2.11.5 900 MHz Channel

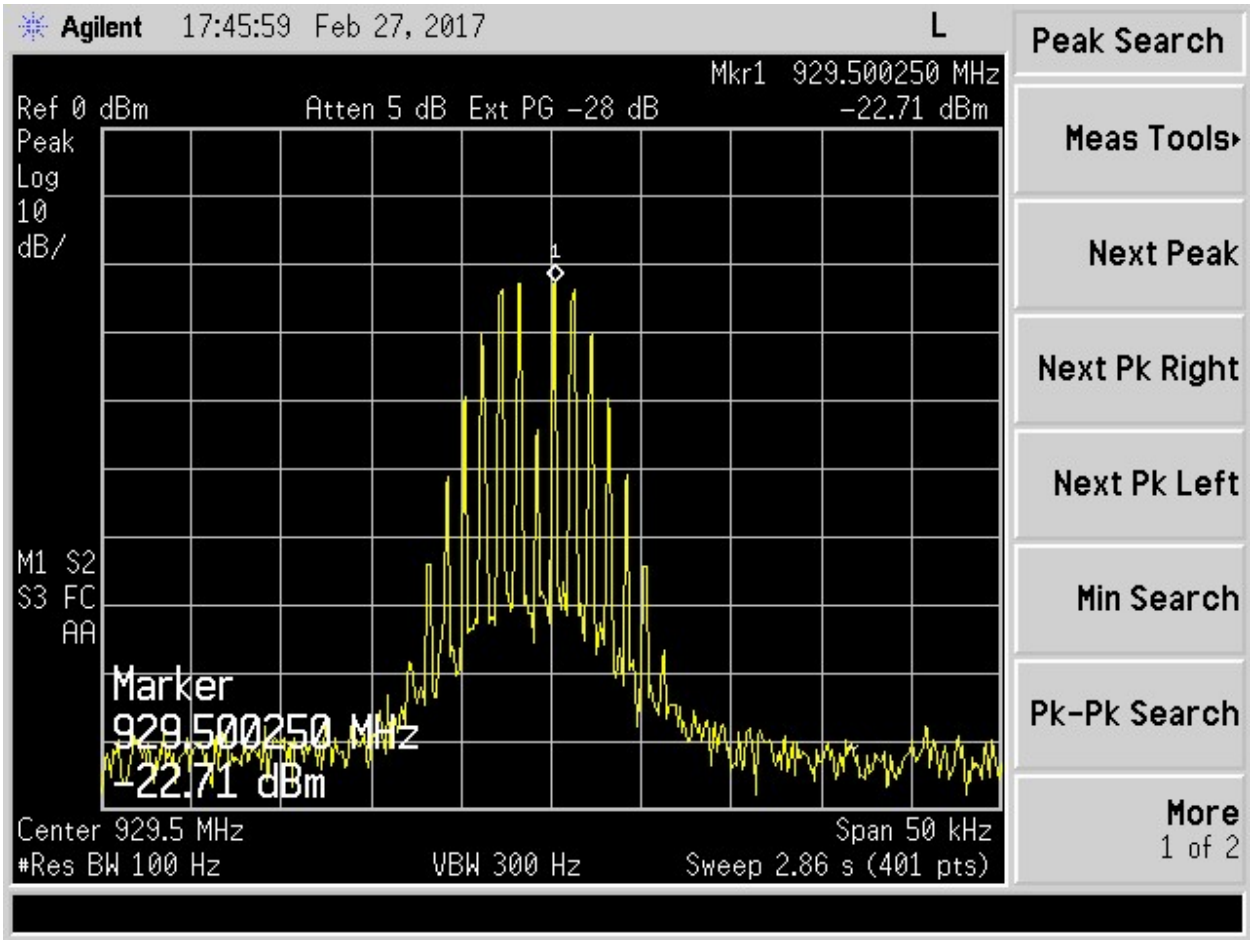

Figure 104. Input 929.5 MHz @ 12.5 kHz

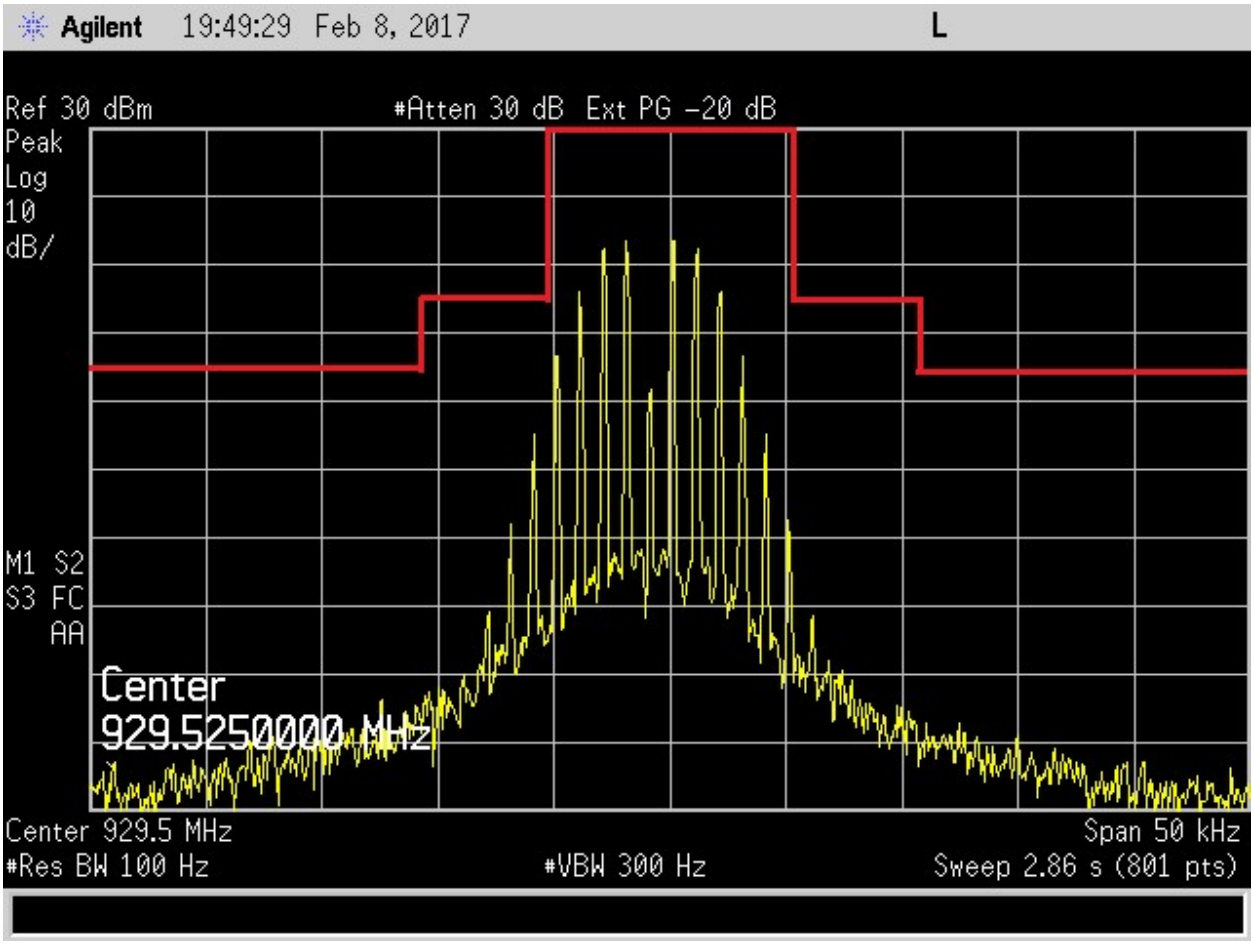

Figure 105. 929.5 MHz @ 12.5 kHz, Mask B

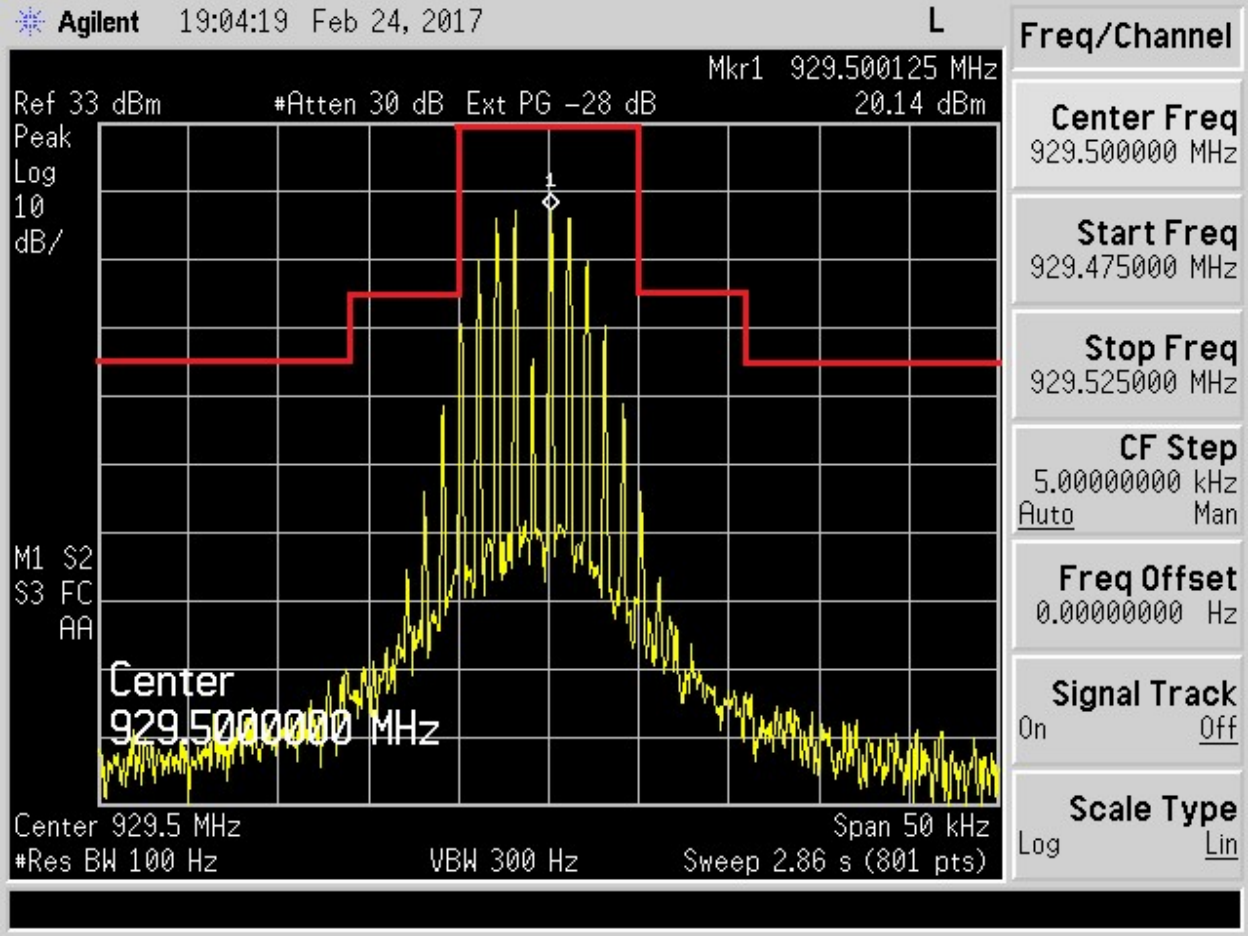

Figure 106. 929.5 MHz @ 12.5 +3.0 dB, Mask B

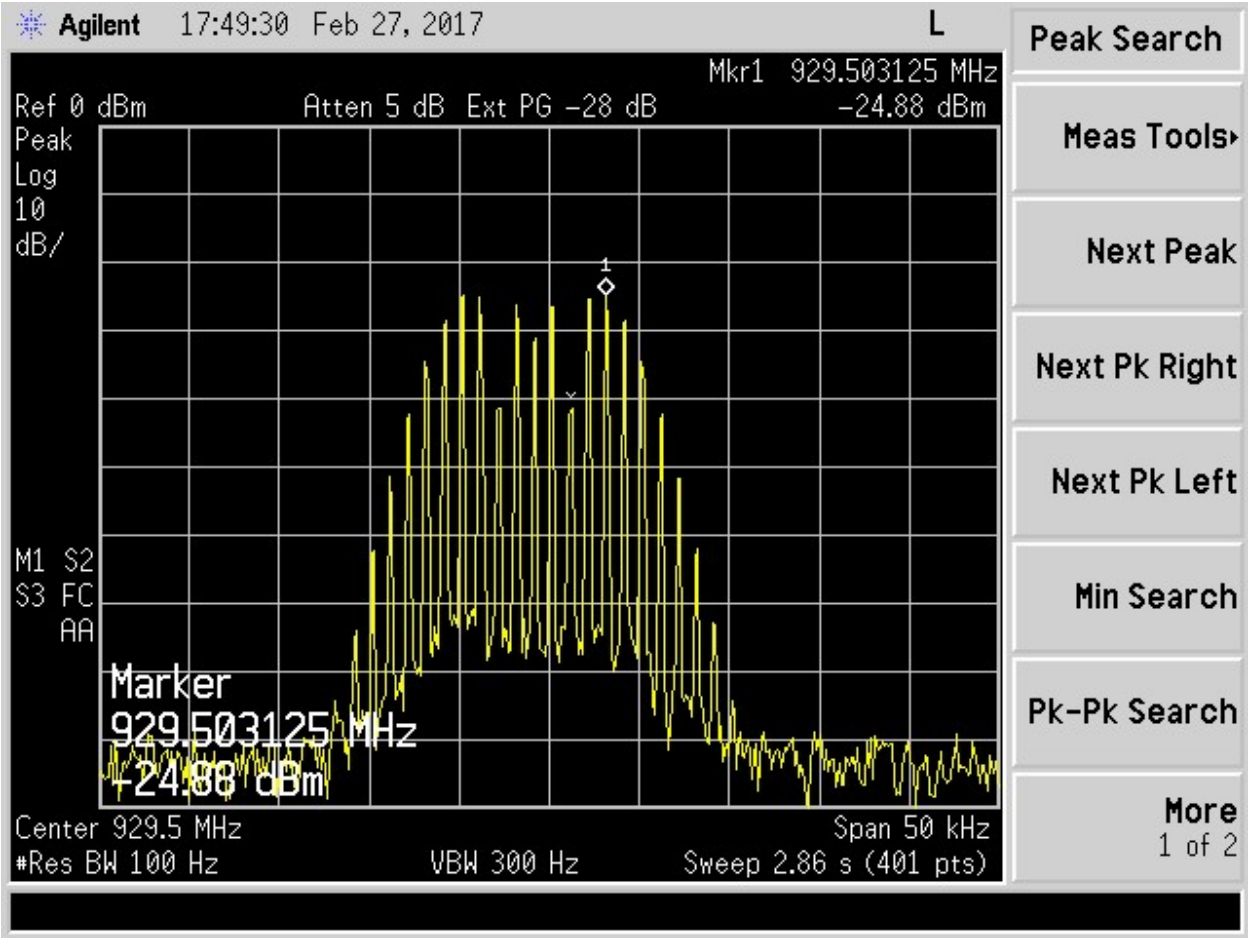

Figure 107. Input 929.5 MHz @ 25 kHz

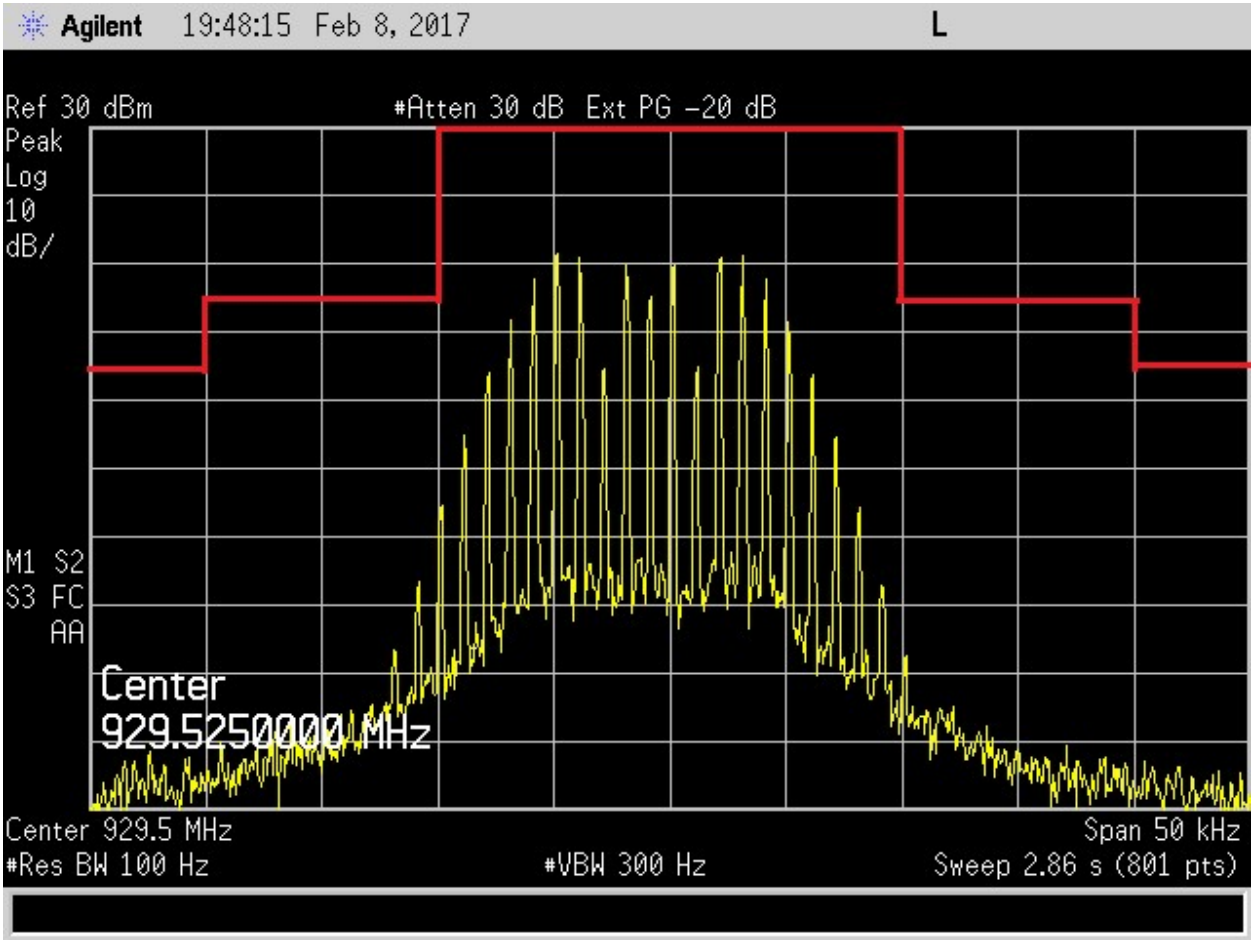

Figure 108. 929.5 MHz @ 25 kHz, Mask B

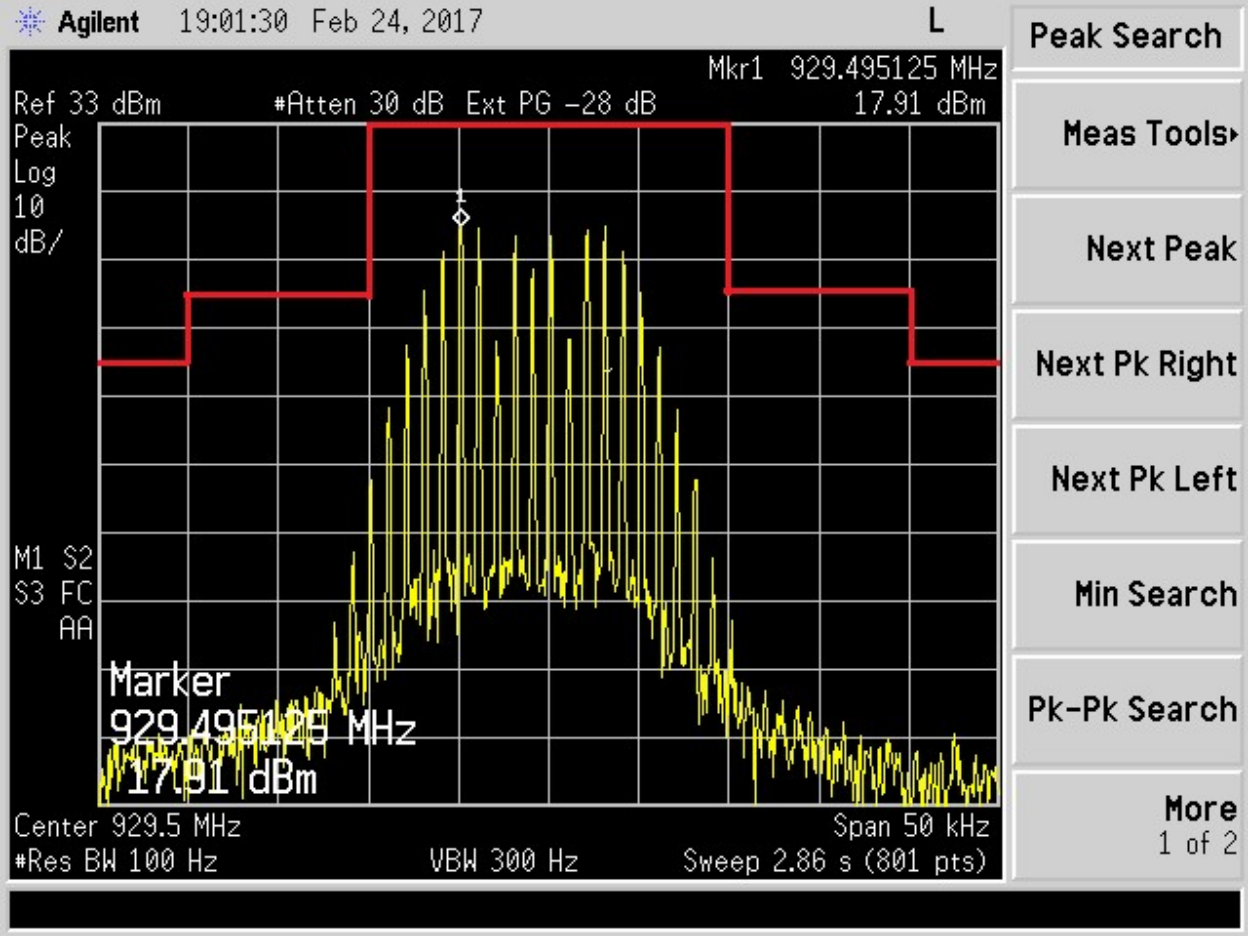

Figure 109. 929.5 MHz @ 25 kHz +3.0 dB, Mask

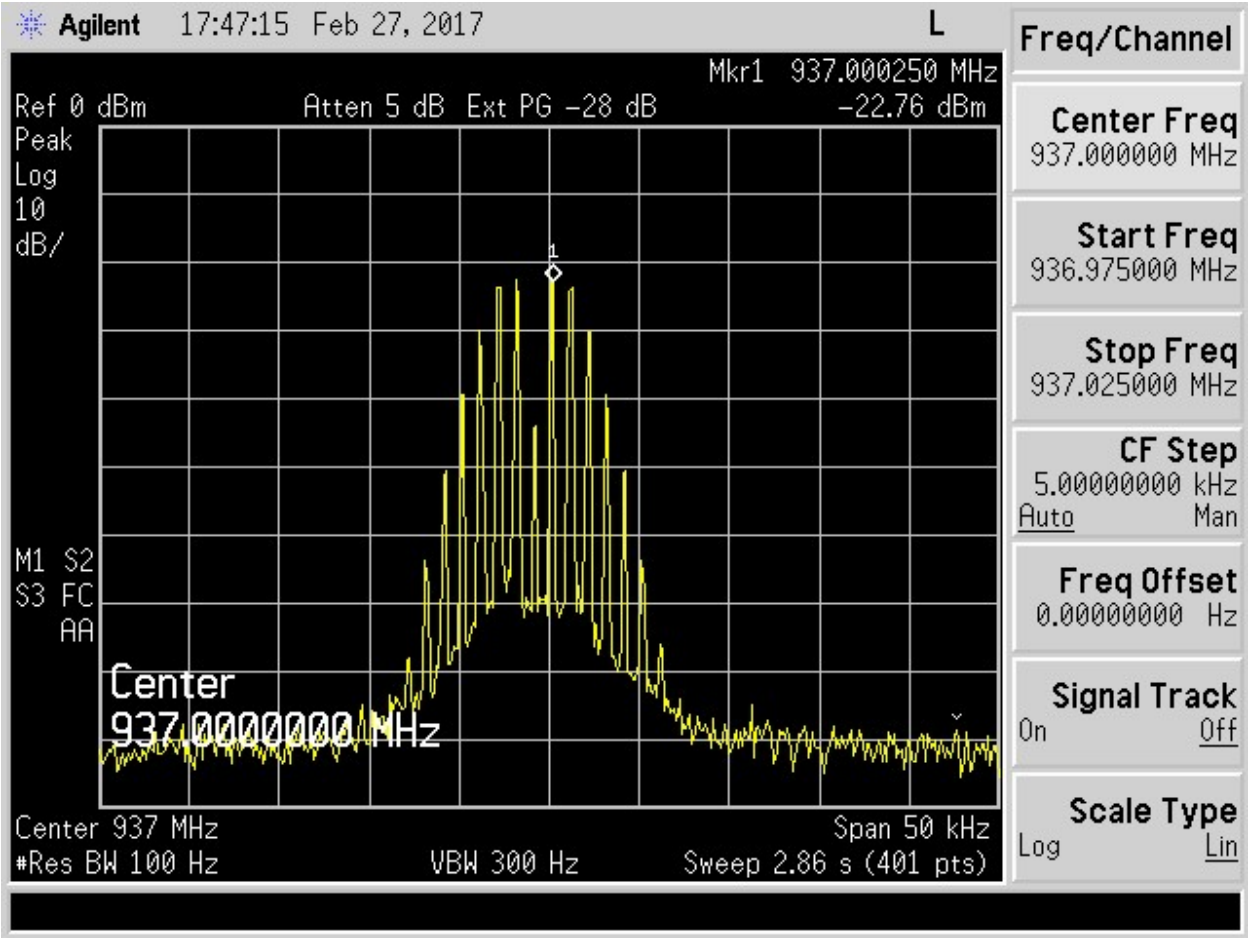

Figure 110. Input 937 MHz @ 12.5 kHz

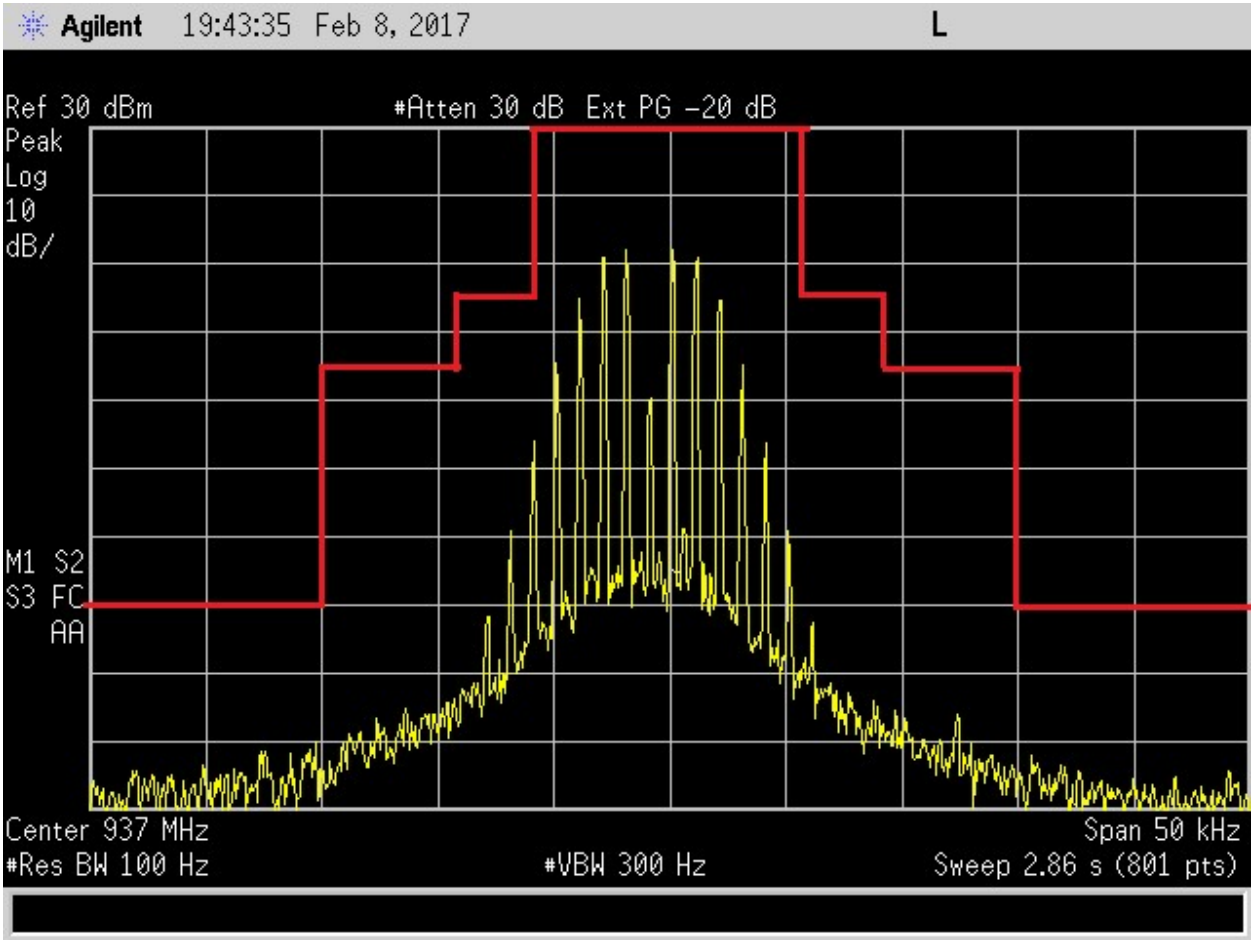

Figure 111. 937 MHz @ 12.5 kHz, Mask I

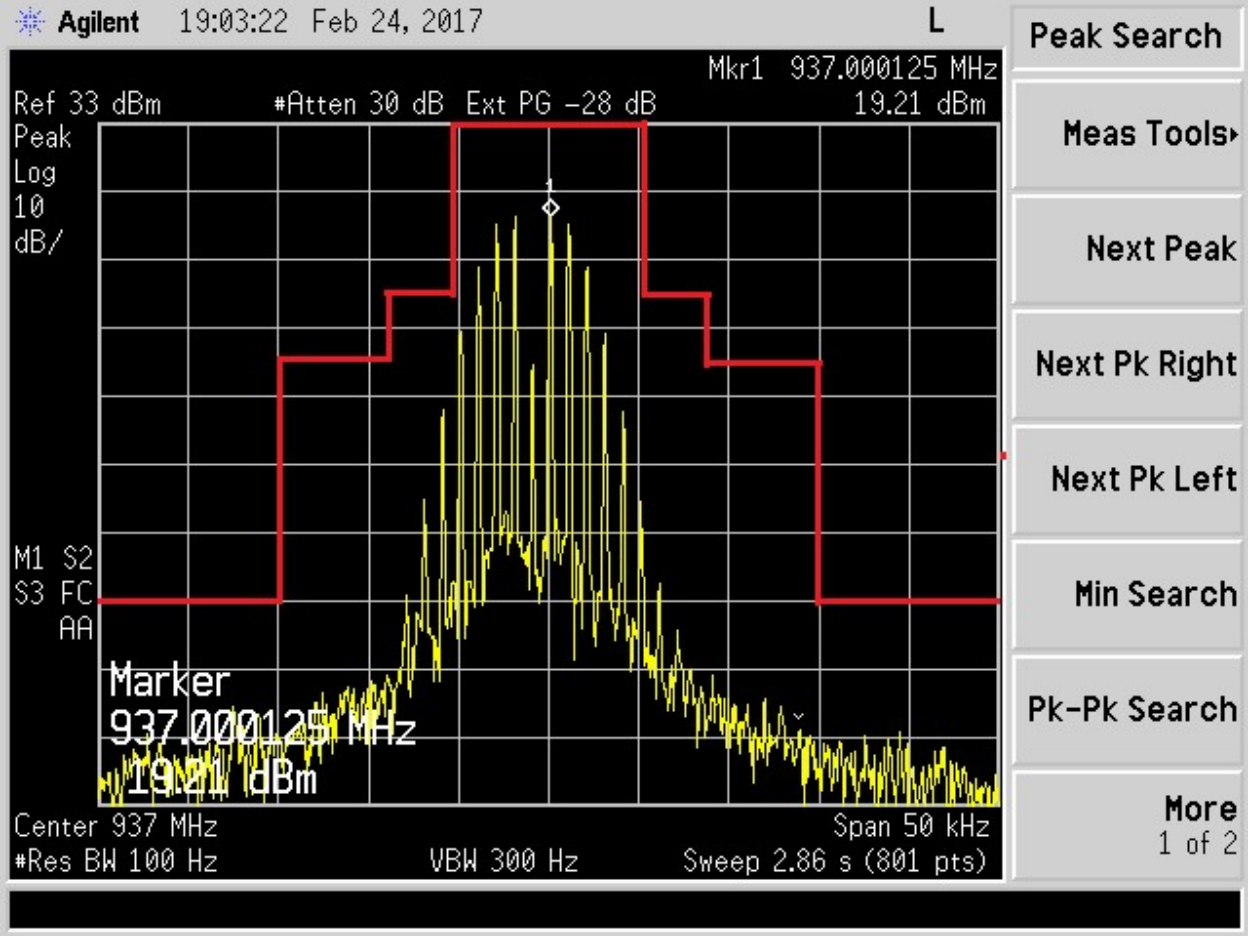

Figure 112. 937 MHz @ 12.5 kHz +3.0 dB, Mask I

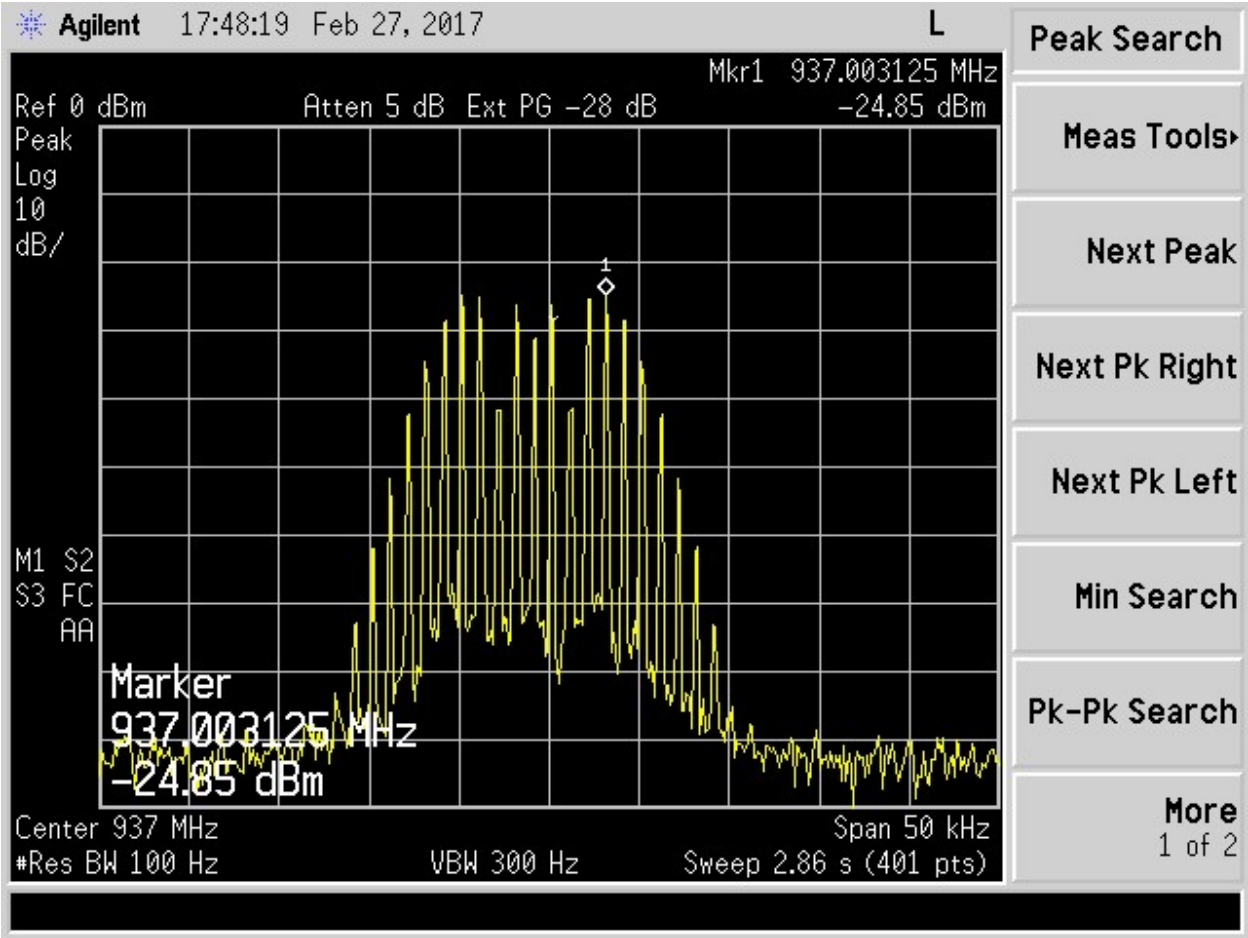

Figure 113. Input 937 MHz @ 25 kHz

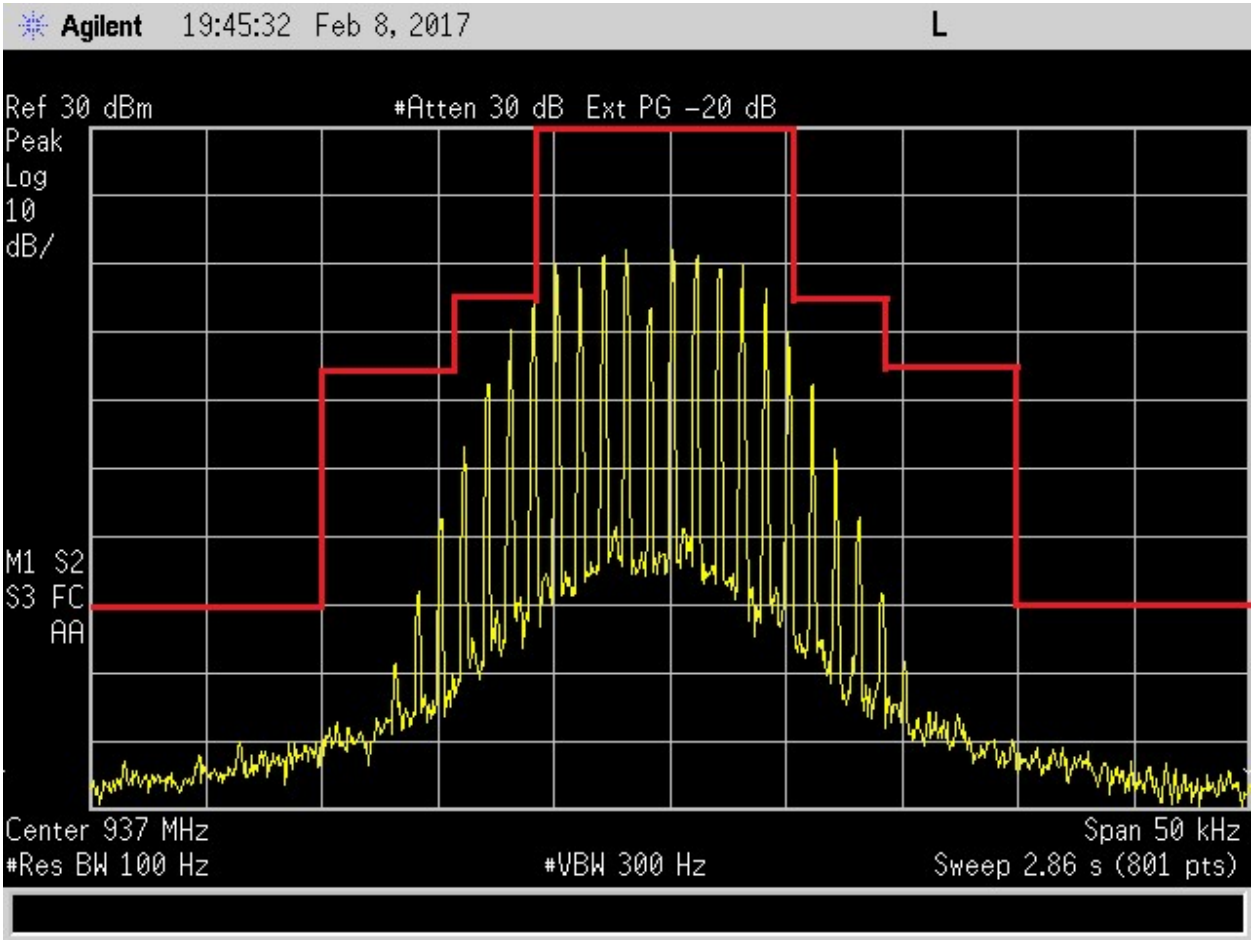

Figure 114. 937 MHz @ 25 kHz, Mask I

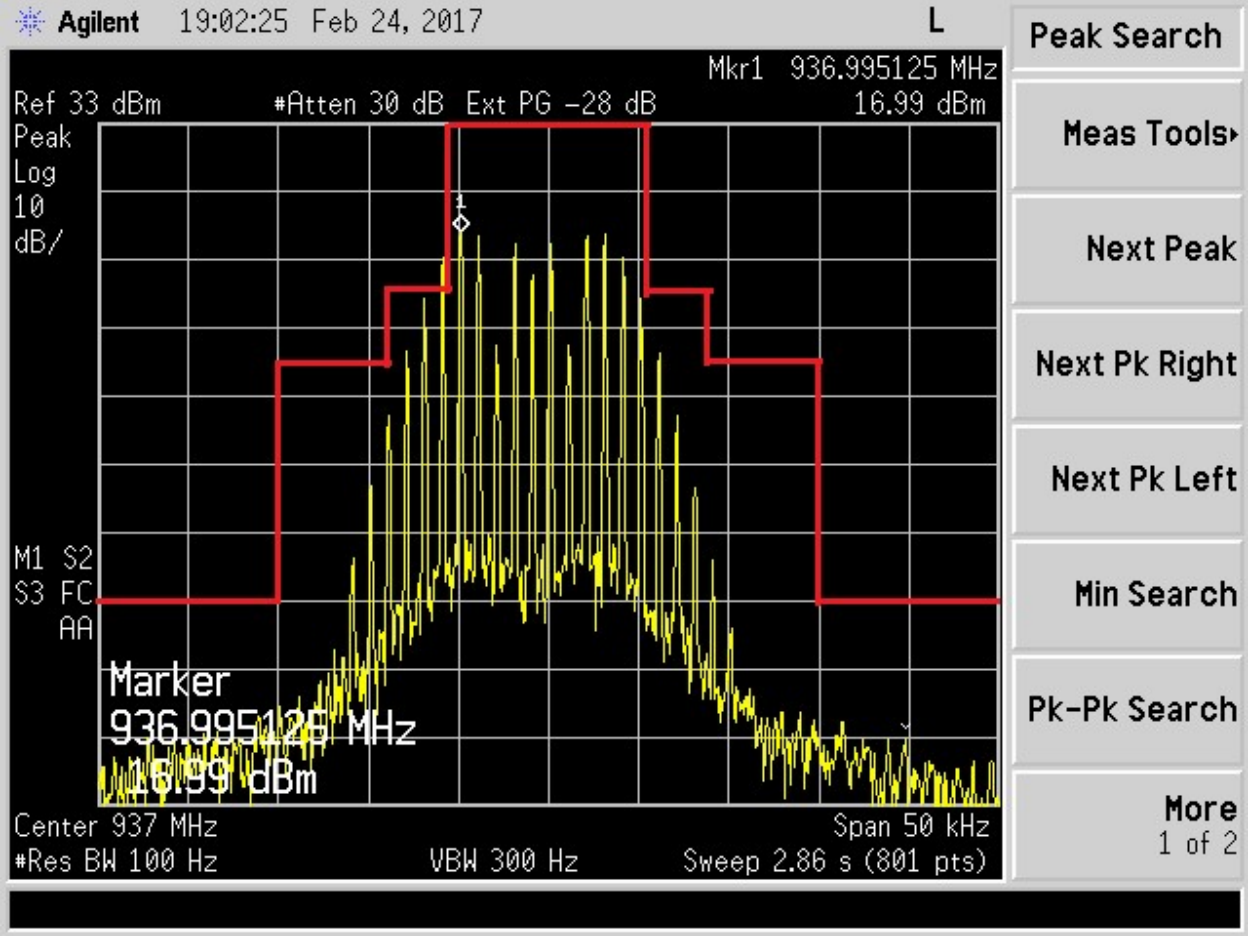

Figure 115. 937 MHz @ 25 kHz +3.0 dB, Mask I

2.12 Intermodulation (FCC Section 90.219(d)(6i) and RSS-131, 6.3)

FCC requires good engineering practice to be used in regard to the radiation of intermodulation products and noise, such that interference to licensed communications systems is avoided. In the event of harmful interference caused by any given deployment, the FCC may require additional attenuation or filtering of the emissions and/or noise from signal boosters or signal booster systems, as necessary, to eliminate the interference.

The EUT only takes fiber optic as its input; therefore testing for intermodulation cannot be applied here.

2.13 Frequency Stability (FCC 2.1055, 90.213 and RSS-131 5.2.4)

The EUT has no input signal processing capability, the frequency stability measurements in this section are not required.

2.14 Spurious Emissions (FCC Section 90.219(d)(e)(3) and RSS-131, 6.5)

Spurious Emissions from a signal booster must not exceed -13 dBm within any 100 kHz measurement bandwidth.

2.14.1 Radiated Spurious Emissions Measurement

The EUT was tested in a semi-anechoic chamber with the turntable set 3m from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Radiated Emissions. The EUT was tested by rotating it 360° with the receiving antenna in both the vertical then horizontal position. The receive antenna was elevated from 1 m to 4 m to ensure that the maximum emission was captured. A signal generator was used to provide a CW signal that was FM modulated to the EUT. The EUT output was terminated with a 50 ohm non-radiating load.

The RBW was set to 100 KHz for measurements below 1 GHz and 1 MHz for measurements above 1 GHz. The VBW was 3 times the RBW.

FCC limit = -13 dBm (Assuming EIPR)
Radiated emission limit = -13 dBm - 20 log(3m) +104.8 = 82.25 dBuV/m

The following plots show the worst-case results, which were measured with the antennas in the vertical position.

2.14.1.1 VHF Radiated Spurious Emissions Plots

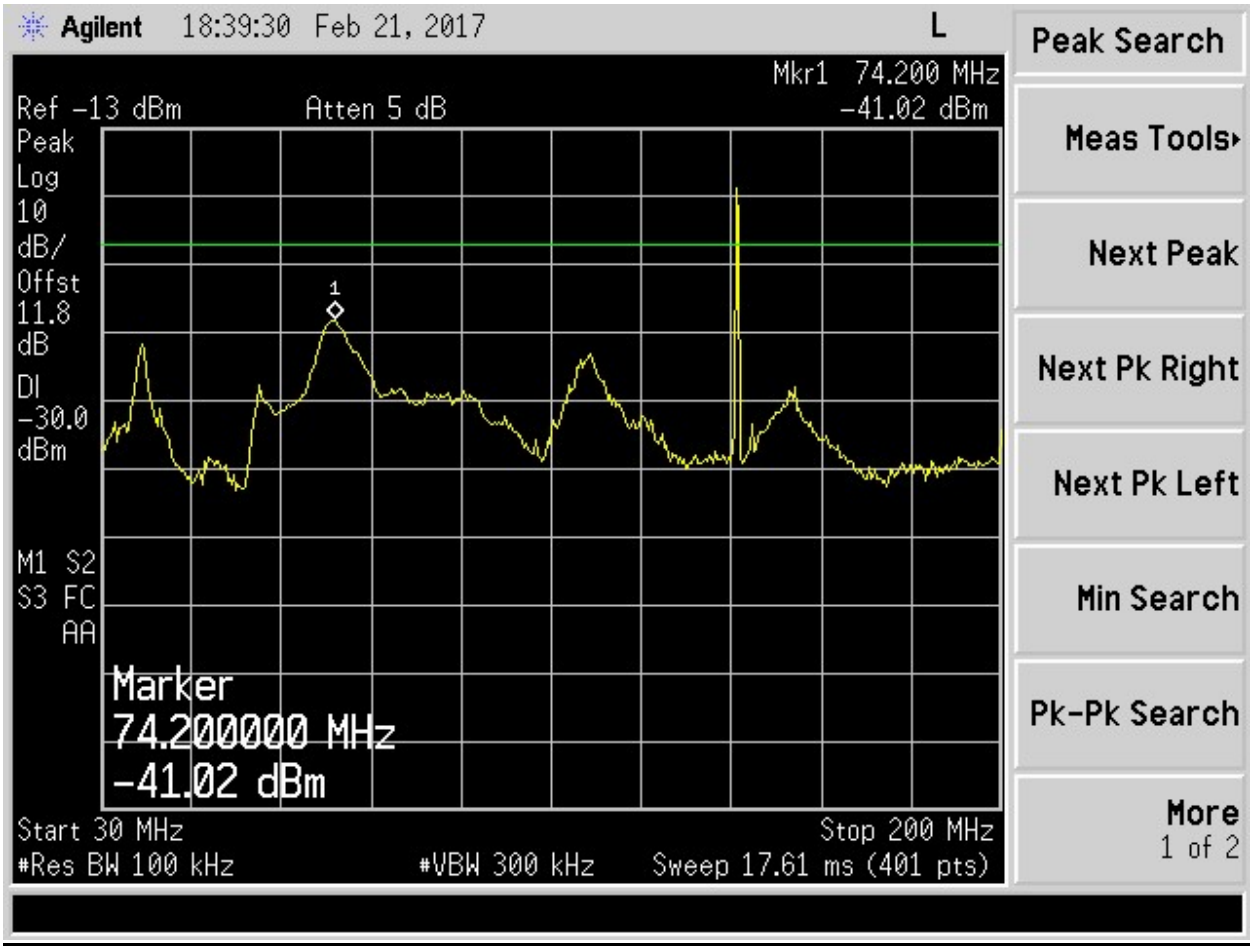

Figure 116. 150 MHz Vertical 30 – 200 MHz

Note: All spurious emissions other than fundamental and harmonics are below the display line level.

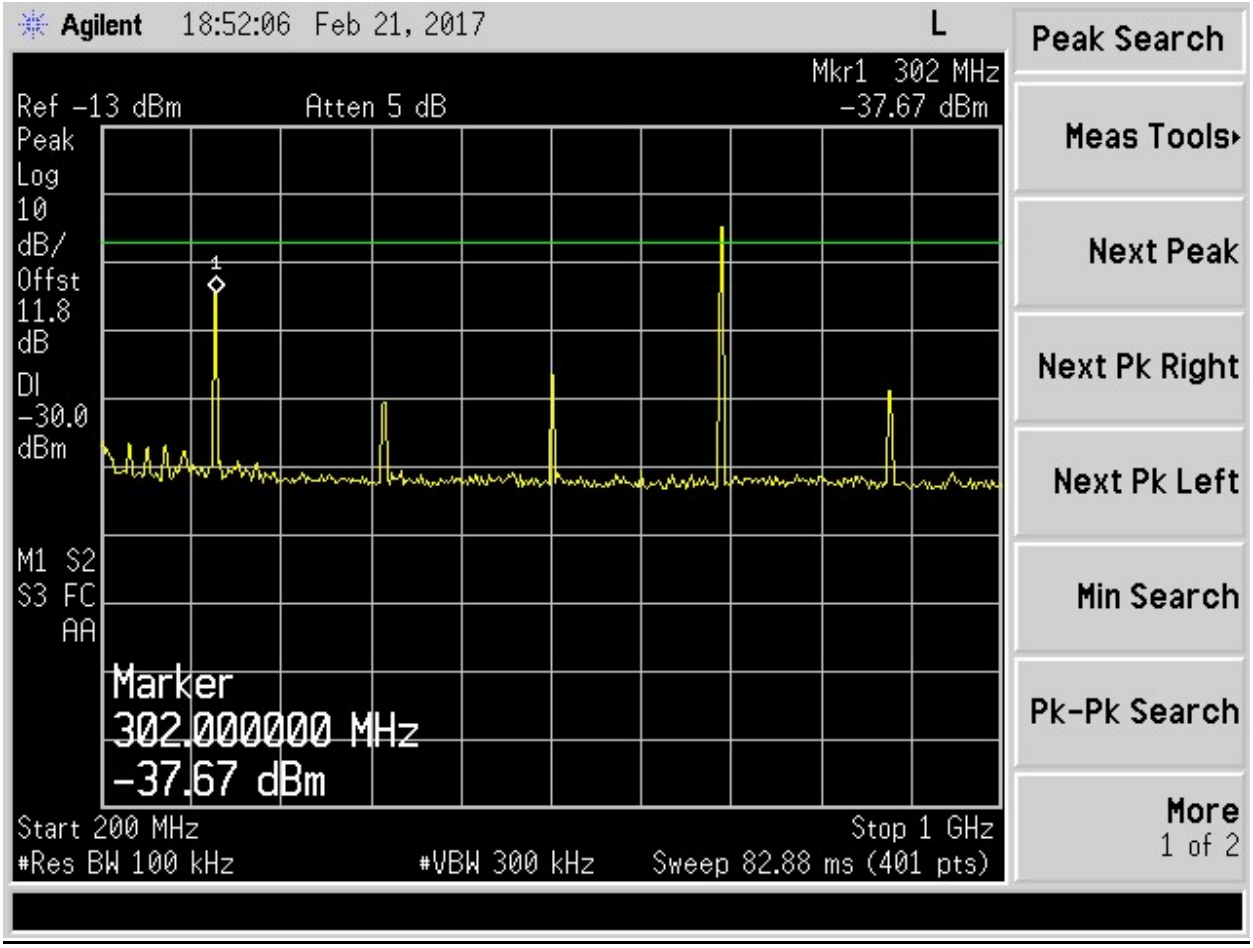

Figure 117. 150 MHz Vertical 200- 1000 MHz

Note: All spurious emissions other than fundamental and harmonics are below the display line level.

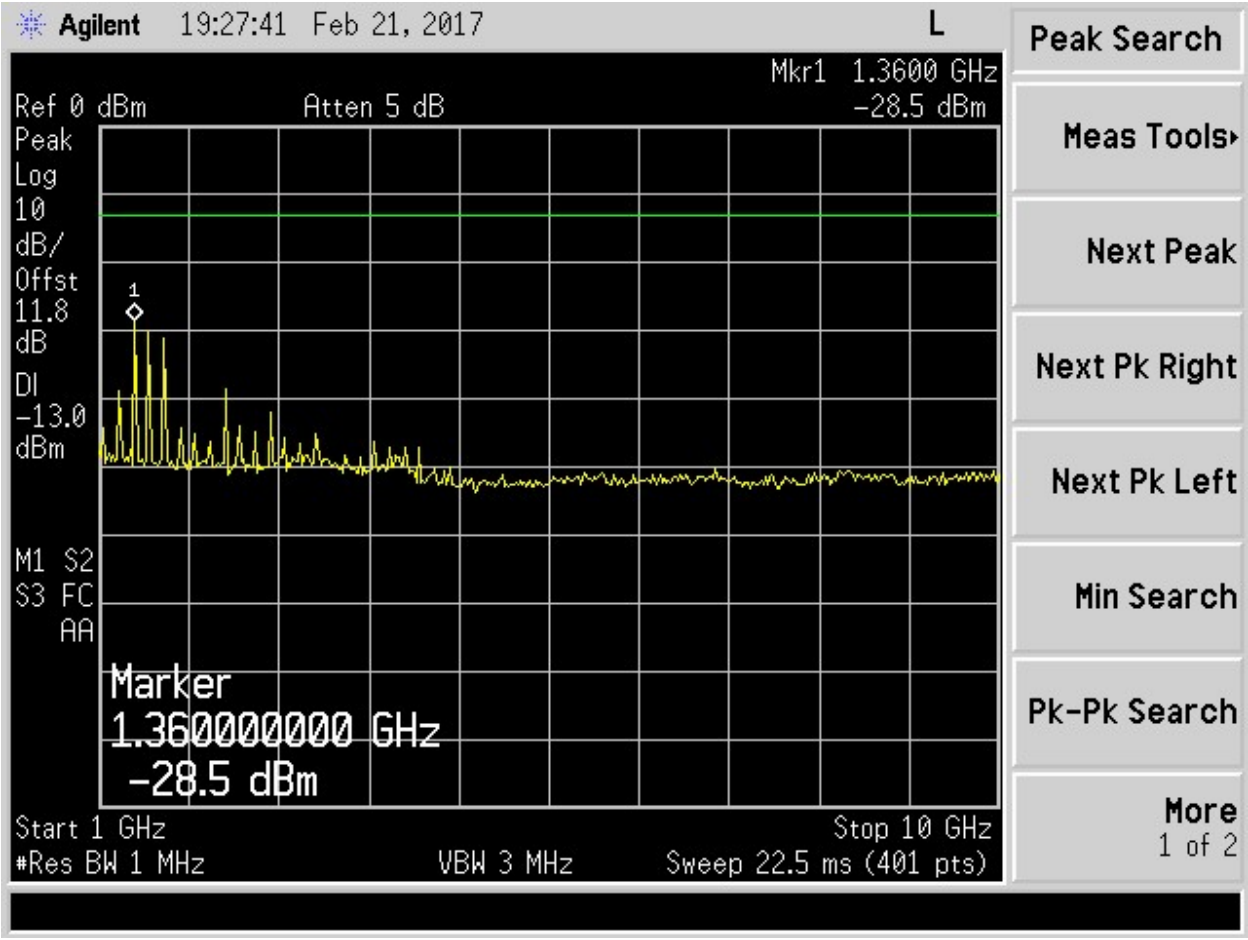

Figure 118. 150 MHz Vertical 1- 10 GHz

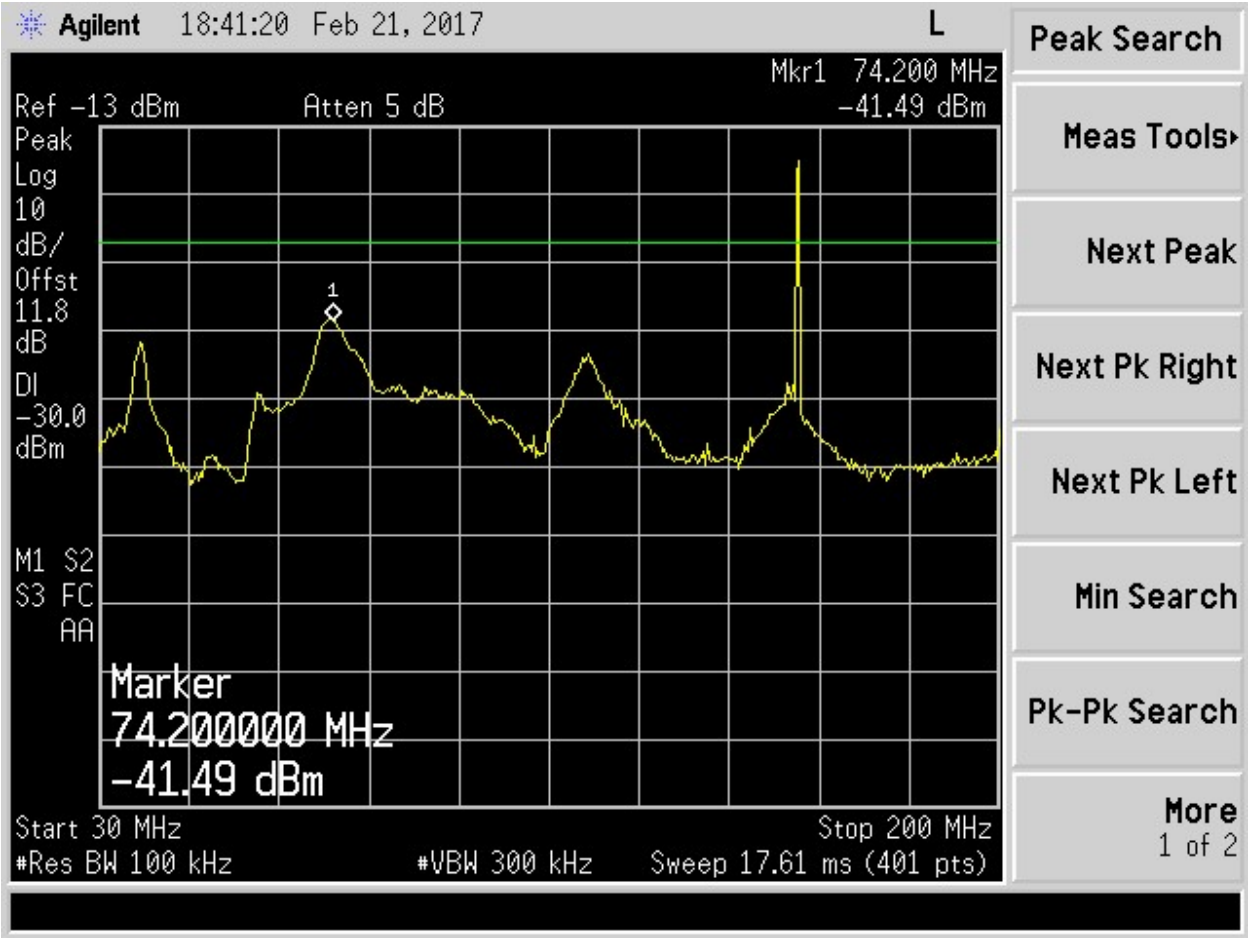

Figure 119. 162 MHz Vertical 30 -200 MHz

Note: All spurious emissions other than fundamental and harmonics are below the display line level.

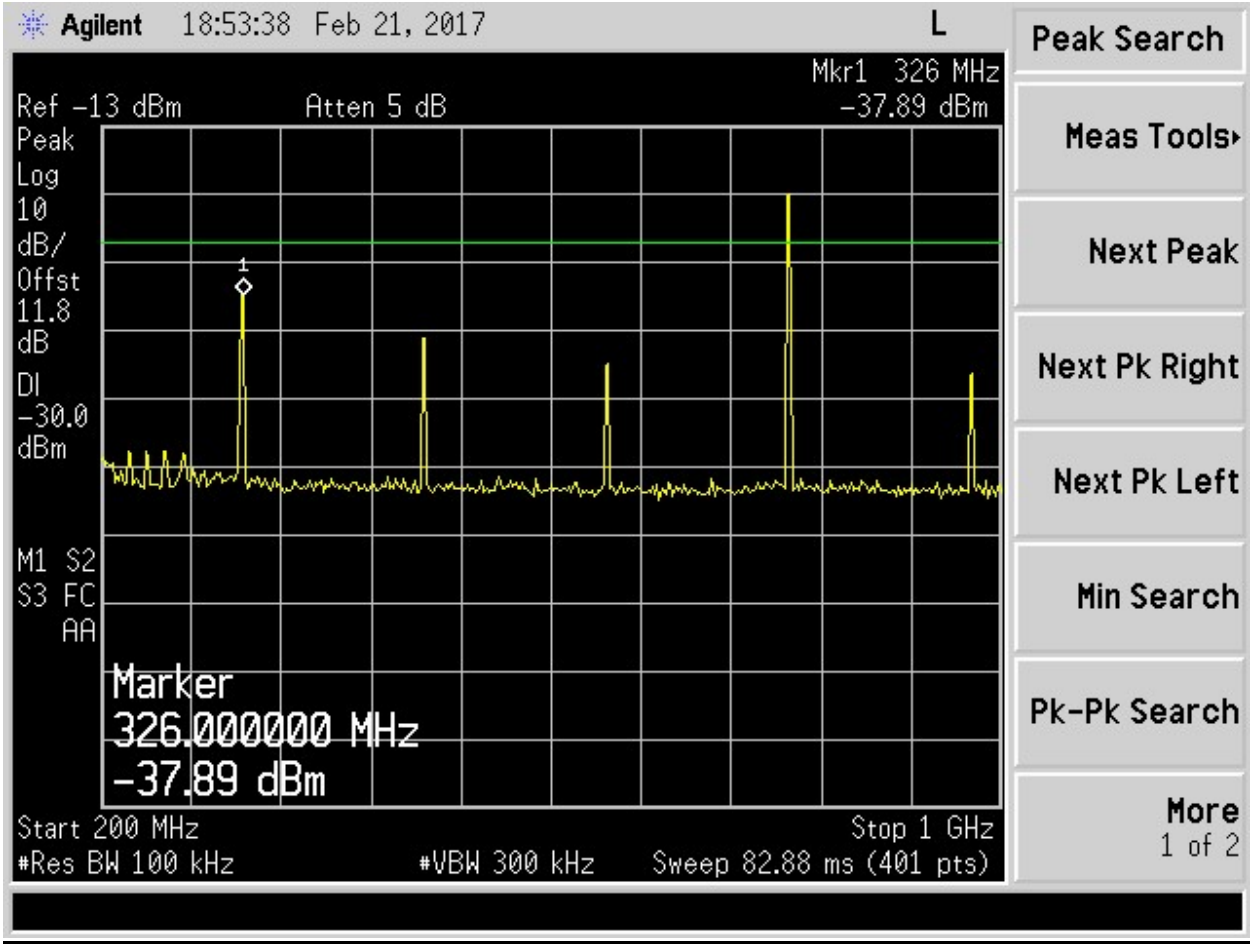

Figure 120. 162 MHz Vertical 200 – 1000 MHz

Note: All spurious emissions other than fundamental and harmonics are below the display line level.

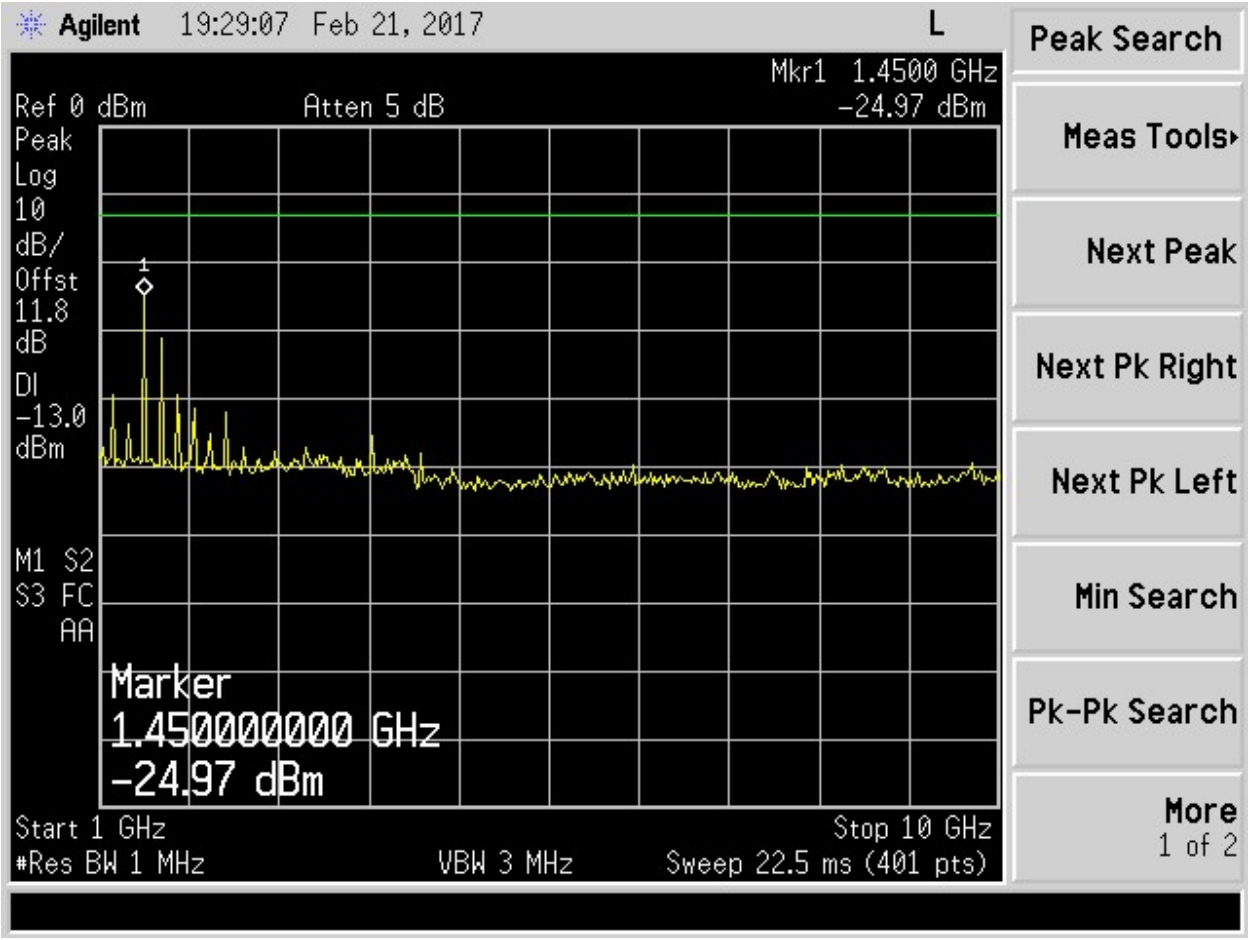

Figure 121. 162 MHz Vertical 1 -10 GHz

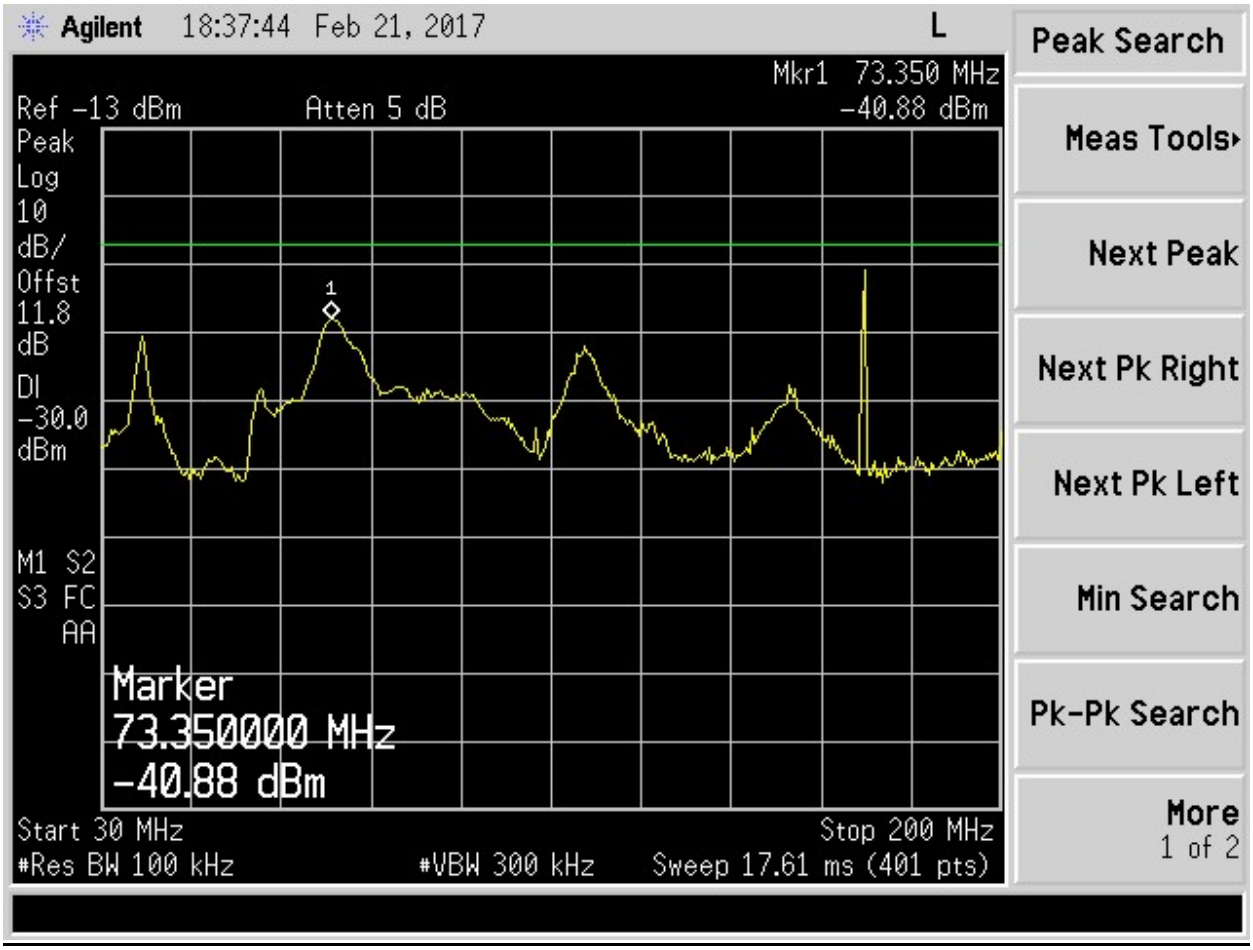

Figure 122. 174 MHz Vertical 30- 200 MHz

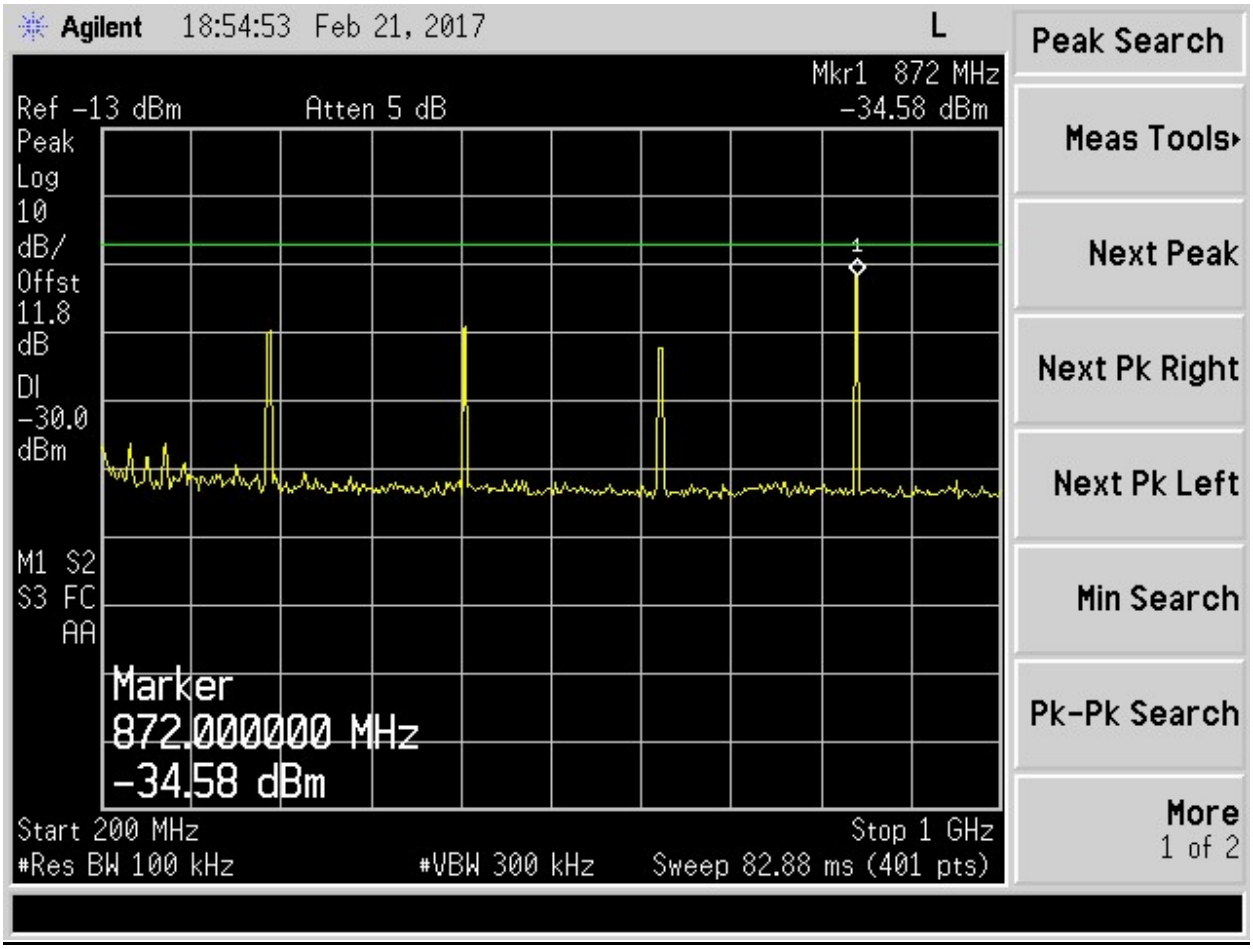

Figure 123. 174 MHz Vertical 200- 1000 MHz

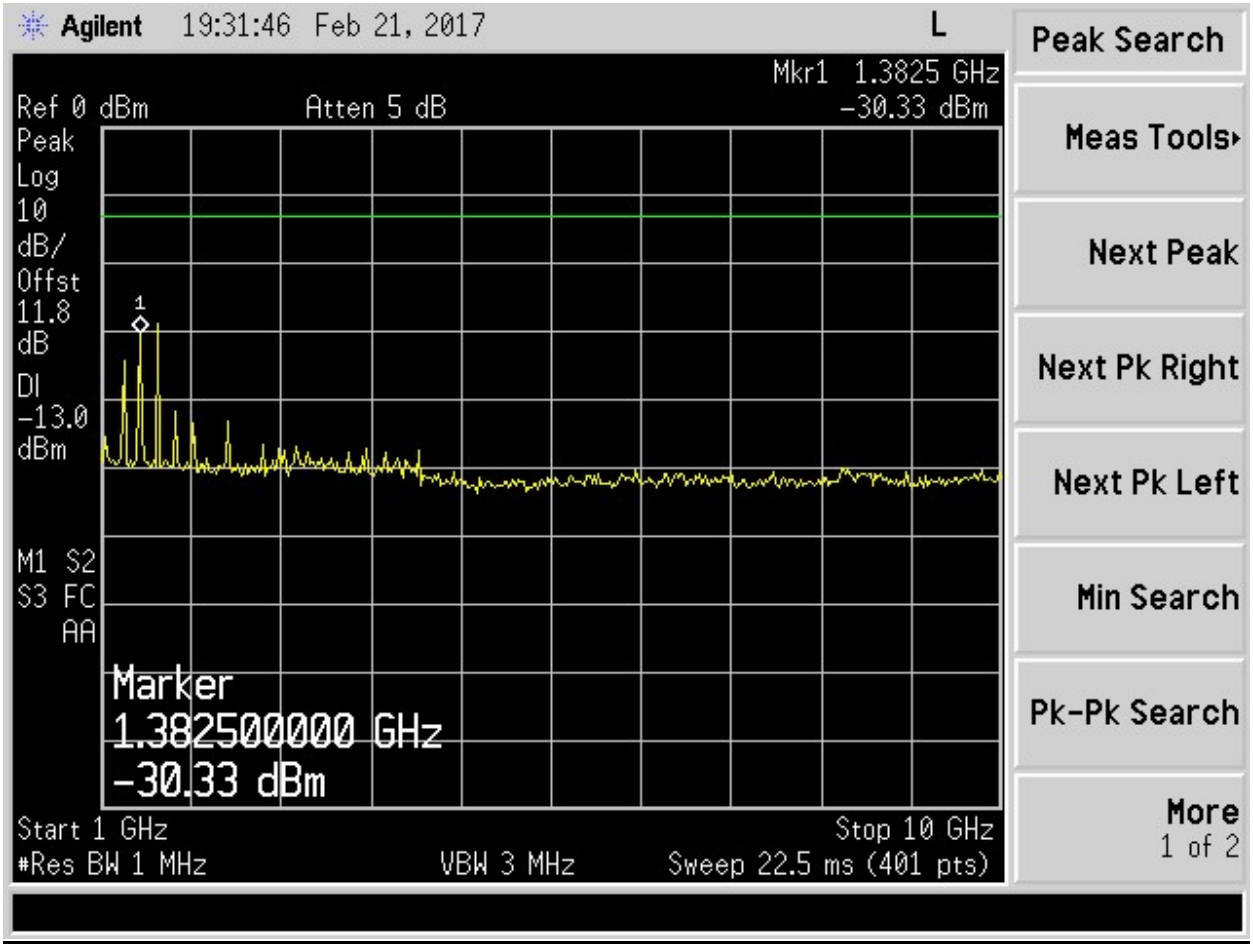

Figure 124. 174 MHz Vertical 1 -10 GHz