



Agilent Spectrum Analyzer - Swept SA

Center Freq 824.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 823.990 MHz
-32.590 dBm

Center 824.000 MHz
#Res BW 100 kHz

#VBW 300 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Frequency

Auto Tune

Center Freq
824.000000 MHz

Start Freq
823.000000 MHz

Stop Freq
825.000000 MHz

CF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

Detailed description: The image is a screenshot of an Agilent Spectrum Analyzer in swept SA mode. The main display area shows a frequency spectrum from 823.000 MHz to 825.000 MHz. The vertical axis represents power in dBm, ranging from -60.0 to 20.0. A yellow trace shows the spectrum, which is mostly flat with some noise. A green horizontal line is drawn at -13.00 dBm. A green marker labeled '1' is placed on the trace at 823.990 MHz, with a value of -32.590 dBm. The top of the screen displays various settings: Center Freq 824.000000 MHz, Ref Offset 7 dB, Ref 30.00 dBm, 10 dB/div, Log, Mkr1 823.990 MHz, -32.590 dBm, Center 824.000 MHz, #Res BW 100 kHz, #VBW 300 kHz*, Span 2.000 MHz, #Sweep 1.00 s (1001 pts). The right side of the screen has a blue sidebar with buttons for Frequency, Auto Tune, Center Freq, Start Freq, Stop Freq, CF Step, Auto, Freq Offset, and 0 Hz.



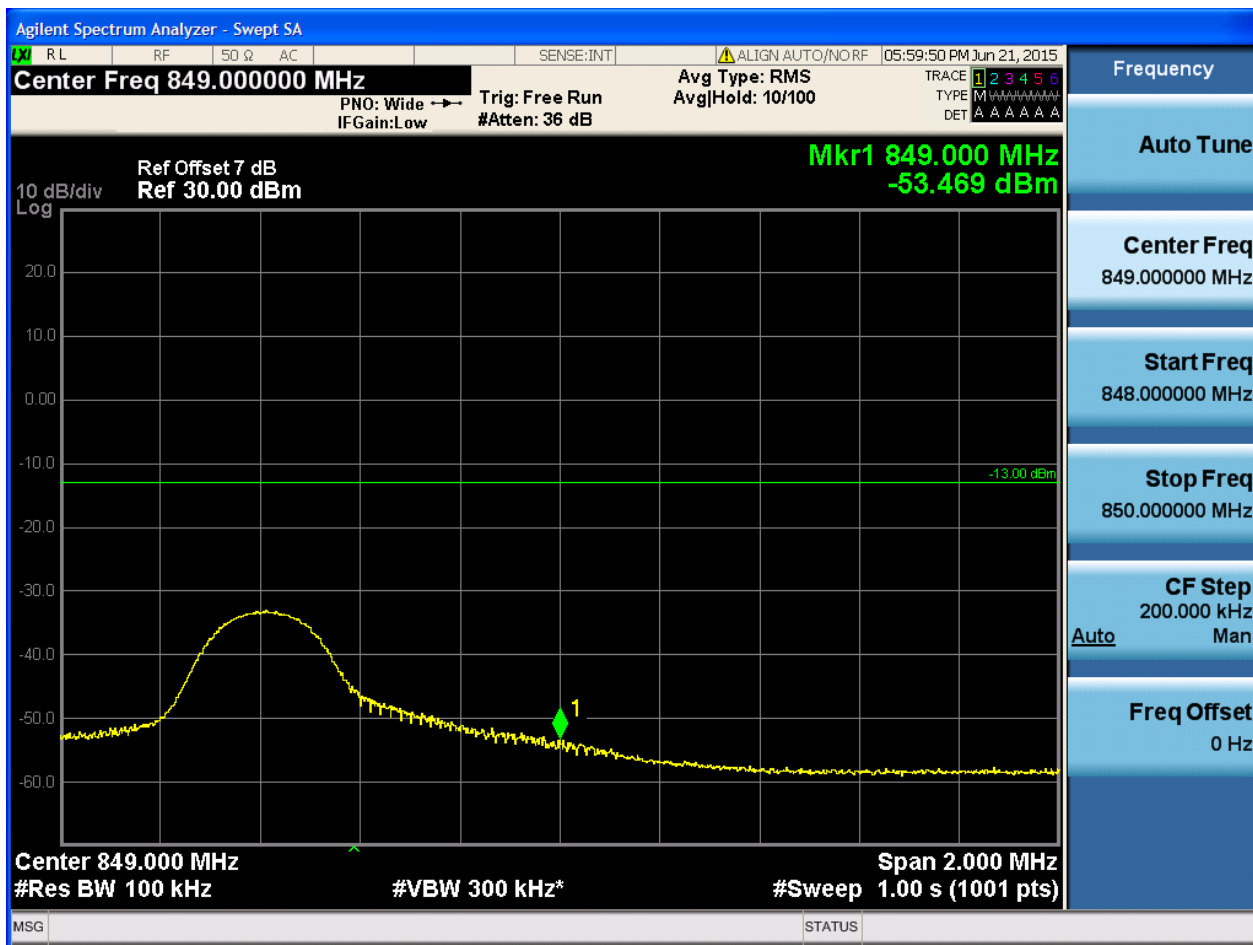
5.1.3.2.4.1.4 Test RB = RB50#0





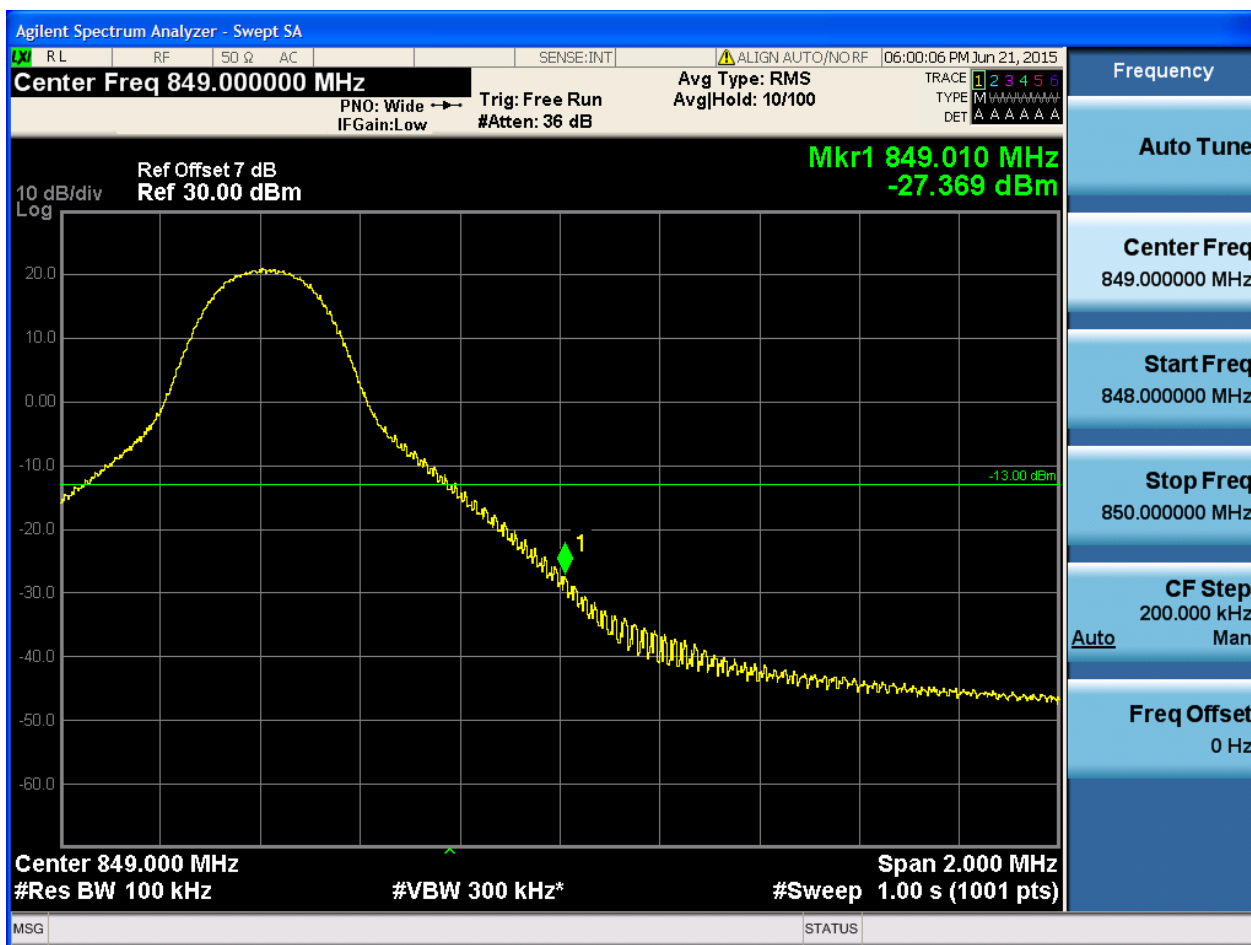
5.1.3.2.4.2 Test Channel = HCH

5.1.3.2.4.2.1 Test RB = RB1#0



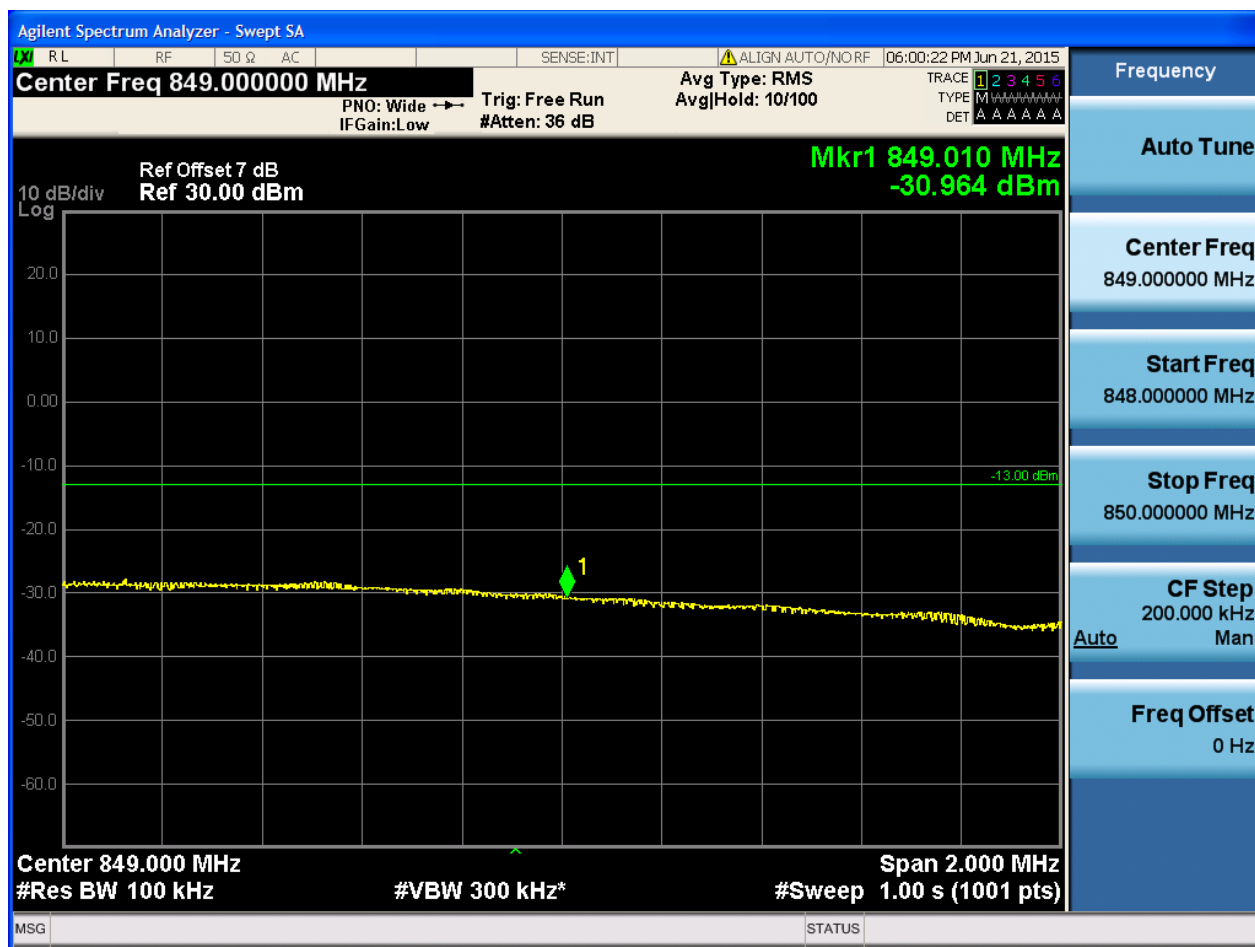


5.1.3.2.4.2.2 Test RB = RB1#49





5.1.3.2.4.2.3 Test RB = RB25#13





5.1.3.2.4.2.4 Test RB = RB50#0





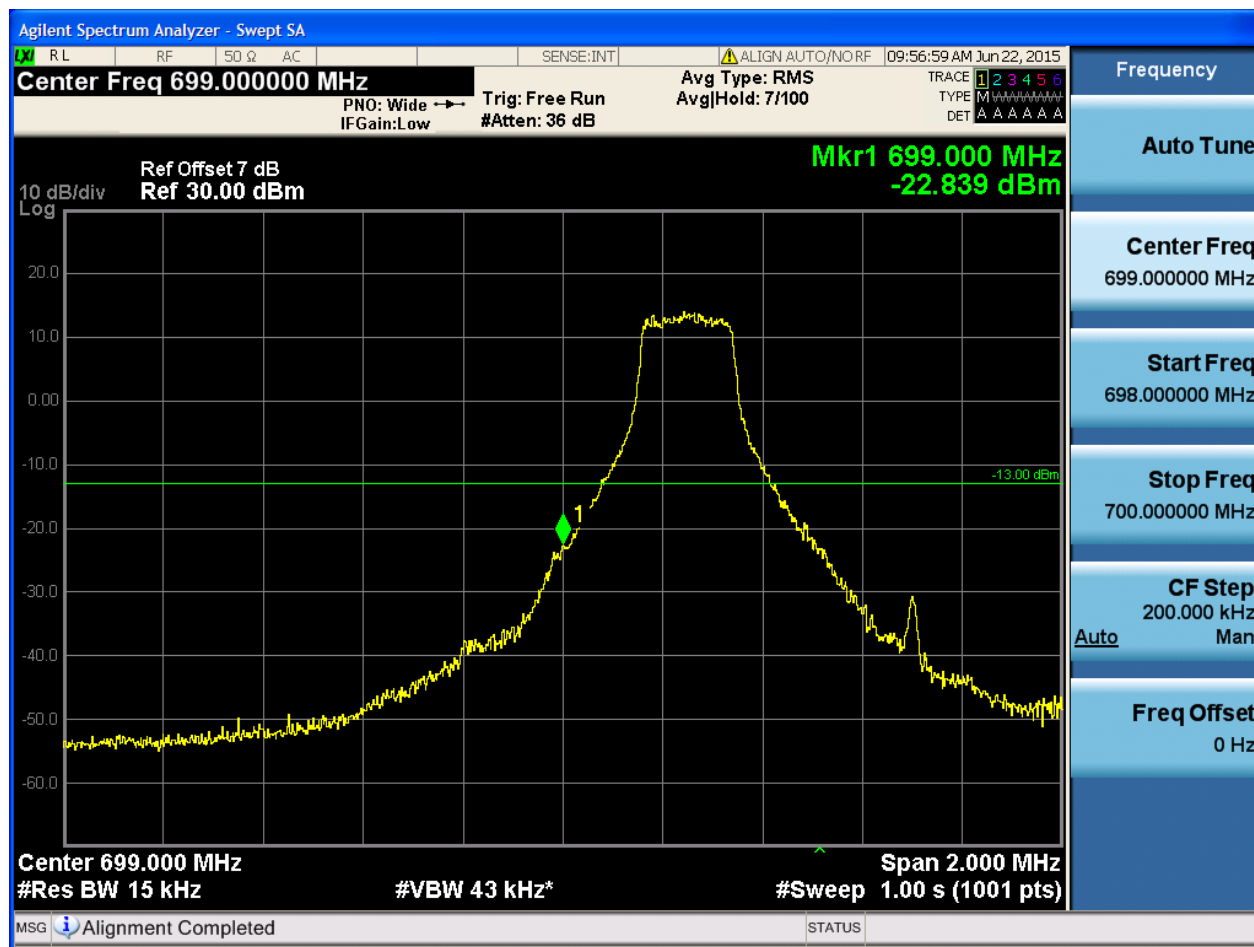
5.1.4 Test Band = BAND12

5.1.4.1 Test Mode = LTE/TM1

5.1.4.1.1 Test Bandwidth = 1.4

5.1.4.1.1.1 Test Channel = LCH

5.1.4.1.1.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 699.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Center 699.000 MHz
#Res BW 15 kHz

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Auto Tune

Center Freq
699.000000 MHz

Start Freq
698.000000 MHz

Stop Freq
700.000000 MHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz

MSG STATUS

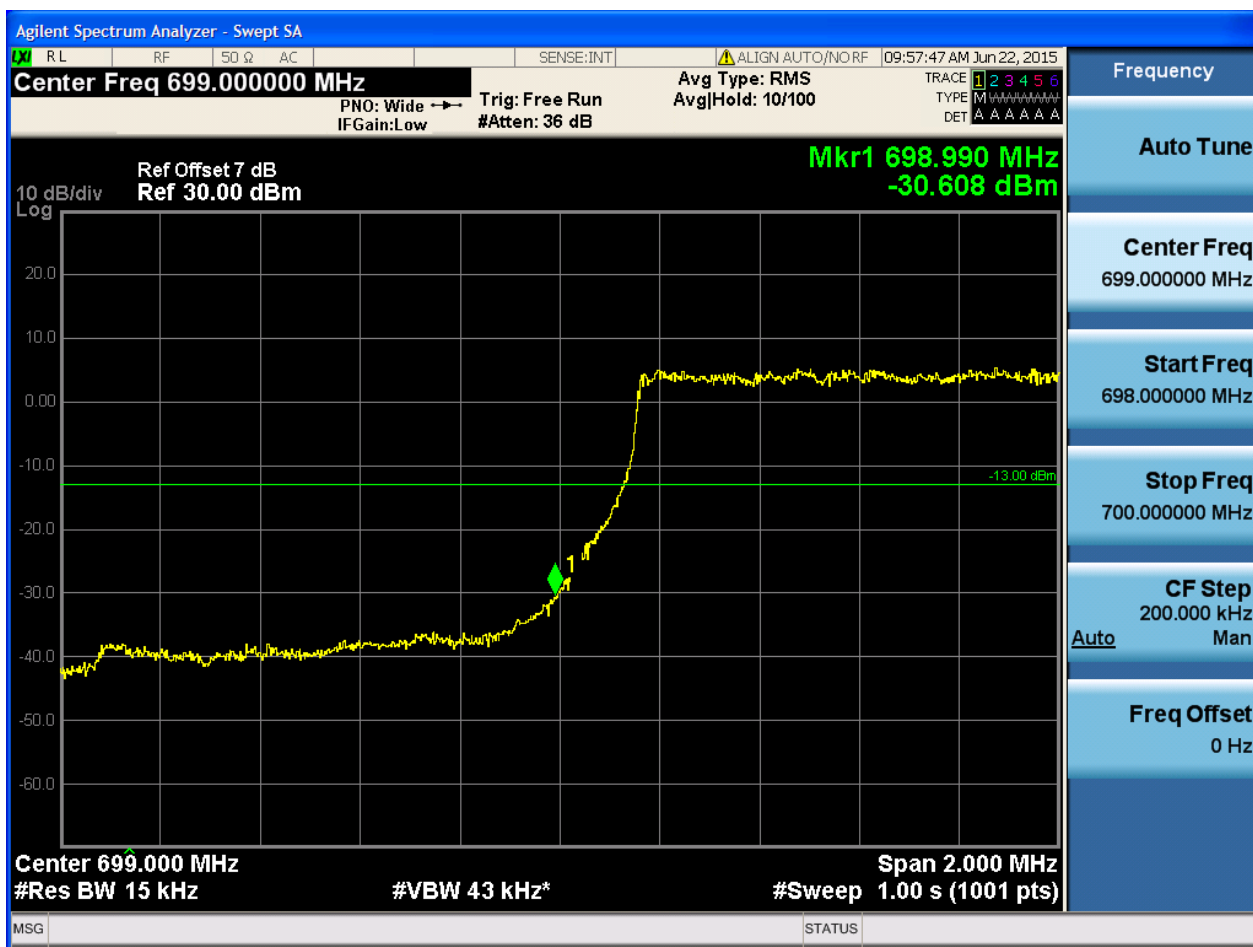


5.1.4.1.1.3 Test RB = RB3#2



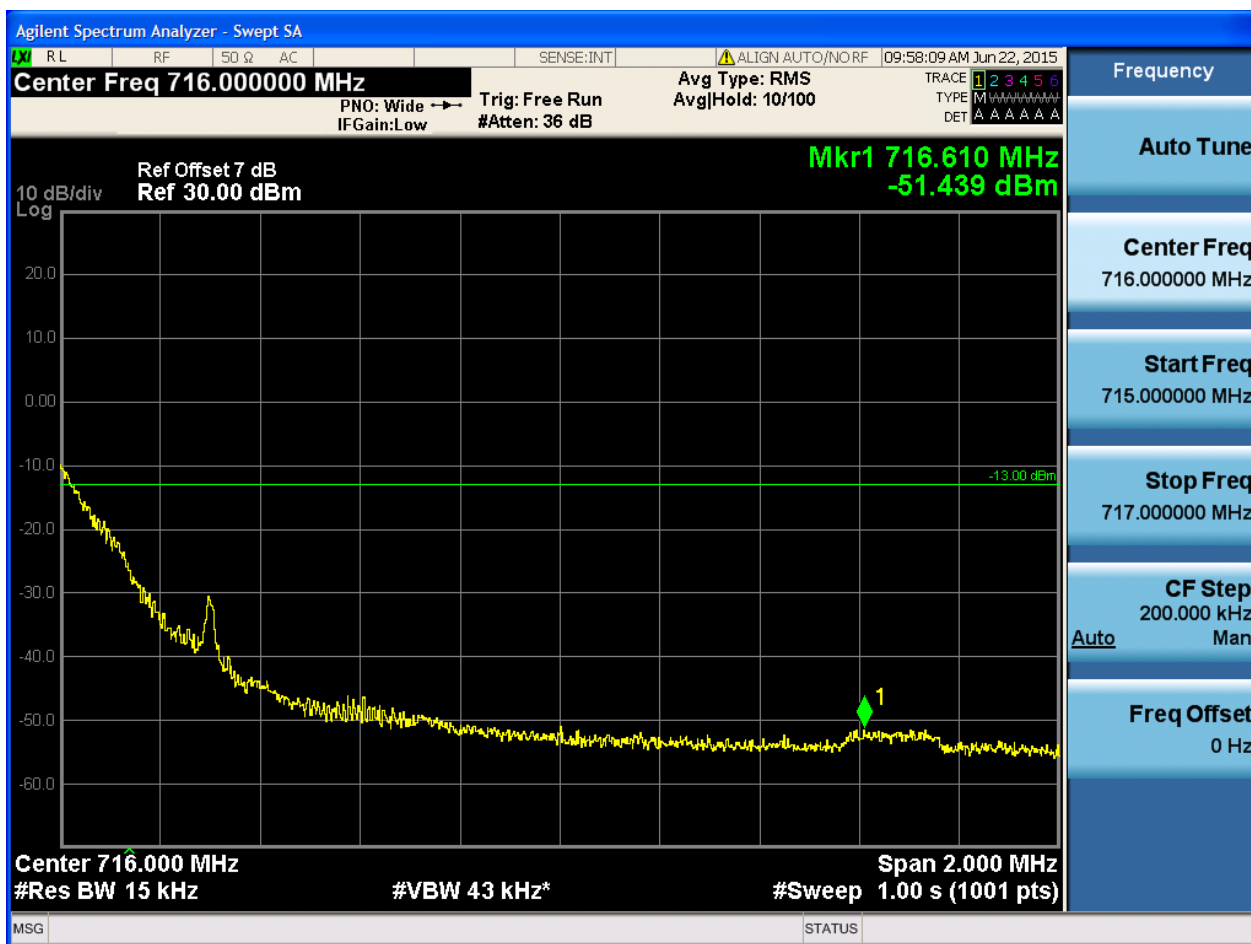


5.1.4.1.1.4 Test RB = RB6#0



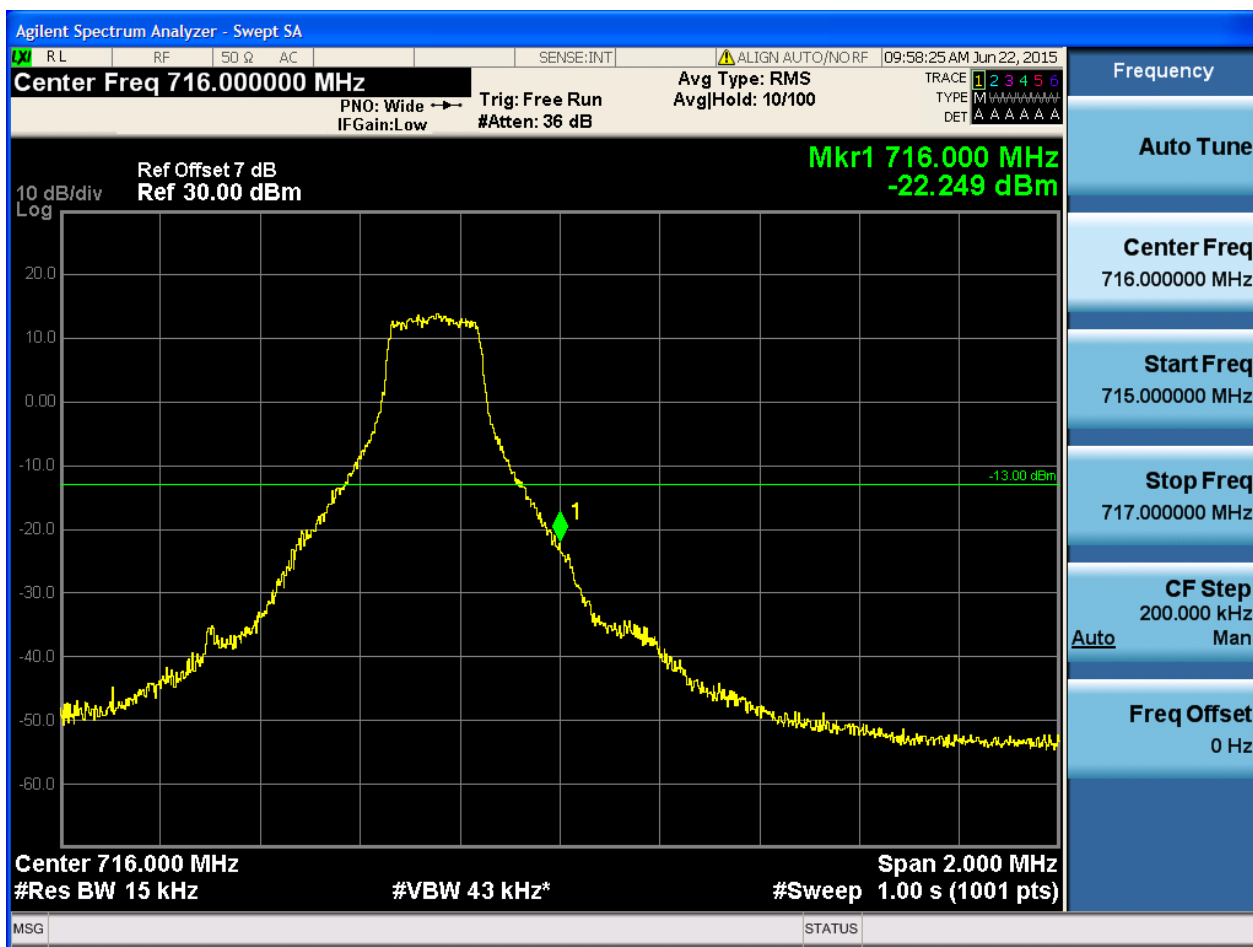
5.1.4.1.1.2 Test Channel = HCH

5.1.4.1.1.2.1 Test RB = RB1#0





5.1.4.1.1.2.2 Test RB = RB1#5





5.1.4.1.1.2.3 Test RB = RB3#2





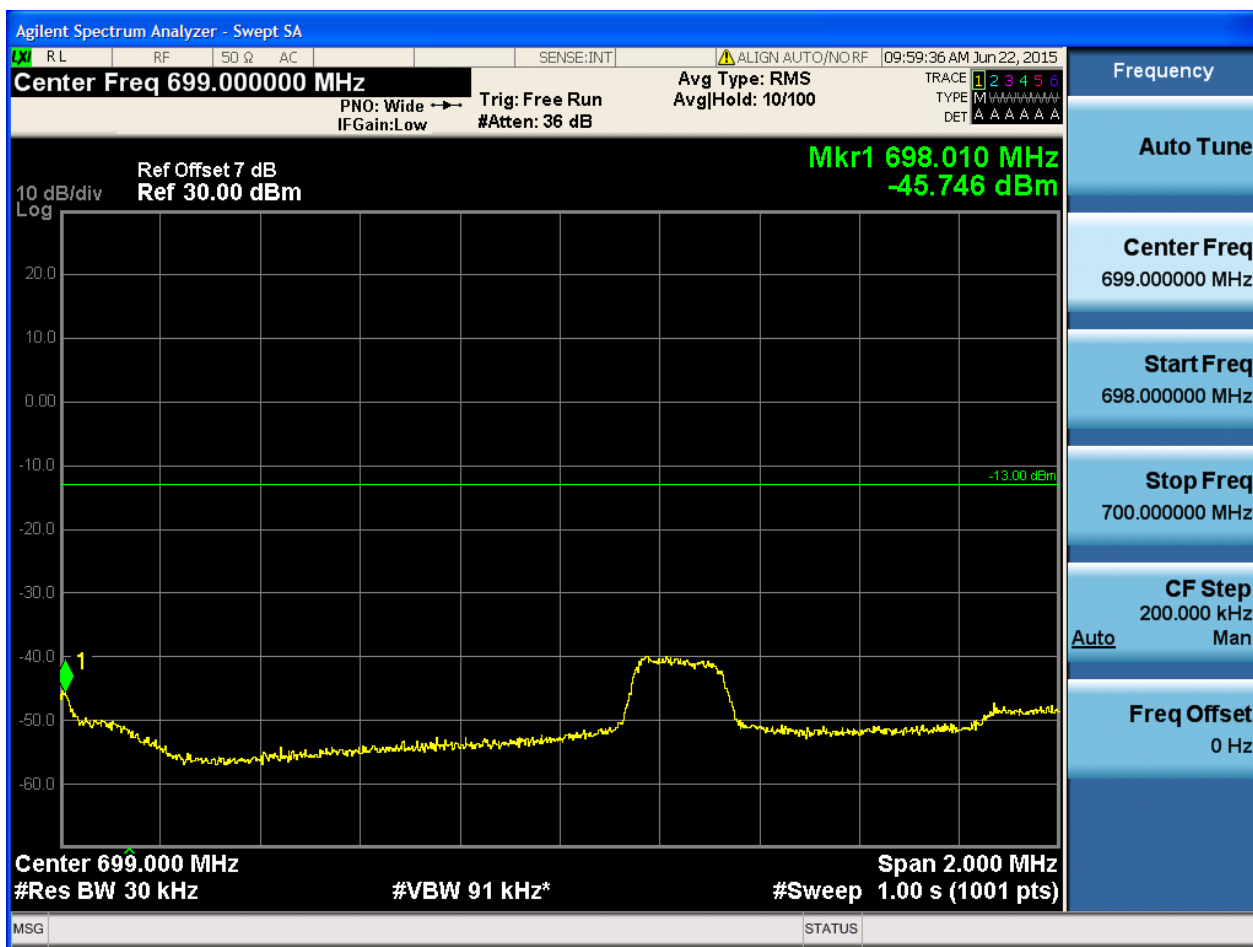
5.1.4.1.1.2.4 Test RB = RB6#0







5.1.4.1.2.1.2 Test RB = RB1#14





Agilent Spectrum Analyzer - Swept SA

Center Freq 699.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 699.000 MHz
-34.175 dBm

Center 699.000 MHz
#Res BW 30 kHz

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Auto Tune

Center Freq
699.000000 MHz

Start Freq
698.000000 MHz

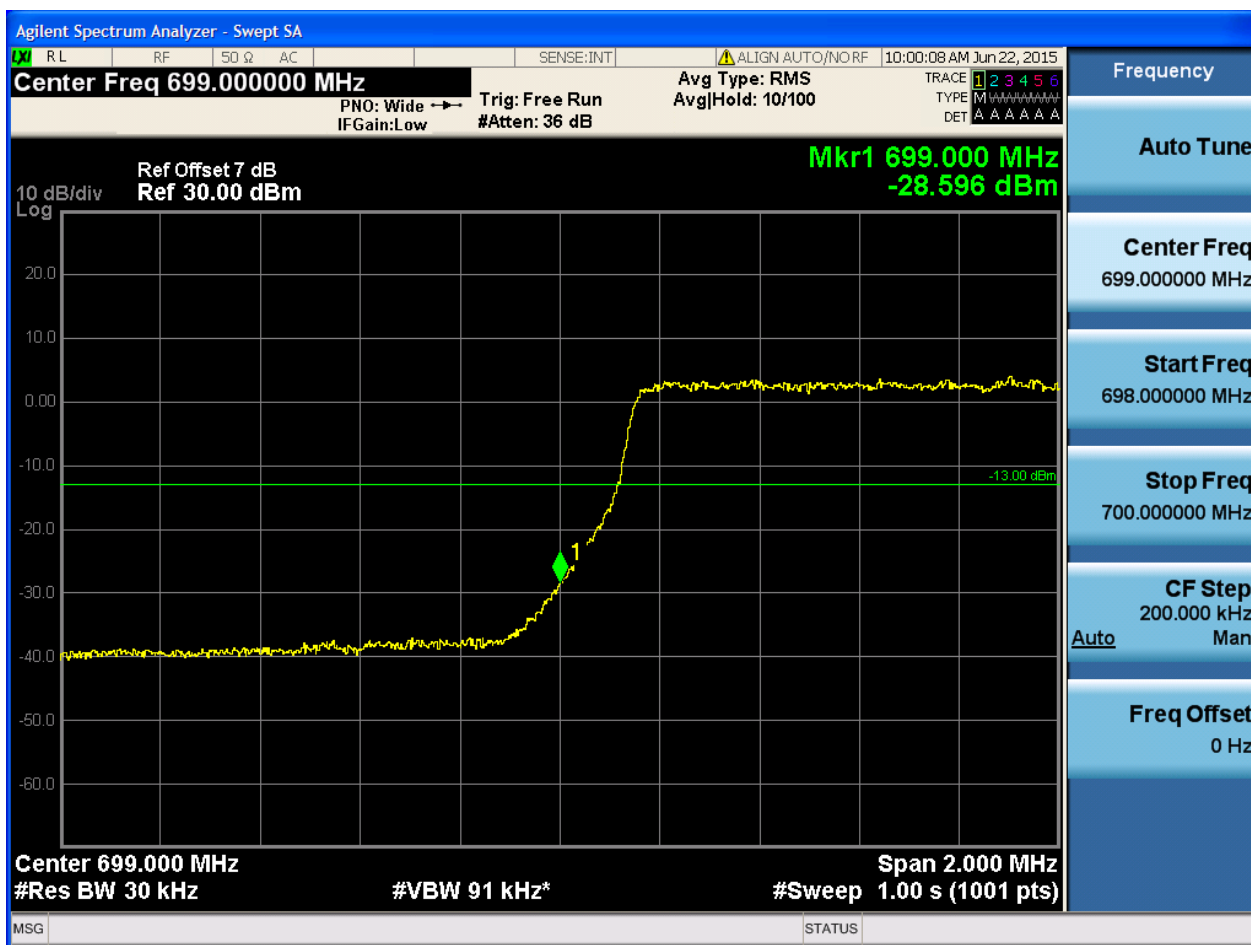
Stop Freq
700.000000 MHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz



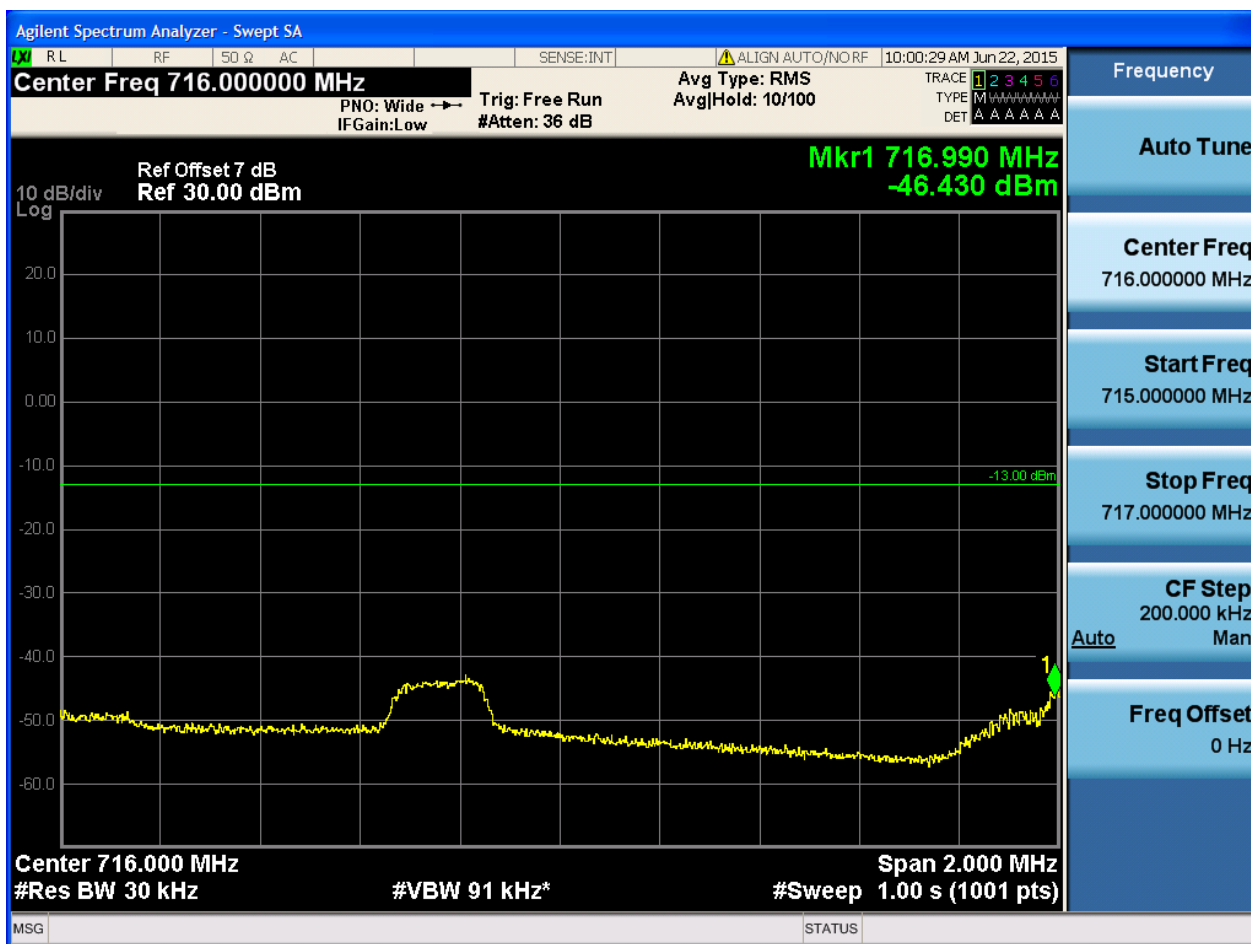
5.1.4.1.2.1.4 Test RB = RB15#0





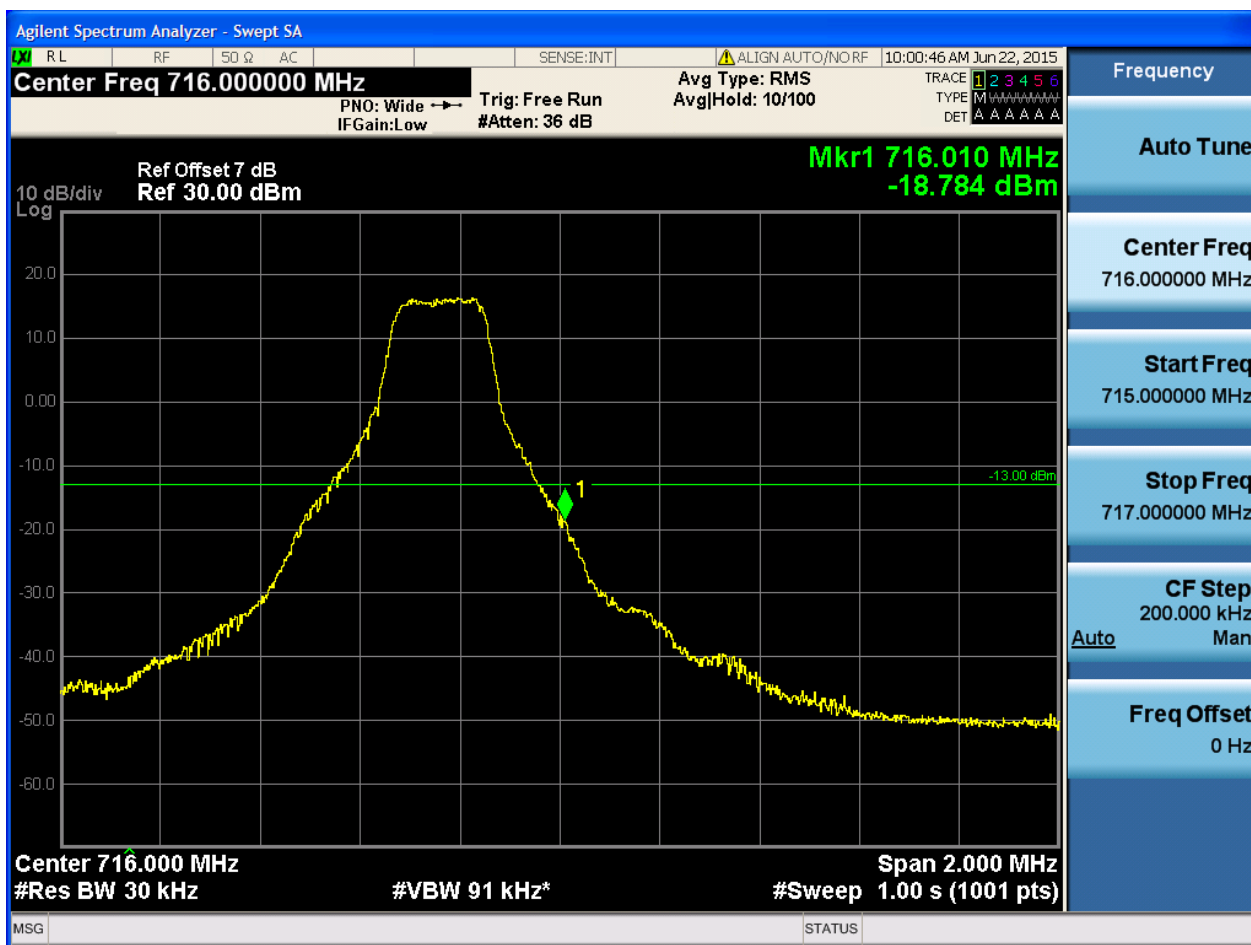
5.1.4.1.2.2 Test Channel = HCH

5.1.4.1.2.2.1 Test RB = RB1#0





5.1.4.1.2.2.2 Test RB = RB1#14



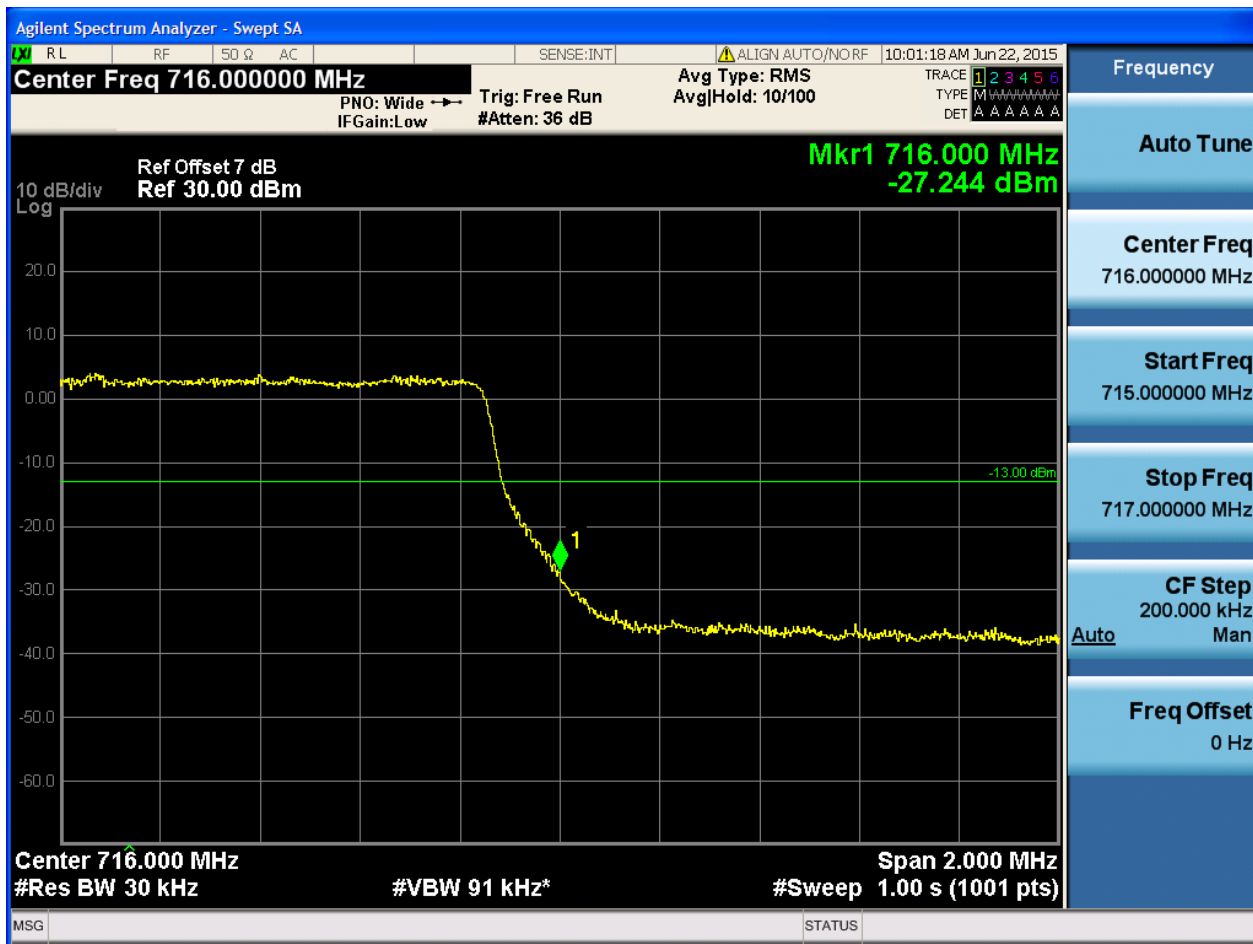


5.1.4.1.2.2.3 Test RB = RB8#4





5.1.4.1.2.2.4 Test RB = RB15#0

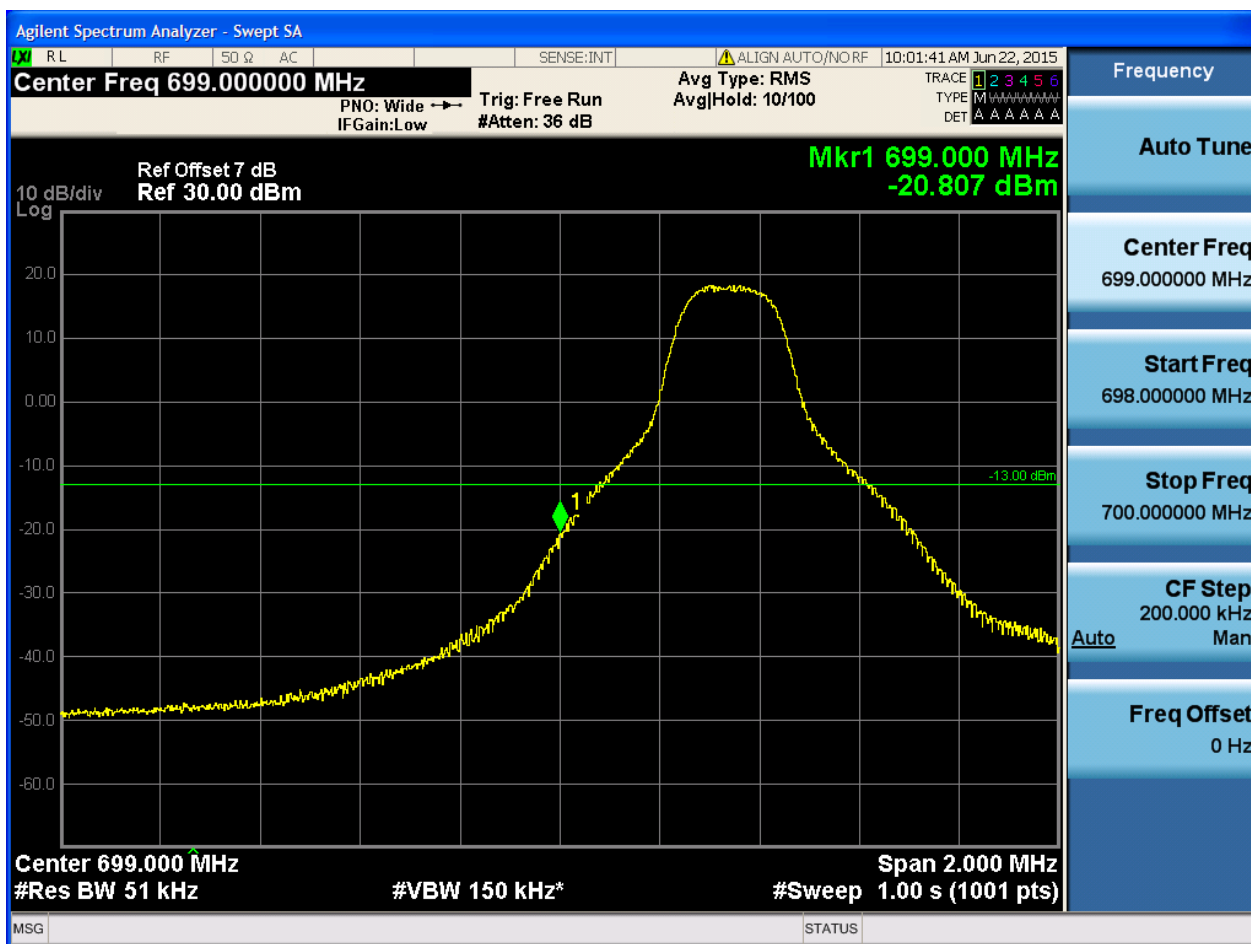




5.1.4.1.3 Test Bandwidth = 5

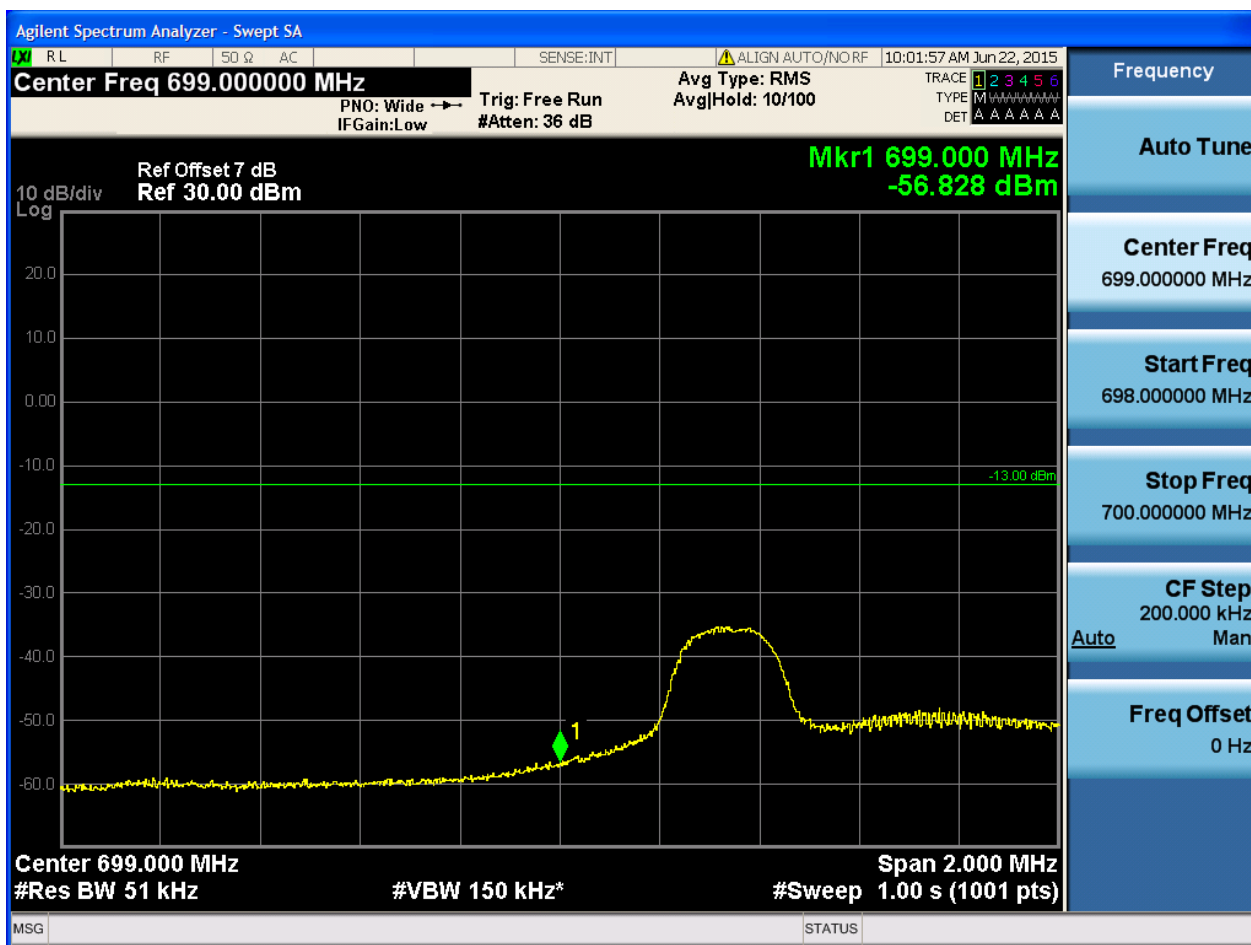
5.1.4.1.3.1 Test Channel = LCH

5.1.4.1.3.1.1 Test RB = RB1#0





5.1.4.1.3.1.2 Test RB = RB1#24



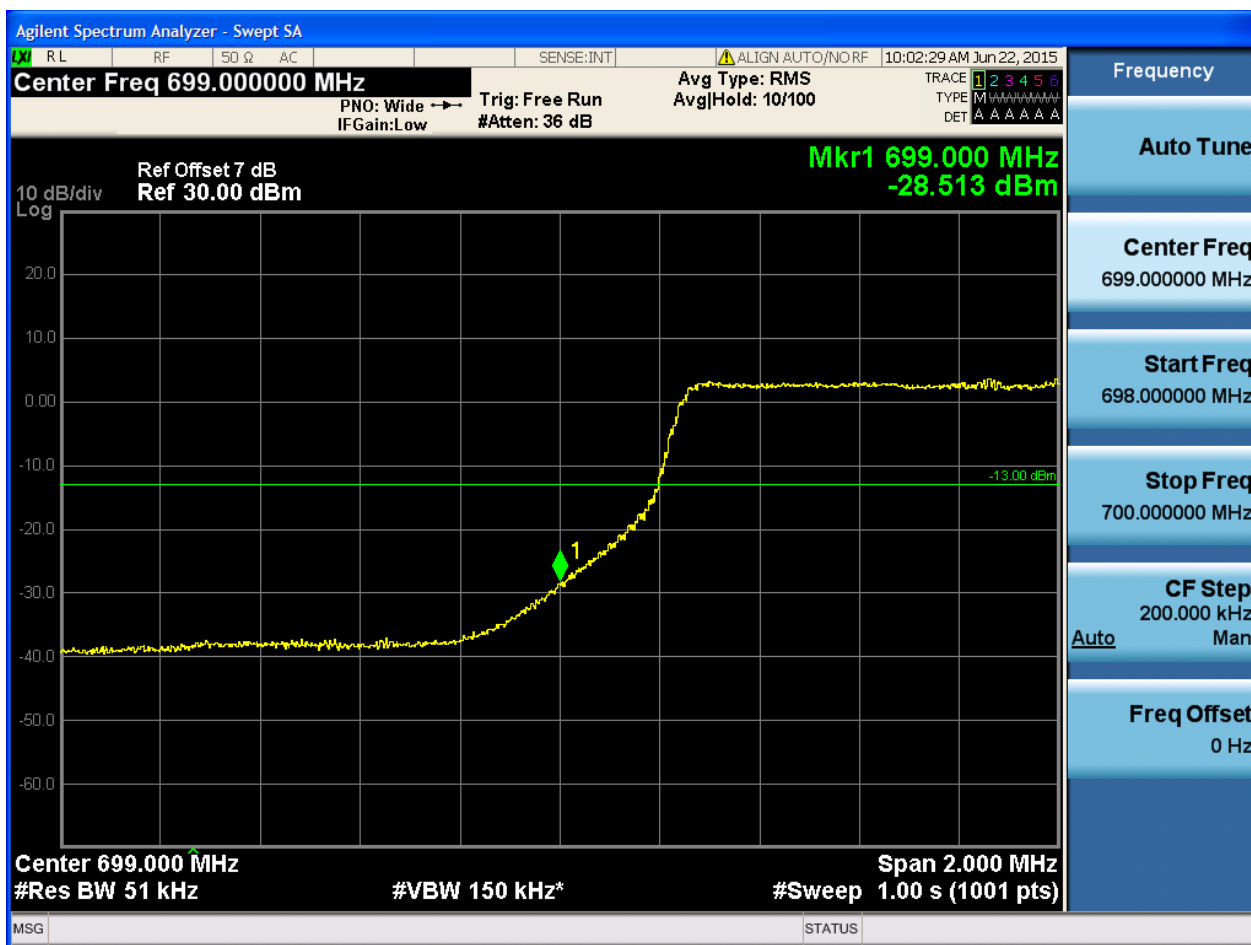


5.1.4.1.3.1.3 Test RB = RB12#6





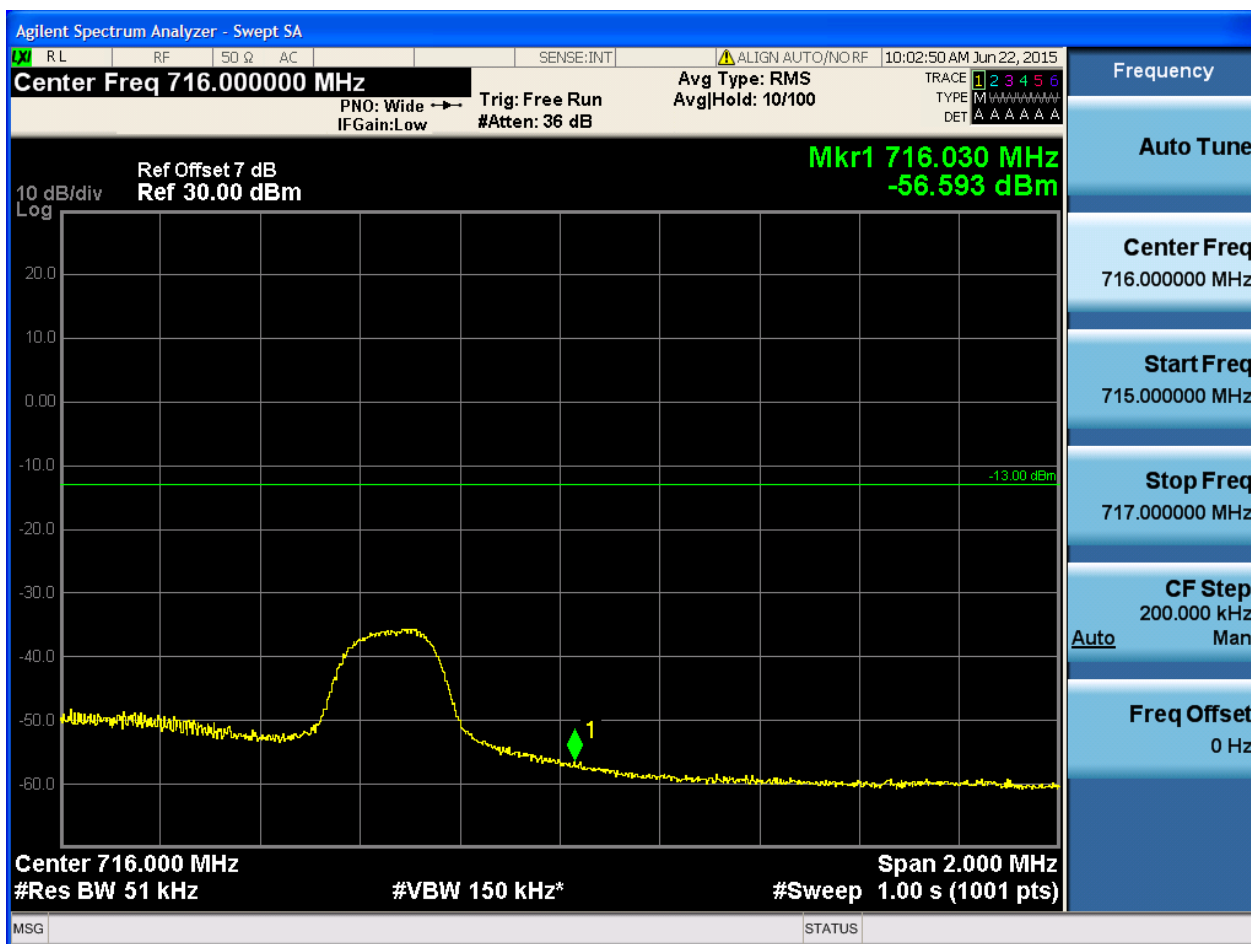
5.1.4.1.3.1.4 Test RB = RB25#0





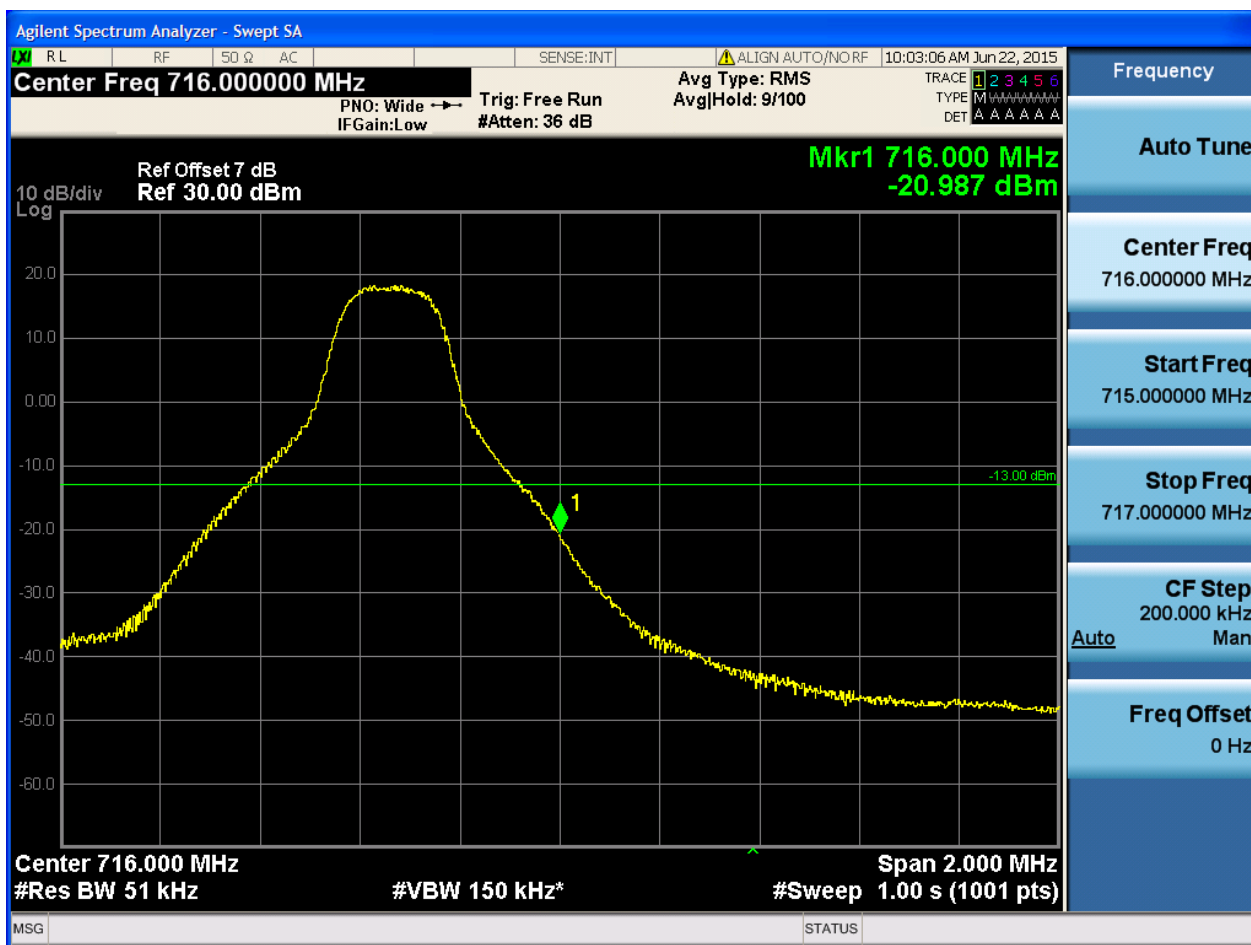
5.1.4.1.3.2 Test Channel = HCH

5.1.4.1.3.2.1 Test RB = RB1#0



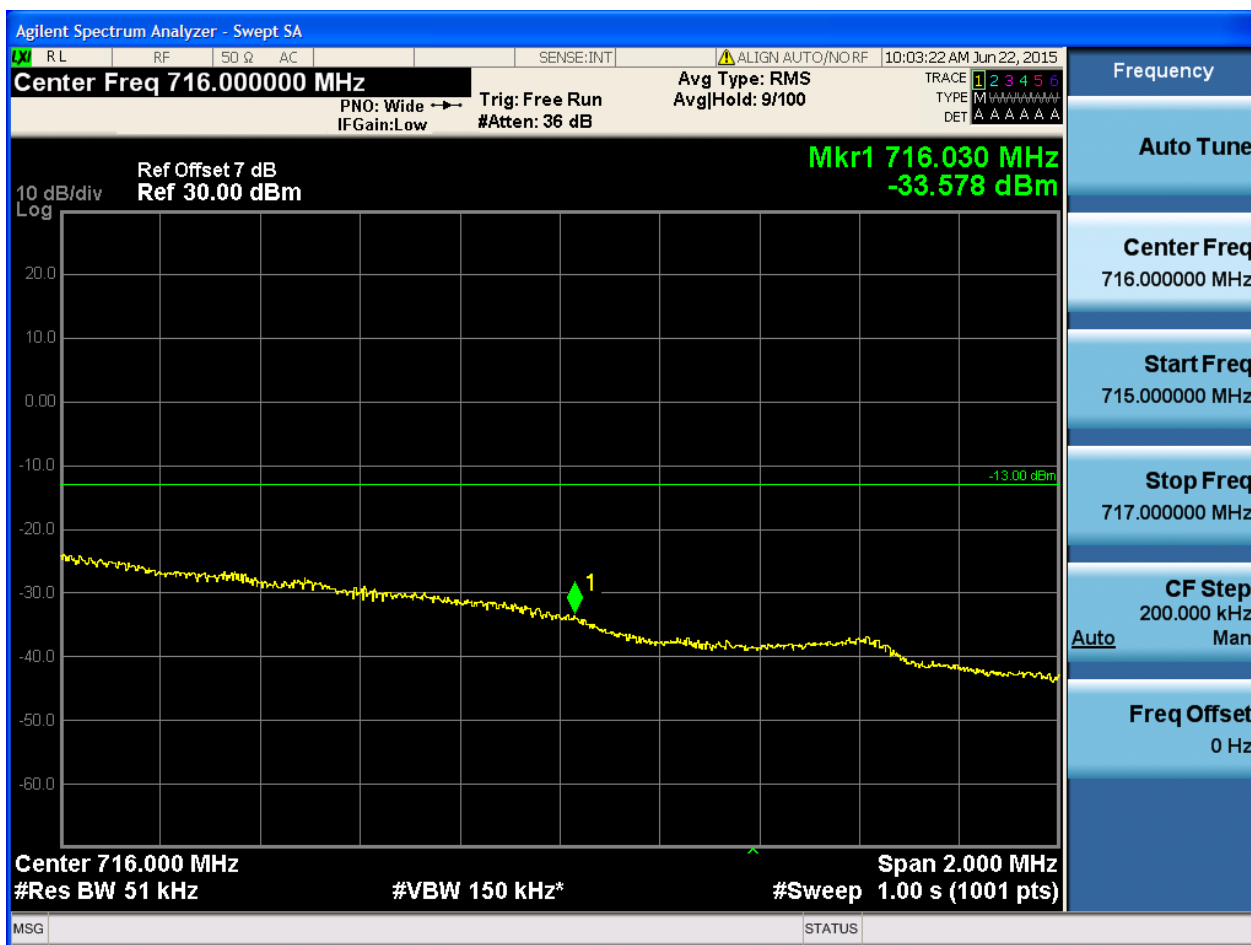


5.1.4.1.3.2.2 Test RB = RB1#24



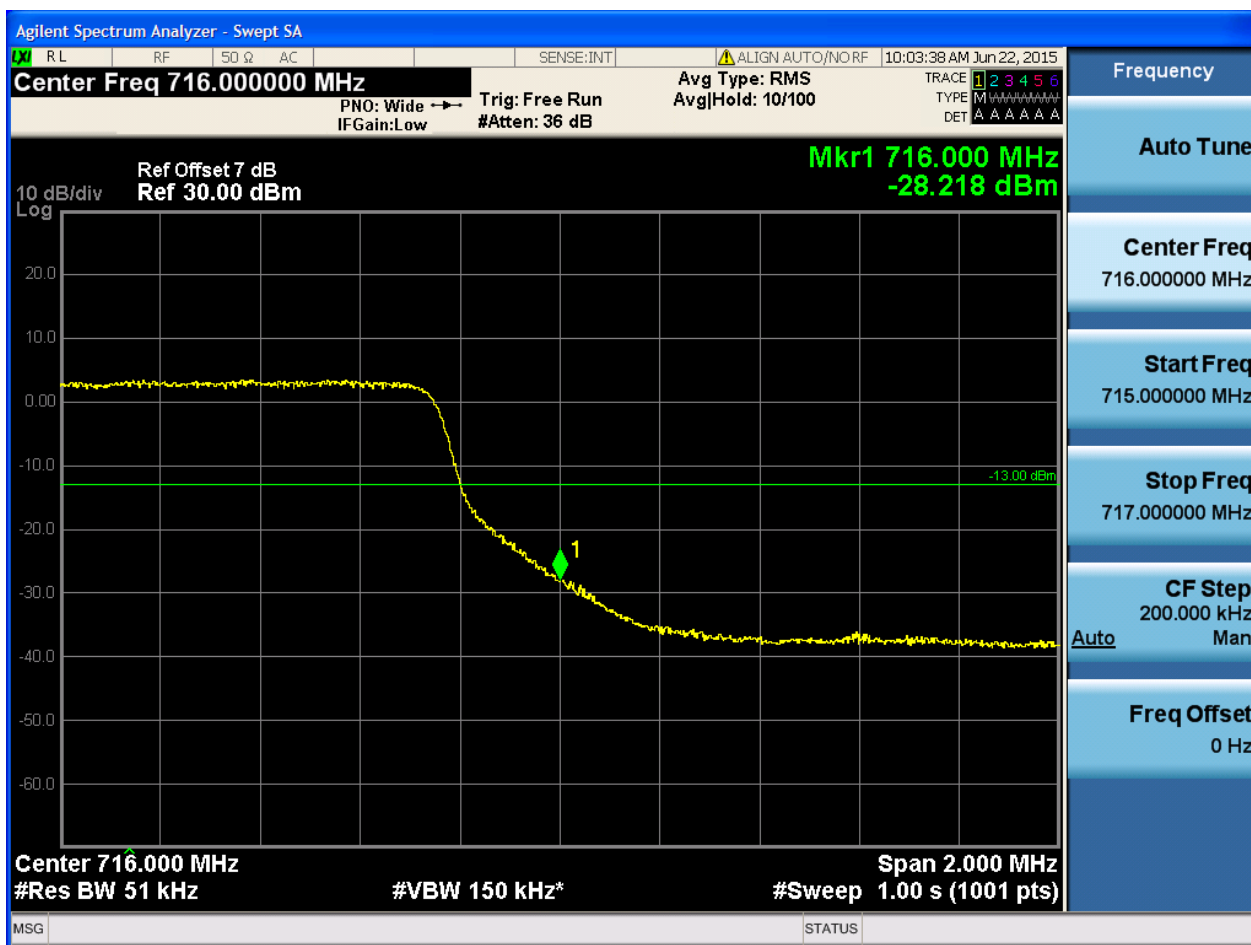


5.1.4.1.3.2.3 Test RB = RB12#6





5.1.4.1.3.2.4 Test RB = RB25#0

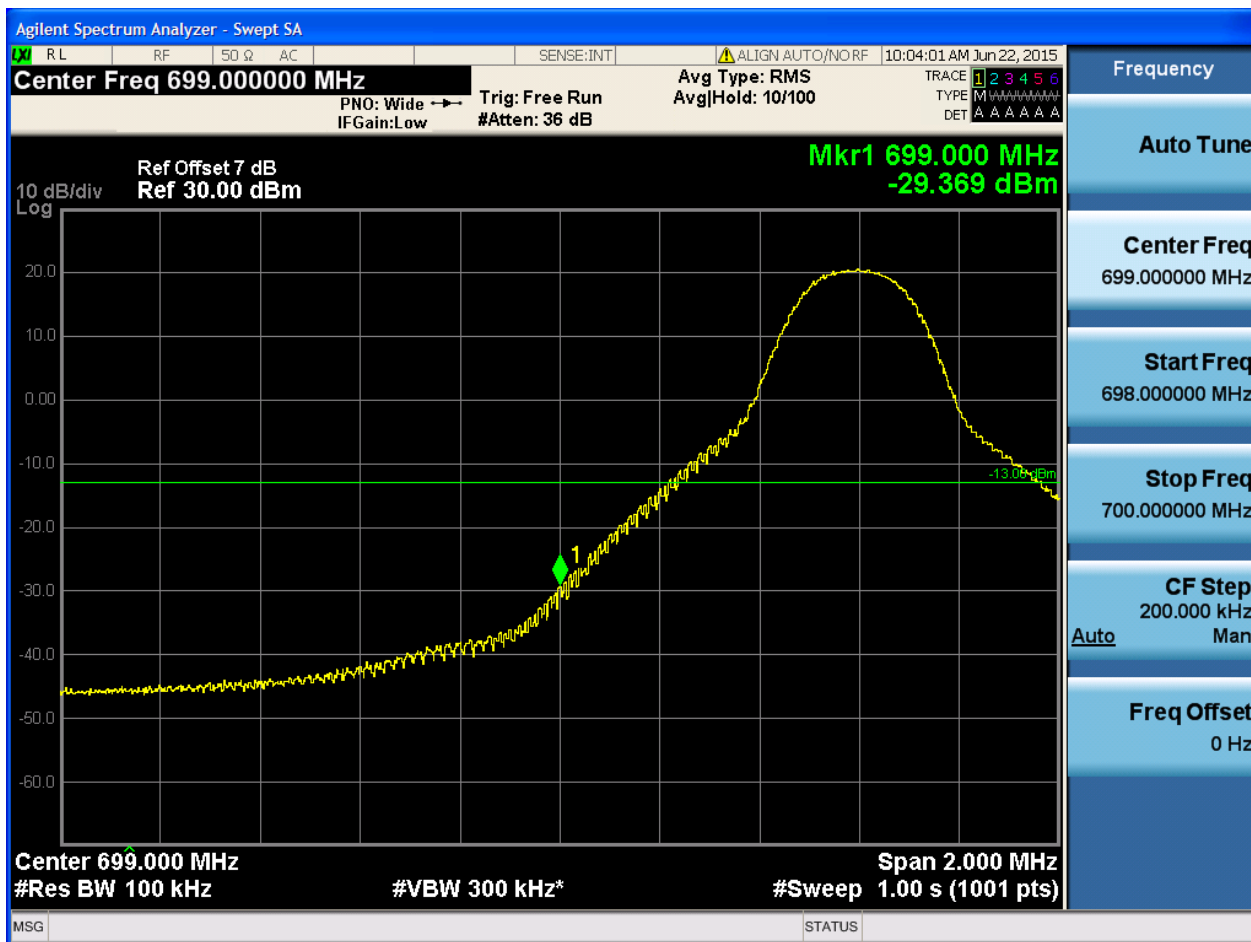




5.1.4.1.4 Test Bandwidth = 10

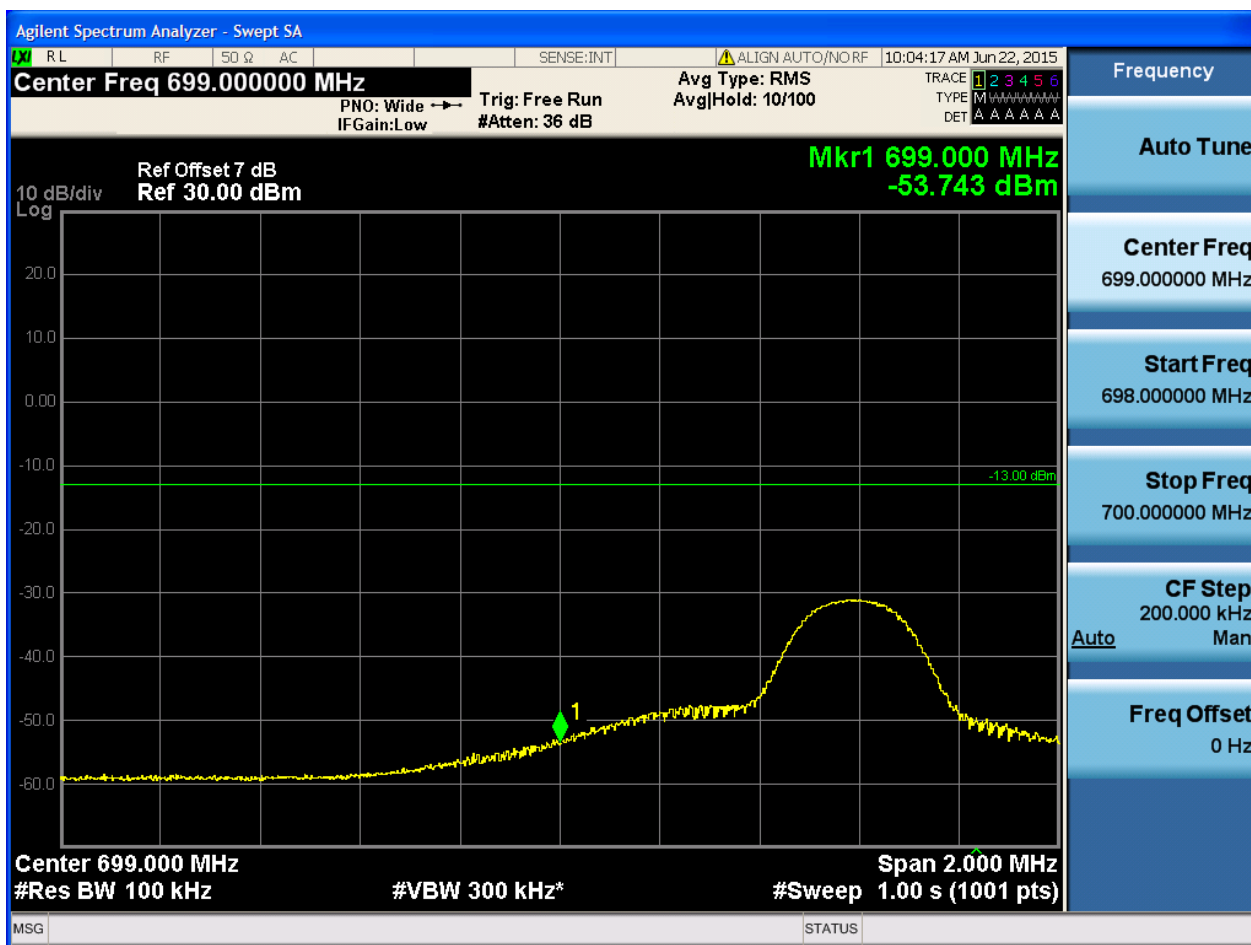
5.1.4.1.4.1 Test Channel = LCH

5.1.4.1.4.1.1 Test RB = RB1#0



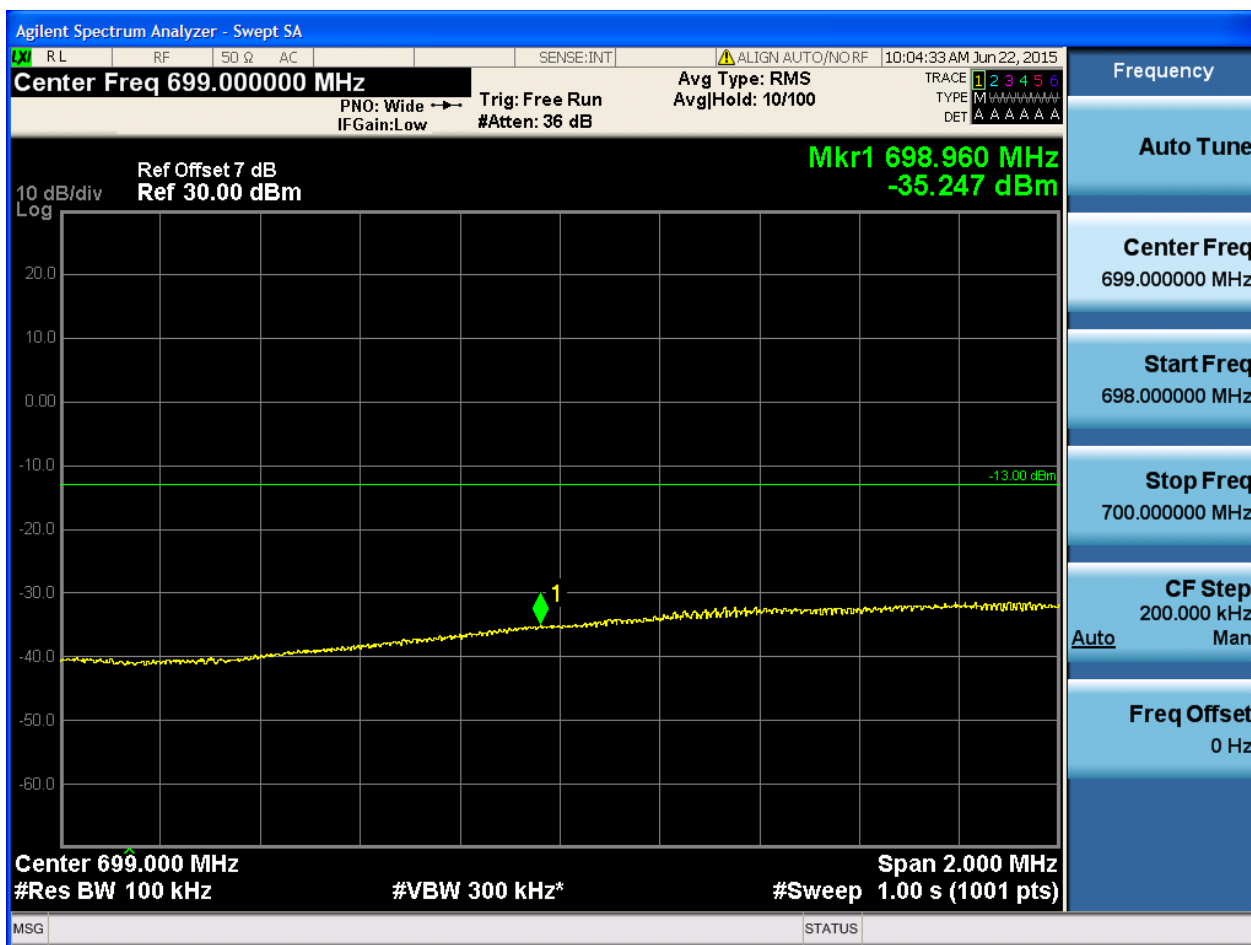


5.1.4.1.4.1.2 Test RB = RB1#49





5.1.4.1.4.1.3 Test RB = RB25#13





5.1.4.1.4.1.4 Test RB = RB50#0





5.1.4.1.4.2.1 Test RB = RB1#0

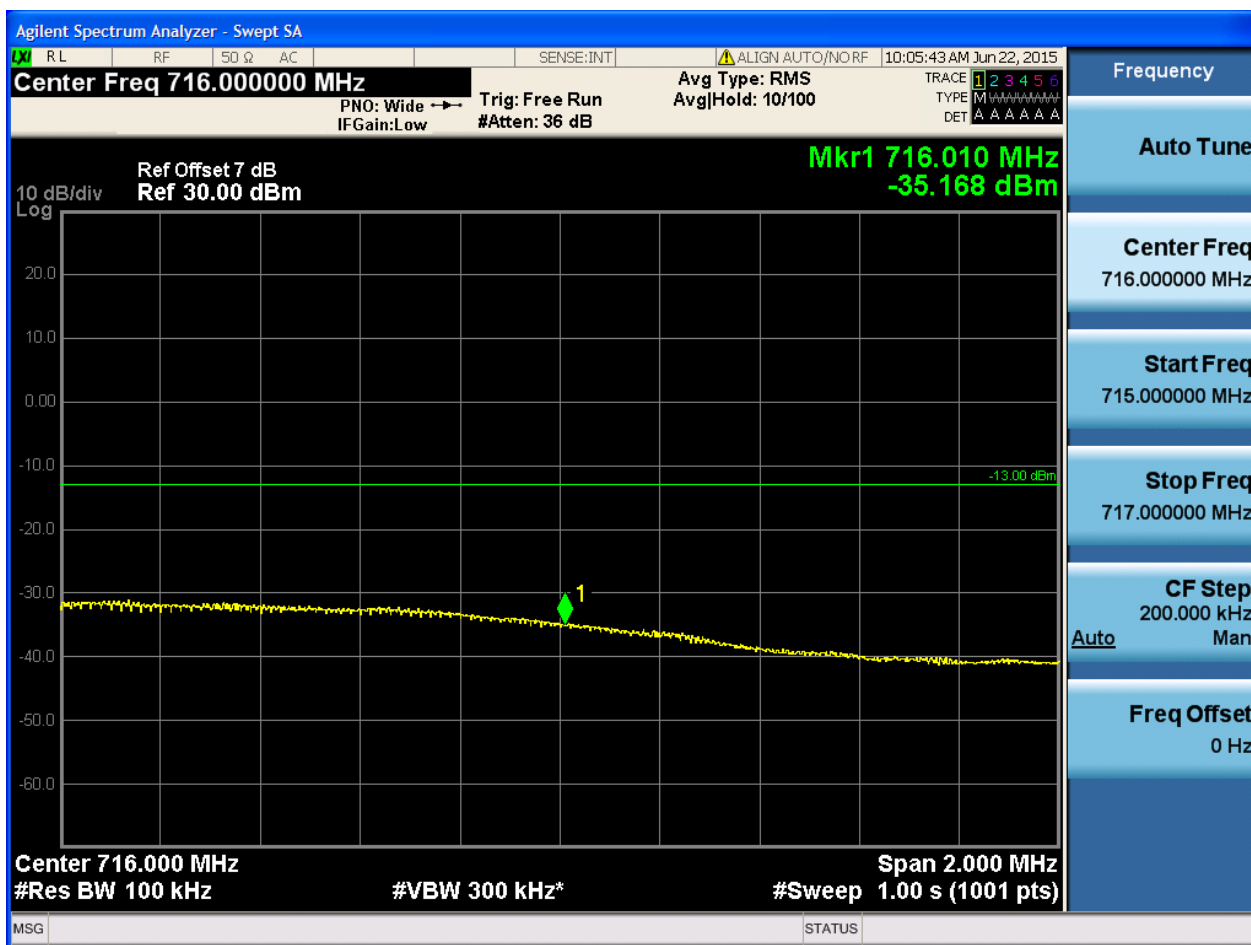


5.1.4.1.4.2.2 Test RB = RB1#49





5.1.4.1.4.2.3 Test RB = RB25#13





5.1.4.1.4.2.4 Test RB = RB50#0



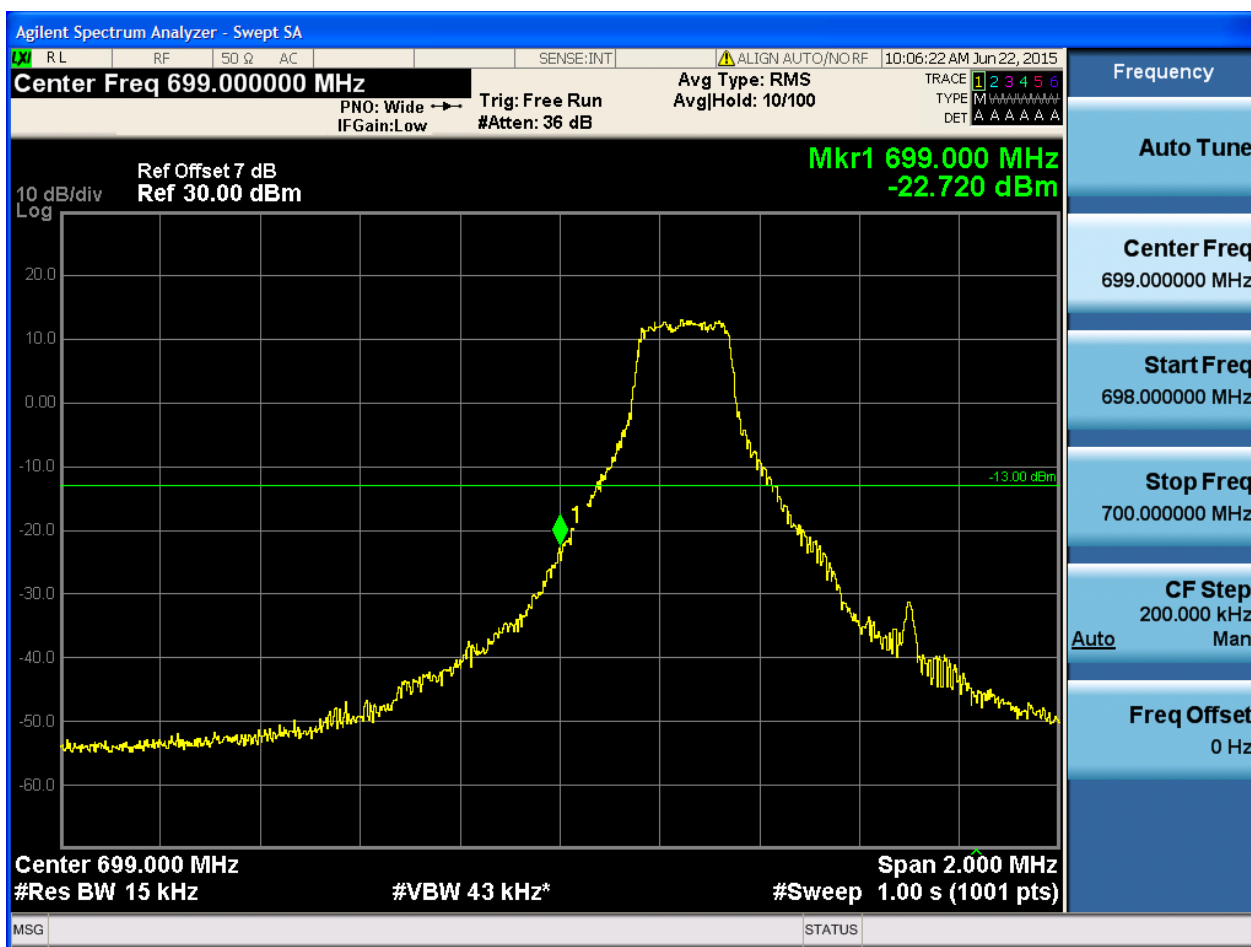


5.1.4.2 Test Mode = LTE/TM2

5.1.4.2.1 Test Bandwidth = 1.4

5.1.4.2.1.1 Test Channel = LCH

5.1.4.2.1.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 699.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Center 699.000 MHz
#Res BW 15 kHz

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg/Hold: 10/100

Mkr1 698.320 MHz
-51.038 dBm

Auto Tune

Center Freq
699.000000 MHz

Start Freq
698.000000 MHz

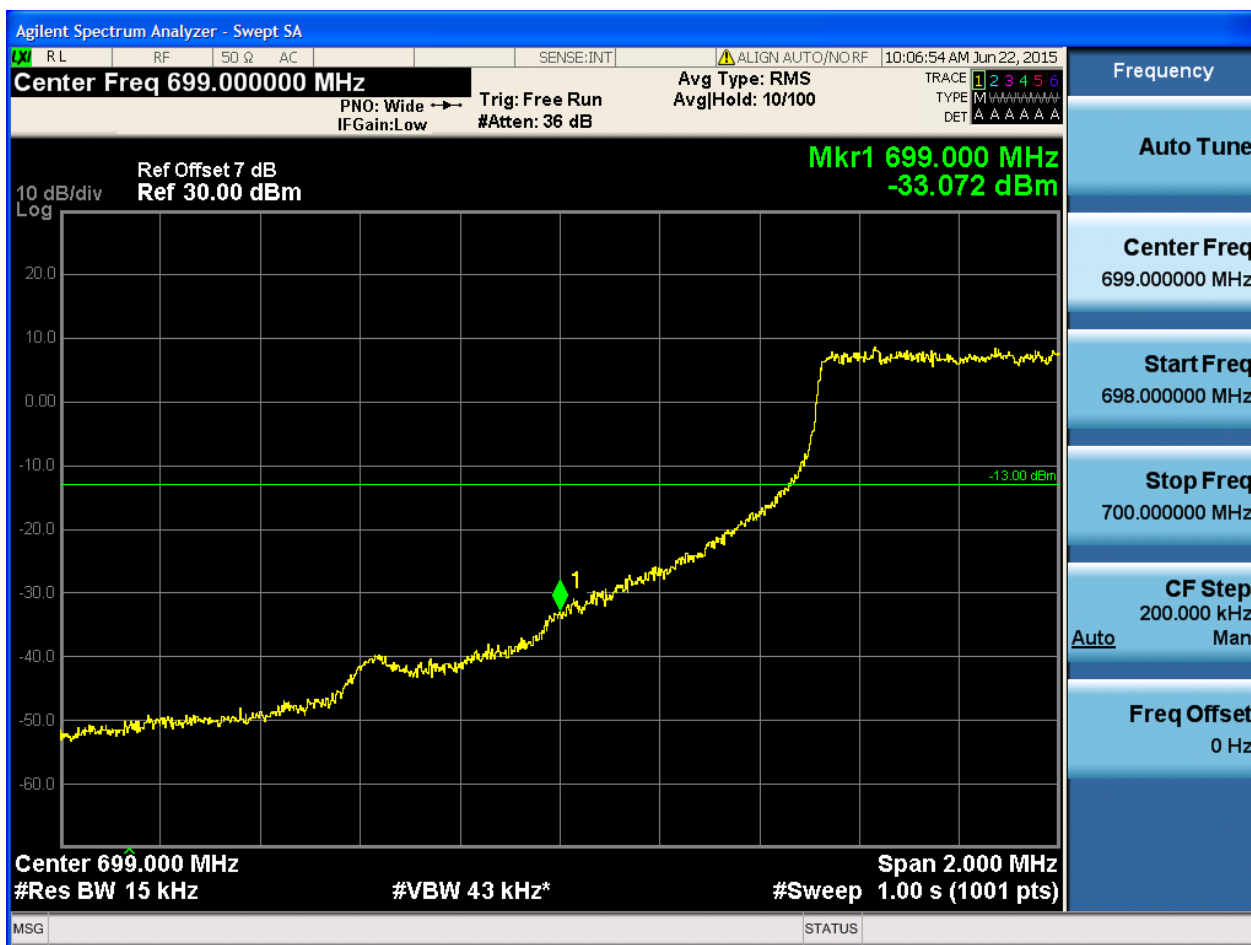
Stop Freq
700.000000 MHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz

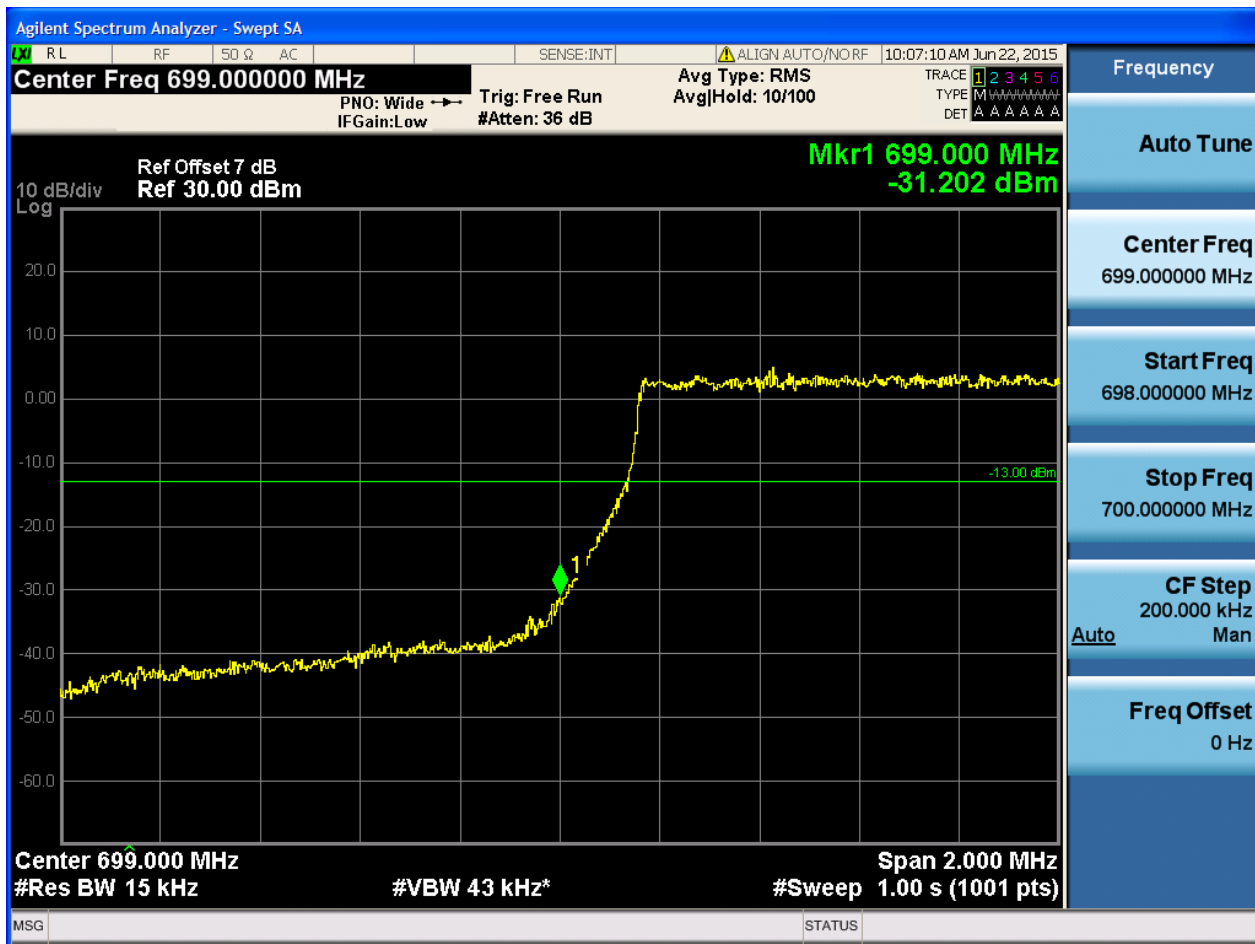


5.1.4.2.1.1.3 Test RB = RB3#2





5.1.4.2.1.1.4 Test RB = RB6#0





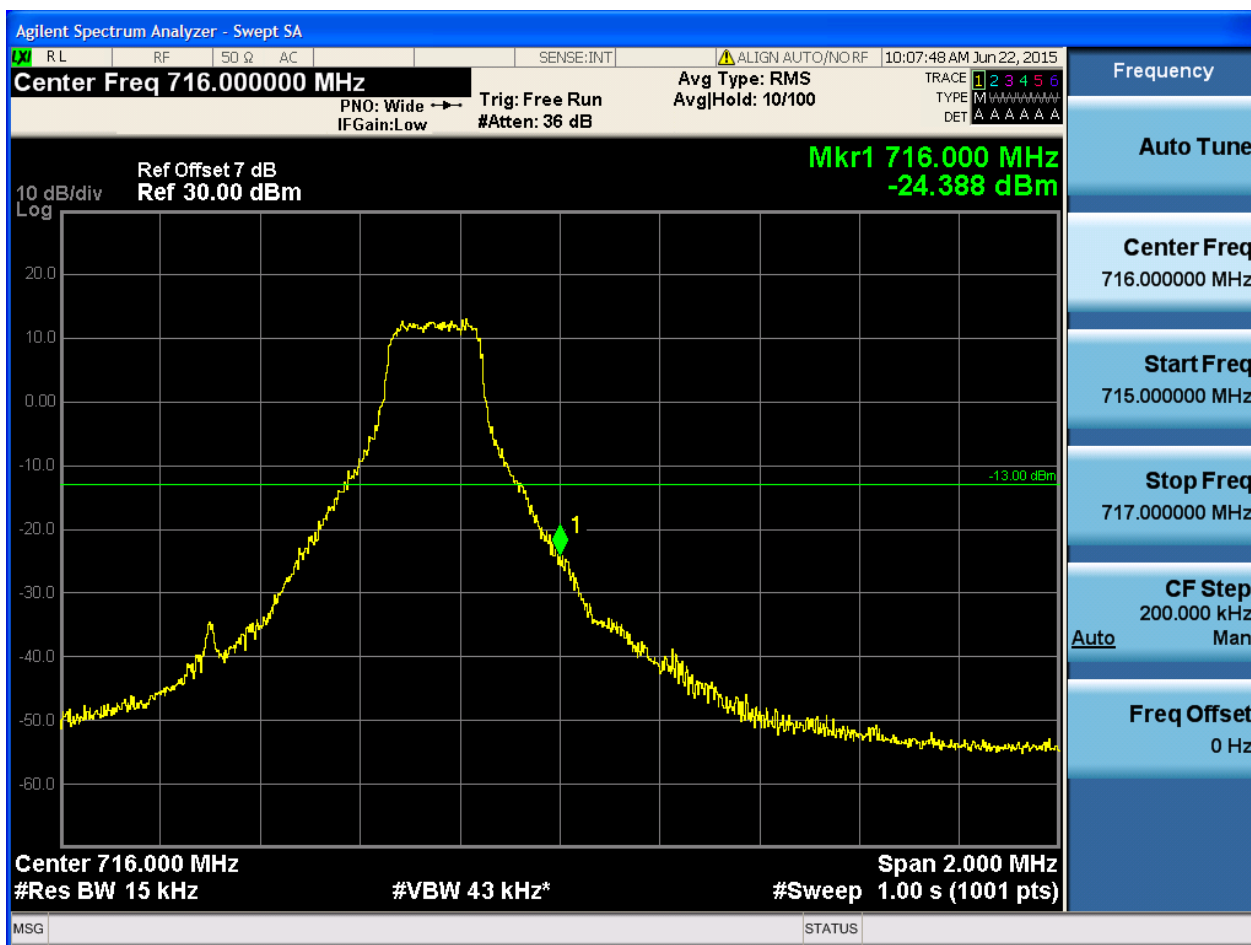
5.1.4.2.1.2 Test Channel = HCH

5.1.4.2.1.2.1 Test RB = RB1#0





5.1.4.2.1.2.2 Test RB = RB1#5



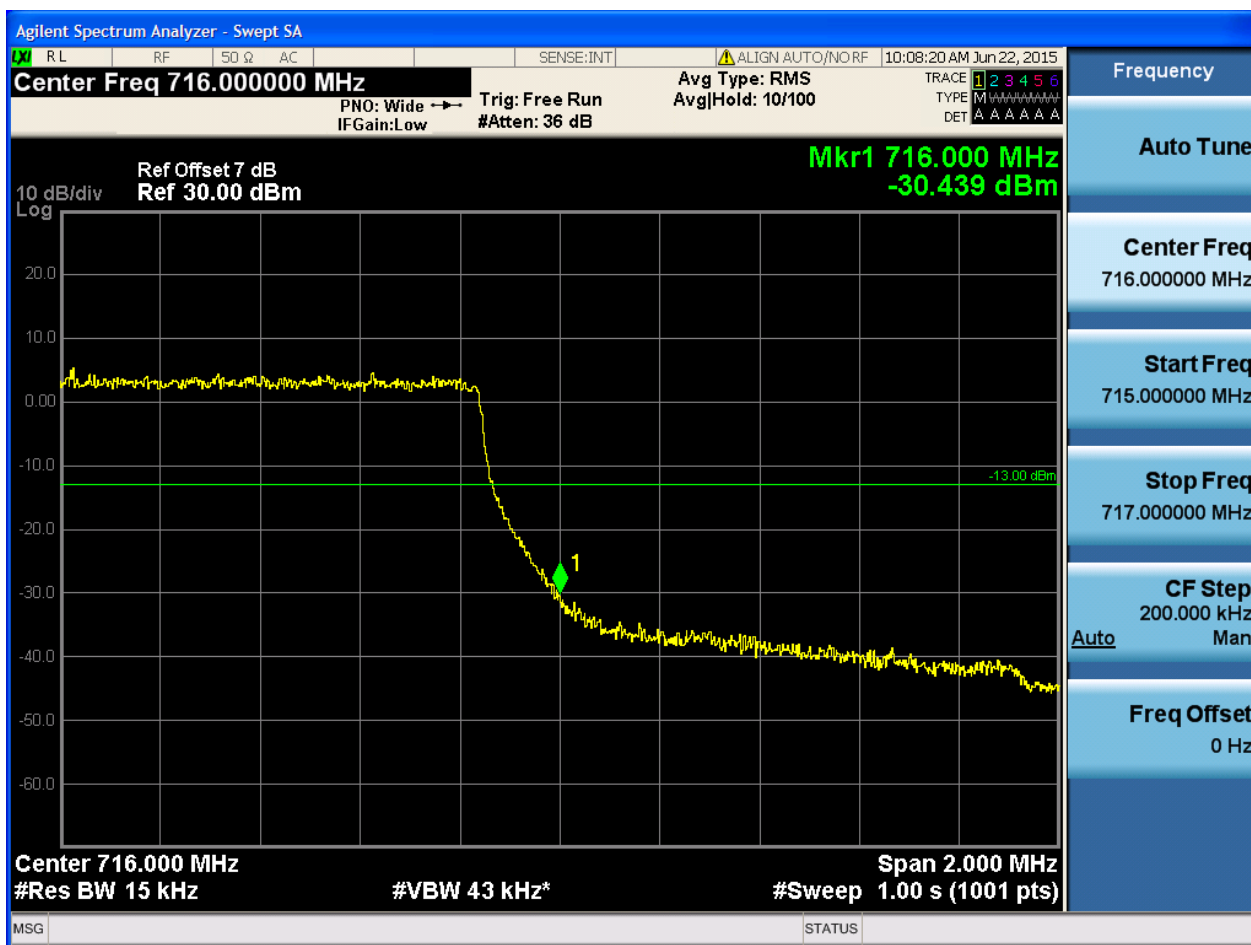


5.1.4.2.1.2.3 Test RB = RB3#2





5.1.4.2.1.2.4 Test RB = RB6#0

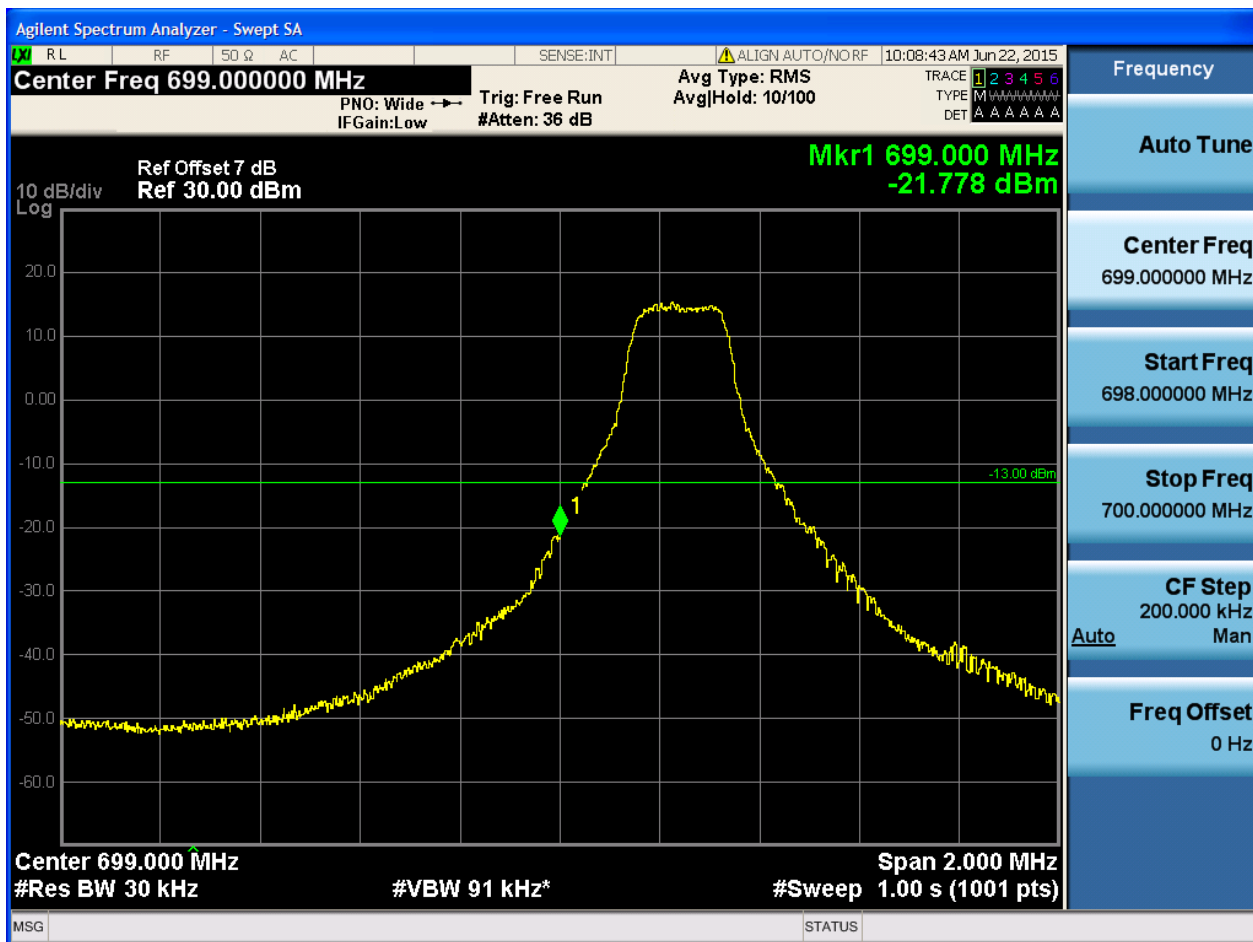




5.1.4.2.2 Test Bandwidth = 3

5.1.4.2.2.1 Test Channel = LCH

5.1.4.2.2.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 699.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg/Hold: 10/100

ALIGN AUTO/NORF

10:08:59 AM Jun 22, 2015

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

Mkr1 698.010 MHz
-46.534 dBm

-13.00 dBm

Center 699.000 MHz
#Res BW 30 kHz

#VBW 91 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Frequency

Auto Tune

Center Freq
699.000000 MHz

Start Freq
698.000000 MHz

Stop Freq
700.000000 MHz

CF Step
200.000 kHz
Man

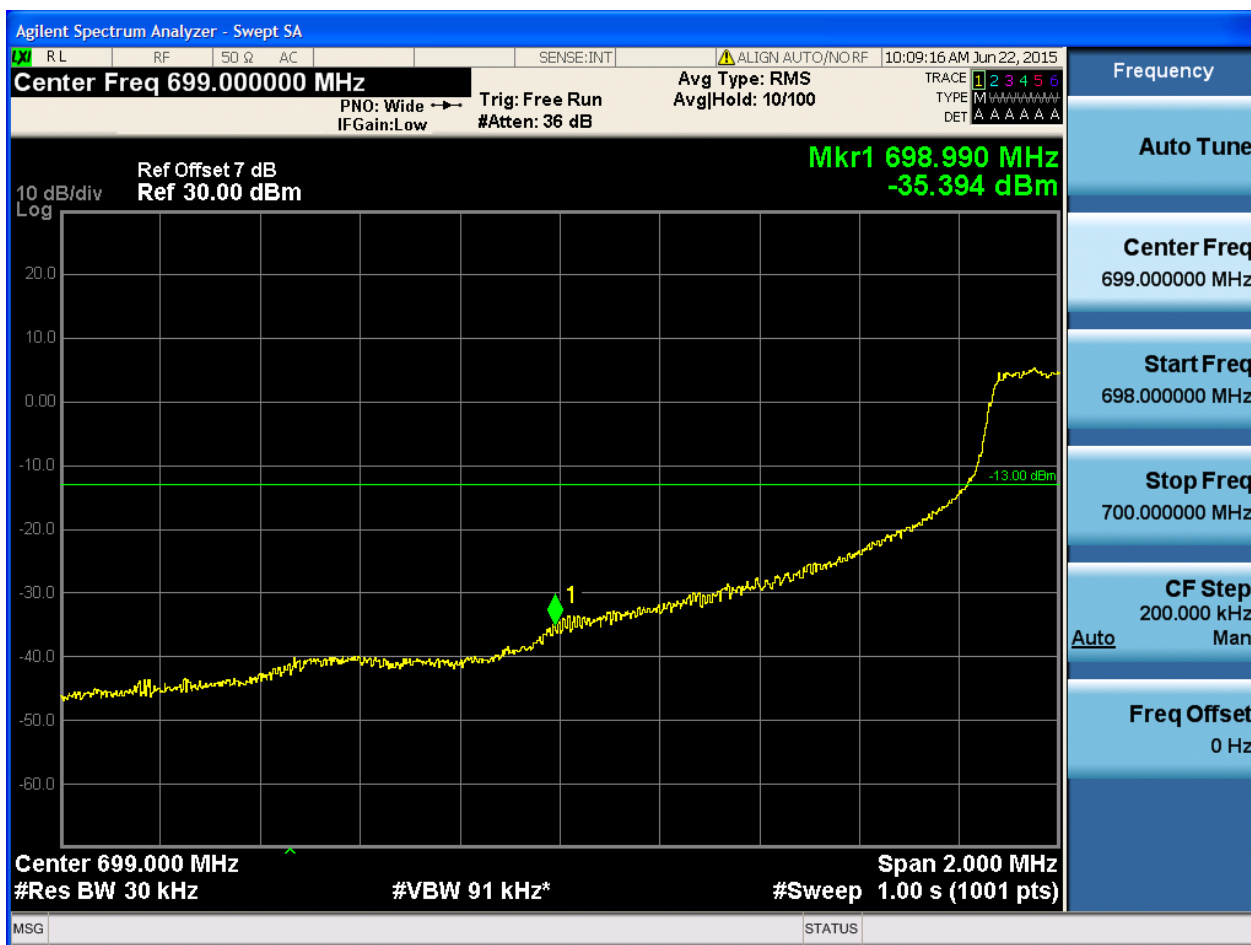
Auto

Freq Offset
0 Hz

MSG STATUS

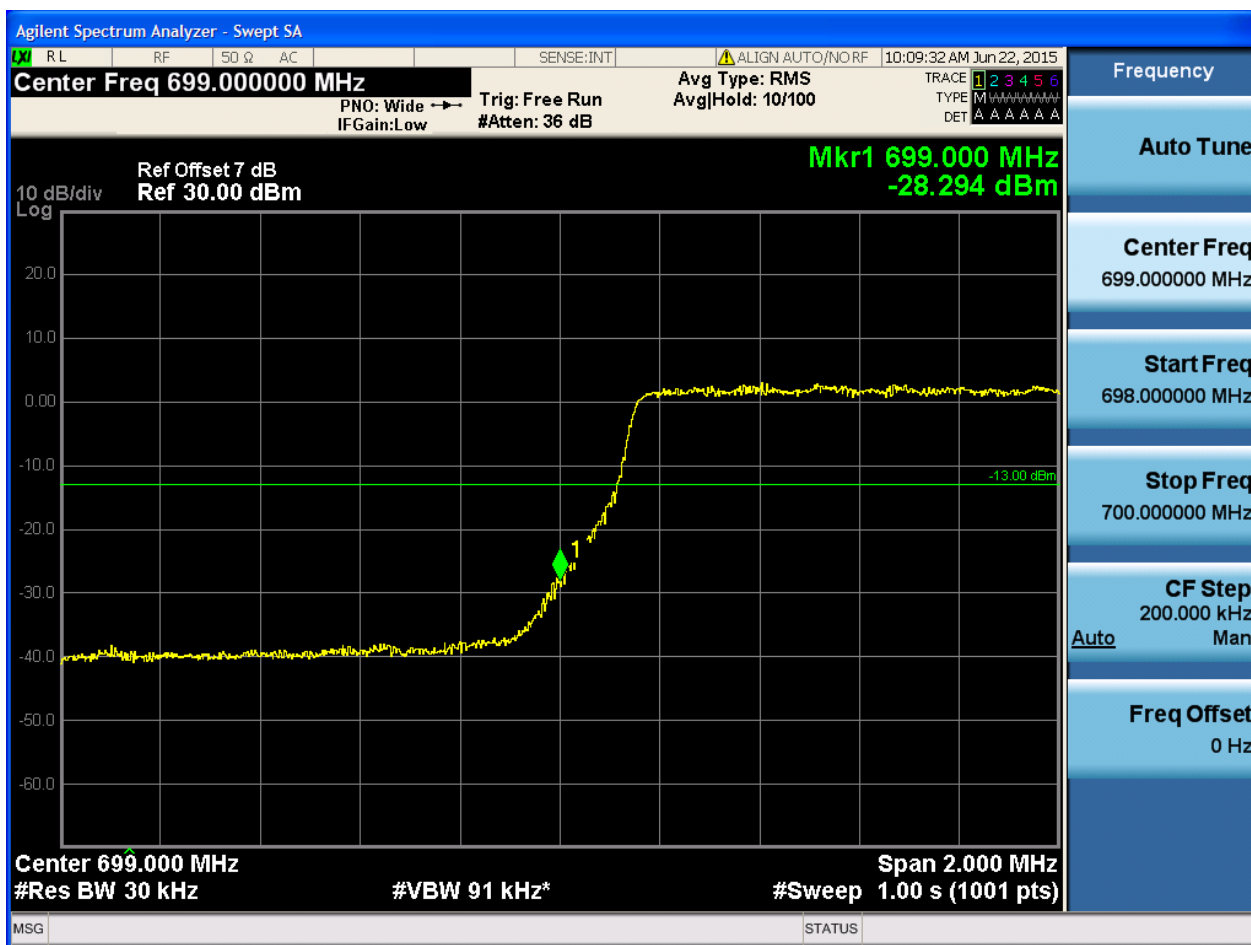


5.1.4.2.2.1.3 Test RB = RB8#4





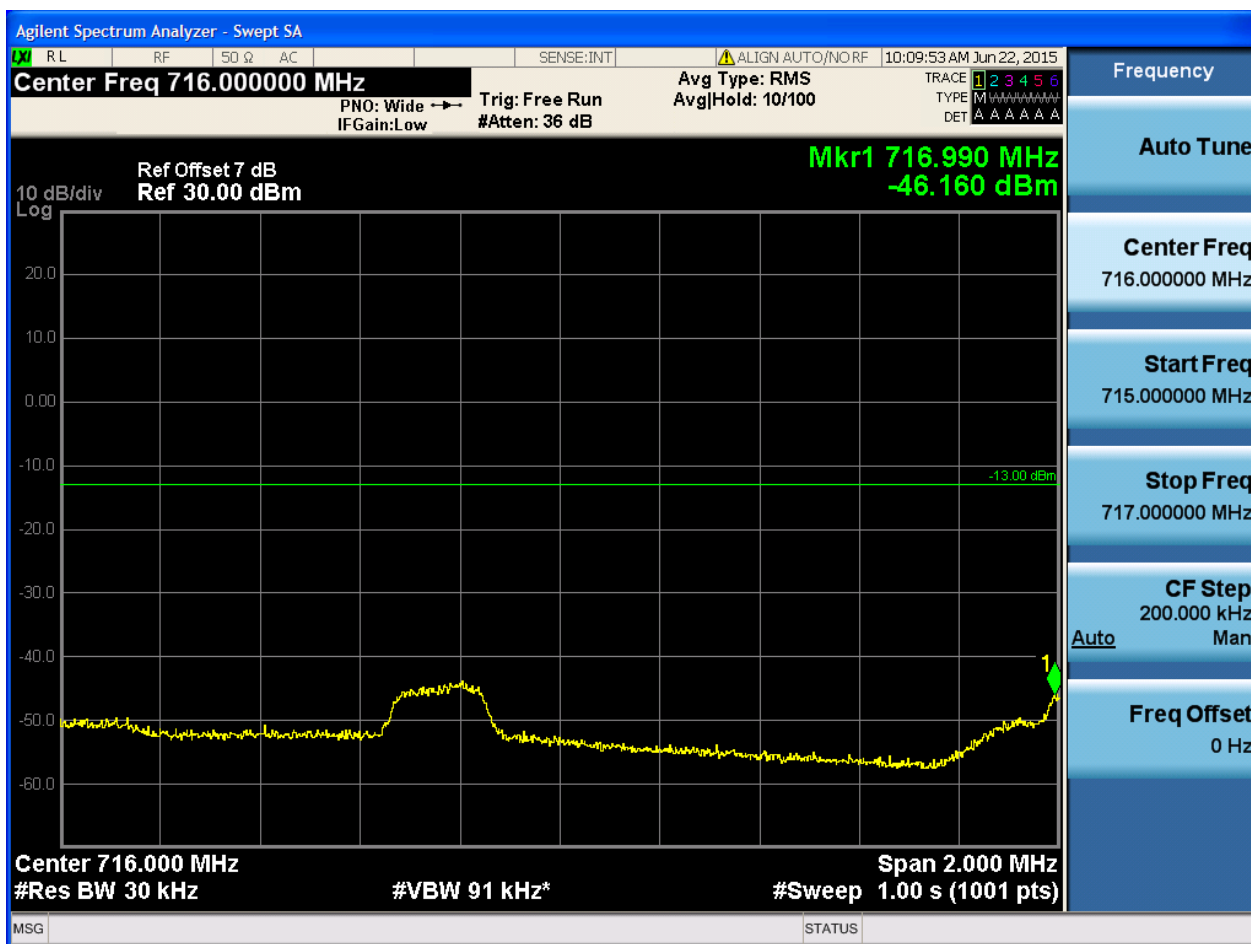
5.1.4.2.2.1.4 Test RB = RB15#0





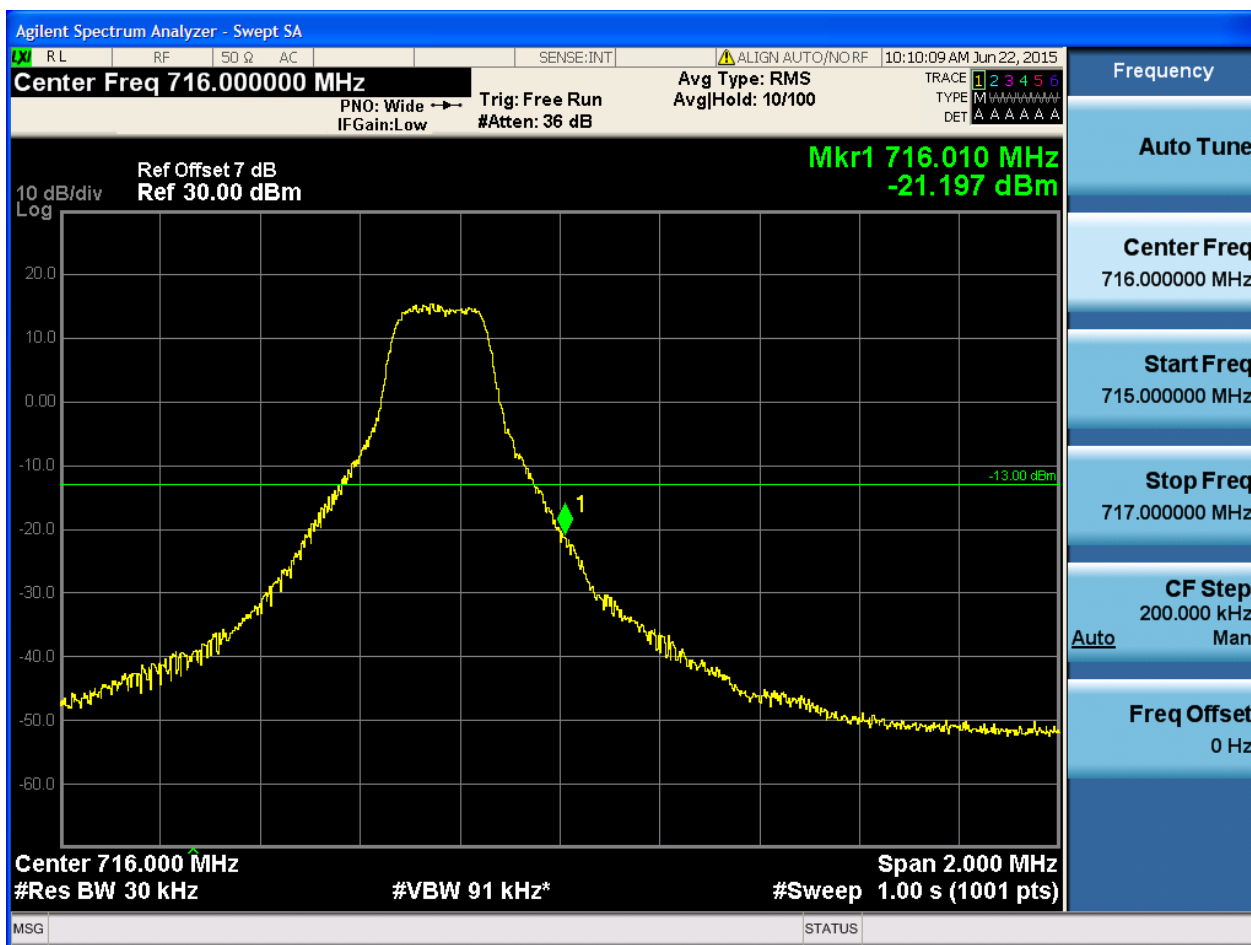
5.1.4.2.2.2 Test Channel = HCH

5.1.4.2.2.2.1 Test RB = RB1#0





5.1.4.2.2.2 Test RB = RB1#14





5.1.4.2.2.3 Test RB = RB8#4





5.1.4.2.2.4 Test RB = RB15#0

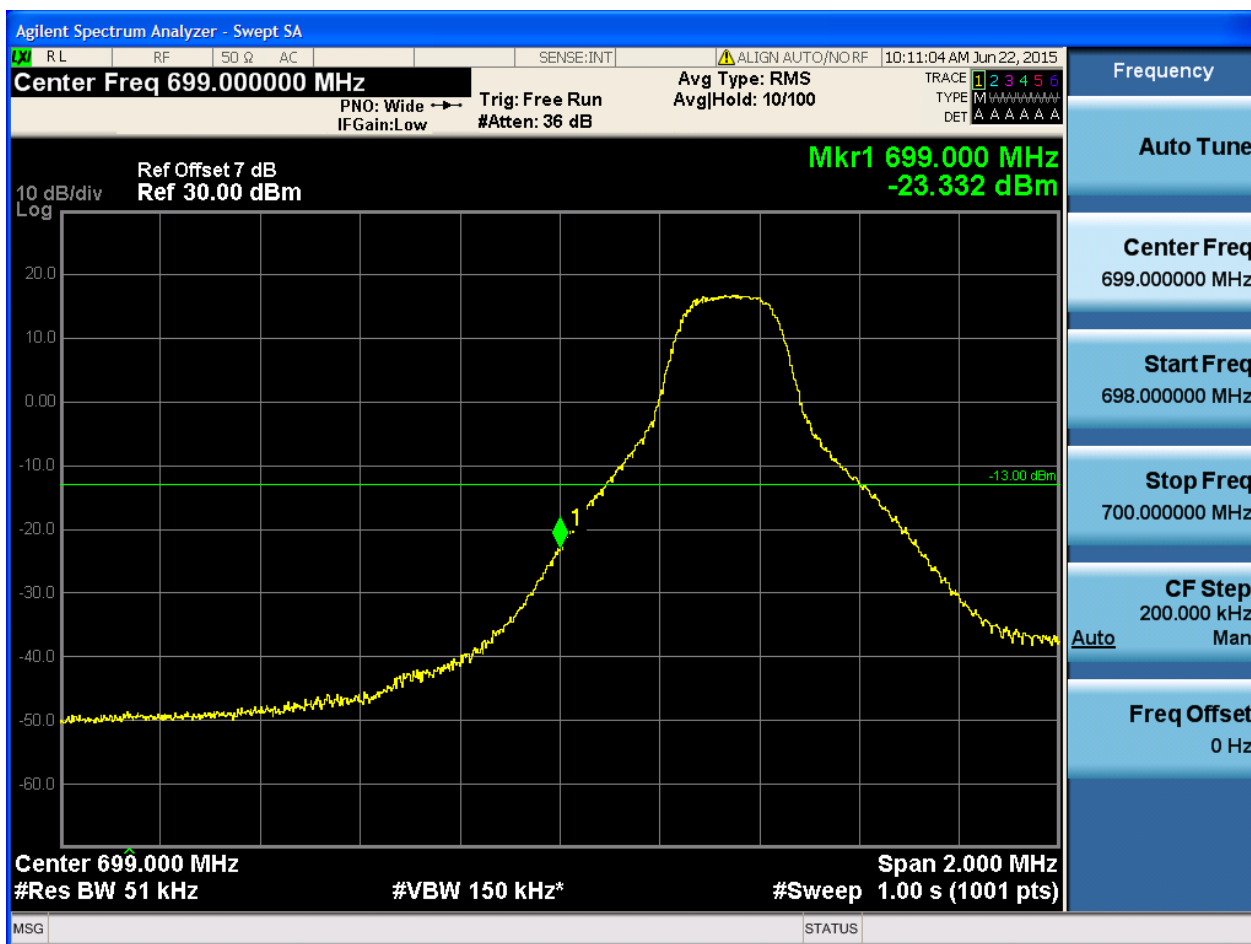




5.1.4.2.3 Test Bandwidth = 5

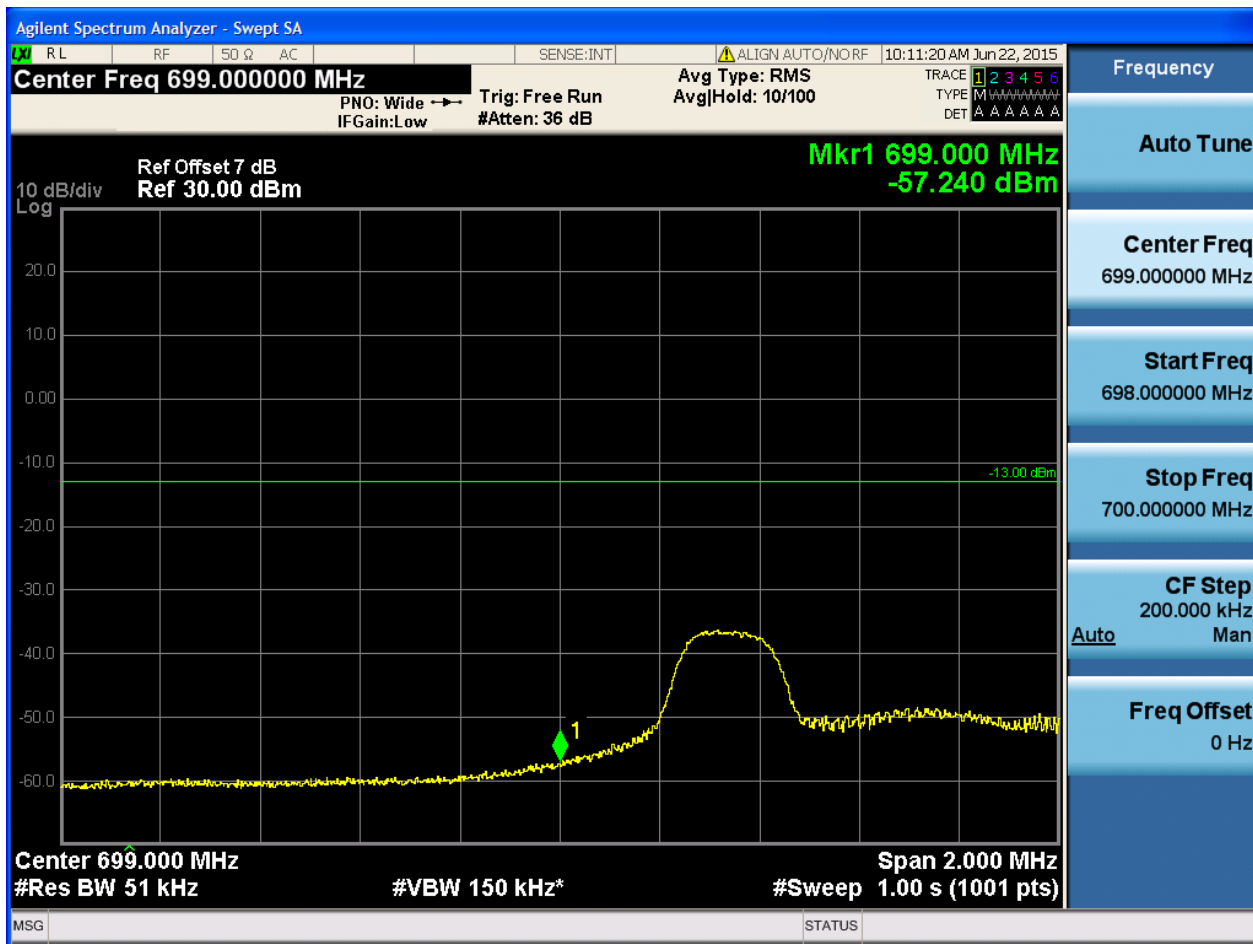
5.1.4.2.3.1 Test Channel = LCH

5.1.4.2.3.1.1 Test RB = RB1#0





5.1.4.2.3.1.2 Test RB = RB1#24



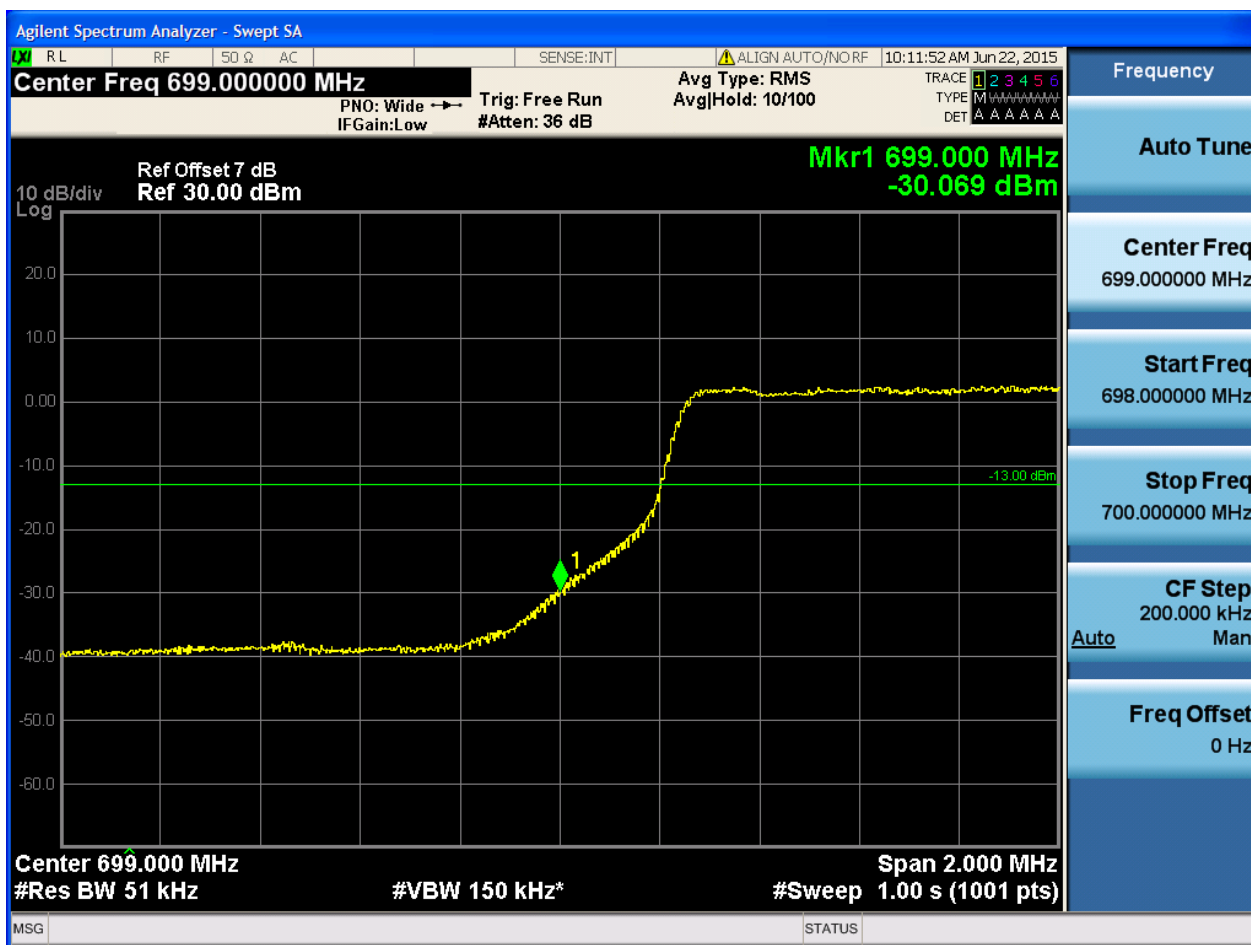


5.1.4.2.3.1.3 Test RB = RB12#6





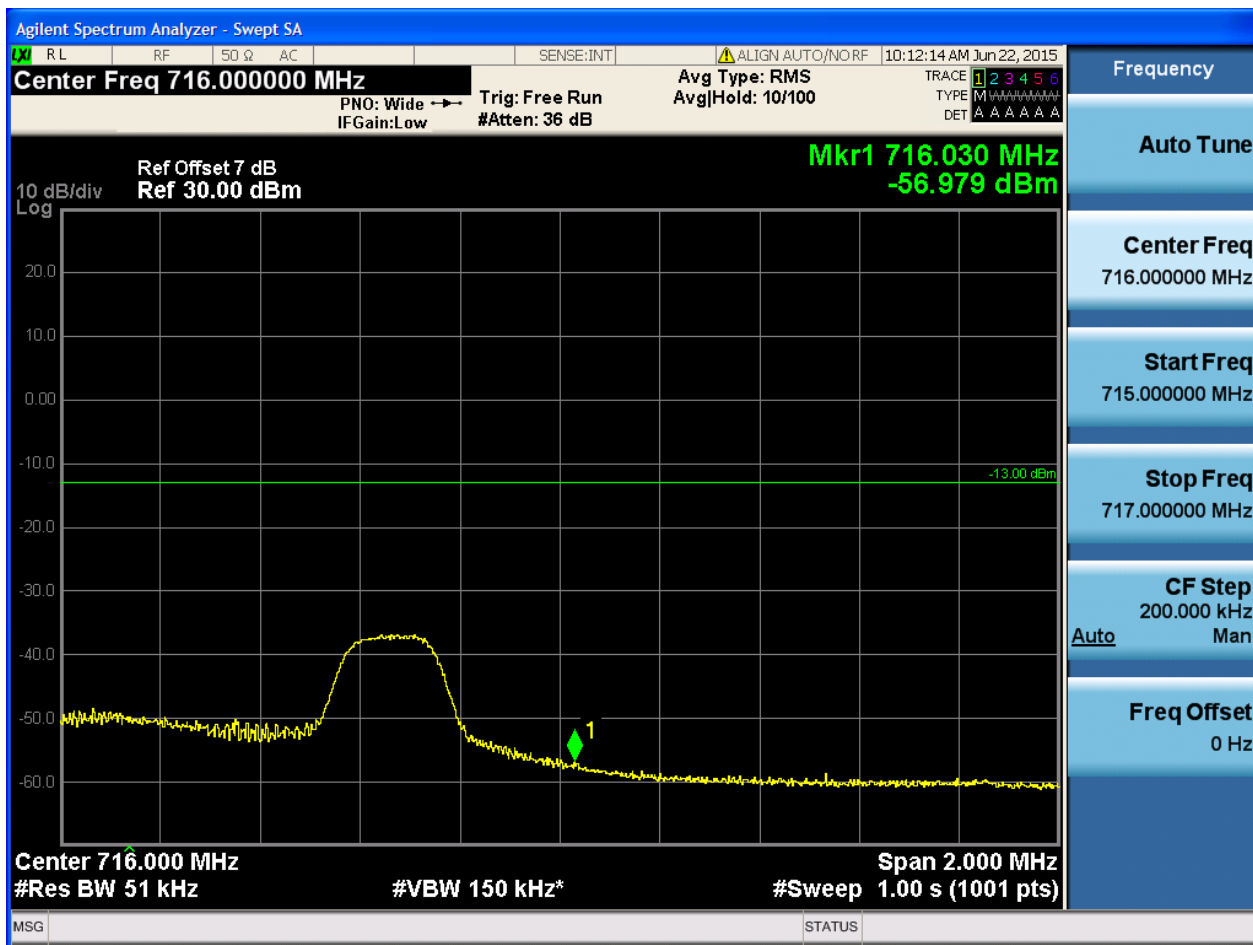
5.1.4.2.3.1.4 Test RB = RB25#0





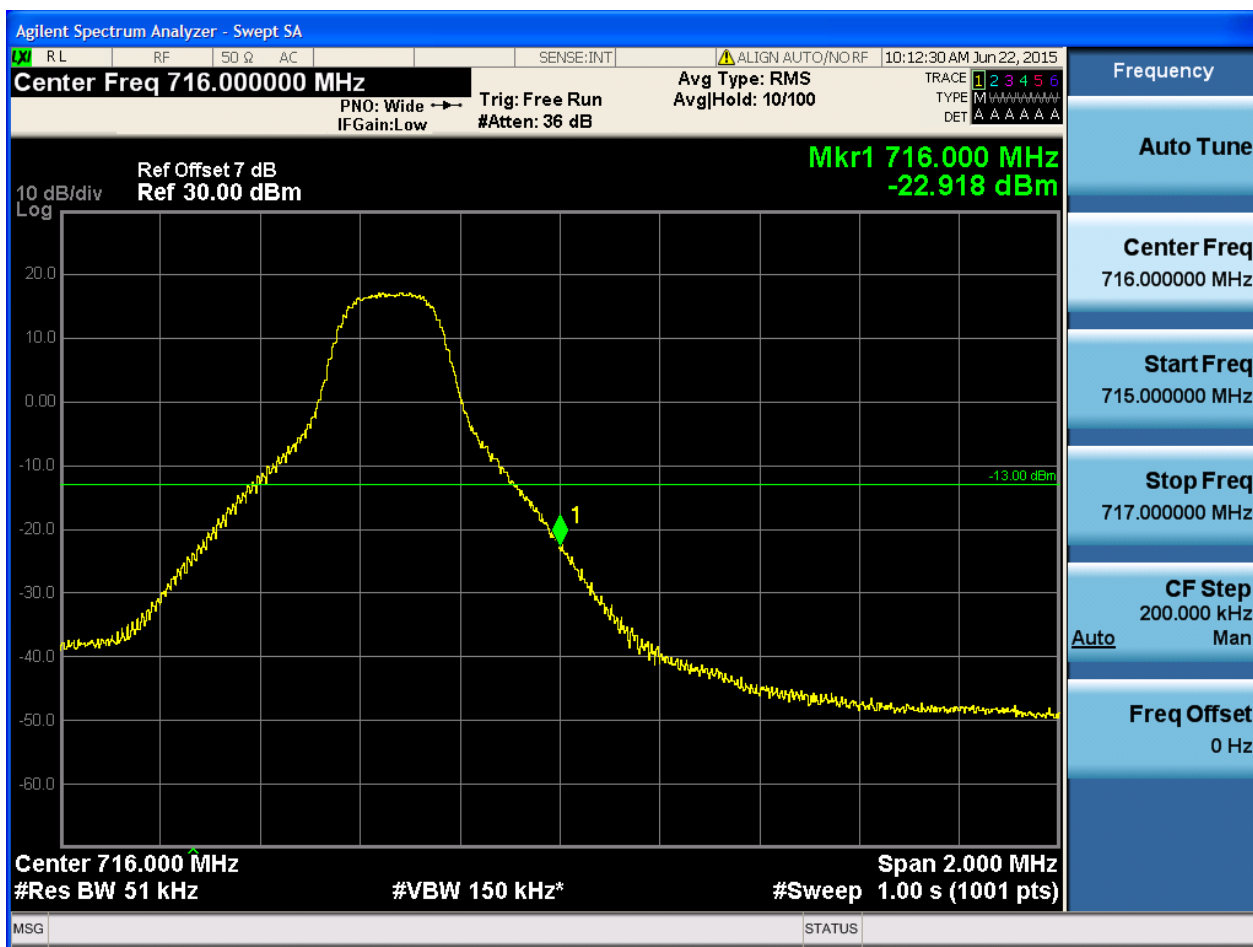
5.1.4.2.3.2 Test Channel = HCH

5.1.4.2.3.2.1 Test RB = RB1#0



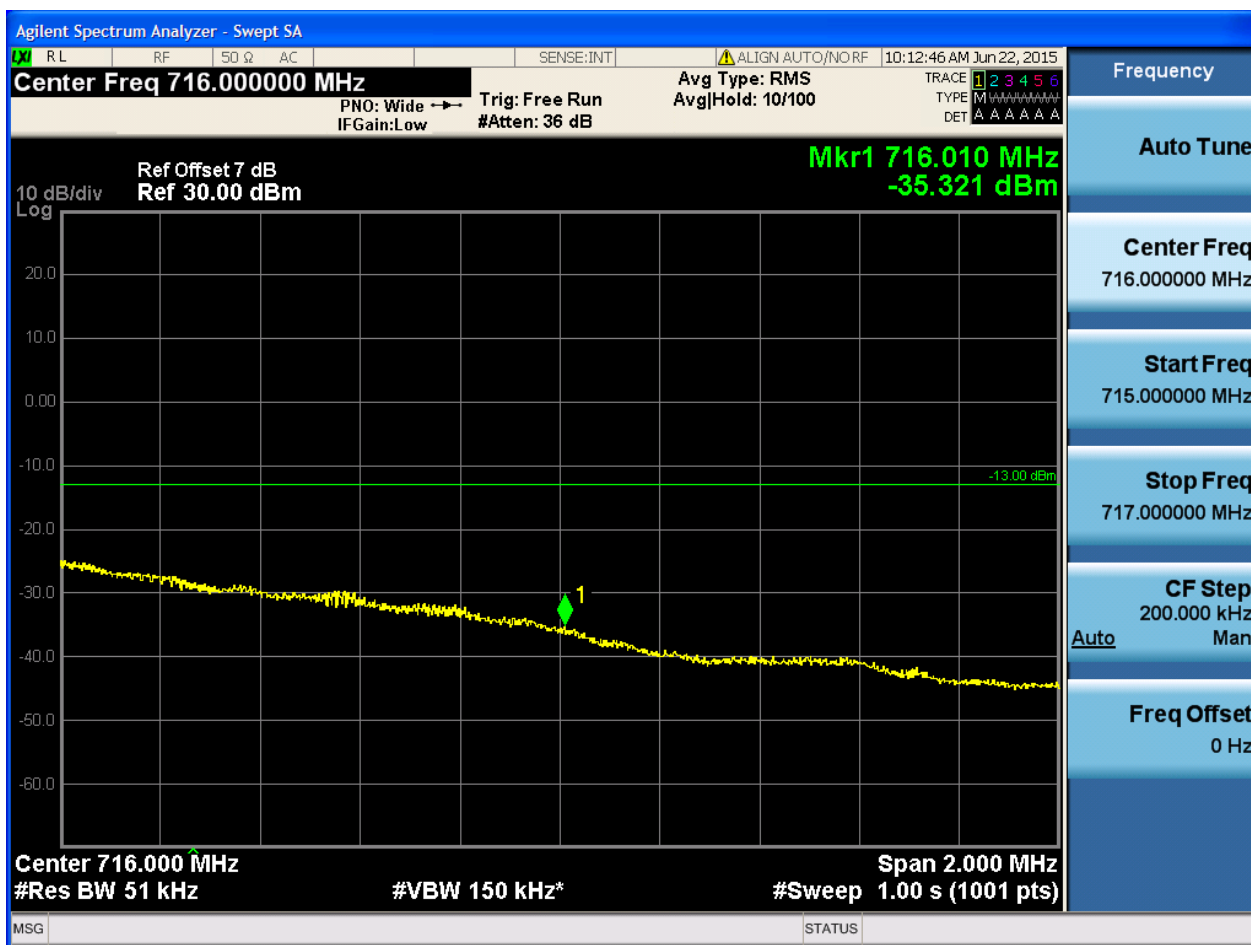


5.1.4.2.3.2.2 Test RB = RB1#24





5.1.4.2.3.2.3 Test RB = RB12#6





5.1.4.2.3.2.4 Test RB = RB25#0

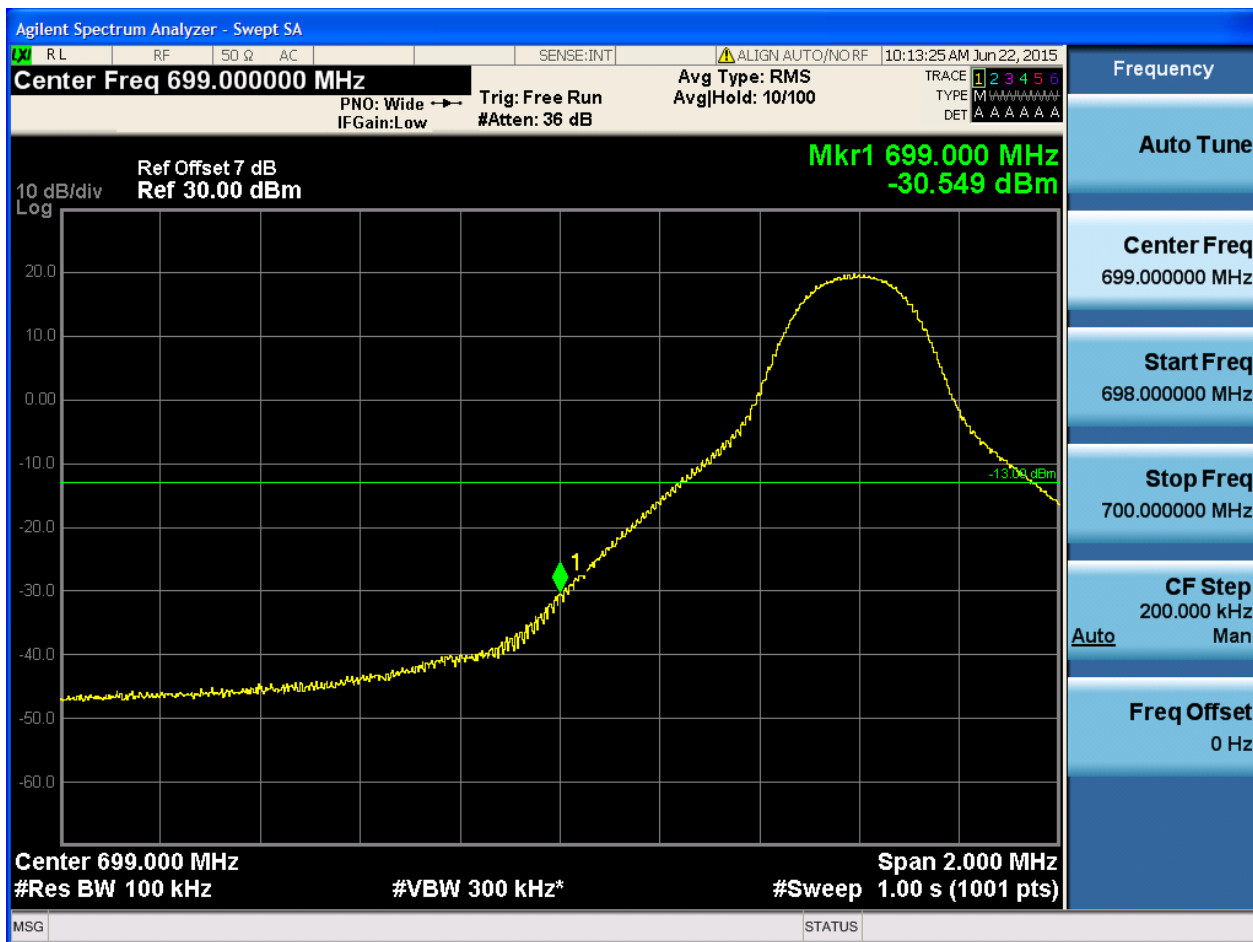




5.1.4.2.4 Test Bandwidth = 10

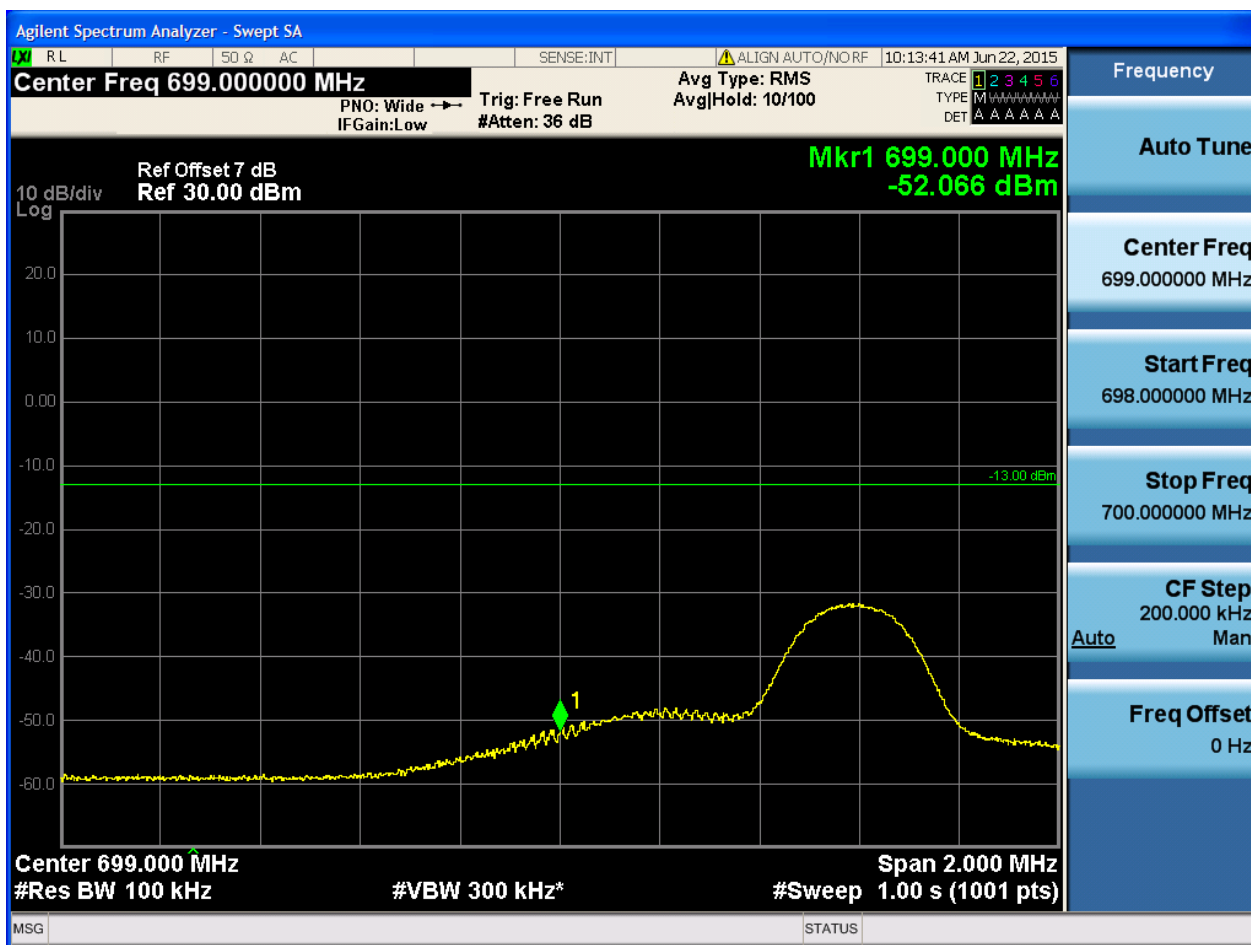
5.1.4.2.4.1 Test Channel = LCH

5.1.4.2.4.1.1 Test RB = RB1#0



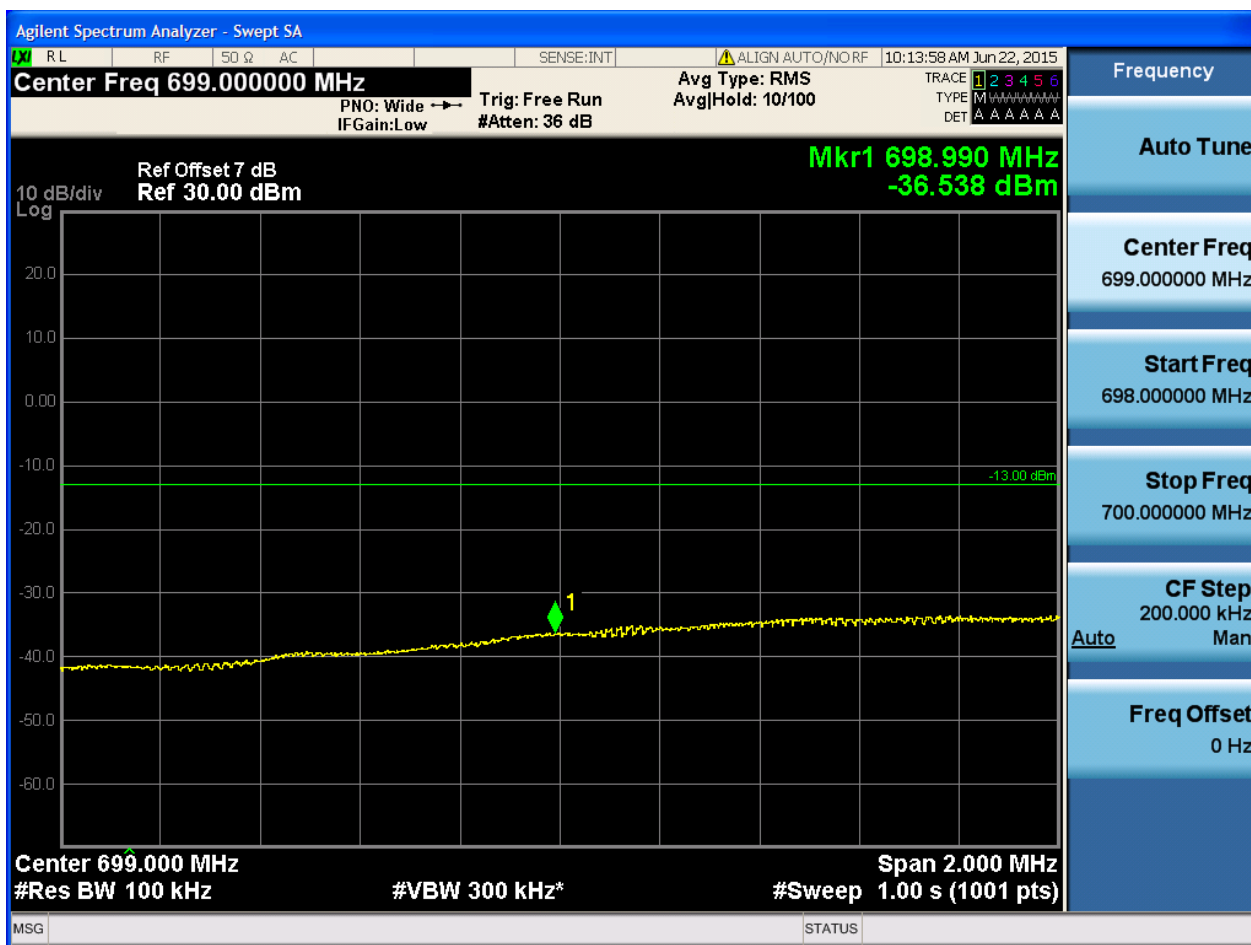


5.1.4.2.4.1.2 Test RB = RB1#49





5.1.4.2.4.1.3 Test RB = RB25#13





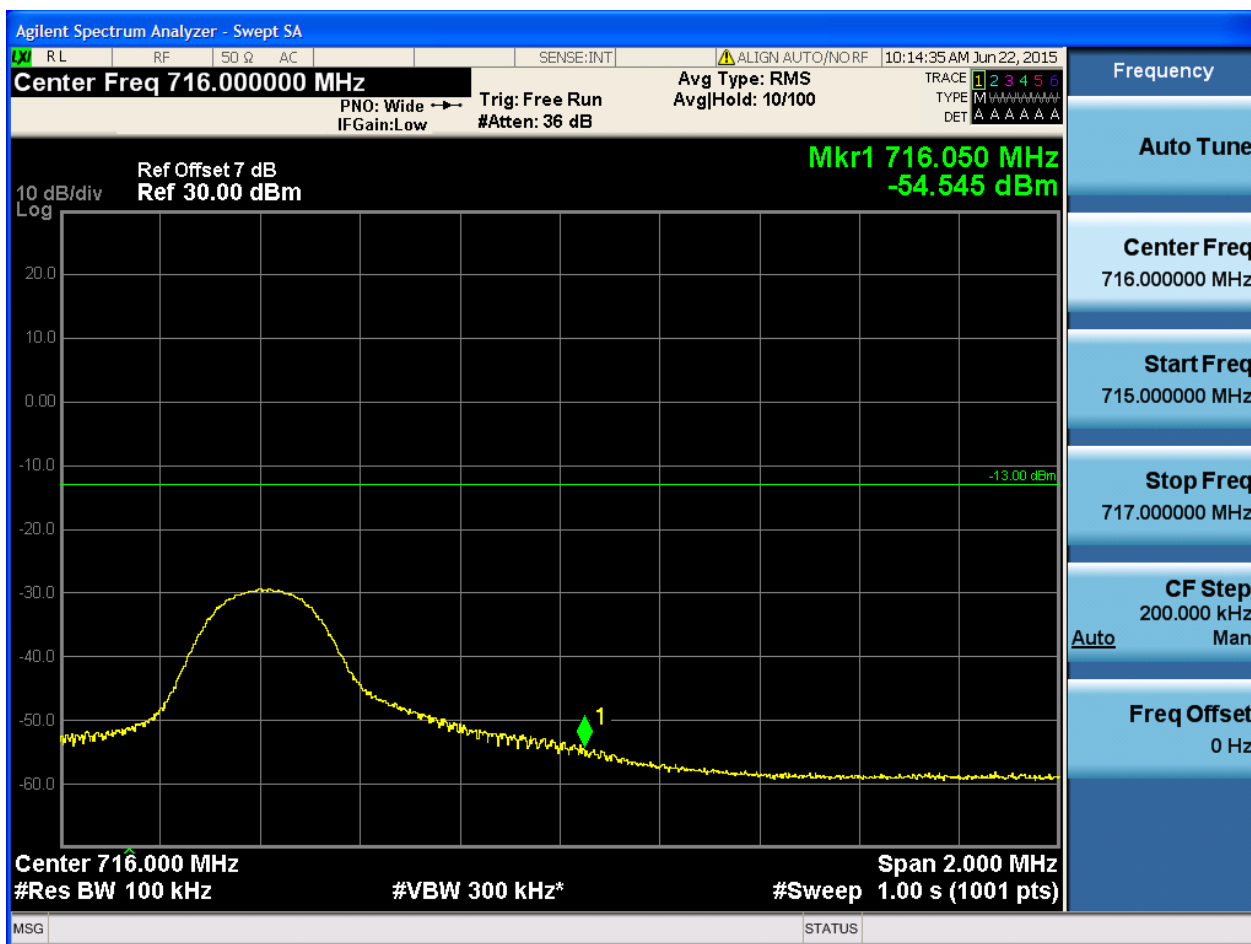
5.1.4.2.4.1.4 Test RB = RB50#0





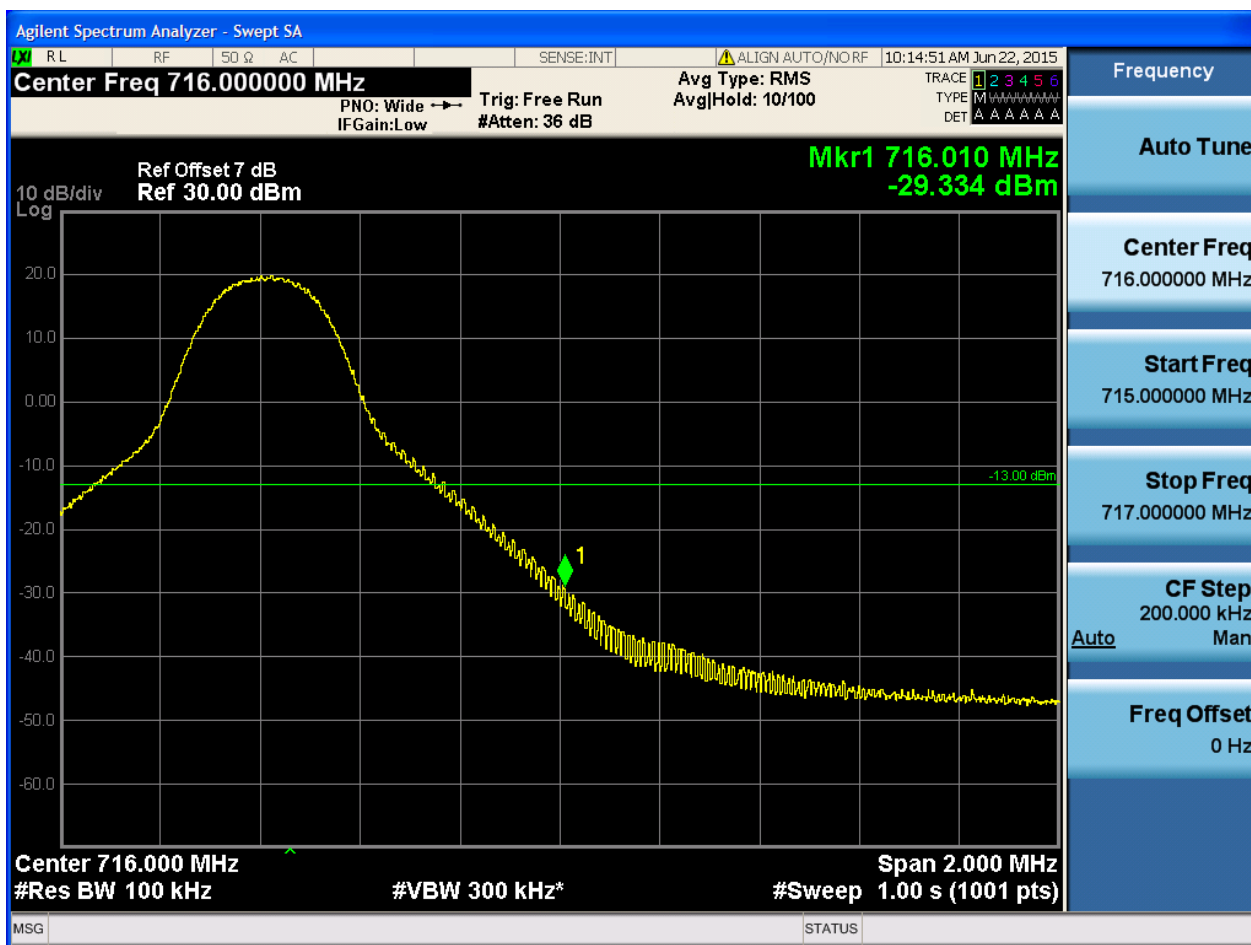
5.1.4.2.4.2 Test Channel = HCH

5.1.4.2.4.2.1 Test RB = RB1#0





5.1.4.2.4.2.2 Test RB = RB1#49



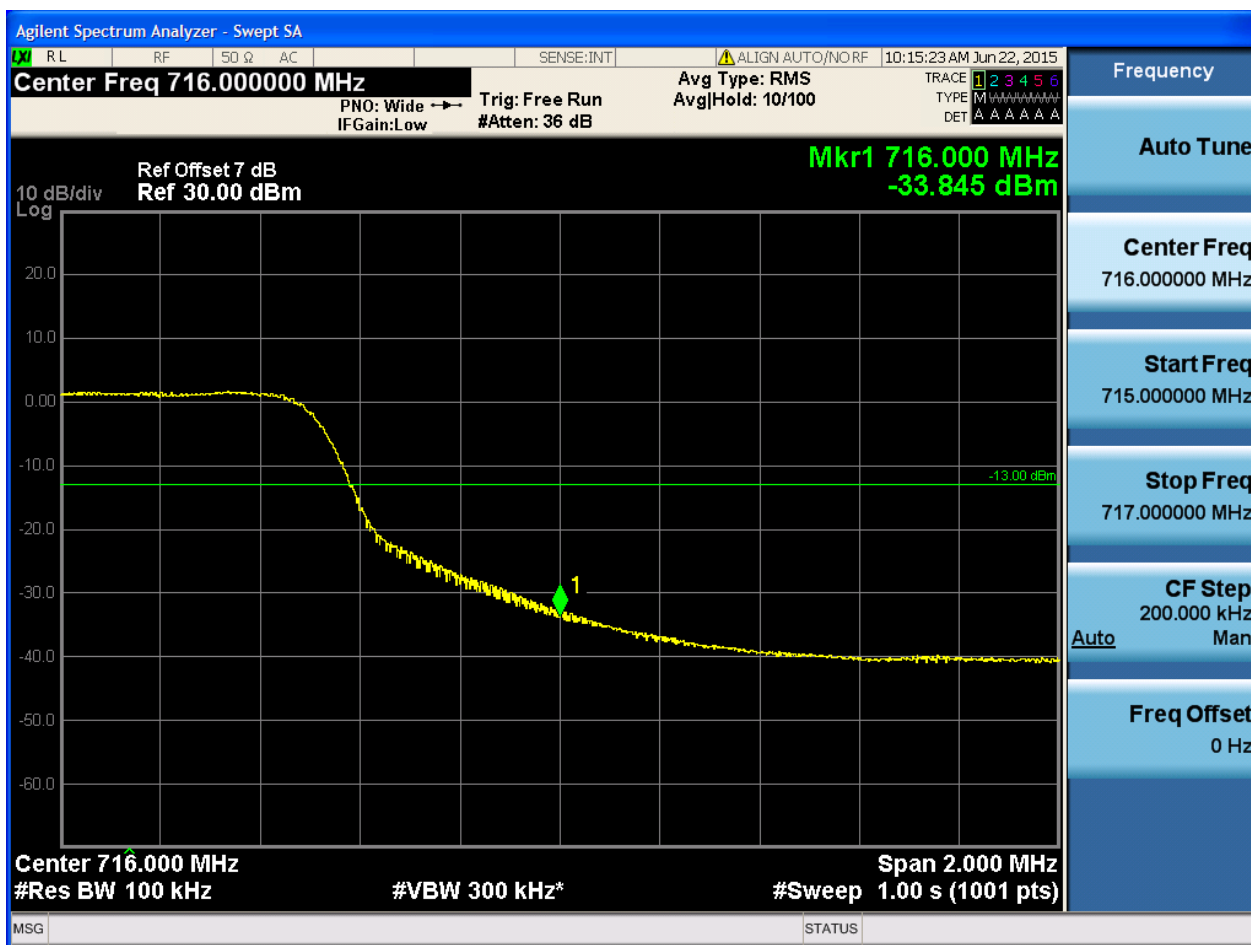


5.1.4.2.4.2.3 Test RB = RB25#13





5.1.4.2.4.2.4 Test RB = RB50#0





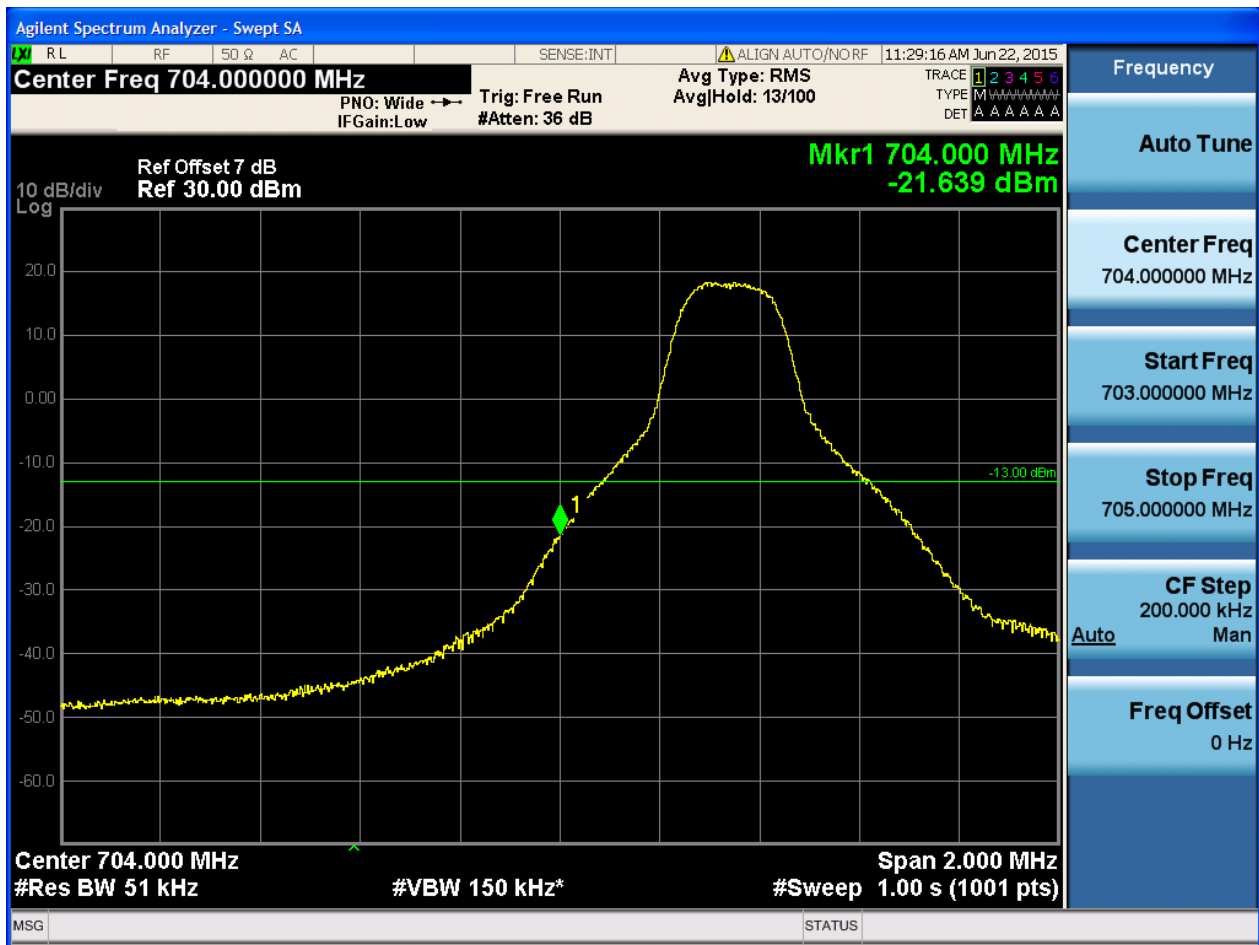
5.1.5 Test Band = BAND17

5.1.5.1 Test Mode = LTE/TM1

5.1.5.1.1 Test Bandwidth = 5

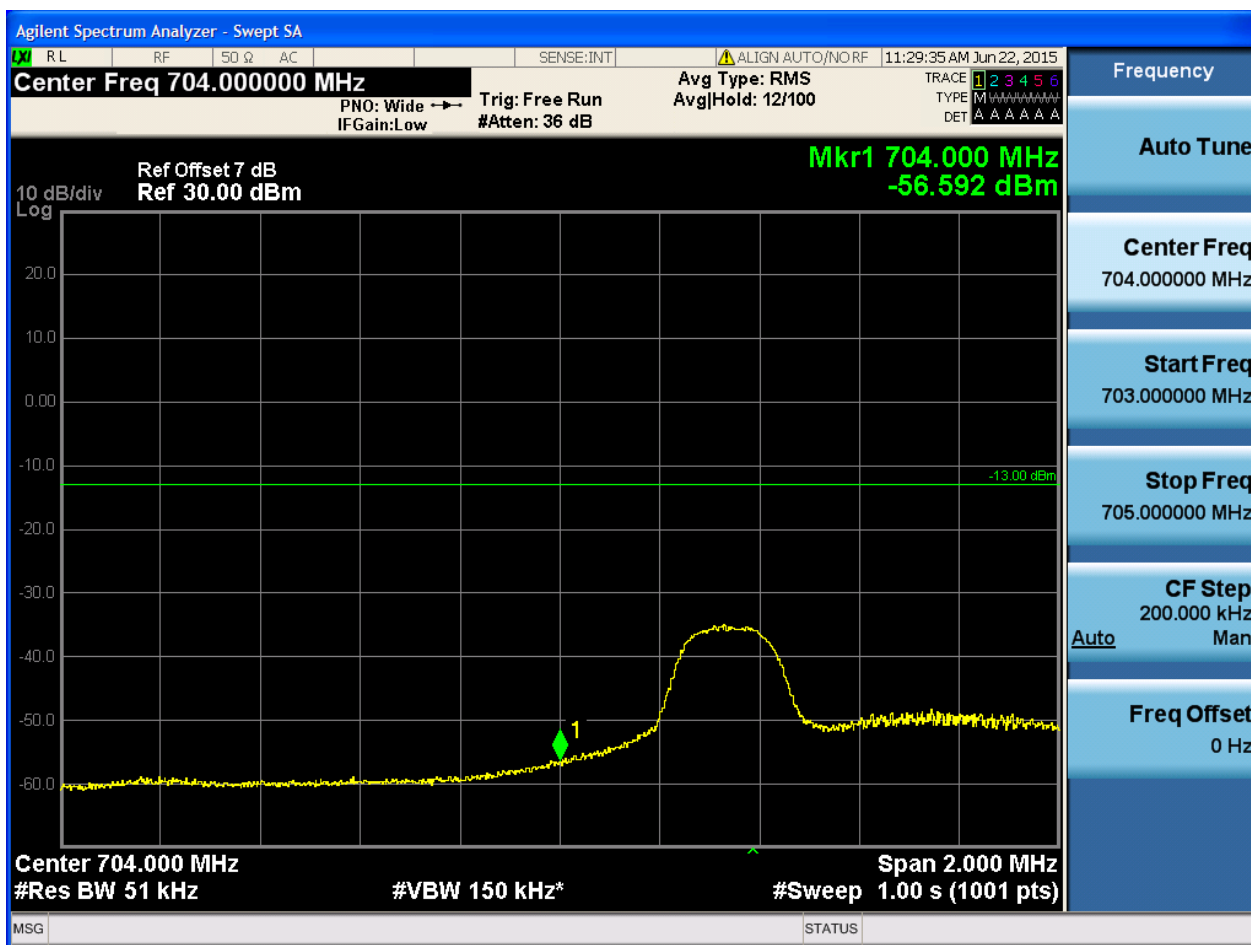
5.1.5.1.1.1 Test Channel = LCH

5.1.5.1.1.1.1 Test RB = RB1#0



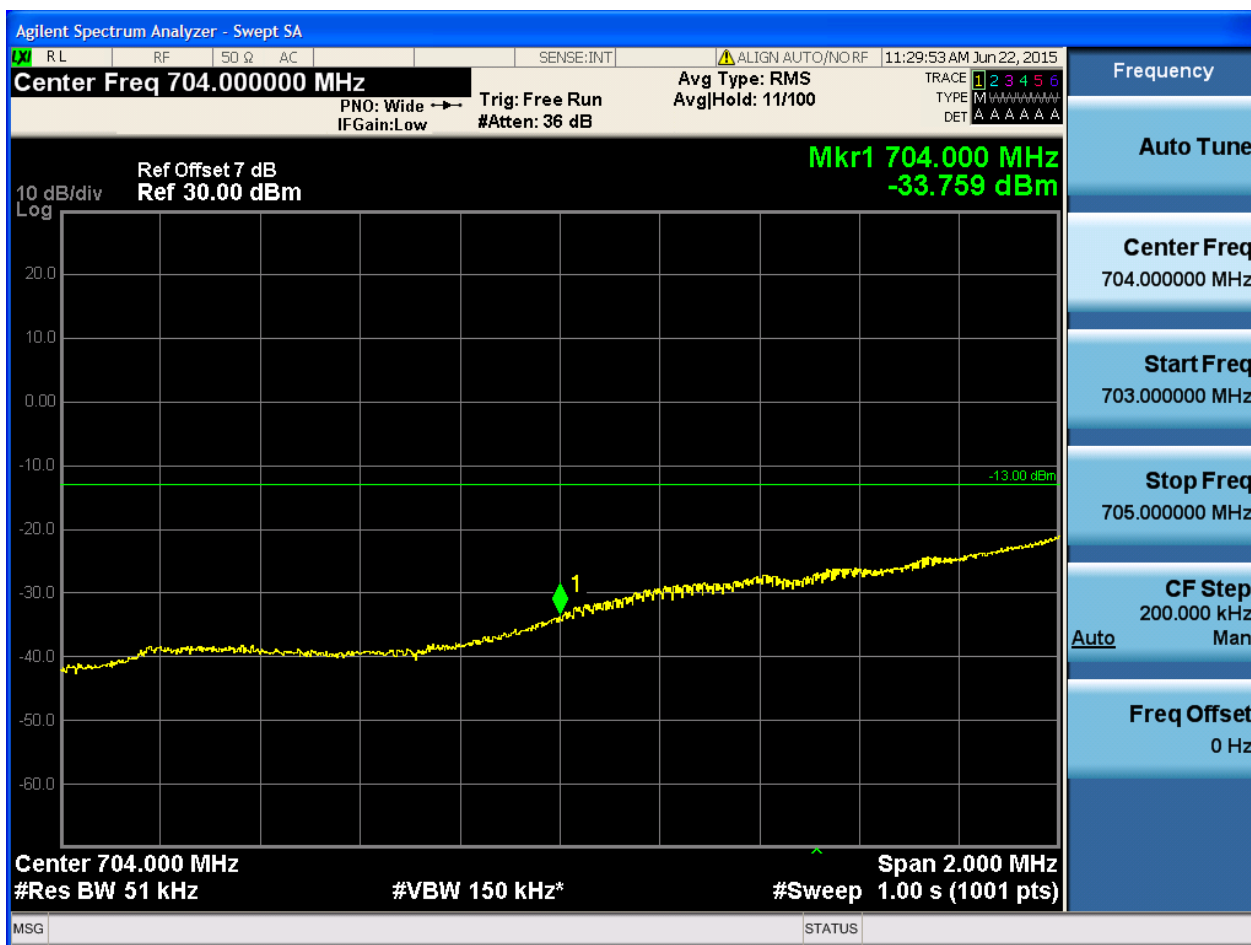


5.1.5.1.1.2 Test RB = RB1#24



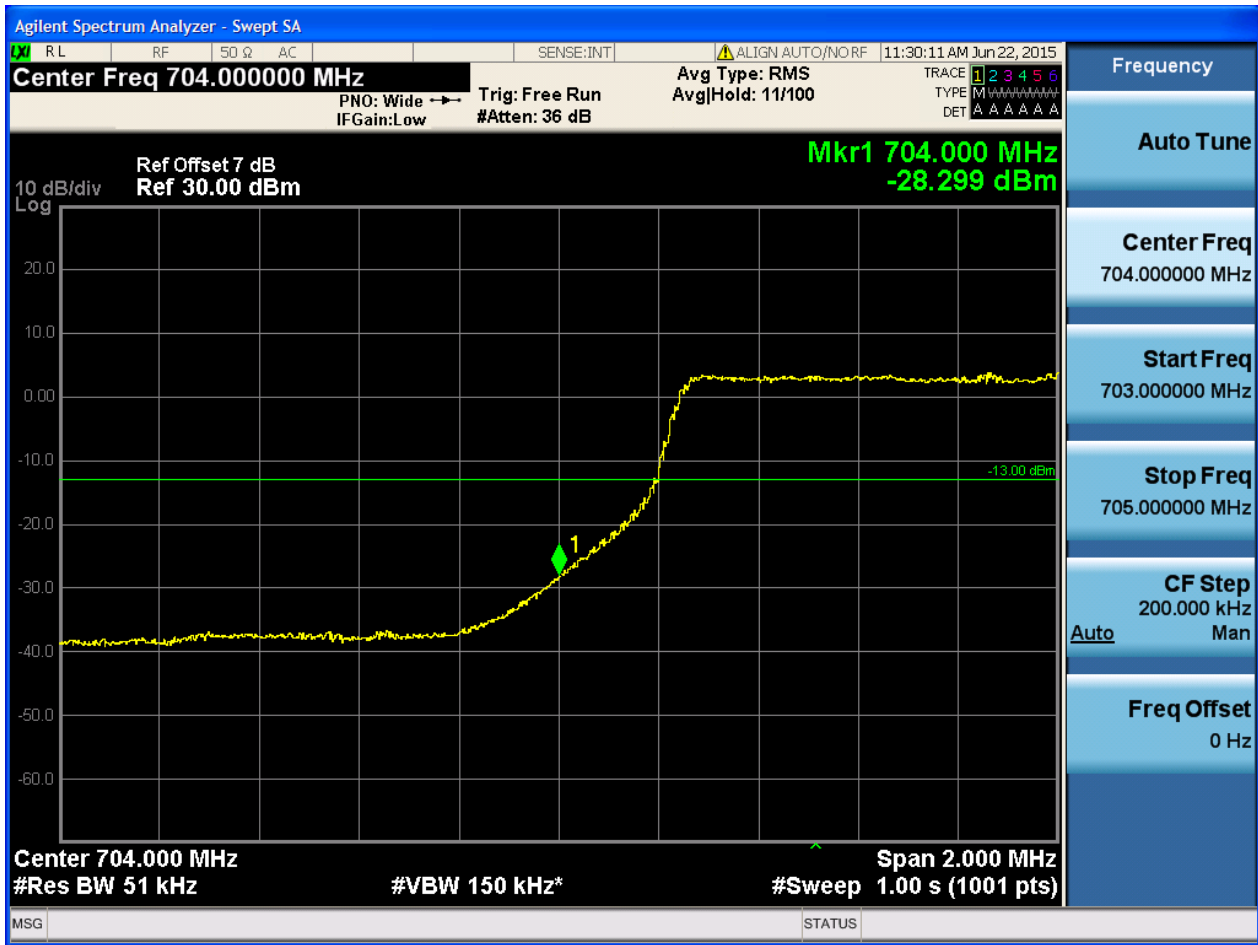


5.1.5.1.1.3 Test RB = RB12#6





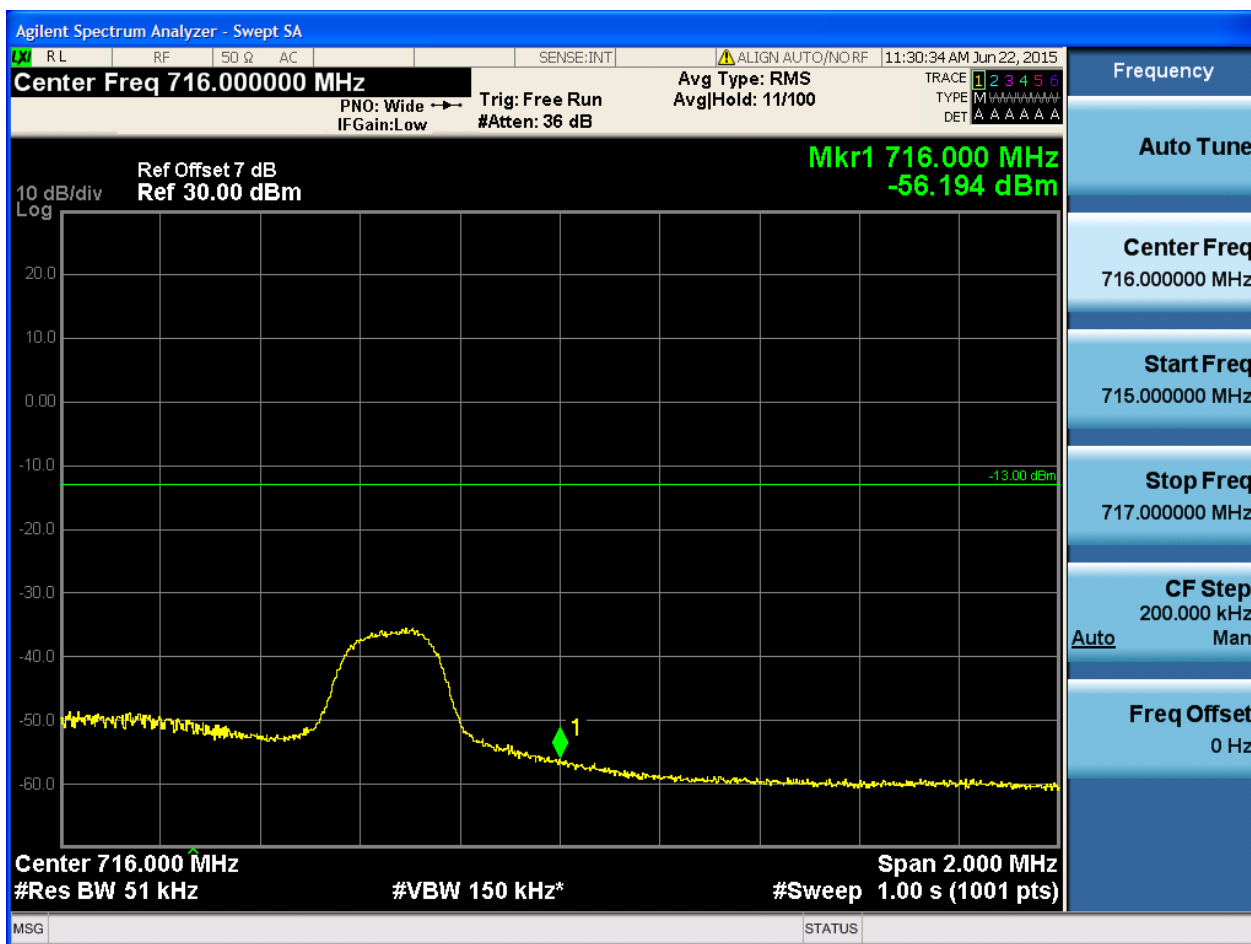
5.1.5.1.1.4 Test RB = RB25#0





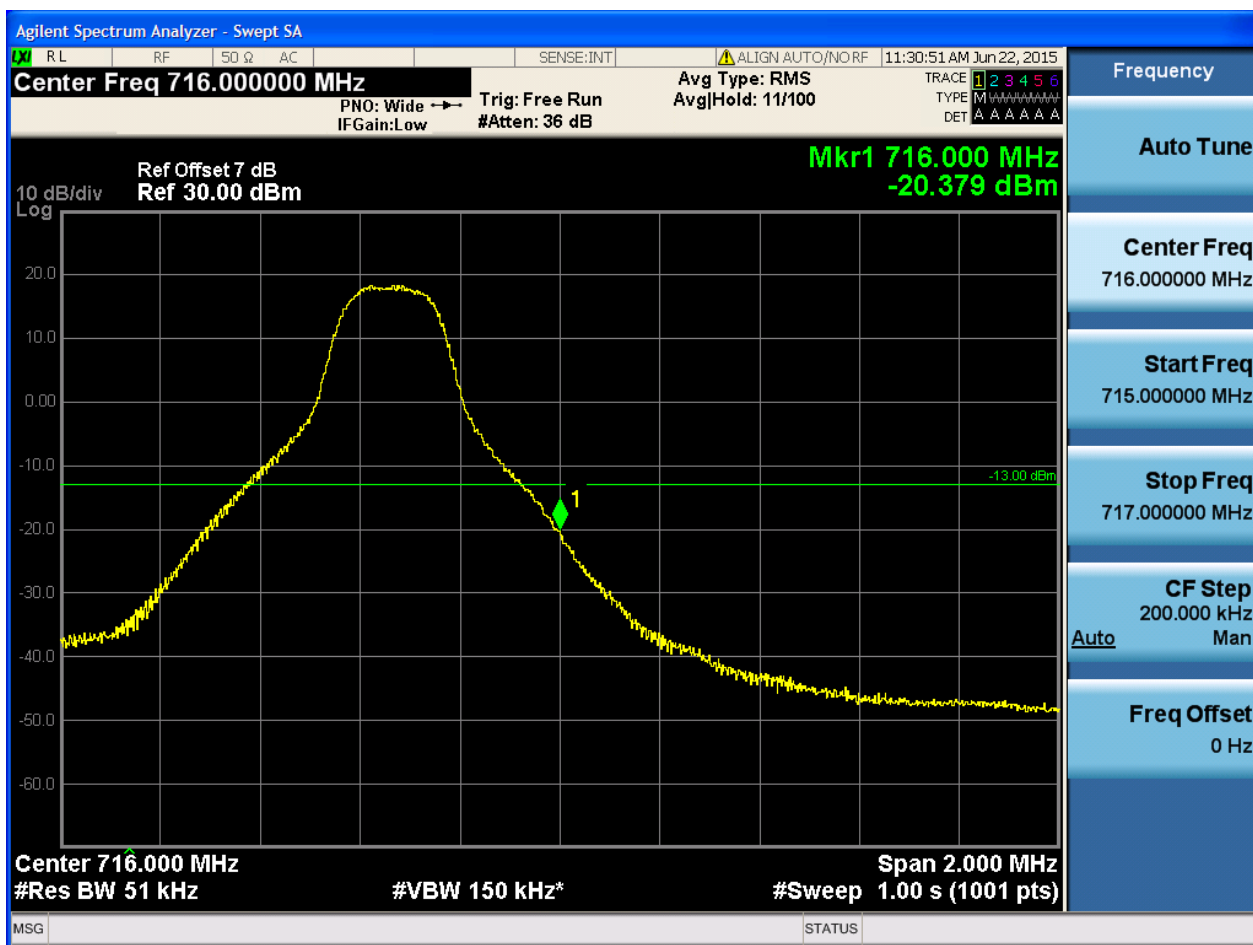
5.1.5.1.1.2 Test Channel = HCH

5.1.5.1.1.2.1 Test RB = RB1#0





5.1.5.1.1.2.2 Test RB = RB1#24





5.1.5.1.1.2.3 Test RB = RB12#6





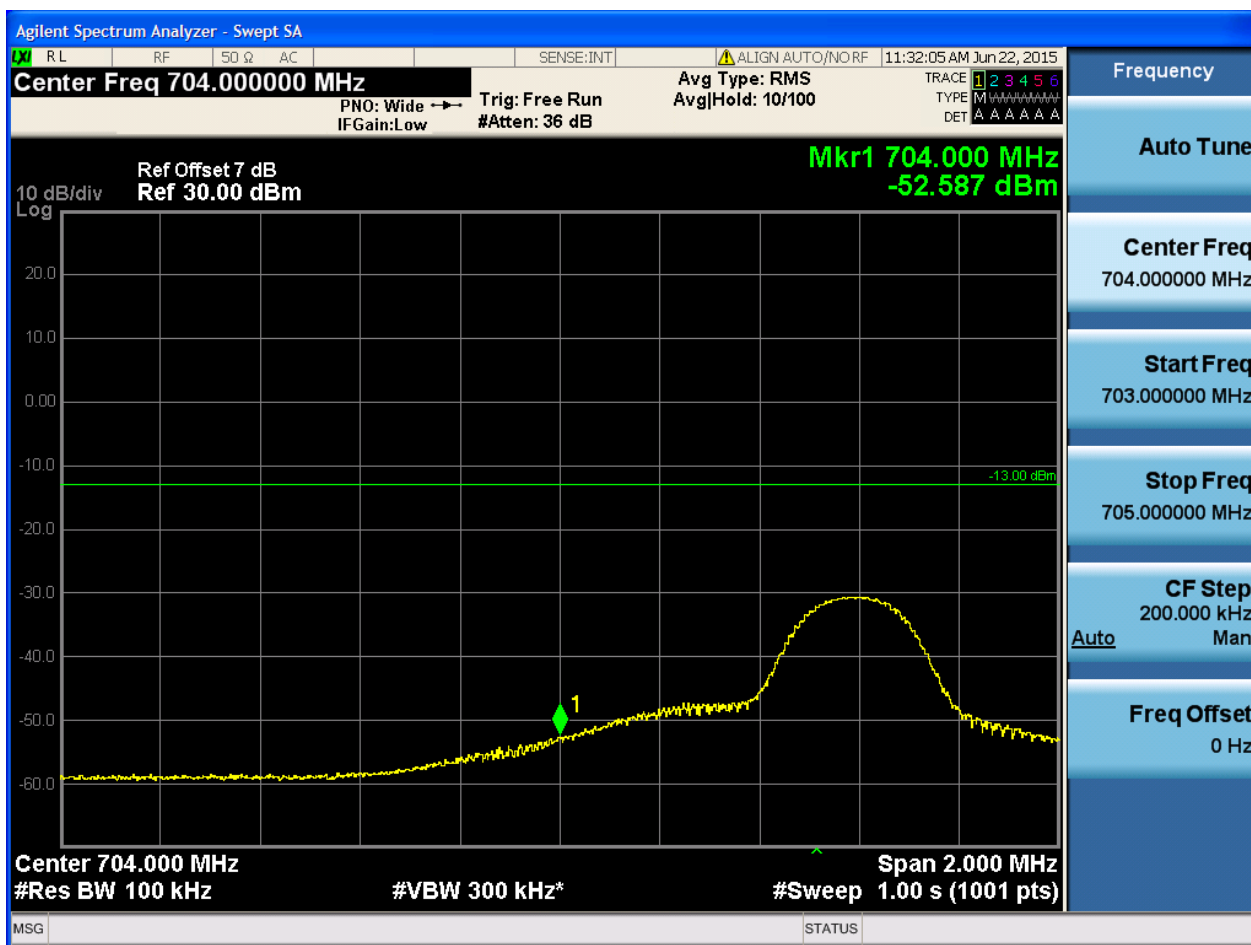
5.1.5.1.1.2.4 Test RB = RB25#0





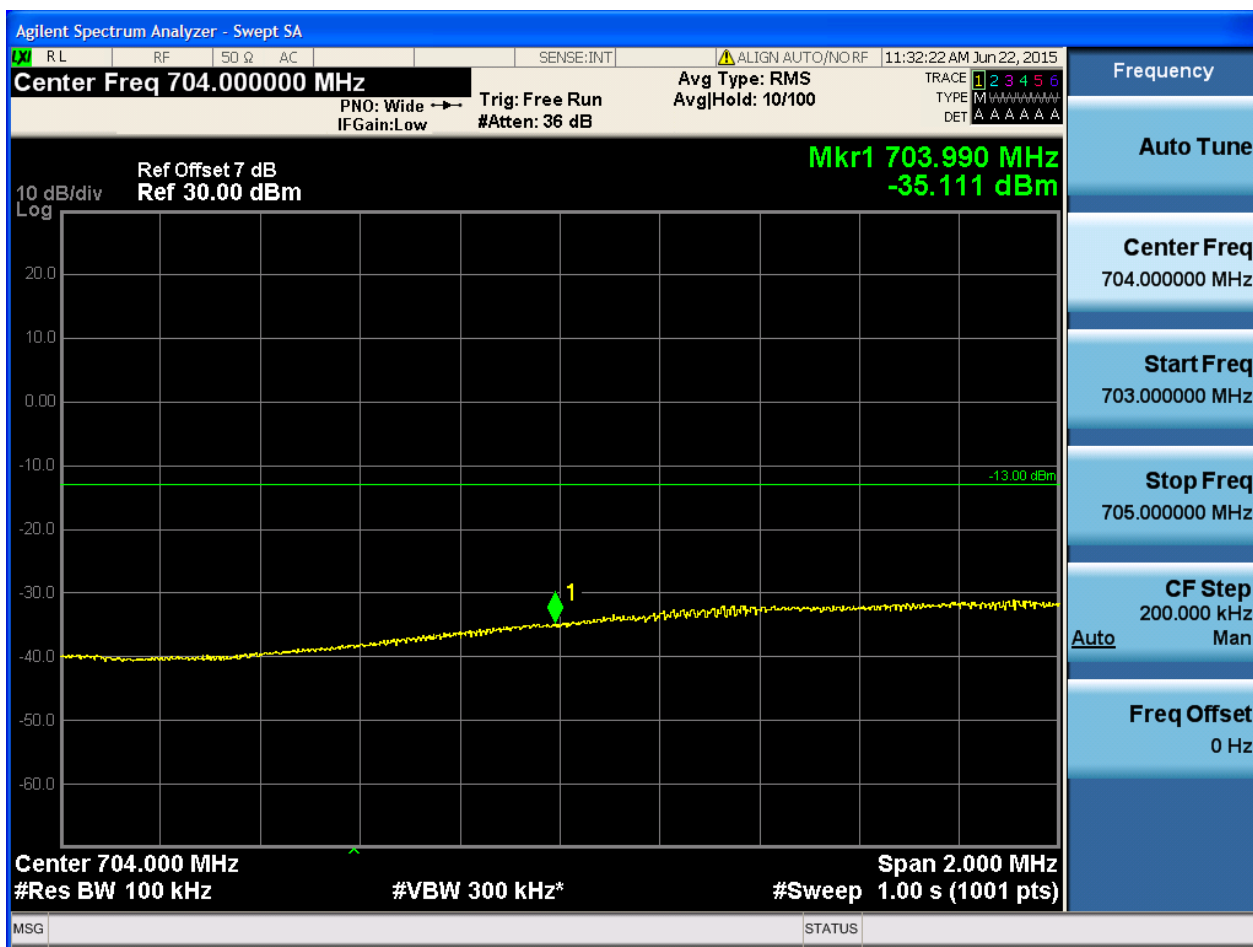


5.1.5.1.2.1.2 Test RB = RB1#49





5.1.5.1.2.1.3 Test RB = RB25#13





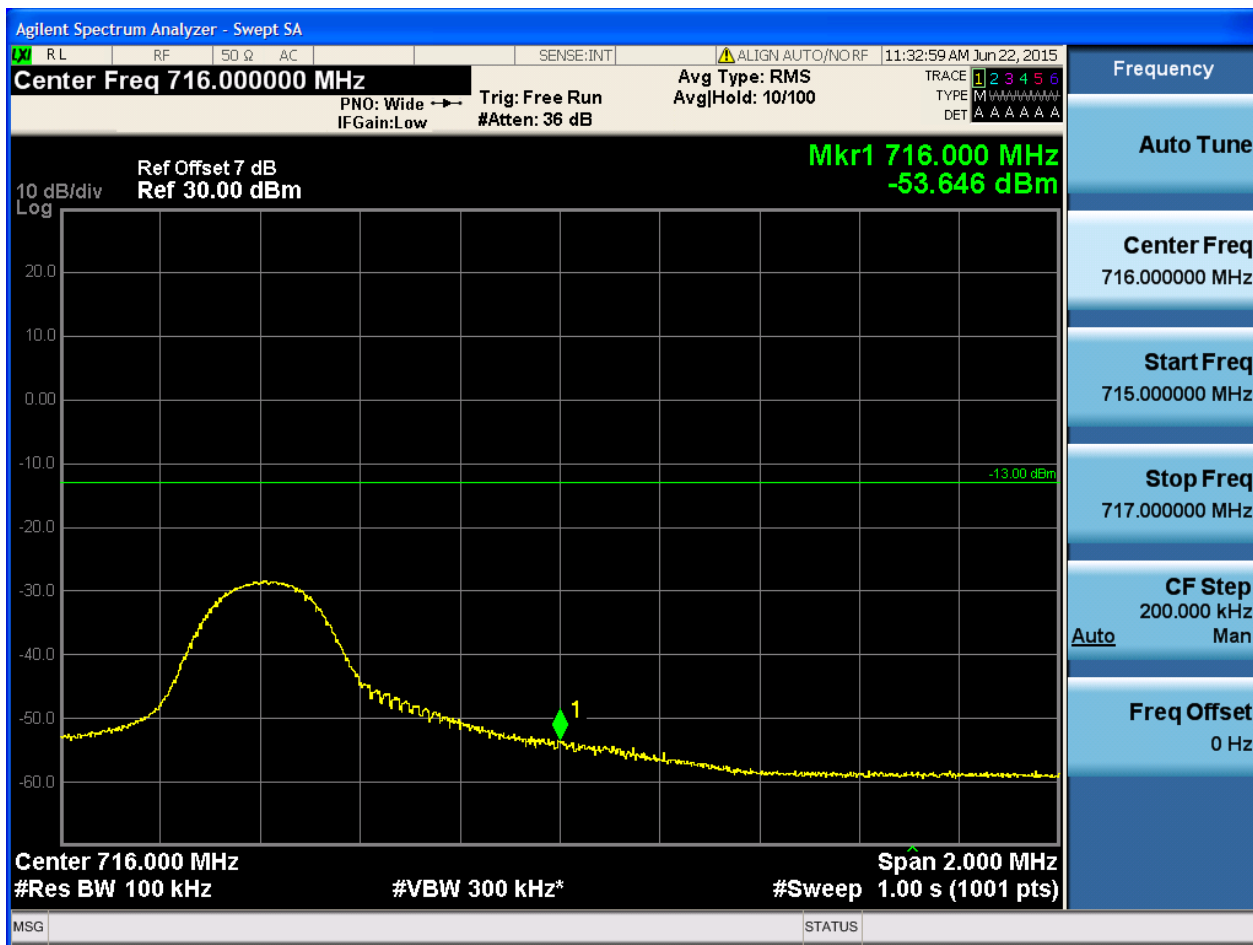
5.1.5.1.2.1.4 Test RB = RB50#0





5.1.5.1.2.2 Test Channel = HCH

5.1.5.1.2.2.1 Test RB = RB1#0





5.1.5.1.2.2.2 Test RB = RB1#49





5.1.5.1.2.2.3 Test RB = RB25#13





5.1.5.1.2.2.4 Test RB = RB50#0



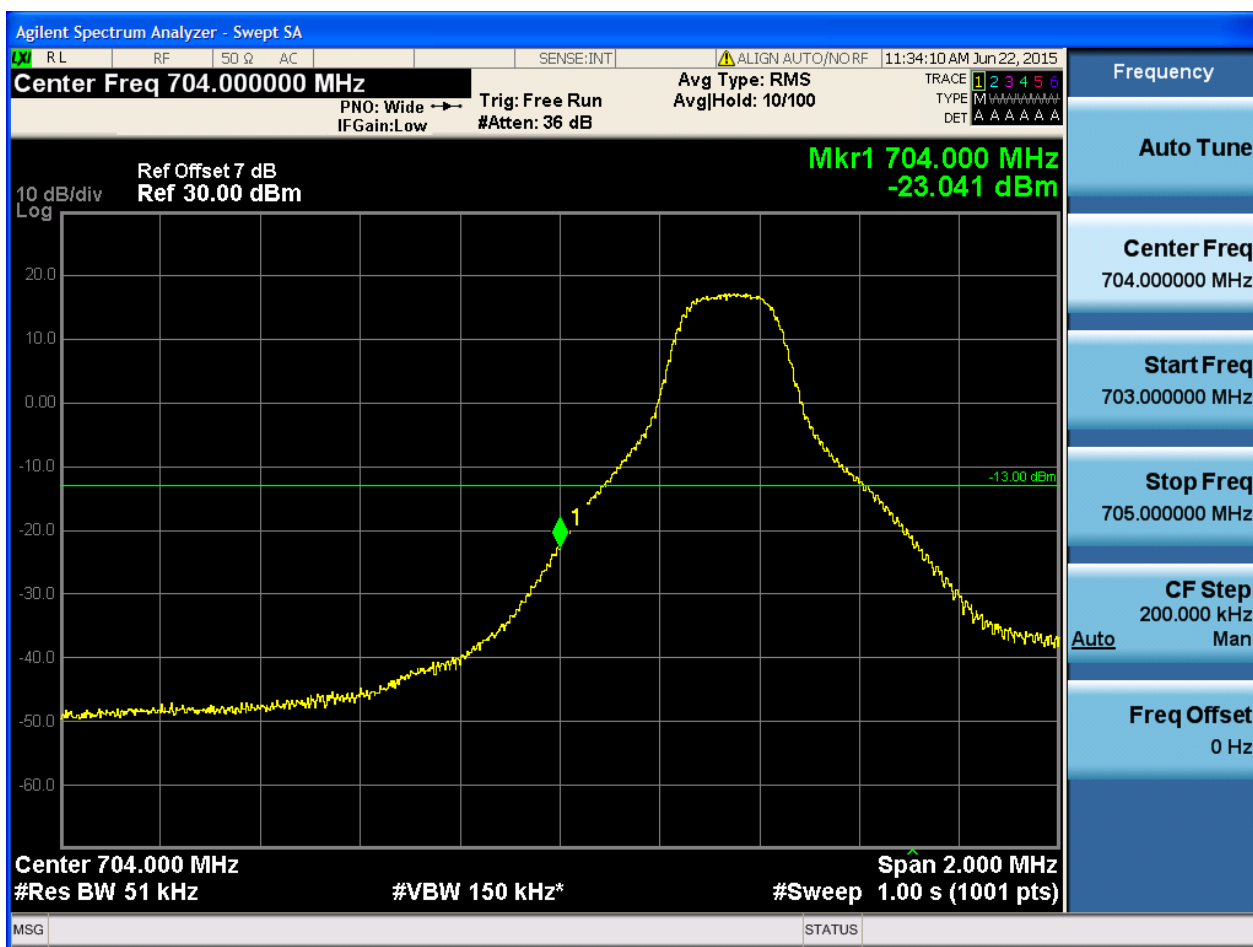


5.1.5.2 Test Mode = LTE/TM2

5.1.5.2.1 Test Bandwidth = 5

5.1.5.2.1.1 Test Channel = LCH

5.1.5.2.1.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 704.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg|Hold: 9/100

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

ALIGN AUTO/NORF 11:34:25 AM Jun 22, 2015

Frequency

Auto Tune

Center Freq
704.000000 MHz

Start Freq
703.000000 MHz

Stop Freq
705.000000 MHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

Mkr1 704.000 MHz
-57.013 dBm

-13.00 dBm

Center 704.000 MHz
#Res BW 51 kHz

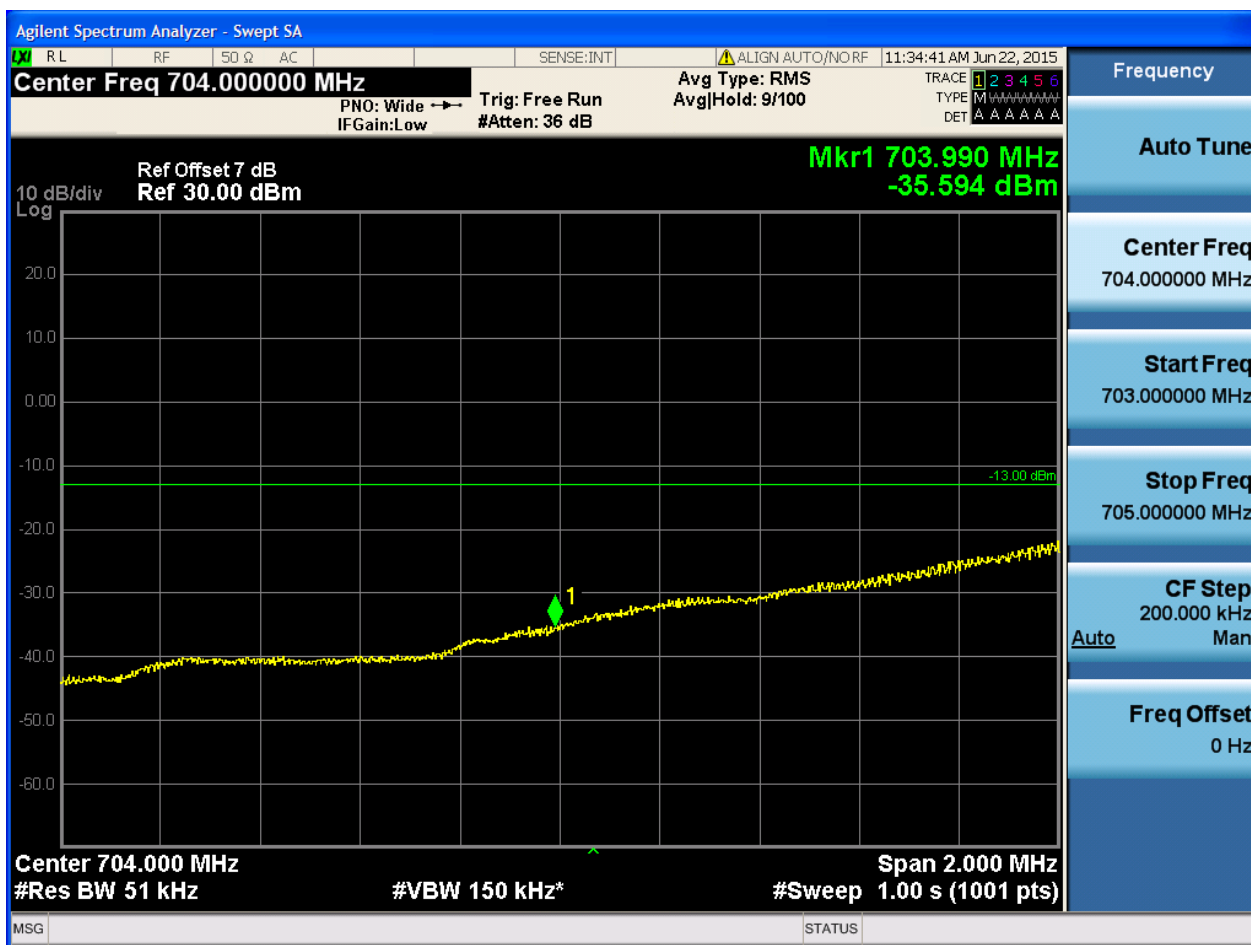
#VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG STATUS



5.1.5.2.1.1.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

Center Freq 704.000000 MHz

Ref Offset 7 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 704.000 MHz
-29.473 dBm

Center 704.000 MHz
#Res BW 51 kHz
#VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Auto Tune

Center Freq
704.000000 MHz

Start Freq
703.000000 MHz

Stop Freq
705.000000 MHz

CF Step
200.000 kHz
Man

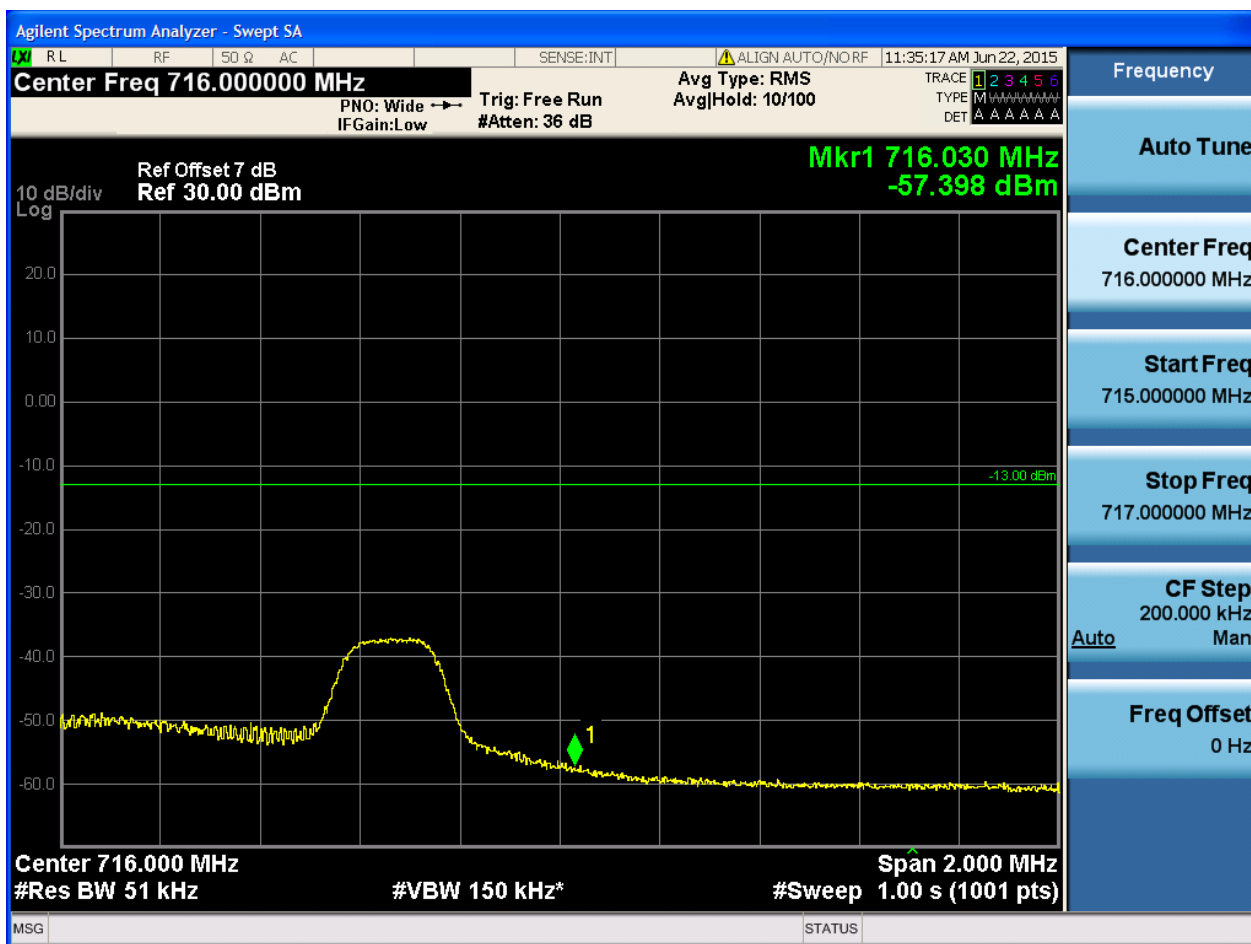
Freq Offset
0 Hz

The image displays a screenshot of an Agilent Spectrum Analyzer in a swept mode. The main display area shows a frequency spectrum plot with a rising signal level. The center frequency is set to 704.000000 MHz. The reference level is 30.00 dBm, and the offset is 7 dB. The signal level is marked at -29.473 dBm. The plot shows a rising signal level from -40 dBm to 0 dBm. A marker is placed at the rising edge. The right sidebar shows various settings like Auto Tune, Center Freq, Start Freq, Stop Freq, CF Step, and Freq Offset.



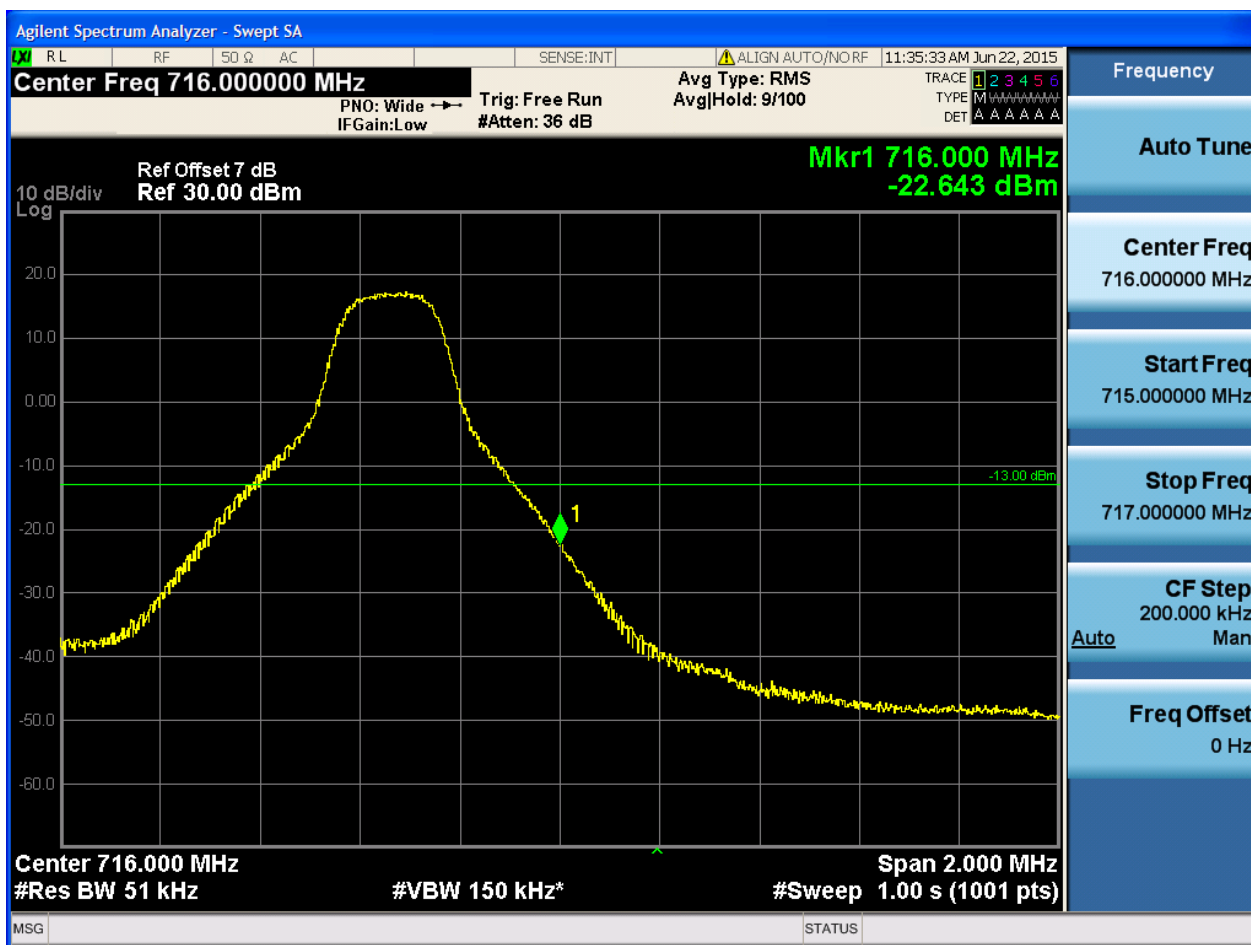
5.1.5.2.1.2 Test Channel = HCH

5.1.5.2.1.2.1 Test RB = RB1#0



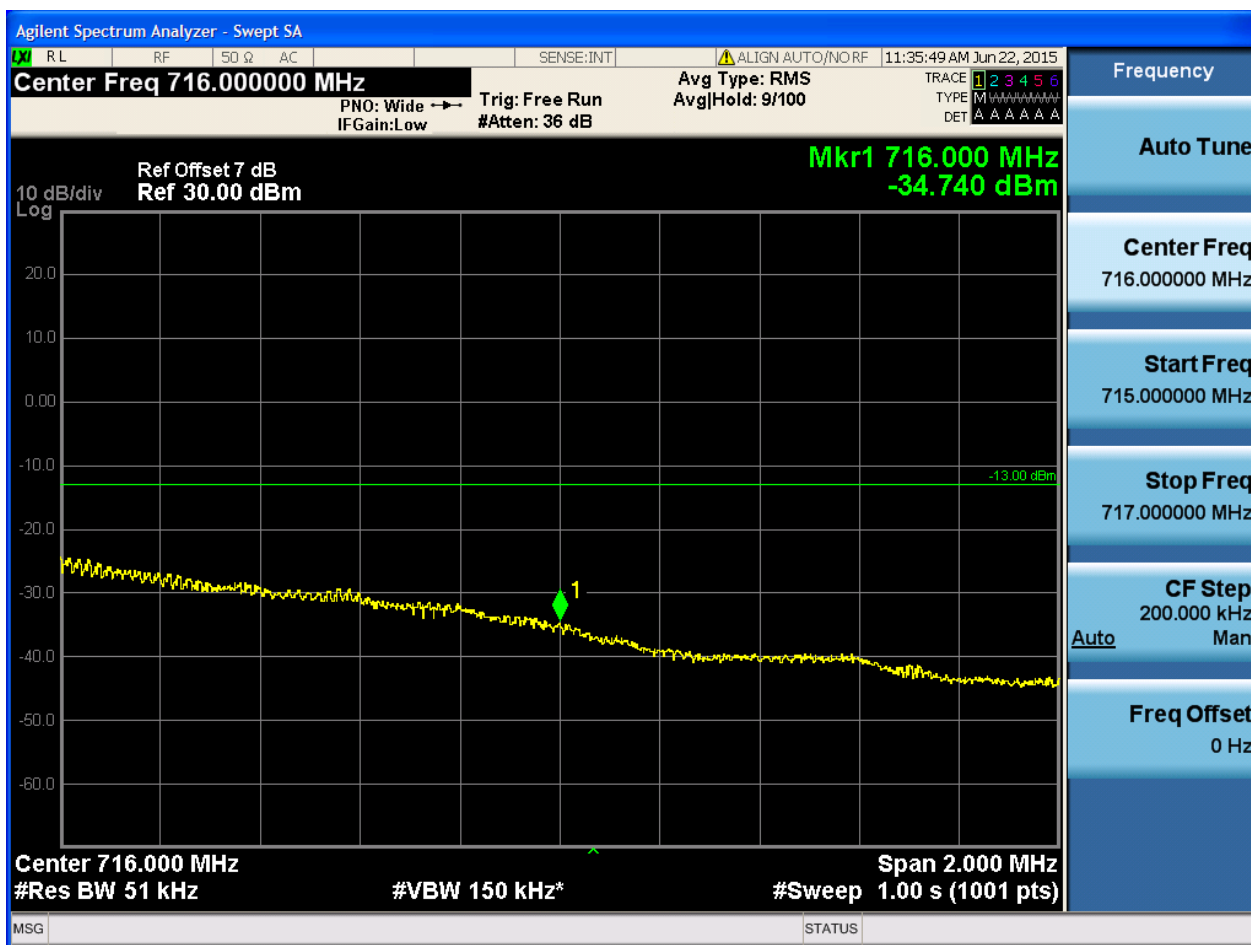


5.1.5.2.1.2.2 Test RB = RB1#24



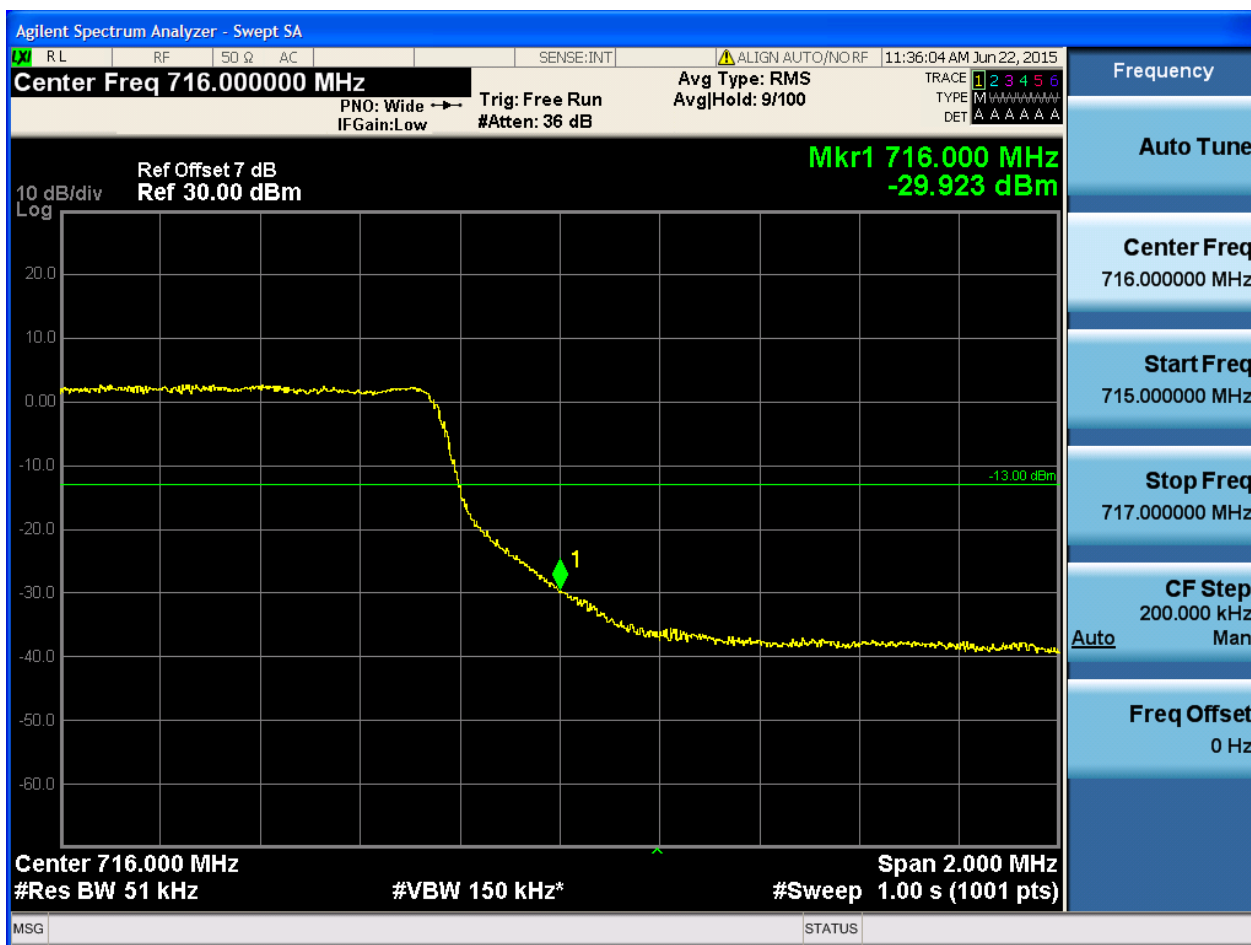


5.1.5.2.1.2.3 Test RB = RB12#6





5.1.5.2.1.2.4 Test RB = RB25#0

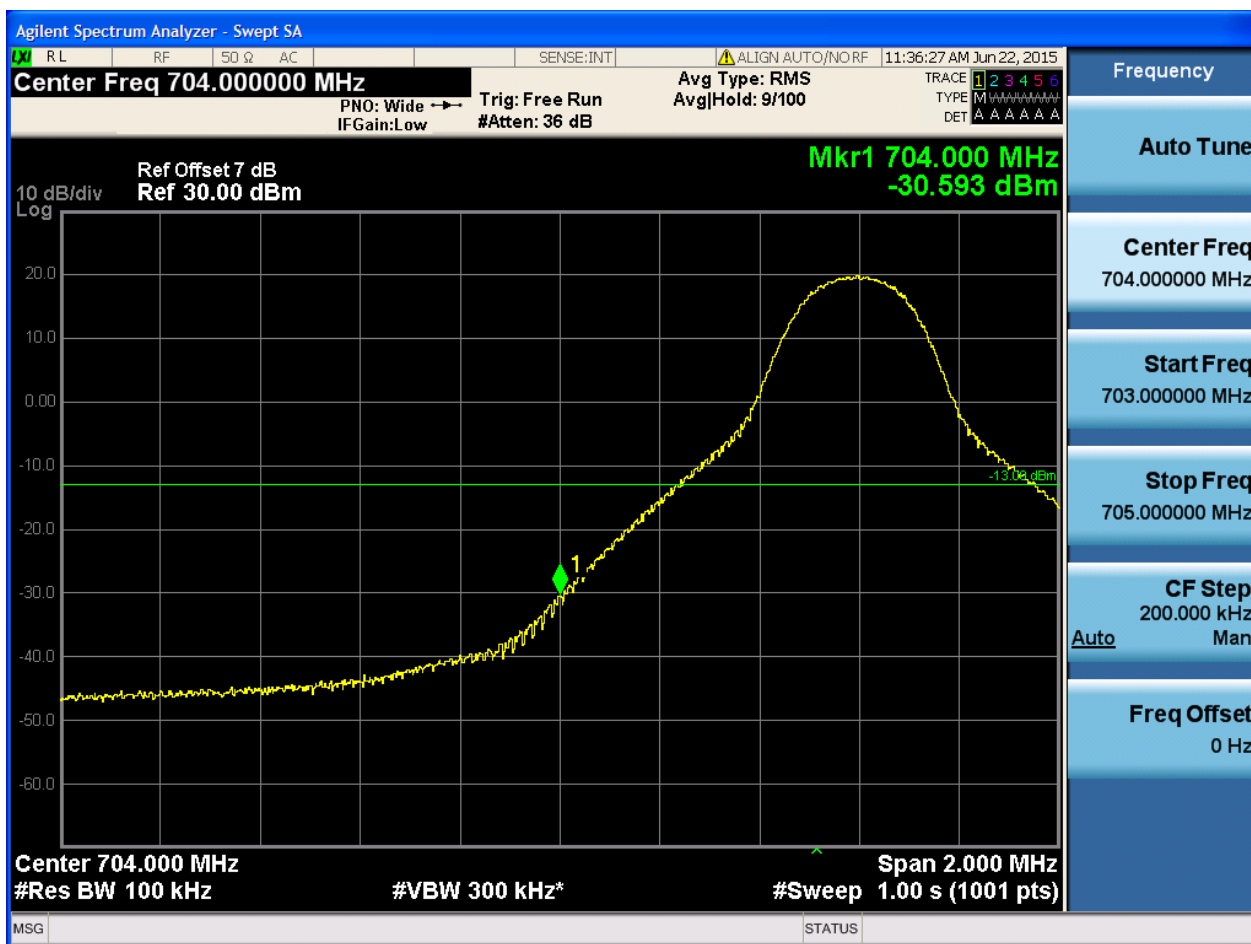




5.1.5.2.2 Test Bandwidth = 10

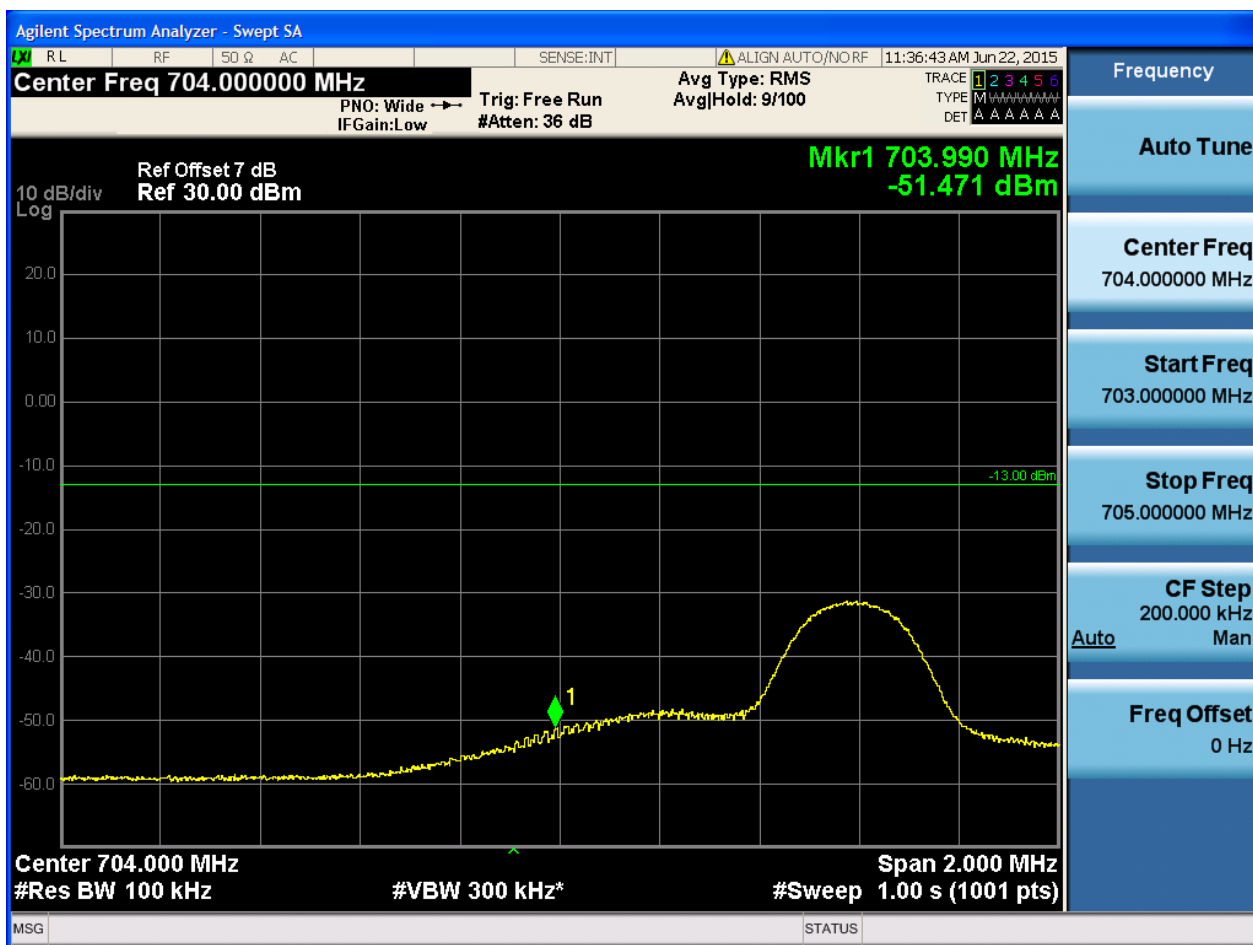
5.1.5.2.2.1 Test Channel = LCH

5.1.5.2.2.1.1 Test RB = RB1#0





5.1.5.2.2.1.2 Test RB = RB1#49



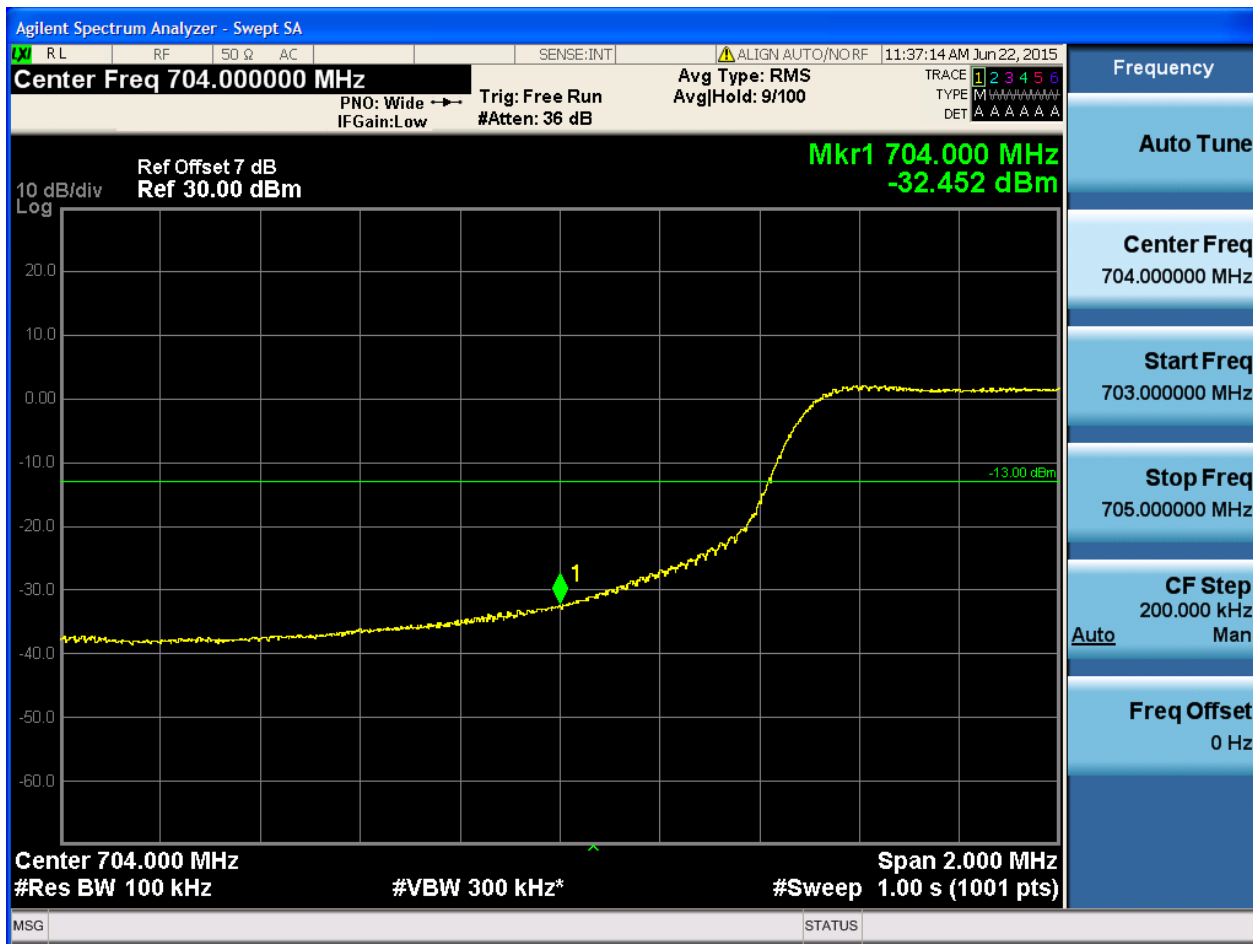


5.1.5.2.2.1.3 Test RB = RB25#13





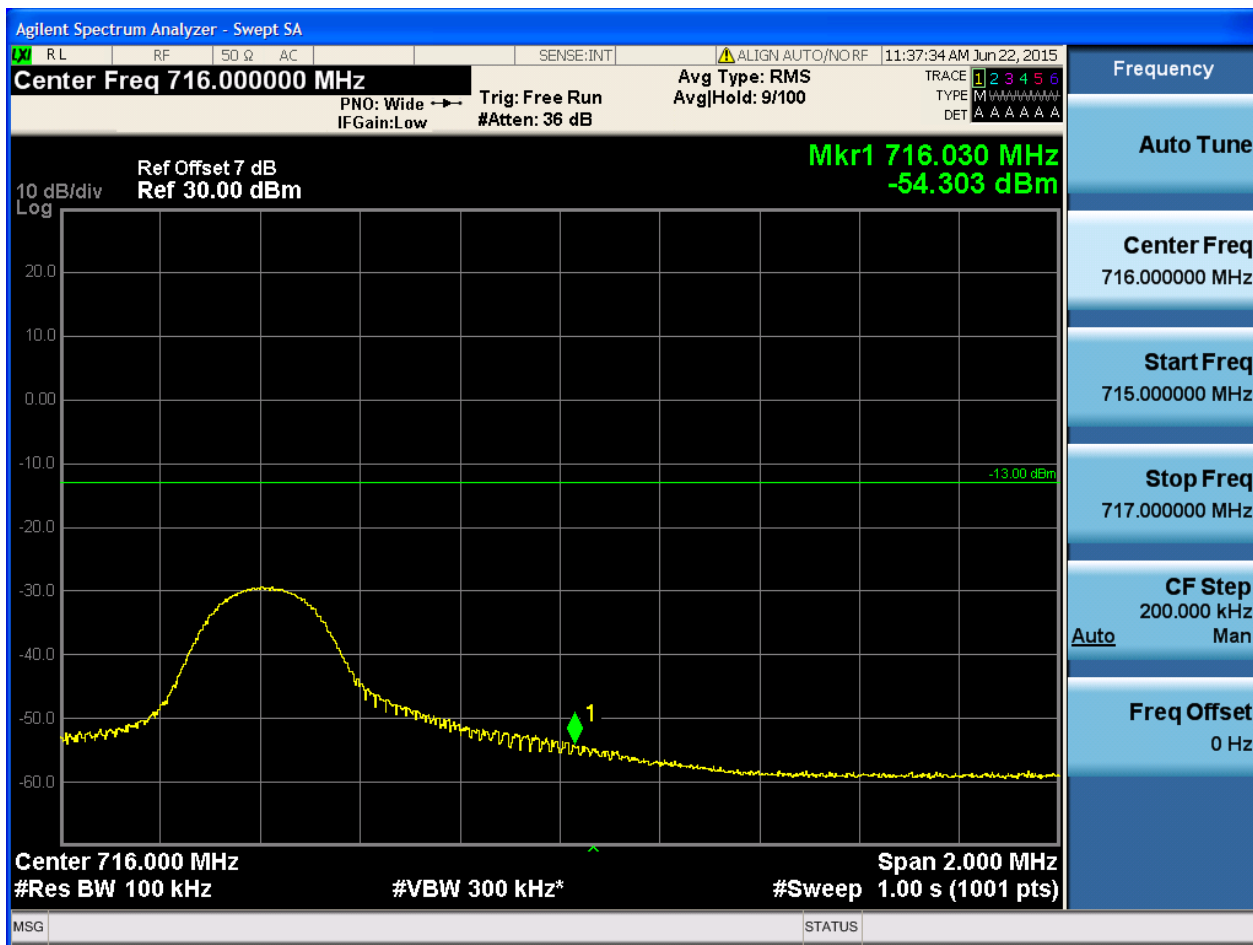
5.1.5.2.2.1.4 Test RB = RB50#0





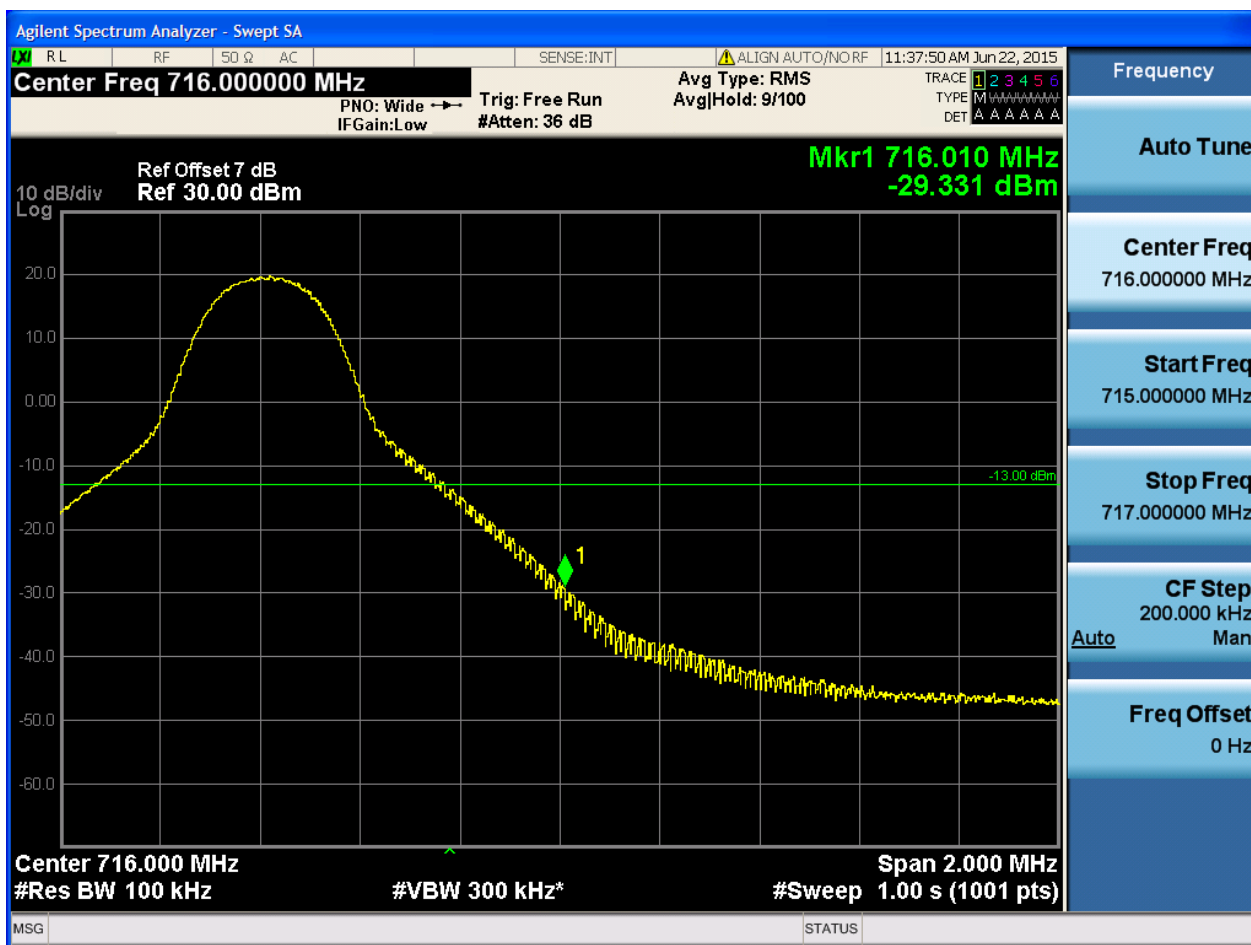
5.1.5.2.2.2 Test Channel = HCH

5.1.5.2.2.2.1 Test RB = RB1#0



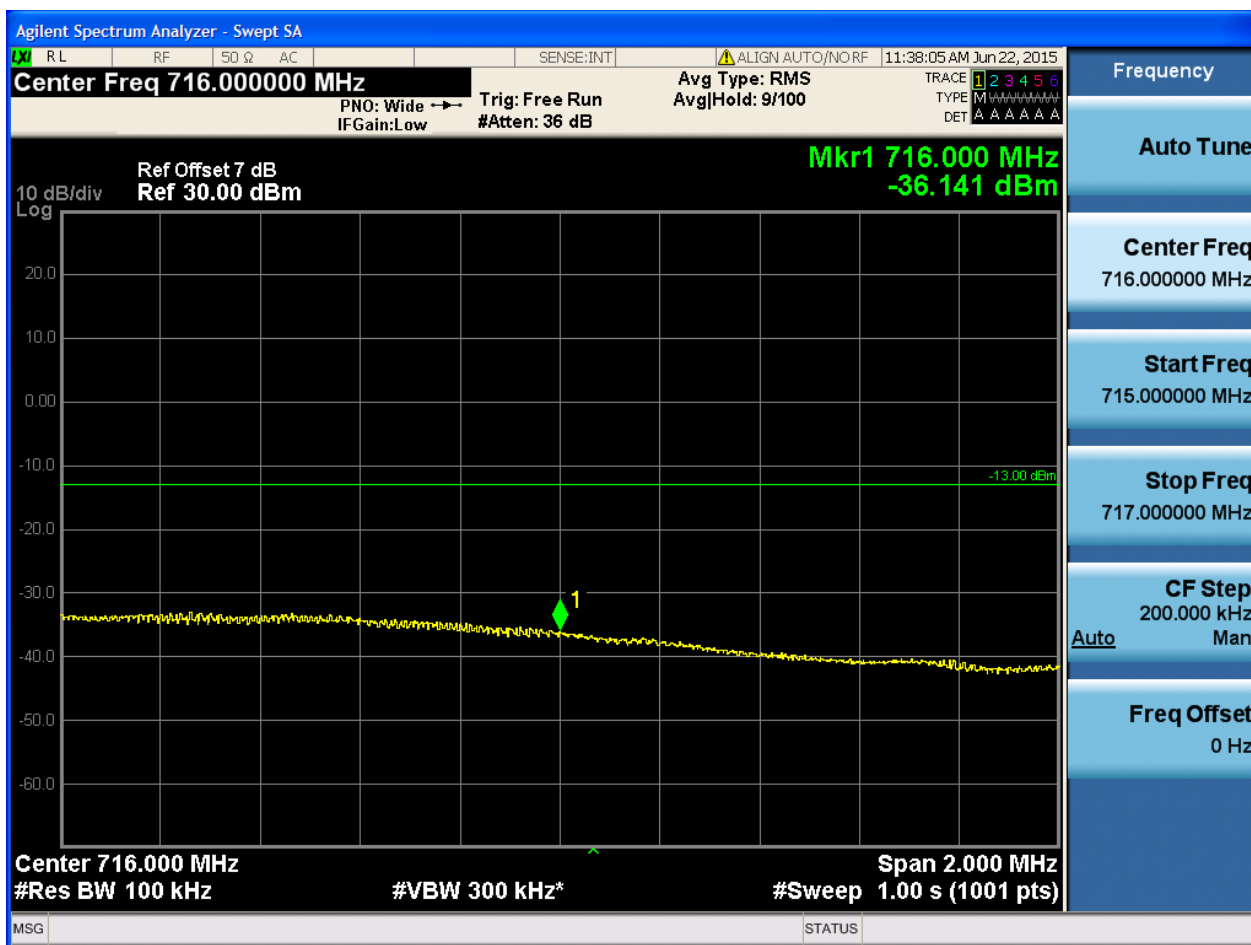


5.1.5.2.2.2 Test RB = RB1#49



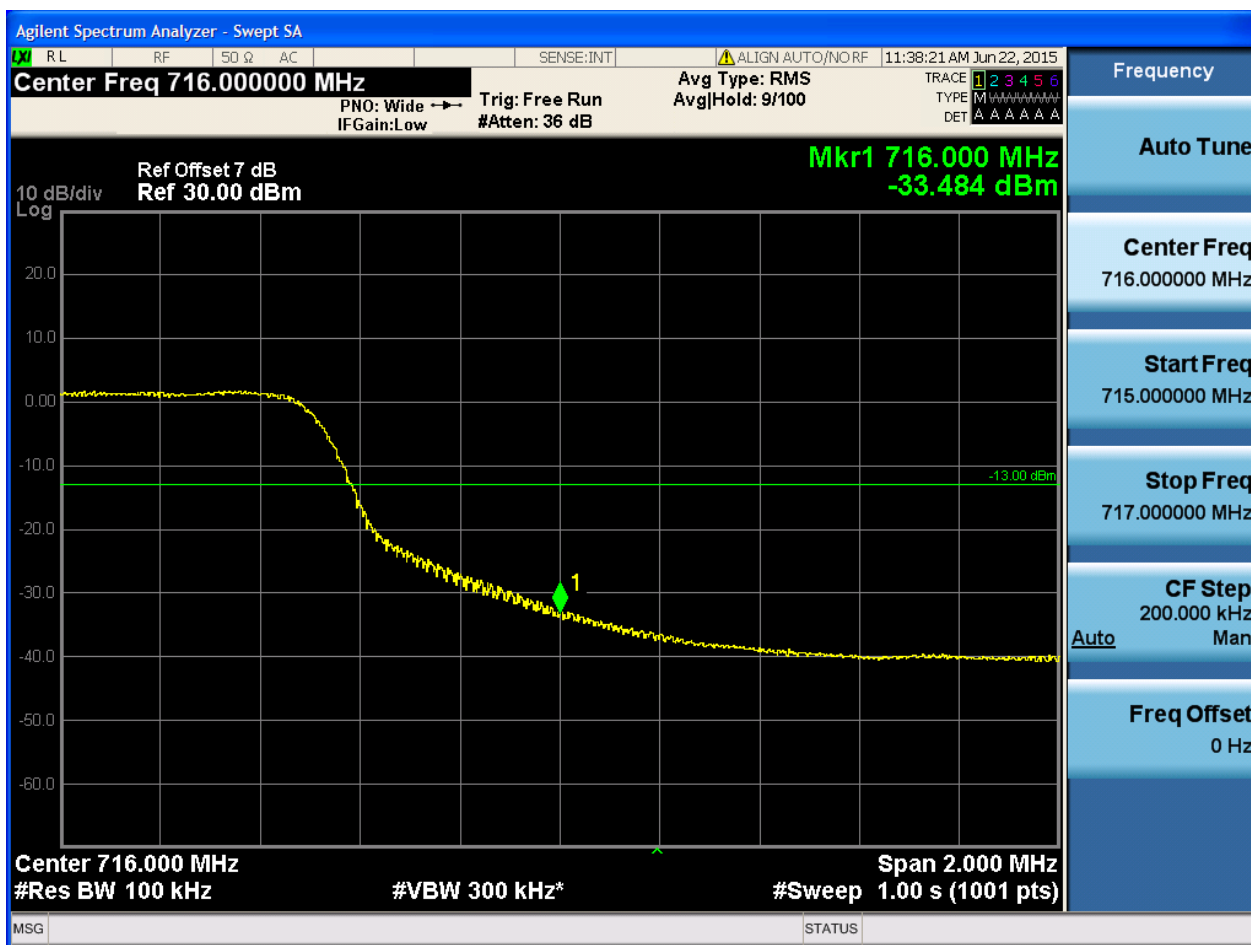


5.1.5.2.2.3 Test RB = RB25#13





5.1.5.2.2.4 Test RB = RB50#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

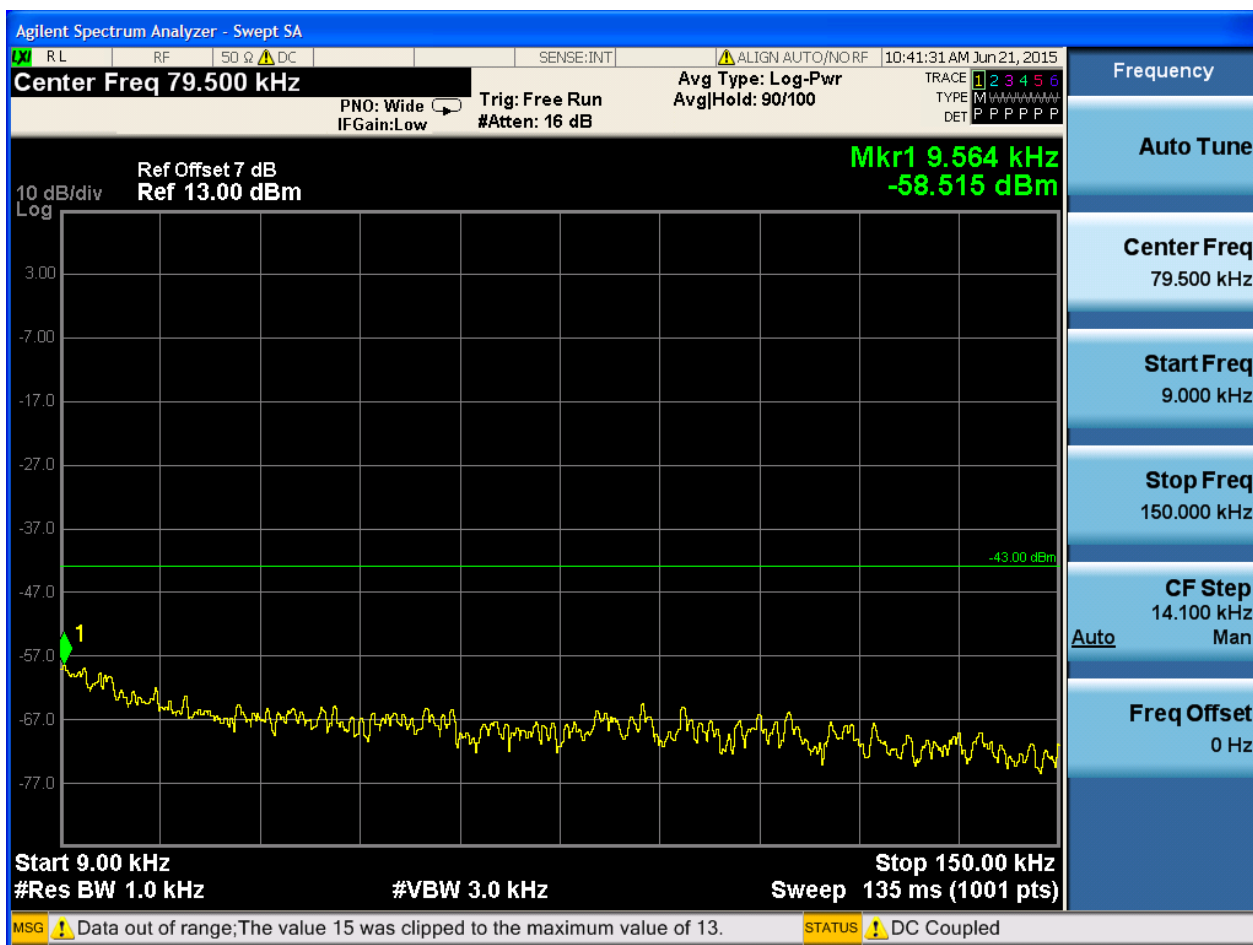
6.1.1 Test Band = BAND2

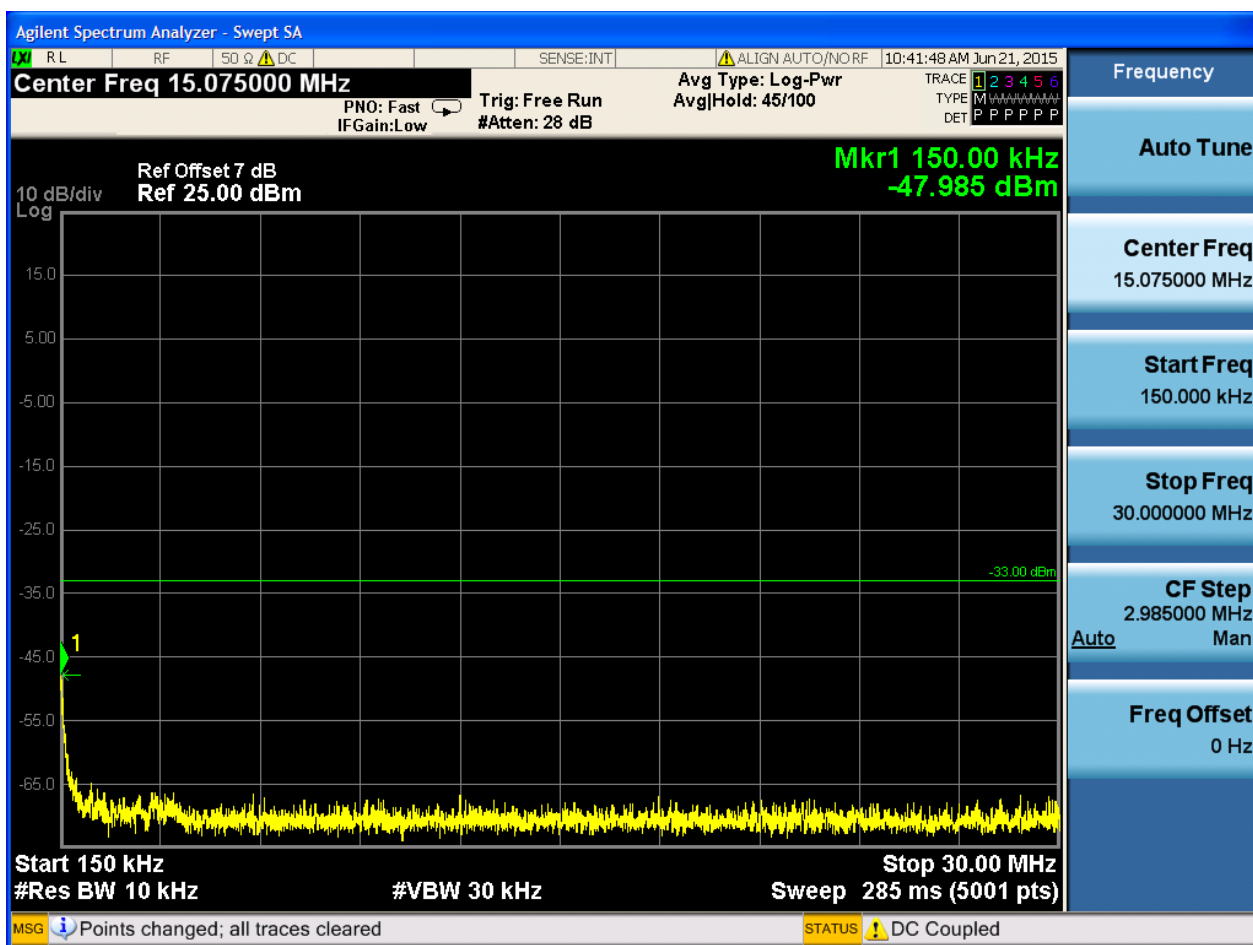
6.1.1.1 Test Mode = LTE/TM1

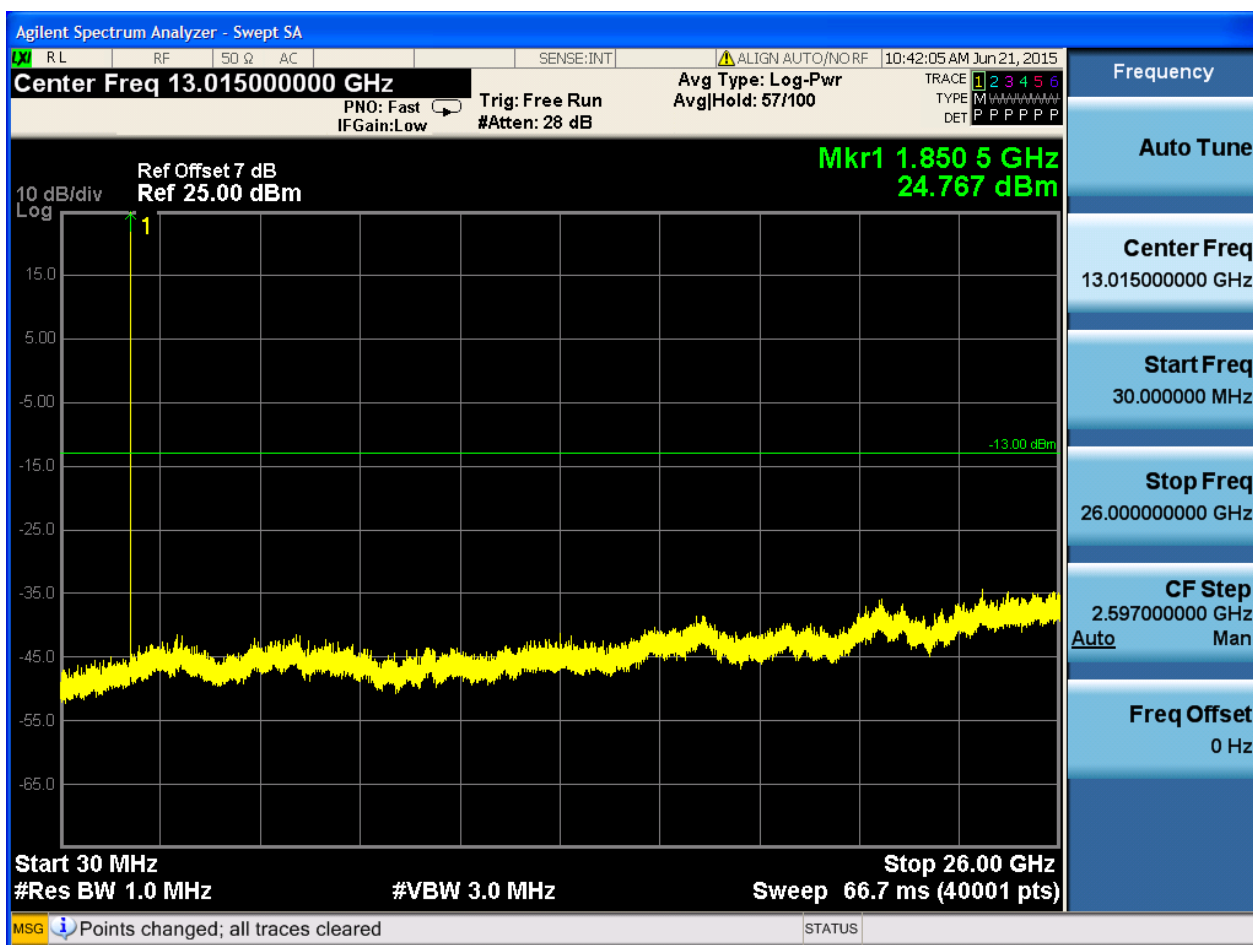
6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



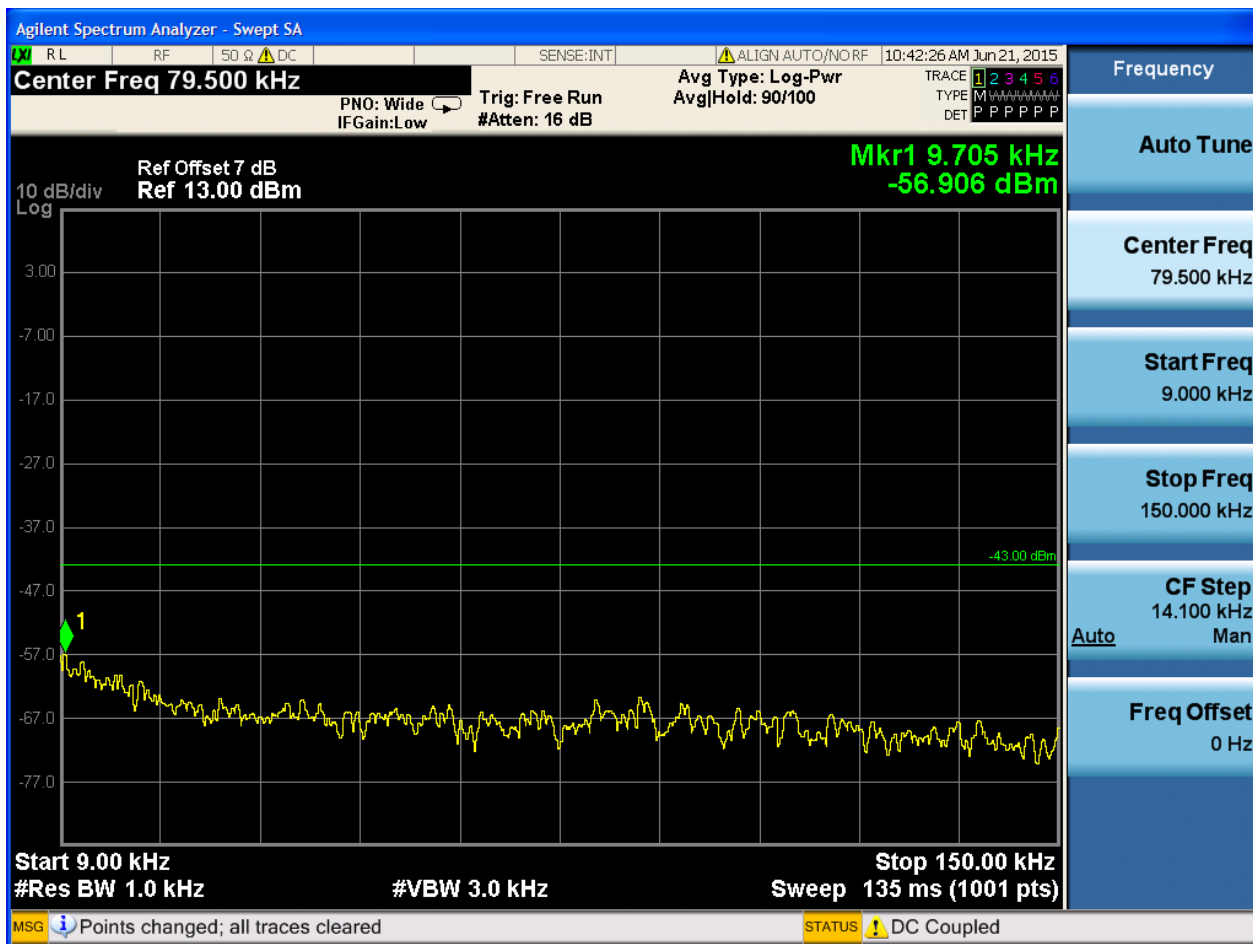


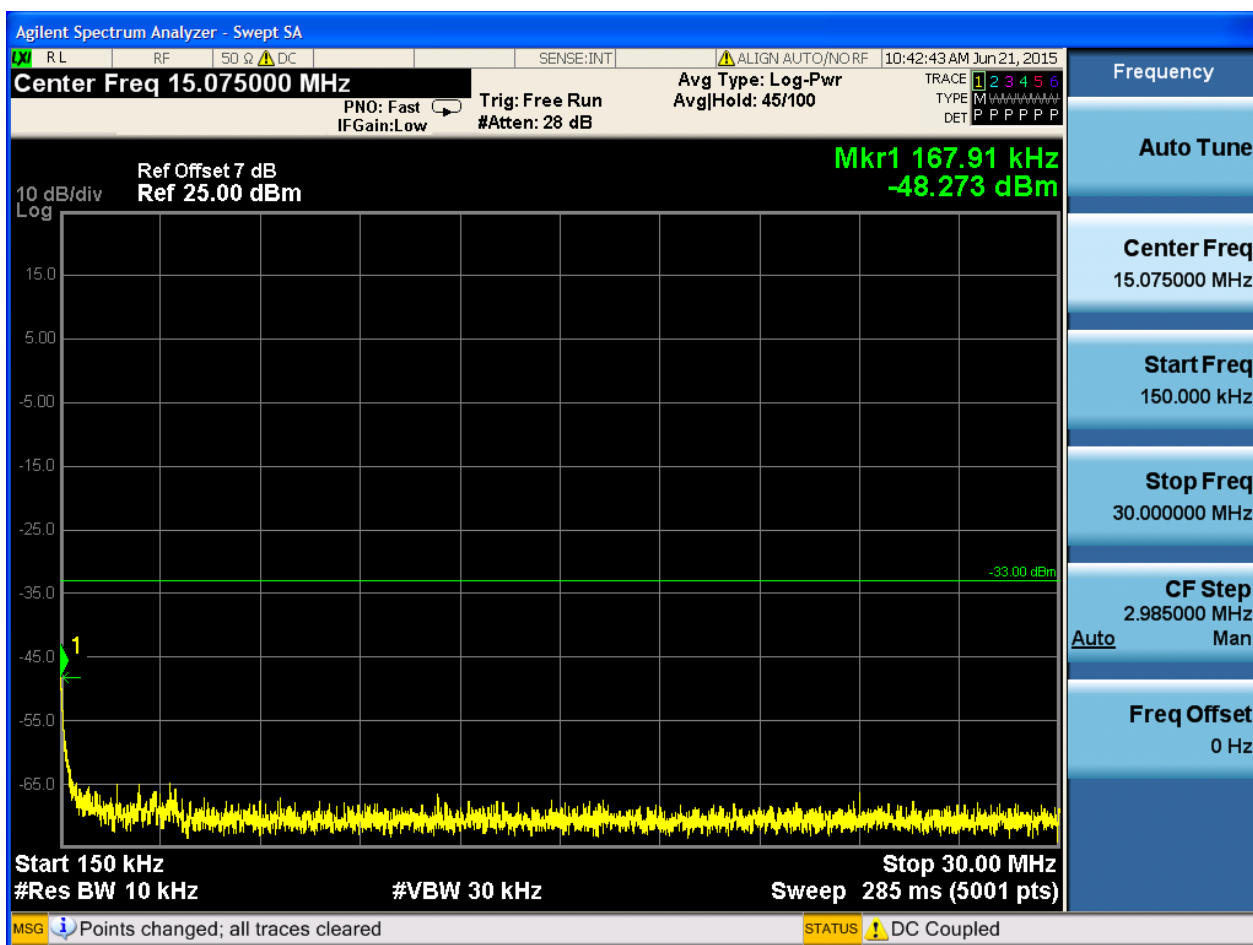


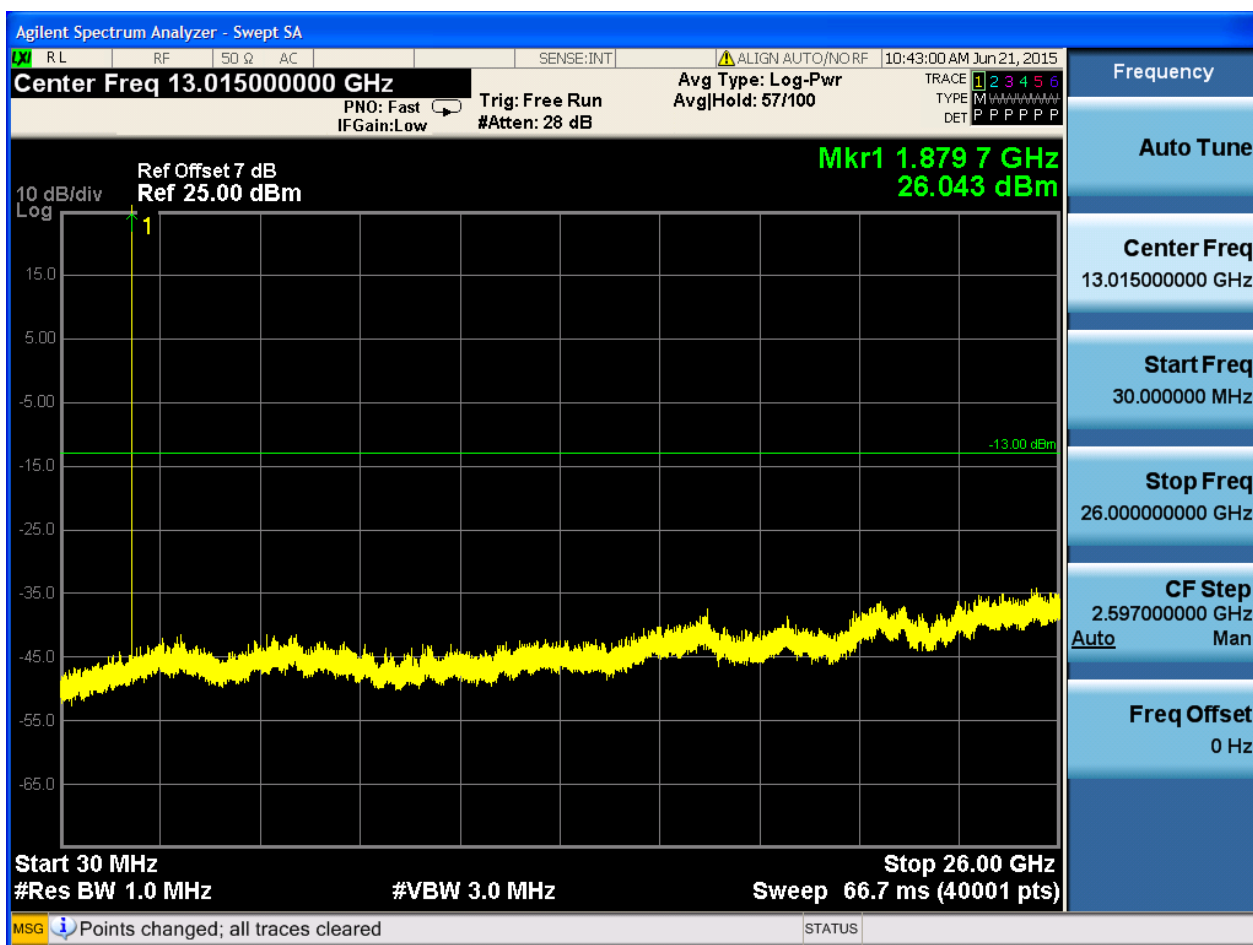


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



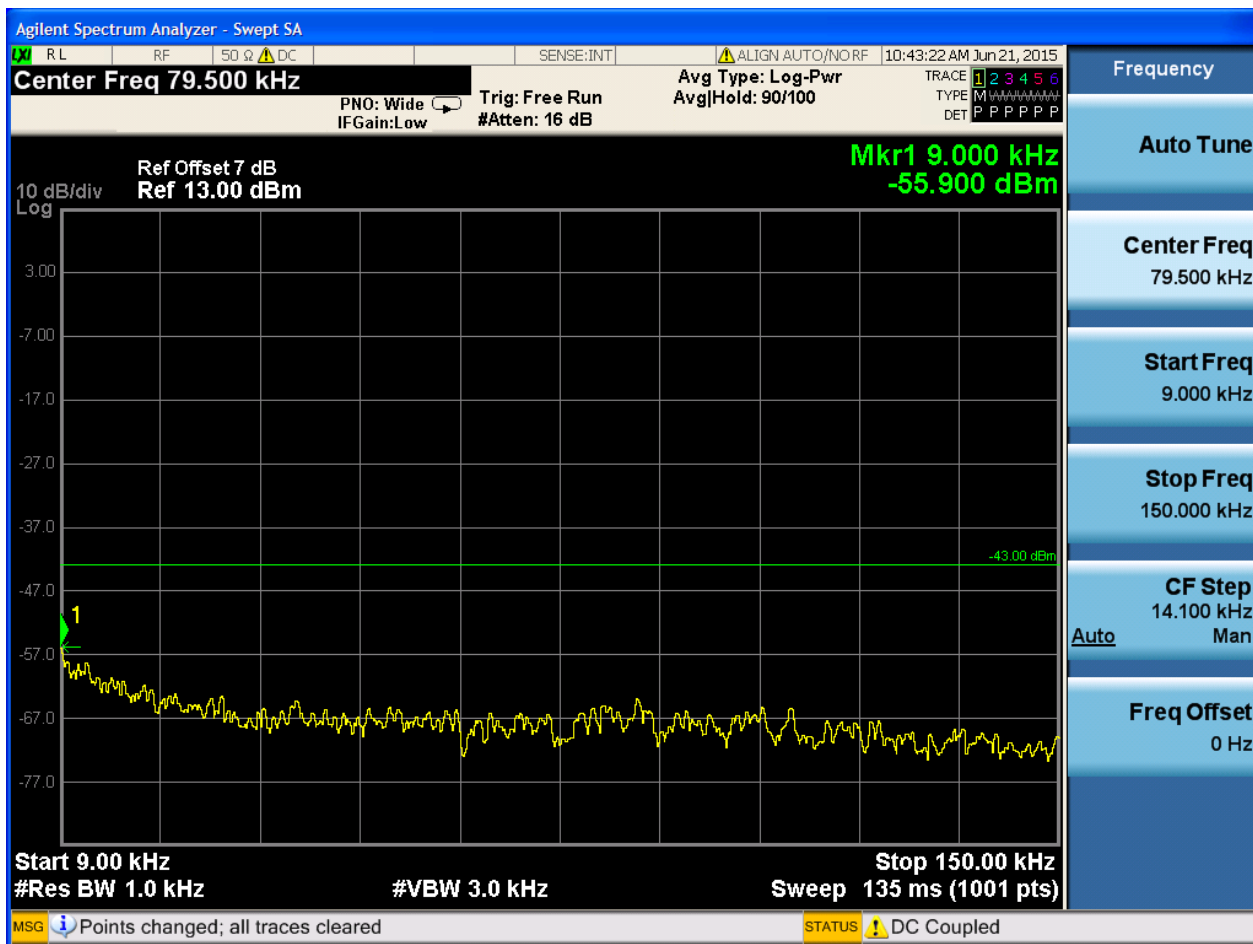


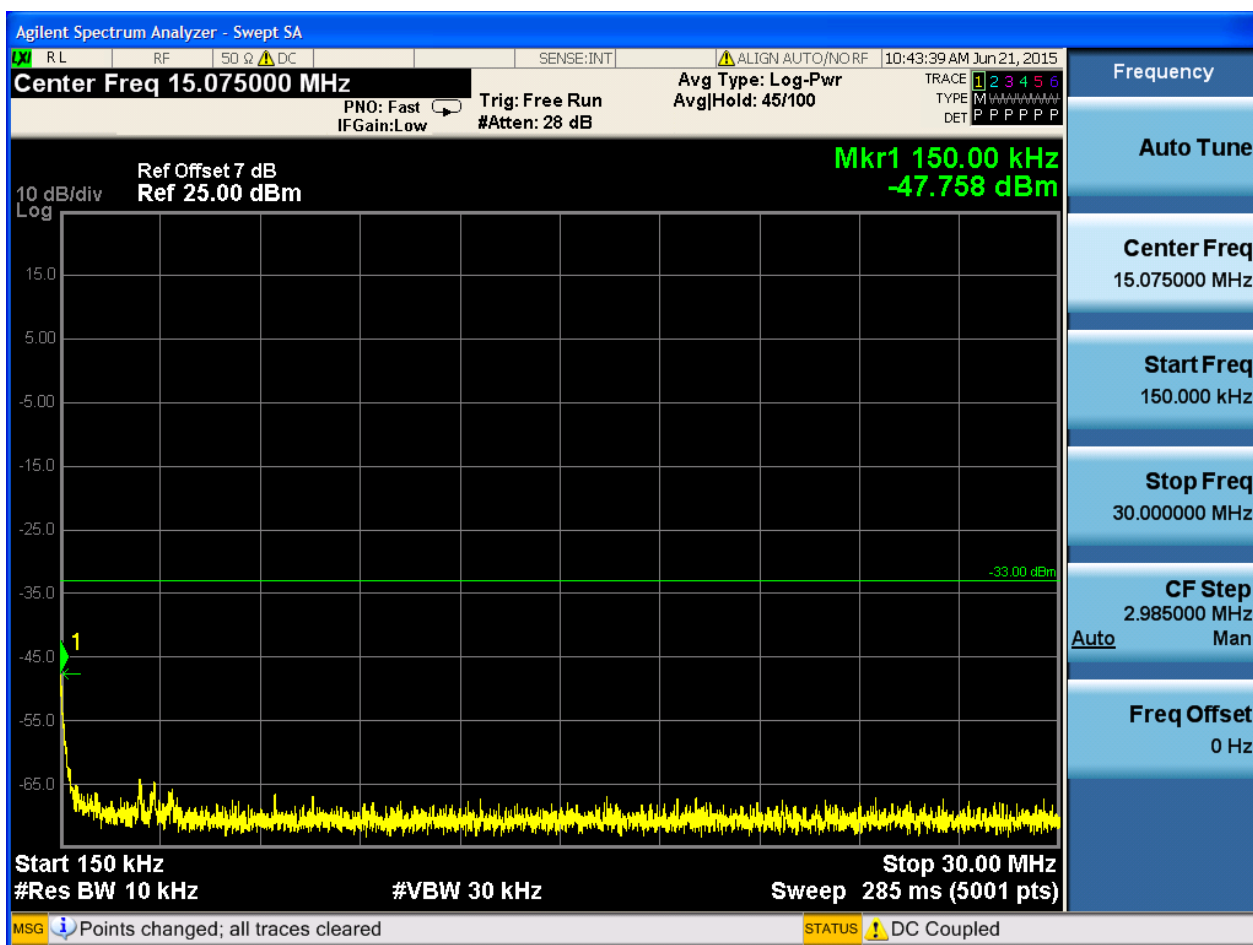


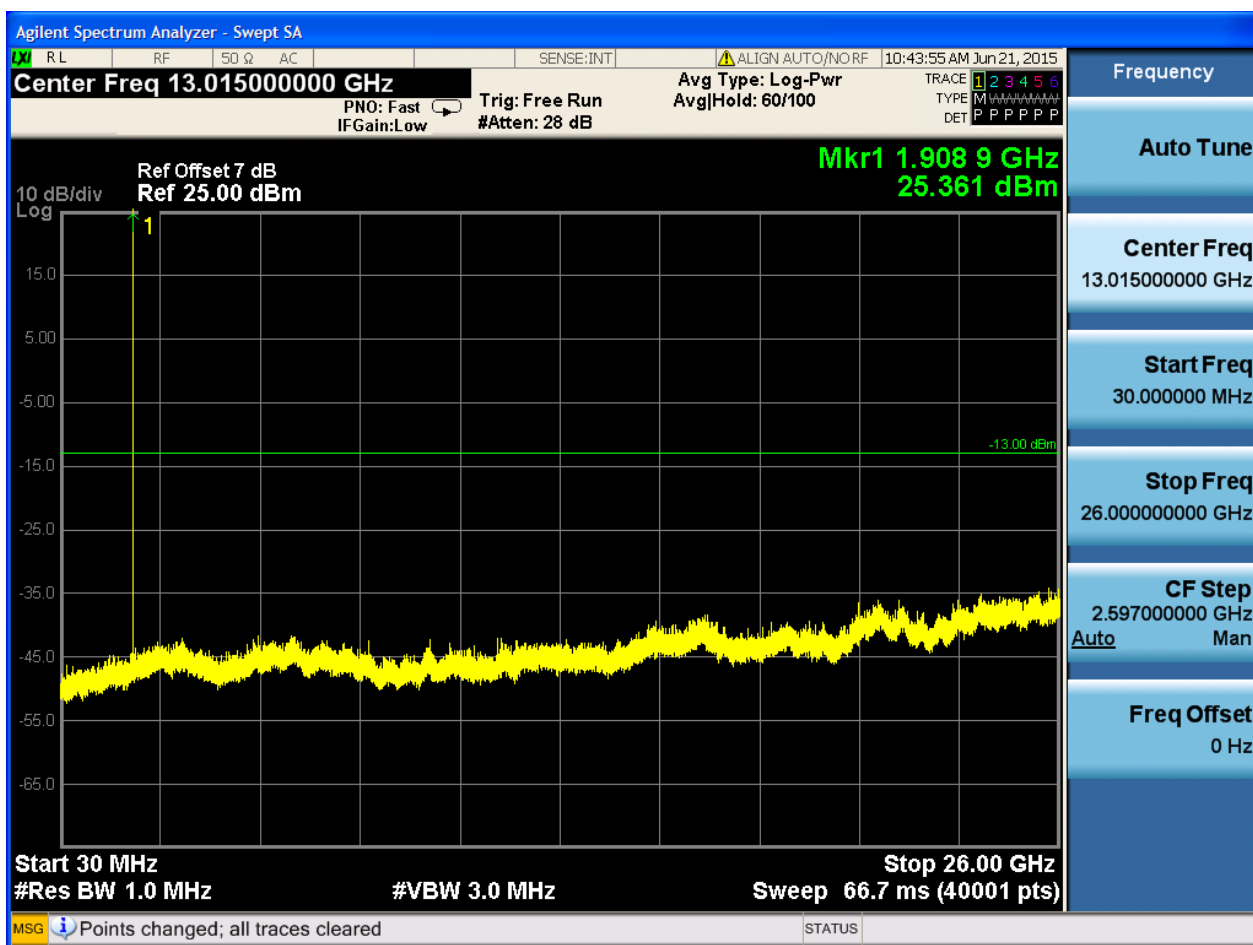


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





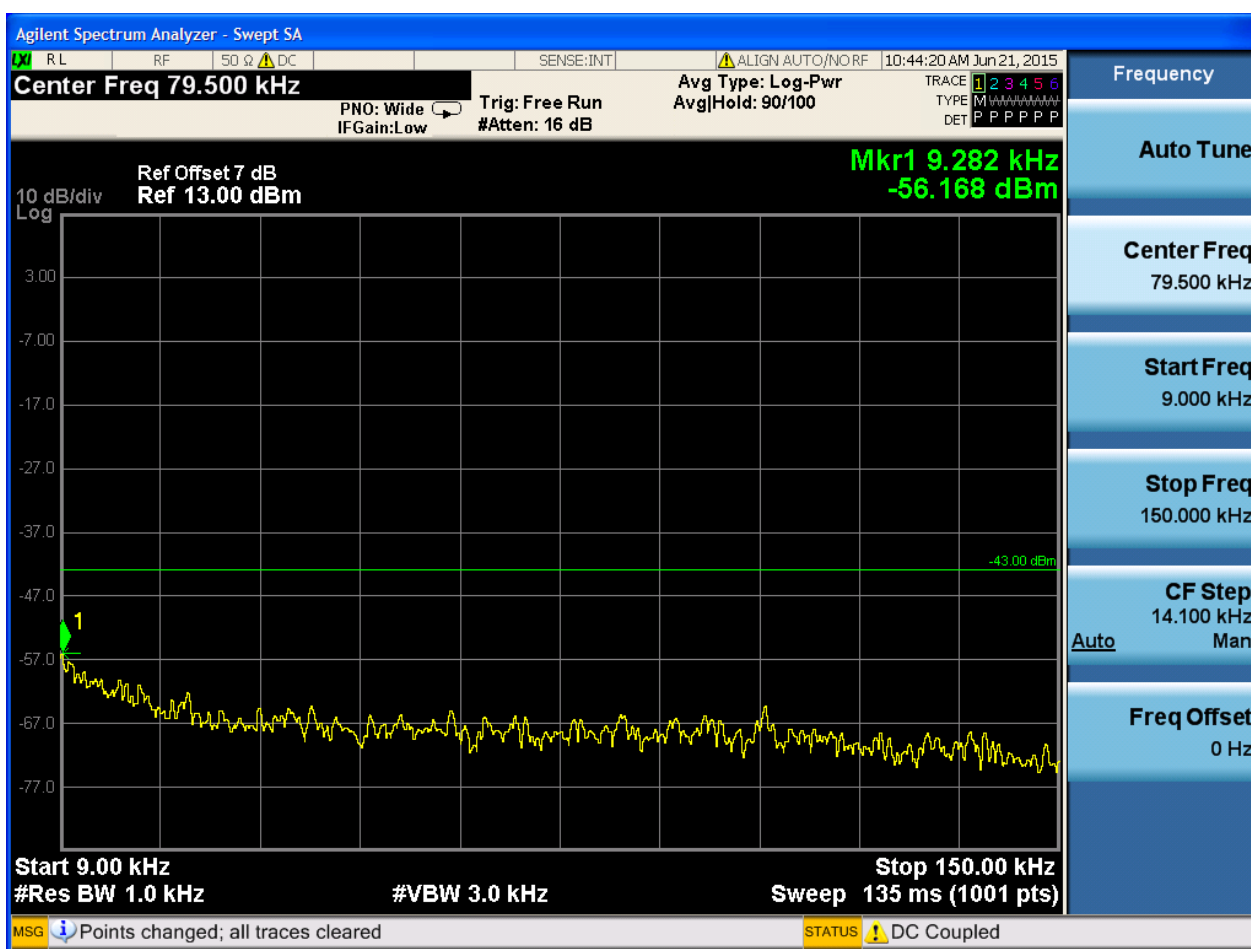


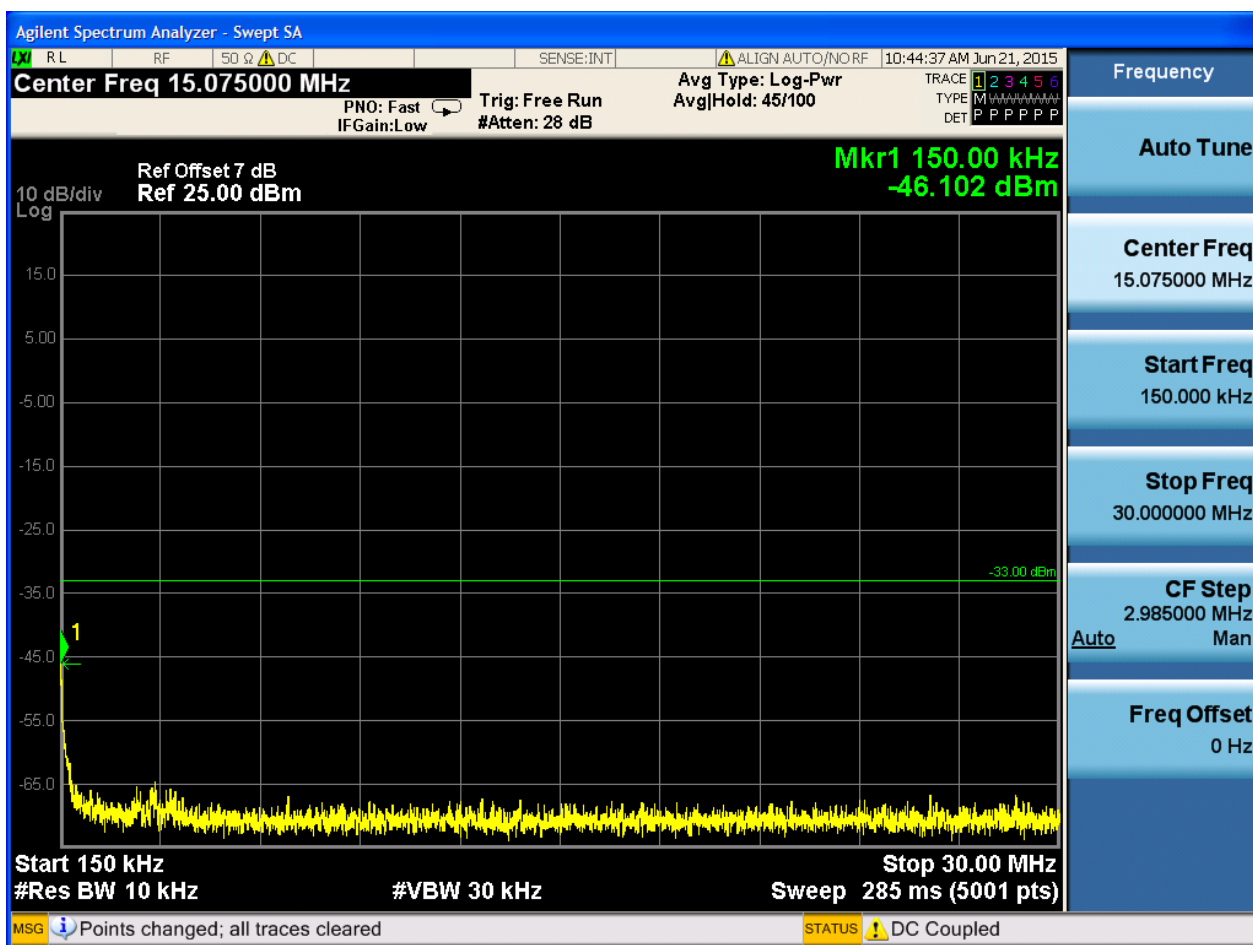


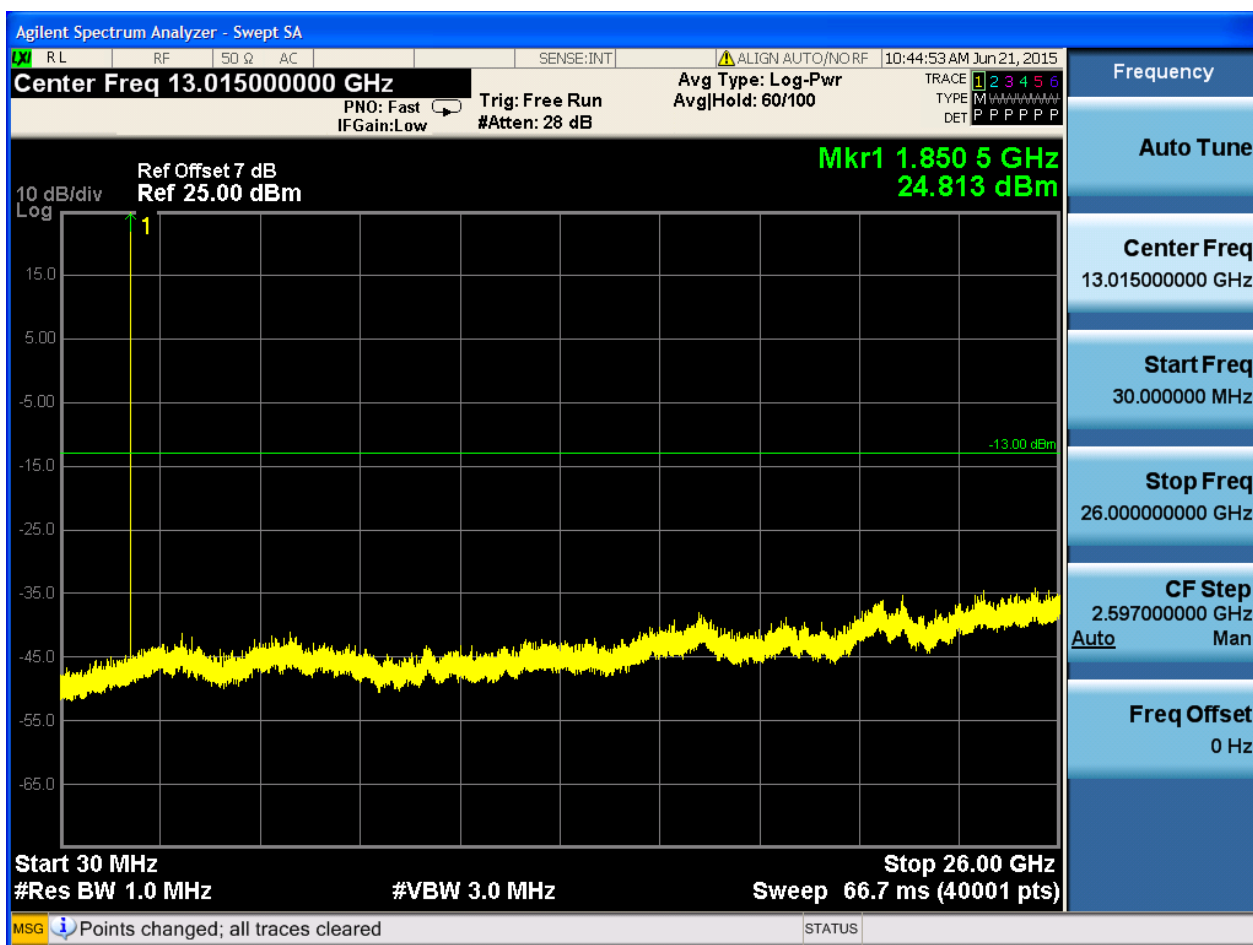
6.1.1.1.2 Test Bandwidth = 3

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

