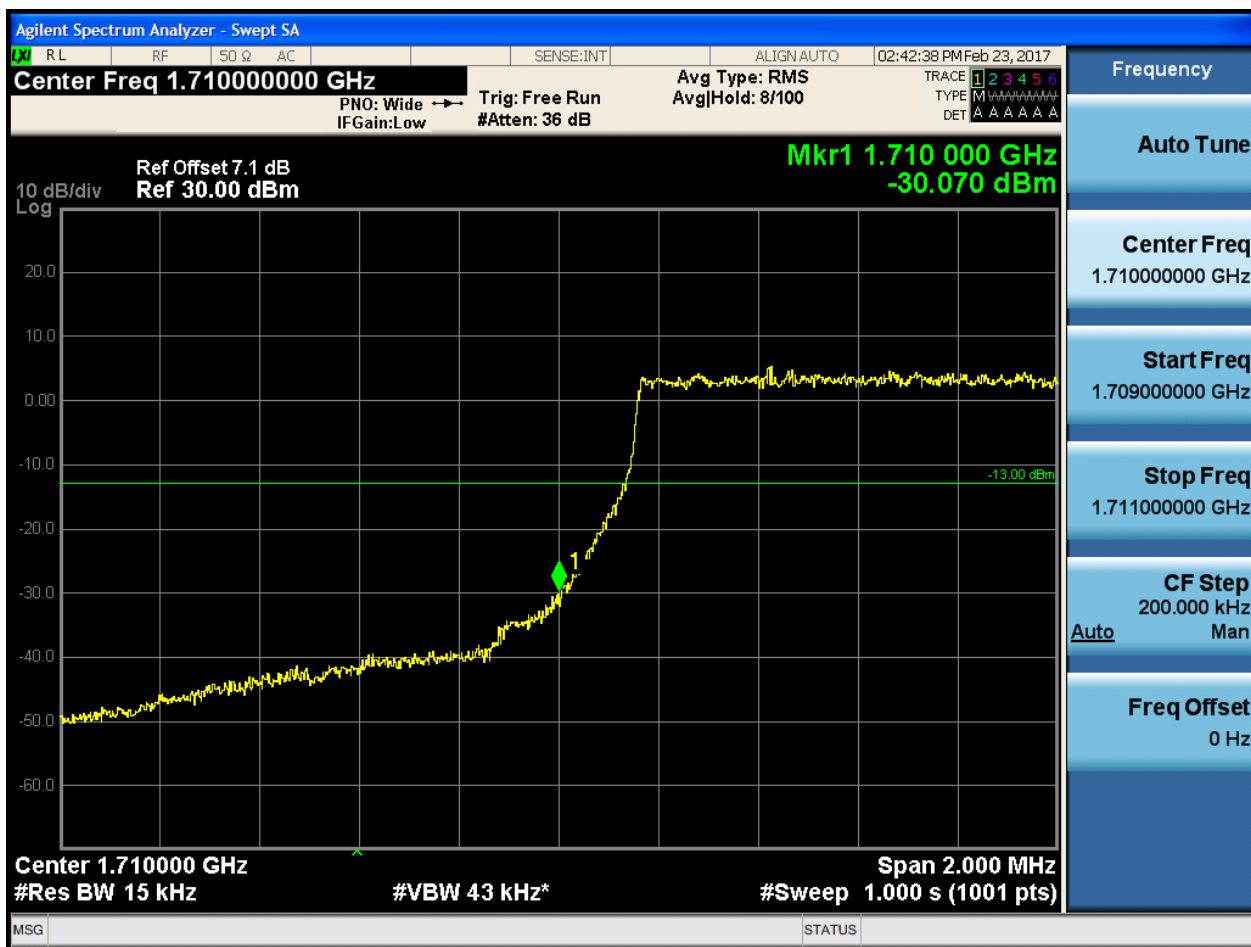




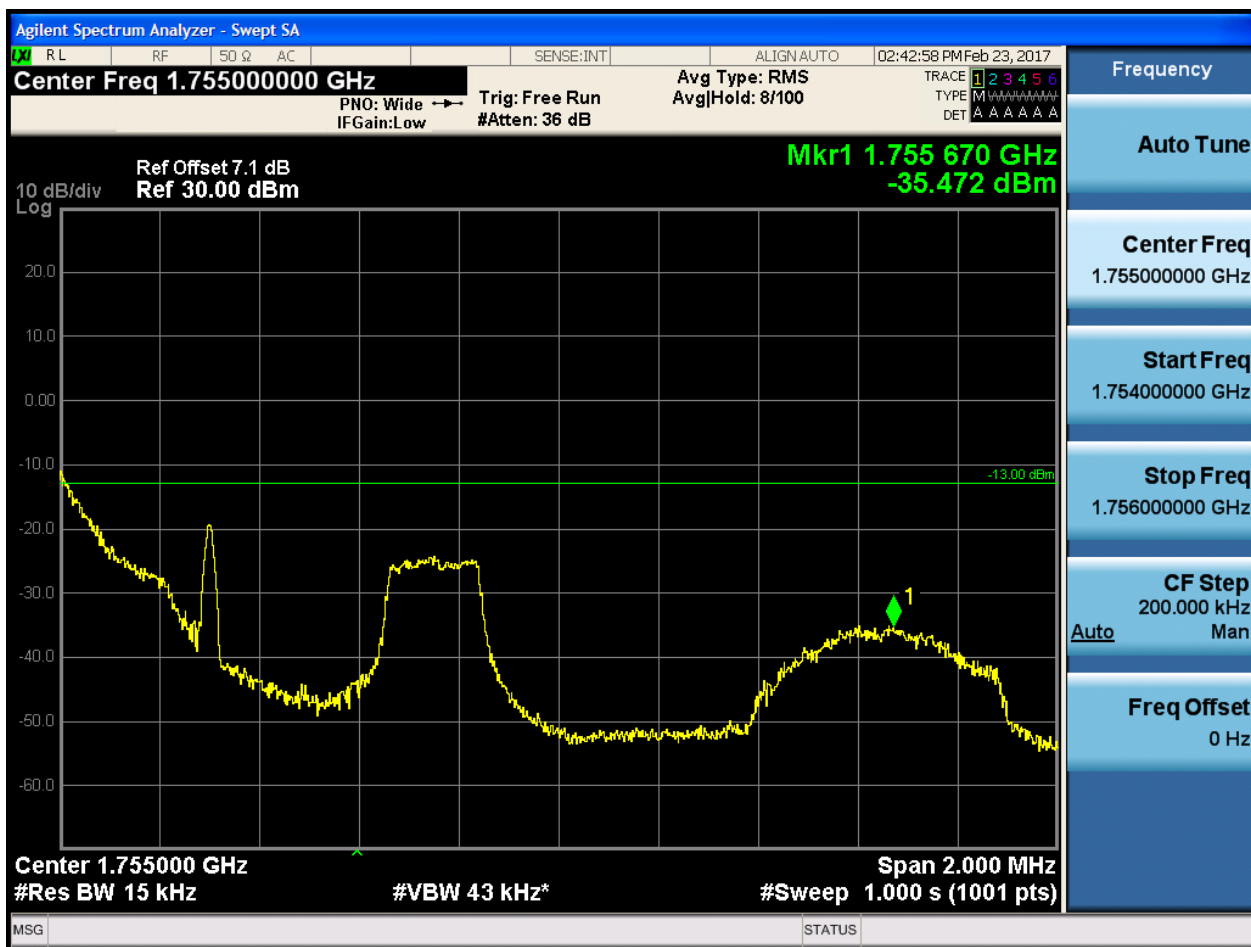
5.1.1.2.1.1.4 Test RB = RB6#0





5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:43:12 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-24.518 dBm

10 dB/div
Log

Center 1.755000 GHz
#Res BW 15 kHz
#VBW 43 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 02:43:26 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-29.618 dBm

10 dB/div
Log

Center 1.755000 GHz
#Res BW 15 kHz
#VBW 43 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 02:43:41 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-29.724 dBm

10 dB/div
Log

-13.00 dBm

Center 1.755000 GHz Span 2.000 MHz
#Res BW 15 kHz #VBW 43 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

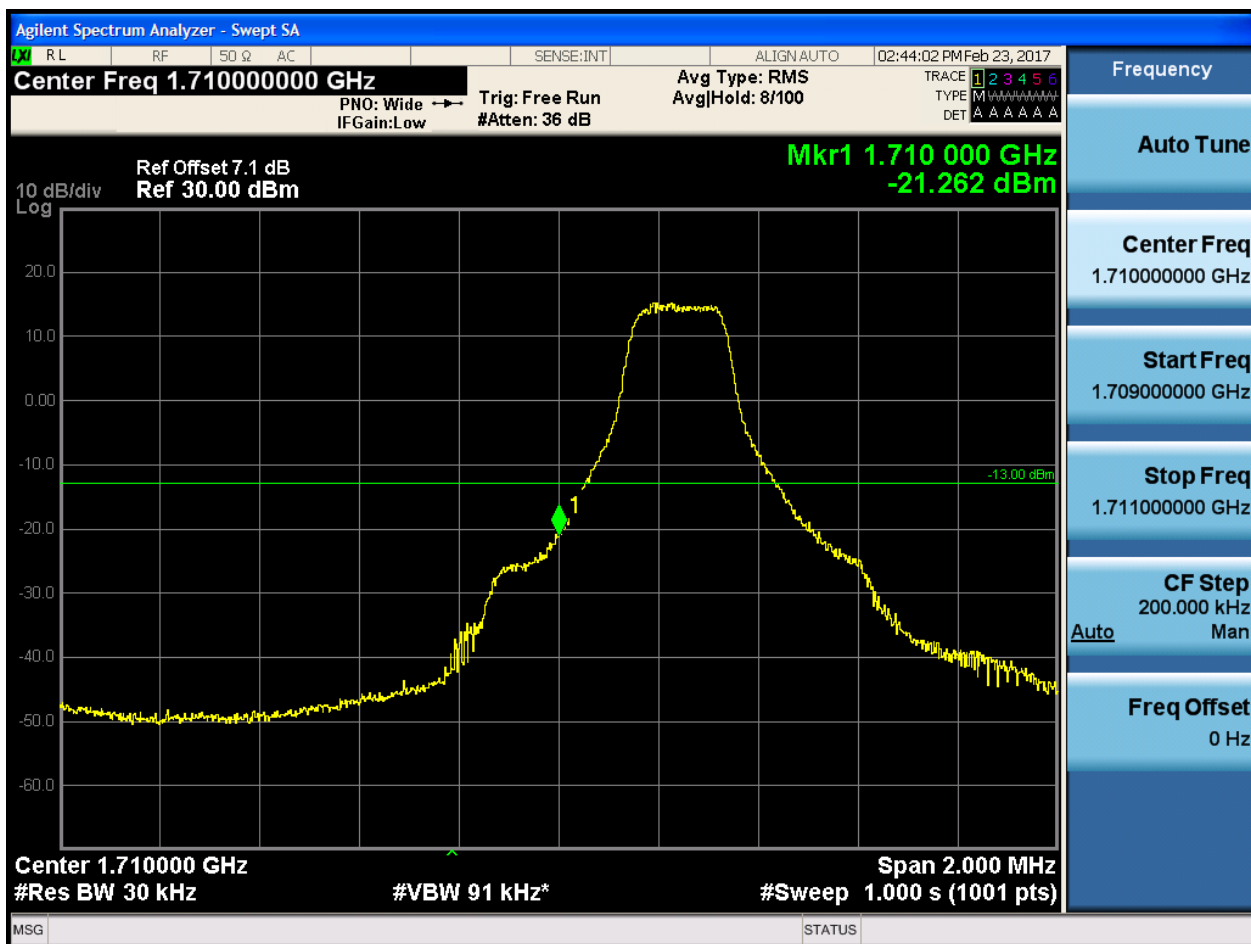
Freq Offset
0 Hz



5.1.1.2.2 Test Bandwidth = 3

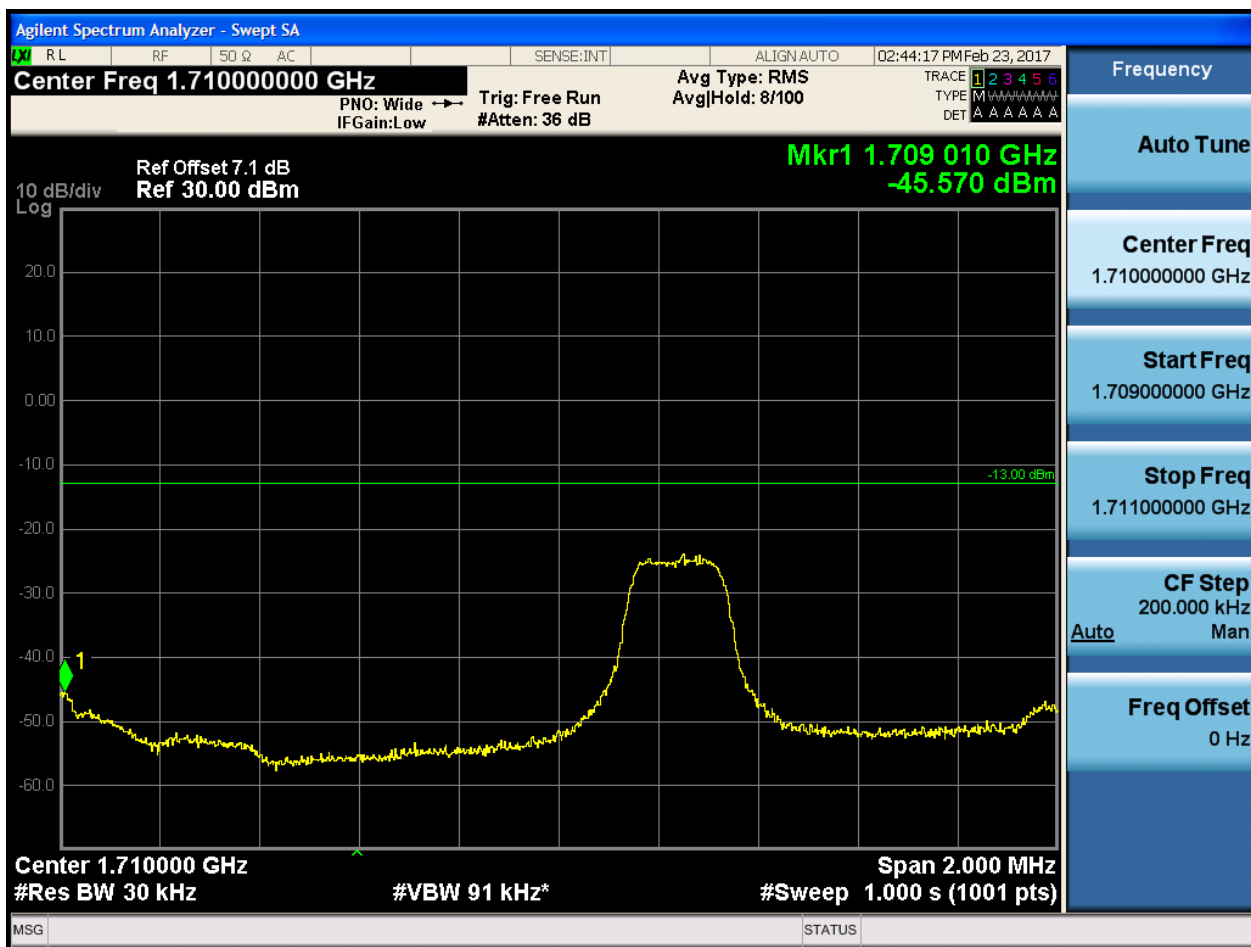
5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0



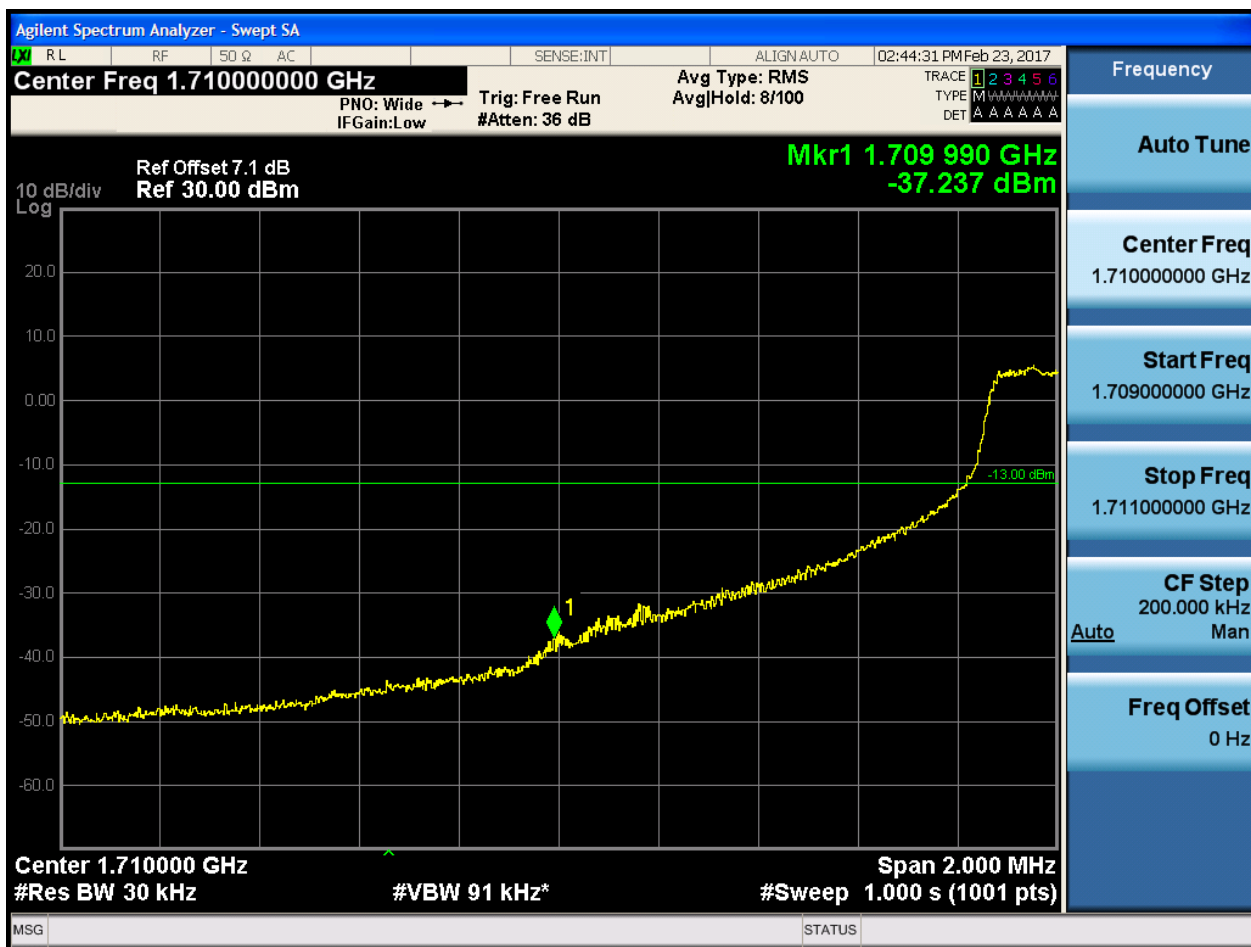


5.1.1.2.2.1.2 Test RB = RB1#14



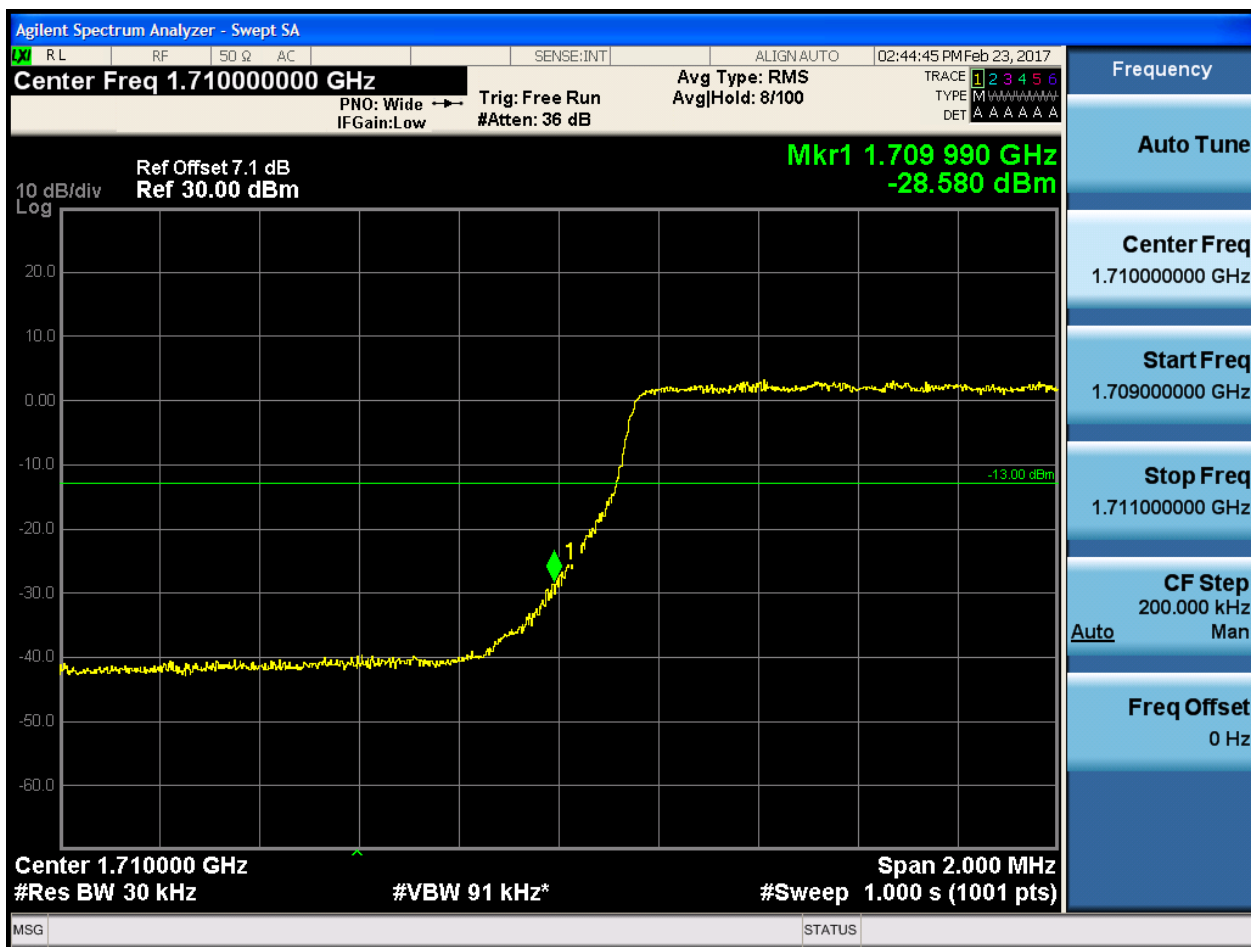


5.1.1.2.2.1.3 Test RB = RB8#4





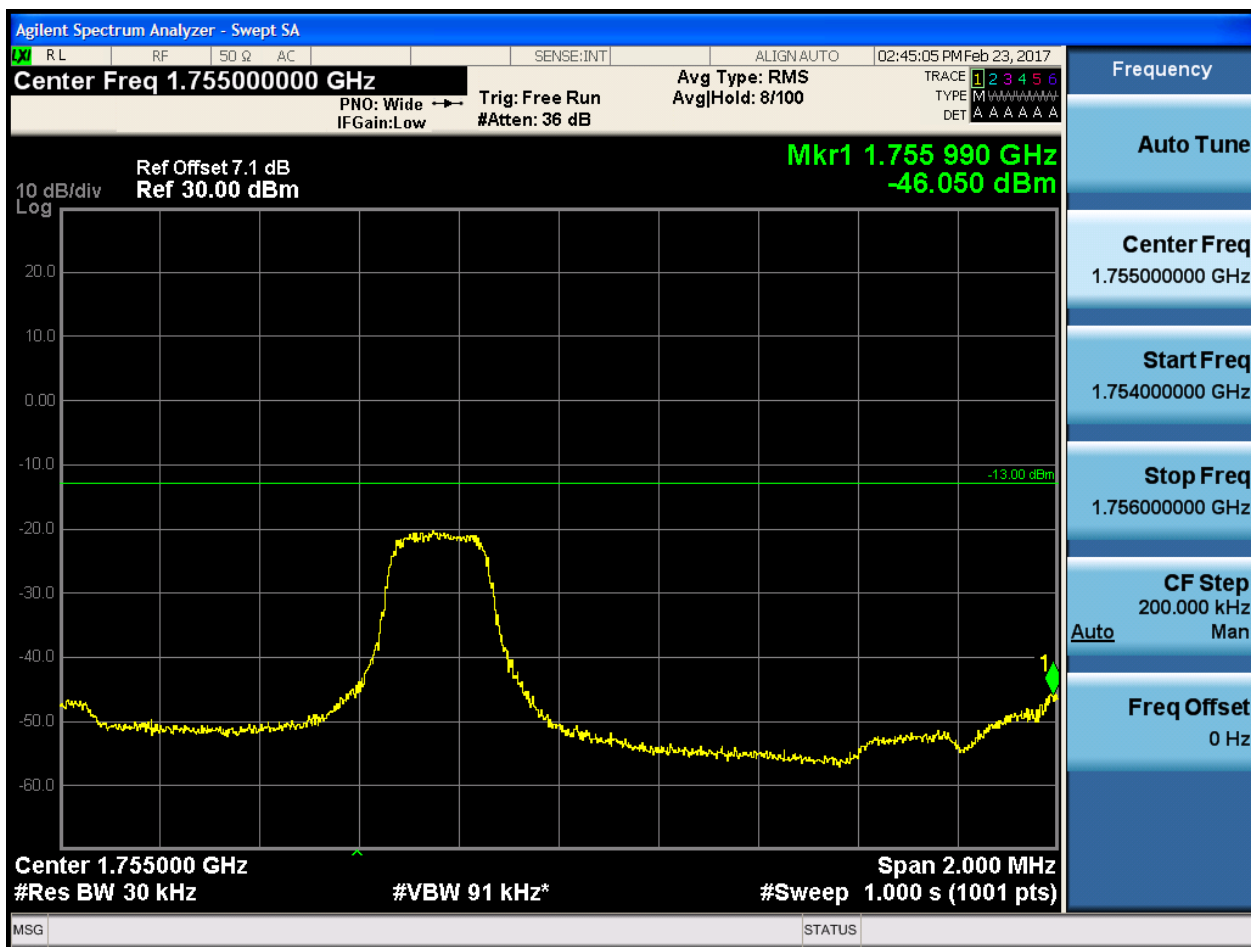
5.1.1.2.2.1.4 Test RB = RB15#0





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

Center Freq 1.75500000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-20.495 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



Agilent Spectrum Analyzer - Swept SA

Center Freq 1.755000000 GHz

Ref Offset 7.1 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.755 010 GHz
-35.766 dBm

Center 1.755000 GHz
#Res BW 30 kHz
#VBW 91 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
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 02:45:33 PM Feb 23, 2017

PNO: Wide Trig: Free Run Avg Type: RMS
IFGain: Low #Atten: 36 dB Avg|Hold: 8/100

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

-13.00 dBm

MSG STATUS



5.1.1.2.2.4 Test RB = RB15#0

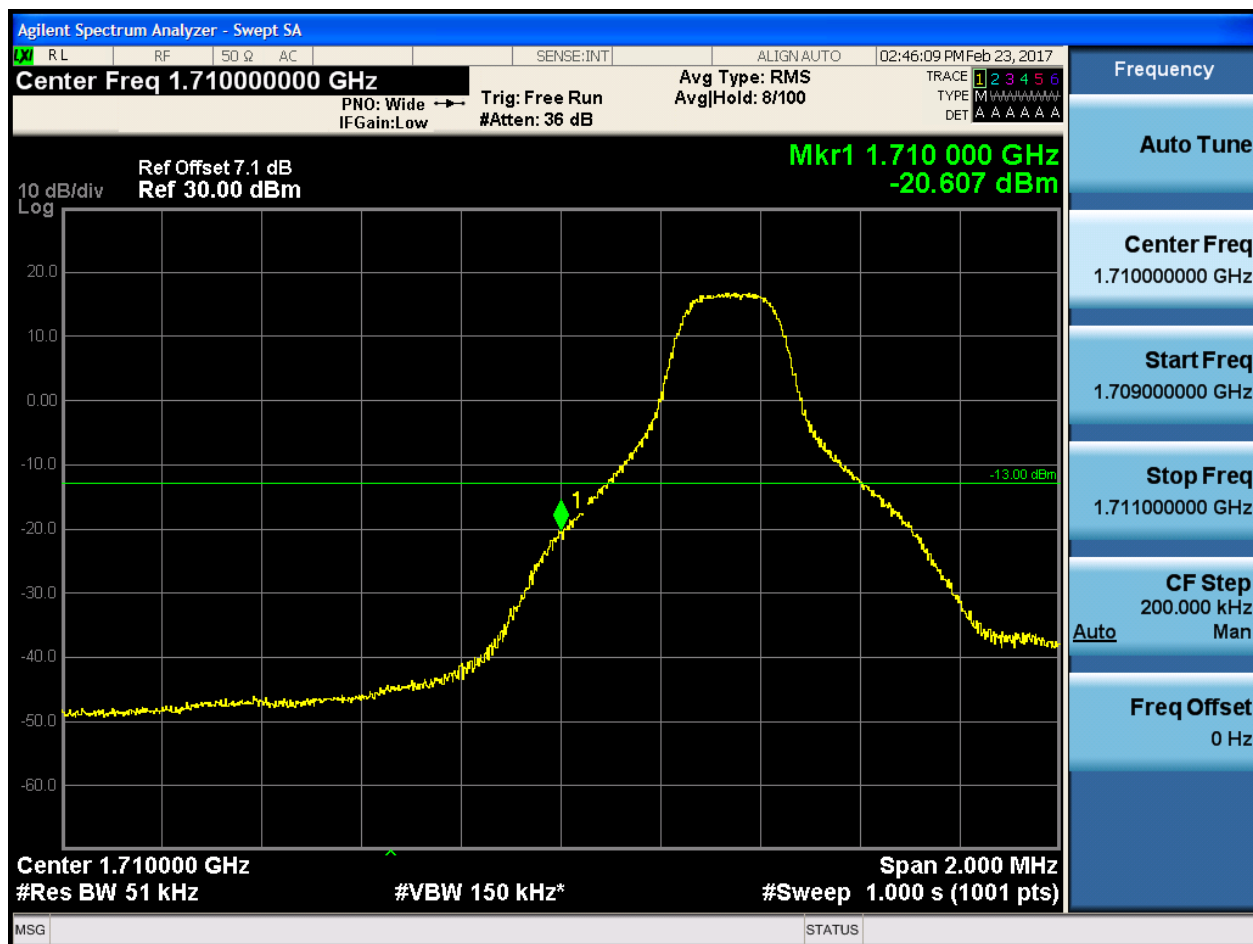




5.1.1.2.3 Test Bandwidth = 5

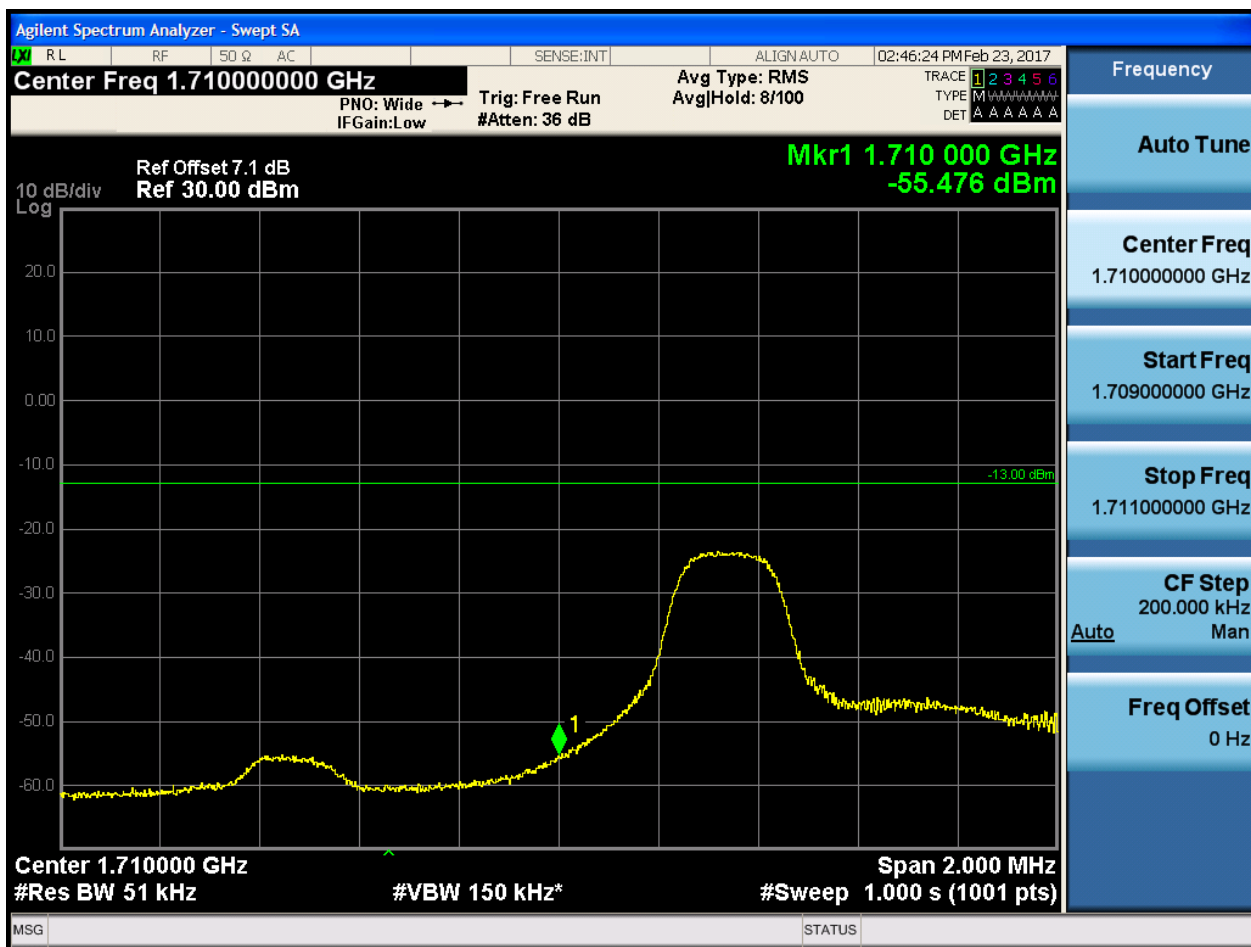
5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0



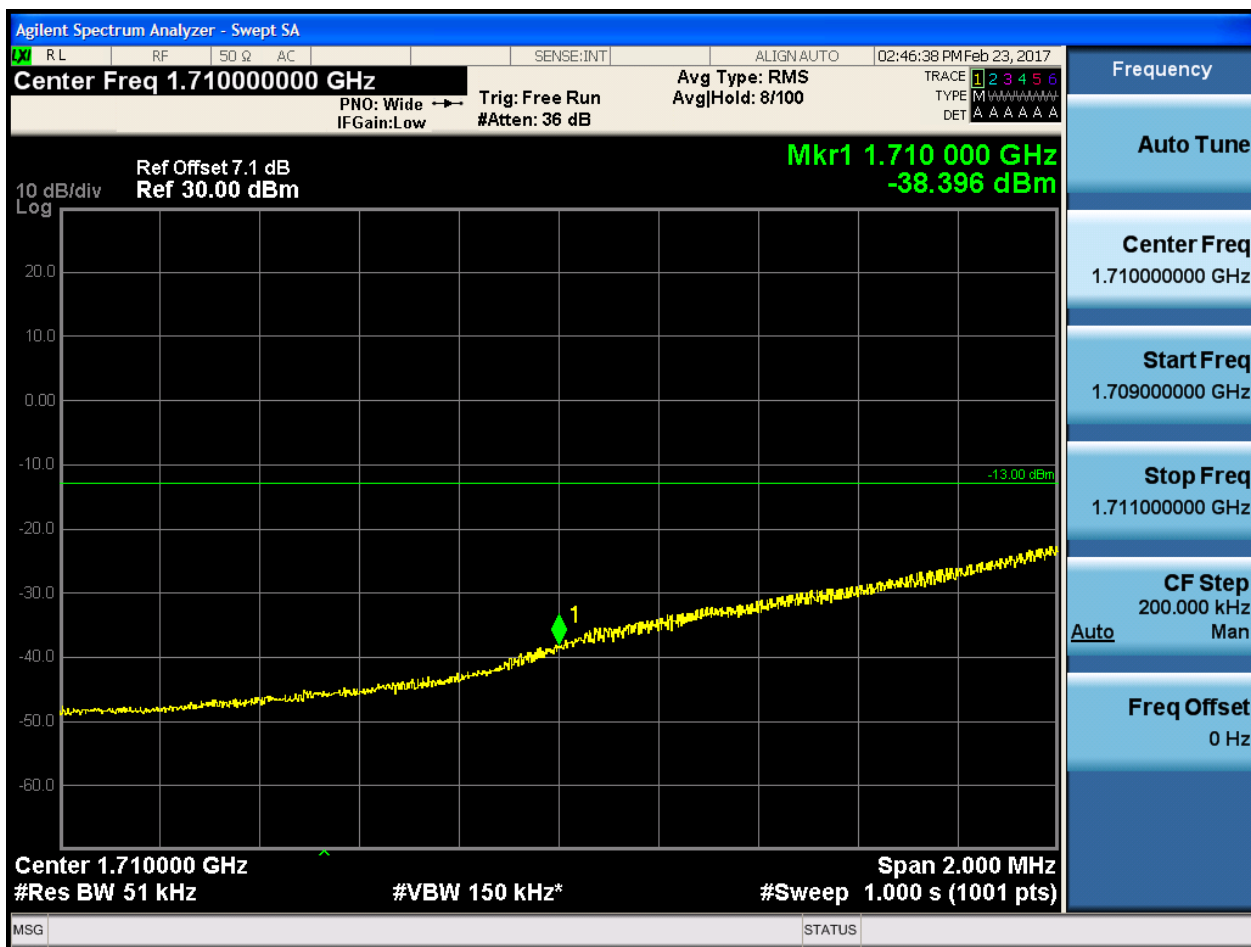


5.1.1.2.3.1.2 Test RB = RB1#24



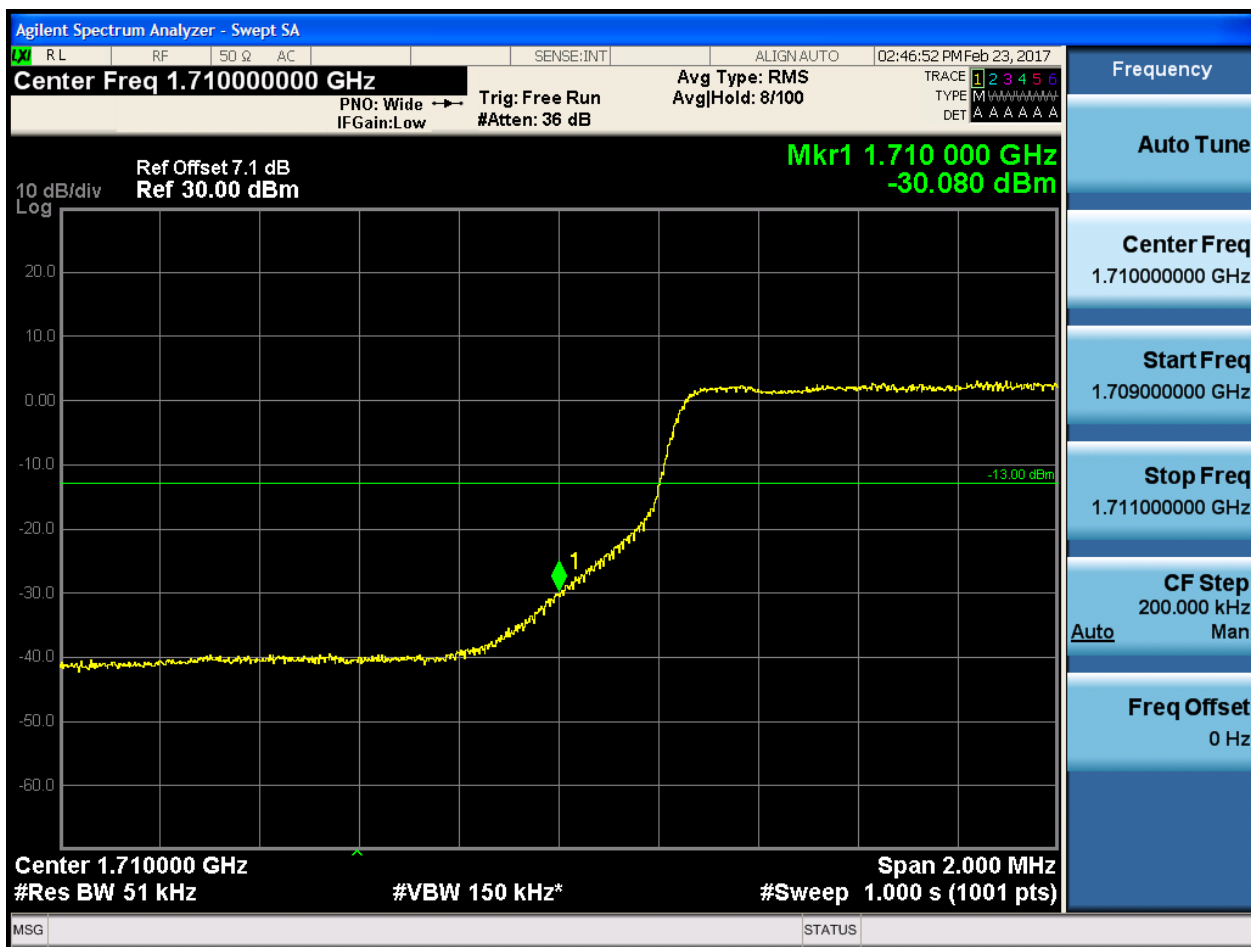


5.1.1.2.3.1.3 Test RB = RB12#6





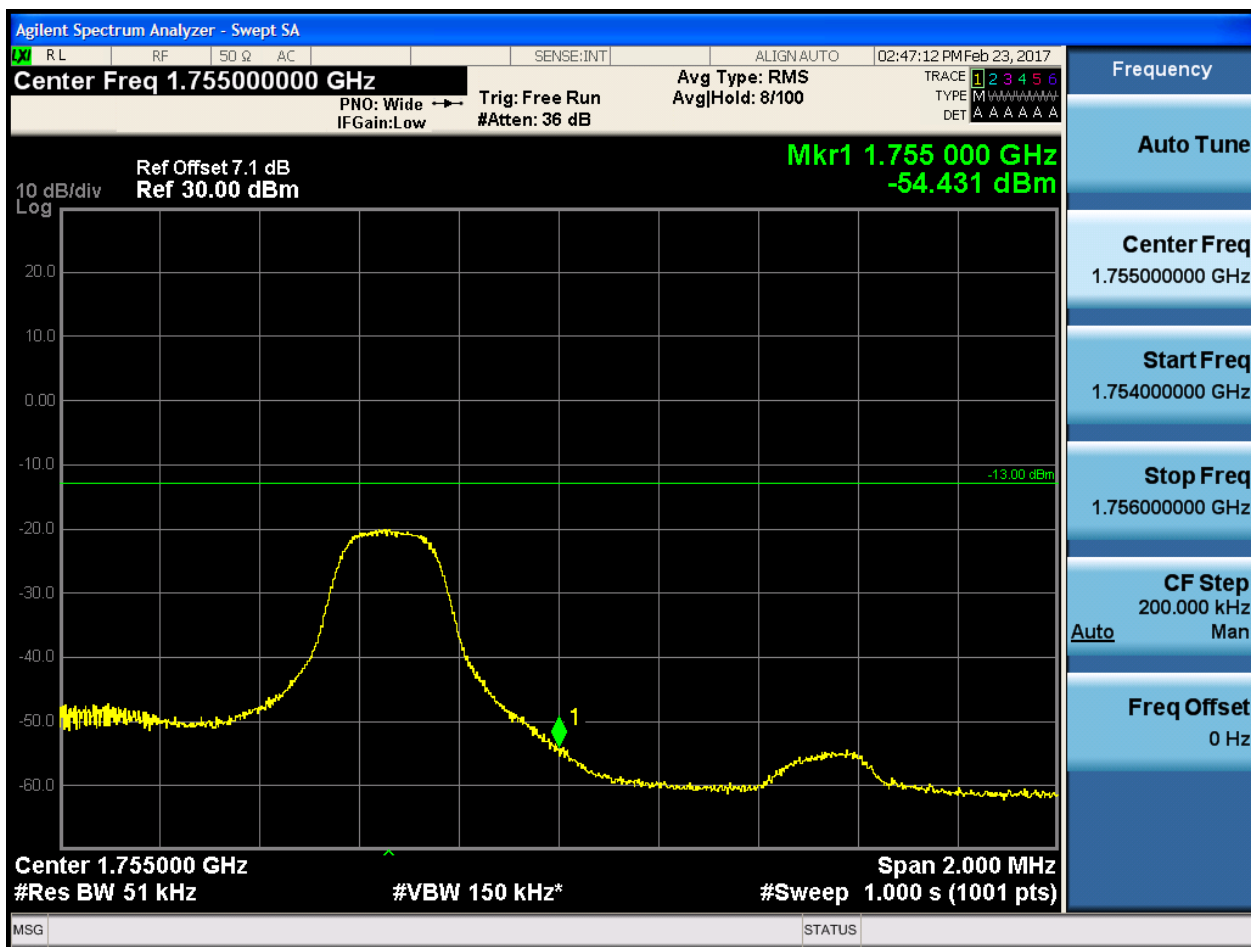
5.1.1.2.3.1.4 Test RB = RB25#0





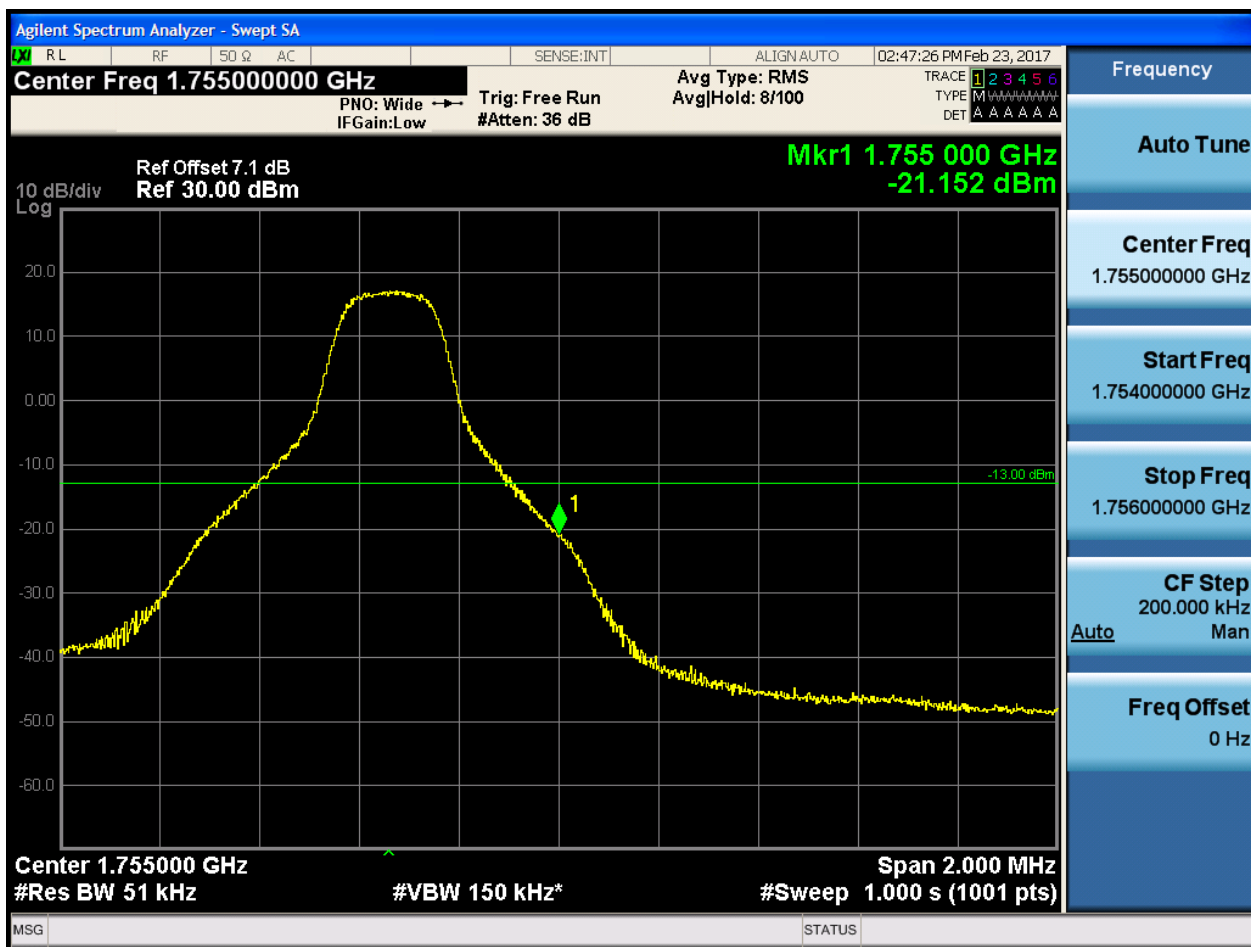
5.1.1.2.3.2 Test Channel = HCH

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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:47:55 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-29.770 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

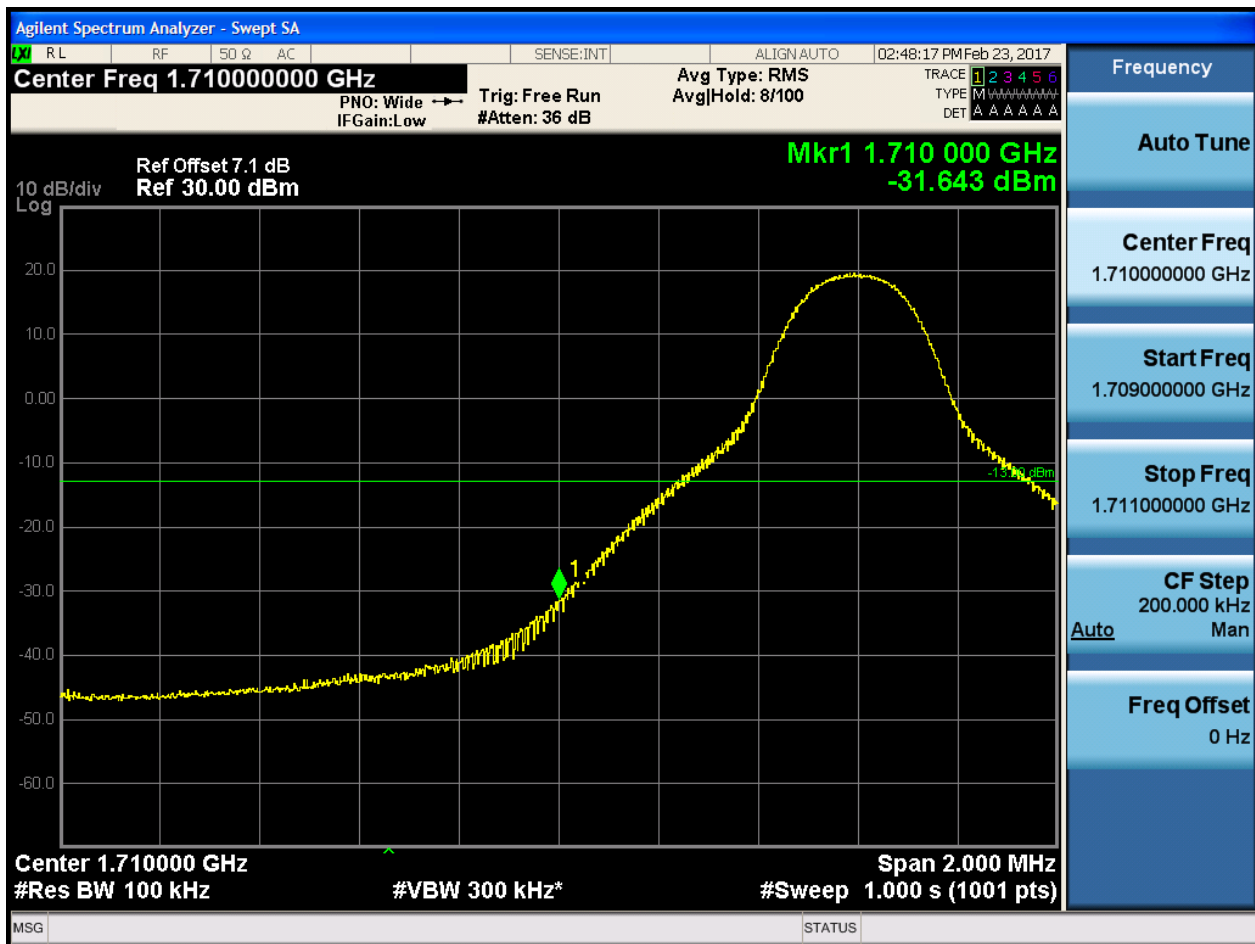
Freq Offset
0 Hz



5.1.1.2.4 Test Bandwidth = 10

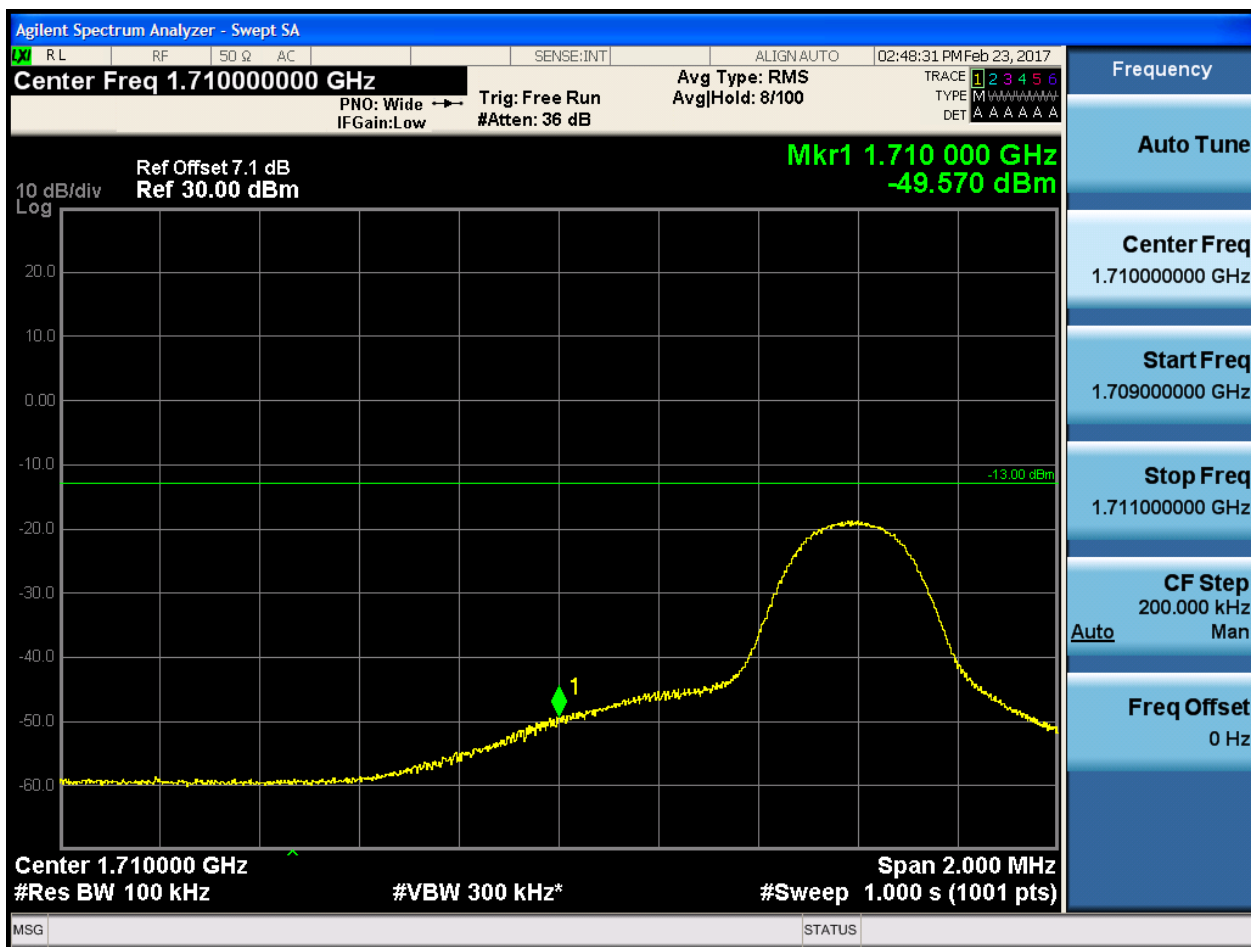
5.1.1.2.4.1 Test Channel = LCH

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 02:48:45 PM Feb 23, 2017

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 W W
DET A A A A A A

Ref Offset 7.1 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-38.898 dBm

10 dB/div
Log

-13.00 dBm

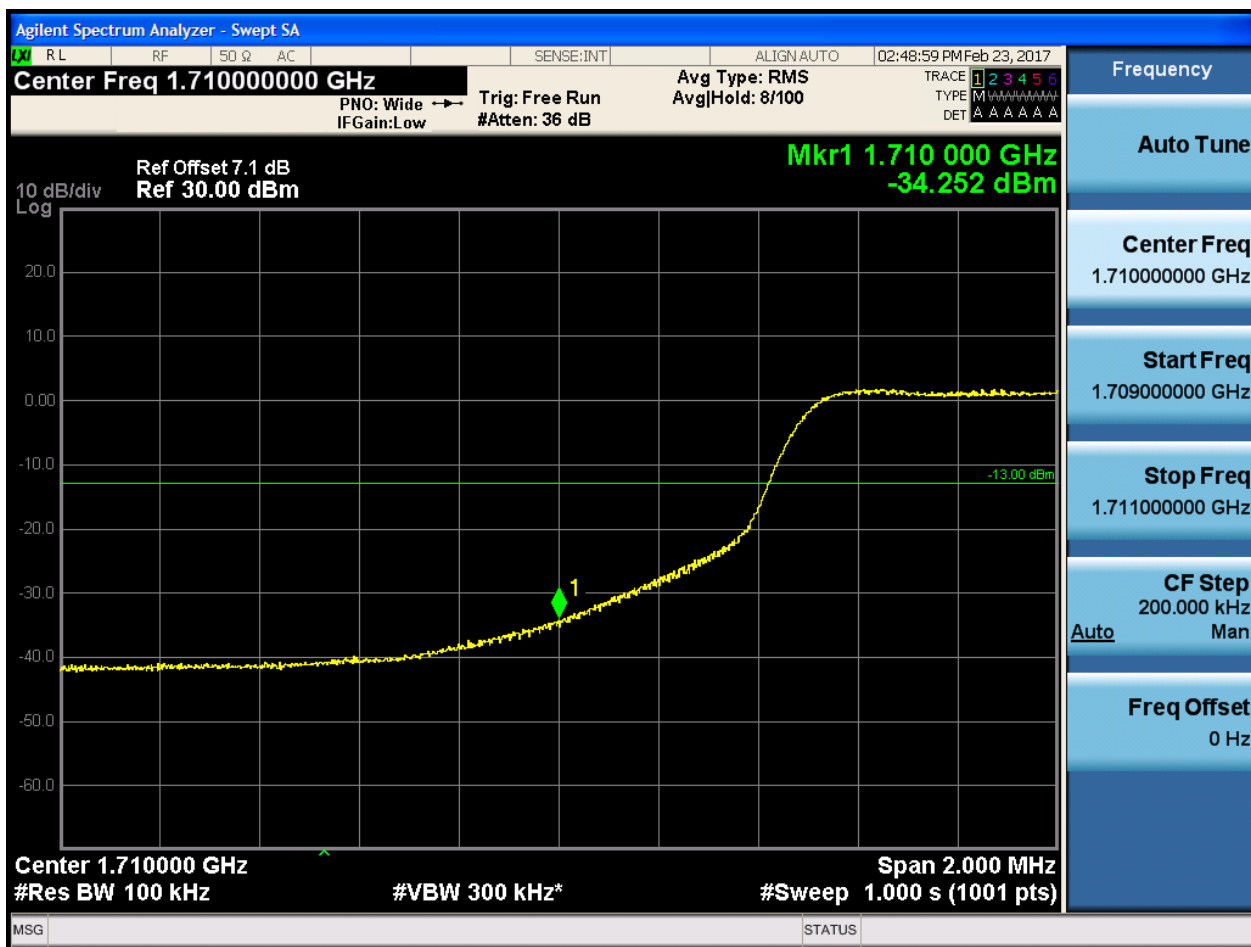
Center 1.710000 GHz
#Res BW 100 kHz
#VBW 300 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

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



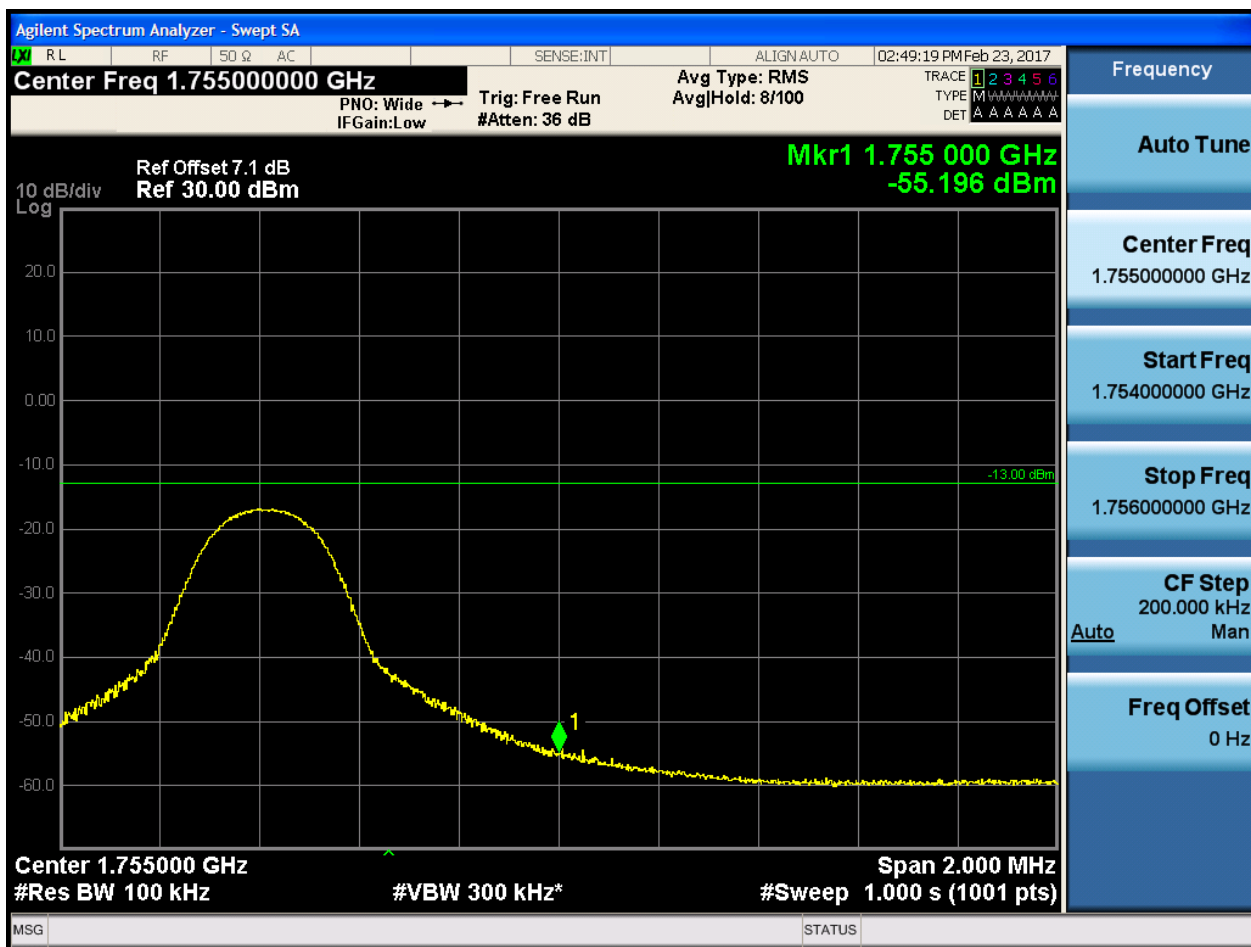
5.1.1.2.4.1.4 Test RB = RB50#0





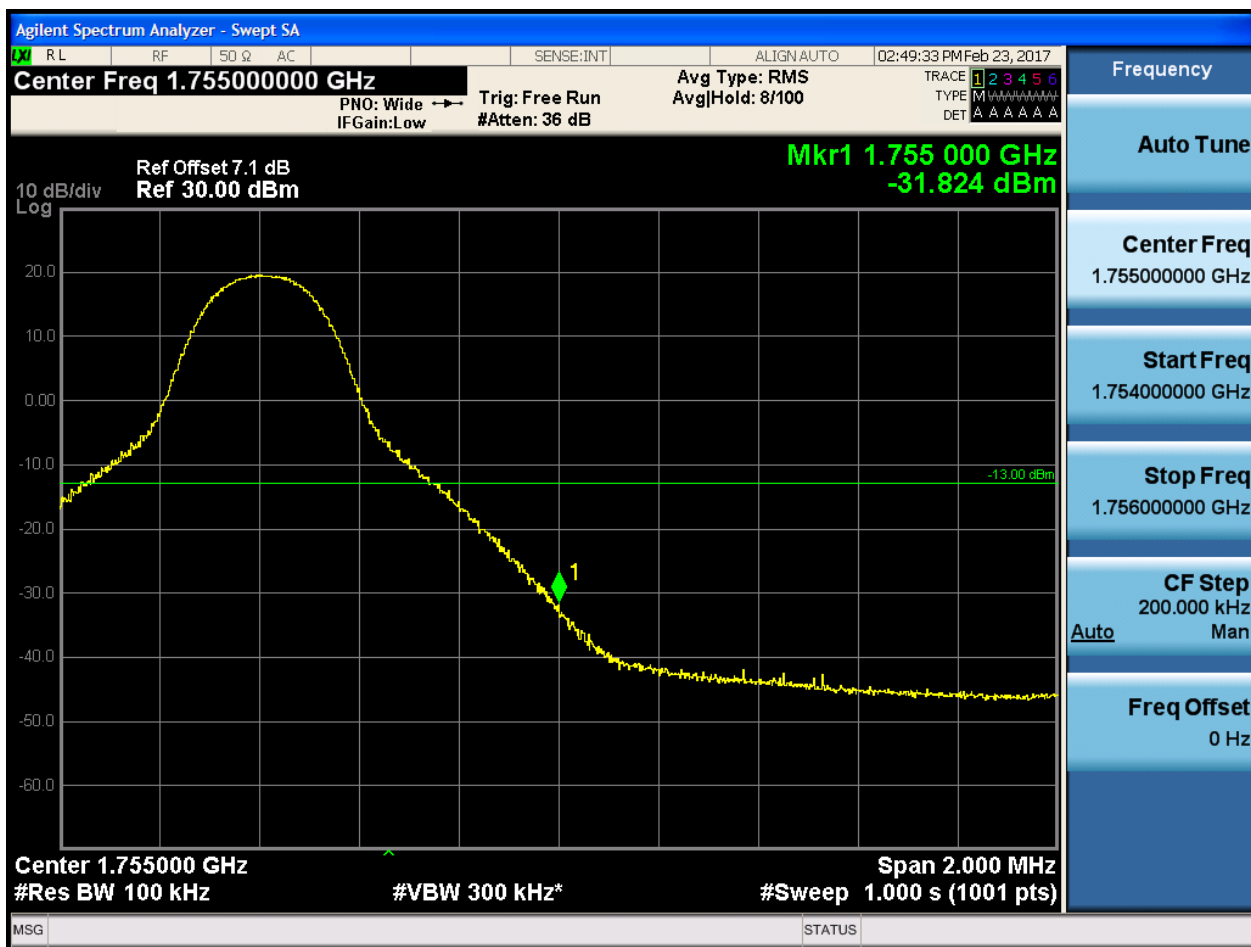
5.1.1.2.4.2 Test Channel = HCH

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

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:50:02 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-33.241 dBm

10 dB/div
Log

-13.00 dBm

Center 1.755000 GHz Span 2.000 MHz
#Res BW 100 kHz #VBW 300 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

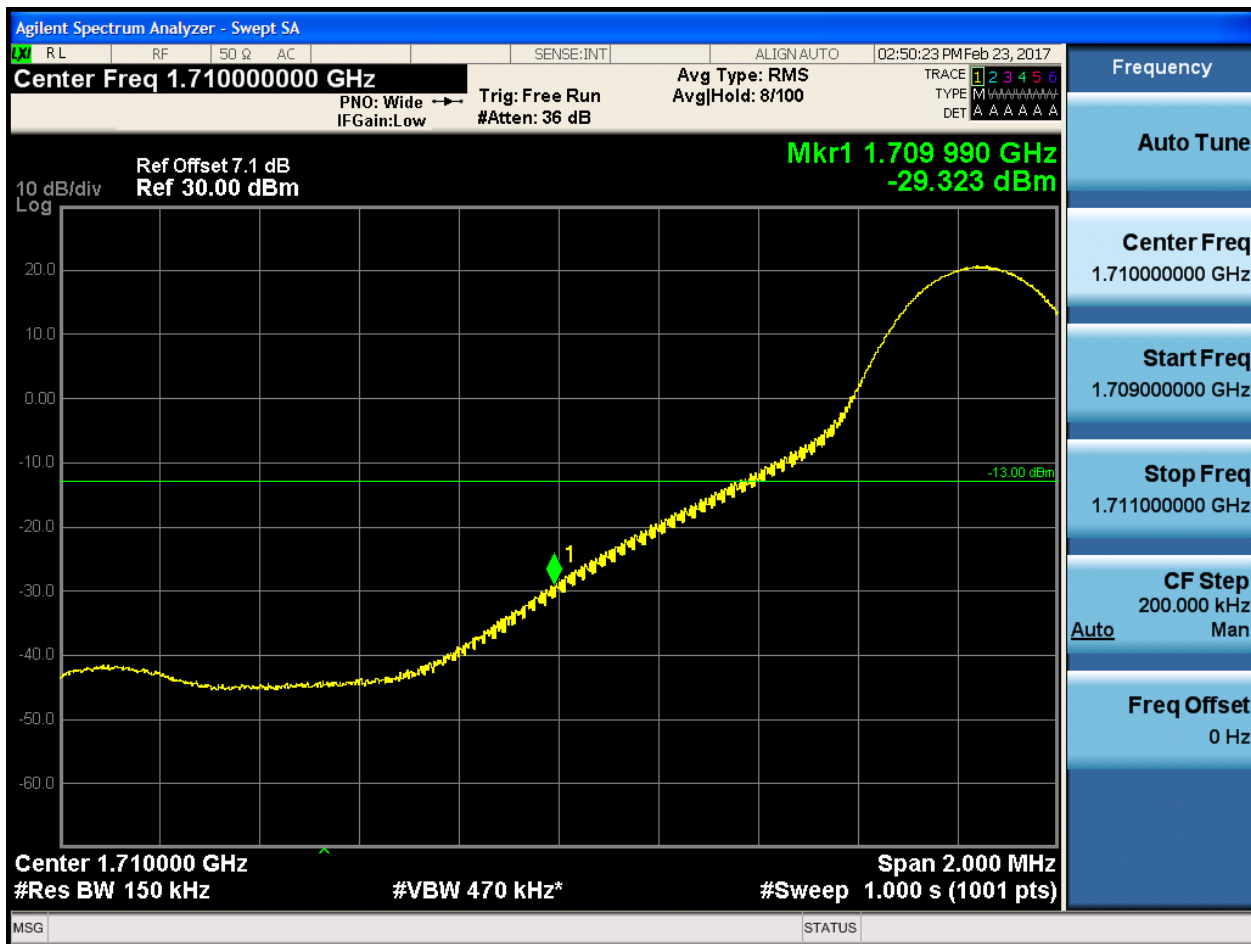
Frequency
Auto Tune
Center Freq 1.755000000 GHz
Start Freq 1.754000000 GHz
Stop Freq 1.756000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz



5.1.1.2.5 Test Bandwidth = 15

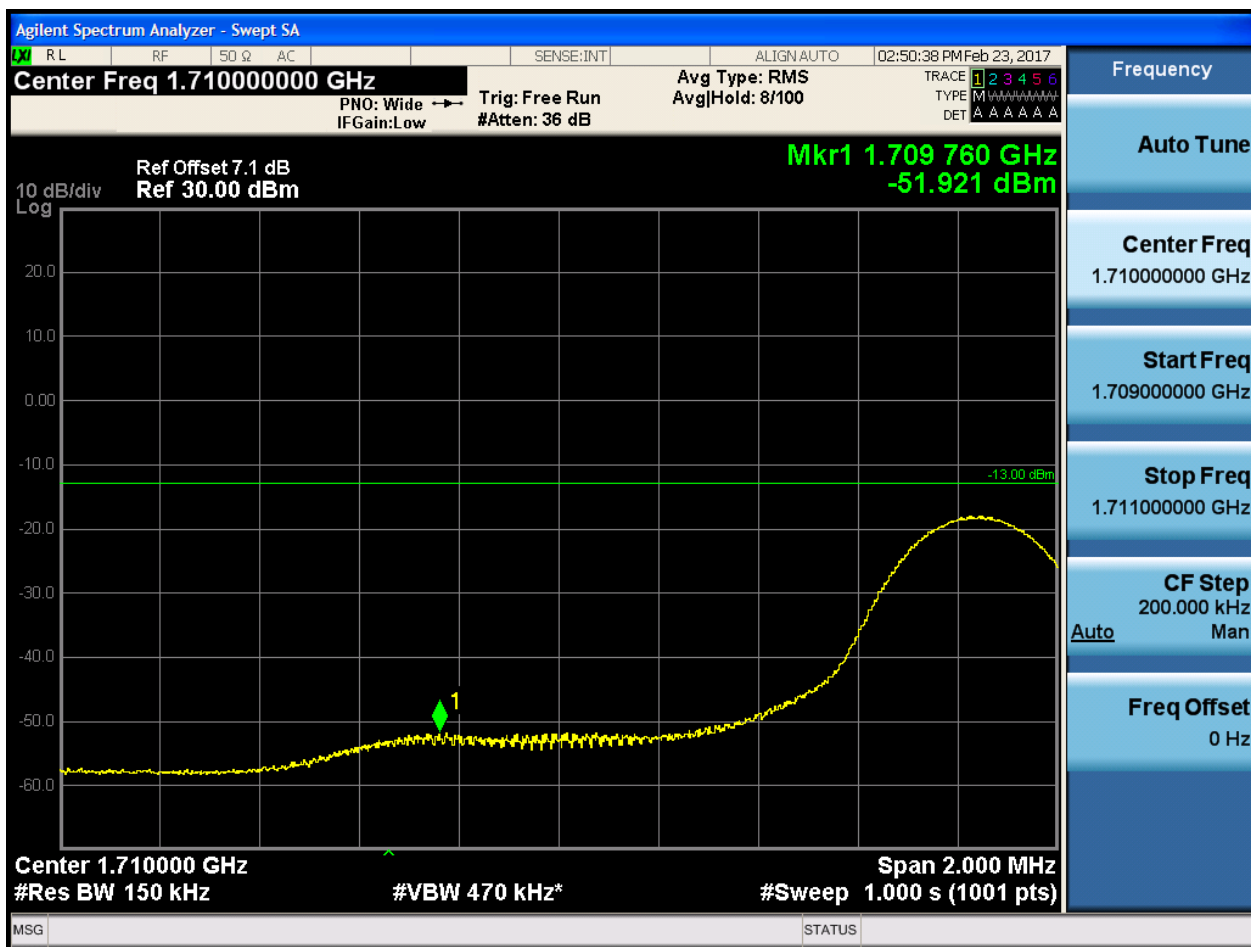
5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0





5.1.1.2.5.1.2 Test RB = RB1#74





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:50:52 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-40.331 dBm

10 dB/div
Log

The spectrum analyzer display shows a signal at 1.710 GHz with a level of -40.331 dBm. The display includes a grid, a trace, and various measurement parameters. The signal is marked with a green diamond and the number 1. The trace is labeled Mkr1 1.710 000 GHz -40.331 dBm. The display also shows the center frequency, span, resolution bandwidth, and video bandwidth.

Center 1.710000 GHz Span 2.000 MHz
#Res BW 150 kHz #VBW 470 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
1.710000000 GHz

Start Freq
1.709000000 GHz

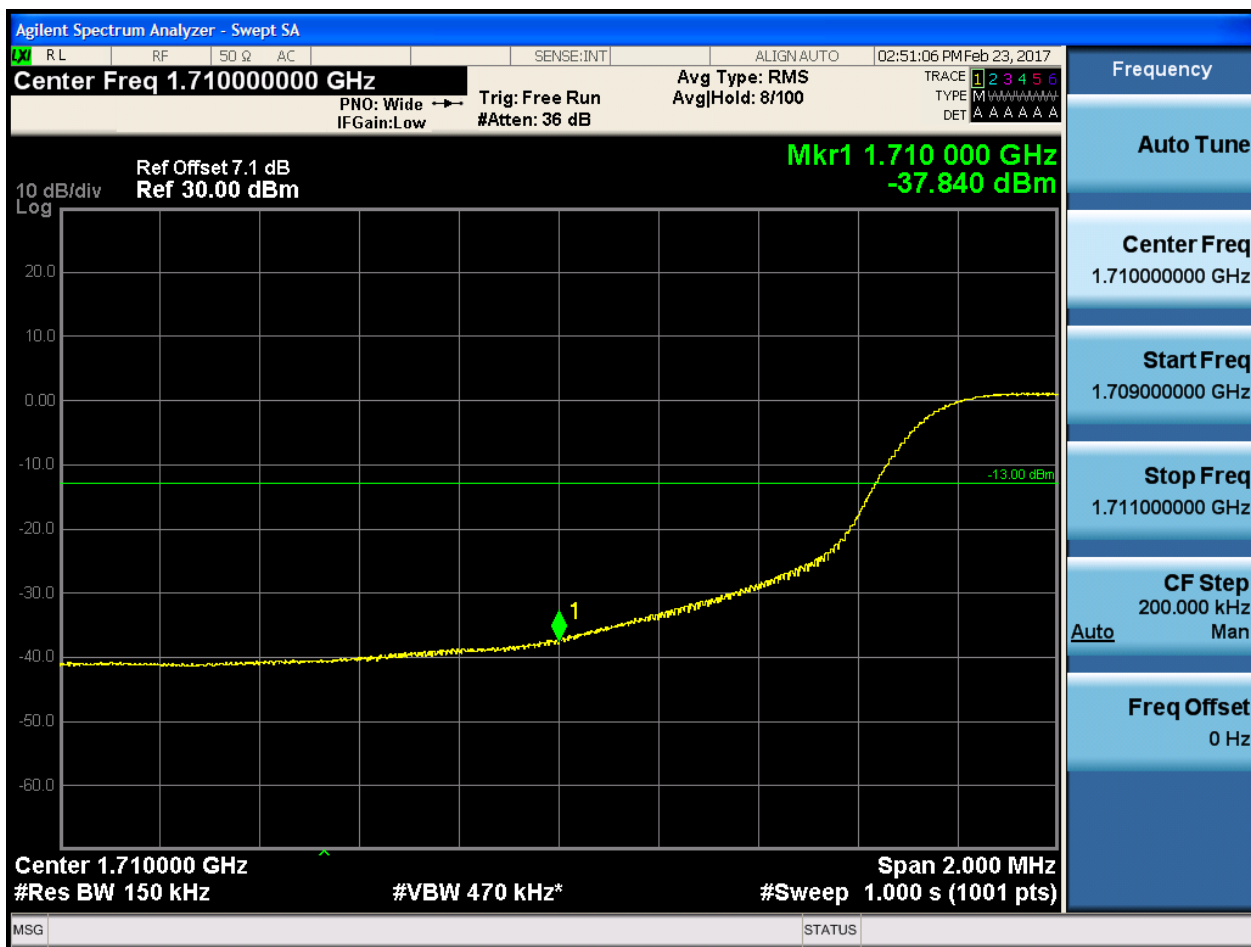
Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

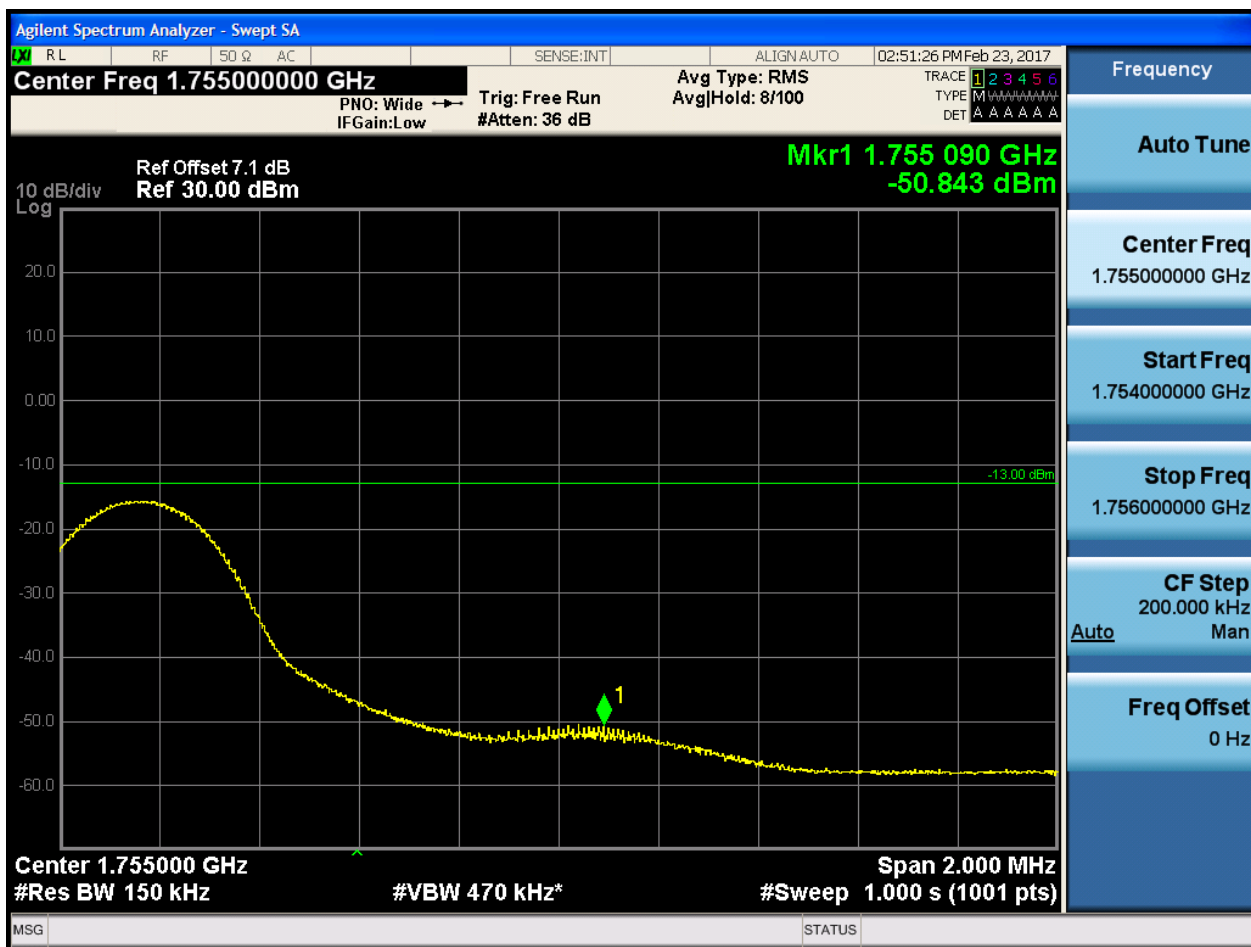


5.1.1.2.5.1.4 Test RB = RB75#0



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 02:51:40 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-28.888 dBm

10 dB/div
Log

Center 1.755000 GHz Span 2.000 MHz
#Res BW 150 kHz #VBW 470 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 02:51:54 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-37.278 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

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



5.1.1.2.5.2.4 Test RB = RB75#0

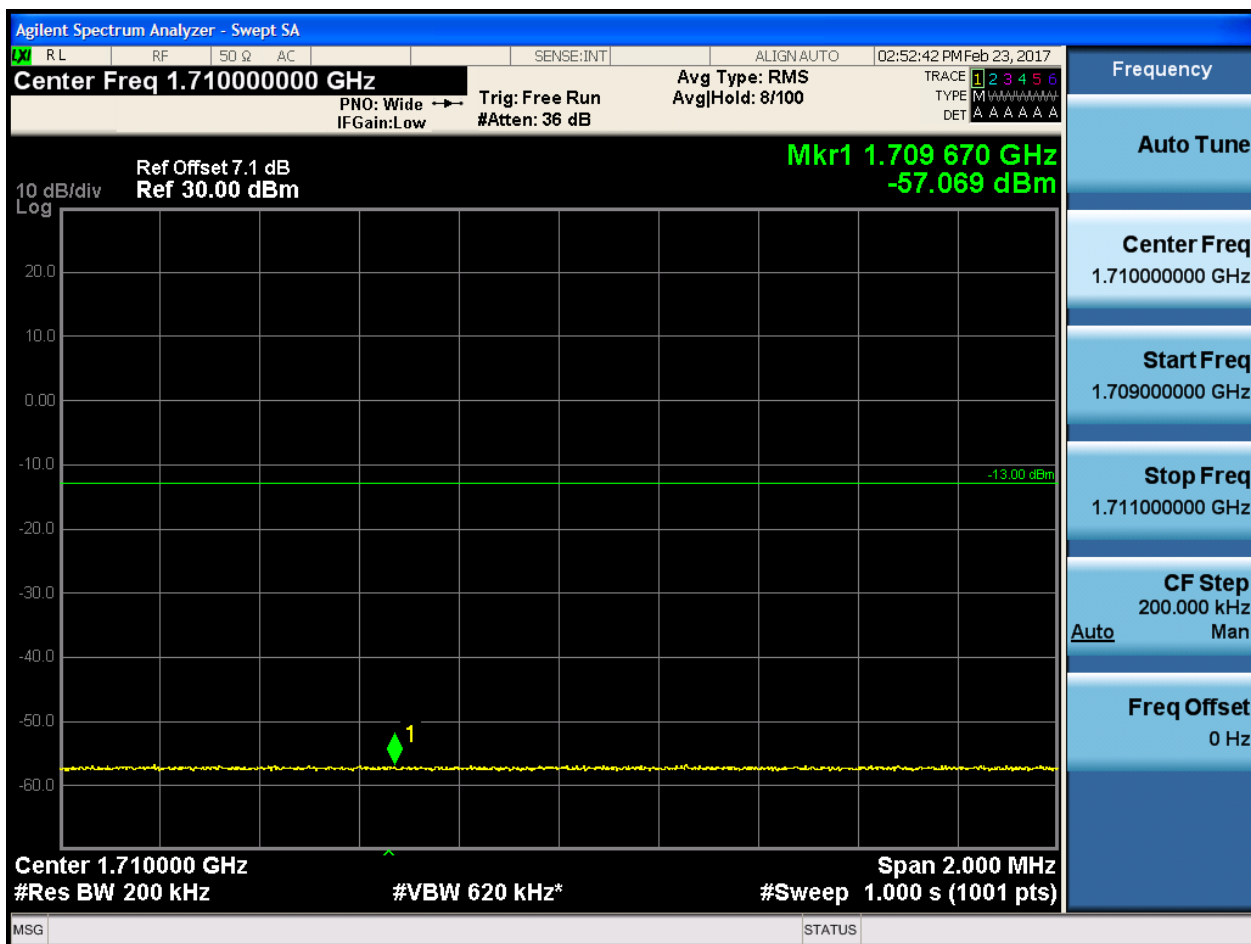




5.1.1.2.6 Test Bandwidth = 20

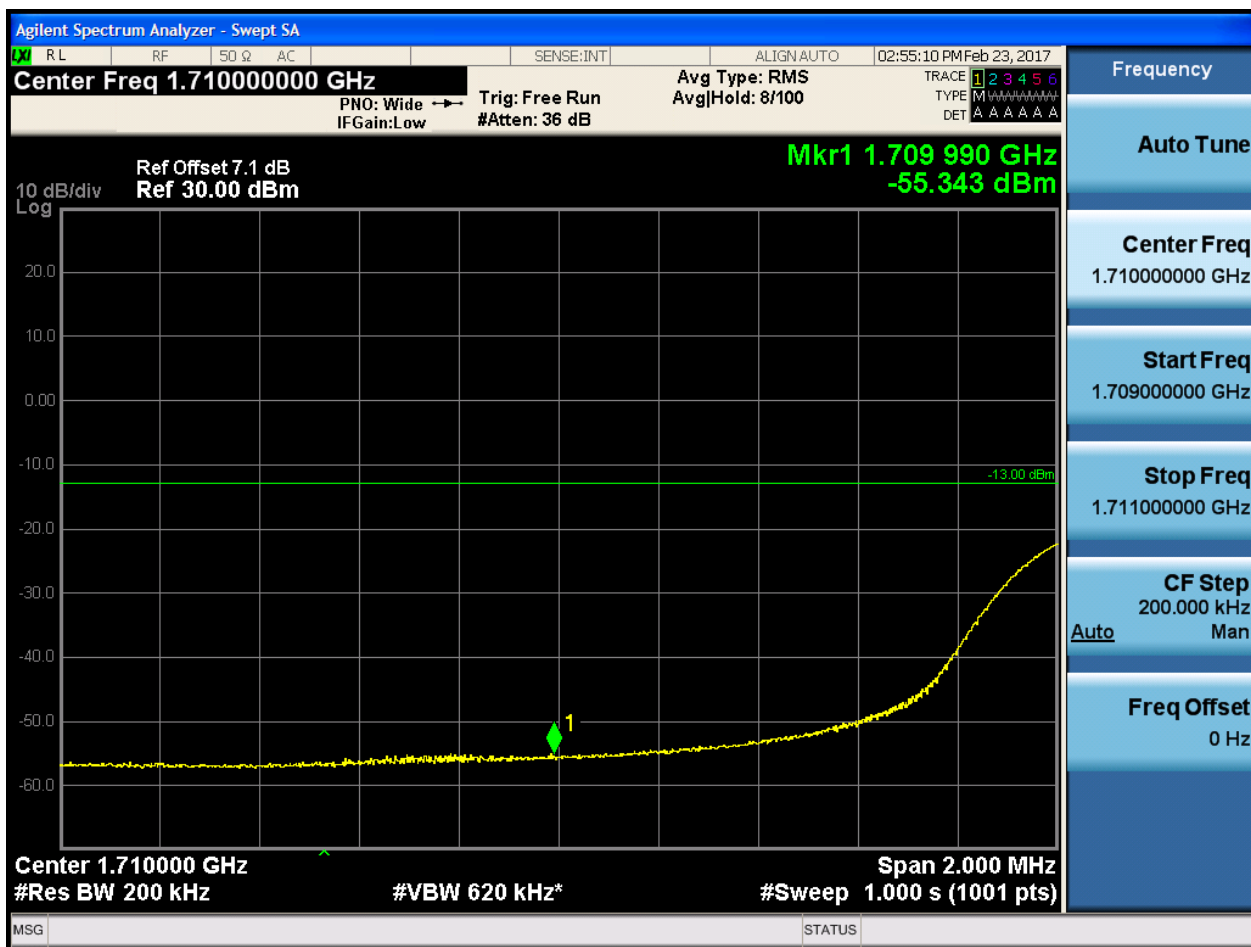
5.1.1.2.6.1 Test Channel = LCH

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 02:55:24 PM Feb 23, 2017

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
 DET A A A A A A

Ref Offset 7.1 dB
 Ref 30.00 dBm

Mkr1 1.709 990 GHz
 -41.004 dBm

10 dB/div
 Log

Center 1.710000 GHz
 #Res BW 200 kHz
 #VBW 620 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 02:55:39 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.710 000 GHz
-38.368 dBm

10 dB/div
Log

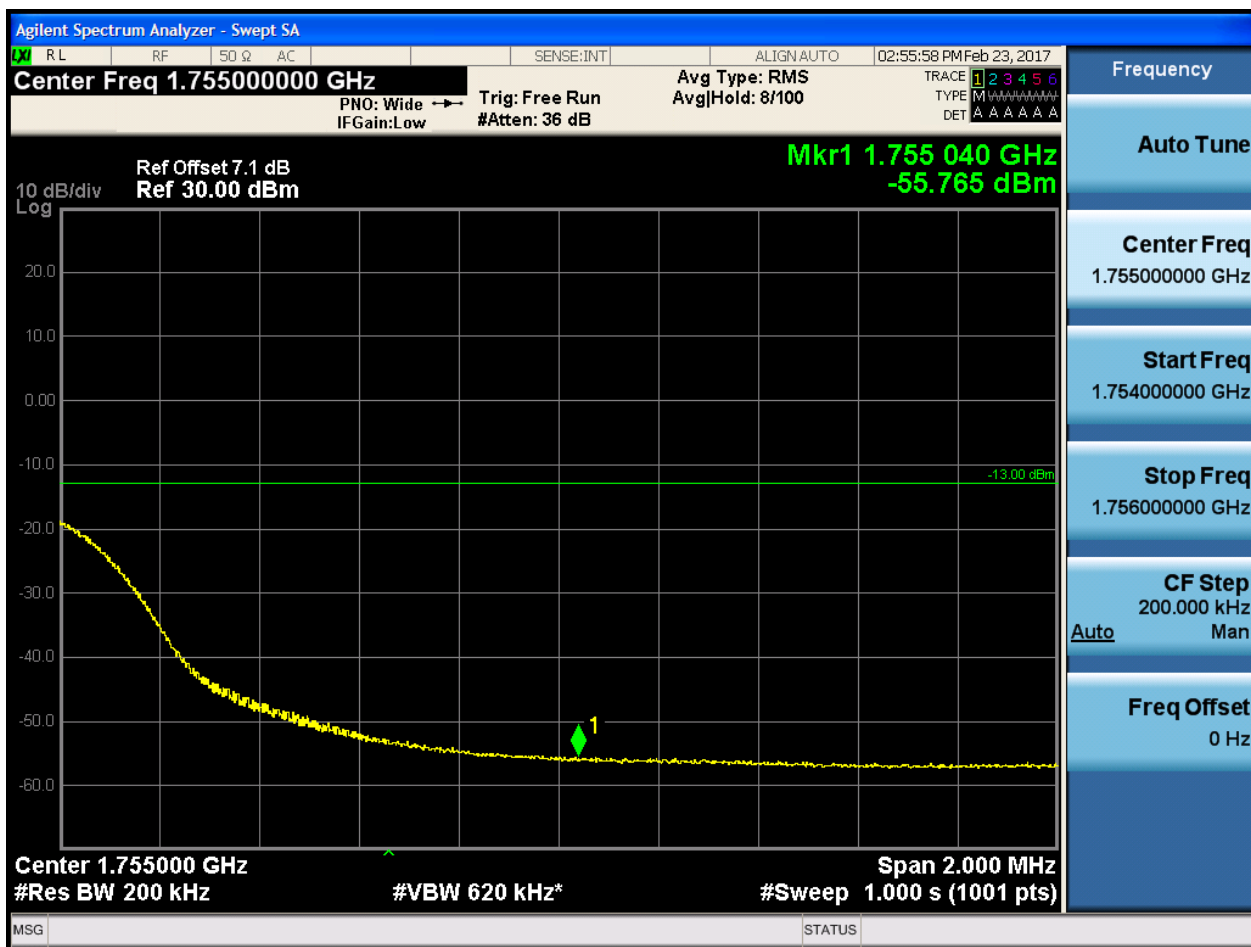
Center 1.710000 GHz
#Res BW 200 kHz
#VBW 620 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



5.1.1.2.6.2 Test Channel = HCH

5.1.1.2.6.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:56:12 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-32.756 dBm

10 dB/div
Log

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

-13.00 dBm

1

Center 1.755000 GHz
#Res BW 200 kHz

Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

#VBW 620 kHz*

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

MSG STATUS



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:56:27 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-36.604 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 02:56:41 PM Feb 23, 2017

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 7.1 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-32.894 dBm

10 dB/div
Log

-13.00 dBm

Center 1.755000 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
1.755000000 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

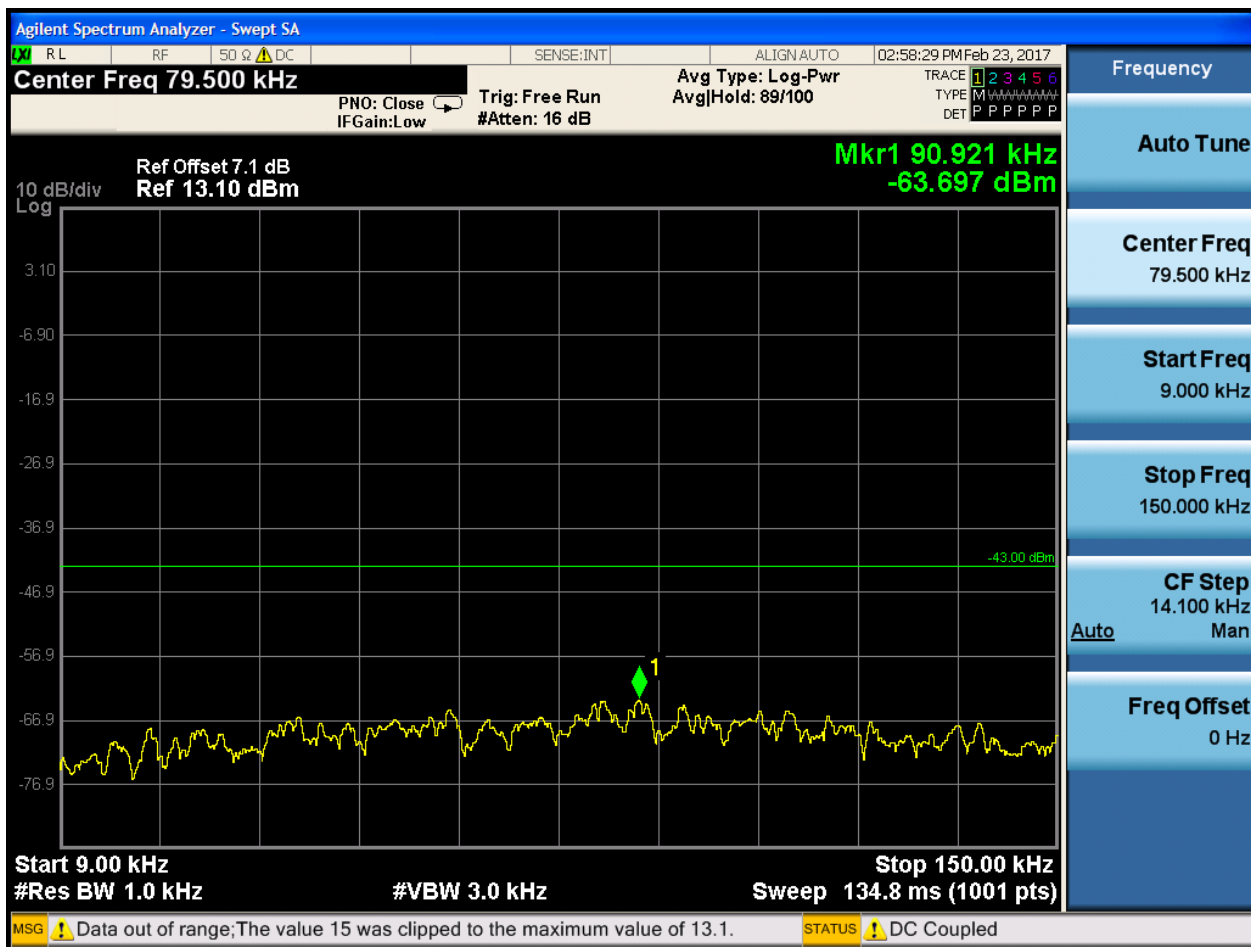
6.1.1 Test Band = BAND4

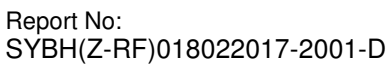
6.1.1.1 Test Mode = LTE/TM1

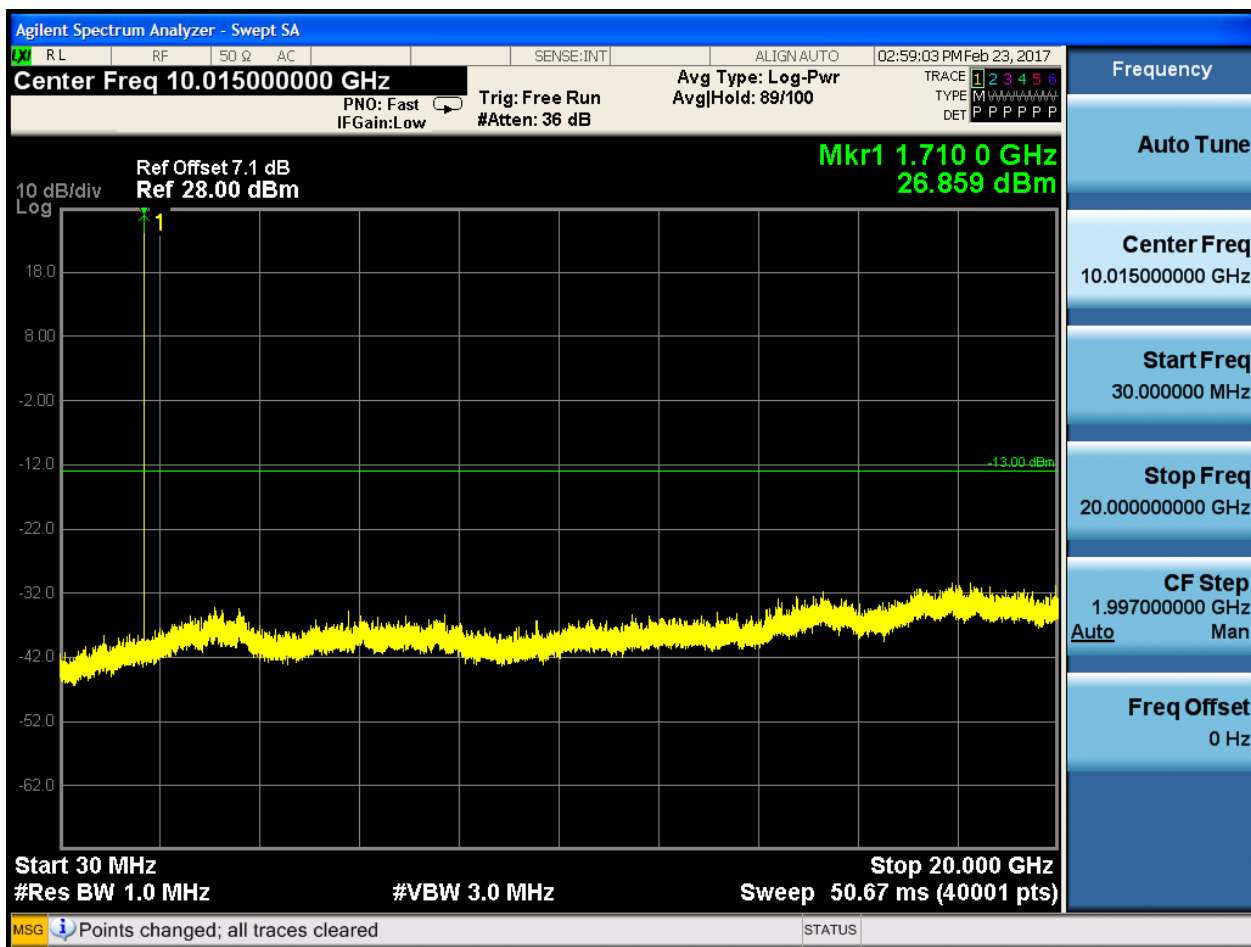
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



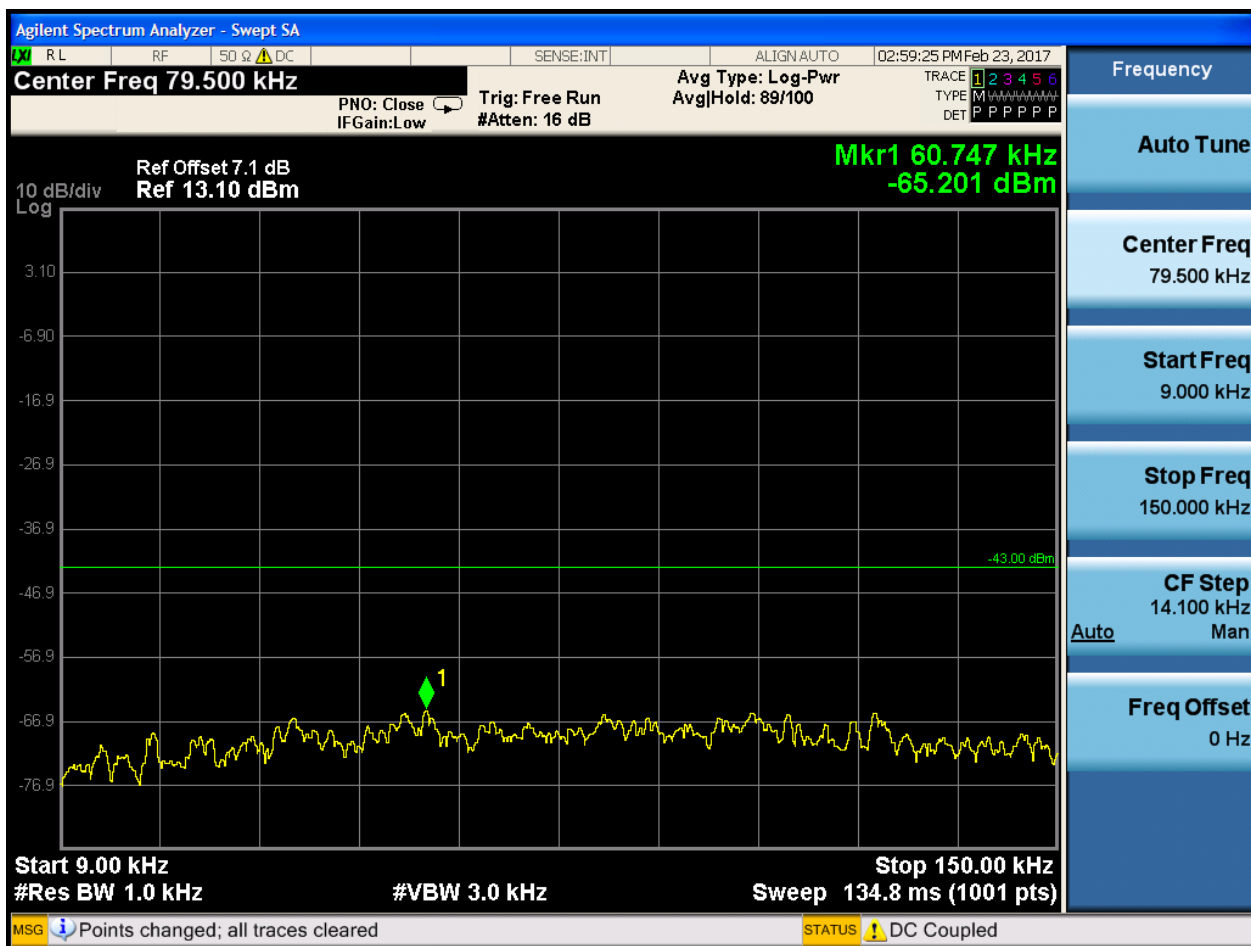


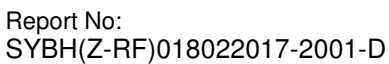


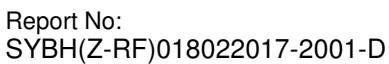


6.1.1.1.2 Test Channel = MCH

6.1.1.1.2.1 Test RB = RB1#0



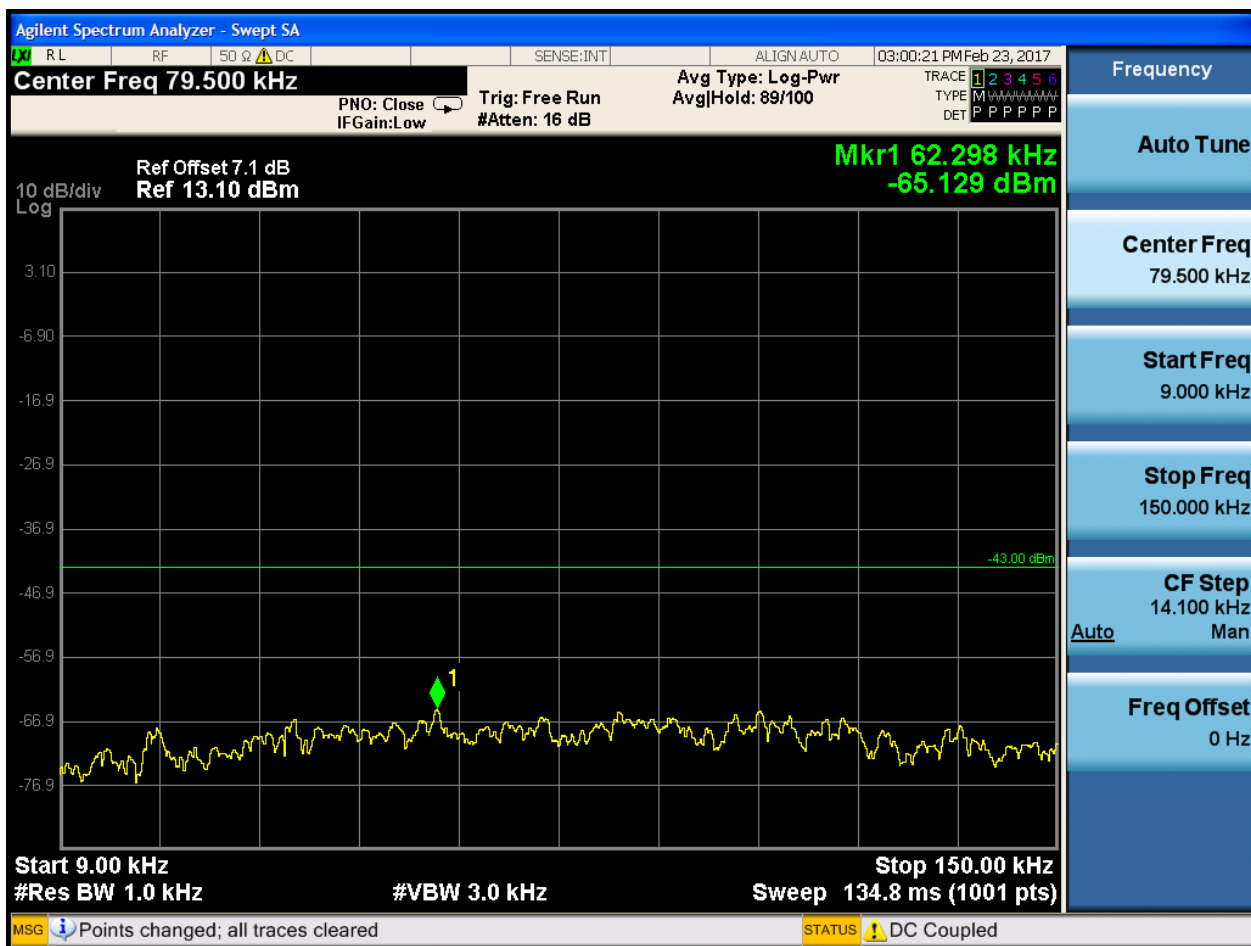


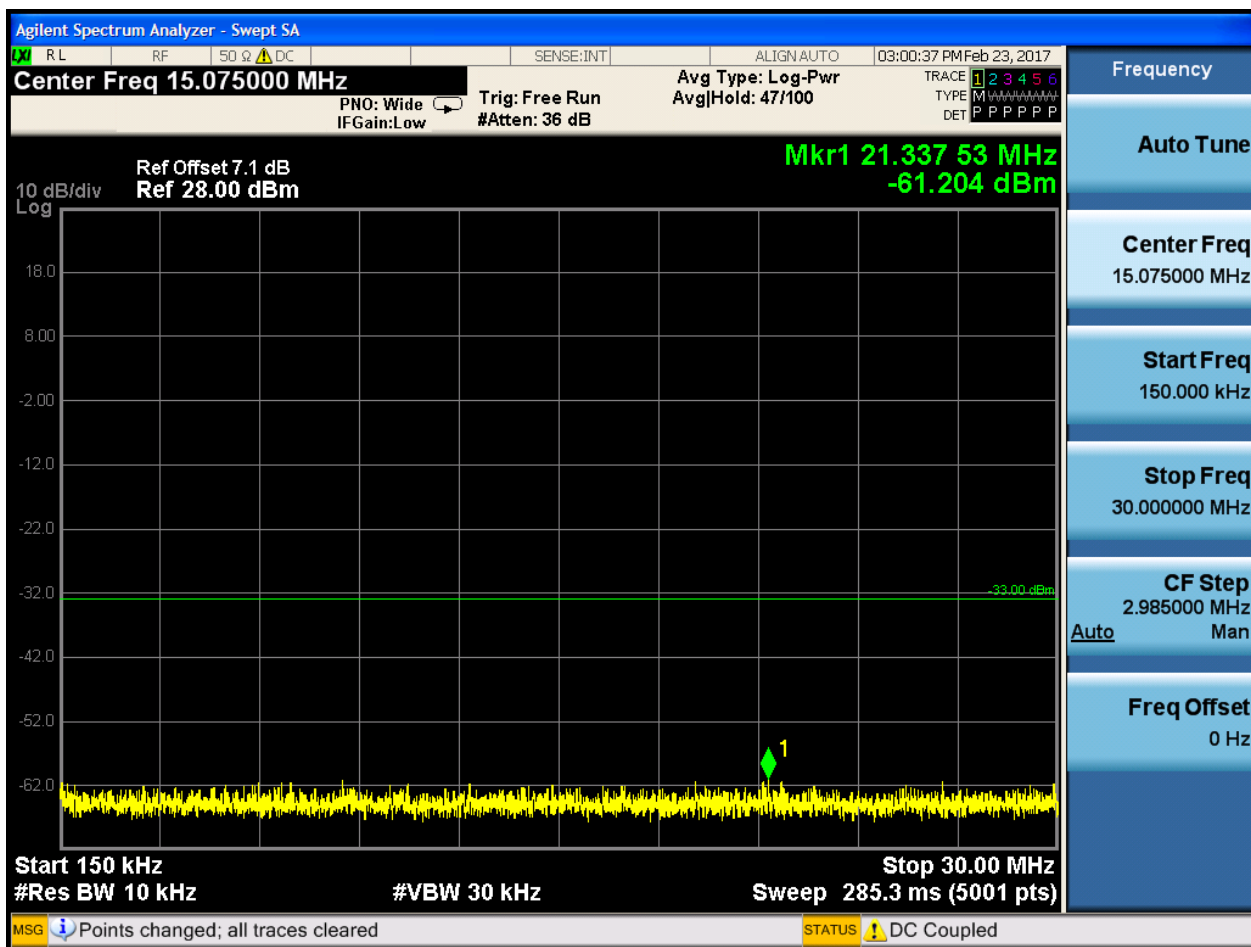


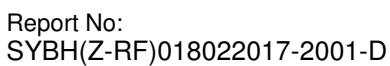


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



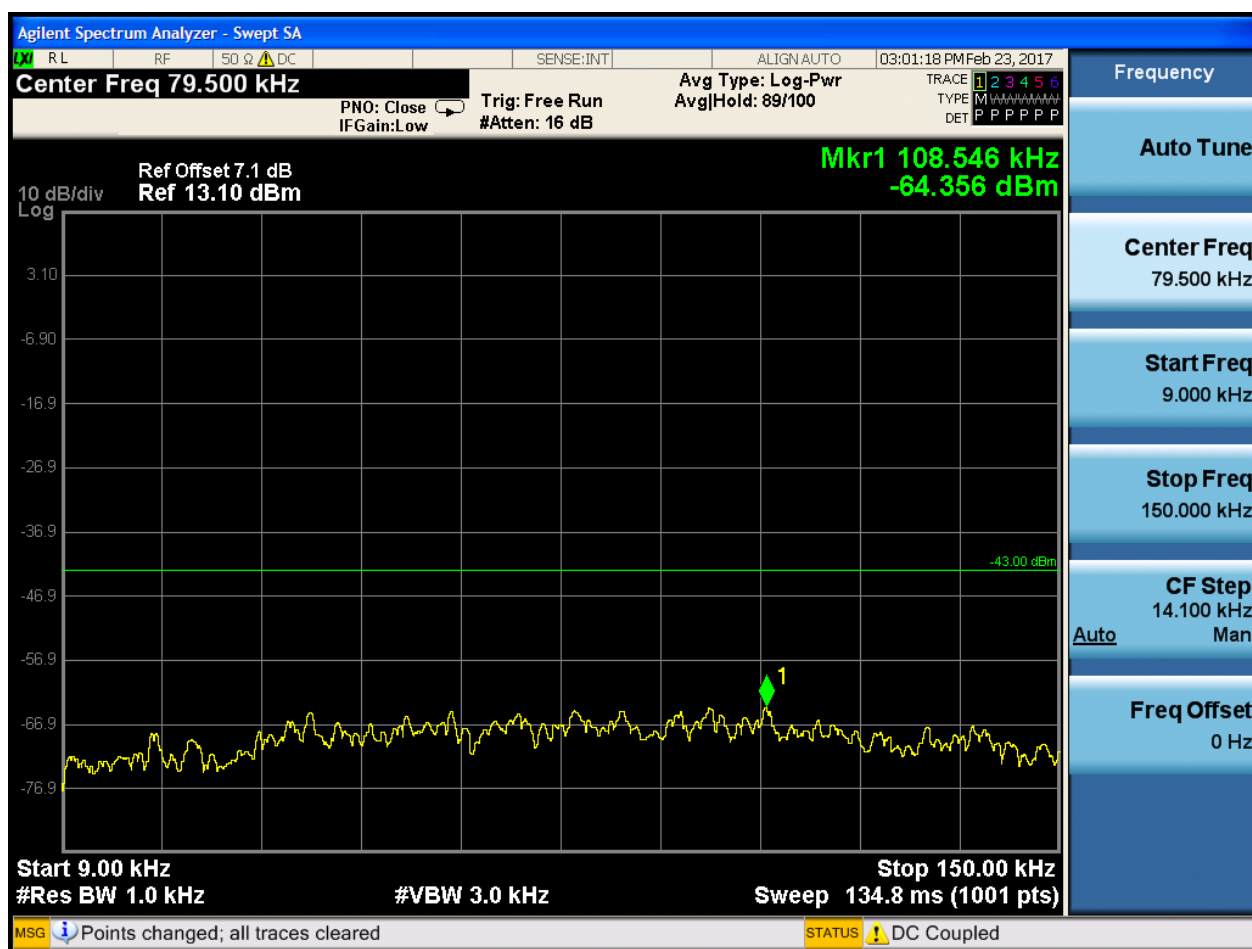


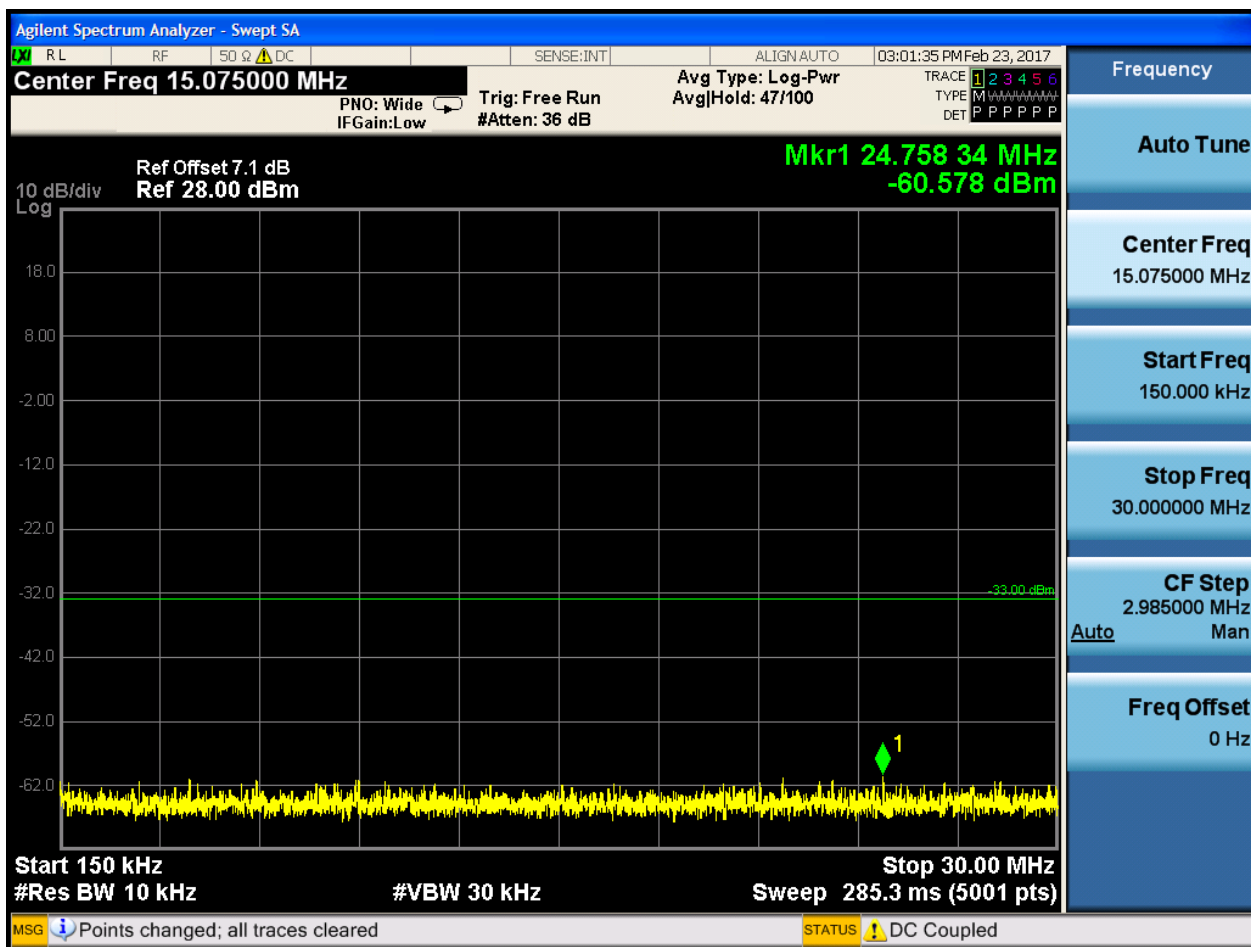


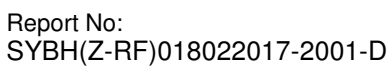
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



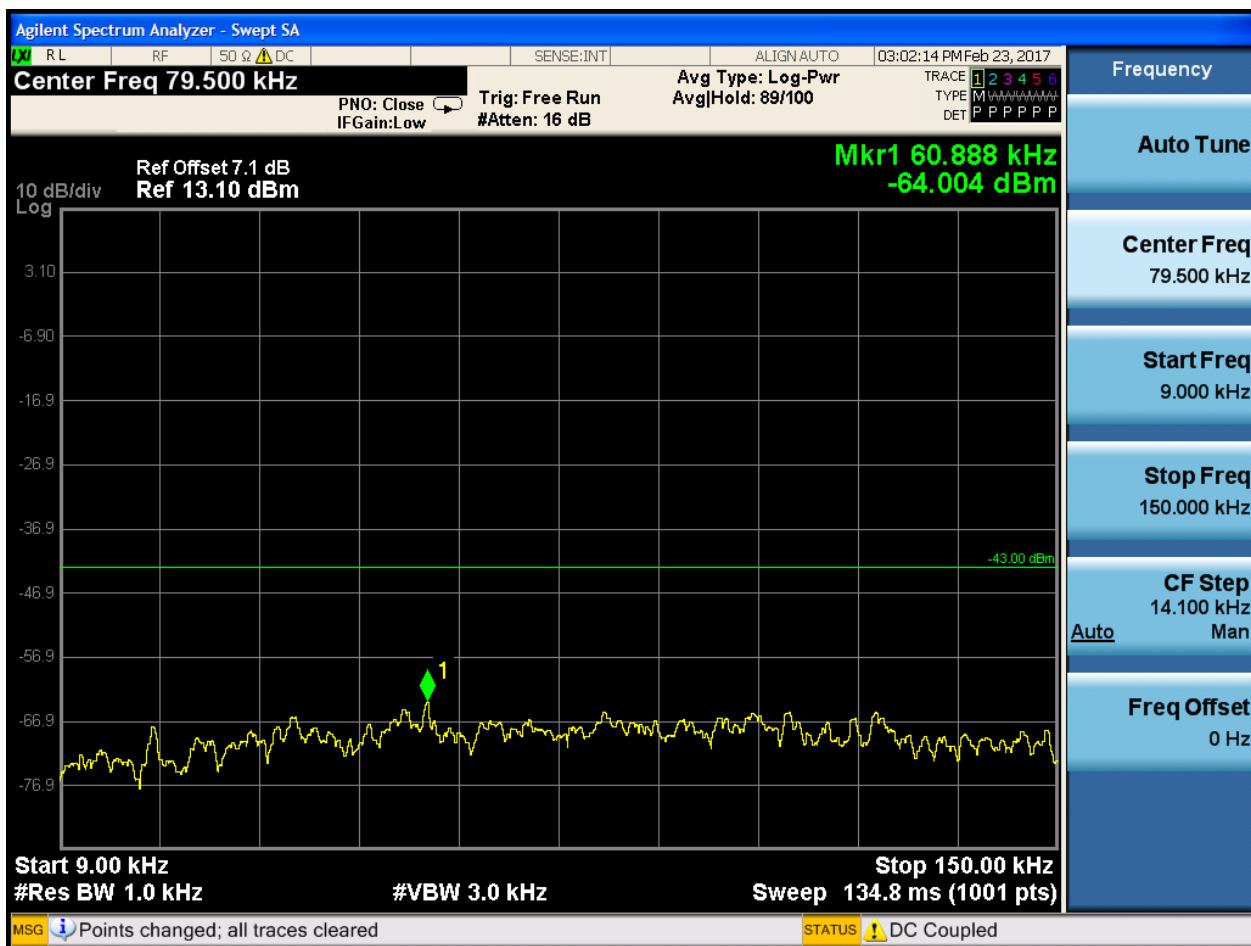


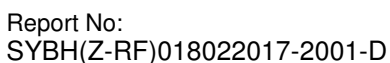


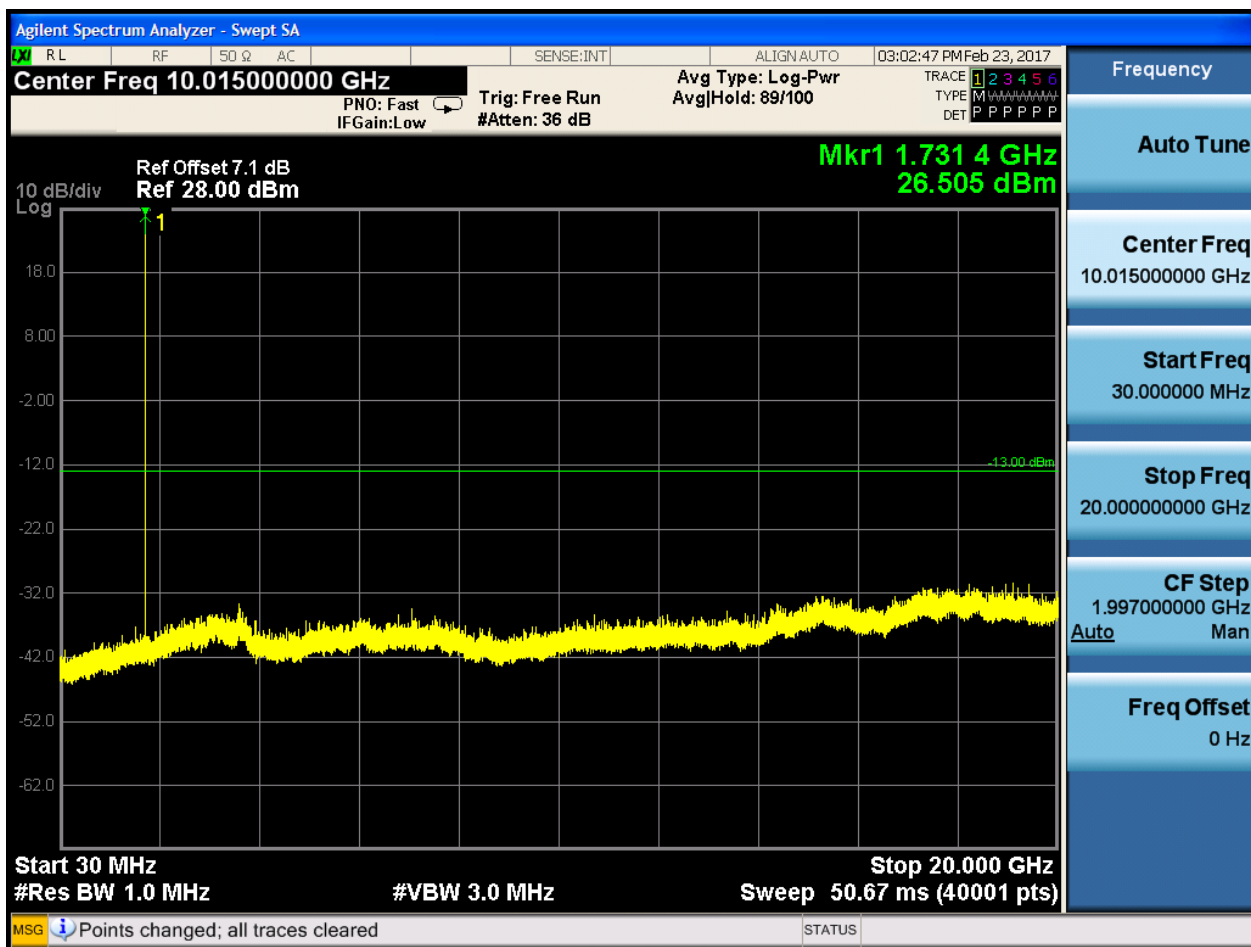


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

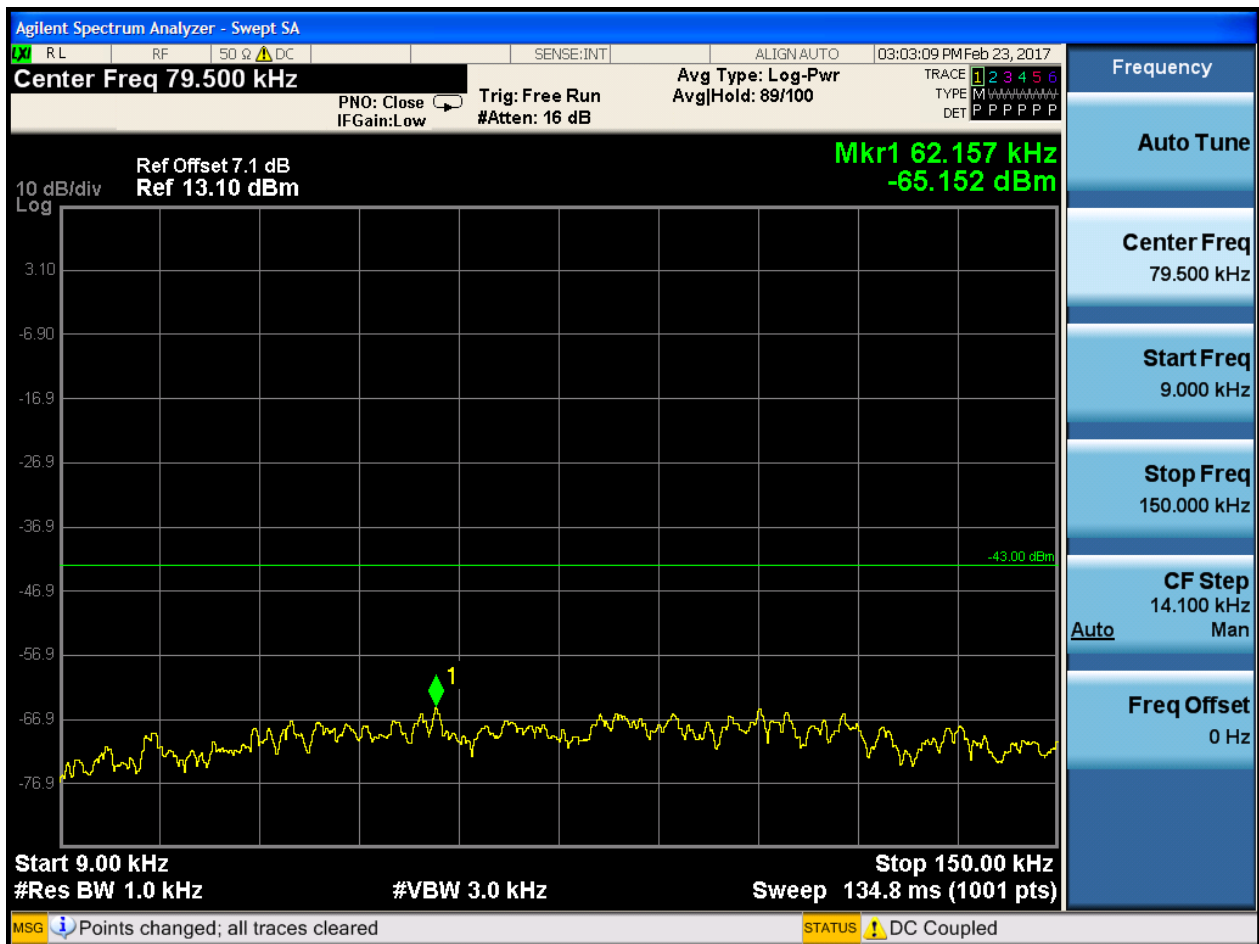


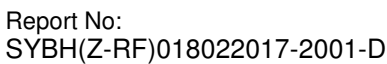


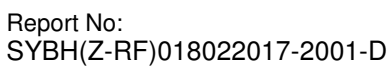


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



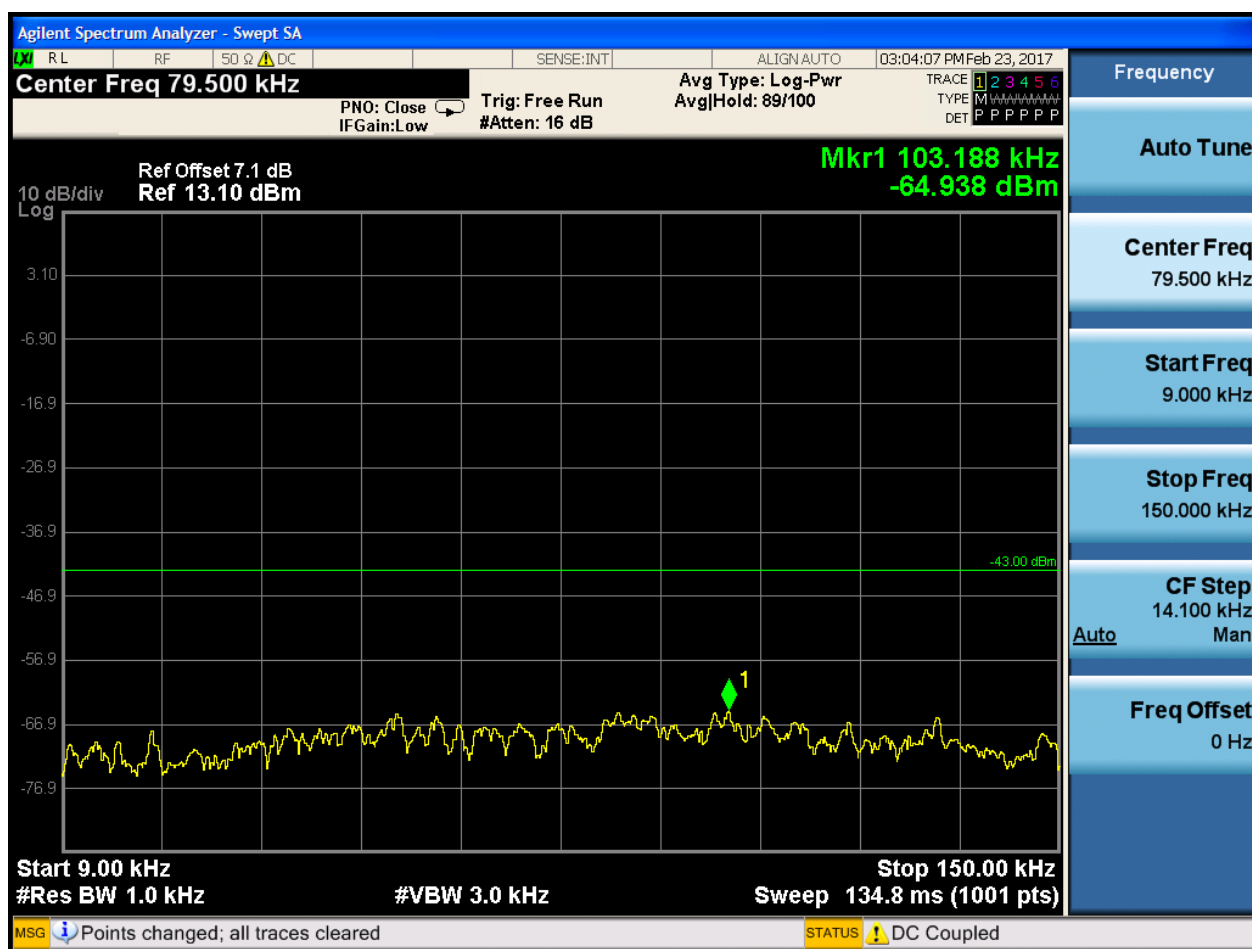


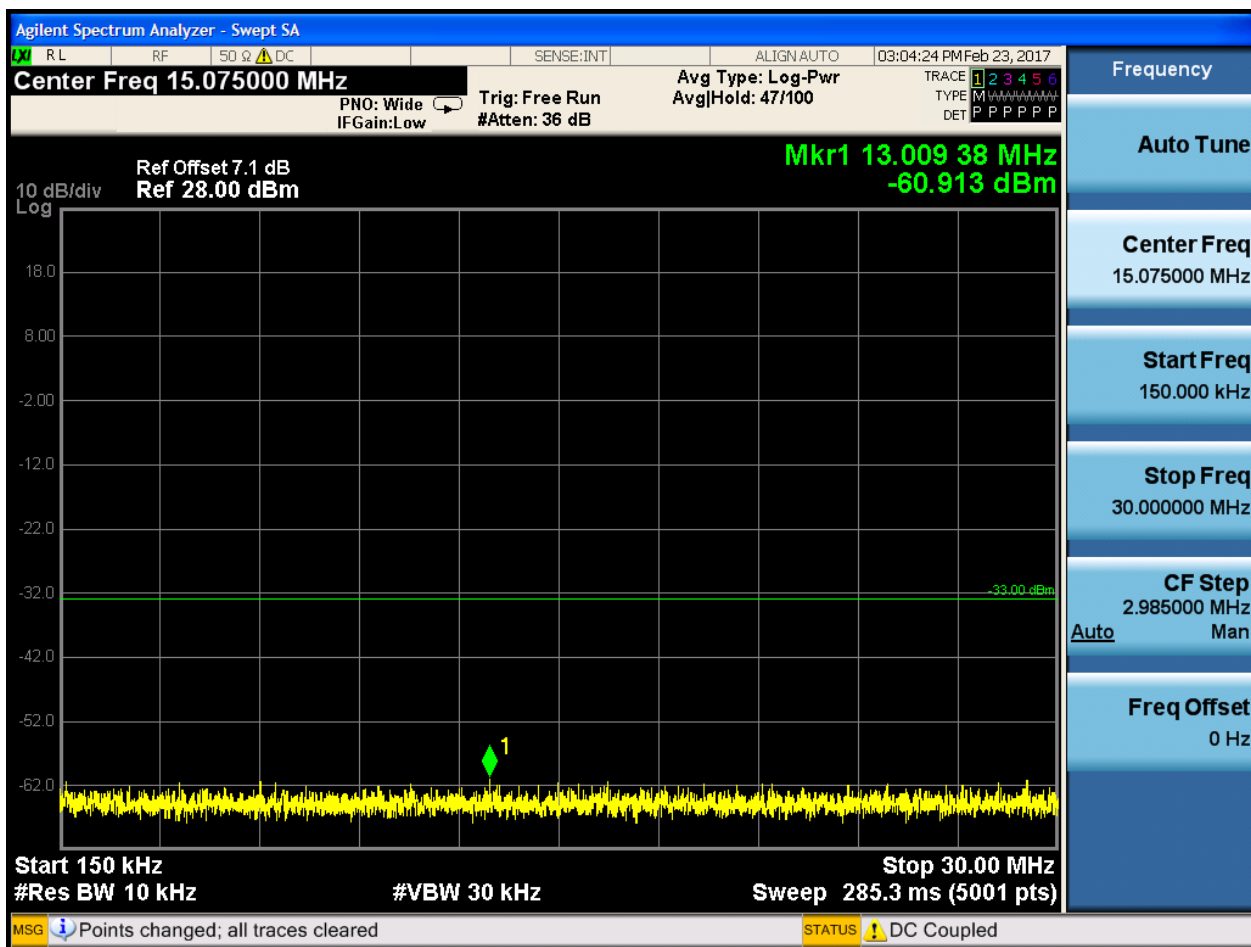


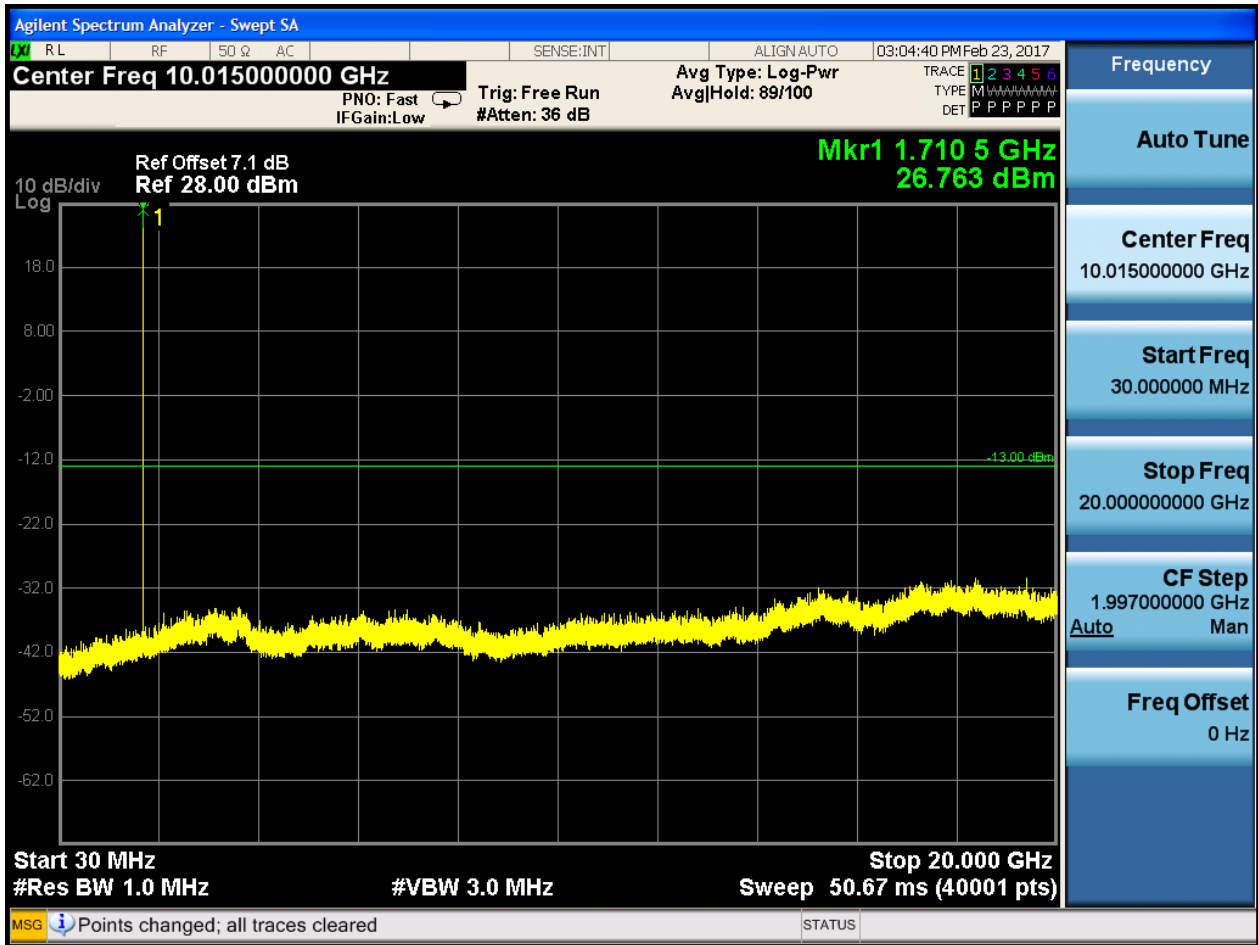
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

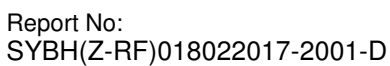
6.1.1.1.3.1.1 Test RB = RB1#0

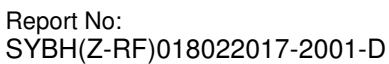






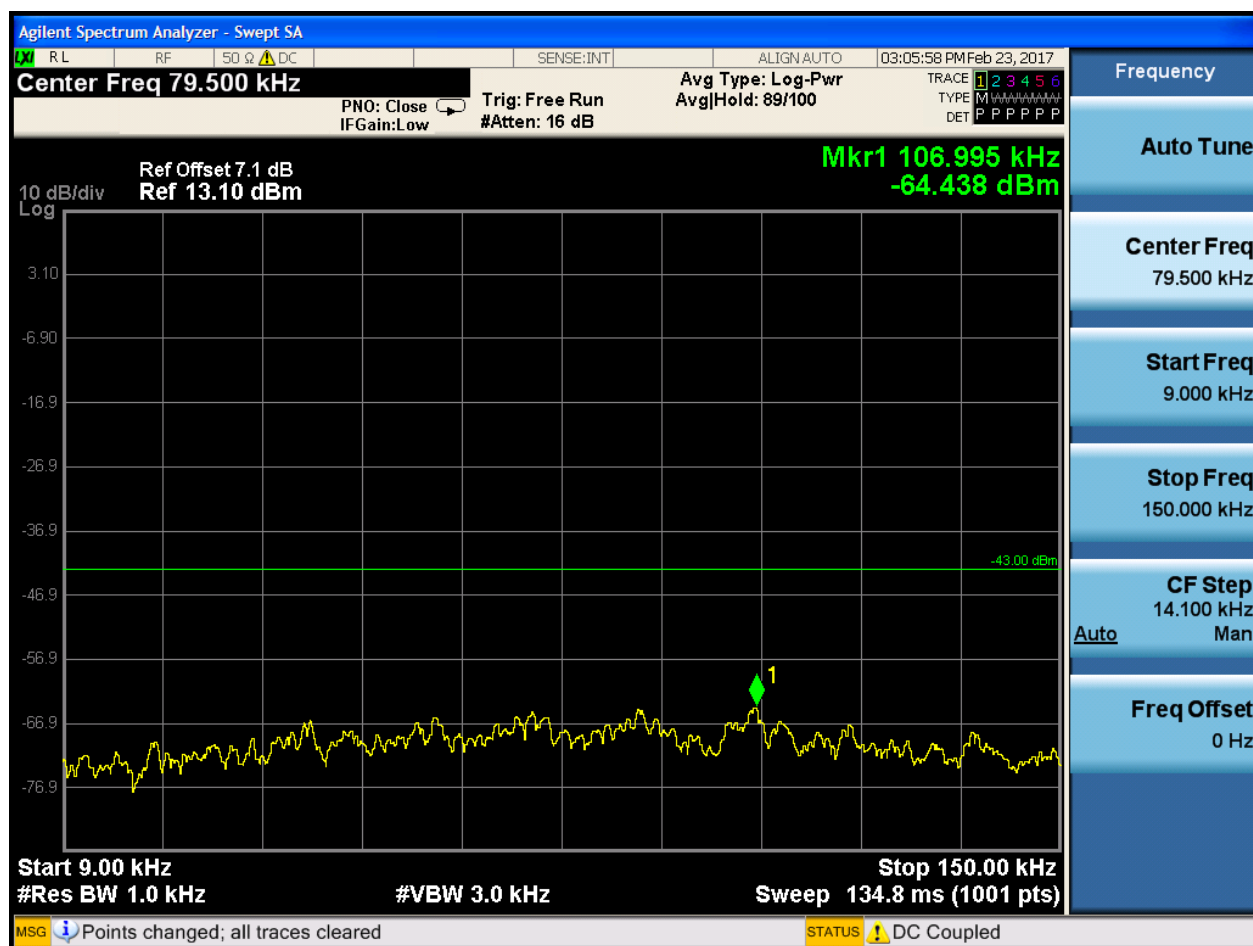


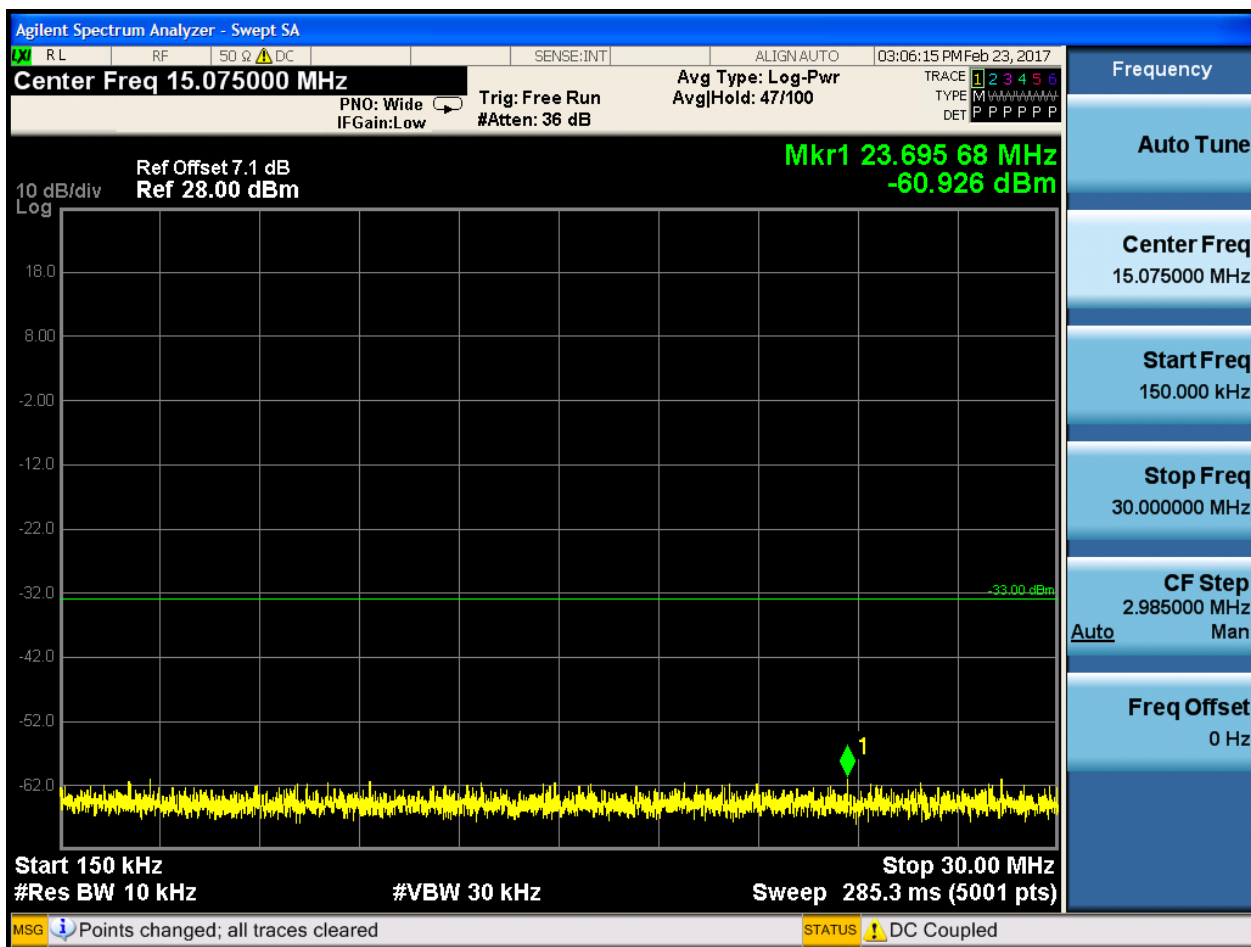


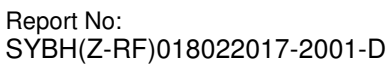


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0



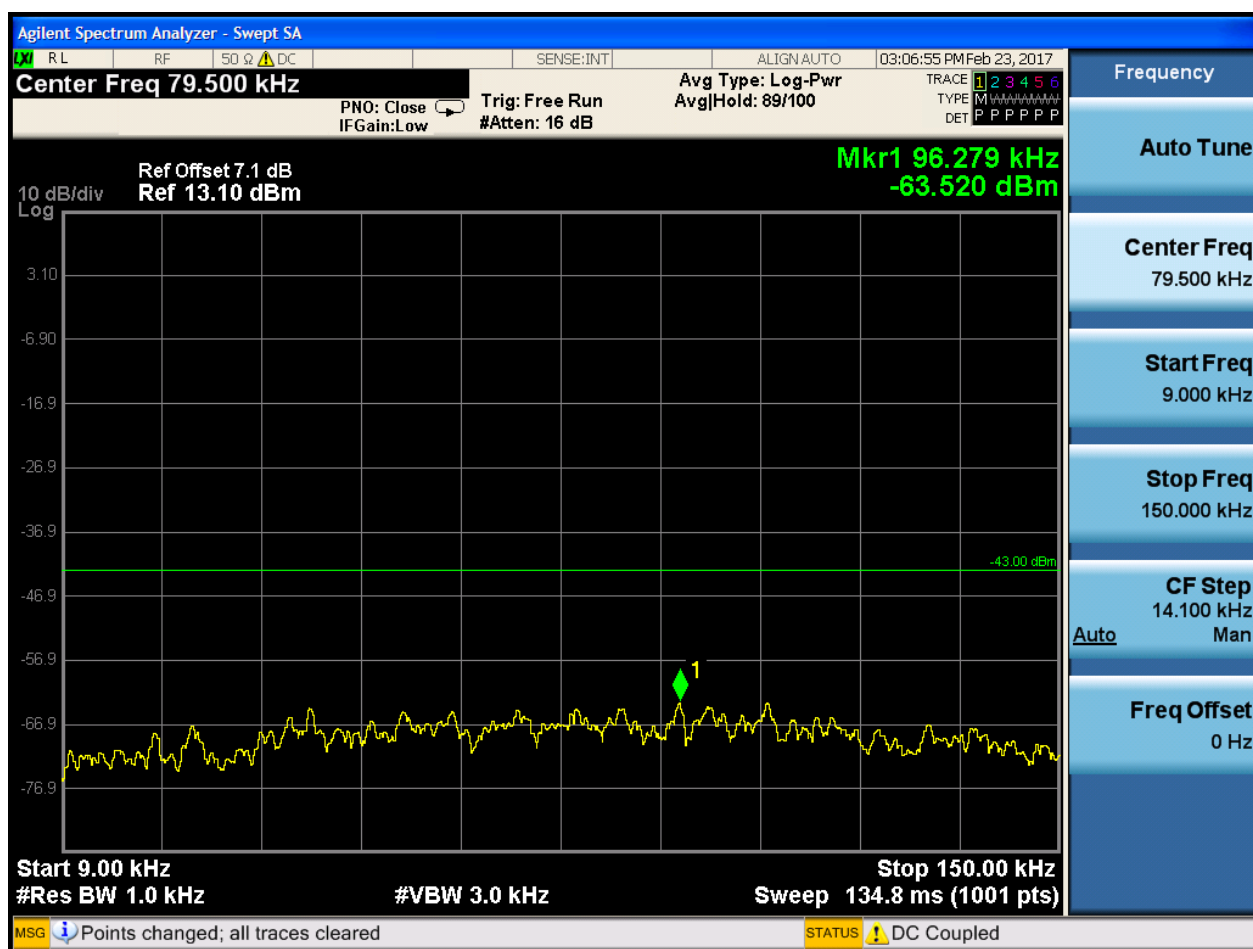


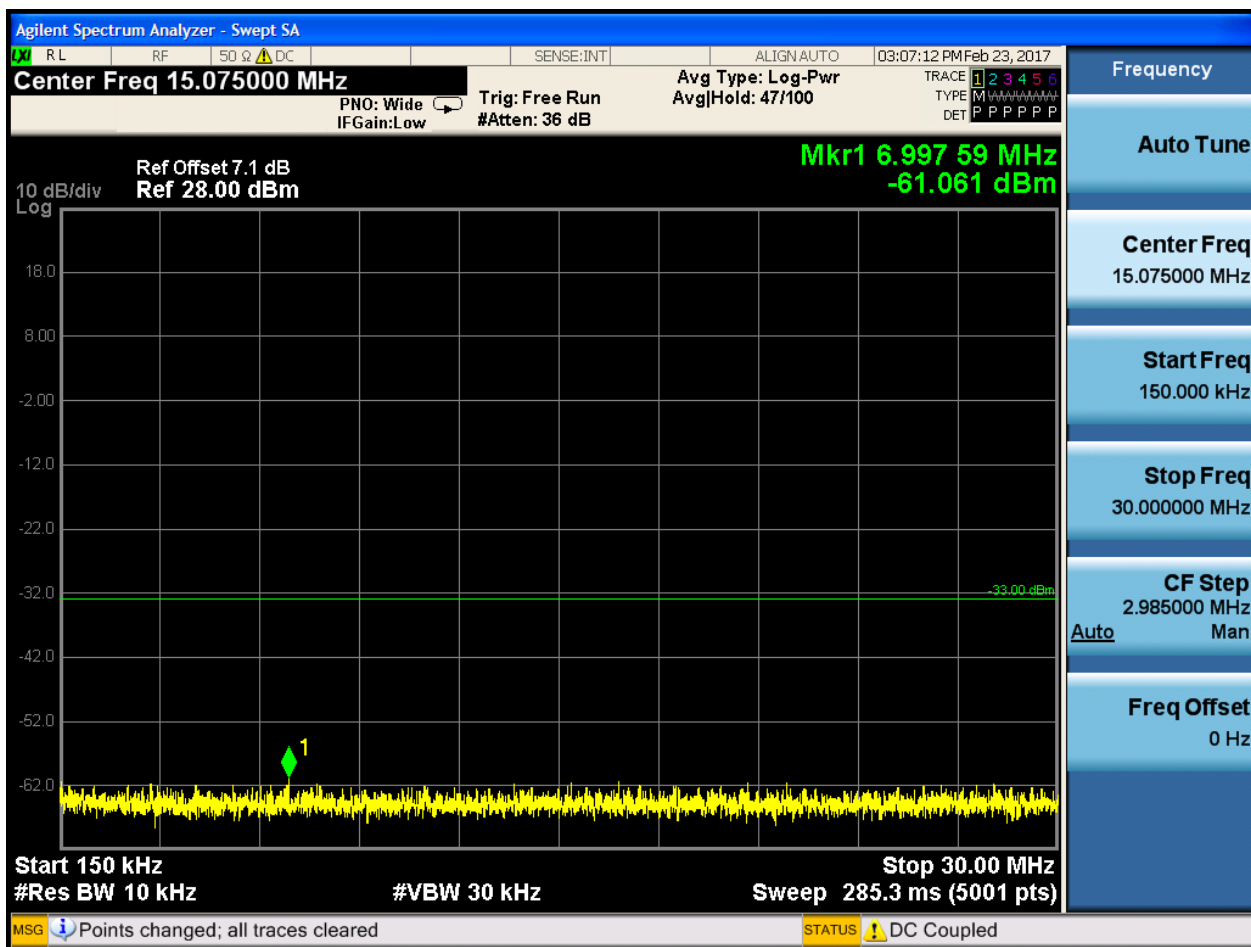


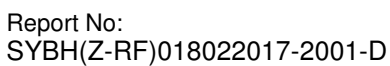
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



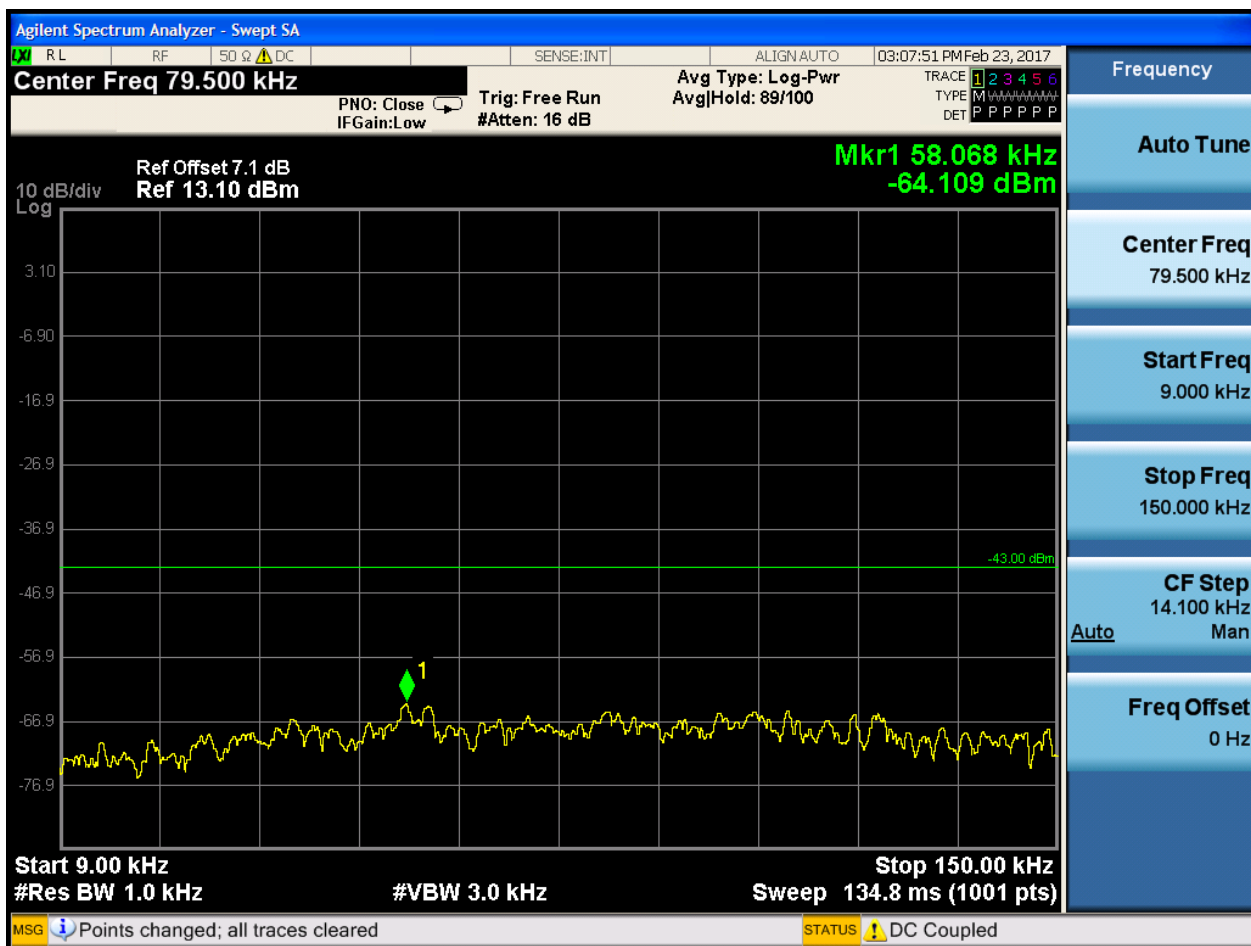


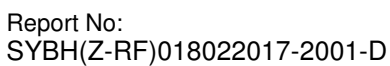


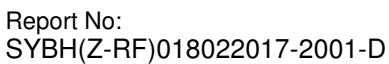


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



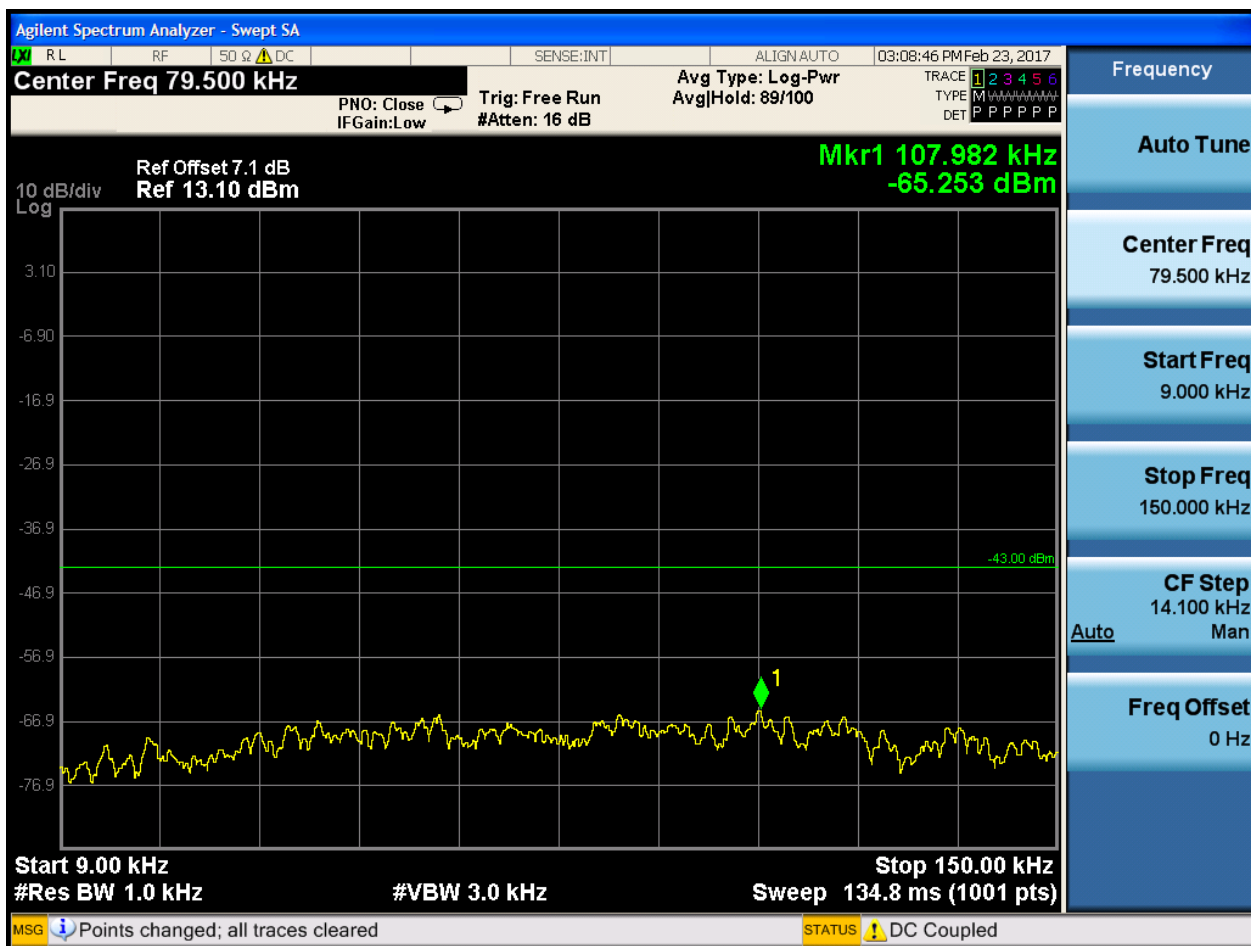


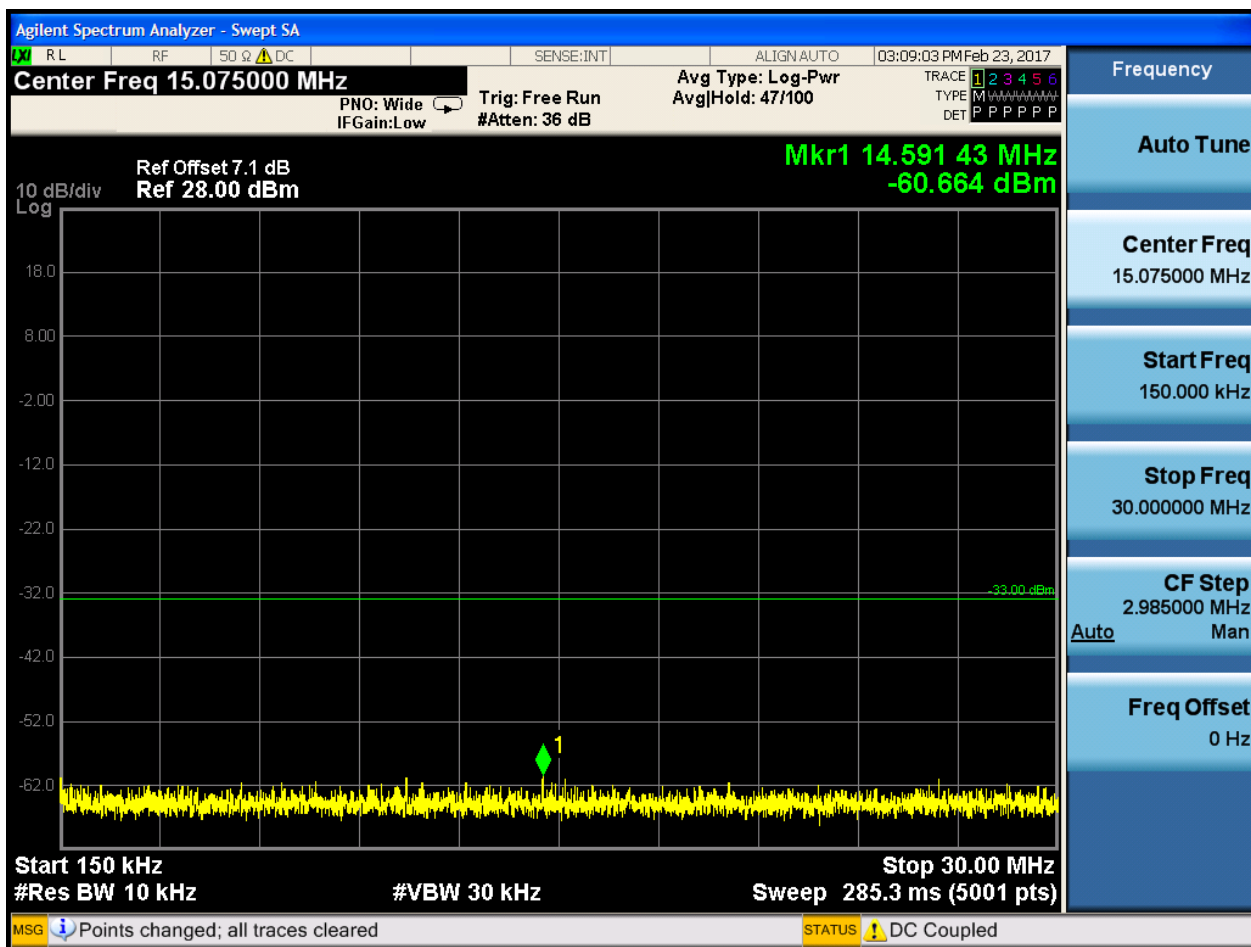


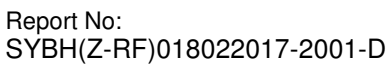


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0



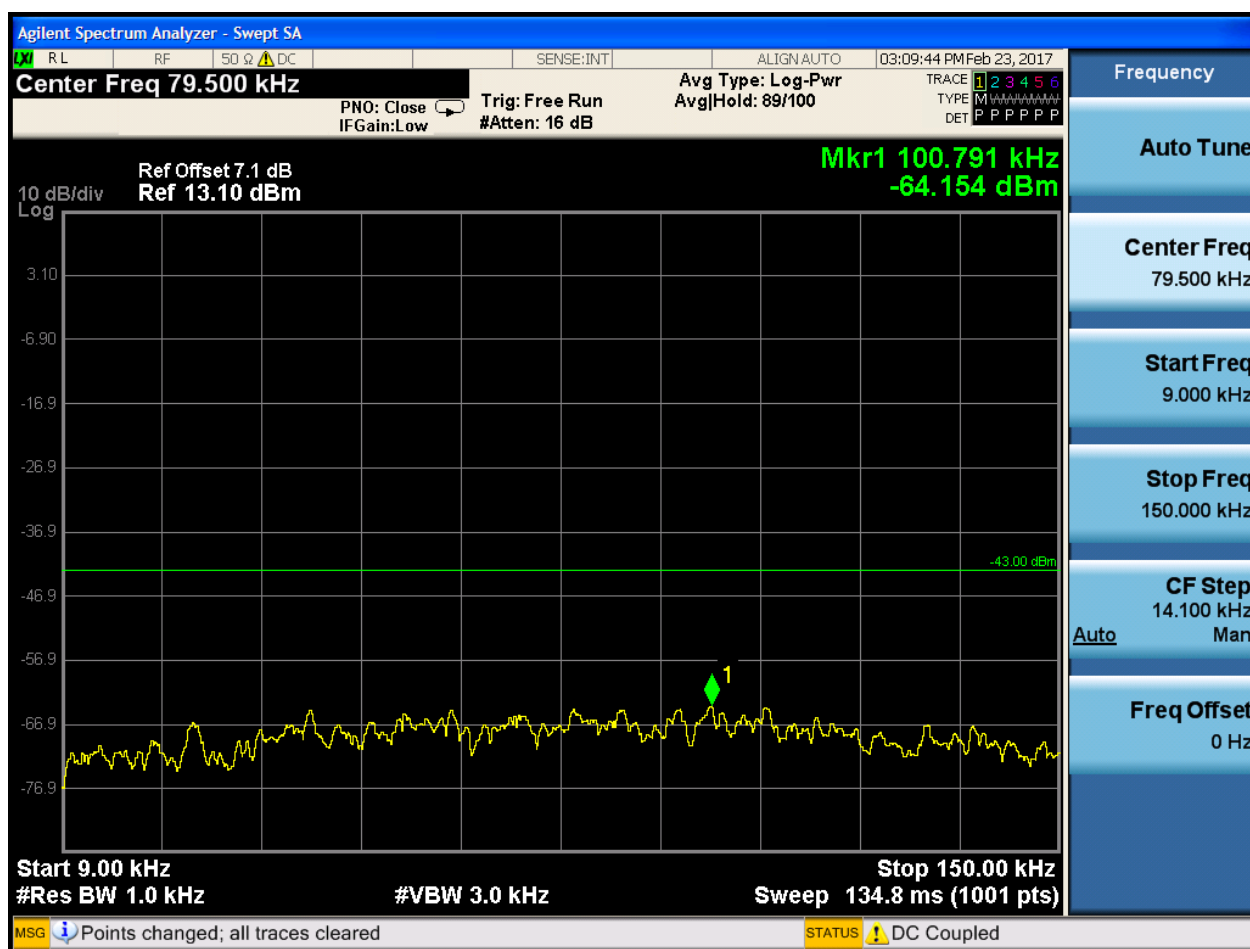


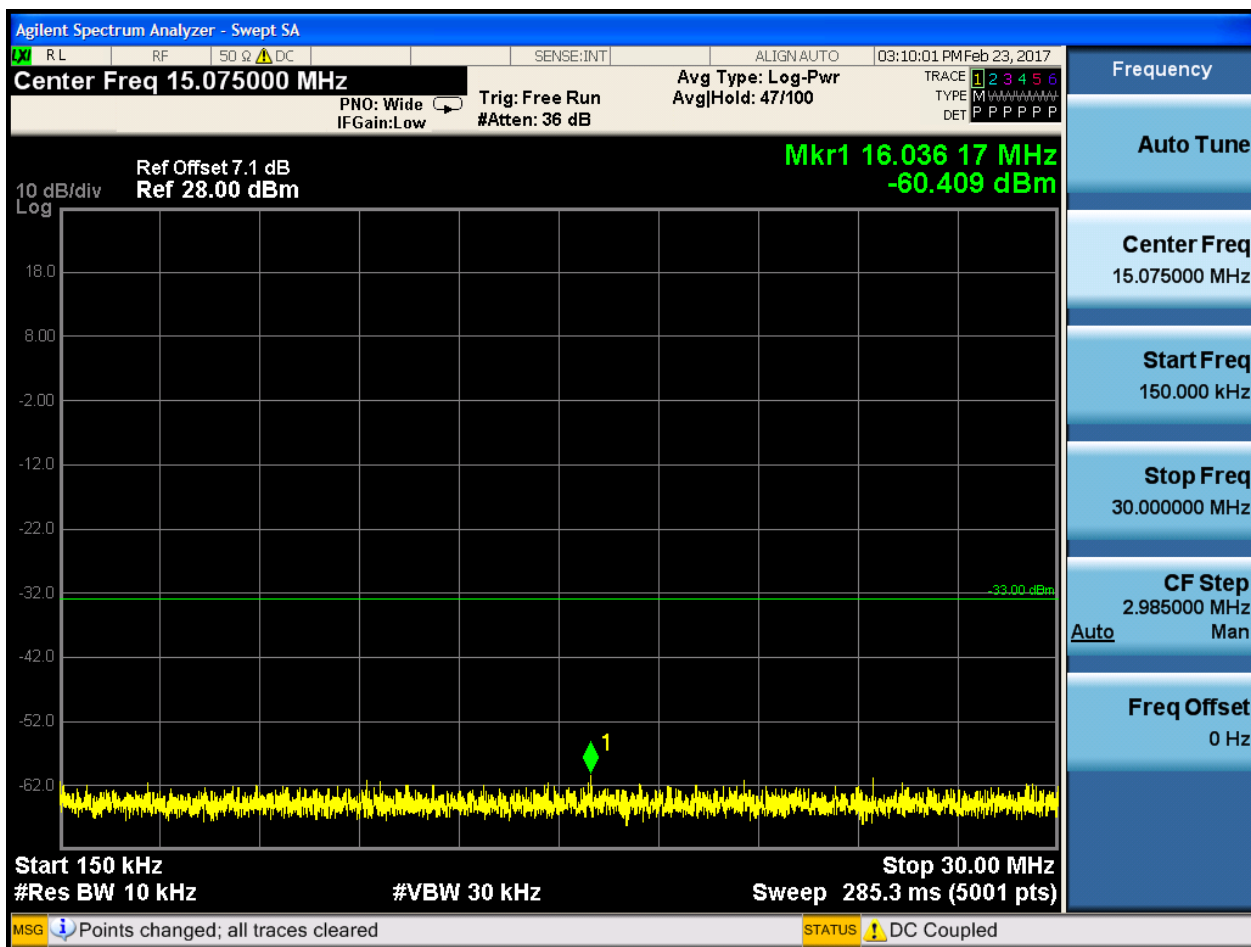


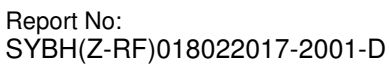
6.1.1.1.5 Test Bandwidth = 15

6.1.1.1.5.1 Test Channel = LCH

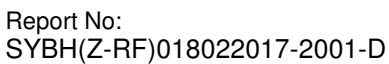
6.1.1.1.5.1.1 Test RB = RB1#0

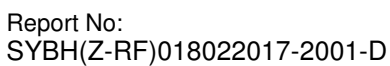








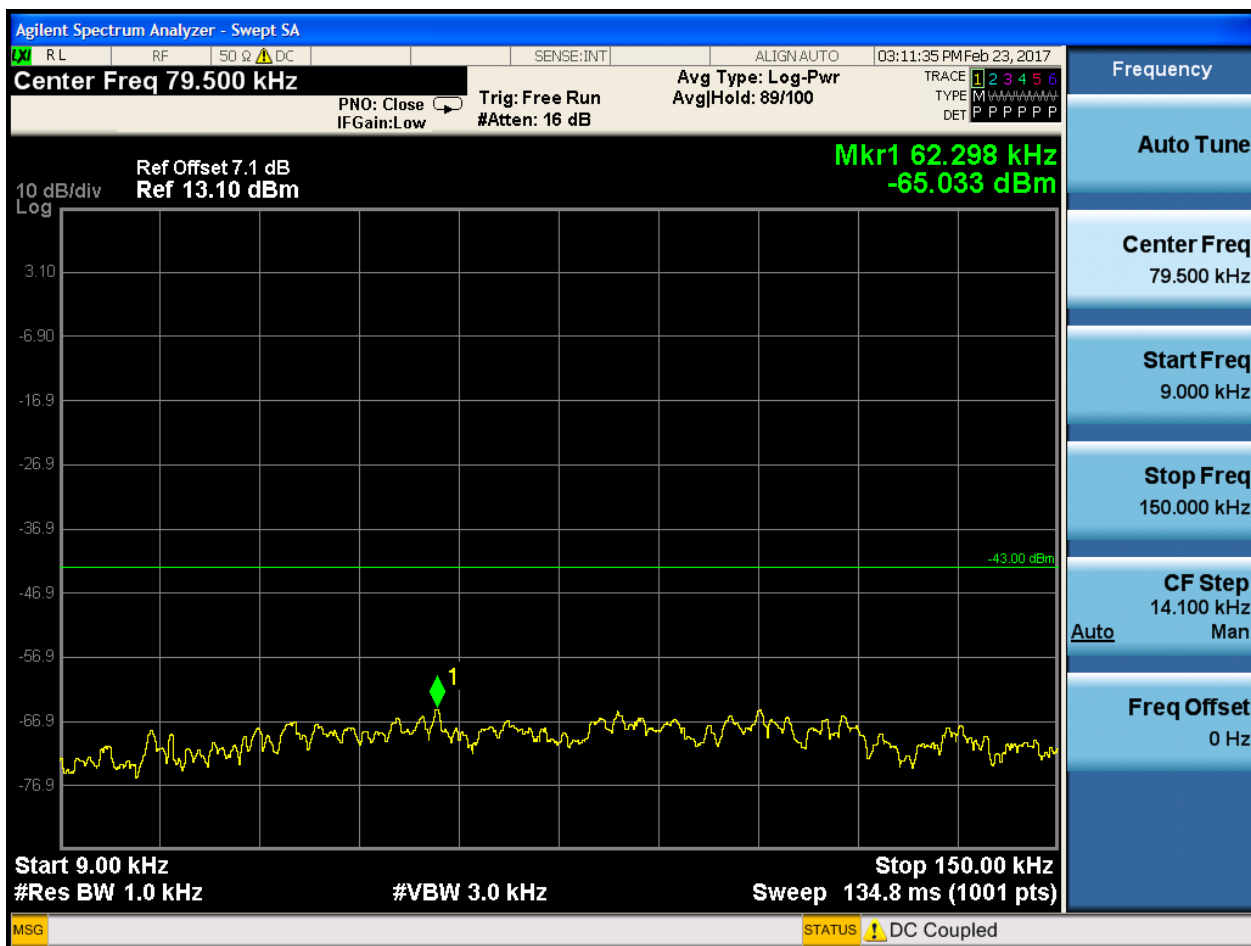


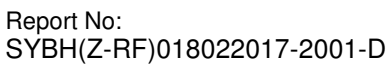


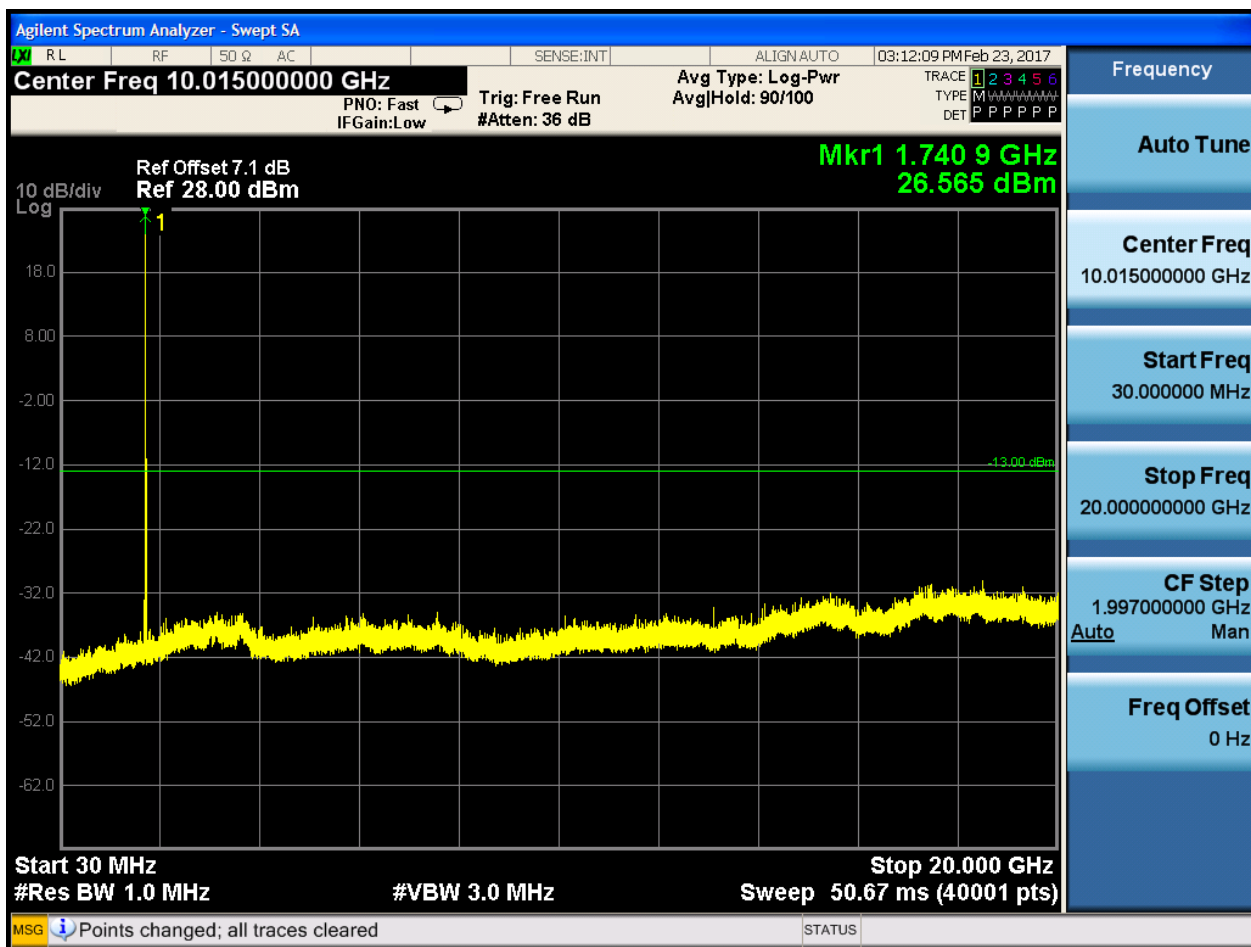


6.1.1.1.5.3 Test Channel = HCH

6.1.1.1.5.3.1 Test RB = RB1#0

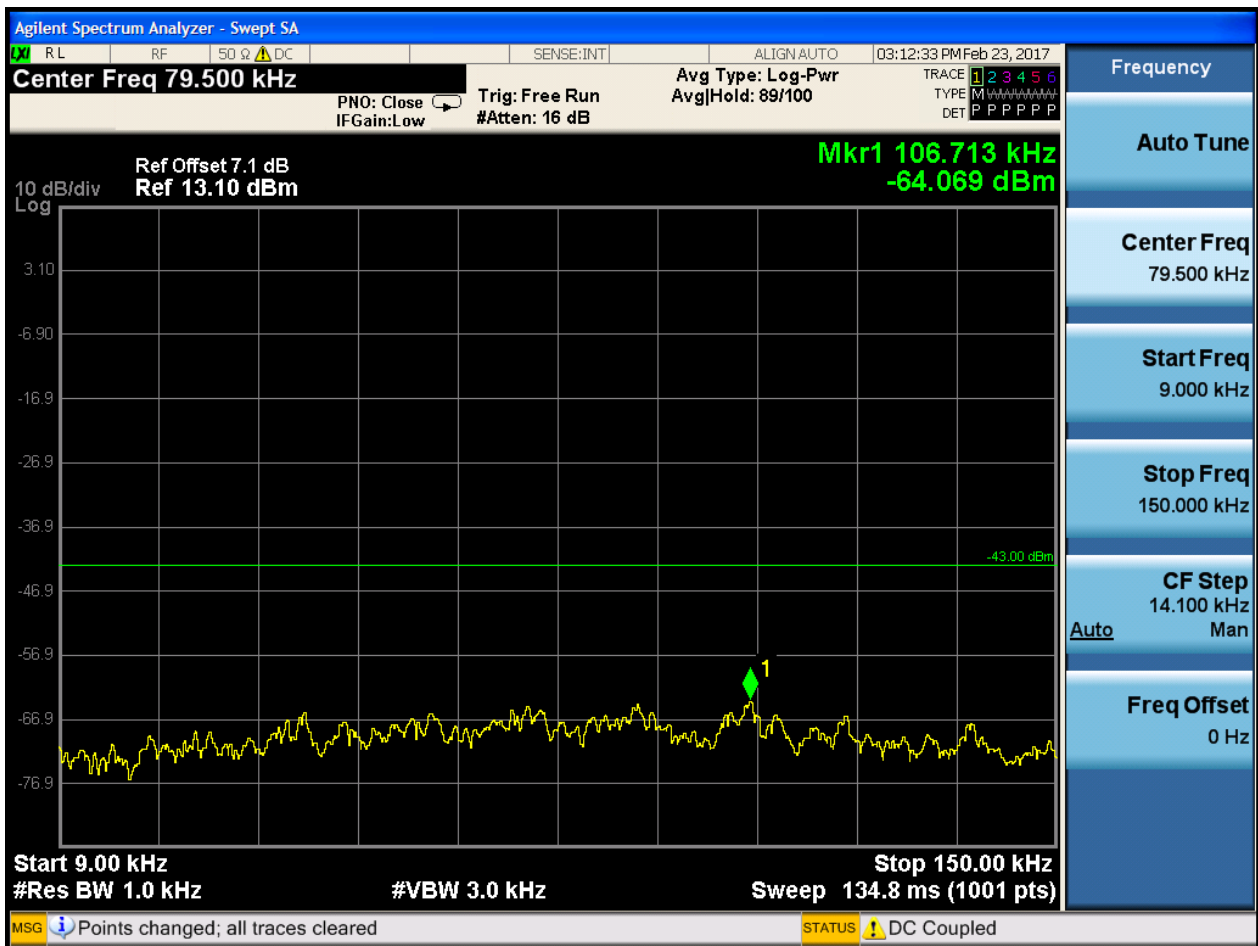


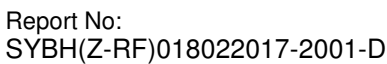


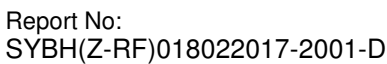




6.1.1.1.6.1.1 Test RB = RB1#0

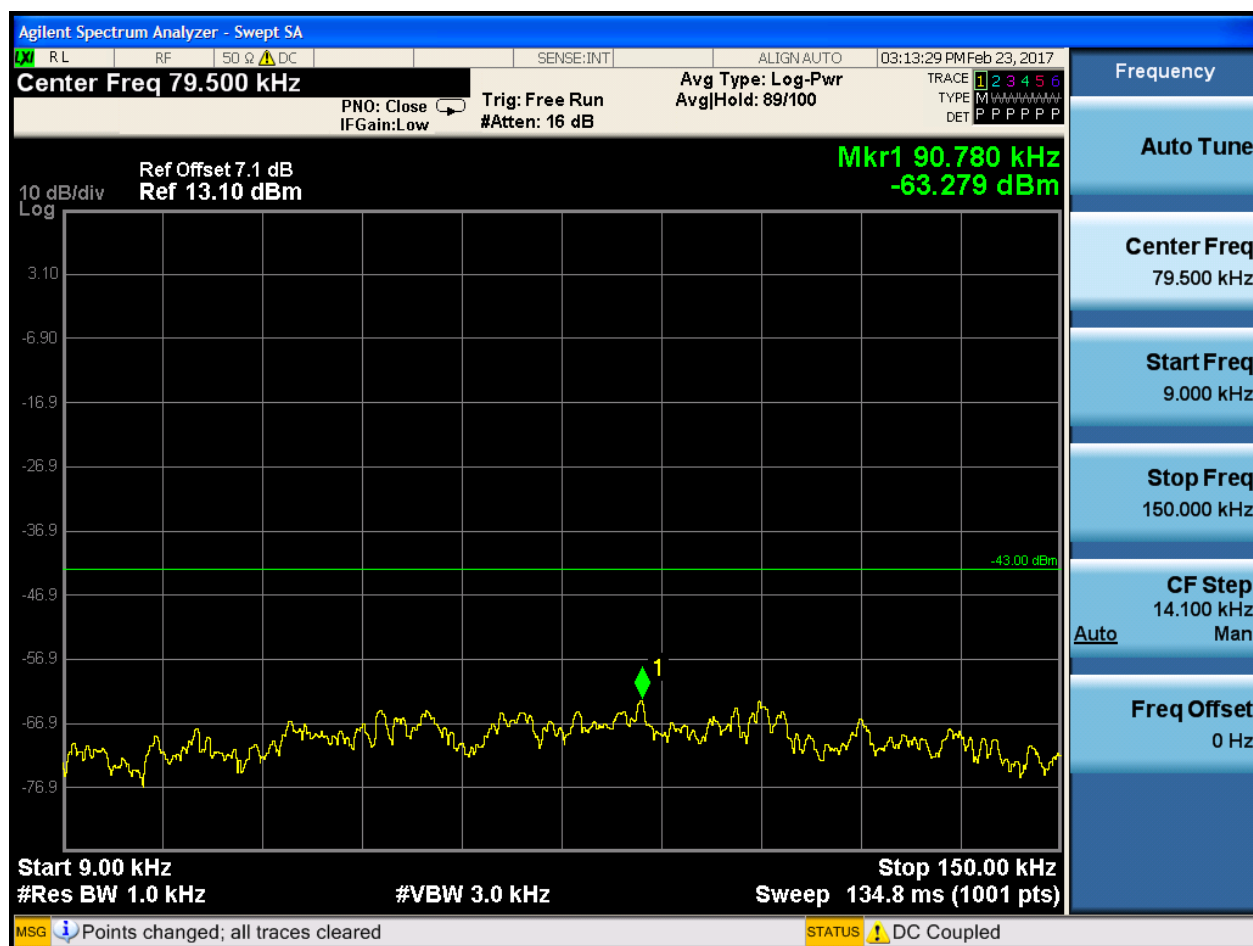


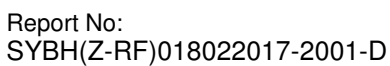


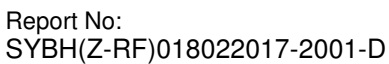


6.1.1.1.6.2 Test Channel = MCH

6.1.1.1.6.2.1 Test RB = RB1#0

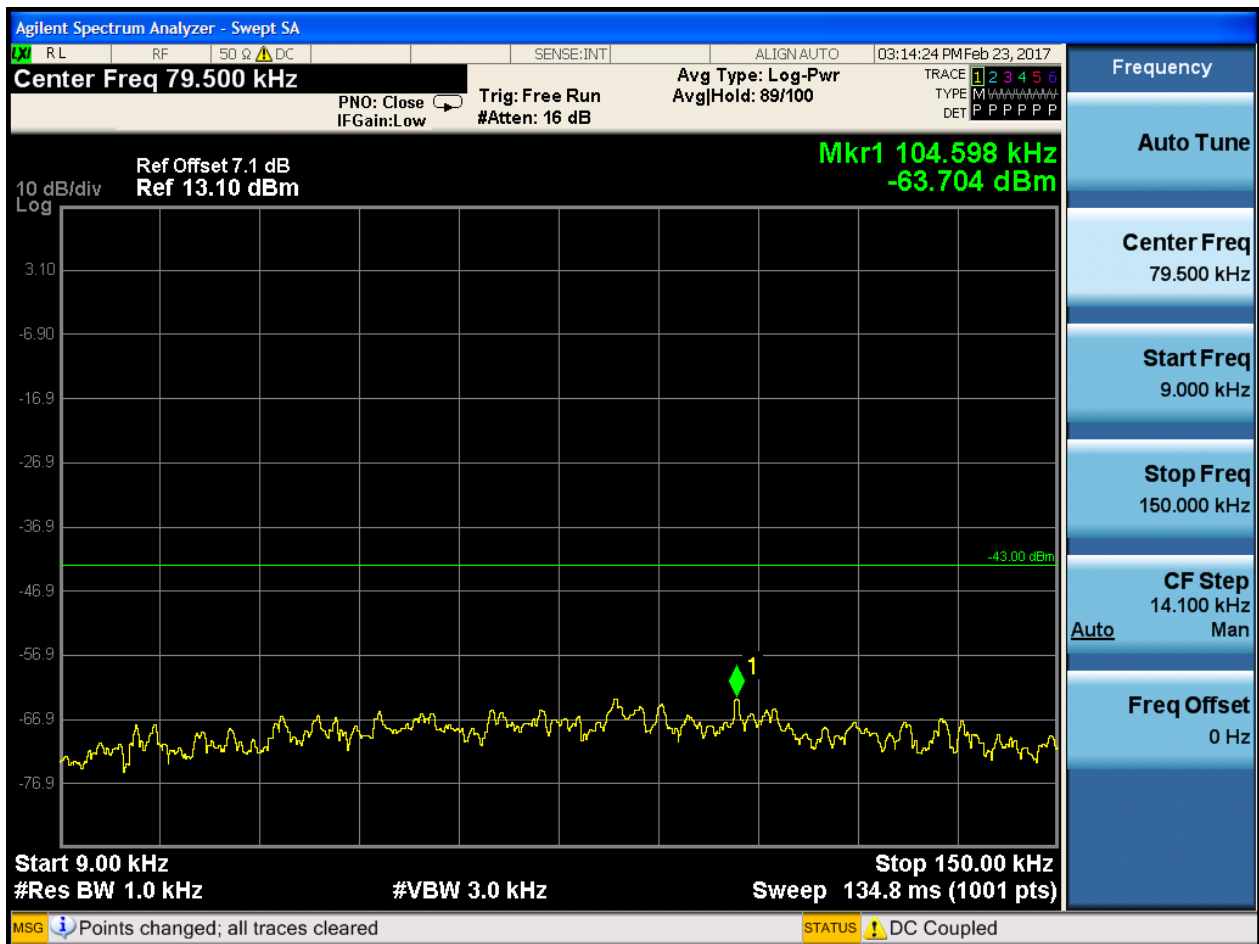


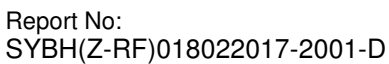


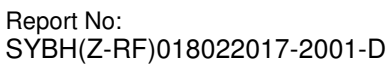


6.1.1.1.6.3 Test Channel = HCH

6.1.1.1.6.3.1 Test RB = RB1#0







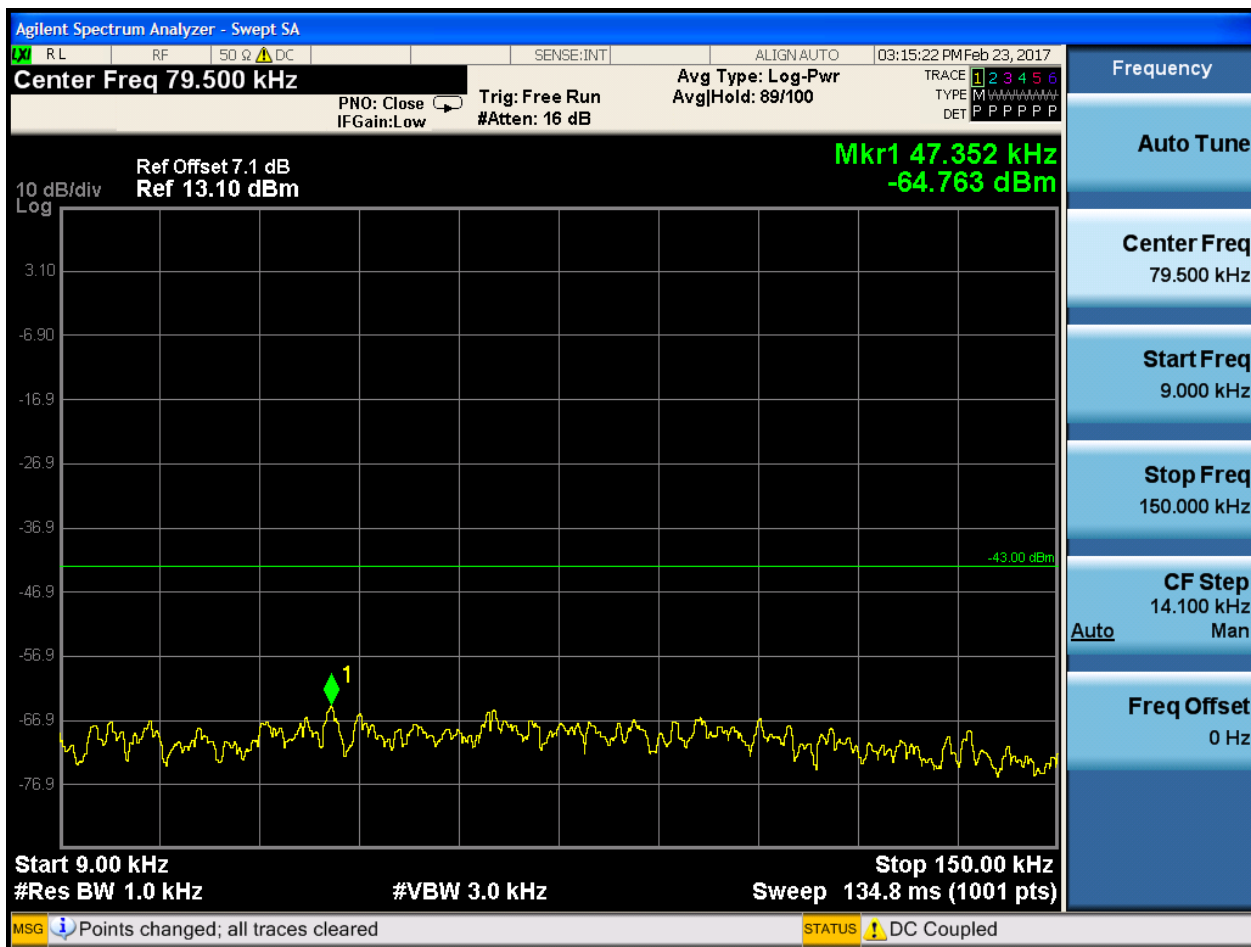


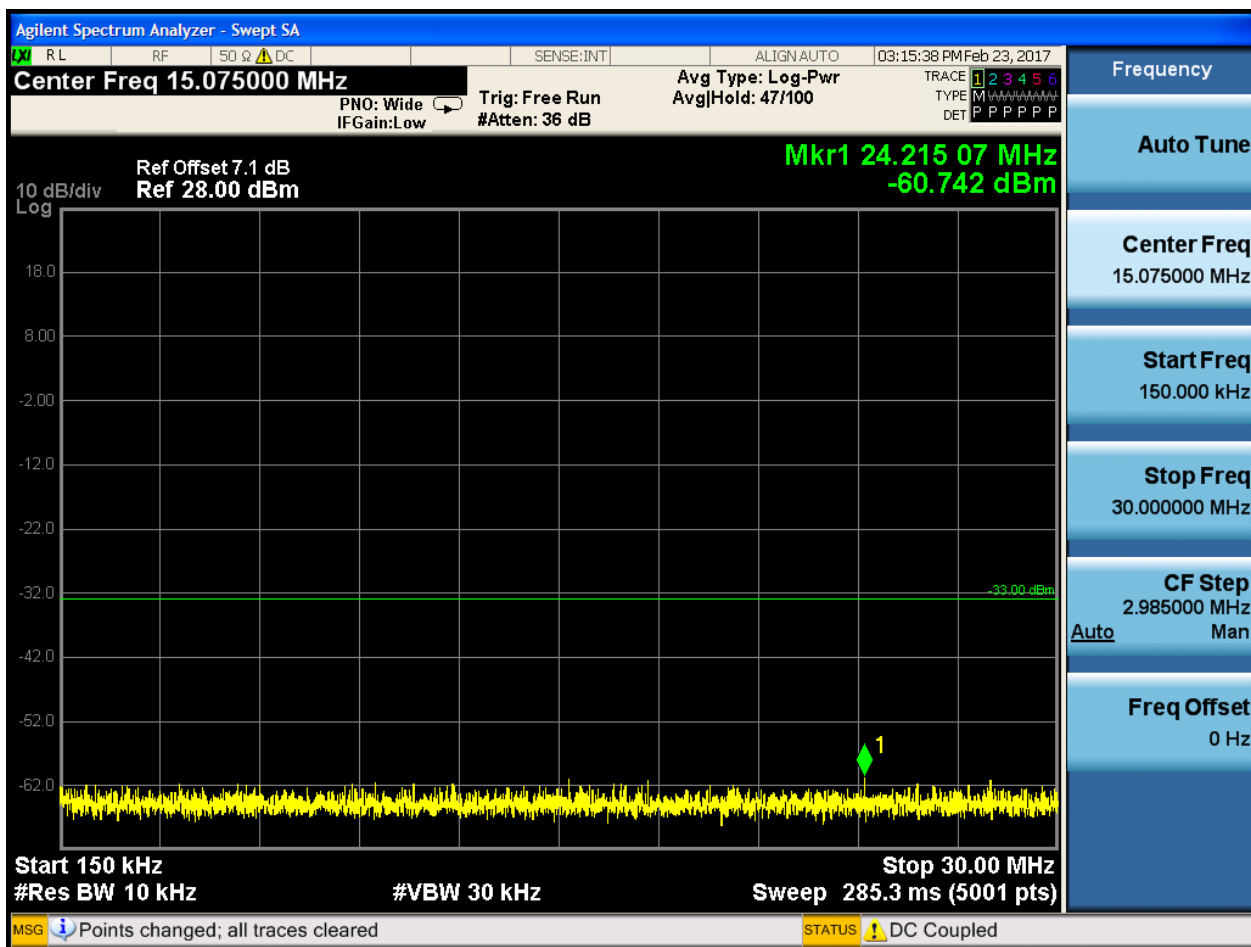
6.1.1.2 Test Mode = LTE/TM2

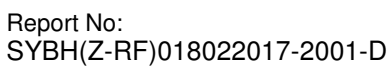
6.1.1.2.1 Test Bandwidth = 1.4

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



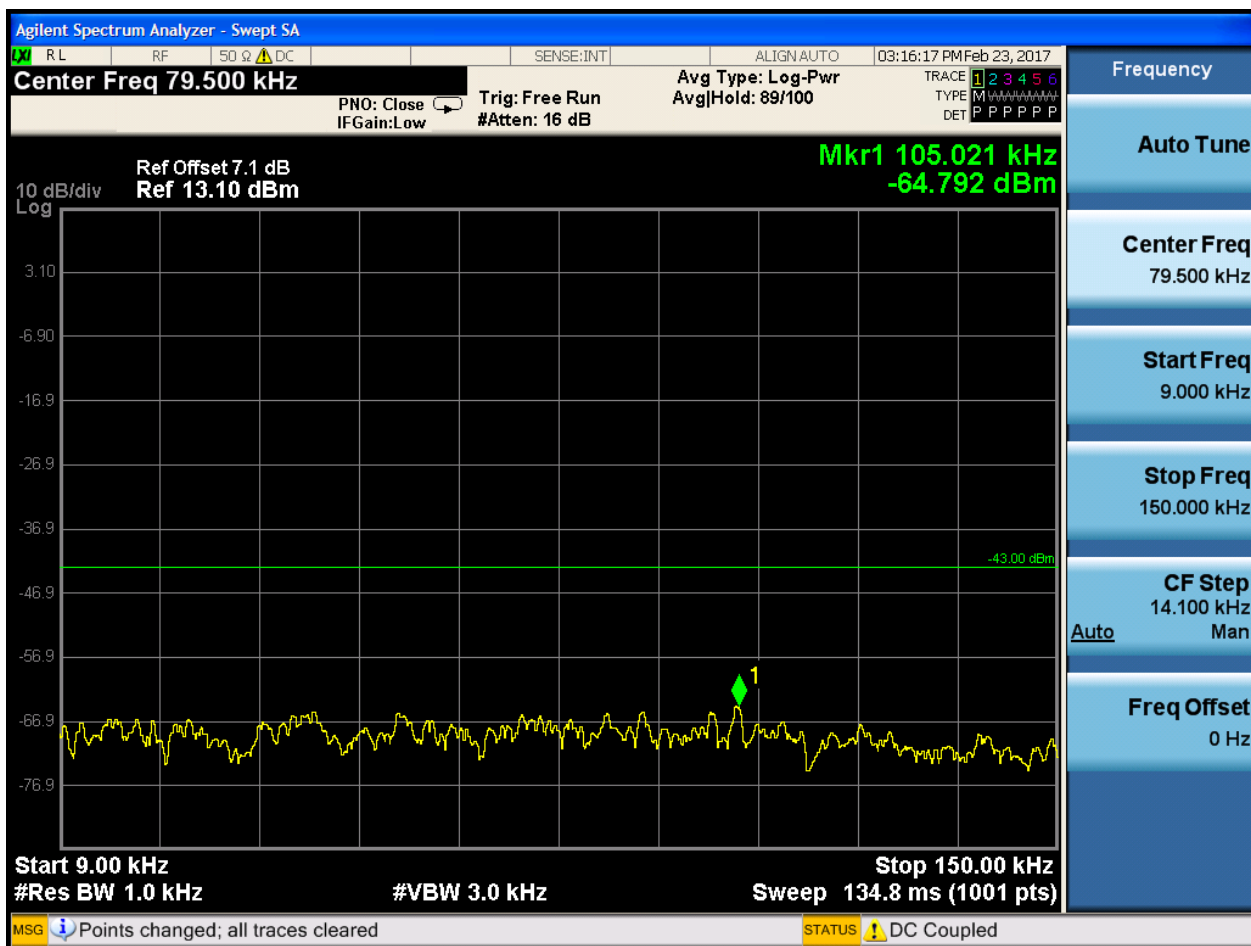


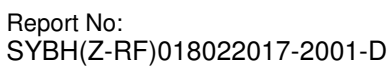


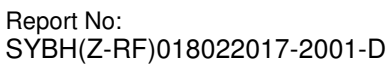


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



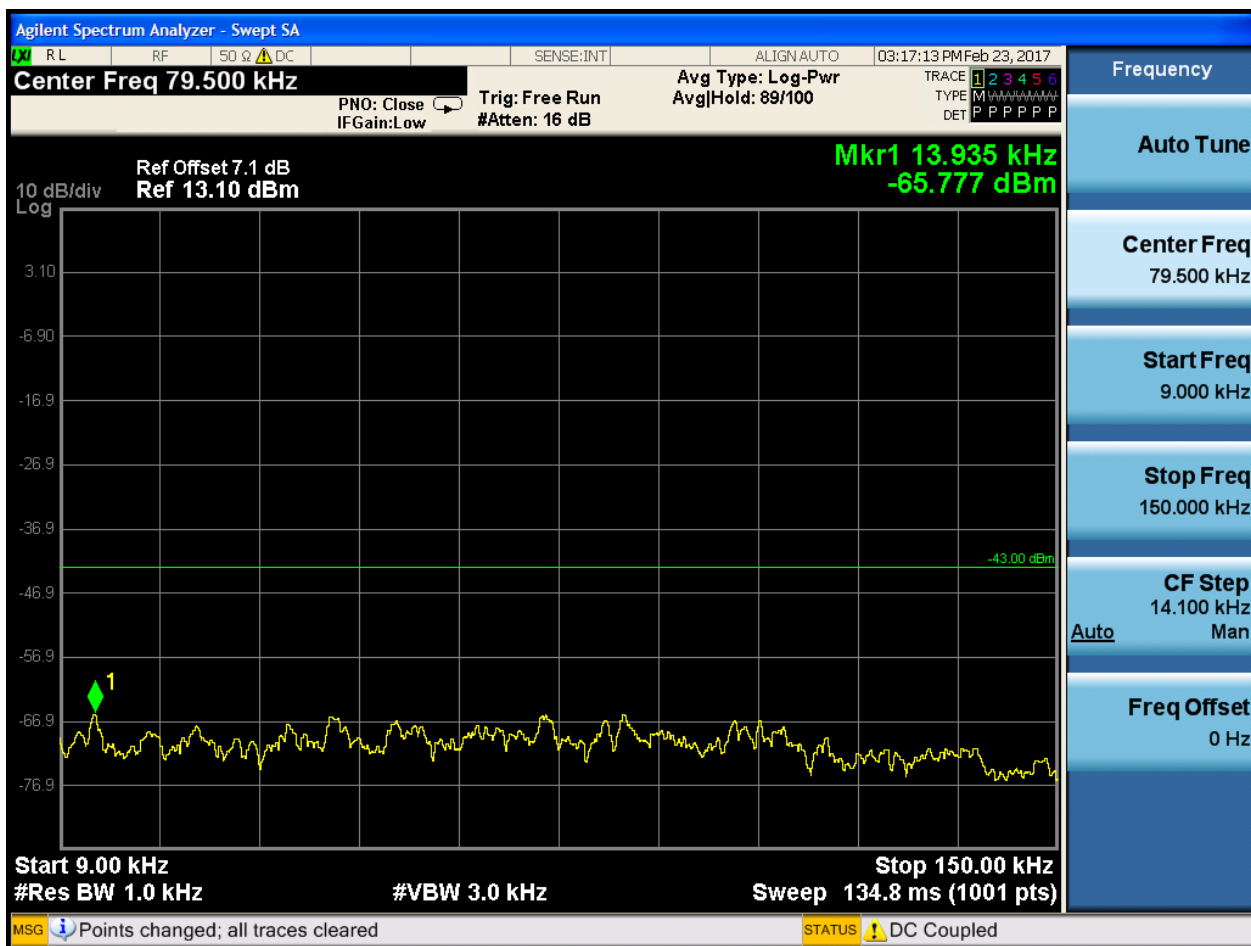


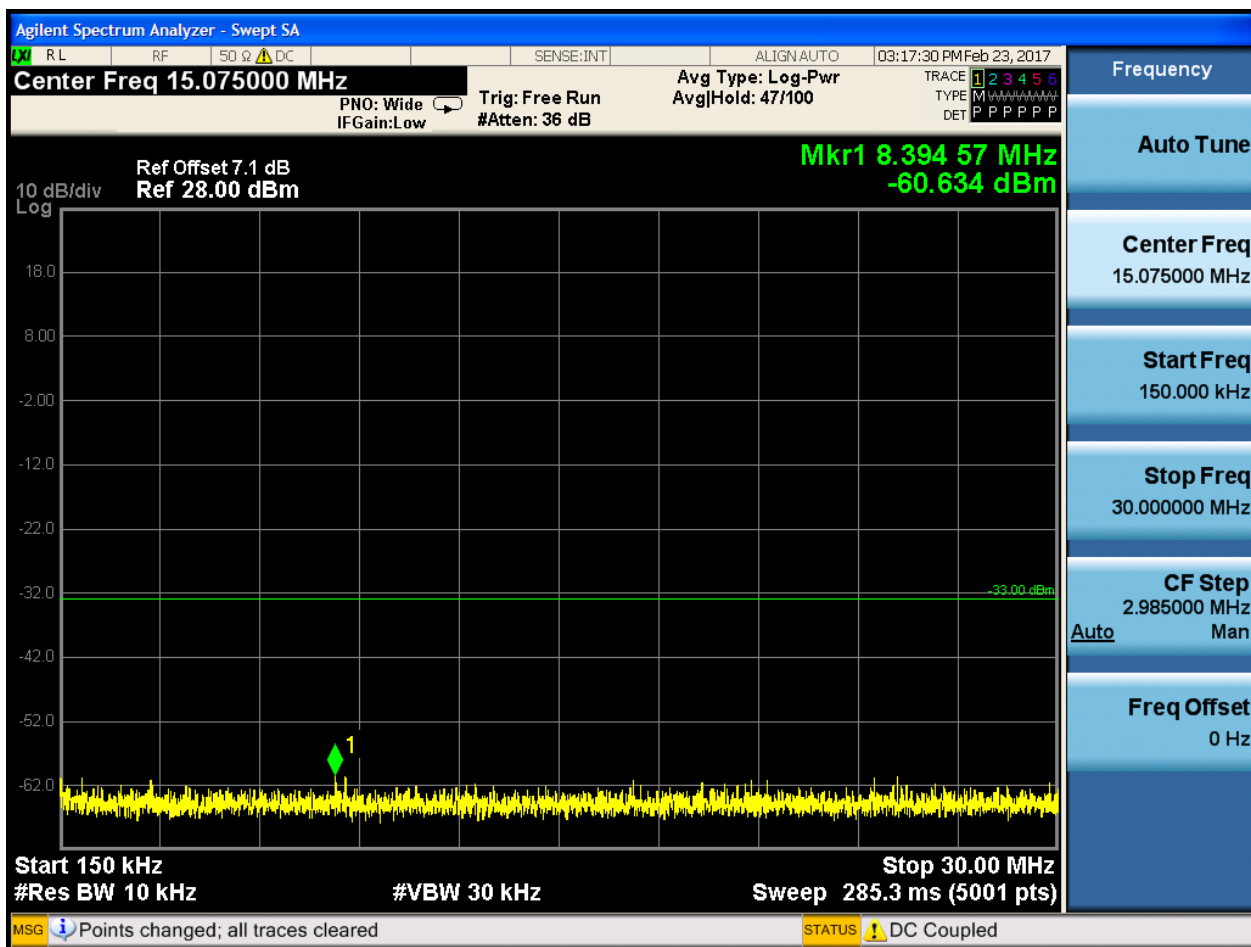




6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0



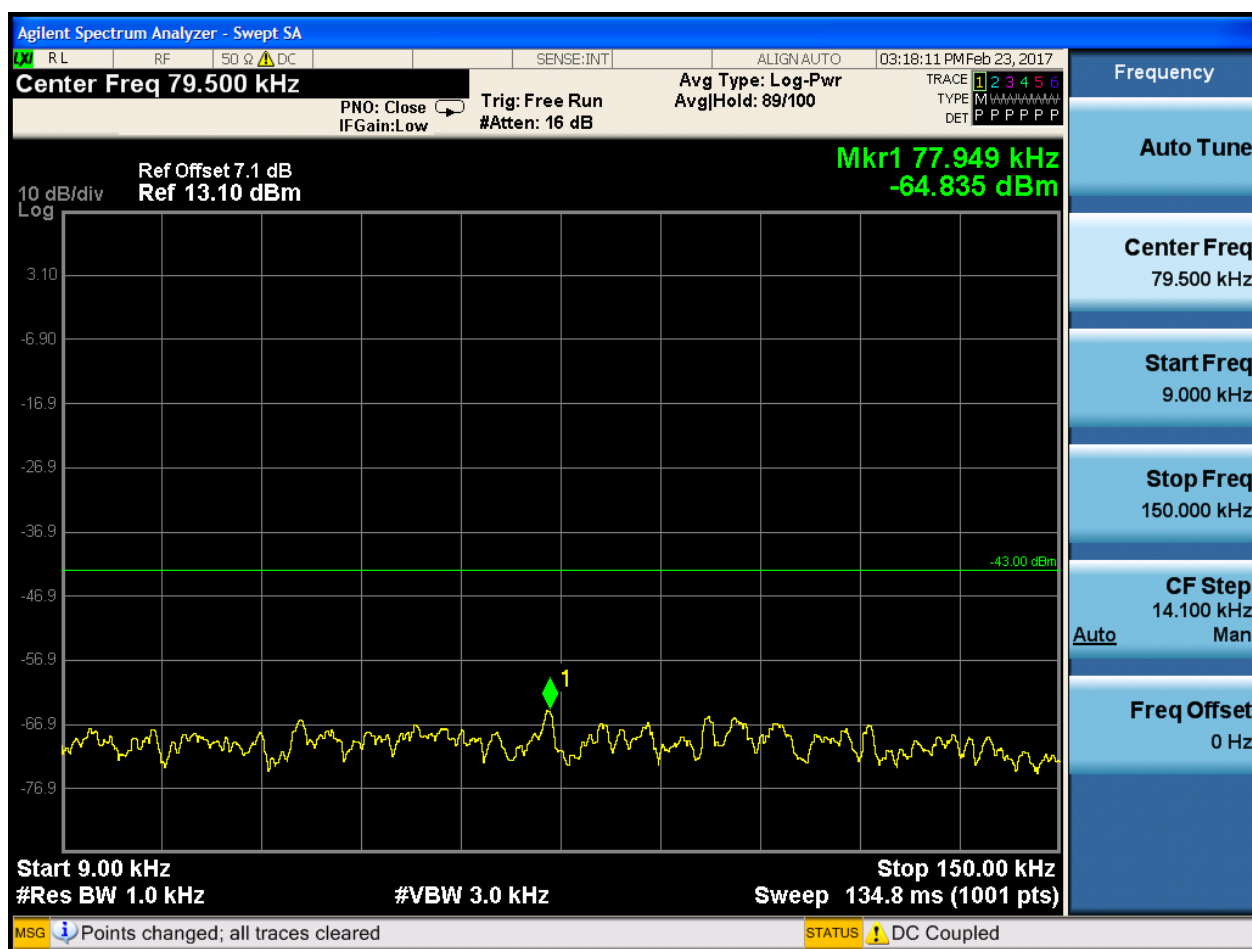


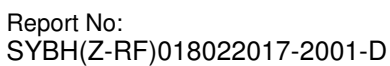


6.1.1.2.2 Test Bandwidth = 3

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0









6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

