



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:12:34 PM Nov 05, 2016

Center Freq 1.710000000 GHz Avg Type: RMS
PNO: Wide → Trig: 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-32.881 dBm

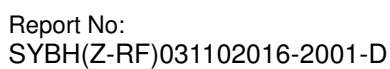
10 dB/div
Log

Center 1.710000 GHz
#Res BW 15 kHz #VBW 43 kHz* Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

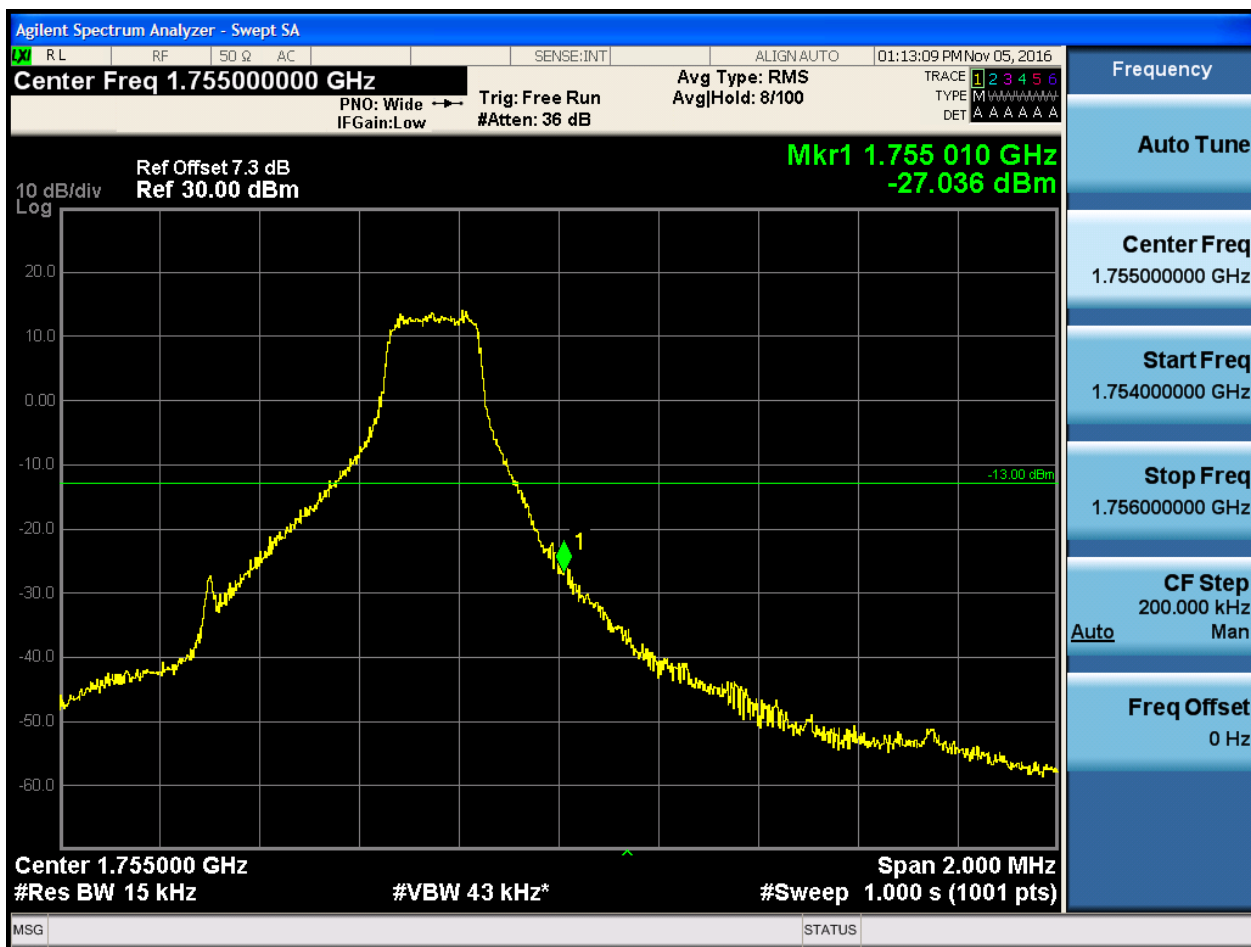


5.1.1.2.1.2.1 Test RB = RB1#0





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

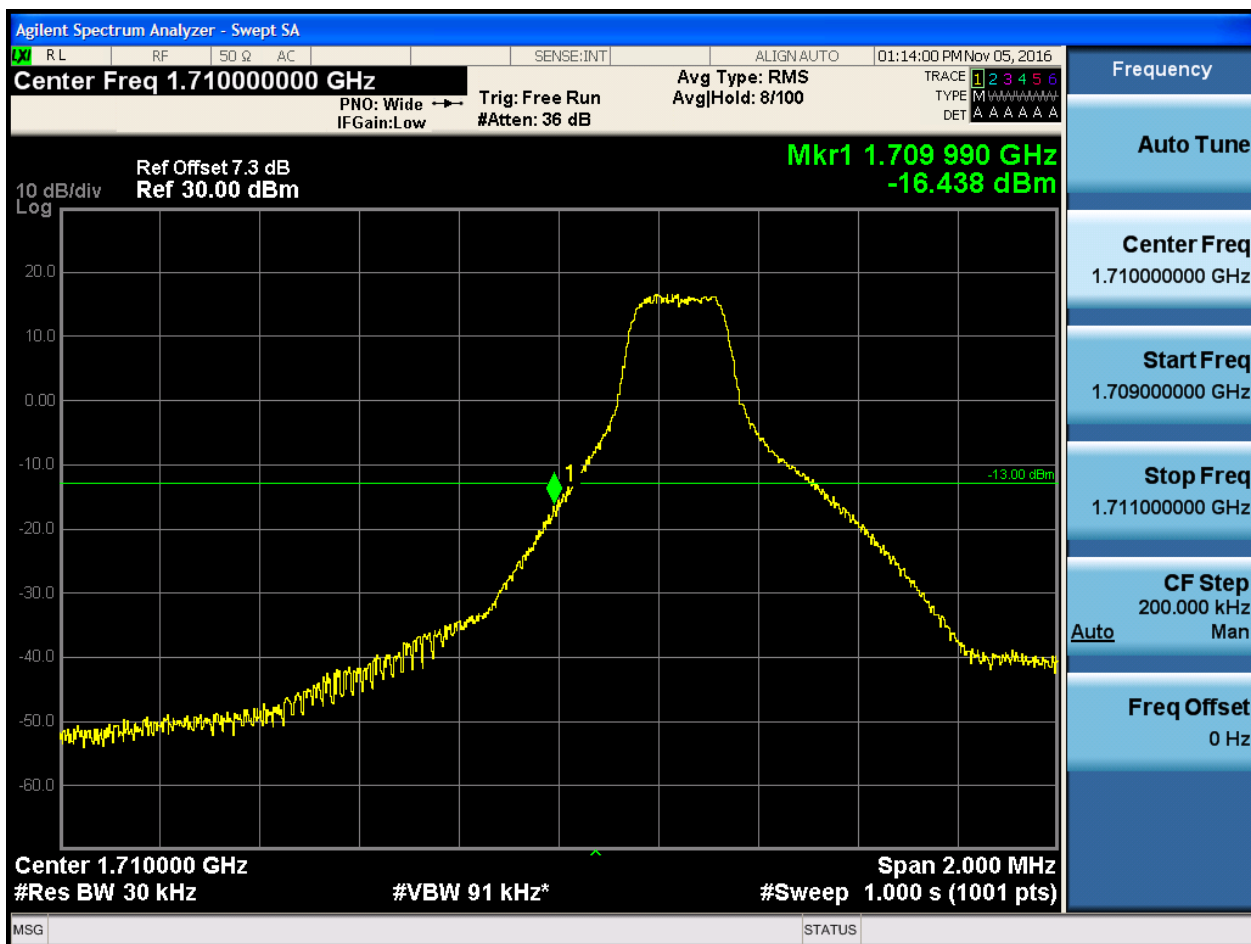




5.1.1.2.2 Test Bandwidth = 3

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:14:14 PM Nov 05, 2016

Center Freq 1.710000000 GHz Avg Type: RMS
PNO: Wide Trig: 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 1.709 970 GHz
-42.970 dBm

10 dB/div
Log

-13.00 dBm

Center 1.710000 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
1.710000000 GHz

Start Freq
1.709000000 GHz

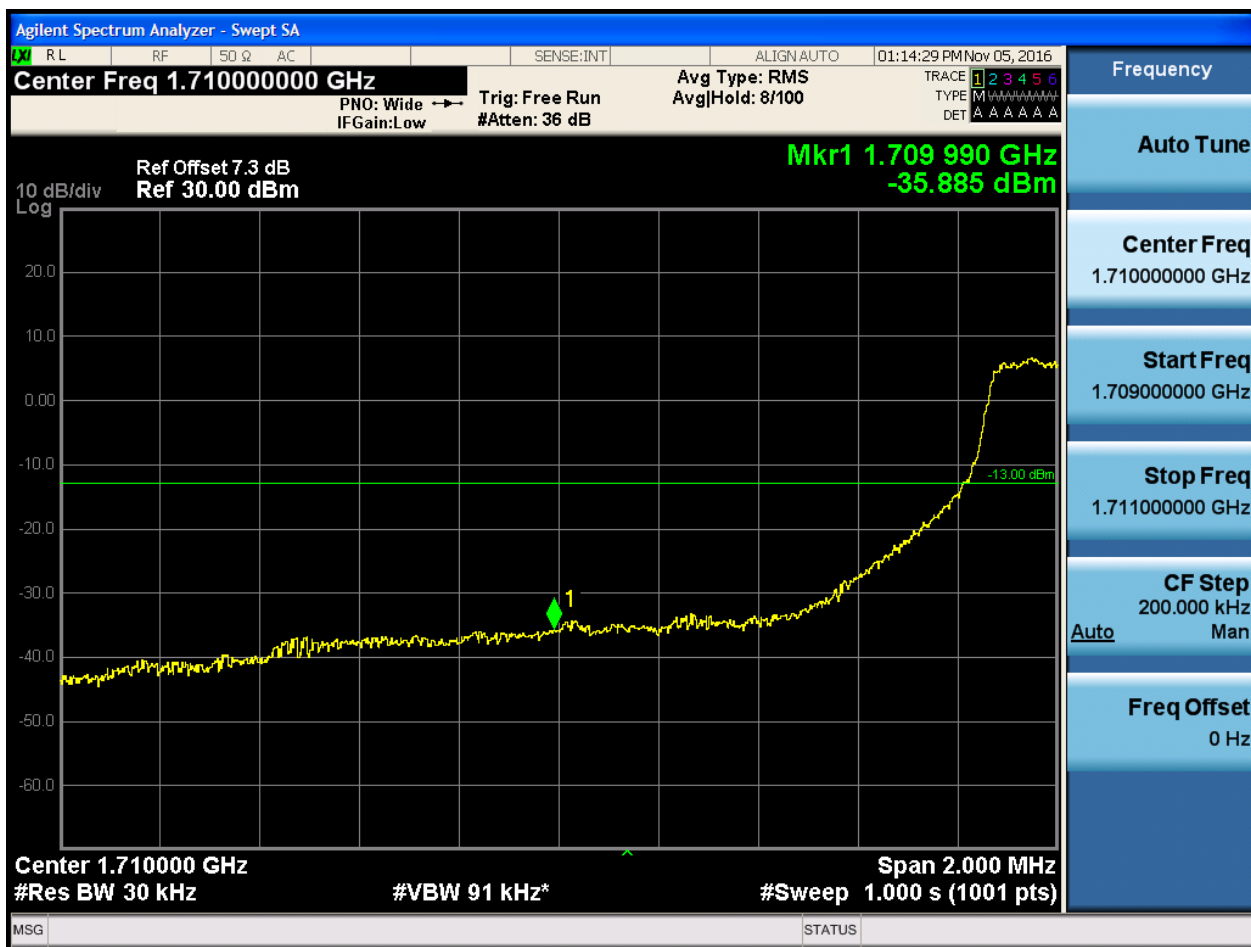
Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

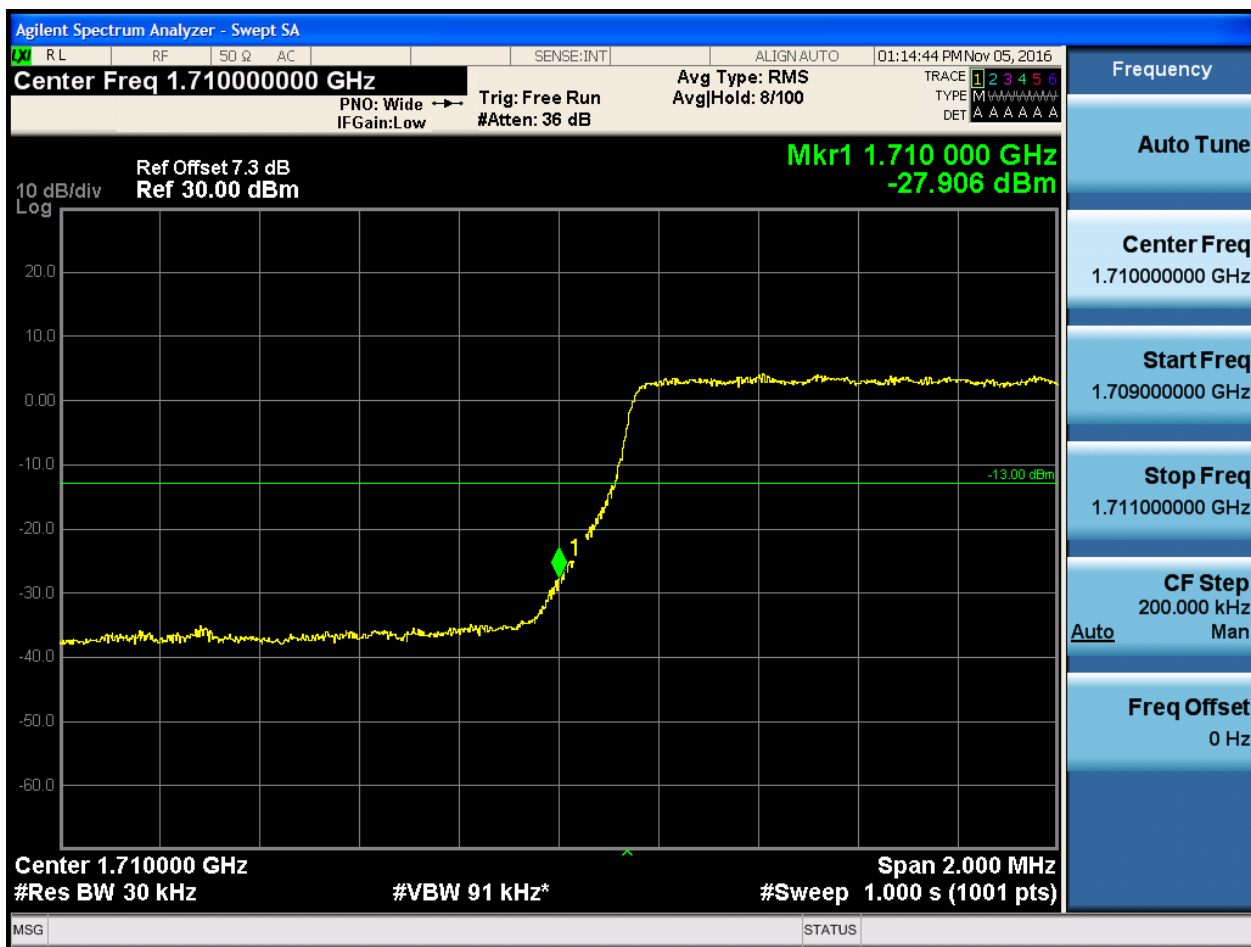


5.1.1.2.2.1.3 Test RB = RB8#4



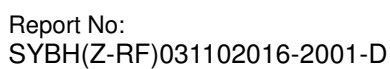


5.1.1.2.2.1.4 Test RB = RB15#0



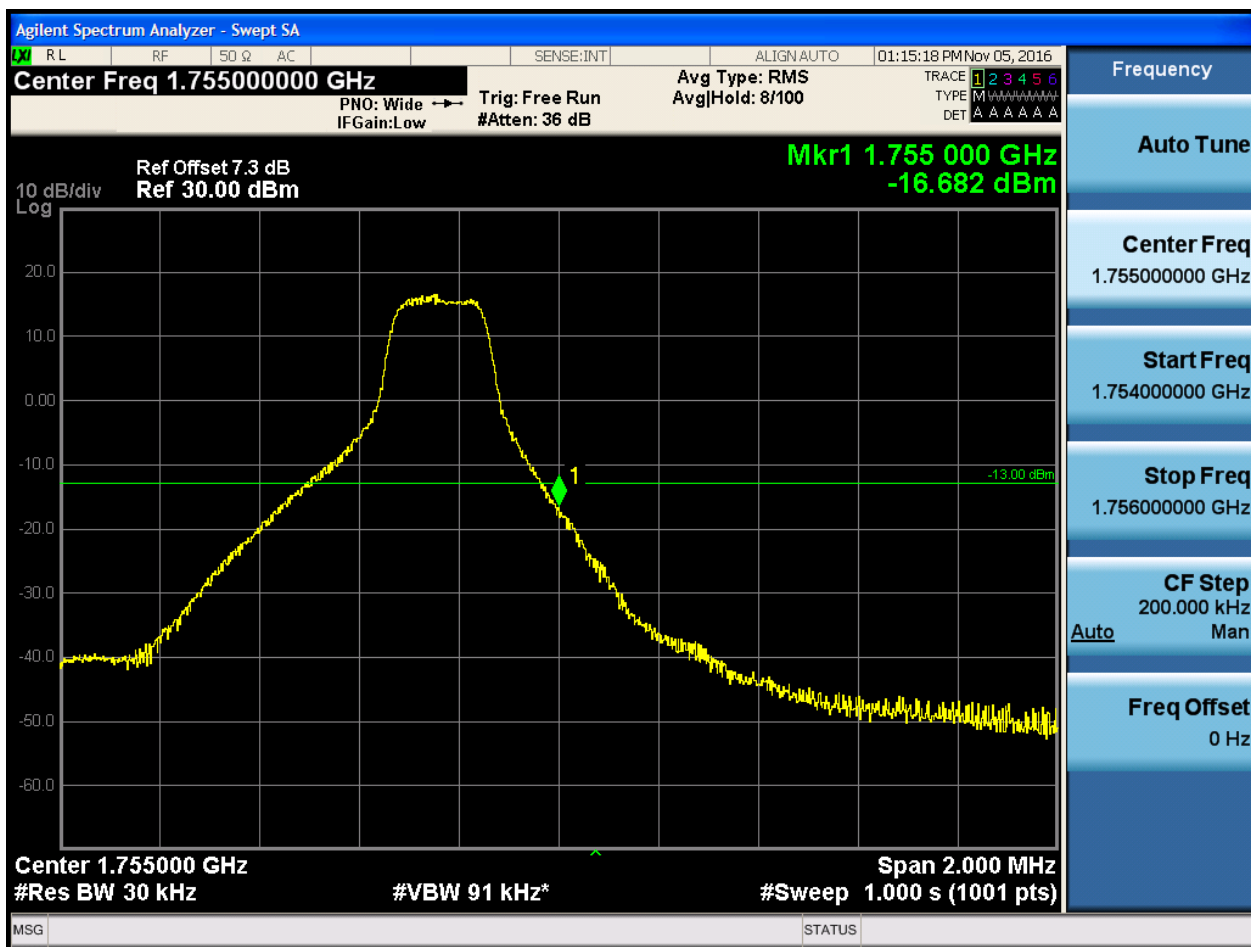


5.1.1.2.2.2.1 Test RB = RB1#0



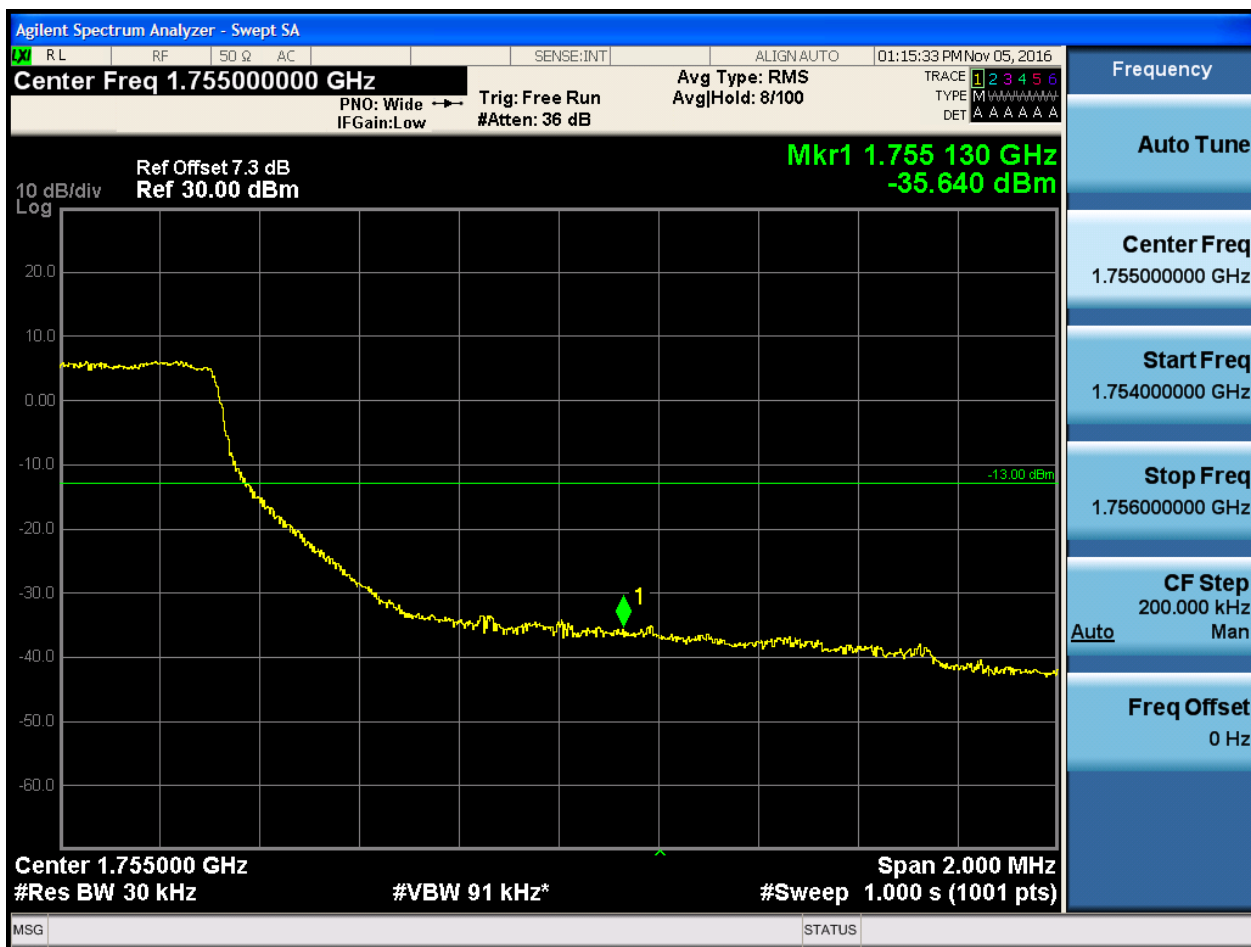


5.1.1.2.2.2 Test RB = RB1#14





5.1.1.2.2.3 Test RB = RB8#4





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RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:15:48 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-30.607 dBm

10 dB/div
Log

Center 1.755000 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
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto Man

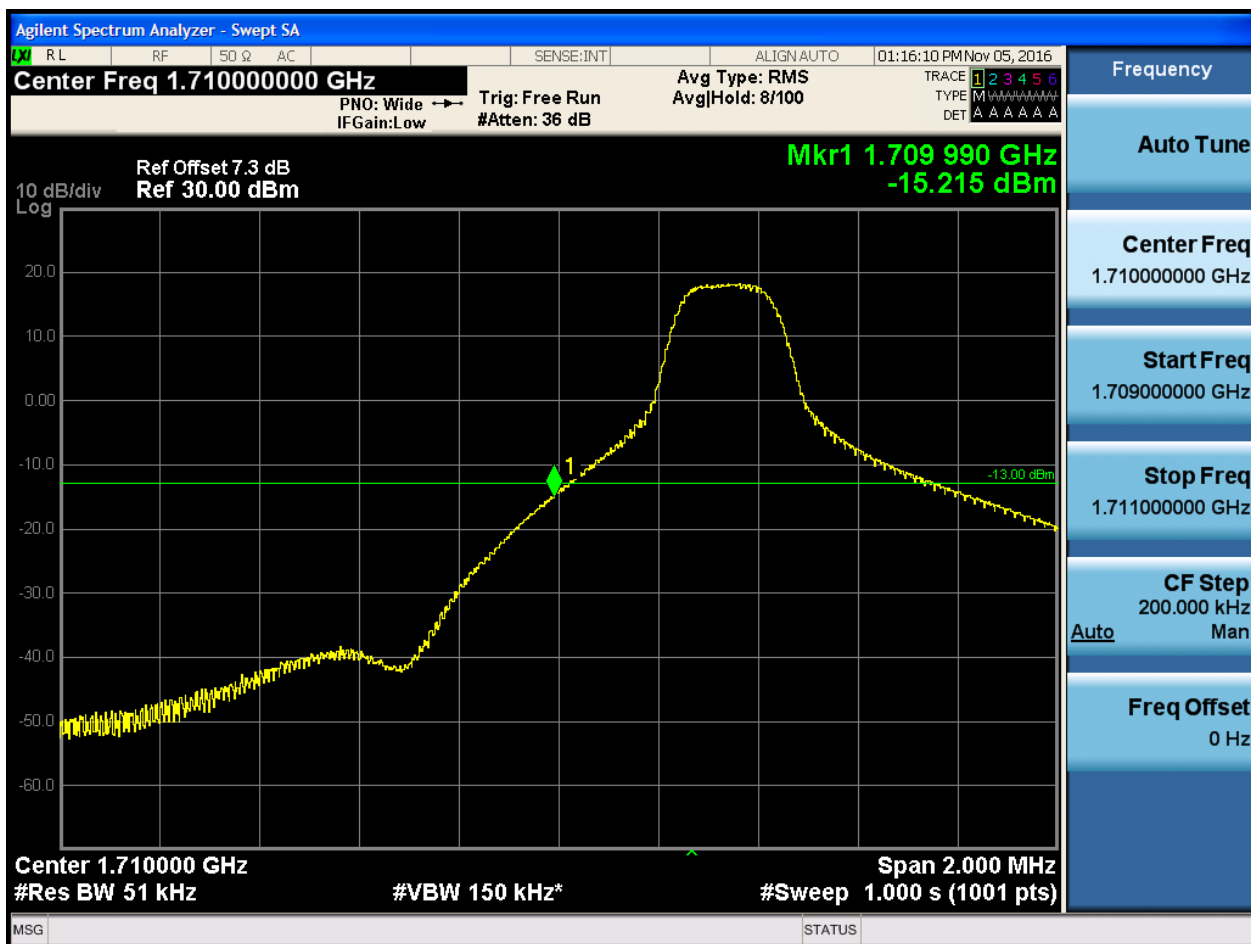
Freq Offset
0 Hz



5.1.1.2.3 Test Bandwidth = 5

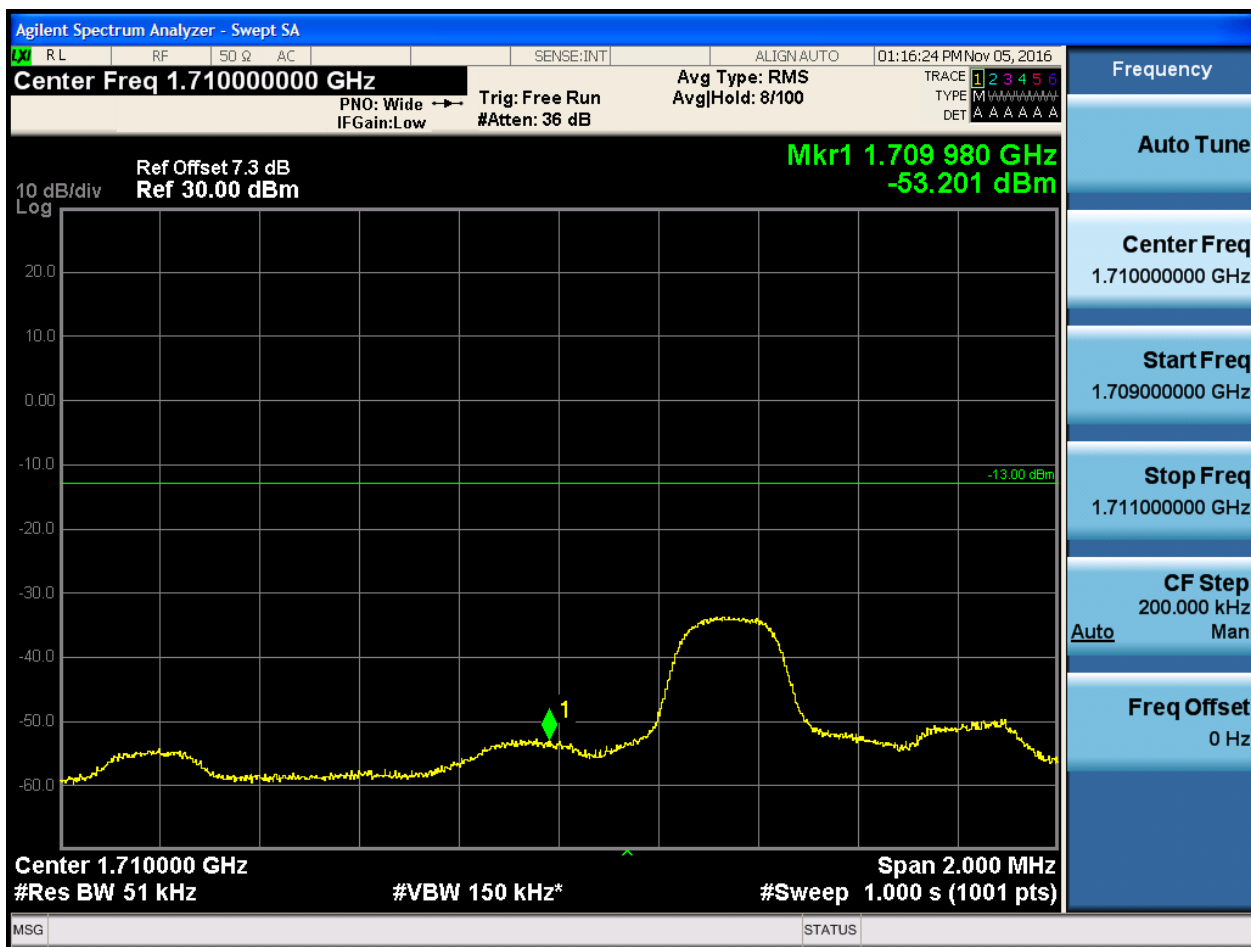
5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0



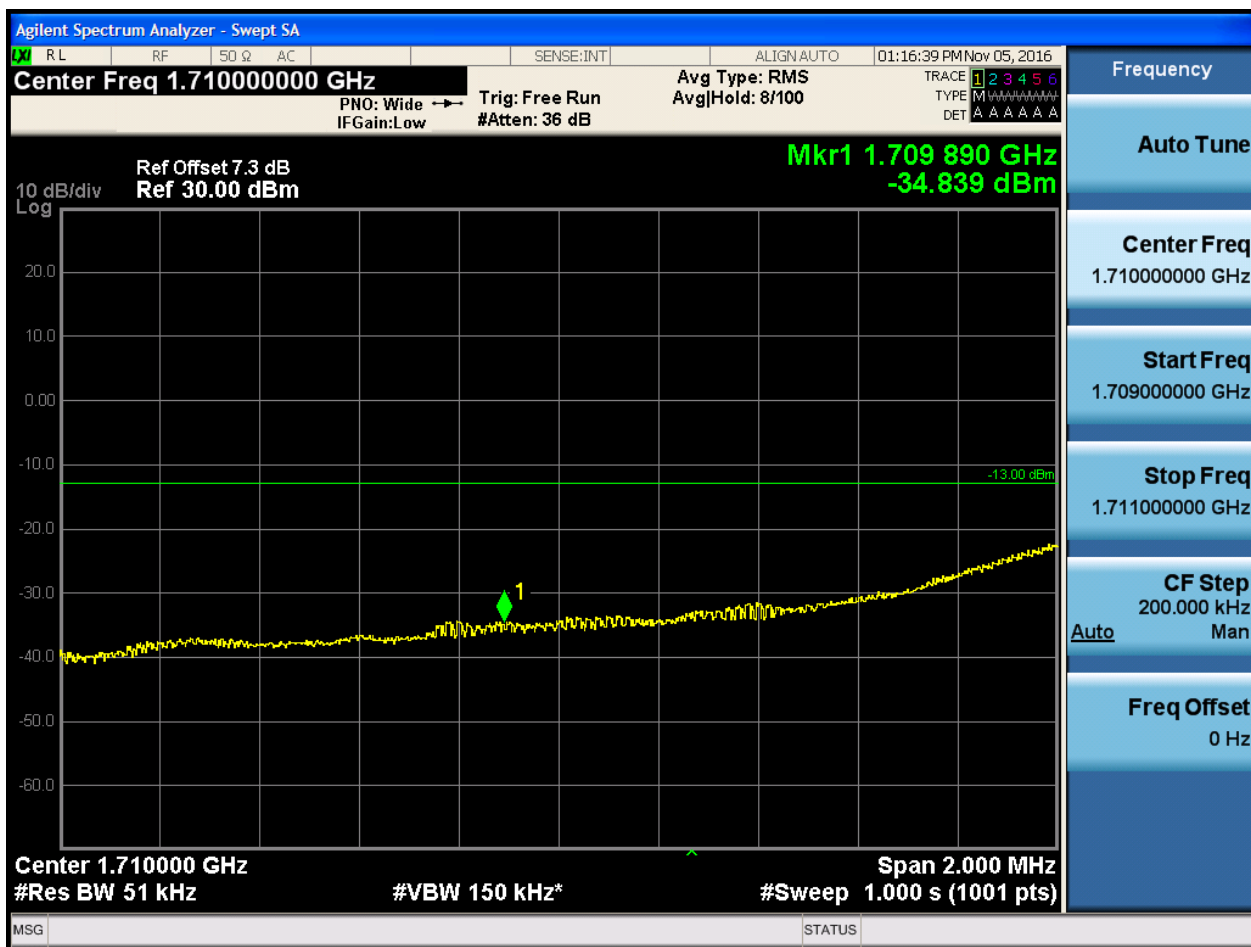


5.1.1.2.3.1.2 Test RB = RB1#24



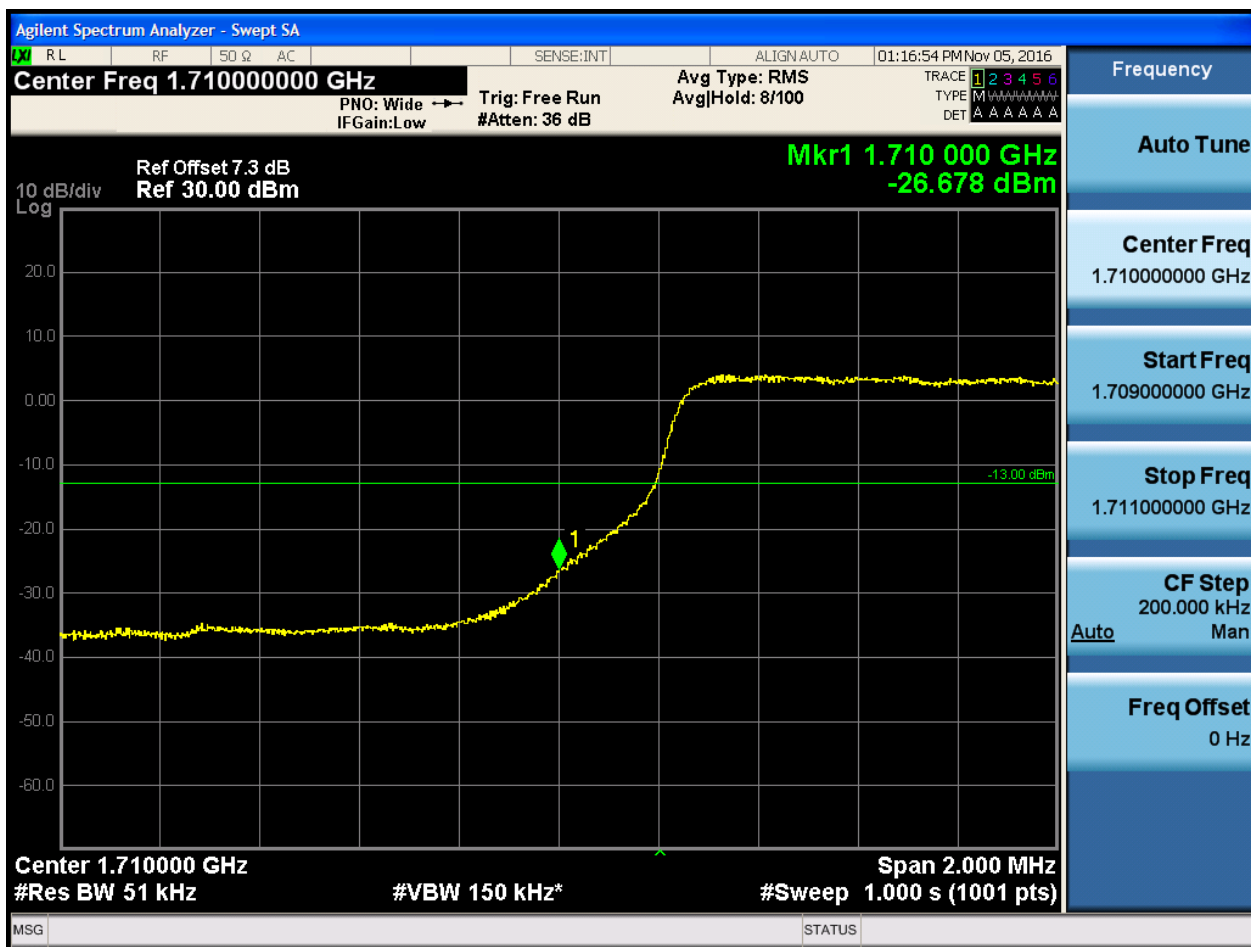


5.1.1.2.3.1.3 Test RB = RB12#6





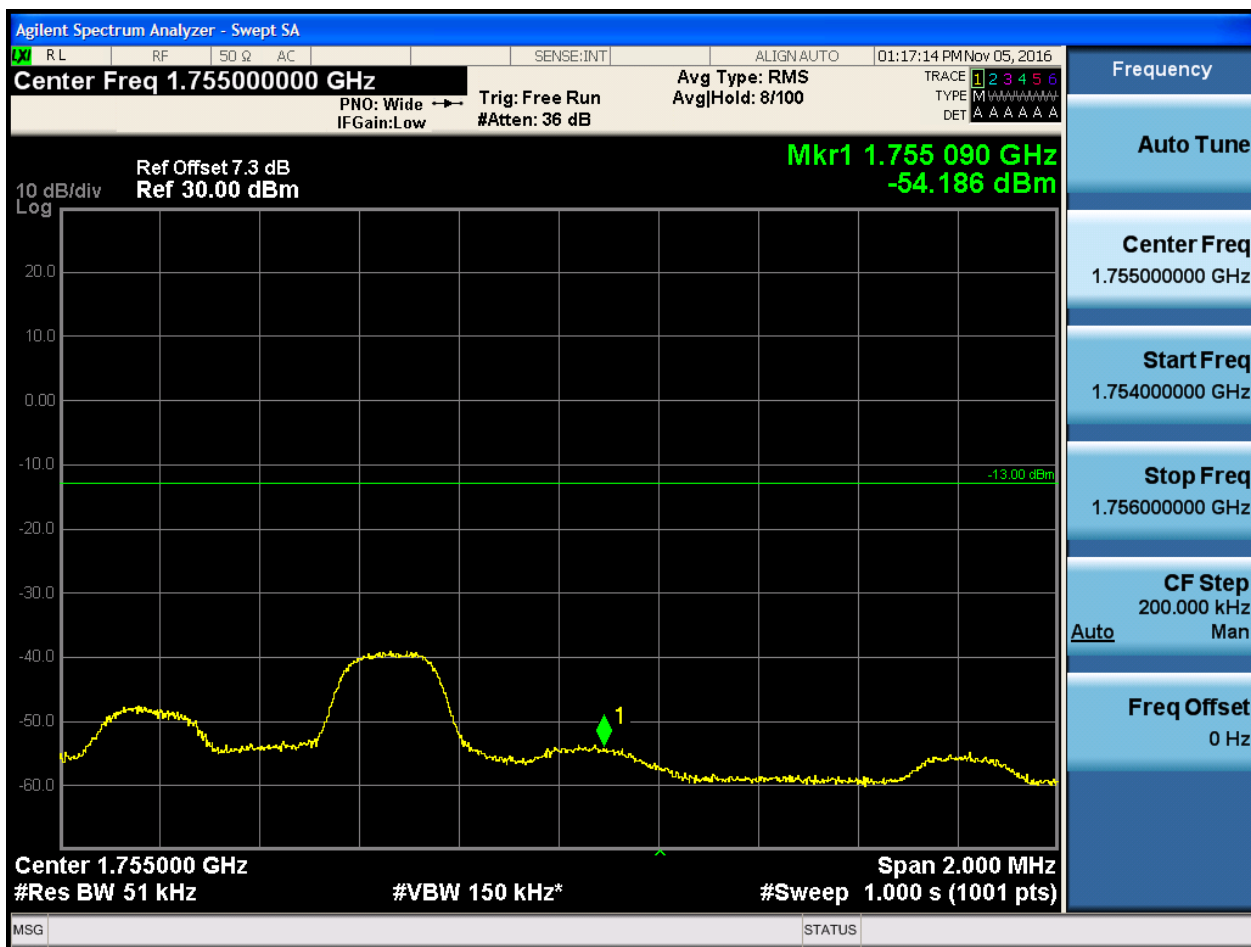
5.1.1.2.3.1.4 Test RB = RB25#0





5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





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RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:17:29 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-15.917 dBm

10 dB/div
Log

Center 1.755000 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
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 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 01:17:43 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 040 GHz
-36.446 dBm

10 dB/div
Log

-13.00 dBm

Center 1.755000 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 1.755000000 GHz
Start Freq 1.754000000 GHz
Stop Freq 1.756000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz



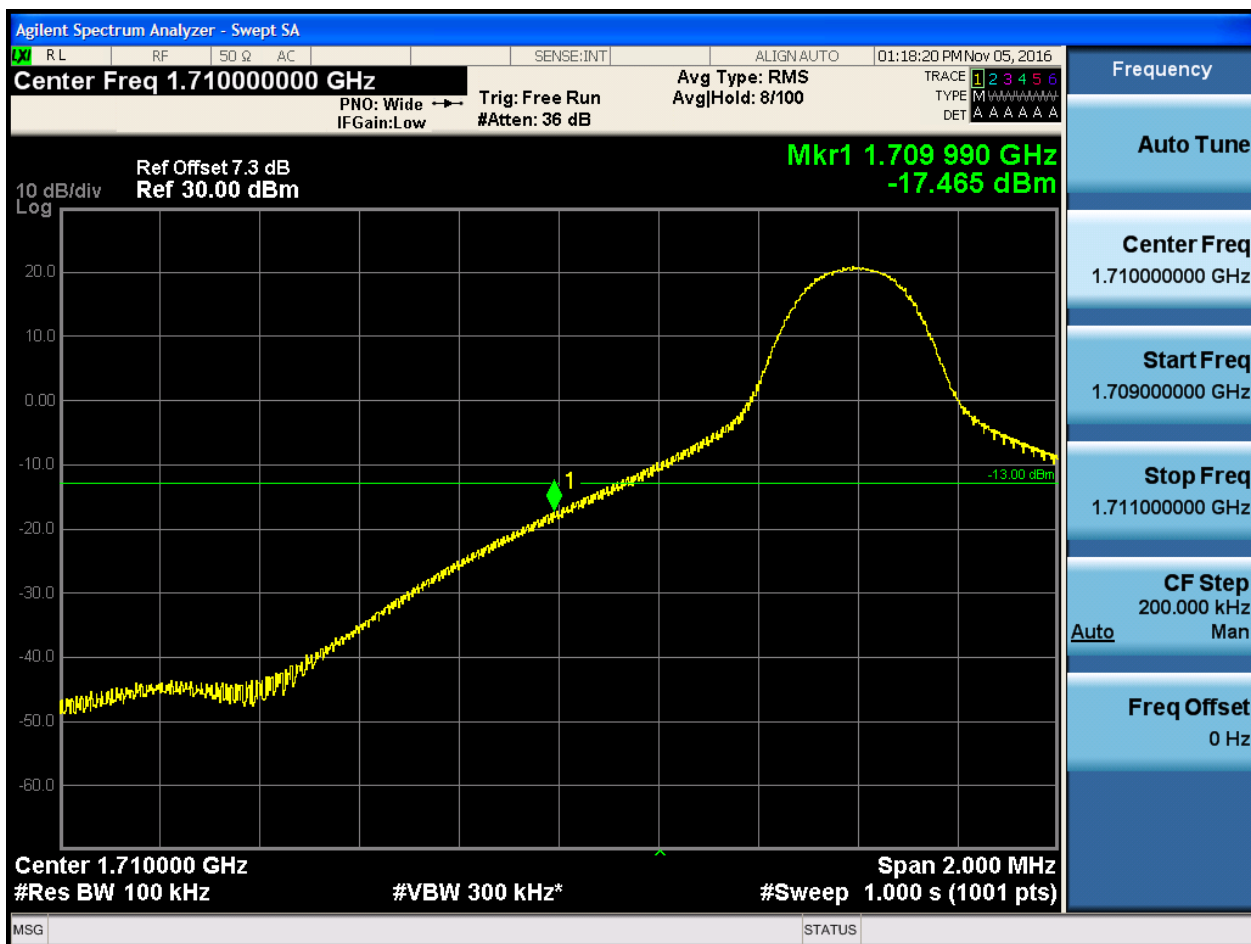
5.1.1.2.3.2.4 Test RB = RB25#0



5.1.1.2.4 Test Bandwidth = 10

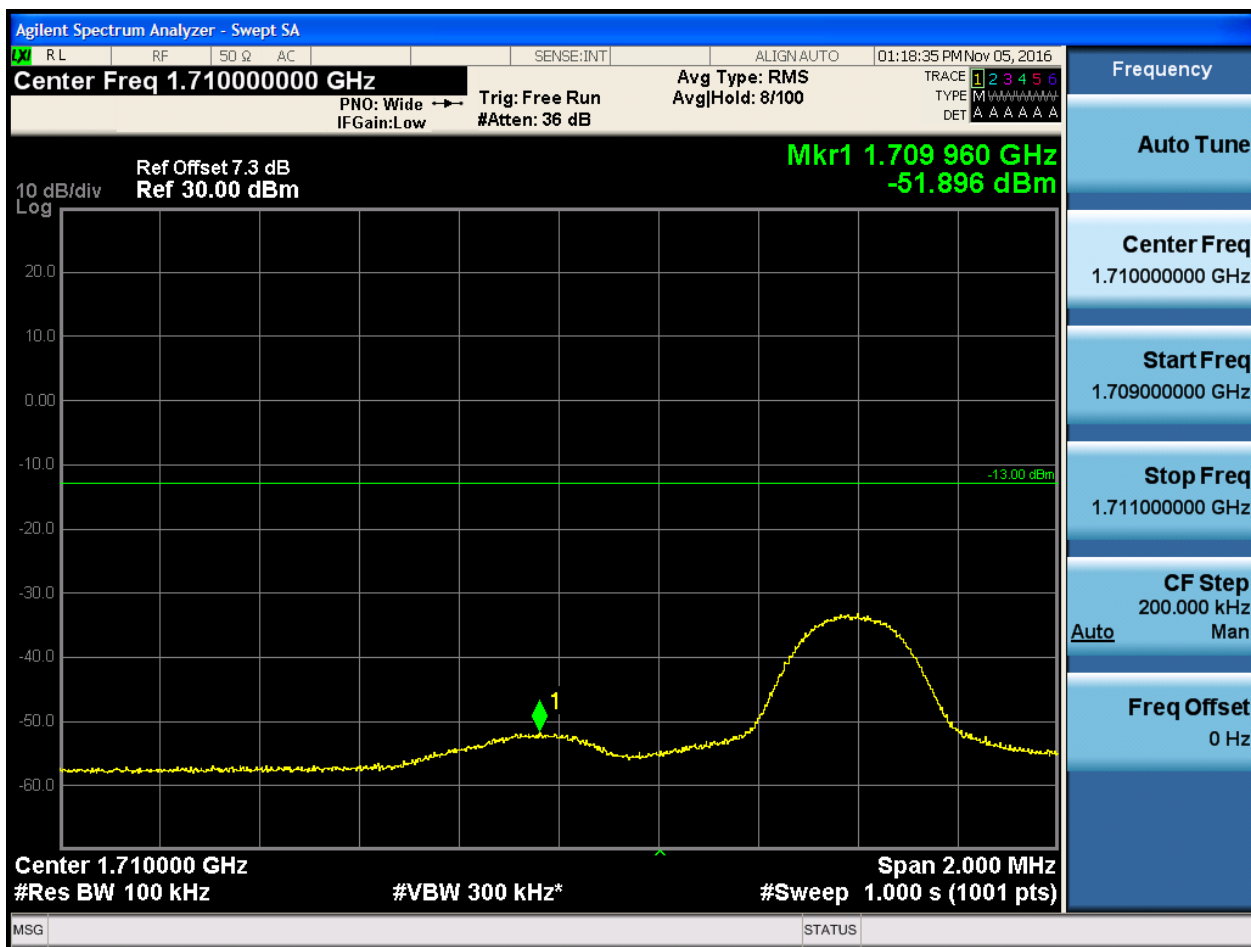
5.1.1.2.4.1 Test Channel = LCH

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 01:18:49 PM Nov 05, 2016

Center Freq 1.710000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.709 950 GHz
-35.633 dBm

10 dB/div
Log

-13.00 dBm

Center 1.710000 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
1.710000000 GHz

Start Freq
1.709000000 GHz

Stop Freq
1.711000000 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 01:19:04 PM Nov 05, 2016

Center Freq 1.710000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-32.249 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 1.710000 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
1.710000000 GHz

Start Freq
1.709000000 GHz

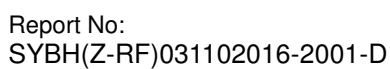
Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



5.1.1.2.4.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.755000000 GHz

Ref Offset 7.3 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.755 000 GHz
-17.856 dBm

Center 1.755000 GHz
#Res BW 100 kHz
#VBW 300 kHz*

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

Auto Tune

Center Freq
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz

MSG STATUS



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:19:53 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 440 GHz
-37.558 dBm

10 dB/div
Log

Center 1.755000 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
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



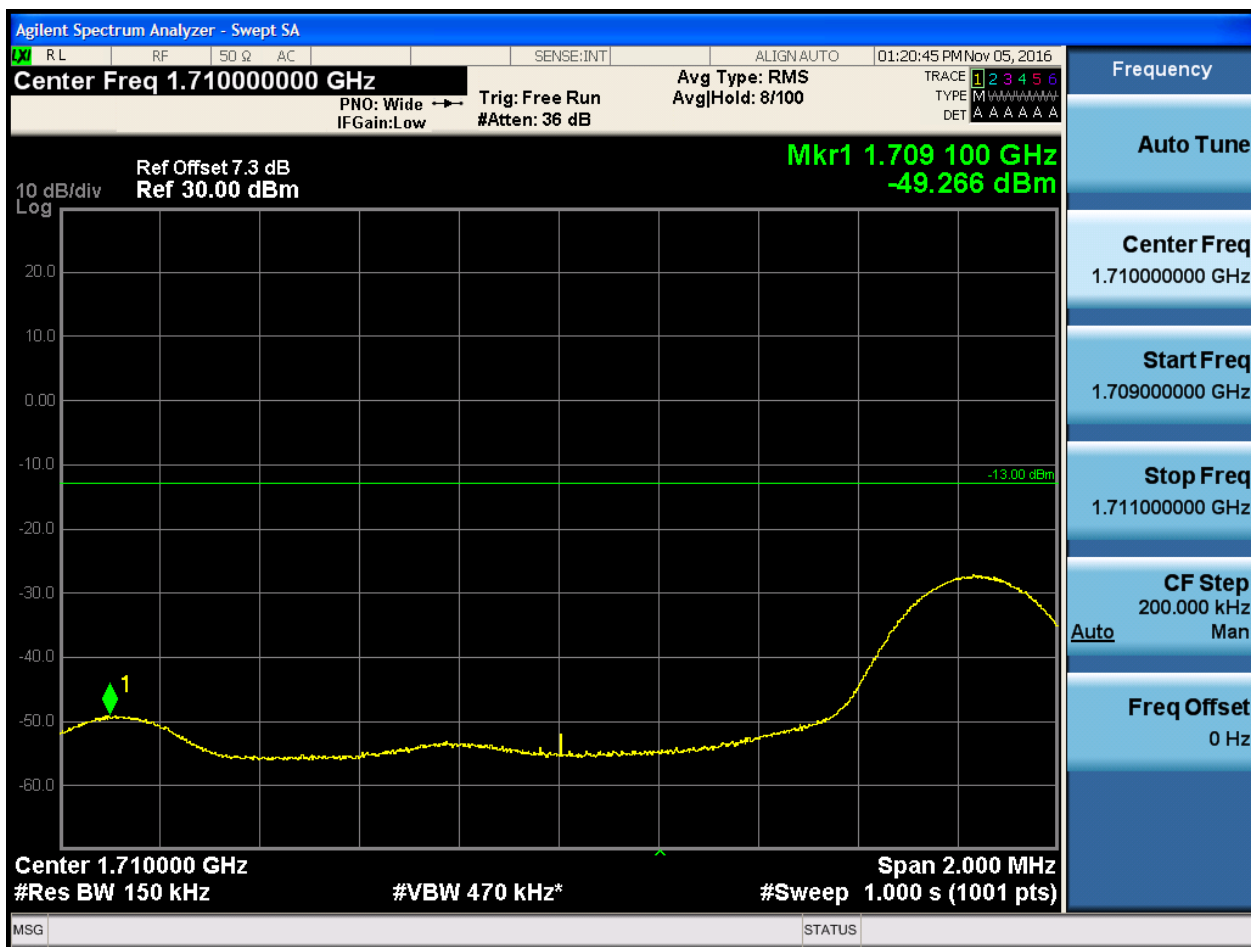
5.1.1.2.4.2.4 Test RB = RB50#0







5.1.1.2.5.1.2 Test RB = RB1#74





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:20:59 PM Nov 05, 2016

Center Freq 1.710000000 GHz Avg Type: RMS
PNO: Wide Trig: Free Run
IFGain:Low #Atten: 36 dB

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-35.936 dBm

10 dB/div
Log

Center 1.710000 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
1.710000000 GHz

Start Freq
1.709000000 GHz

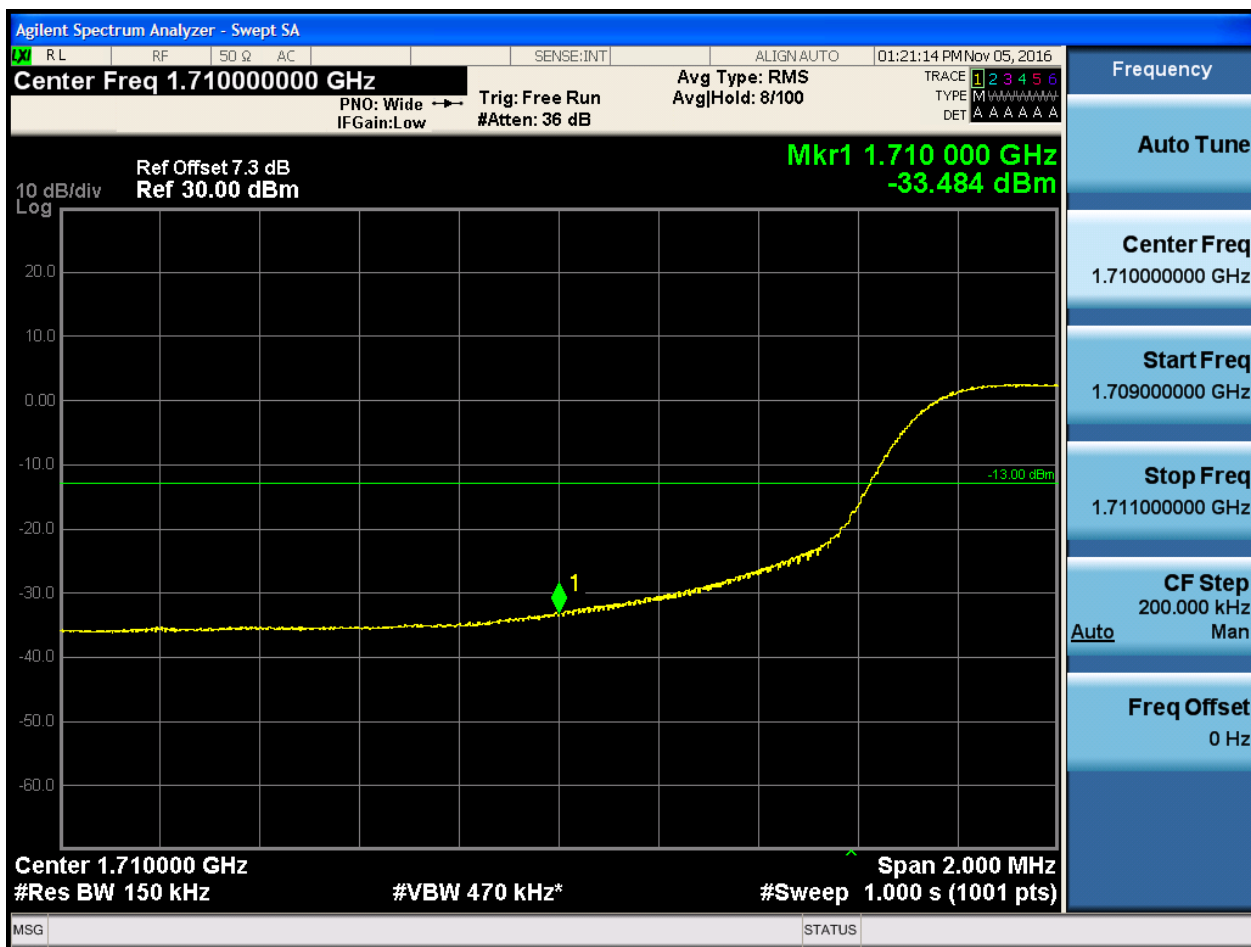
Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



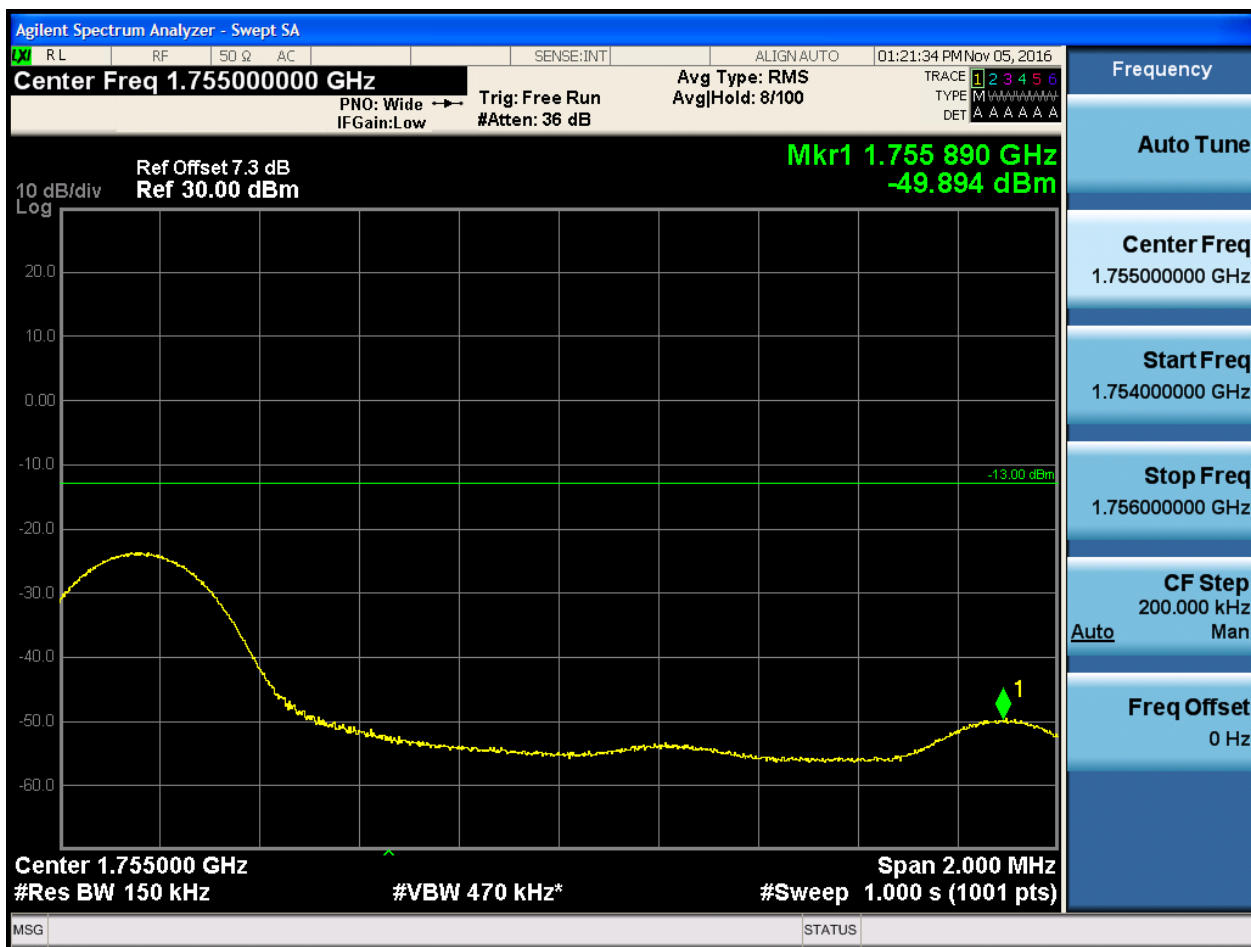
5.1.1.2.5.1.4 Test RB = RB75#0





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 01:21:48 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-20.294 dBm

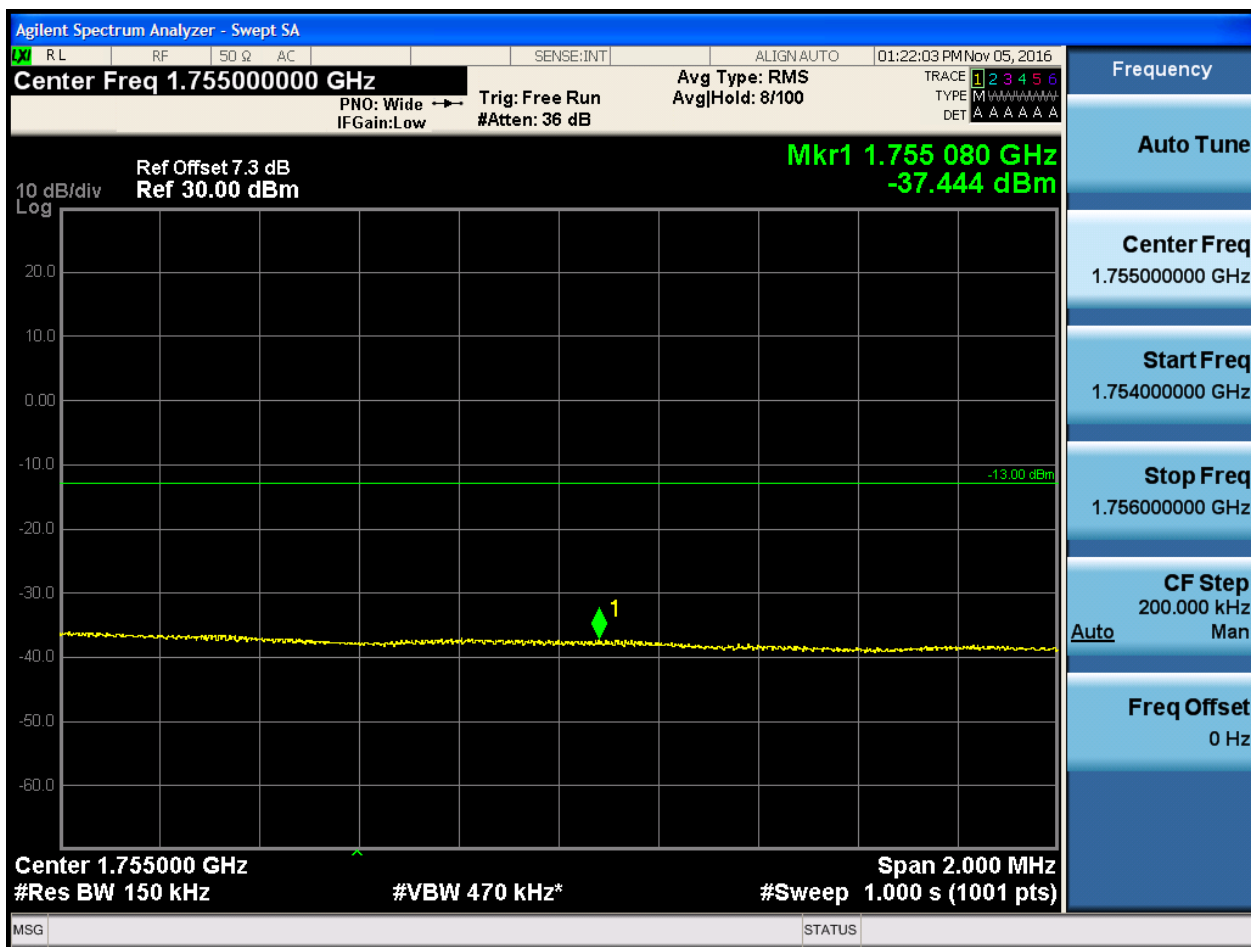
10 dB/div
Log

Center 1.755000 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

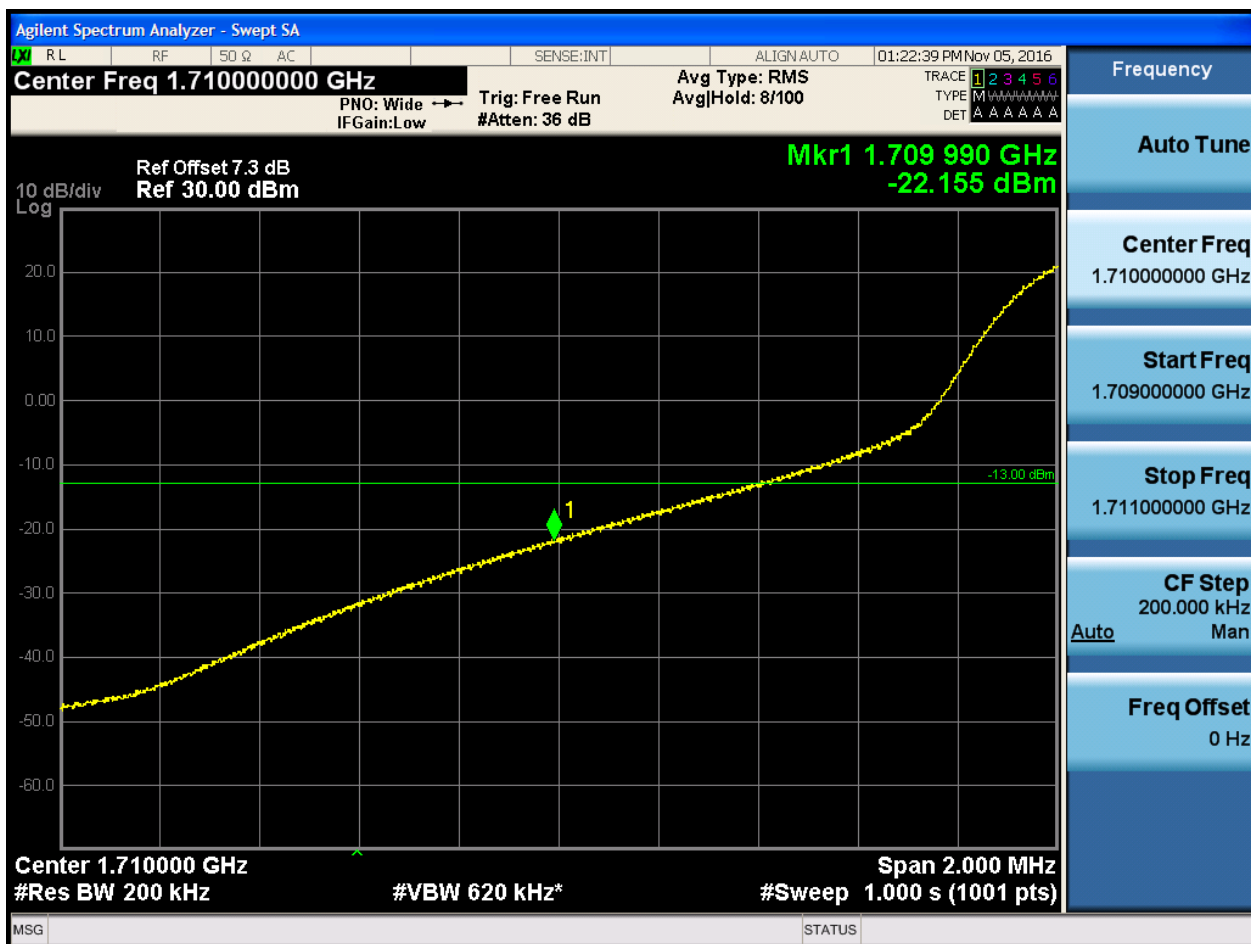




5.1.1.2.6 Test Bandwidth = 20

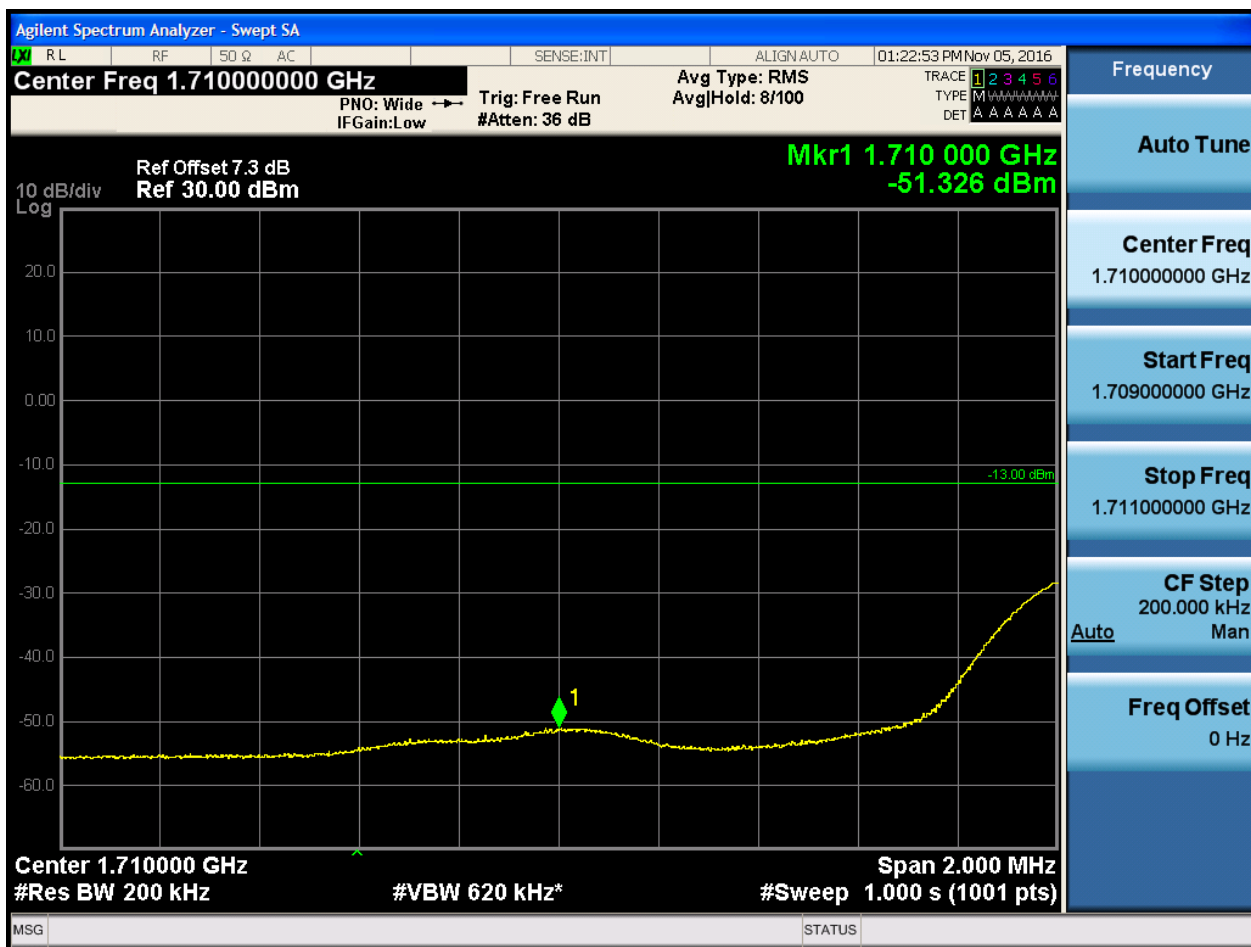
5.1.1.2.6.1 Test Channel = LCH

5.1.1.2.6.1.1 Test RB = RB1#0





5.1.1.2.6.1.2 Test RB = RB1#99



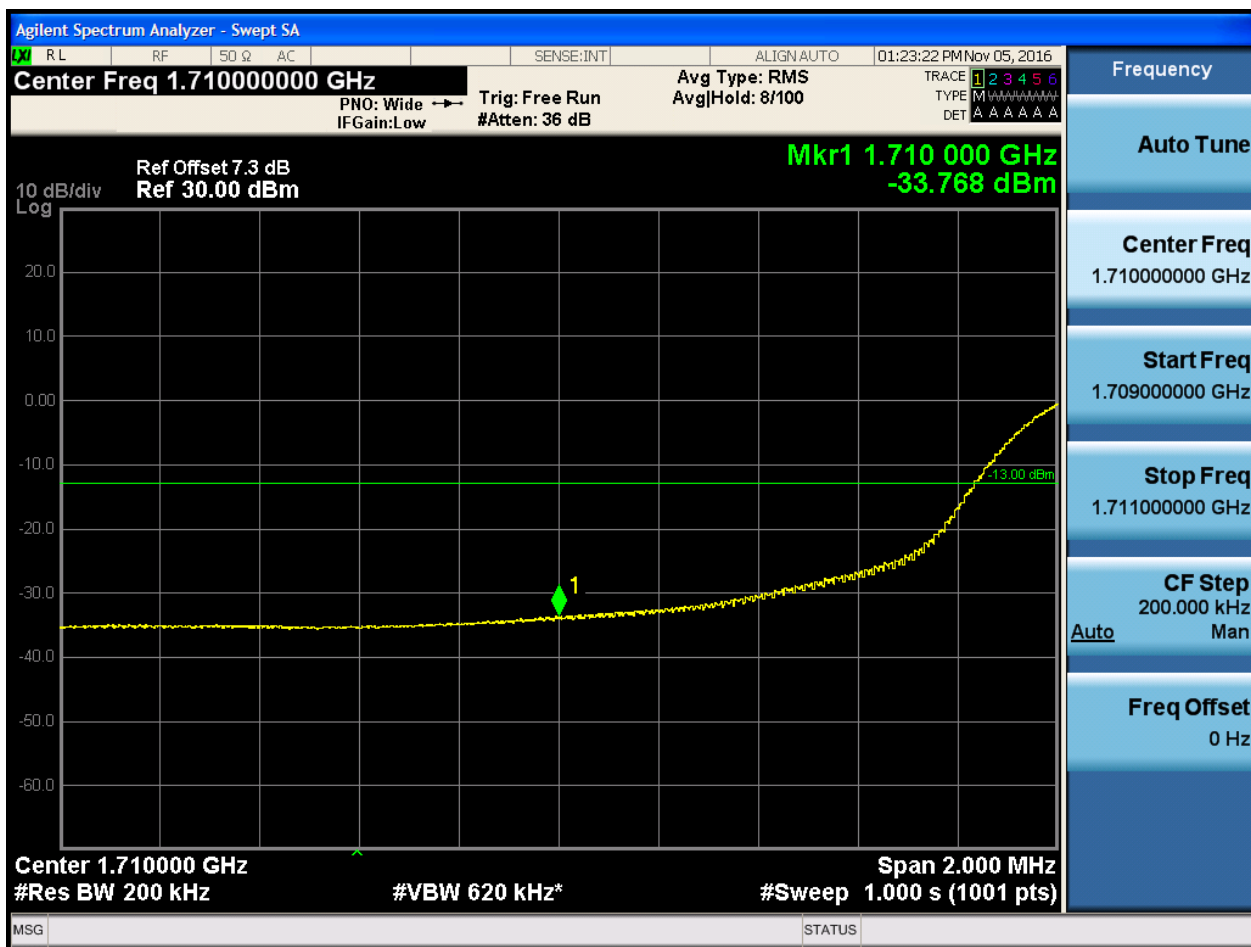


5.1.1.2.6.1.3 Test RB = RB50#25





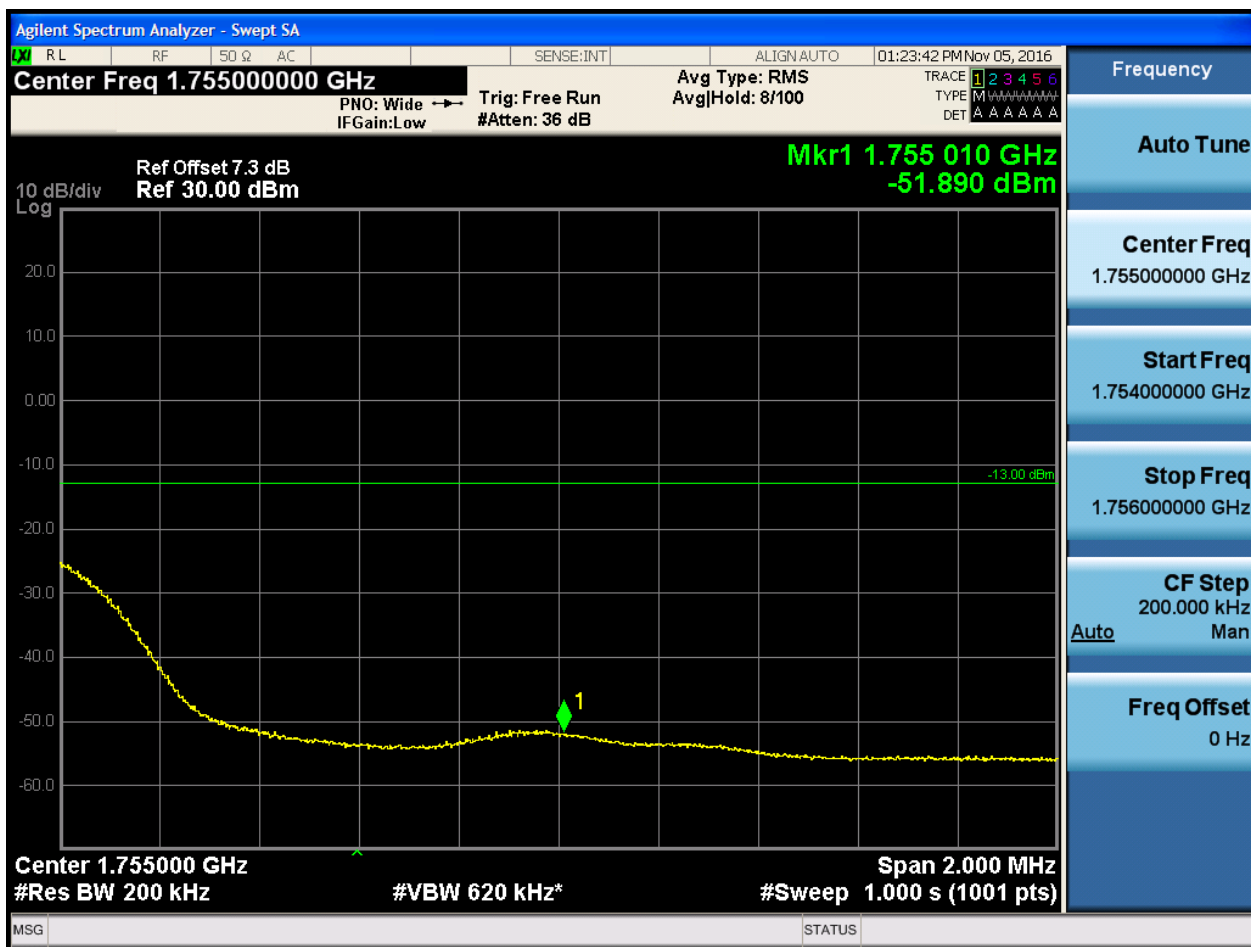
5.1.1.2.6.1.4 Test RB = RB100#0





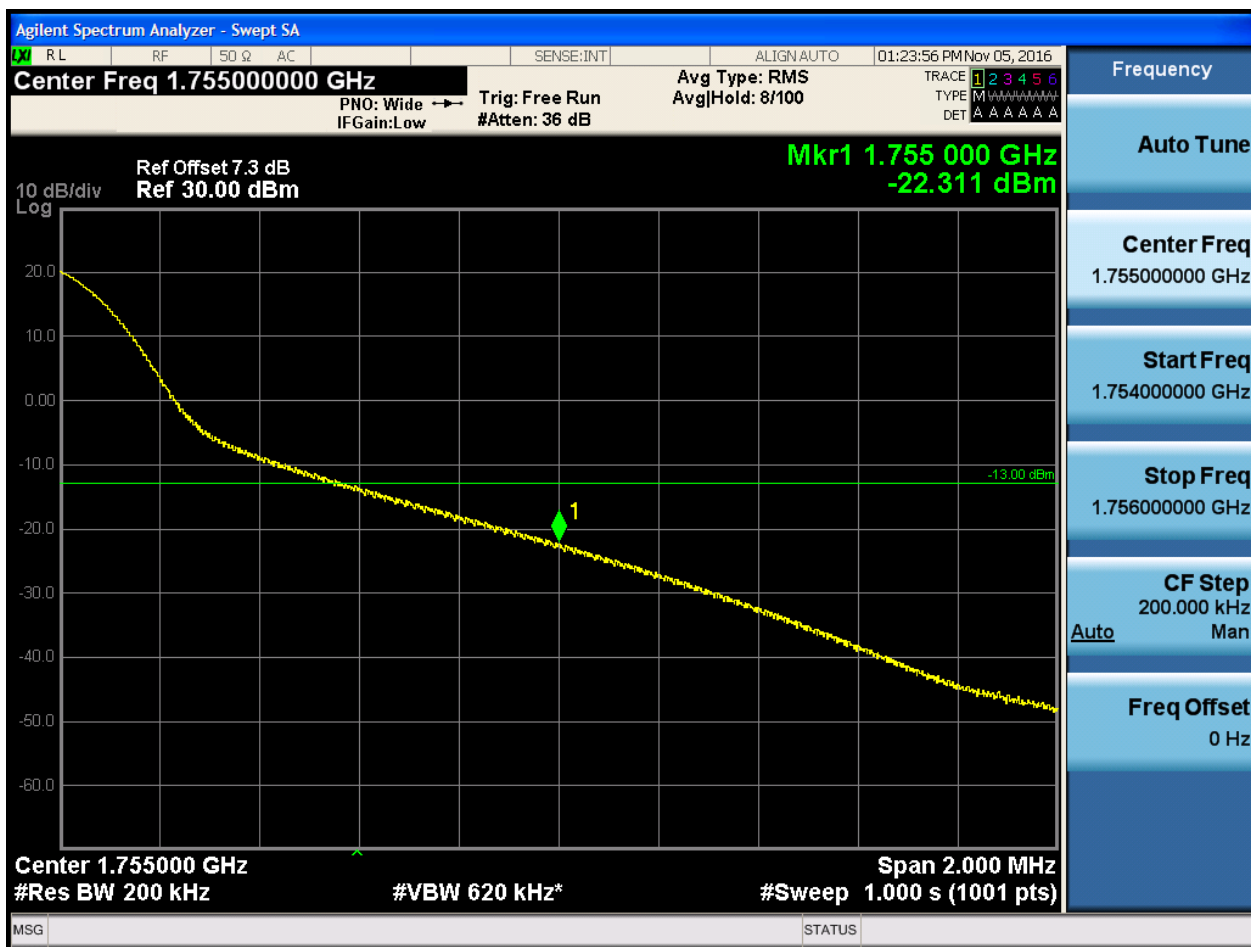
5.1.1.2.6.2 Test Channel = HCH

5.1.1.2.6.2.1 Test RB = RB1#0





5.1.1.2.6.2.2 Test RB = RB1#99





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RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:24:10 PM Nov 05, 2016

Center Freq 1.755000000 GHz Avg Type: RMS
PNO: Wide Trig: Free Run
IFGain: Low #Atten: 36 dB

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 190 GHz
-37.373 dBm

10 dB/div
Log

Center 1.755000 GHz Span 2.000 MHz
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 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 01:24:25 PM Nov 05, 2016

Center Freq 1.755000000 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 7.3 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-35.935 dBm

10 dB/div
Log

Center 1.755000 GHz Span 2.000 MHz
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

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

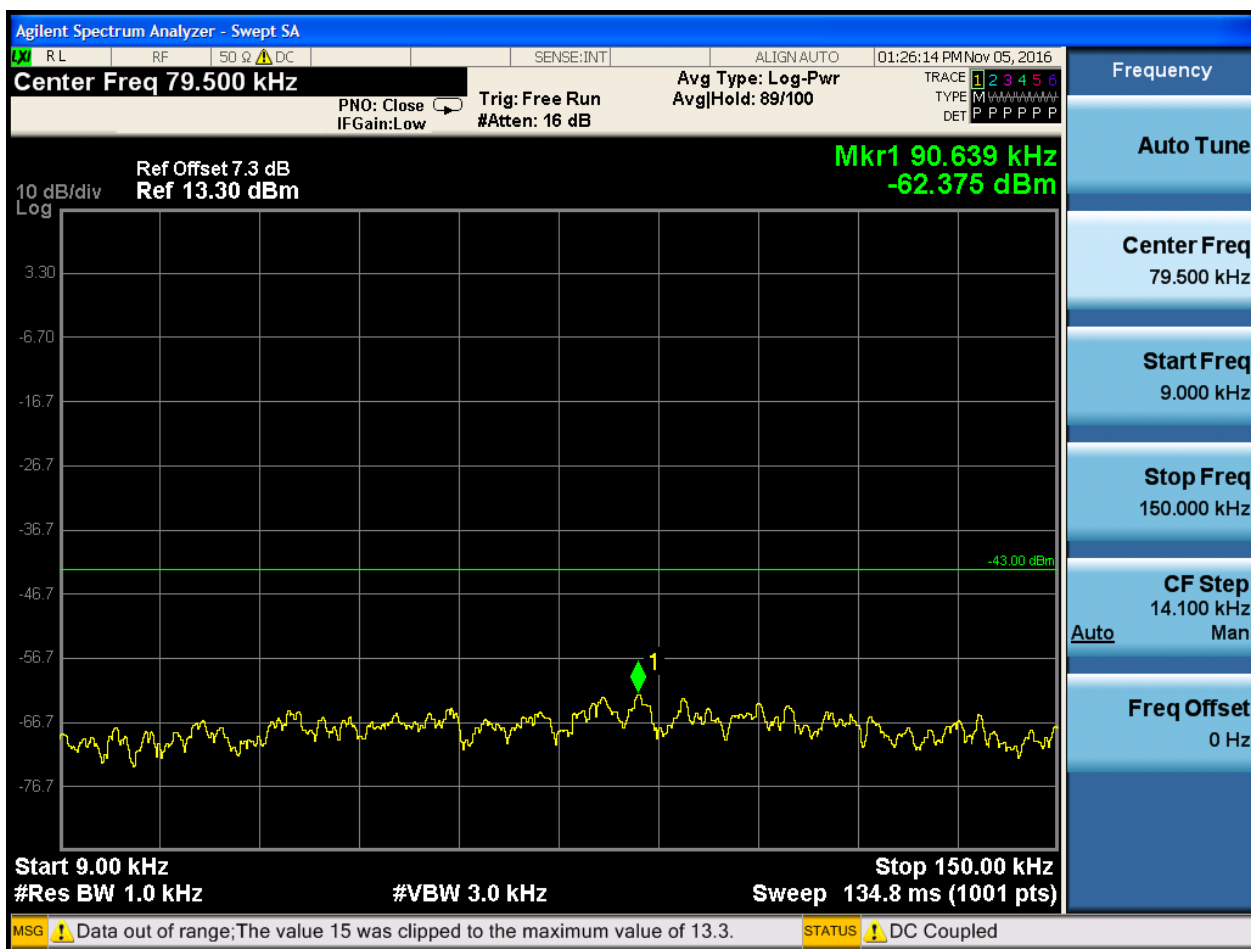
6.1.1 Test Band = BAND4

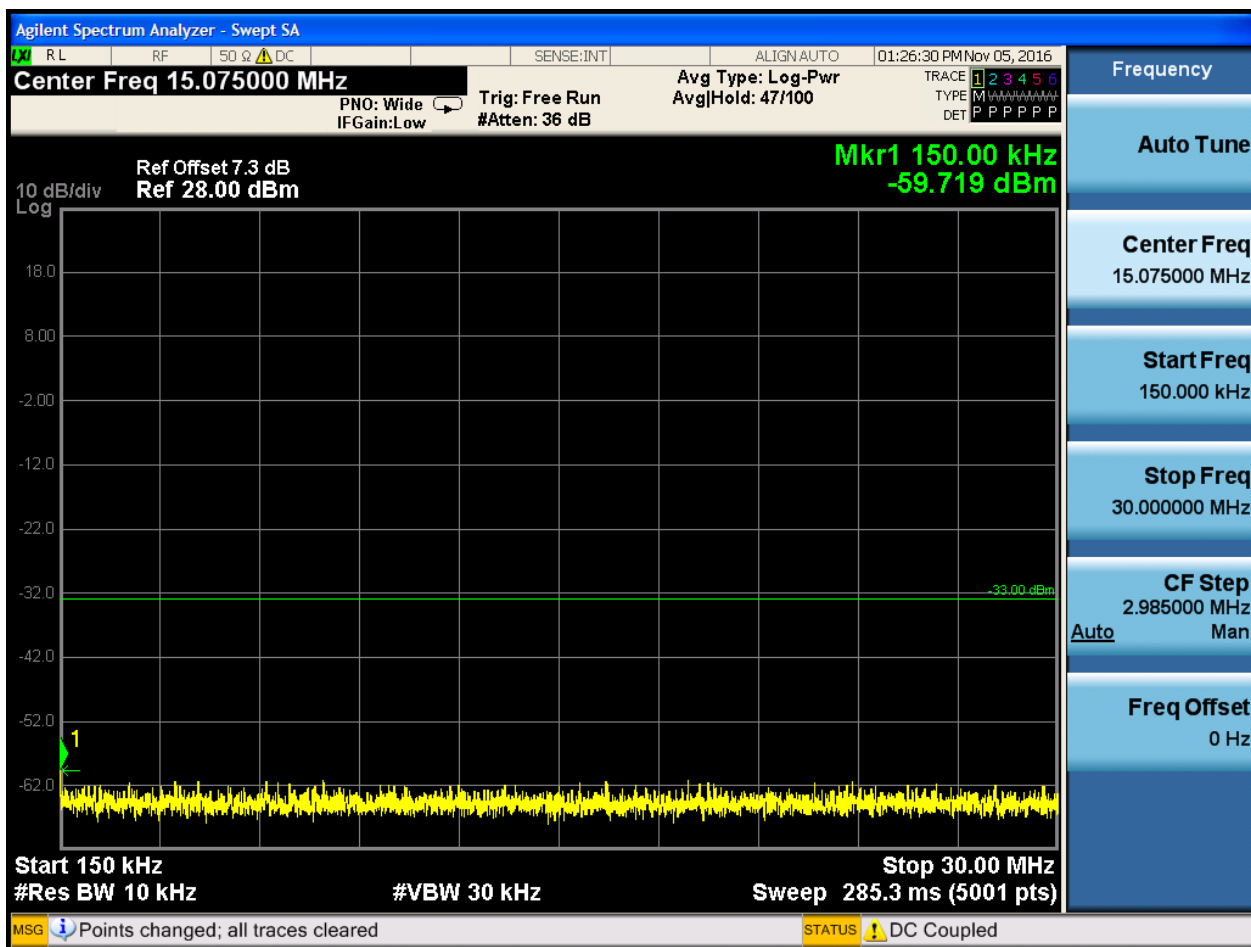
6.1.1.1 Test Mode = LTE/TM1

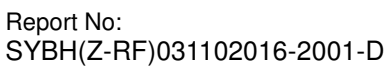
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



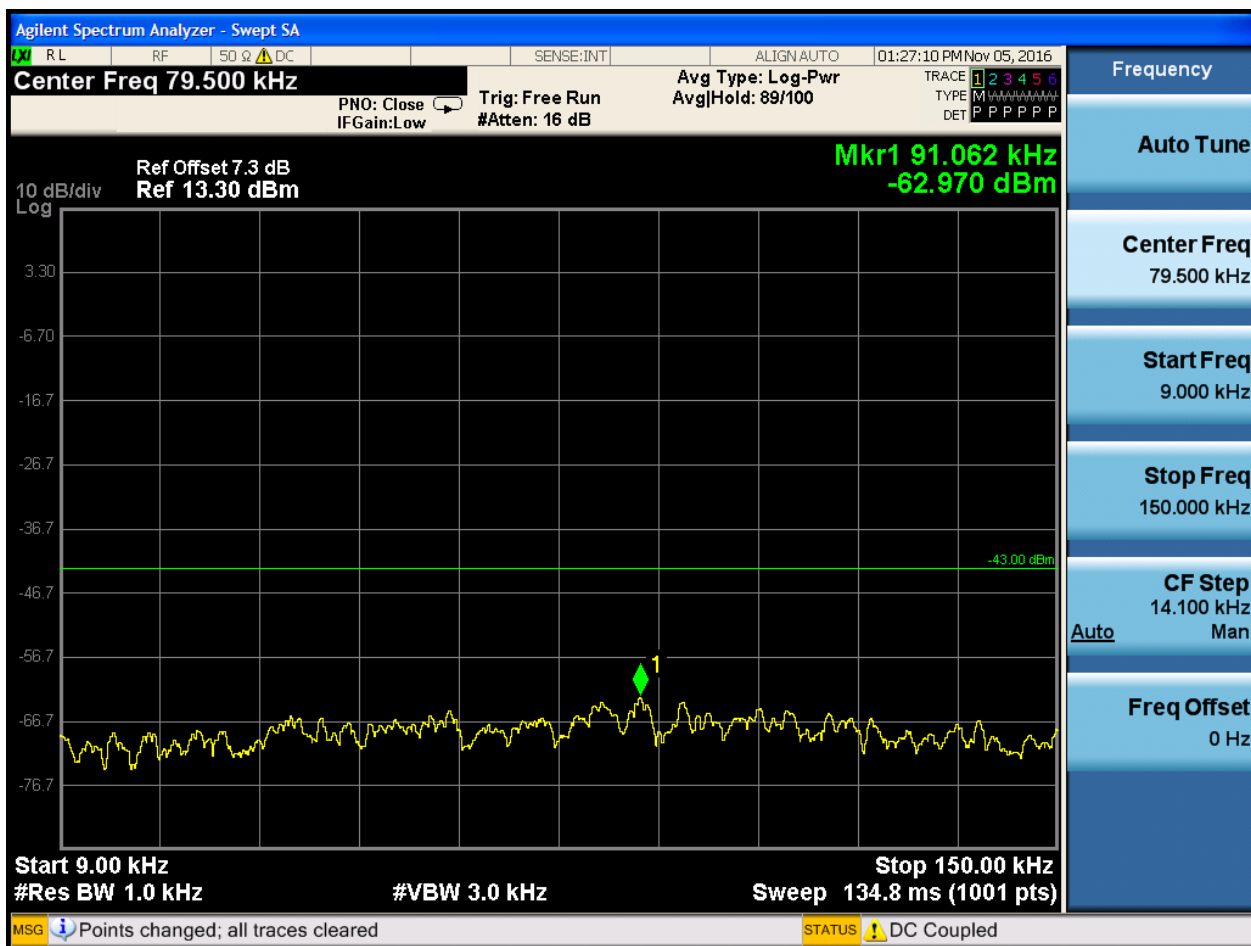


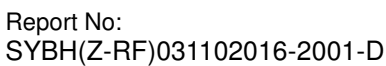


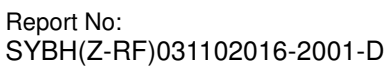


6.1.1.1.2 Test Channel = MCH

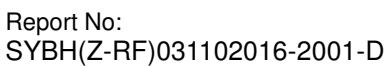
6.1.1.1.2.1 Test RB = RB1#0

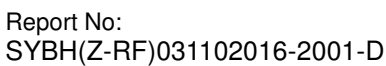






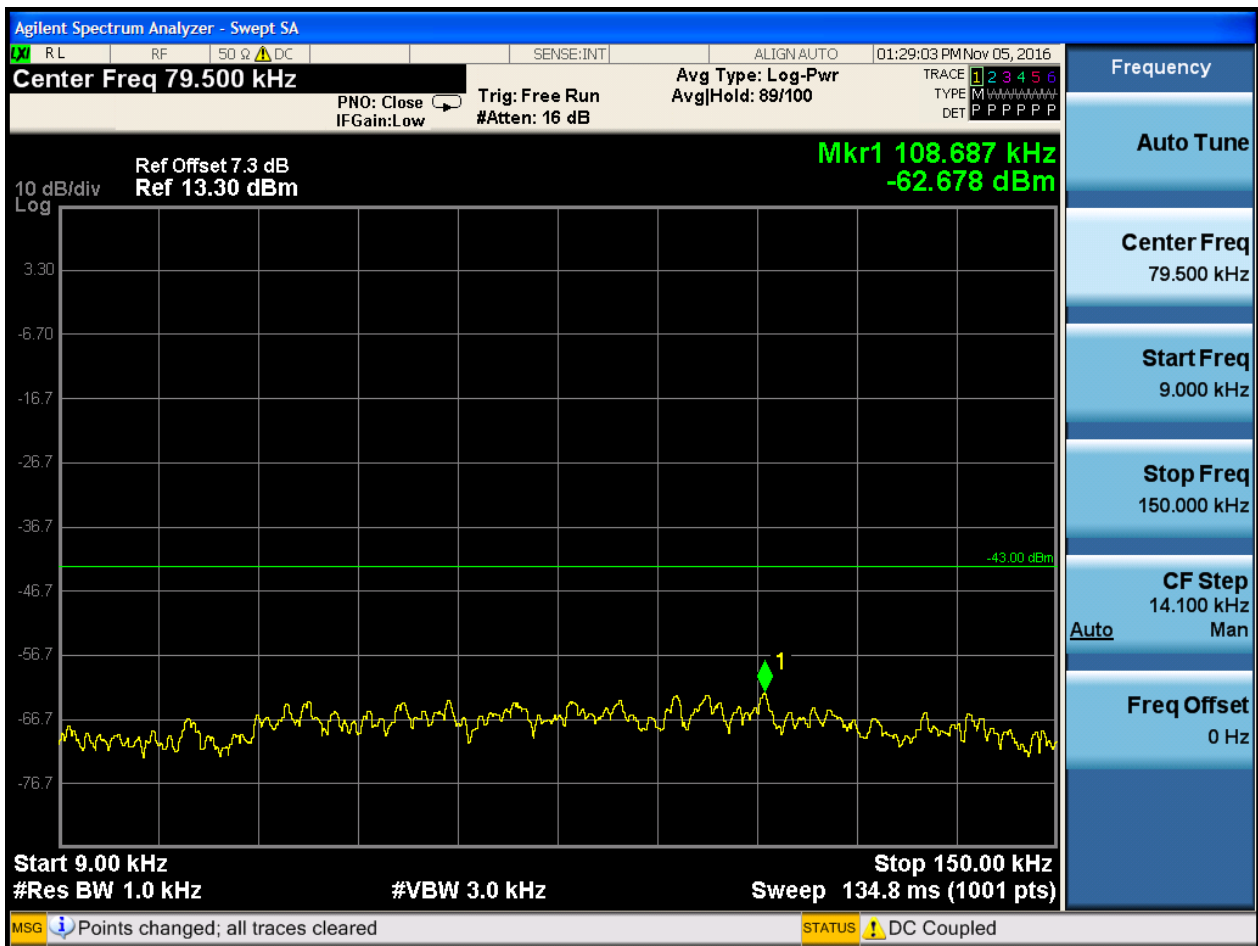


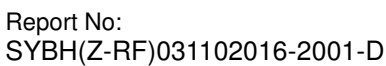


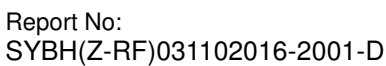




6.1.1.1.2.1.1 Test RB = RB1#0



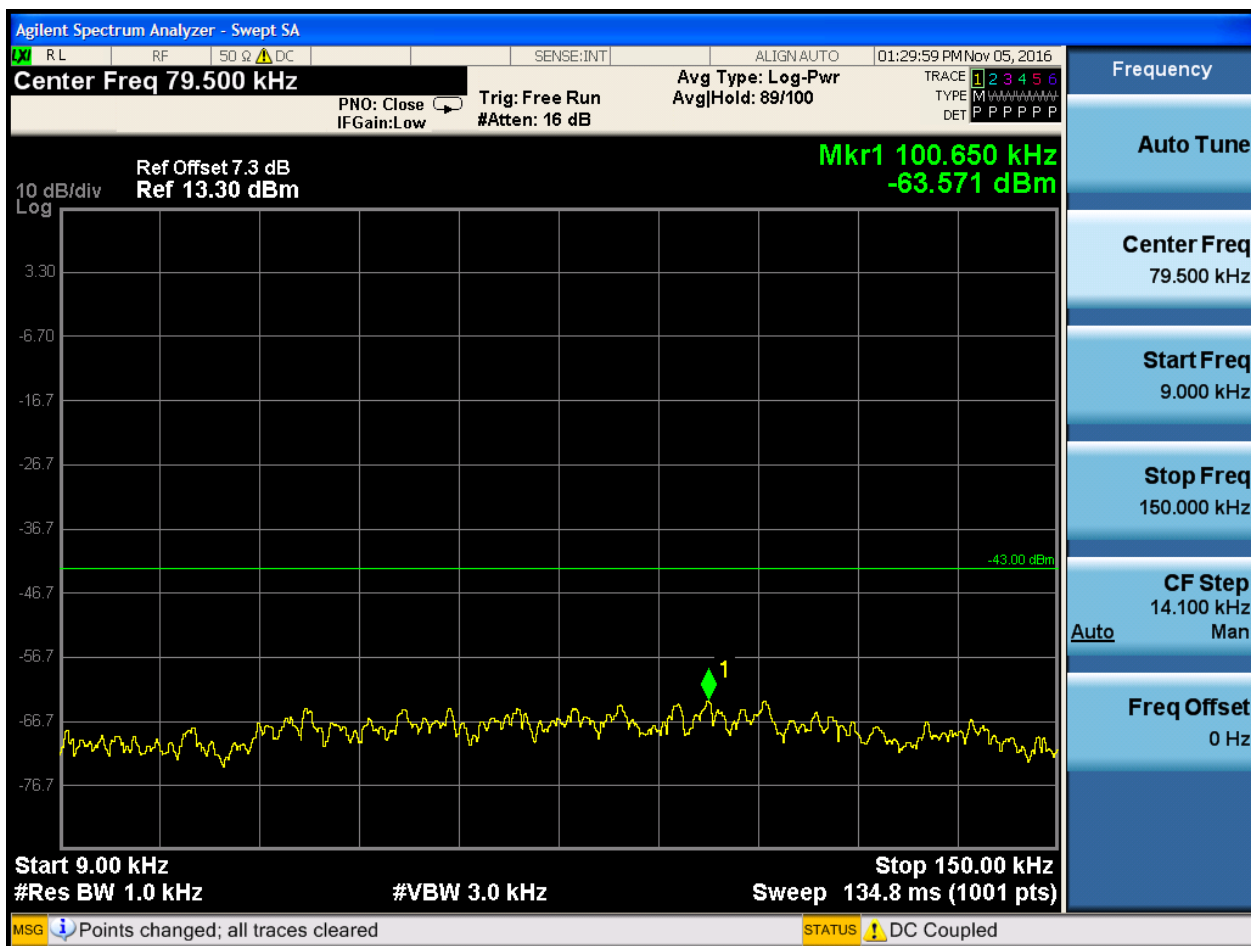


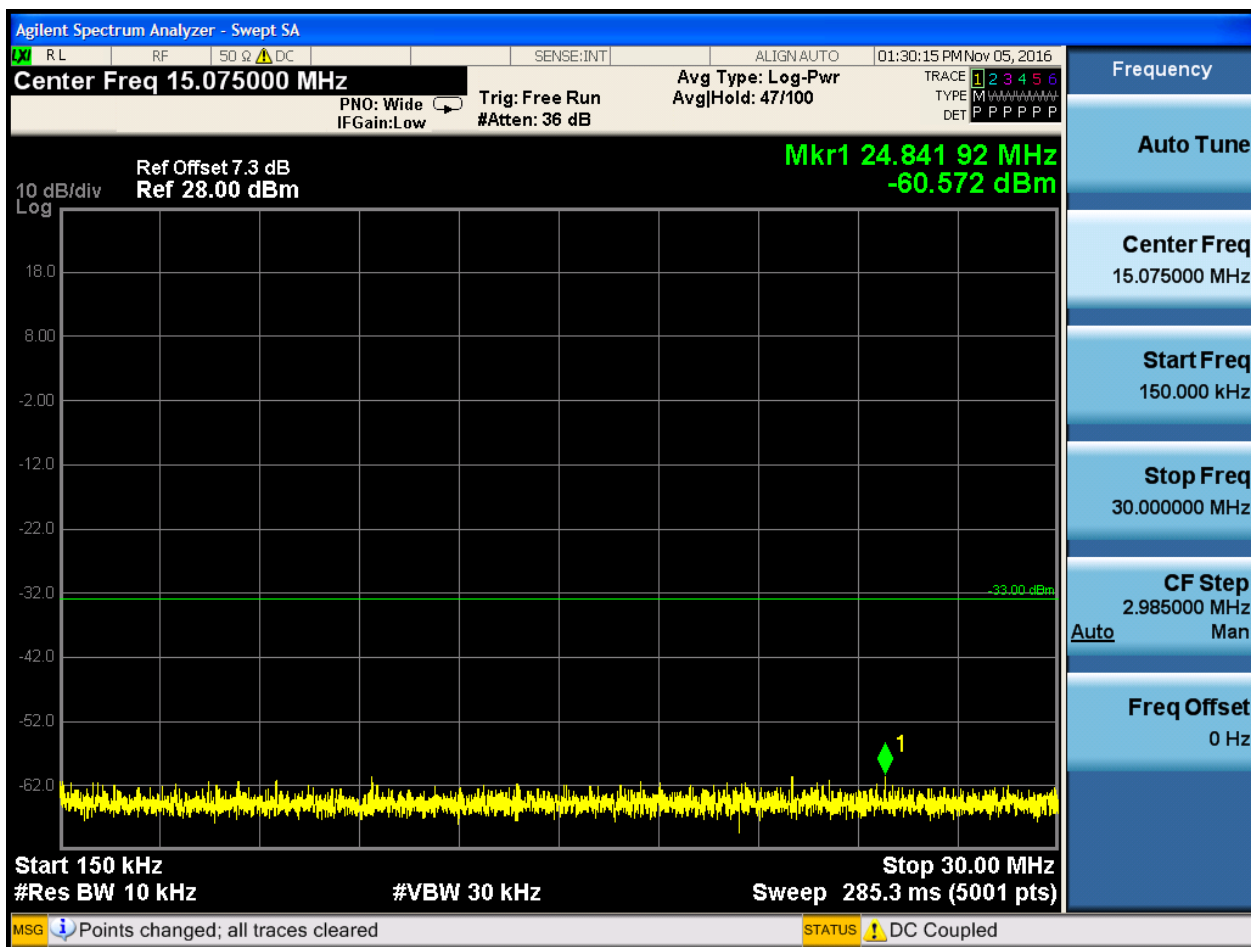




6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

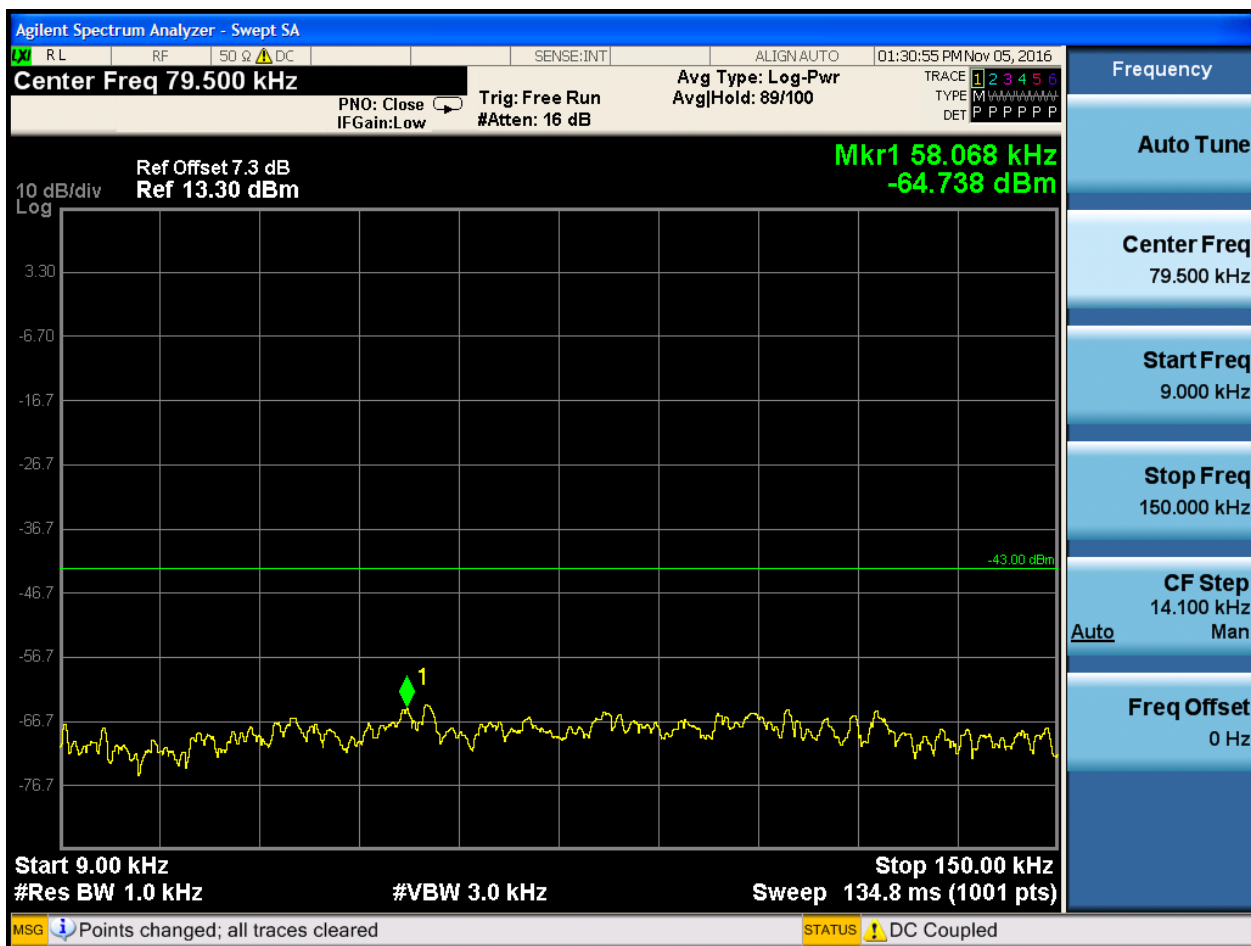


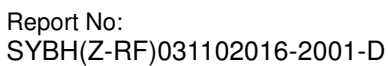


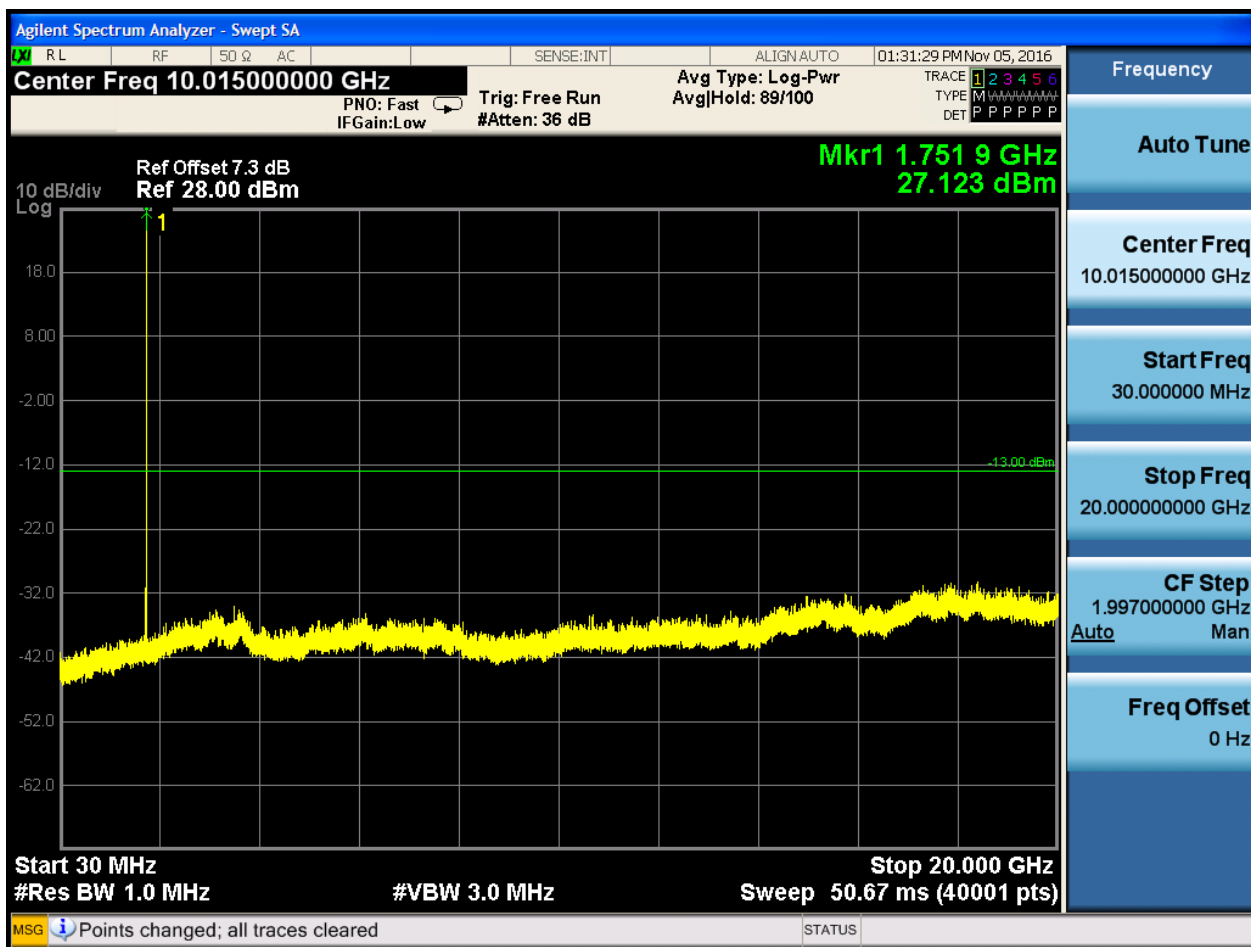


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



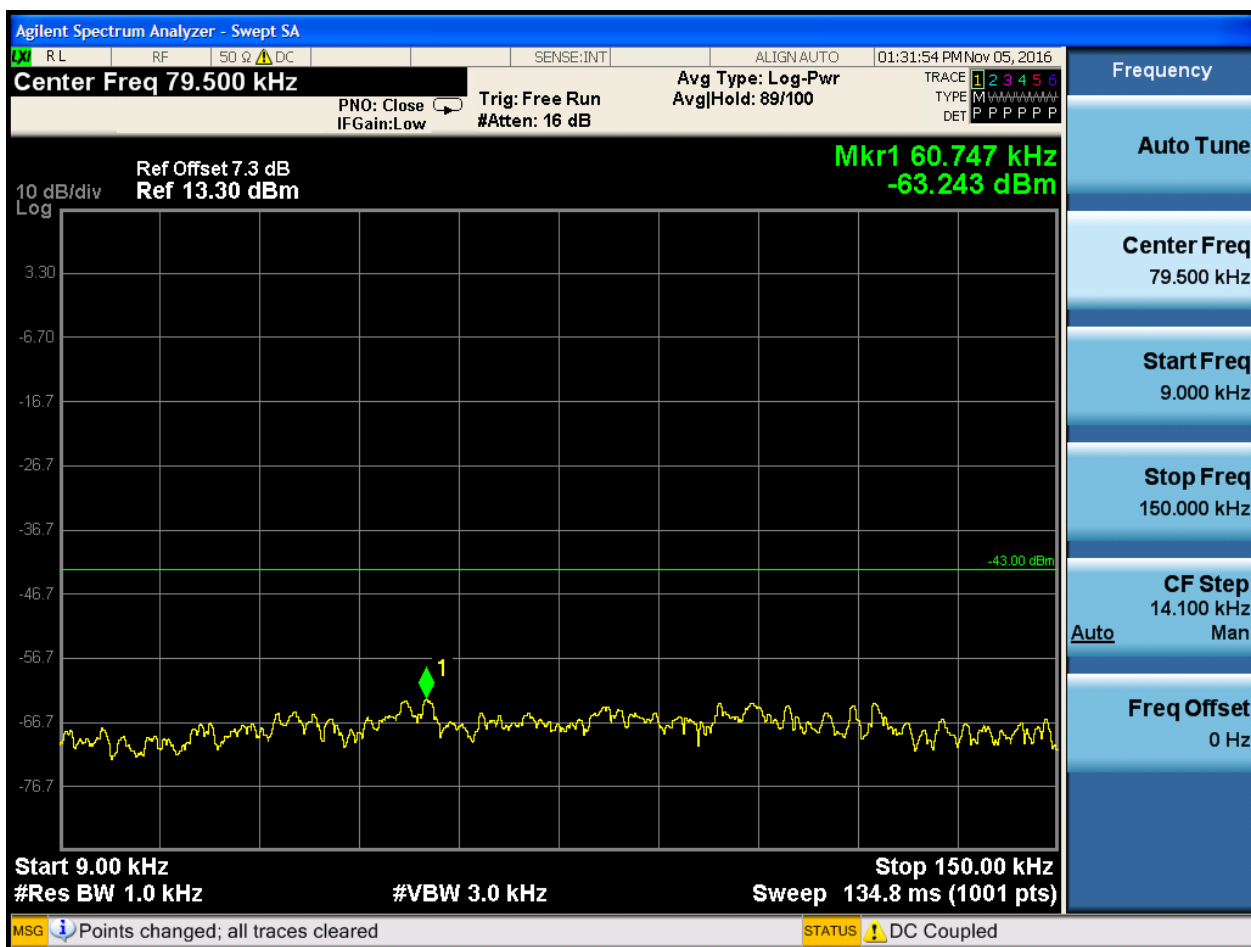


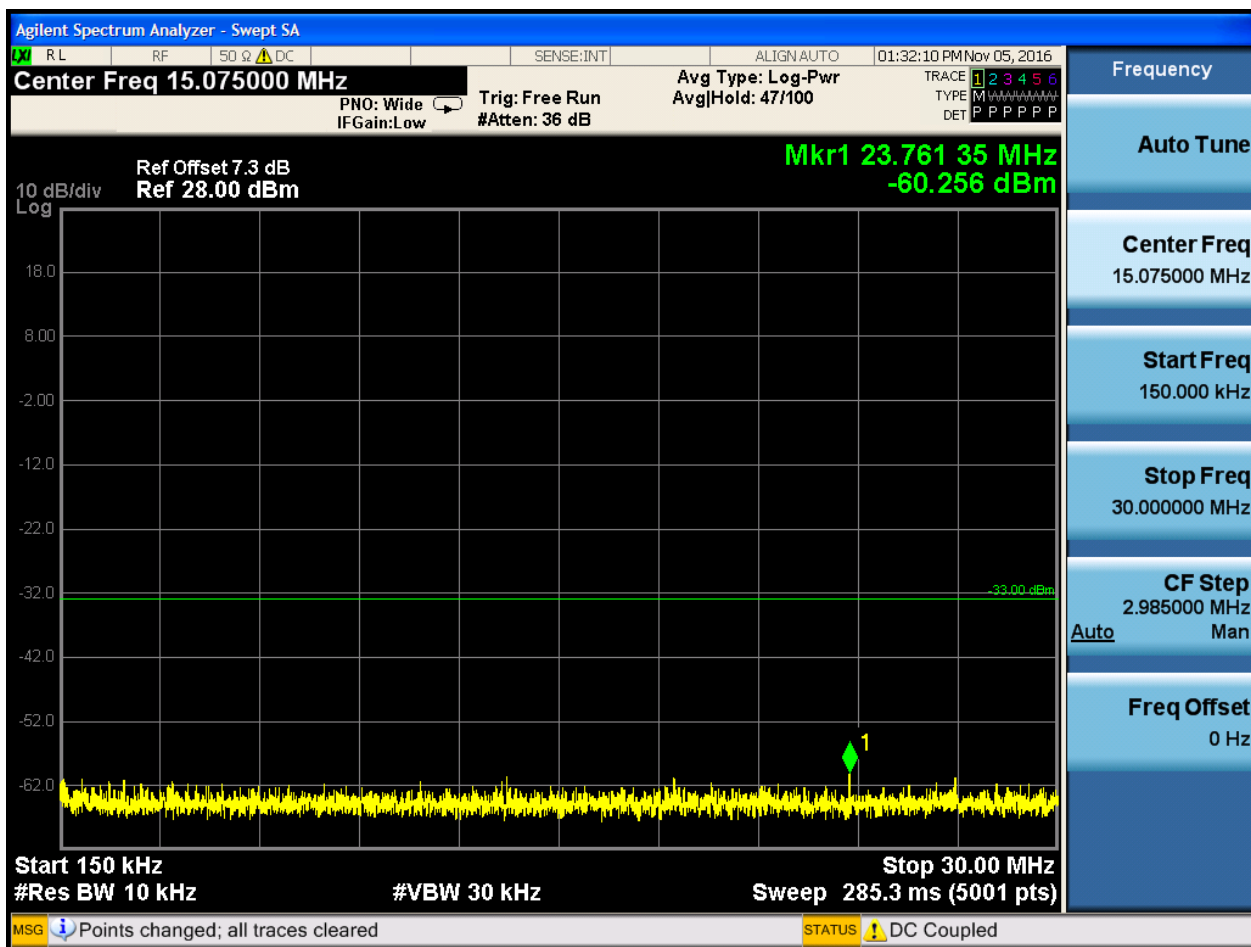


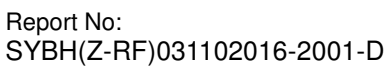
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

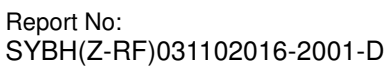
6.1.1.1.3.1.1 Test RB = RB1#0

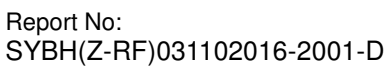






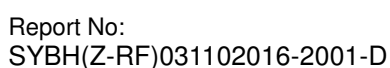


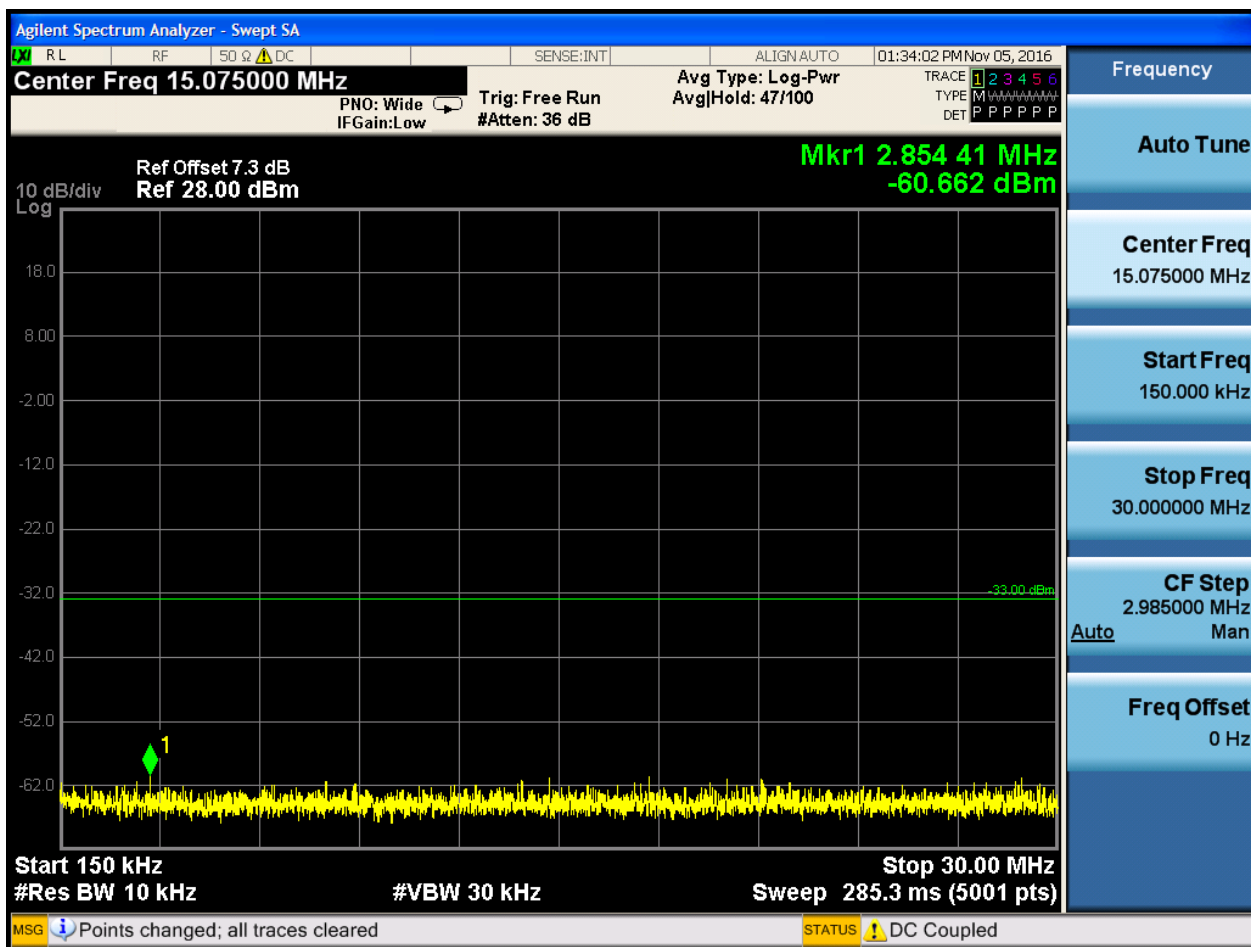






6.1.1.1.3.3.1 Test RB = RB1#0





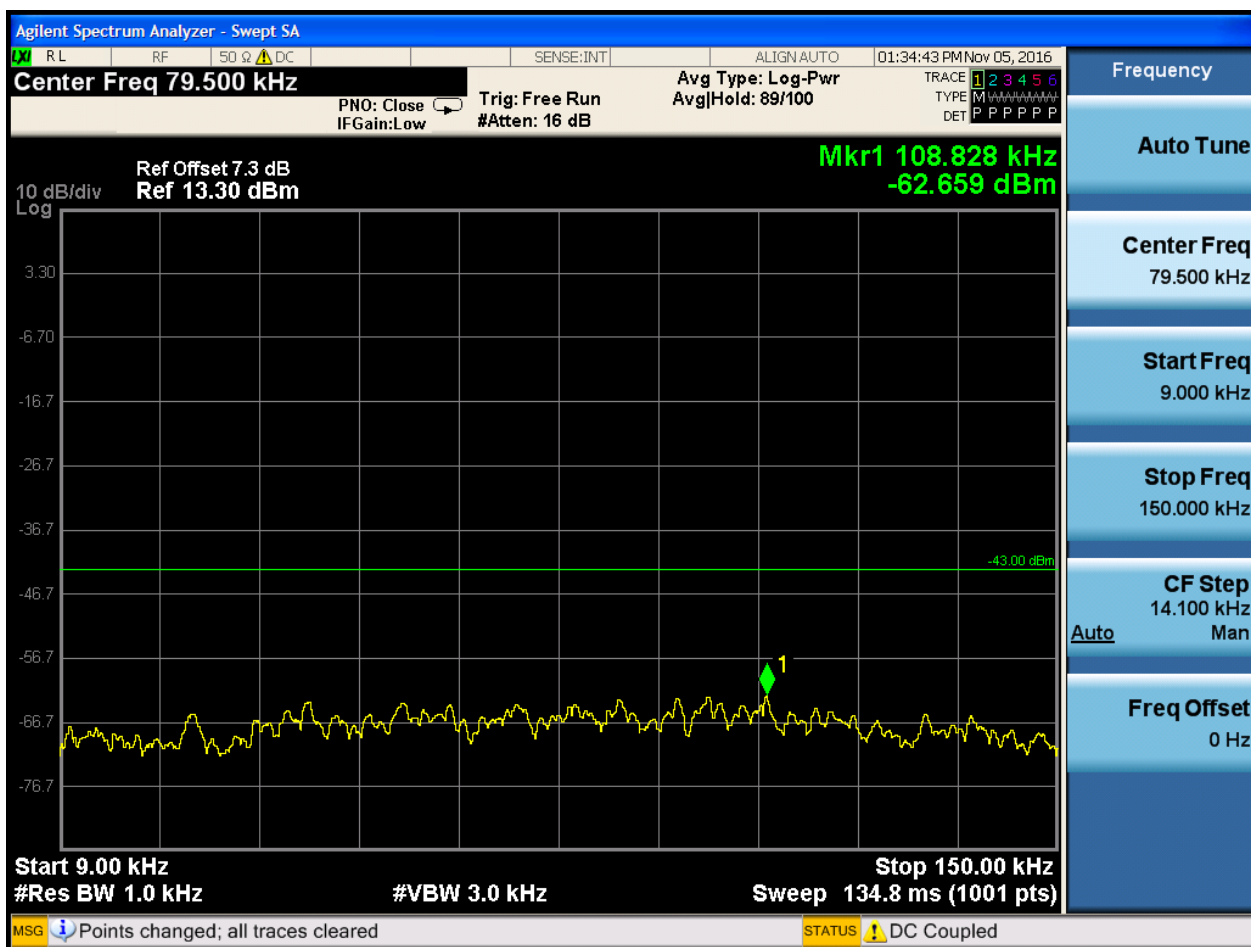


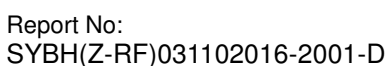


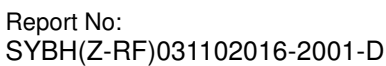
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

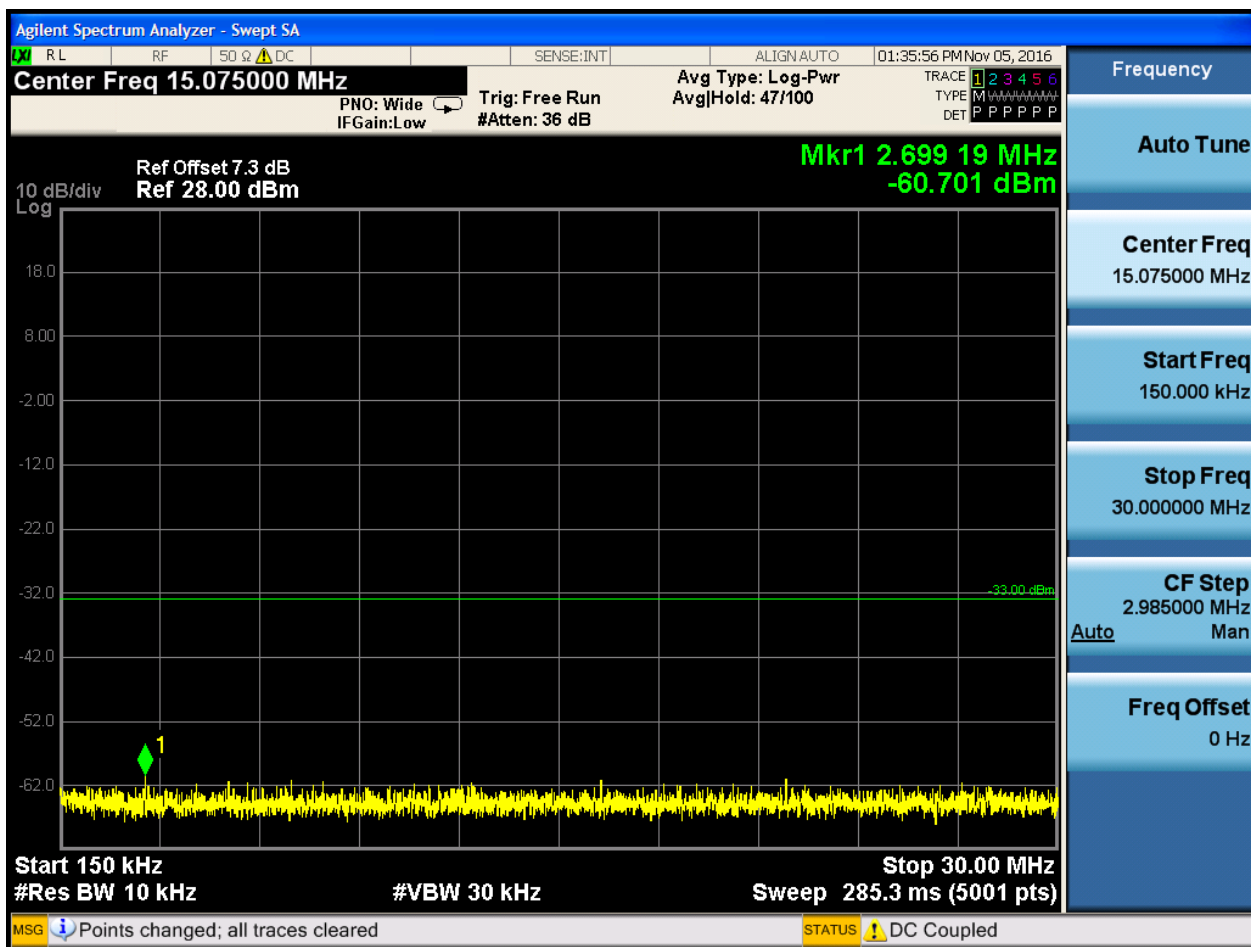
6.1.1.1.4.1.1 Test RB = RB1#0

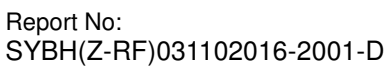




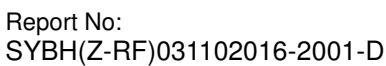


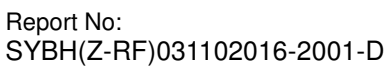




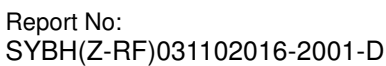






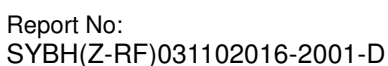


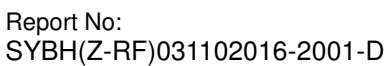




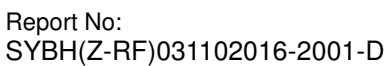


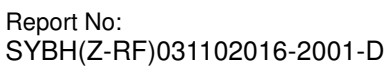




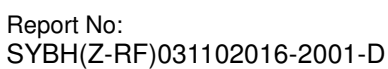


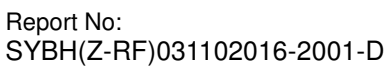








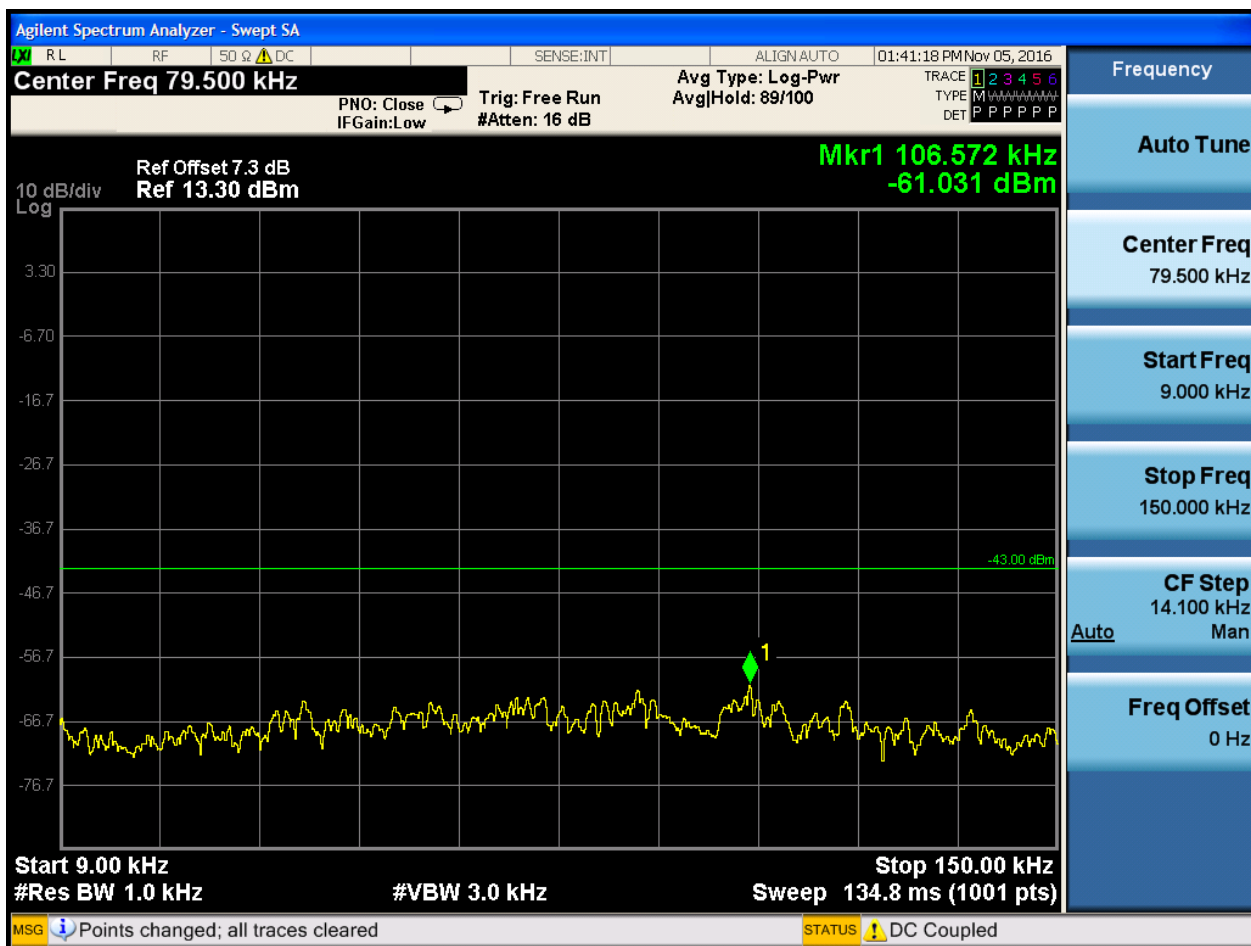


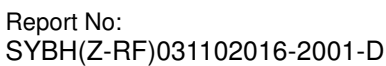


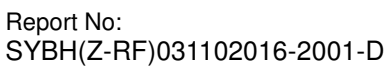


6.1.1.1.6.2 Test Channel = MCH

6.1.1.1.6.2.1 Test RB = RB1#0



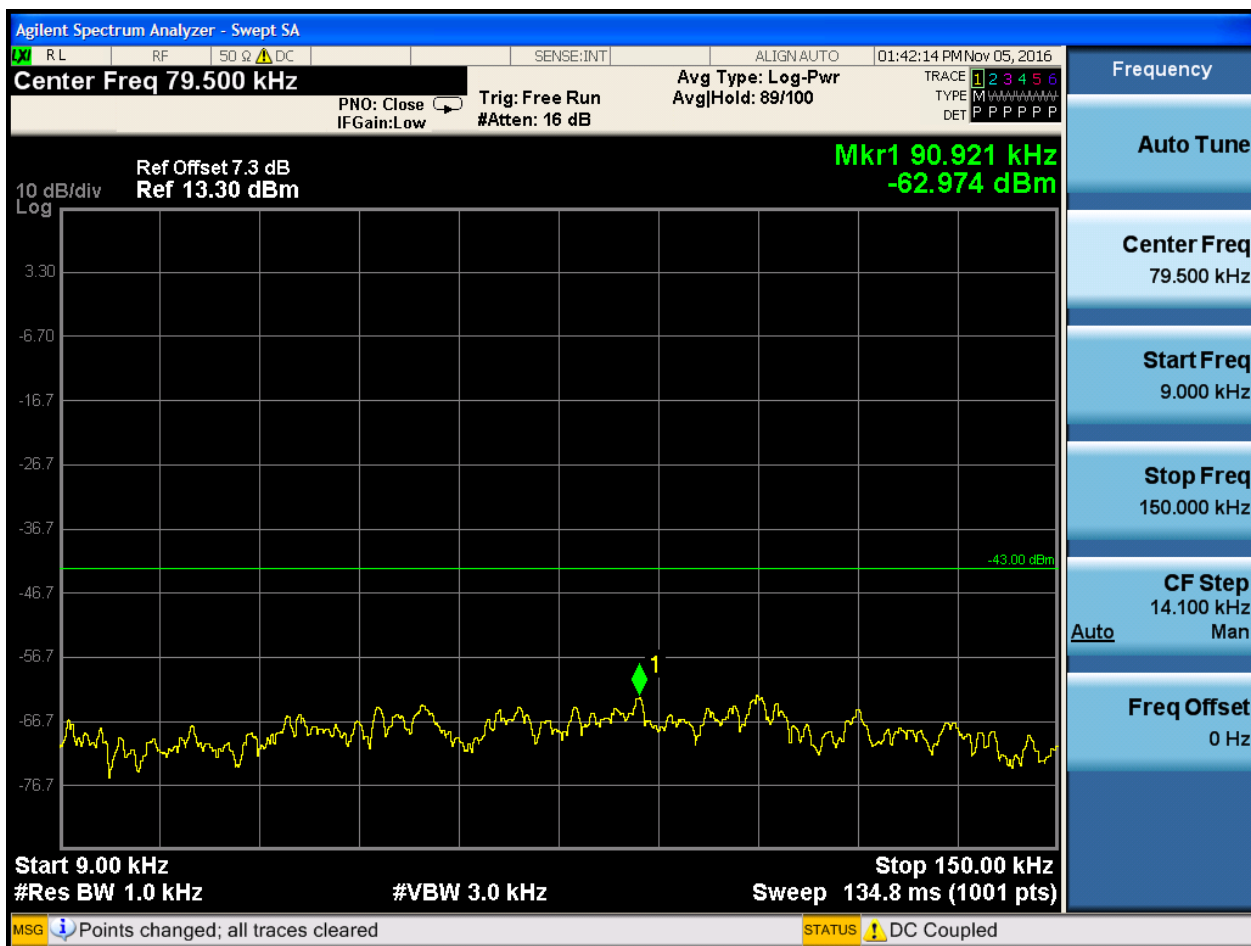


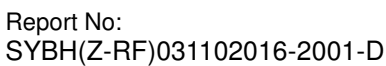


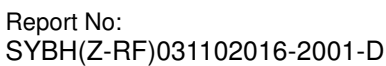


6.1.1.1.6.3 Test Channel = HCH

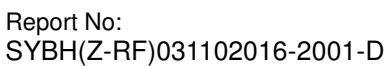
6.1.1.1.6.3.1 Test RB = RB1#0

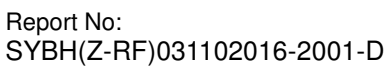




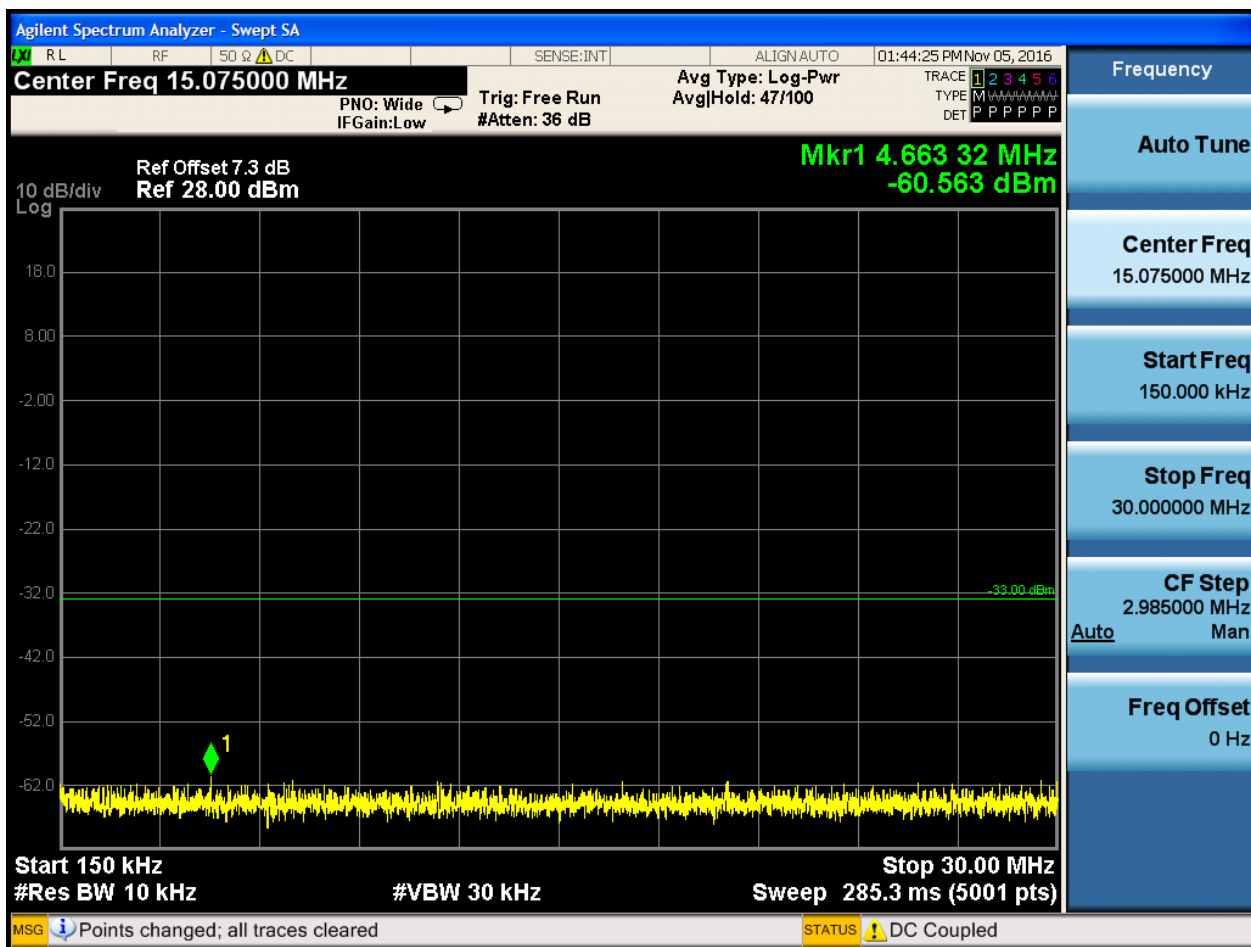


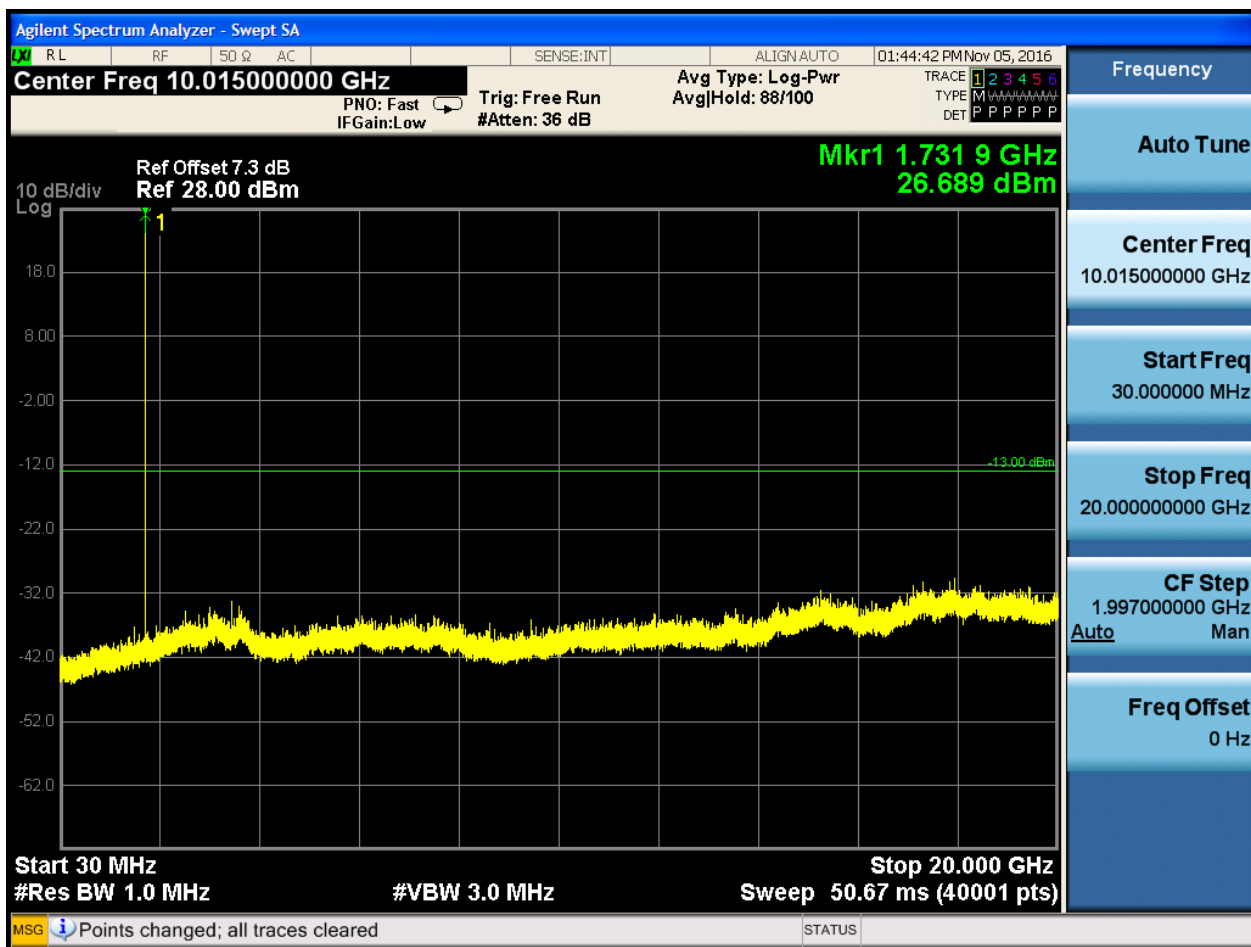








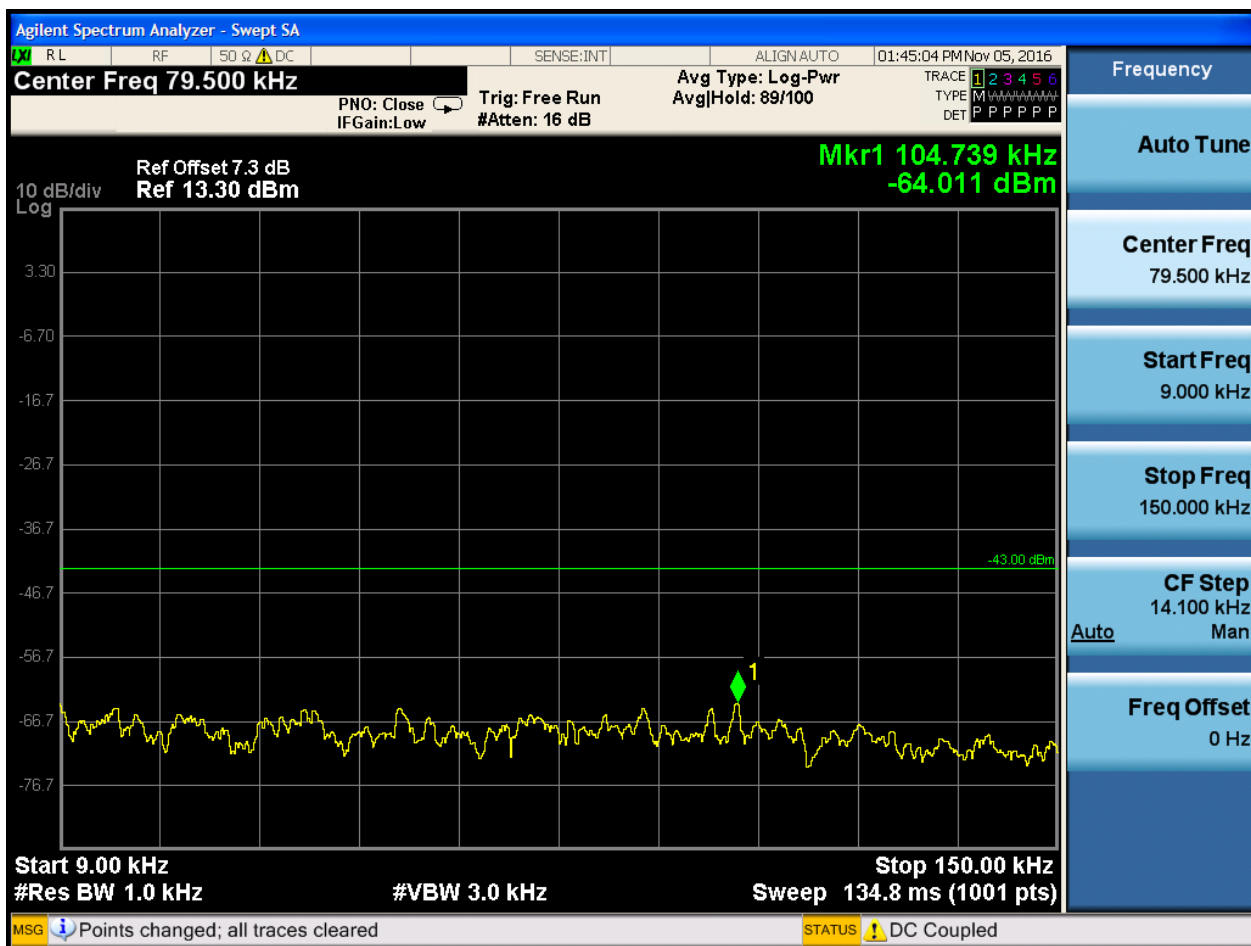


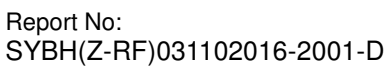




6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





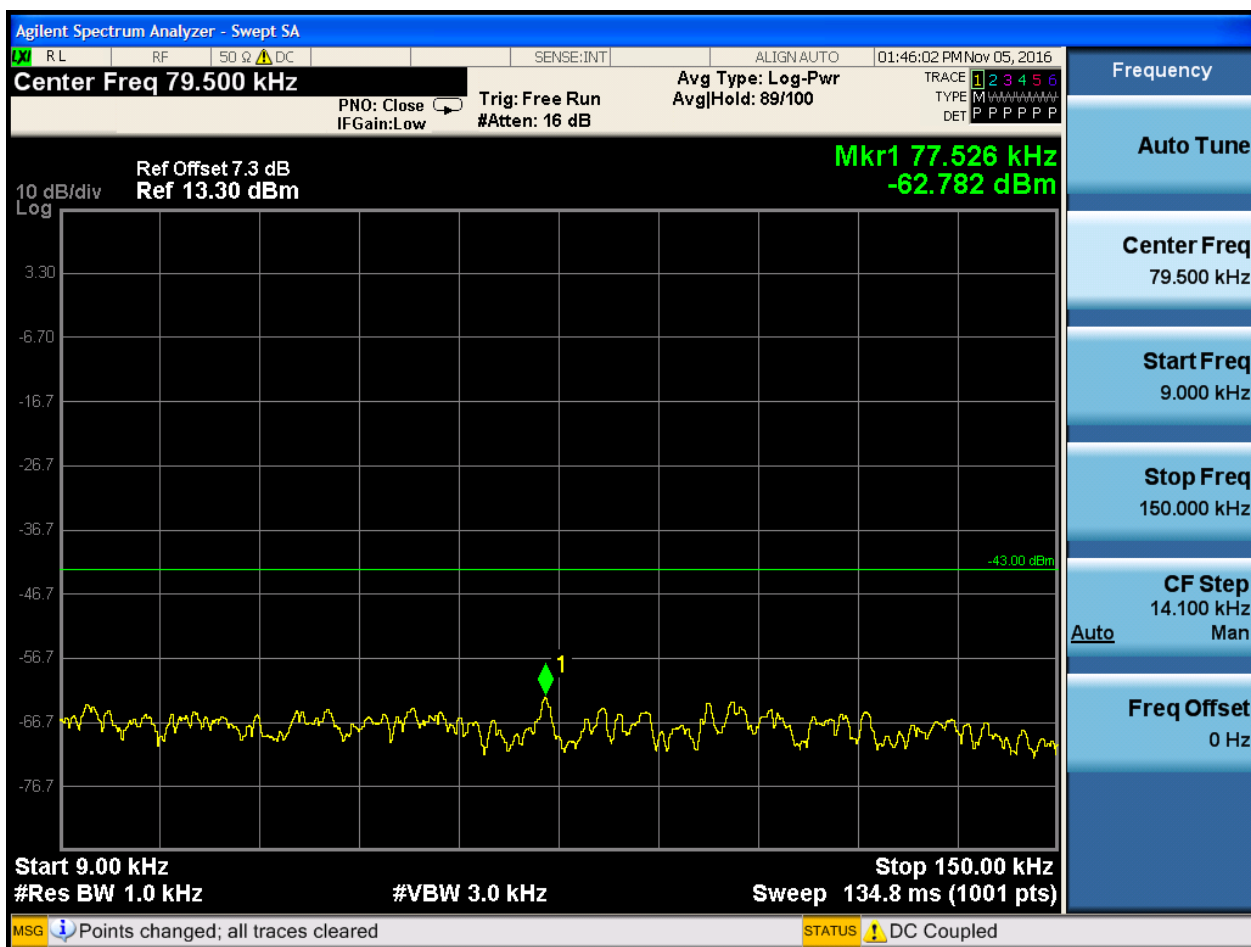


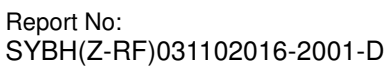


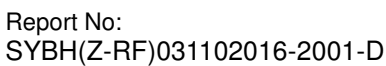
6.1.1.2.2 Test Bandwidth = 3

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0









6.1.1.2.2.2.1 Test RB = RB1#0

