

Annex E – FCC §15.209 Conducted Spurious Emissions

Below measurements are in units of dBuV/m at 3meters. These measurements are performed conducted in lieu of radiated as permitted by ANSI C63.10-2013. The formulas presented below were used in making such conversions.

Above 1 GHz:

$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] - 20 \log (d[\text{m}]) + 104.77$$

where E is field strength and d is distance at which the field strength limit is specified in the applicable requirements.

$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$$

for $d = 3 \text{ m}$.

Straight conversion between $E[\text{dB}\mu\text{V/m}]$ and $\text{EIRP}[\text{dBm}] = -107$, thus offset for dBuV/m at 3meters is

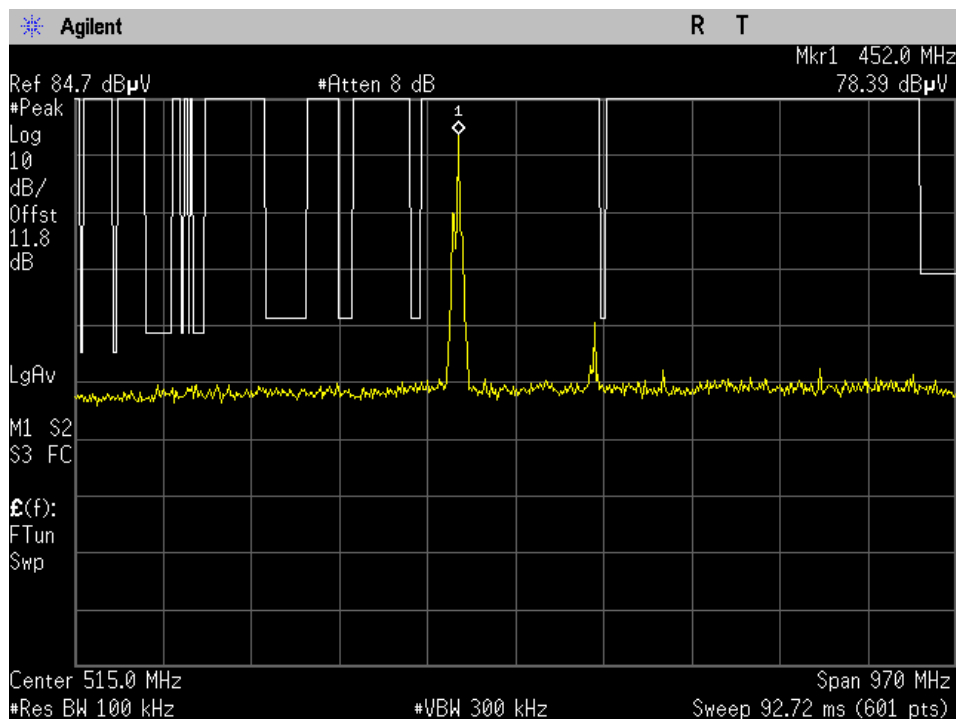
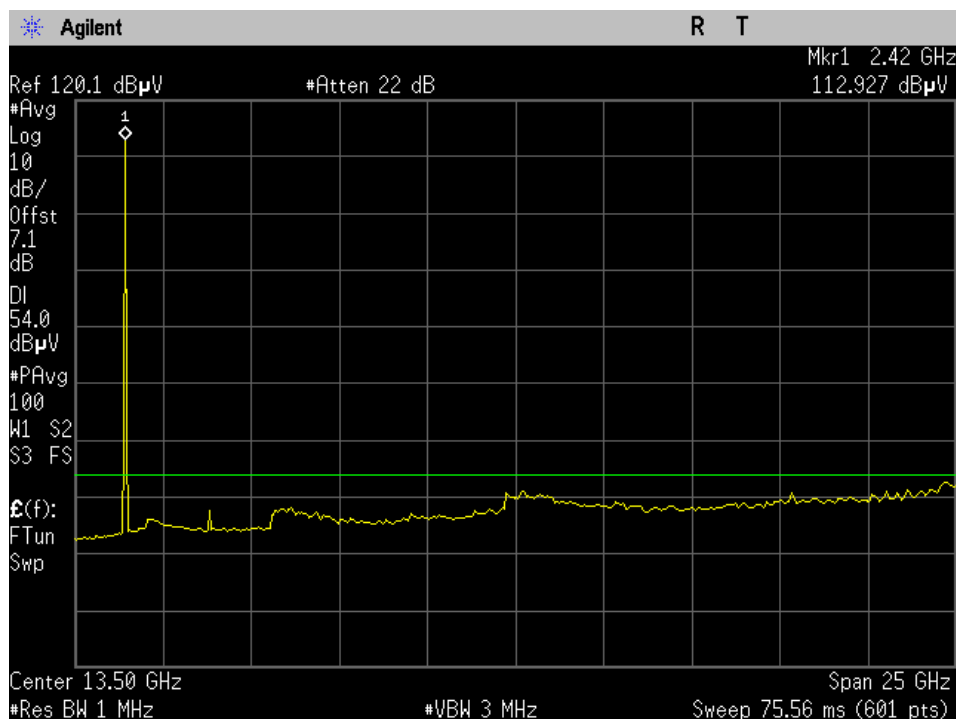
$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 - 107 + \text{Antenna Gain (dBi)} + \text{Attenuator (dB)} + \text{Cable Loss (dB)}$$

Below 1 GHz:

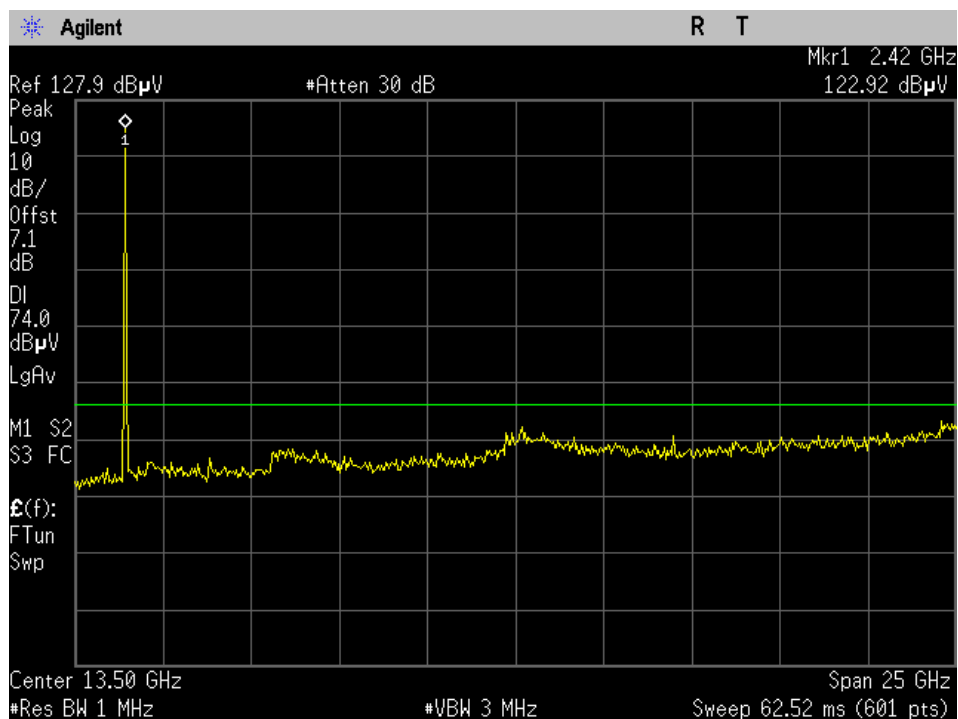
The formula above is true in addition to adding ground plane contribution of 4.7 dB, thus offset for dBuV/m at 3meters is

$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 - 107 + 4.7 + \text{Antenna Gain (dBi)} + \text{Attenuator (dB)} + \text{Cable Loss (dB)}$$

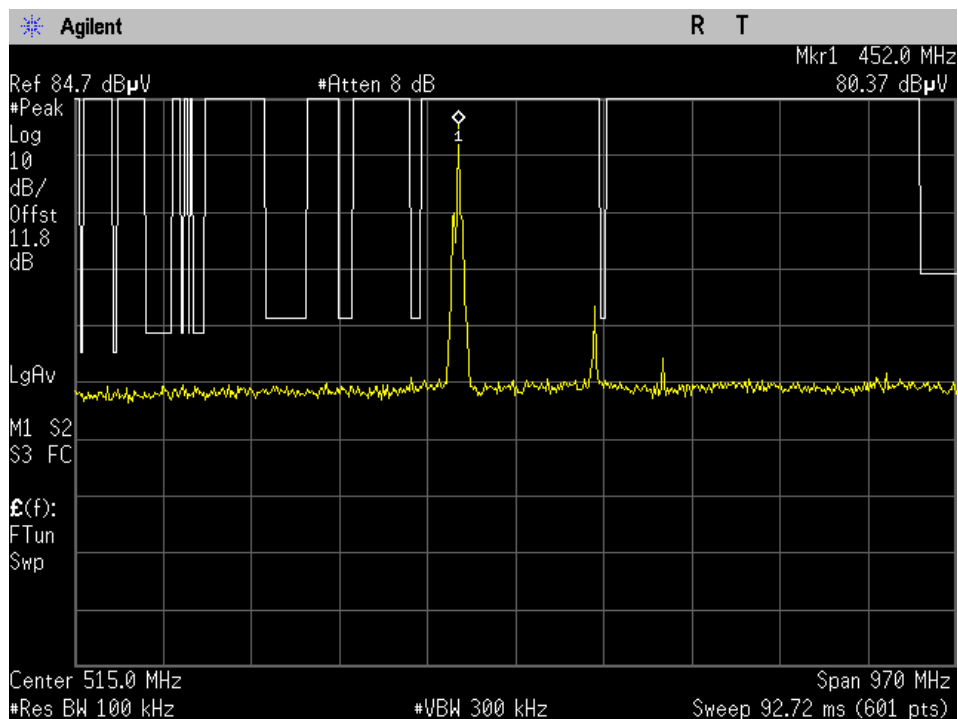
Note: For 802.11n modes, 3dB was added to account for the MIMO configuration.

802.11b/g/n20/n40 mode, Port 1/2**WIFI_Low Ch_2412MHz_20MHz BW_b-mode_15.209_30-1000MHz_Peak_Port 1****WIFI_Low Ch_2412MHz_20MHz BW_b-mode_15.209_1-26GHz avg_Port 1**

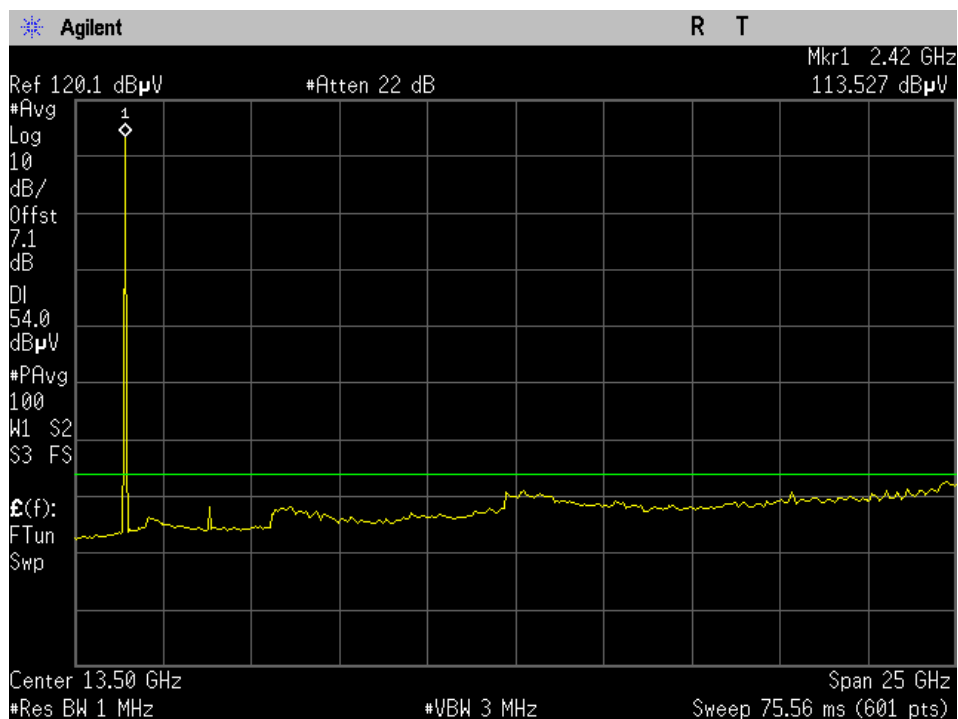
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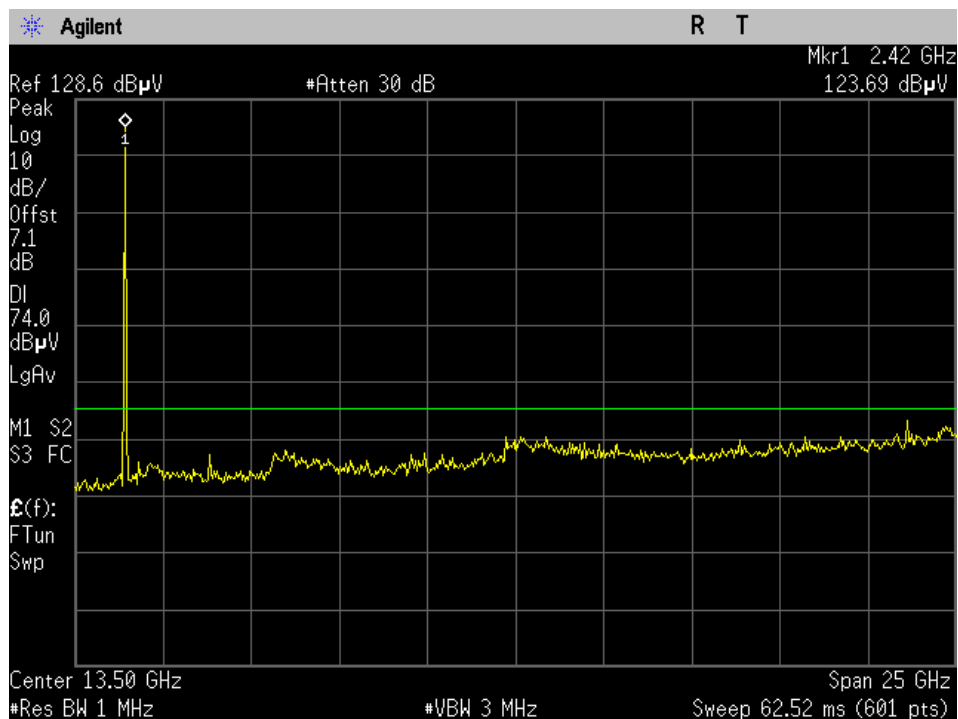
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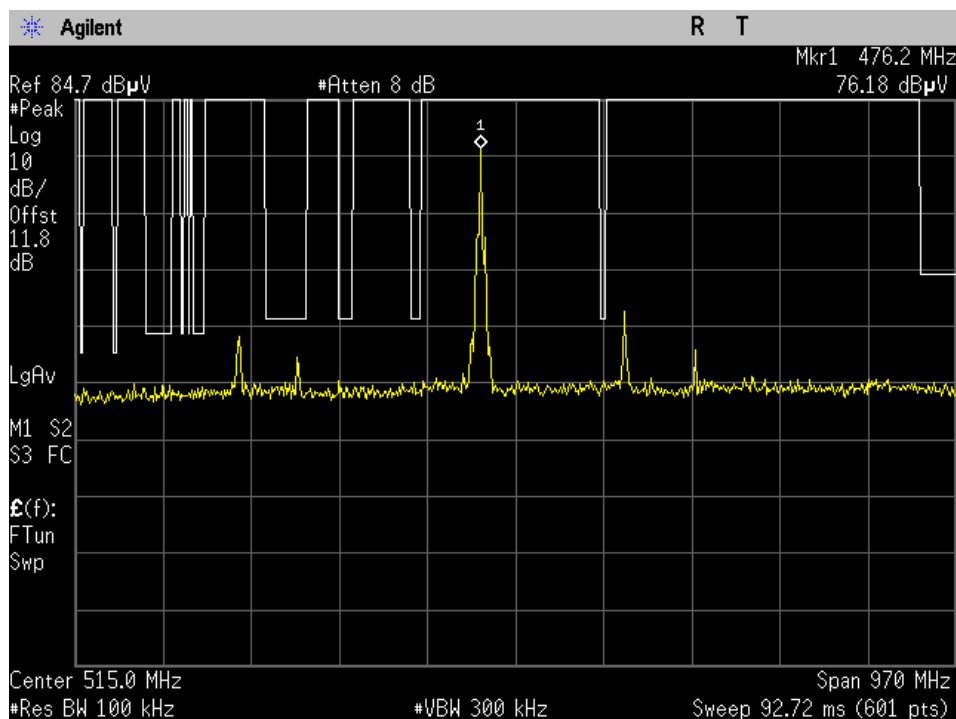
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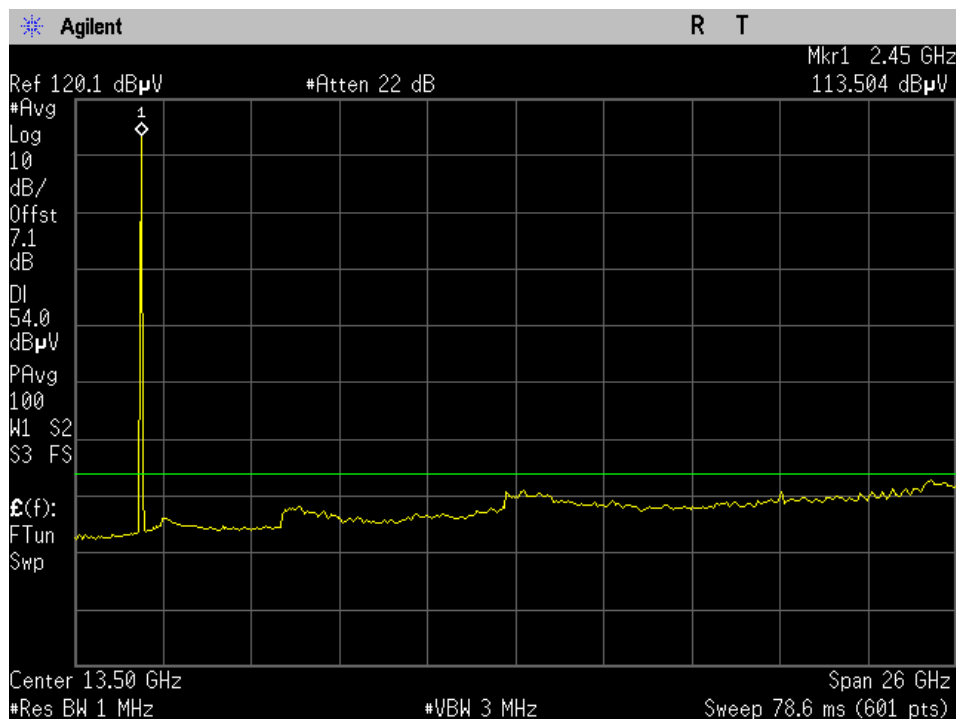
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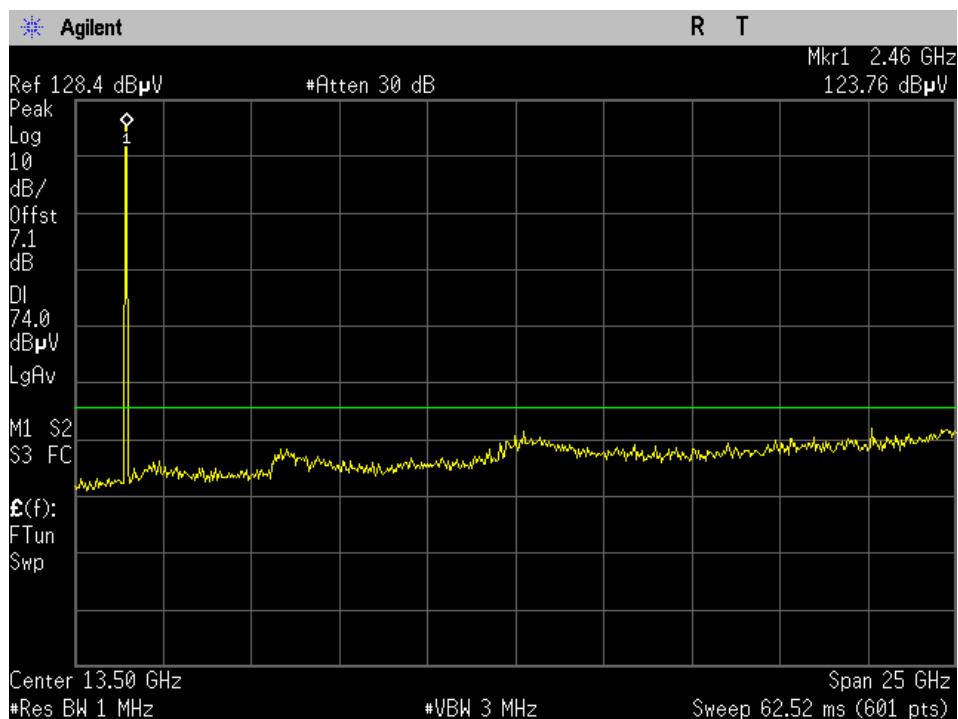
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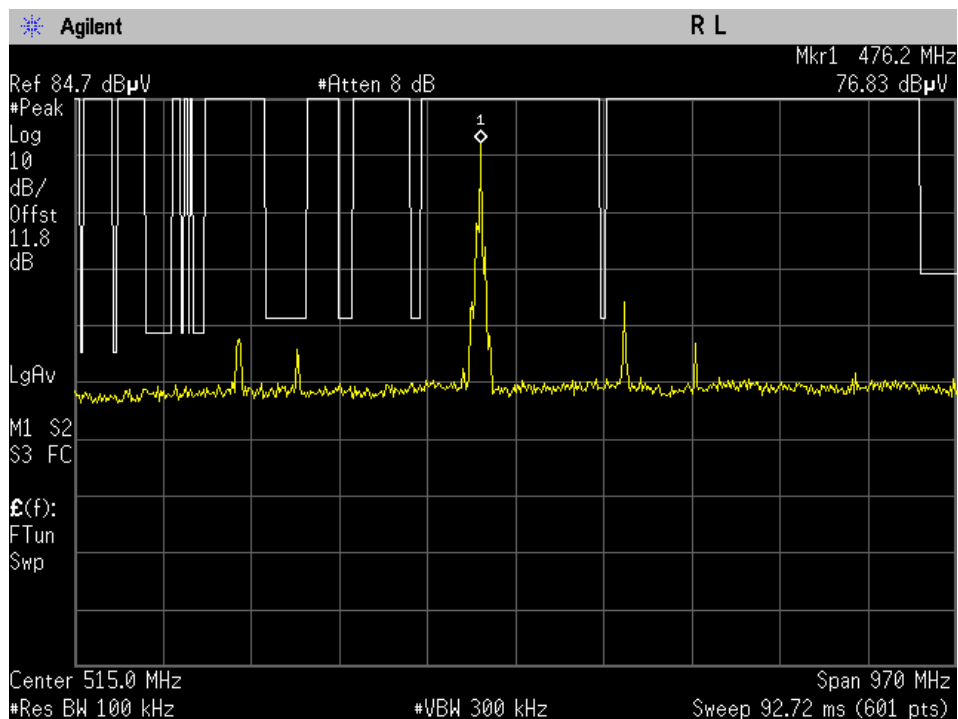
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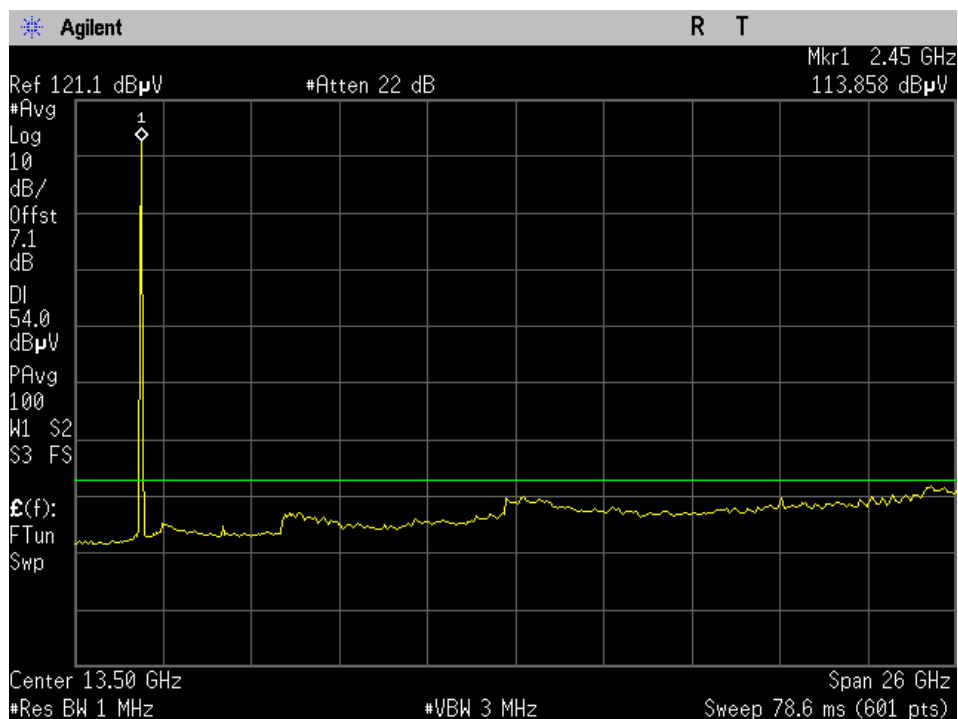
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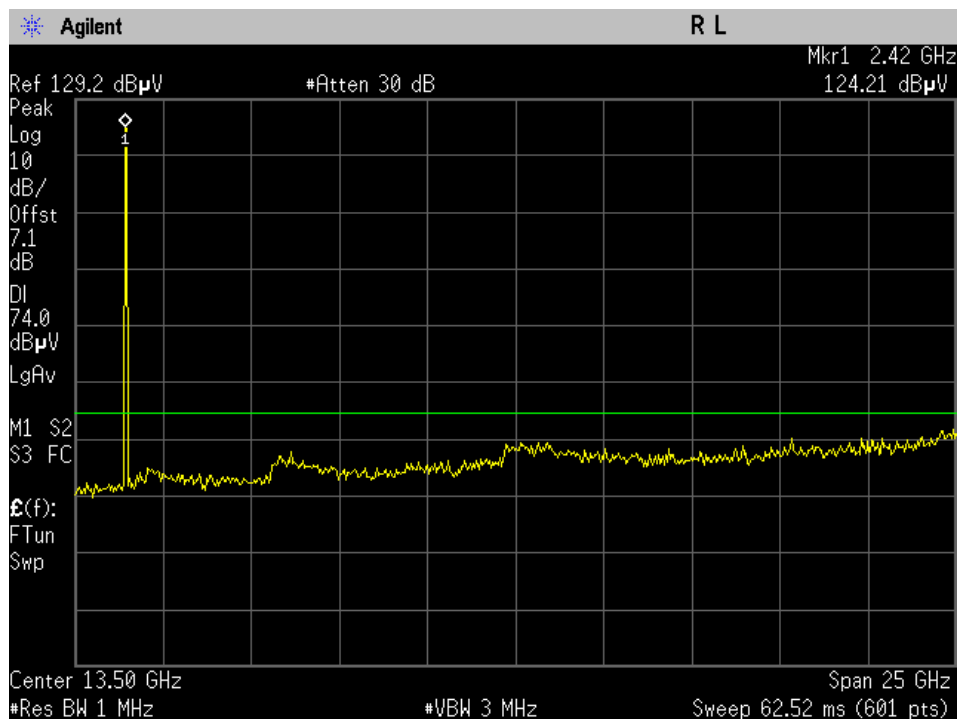
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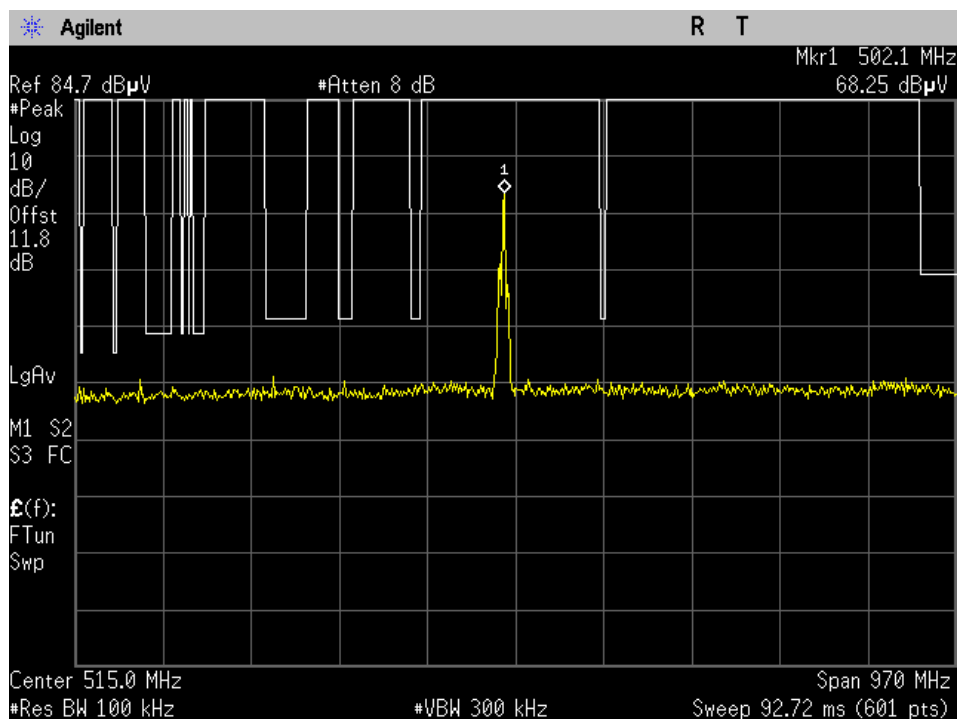
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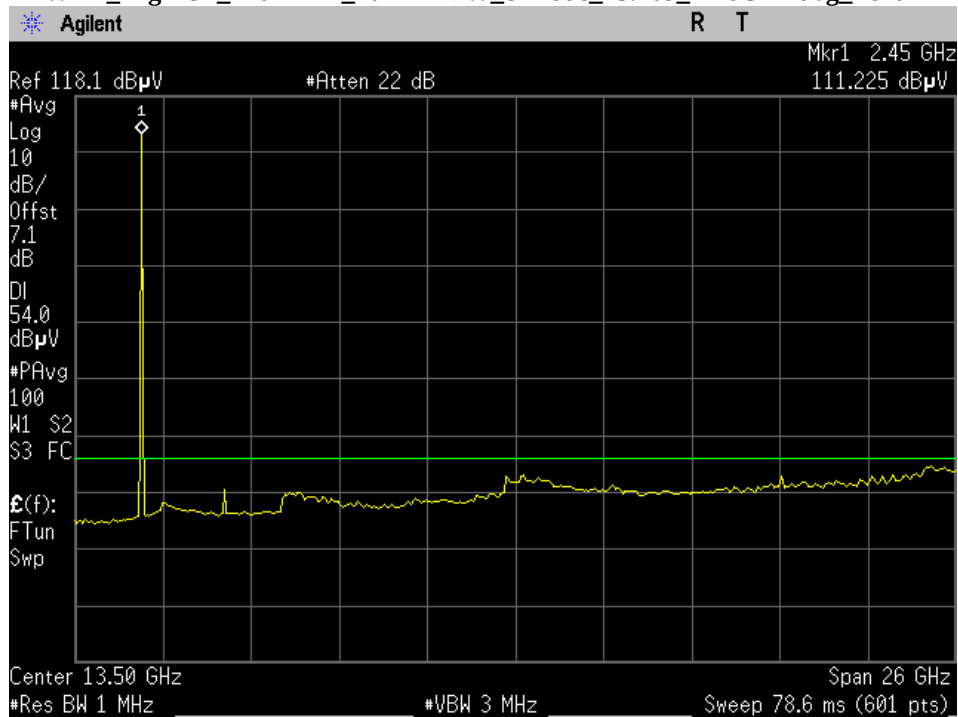
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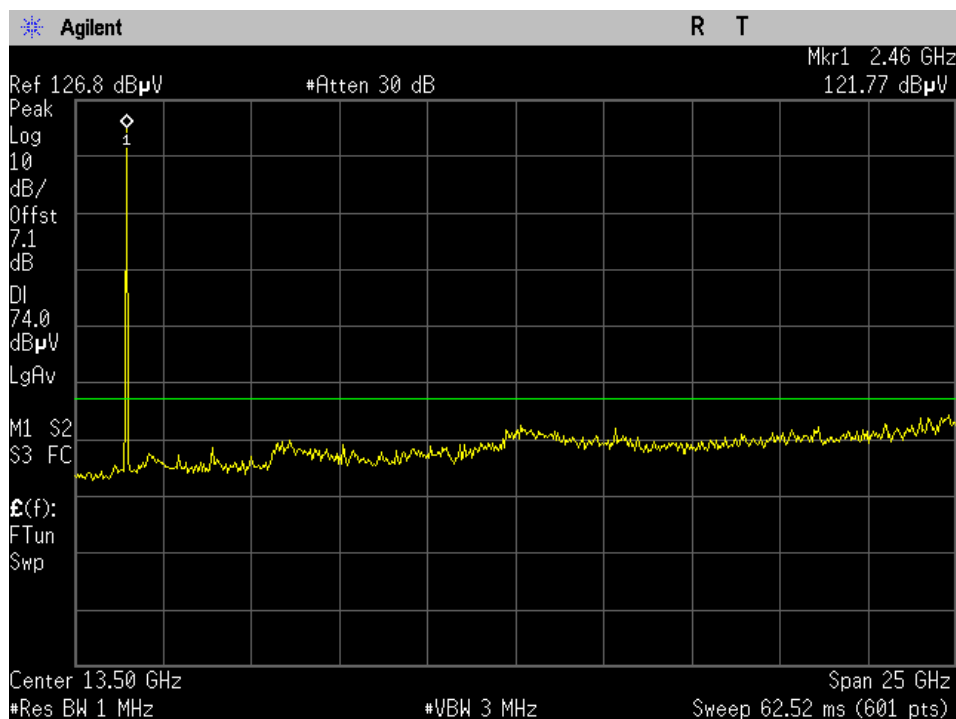
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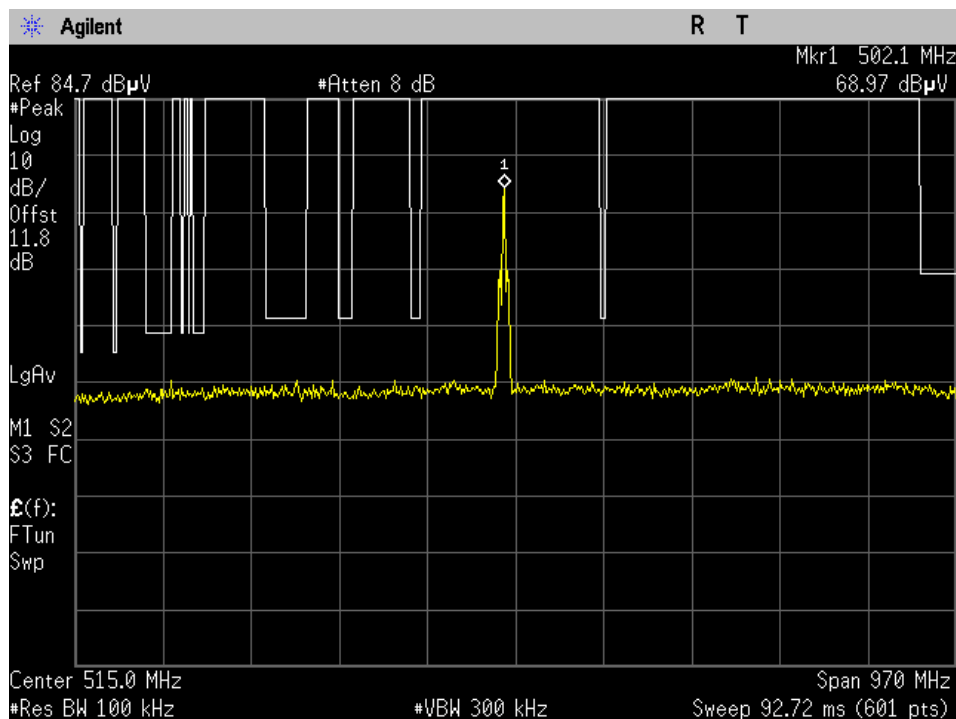
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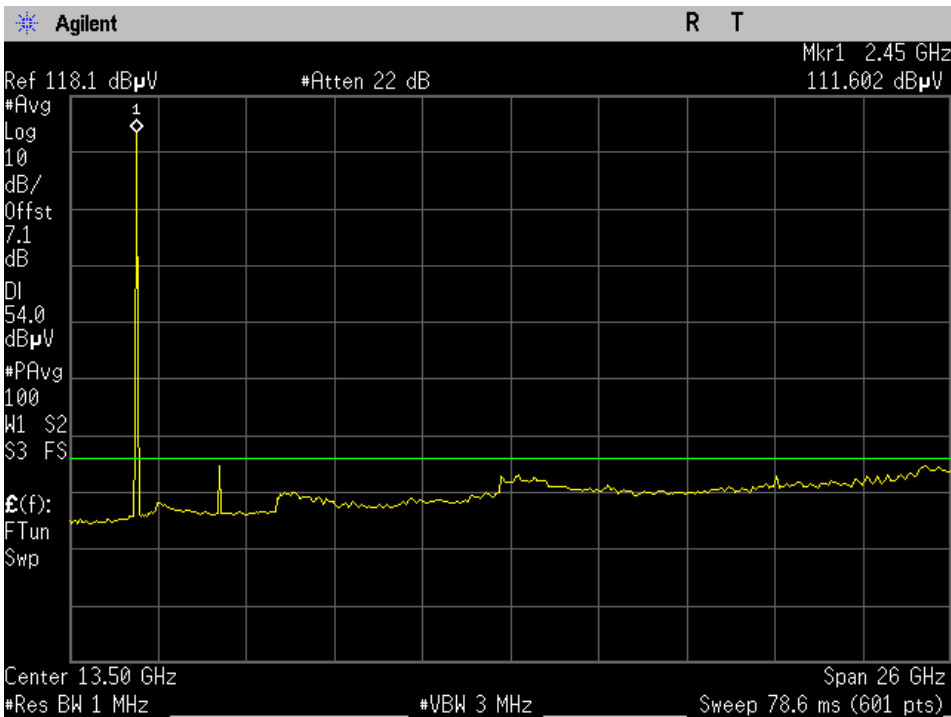
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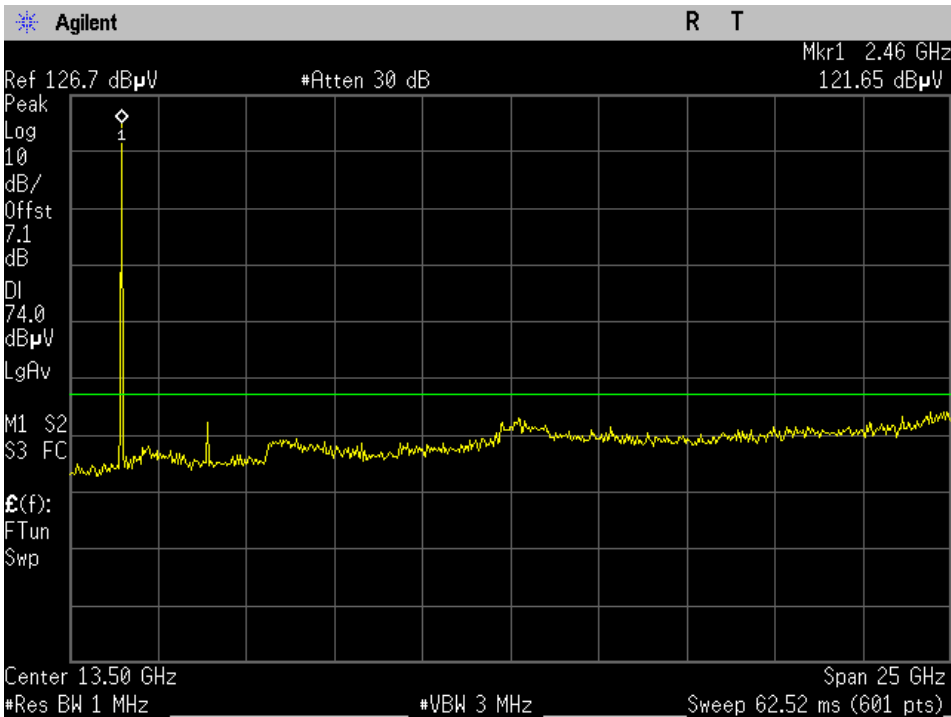
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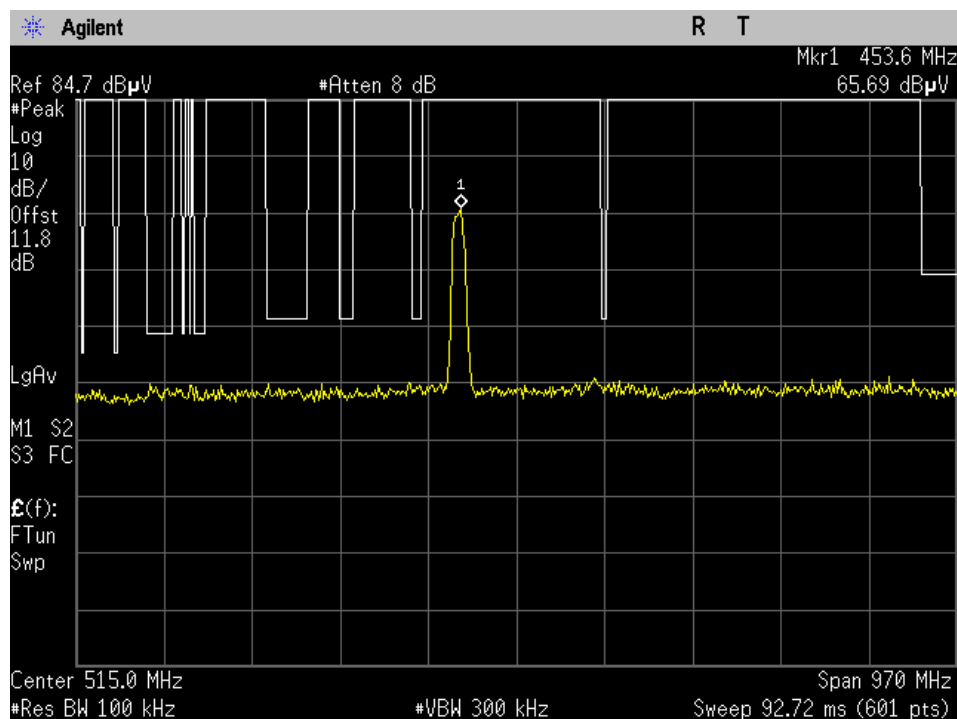
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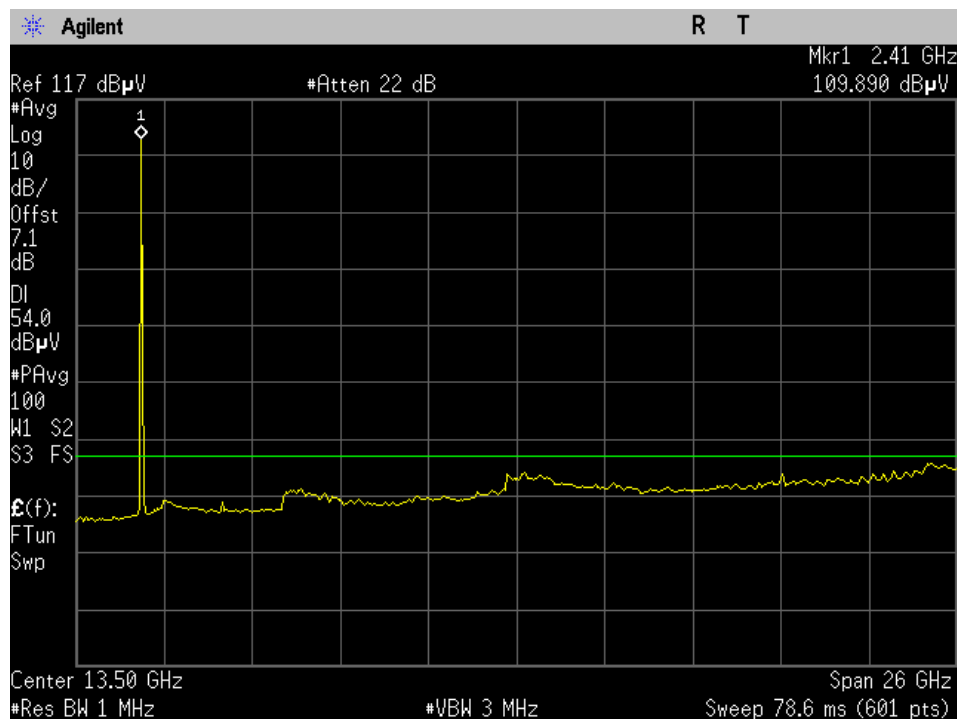
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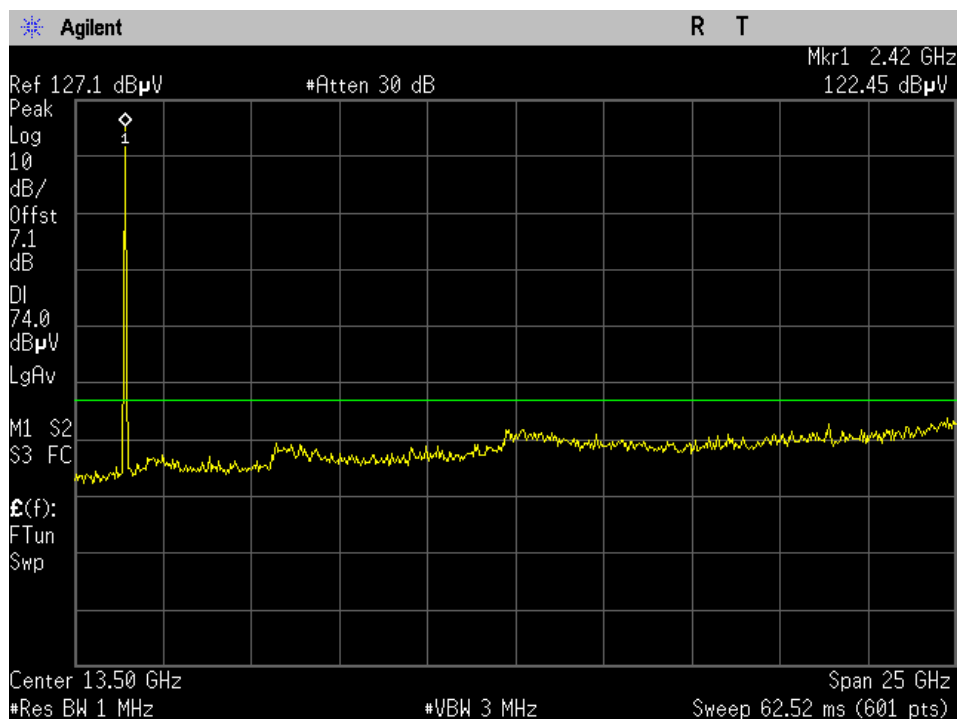
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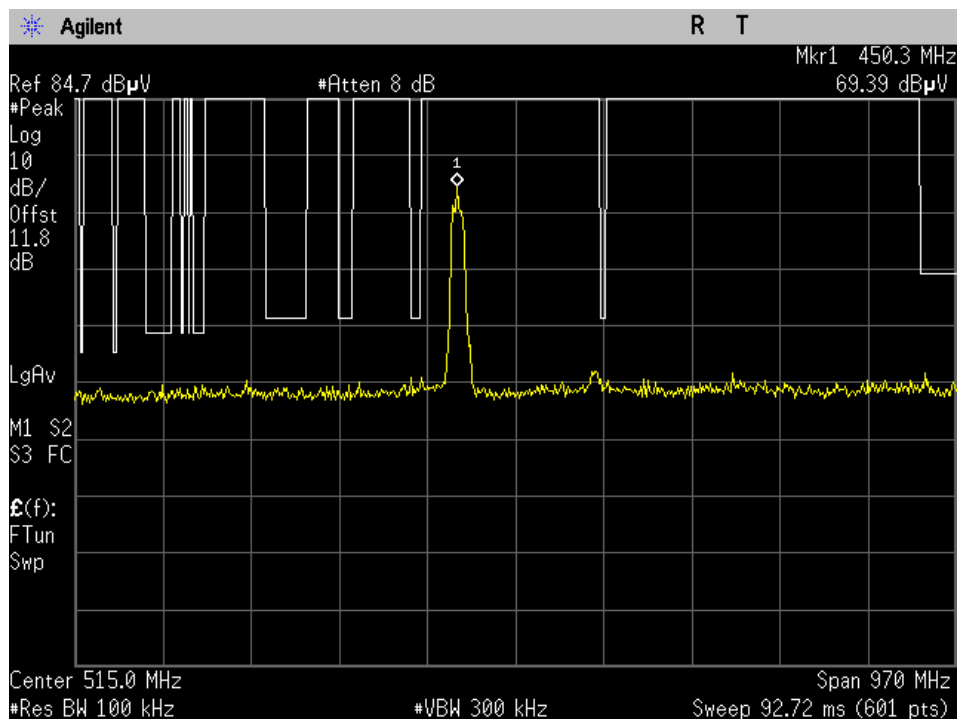
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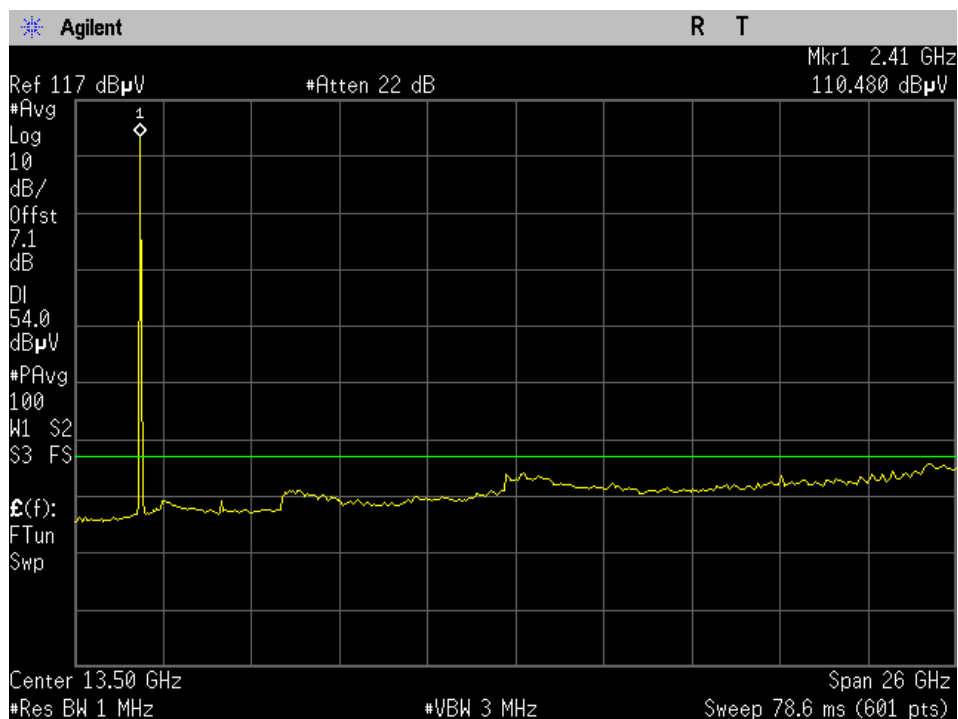
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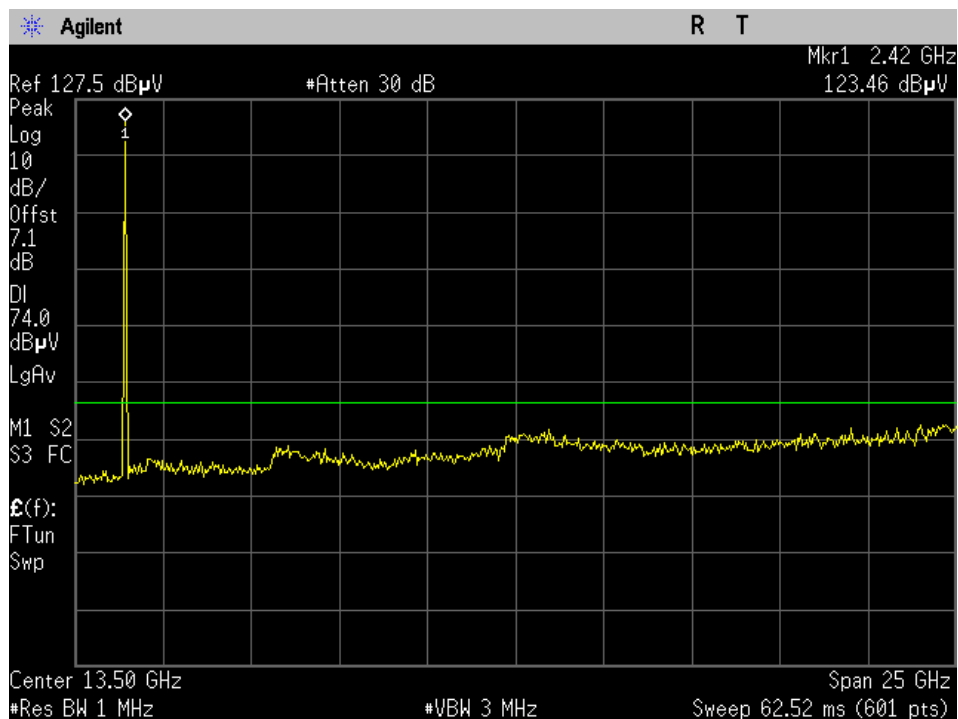
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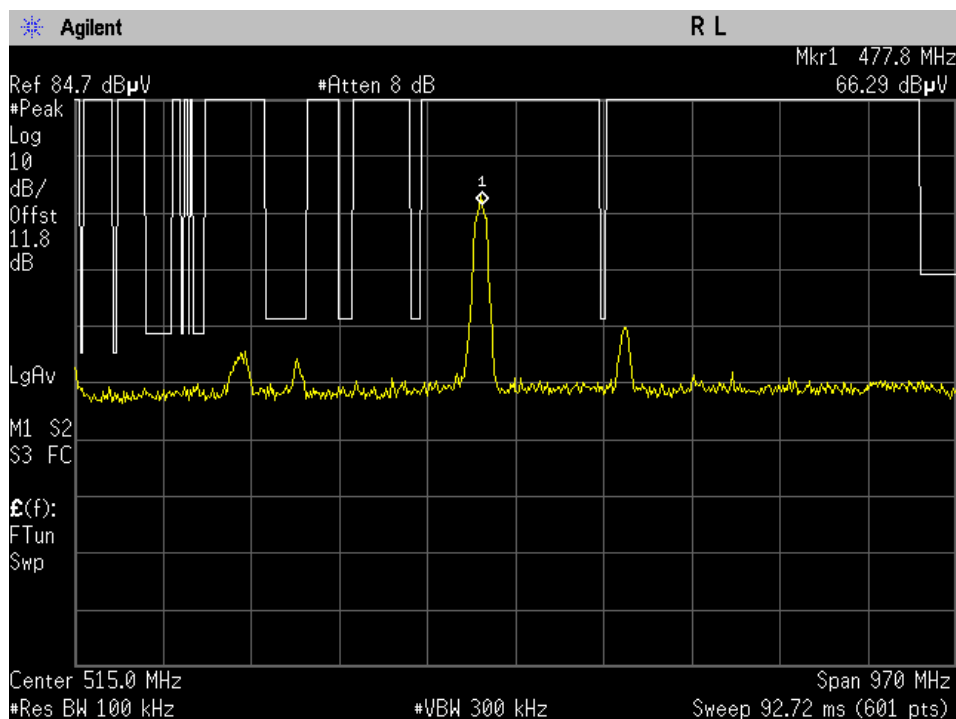
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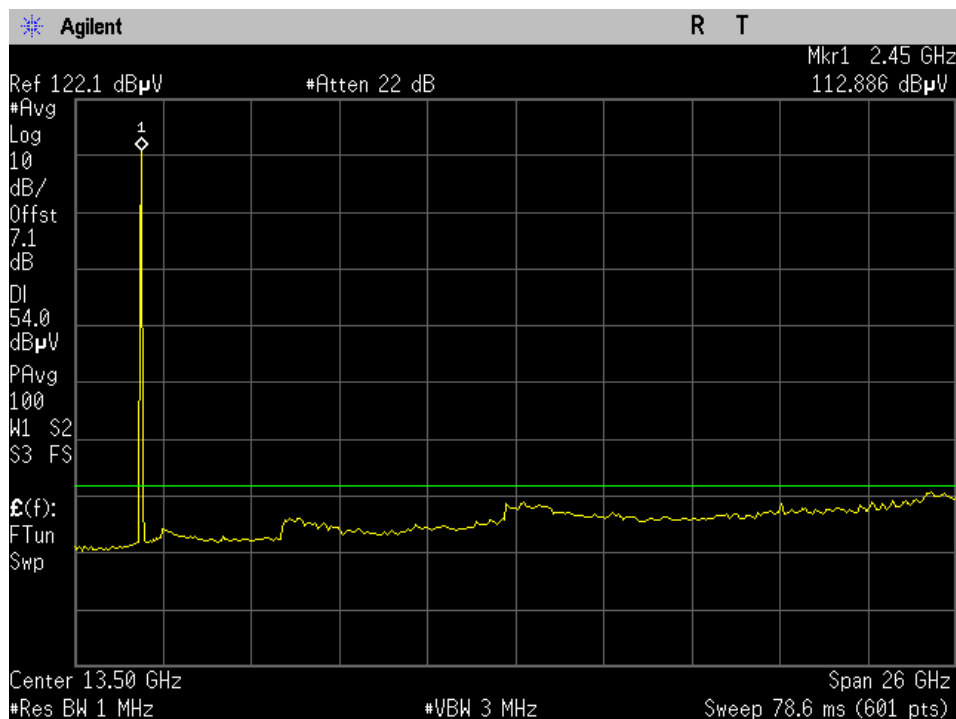
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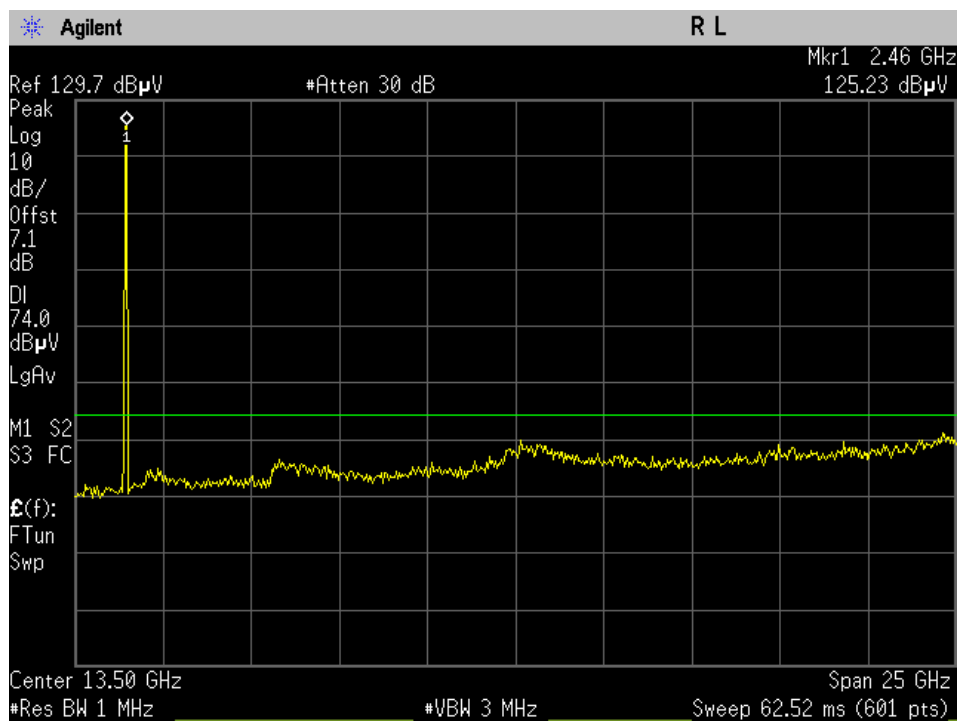
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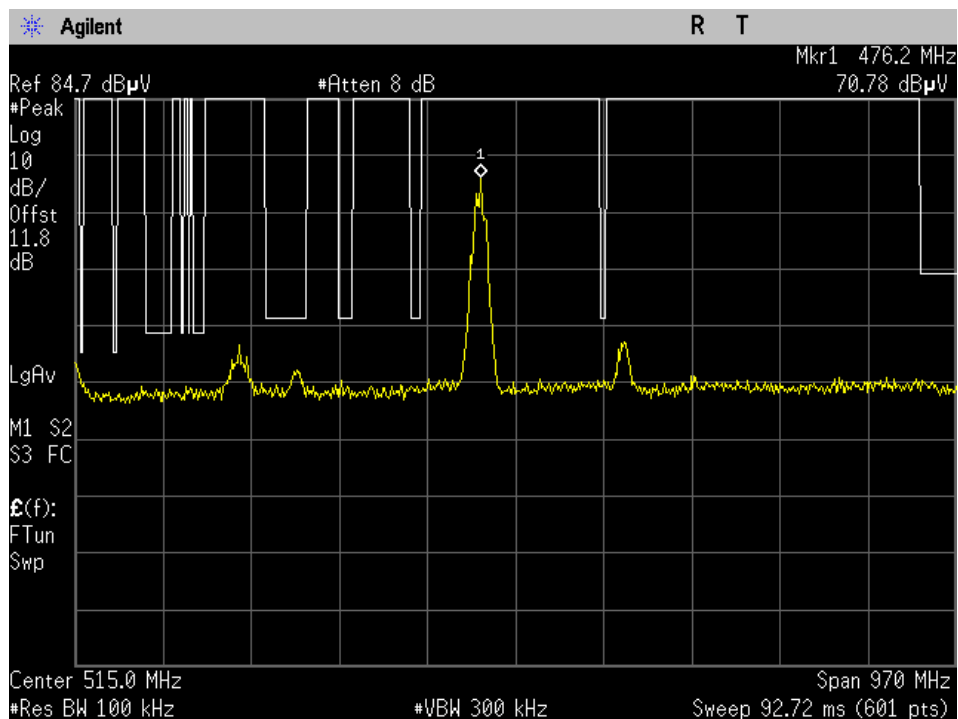
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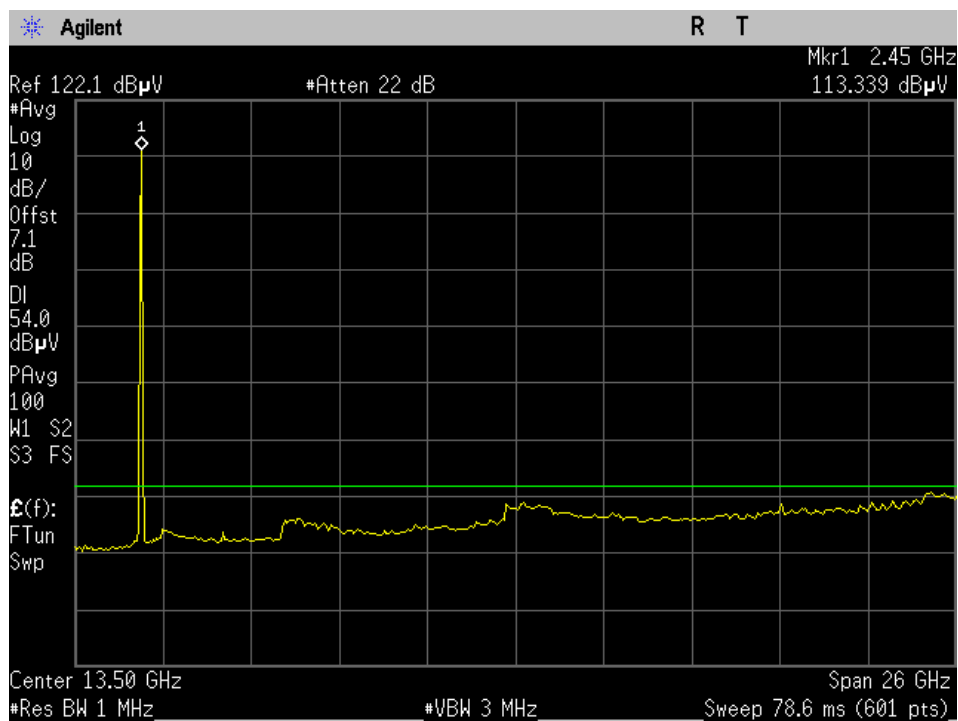
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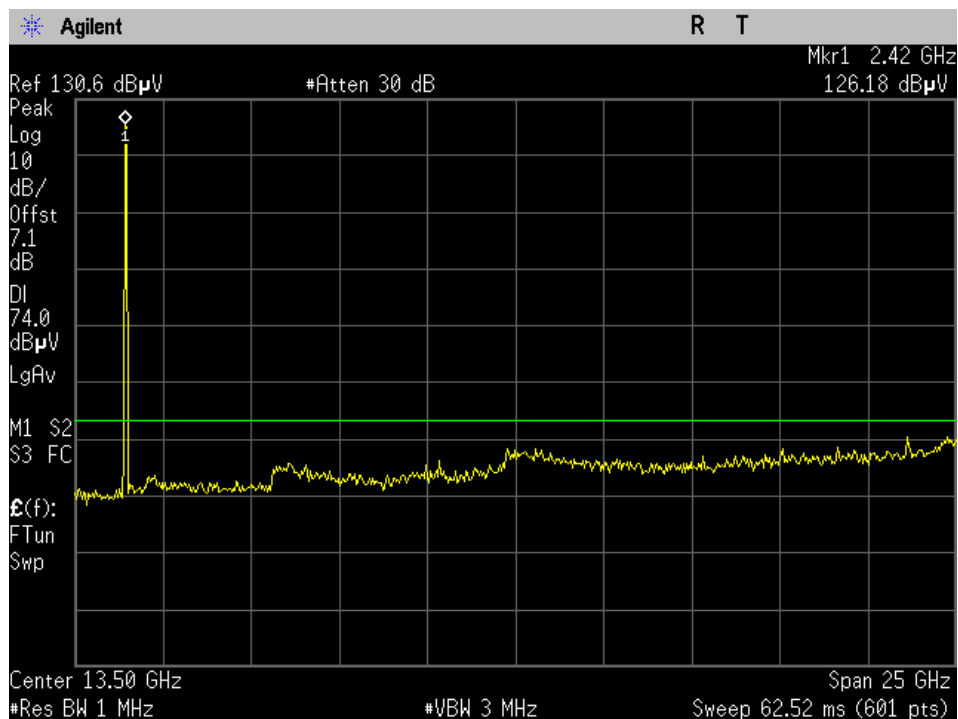
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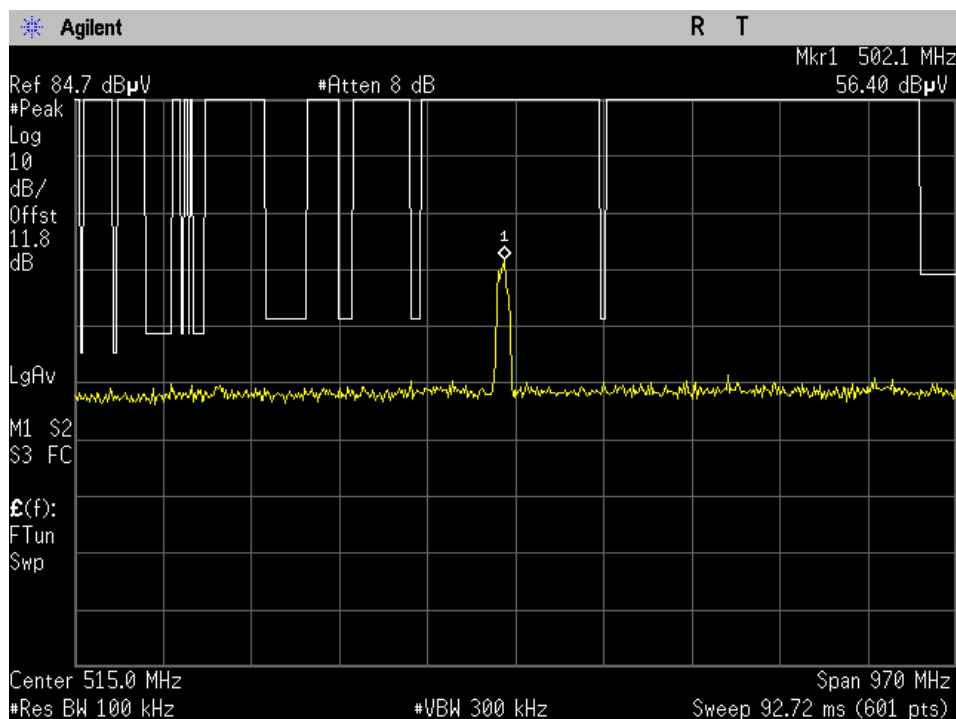
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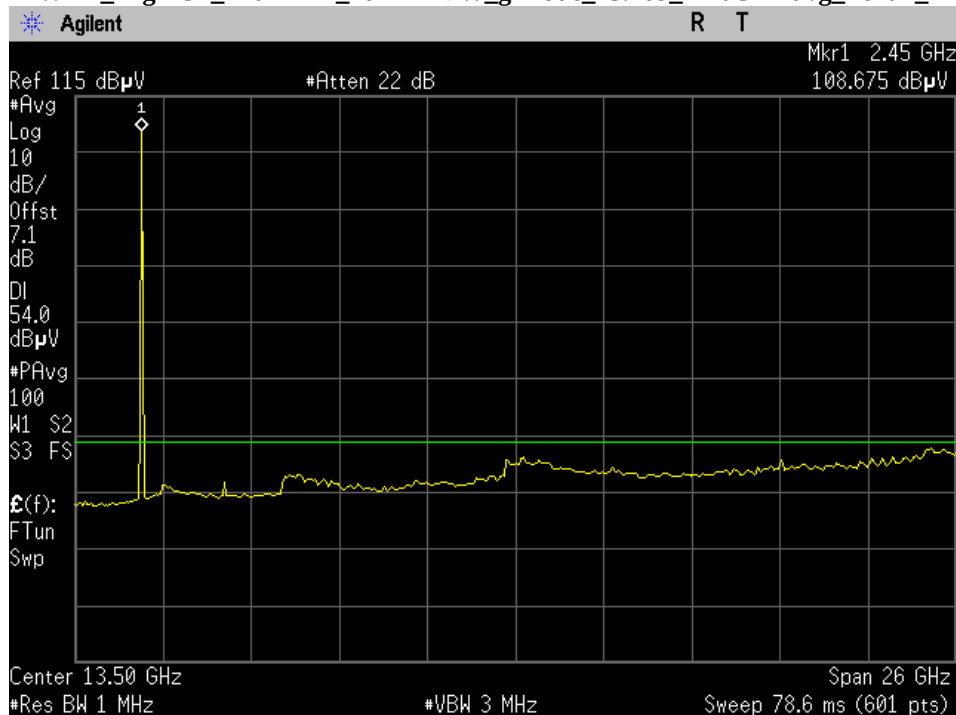
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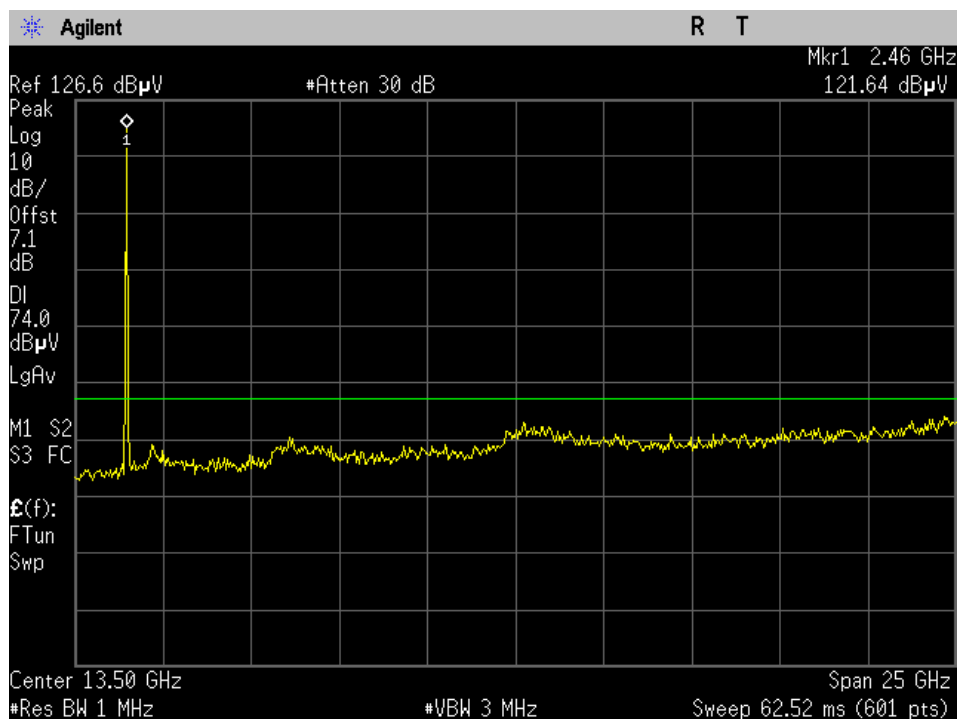
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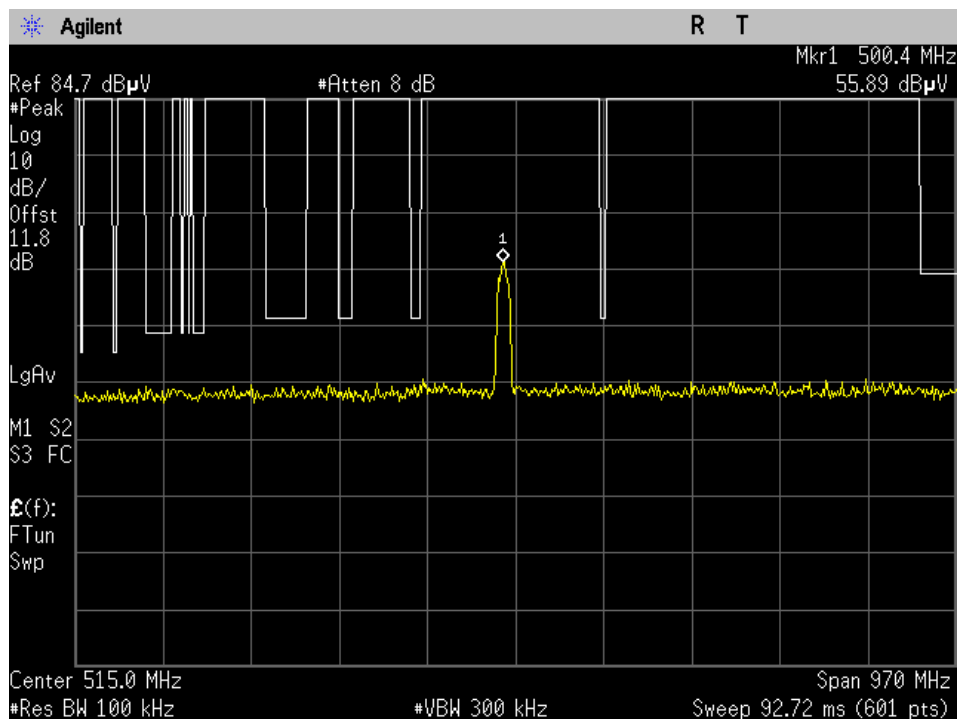
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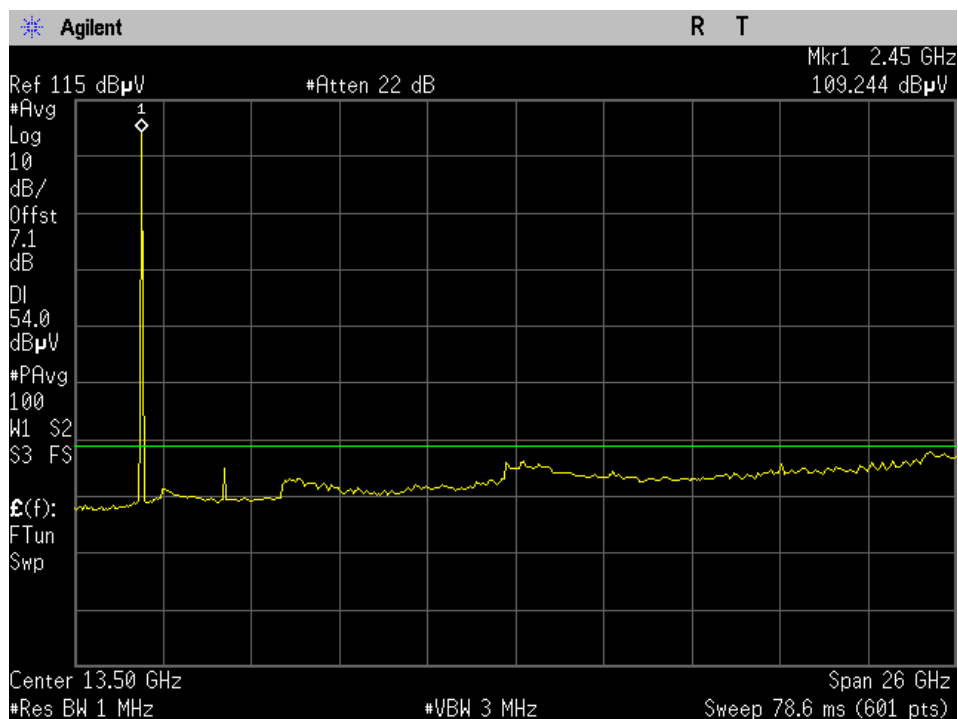
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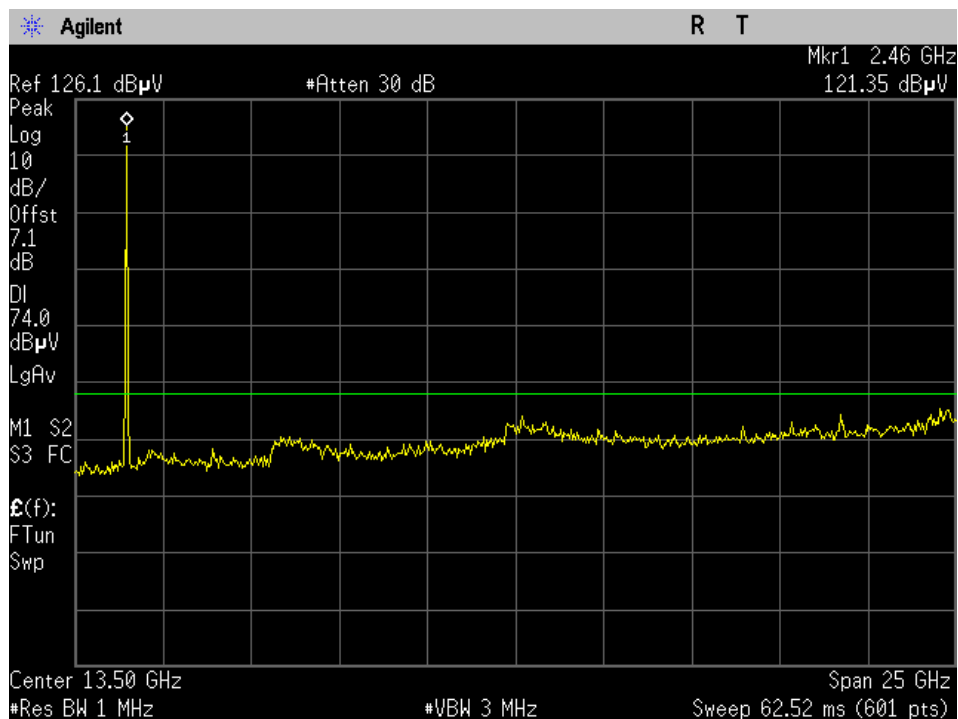
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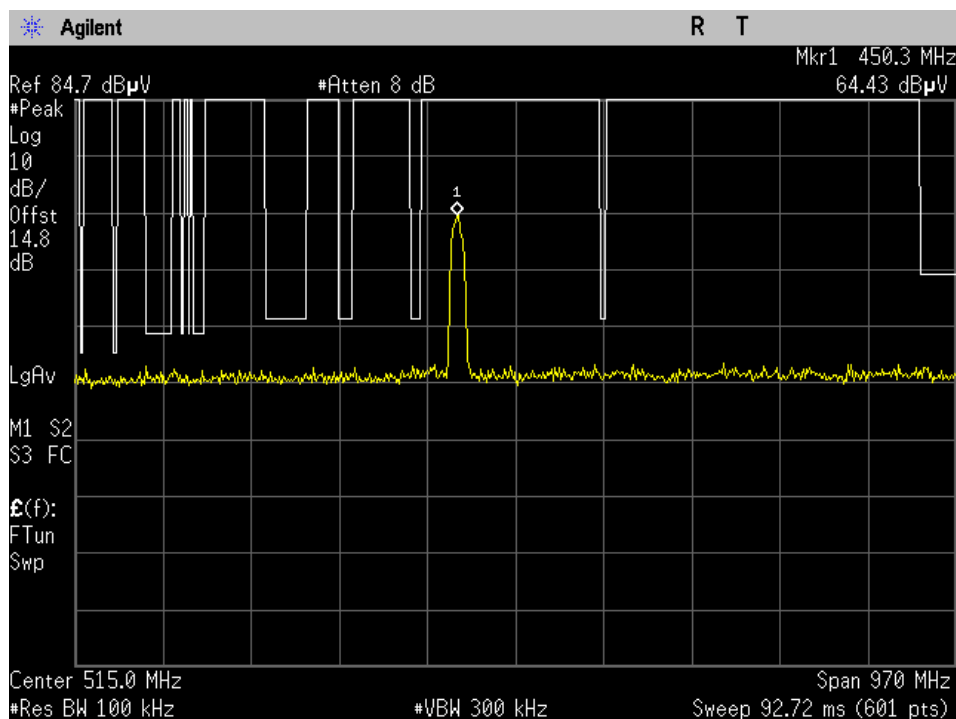
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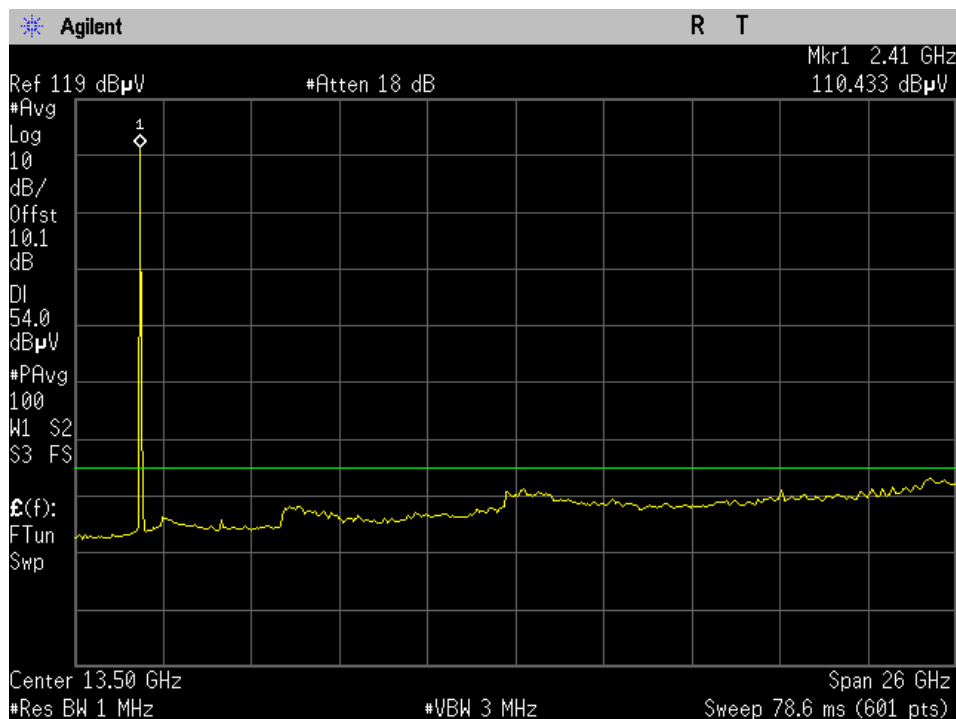
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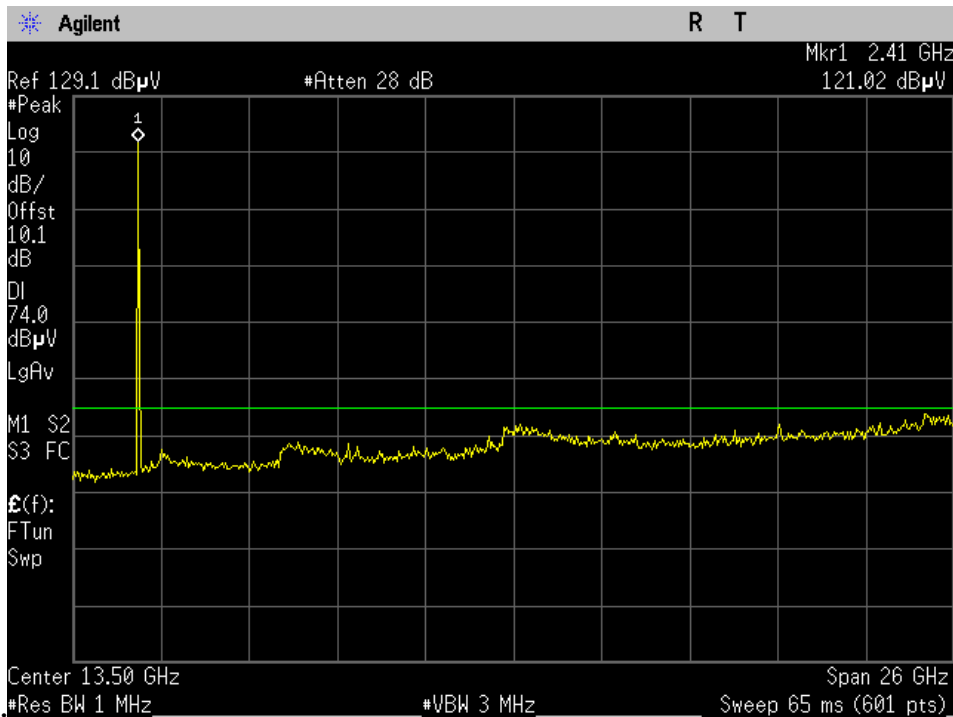
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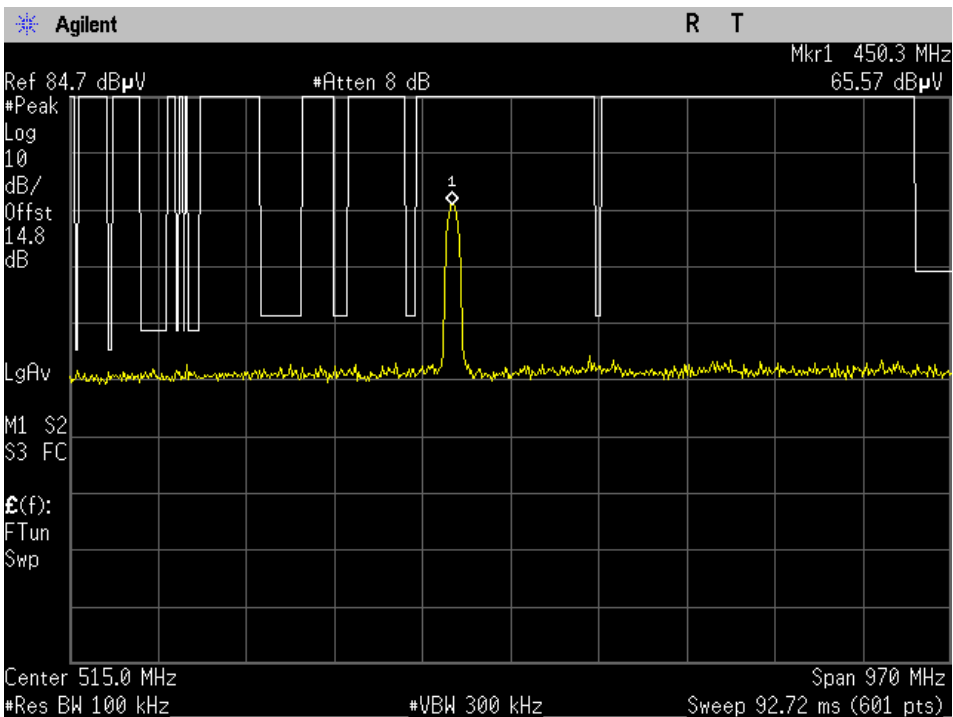
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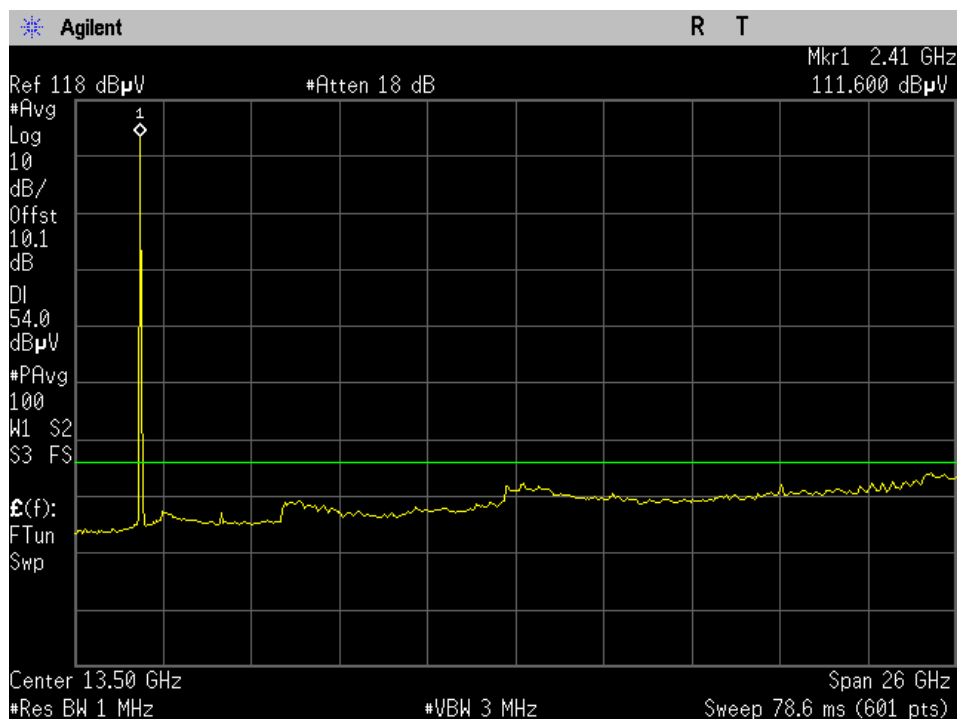
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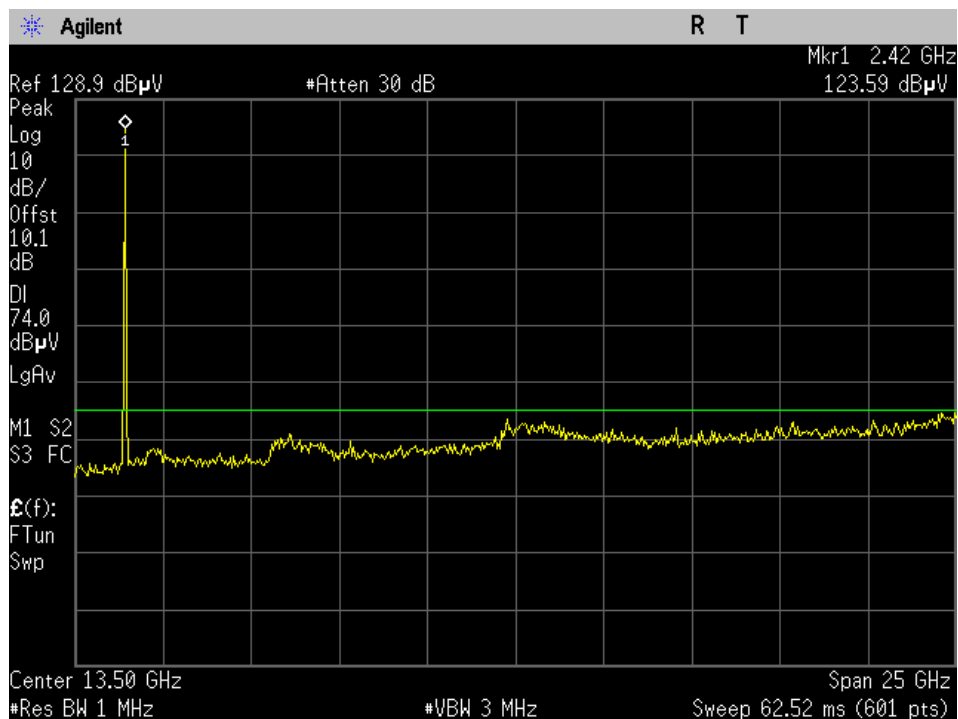
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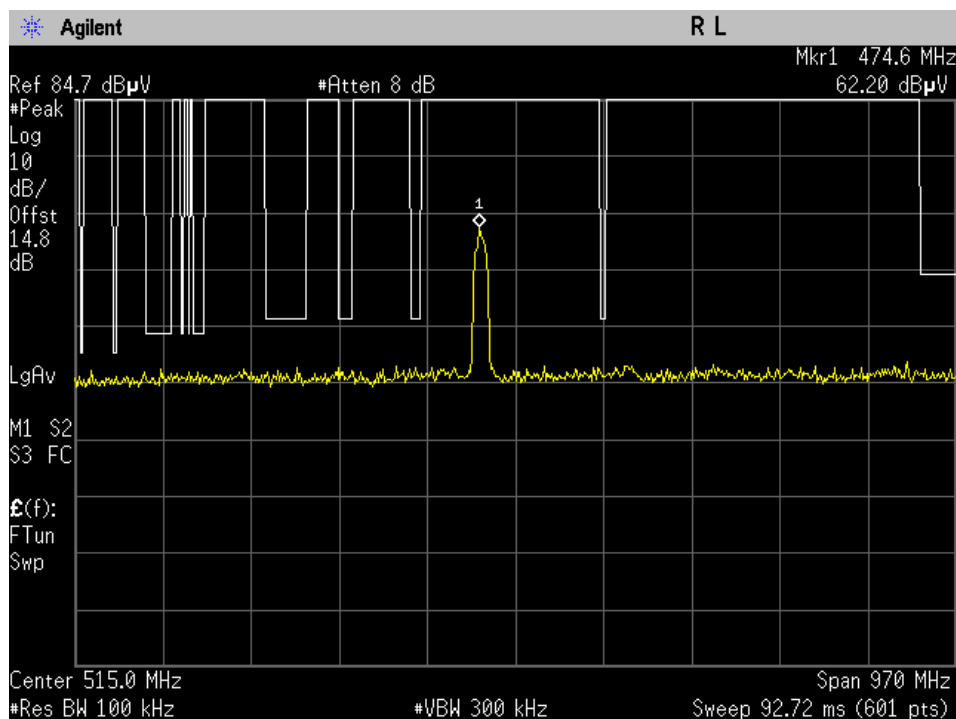
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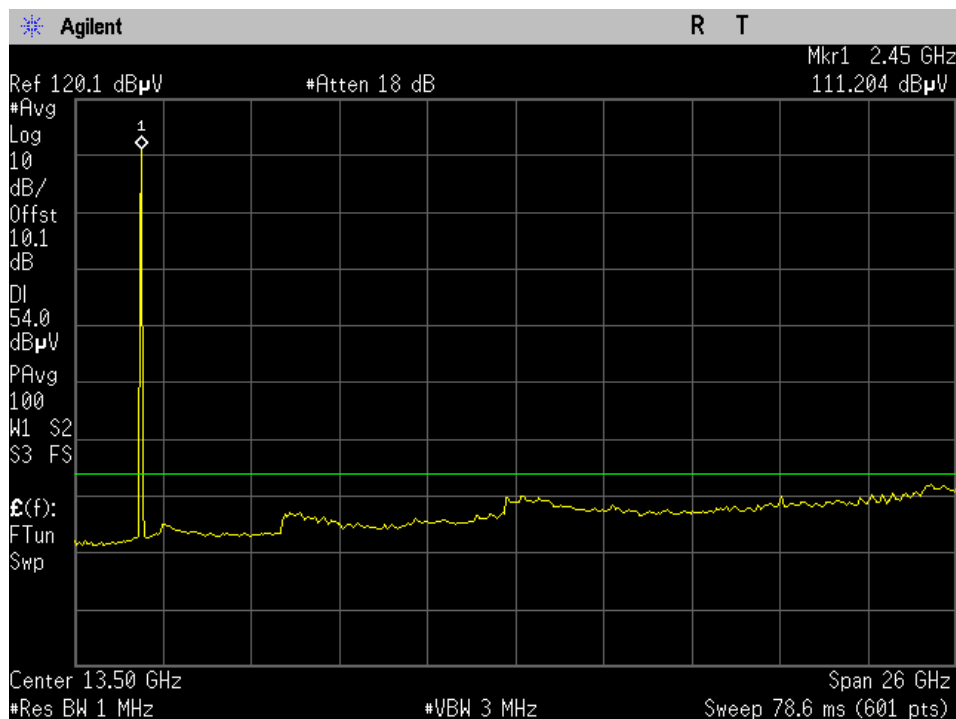
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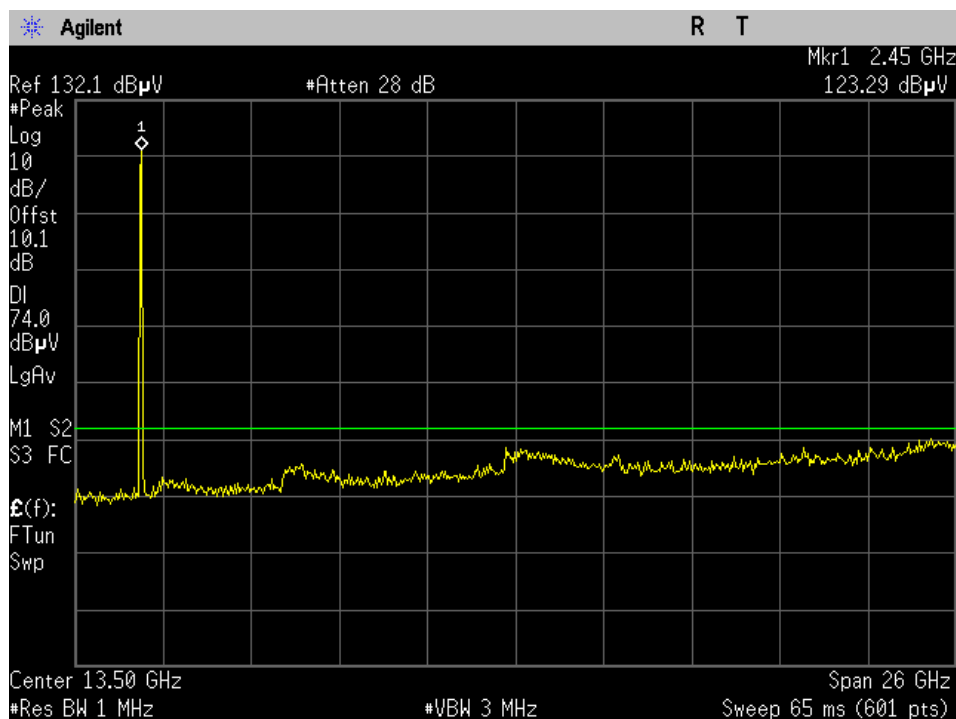
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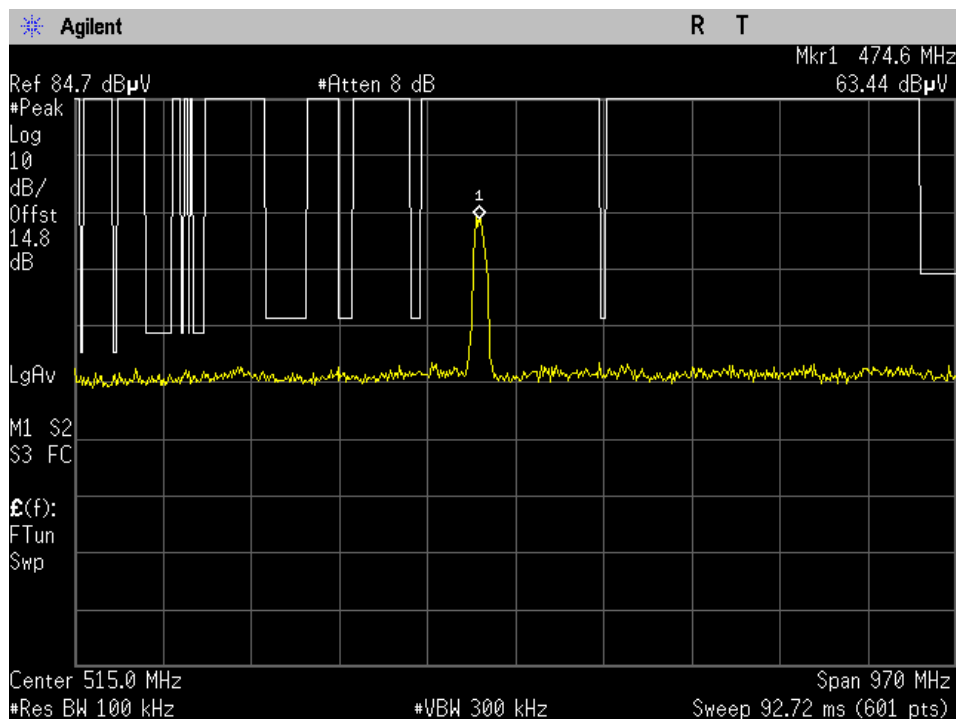
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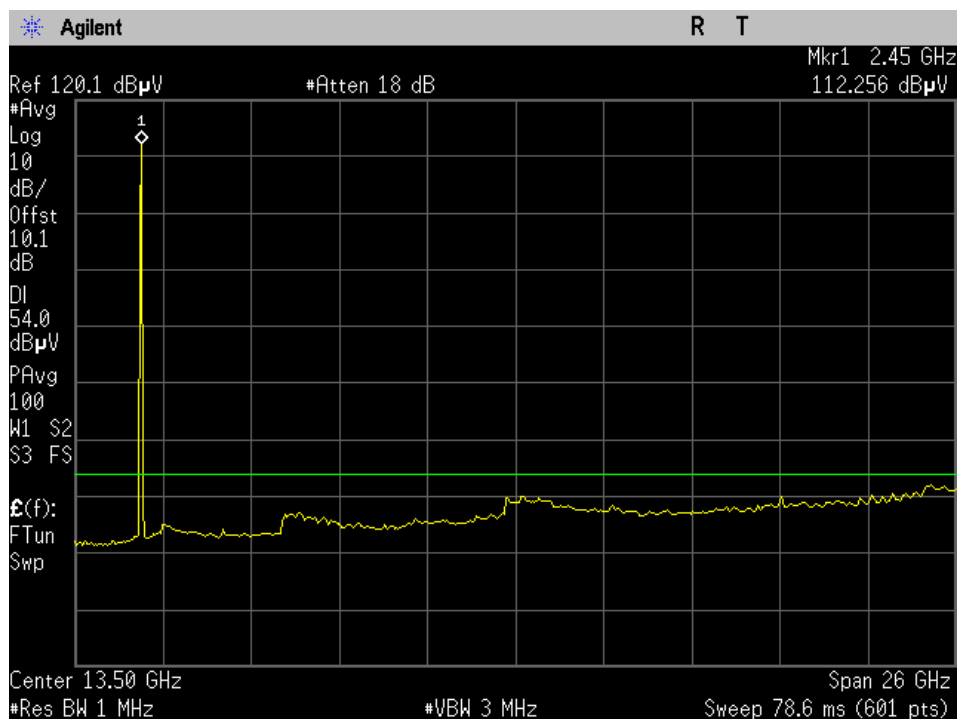
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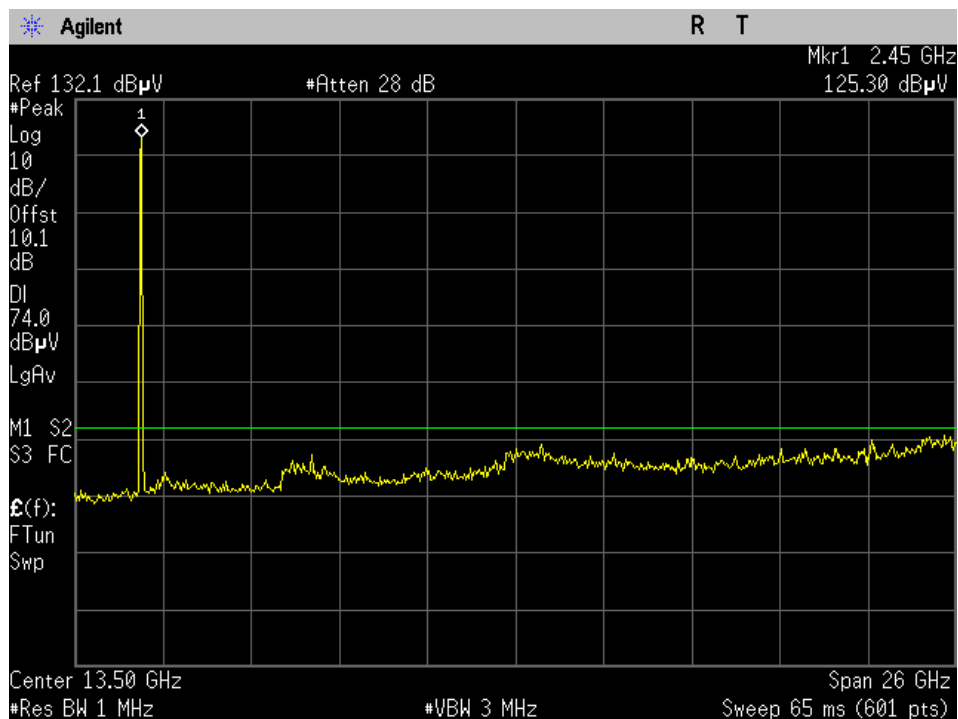
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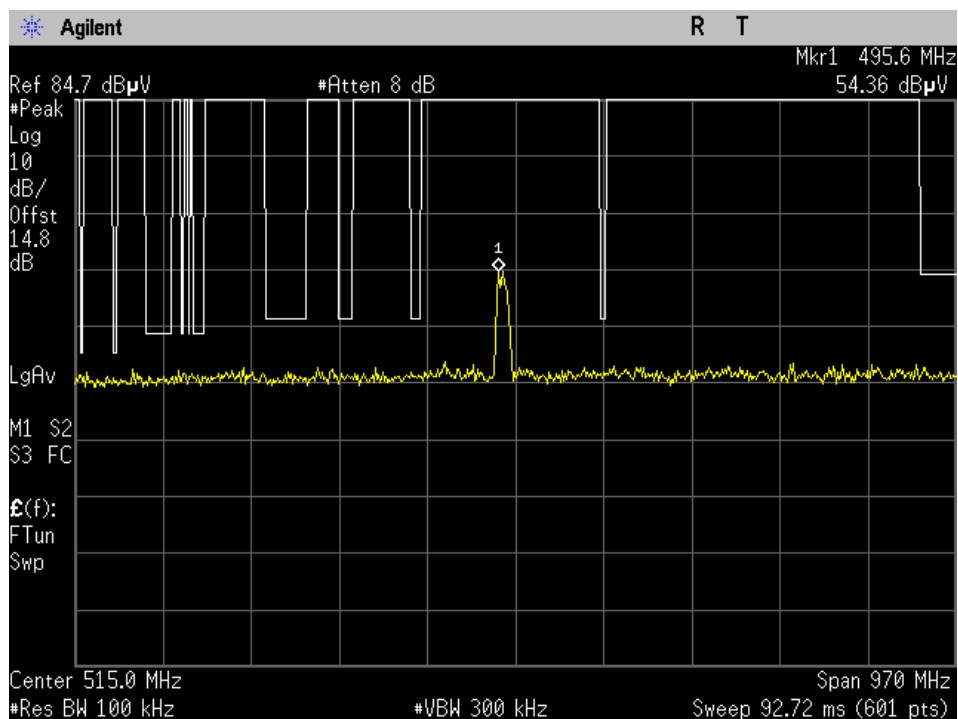
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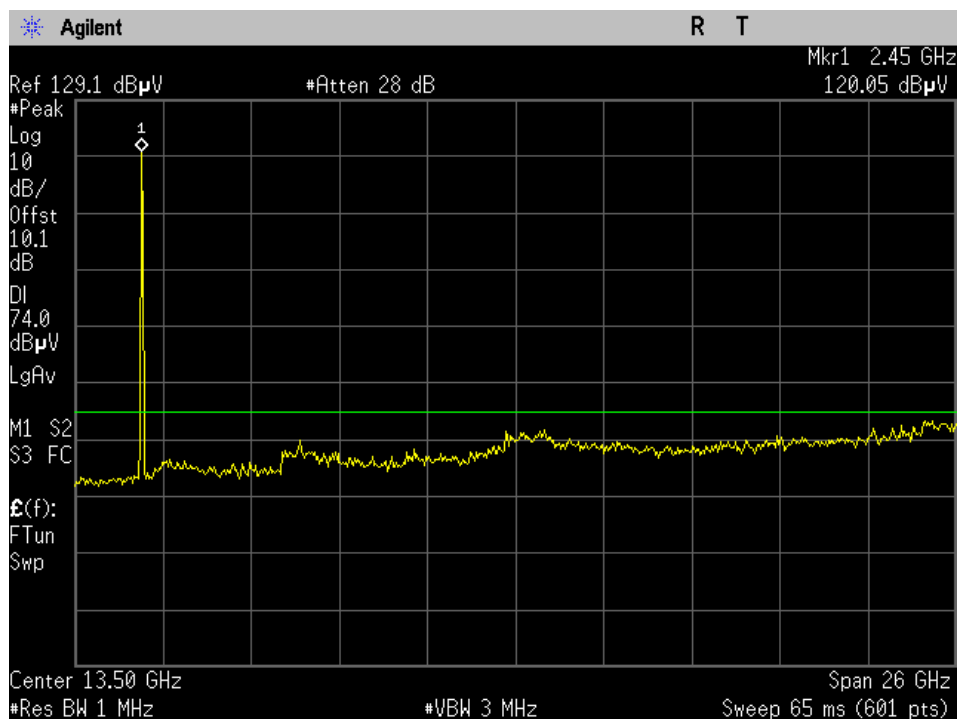
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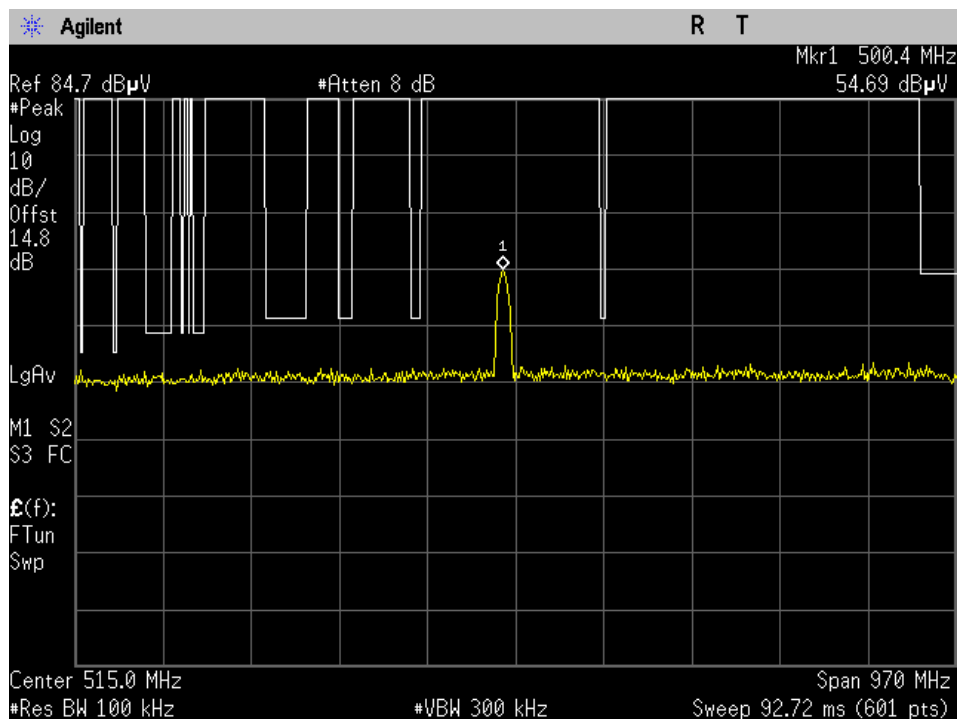
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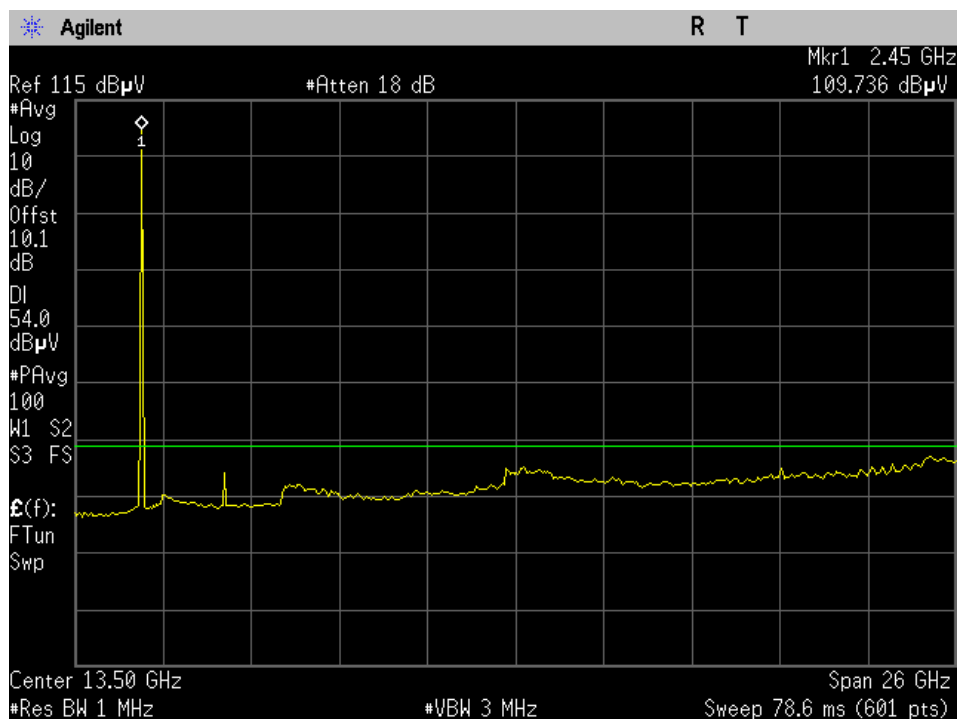
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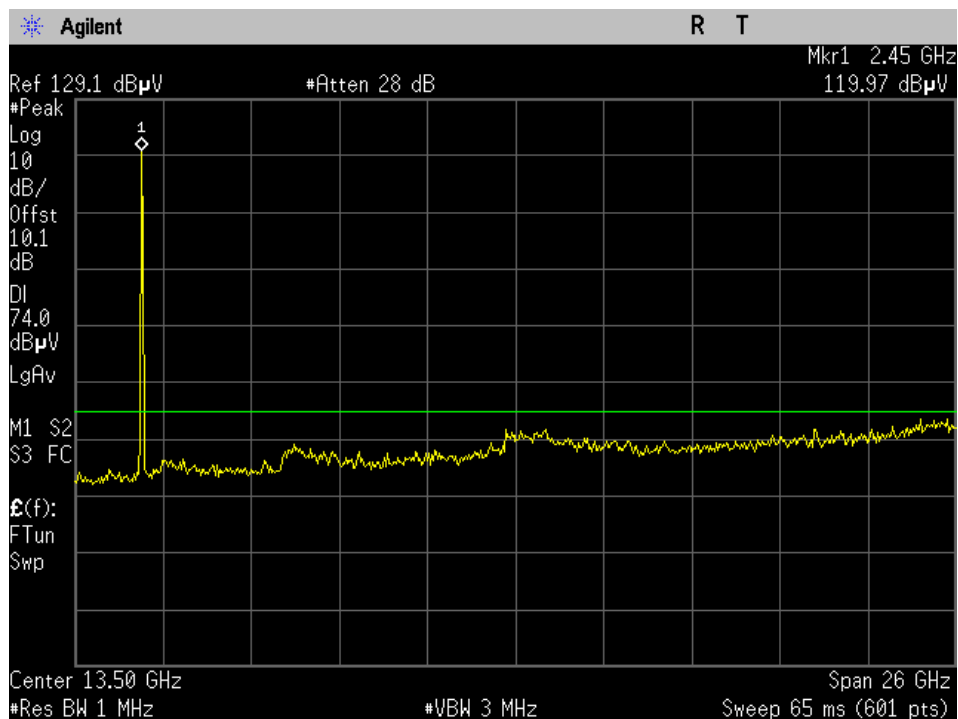
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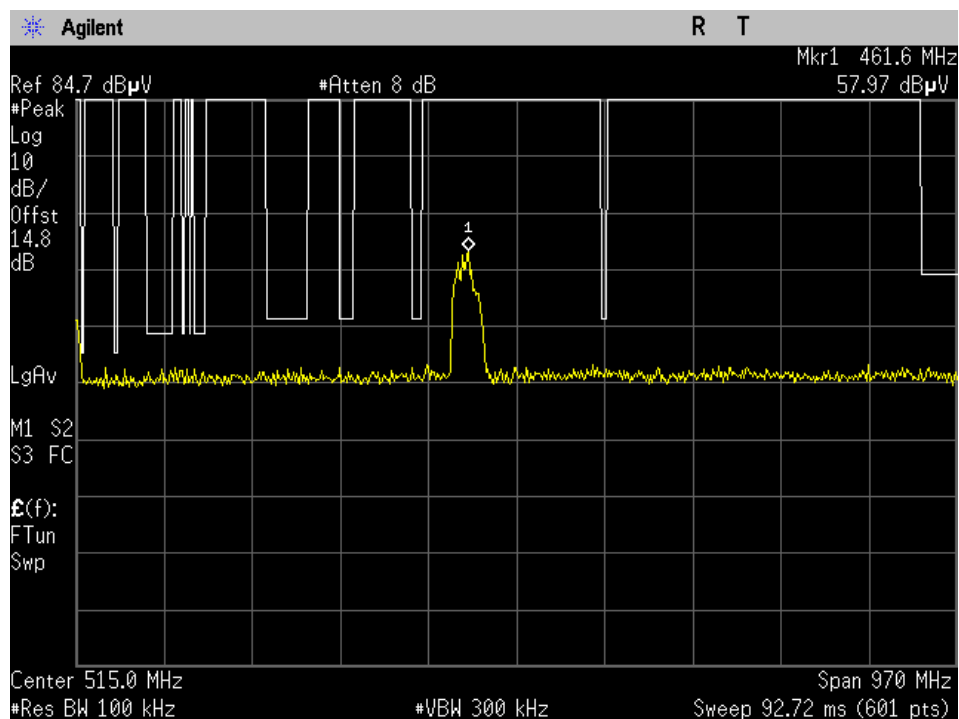
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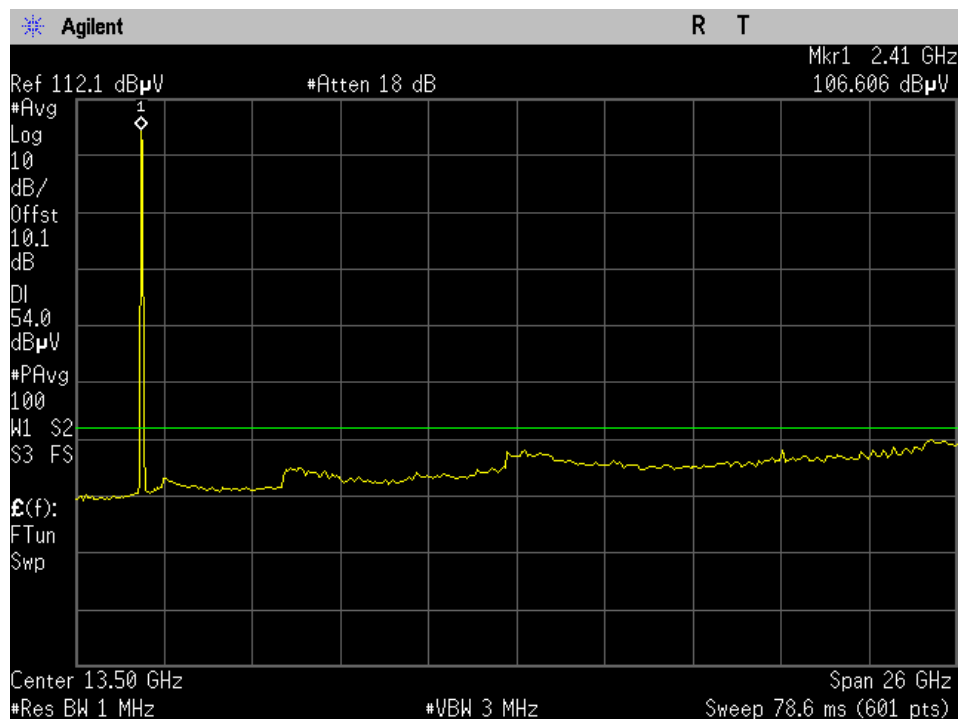
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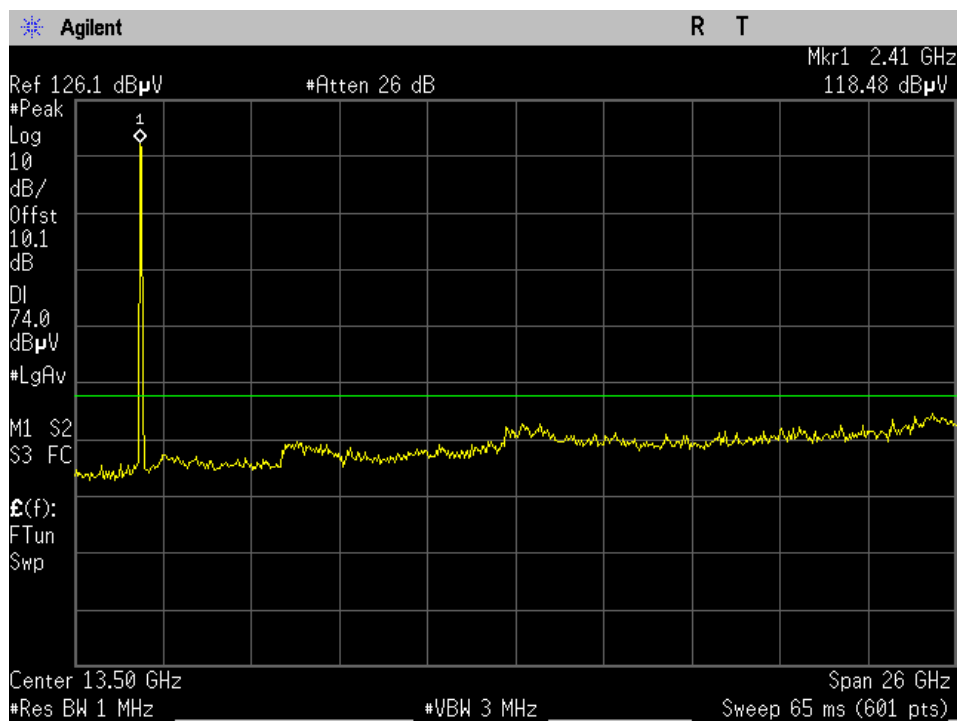
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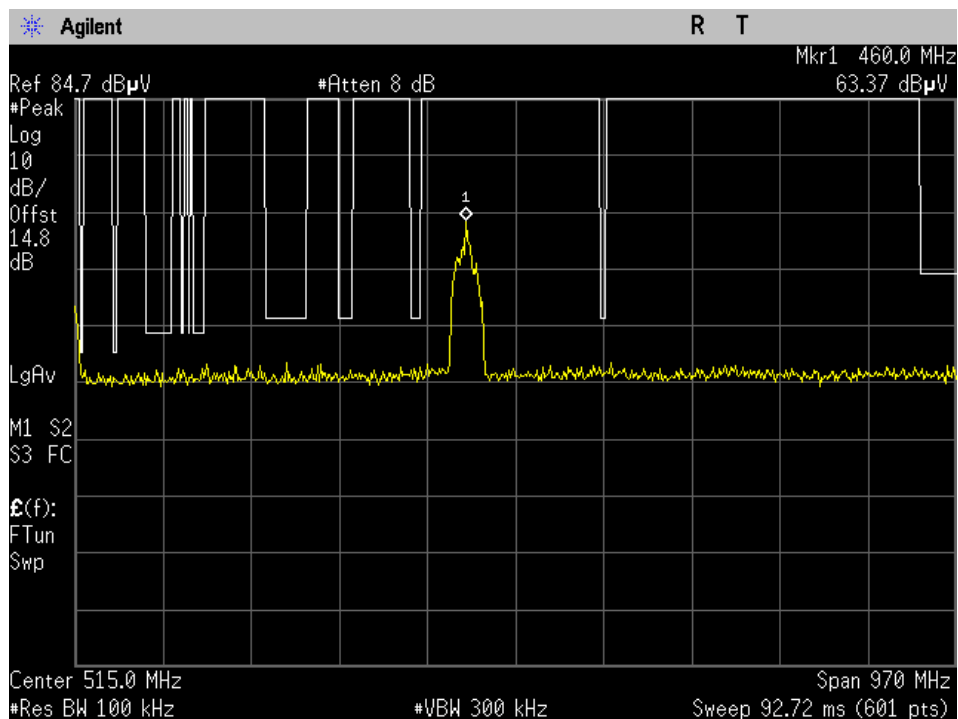
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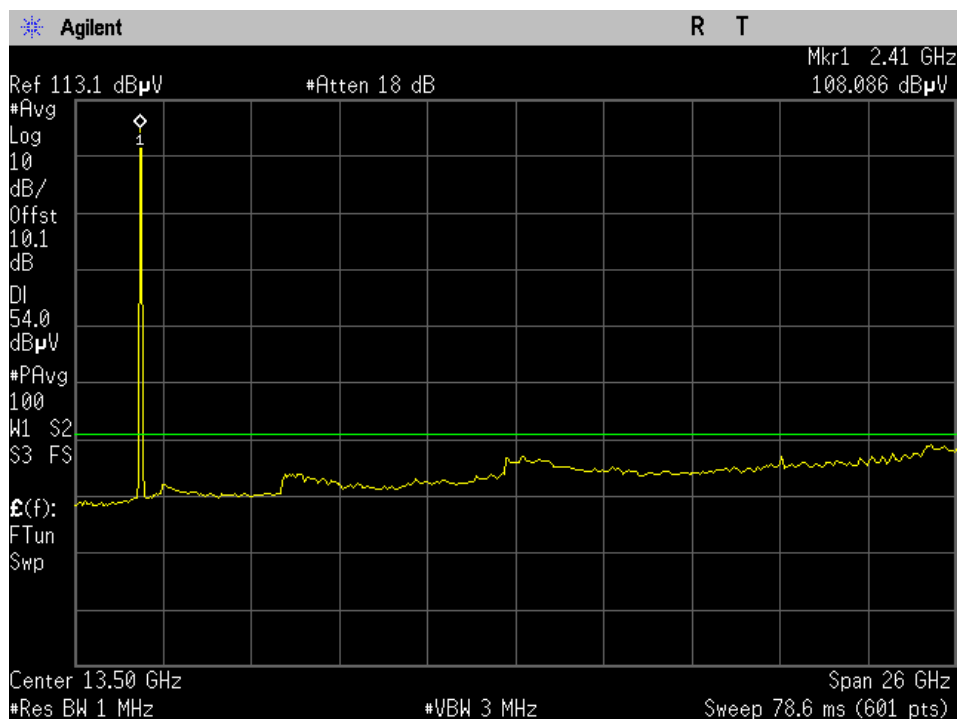
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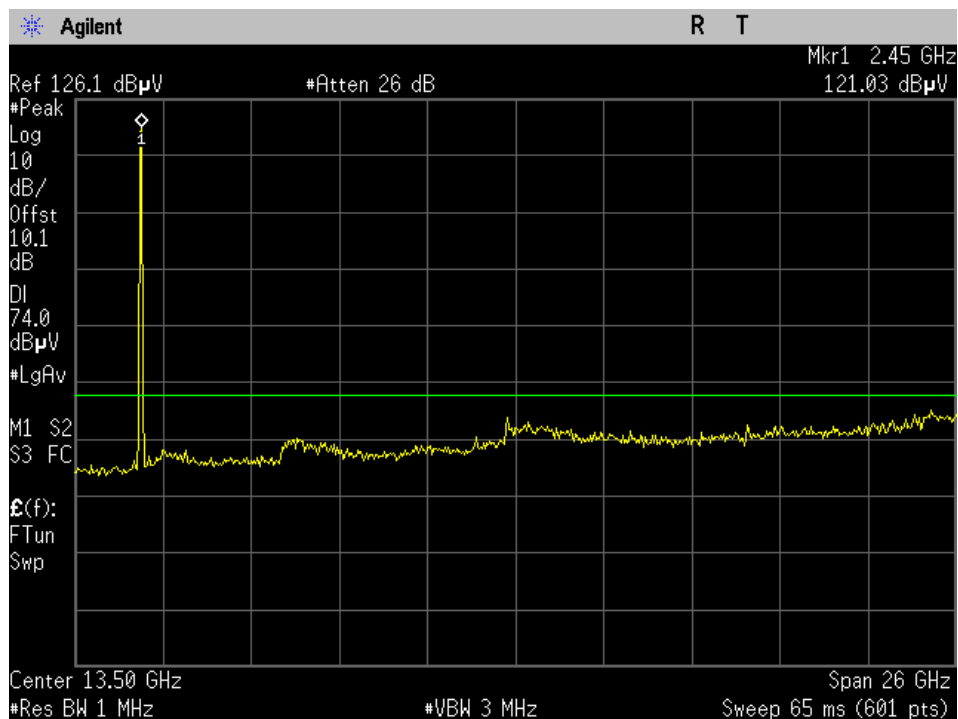
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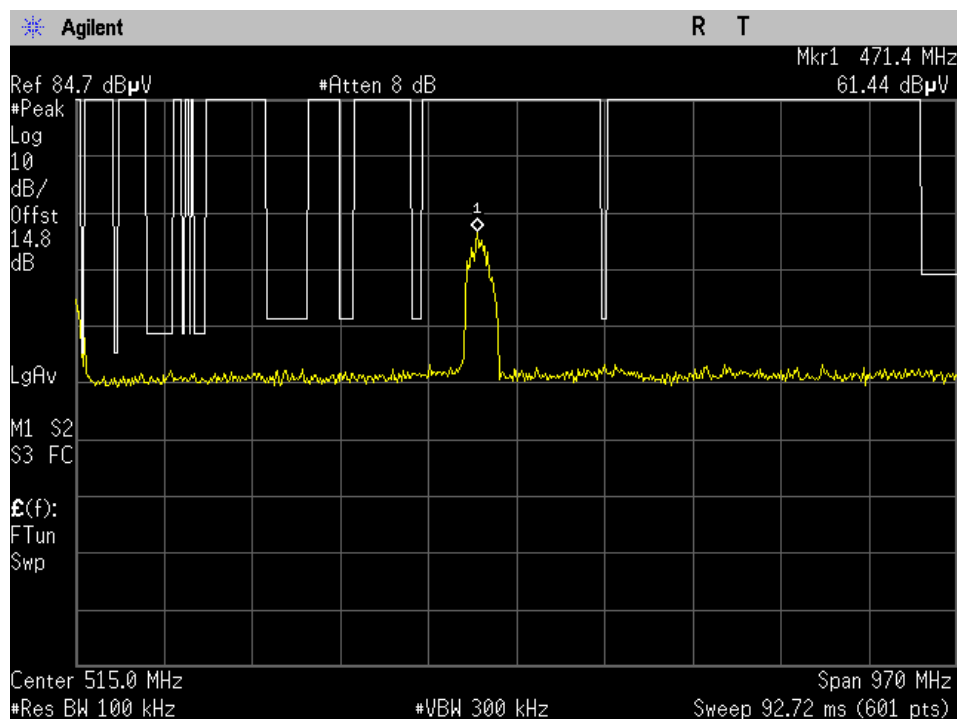
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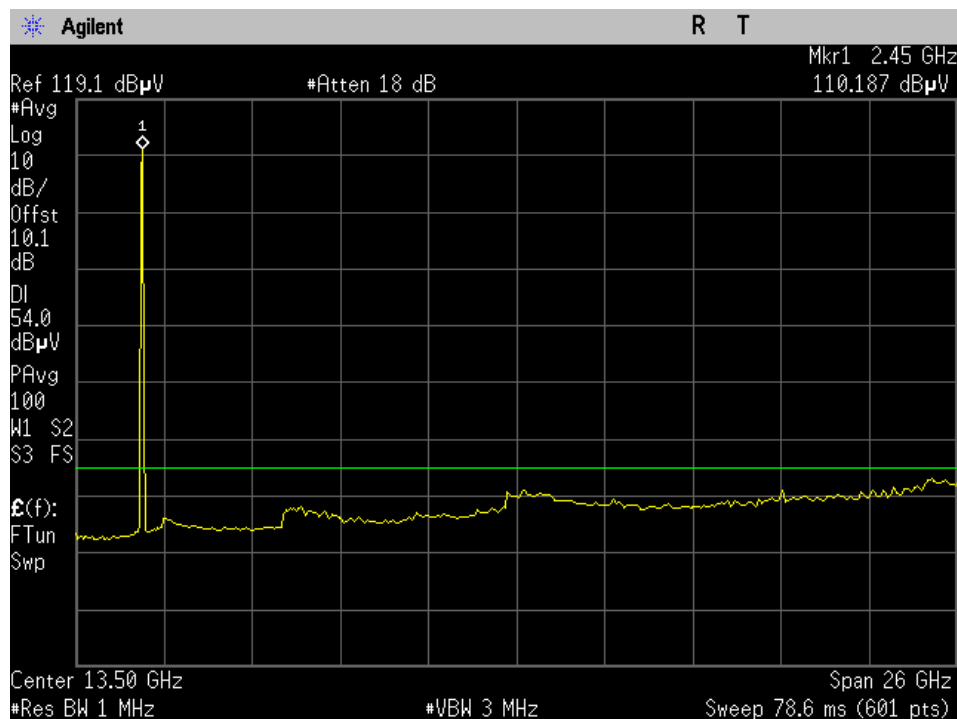
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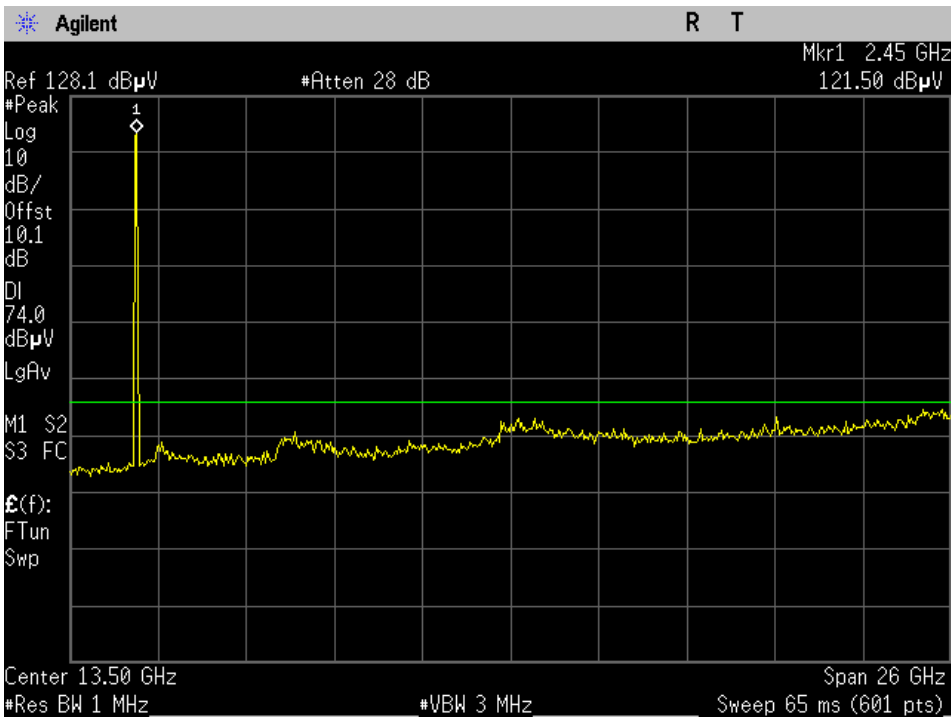
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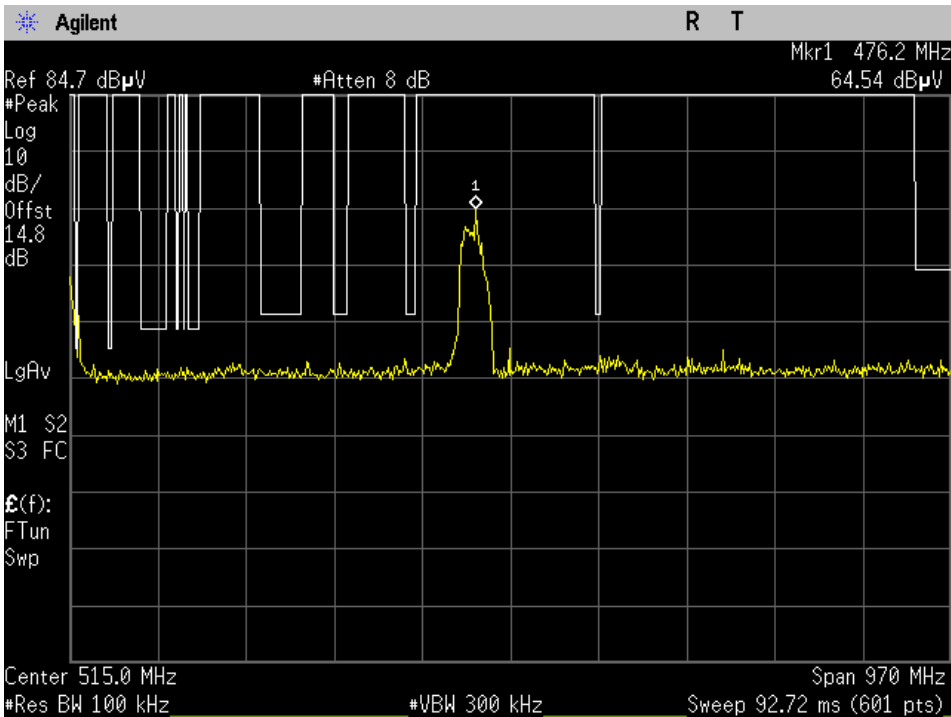
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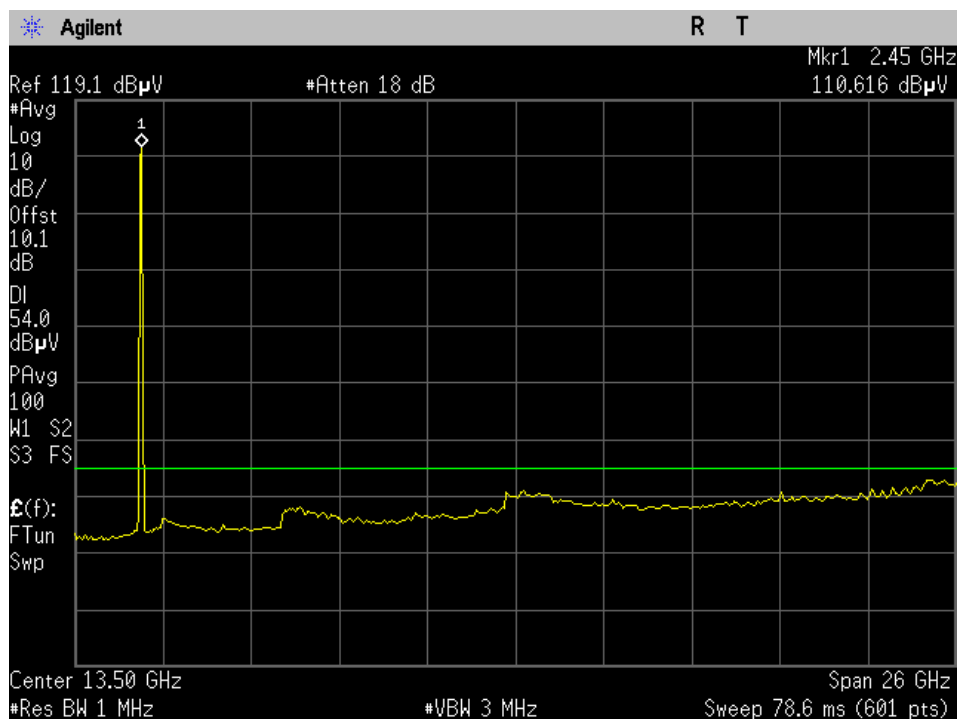
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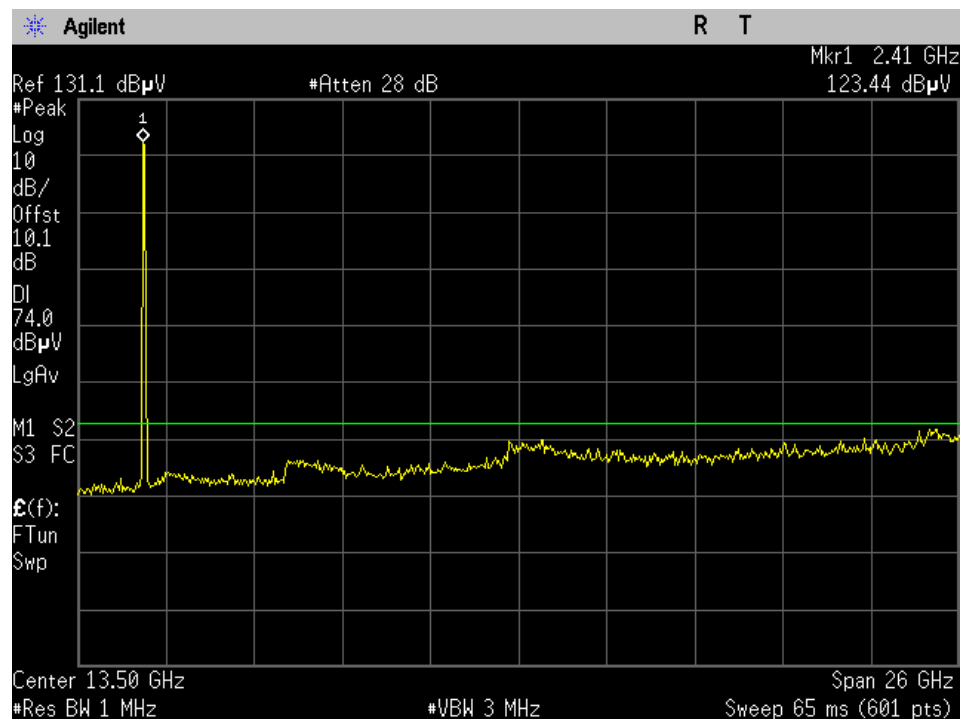
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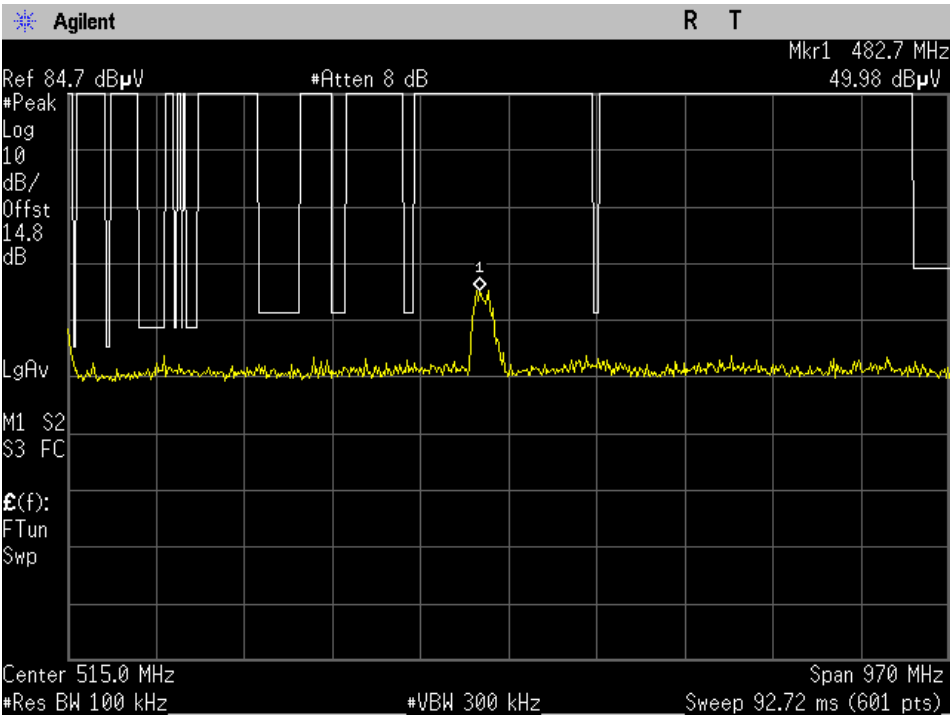
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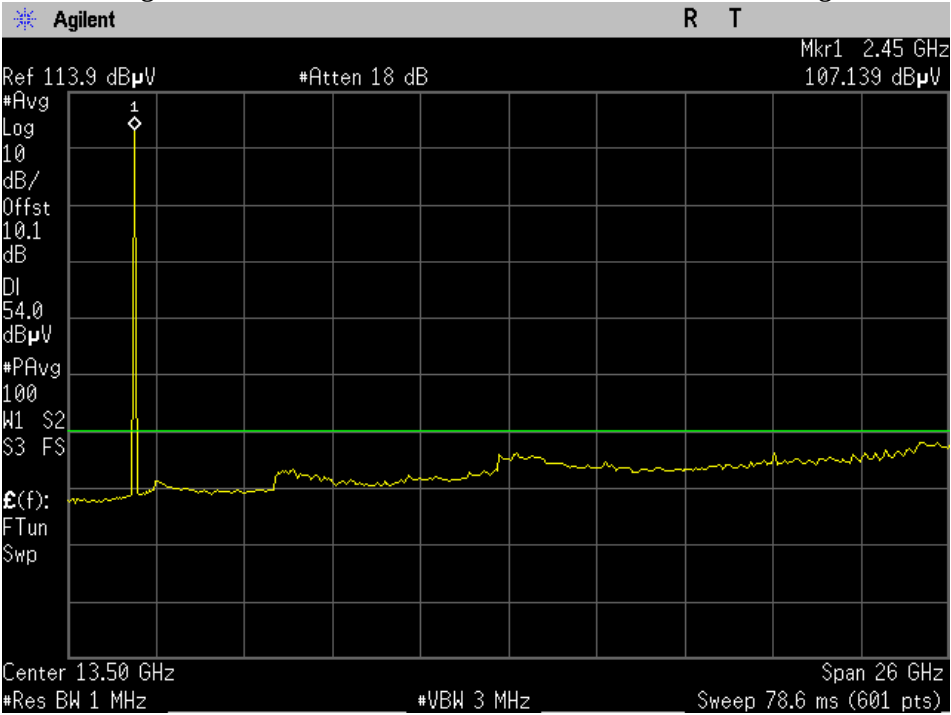
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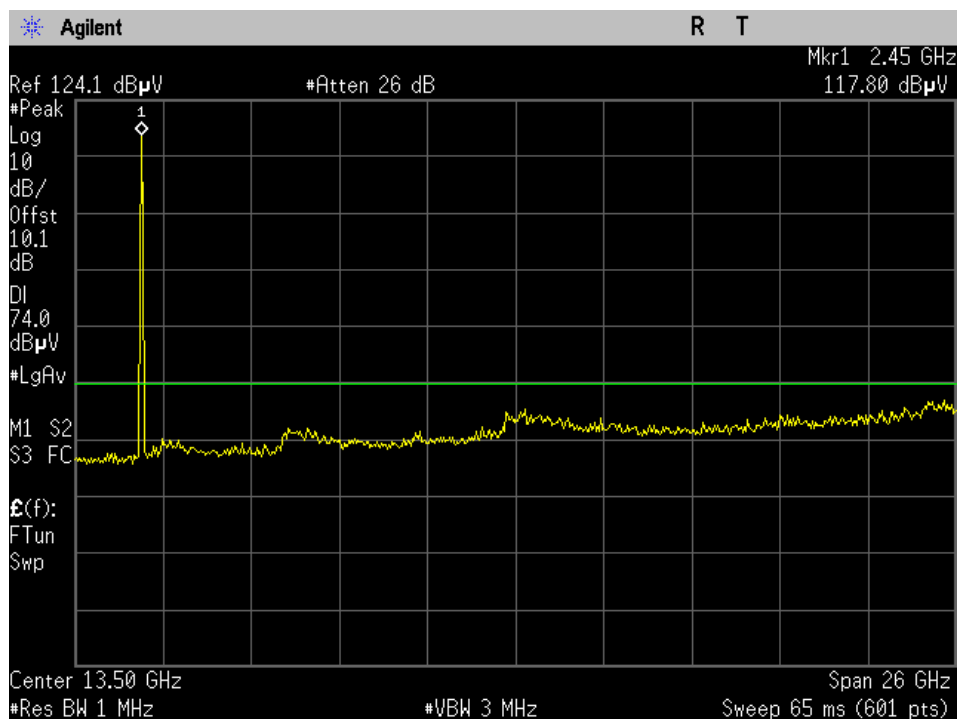
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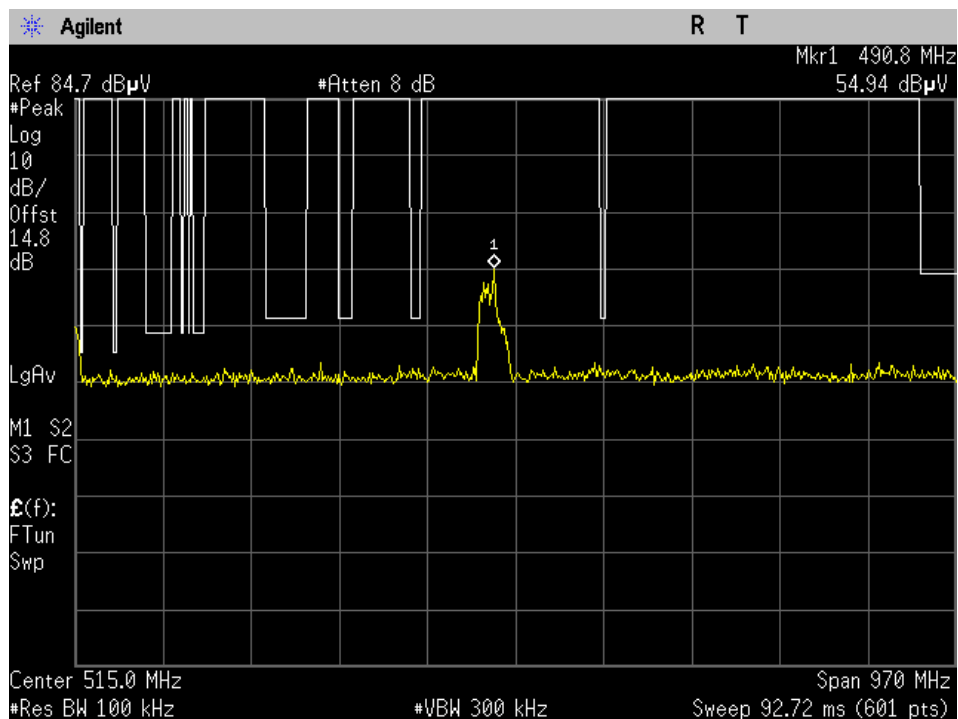
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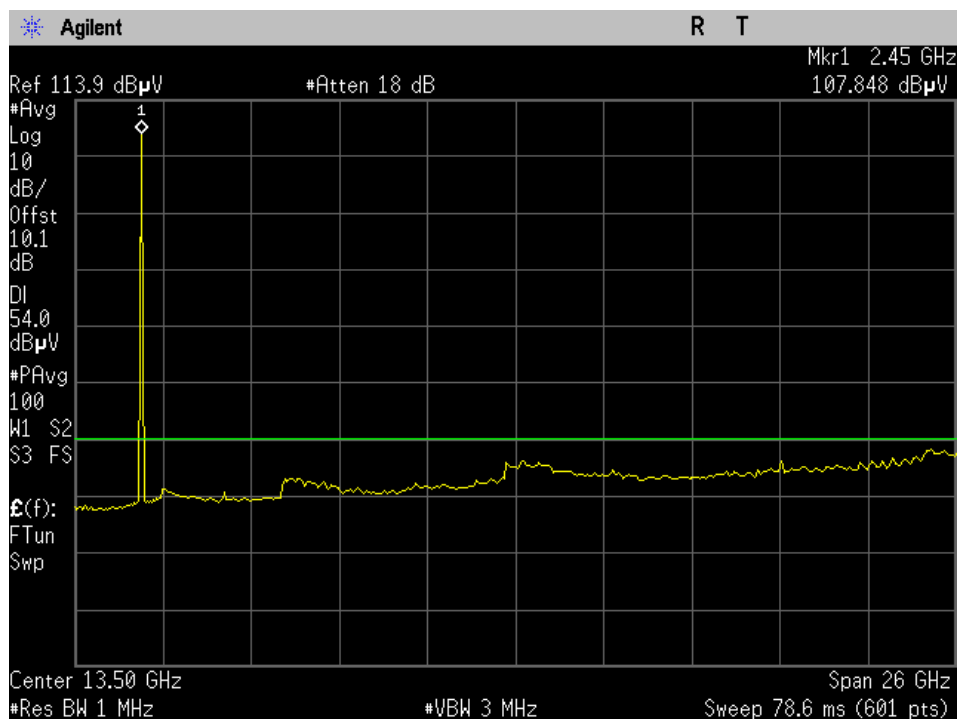
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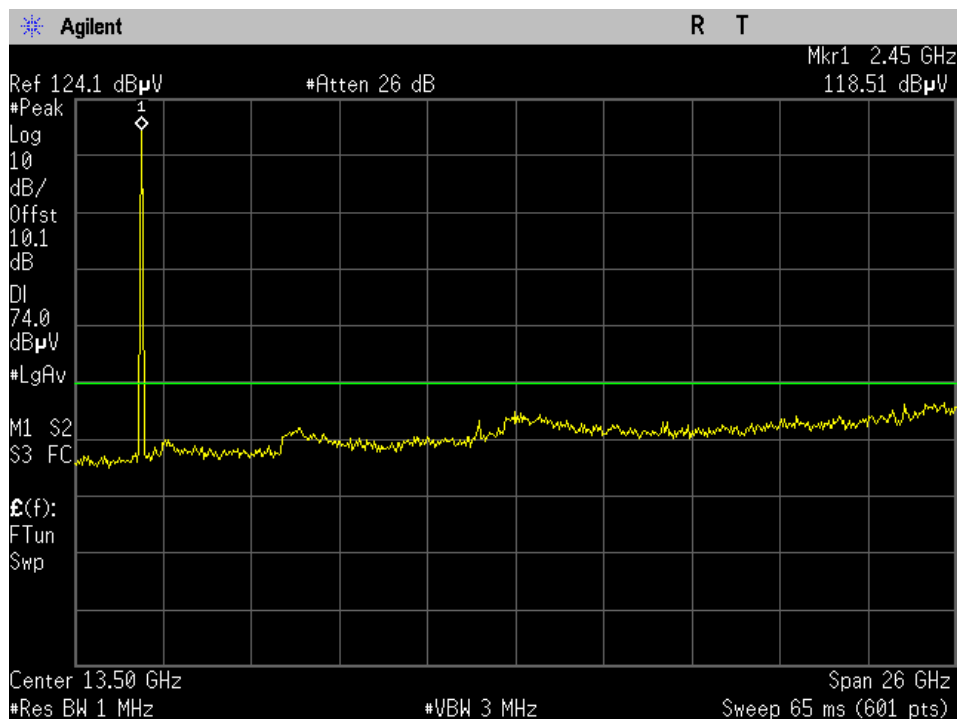
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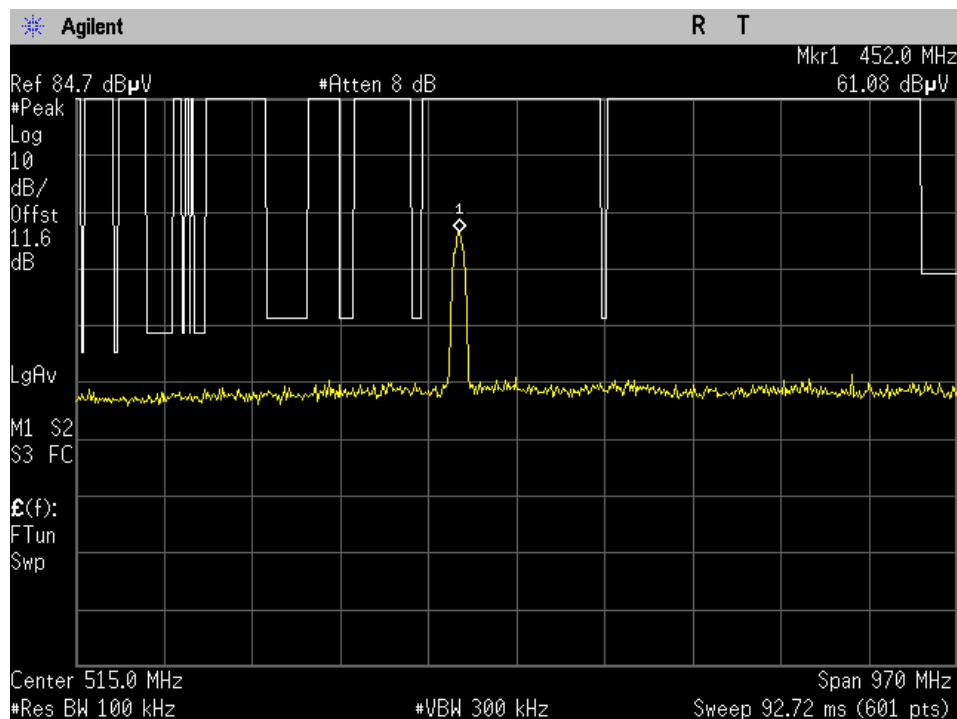
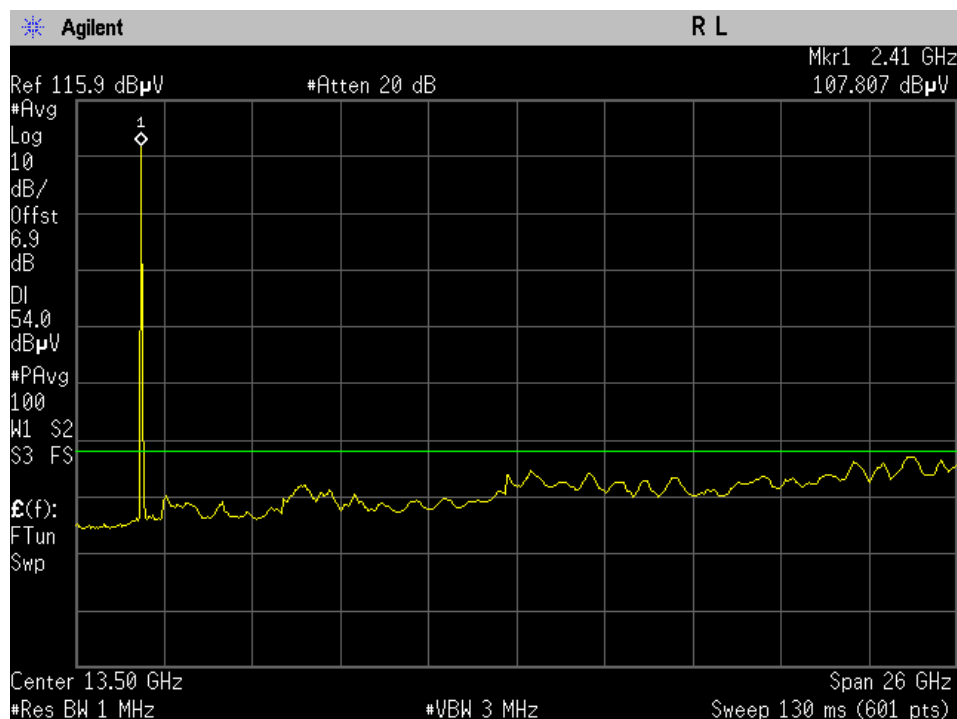


WIFI_High Ch_2452MHz_40MHz BW_n-mode_15.209_1-26GHz avg_Port 2

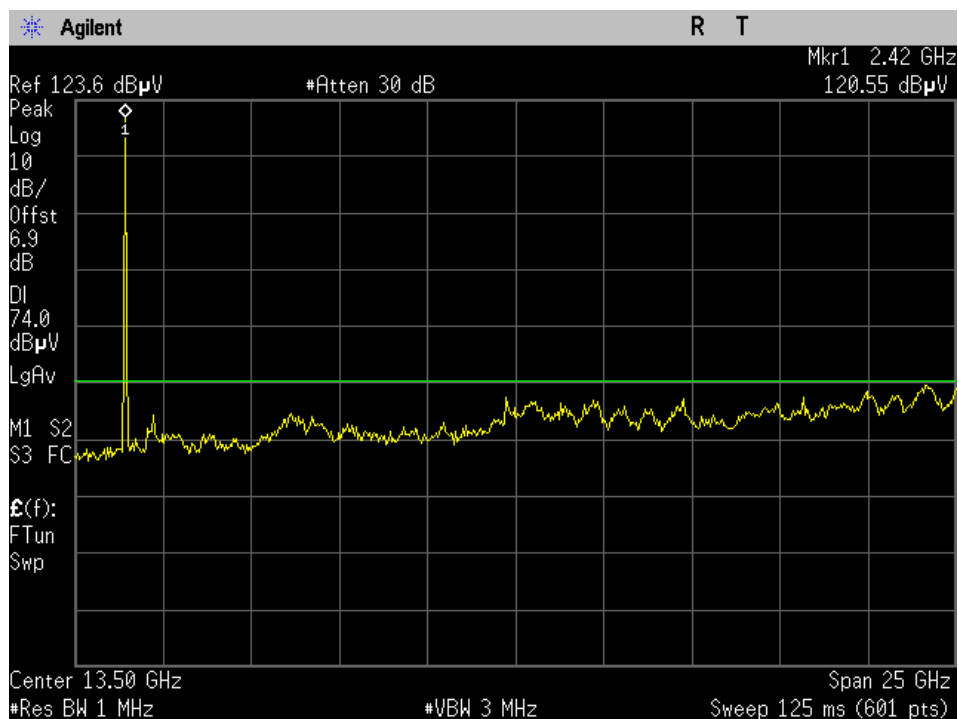


WIFI_High Ch_2452MHz_40MHz BW_n-mode_15.209_1-26GHz _Peak_Port 2

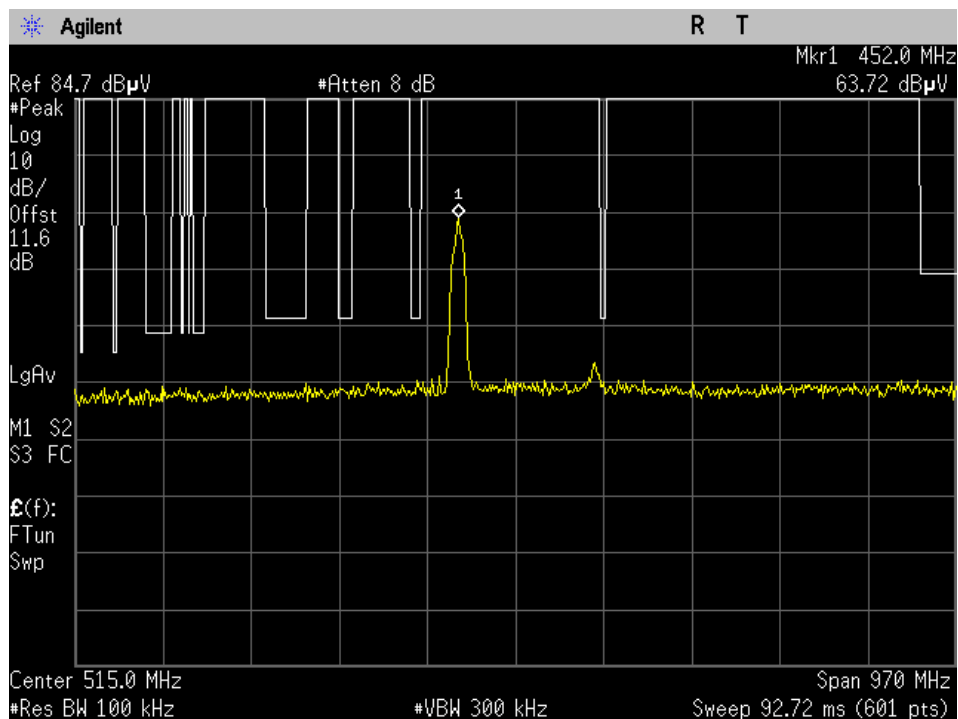


802.11n20/n40 mode, MCS8, Port 1/2**WIFI_Low Ch_2412MHz_20MHz BW_n-mode_15.209_30-1000MHz_Peak_Port 1****WIFI_Low Ch_2412MHz_20MHz BW_n-mode_15.209_1-26GHz avg_Port 1**

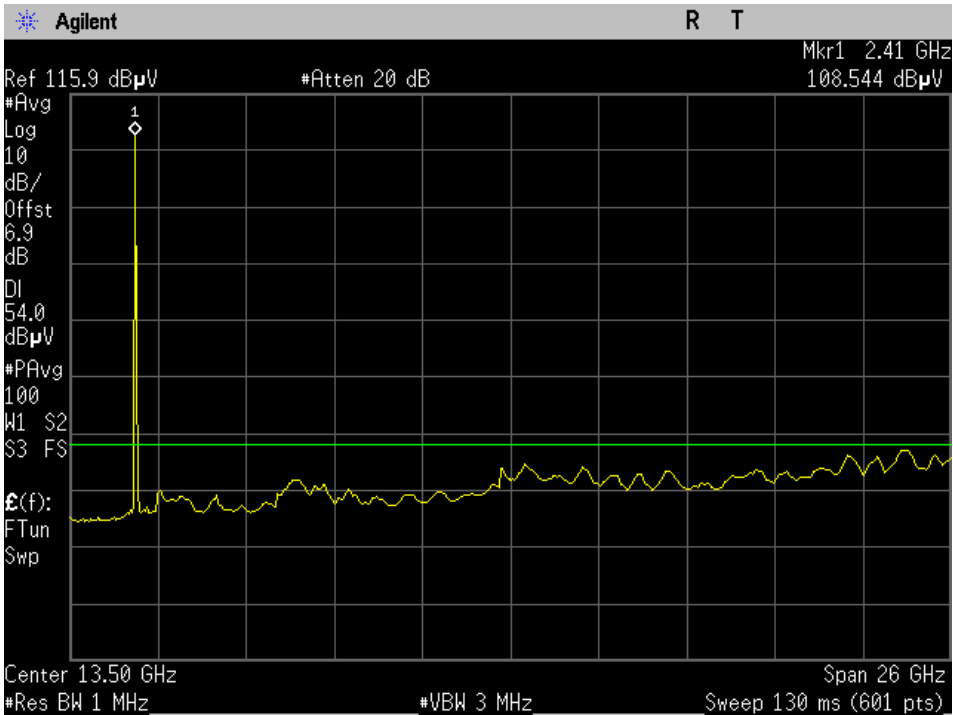
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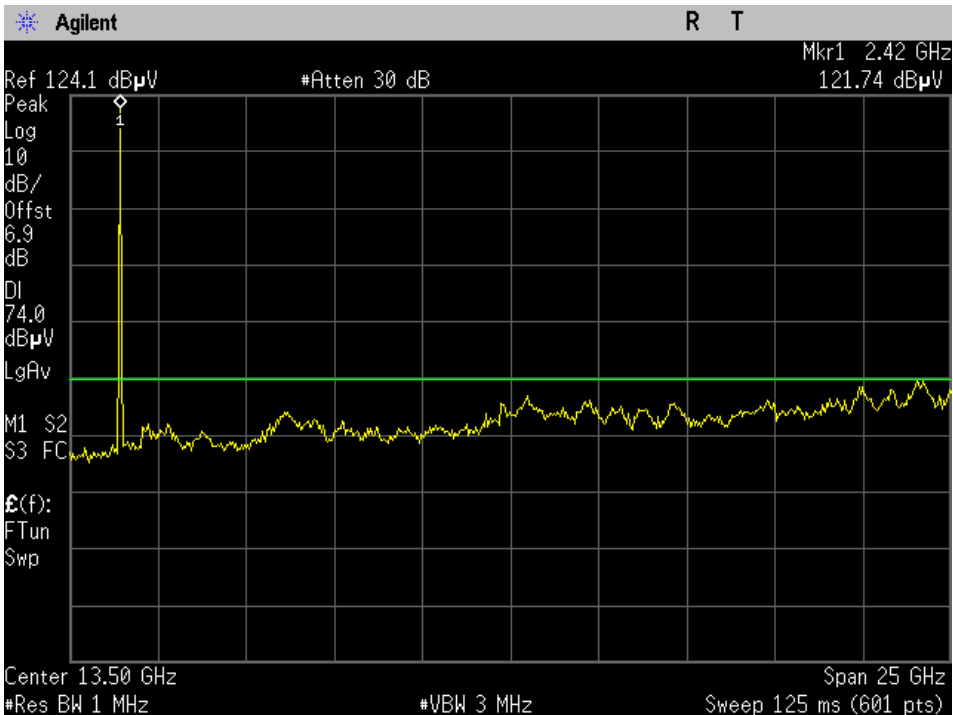
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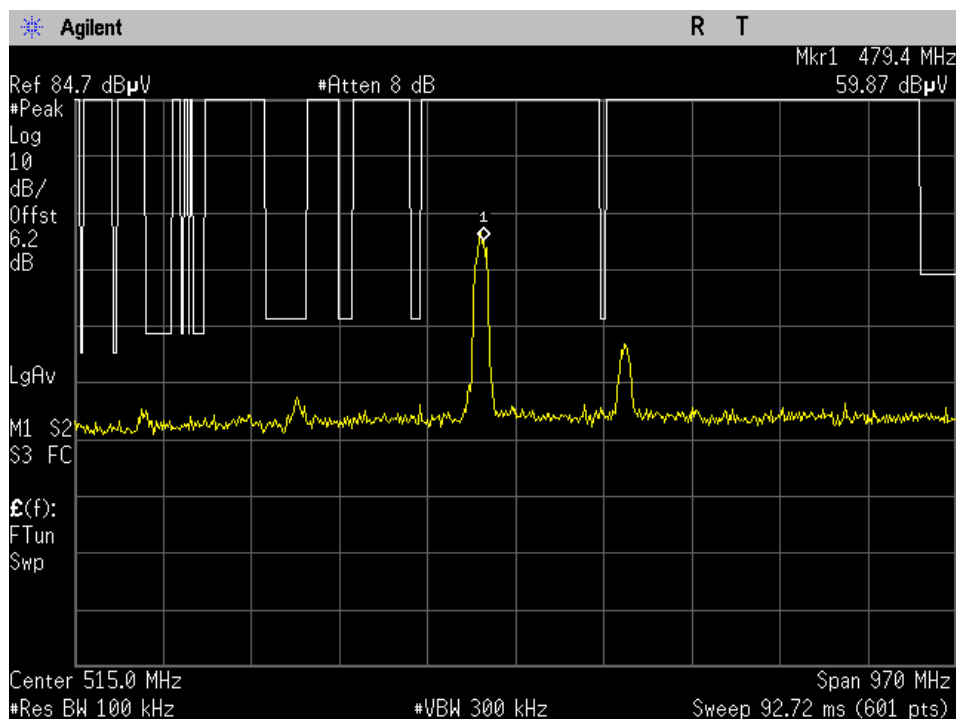
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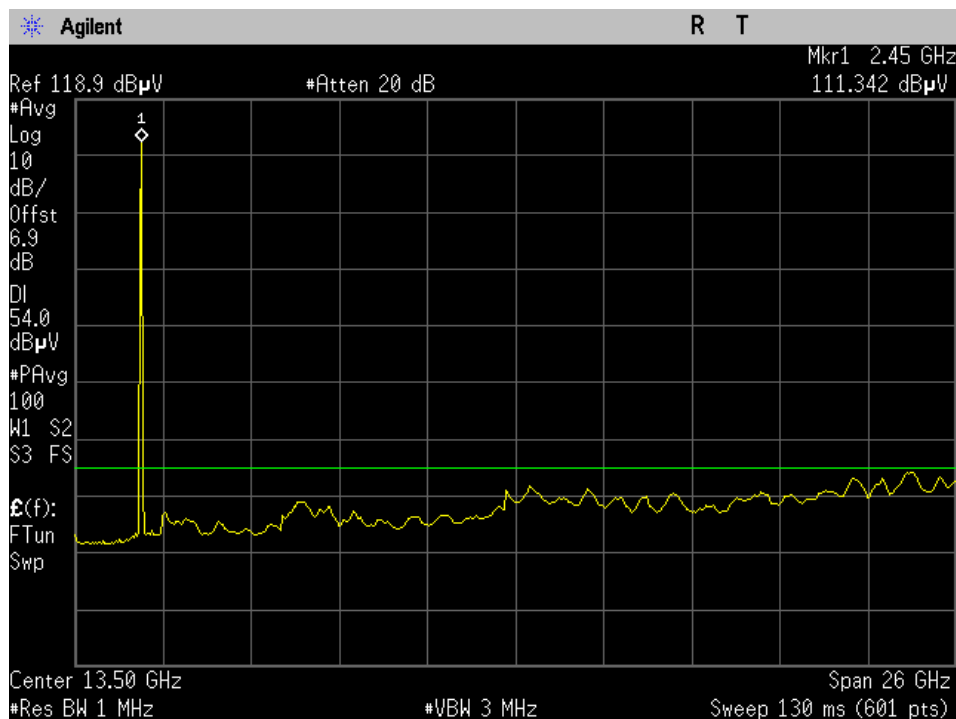
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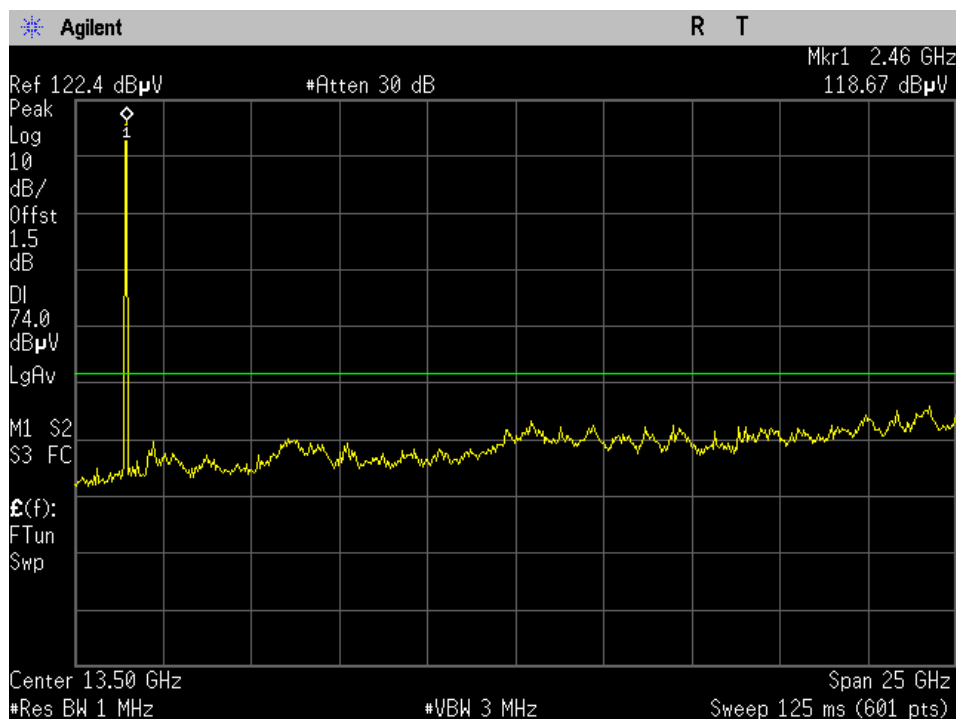
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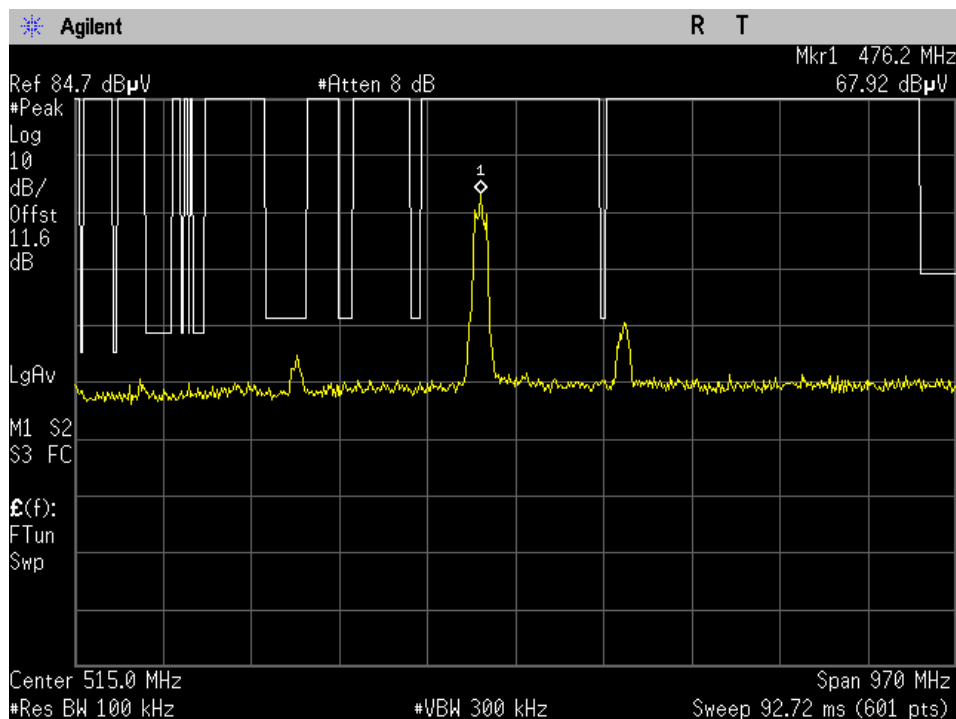
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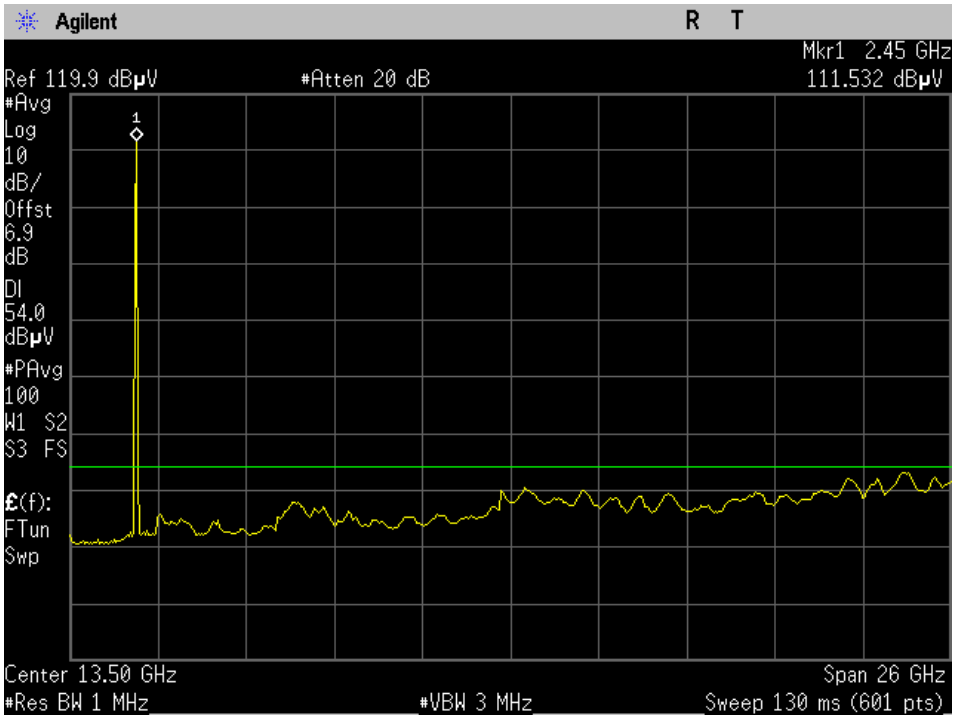
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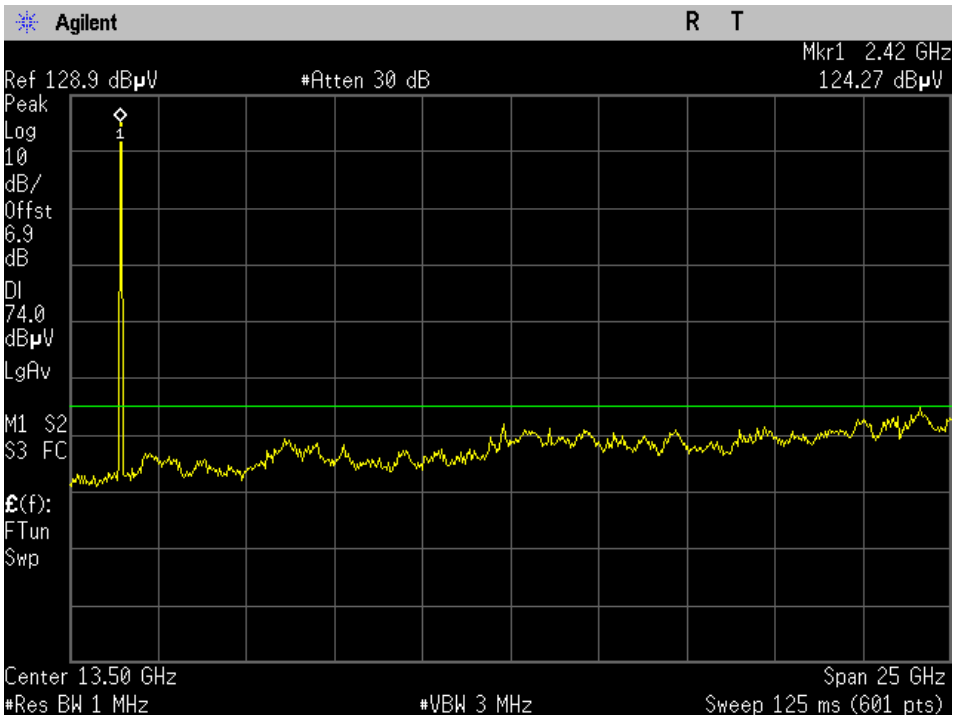
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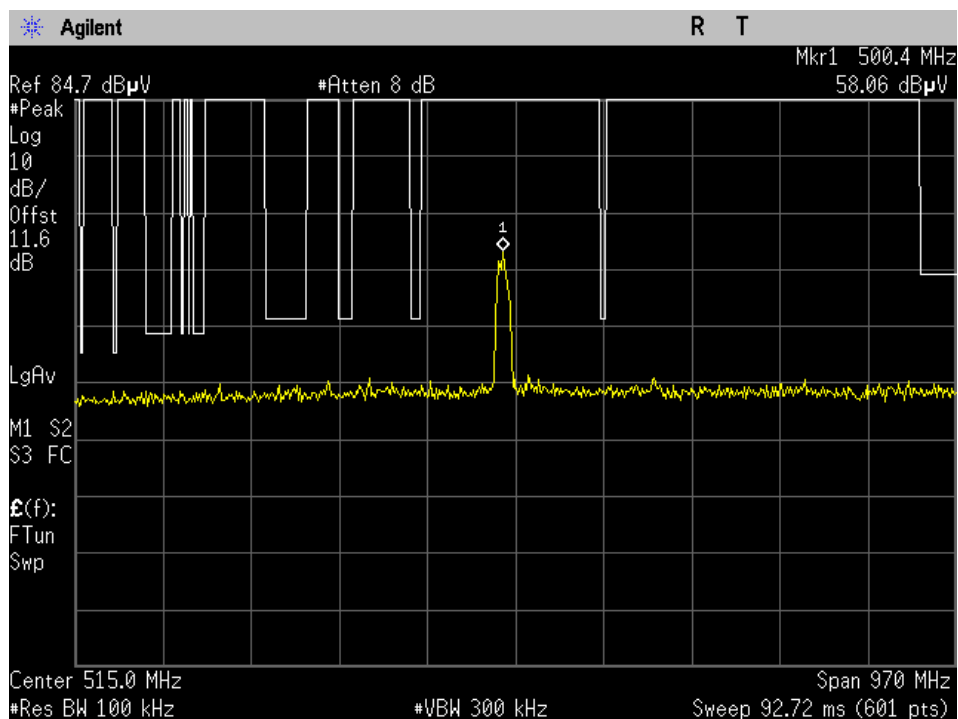
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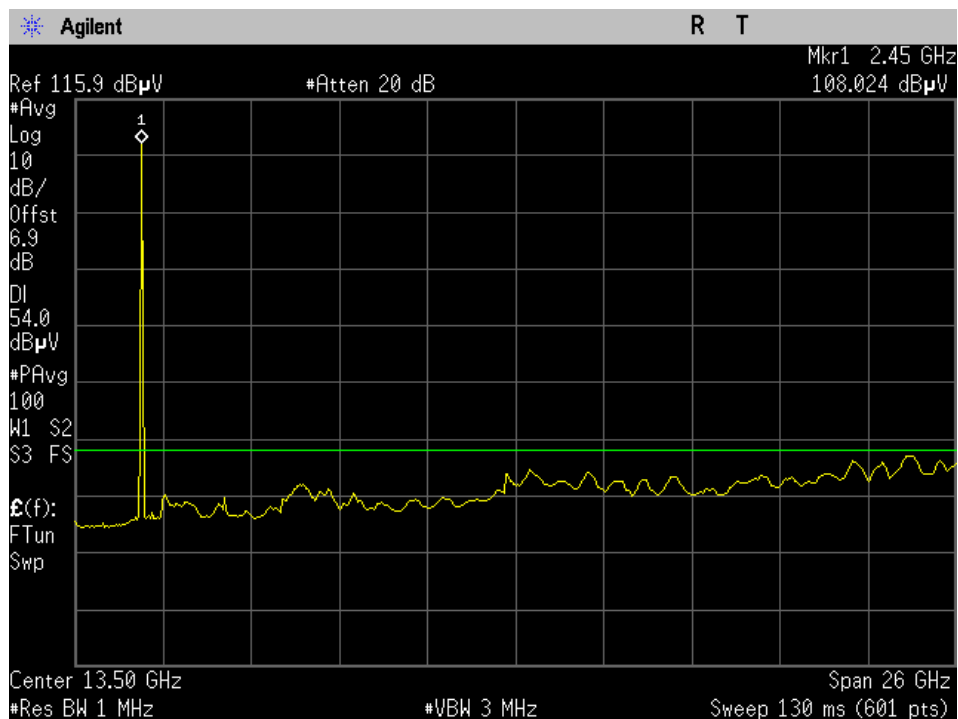
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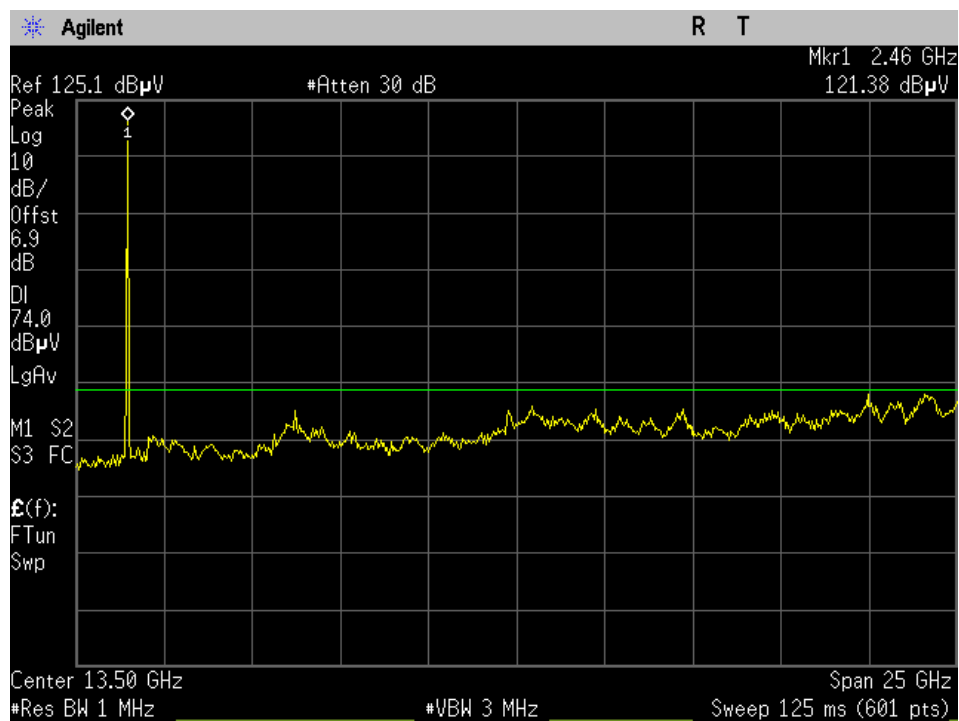
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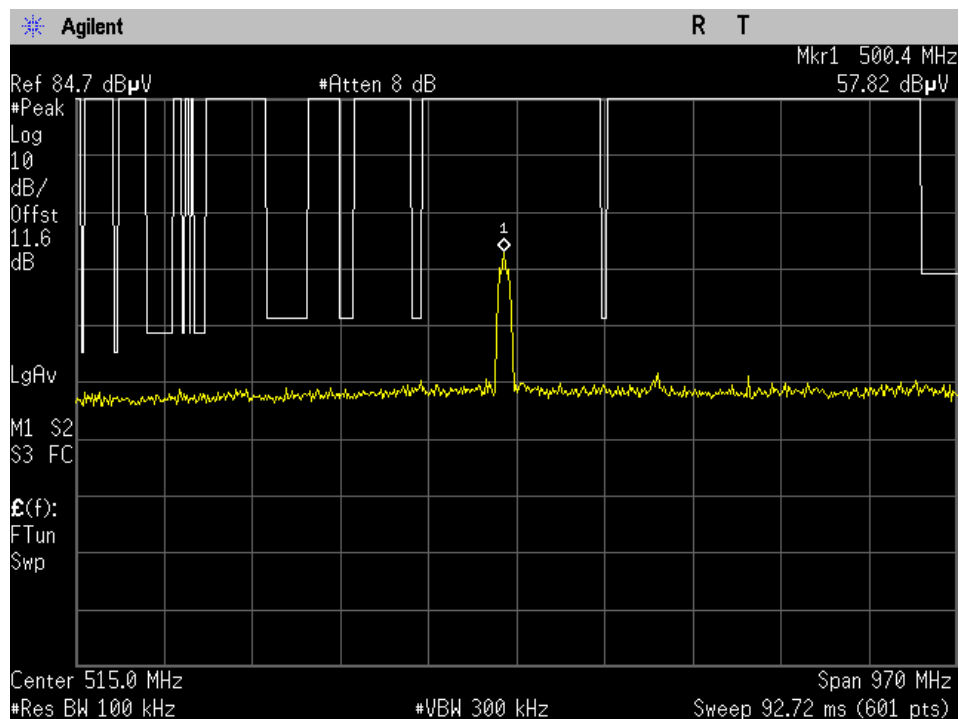
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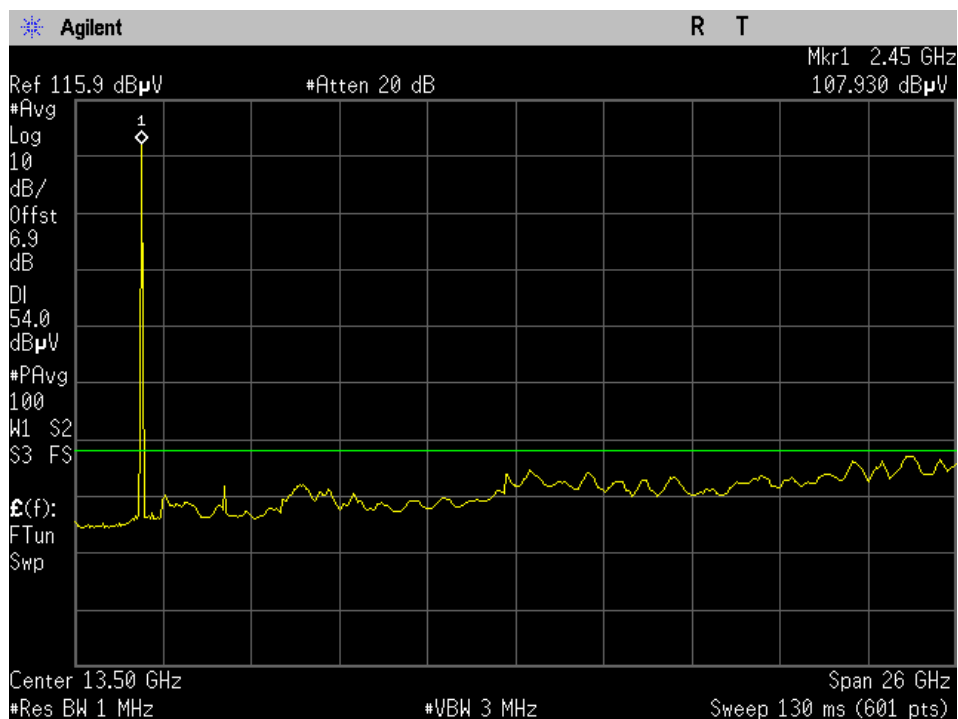
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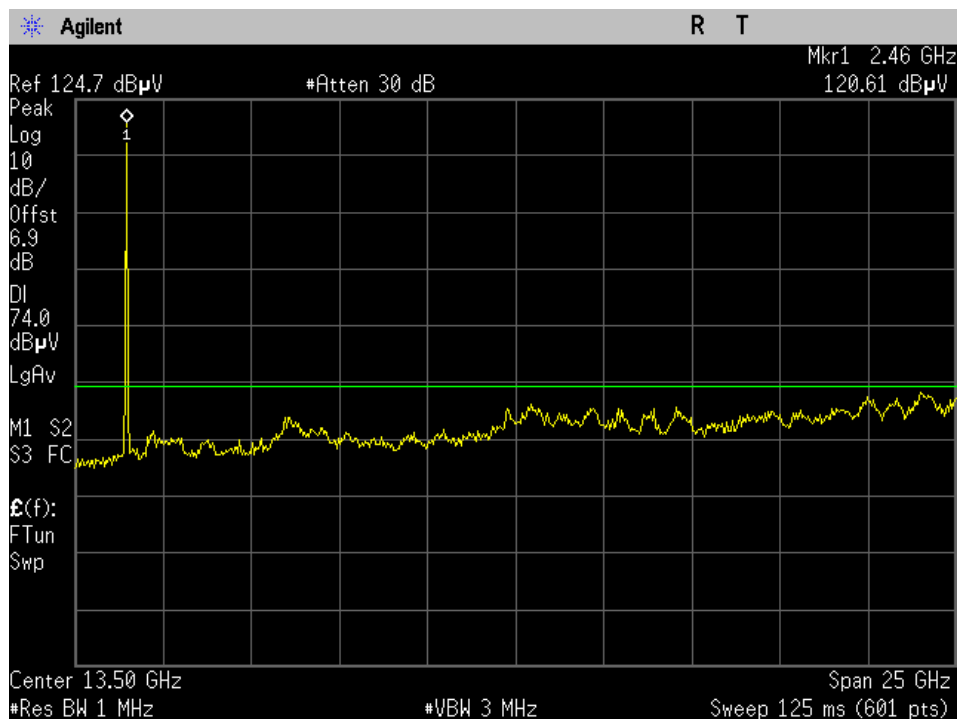
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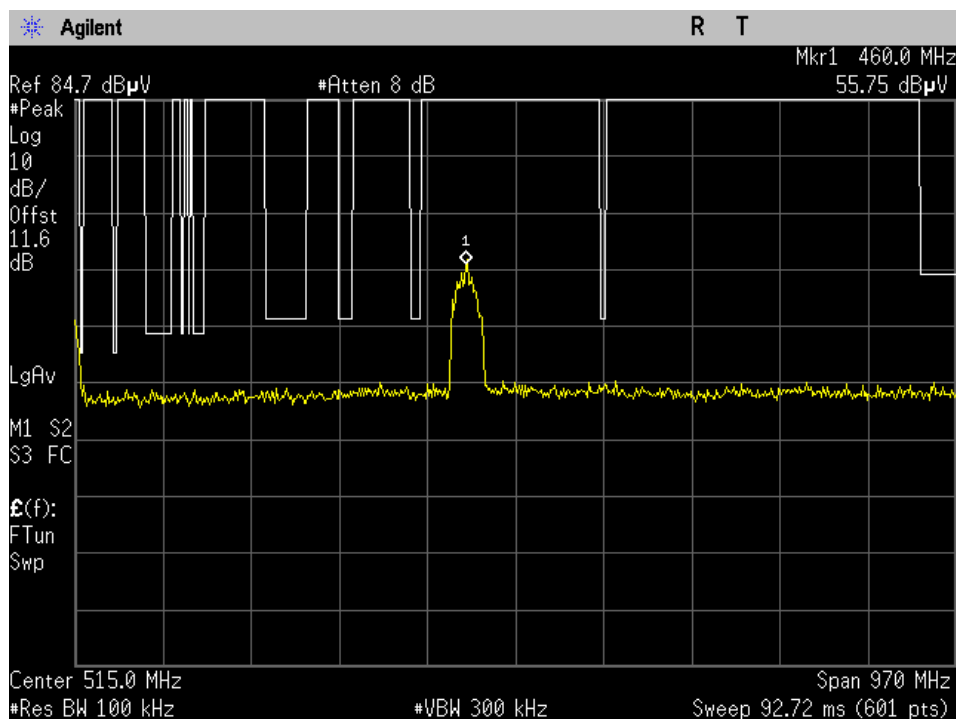
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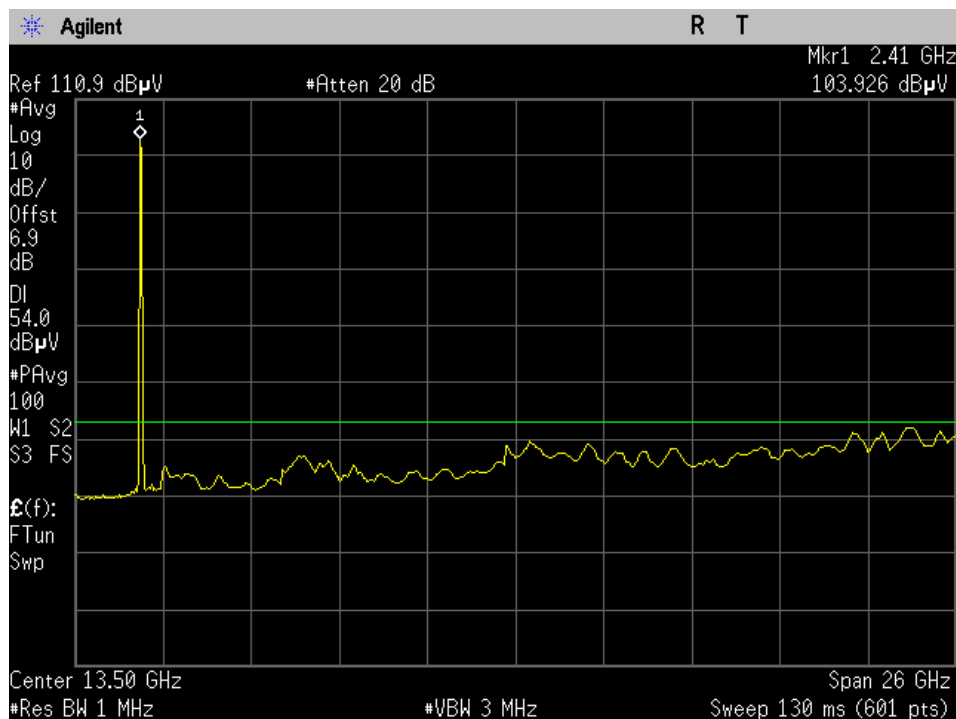
WIFI_High Ch_2462MHz_20MHz BW_n-mode_15.209_1-26GHz _Peak_Port 2



WIFI_Low Ch_2422MHz_40MHz BW_n-mode_15.209_30-1000MHz_Peak_Port 1



WIFI_Low Ch_2422MHz_40MHz BW_n-mode_15.209_1-26GHz avg_Port 1



Agilent R T

Ref 84.7 dB μ V #Atten 8 dB Mkr1 460.0 MHz 60.55 dB μ V

#Peak Log 10 dB/ Offst 11.6 dB

LgAv

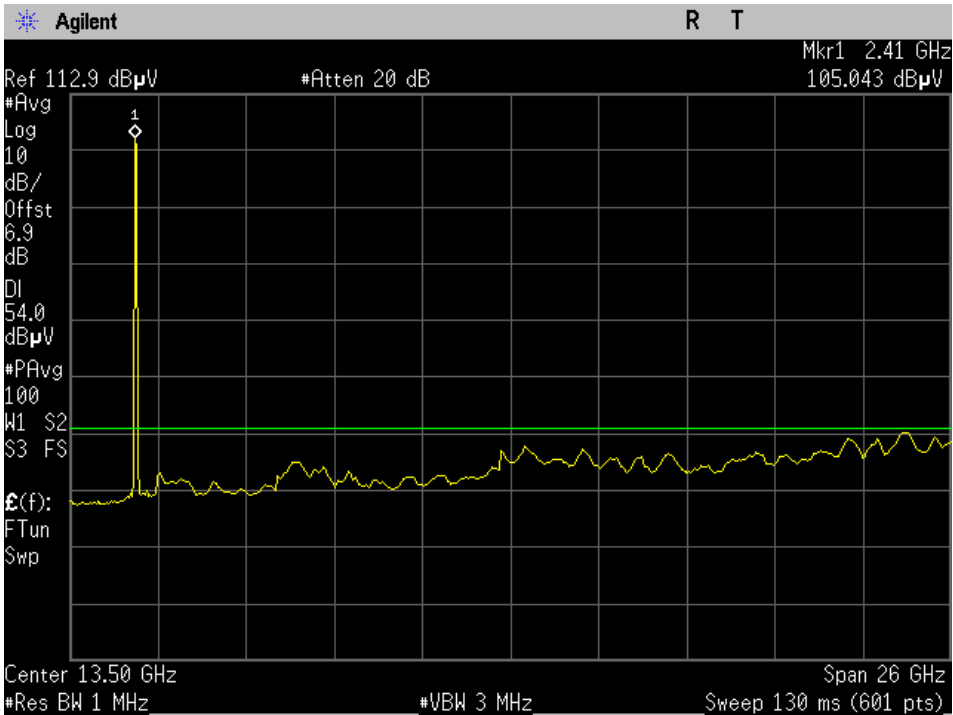
M1 S2 S3 FC

$\mathcal{E}(f)$: FTun Swp

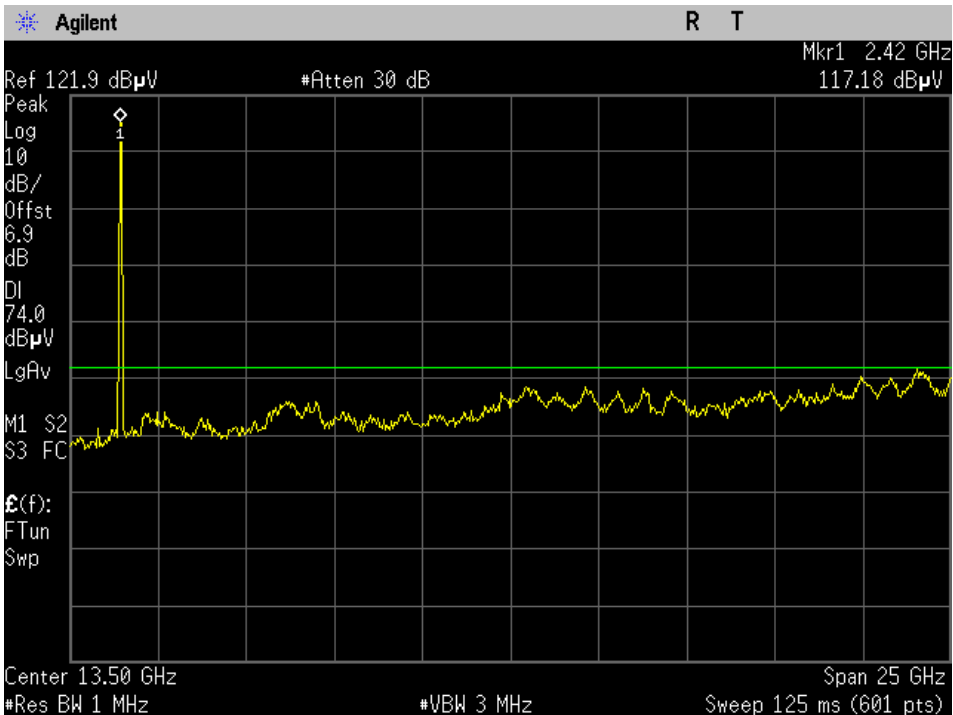
Center 515.0 MHz Span 970 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 92.72 ms (601 pts)

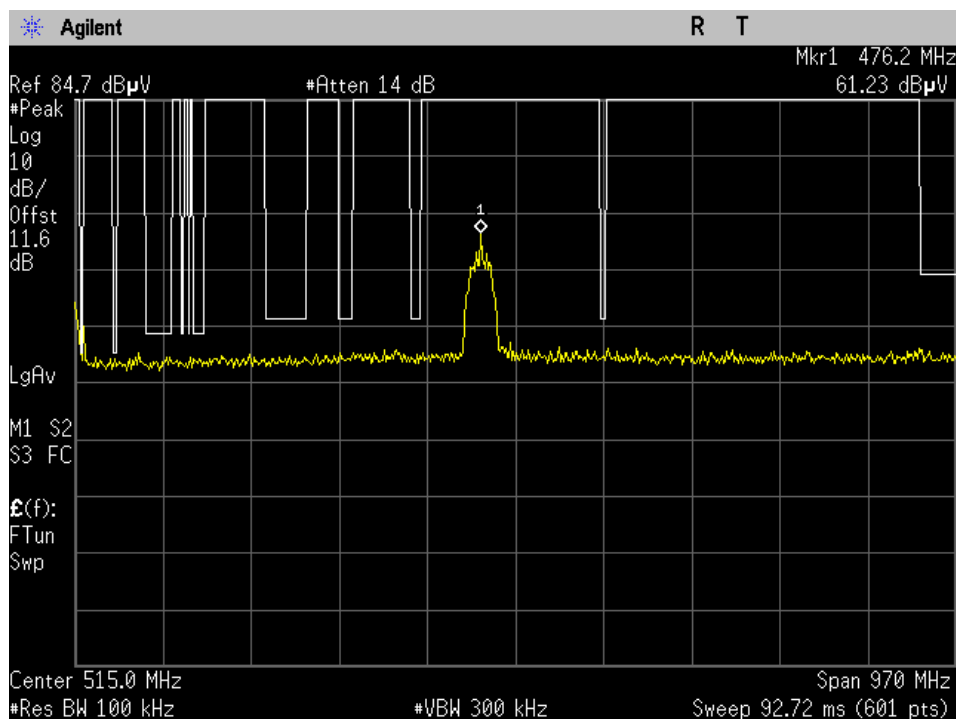
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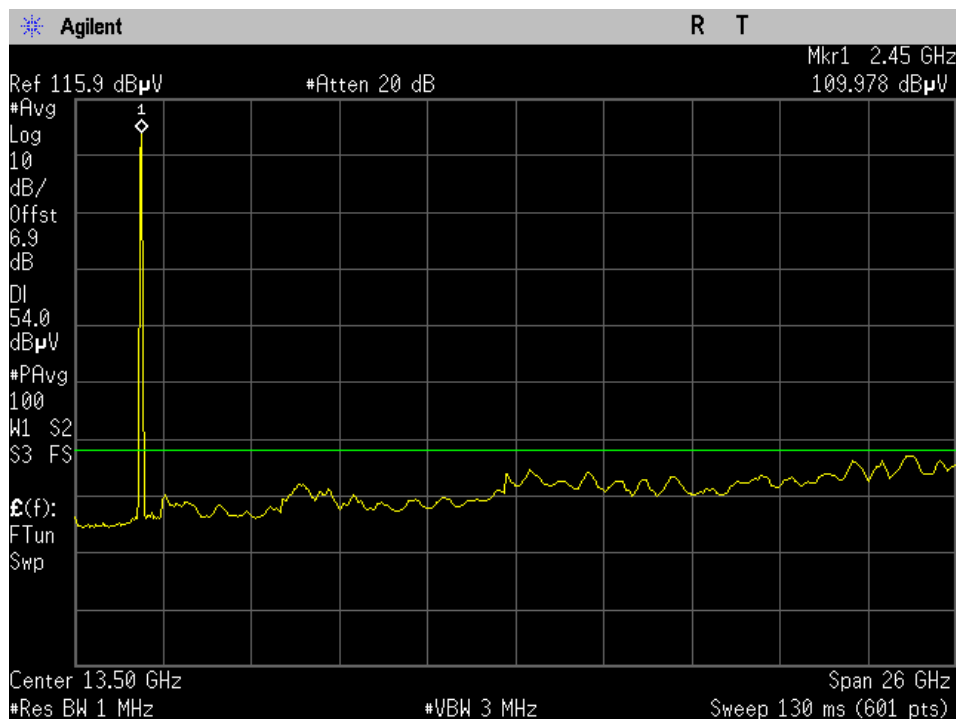
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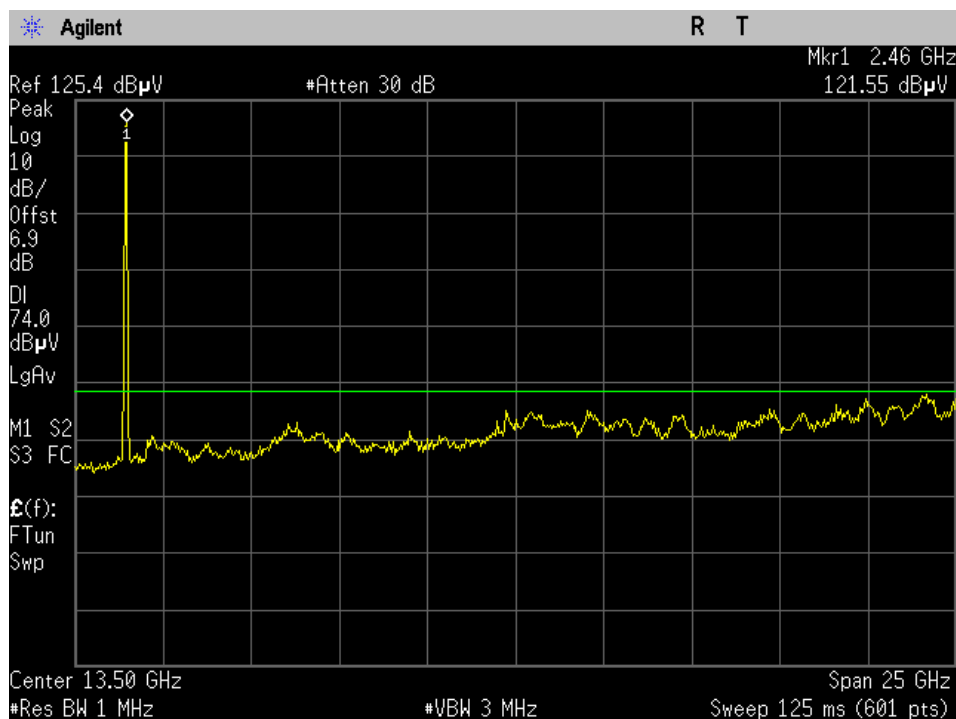
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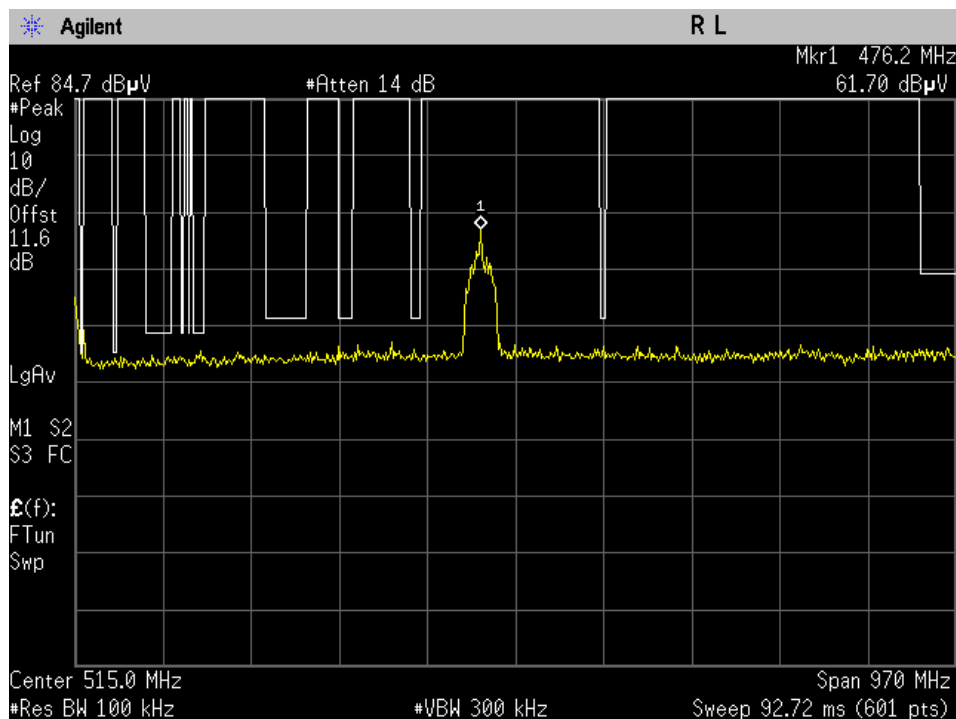
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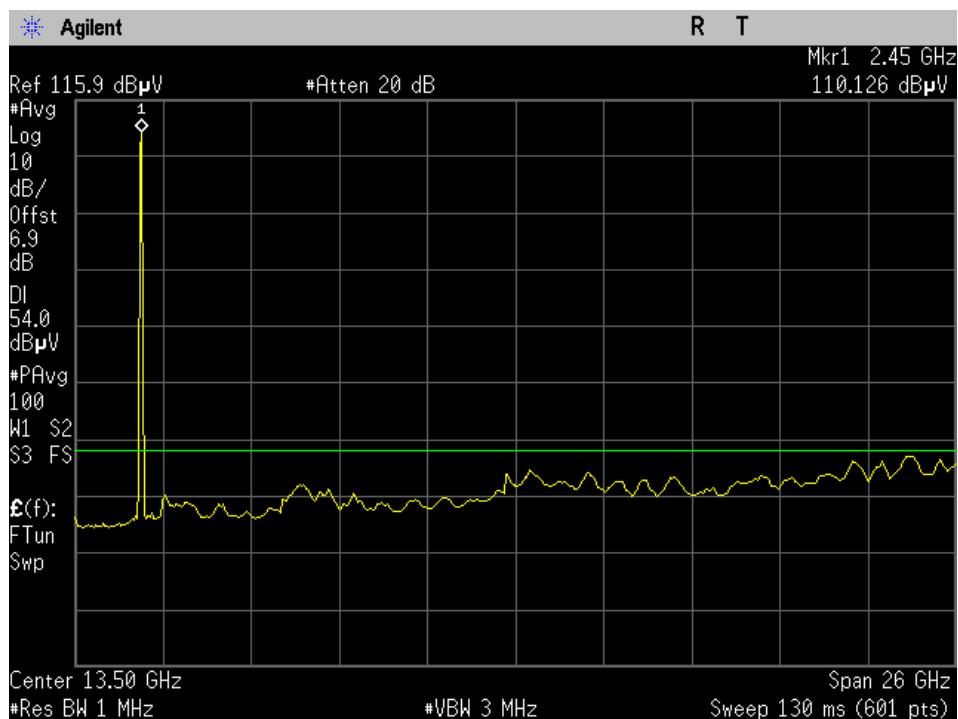
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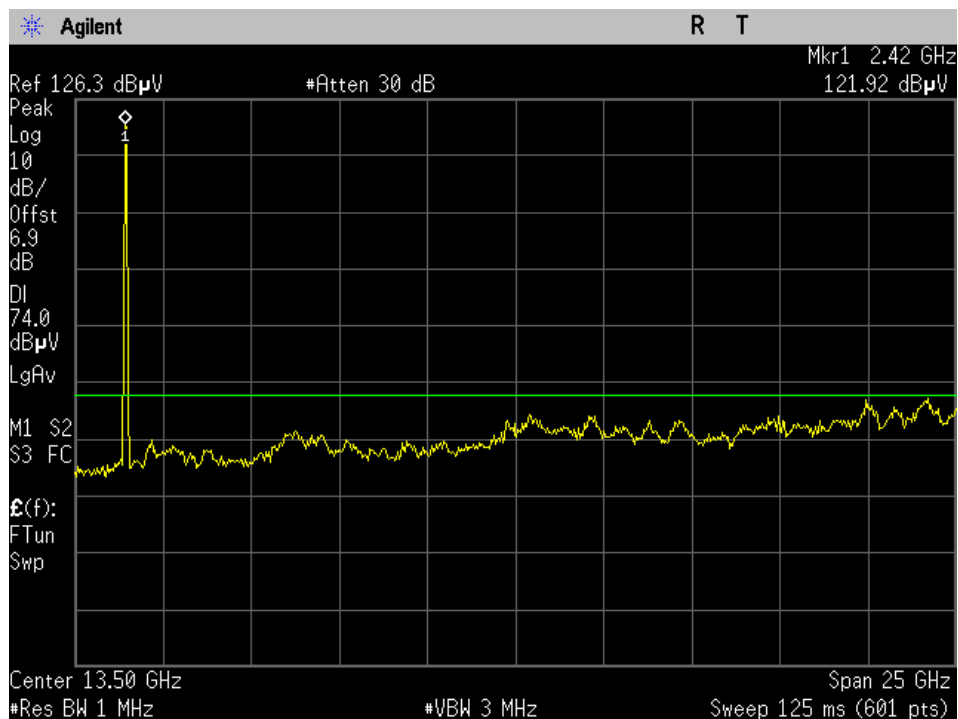
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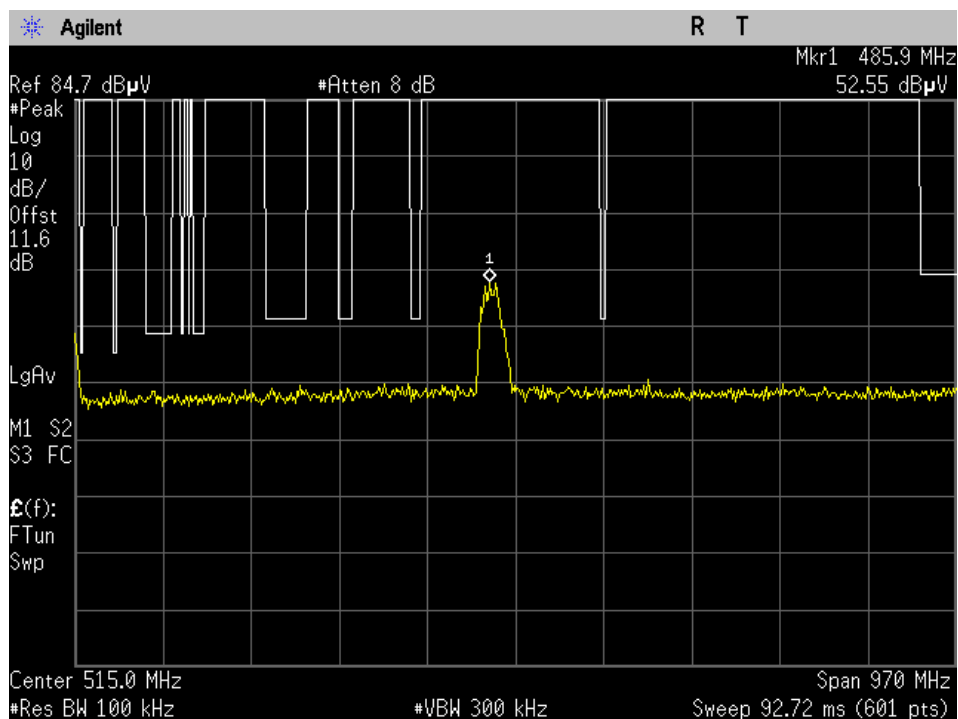
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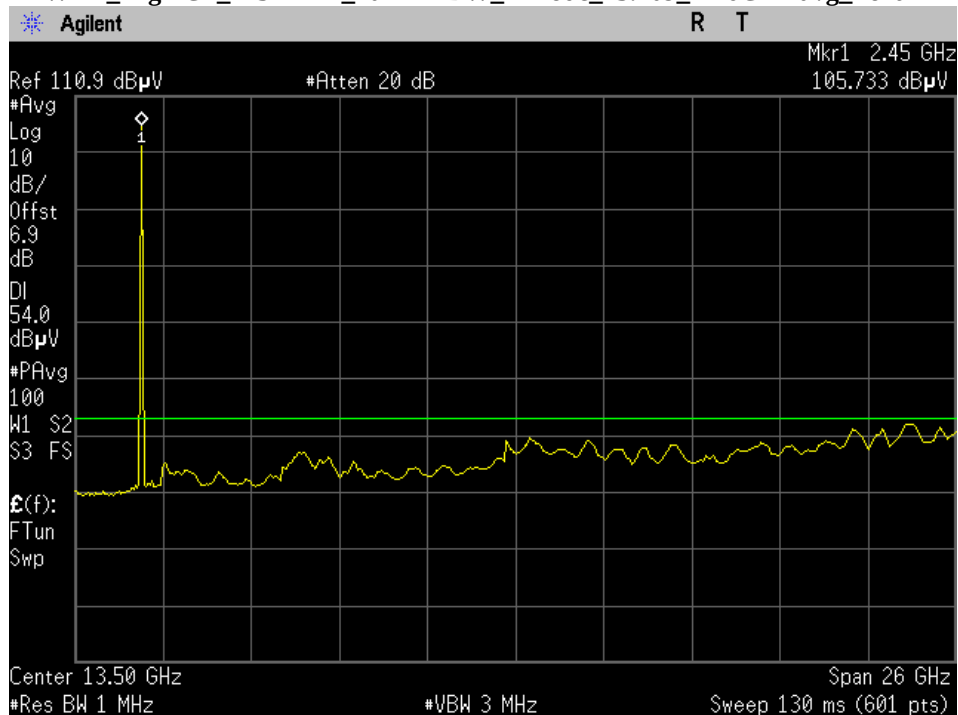
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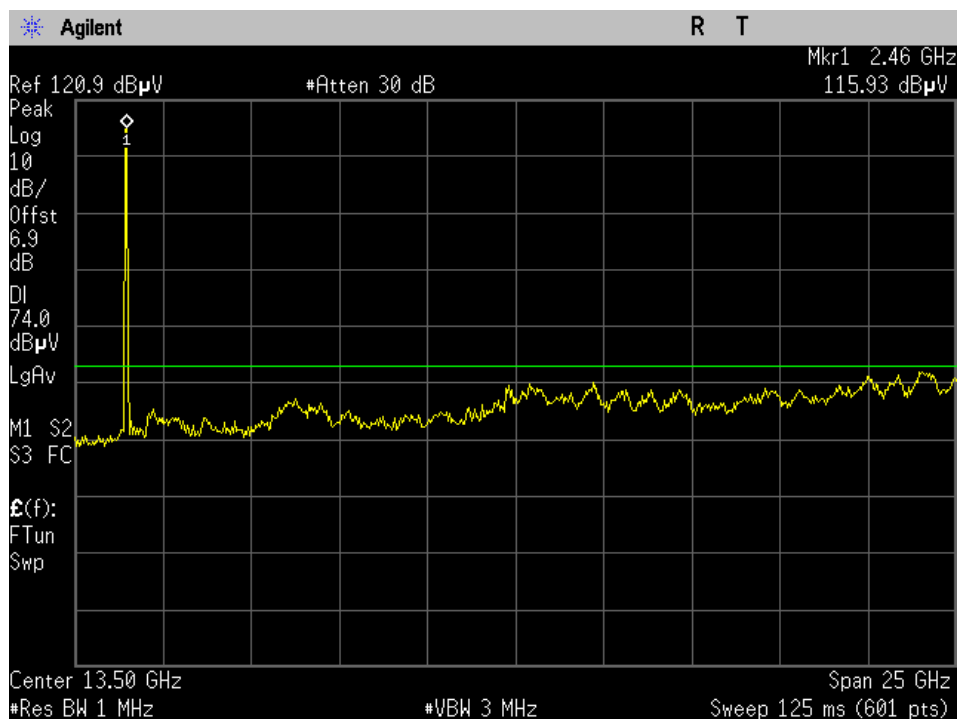
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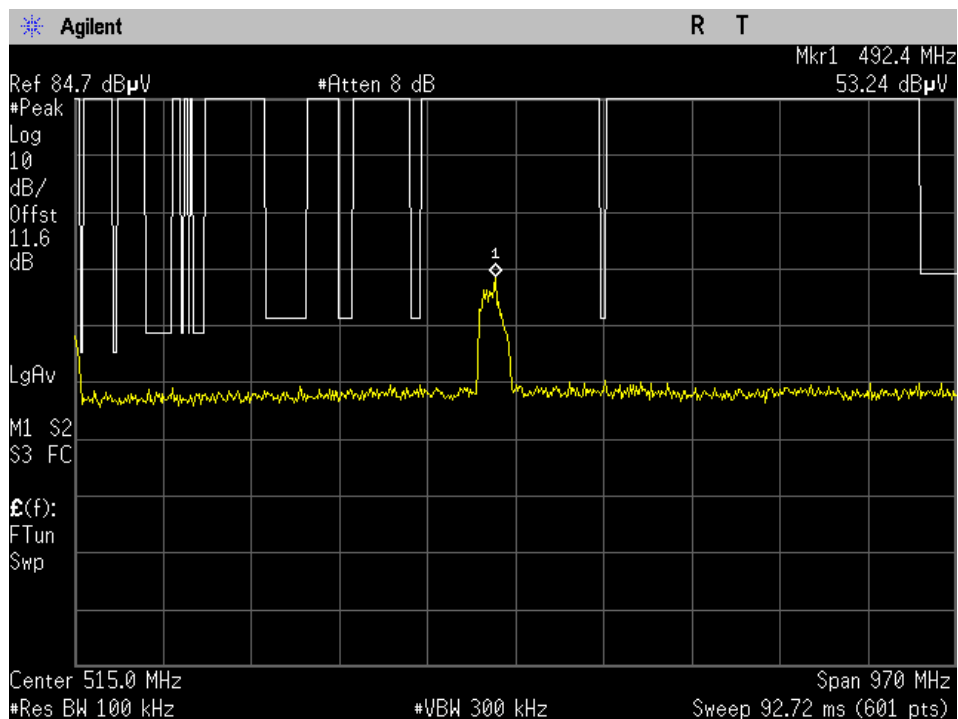
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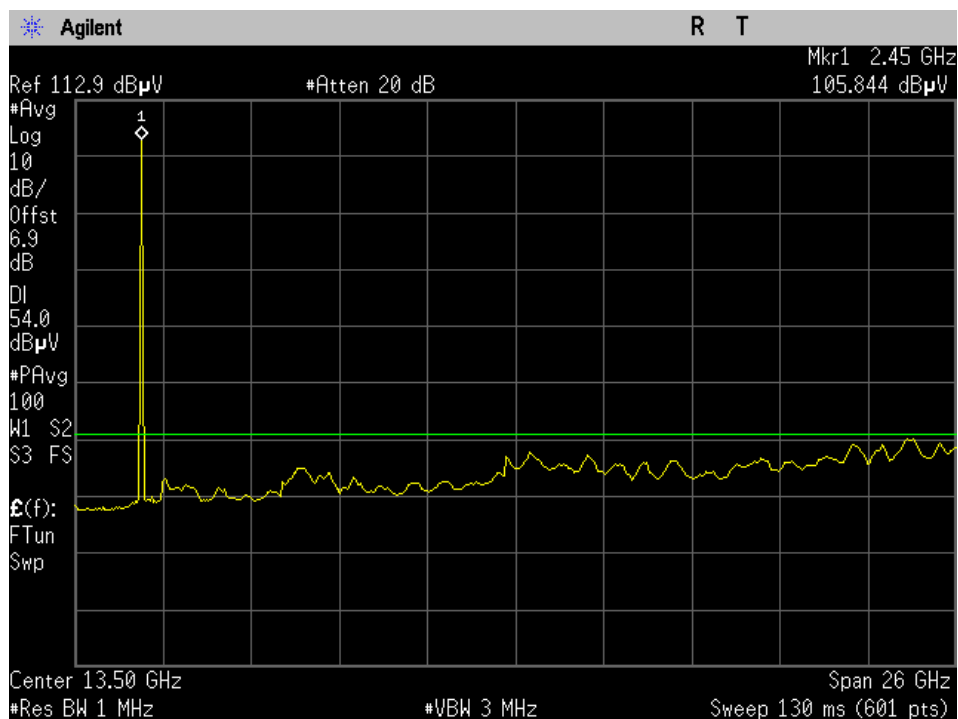
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WIFI_High Ch_2452MHz_40MHz BW_n-mode_15.209_30-1000MHz_Peak_Port 2



WIFI_High Ch_2452MHz_40MHz BW_n-mode_15.209_1-26GHz avg_Port 2



WIFI_High Ch_2452MHz_40MHz BW_n-mode_15.209_1-26GHz _Peak_Port 2

