



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:04:11 PM Jan 29, 2018

Center Freq 1.755000000 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 1.755 000 GHz
-31.379 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

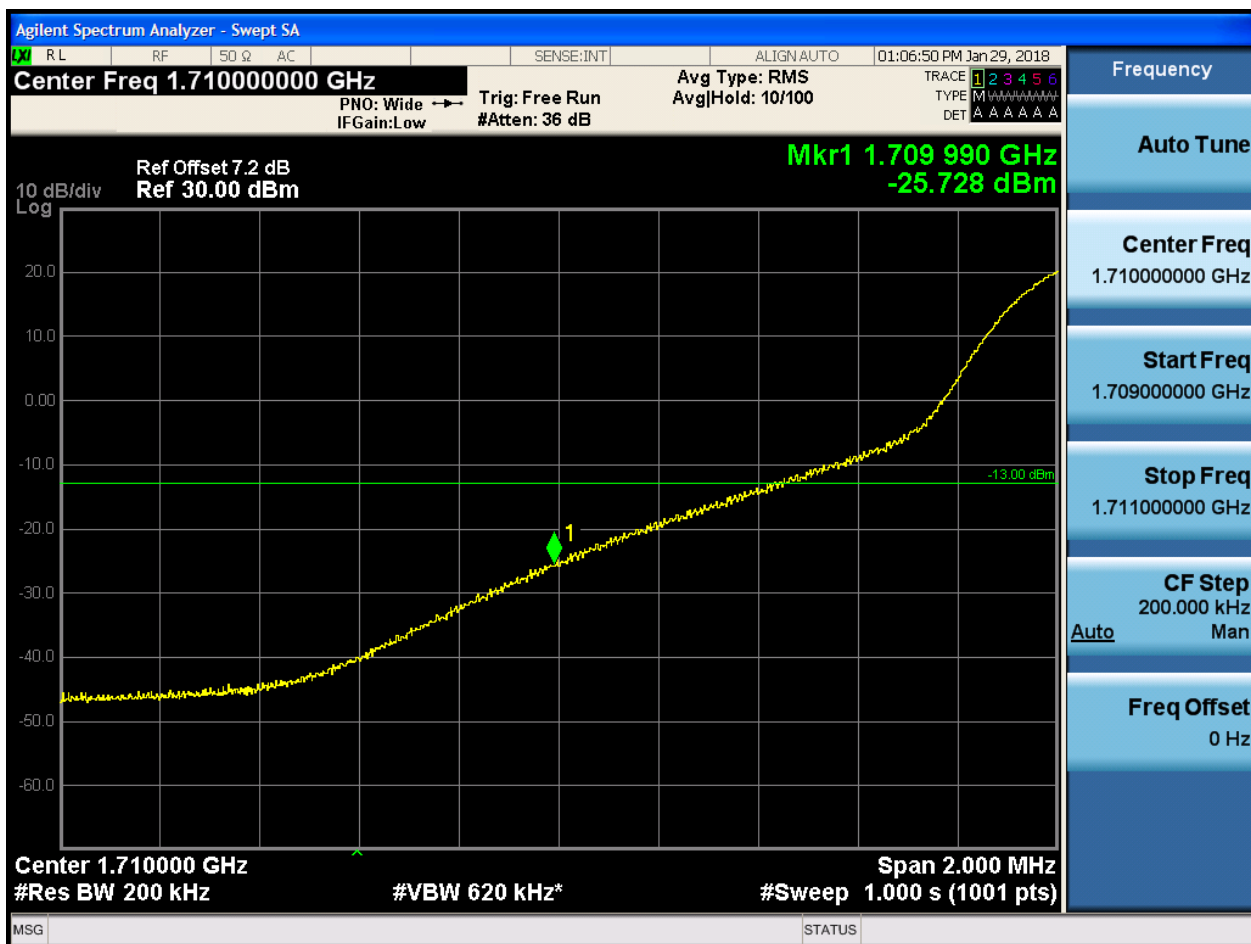
Freq Offset
0 Hz



5.1.1.1.6 Test Bandwidth = 20

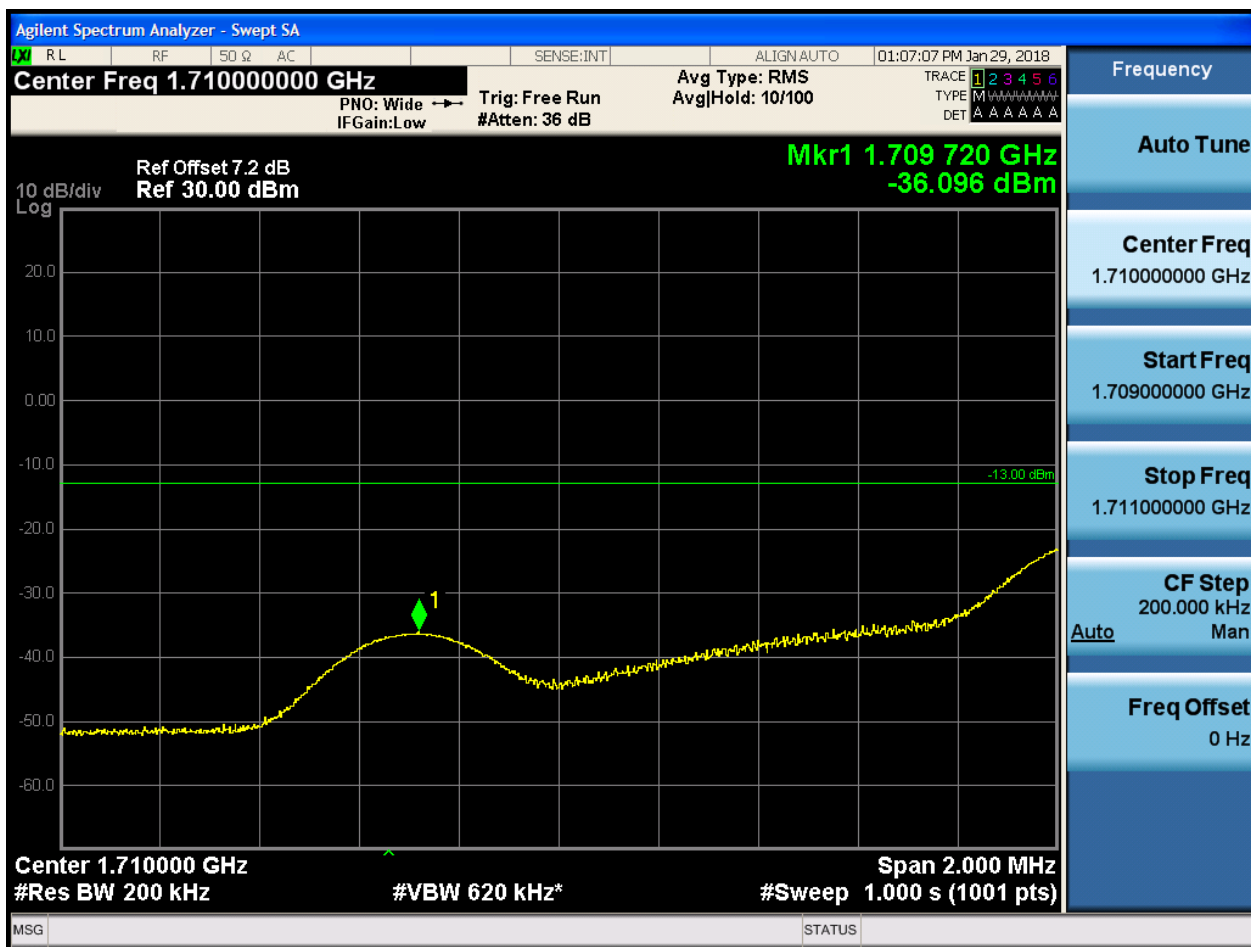
5.1.1.1.6.1 Test Channel = LCH

5.1.1.1.6.1.1 Test RB = RB1#0



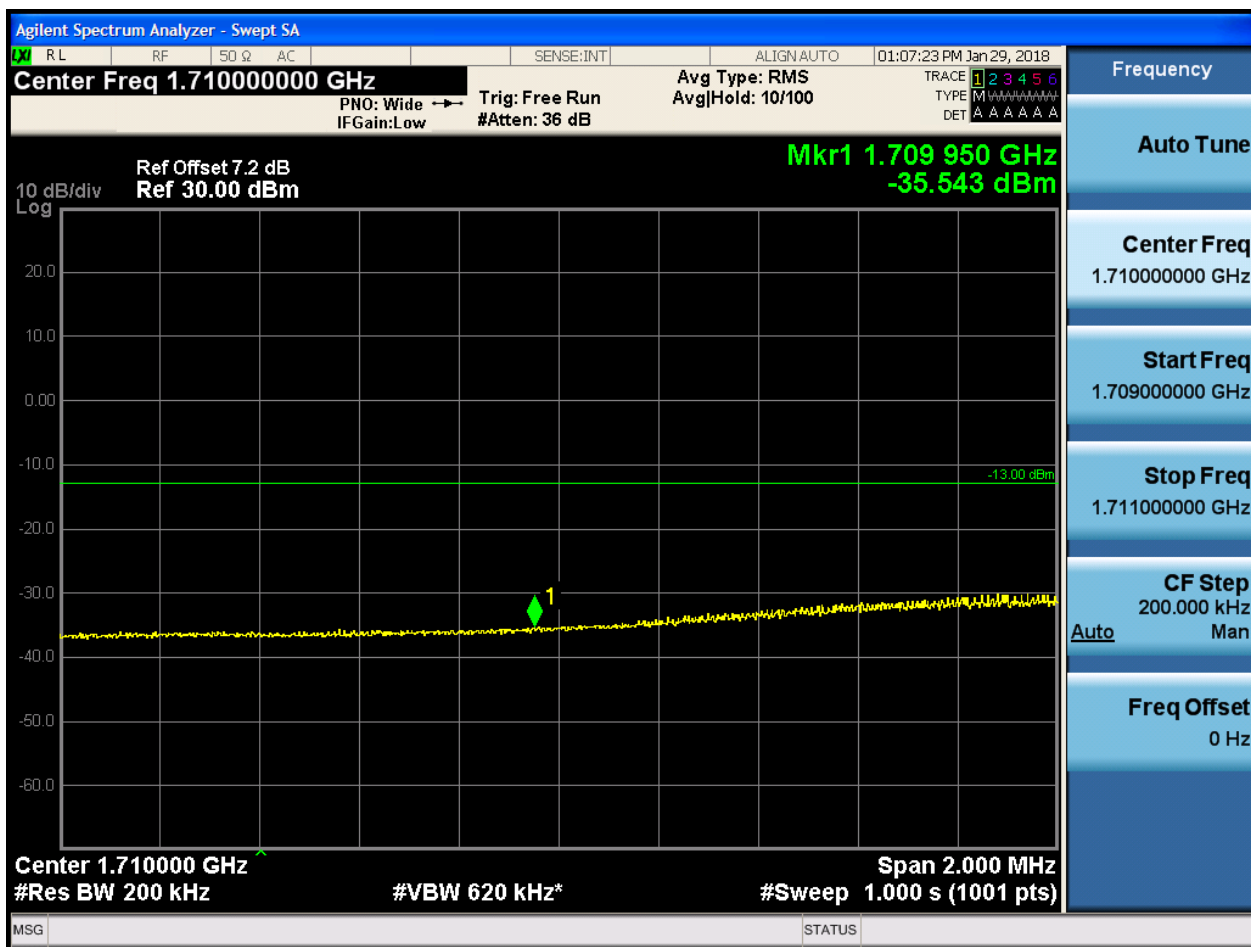


5.1.1.1.6.1.2 Test RB = RB1#99





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





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RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:08:35 PM Jan 29, 2018

Center Freq 1.755000000 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 W W
DET A A A A A A

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 070 GHz
-34.770 dBm

10 dB/div
Log

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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:08:52 PM Jan 29, 2018

Center Freq 1.755000000 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 W W
DET A A A A A A

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 030 GHz
-33.241 dBm

10 dB/div
Log

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

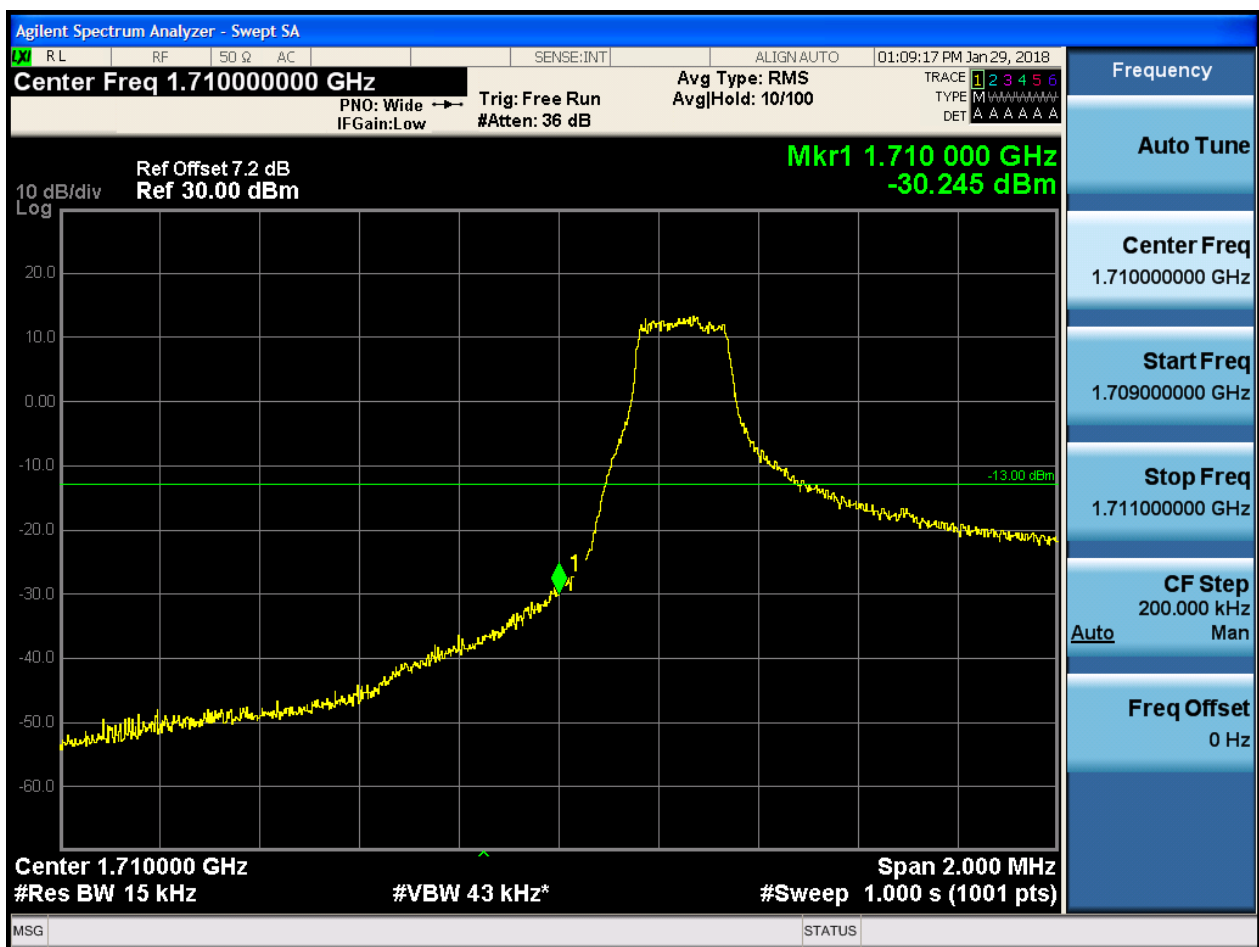


5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 1.4

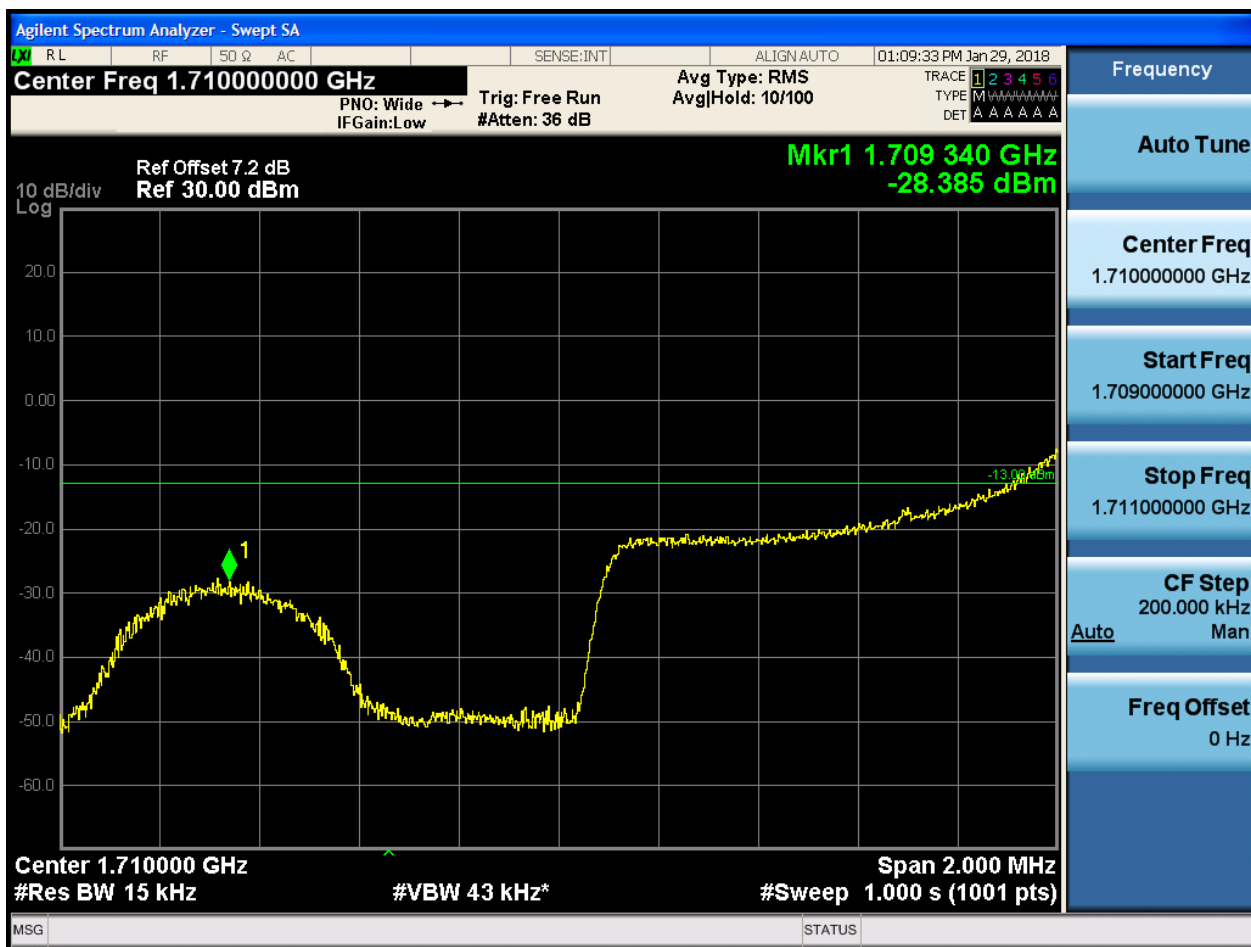
5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 Test RB = RB1#0





5.1.1.2.1.2 Test RB = RB1#5





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Center Freq 1.710000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.709 990 GHz
-32.199 dBm

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

Auto Tune

Center Freq
1.710000000 GHz

Start Freq
1.709000000 GHz

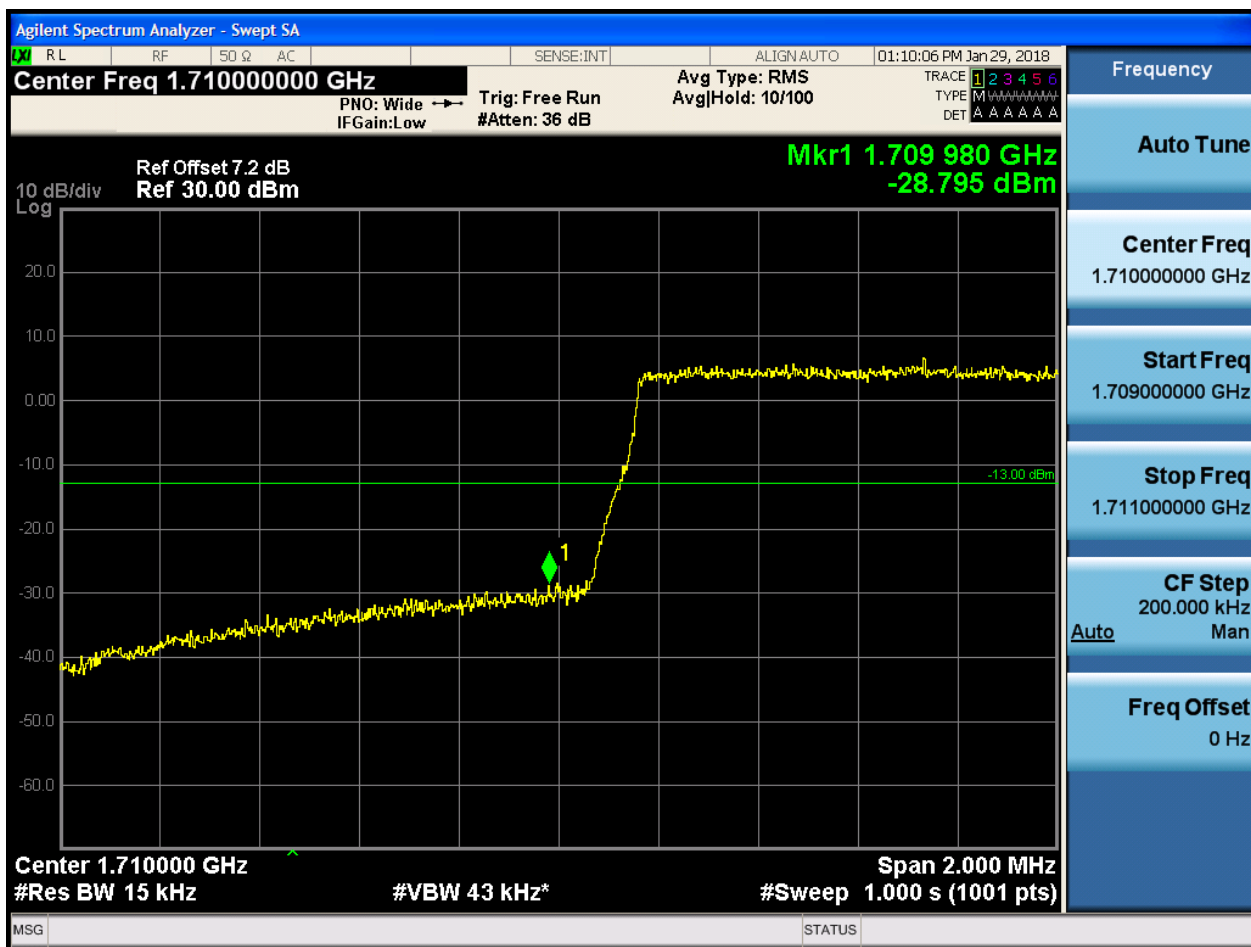
Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz



5.1.1.2.1.1.4 Test RB = RB6#0





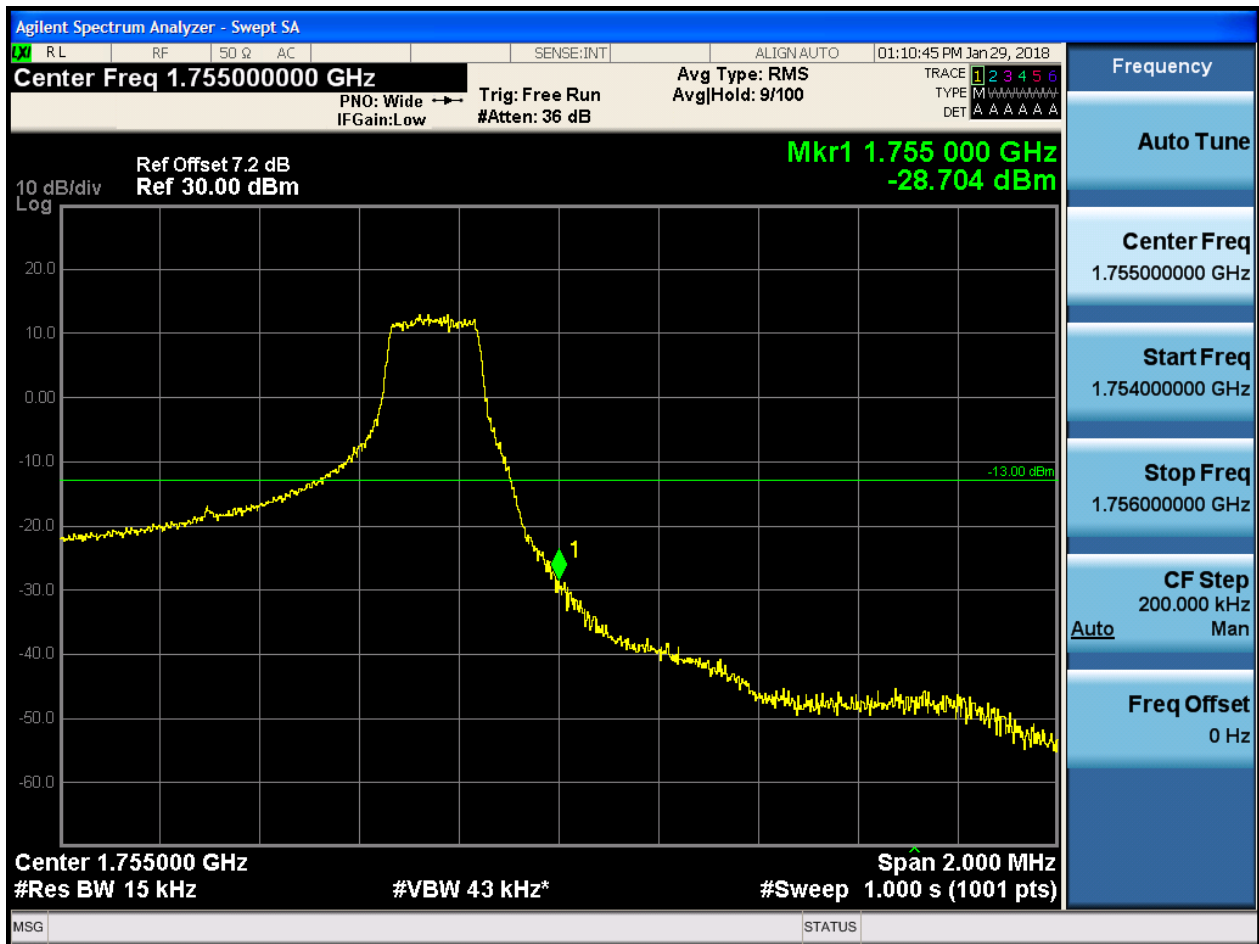
5.1.1.2.1.2 Test Channel = HCH

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

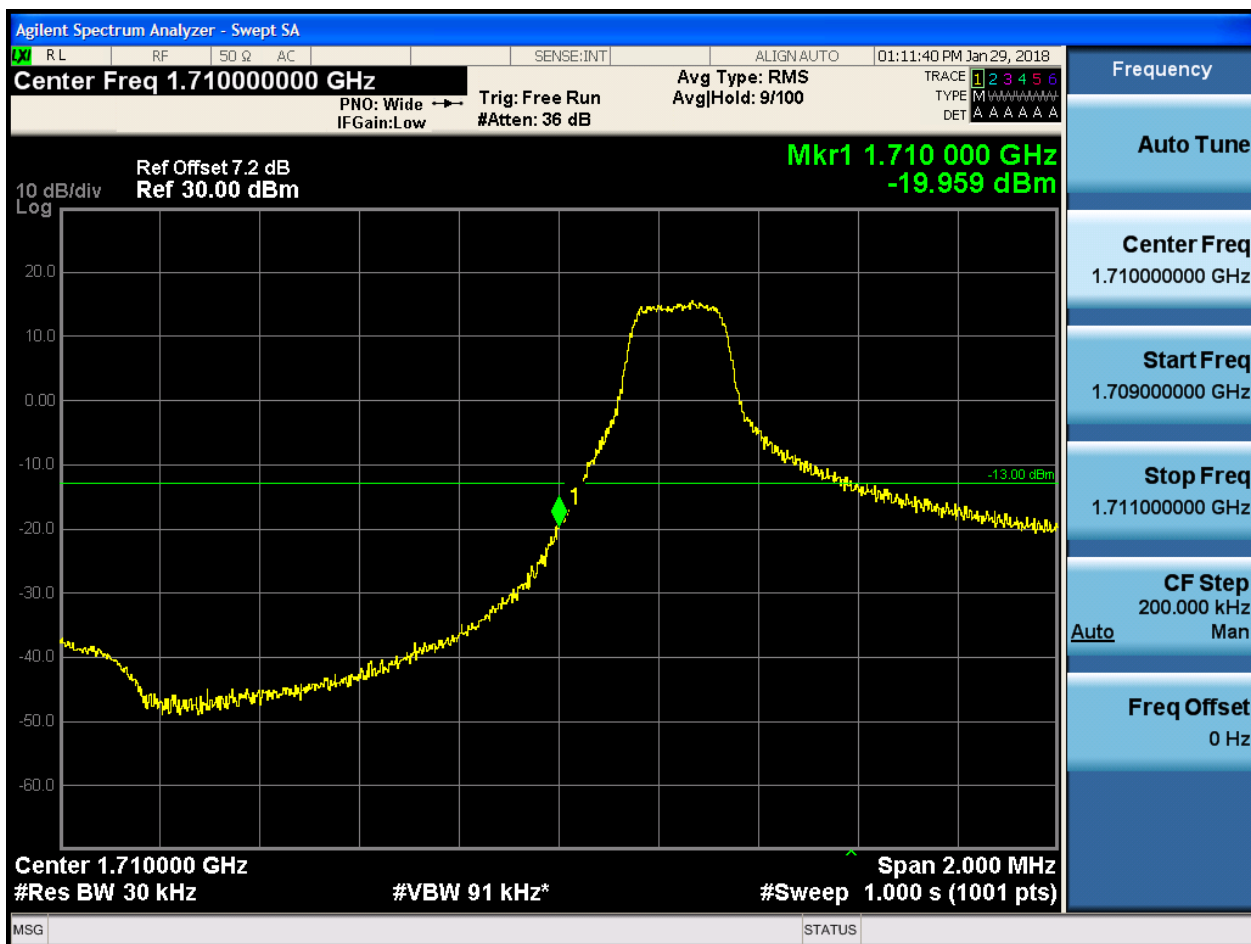




5.1.1.2.2 Test Bandwidth = 3

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 1.71000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

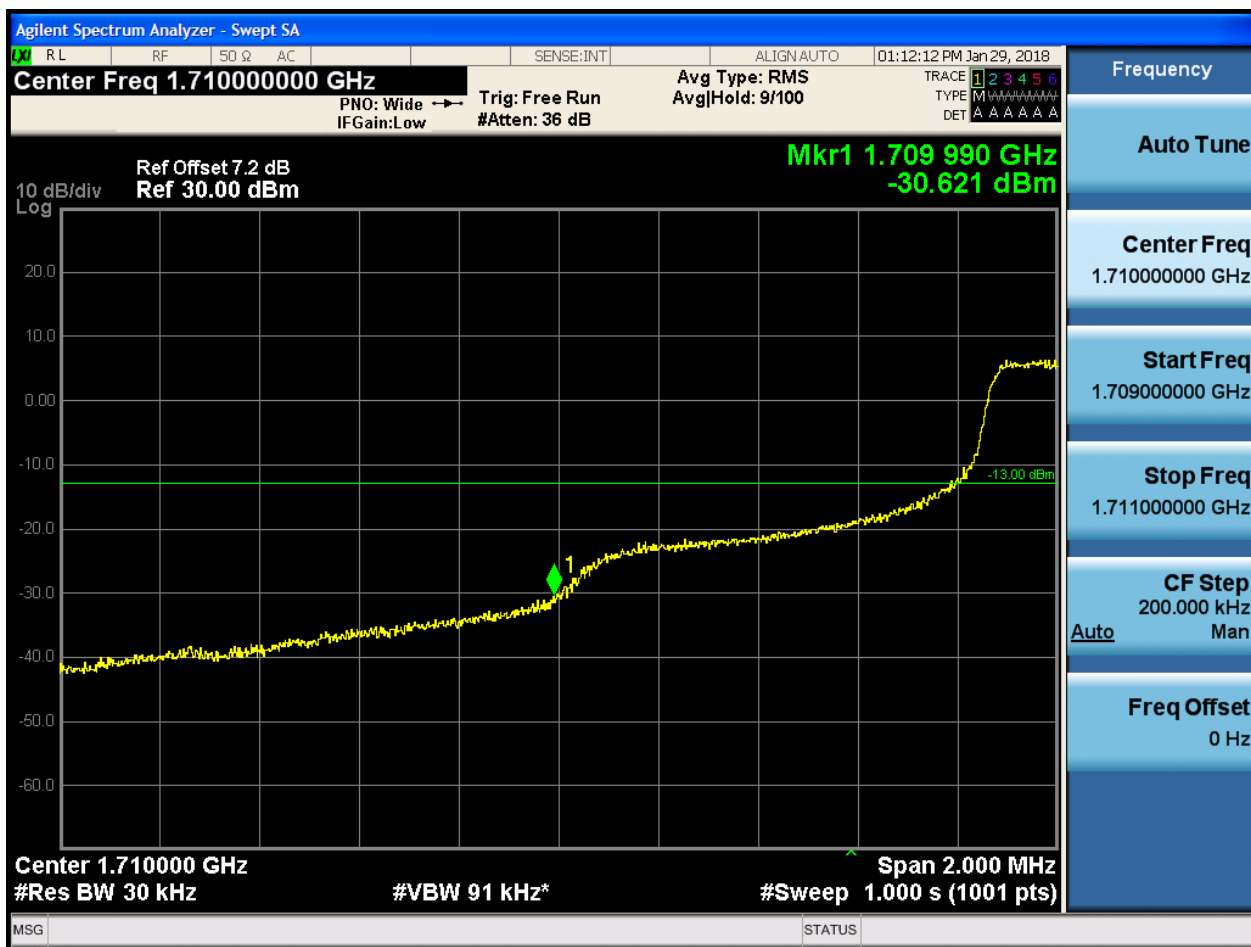
Mkr1 1.710 000 GHz
-34.112 dBm

Center 1.71000 GHz
#Res BW 30 kHz
#VBW 91 kHz*
Span 2.000 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

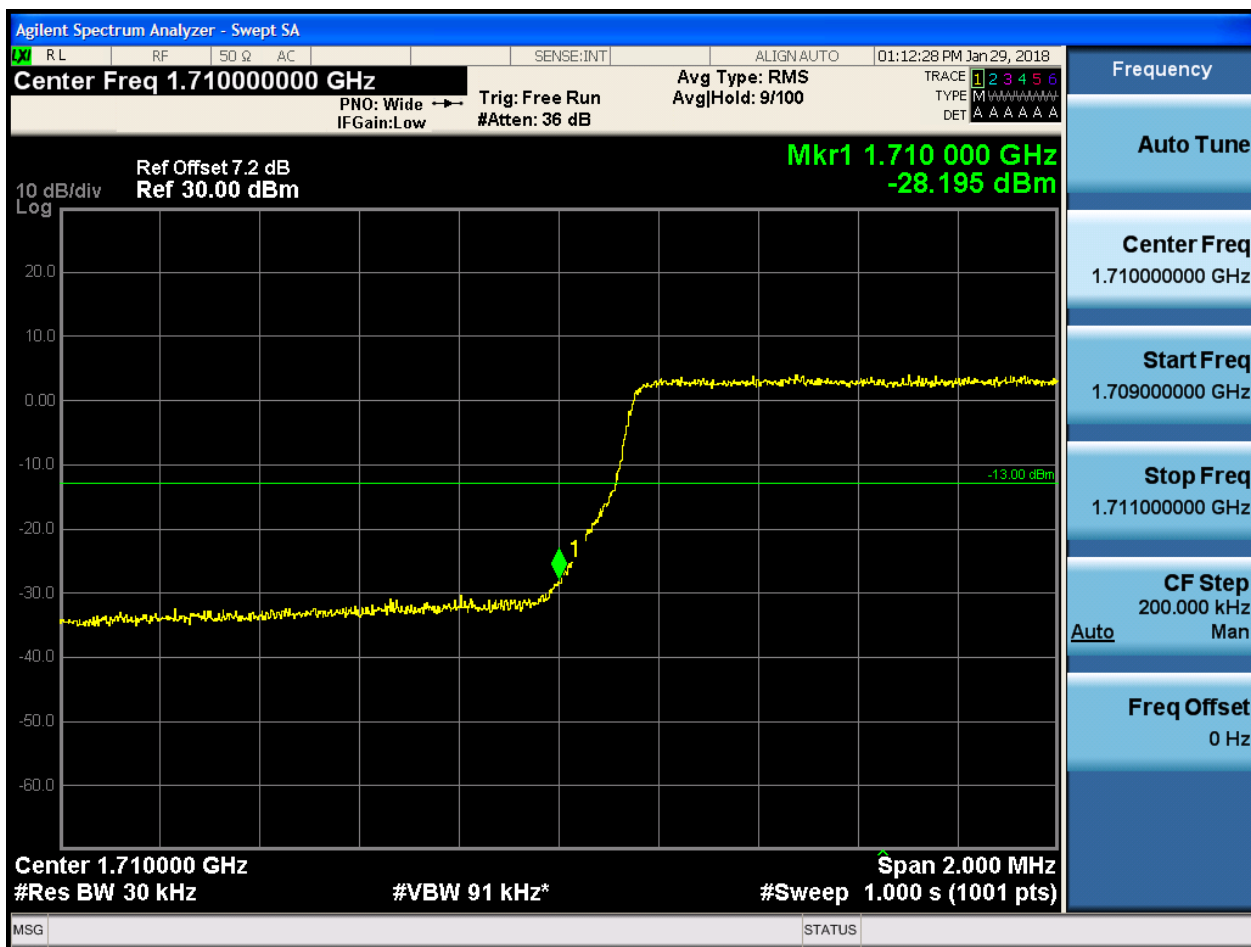


5.1.1.2.2.1.3 Test RB = RB8#4





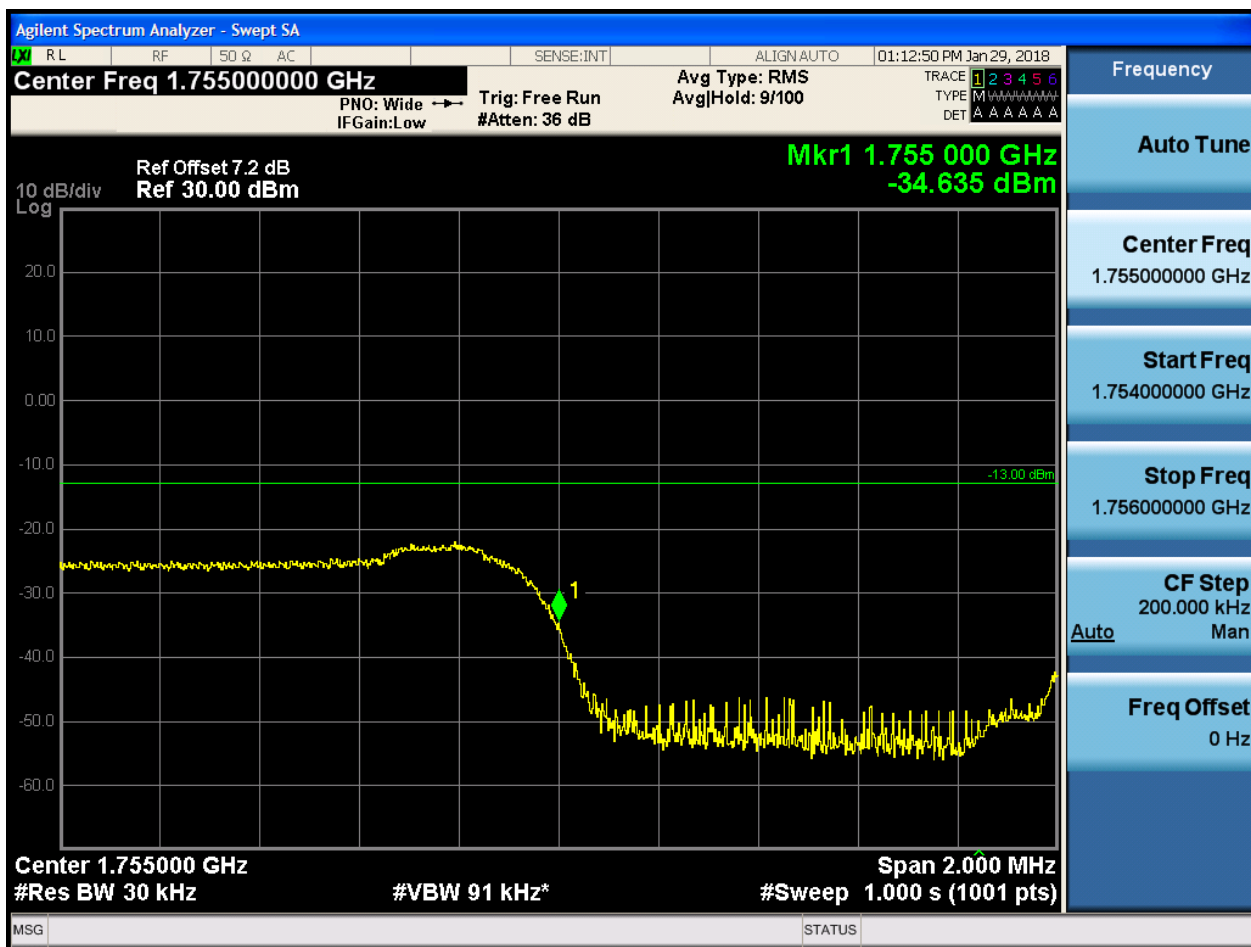
5.1.1.2.2.1.4 Test RB = RB15#0





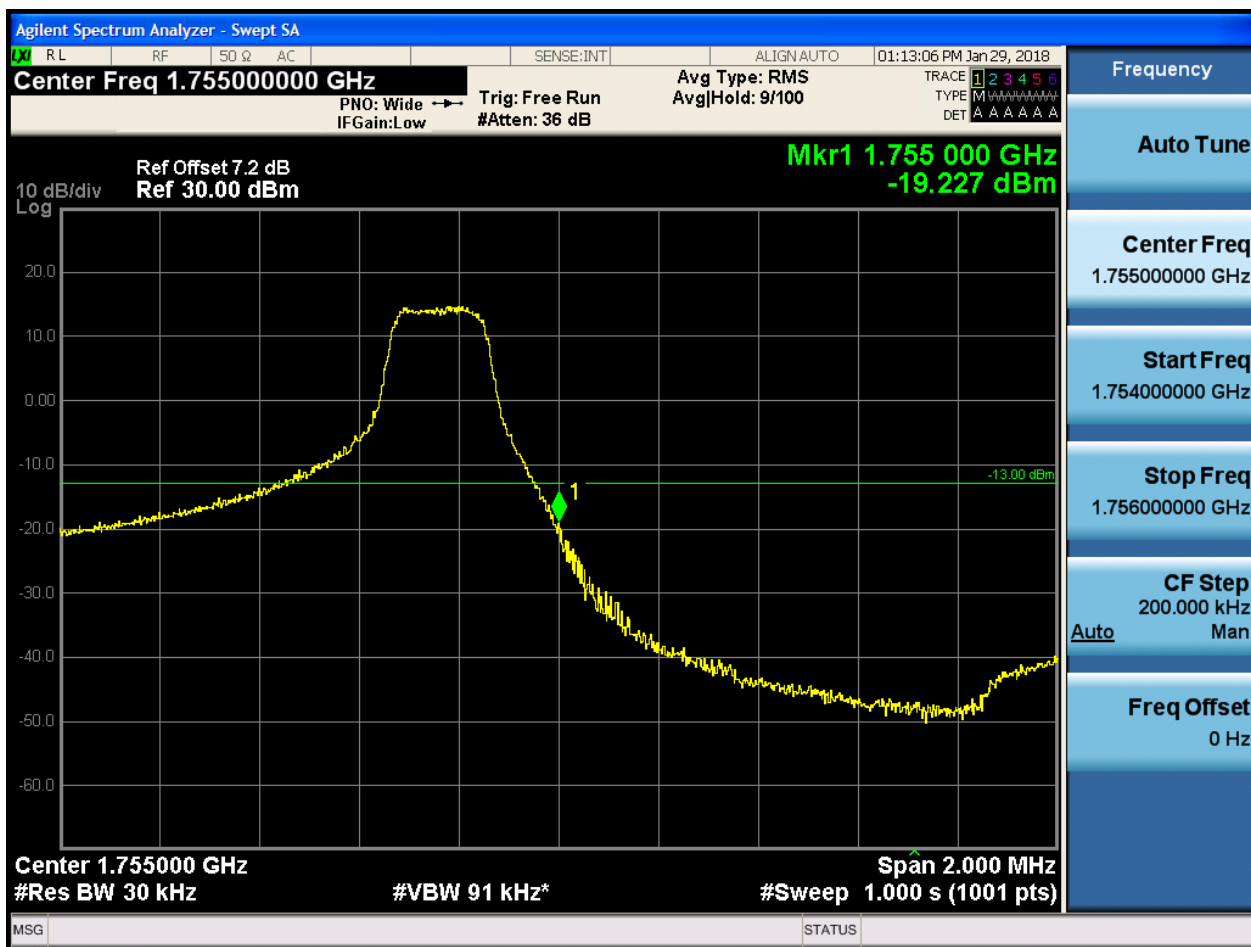
5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0





5.1.1.2.2.2 Test RB = RB1#14





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RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:13:22 PM Jan 29, 2018

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 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 010 GHz
-30.863 dBm

10 dB/div
Log

-13.00 dBm

Center 1.755000 GHz Span 2.000 MHz
#Res BW 30 kHz #VBW 91 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



5.1.1.2.2.4 Test RB = RB15#0

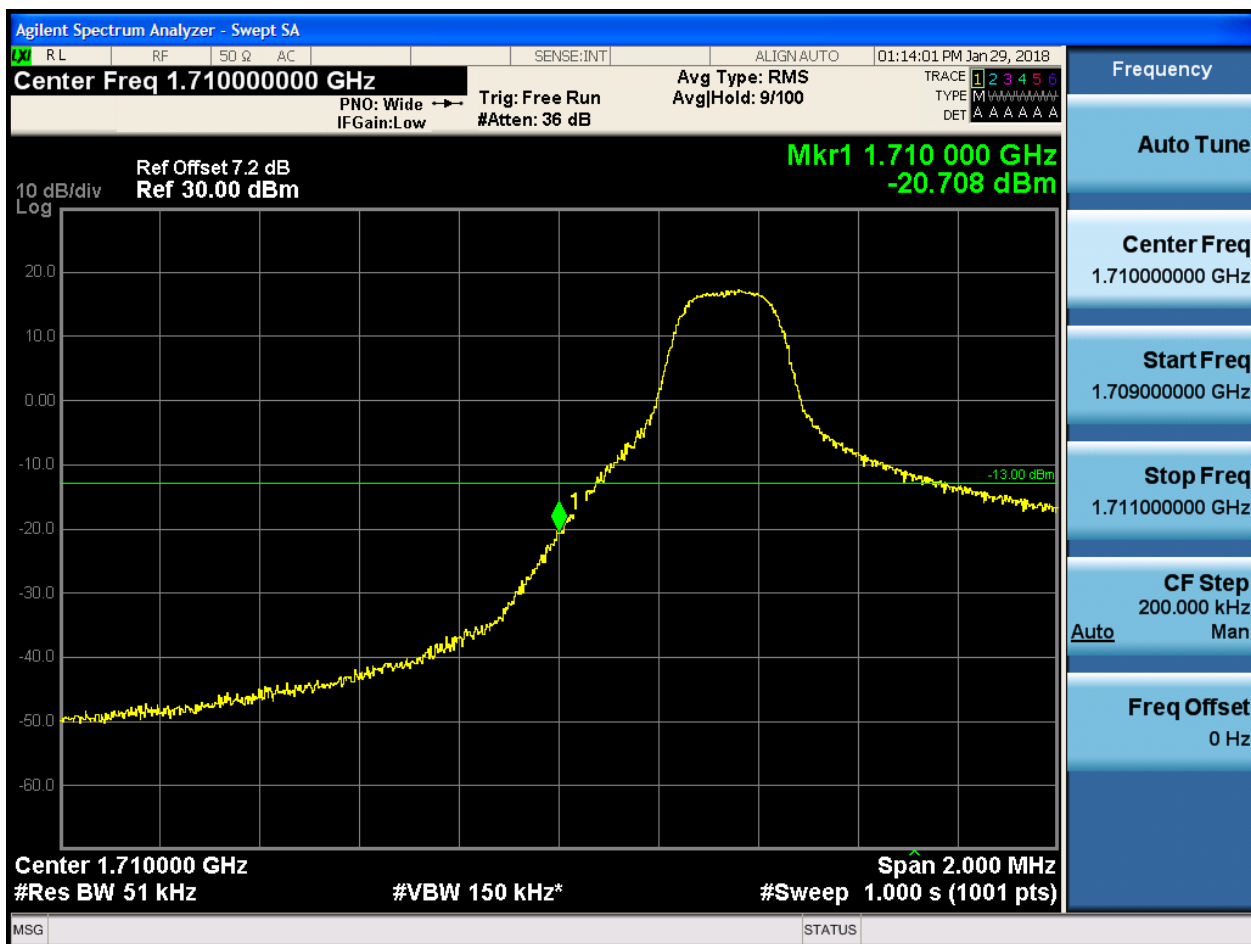




5.1.1.2.3 Test Bandwidth = 5

5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:14:17 PM Jan 29, 2018

Center Freq 1.710000000 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 1.710 000 GHz
-40.038 dBm

10 dB/div
Log

Center 1.710000 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 1.710000000 GHz
Start Freq 1.709000000 GHz
Stop Freq 1.711000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

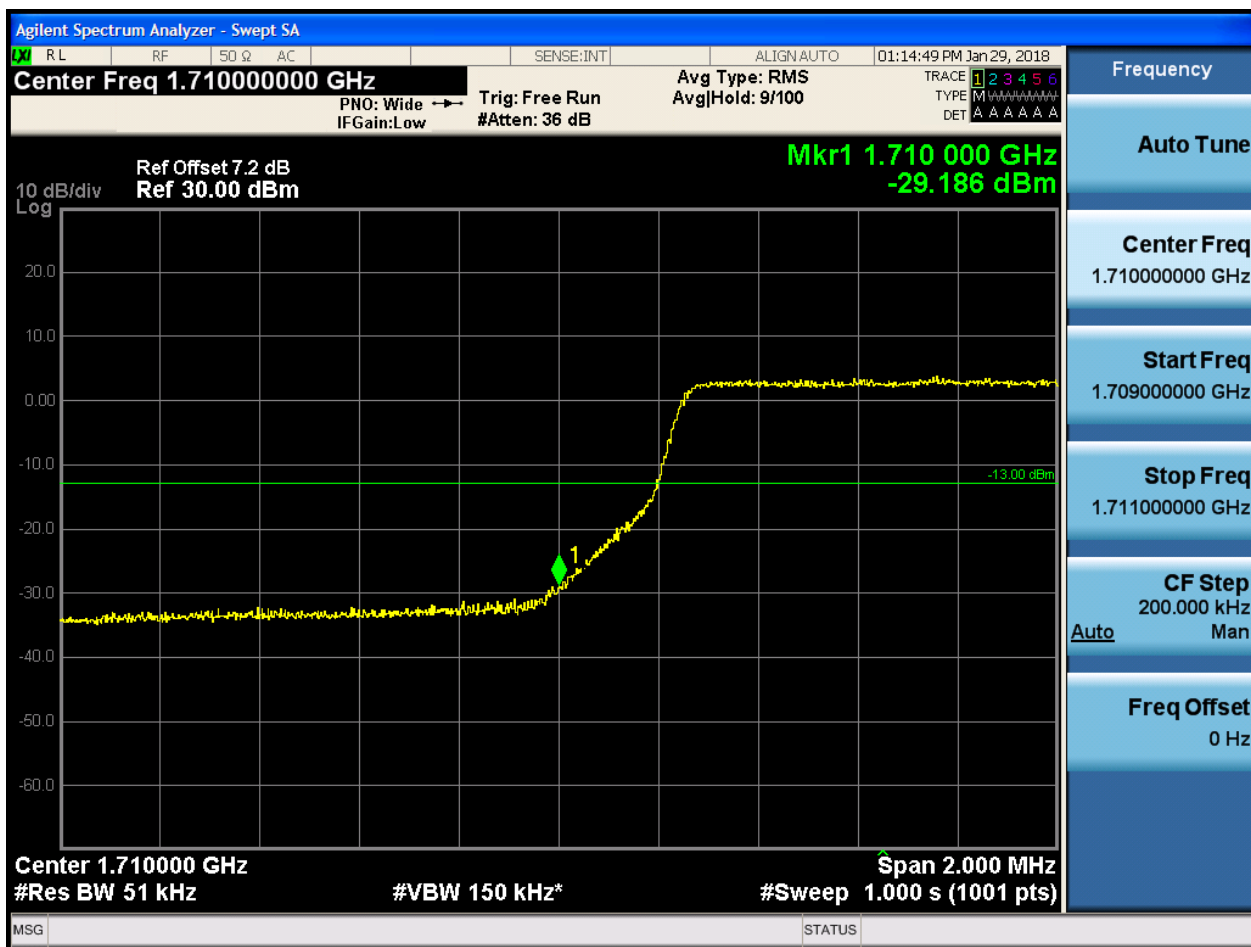


5.1.1.2.3.1.3 Test RB = RB12#6





5.1.1.2.3.1.4 Test RB = RB25#0





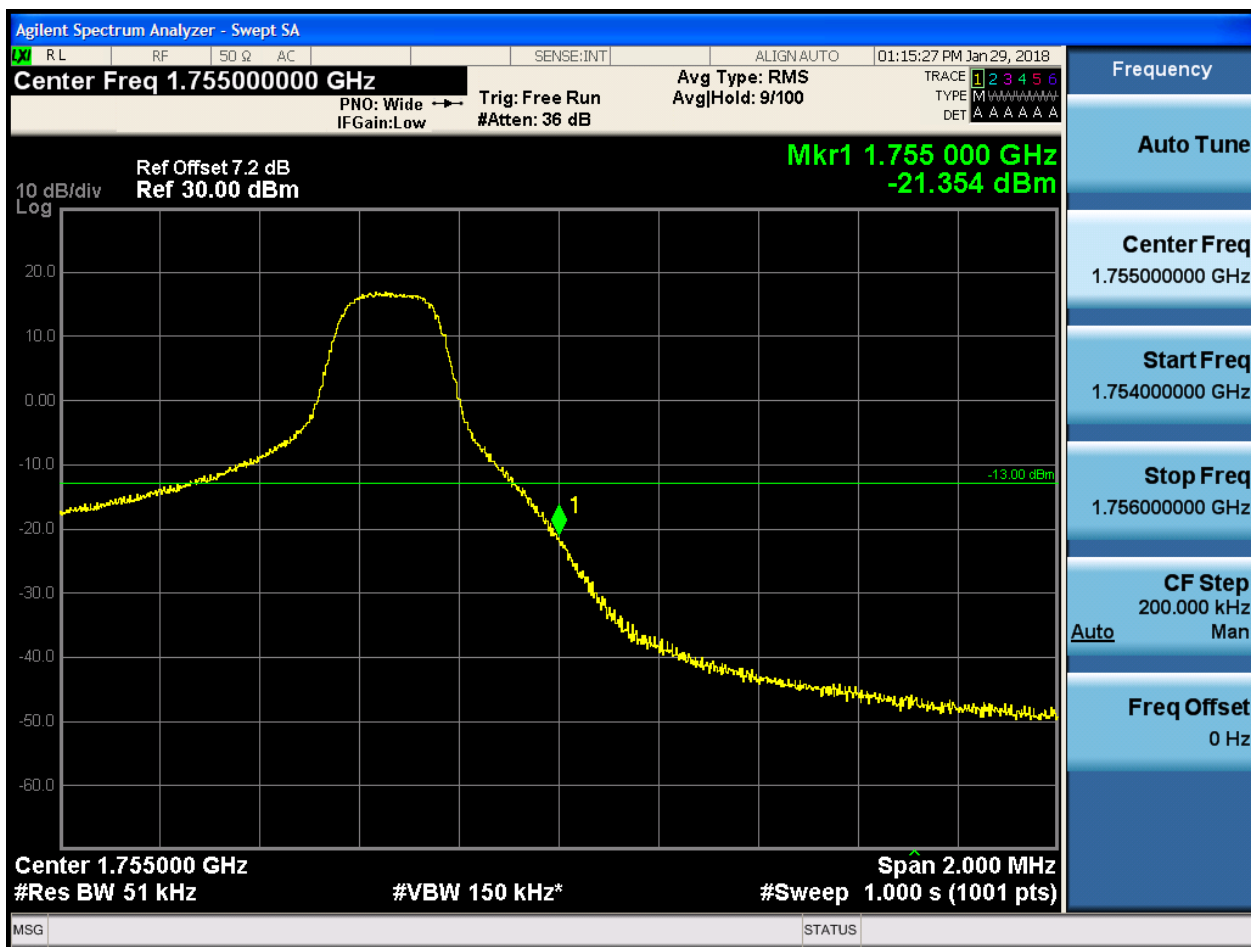
5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





5.1.1.2.3.2.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:15:43 PM Jan 29, 2018

Center Freq 1.755000000 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 1.755 010 GHz
-32.441 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:15:59 PM Jan 29, 2018

Center Freq 1.755000000 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
DET A A A A A A

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 000 GHz
-29.911 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

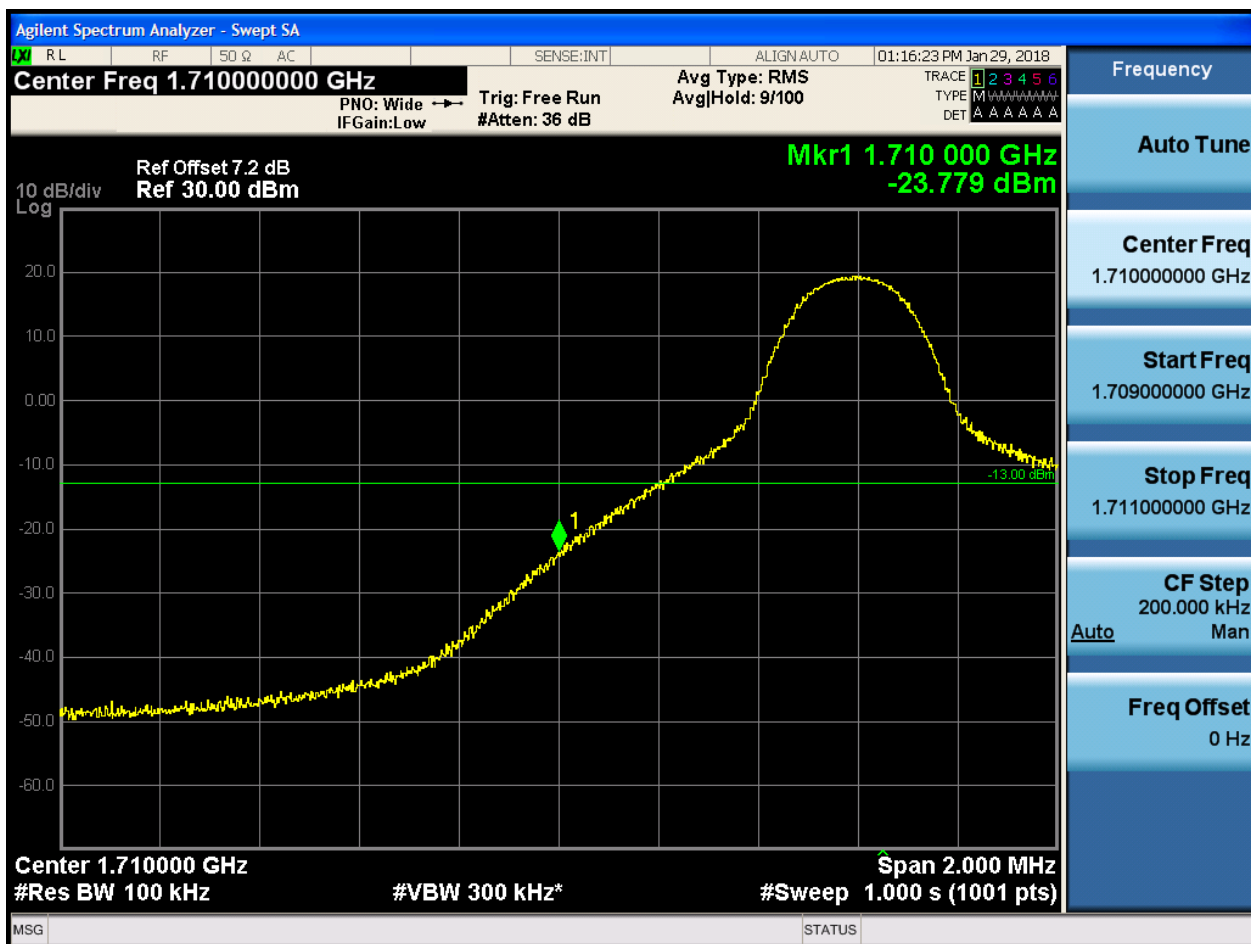
Freq Offset
0 Hz



5.1.1.2.4 Test Bandwidth = 10

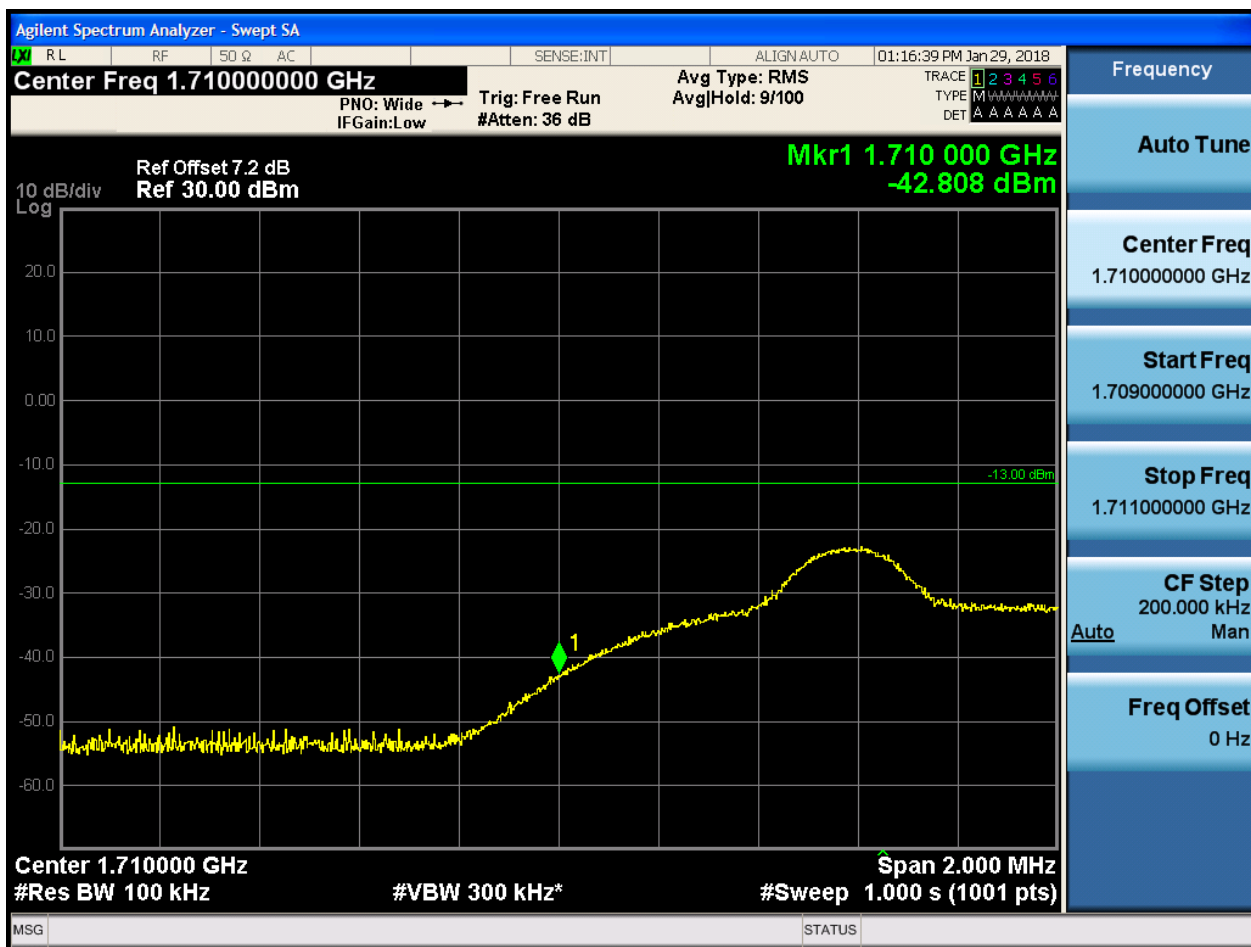
5.1.1.2.4.1 Test Channel = LCH

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

Center Freq 1.710000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.709 750 GHz
-32.370 dBm

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

Frequency

Auto Tune

Center Freq
1.710000000 GHz

Start Freq
1.709000000 GHz

Stop Freq
1.711000000 GHz

CF Step
200.000 kHz
Auto

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

Center Freq 1.710000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 1.710 000 GHz
-31.553 dBm

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

Auto Tune

Center Freq
1.710000000 GHz

Start Freq
1.709000000 GHz

Stop Freq
1.711000000 GHz

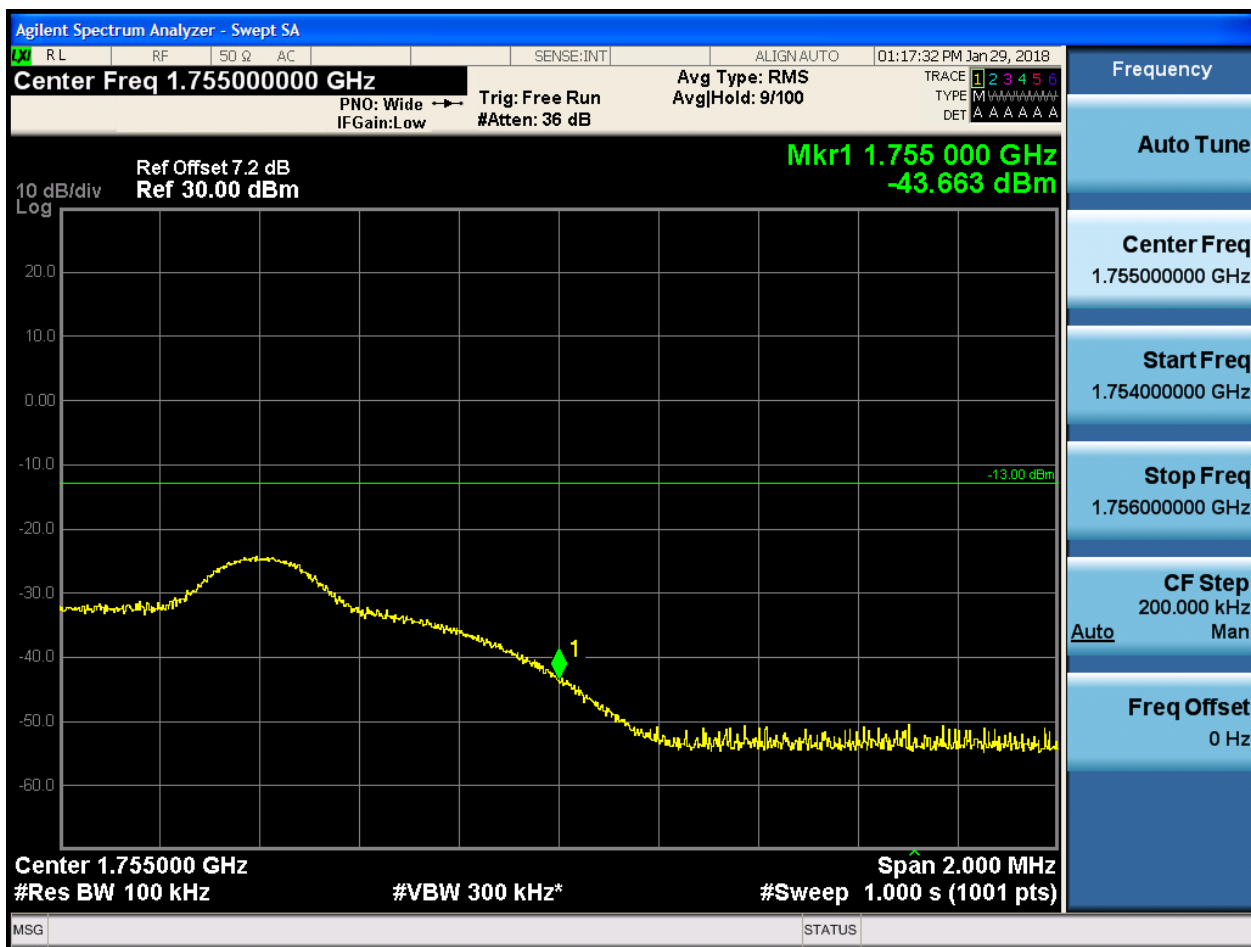
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz



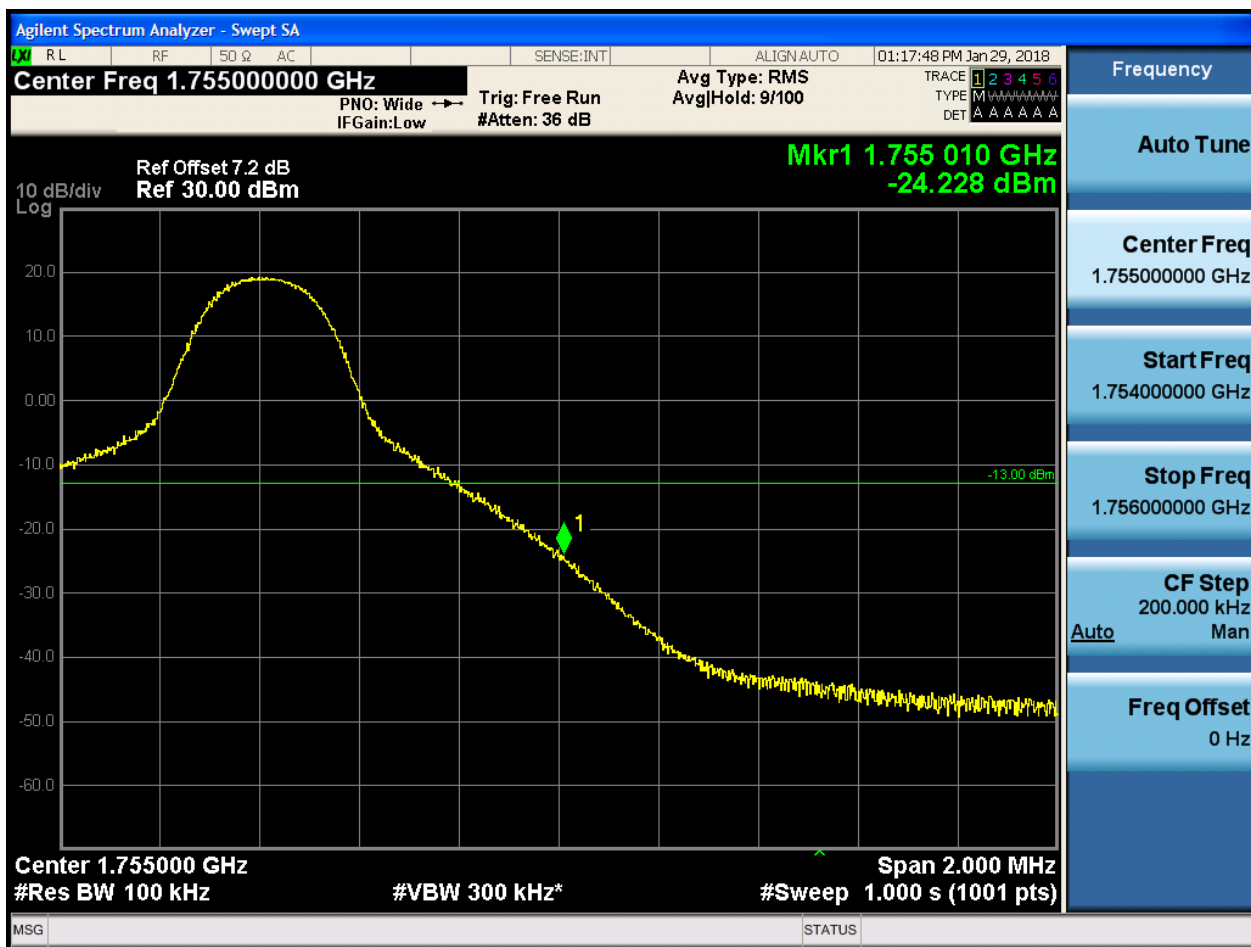
5.1.1.2.4.2 Test Channel = HCH

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 01:18:04 PM Jan 29, 2018

Center Freq 1.755000000 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
DET A A A A A A

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 040 GHz
-33.557 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:18:20 PM Jan 29, 2018

Center Freq 1.755000000 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 1.755 010 GHz
-31.454 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

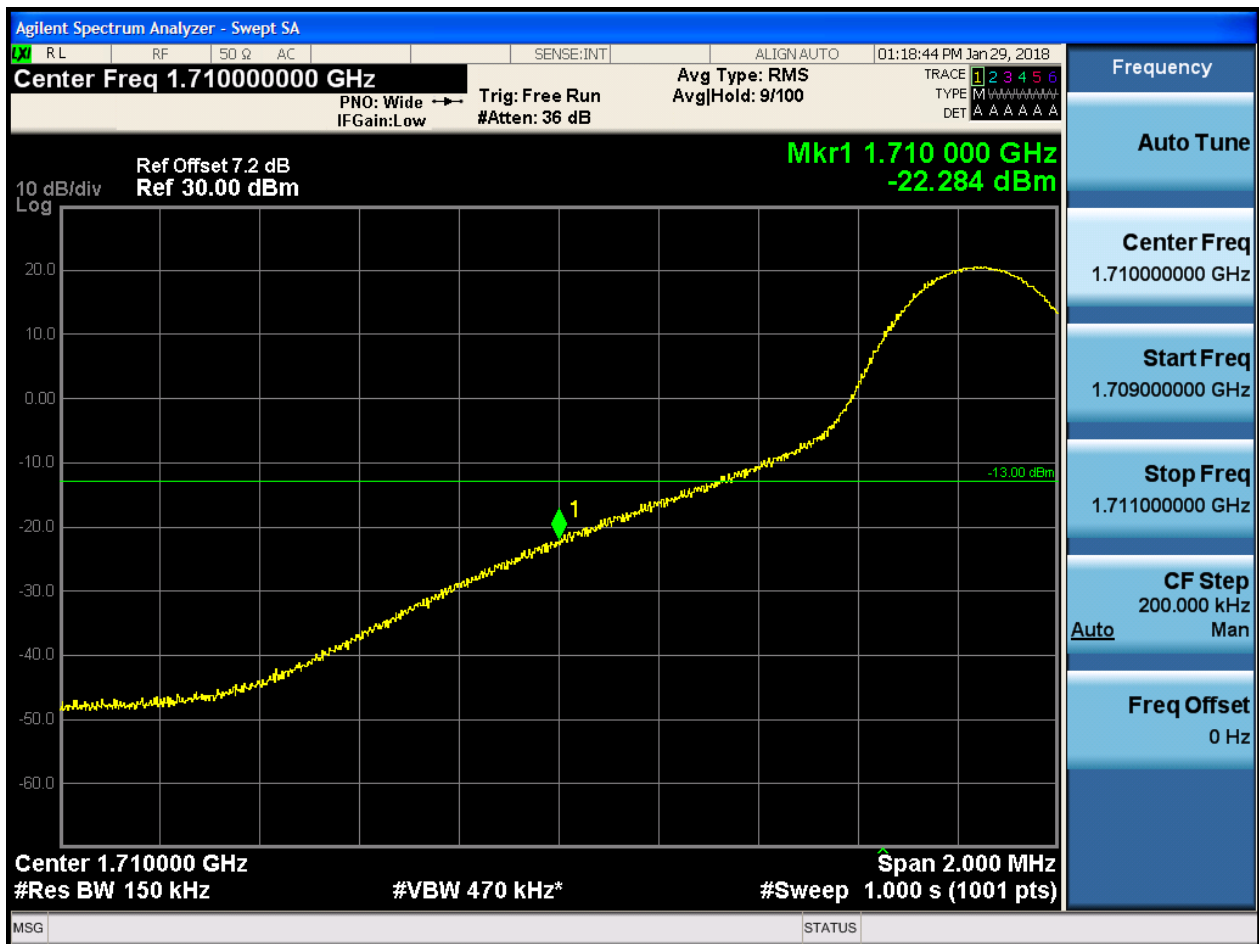
Freq Offset
0 Hz



5.1.1.2.5 Test Bandwidth = 15

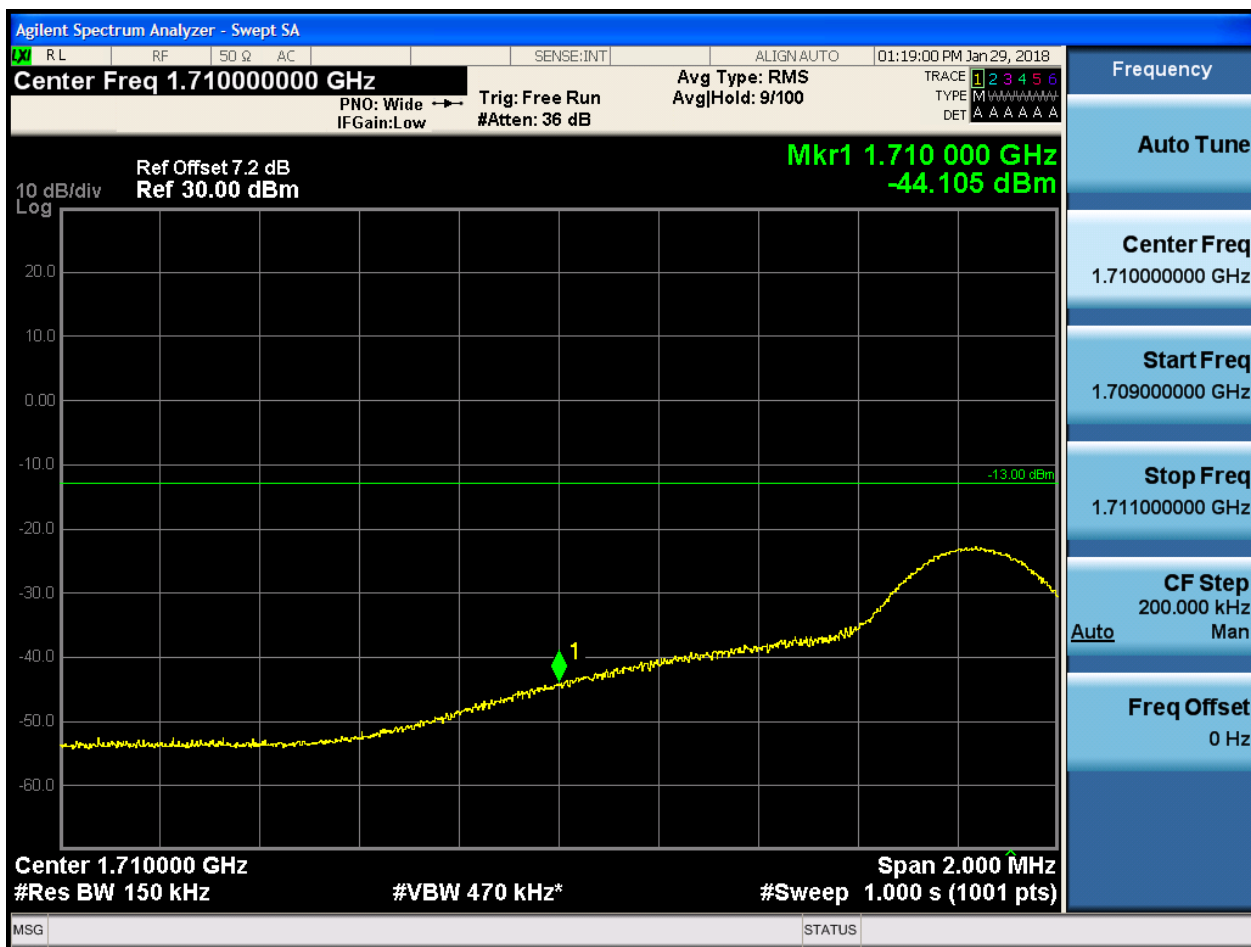
5.1.1.2.5.1 Test Channel = LCH

5.1.1.2.5.1.1 Test RB = RB1#0



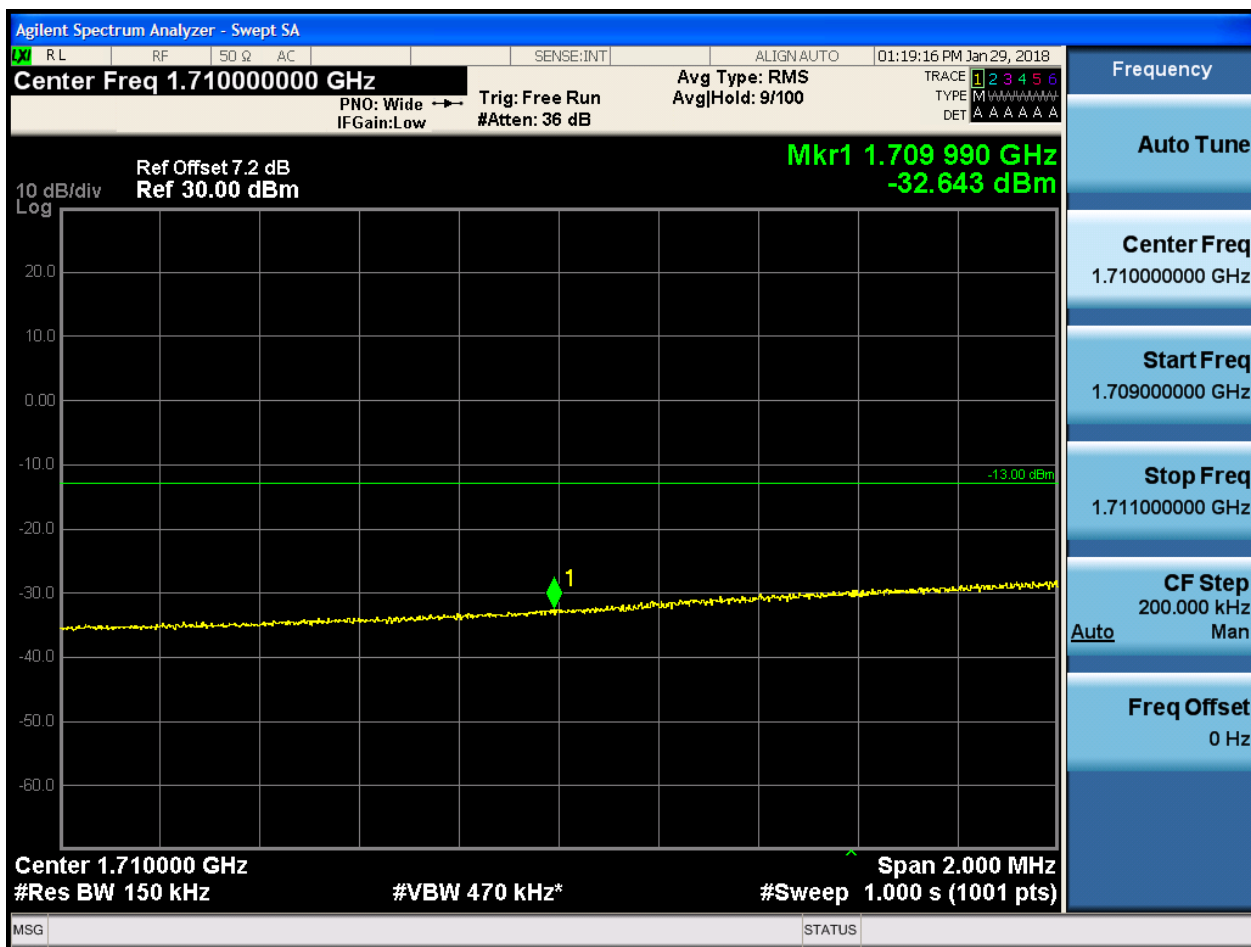


5.1.1.2.5.1.2 Test RB = RB1#74





5.1.1.2.5.1.3 Test RB = RB38#19





5.1.1.2.5.1.4 Test RB = RB75#0



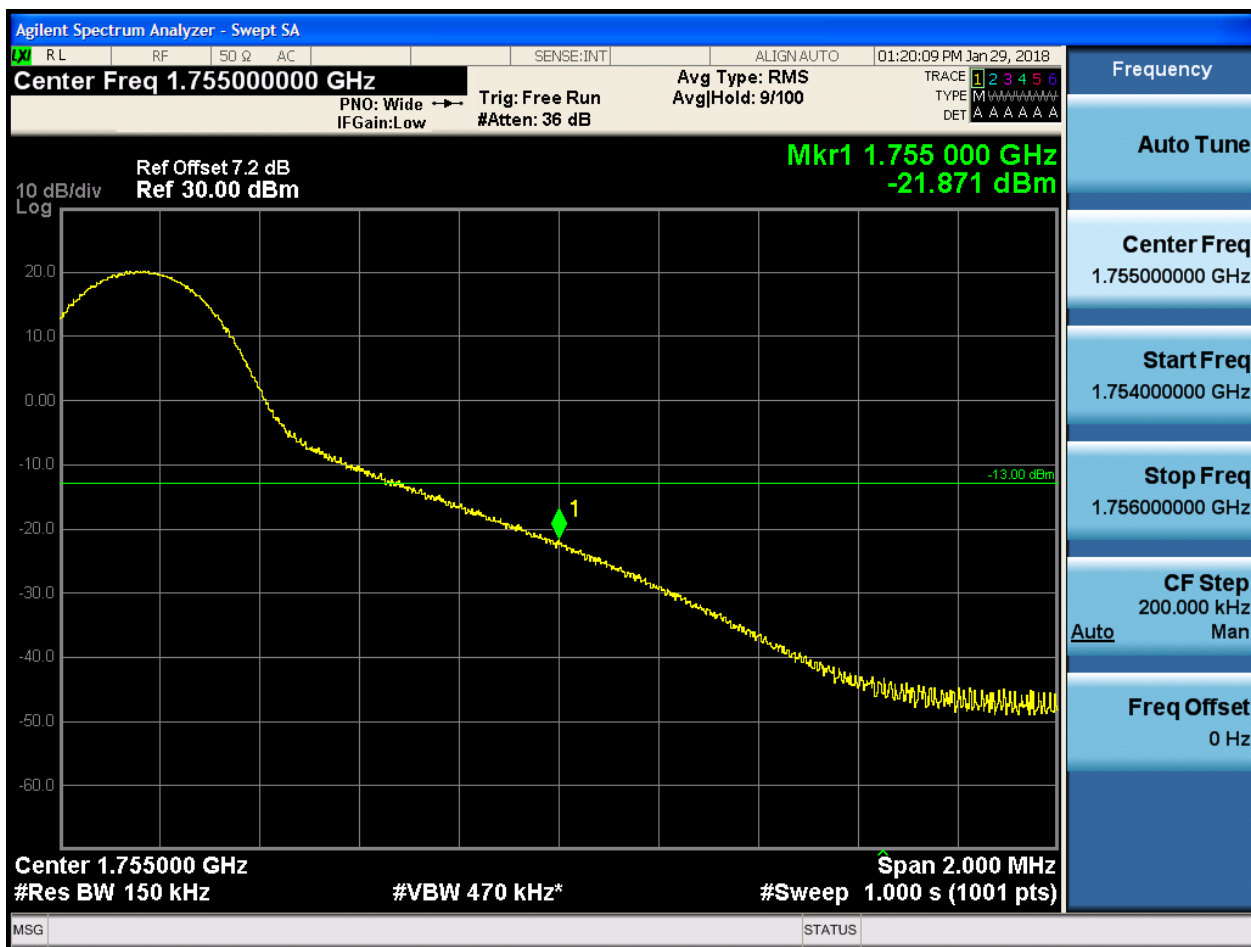


5.1.1.2.5.2 Test Channel = HCH

5.1.1.2.5.2.1 Test RB = RB1#0



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 01:20:25 PM Jan 29, 2018

Center Freq 1.755000000 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 1.755 000 GHz
 -32.818 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



Agilent Spectrum Analyzer - Swept SA

Center Freq 1.755000000 GHz

Ref Offset 7.2 dB
Ref 30.00 dBm

Mkr1 1.755 050 GHz
-30.446 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)

Frequency

Auto Tune

Center Freq
1.755000000 GHz

Start Freq
1.754000000 GHz

Stop Freq
1.756000000 GHz

CF Step
200.000 kHz
Auto

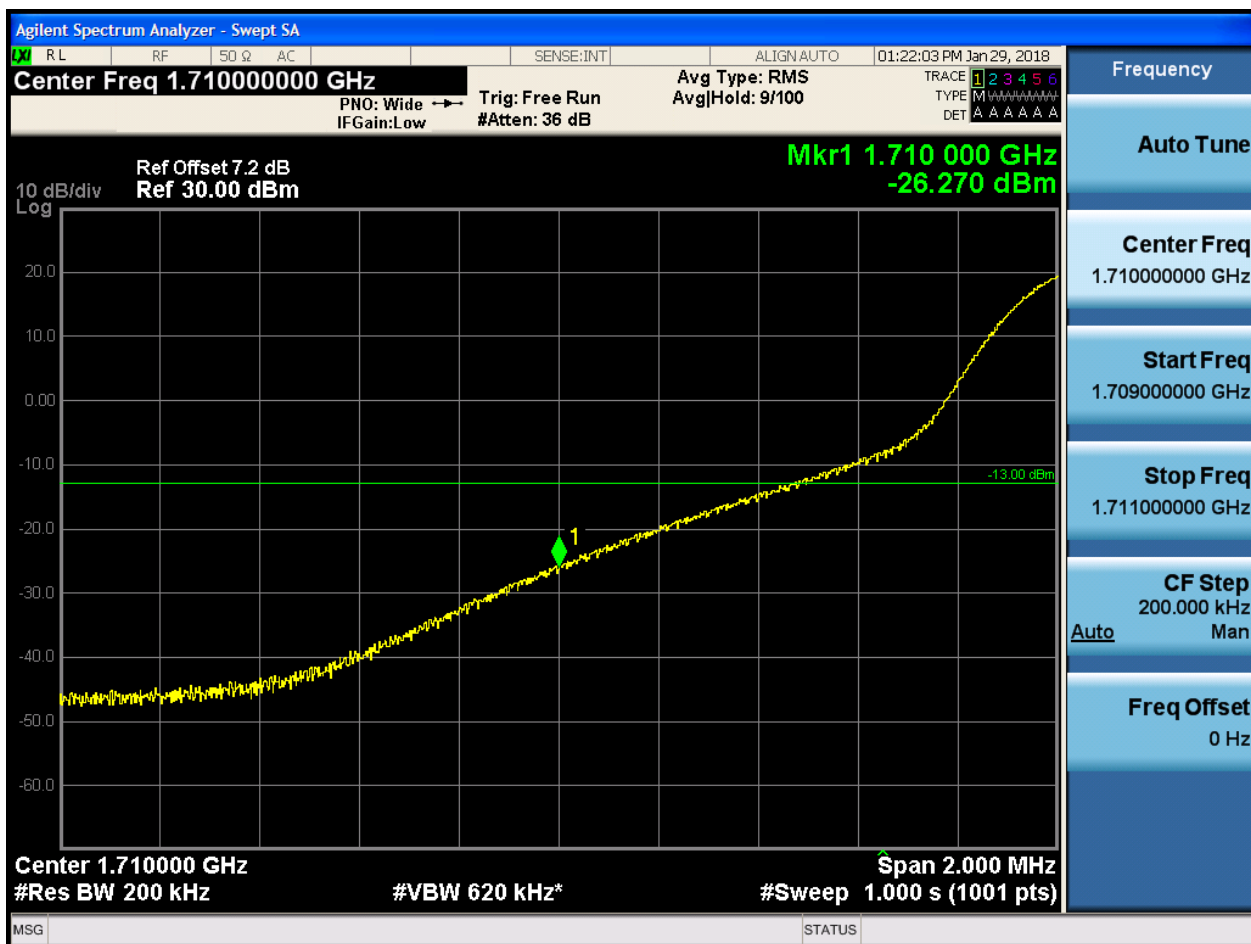
Freq Offset
0 Hz



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



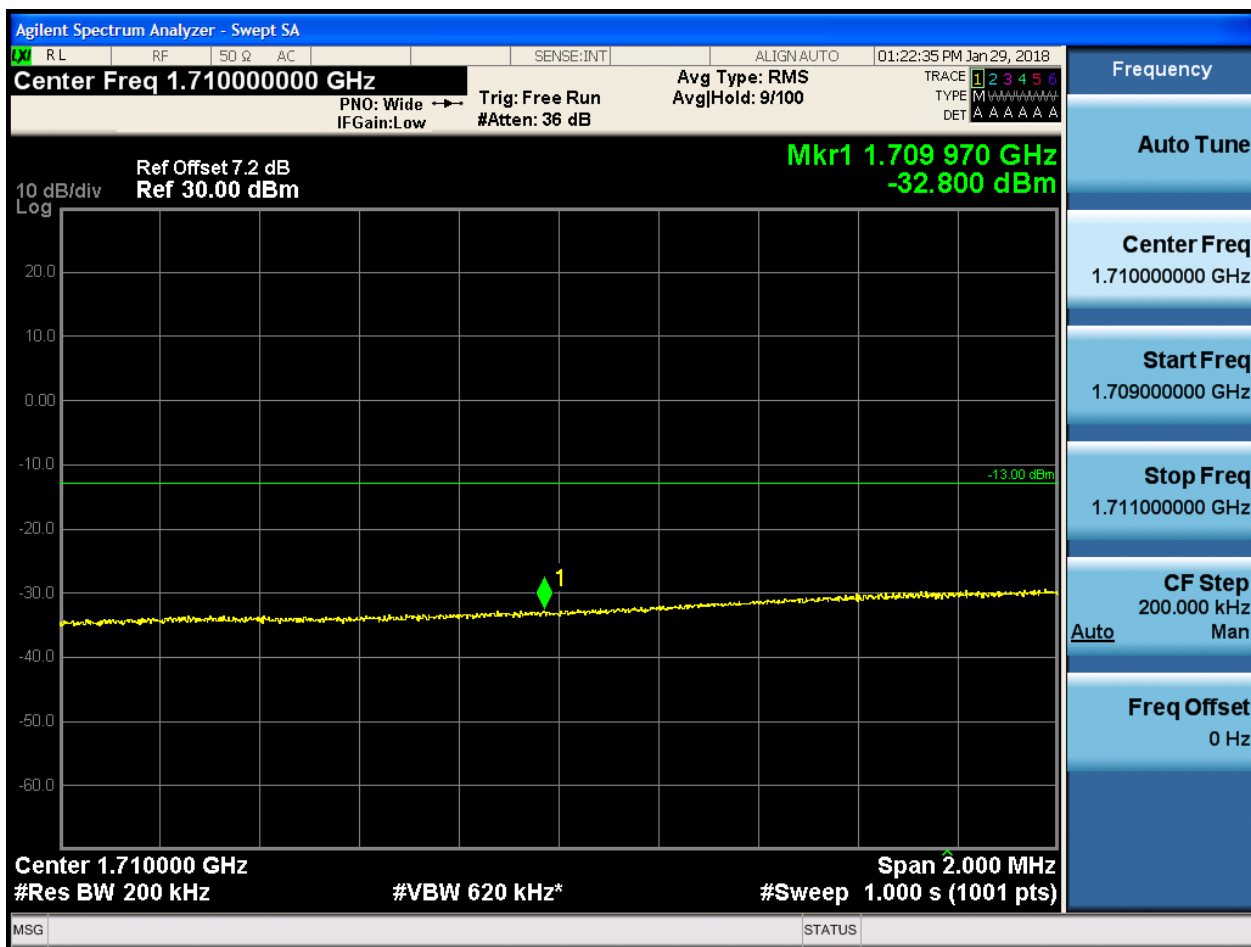


5.1.1.2.6.1.2 Test RB = RB1#99



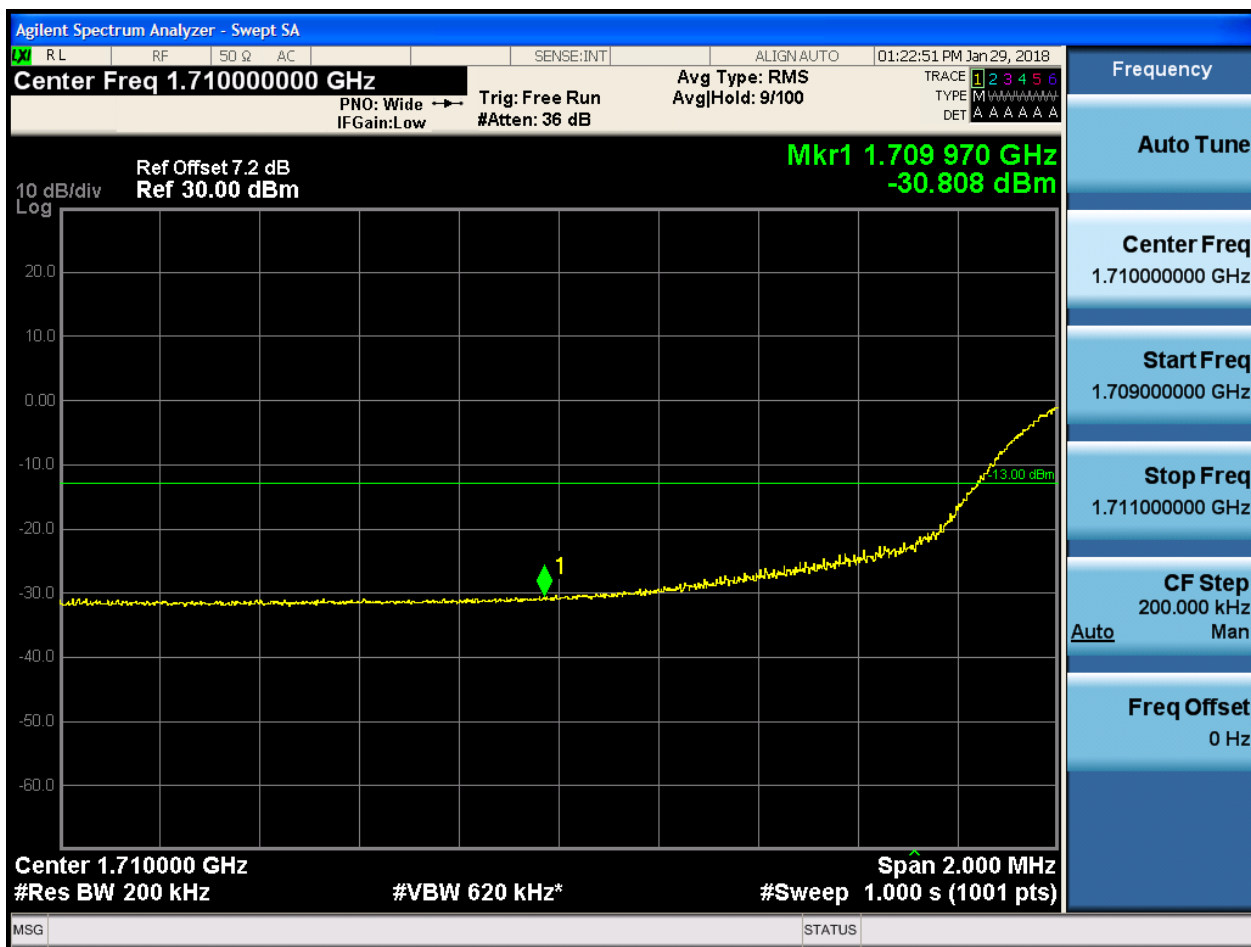


5.1.1.2.6.1.3 Test RB = RB50#25





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





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 01:23:29 PM Jan 29, 2018

Center Freq 1.755000000 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 1.755 000 GHz
-26.837 dBm

10 dB/div
Log

-13.00 dBm

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



5.1.1.2.6.2.3 Test RB = RB50#25





Agilent Spectrum Analyzer - Swept SA

RL	RF	50 Ω	AC		SENSE:INT	ALIGN:AUTO	01:24:01 PM Jan 29, 2018
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Center Freq 1.755000000 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
DET A A A A A A

Mkr1 1.755 010 GHz
-31.141 dBm

Ref Offset 7.2 dB
Ref 30.00 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)

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

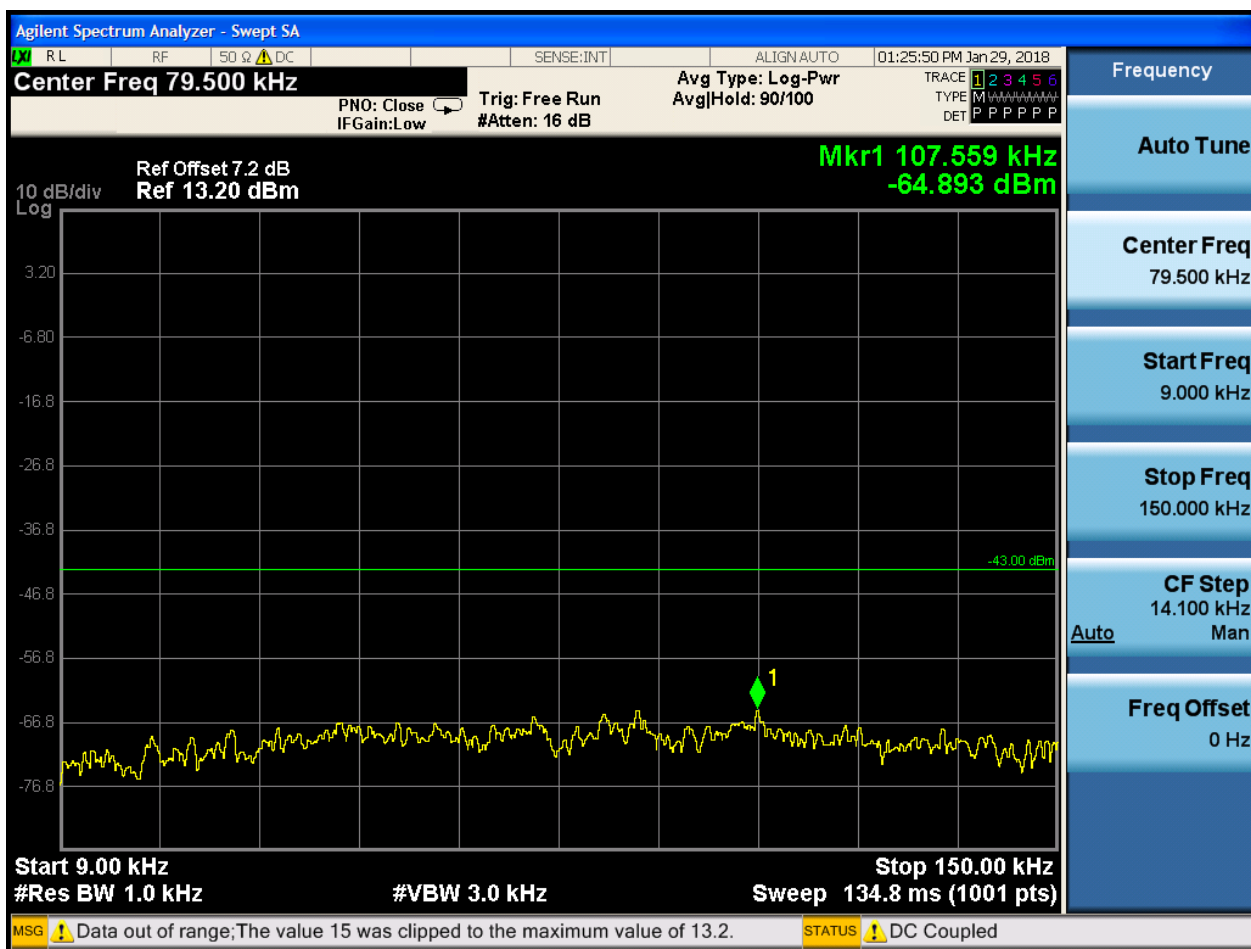
6.1.1 Test Band = BAND4

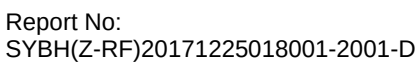
6.1.1.1 Test Mode = LTE/TM1

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



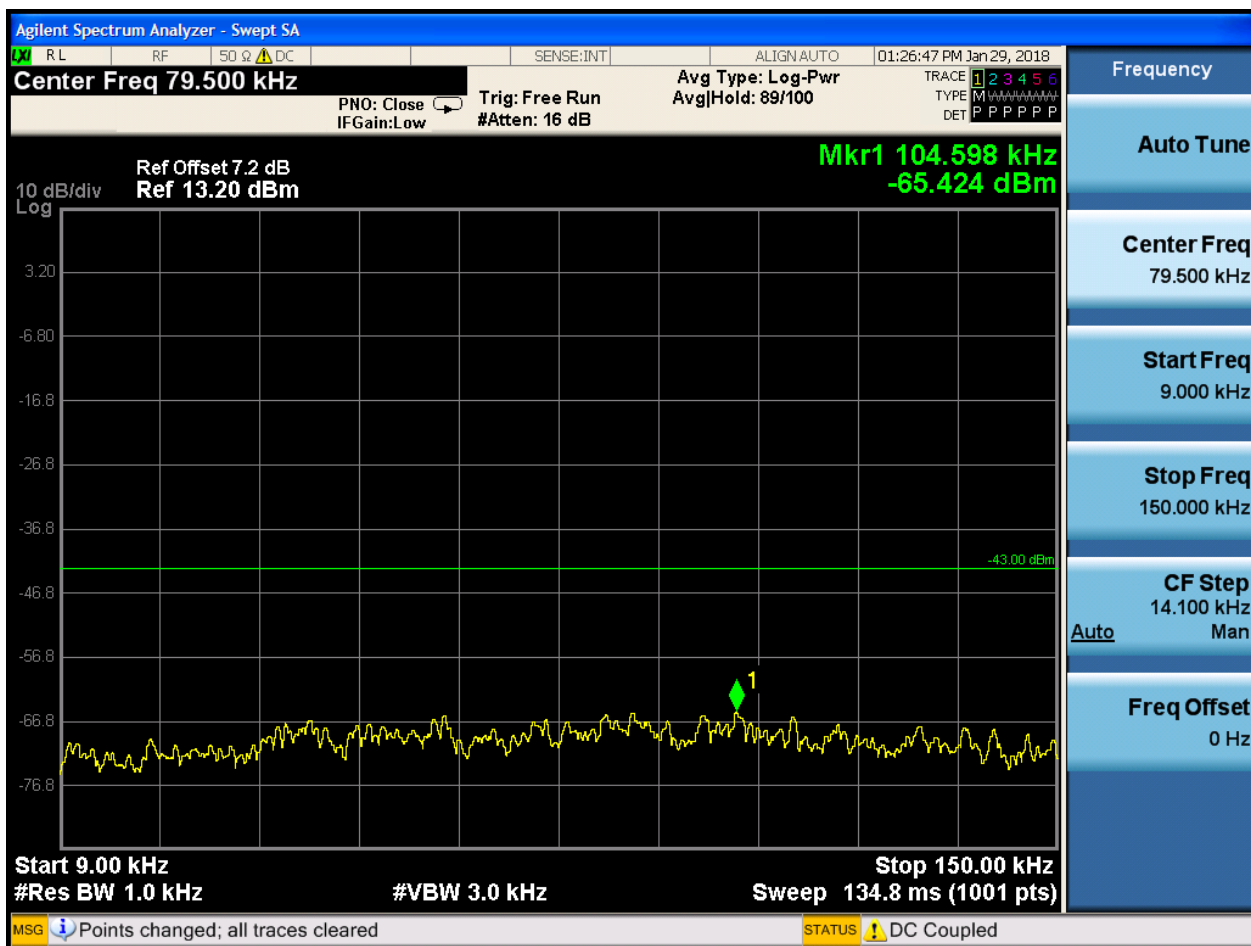


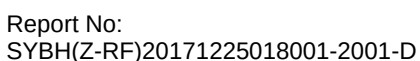


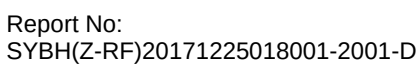


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

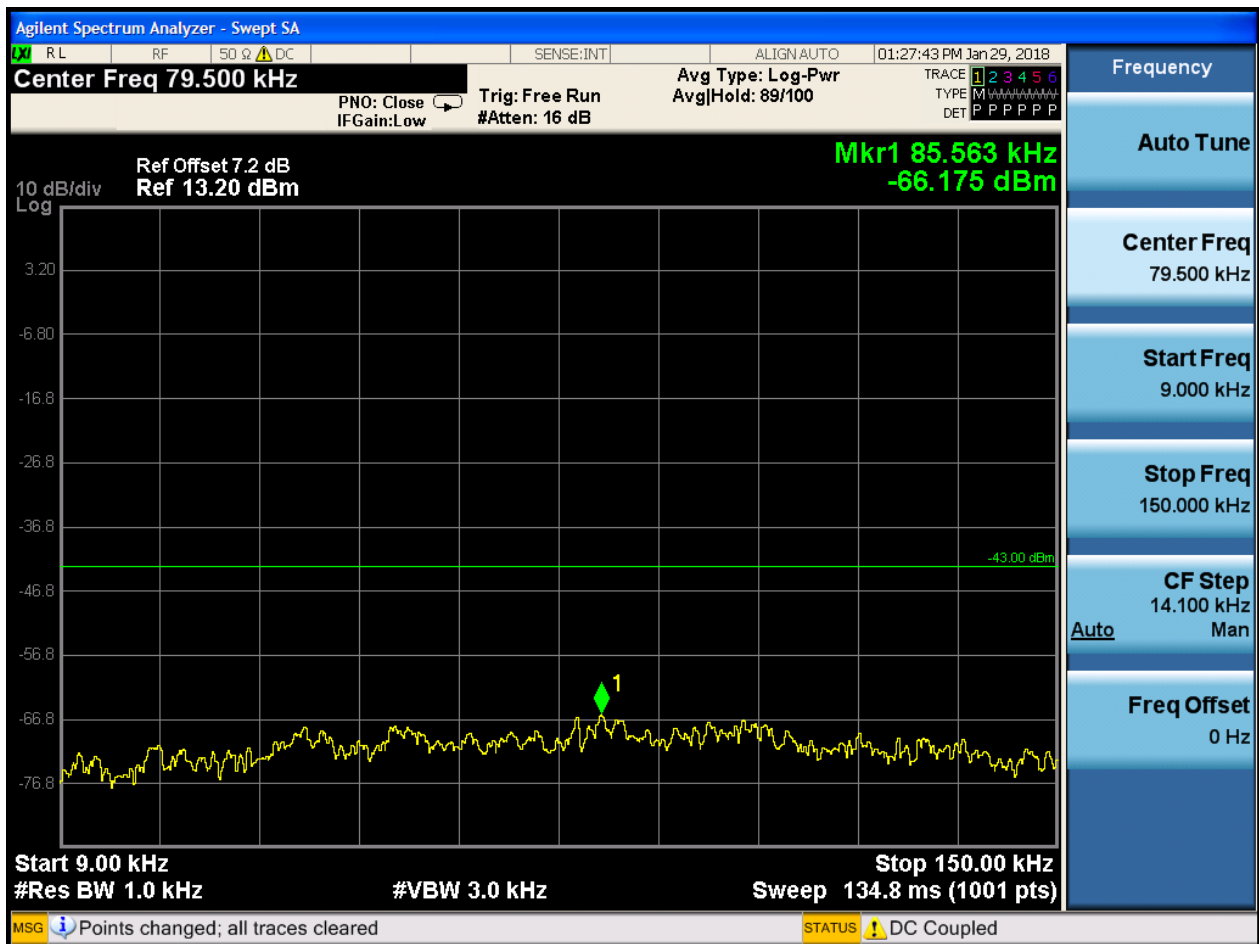


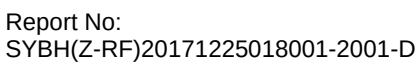




6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





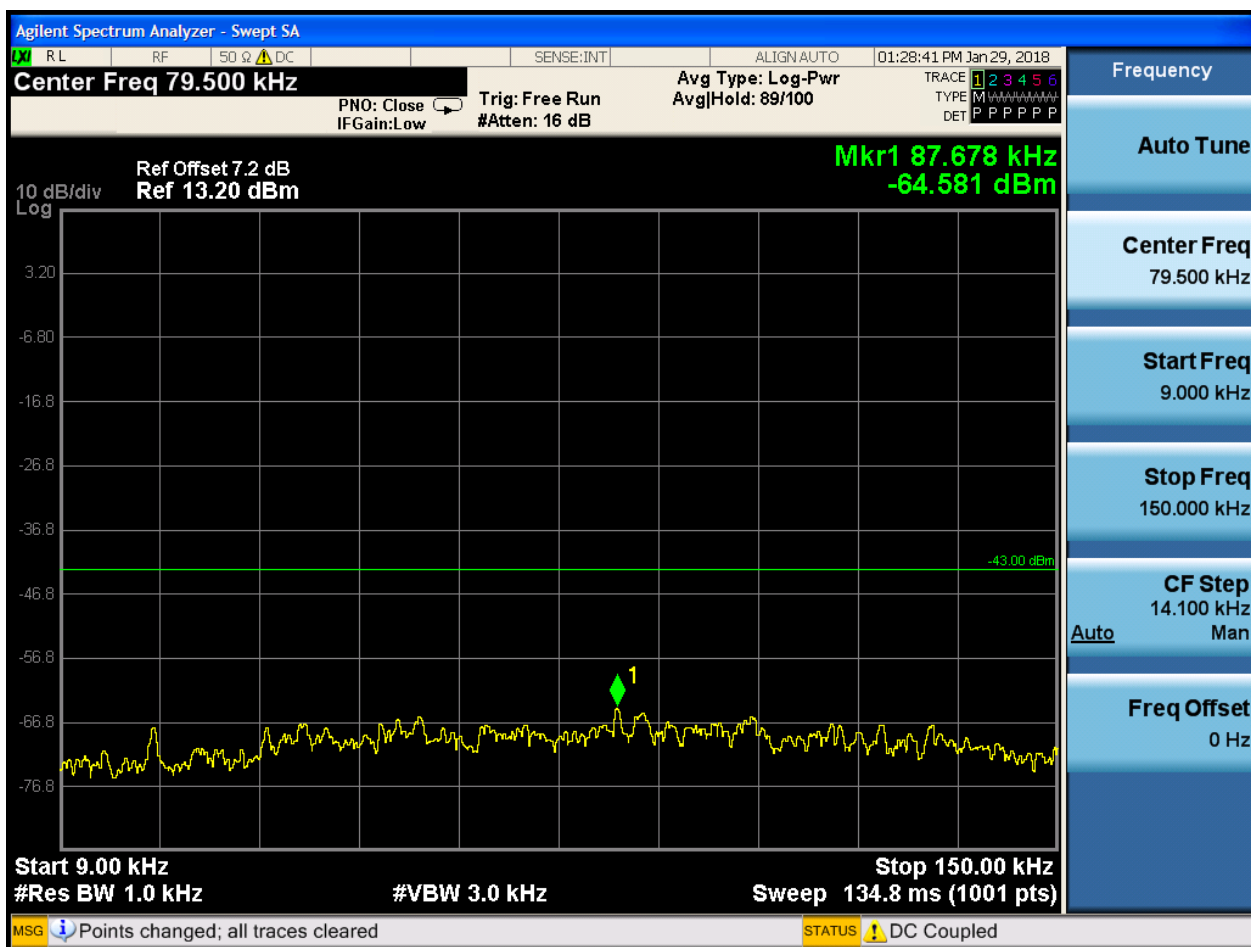


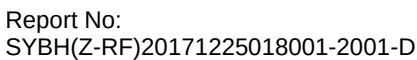


6.1.1.1.2 Test Bandwidth = 3

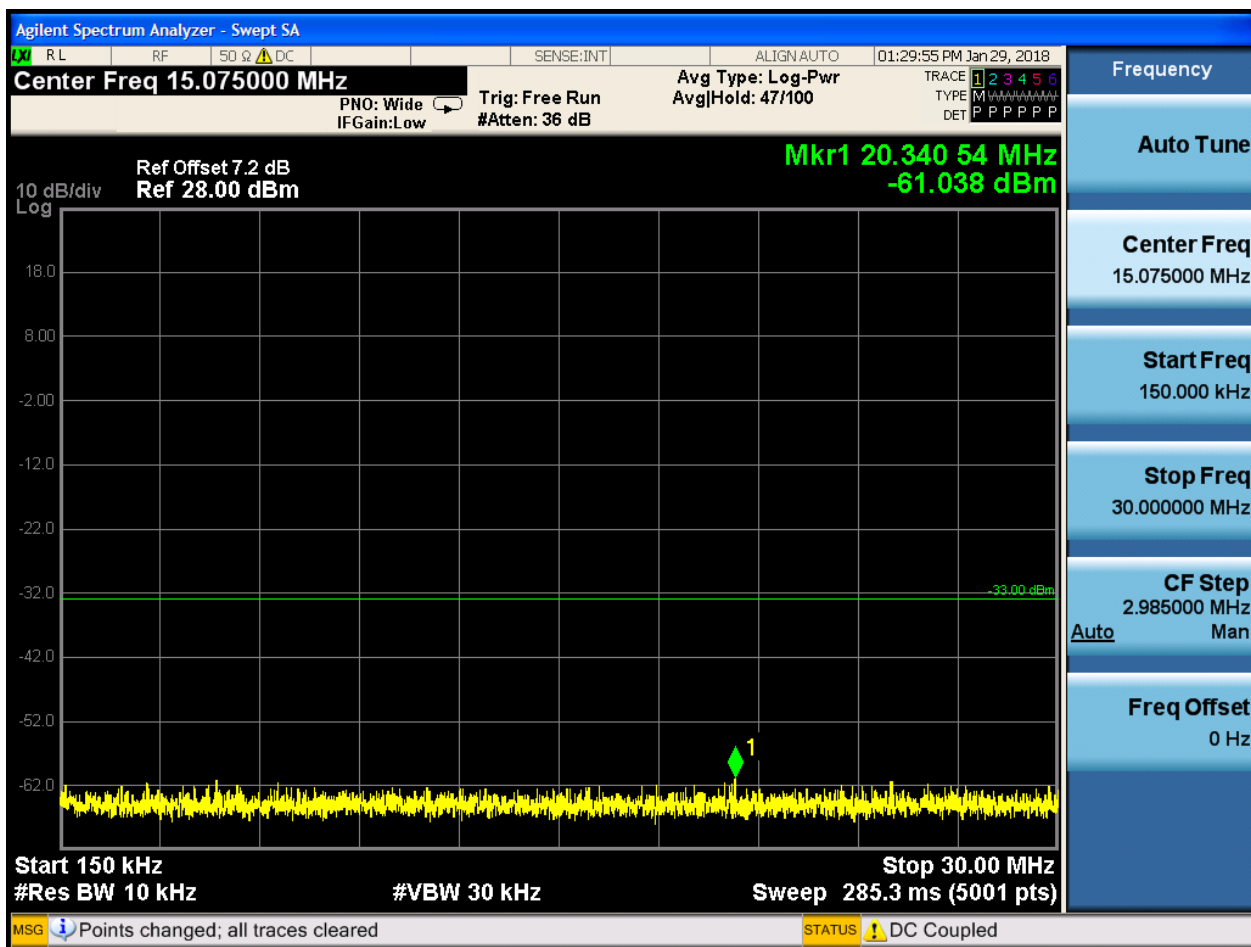
6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



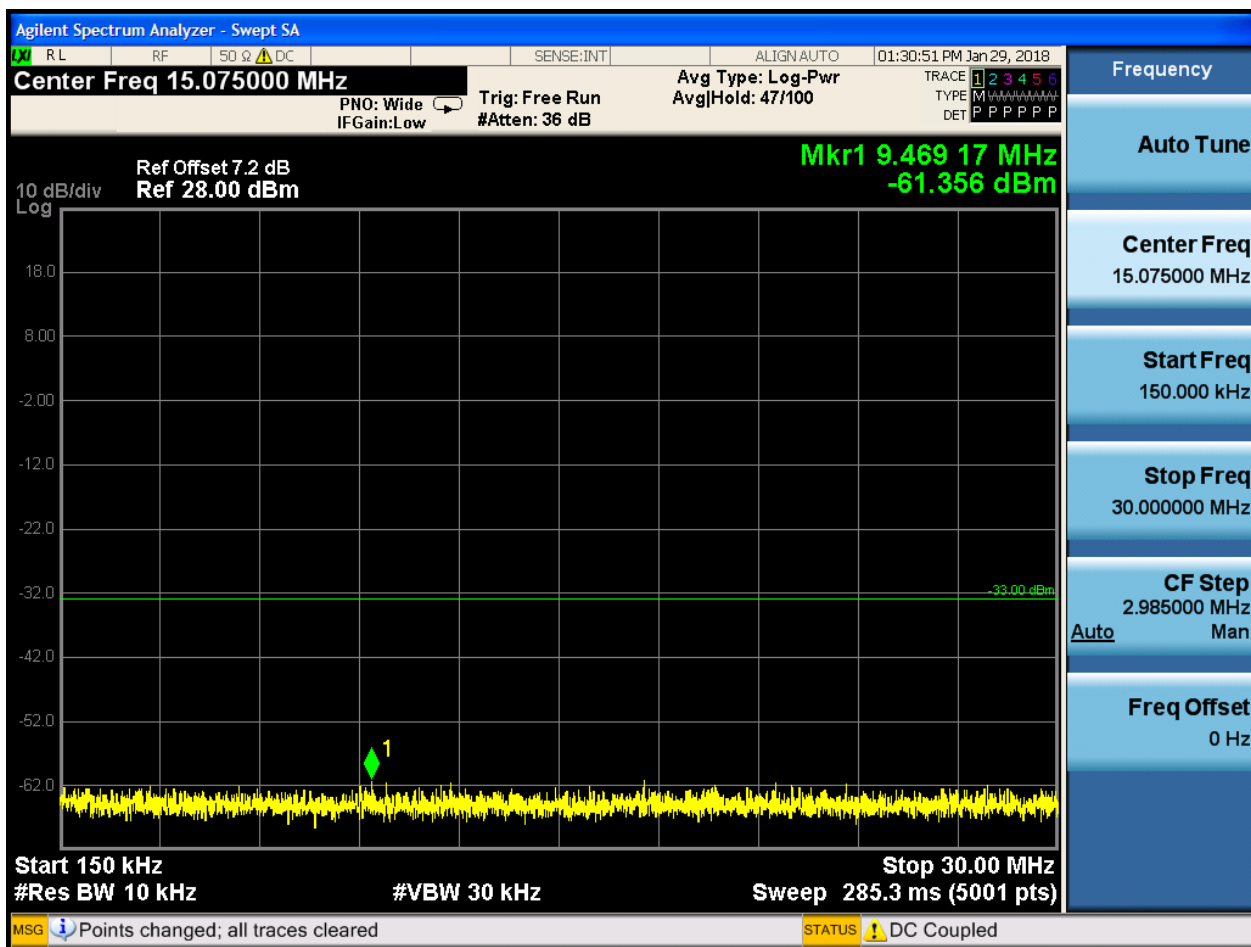


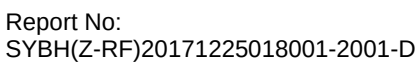










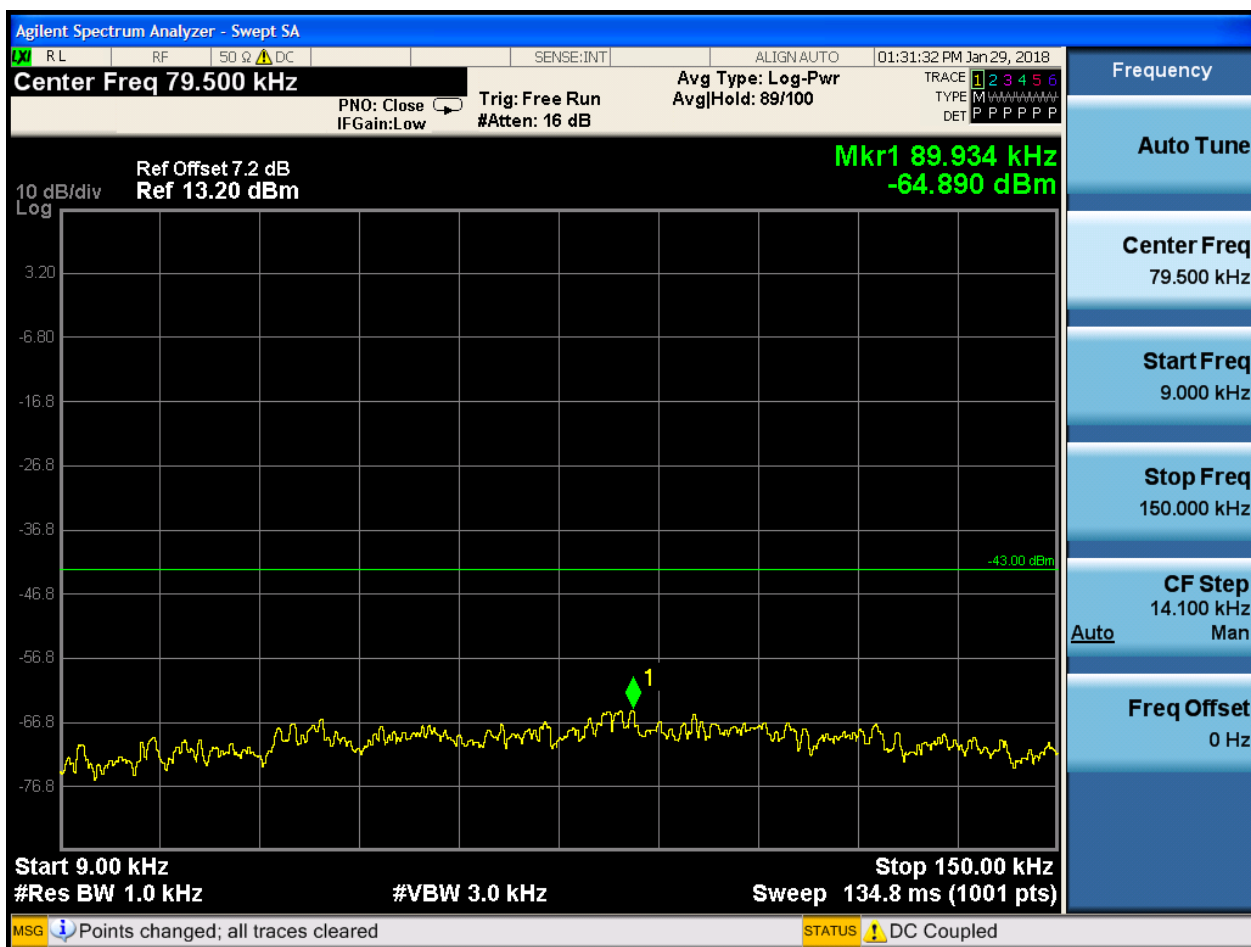


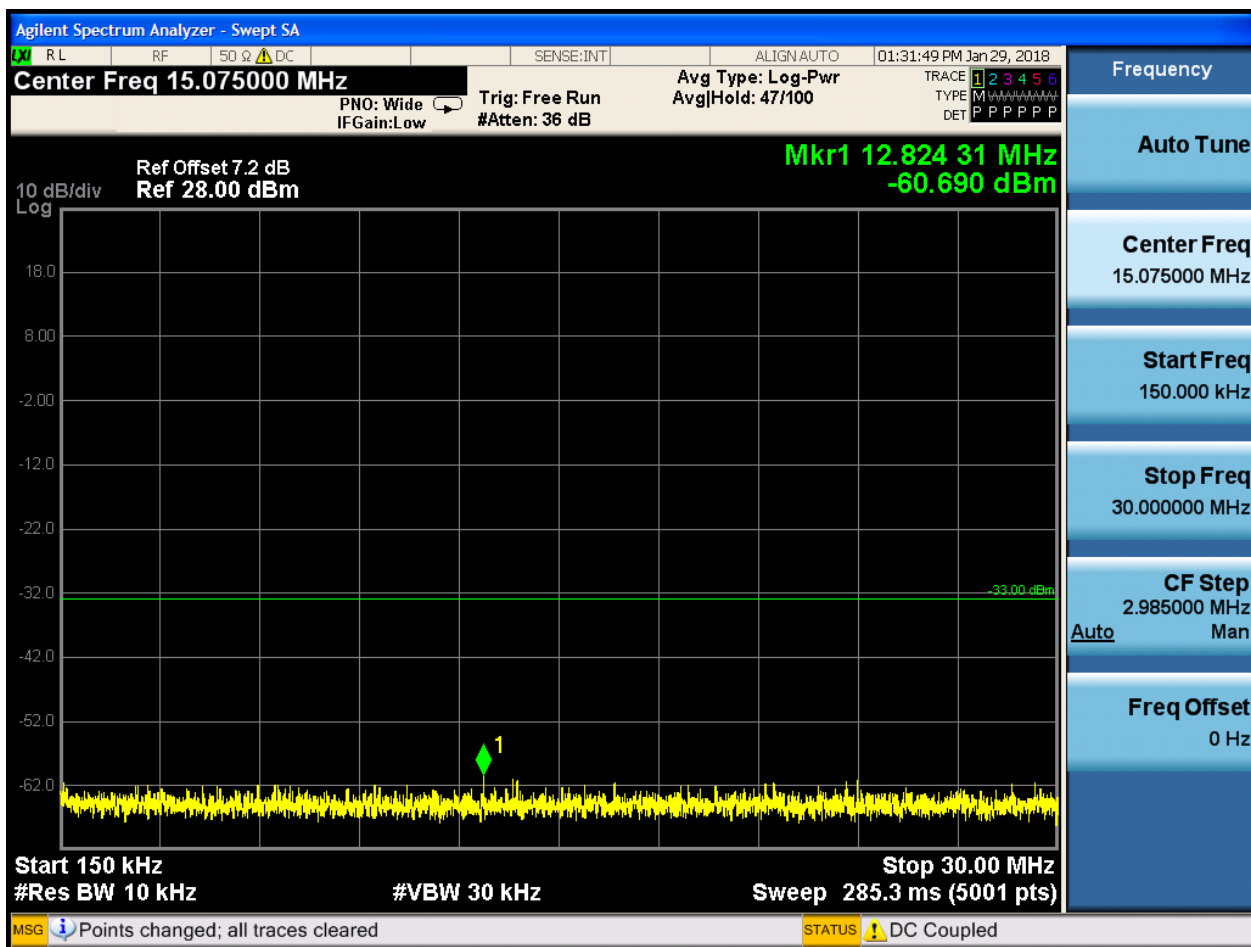


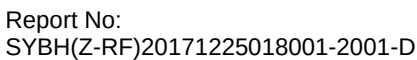
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



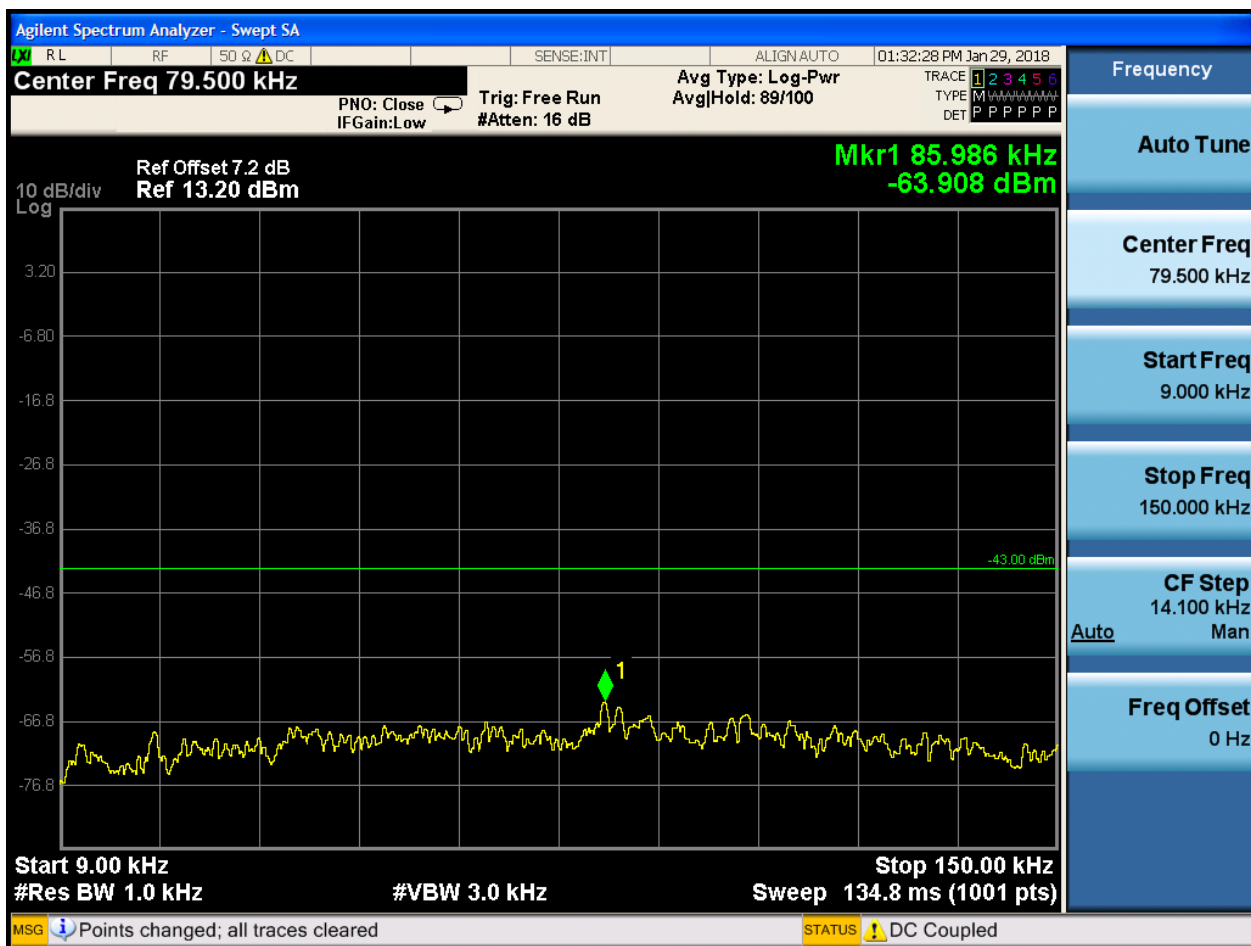


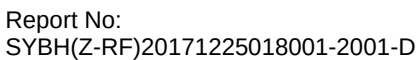


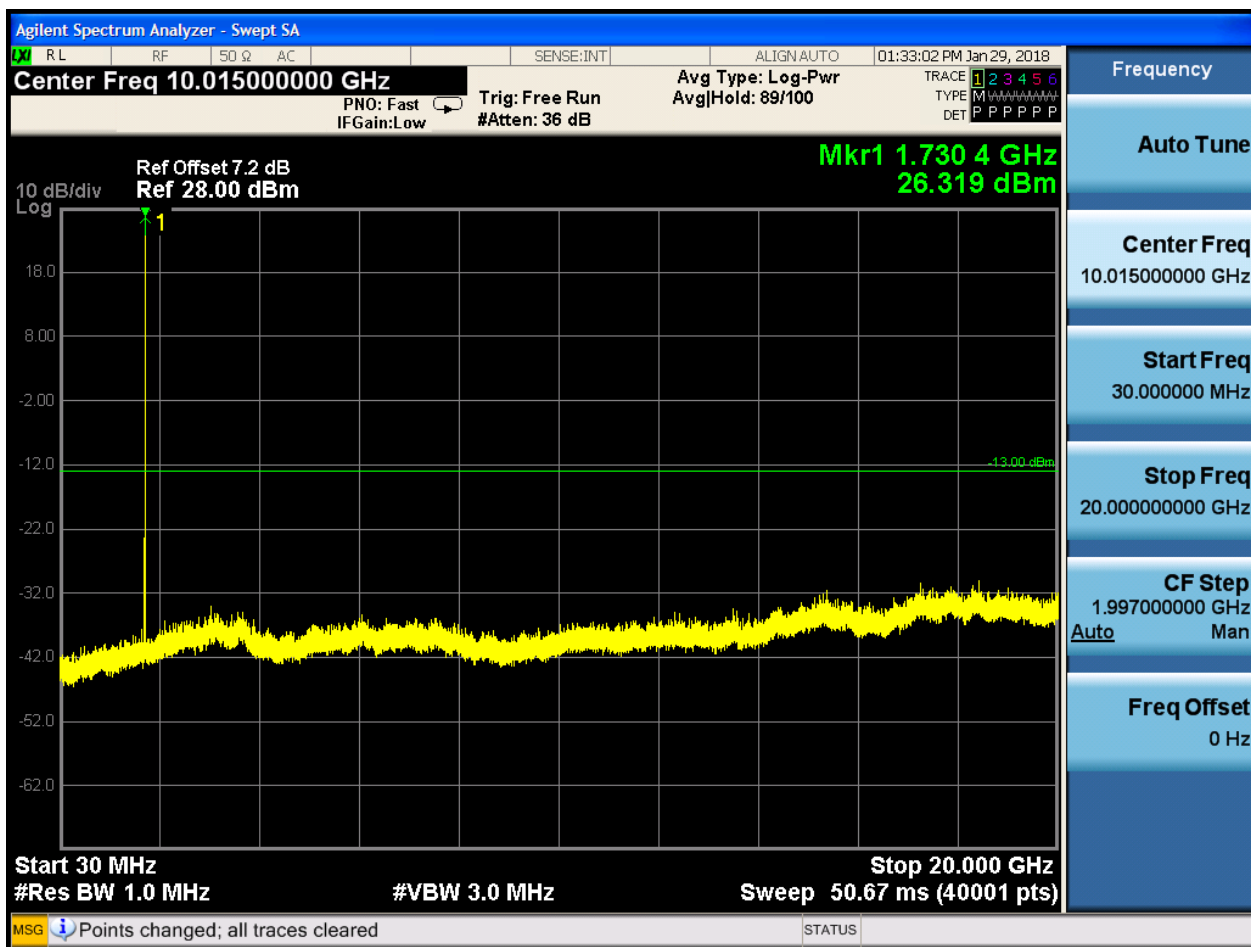


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



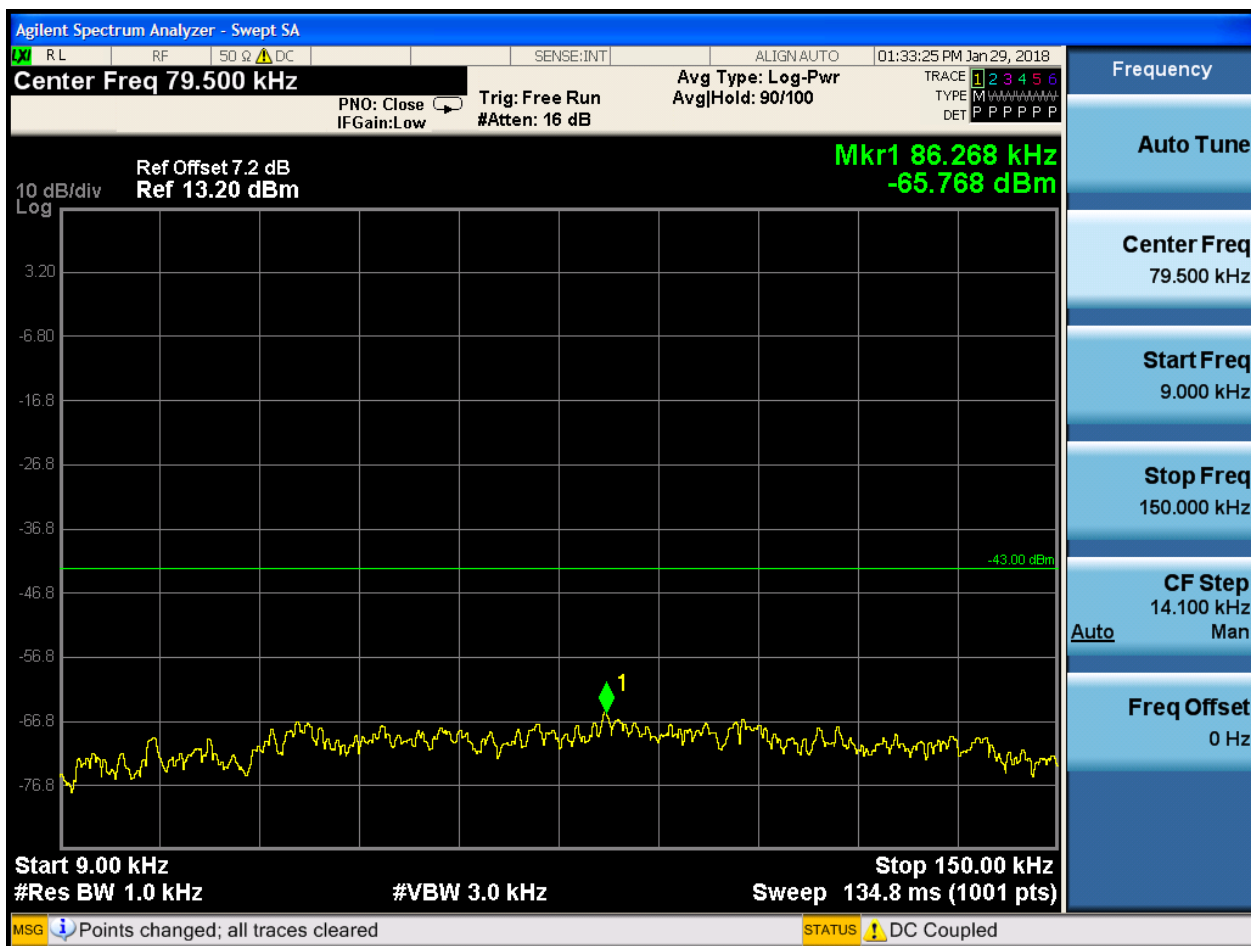






6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0

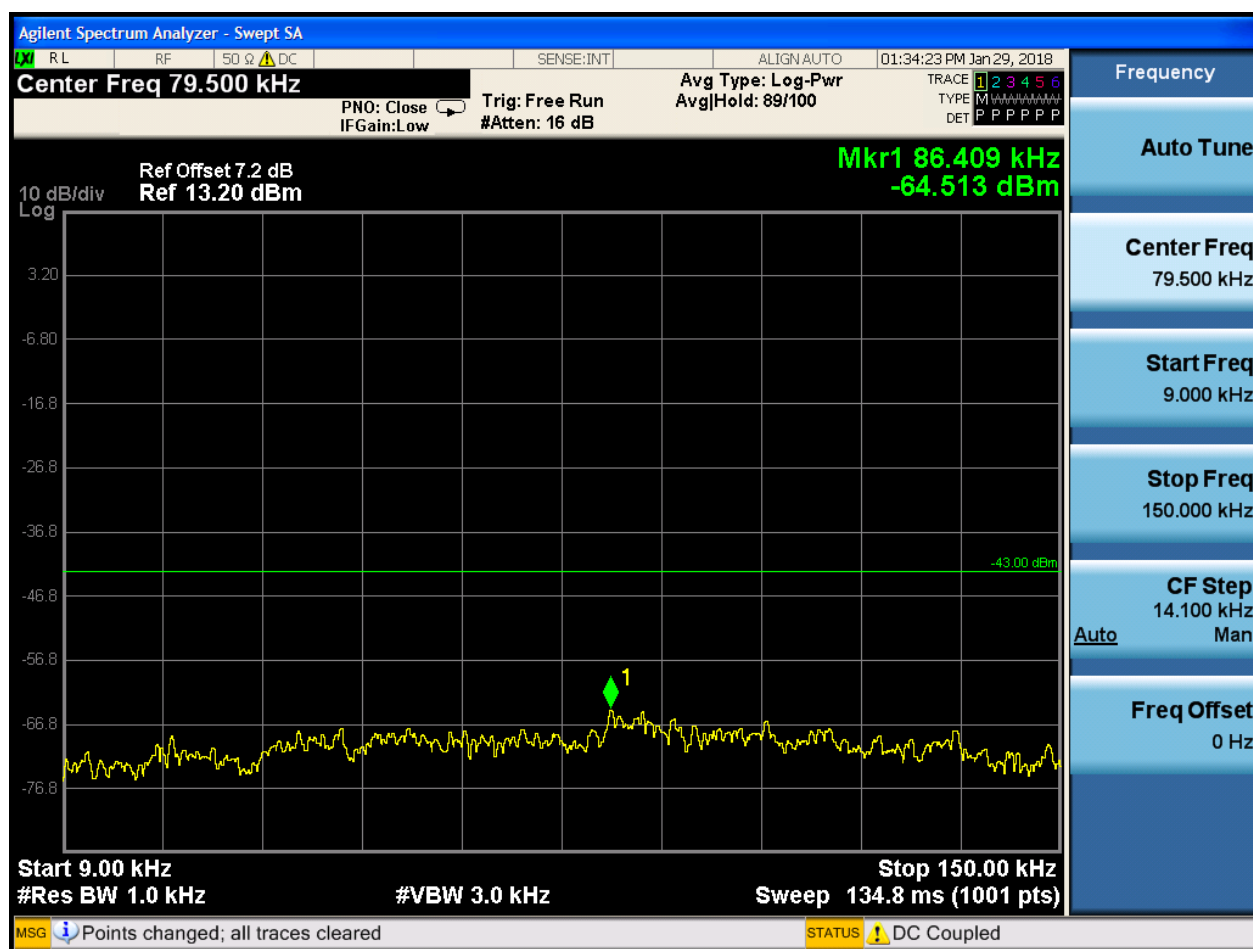


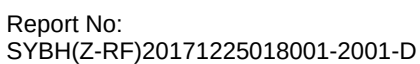


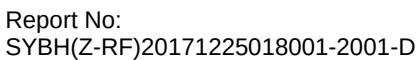
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



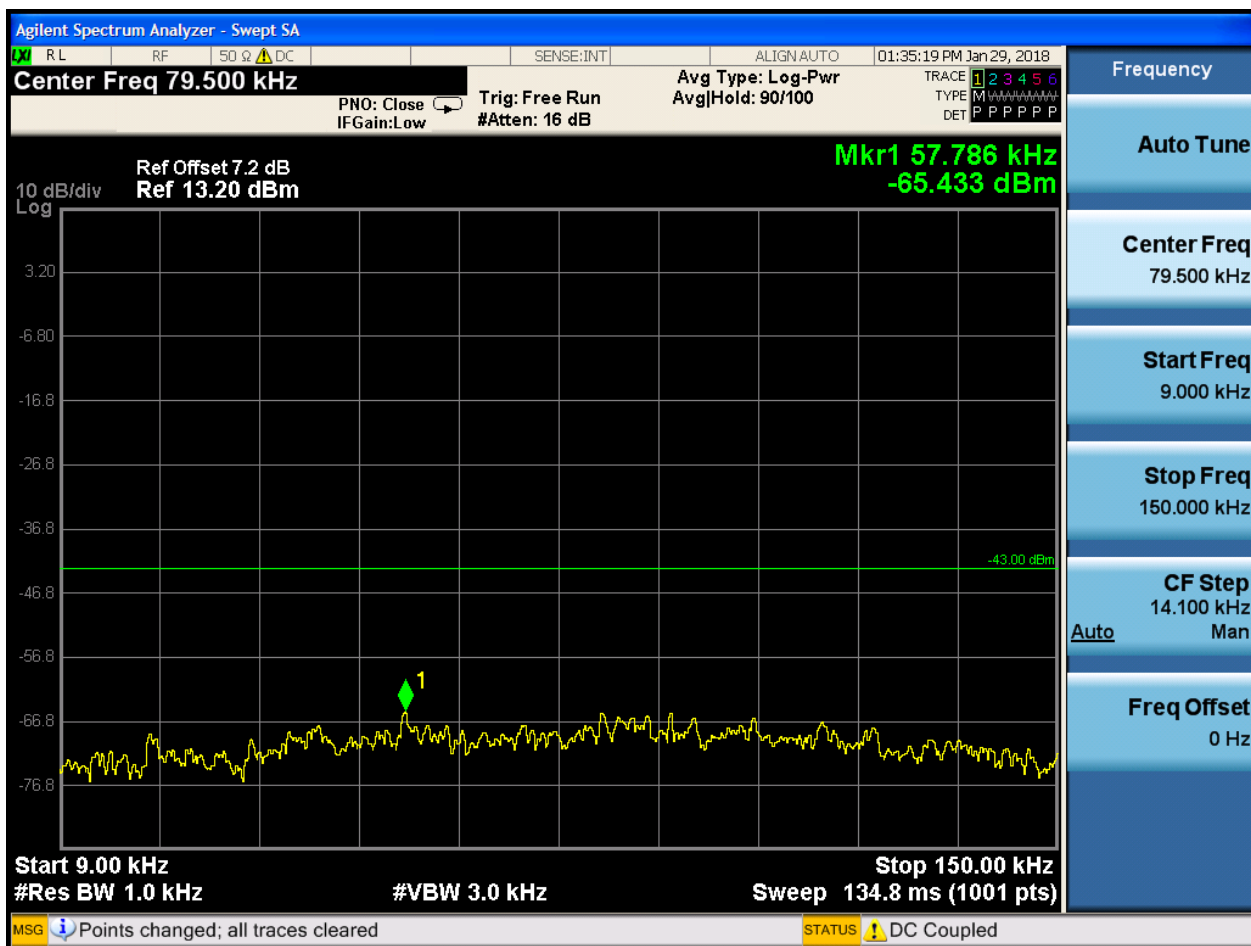


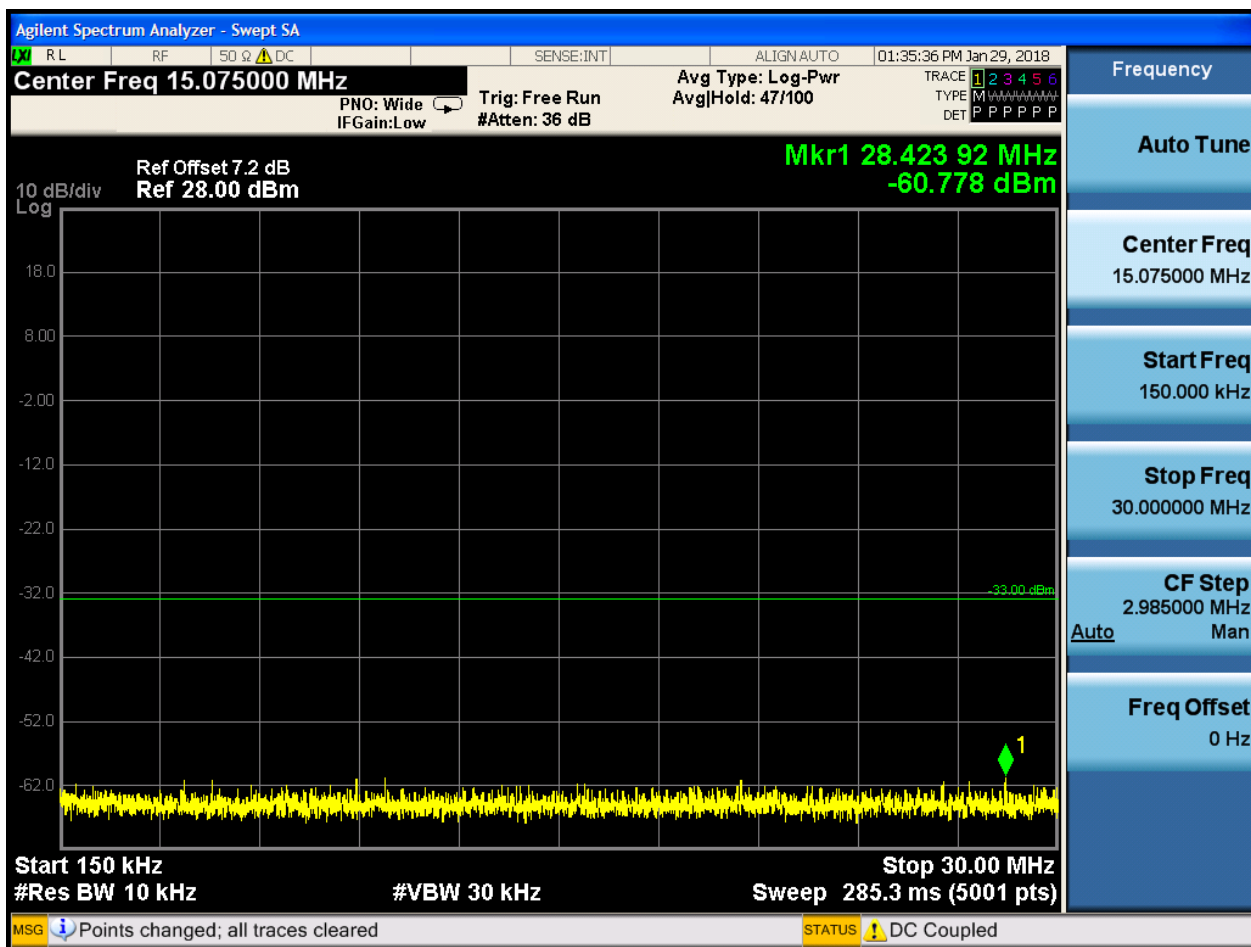


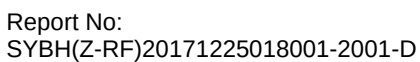


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0

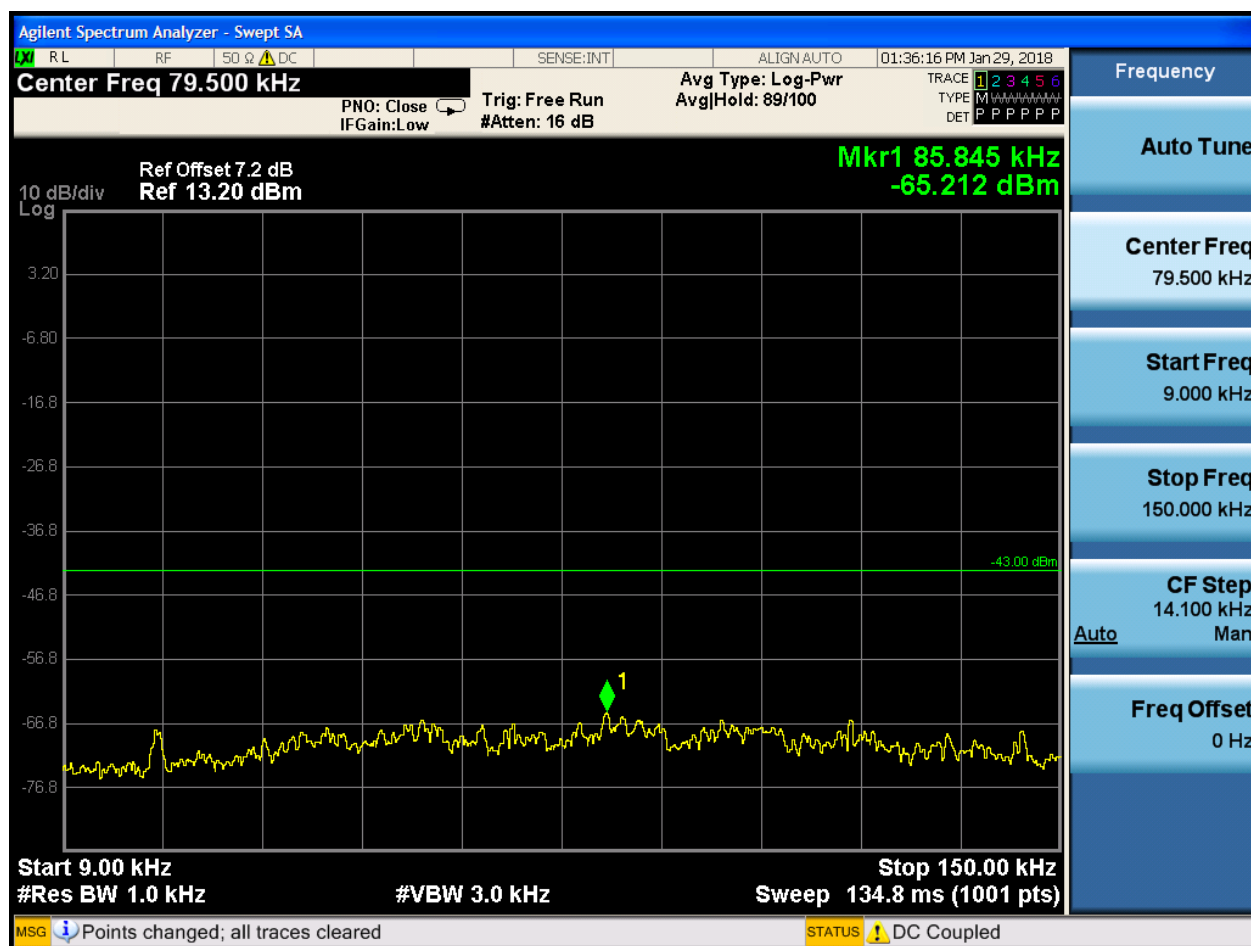






6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0

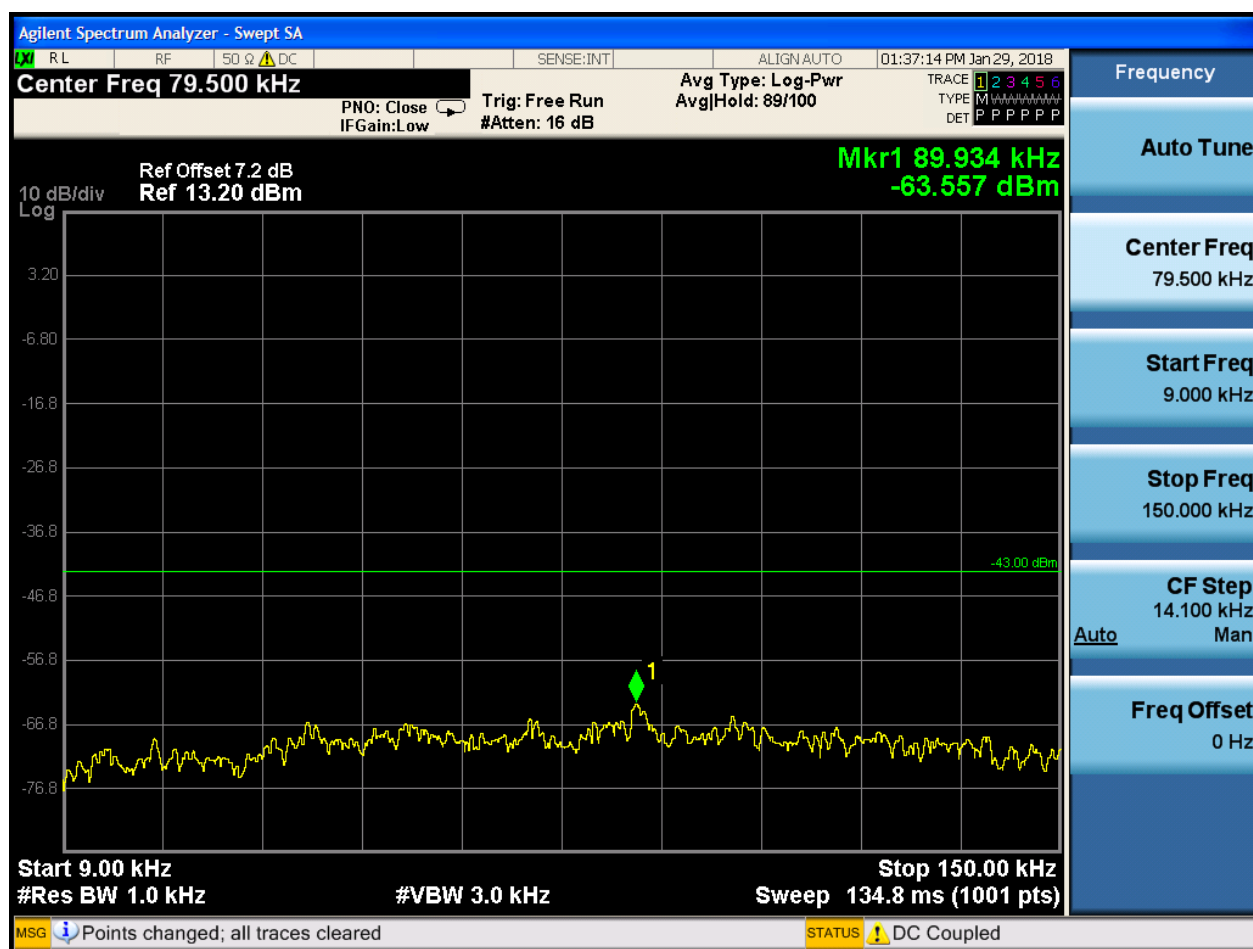


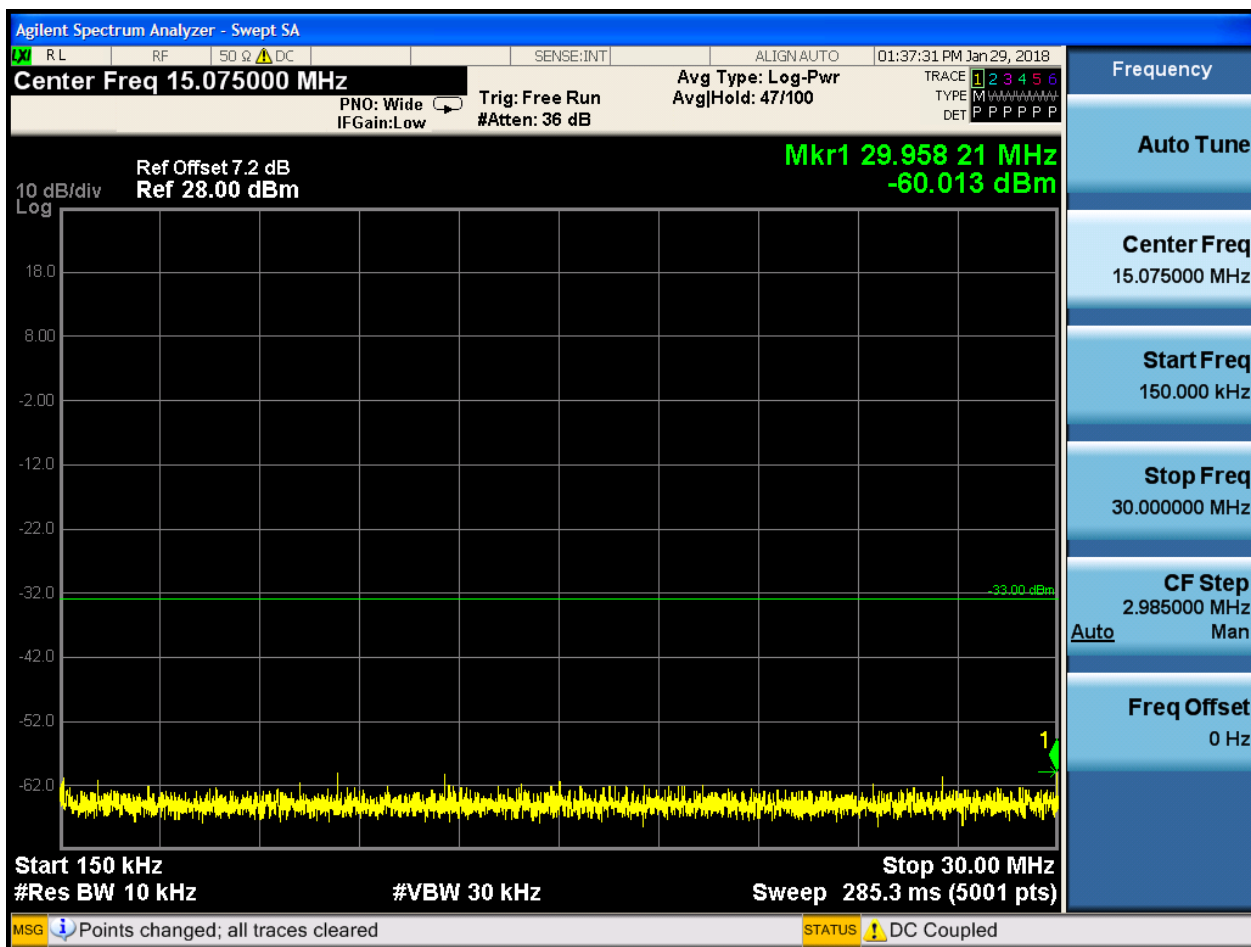


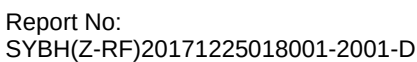
6.1.1.1.5 Test Bandwidth = 15

6.1.1.1.5.1 Test Channel = LCH

6.1.1.1.5.1.1 Test RB = RB1#0

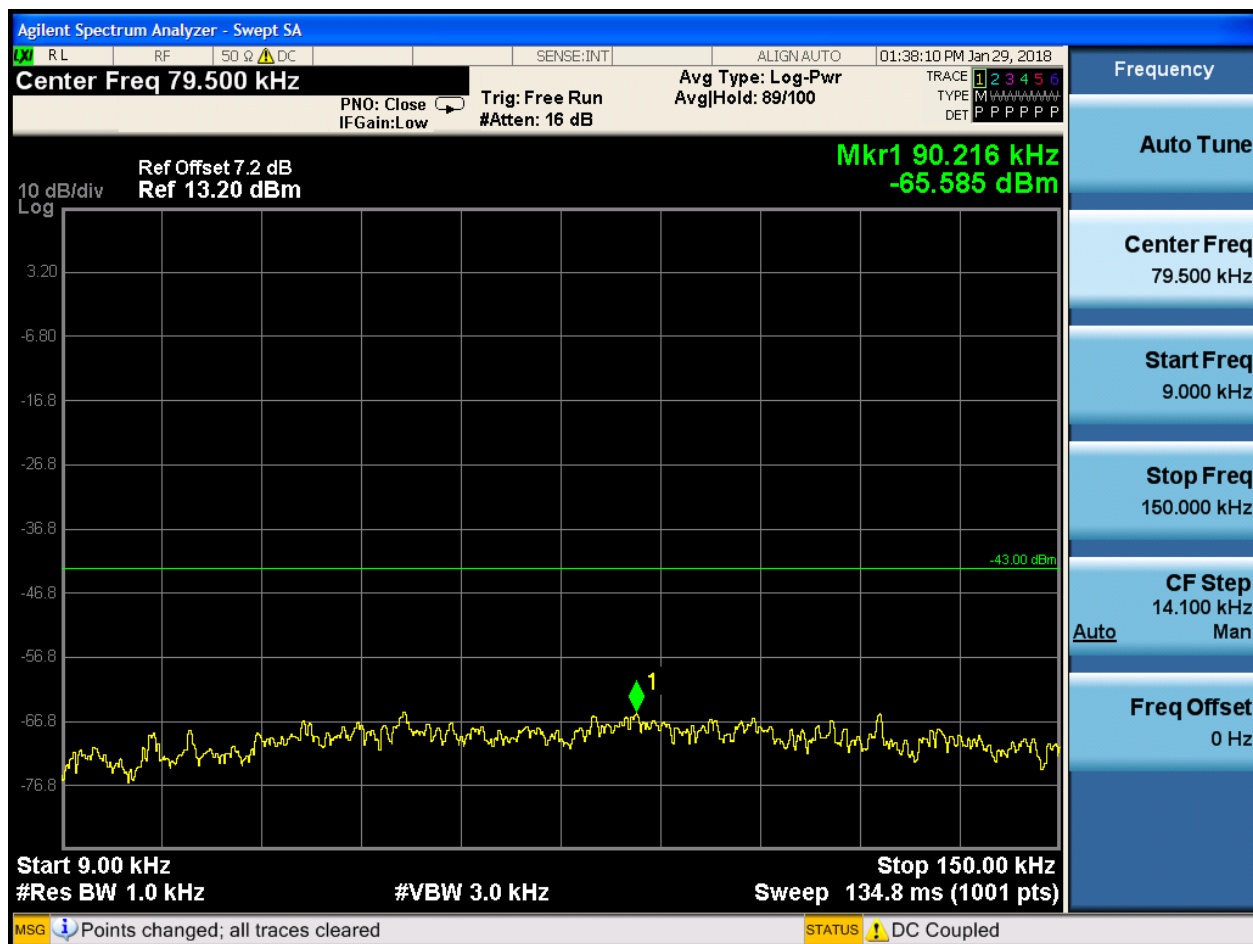


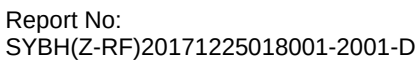




6.1.1.1.5.2 Test Channel = MCH

6.1.1.1.5.2.1 Test RB = RB1#0

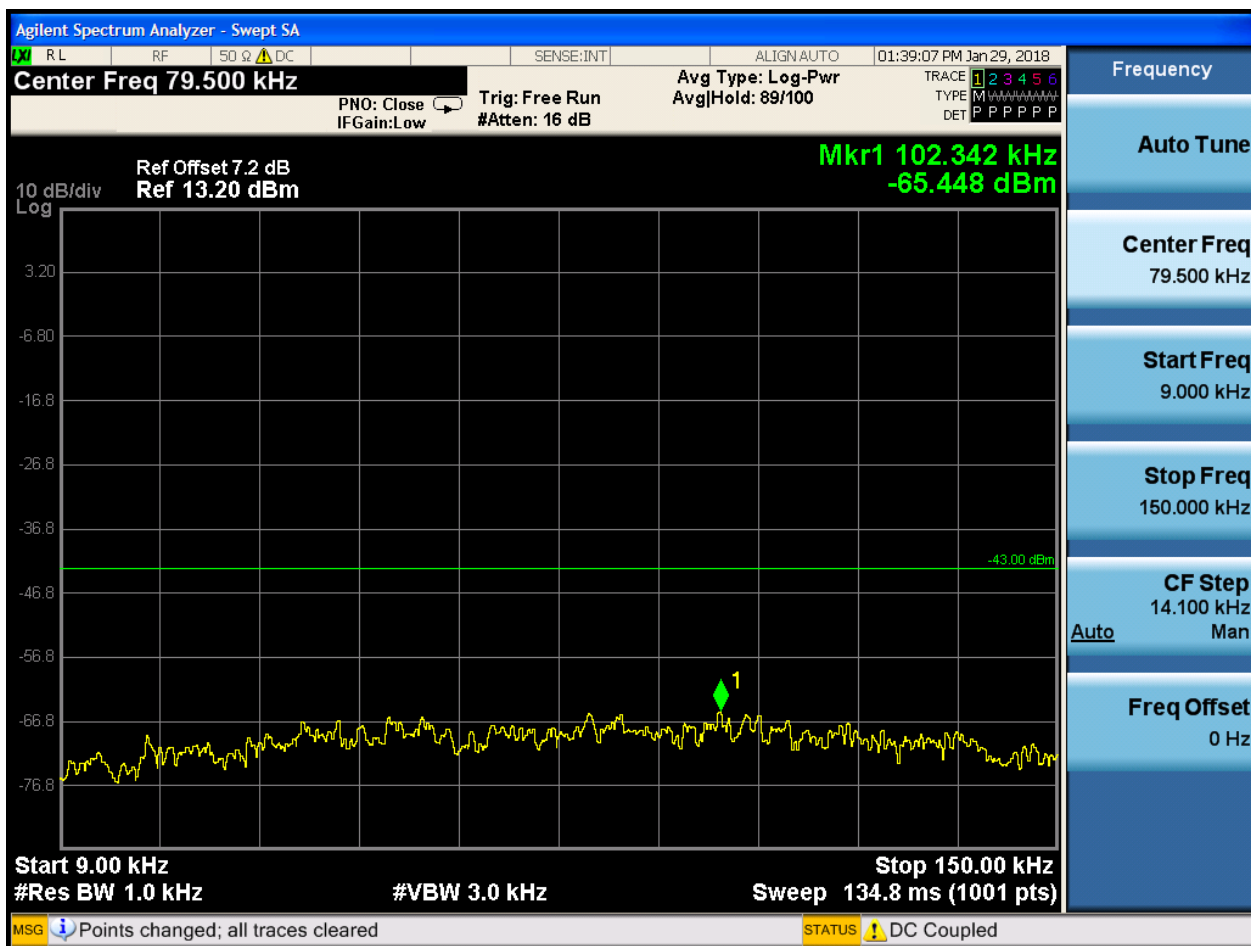


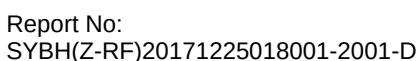


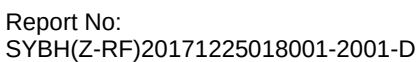


6.1.1.1.5.3 Test Channel = HCH

6.1.1.1.5.3.1 Test RB = RB1#0





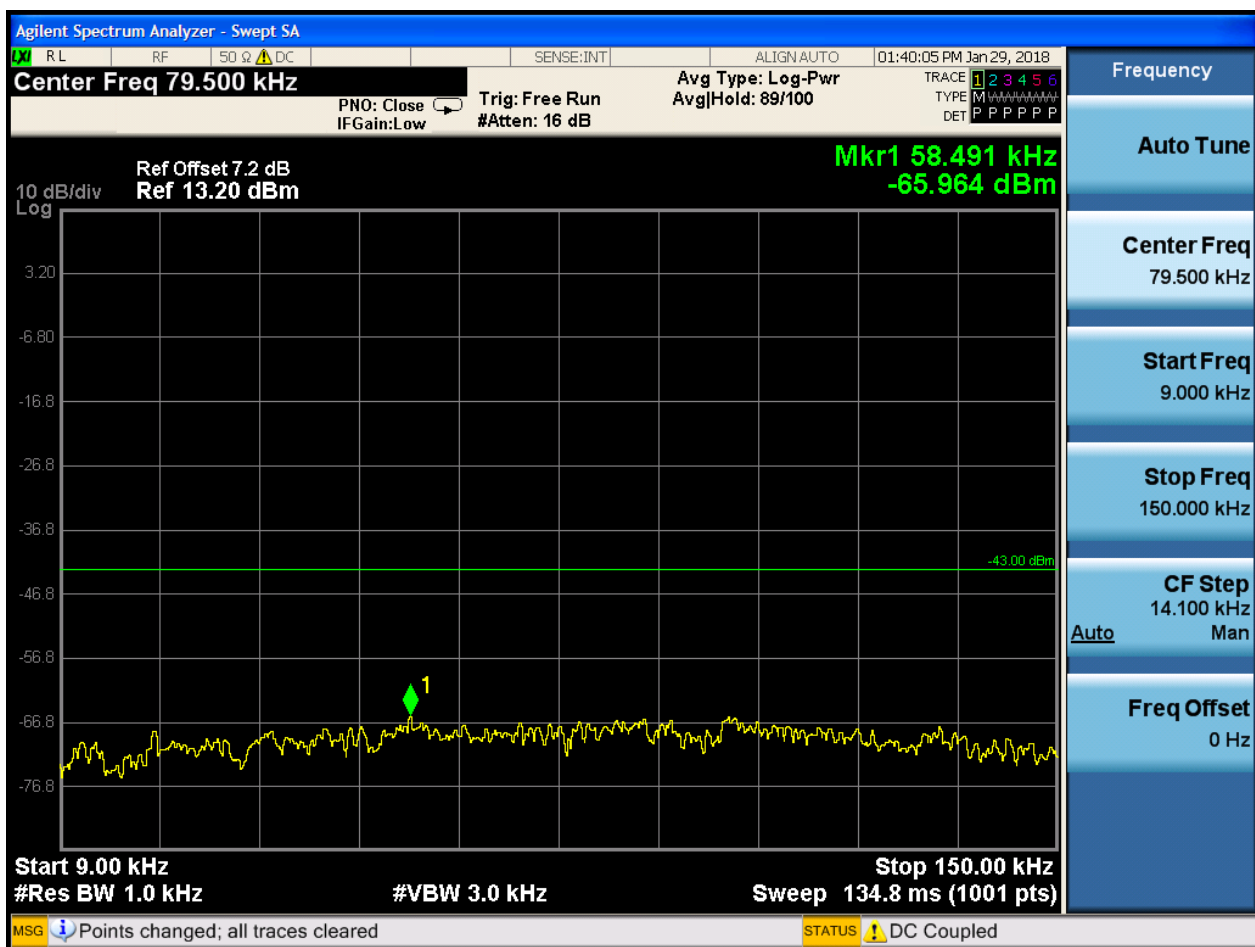


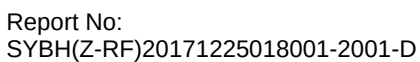


6.1.1.1.6 Test Bandwidth = 20

6.1.1.1.6.1 Test Channel = LCH

6.1.1.1.6.1.1 Test RB = RB1#0









6.1.1.1.6.2.1 Test RB = RB1#0

