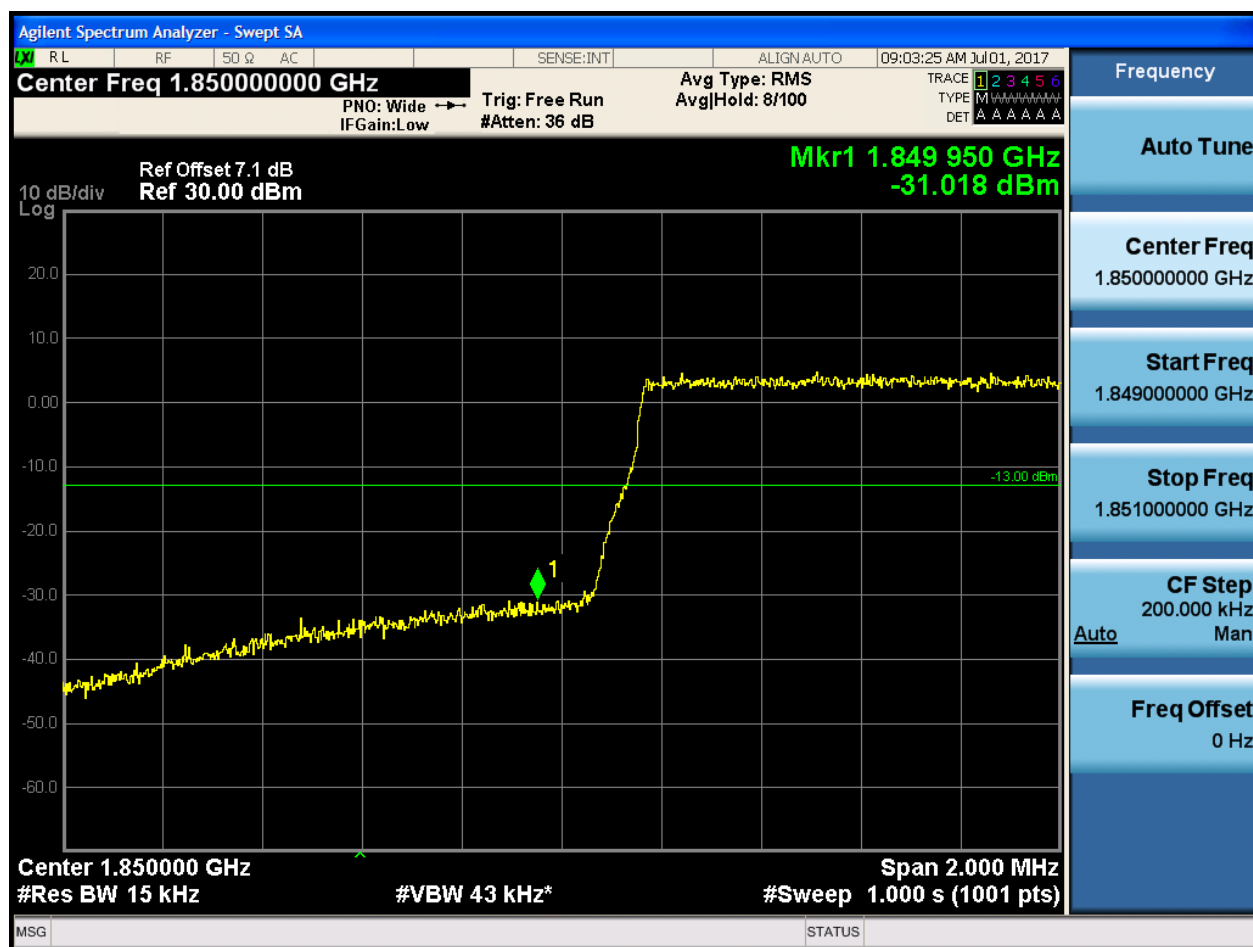




5.1.1.2.1.1.3 Test RB = RB3#2



5.1.1.2.1.1.4 Test RB = RB6#0



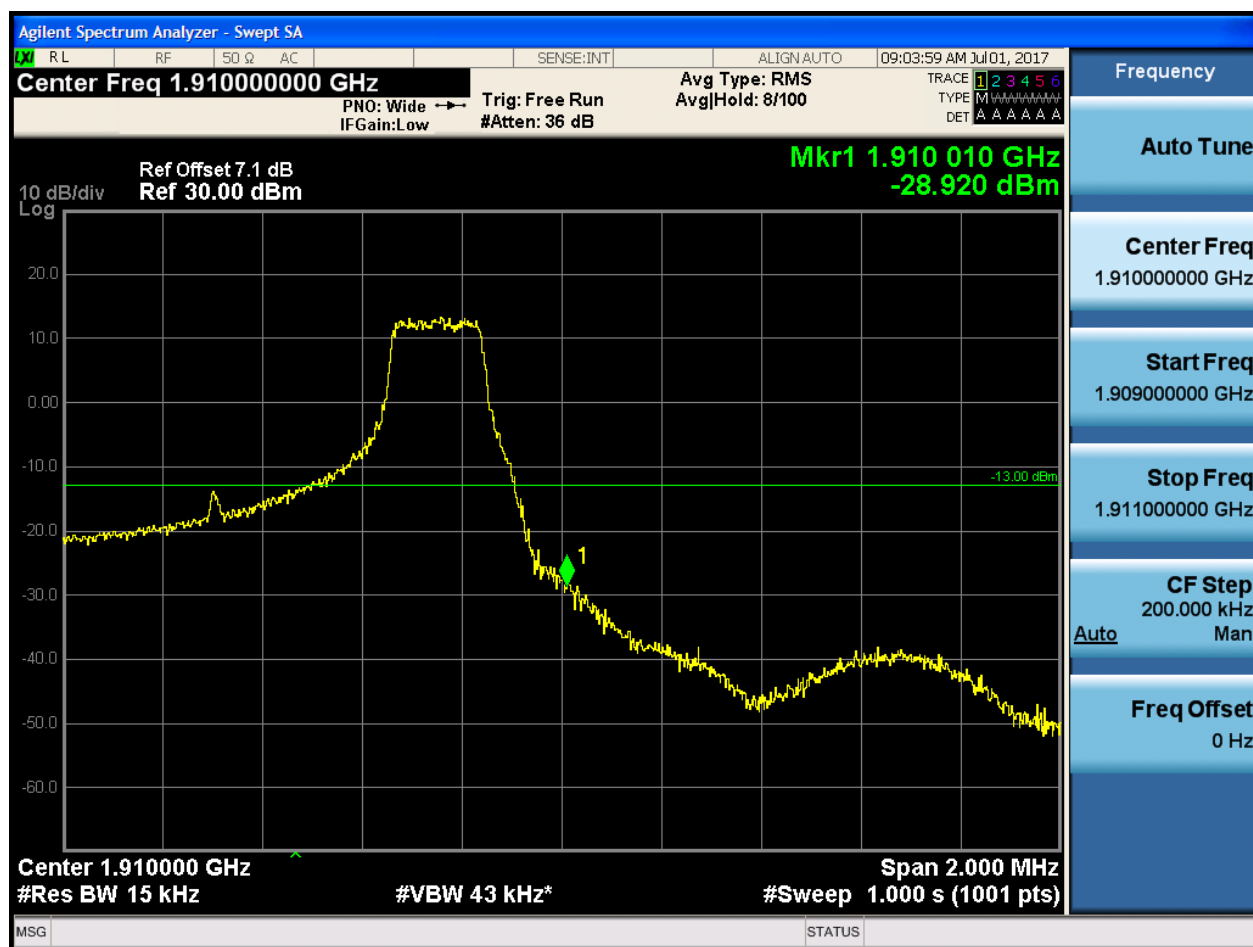


5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 Test RB = RB1#0

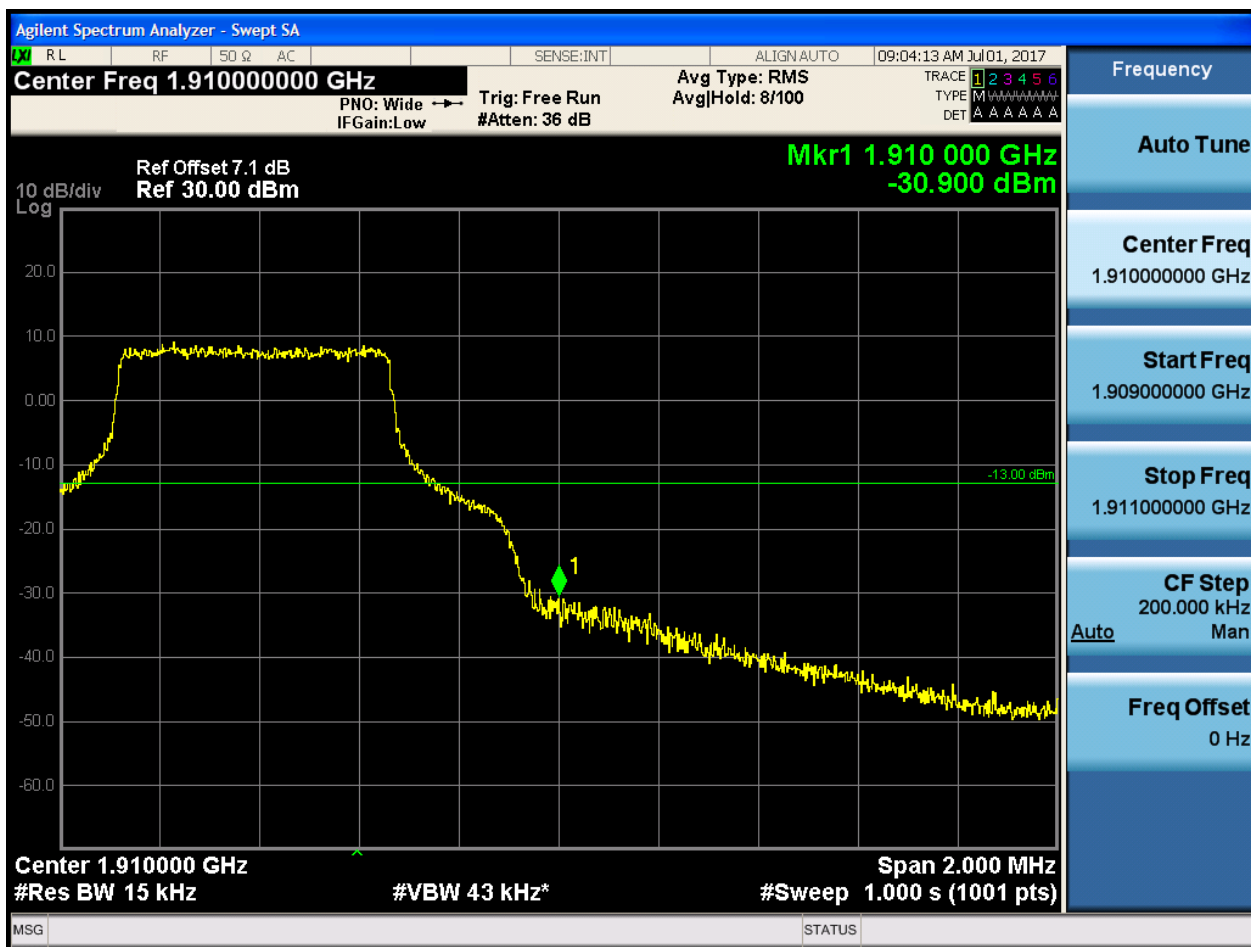


5.1.1.2.1.2.2 Test RB = RB1#5

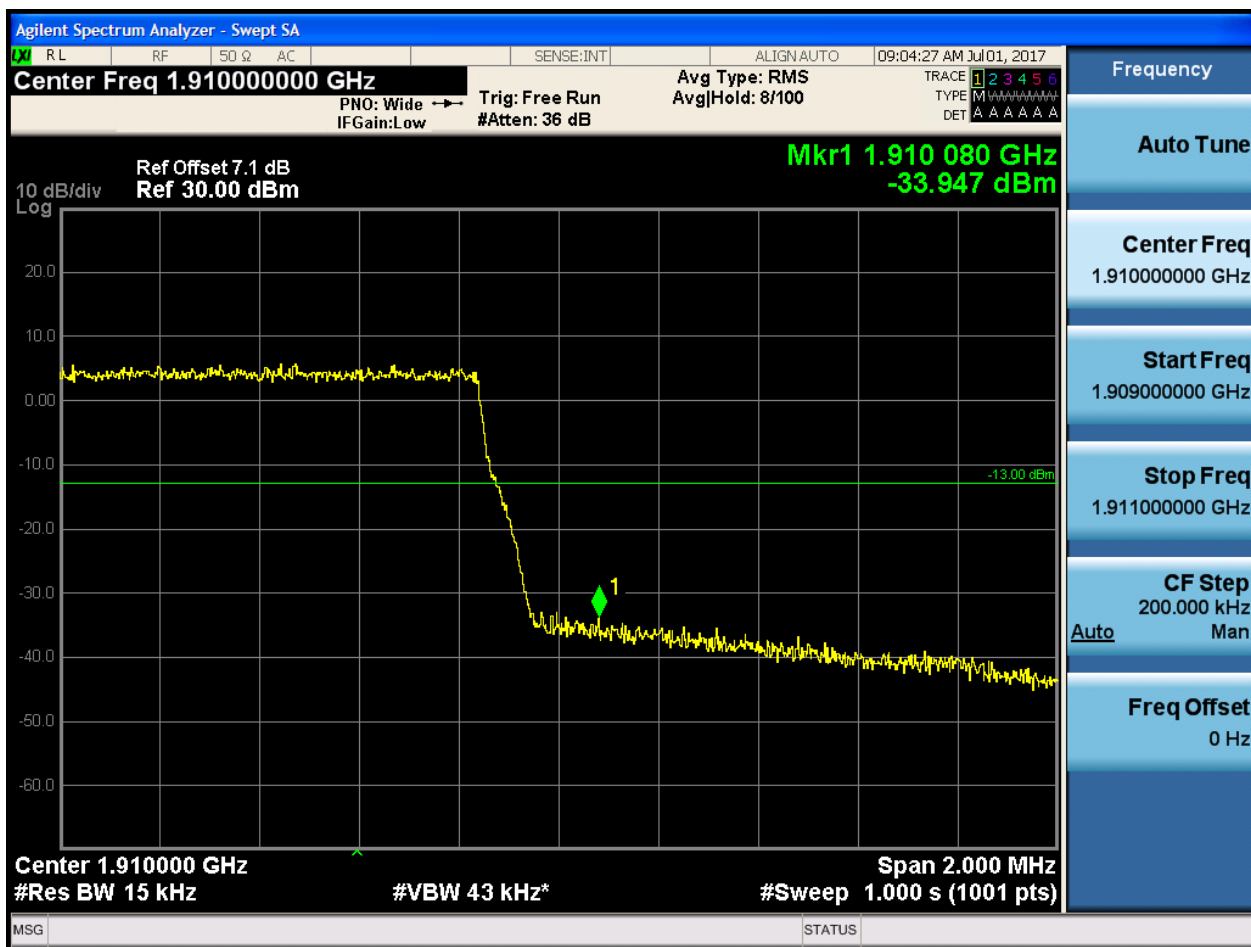




5.1.1.2.1.2.3 Test RB = RB3#2



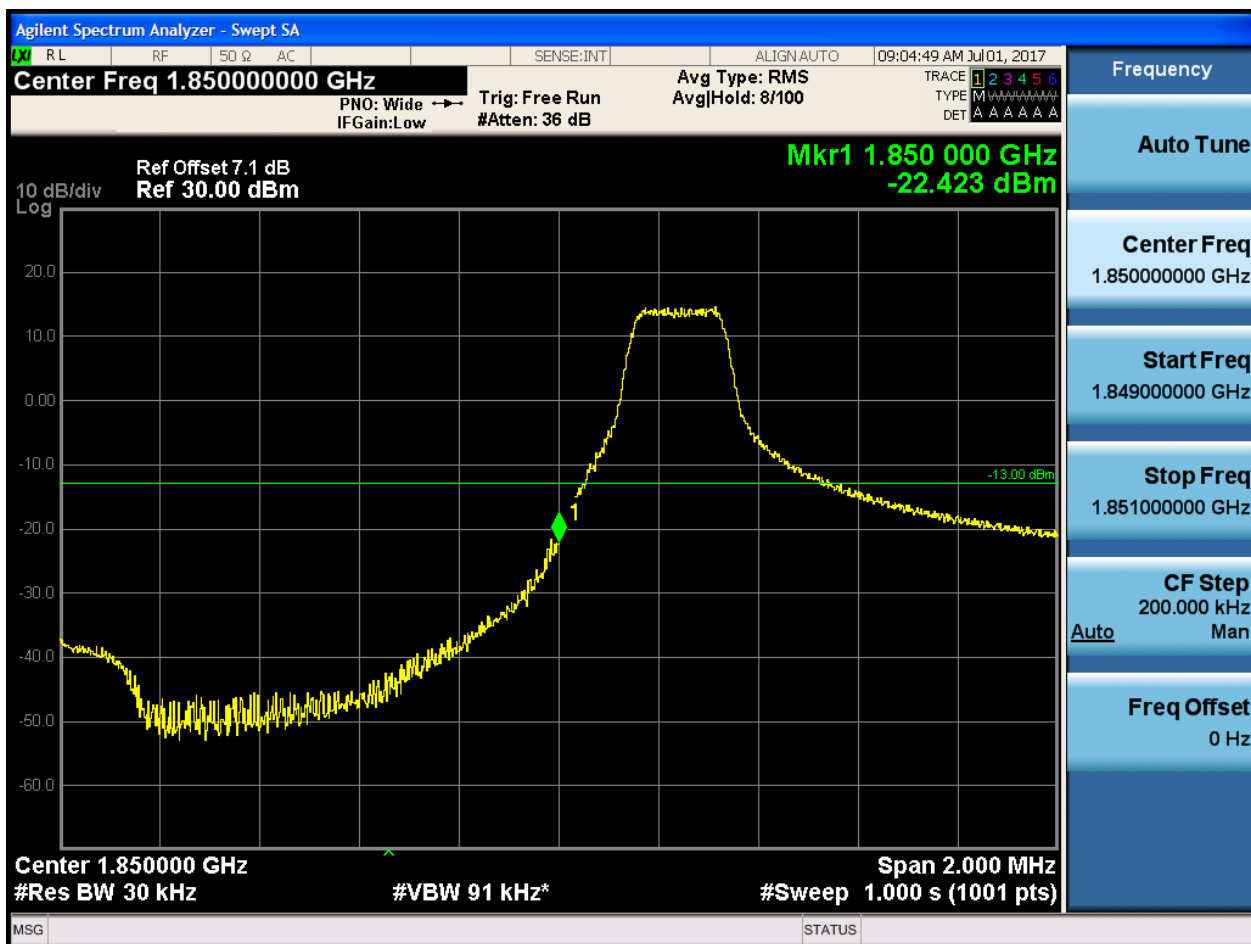
5.1.1.2.1.2.4 Test RB = RB6#0



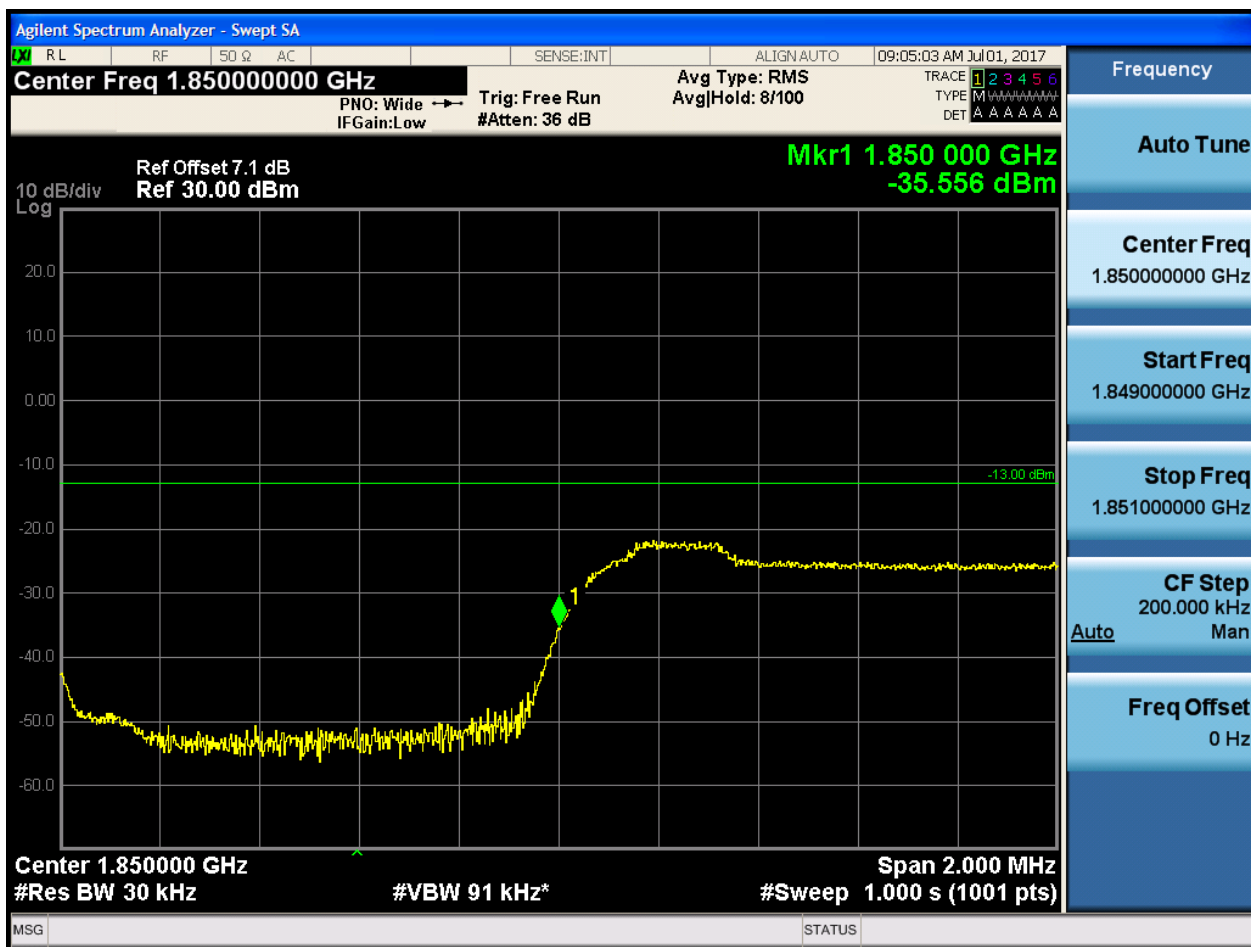
5.1.1.2.2 Test Bandwidth = 3

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0

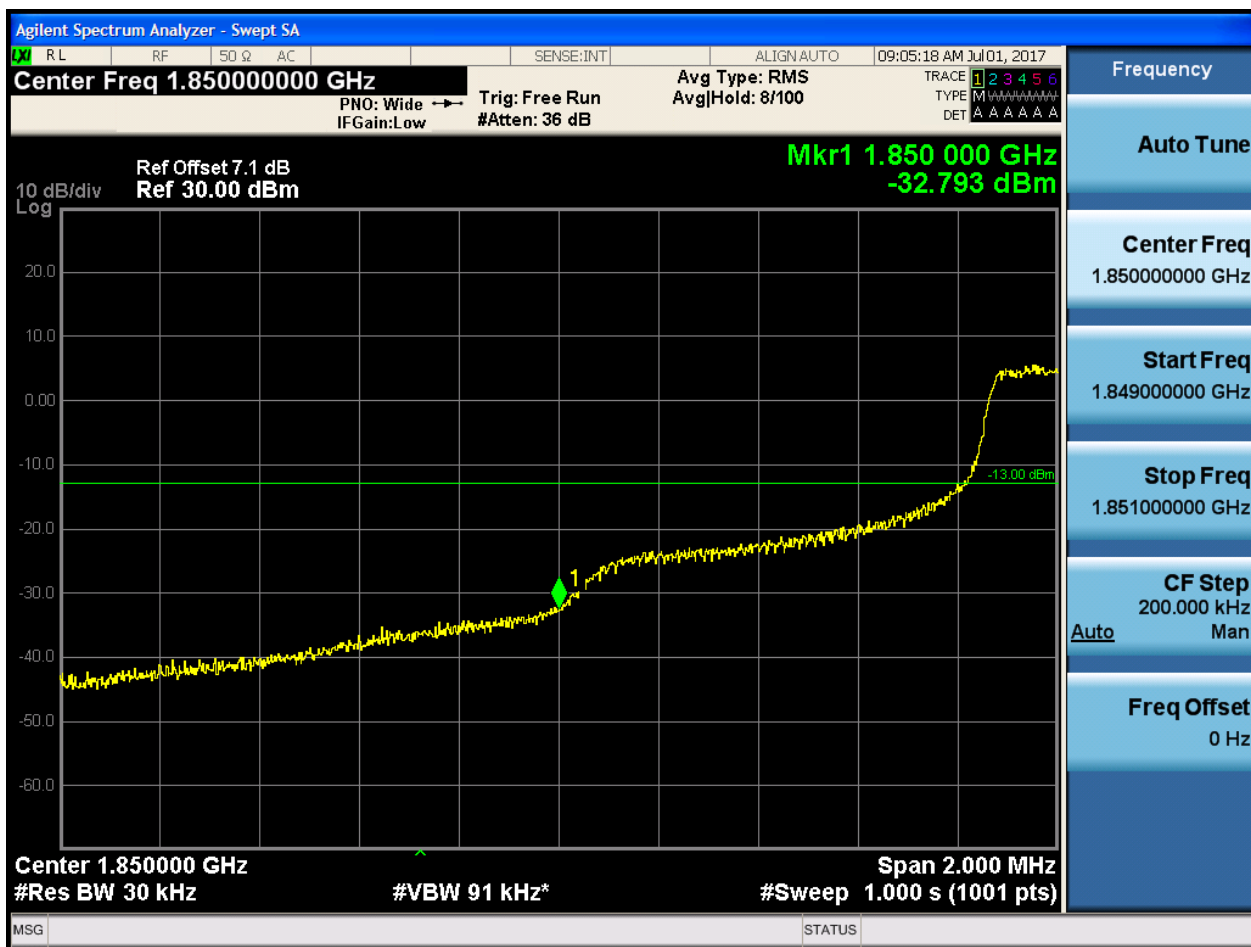


5.1.1.2.2.1.2 Test RB = RB1#14





5.1.1.2.2.1.3 Test RB = RB8#4





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RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:05:32 AM Jul 01, 2017

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 W W
DET A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-30.043 dBm

10 dB/div
Log

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

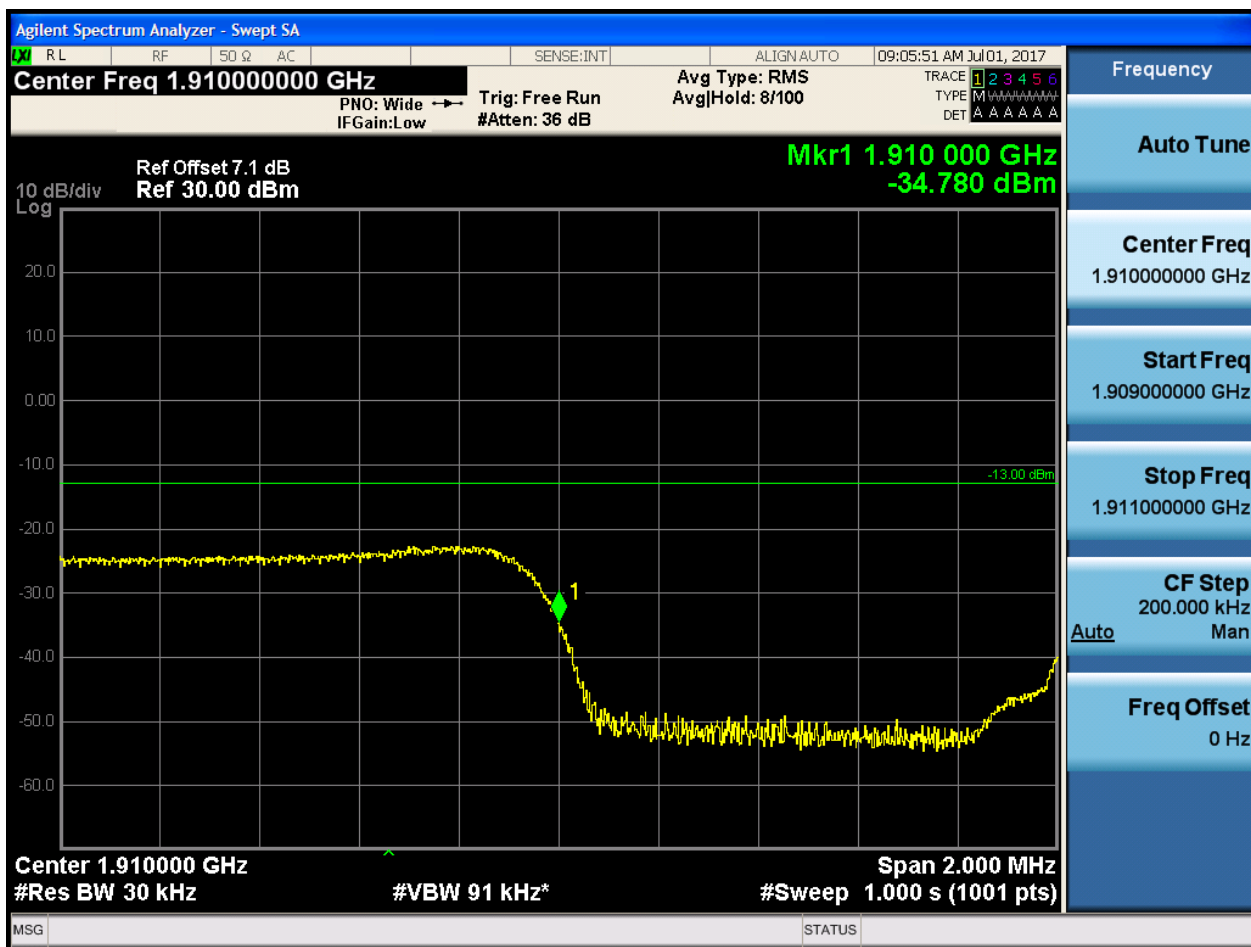
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



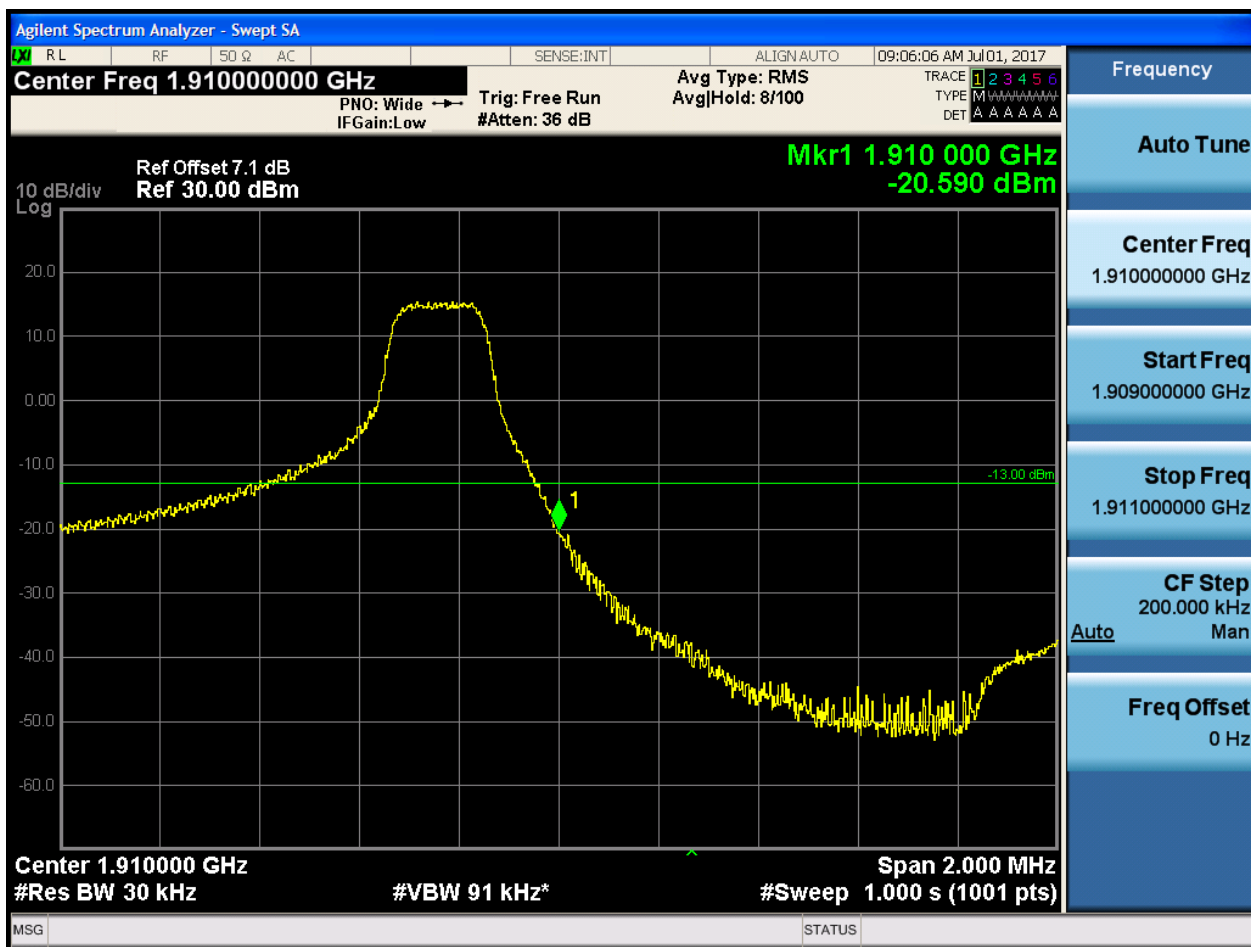
5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0





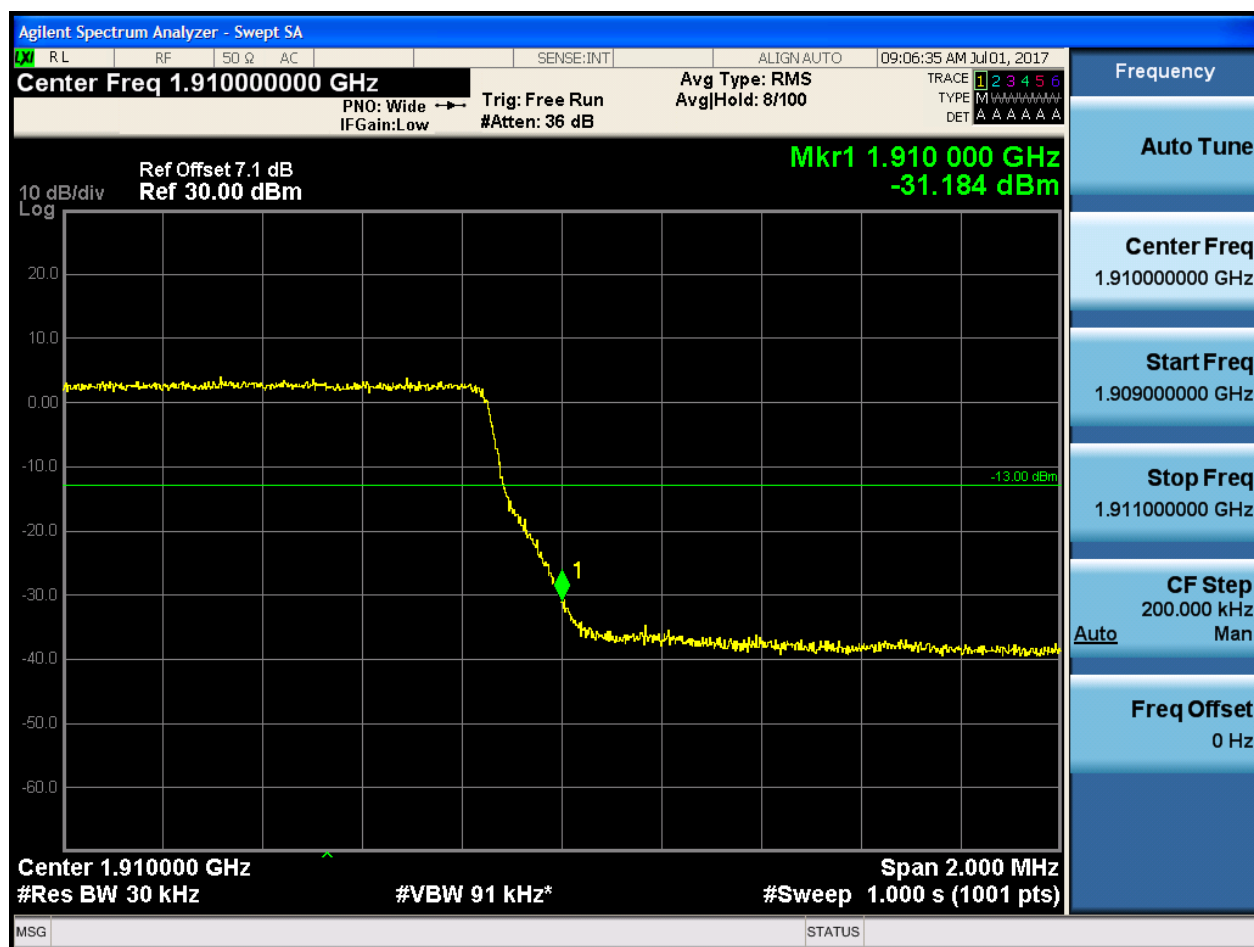
5.1.1.2.2.2 Test RB = RB1#14



5.1.1.2.2.2.3 Test RB = RB8#4



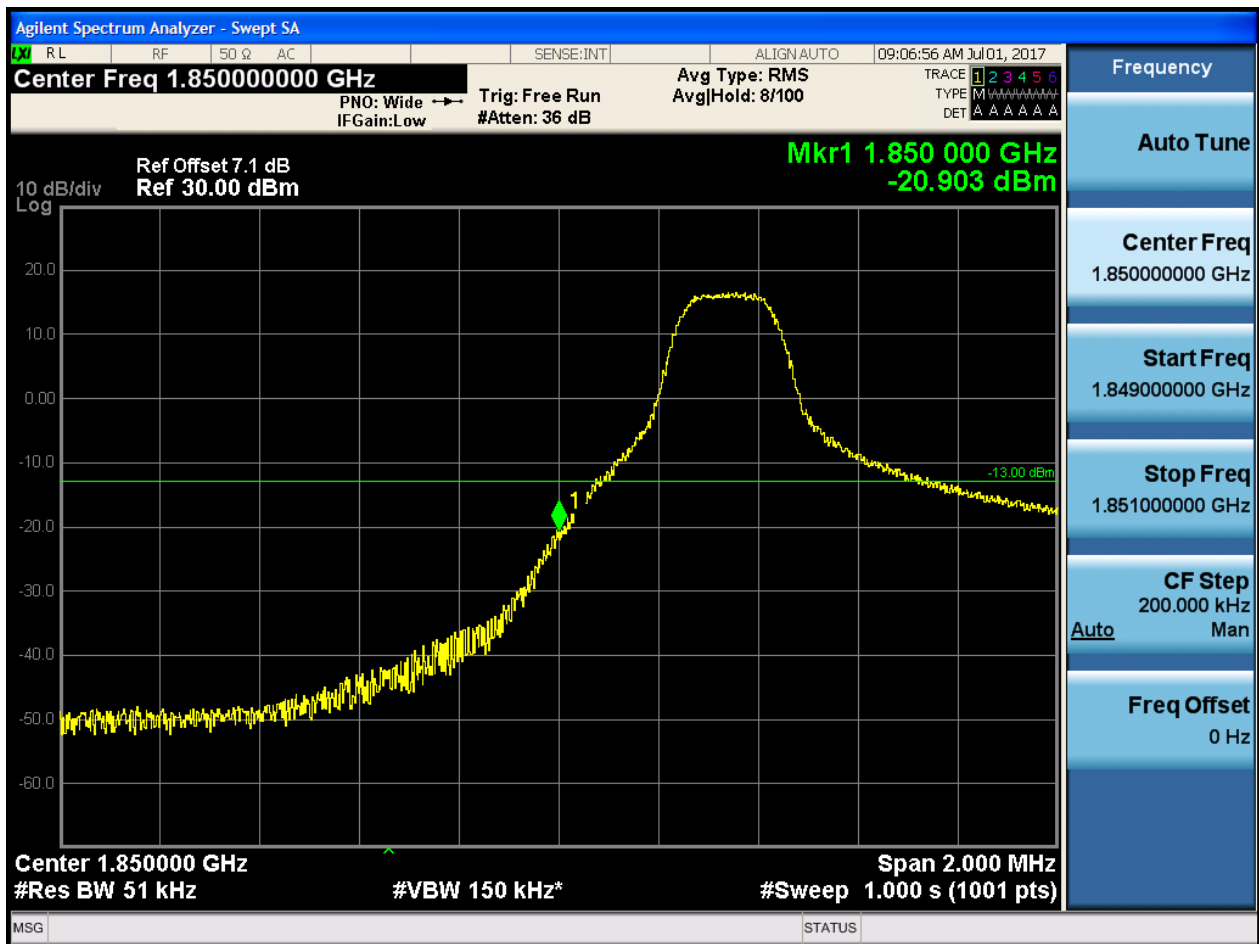
5.1.1.2.2.2.4 Test RB = RB15#0



5.1.1.2.3 Test Bandwidth = 5

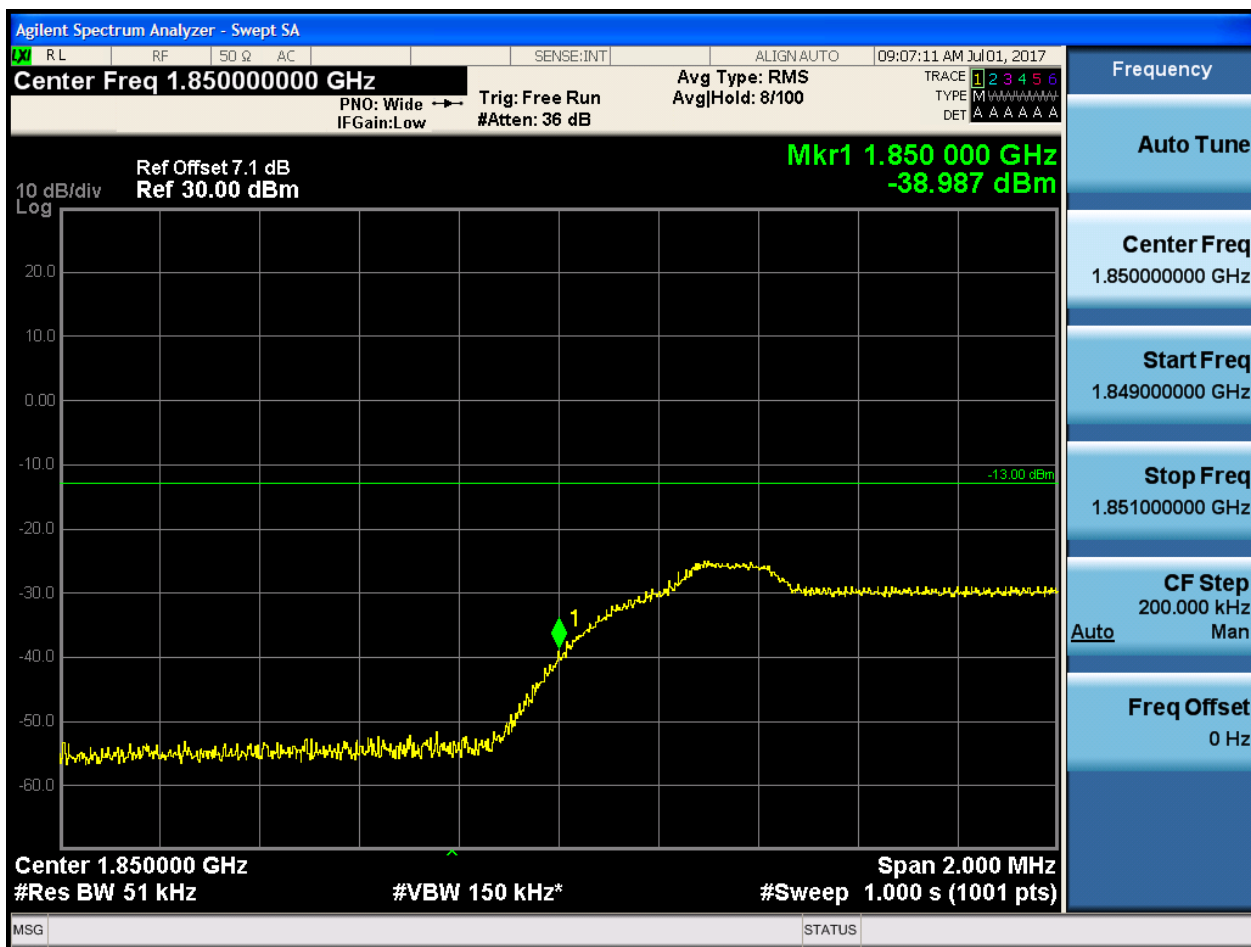
5.1.1.2.3.1 Test Channel = LCH

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

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:07:39 AM Jul 01, 2017

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 W W
DET A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-31.597 dBm

10 dB/div
Log

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

MSG STATUS

Frequency

Auto Tune

Center Freq
1.850000000 GHz

Start Freq
1.849000000 GHz

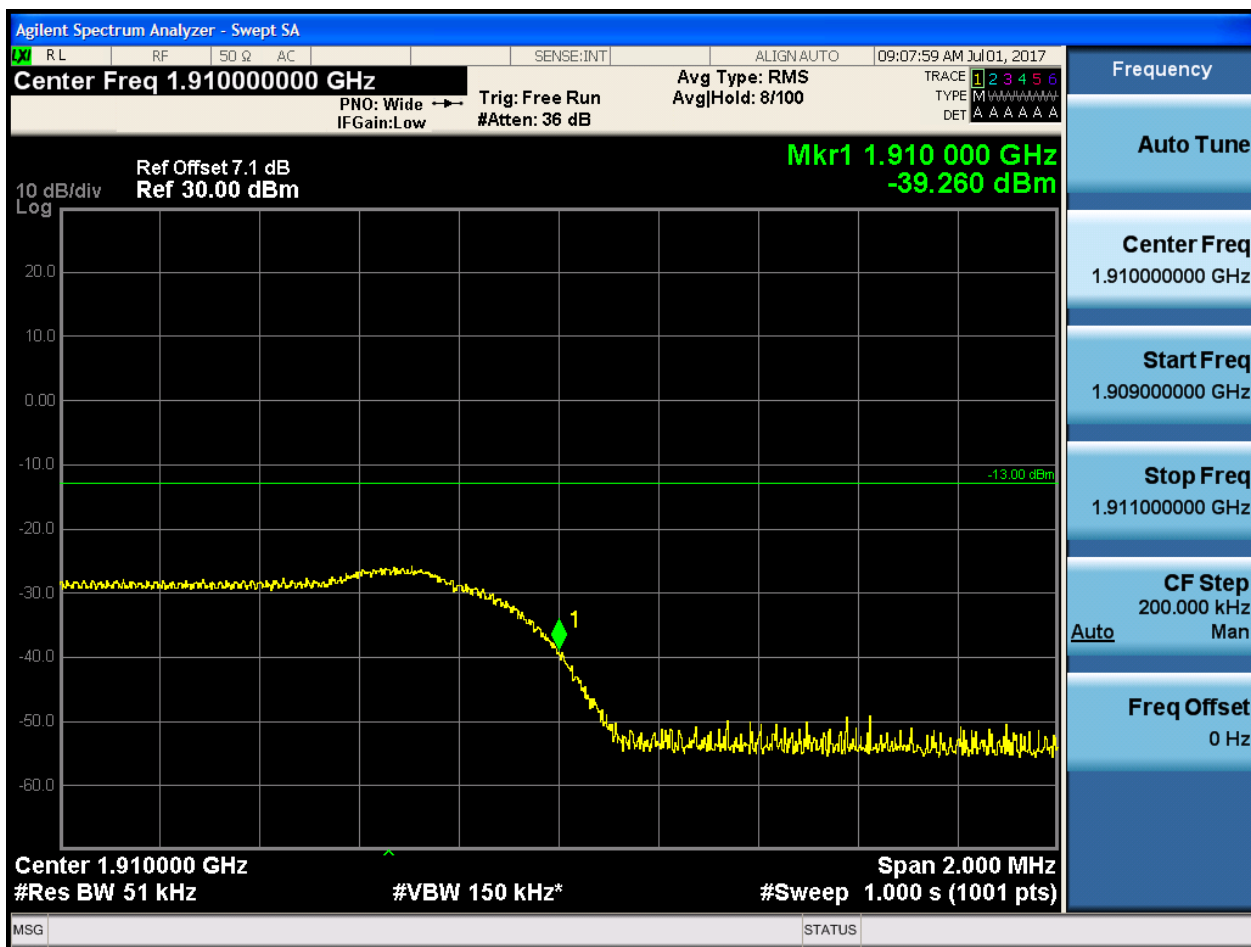
Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:08:13 AM Jul 01, 2017

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
-22.230 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 Man

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:08:27 AM Jul 01, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 010 GHz
-34.262 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

5.1.1.2.3.2.4 Test RB = RB25#0

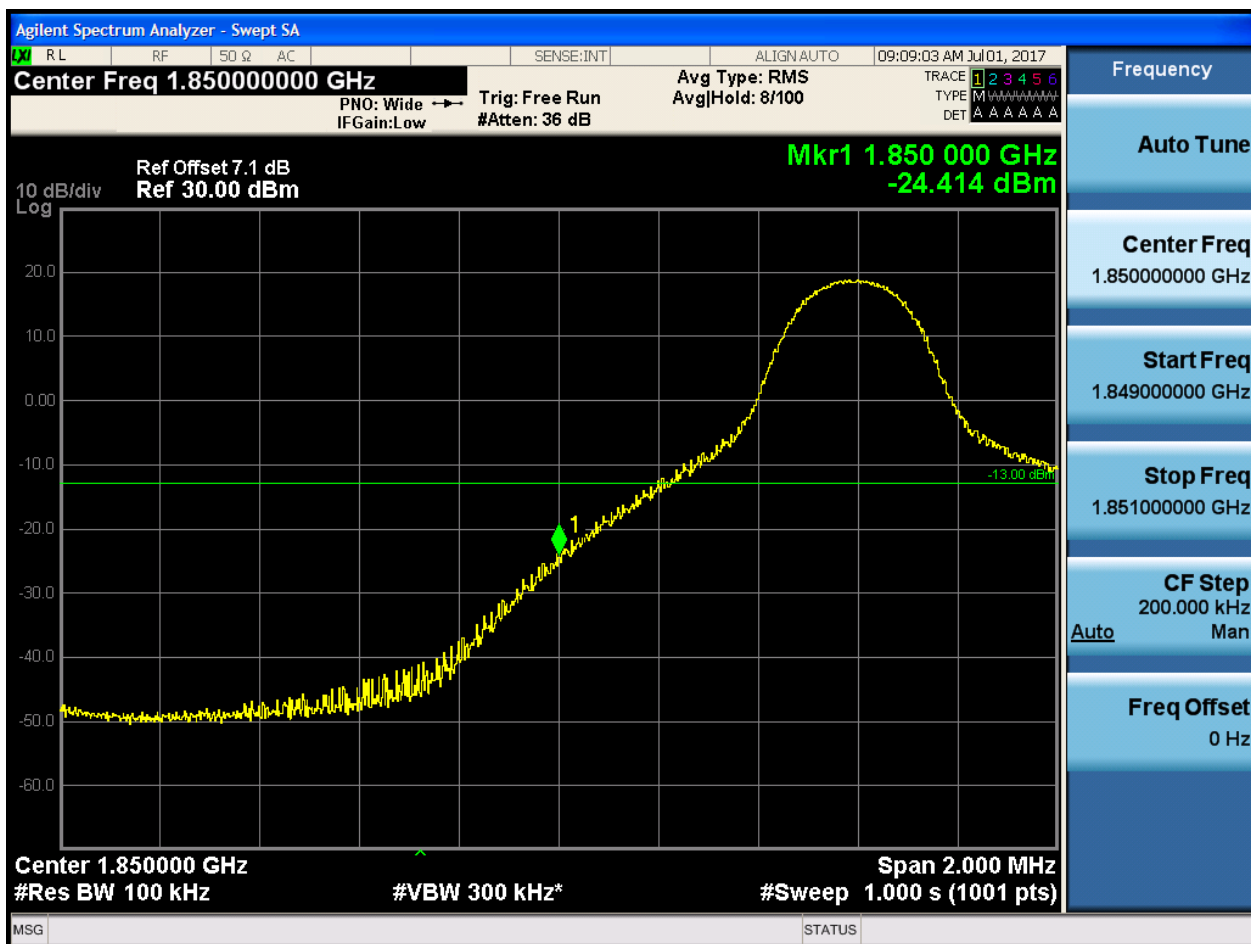




5.1.1.2.4 Test Bandwidth = 10

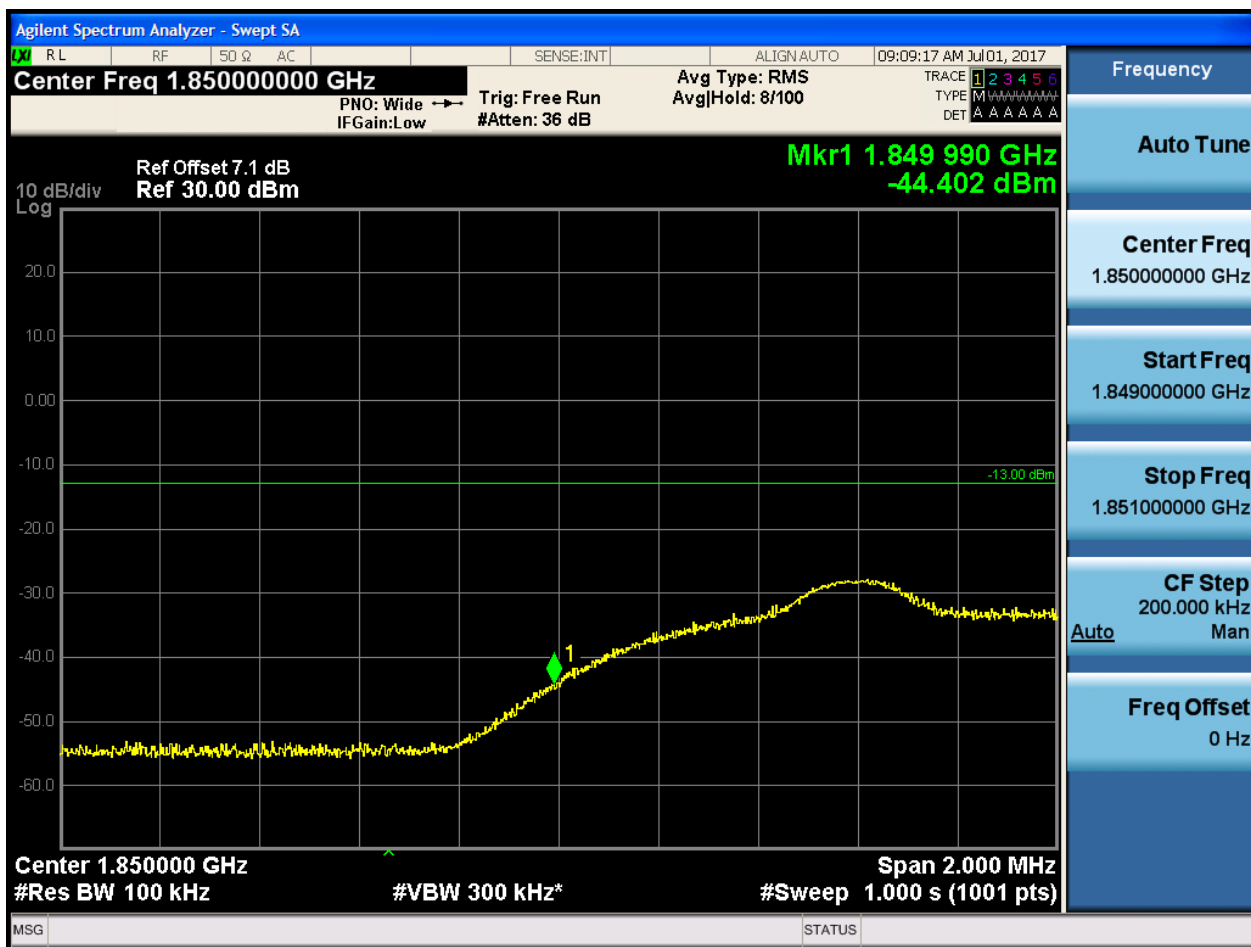
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0





5.1.1.2.4.1.2 Test RB = RB1#49





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 09:09:32 AM Jul 01, 2017

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 1.849 960 GHz
-34.837 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



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
-33.085 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 Man

Freq Offset
0 Hz

Center 1.850000 GHz
#Res BW 100 kHz
#VBW 300 kHz*

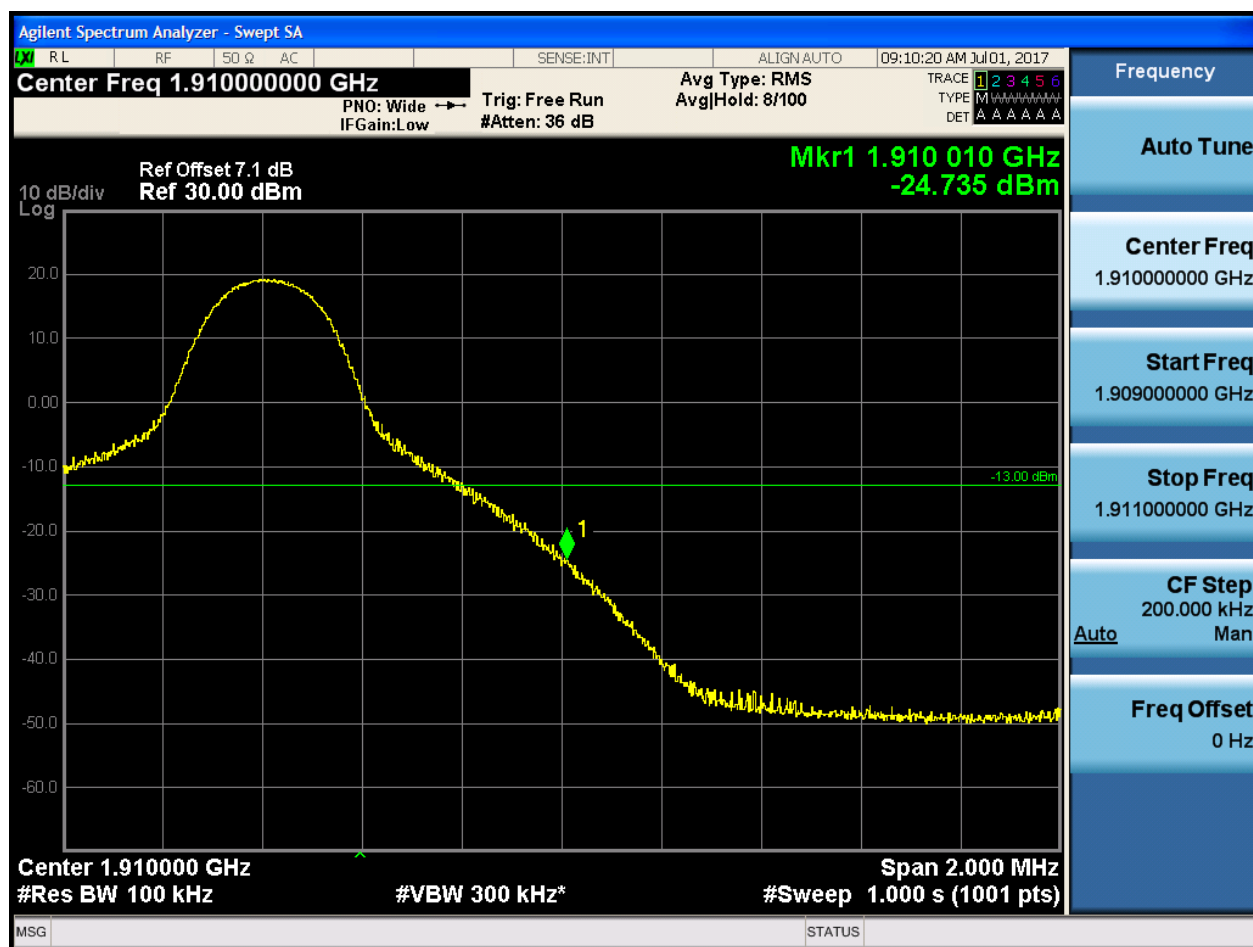
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 09:10:34 AM Jul 01, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.910 000 GHz
-35.544 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

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

5.1.1.2.4.2.4 Test RB = RB50#0

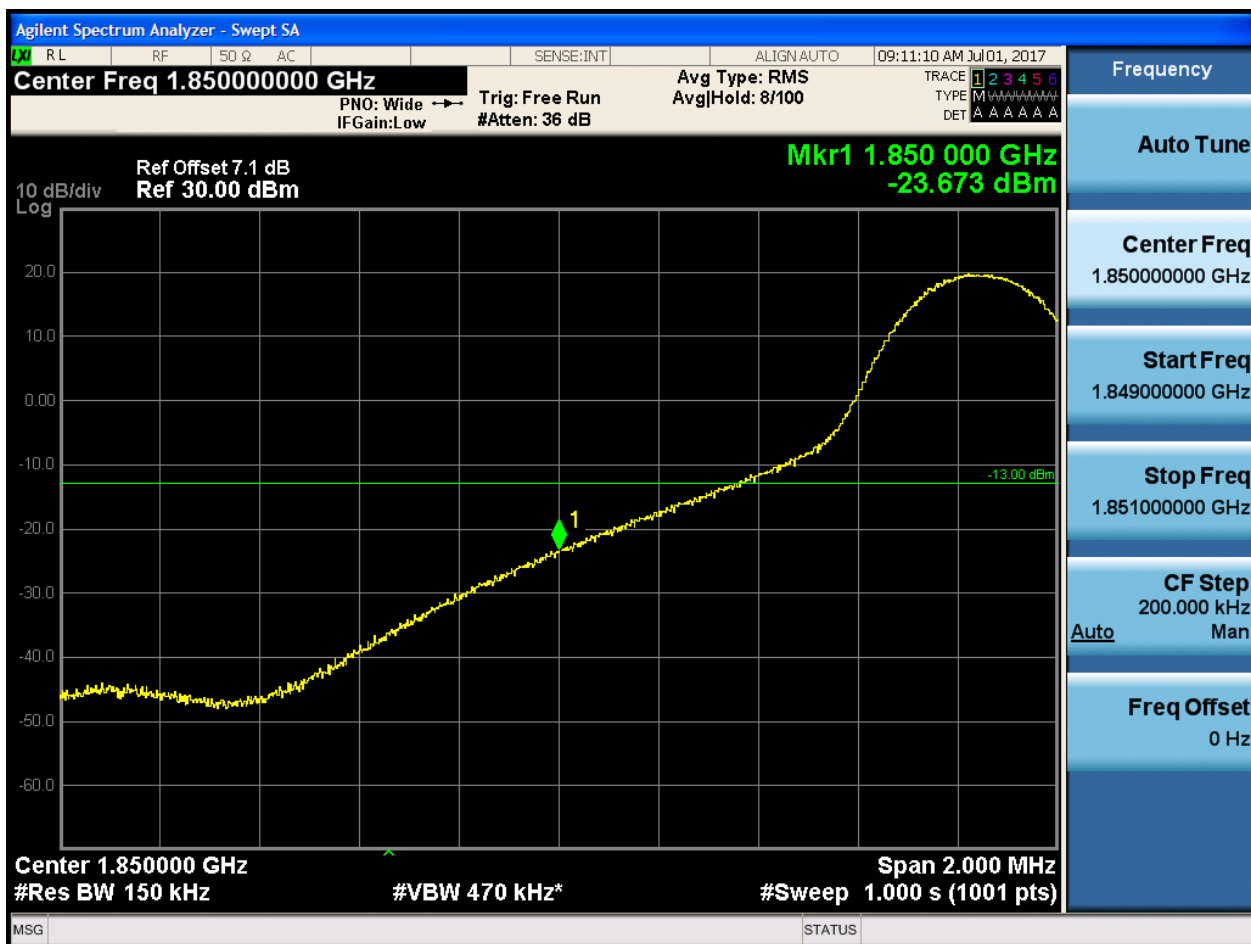




5.1.1.2.5 Test Bandwidth = 15

5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0



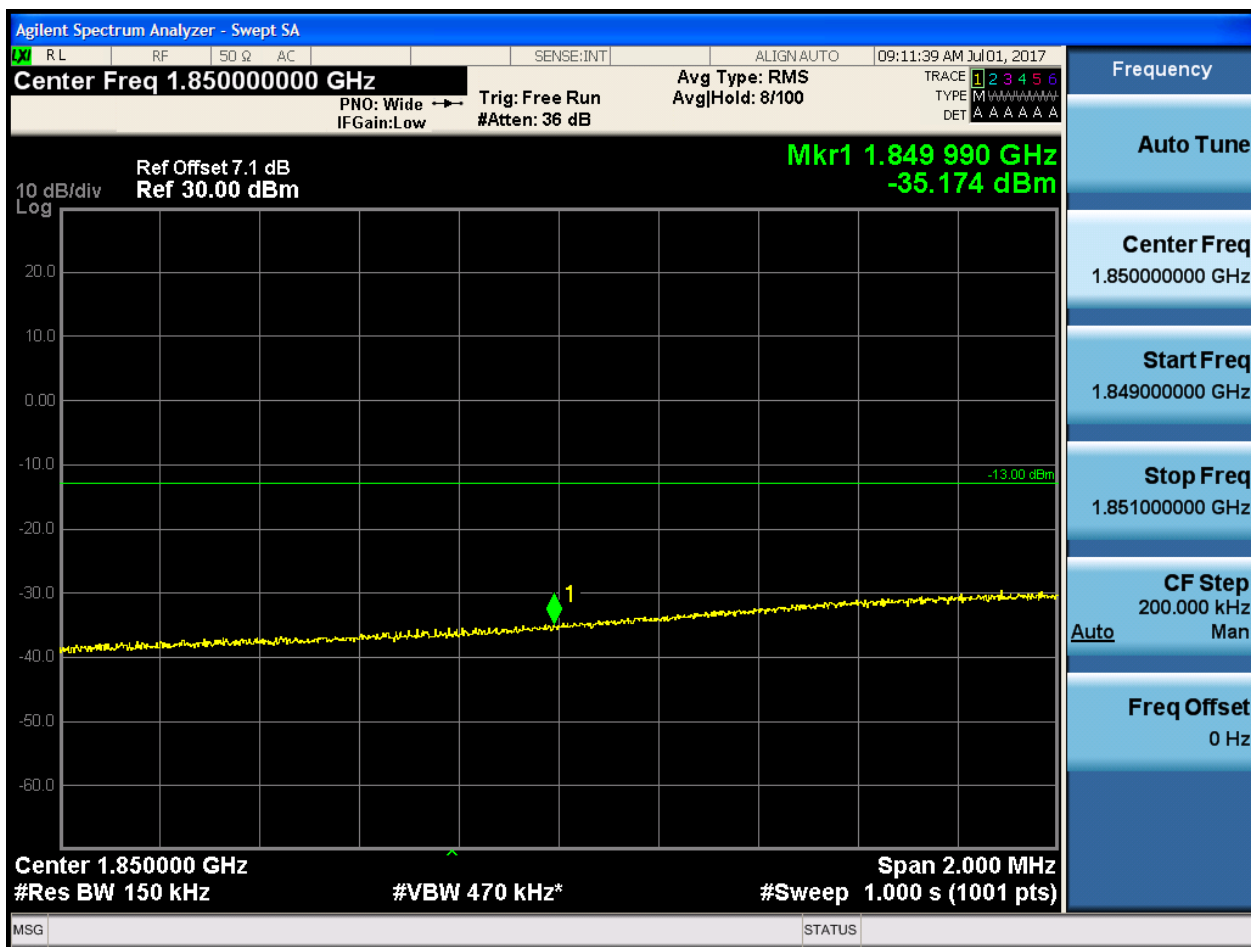


5.1.1.2.5.1.2 Test RB = RB1#74





5.1.1.2.5.1.3 Test RB = RB38#19





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.850000000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.850 000 GHz
-32.338 dBm

Center 1.850000 GHz
#Res BW 150 kHz
#VBW 470 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

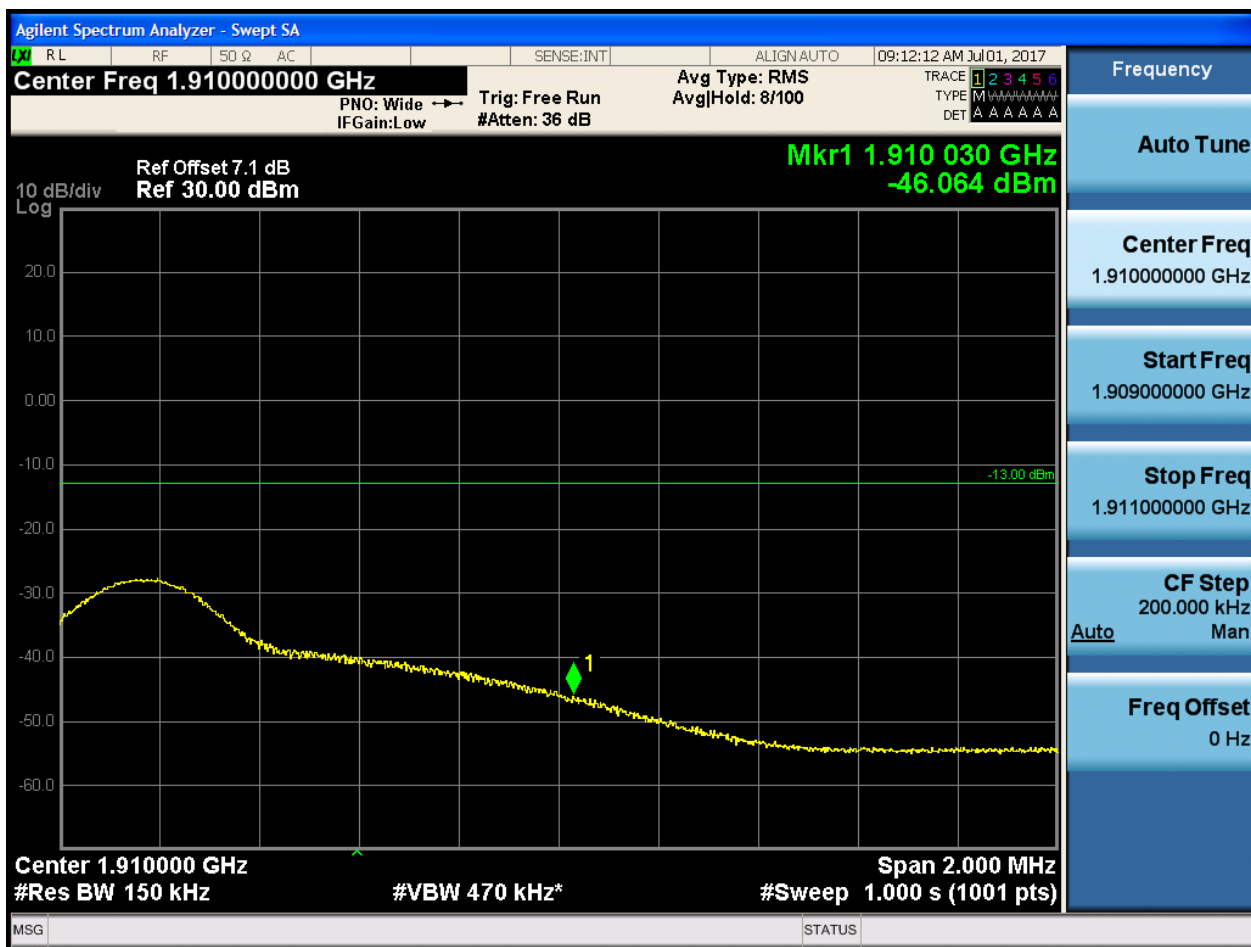
Freq Offset
0 Hz

MSG STATUS



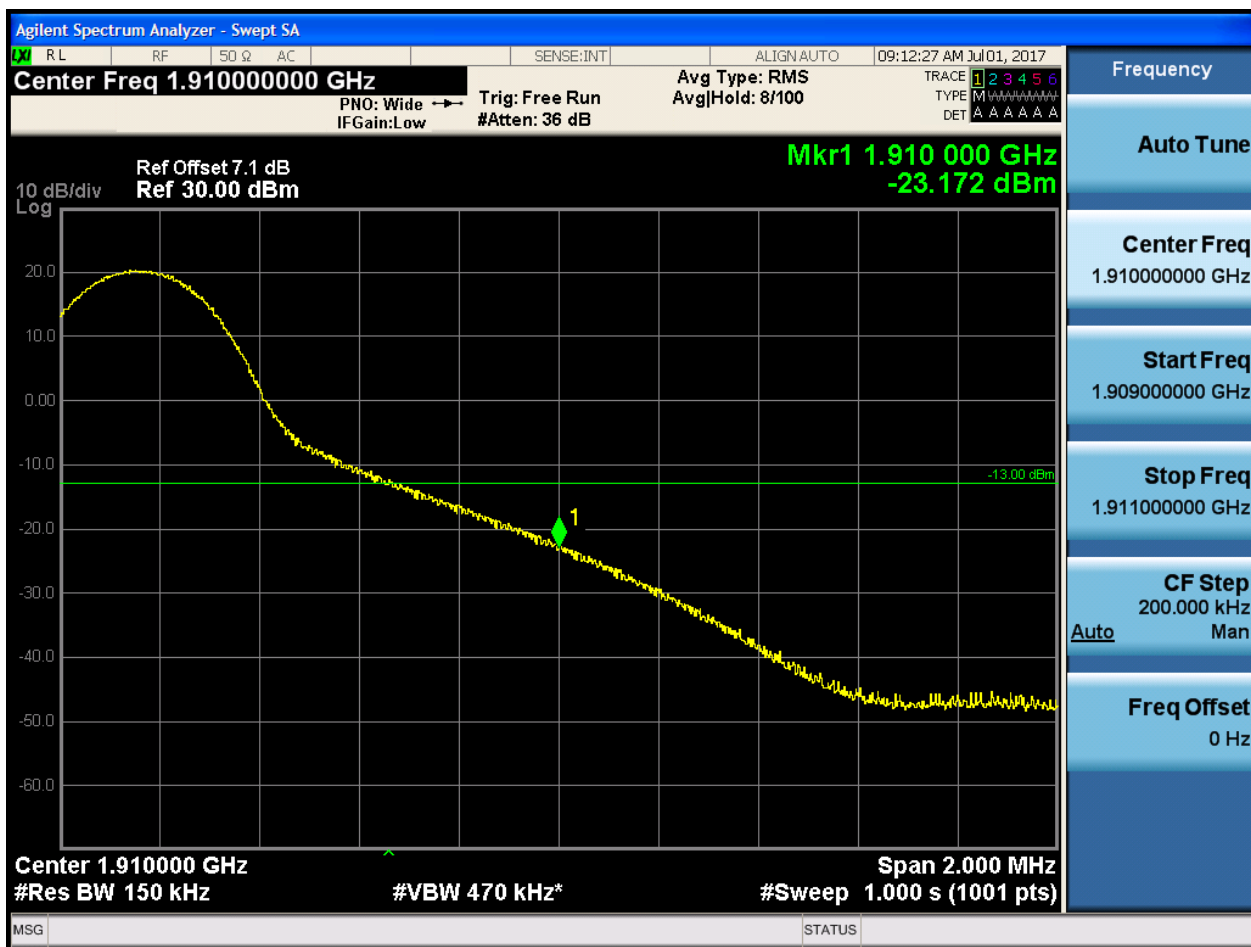
5.1.1.2.5.2 Test Channel = HCH

5.1.1.2.5.2.1 Test RB = RB1#0





5.1.1.2.5.2.2 Test RB = RB1#74





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 09:12:41 AM Jul 01, 2017

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 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.910 020 GHz
-36.294 dBm

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

MSG STATUS

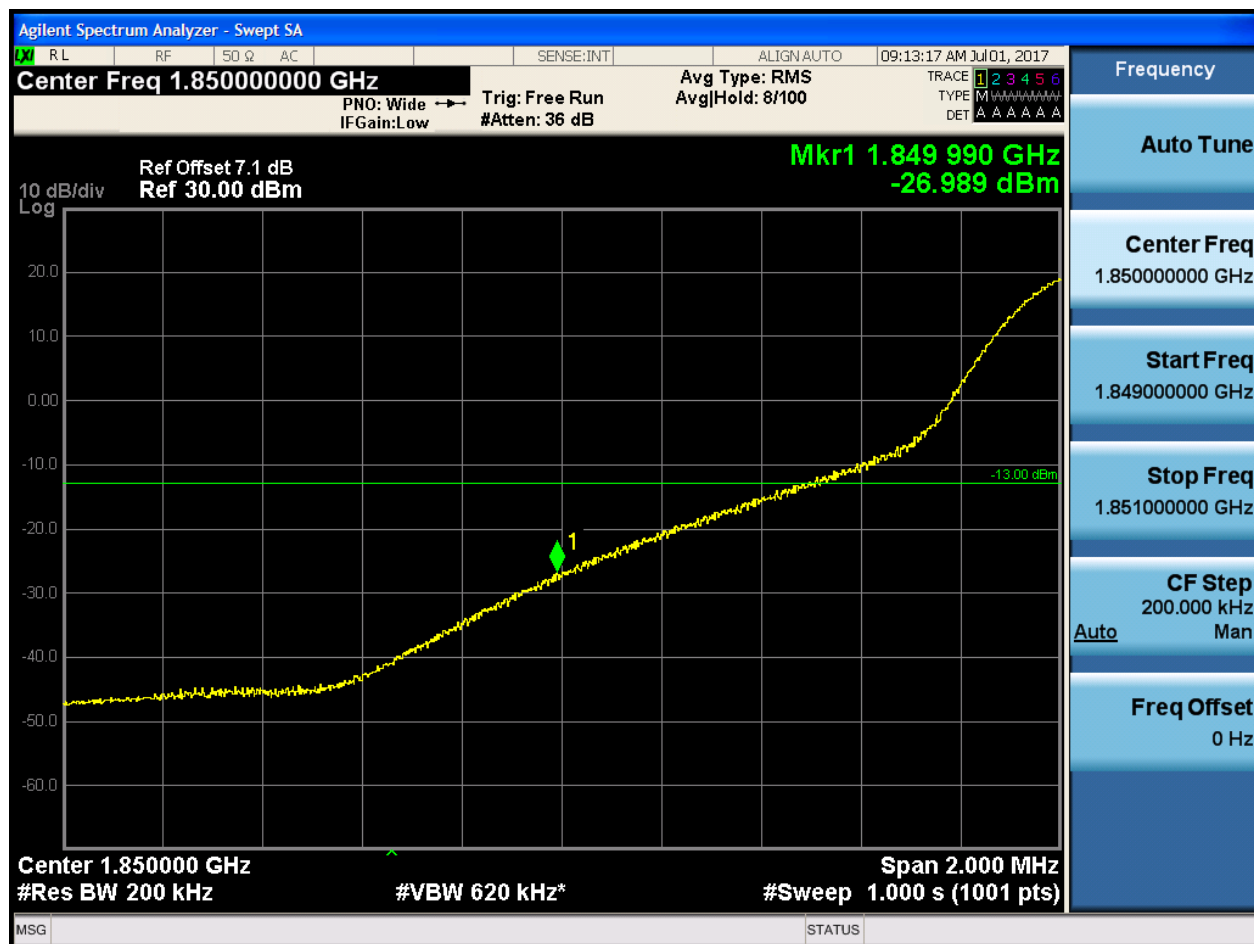
5.1.1.2.5.2.4 Test RB = RB75#0



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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:13:45 AM Jul 01, 2017

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
DET A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.850 000 GHz
-34.552 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 09:14:00 AM Jul 01, 2017

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
-35.868 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

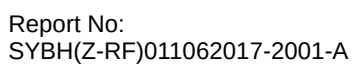
Stop Freq
1.851000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



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 09:14:48 AM Jul 01, 2017

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 7.1 dB
Ref 30.00 dBm

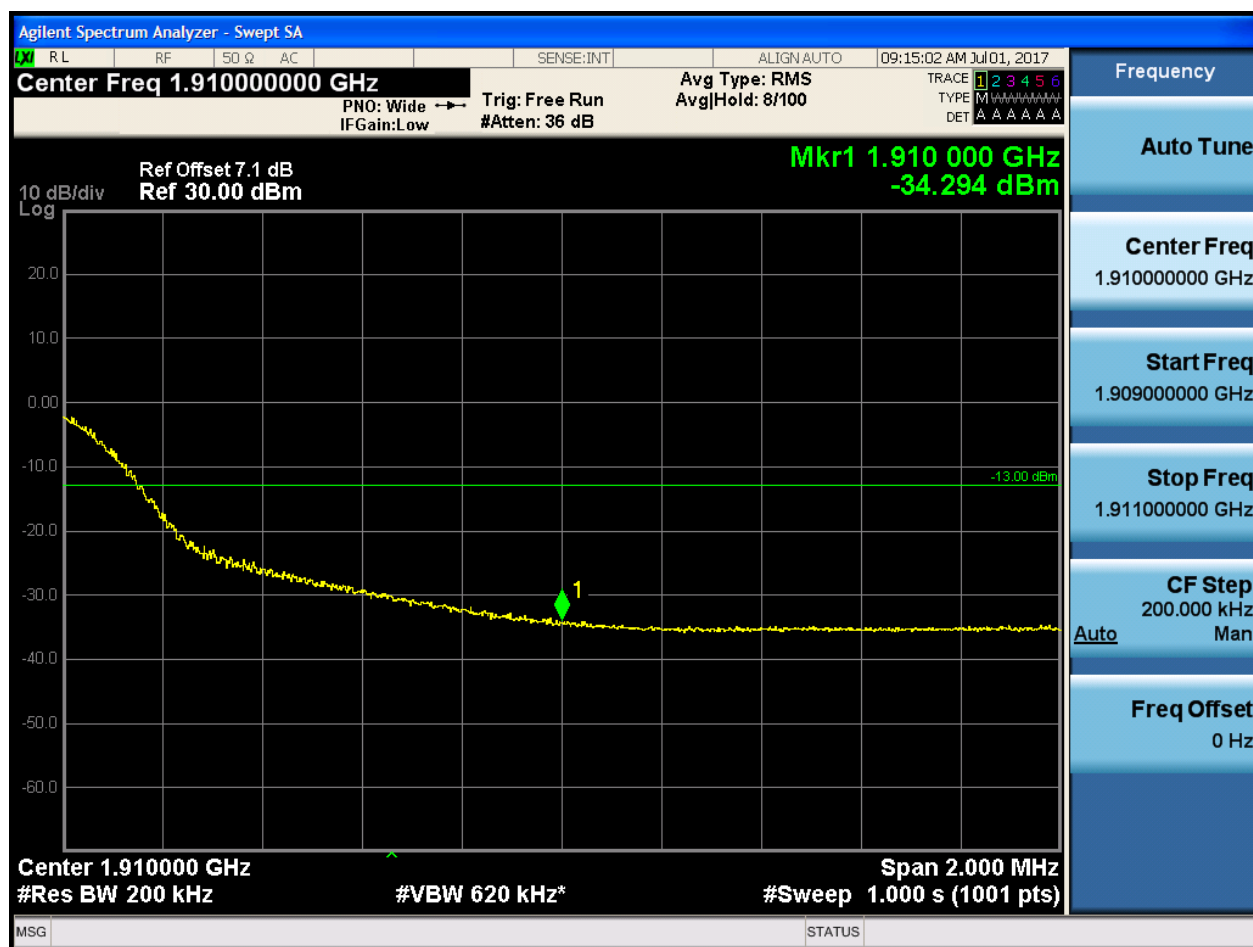
Mkr1 1.910 010 GHz
-34.501 dBm

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

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

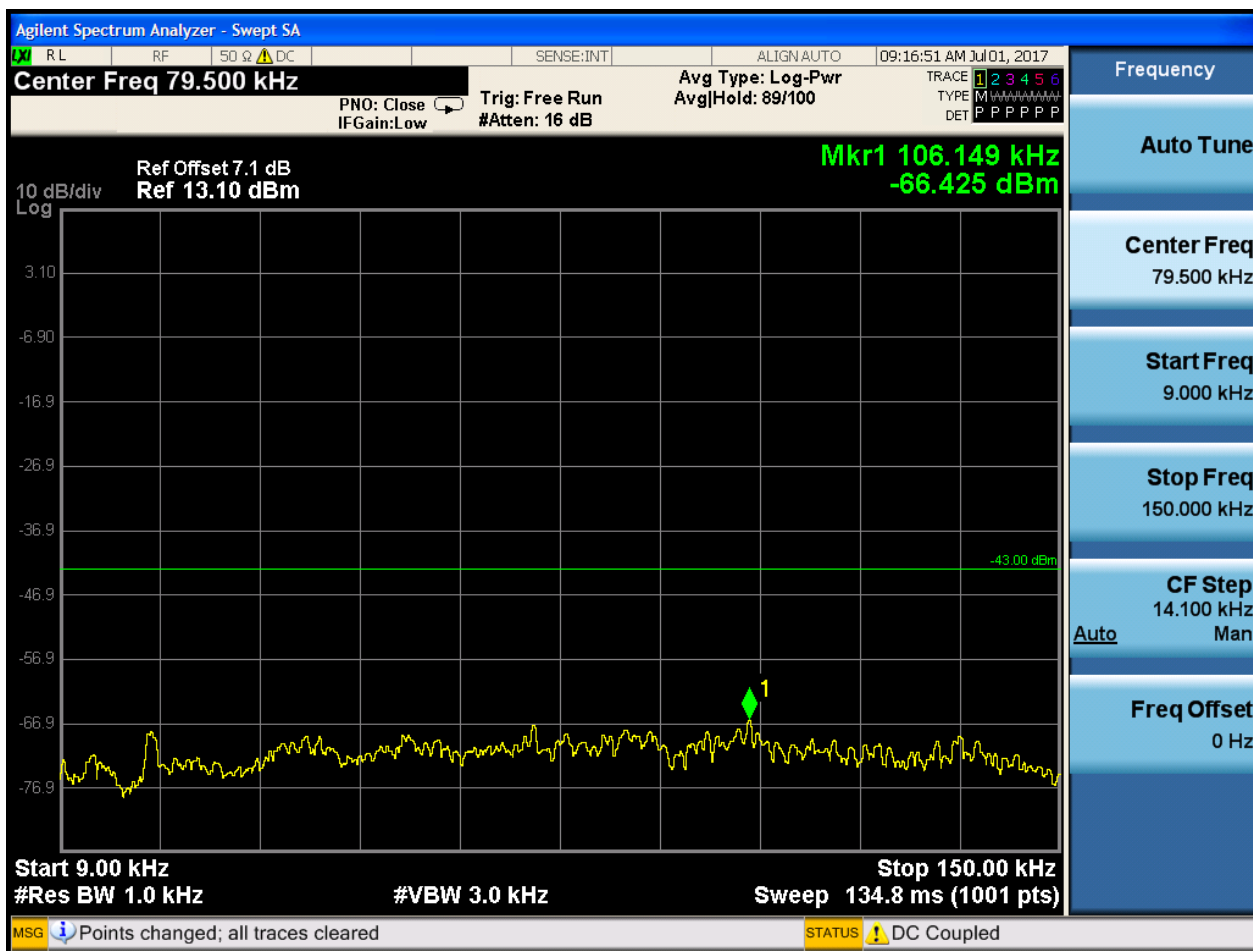
6.1.1 Test Band = BAND2

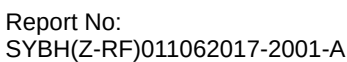
6.1.1.1 Test Mode = LTE/TM1

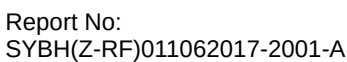
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

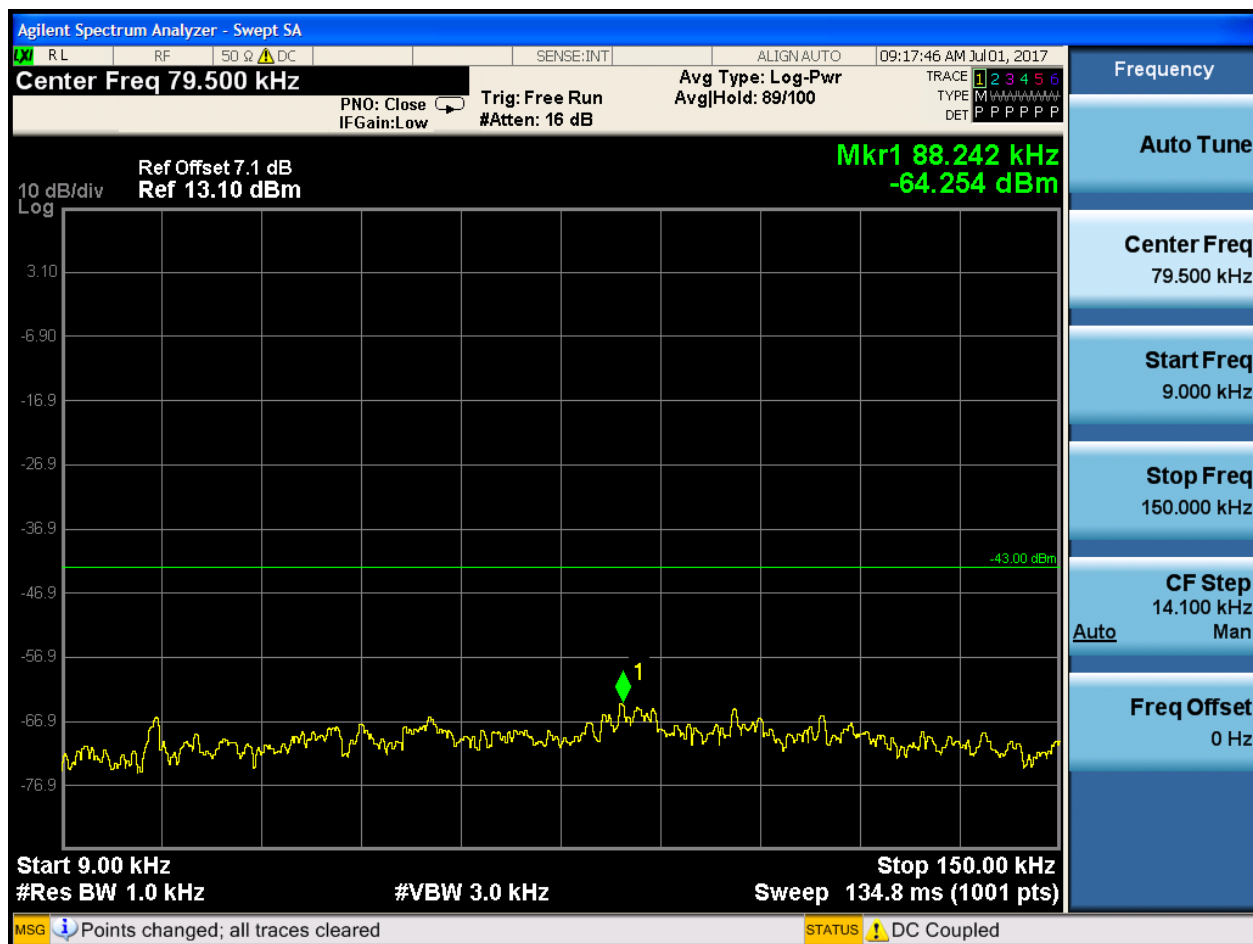


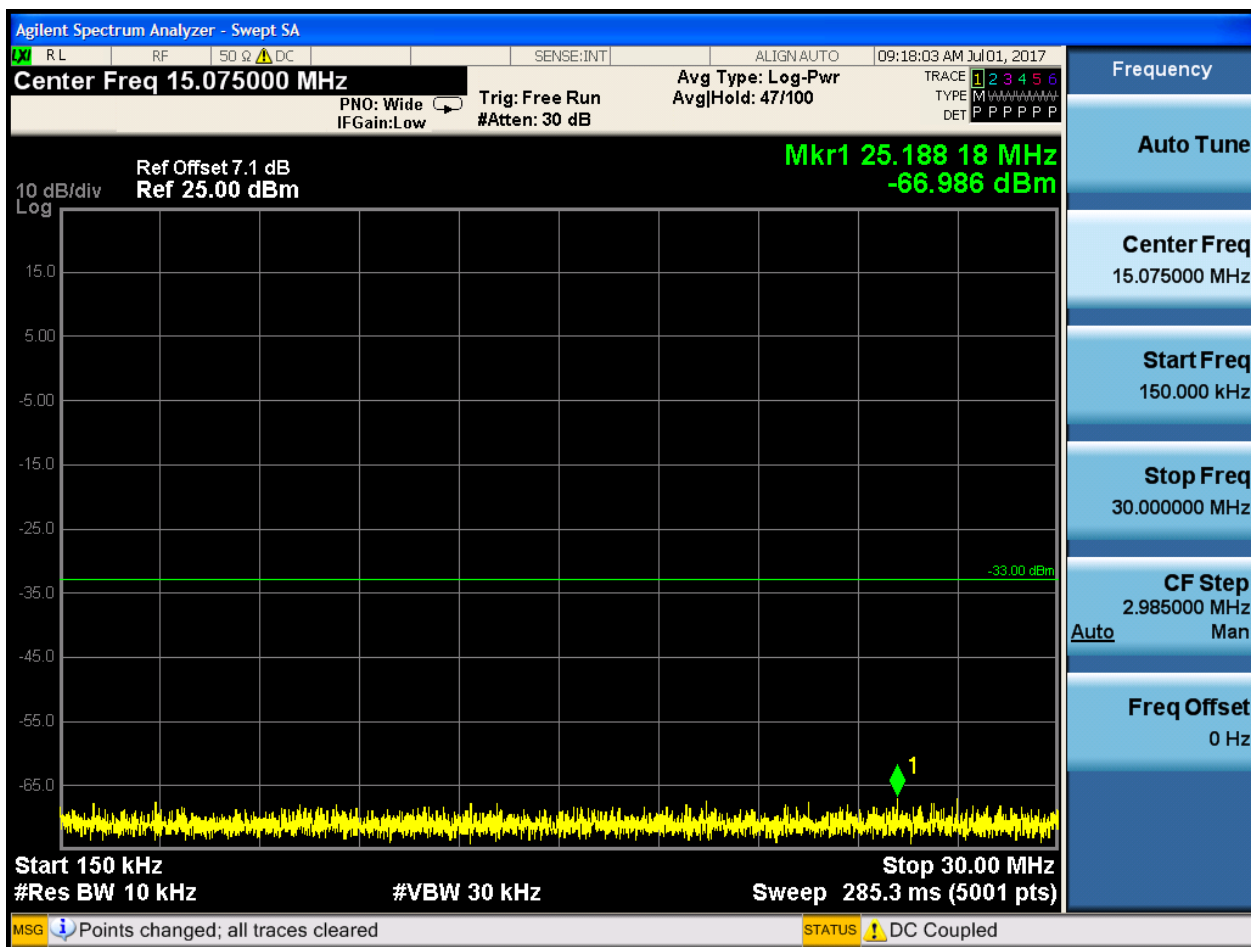


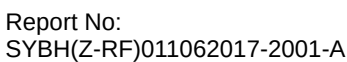


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

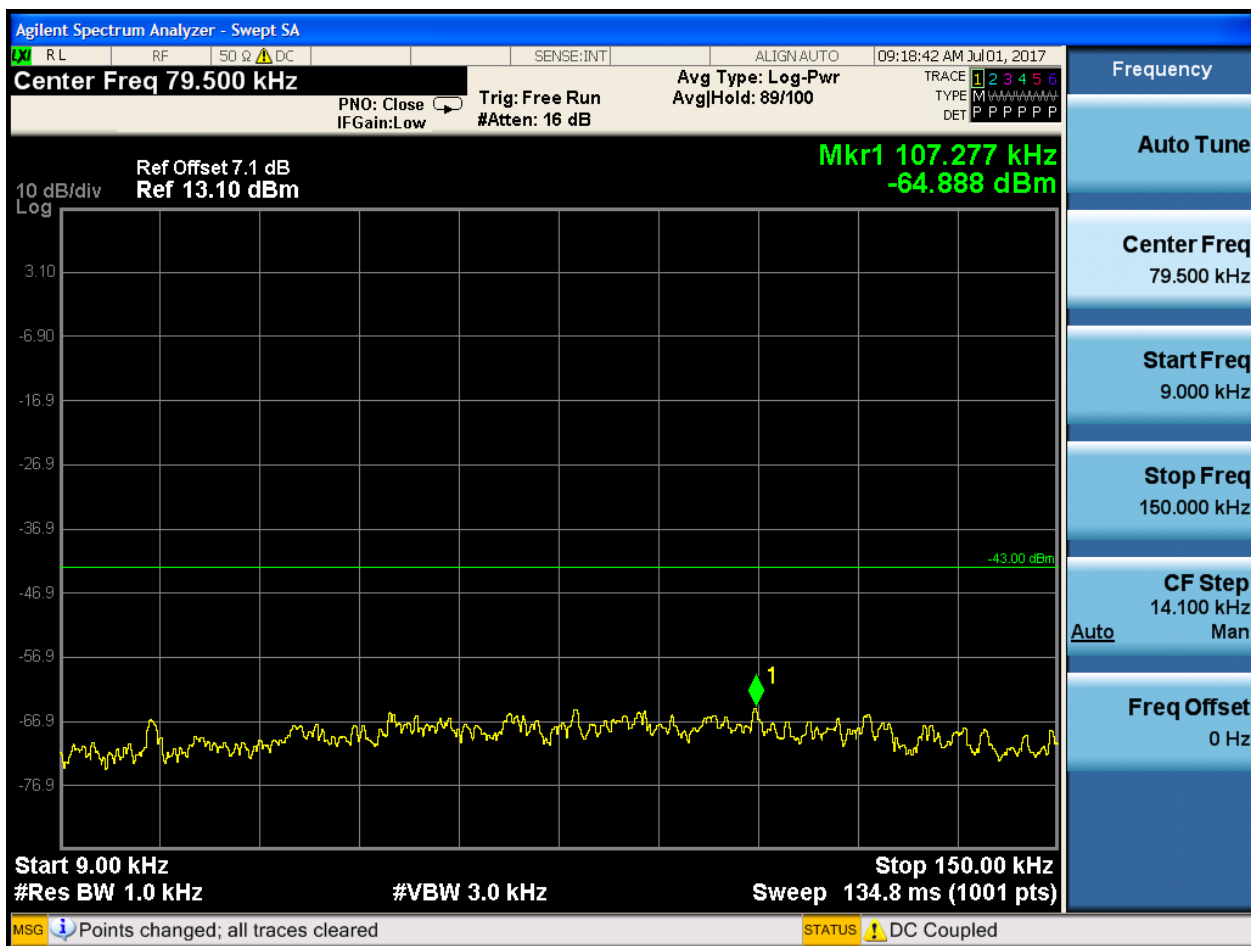


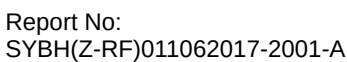


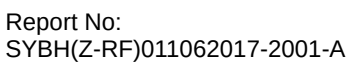


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



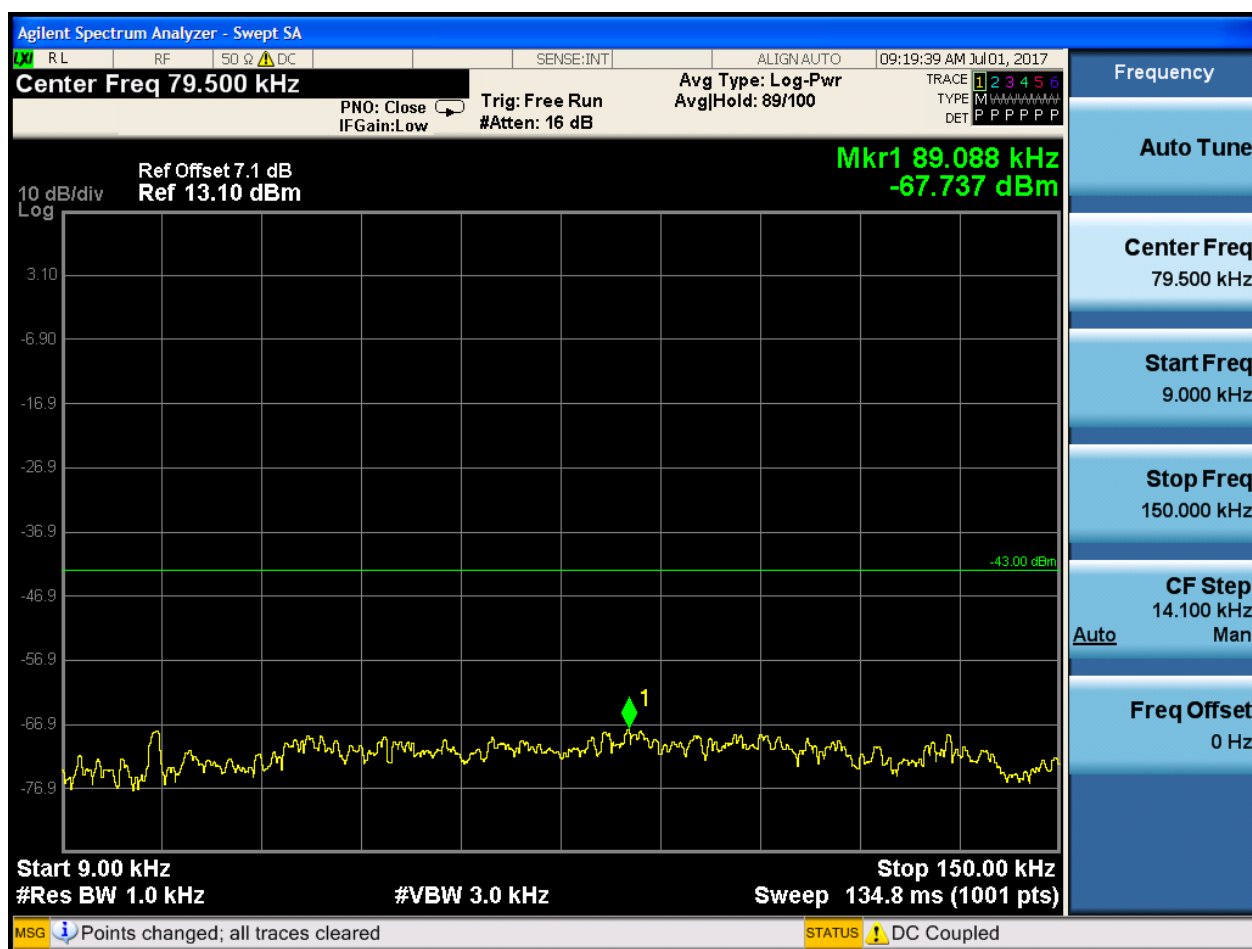


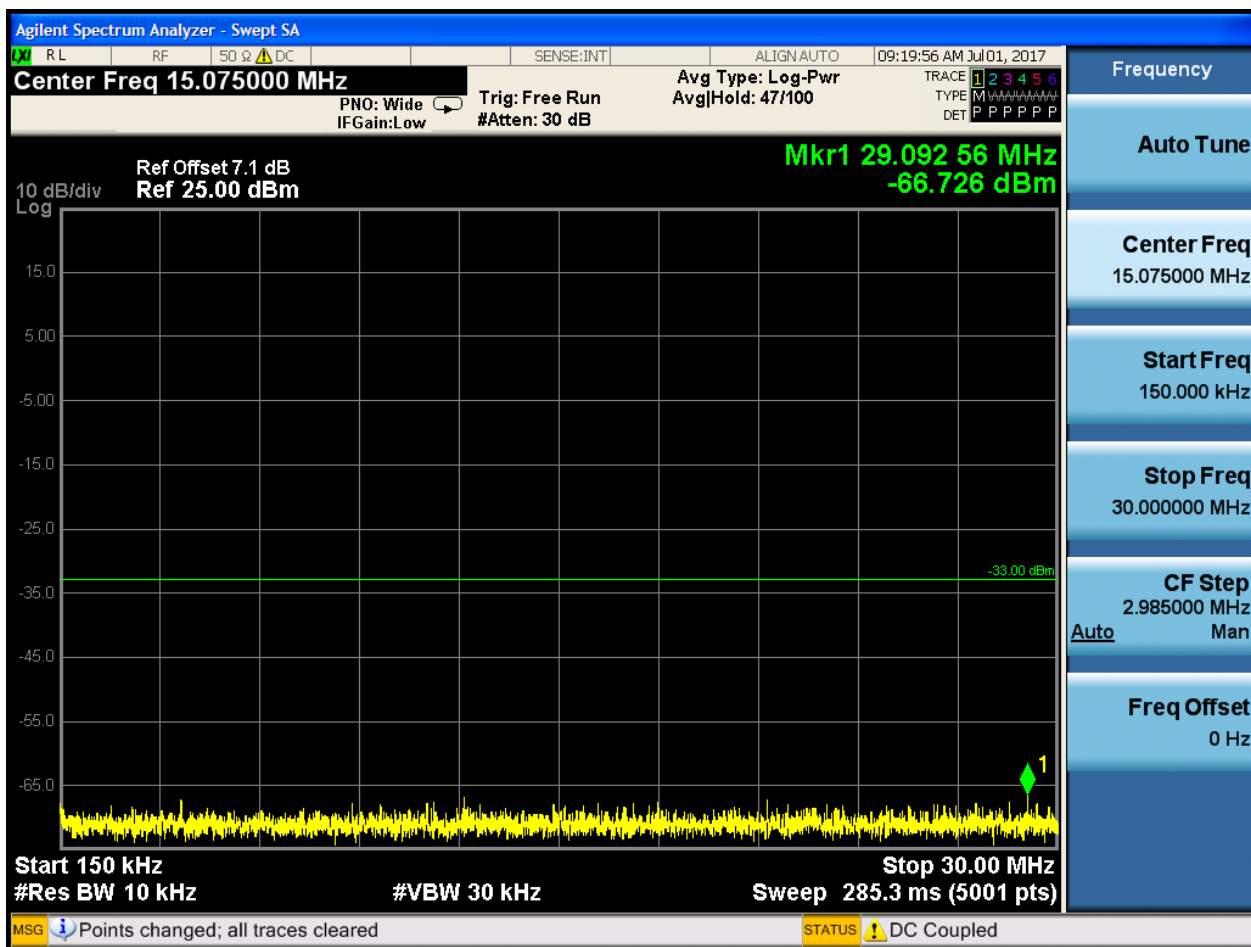


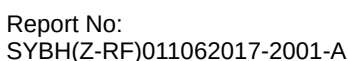
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

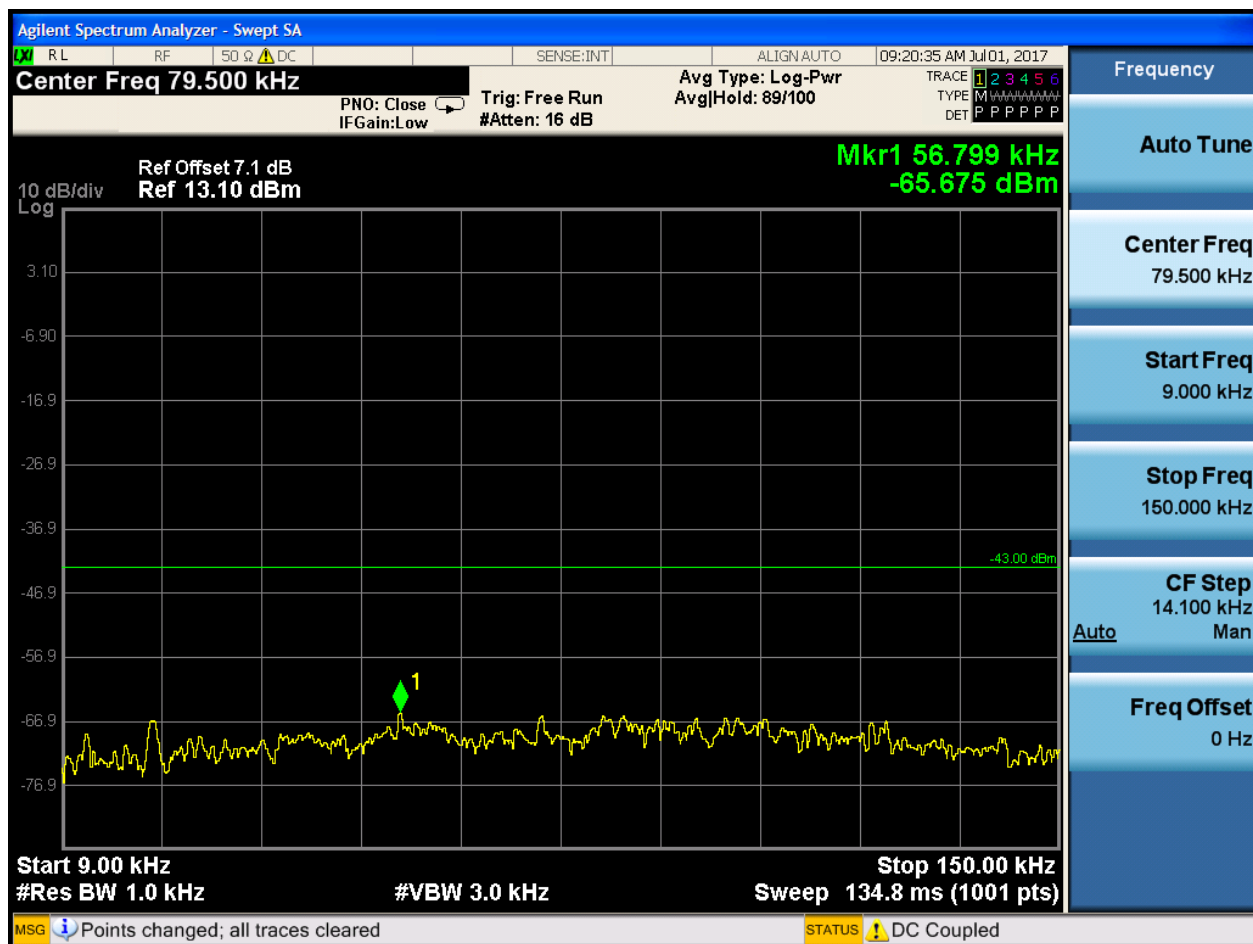


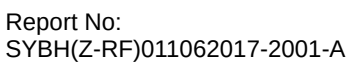


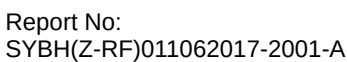


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



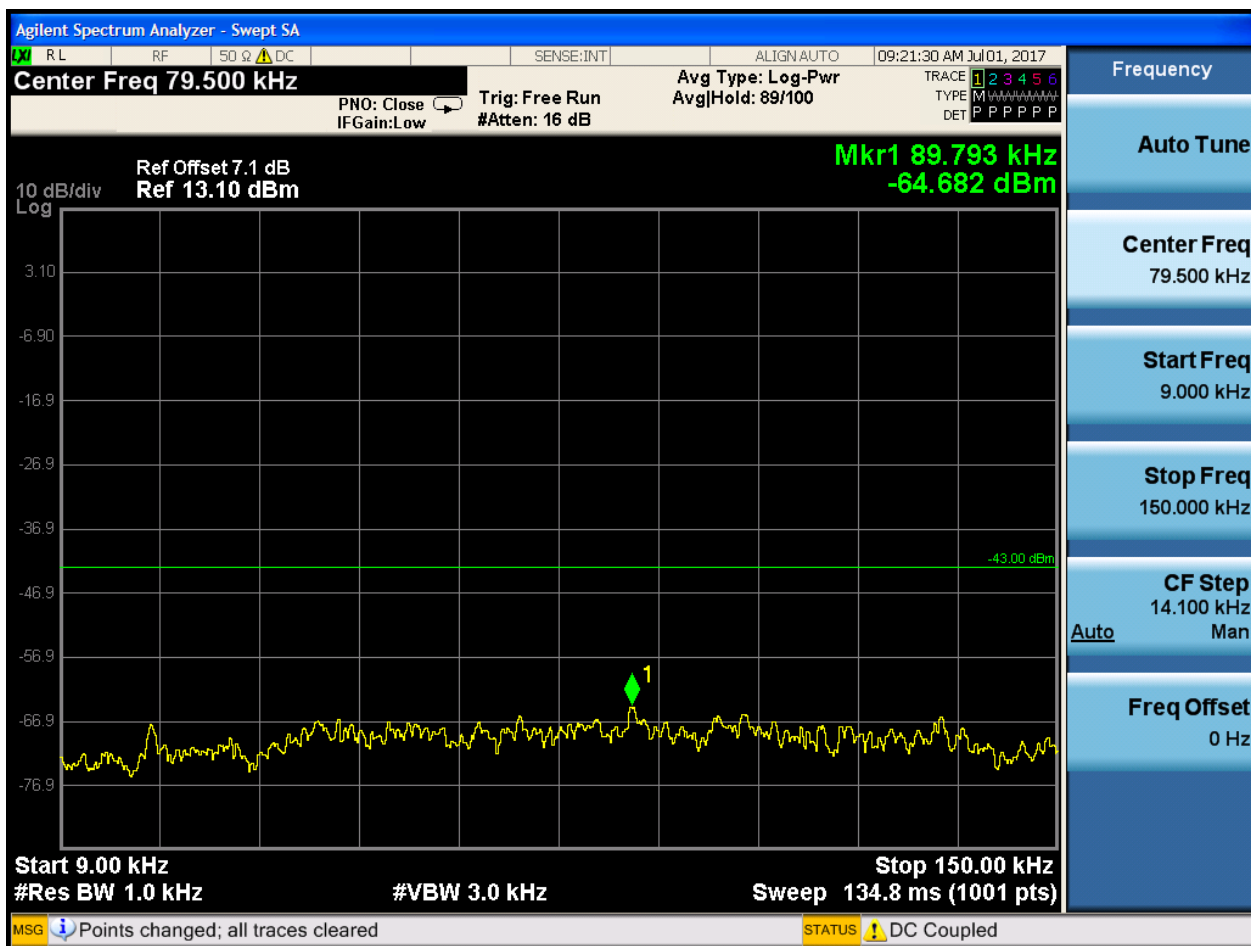


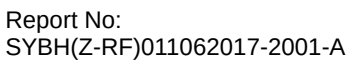


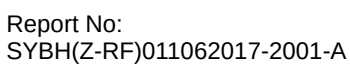


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



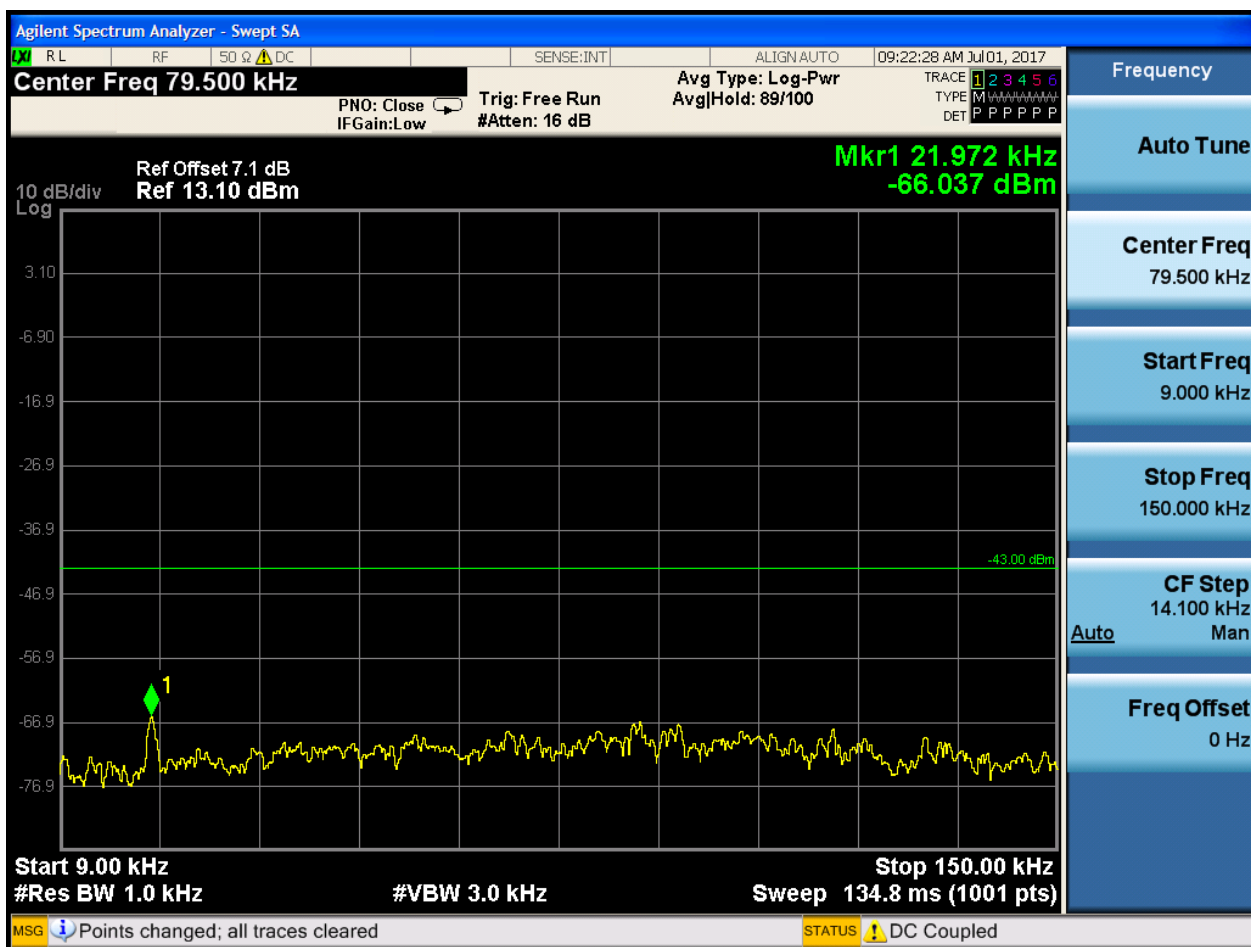


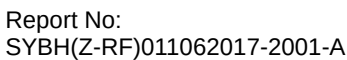


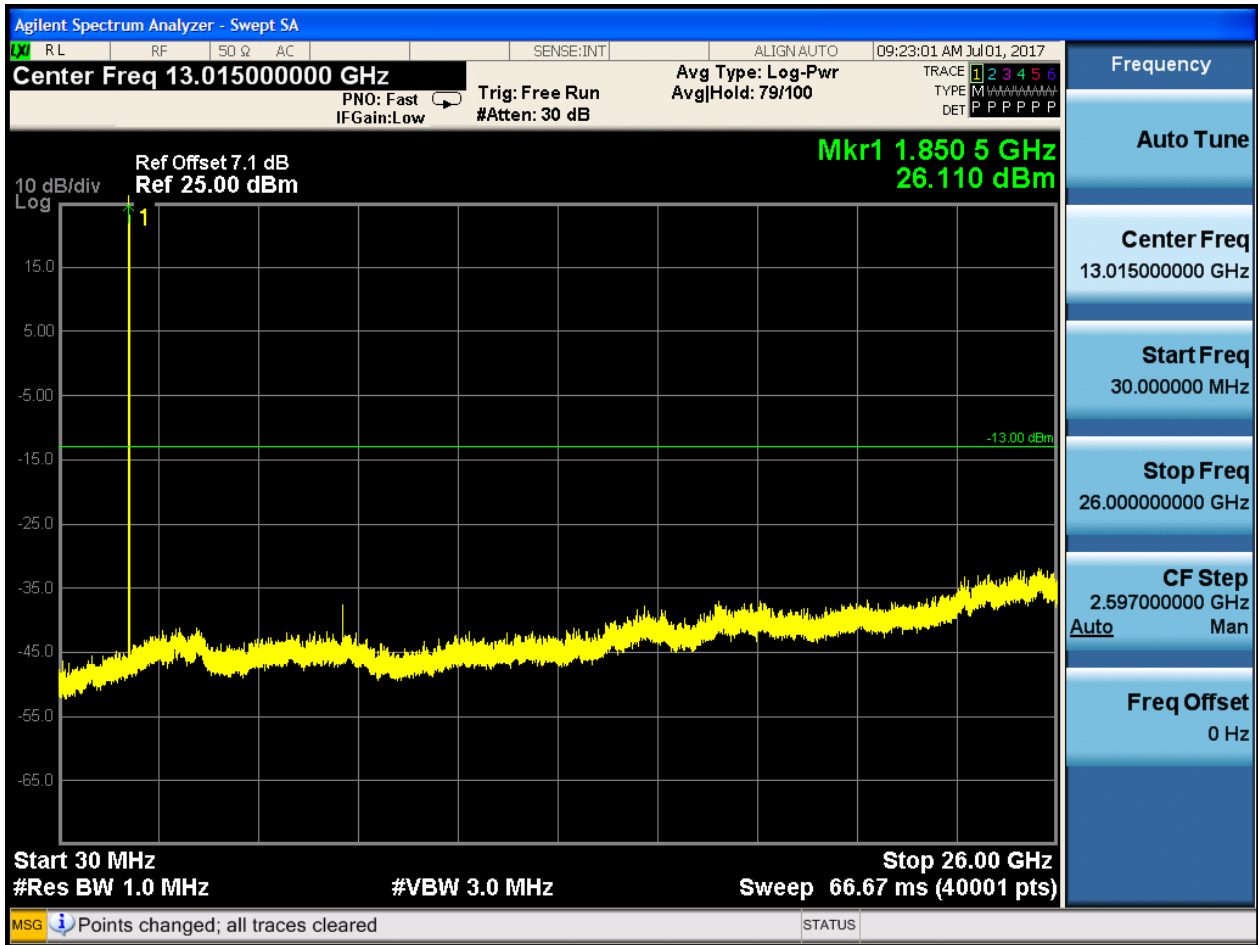
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0

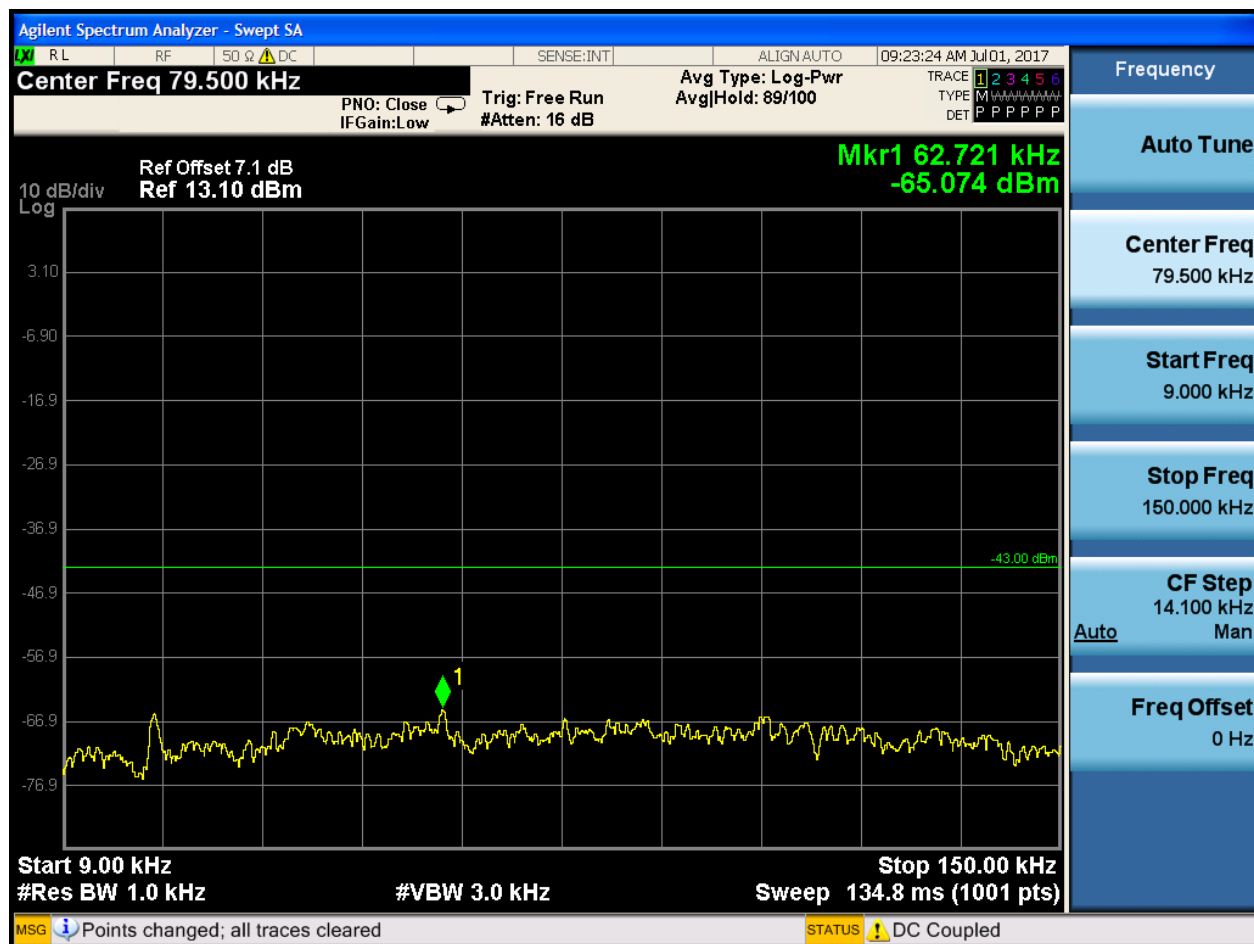


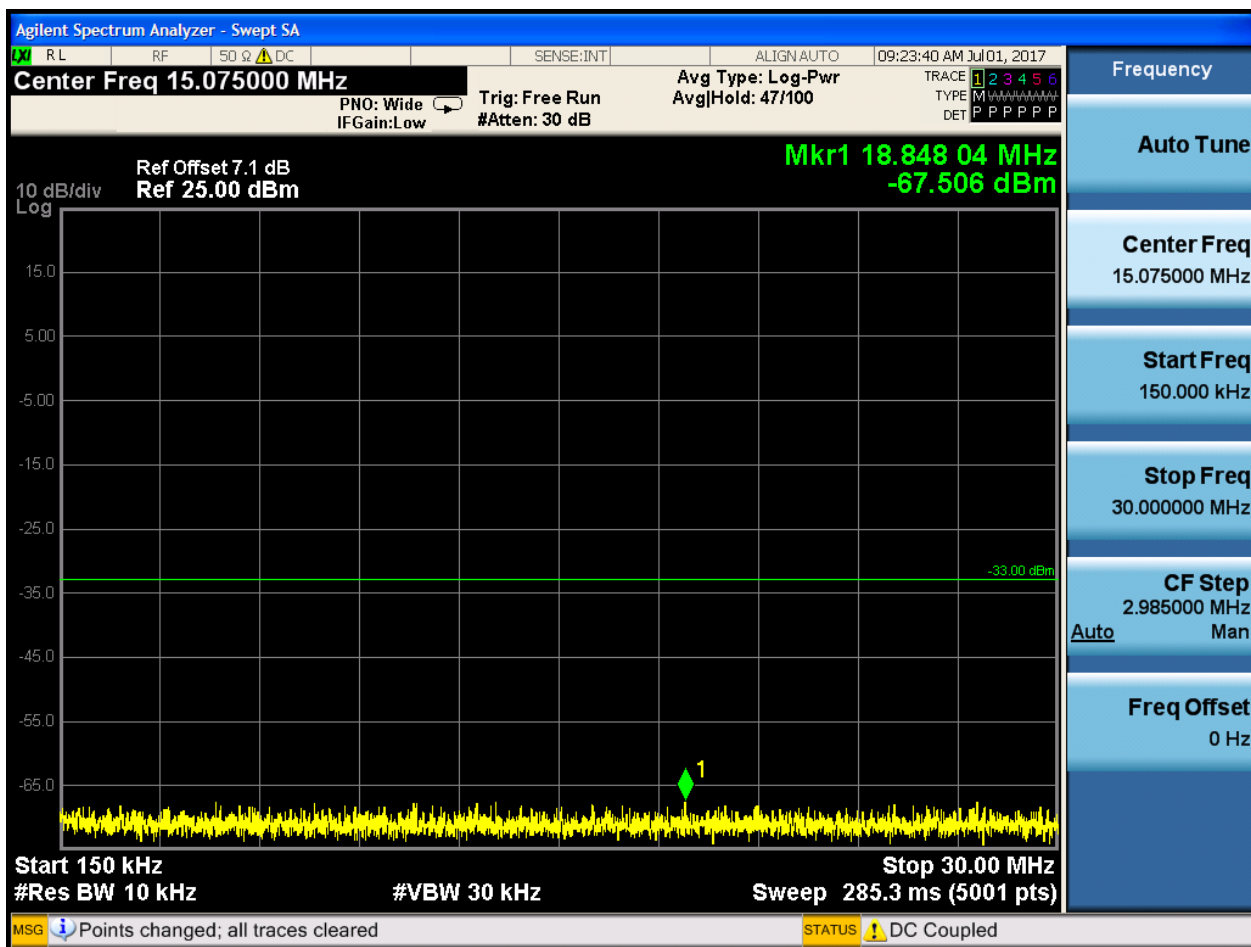


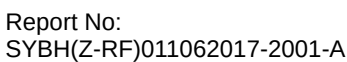


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

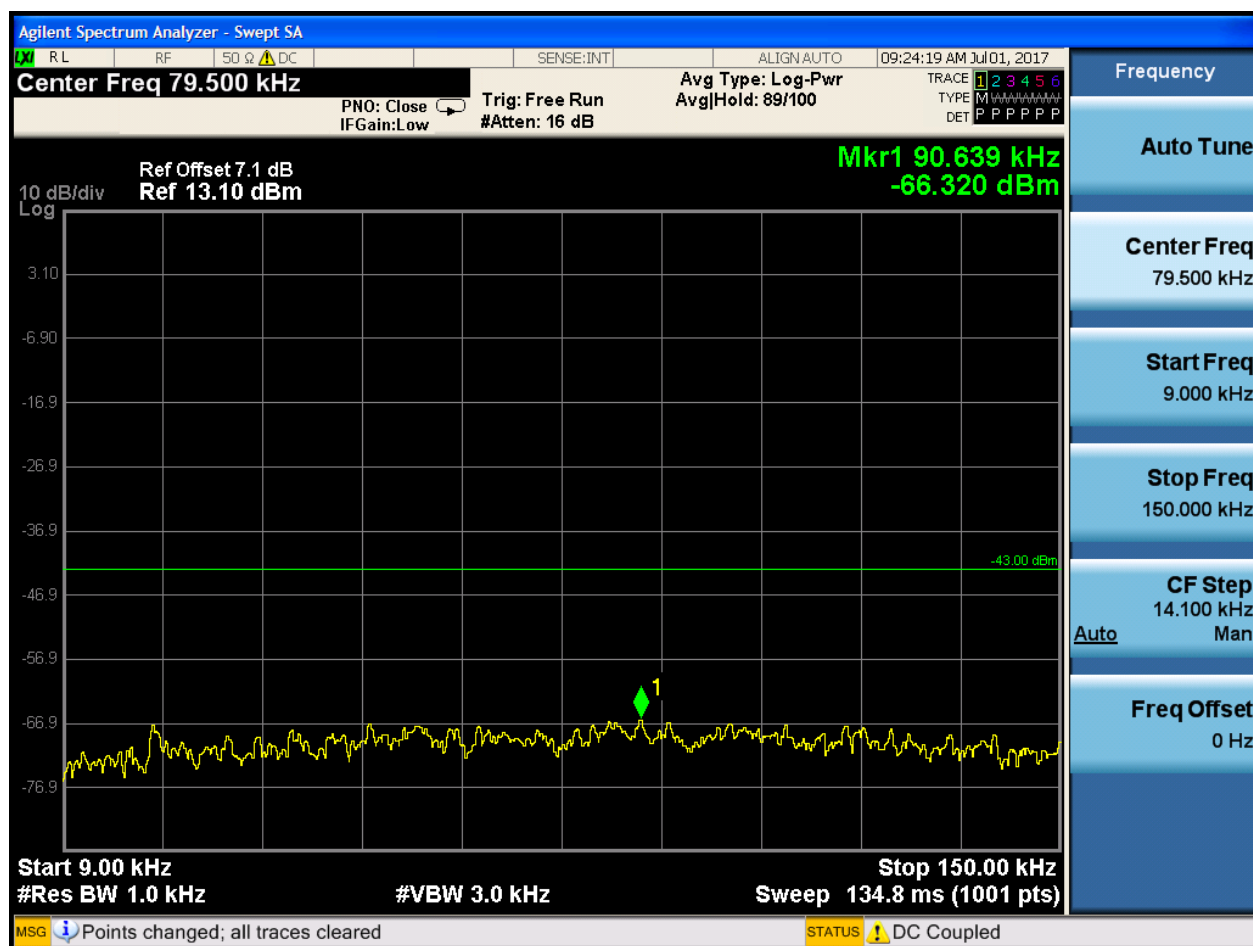


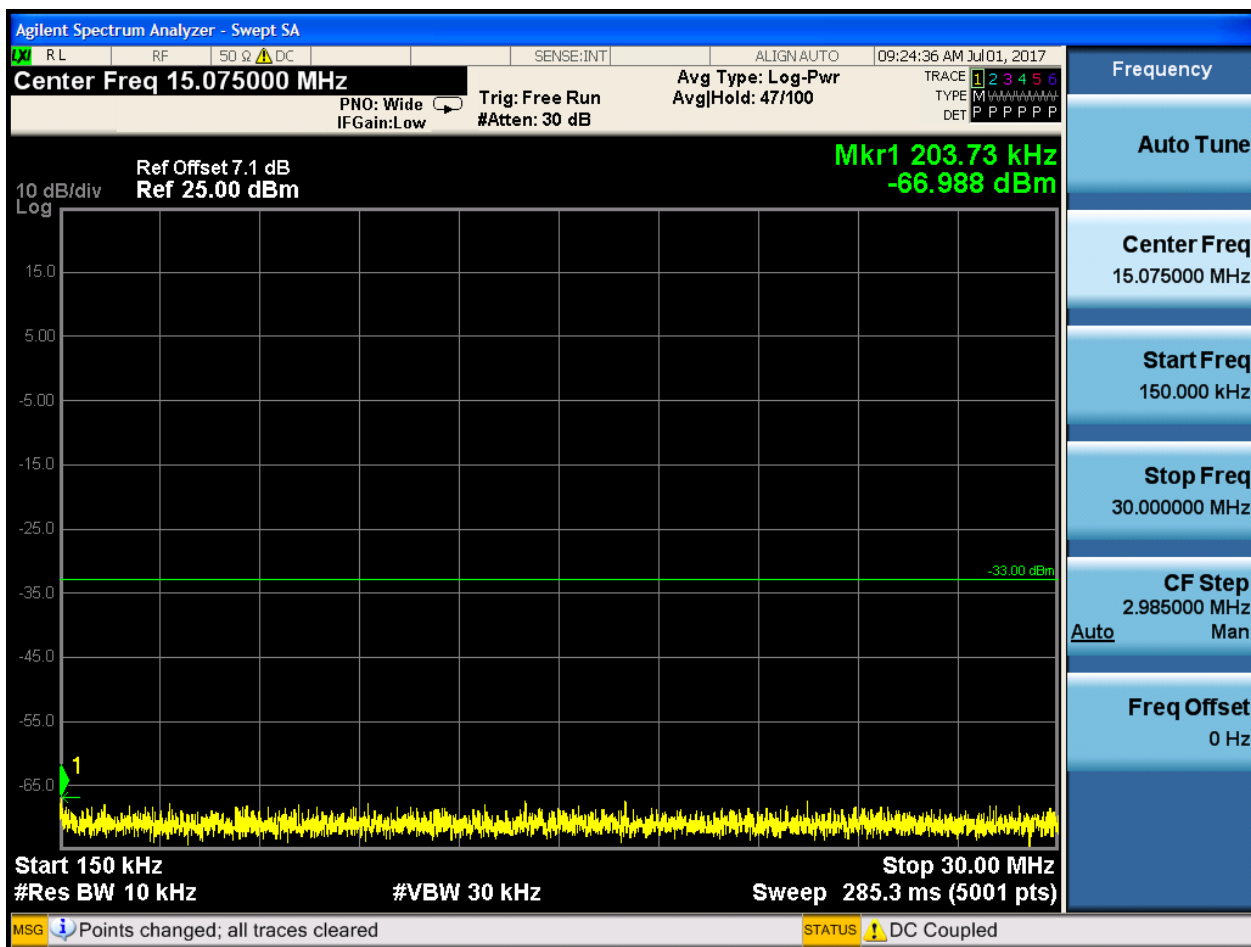


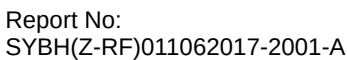


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0



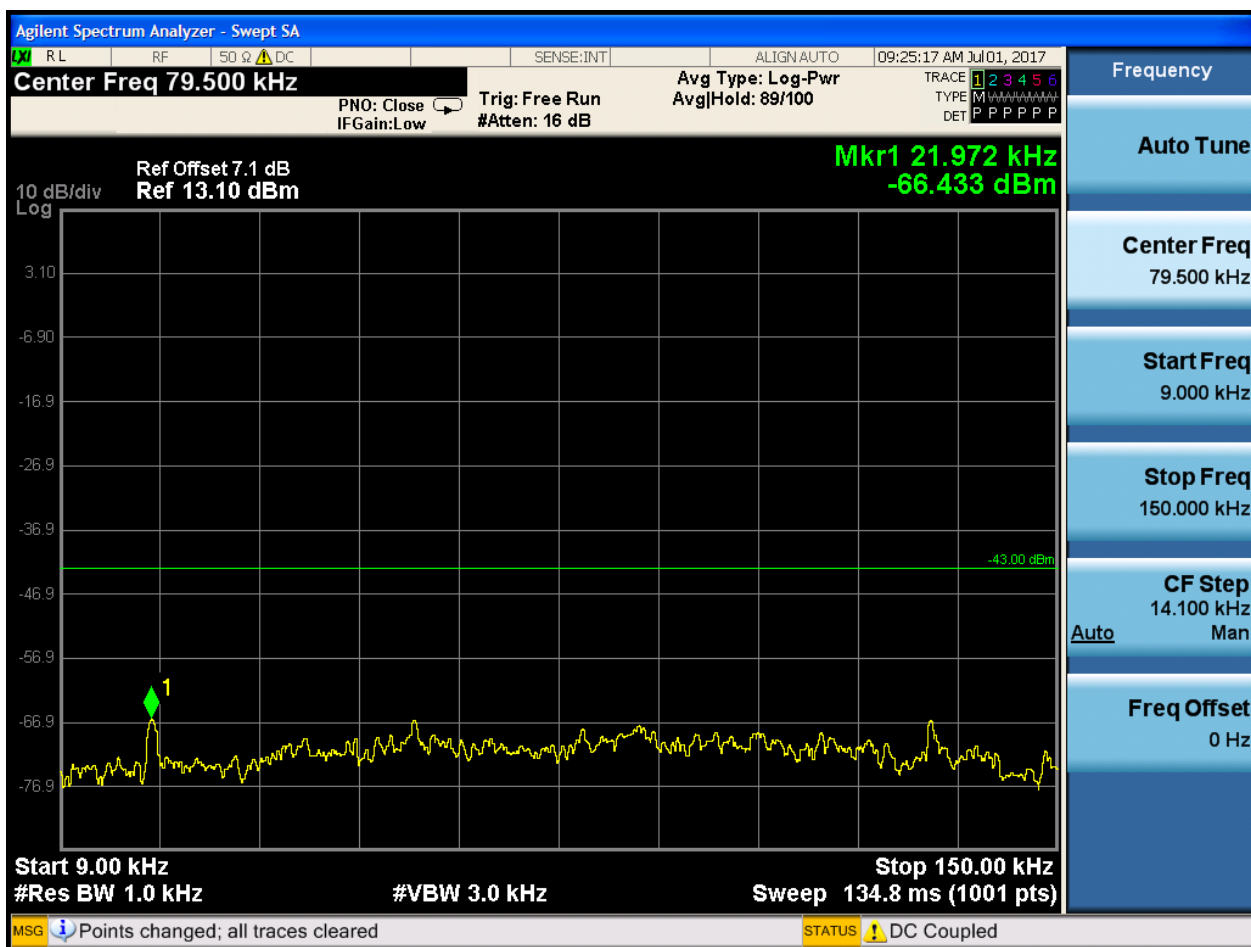


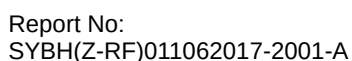


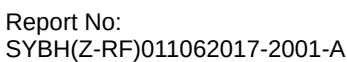
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0

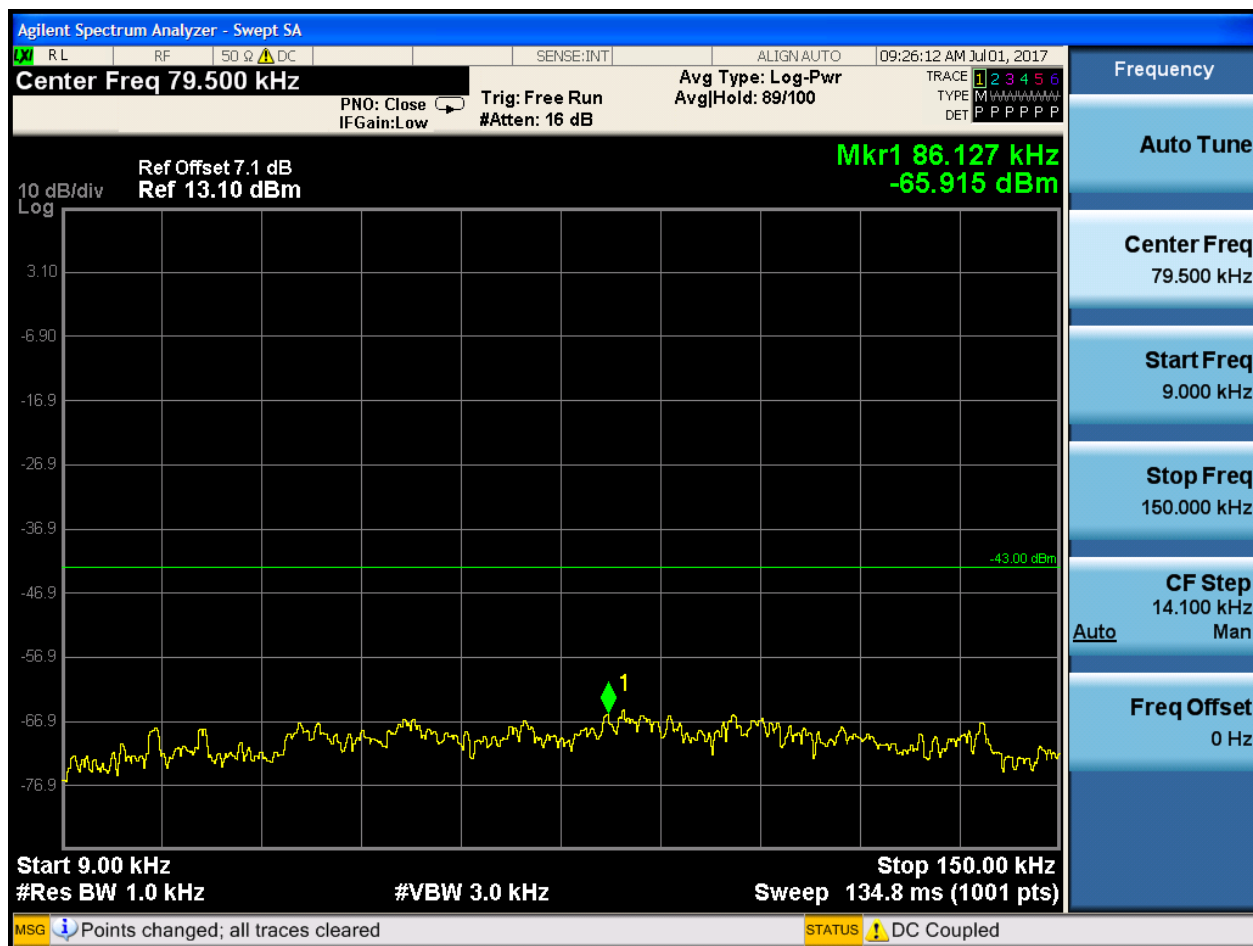


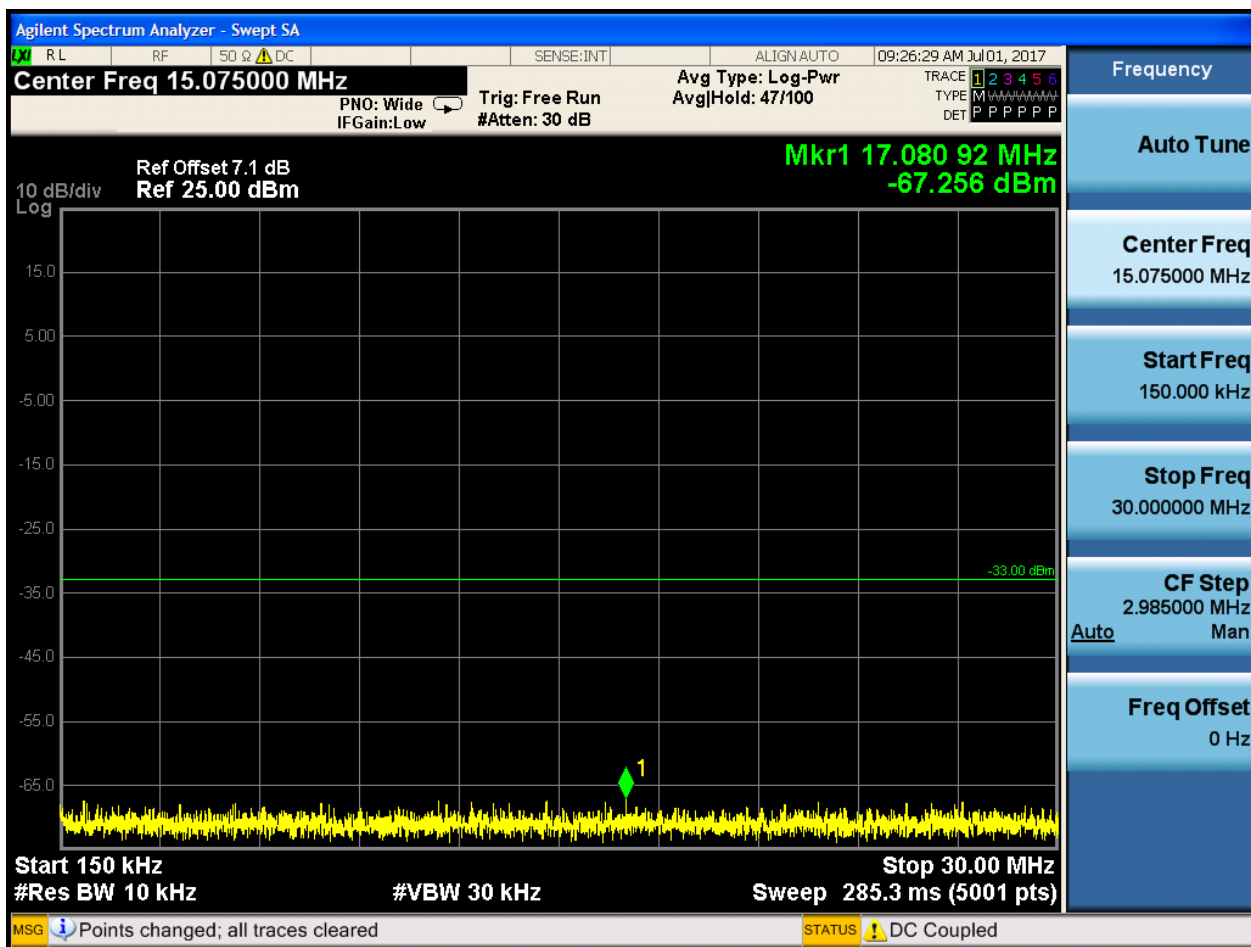


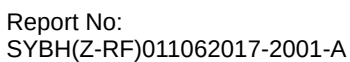


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0

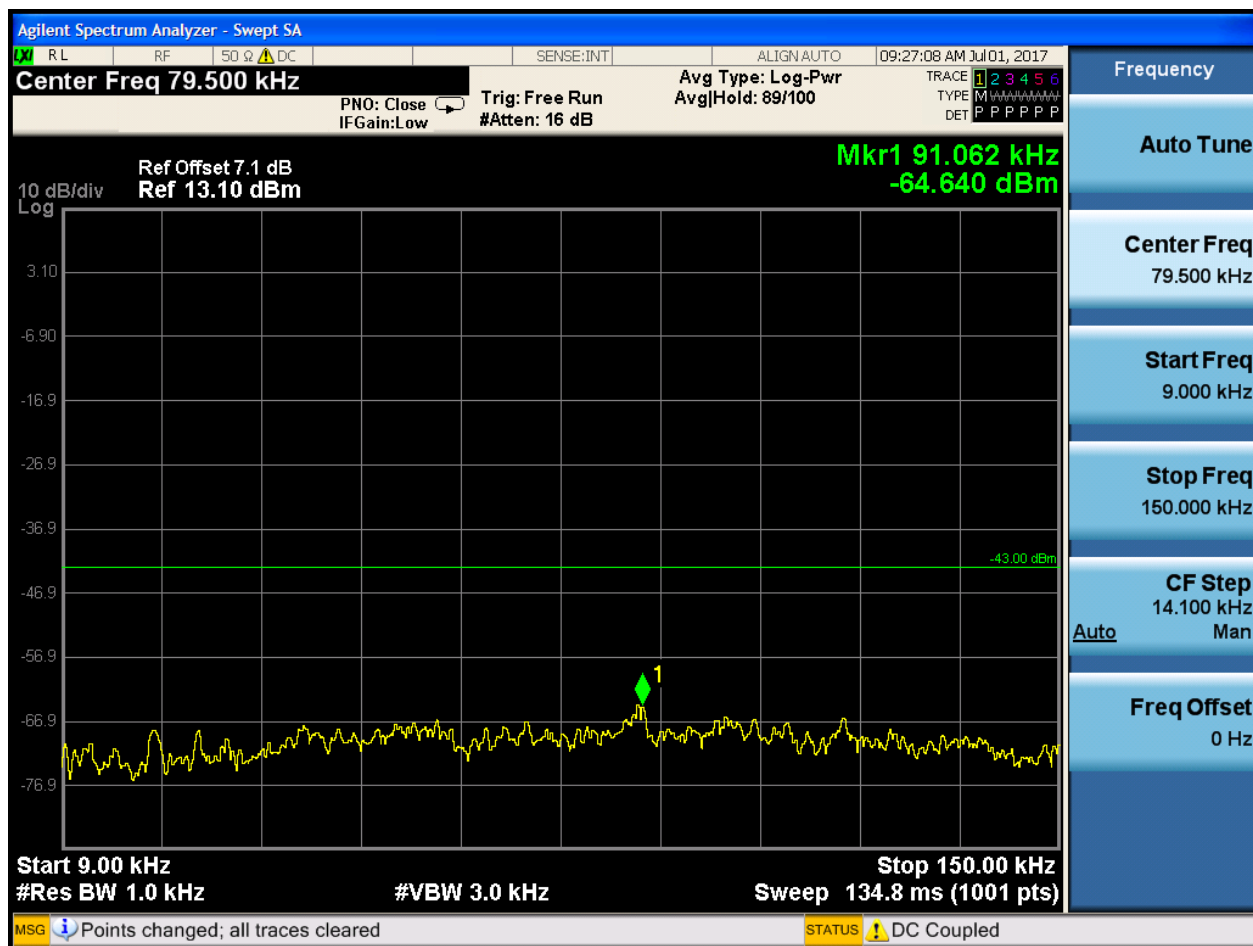


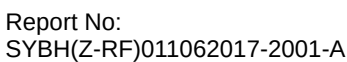


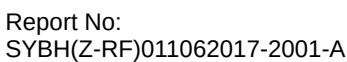


6.1.1.1.4.3 Test Channel = HCH

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

