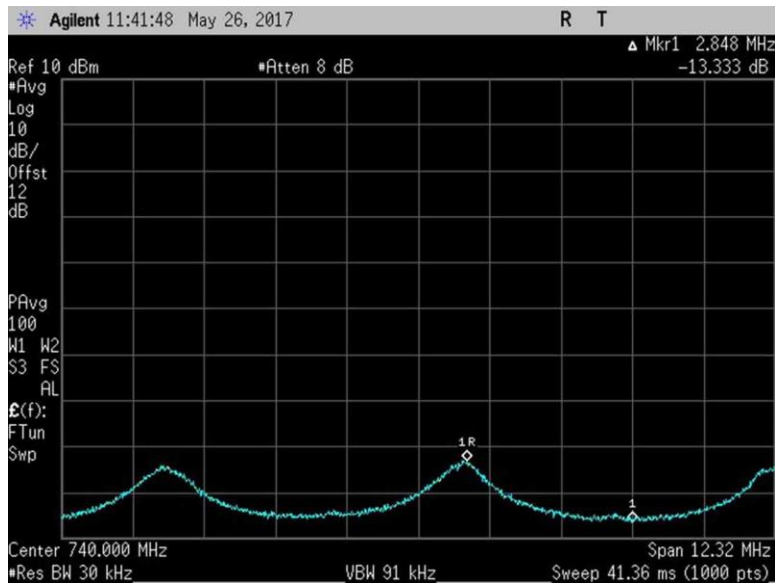
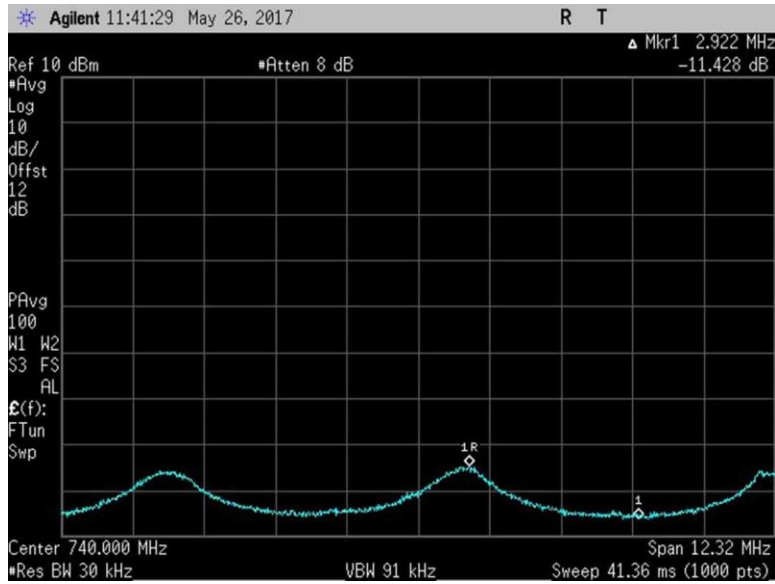


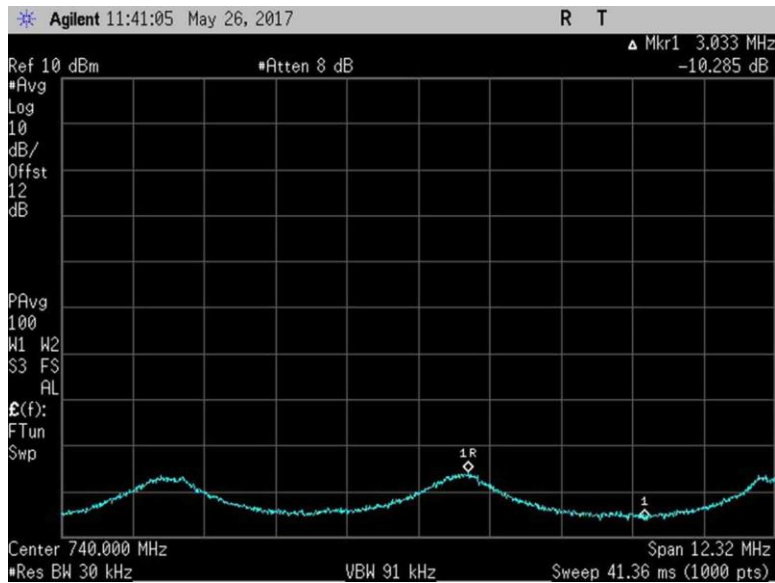
7.11.3_Osc_DL_728-746MHz+2_AWGNL



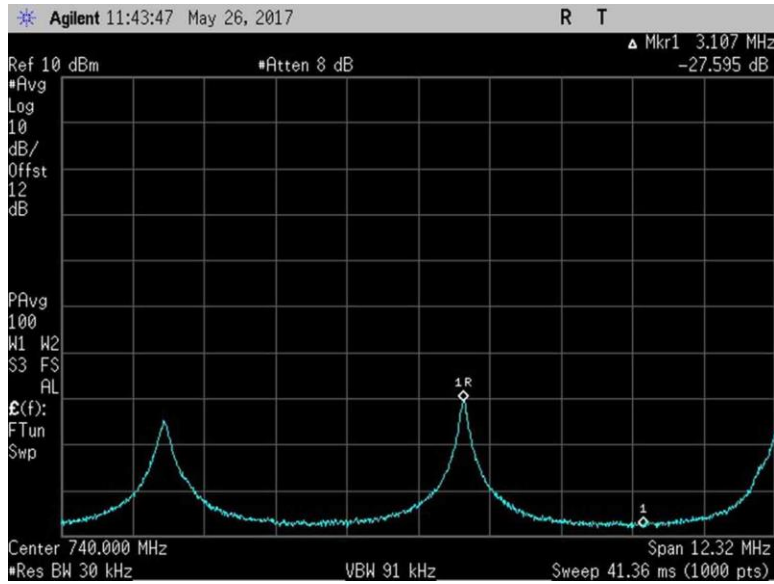
7.11.3_Osc_DL_728-746MHz+3_AWGNL



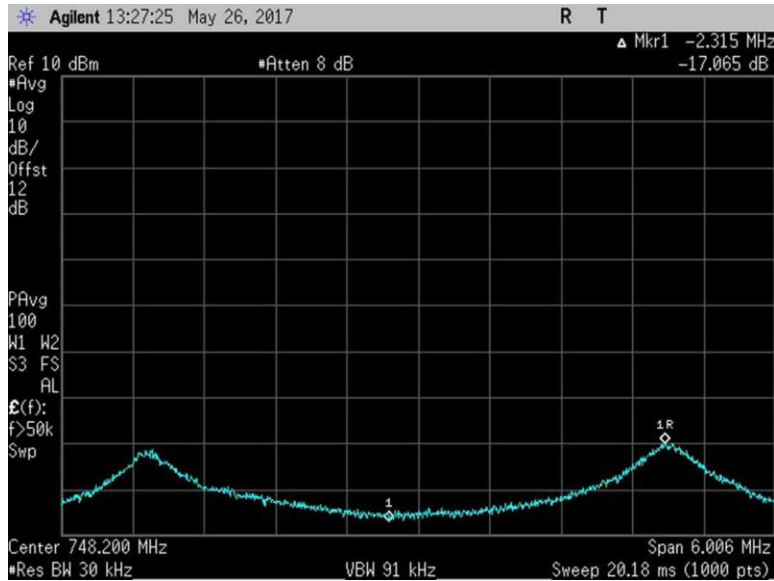
7.11.3_Osc_DL_728-746MHz+4_AWGNL



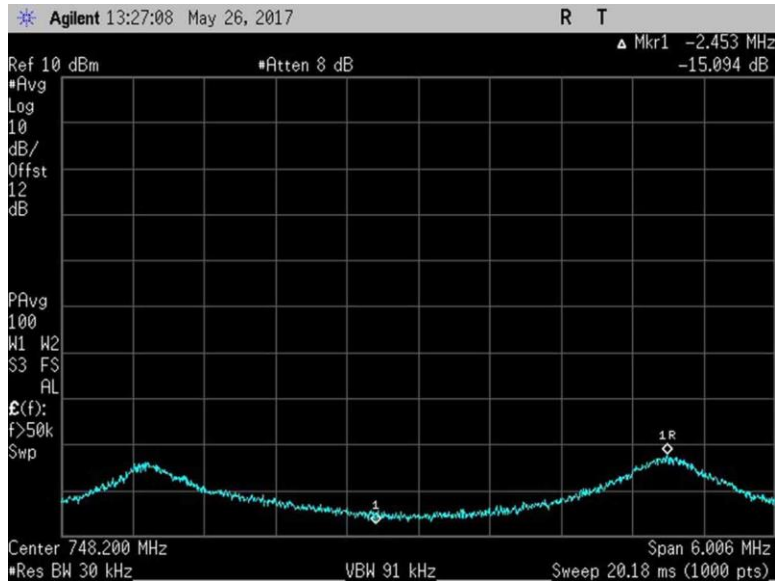
7.11.3_Osc_DL_728-746MHz+5_AWGNL



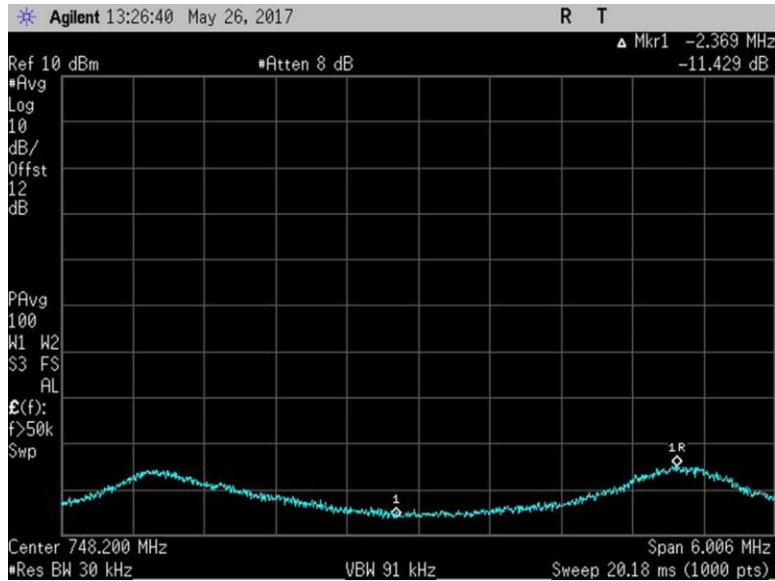
7.11.3_Osc_DL_728-746MHz-1_AWGNL



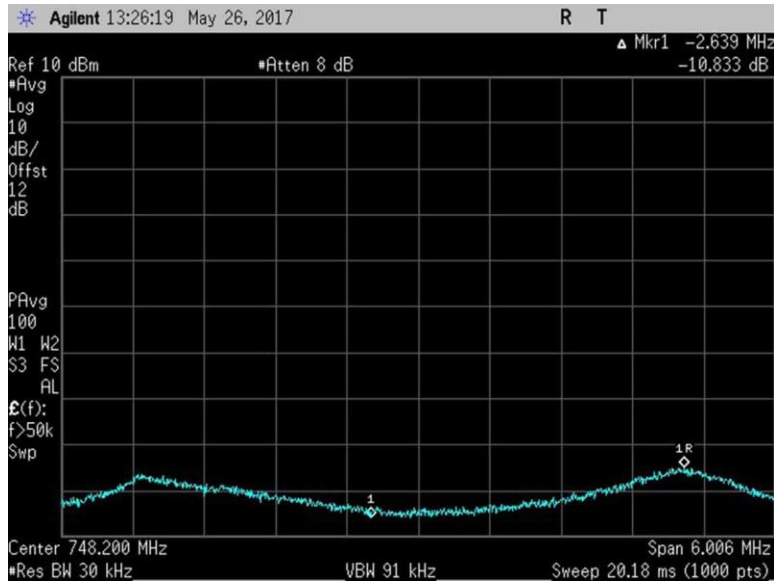
7.11.3_Osc_DL_746-757MHz+0_AWGNR



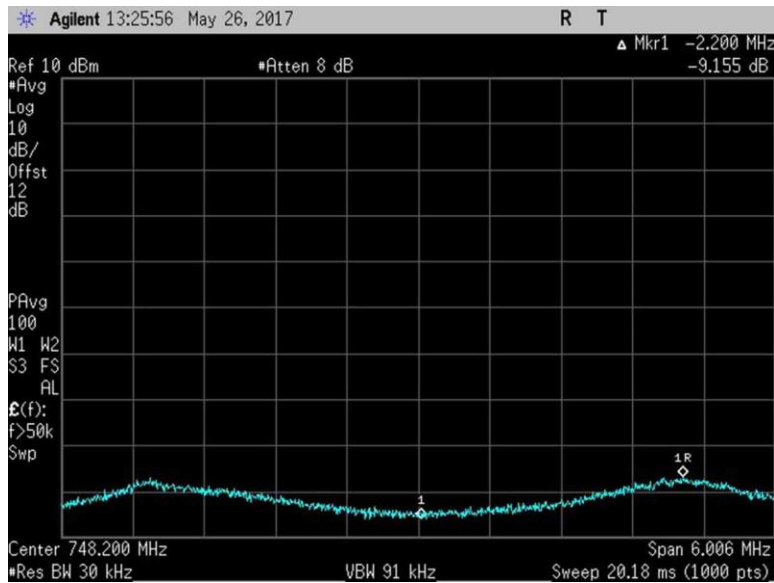
7.11.3_Osc_DL_746-757MHz+1_AWGNR



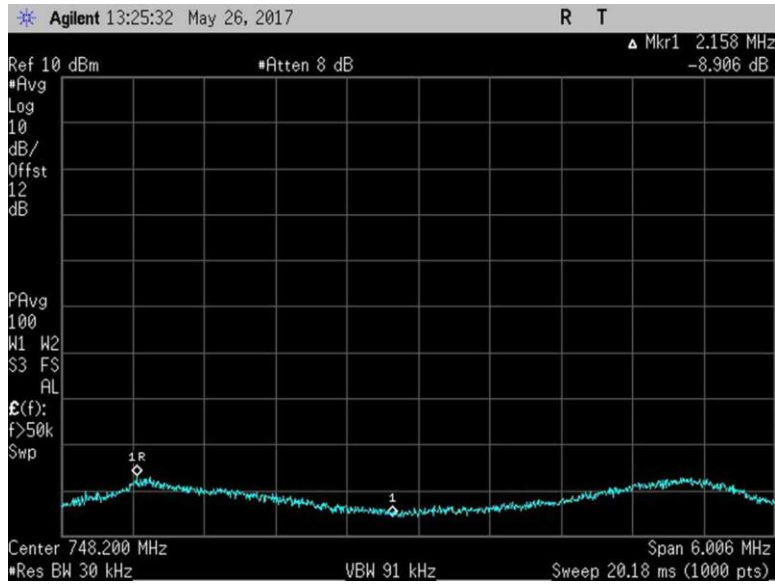
7.11.3_Osc_DL_746-757MHz+2_AWGNR



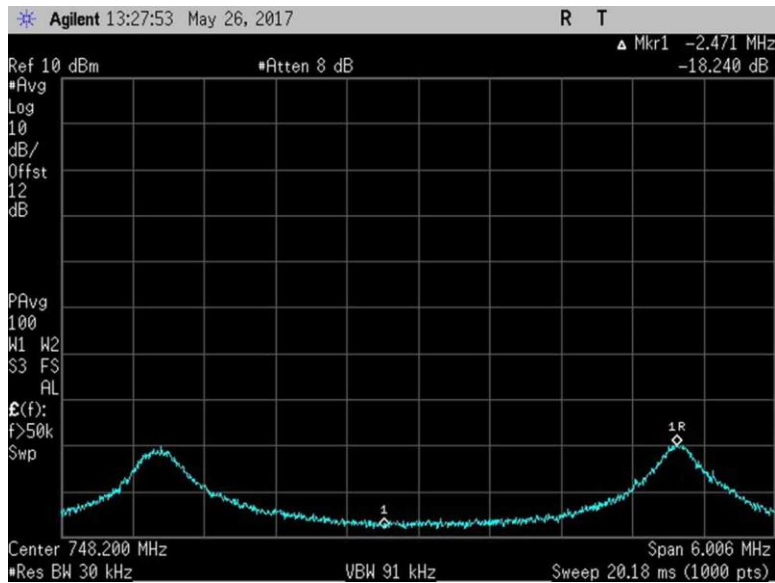
7.11.3_Osc_DL_746-757MHz+3_AWGNR



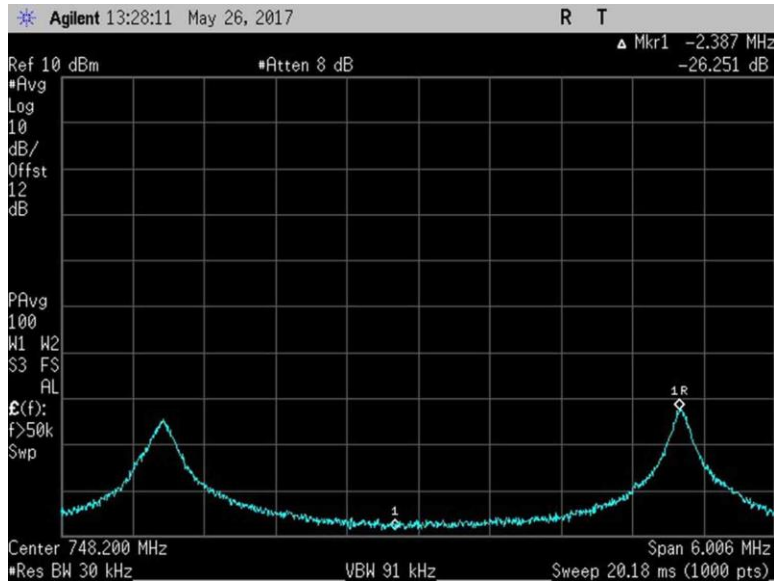
7.11.3_Osc_DL_746-757MHz+4_AWGNR



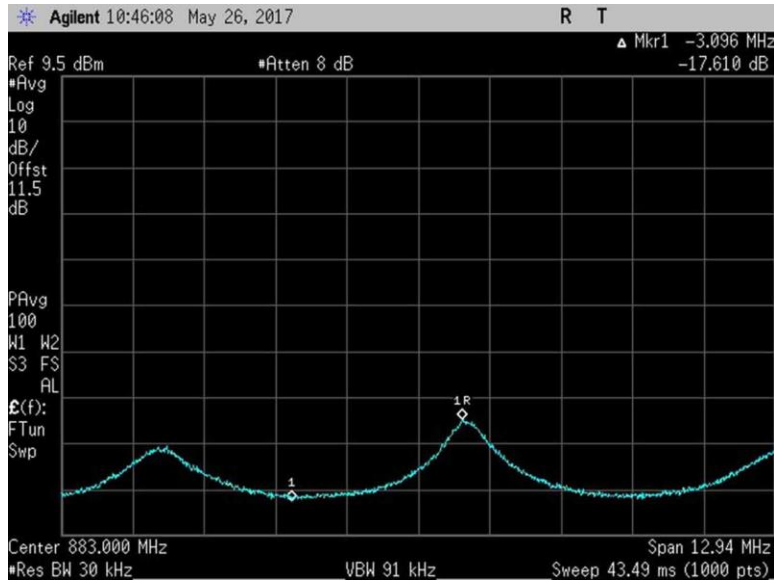
7.11.3_Osc_DL_746-757MHz+5_AWGNR



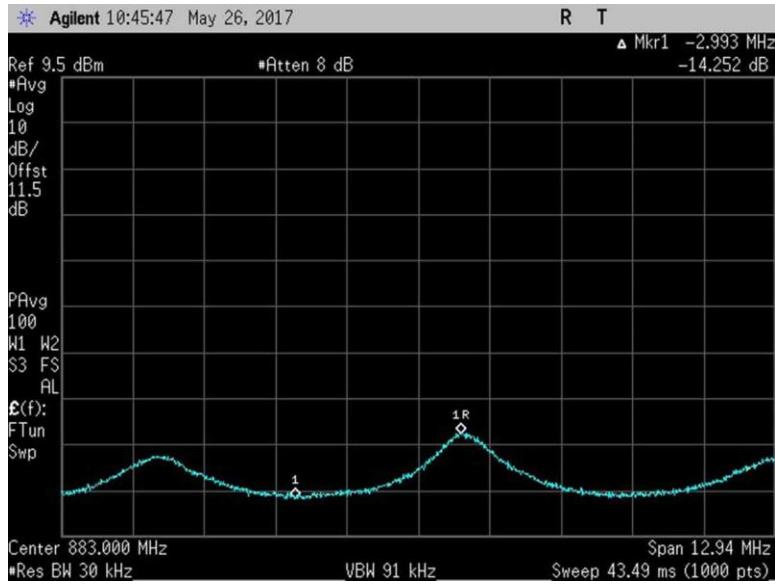
7.11.3_Osc_DL_746-757MHz-1_AWGNR



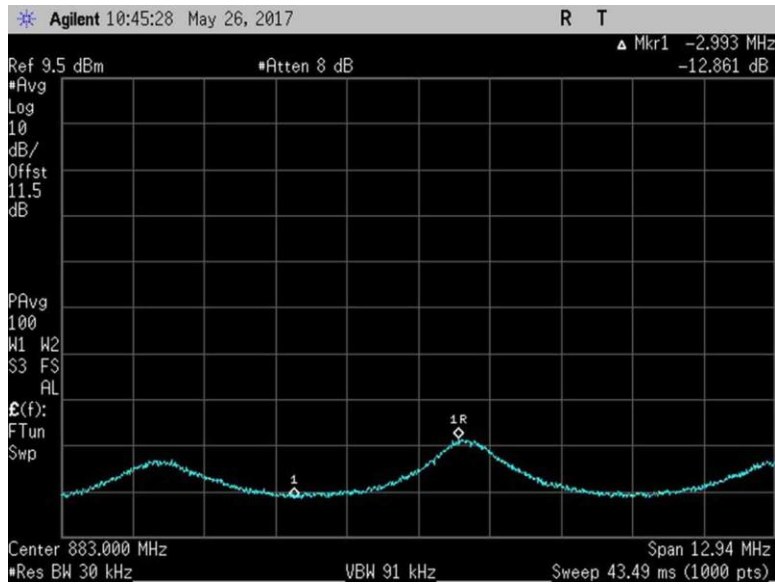
7.11.3_Osc_DL_746-757MHz-2_AWGNR



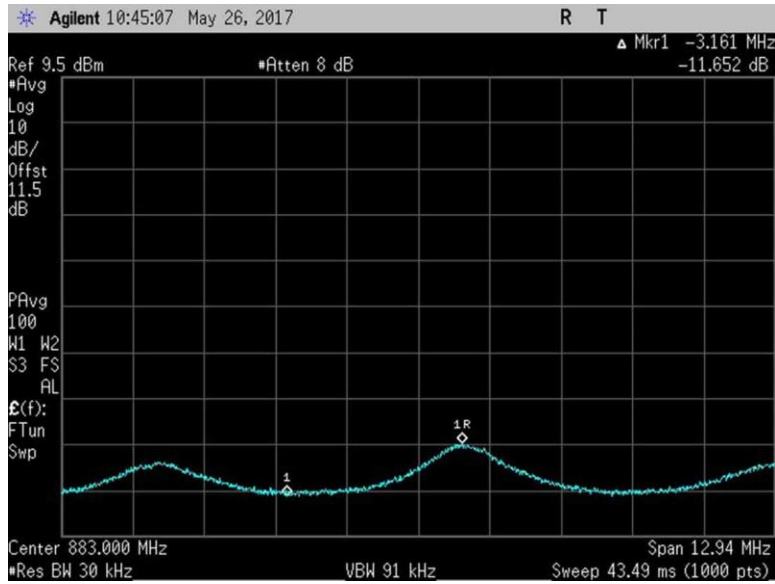
7.11.3_Osc_DL_869-894MHz+0_AWGNL



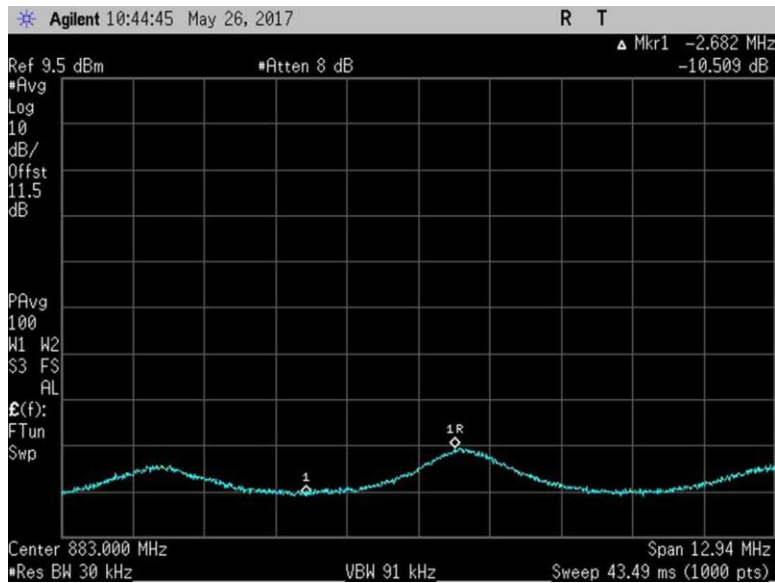
7.11.3_Osc_DL_869-894MHz+1_AWGNL



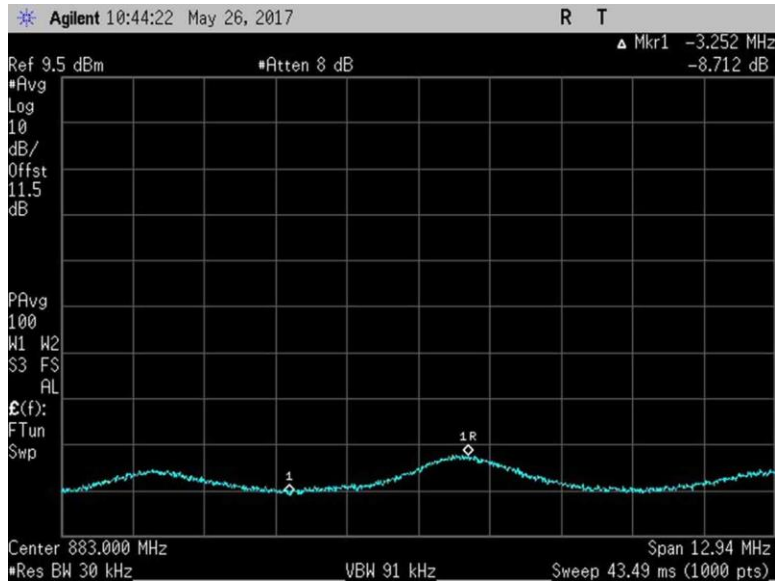
7.11.3_Osc_DL_869-894MHz+2_AWGNL



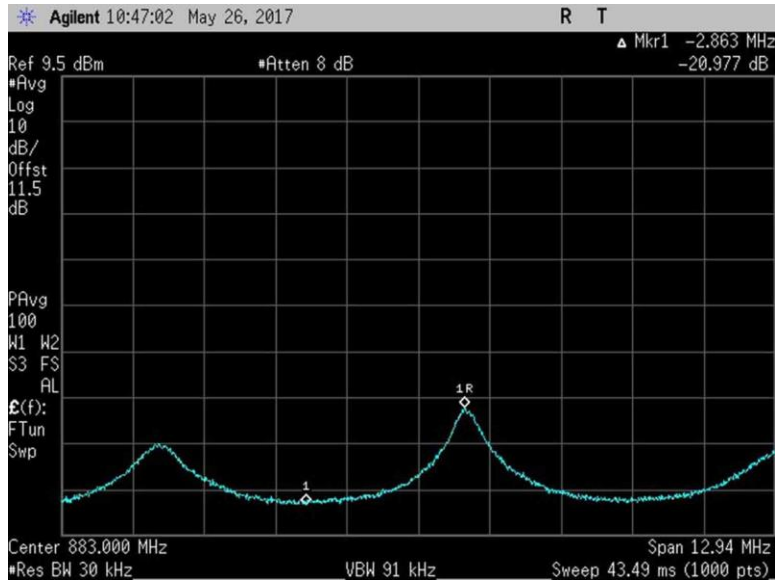
7.11.3_Osc_DL_869-894MHz+3_AWGNL



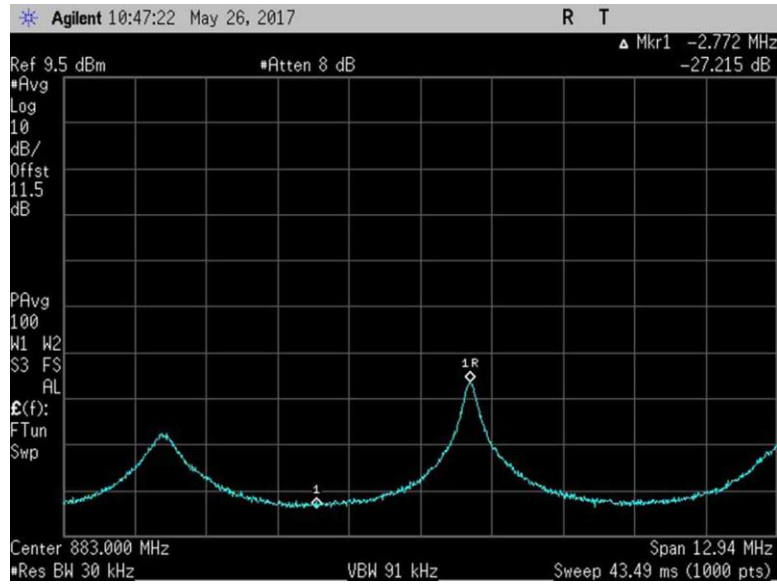
7.11.3_Osc_DL_869-894MHz+4_AWGNL



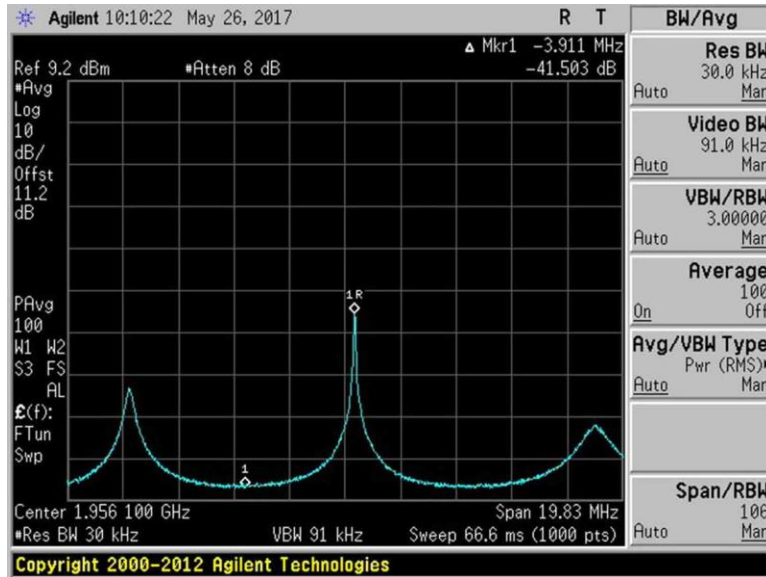
7.11.3_Osc_DL_869-894MHz+5_AWGNL



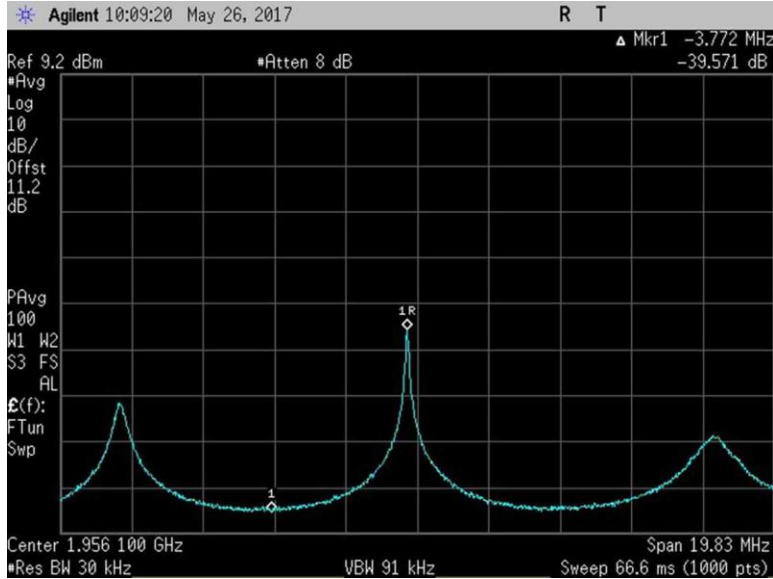
7.11.3_Osc_DL_869-894MHz-1_AWGNL



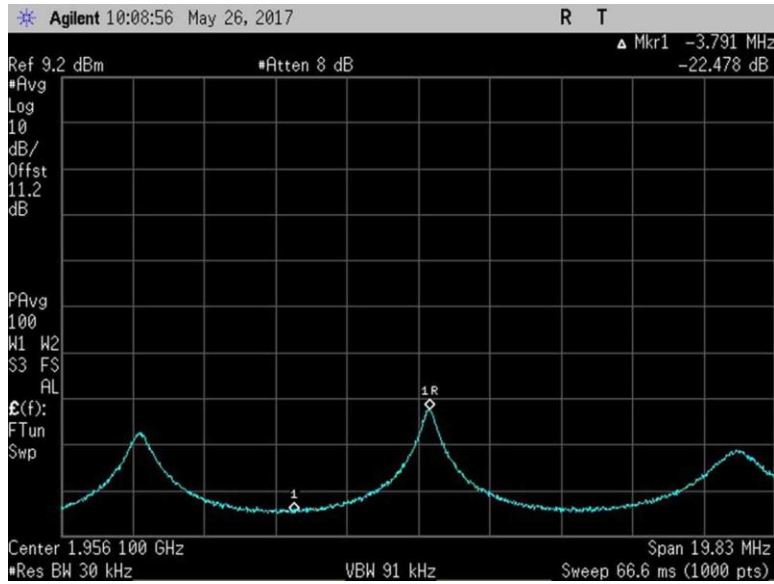
7.11.3_Osc_DL_869-894MHz-2_AWGNL



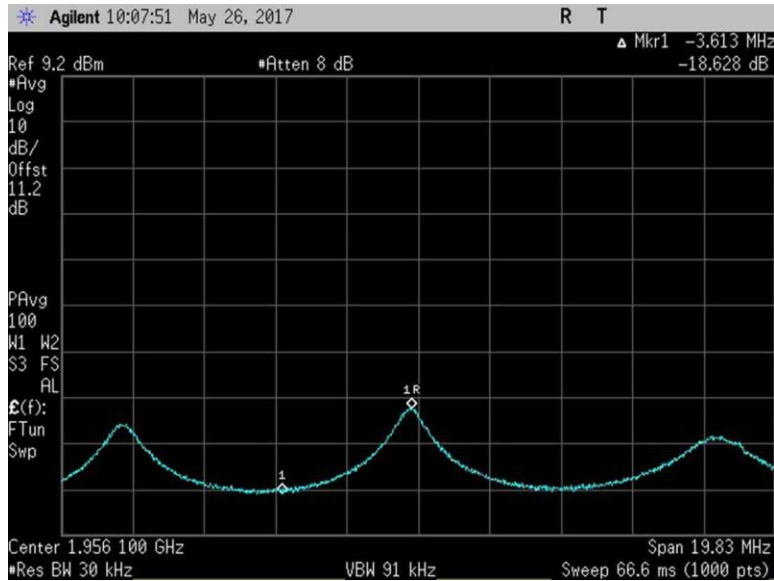
7.11.3_Osc_DL_1930-1995MHz+0_AWGNR



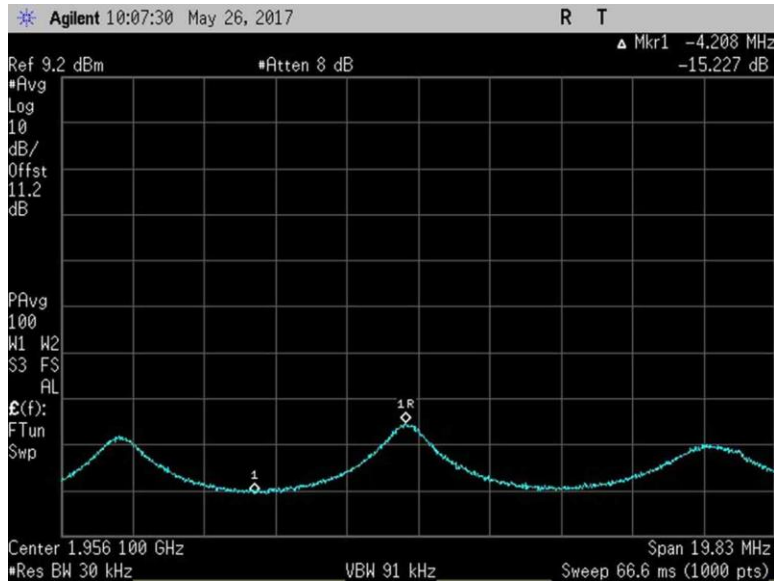
7.11.3_Osc_DL_1930-1995MHz+1_AWGNR



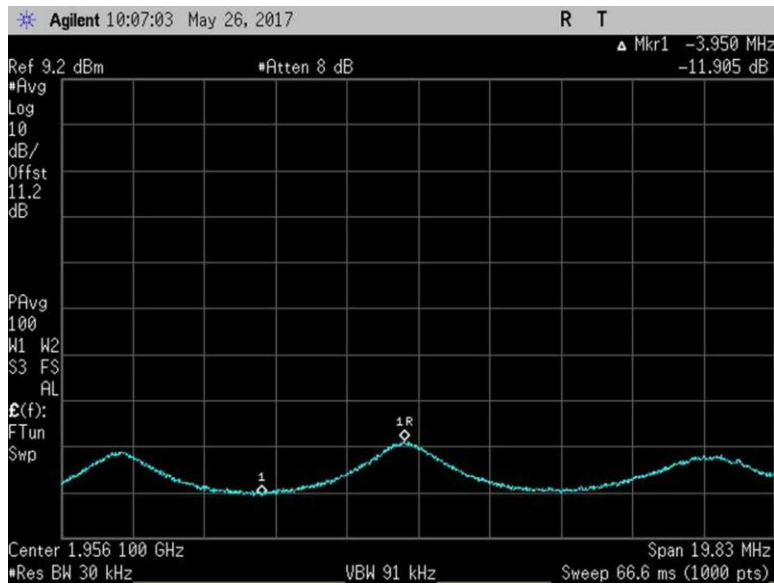
7.11.3_Osc_DL_1930-1995MHz+2_AWGNR



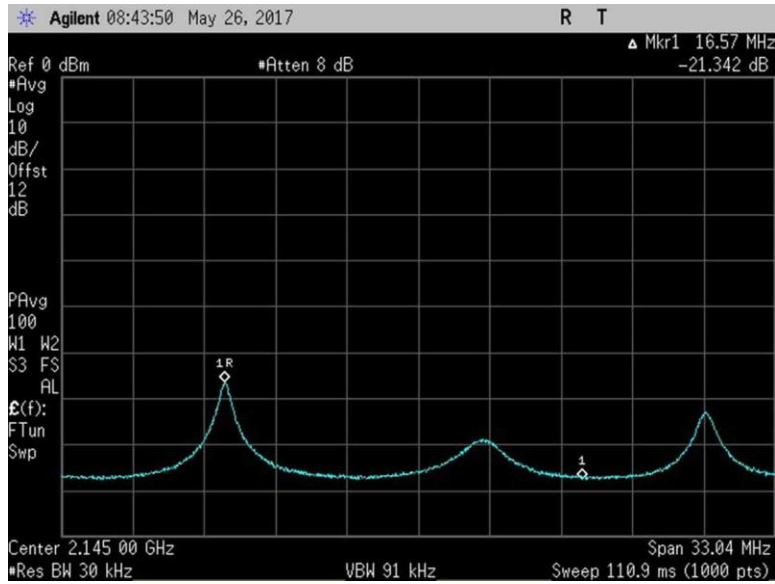
7.11.3_Osc_DL_1930-1995MHz+3_AWGNR



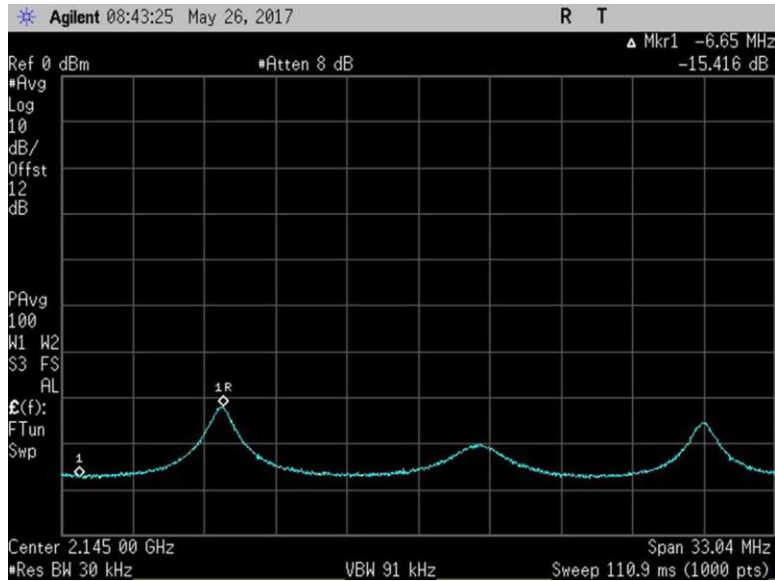
7.11.3_Osc_DL_1930-1995MHz+4_AWGNR



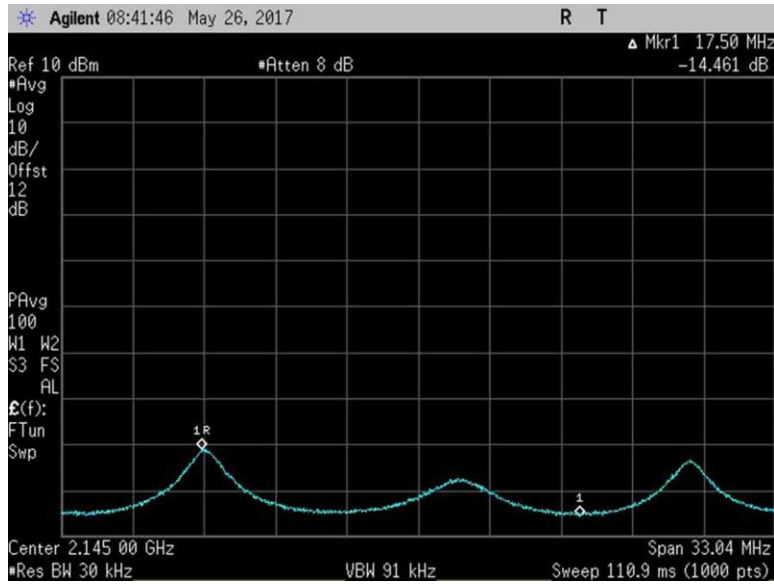
7.11.3_Osc_DL_1930-1995MHz+5_AWGNR



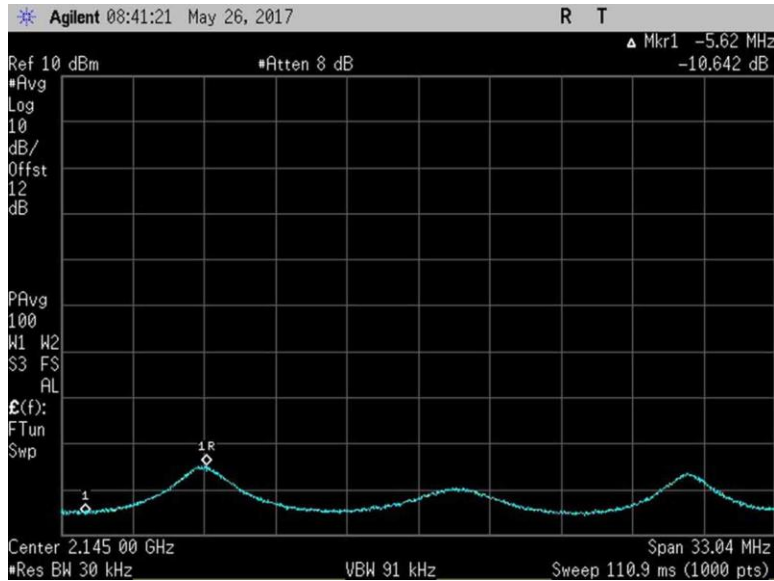
7.11.3_Osc_DL_2110-2155MHz+0_AWGNL



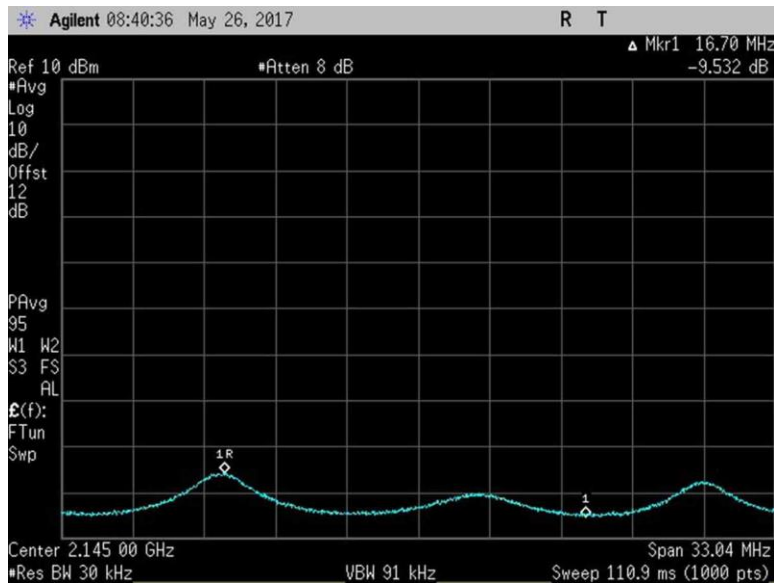
7.11.3_Osc_DL_2110-2155MHz+1_AWGNL



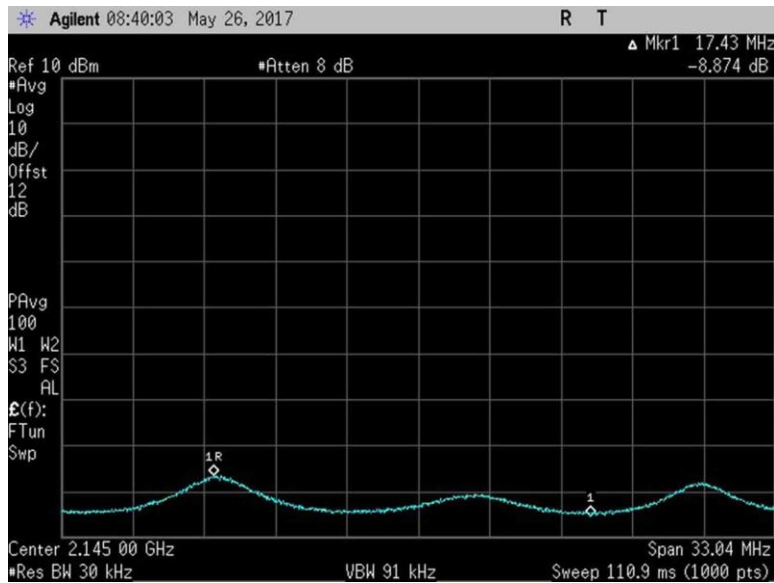
7.11.3_Osc_DL_2110-2155MHz+2_AWGNL



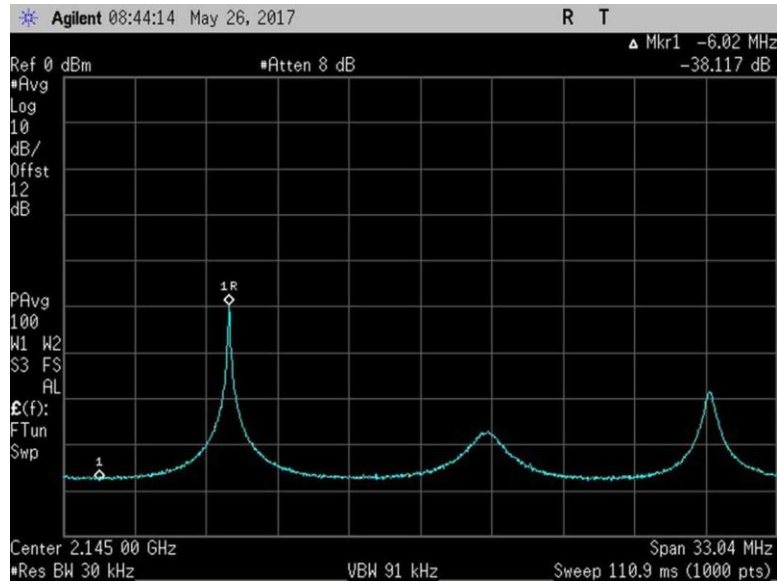
7.11.3_Osc_DL_2110-2155MHz+3_AWGNL



7.11.3_Osc_DL_2110-2155MHz+4_AWGNL

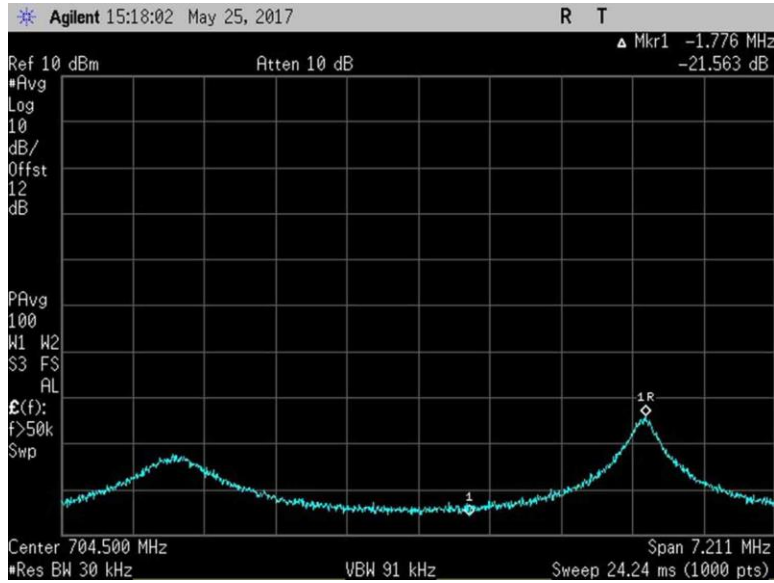


7.11.3_Osc_DL_2110-2155MHz+5_AWGNL

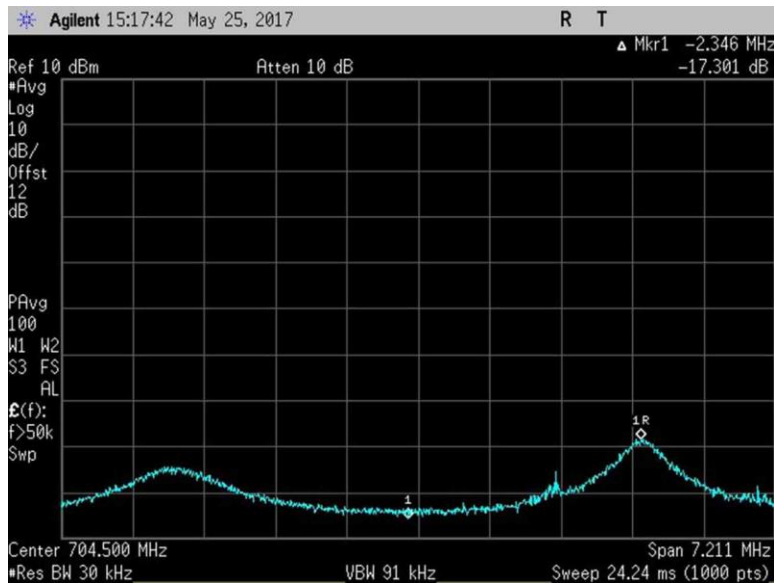


7.11.3_Osc_DL_2110-2155MHz-1_AWGNL

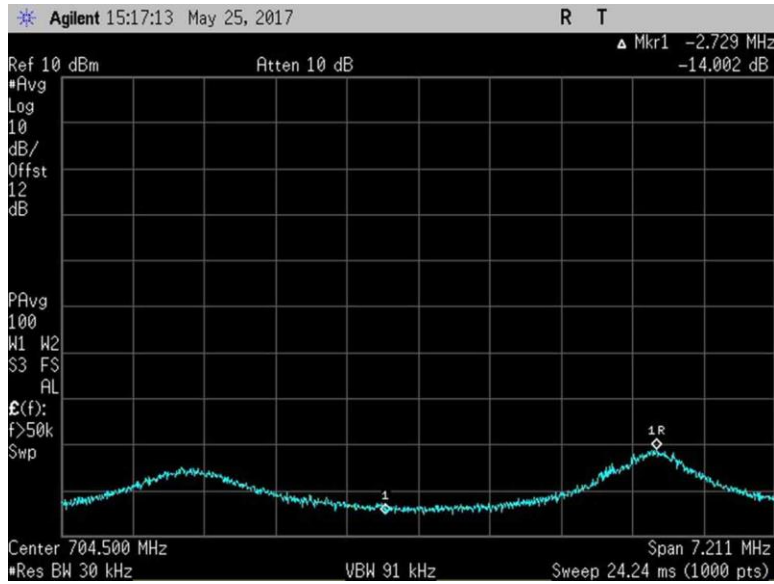
UL, AWGNR / AWGNL



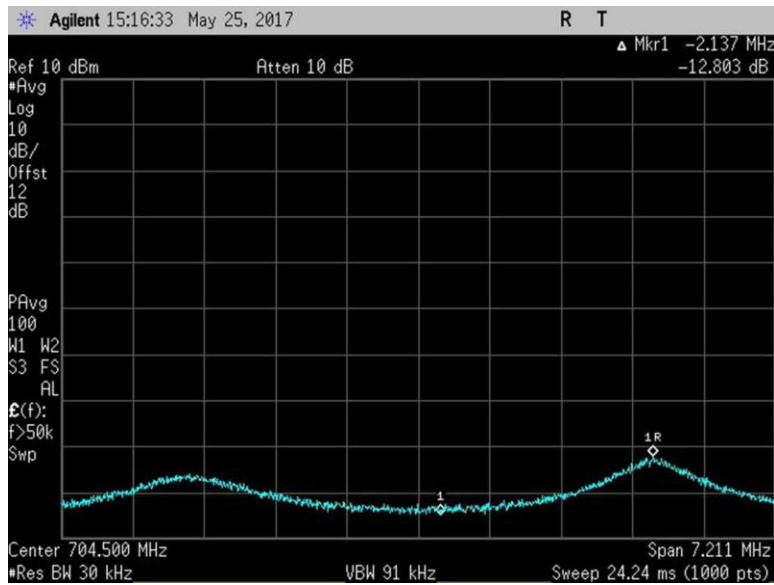
7.11.3_Osc_UL_698-716MHz+0_AWGNR



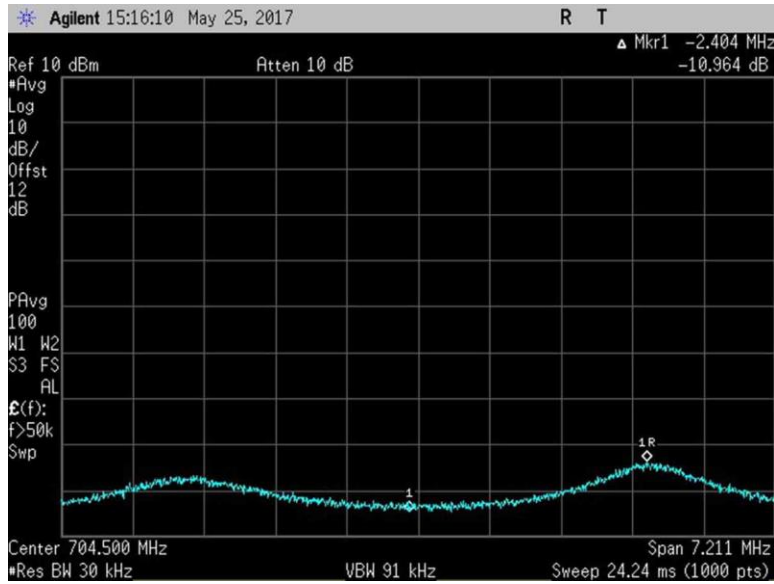
7.11.3_Osc_UL_698-716MHz+1_AWGNR



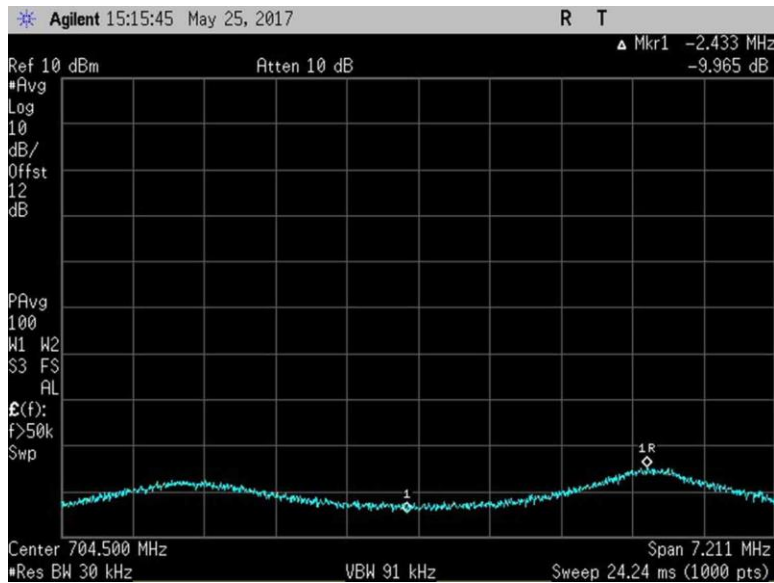
7.11.3_Osc_UL_698-716MHz+2_AWGNR



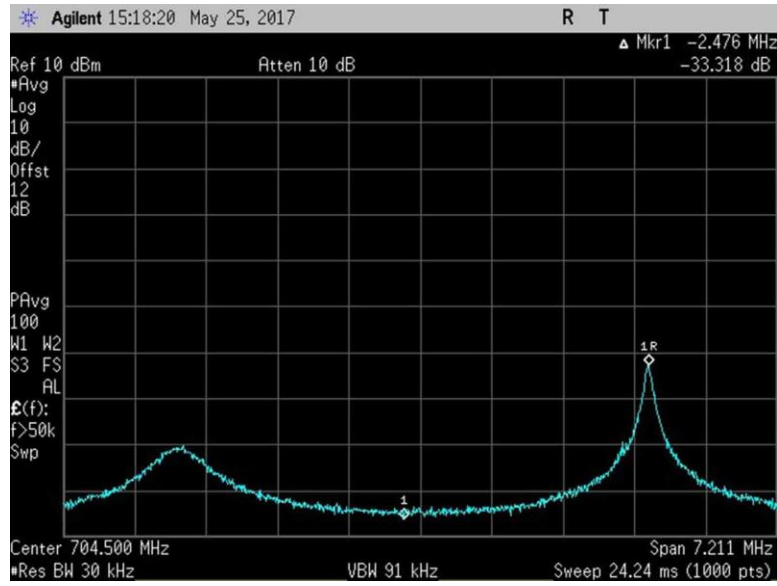
7.11.3_Osc_UL_698-716MHz+3_AWGNR



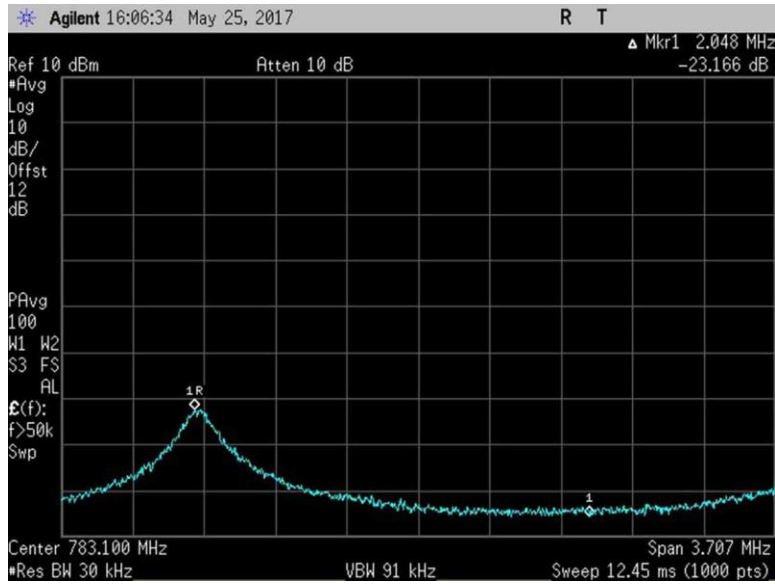
7.11.3_Osc_UL_698-716MHz+4_AWGNR



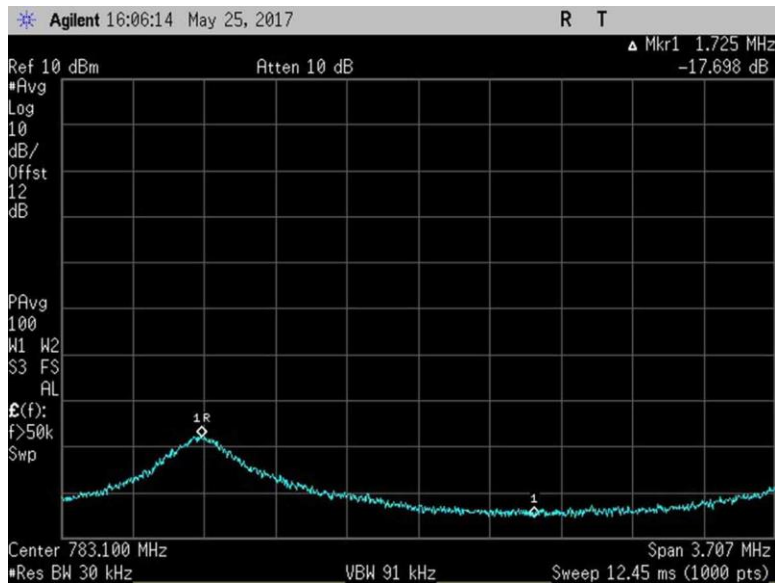
7.11.3_Osc_UL_698-716MHz+5_AWGNR



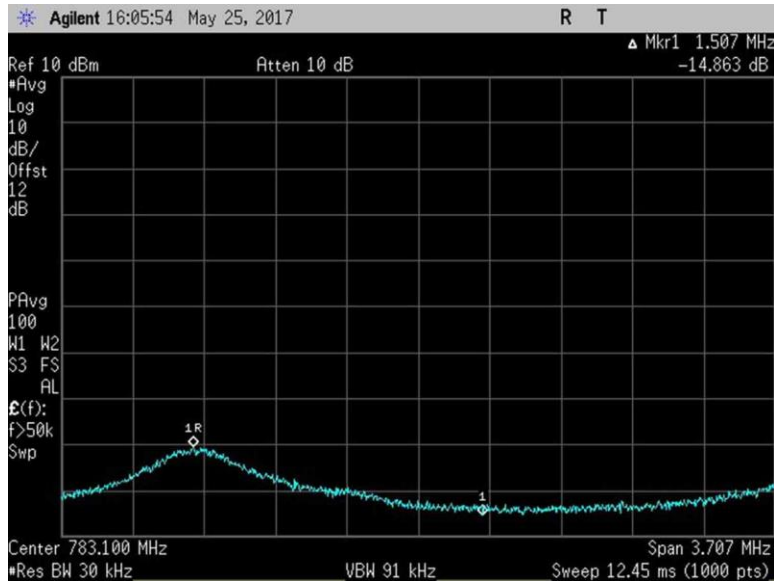
7.11.3_Osc_UL_698-716MHz-1_AWGNR



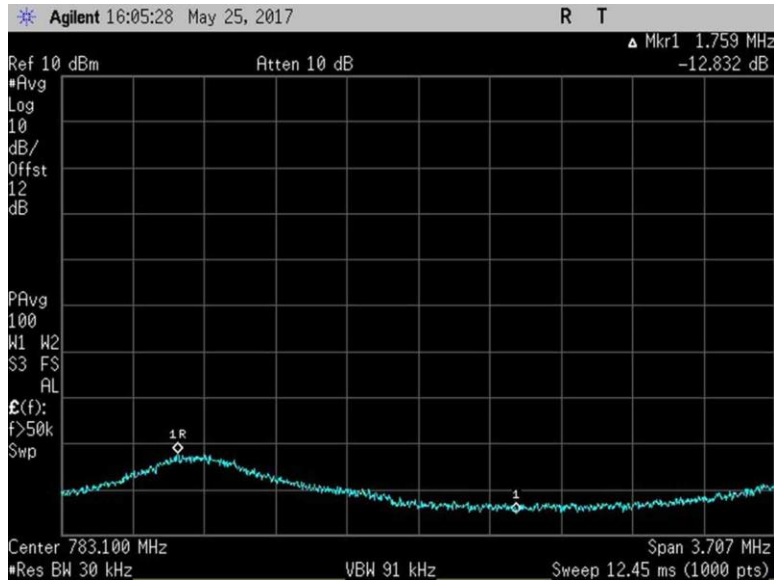
7.11.3_Osc_UL_776-787MHz+0_AWGNL



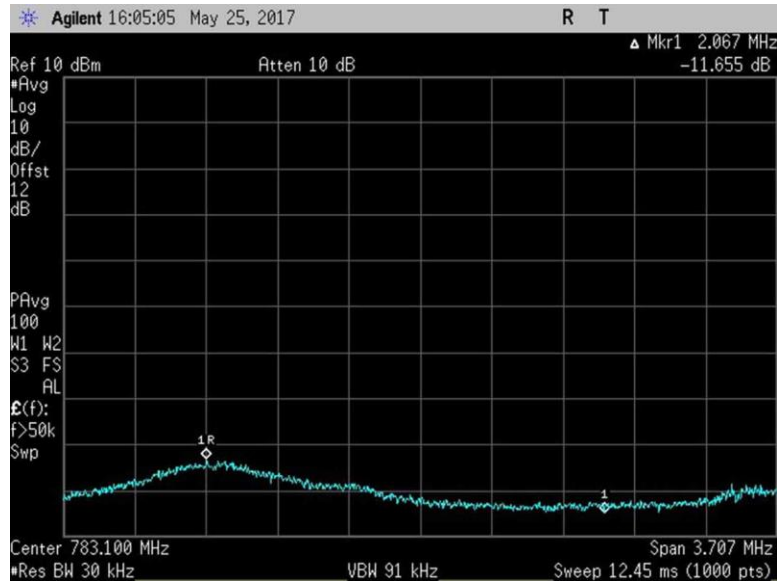
7.11.3_Osc_UL_776-787MHz+1_AWGNL



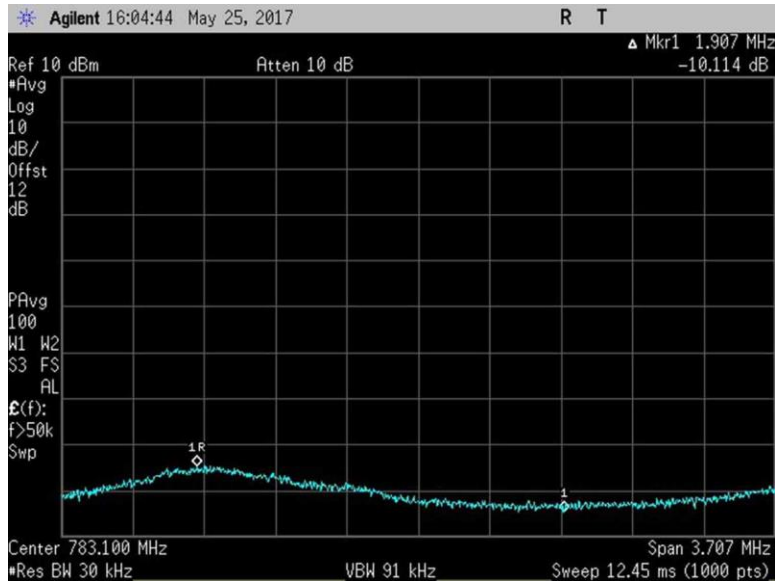
7.11.3_Osc_UL_776-787MHz+2_AWGNL



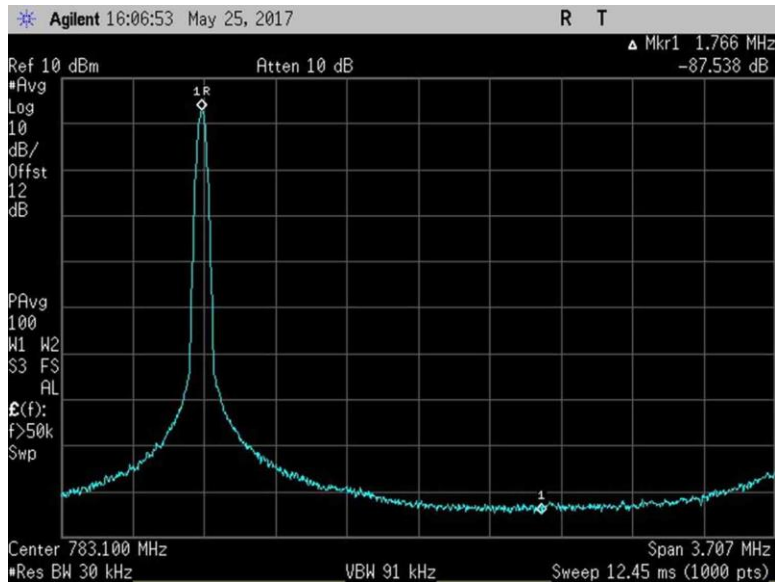
7.11.3_Osc_UL_776-787MHz+3_AWGNL



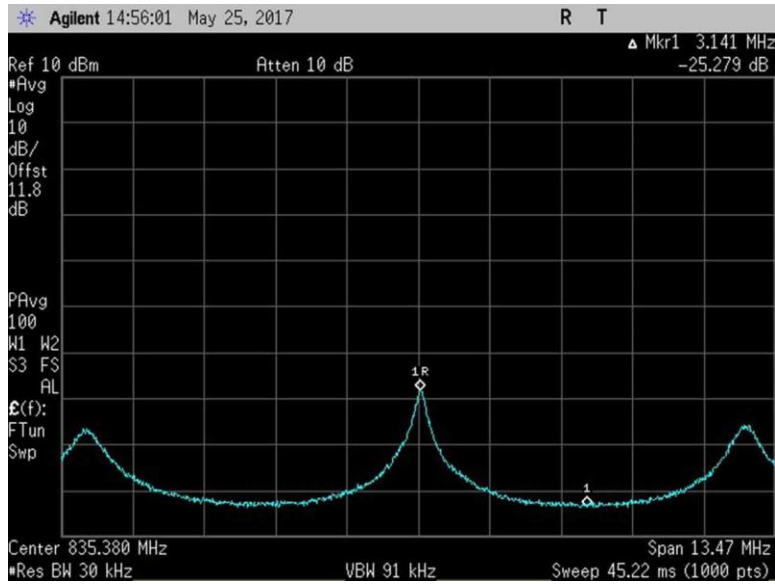
7.11.3_Osc_UL_776-787MHz+4_AWGNL



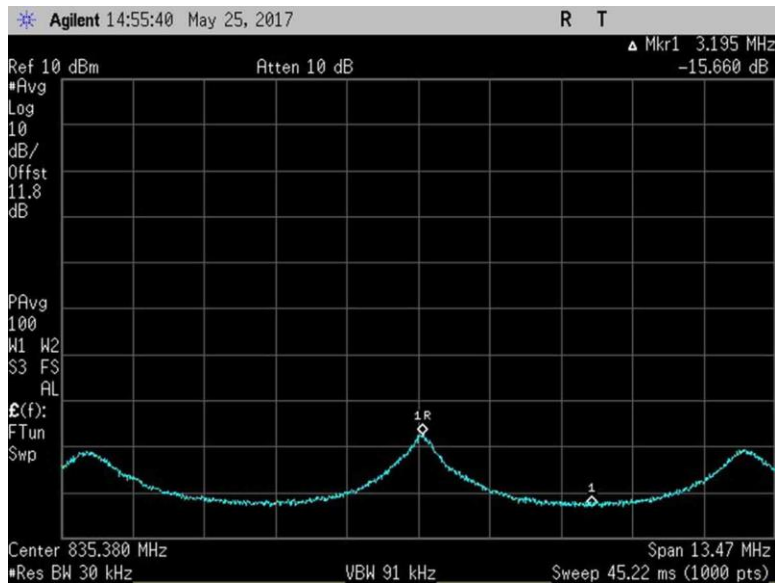
7.11.3_Osc_UL_776-787MHz+5_AWGNL



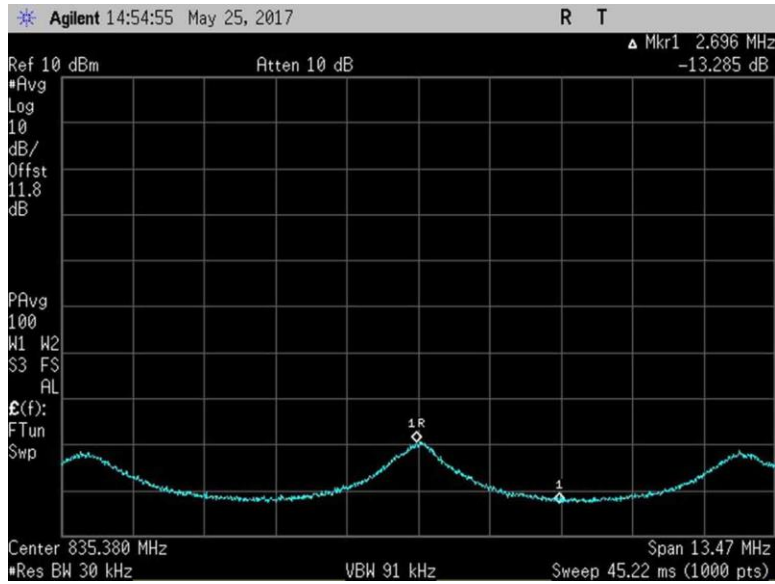
7.11.3_Osc_UL_776-787MHz-1_AWGNL



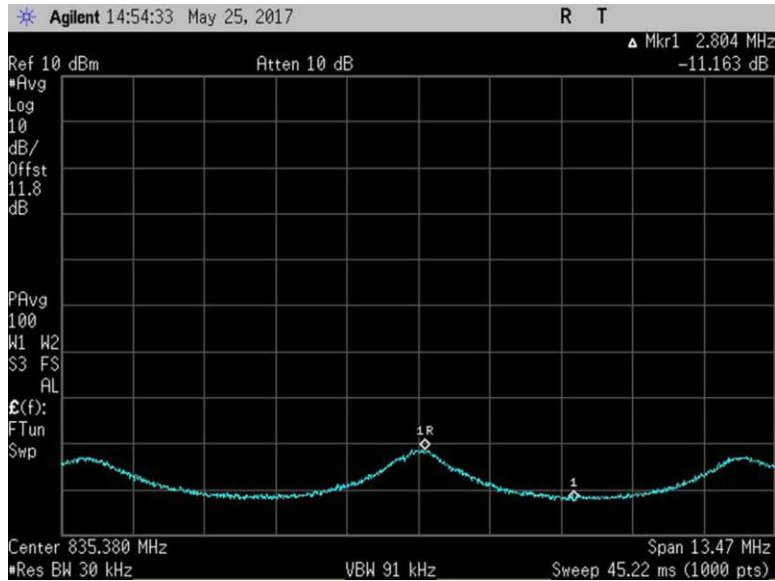
7.11.3_Osc_UL_824-849MHz+0_AWGNR



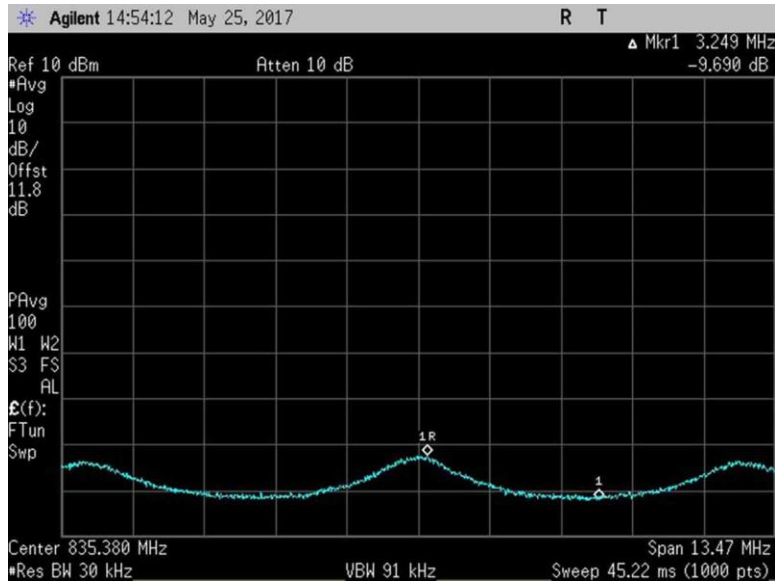
7.11.3_Osc_UL_824-849MHz+1_AWGNR



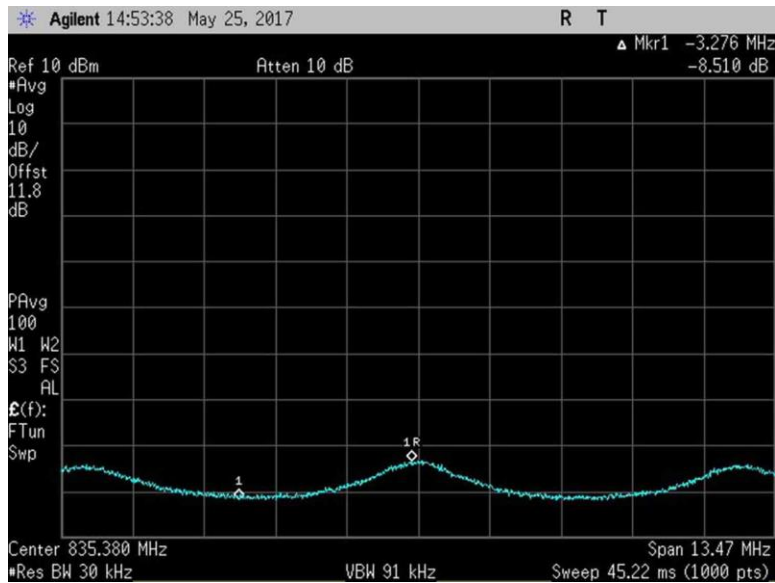
7.11.3_Osc_UL_824-849MHz+2_AWGNR



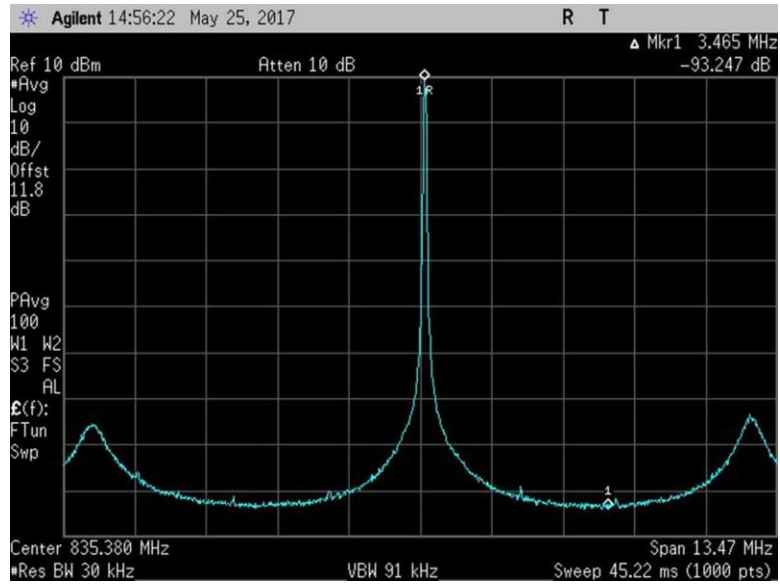
7.11.3_Osc_UL_824-849MHz+3_AWGNR



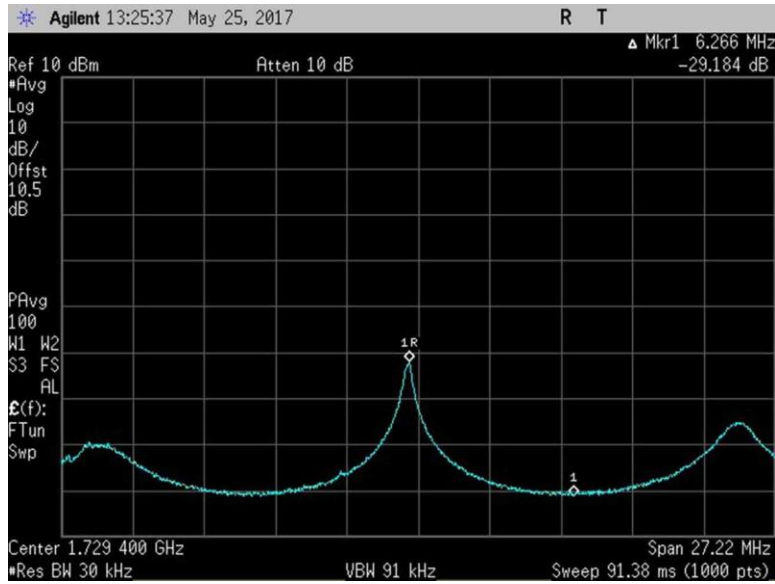
7.11.3_Osc_UL_824-849MHz+4_AWGNR



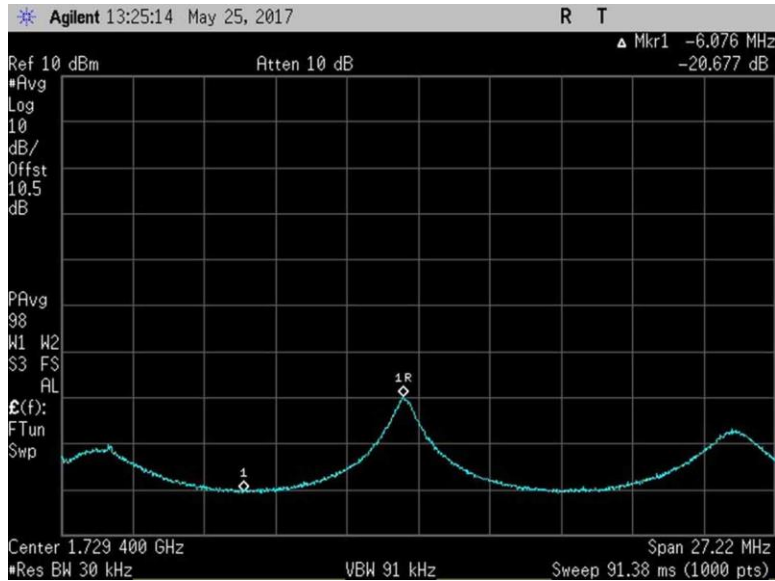
7.11.3_Osc_UL_824-849MHz+5_AWGNR



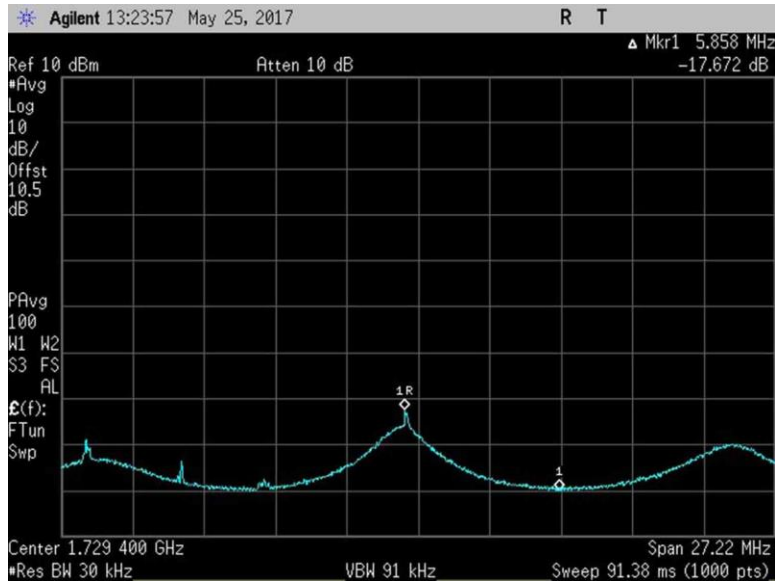
7.11.3_Osc_UL_824-849MHz-1_AWGNR



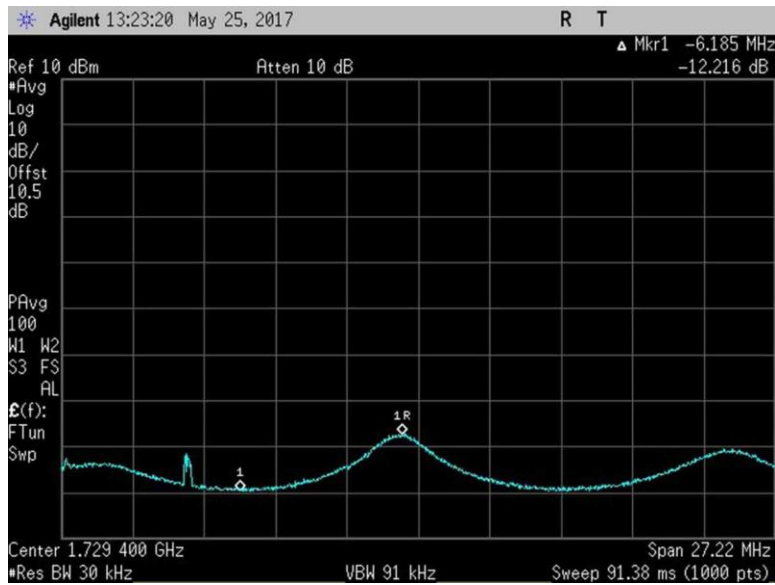
7.11.3_Osc_UL_1710-1755MHz+0_AWGNR



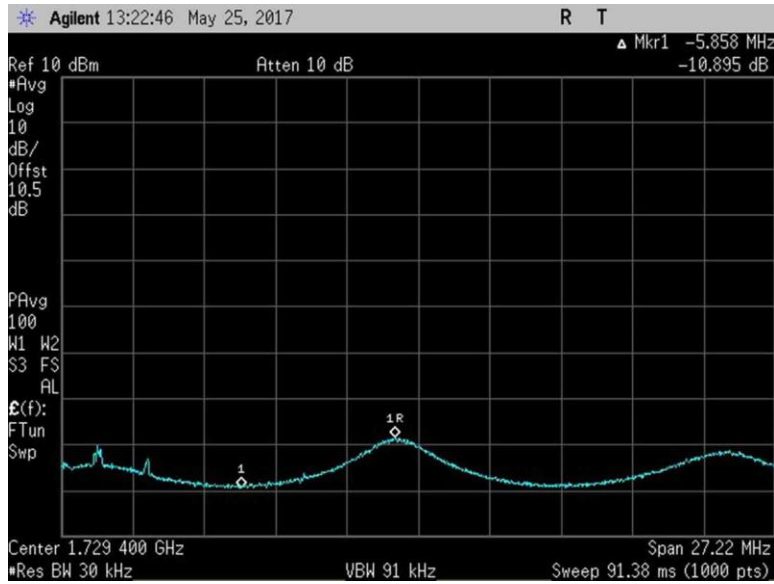
7.11.3_Osc_UL_1710-1755MHz+1_AWGNR



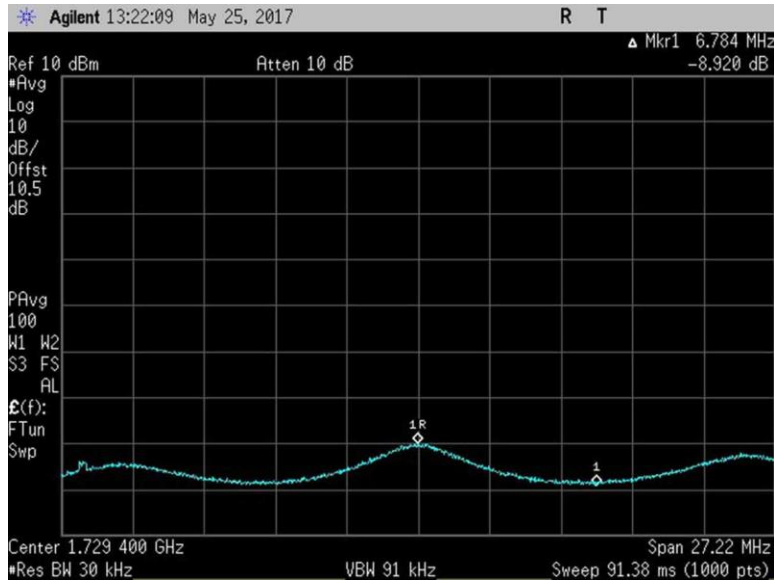
7.11.3_Osc_UL_1710-1755MHz+2_AWGNR



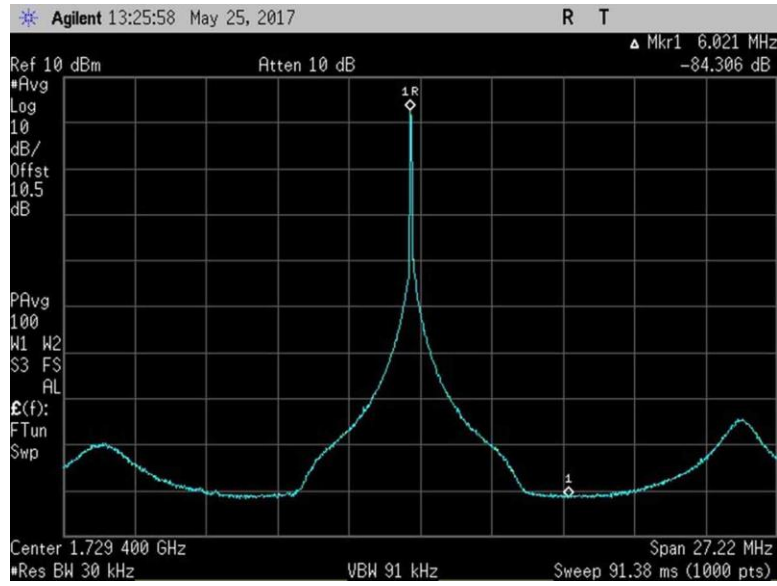
7.11.3_Osc_UL_1710-1755MHz+3_AWGNR



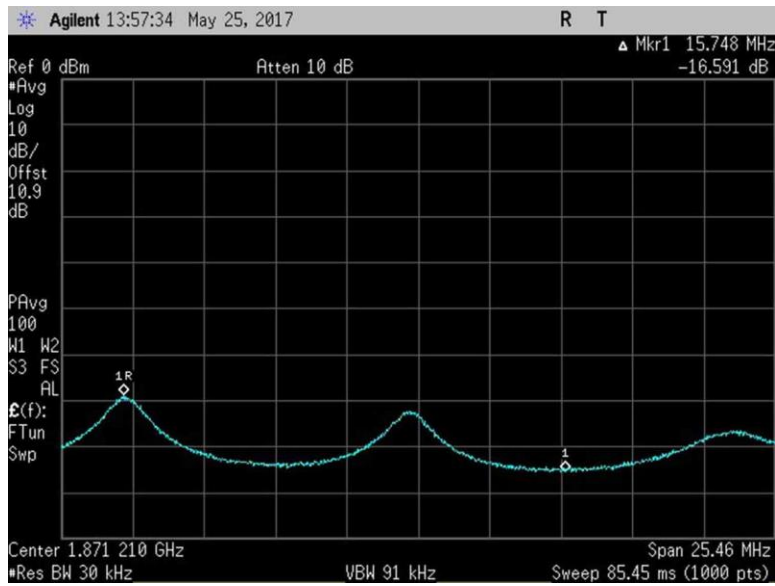
7.11.3_Osc_UL_1710-1755MHz+4_AWGNR



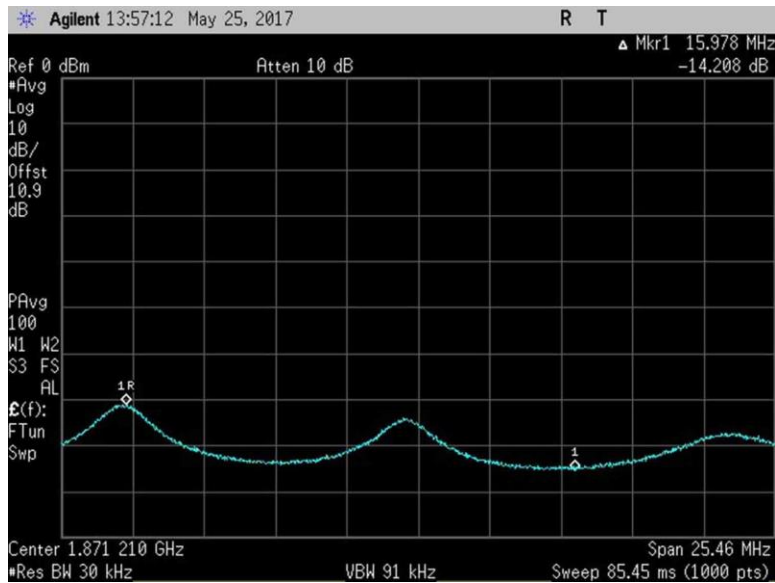
7.11.3_Osc_UL_1710-1755MHz+5_AWGNR



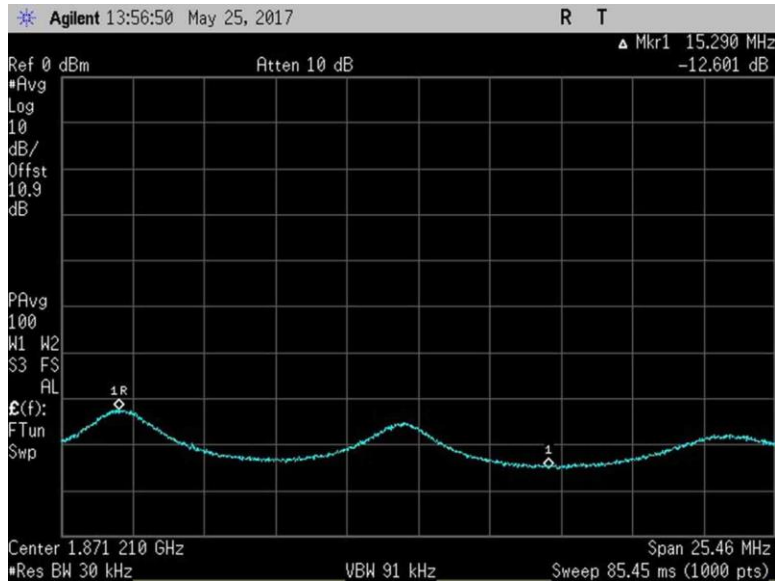
7.11.3_Osc_UL_1710-1755MHz-1_AWGNR



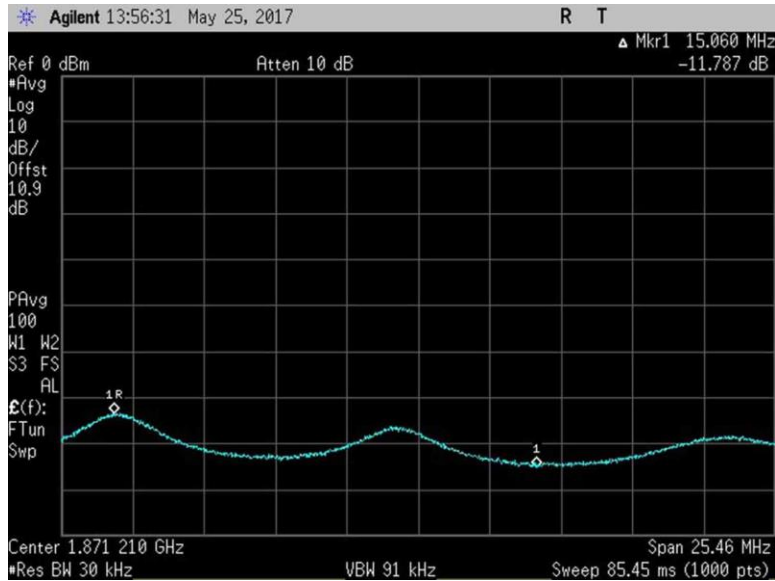
7.11.3_Osc_UL_1850-1915MHz+0_AWGNR



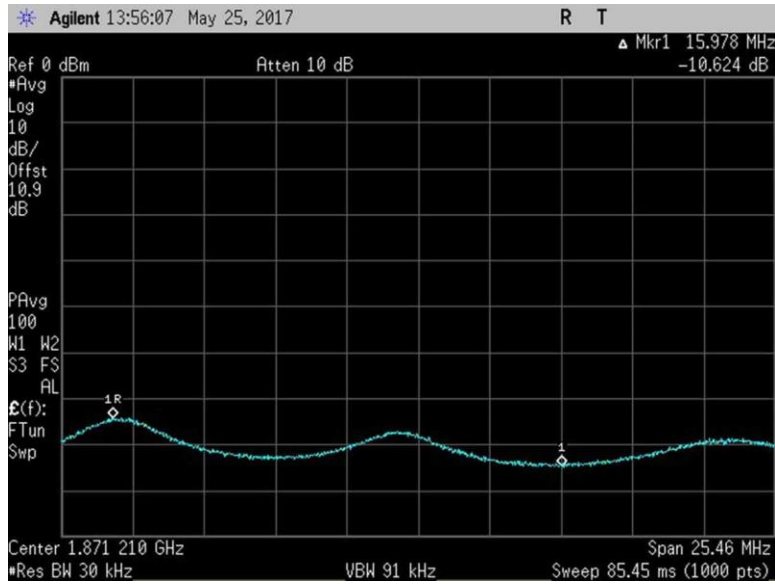
7.11.3_Osc_UL_1850-1915MHz+1_AWGNR



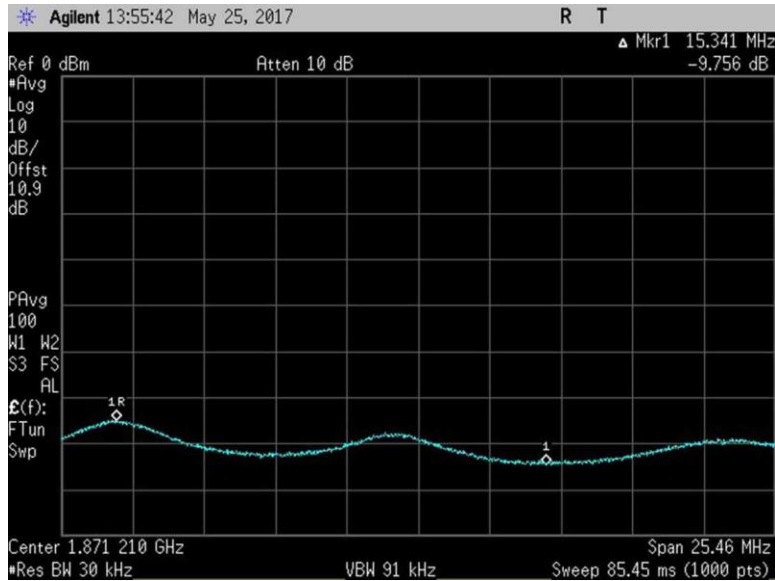
7.11.3_Osc_UL_1850-1915MHz+2_AWGNR



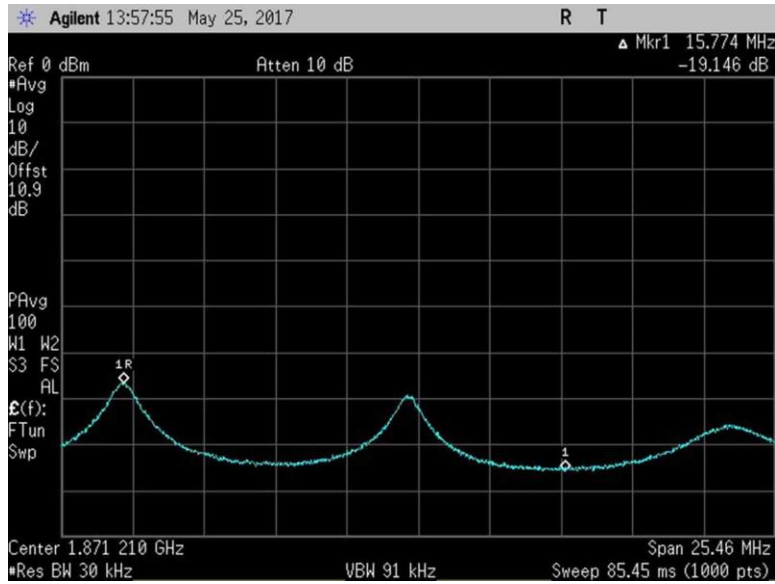
7.11.3_Osc_UL_1850-1915MHz+3_AWGNR



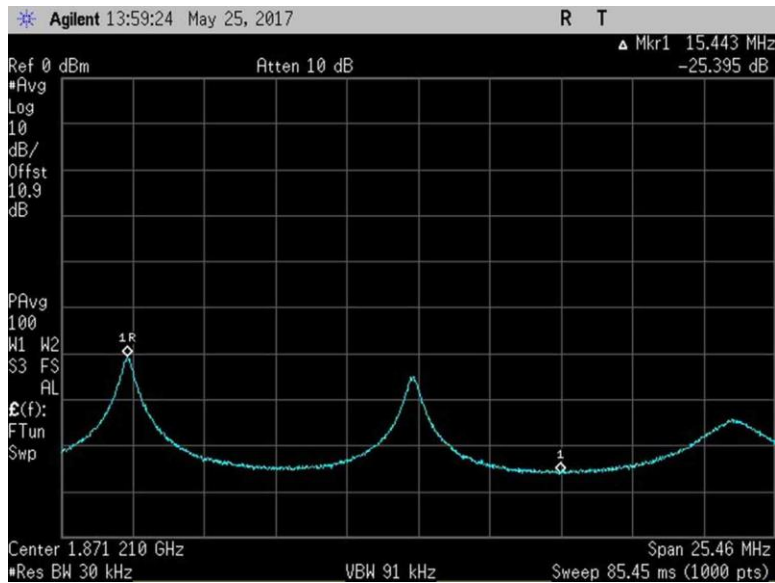
7.11.3_Osc_UL_1850-1915MHz+4_AWGNR



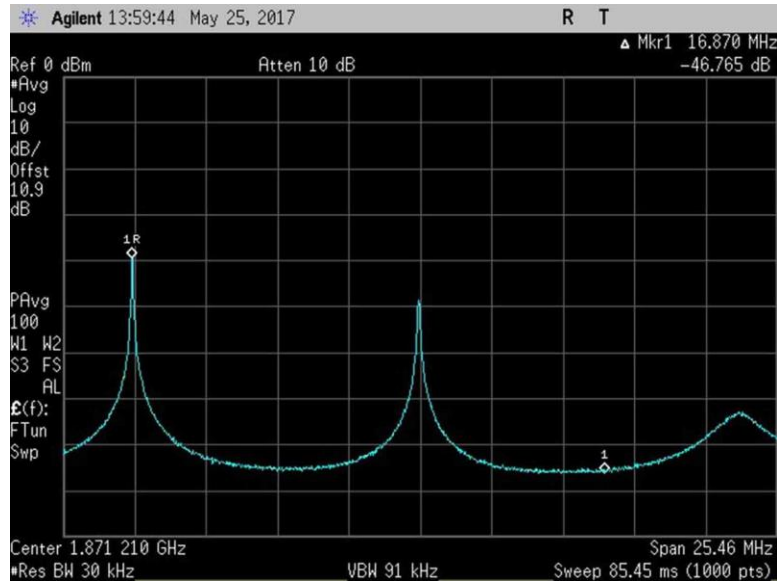
7.11.3_Osc_UL_1850-1915MHz+5_AWGNR



7.11.3_Osc_UL_1850-1915MHz-1_AWGNR



7.11.3_Osc_UL_1850-1915MHz-2_AWGNR



7.11.3_Osc_UL_1850-1915MHz-3_AWGNR

TX Freq = > Center frequency of above listed bands.
 Modulation=> CW
 Frequency range of measurement = 9 kHz- 22 GHz.
 9 kHz - 150 kHz -> RBW=200 Hz VBW=200 Hz
 150 kHz - 30 MHz -> RBW=9 kHz VBW=9 kHz
 30 MHz - 1000MHz -> RBW=120 kHz VBW=120 kHz
 1000 MHz-22000MHz -> RBW=1 MHz VBW=1 MHz

Note:
 No spurious emissions were found within 20dB of the limit line.
 Emissions in the band 1559-1610 MHz were investigated and these were not found within 20dB of the limit line.

27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Test Equipment:

Asset #	Description	Model	Calibration Date	Cal Due Date
AN03418	Signal Generator	E4438C	7/30/2015	7/30/2017
ANP06239	Attenuator	54A-10	8/8/2016	8/8/2018
ANP06897	Cable	32022-29094K-29094K-48TC	12/30/2015	12/30/2017
AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018
ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
ANP00880	Cable	RG214U	5/10/2016	5/10/2018
ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
AN00971A	Preamp	8447D	2/5/2016	2/5/2018
ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
AN03470	Spectrum Analyzer	E4440A	12/9/2015	12/9/2017
AN02113	Horn Antenna-ANSI C63.5	3115	2/6/2017	2/6/2019
ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
AN02810	Preamp	83051A	2/26/2016	2/26/2018
ANP01210	Cable	FSJ1P-50A-4A	1/16/2017	1/16/2019
AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018

Test Equipment Continued:

Asset #	Description	Model	Calibration Date	Cal Due Date
AN03143	Cable	32022-29094K-144TC	3/27/2017	3/27/2019
AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	3/30/2017	3/30/2019
ANP00928	Cable	various	1/25/2016	1/25/2018
AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	10/7/2016	10/7/2018
ANP00929	Cable	various	1/25/2016	1/25/2018
AN00432	Loop Antenna	6502	5/30/2017	5/30/2019

Summary of Results

Pass: All Radiated Spurious Emissions were found with more than 20dB margin of the limit line.

Frequency Range of measurement 9kHz -> 22GHz

LIMIT LINE FOR SPURIOUS RADIATED EMISSION

REQUIRED ATTENUATION = 43+10 LOG P (DB)

For radiated spurious emission measured at 3 meter test distance,

Required attenuation = 43+10 Log P_{t at 3 meter} dB
 Limit line (dBuV) = E_{dBuV} - Attenuation

E_{dBuV} = Measured field strength at 3 meter in dBuV/m

Power Density (Isotropic)

$$P_D = \frac{P_t}{4\pi r^2}$$

P_D = Power Density in Watts /m²
 P_t = Average Transmit Power
 r = Test distance

Field Intensity E (V/m)

$$E = \sqrt{P_D \times 377}$$

$$E = \frac{\sqrt{P_t \times 377}}{4\pi r^2}$$

$$E = \sqrt{\frac{P_t \times 30}{r^2}}$$

$$P_t = \left(\frac{E^2 \times r^2}{30} \right)$$

$$10 \text{ Log } P_t = 10 \text{ Log } E^2 (\text{V/m}) + 10 \text{ Log } r^2 - 10 \text{ Log } 30$$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\text{V/m}) + 20 \text{ Log } r - 10 \text{ Log } 30$$

At 3 meter, $r = 3 \text{ m}$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\text{V/m}) + 20 \text{ Log } 3 - 10 \text{ Log } 30$$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\text{V/m}) + 9.54 - 14.77$$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\text{V/m}) - 5.23$$

Since $20 \text{ Log } E (\text{V/m}) = 20 \text{ Log } E (\mu\text{V/m}) - 120$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\mu\text{V/m}) - 120 - 5.23$$

$$10 \text{ Log } P_t = 20 \text{ Log } E (\mu\text{V/m}) - 125.23$$

$$\begin{aligned} \text{Limit line (dBuV) at 3 meter} &= E_{\text{dBuV}} - \text{Attenuation} \\ &= E_{\text{dBuV}} - (43 + 10 \text{ Log } P_t \text{ at 3 meter}) \\ &= E_{\text{dBuV}} - 43 - 10 \text{ Log } P_t \text{ at 3 meter} \\ &= E_{\text{dBuV}} - 43 - (20 \text{ Log } E (\mu\text{V/m}) - 125.23) \\ &= E_{\text{dBuV}} - 43 - 20 \text{ Log } E (\mu\text{V/m}) + 125.23 \\ &= E_{\text{dBuV}} - 20 \text{ Log } E (\mu\text{V/m}) + 82.23 \end{aligned}$$

Since $20 \text{ Log } E (\mu\text{V/m}) = E \text{ in dBuV/m}$

$$\begin{aligned} &= E_{\text{dBuV}} - E_{\text{dBuV}} + 82.23 \\ \text{Radiated Emission limit 3 meter} &= 82.23 \text{ dBuV at any power level measured in dBuV} \end{aligned}$$

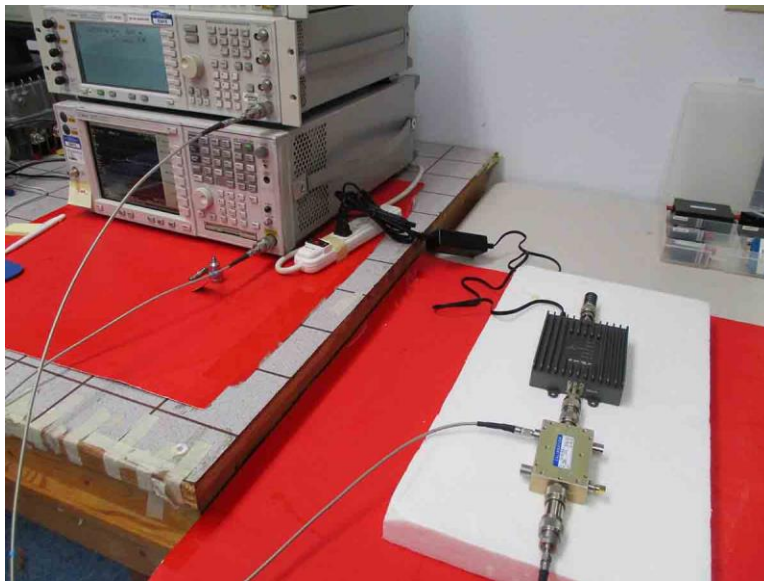
EXHIBIT A: TEST SETUP PHOTOS



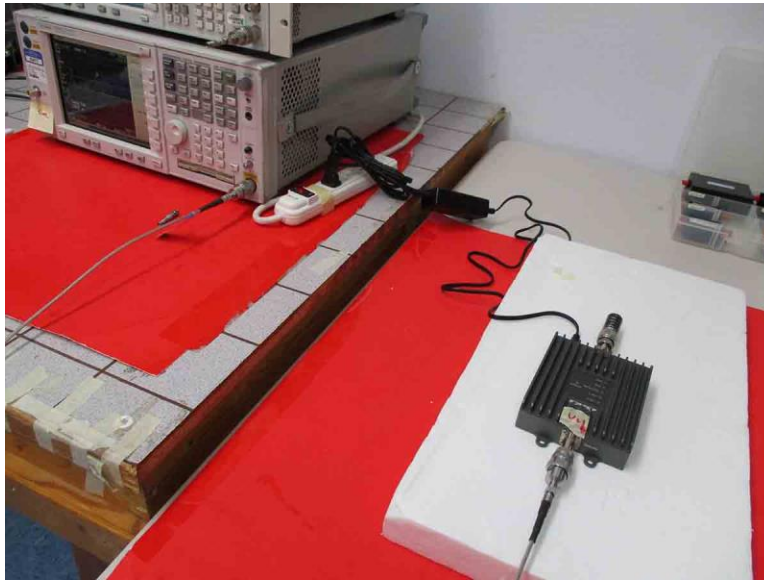
Section 7.1 -7.6, 7.10 Test Setup



Section 7.7.1, Figure 3 Test Setup



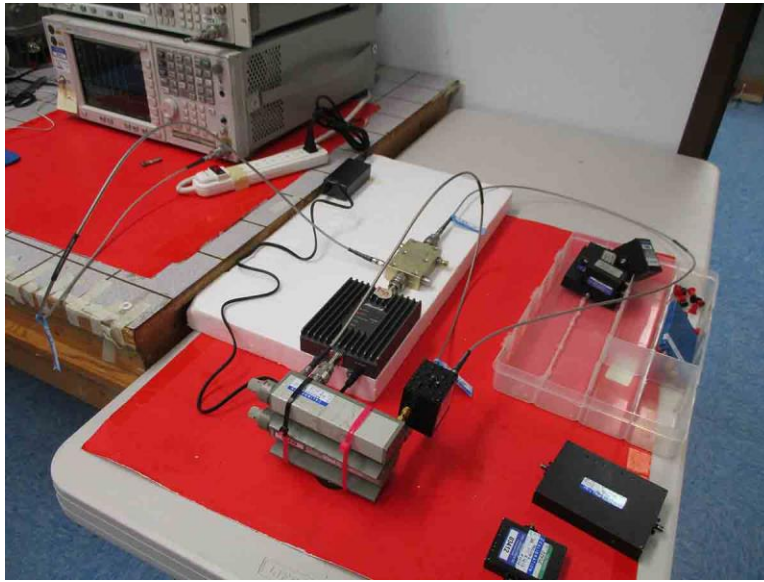
Section 7.7.1, Figure 4 Test Setup



Section 7.8, Test Setup



Section 7.9, Test Setup



Section 7.11.2, Test Setup



Section 7.11.3, Test Setup



Section 7.12, Test Setup, Front View



Section 7.12, Test Setup, Back View