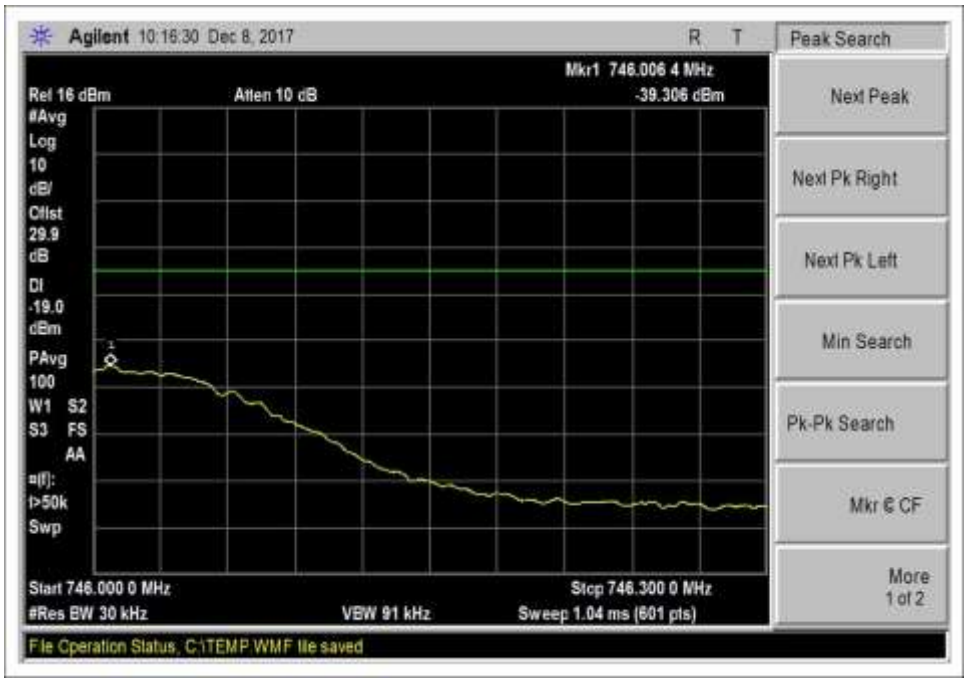
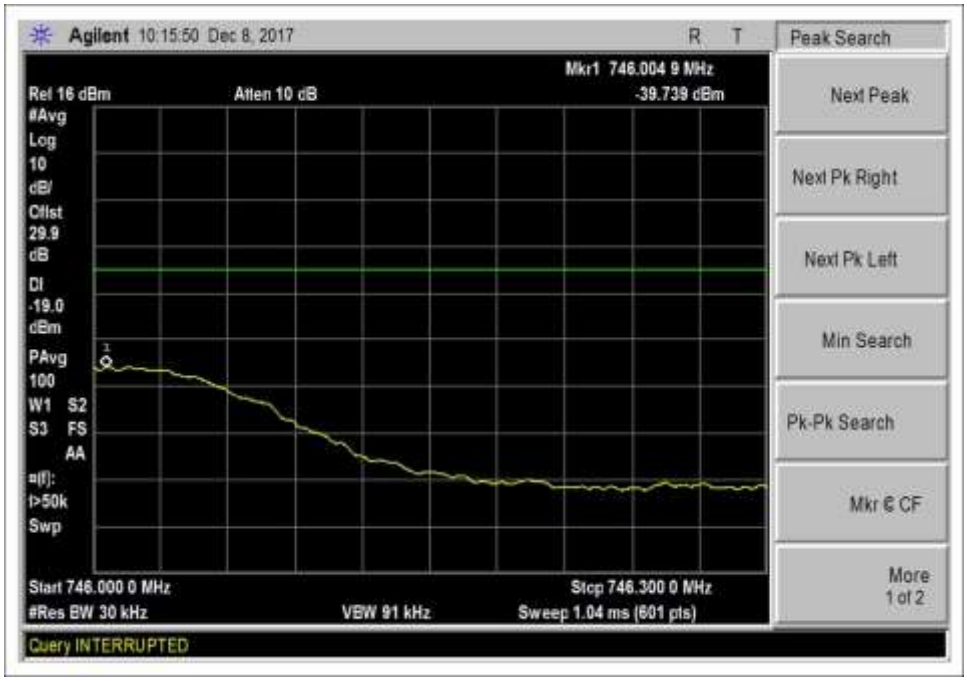
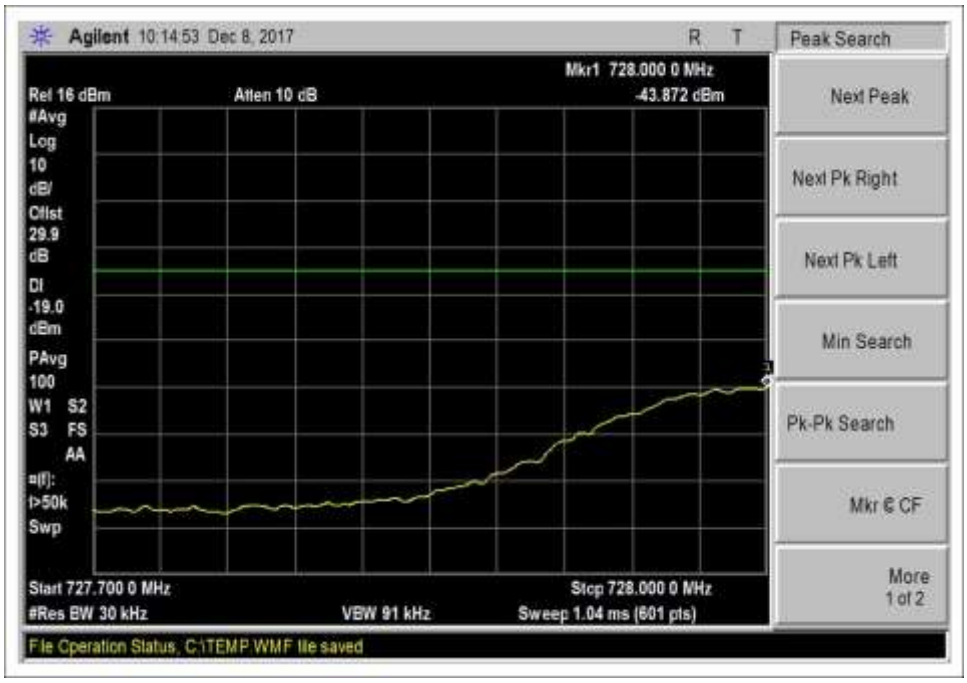


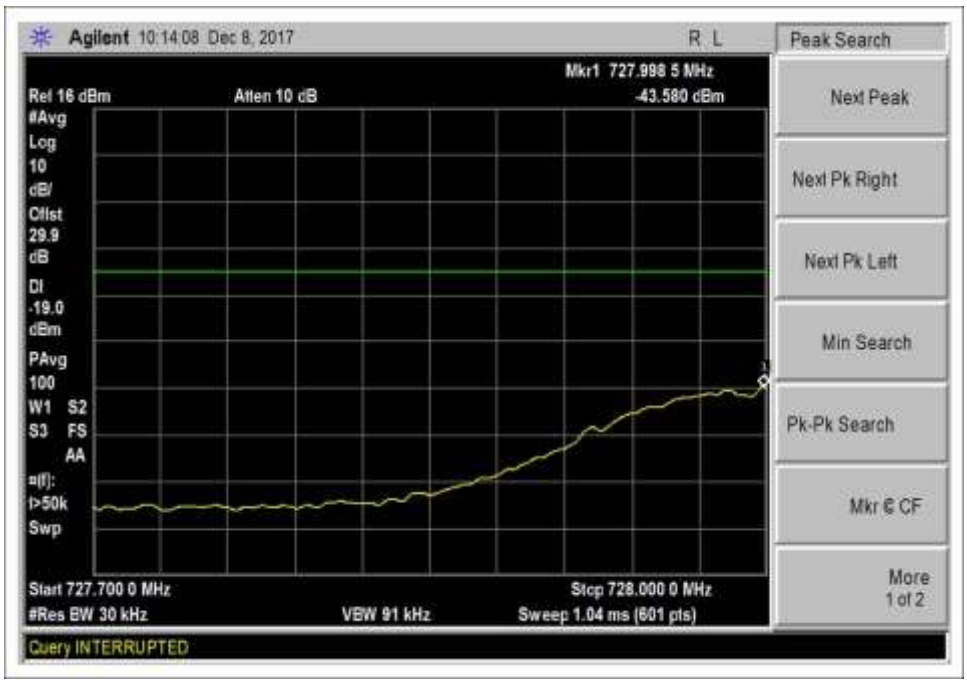
7.5 DL 728-746 GSM high max



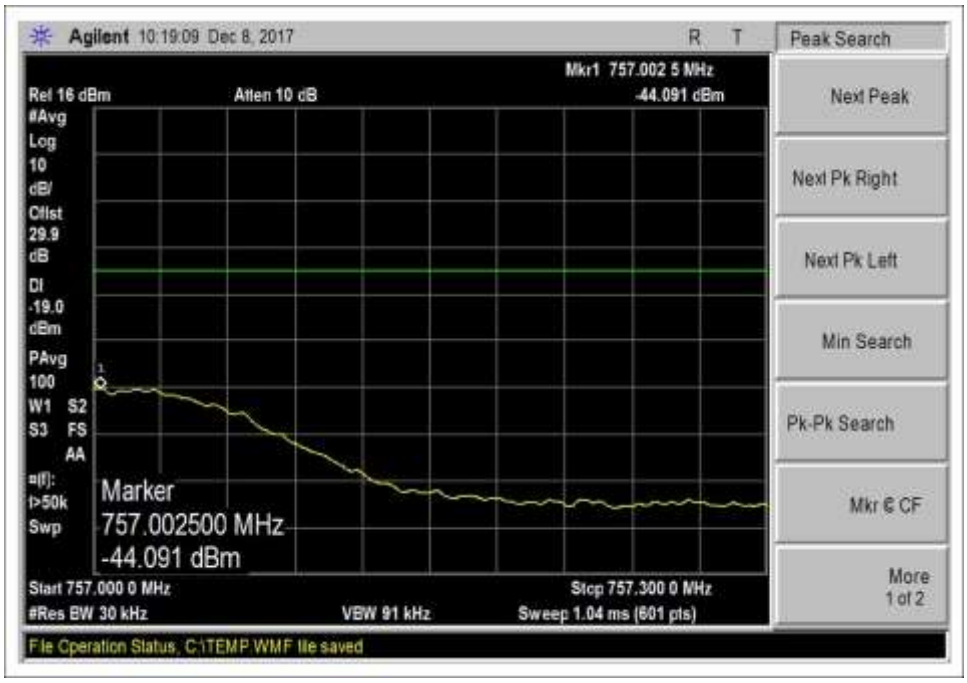
7.5 DL 728-746 GSM high



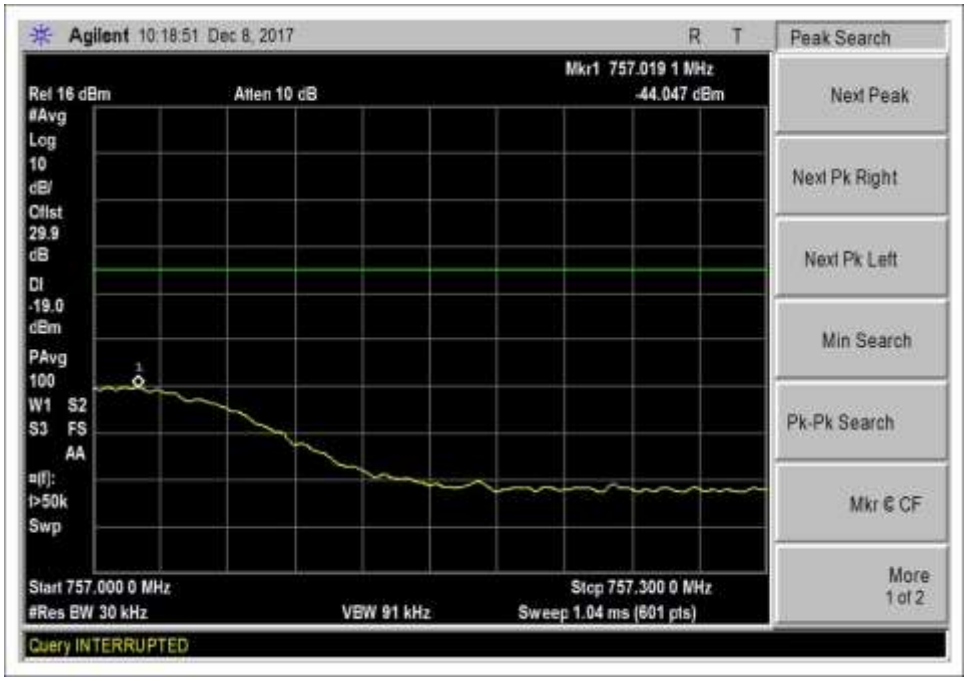
7.5 DL 728-746 GSM low max



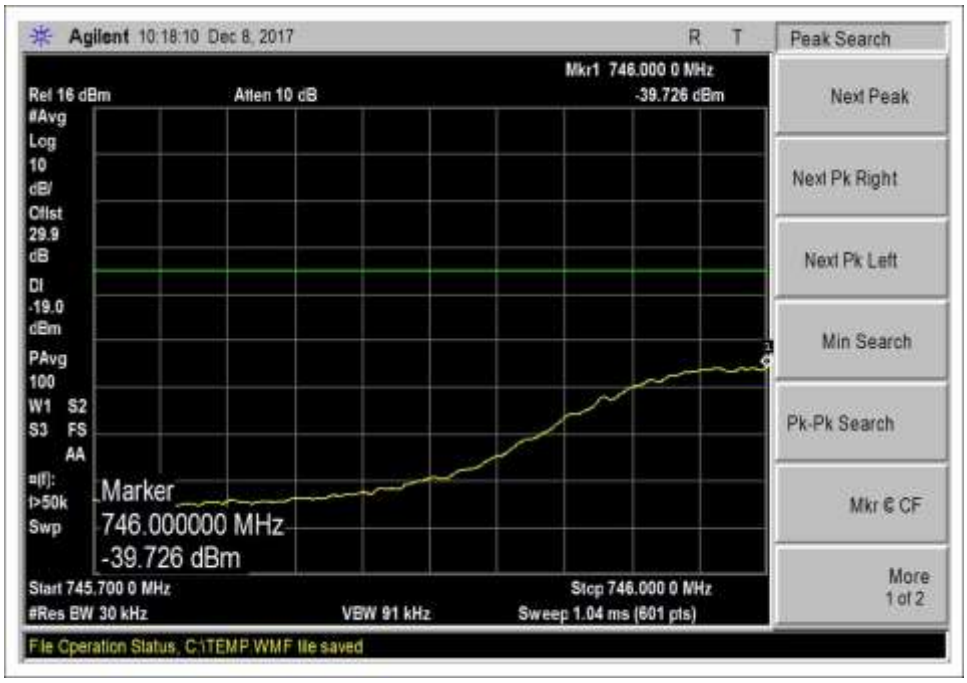
7.5 DL 728-746 GSM low



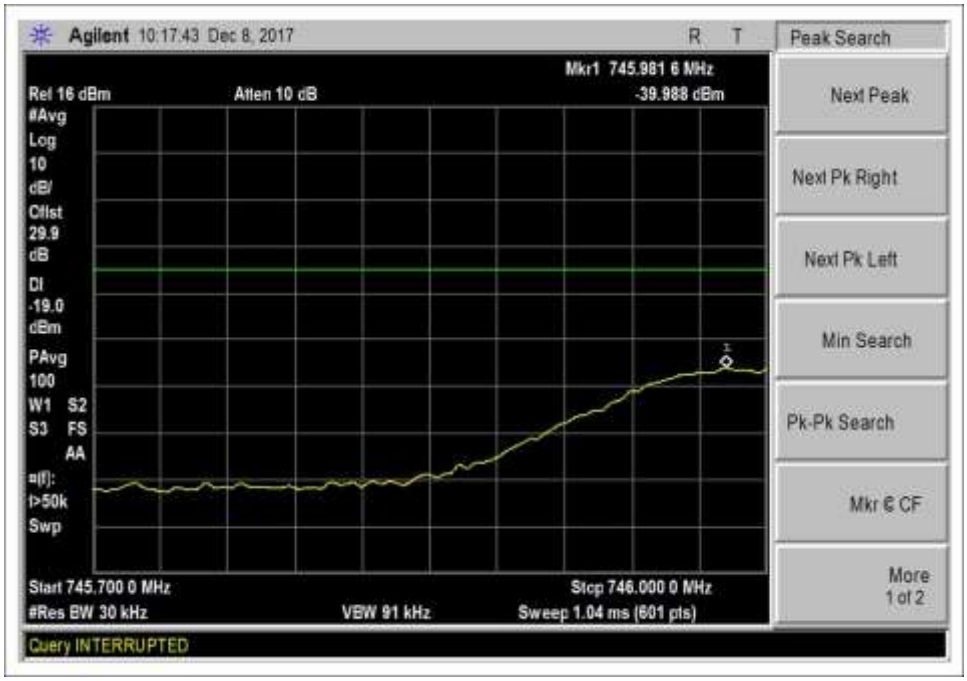
7.5 DL 746-757 GSM high max



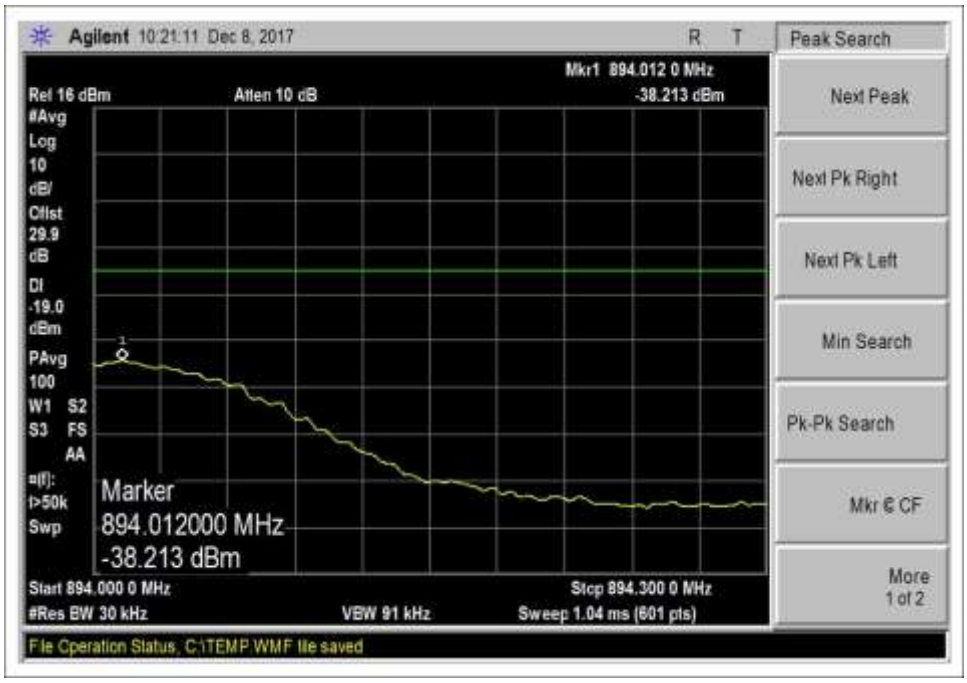
7.5 DL 746-757 GSM high



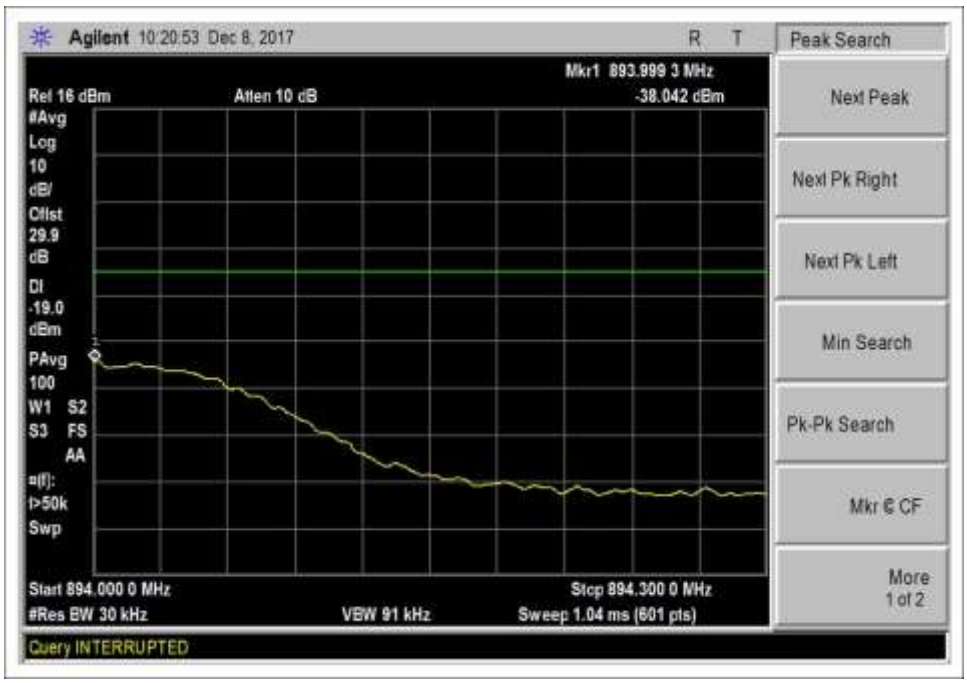
7.5 DL 746-757 GSM low max



7.5 DL 746-757 GSM low



7.5 DL 869-894 GSM high max



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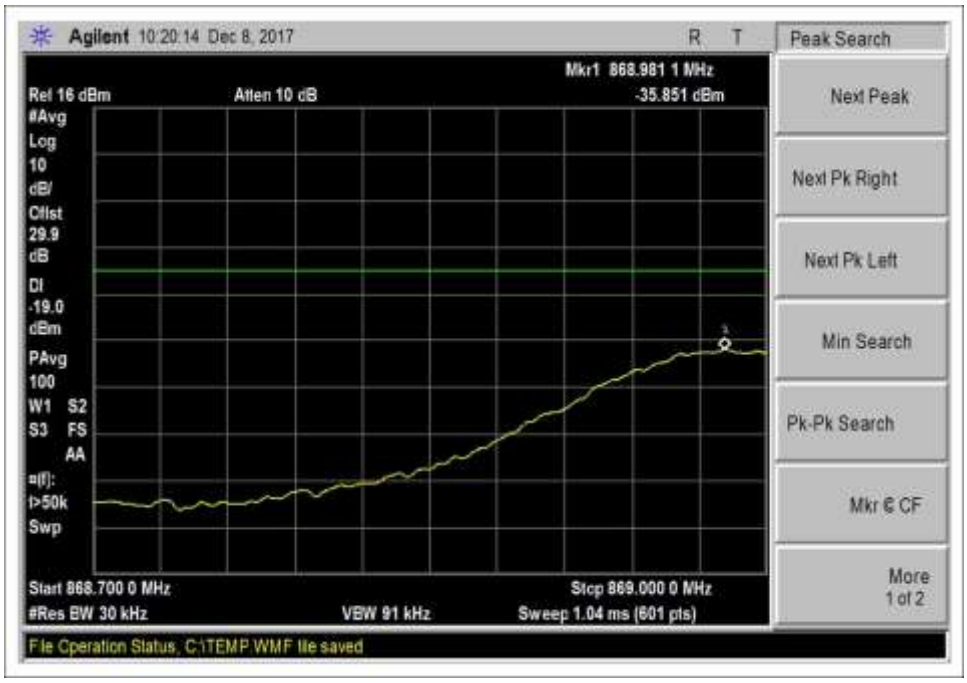
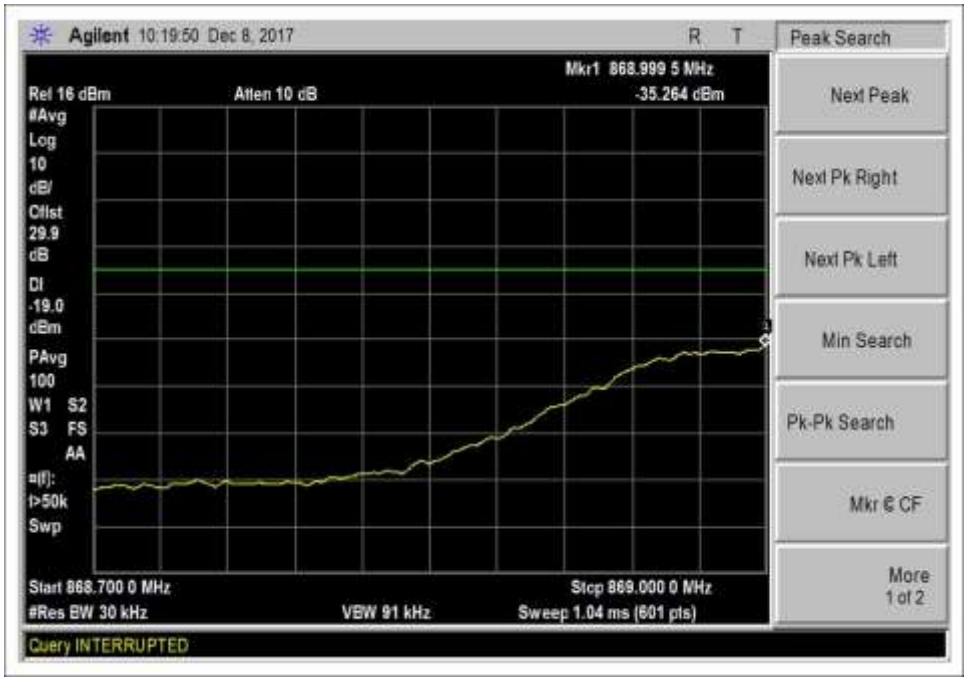
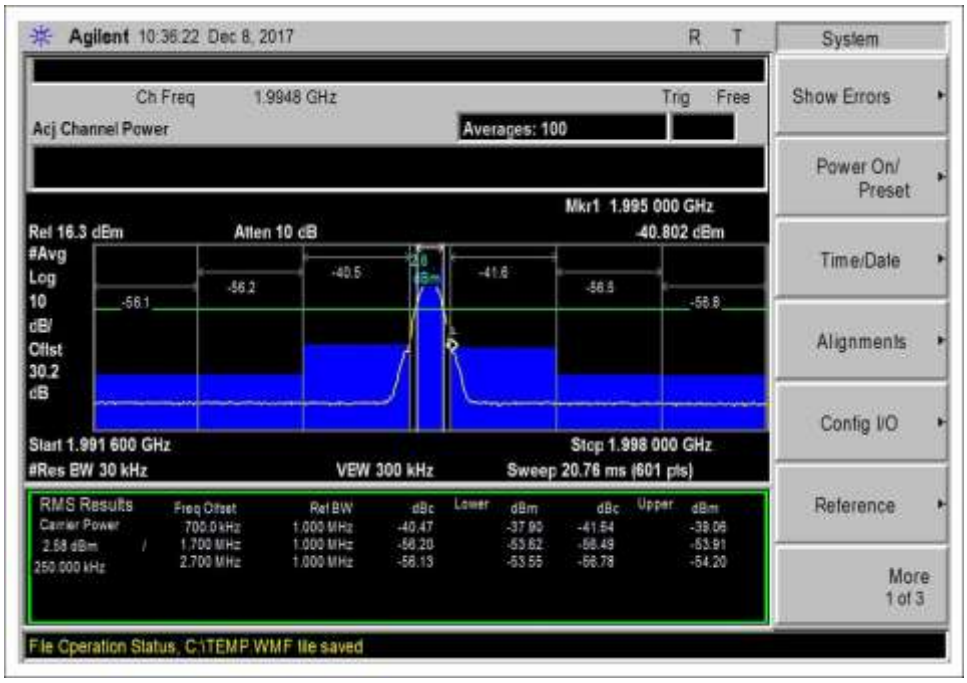


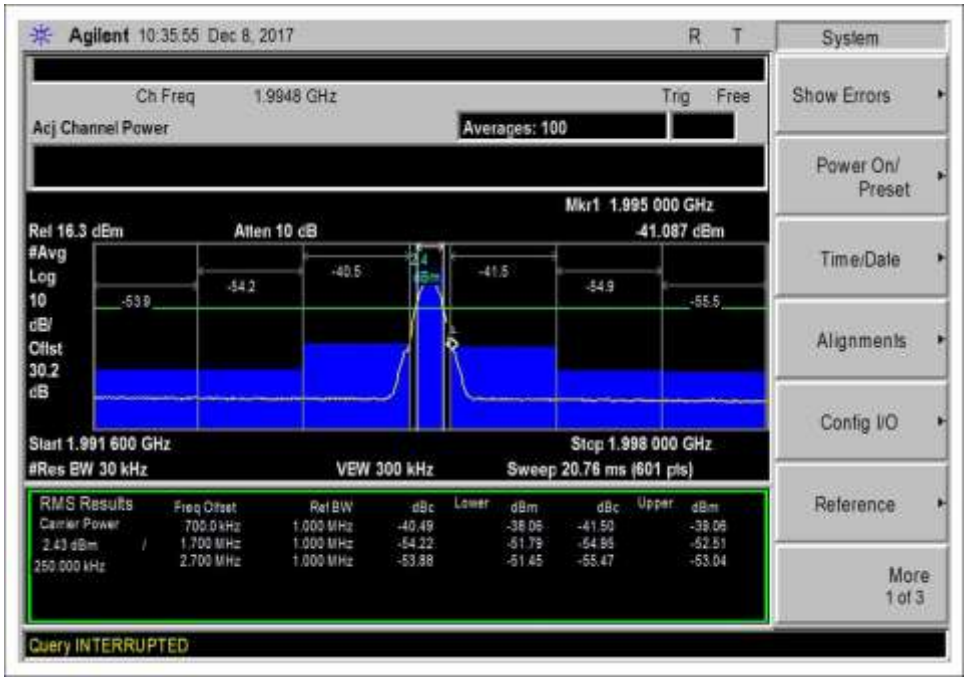
7.5 DL 869-894 GSM low max



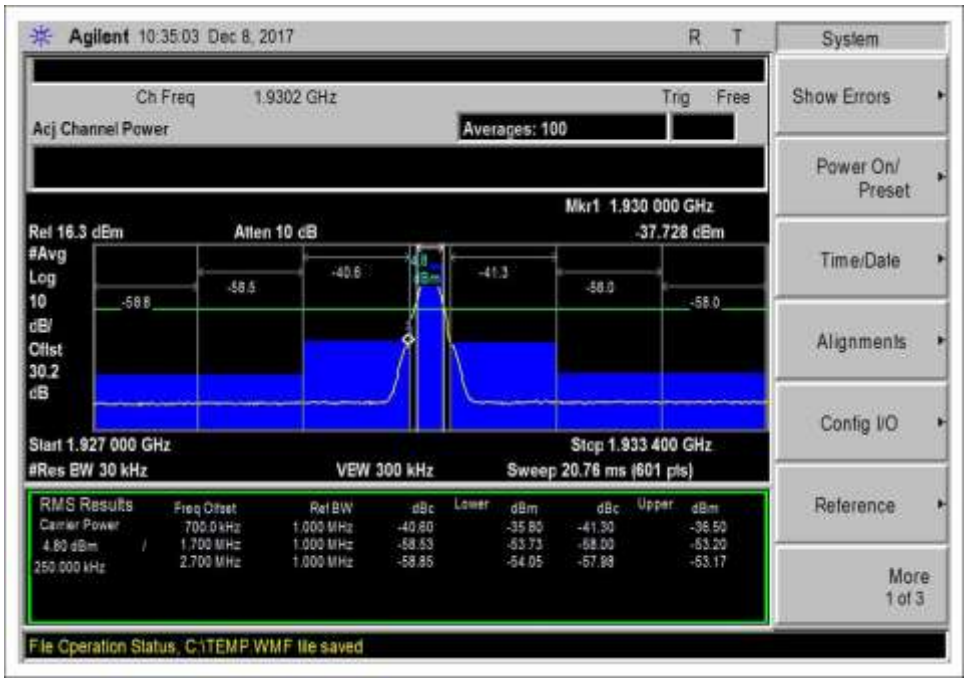
7.5 DL 869-894 GSM low



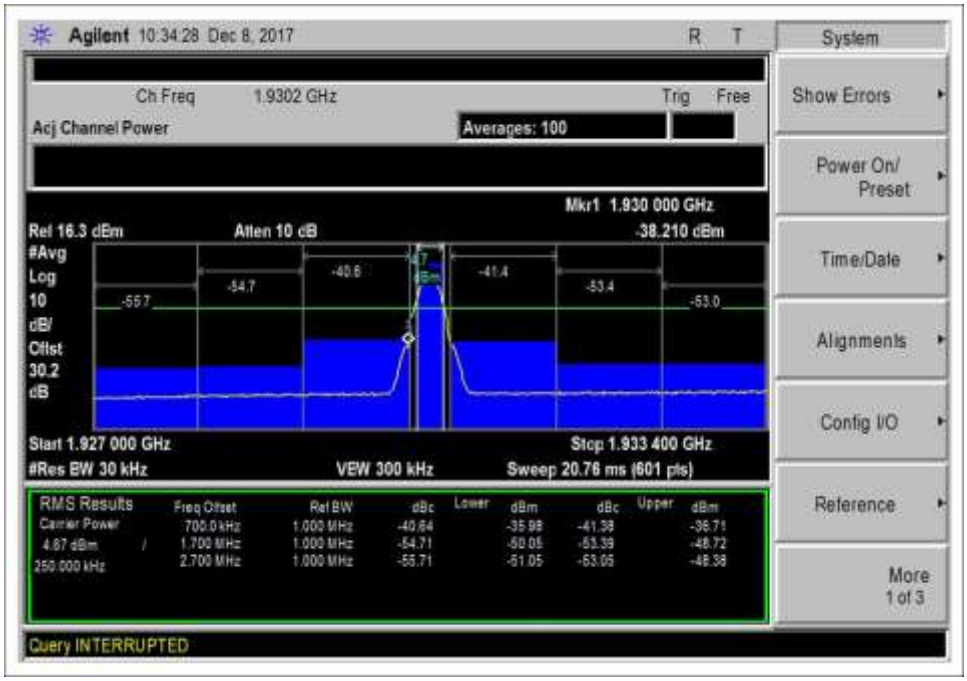
7.5 DL 1930-1995 GSM high max



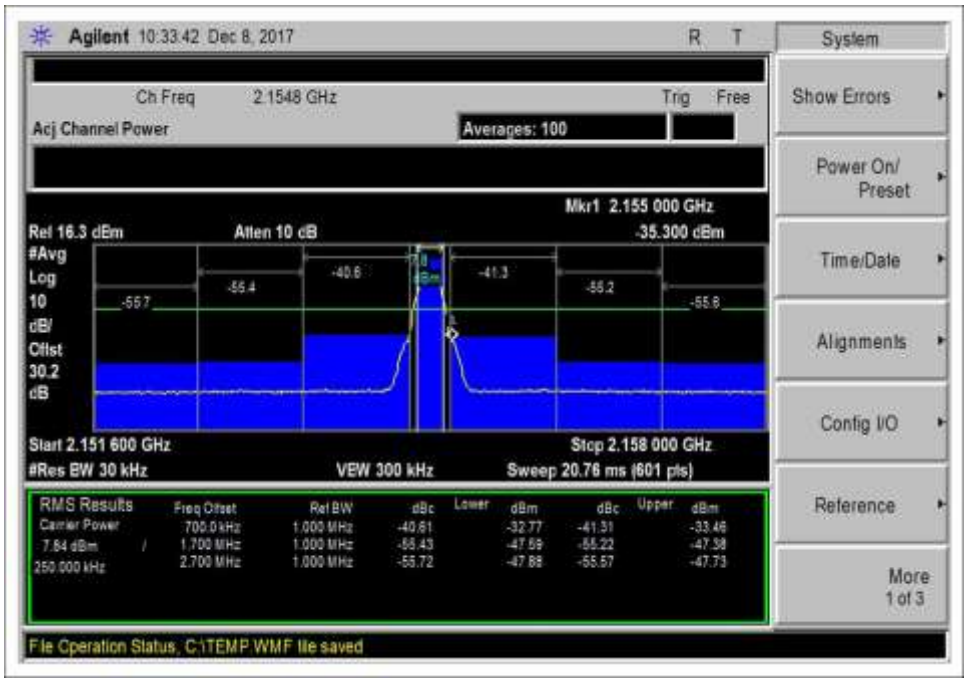
7.5 DL 1930-1995 GSM high



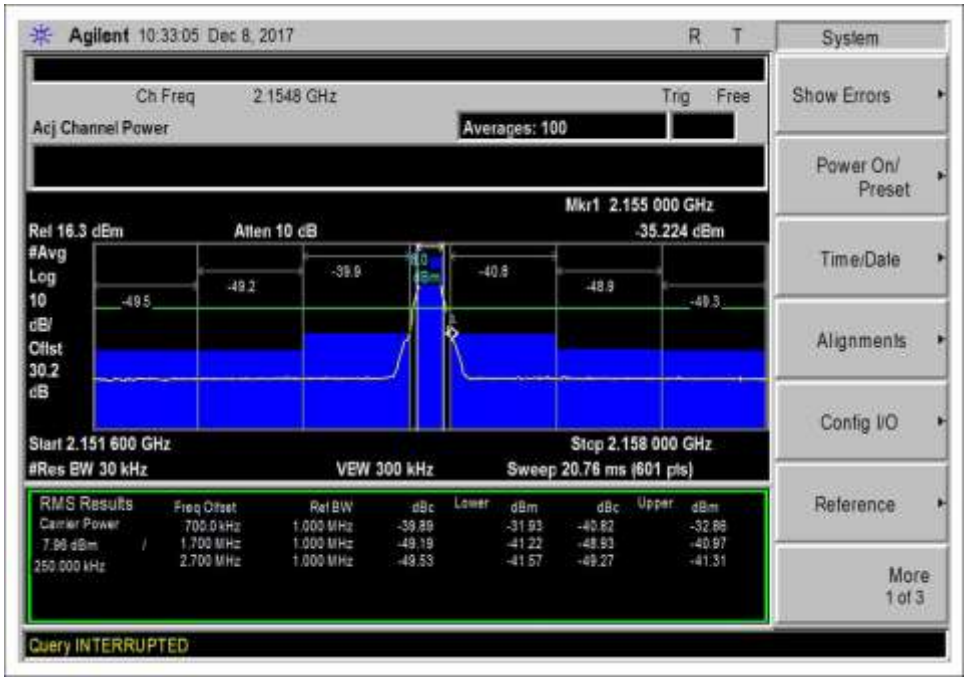
7.5 DL 1930-1995 GSM low max



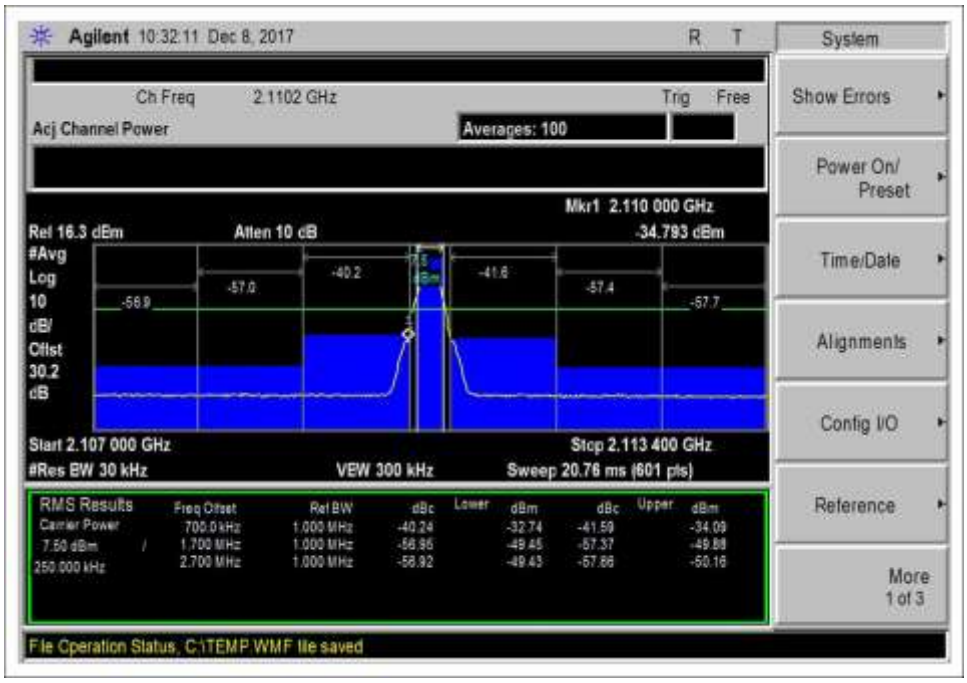
7.5 DL 1930-1995 GSM low



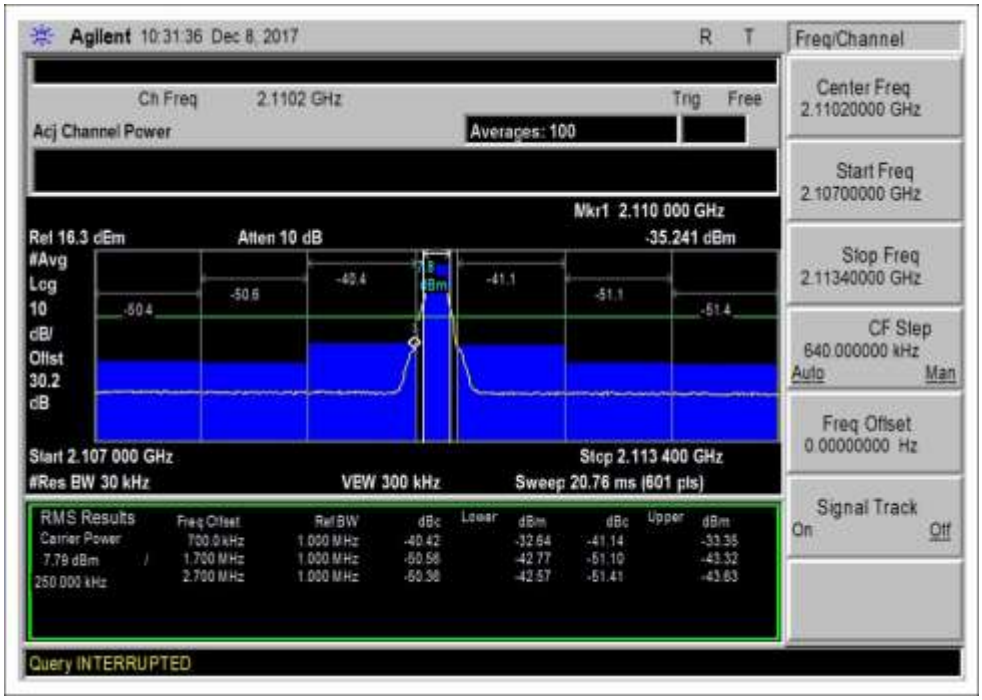
7.5 DL 2110-2155 GSM high max



7.5 DL 2110-2155 GSM high



7.5 DL 2110-2155 GSM low max



7.5 DL 2110-2155 GSM low

7.6 Conducted Spurious Emissions

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 110 N. Olinda Pl, Brea, CA 92823 • 714 993-6112
Customer:	Cellphone-Mate, Inc.
Specification:	**7.6 Conducted Spurious Emissions / 47 CFR §2.1051 Spurious Emissions at Antenna Terminals**
Work Order #:	**100654** Date: 12/08/17
Test Type:	**Conducted Emissions**
Tested By:	**Don Nguyen**
Software:	EMITest 5.03.11

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed Wideband Consumer Booster.
The EUT is placed on the test bench. Evaluation performed at the Outside (Donor) and Inside (Server) antenna port.
The EUT Server port is a type N connector and 50-ohm impedance.
The EUT Donor port is type F connector and 75-ohm impedance.

Part 22
UL: 824-849MHz
DL: 869-894MHz
Part 24
UL: 1850-1915MHz
DL: 1930-1995MHz
Part 27
UL: 1710-1755MHz, 698-716MHz, 776-787MHz
DL: 2110-2155MHz, 728-746MHz, 746-757MHz

Test procedure:
The test was performed in accordance with section 7.6 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04r01 Dated October 27, 2017

Test environment conditions:
Temperature: 22°C, 31% relative humidity, 101.5 kPa

*Note: As specified on 7.6 Conducted spurious emissions test procedure of 935210 D03 Signal Booster Measurements v04, for frequencies below 1 GHz, an RBW of 1 MHz may be used in a preliminary measurement. If non-compliant emissions are detected, a final measurement shall be made with a 100 kHz RBW. Additionally, a peak detector may also be used for the preliminary measurement. If non-compliant emissions are detected, then a final measurement of these emissions shall be made with the power averaging (RMS) detector.

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. For the purpose of equipment

authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Test Equipment:

Asset #	Description	Manufacturer	Model	Calibration Date	Cal Due Date
P07037	Signal Generator	Agilent	E4432B	10/6/2016	10/6/2018
P06958	Attenuator	Pasternack	PE7083	2/5/2016	2/5/2018
P06554	Cable	Astrolab	32022-29094K-29094K-24TC	12/30/2015	12/30/2017
P06662	Cable	Gore	PHASEFLEX EJR01N01024.0	4/5/2016	4/5/2018
03432	Attenuator	Aeroflex/Weinschel	90-30-34	10/27/2017	10/27/2019
02869	Spectrum Analyzer	Agilent	E4440A	8/1/2017	8/1/2018

Summary of Results

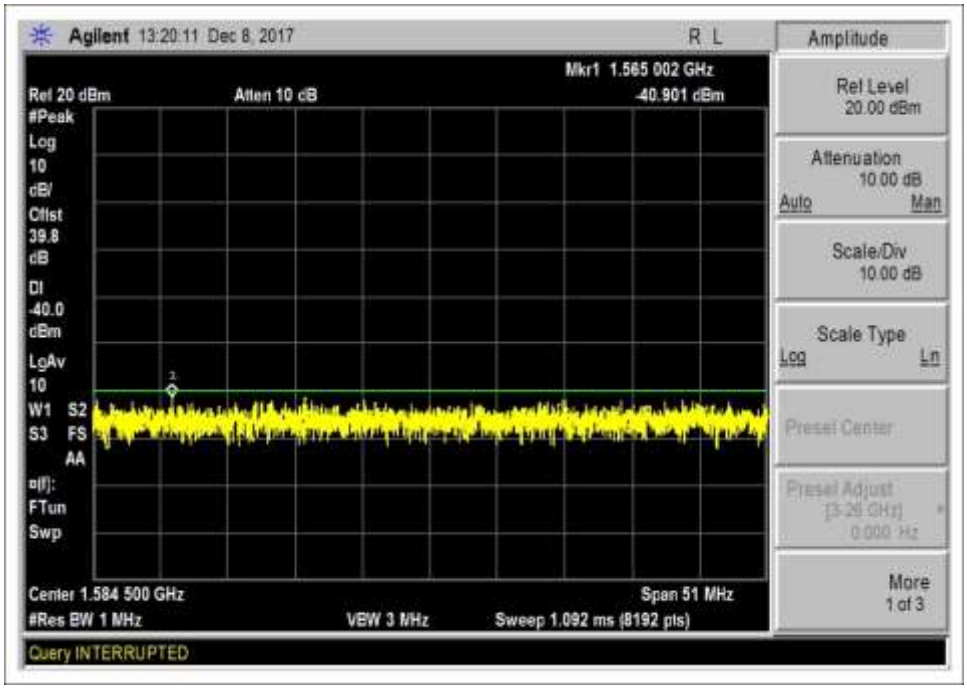
Pass: As summarized in plots below, the conducted spurious emissions are within limits.

9 kHz-22GHz

No Conducted Spurious Emissions were found within 20dB of the limit.

Per section 27.53 (f), the 1559-1610 band was also investigated and found emission within limits using applied correction (see calculation below).

Limit Line Calculation					
Frequency	**Antenna Gain- cable loss**		**Limit line EIRP**	**Limit line EIRP**	**Offset in SA at 1559-1610MHz +3.78dbi**
(MHz)	**(dBi)**		**(dBW/MHz)**	**(dBm)**	**(dB)**
UL 776-787	3.78		-70.0	-40	39.78



LIMIT LINE FOR SPURIOUS CONDUCTED EMISSION

REQUIRED ATTENUATION = 43+10 LOG P DB

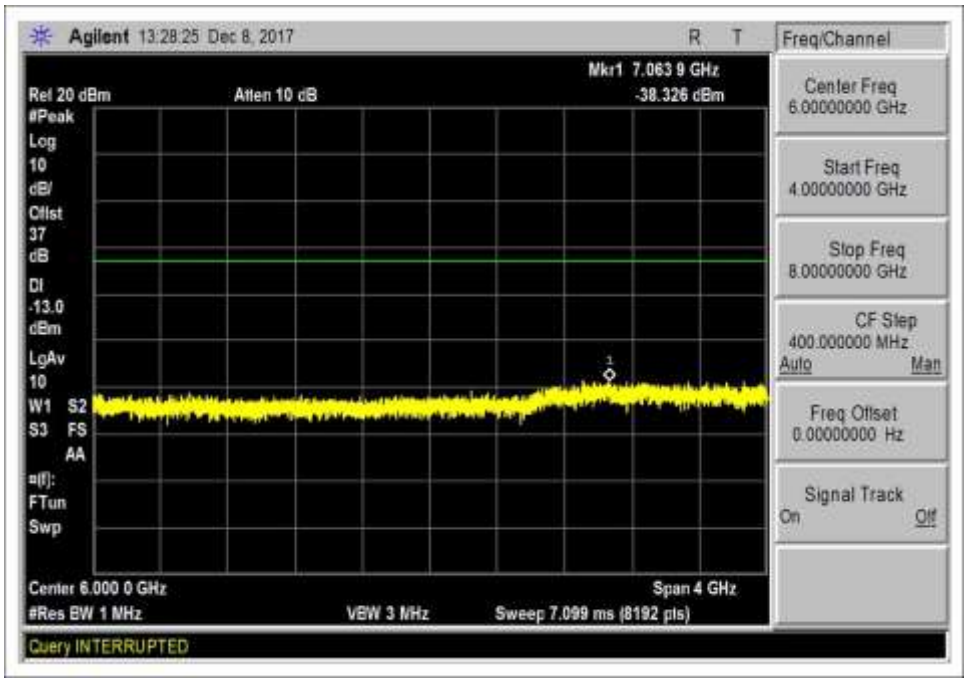
Limit line (dBuV) = V_{dBuv} - Attenuation

$$V_{dBuV} = 20\,\mathrm{Log}\,\frac{V}{1\,x\,10^{-6}}$$
$$= 20\left(\mathrm{Log}\,V - \mathrm{Log}\,1\,x\,10^{-6}\right)$$
$$= 20\,\mathrm{Log}\,V - 20\,\mathrm{Log}1\,x\,10^{-6}$$
$$= 20\,\mathrm{Log}\,V - 20\left(-6\right)$$
$$= 20\,\mathrm{Log}\,V + 120$$

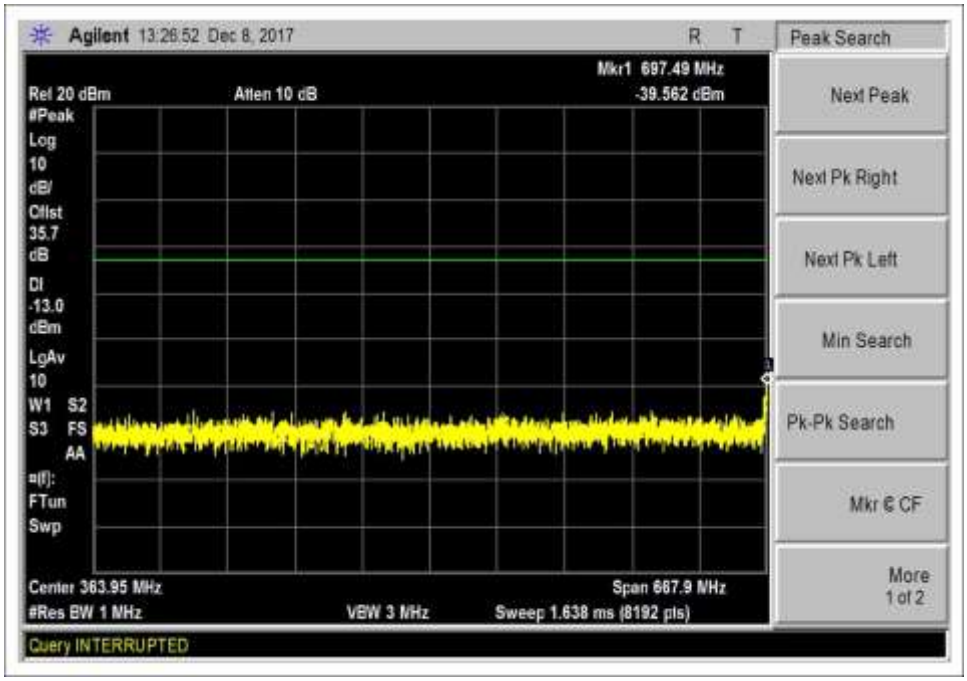
$$\mathrm{Attenuation} = 43 + 10\,\mathrm{Log}\,P$$
$$= 43 + 10\,\mathrm{Log}\,\frac{V^2}{R}$$
$$= 43 + 10\left(\mathrm{Log}\,V^2 - \mathrm{Log}\,R\right)$$
$$= 43 + 10\left(2\,\mathrm{Log}\,V - \mathrm{Log}\,R\right)$$
$$= 43 + 20\,\mathrm{Log}\,V - 10\,\mathrm{Log}\,R$$

Limit line = V_{dBuv} - Attenuation
= 20 Log V + 120 – (43 + 20 Log V – 10Log R)
= 20 Log V + 120 – 43 – 20 Log V + 10Log R
= 20 Log V + 120 – 43 – 20 Log V + 10Log R
= 120 – 43 + 10 Log 50 Note : R = 50 Ω
= 120 –43 + 16.897
= 94 dBuV at any power level

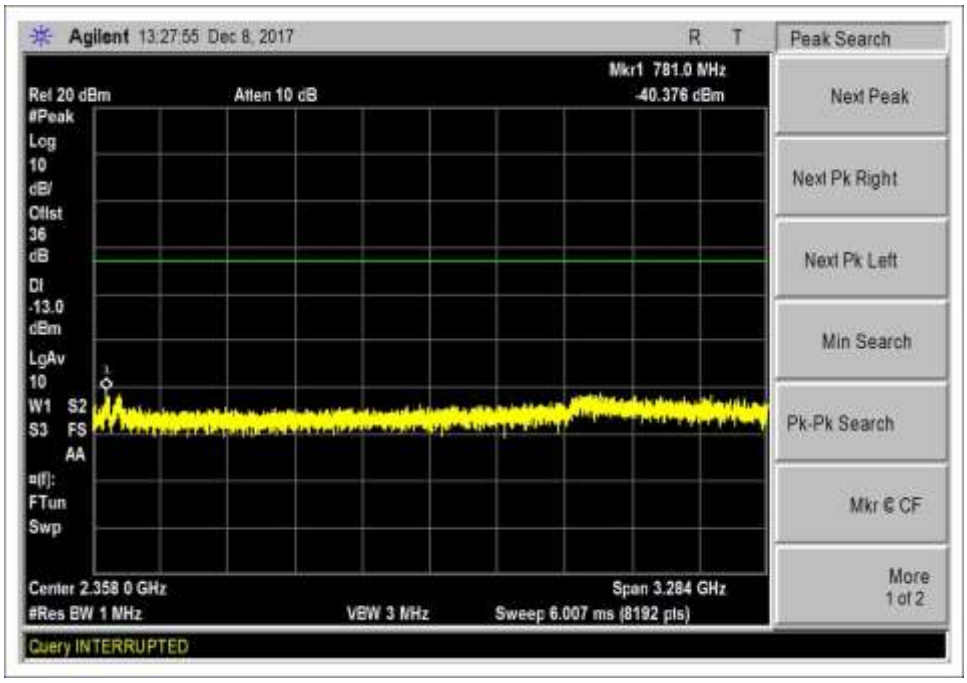
Plots



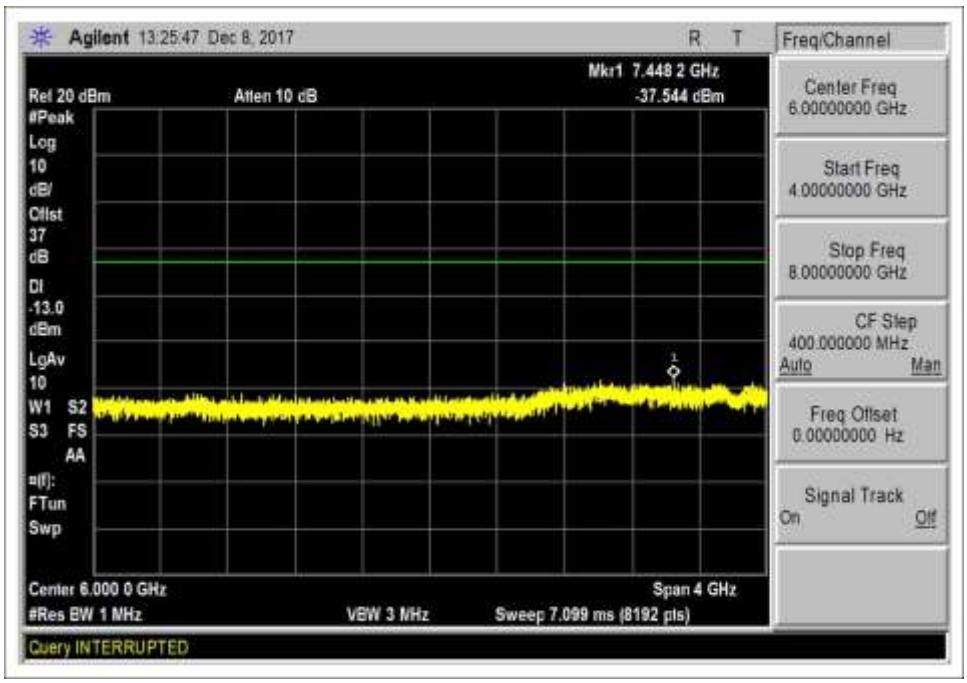
7.6 UL 698-716_4-8G



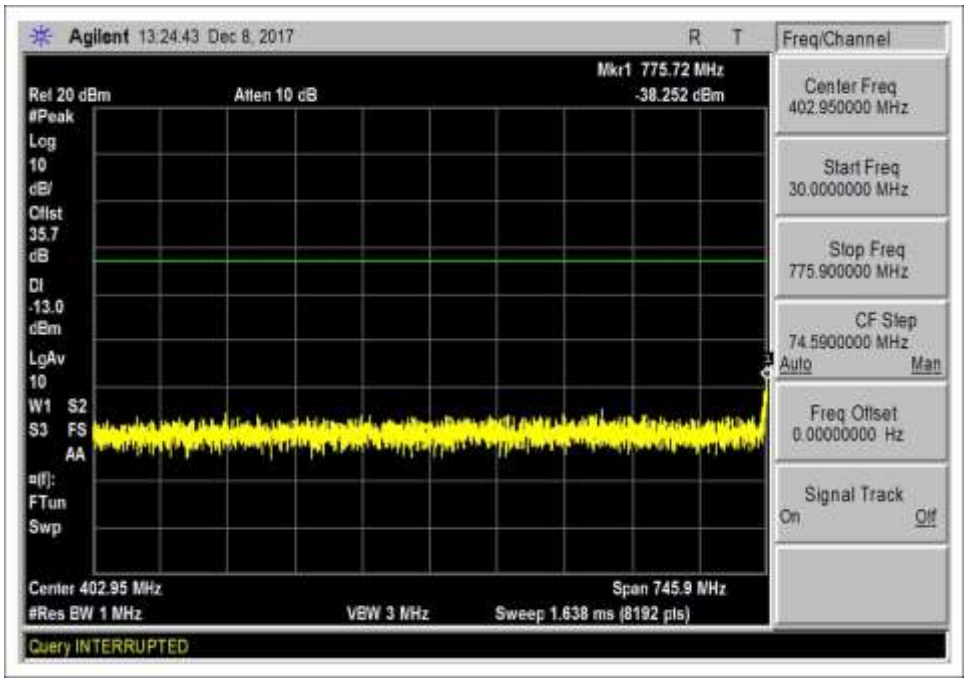
7.6 UL 698-716_30-697.9M



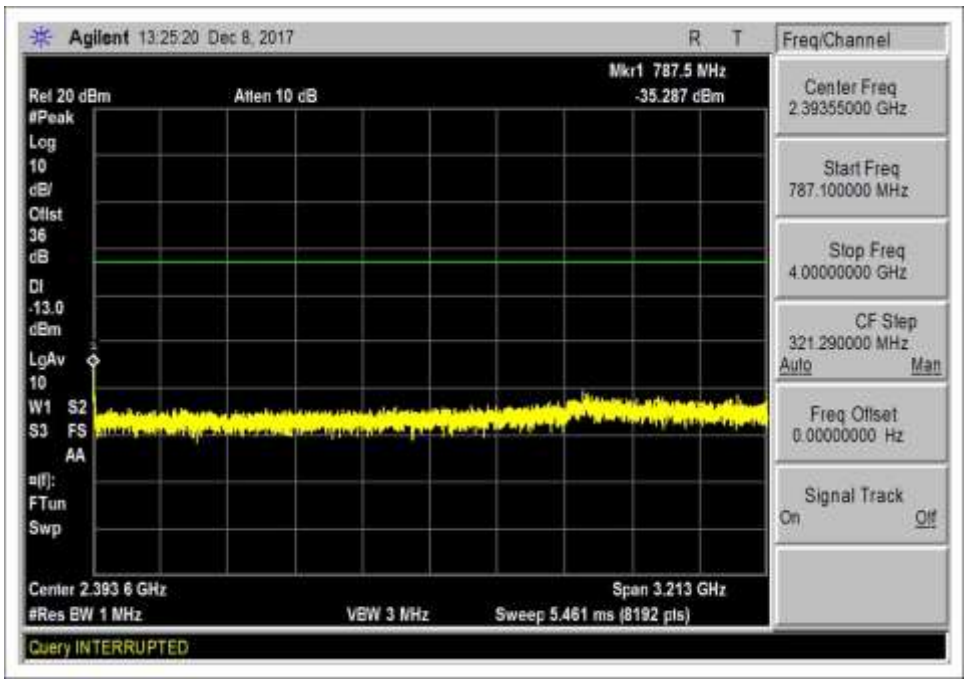
7.6 UL 698-716_716.1-4000M



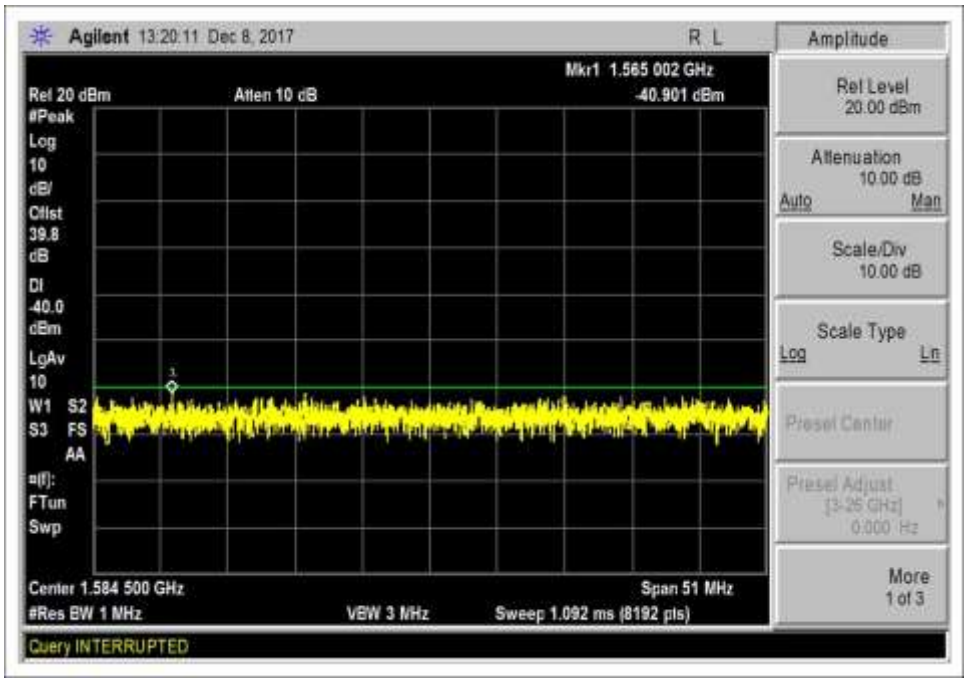
7.6 UL 776-787_4-8G



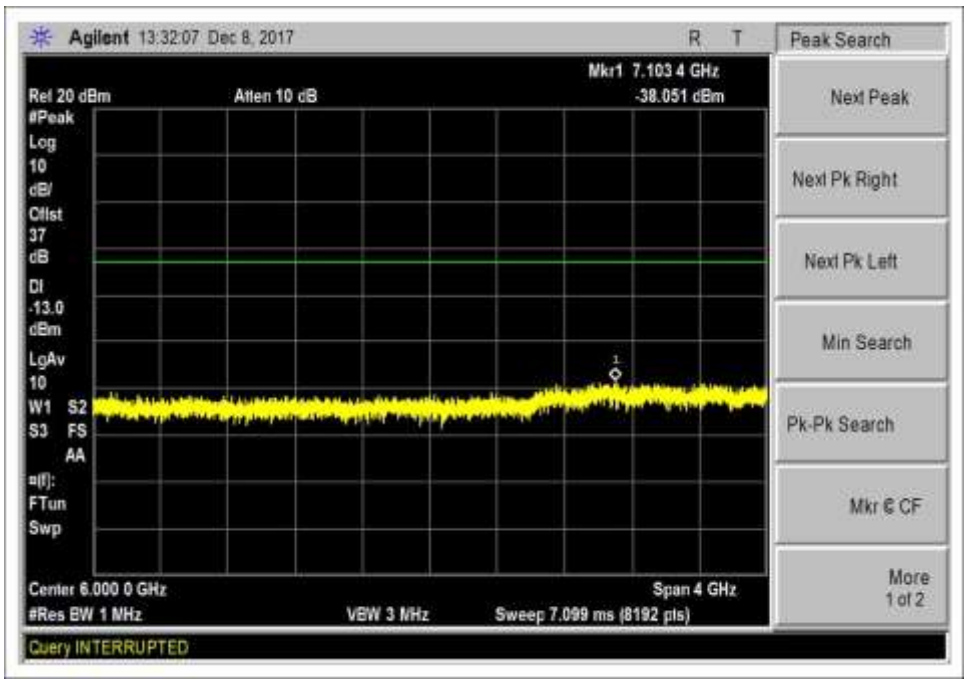
7.6 UL 776-787_30-775.9M



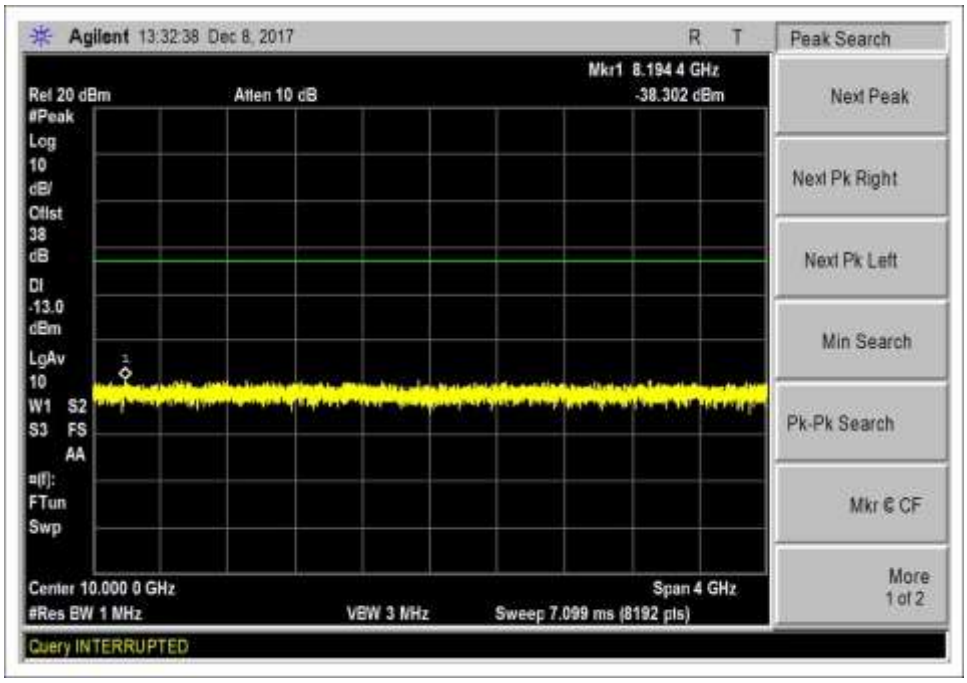
7.6 UL 776-787_787.1-4000M



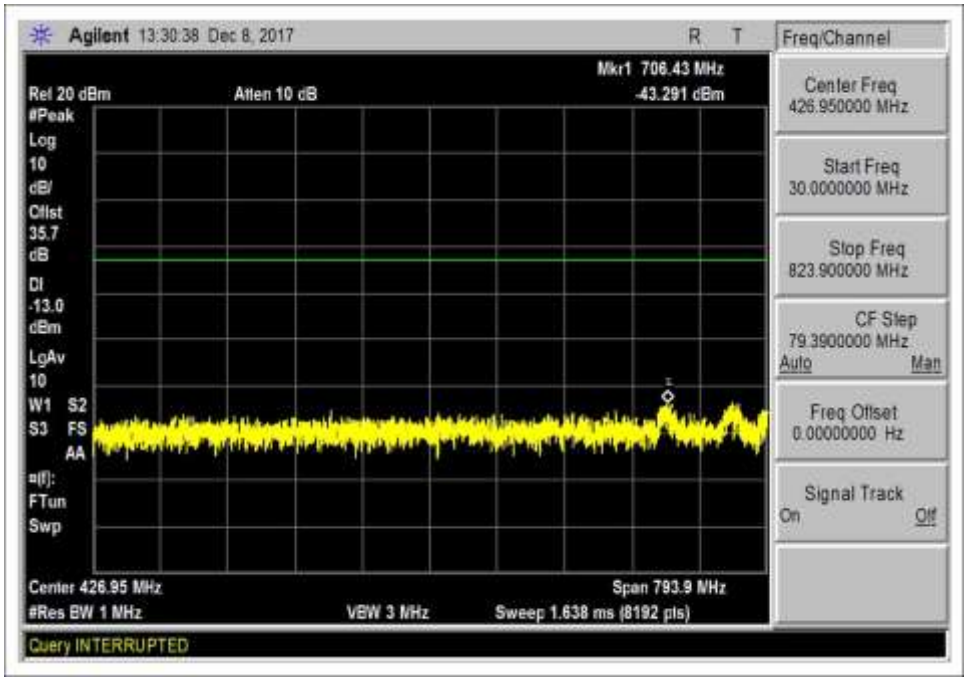
7.6 UL 776-787_1559-1610M



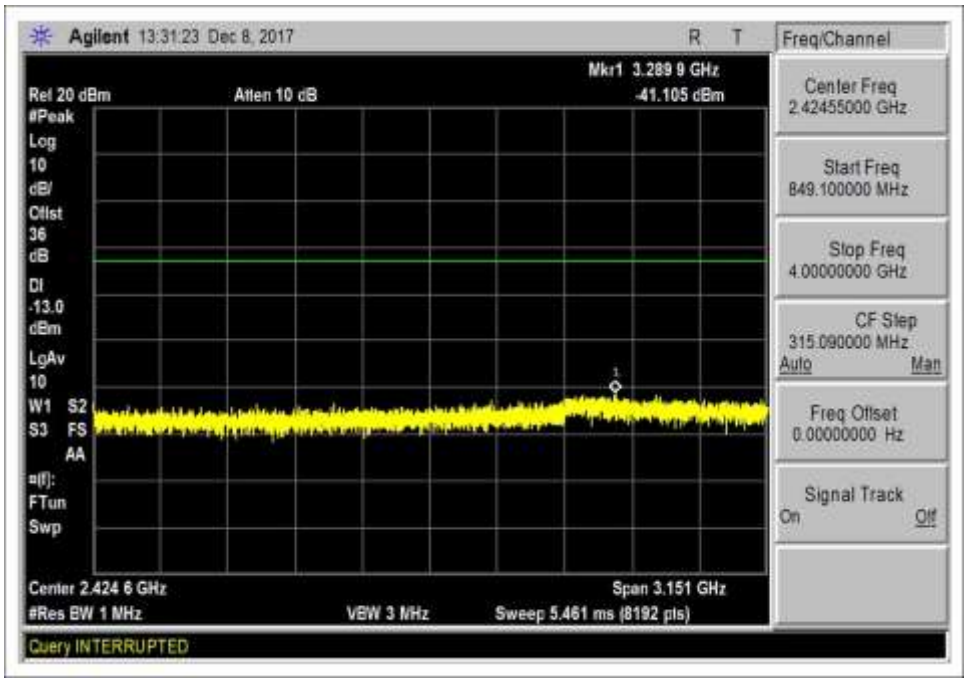
7.6 UL 824-849_4-8G



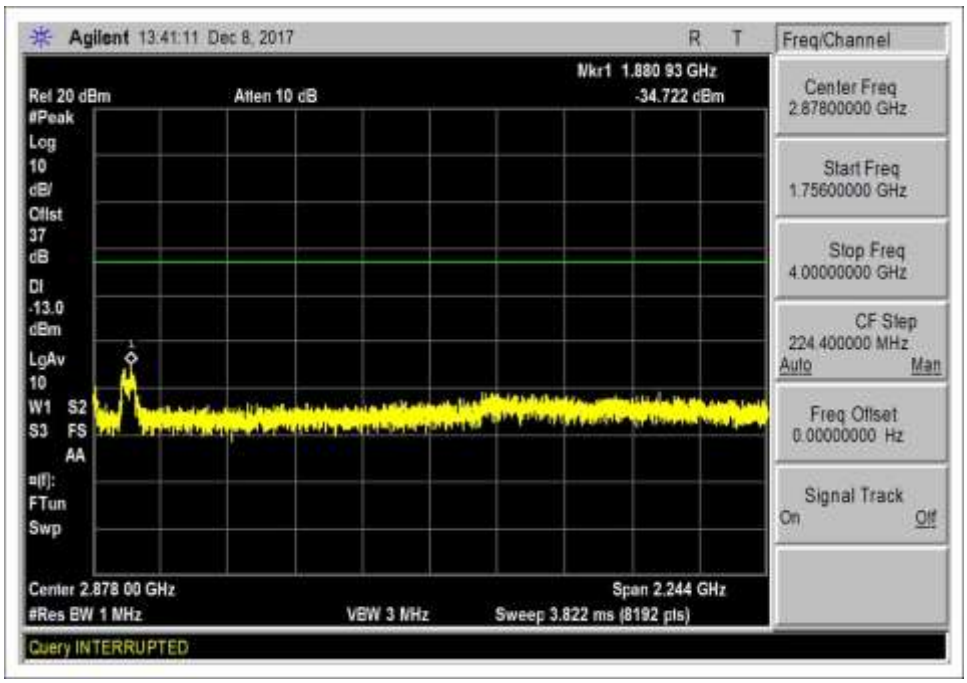
7.6 UL 824-849_8-12G



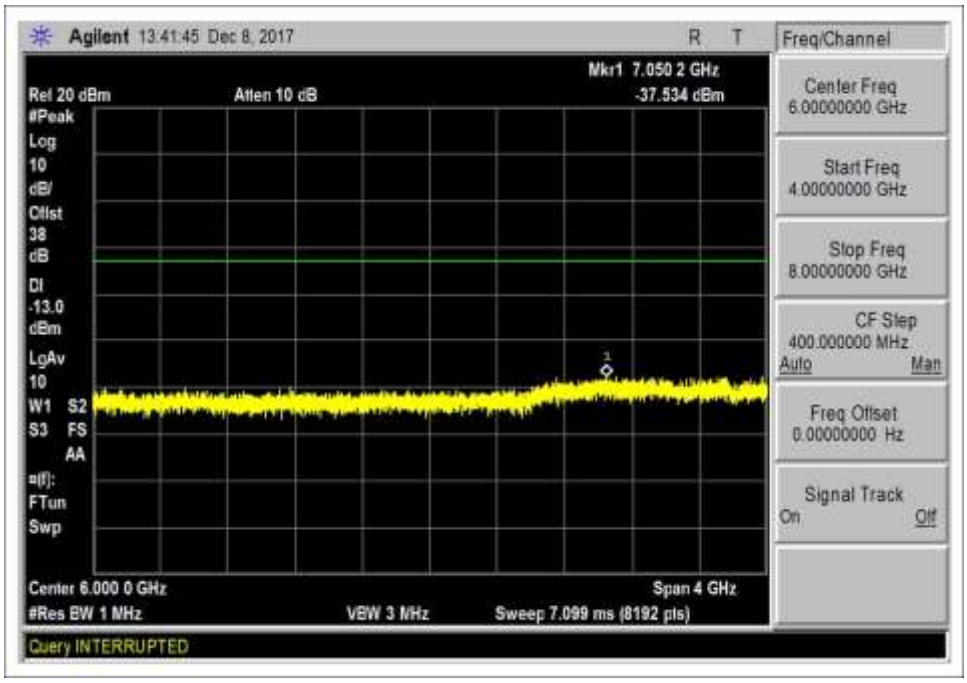
7.6 UL 824-849_30-823.9M



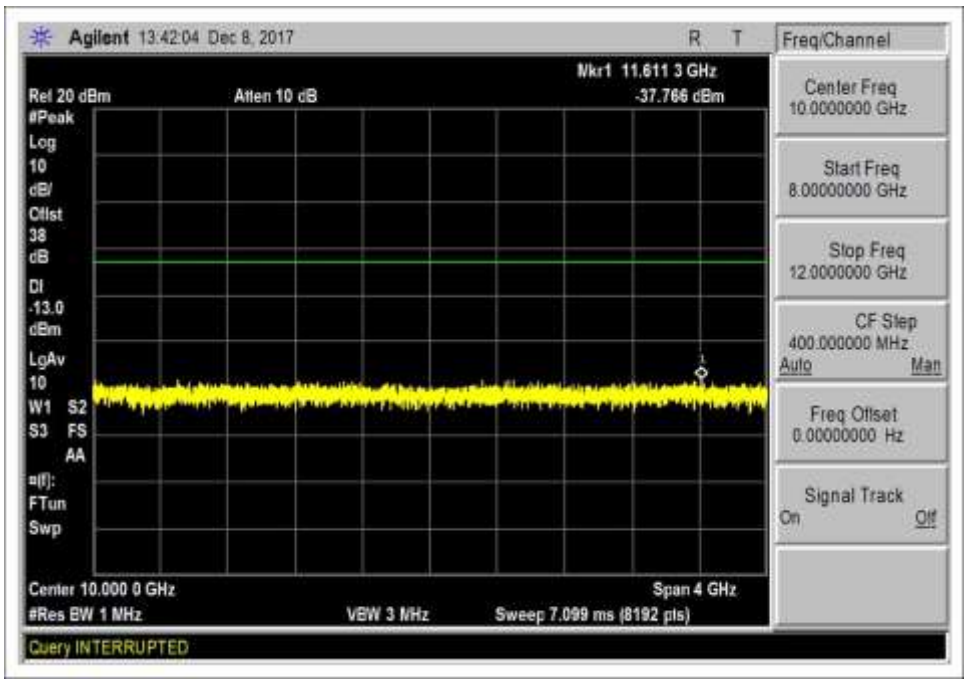
7.6 UL 824-849_849.1-4000M



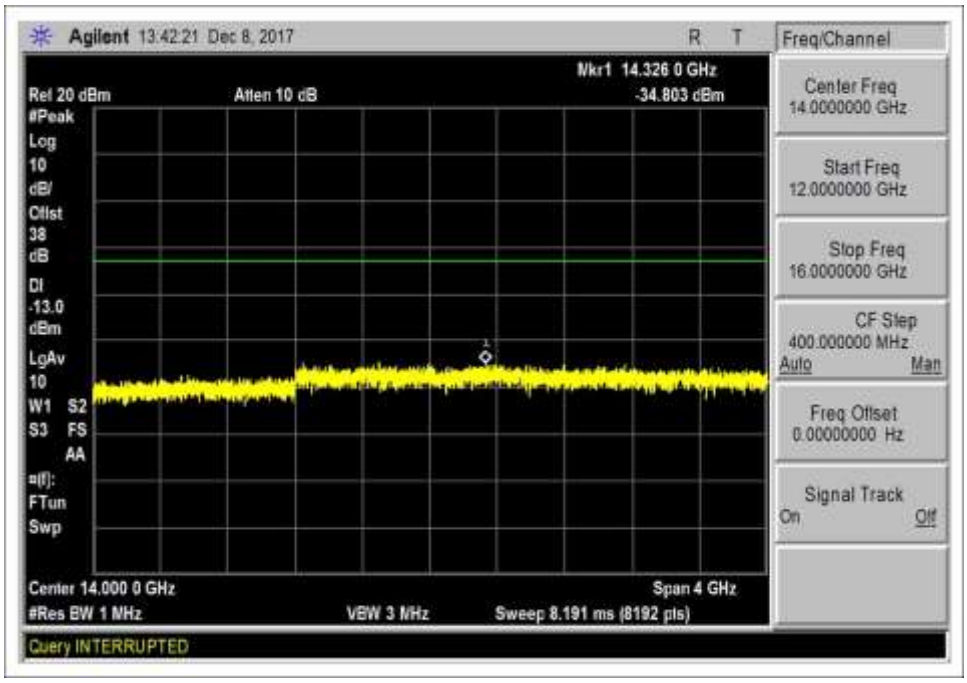
7.6 UL 1710-1755_1.756-4G



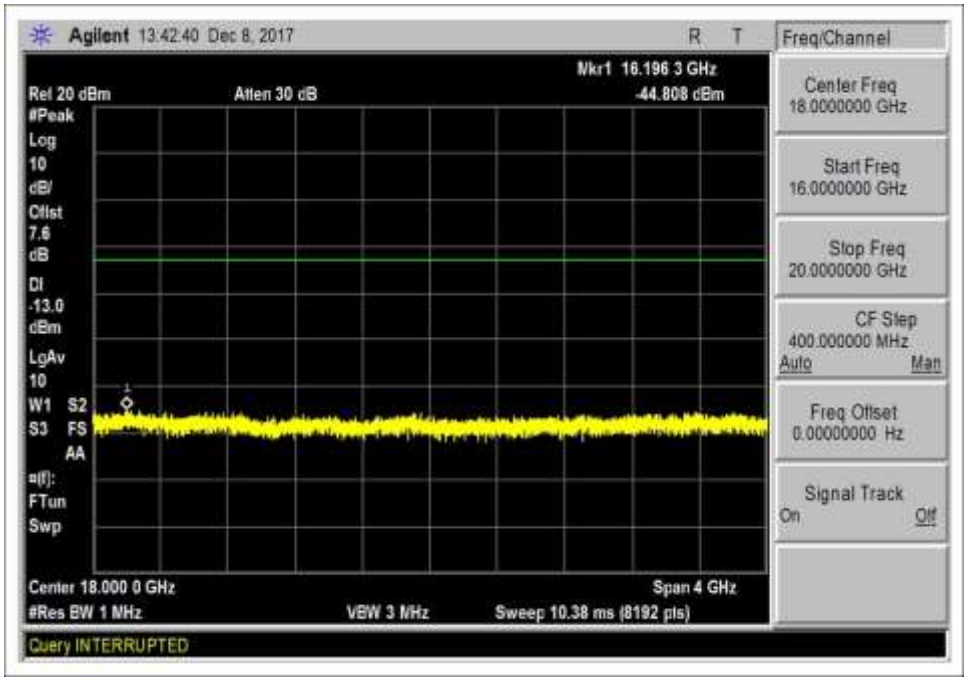
7.6 UL 1710-1755_4-8G



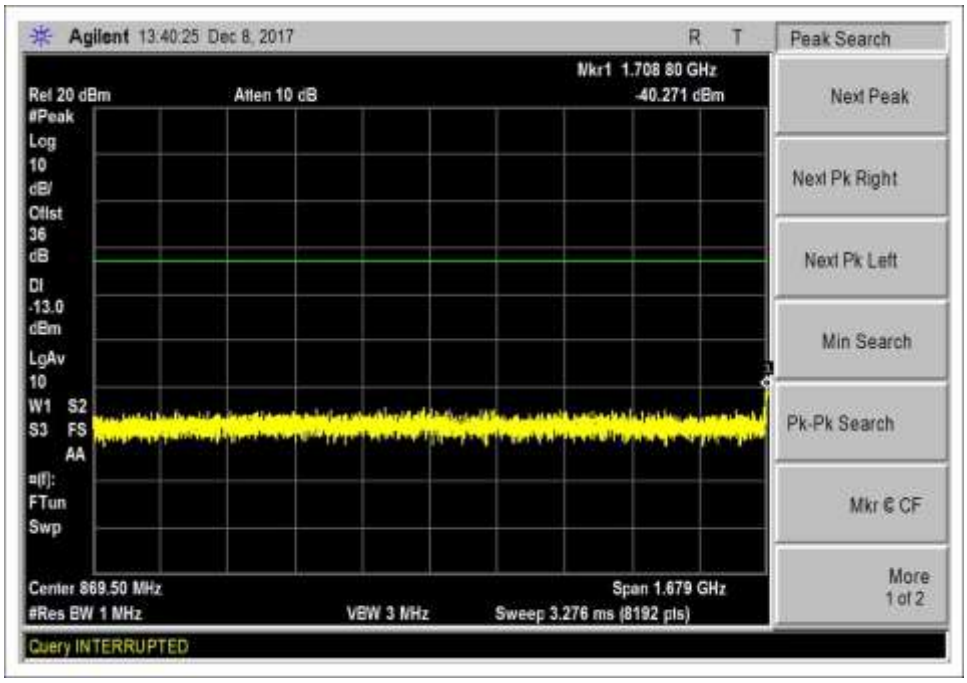
7.6 UL 1710-1755_8-12G



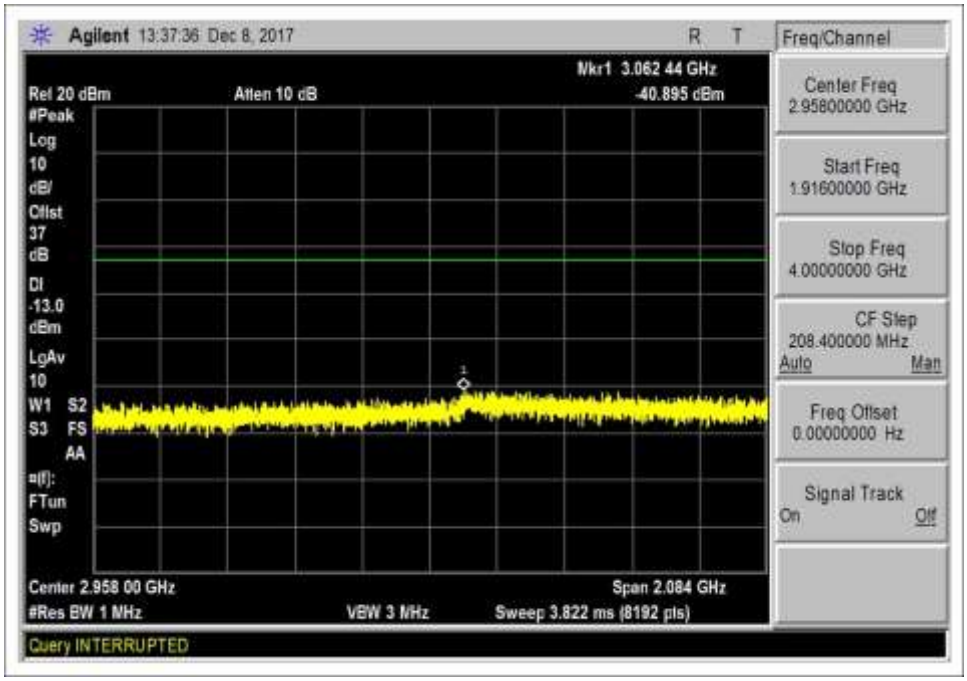
7.6 UL 1710-1755_12-16G



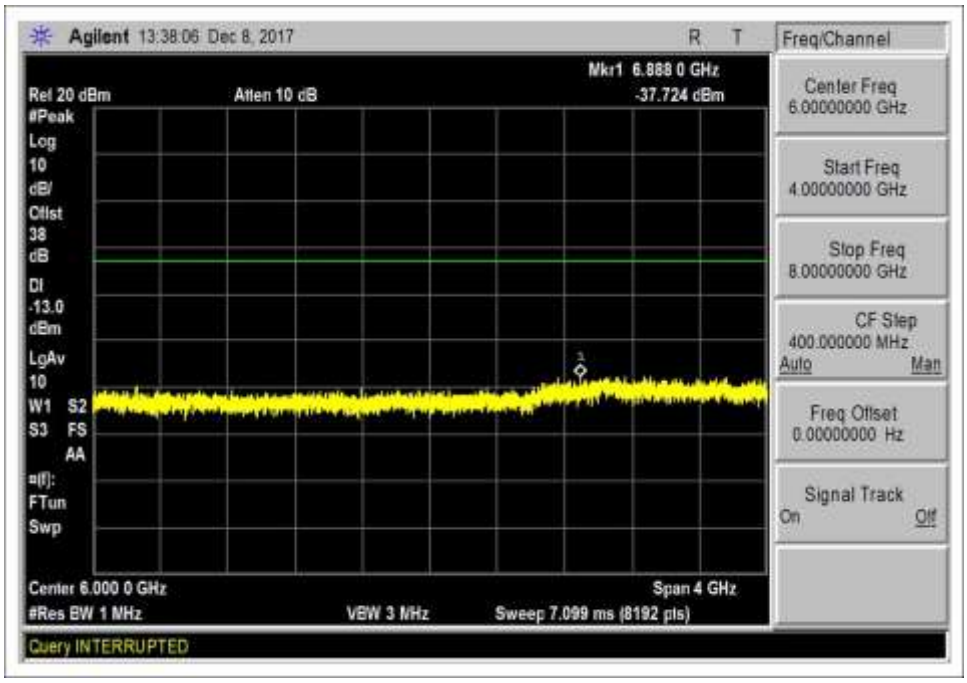
7.6 UL 1710-1755_16-20G



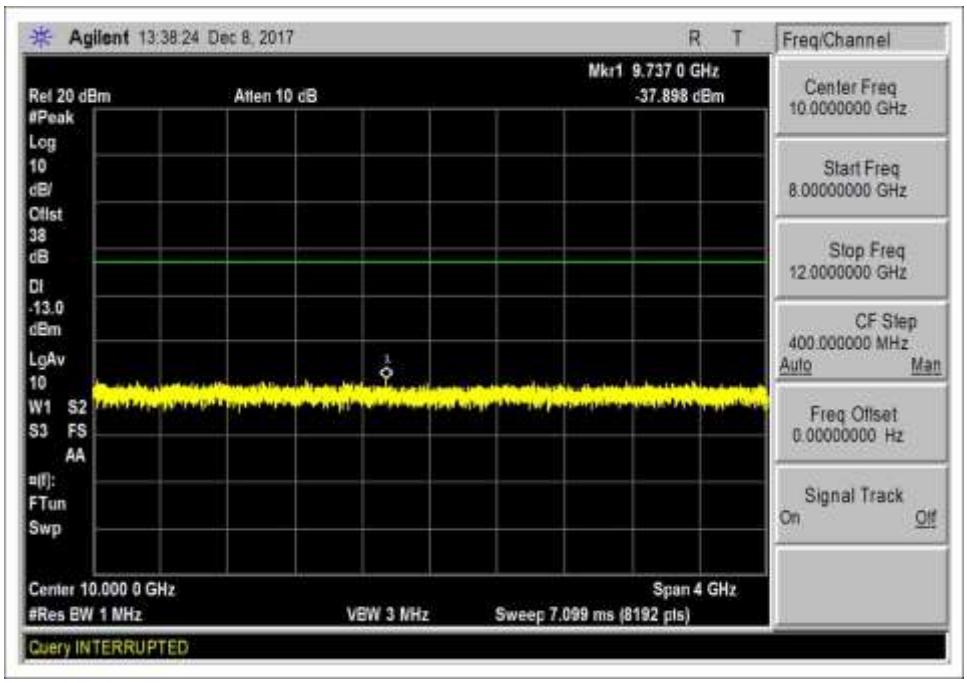
7.6 UL 1710-1755_30-1709M



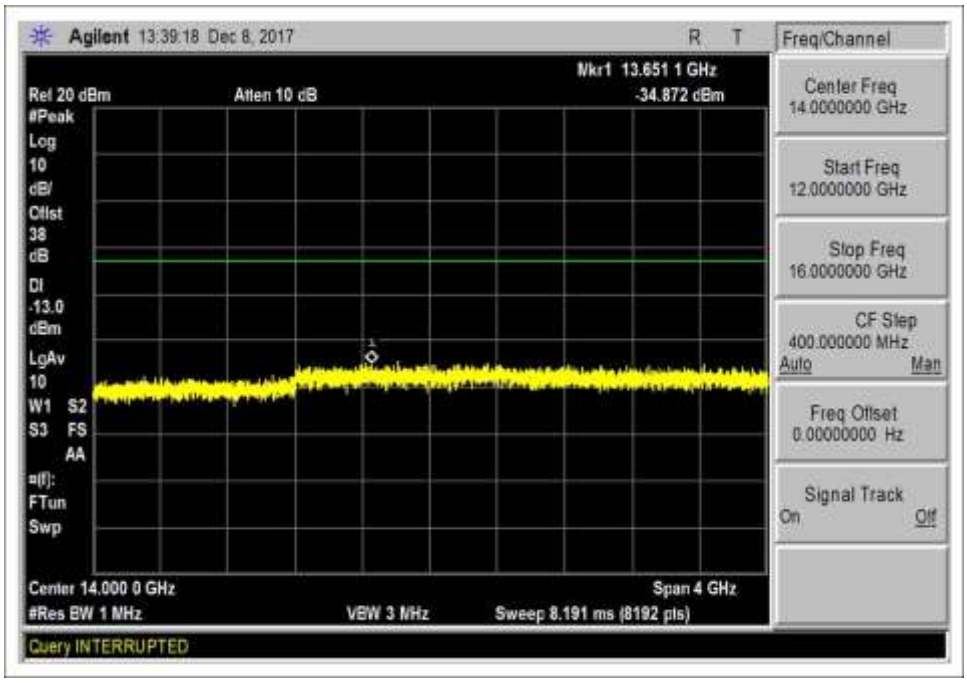
7.6 UL 1850-1915_1.916-4G



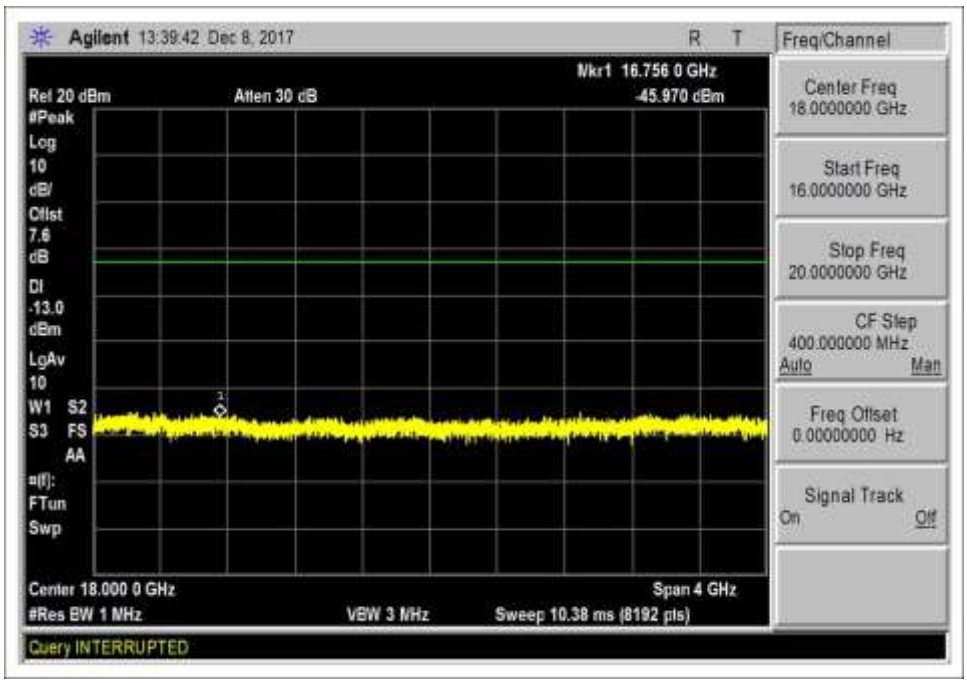
7.6 UL 1850-1915_4-8G



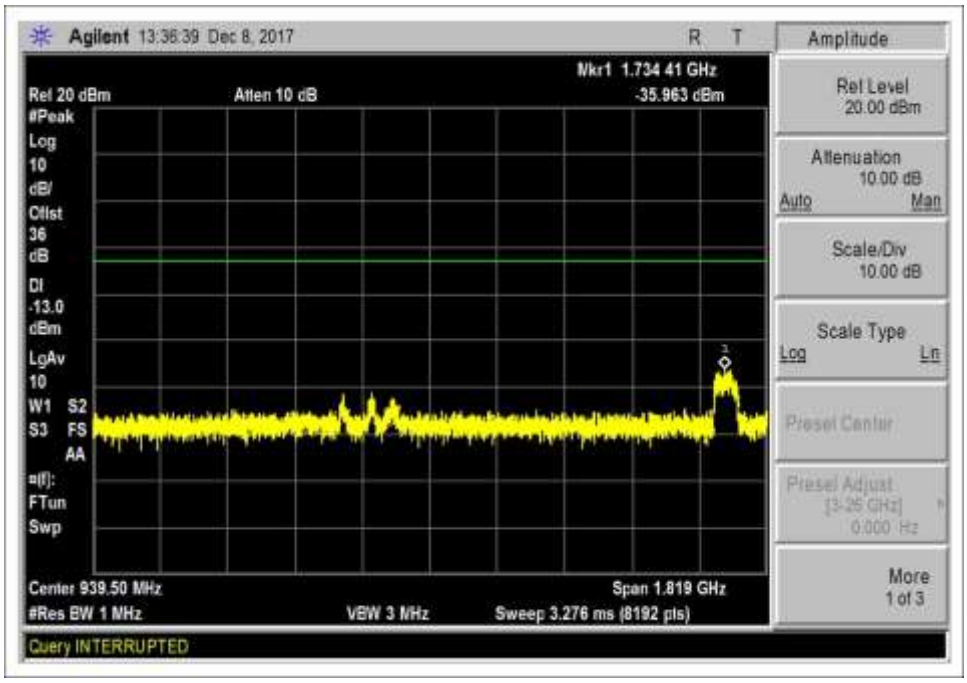
7.6 UL 1850-1915_8-12G



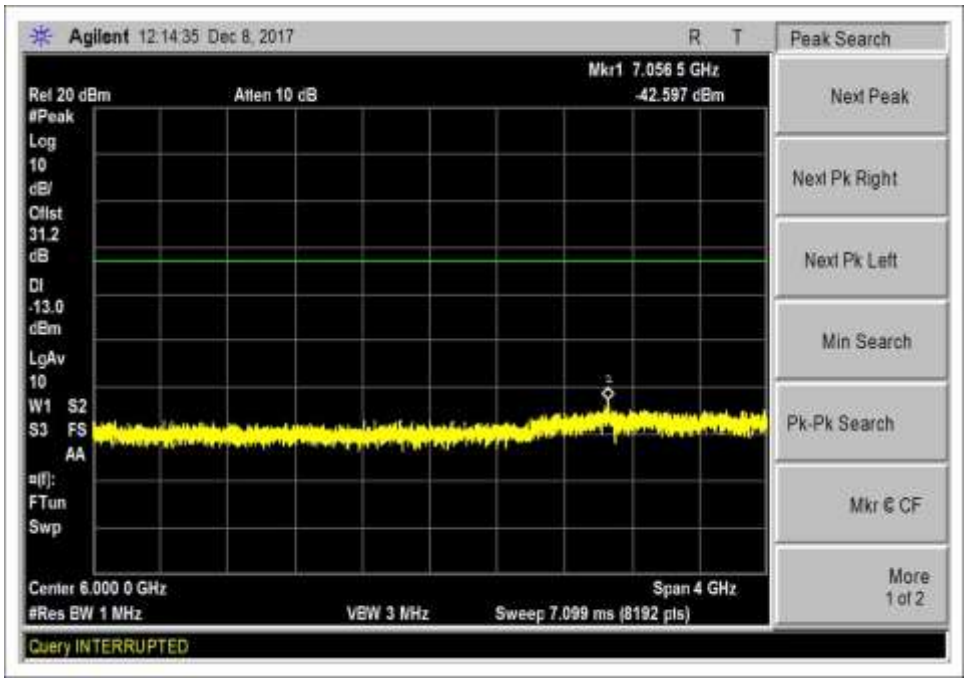
7.6 UL 1850-1915_12-16G



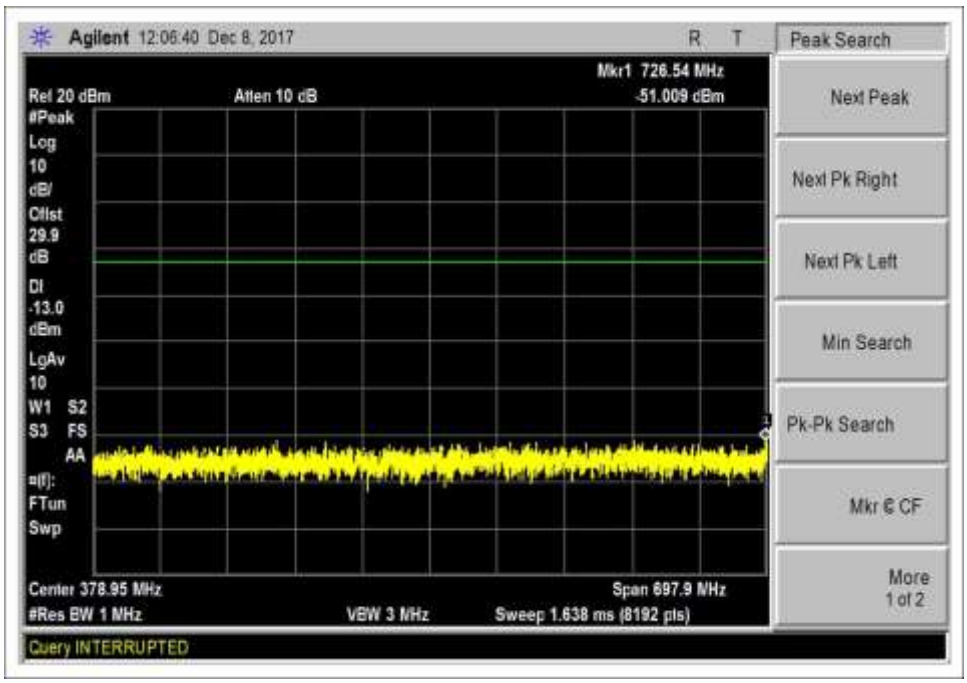
7.6 UL 1850-1915_16-20G



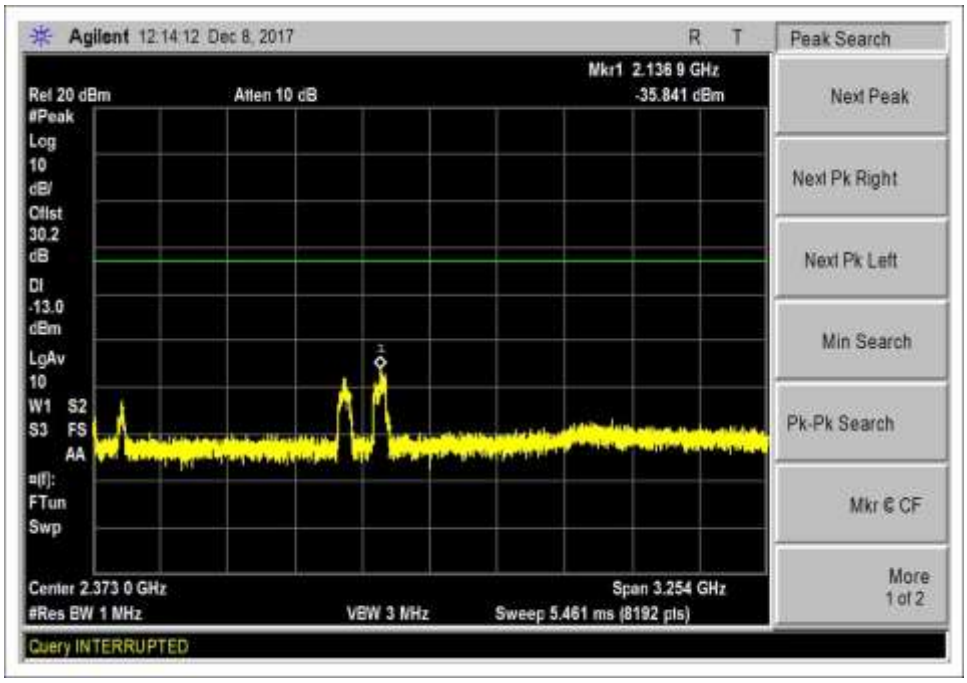
7.6 UL 1850-1915_30-1849M



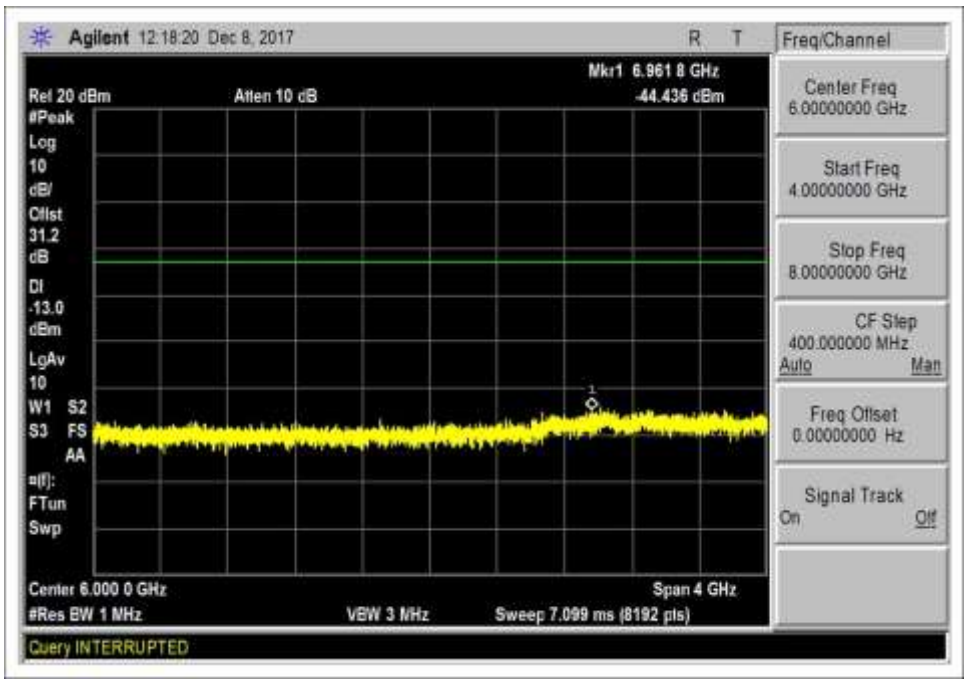
7.6 DL 728-746_4-8G



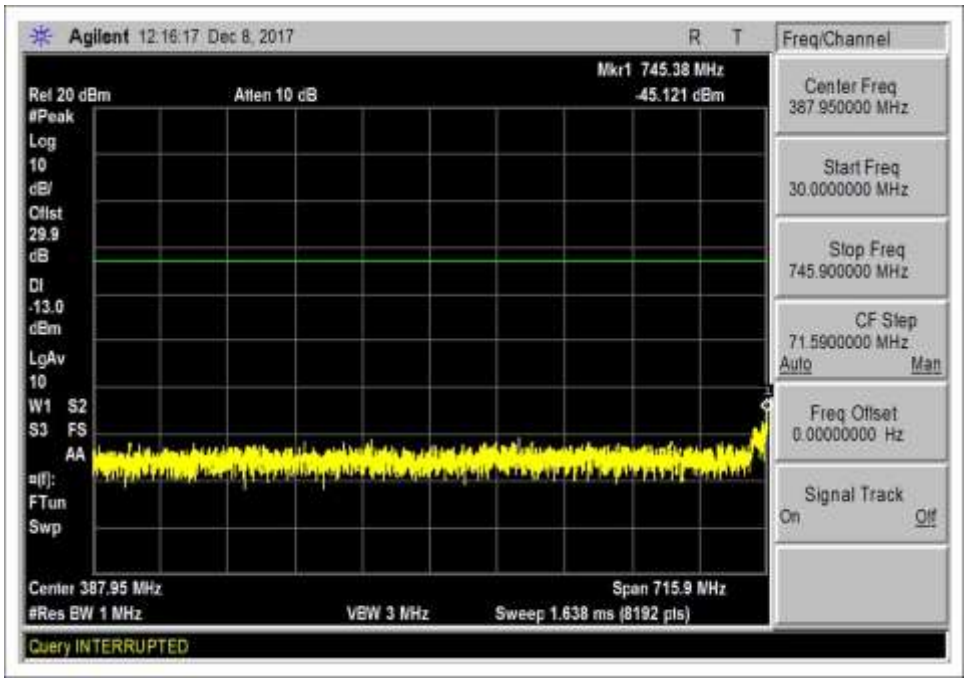
7.6 DL 728-746_30-727.9M



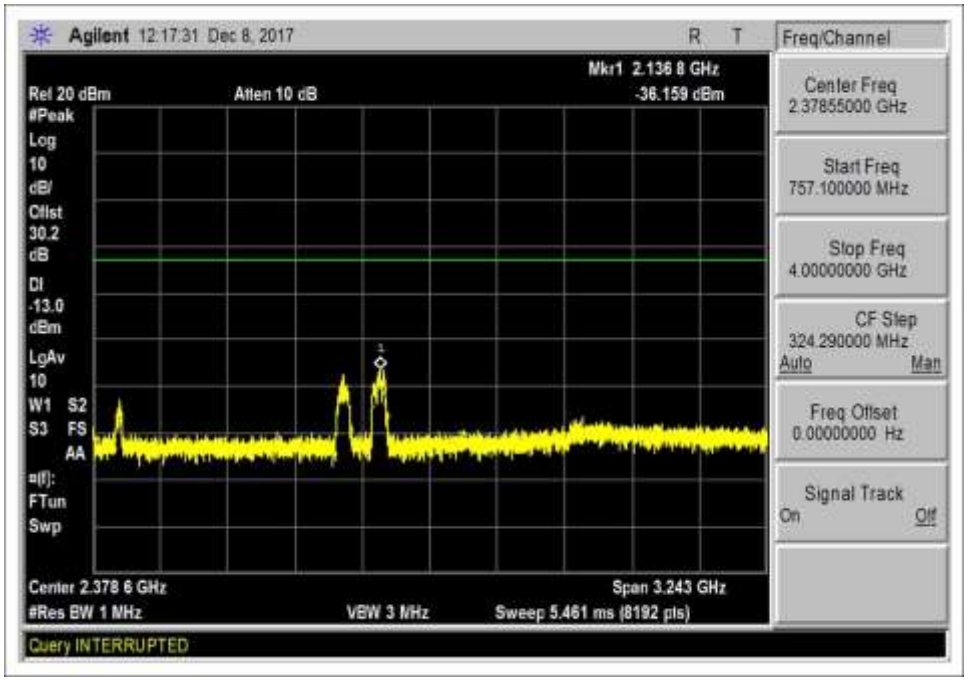
7.6 DL 728-746_746.1-4000M



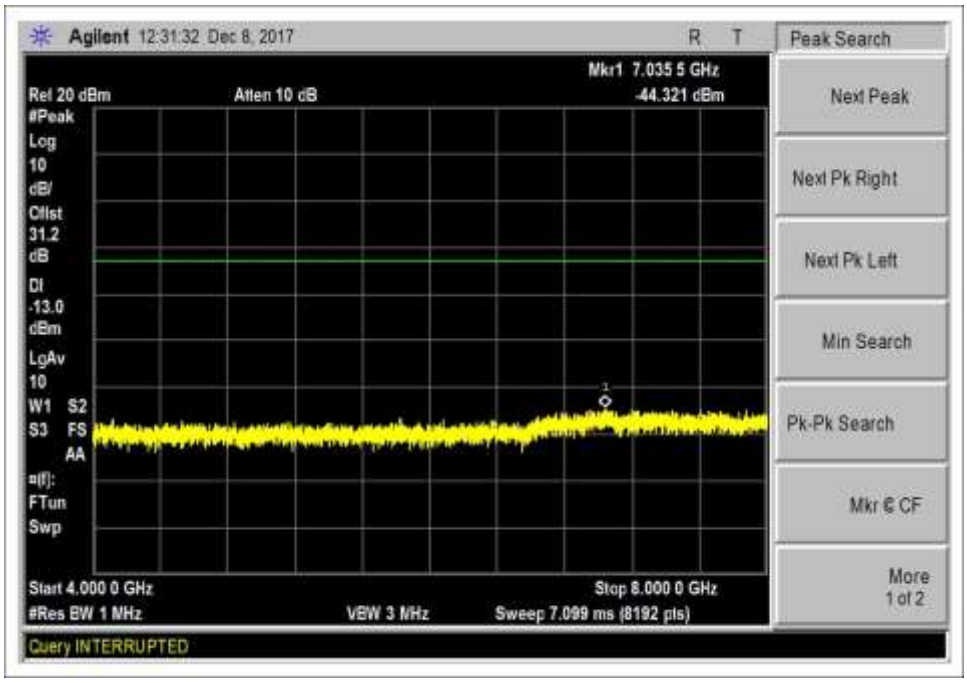
7.6 DL 746-757_4-8G



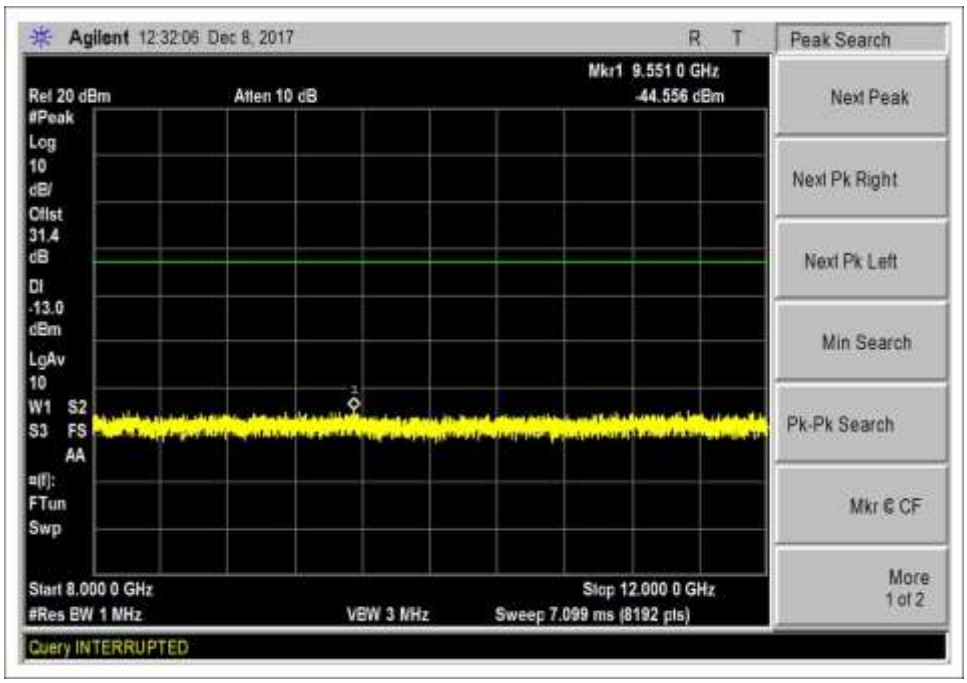
7.6 DL 746-757_30-745.9M



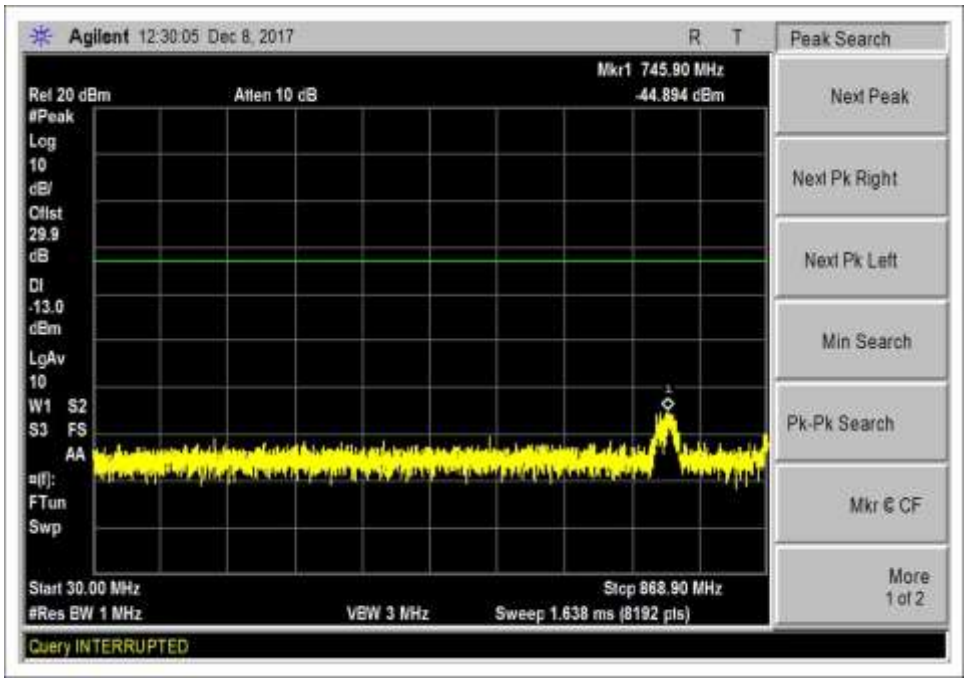
7.6 DL 746-757_757.1-4000M



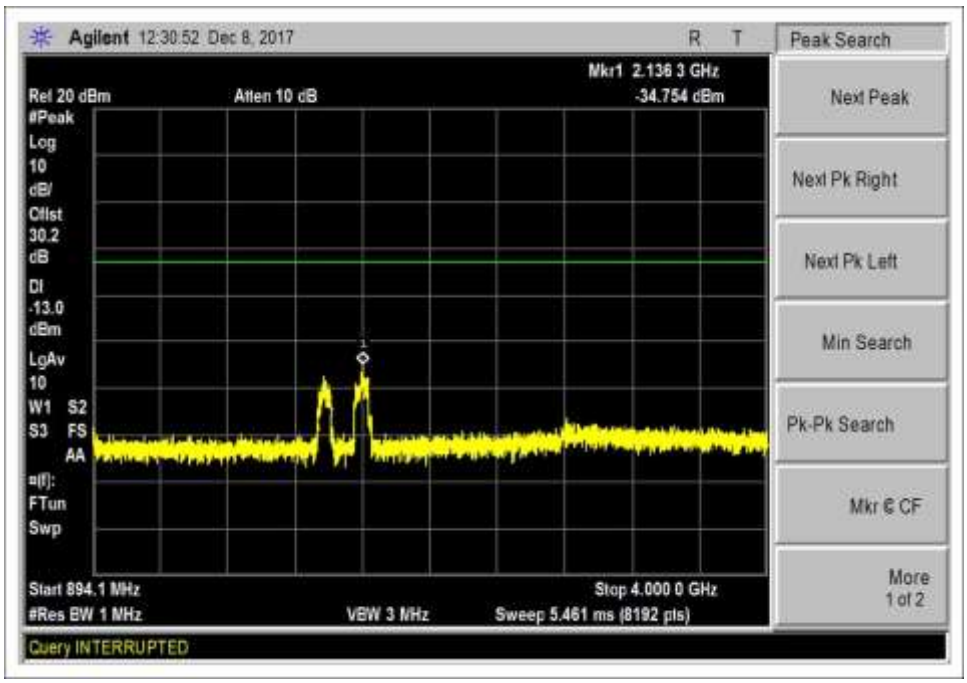
7.6 DL 869-894_4-8G



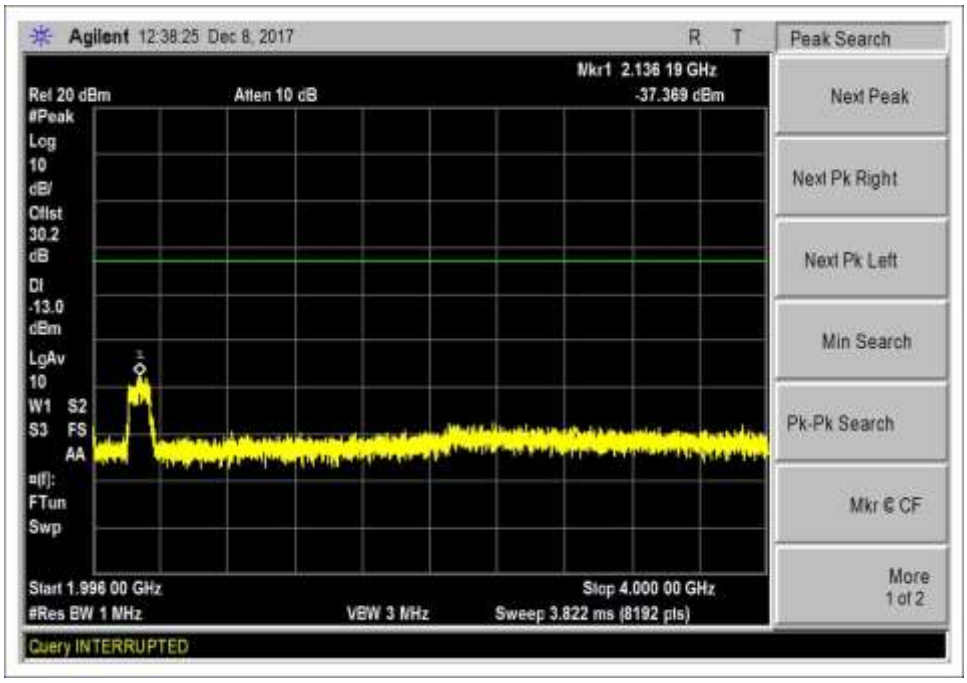
7.6 DL 869-894_8-12G



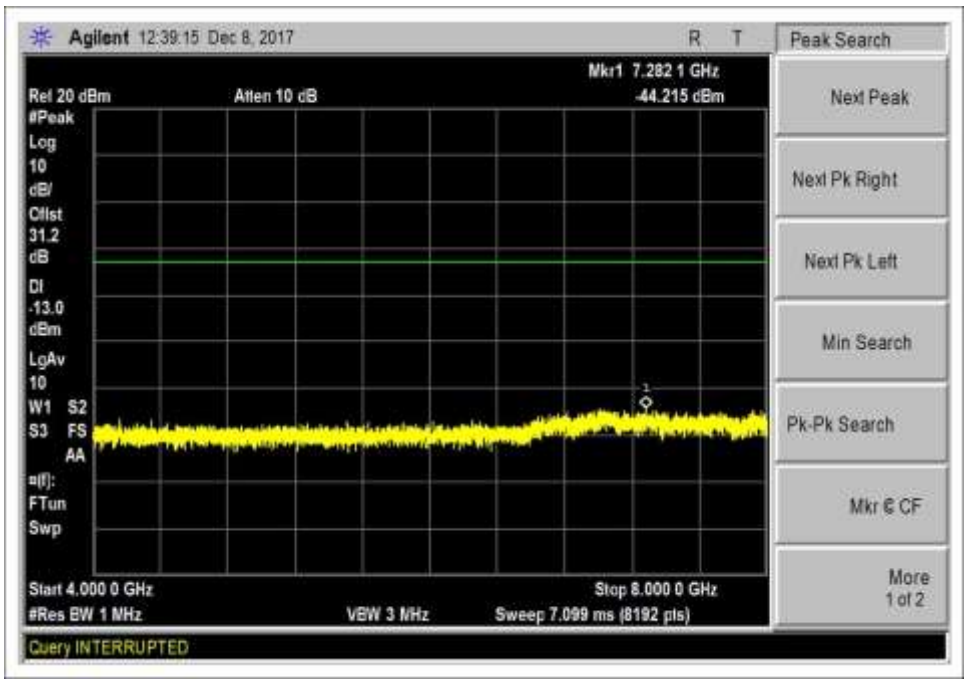
7.6 DL 869-894_30-868.9M



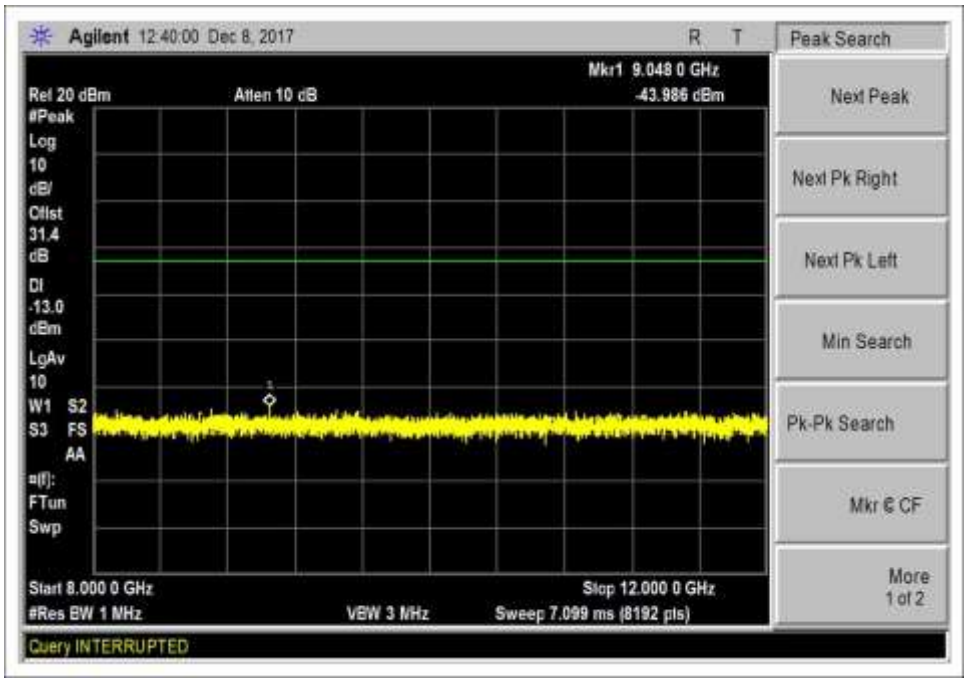
7.6 DL 869-894_894-4000M



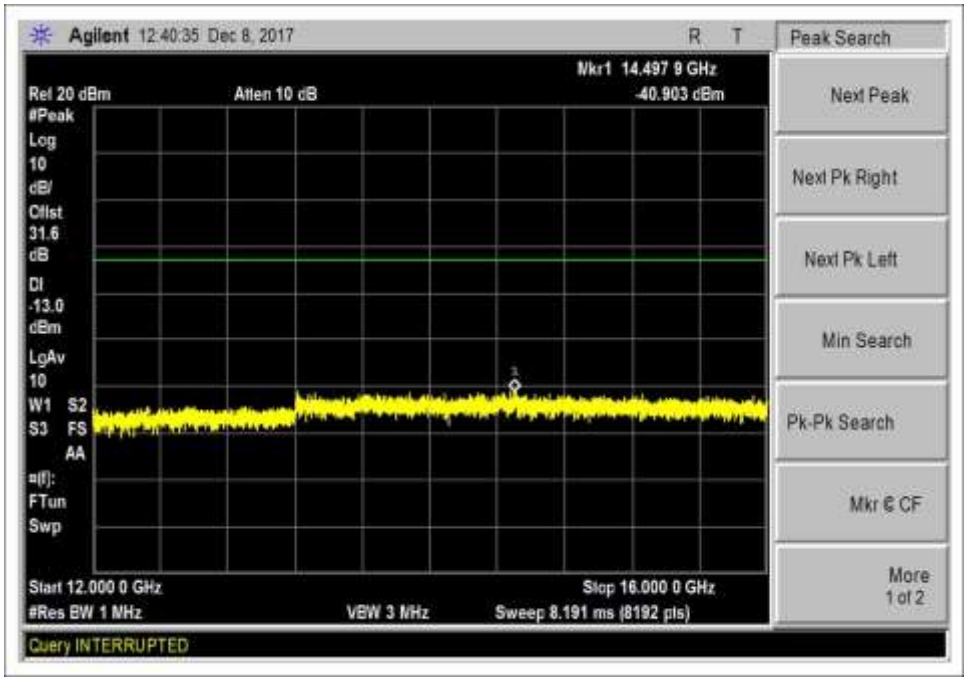
7.6 DL 1930-1995_1.996-4G



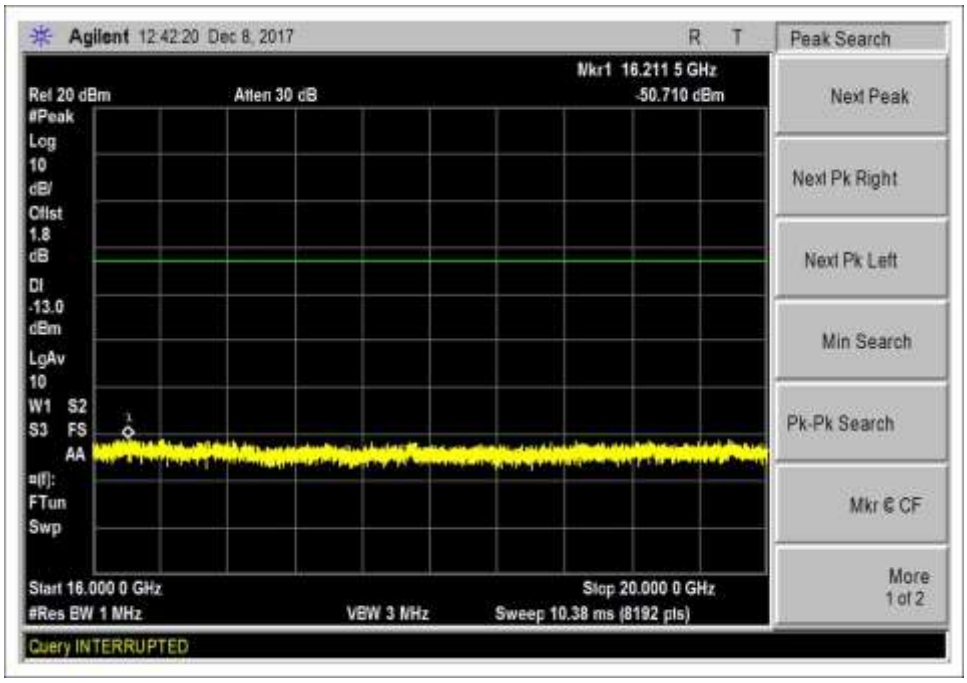
7.6 DL 1930-1995_4-8G



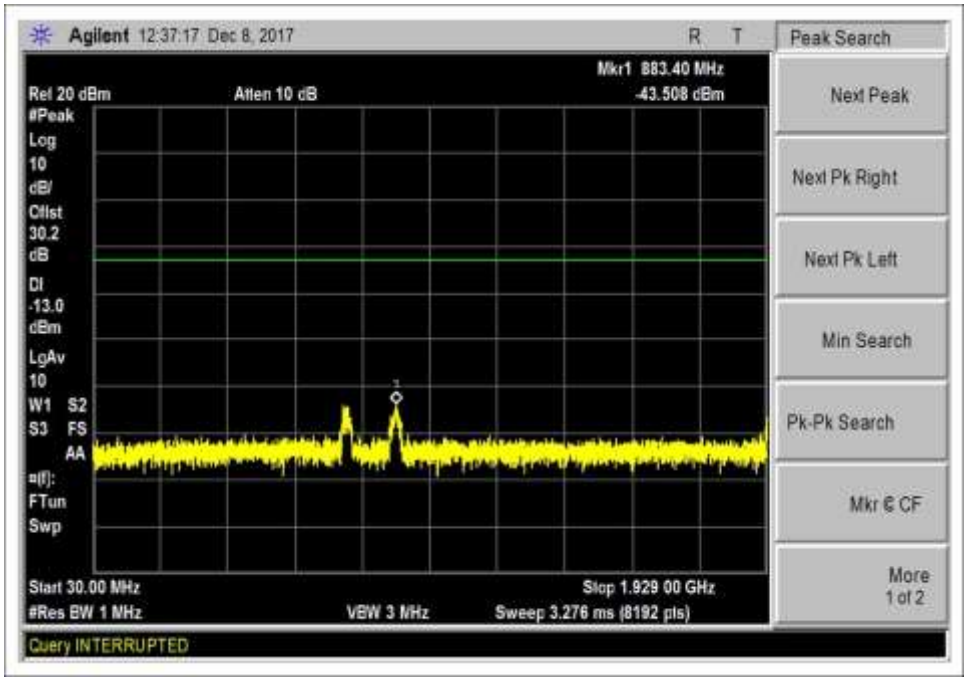
7.6 DL 1930-1995_8-12G



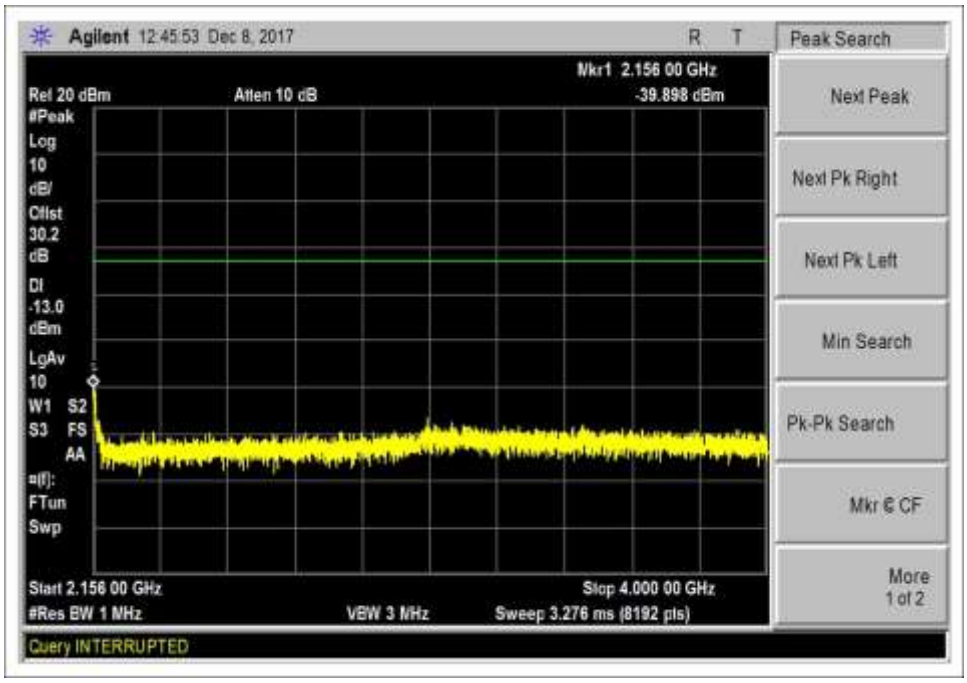
7.6 DL 1930-1995_12-16G



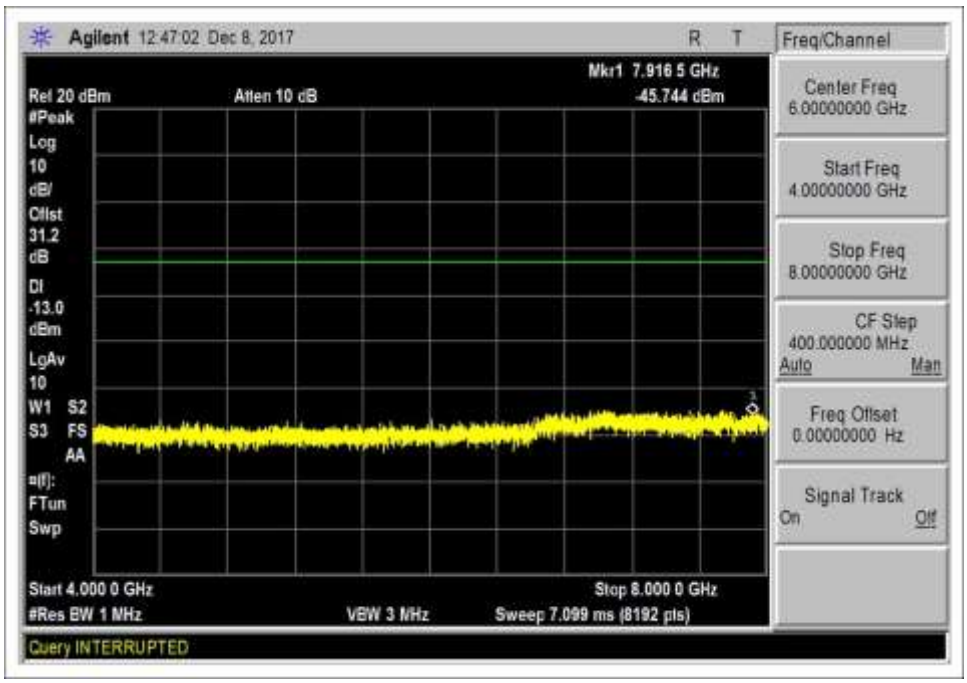
7.6 DL 1930-1995_16-20G



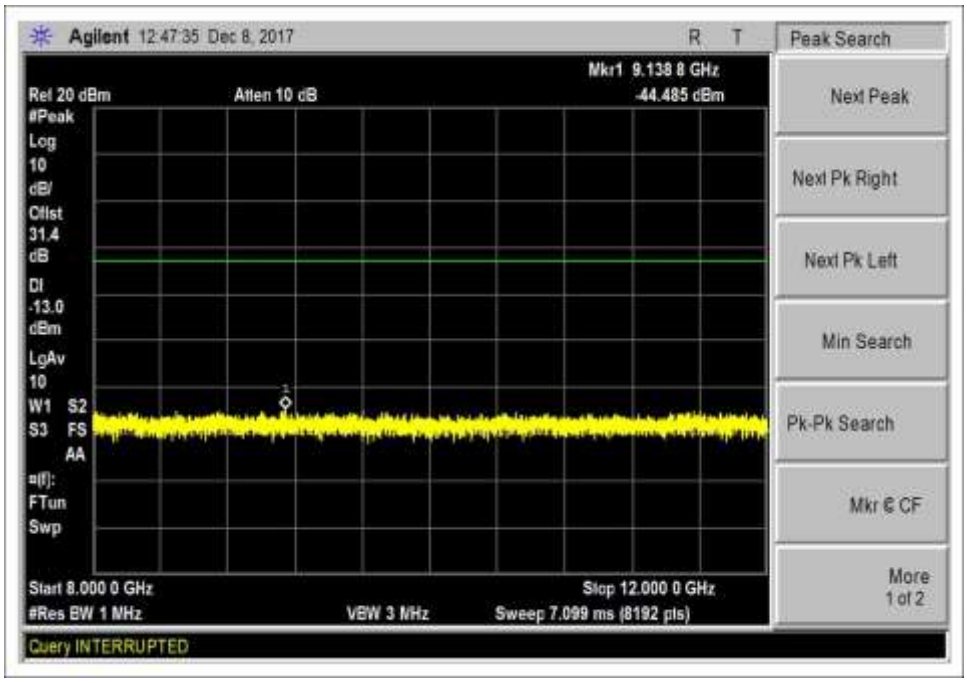
7.6 DL 1930-1995_30-1929M



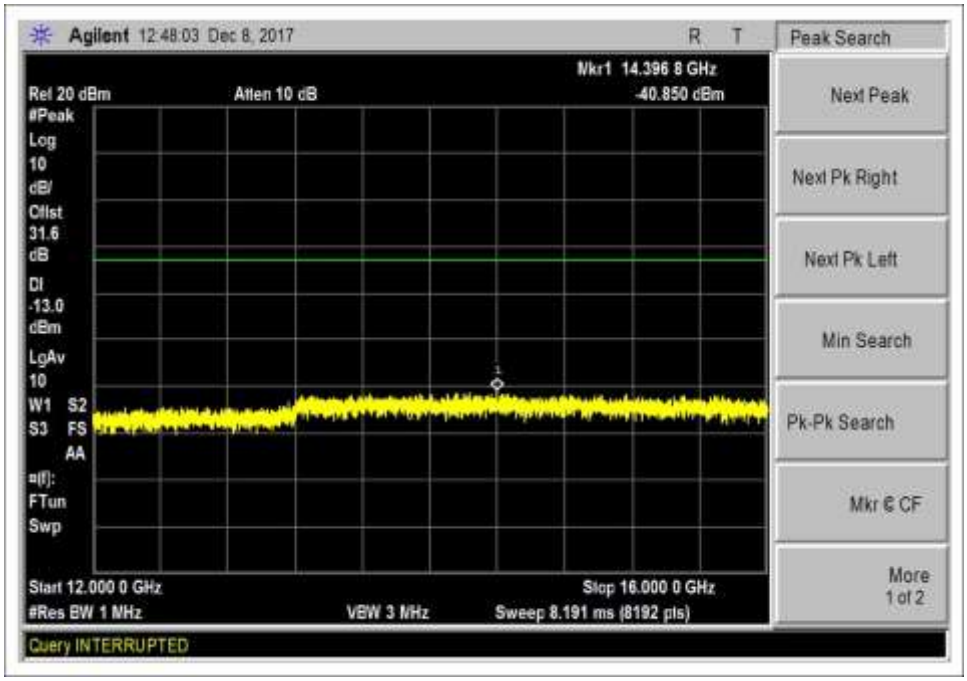
7.6 DL 2110-2155_2.156-4G



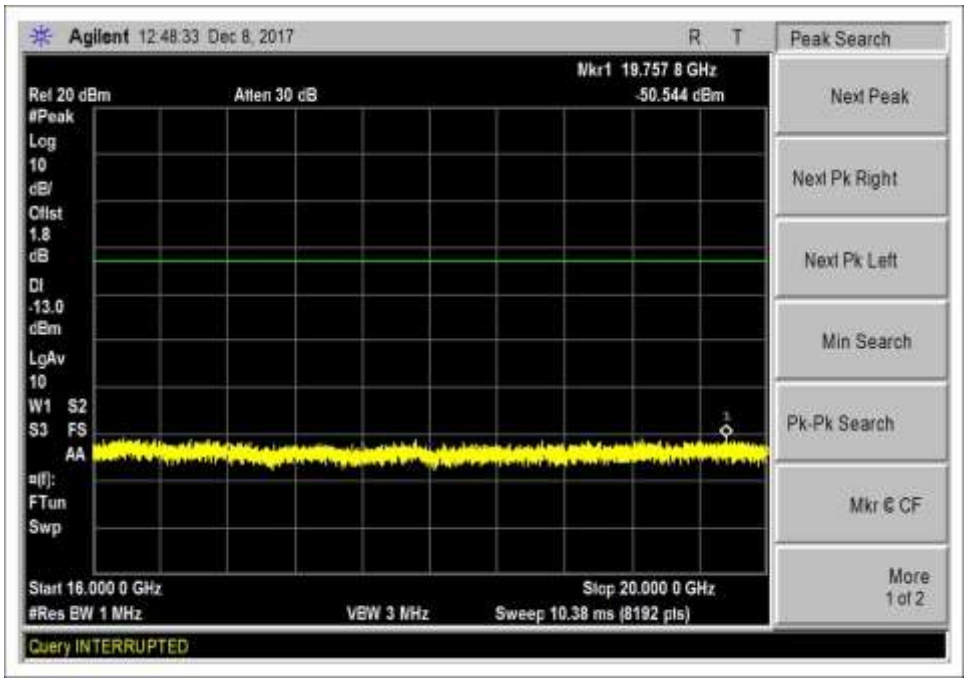
7.6 DL 2110-2155_4-8G



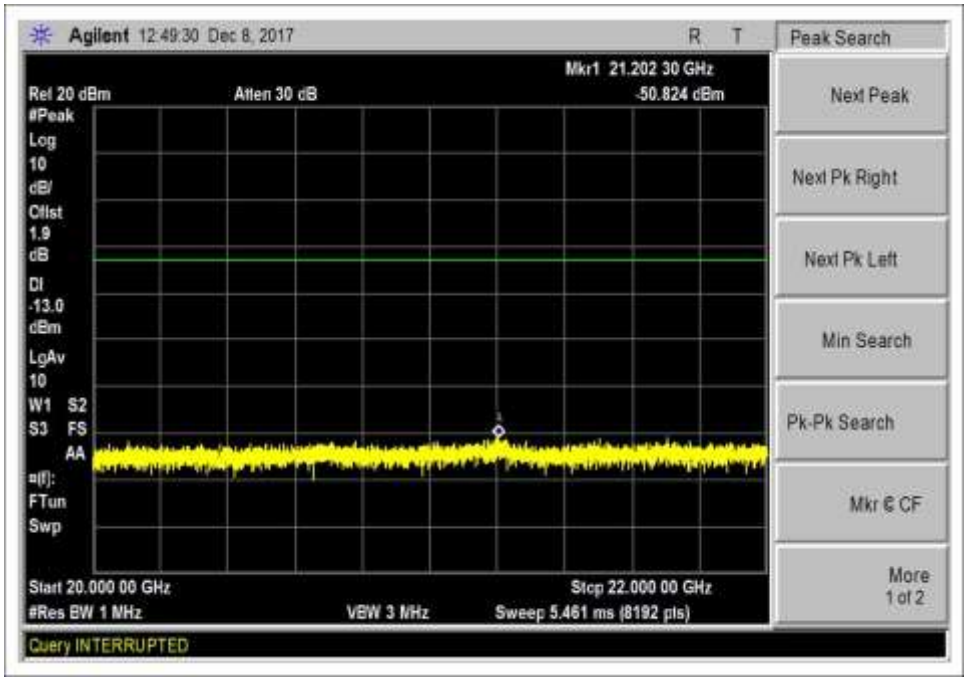
7.6 DL 2110-2155_8-12G



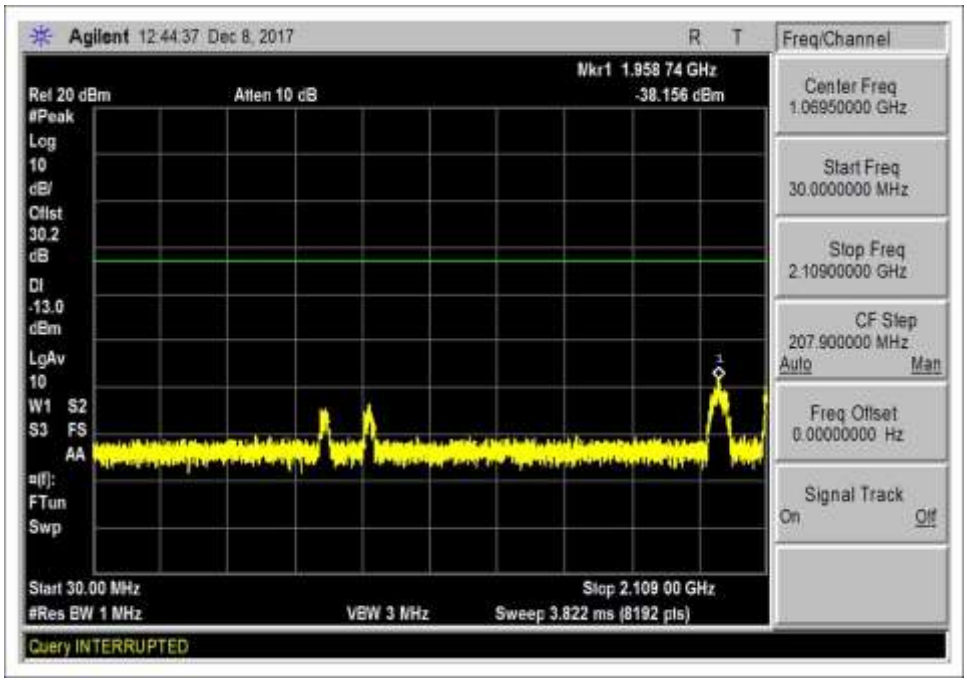
7.6 DL 2110-2155_12-16G



7.6 DL 2110-2155_16-20G



7.6 DL 2110-2155_20-22G



7.6 DL 2110-2155_30-2109M

7.7 Noise limit

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 110 N. Olinda Pl, Brea, CA 92823 • 714 993-6112
Customer:	Cellphone-Mate, Inc.
Specification:	**7.7 Noise Limit (Maximum Transmitter Noise Power Level / Variable UL Noise Timing)**
Work Order #:	**100654** Date: 12/08/17
Test Type:	**Conducted Emissions**
Tested By:	**Don Nguyen**
Software:	EMITest 5.03.11

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed Wideband Consumer Booster.
The EUT is placed on the test bench. Evaluation performed at the Outside (Donor) and Inside (Server) antenna port.
The EUT Server port is a type N connector and 50-ohm impedance.
The EUT Donor port is type F connector and 75-ohm impedance.

Part 22
UL: 824-849MHz
DL: 869-894MHz
Part 24
UL: 1850-1915MHz
DL: 1930-1995MHz
Part 27
UL: 1710-1755MHz, 698-716MHz, 776-787MHz
DL: 2110-2155MHz, 728-746MHz, 746-757MHz

Test procedure:
The test was performed in accordance with section 7.7 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04r01 Dated October 27, 2017

Test environment conditions:
Temperature: 22°C, 31% relative humidity, 101.5 kPa

Test Equipment:

Asset #	Description	Manufacturer	Model	Calibration Date	Cal Due Date
P07037	Signal Generator	Agilent	E4432B	10/6/2016	10/6/2018
P06958	Attenuator	Pasternack	PE7083	2/5/2016	2/5/2018
P06554	Cable	Astrolab	32022-29094K-29094K-24TC	12/30/2015	12/30/2017
P06662	Cable	Gore	PHASEFLEX EJR01N01024.0	4/5/2016	4/5/2018
02869	Spectrum Analyzer	Agilent	E4440A	8/1/2017	8/1/2018
C00082	Directional Coupler	MECA Electronics, Inc.	722-10-1.500V	9/18/2017	9/18/2019
03432	Attenuator	Aeroflex/Weinschel	90-30-34	10/27/2017	10/27/2019

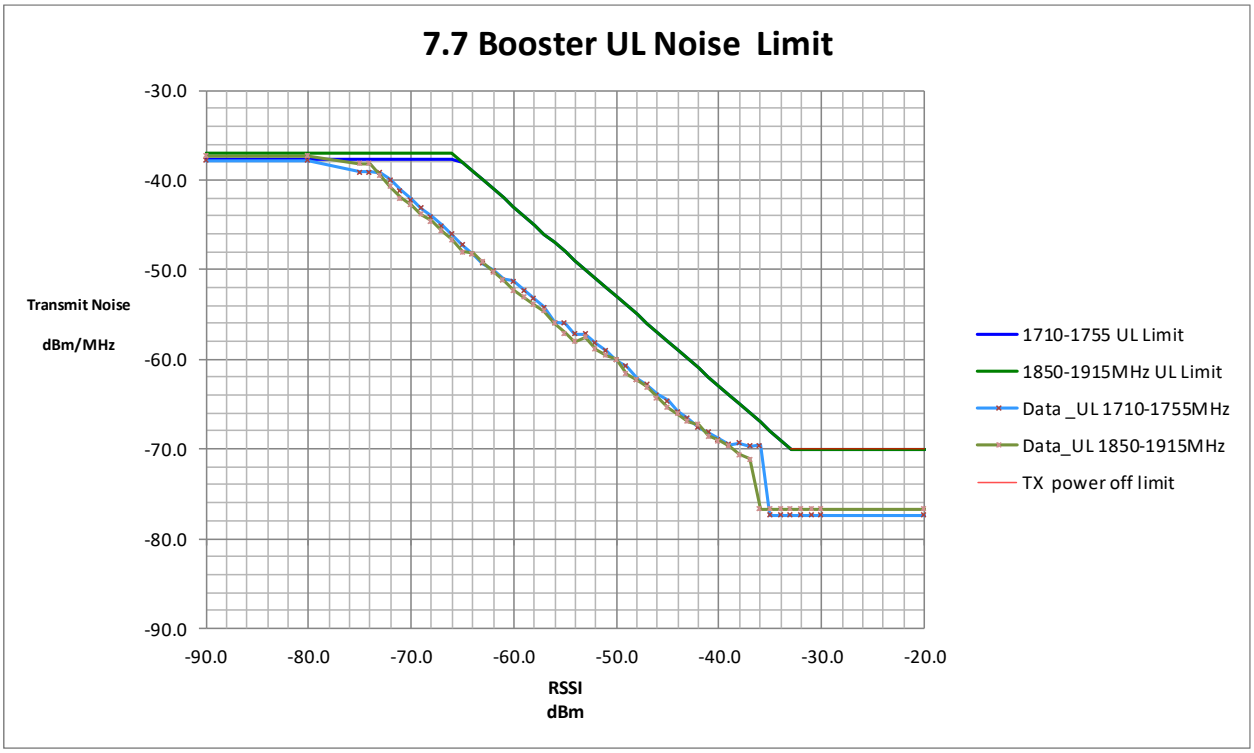
Summary of Results

7.7.1 Maximum transmitter noise power level

- 7.7.1 a-g: Maximum transmitter noise with 50-ohm shielded load

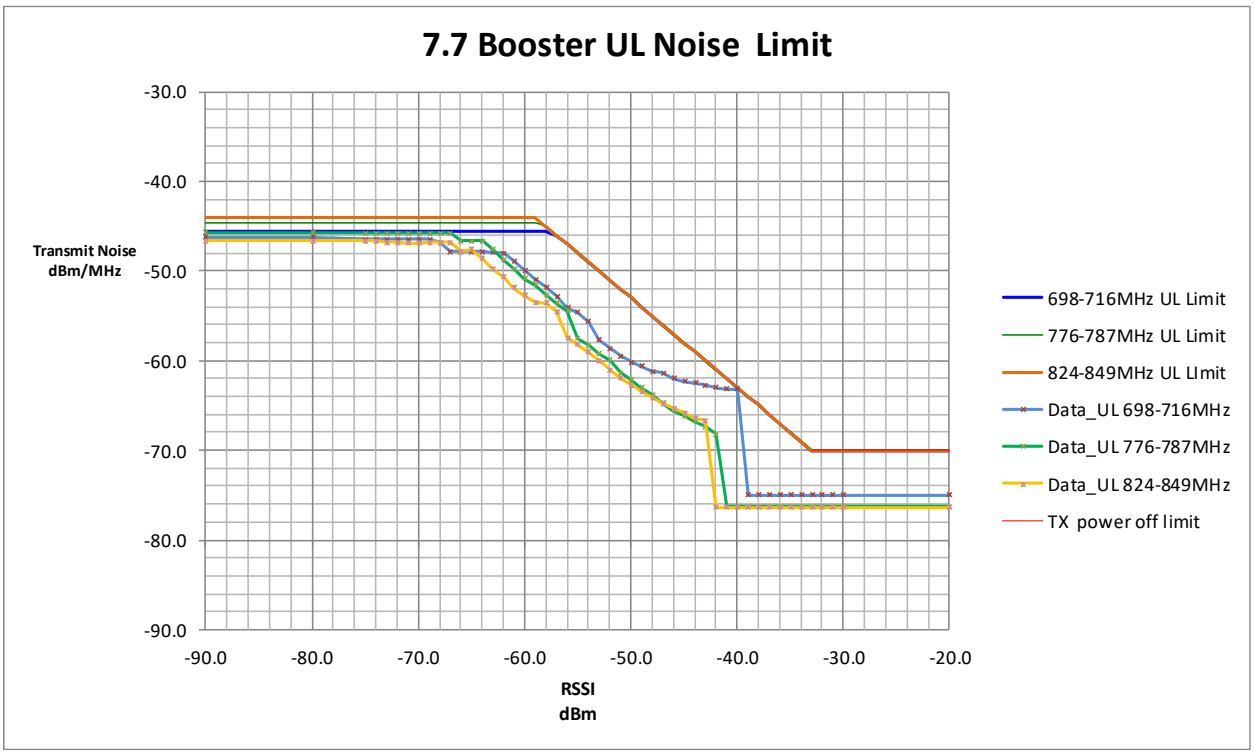
Maximum Noise Power			
Frequency	**Measured**	**Limit**	**Margin**
MHz	**dBm./MHz**	**dBm/MHz**	
UL 1710-1755	-37.76	-37.7	-0.06
UL 1850-1915	-37.14	-37.0	-0.14
UL 824-849	-46.65	-44.1	-2.55
UL 698-716	-46.16	-45.5	-0.66
UL 776-787	-44.98	-44.6	-0.38
DL 2110-2155	-38.30	-37.7	-0.60
DL 1930-1995	-39.30	-37.0	-2.30
DL 869-894	-44.41	-44.1	-0.31
DL 728-746	-47.43	-45.5	-1.93
DL 746-757	-46.70	-44.6	-2.10

- 7.7.1 h-n: Maximum transmitter noise when varying the DL signal generator output level with a 4.1MHz AWGN signal



1710.0	1755.0	MHz			
		Limit			Margin
RSSI	Measured	RSSI	Fixed Booster	TX off	
(dBm)	Noise (dBm/MHz)	Dependent	Limit		
-90.0	-37.8		-37.7		-0.1
-80.0	-37.8		-37.7		-0.1
-75.0	-39.1		-37.7		-1.4
-74.0	-39.1		-37.7		-1.4
-37.0	-69.7	-66.0			-3.7
-36.0	-69.6	-67.0			-2.6
-32.0	-77.4			-70	-7.4

1850.0	1915.0	MHz			
		Limit			Margin
RSSI	Measured	RSSI	Fixed Booster	TX off	
(dBm)	Noise (dBm/MHz)	Dependent	Limit		
-90.0	-37.3		-37.0		-0.3
-80.0	-37.3		-37.0		-0.3
-75.0	-38.2		-37.0		-1.2
-74.0	-38.2		-37.0		-1.2
-38.0	-70.6	-65.0			-5.6
-37.0	-71.1	-66.0			-5.1
-32.0	-76.7			-70	-6.7



824.0	849.0	MHz			
		Limit			Margin
RSSI	Measured	RSSI	Fixed Booster	TX off	
(dBm)	Noise (dBm/MHz)	Dependent	Limit	-	-
-90.0	-46.6	-	-41.1		-2.5
-80.0	-46.6	-	-	-	-2.5
-75.0	-46.6	-	-	-	-2.5
-74.0	-46.6	-	-	-	-2.5
-44.0	-66.4	-59.0	-	-	-7.4
-43.0	-66.7	-60.0	-	-	-6.7
-32.0	-76.4	-	-	-70	-6.4

698.0	716.0	MHz			
		Limit			Margin
RSSI	Measured	RSSI	Fixed Booster	TX off	
(dBm)	Noise (dBm/MHz)	Dependent	Limit	-	-
-90.0	-46.2	-	-45.5	-	-0.7
-80.0	-46.2	-	-45.5	-	-0.7
-75.0	-46.5	-	-45.5	-	-1.0
-74.0	-46.5	-	-45.5	-	-1.0
-41.0	-63.2	-62.0	-	-	-1.2
-40.0	-63.2	-63.0	-	-	-0.2
-39.0	-75.0	-	-	-70	-5.0

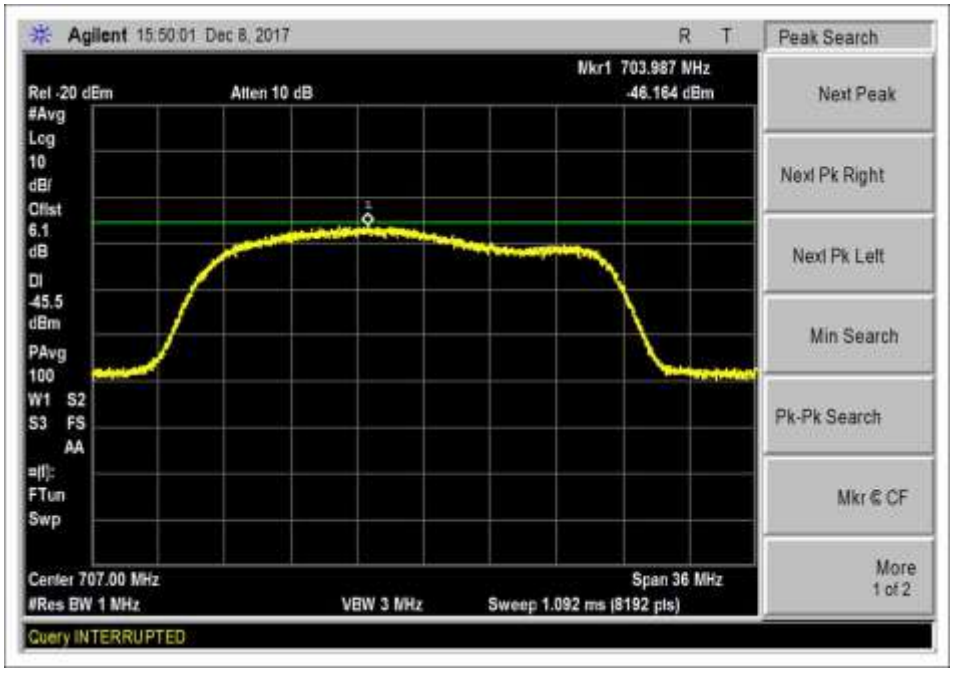
776.0	787.0	MHz			
		Limit			Margin
RSSI	Measured	RSSI	Fixed Booster	TX off	
(dBm)	Noise (dBm/MHz)	Dependent	Limit	-	-
-90.0	-45.7	-	-44.6	-	-1.1
-80.0	-45.7	-	-44.6	-	-1.1
-75.0	-45.8	-	-44.6	-	-1.2
-74.0	-45.7	-	-44.6	-	-1.2
-43.0	-67.4	-60.0	-	-	-7.4
-42.0	-68.2	-61.0	-	-	-7.2
-41.0	-76.3	-	-	-70	-6.3

7.7.2 Variable uplink noise timing

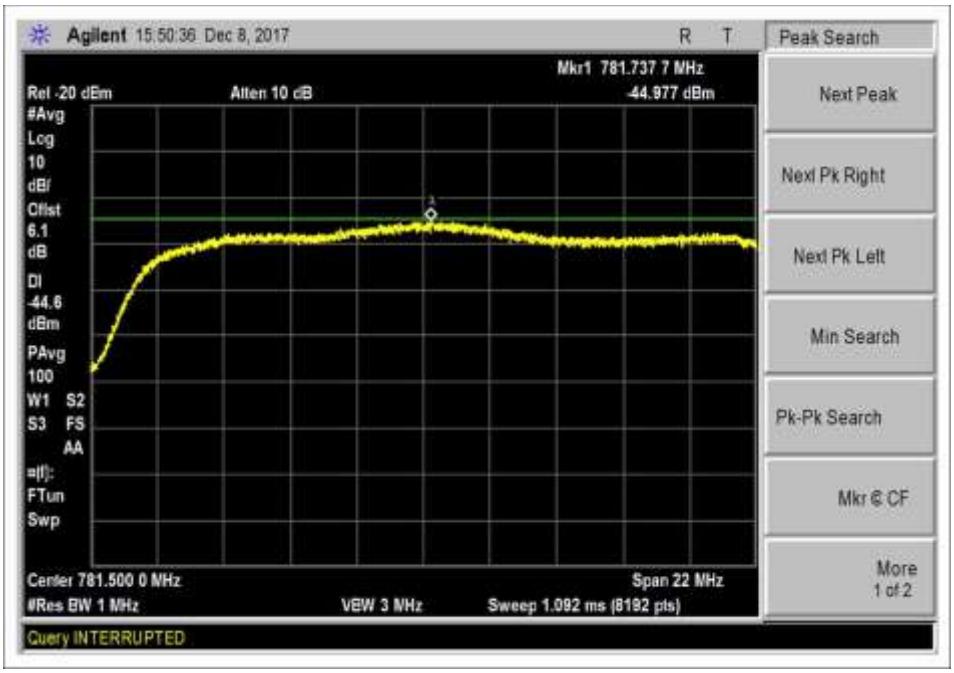
Uplink Noise timing		
Freq	Measured	Limit
MHz	Sec	sec
UL 1710-1755	0.5509	1
UL 1850-1915	0.5509	1
UL 824-849	0.2838	1
UL 698-716	0.4341	1
UL 776-787	0.4674	1

7.7.1 Maximum Transmitter Noise Power Level

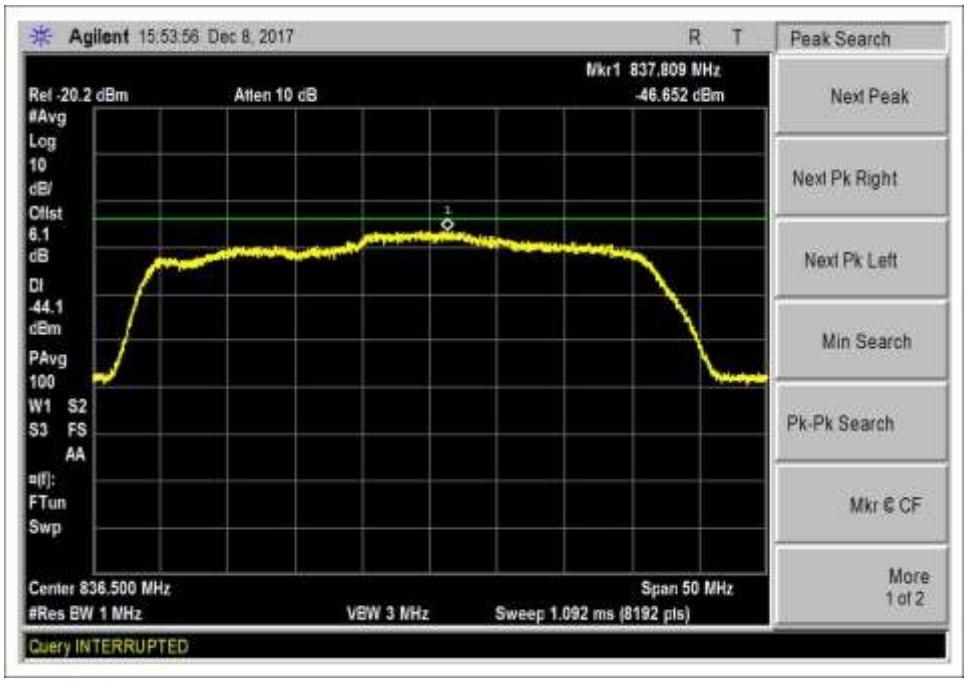
Plots



7.7.1 UL 698-716

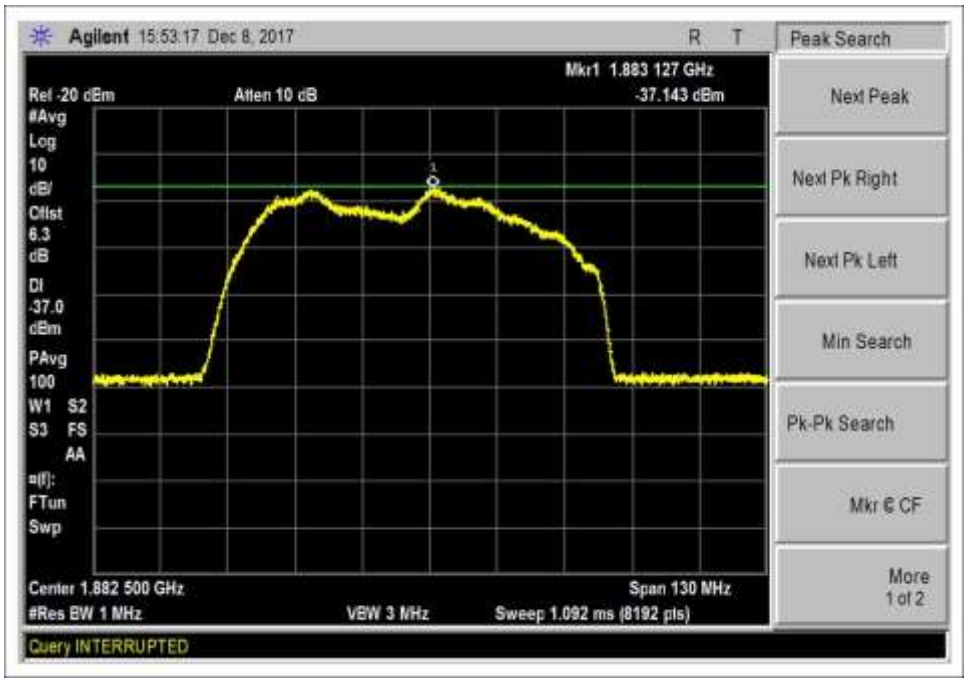


7.7.1 UL 776-787

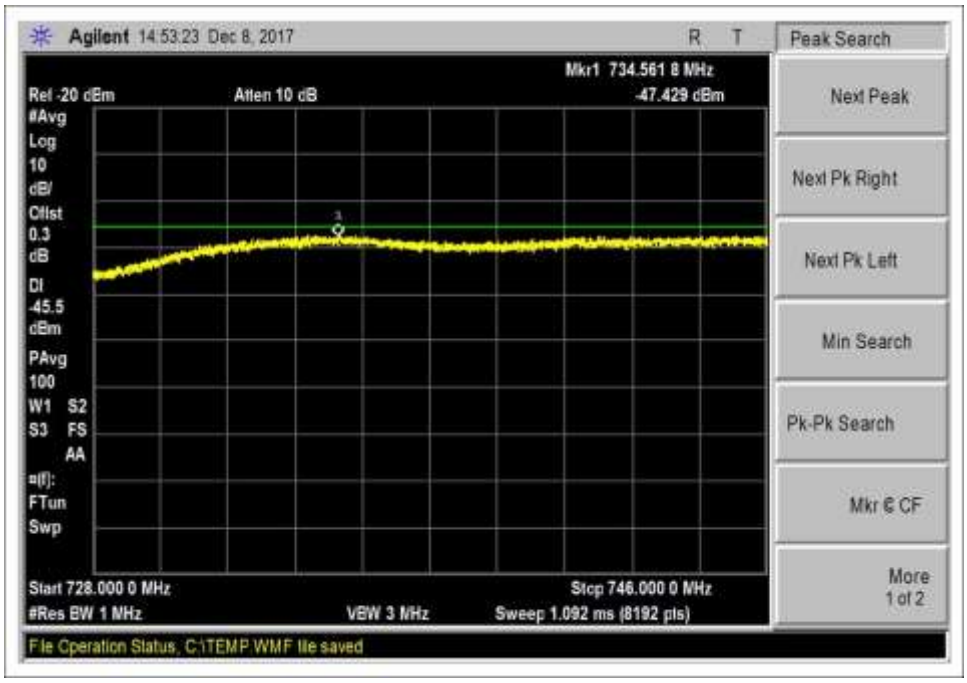


7.7.1 UL 824-849

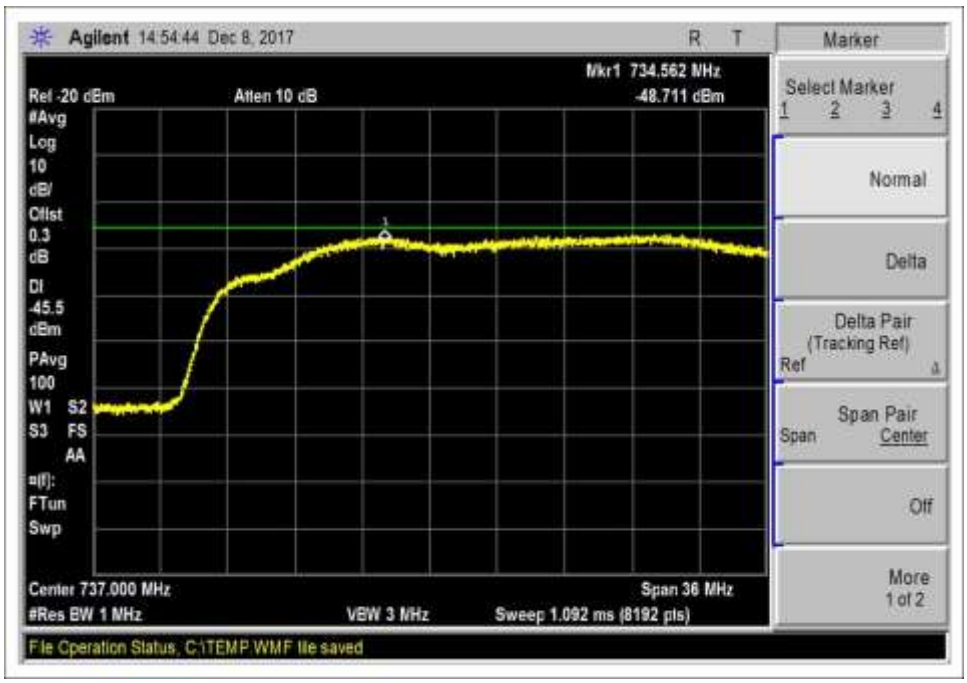
7.7.1 UL 1710-1755



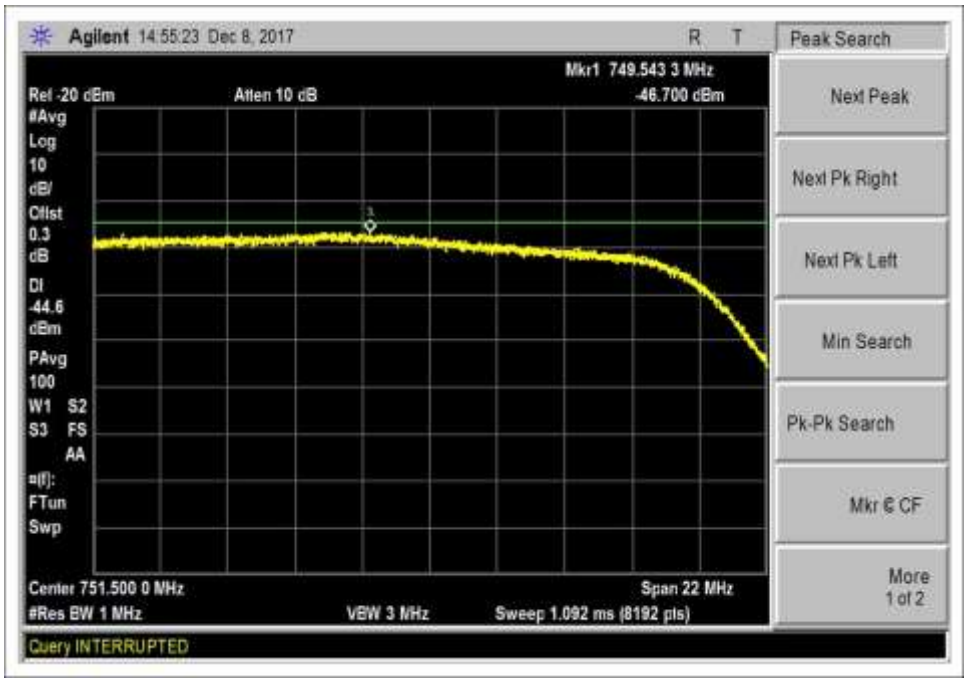
7.7.1 UL 1850-1915



7.7.1 DL 728-746 zoom

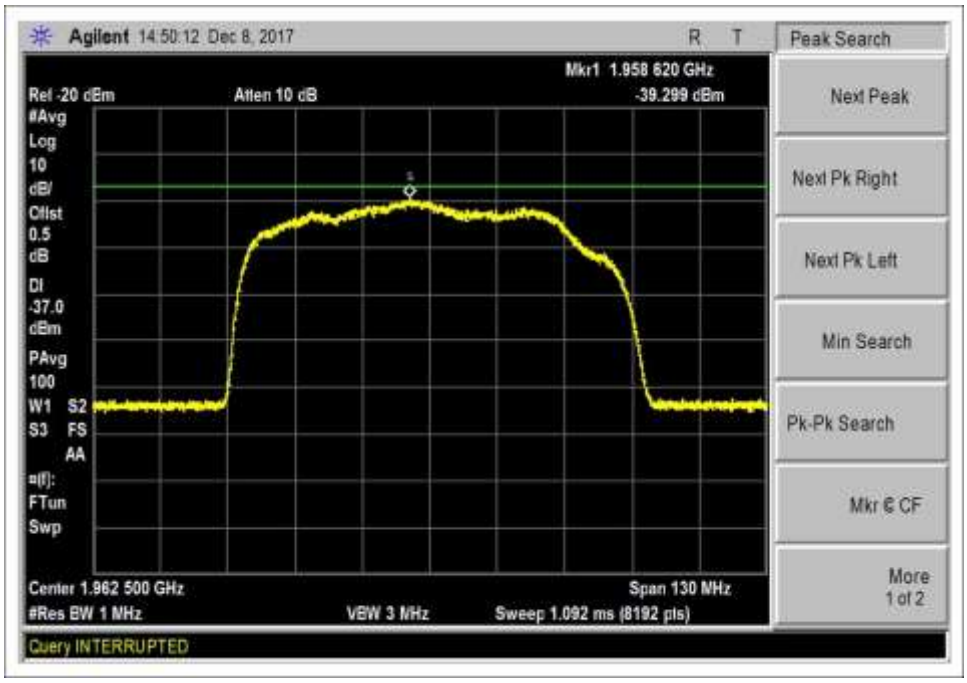


7.7.1 DL 728-746

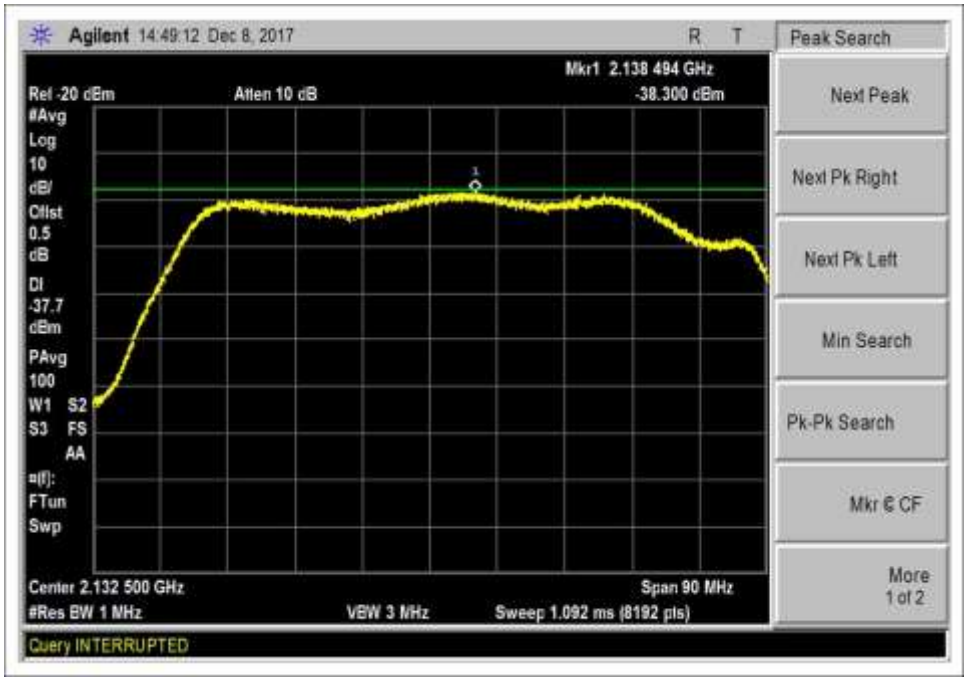


7.7.1 DL 746-757

7.7.1 DL 869-894



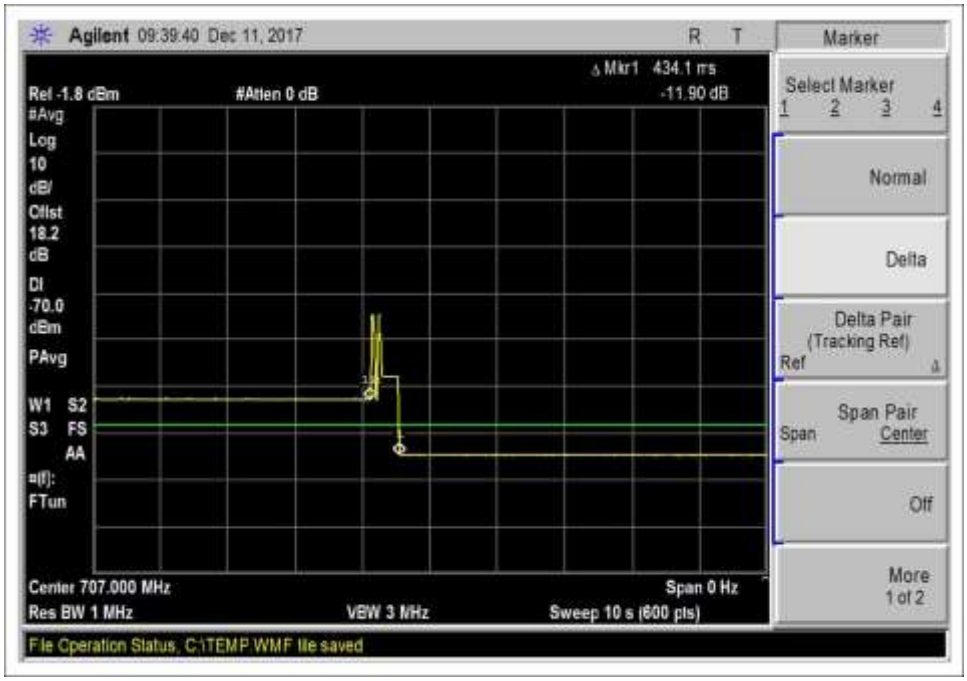
7.7.1 DL 1930-1995



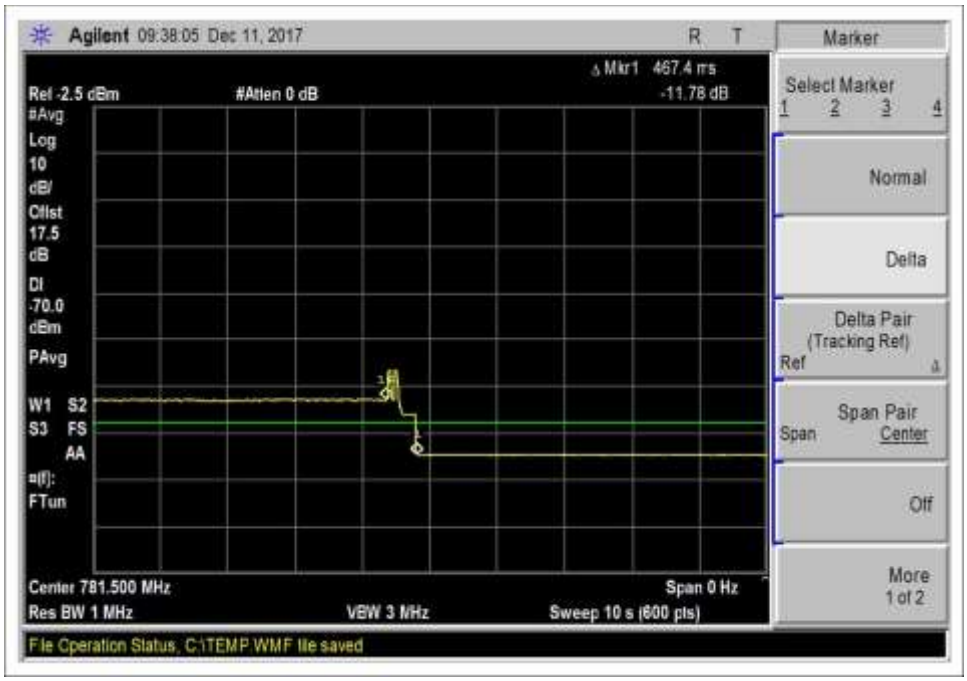
7.7.1 DL 2110-2155

7.7.2 Variable UL Noise Timing

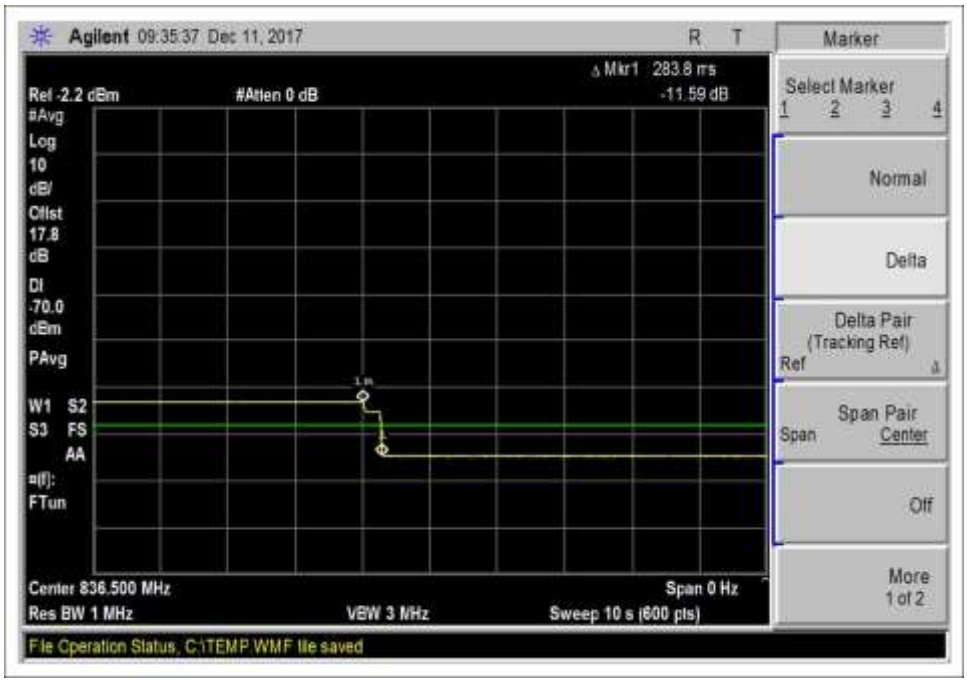
Plots



7.7.2 UL 698-716

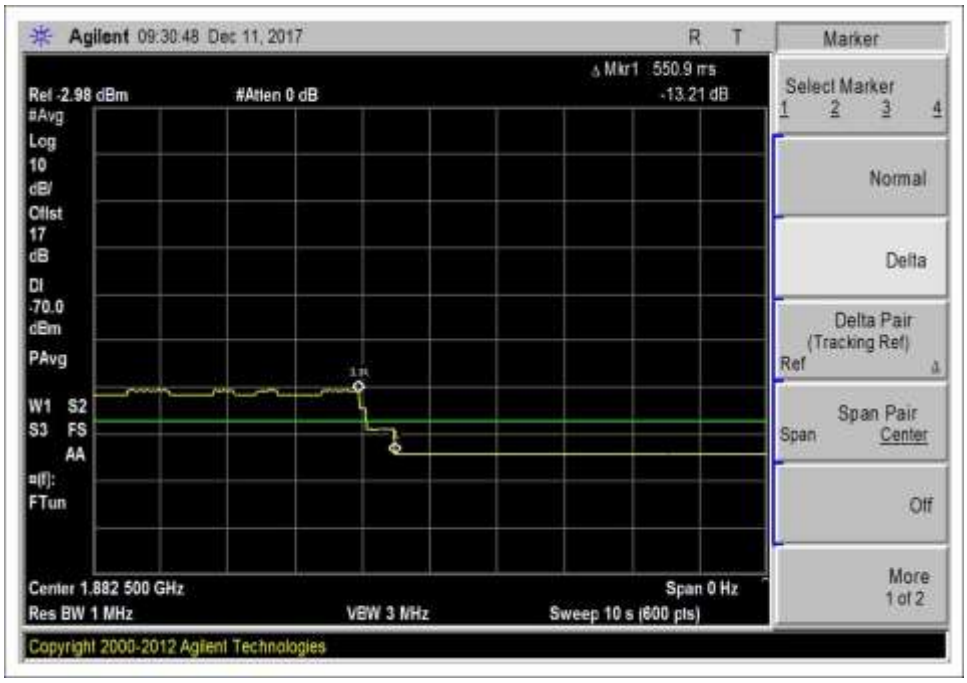


7.7.2 UL 776-787



7.7.2 UL 824-849

7.7.2 UL 1710-1755



7.7.2 UL 1850-1915

7.8 Uplink Inactivity

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 110 N. Olinda Pl, Brea, CA 92823 • 714 993-6112
Customer:	Cellphone-Mate, Inc.
Specification:	**7.8 Uplink Inactivity**
Work Order #:	**100654** Date: 12/11/17
Test Type:	**Conducted Emissions**
Tested By:	**Don Nguyen**
Software:	EMITest 5.03.11

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed Wideband Consumer Booster.
The EUT is placed on the test bench. Evaluation performed at the Outside (Donor) and Inside (Server) antenna port.
The EUT Server port is a type N connector and 50-ohm impedance.
The EUT Donor port is type F connector and 75-ohm impedance.

Part 22
UL: 824-849MHz
DL: 869-894MHz
Part 24
UL: 1850-1915MHz
DL: 1930-1995MHz
Part 27
UL: 1710-1755MHz, 698-716MHz, 776-787MHz
DL: 2110-2155MHz, 728-746MHz, 746-757MHz

Test procedure:
The test was performed in accordance with section 7.8 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04r01 Dated October 27, 2017

Test environment conditions:
Temperature: 23°C, 32% relative humidity, 101.5 kPa

Test Equipment:

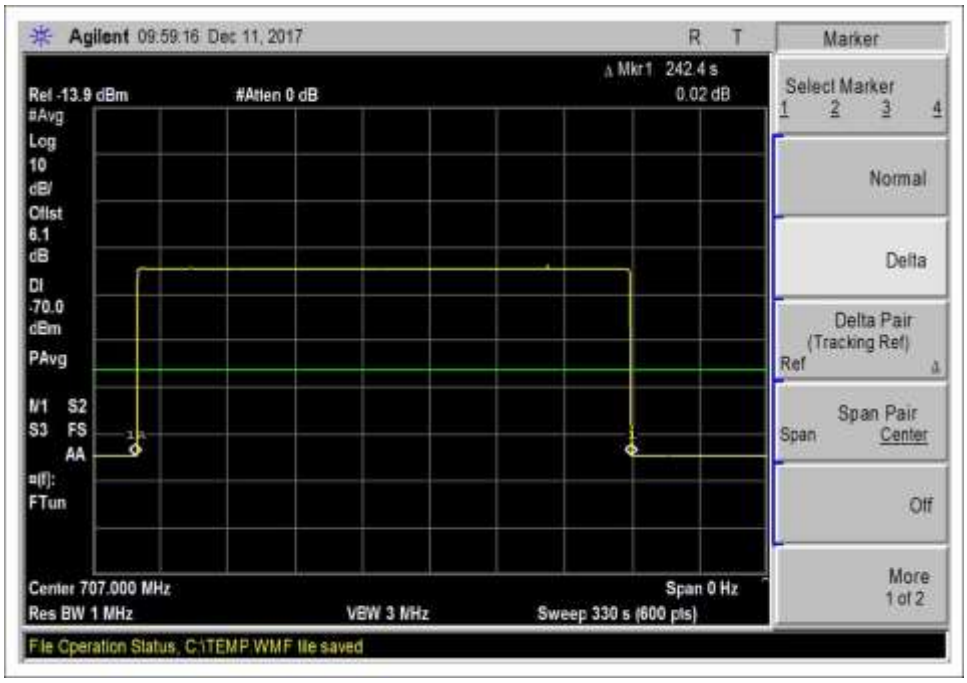
Asset #	Description	Manufacturer	Model	Calibration Date	Cal Due Date
P06958	Attenuator	Pasternack	PE7083	2/5/2016	2/5/2018
P06554	Cable	Astrolab	32022-29094K-29094K-24TC	12/30/2015	12/30/2017
02869	Spectrum Analyzer	Agilent	E4440A	8/1/2017	8/1/2018
03432	Attenuator	Aeroflex/Weinschel	90-30-34	10/27/2017	10/27/2019

Summary of Results

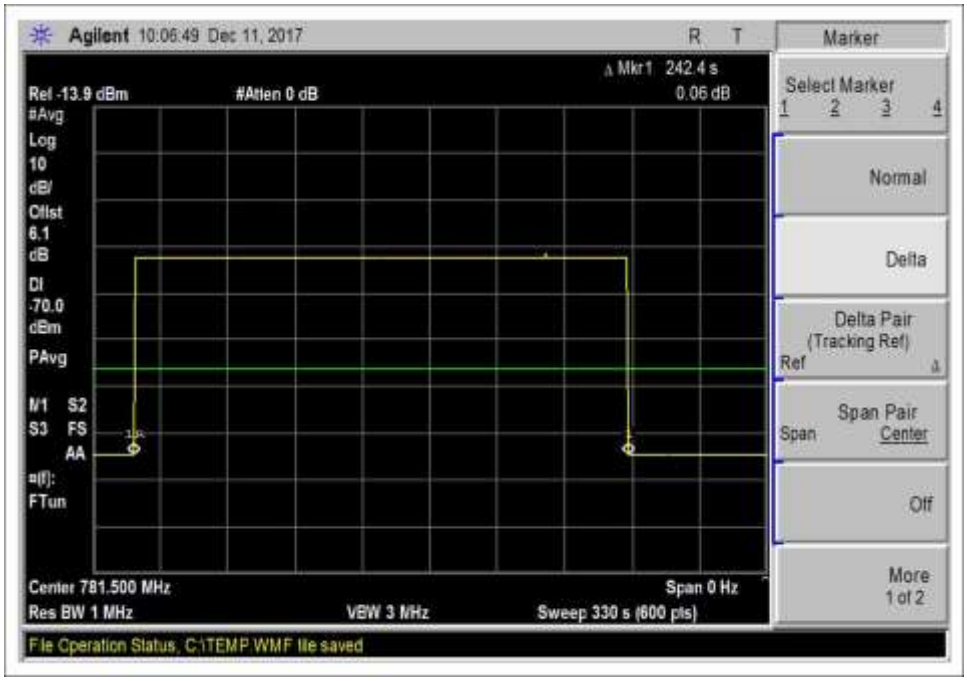
Pass: As demonstrated, when the booster is not serving an active device connection after 5 minutes the uplink noise power does not exceed -70dBm/MHz

Uplink Inactivity			
Freq	**Measured**	**Limit**	**Limit**
MHz	**Seconds**	**Seconds**	**Min**
UL1710-1755	242.4	300	5.0
UL1850-1915	242.4	300	5.0
UL824-849	242.4	300	5.0
UL 698-716	242.4	300	5.0
UL776-787	242.4	300	5.0

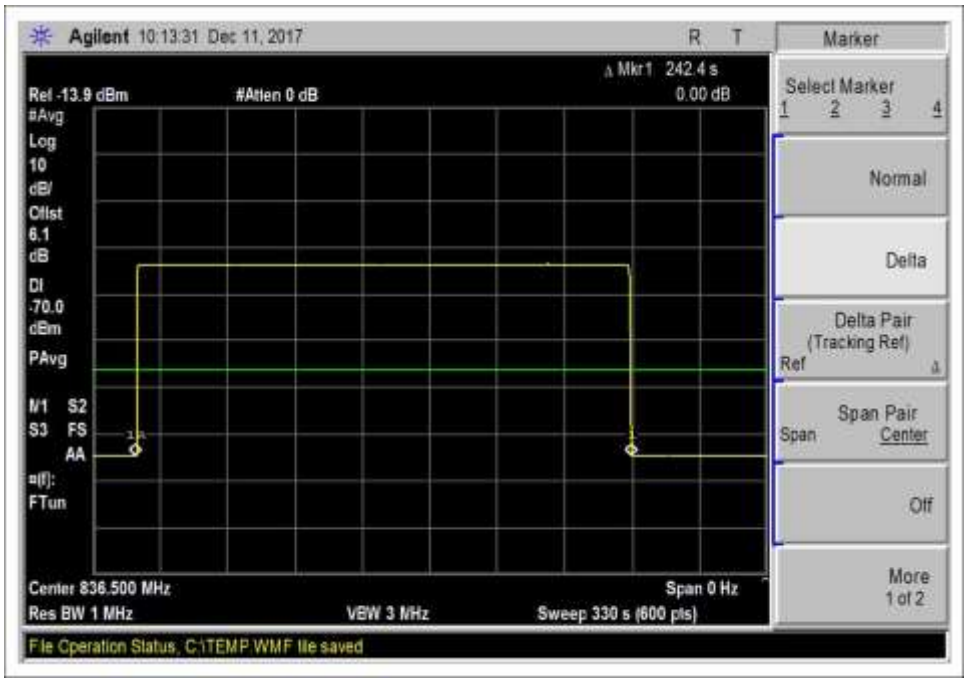
Plots



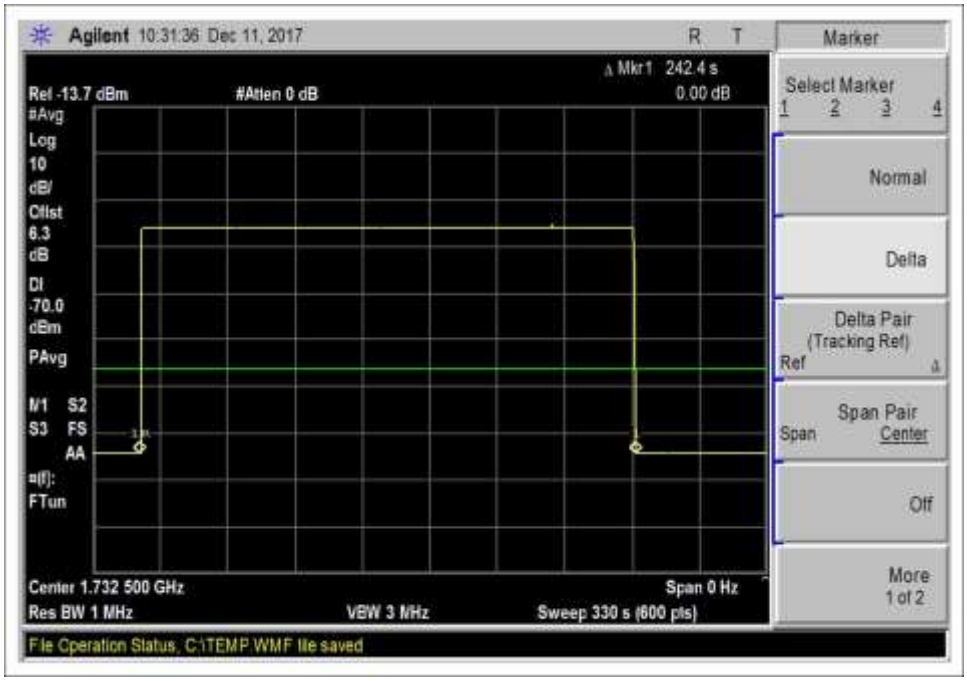
7.8 UL 698-716



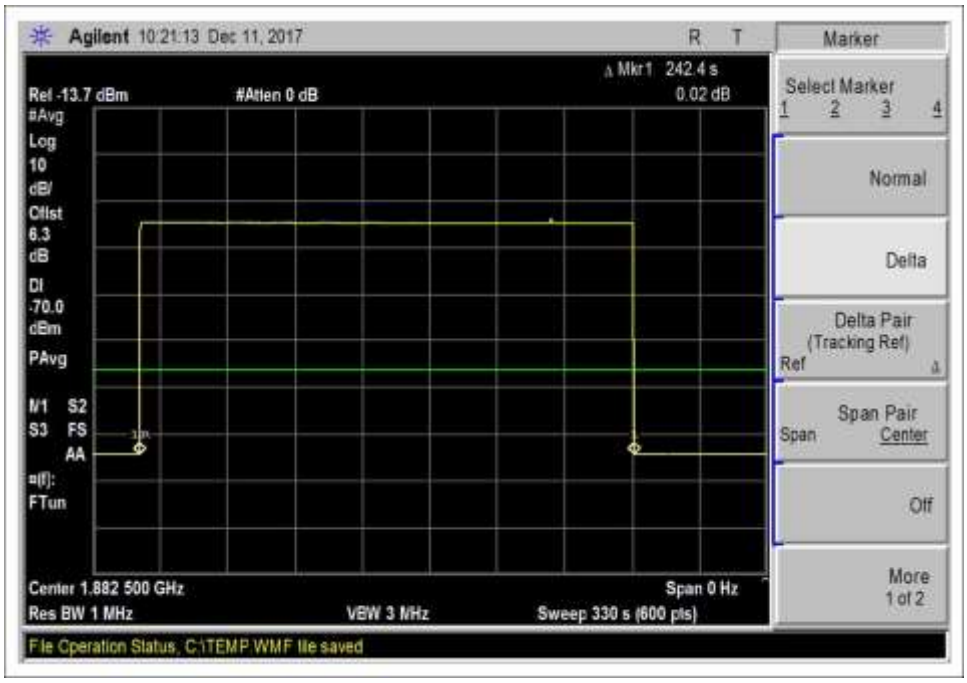
7.8 UL 776-787



7.8 UL 824-849



7.8 UL 1710-1755



7.8 UL 1850-1915

7.9 Booster Gain Limit

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 110 N. Olinda Pl, Brea, CA 92823 • 714 993-6112
Customer:	Cellphone-Mate, Inc.
Specification:	**7.9 Variable Booster gain(Max Gain / Variable Uplink Gain Timing)**
Work Order #:	**100654** Date: 12/06/17
Test Type:	**Conducted Emissions**
Tested By:	**Don Nguyen**
Software:	EMITest 5.03.11

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed Wideband Consumer Booster.
The EUT is placed on the test bench. Evaluation performed at the Outside (Donor) and Inside (Server) antenna port.
The EUT Server port is a type N connector and 50-ohm impedance.
The EUT Donor port is type F connector and 75-ohm impedance.

Part 22
UL: 824-849MHz
DL: 869-894MHz
Part 24
UL: 1850-1915MHz
DL: 1930-1995MHz
Part 27
UL: 1710-1755MHz, 698-716MHz, 776-787MHz
DL: 2110-2155MHz, 728-746MHz, 746-757MHz

Test procedure:
The test was performed in accordance with section 7.9 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04r01 Dated October 27, 2017

Test environment conditions:
Temperature: 2°C, 31% relative humidity, 101.5 kPa

Note:
Used MSCL provided by the manufacture's antenna kitting.

Mobile station coupling loss (MSCL): *the minimum coupling loss (in dB) between the wireless device and the input (server) port of the consumer booster. MSCL must be calculated or measured for each band of operation and provided in compliance test reports. MSCL includes the path loss from the wireless device, and the booster's server antenna gain and cable loss. The wireless device is assumed to be an isotropic (0 dBi) antenna reference. Minimum standoff distances from inside wireless devices to the booster's server antenna must be reasonable and specified by the manufacturer in customer provided installation manuals.*

Test Equipment:

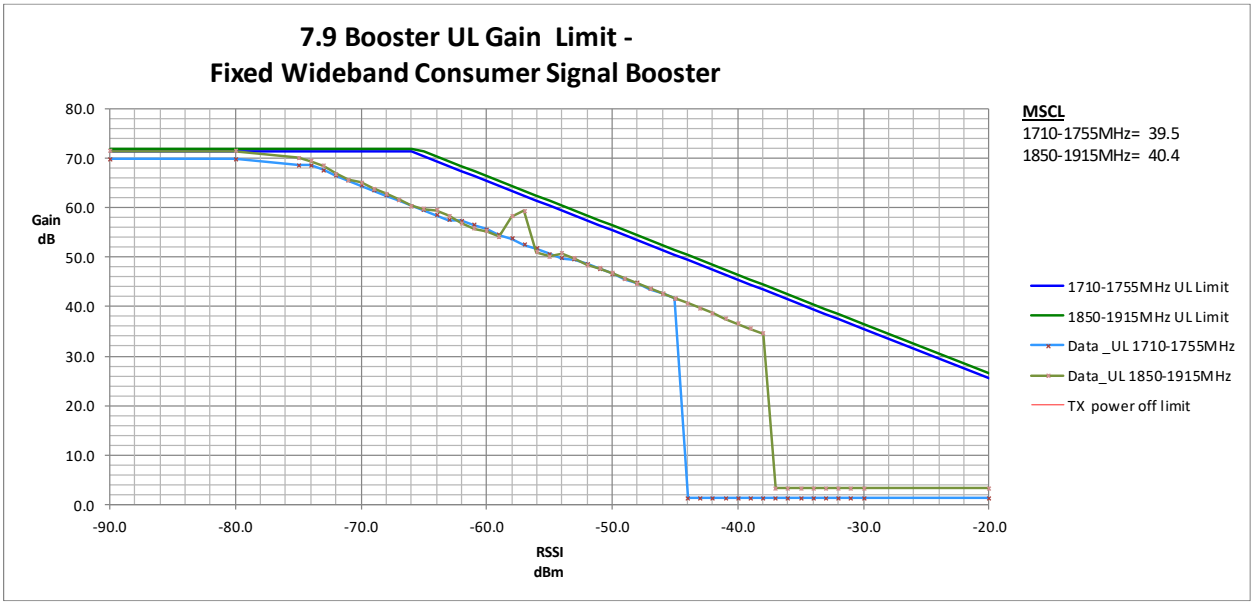
Asset #	Description	Manufacturer	Model	Calibration Date	Cal Due Date
P07037	Signal Generator	Agilent	E4432B	10/6/2016	10/6/2018
03420	Signal Generator	Agilent	E4438C	6/9/2017	6/9/2019
P06958	Attenuator	Pasternack	PE7083	2/5/2016	2/5/2018
P06554	Cable	Astrolab	32022-29094K-29094K-24TC	12/30/2015	12/30/2017
P06662	Cable	Gore	PHASEFLEX EJR01N01024.0	4/5/2016	4/5/2018
03432	Attenuator	Aeroflex/Weinschel	90-30-34	10/27/2017	10/27/2019
02869	Spectrum Analyzer	Agilent	E4440A	8/1/2017	8/1/2018
P06660	Cable	Gore	PHASEFLEX FJR01N01036.0	4/5/2016	4/5/2018
C00082	Directional Coupler	MECA Electronics, Inc.	722-10-1.500V	9/18/2017	9/18/2019

Summary of Results

Pass: As demonstrated, computed gains are within the gain limit. All maximum variable uplink gain timings are within 1 second limit.

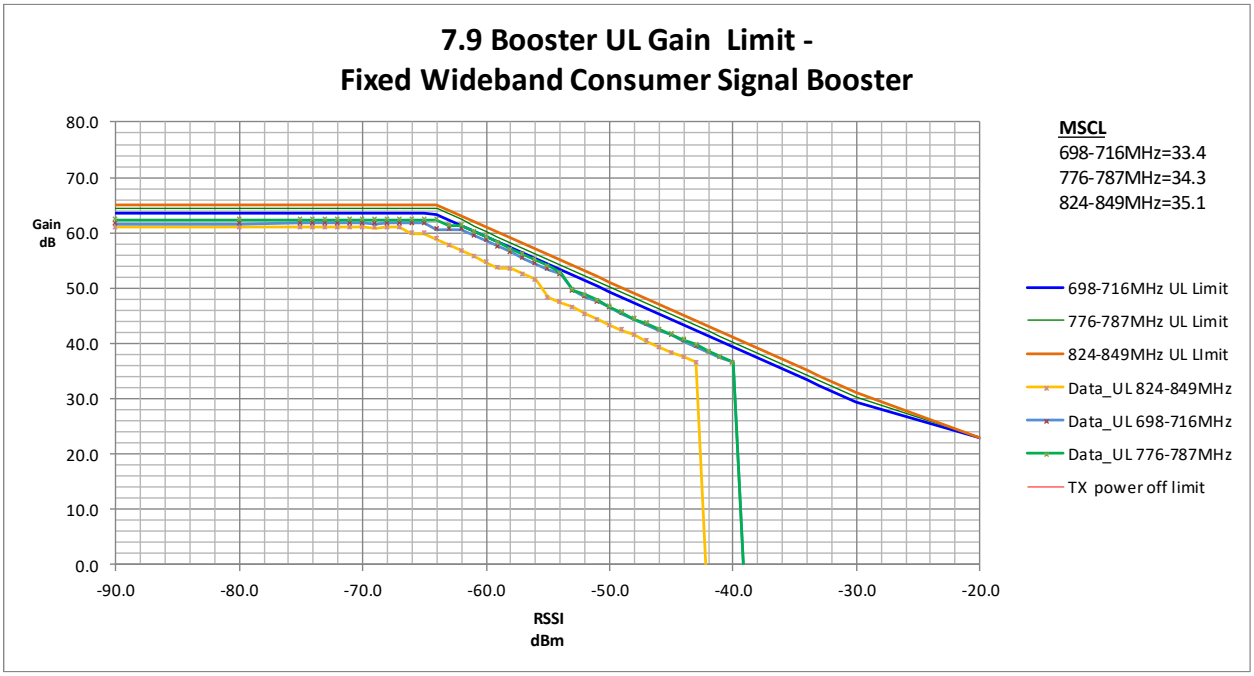
7.9.1 Maximum Gain

7.9.1 Maximum gain



1710.0 - 1755.0 MHz							
				Limit			Margin
RSSI (dBm)	Input (dBm)	Measured Output (dBm)	Measured Gain (dB)	RSSI Dependent	Fixed Booster Limit	TX off	
-90.0	-54.0	15.8	69.8		71.3		-1.5
-80.0	-54.0	15.8	69.8		71.3		-1.5
-75.0	-54.0	14.6	68.6		71.3		-2.7
-74.0	-54.0	14.6	68.6		71.3		-2.7
-48.0	-54.0	-9.2	44.8	53.5			-8.7
-46.0	-54.0	-11.3	42.7	51.5			-8.8
	-54.0	-52.8	1.3			23	-21.7

1850.0 - 1915.0 MHz							
				Limit			Margin
RSSI (dBm)	Input (dBm)	Measured Output (dBm)	Measured Gain (dB)	RSSI Dependent	Fixed Booster Limit	TX off	
-90.0	-55.7	15.8	71.5		72.0		-0.5
-80.0	-55.7	15.7	71.4		72.0		-0.6
-75.0	-55.7	14.4	70.1		72.0		-1.9
-74.0	-55.7	13.7	69.4		72.0		-2.6
-58.0	-55.7	2.5	58.2	64.4			-6.2
-57.0	-55.7	3.7	59.4	63.4			-4.0
-37.0	-55.7					23	



824.0 - 849.0 MHz							
				Limit			Margin
RSSI (dBm)	Input (dBm)	Measured Output (dBm)	Measured Gain (dB)	RSSI Dependent	Fixed Booster Limit	TX off	
-90.0	-41.9	19.1	61.0		64.9		-3.9
-80.0	-41.9	19.1	61.0		64.9		-3.9
-75.0	-41.9	19.1	61.0		64.9		-3.9
-74.0	-41.9	19.1	61.0		64.9		-3.9
-58.0	-41.9	11.6	53.5	59.1			-5.6
-57.0	-41.9	10.6	52.5	58.1			-5.6
-42.0	-41.9	-51.7	-9.8			23	-32.8

698.0 - 716.0 MHz							
				Limit			Margin
RSSI	Input	Measured	Measured	RSSI	Mobile Booster	TX off	
(dBm)	(dBm)	Output (dBm)	Gain (dB)	Dependent	Limit		
-62.0	-42.7	17.9	60.6	61.4			-0.8
-61.0	-42.7	16.8	59.5	60.4			-0.9
-60.0	-42.7	15.9	58.6	59.4			-0.8
-59.0	-42.7	14.8	57.5	58.4			-0.9
-58.0	-42.7	13.8	56.5	57.4			-0.9
-57.0	-42.7	12.7	55.4	56.4			-1.0
-39.0	-42.7	-50.7	-8.0			23	-31.0

776.0 - 787.0 MHz							
				Limit			Margin
RSSI	Input	Measured	Measured	RSSI	Fixed Booster	TX off	
(dBm)	(dBm)	Output (dBm)	Gain (dB)	Dependent	Limit		
-62.0	-43.1	18.3	61.4	62.3			-0.9
-61.0	-43.1	17.1	60.2	61.3			-1.1
-60.0	-43.1	16.1	59.2	60.3			-1.1
-59.0	-43.1	15.1	58.2	59.3			-1.1
-58.0	-43.1	13.9	57.0	58.3			-1.3
-57.0	-43.1	13.0	56.1	57.3			-1.2
-39.0	-43.1	-51.3	-8.2			23	-31.2

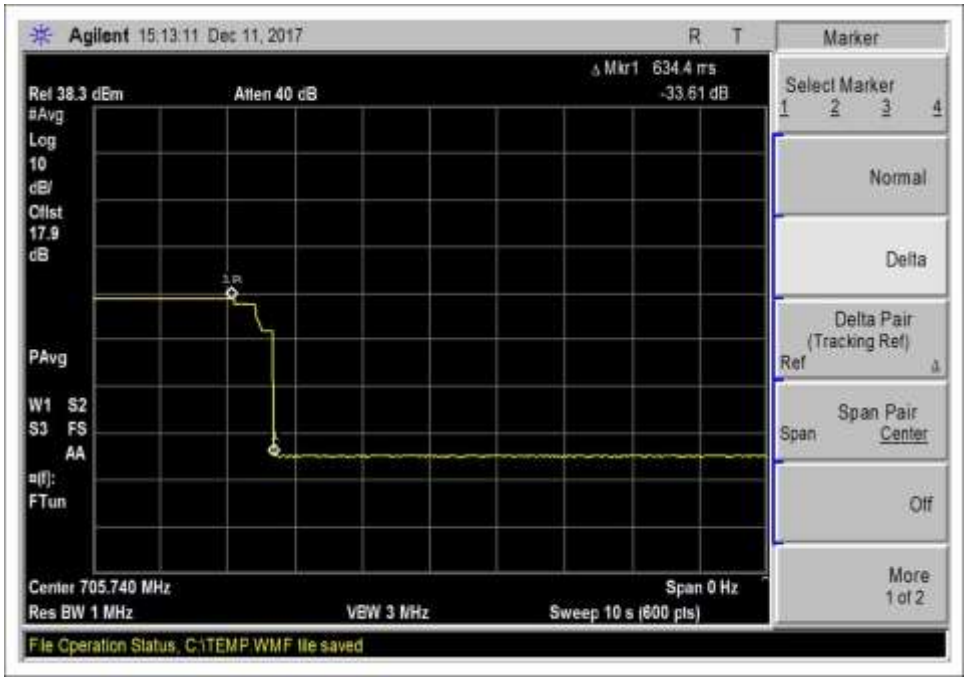
7.9.2 Variable uplink Gain Timing

7.9.2 Variable uplink gain timing

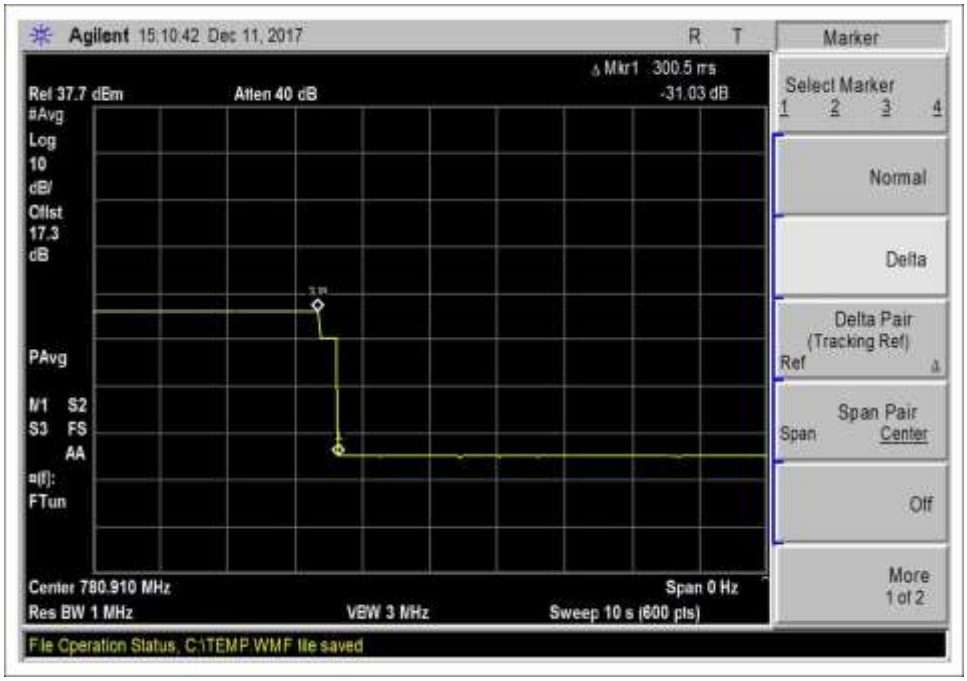
Uplink Gain Timing		
Frequency	**Measured**	**Limit**
(MHz)	**(Sec)**	**(Sec)**
UL 1710-1755	0.5509	1
UL 1850-1915	0.0334	1
UL 824-849	0.3005	1
UL 698-716	0.6344	1
UL 776-787	0.3005	1

7.9.2 Variable uplink Gain Timing

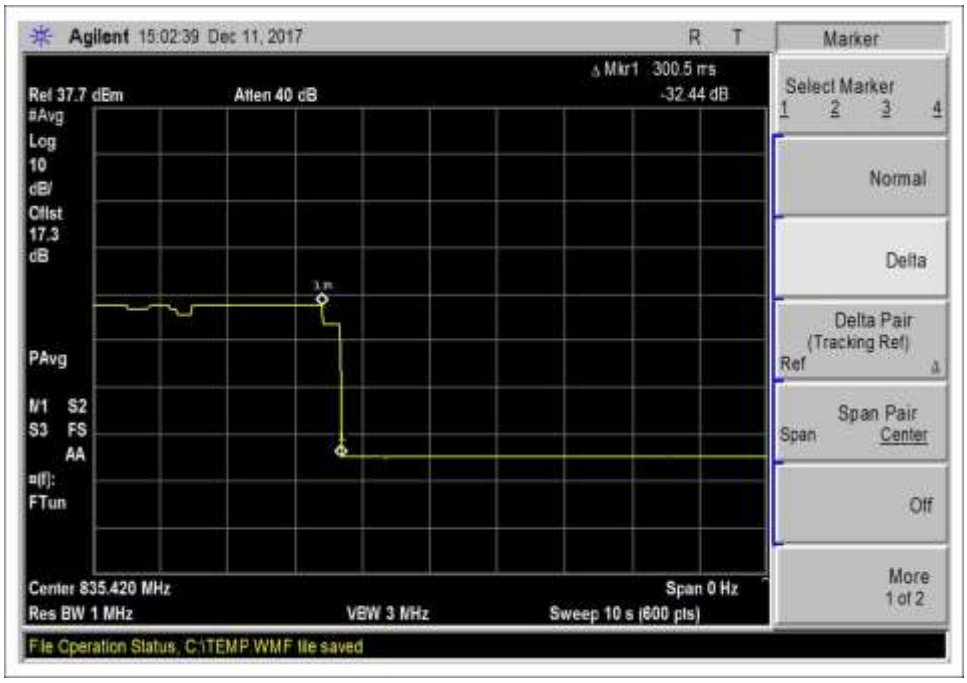
Plots



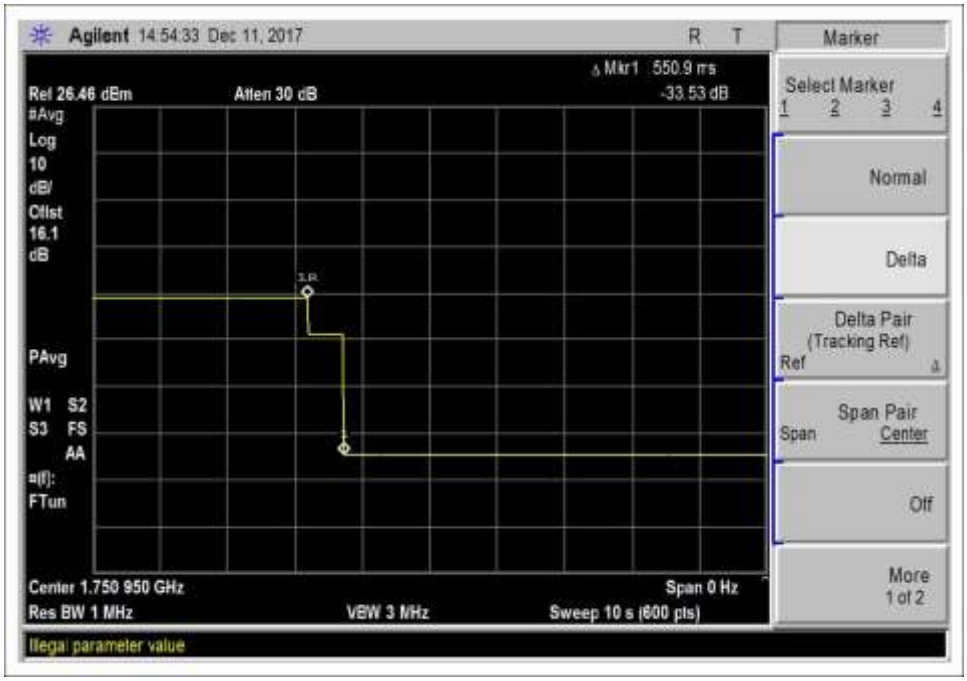
7.9.2 UL 698-716



7.9.2 UL 776-787



7.9.2 UL 824-849



7.9.2 UL 1710-1755

7.9.2 UL 1850-1915

7.10 Occupied Band Width

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 110 N. Olinda Pl, Brea, CA 92823 • 714 993-6112
Customer:	Cellphone-Mate, Inc.
Specification:	**7.10 Occupied Band Width / 47 CFR §2.1049 Occupied Band Width**
Work Order #:	**100654** Date: 12/11/17
Test Type:	**Conducted Emissions**
Tested By:	**Don Nguyen**
Software:	EMITest 5.03.11

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed Wideband Consumer Booster.
The EUT is placed on the test bench. Evaluation performed at the Outside (Donor) and Inside (Server) antenna port.
The EUT Server port is a type N connector and 50-ohm impedance.
The EUT Donor port is type F connector and 75-ohm impedance.

Part 22
UL: 824-849MHz
DL: 869-894MHz
Part 24
UL: 1850-1915MHz
DL: 1930-1995MHz
Part 27
UL: 1710-1755MHz, 698-716MHz, 776-787MHz
DL: 2110-2155MHz, 728-746MHz, 746-757MHz

Test procedure:
The test was performed in accordance with section 7.10 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04r01 Dated October 27, 2017

Test environment conditions:
Temperature: 23°C, 32% relative humidity, 101.5 kPa

Test Equipment:

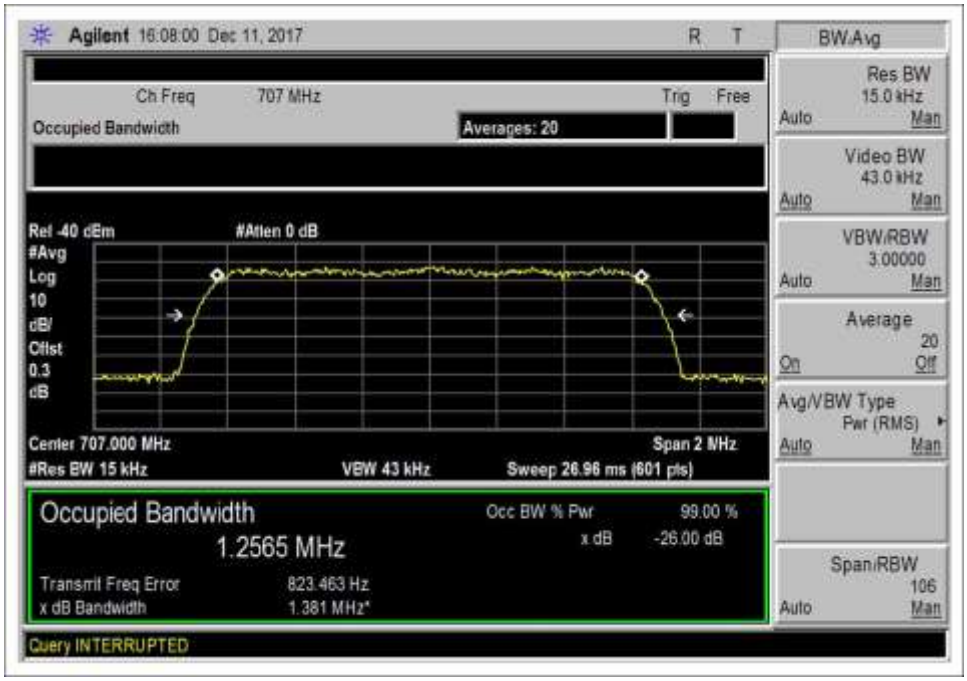
Asset #	Description	Manufacturer	Model	Calibration Date	Cal Due Date
P07037	Signal Generator	Agilent	E4432B	10/6/2016	10/6/2018
P06958	Attenuator	Pasternack	PE7083	2/5/2016	2/5/2018
P06554	Cable	Astrolab	32022-29094K-29094K-24TC	12/30/2015	12/30/2017
P06662	Cable	Gore	PHASEFLEX EJR01N01024.0	4/5/2016	4/5/2018
03432	Attenuator	Aeroflex/Weinschel	90-30-34	10/27/2017	10/27/2019
02869	Spectrum Analyzer	Agilent	E4440A	8/1/2017	8/1/2018

Summary of Results

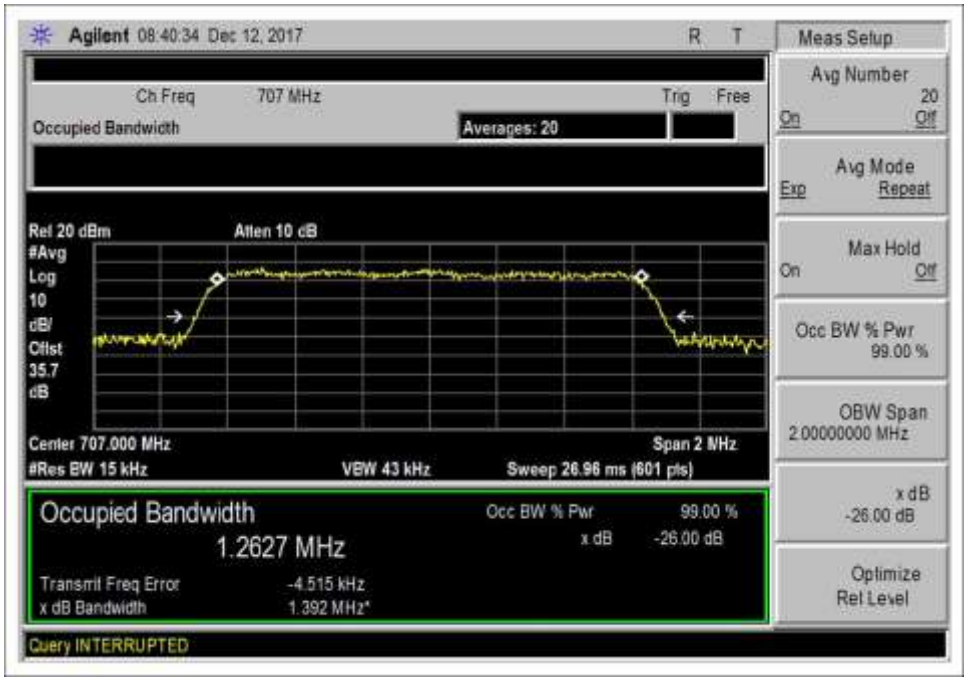
Pass: As summarized in plots, the uniformity of the output signal relative to the input signal are practically identical. Therefore, the comparison is within limits.

Plots

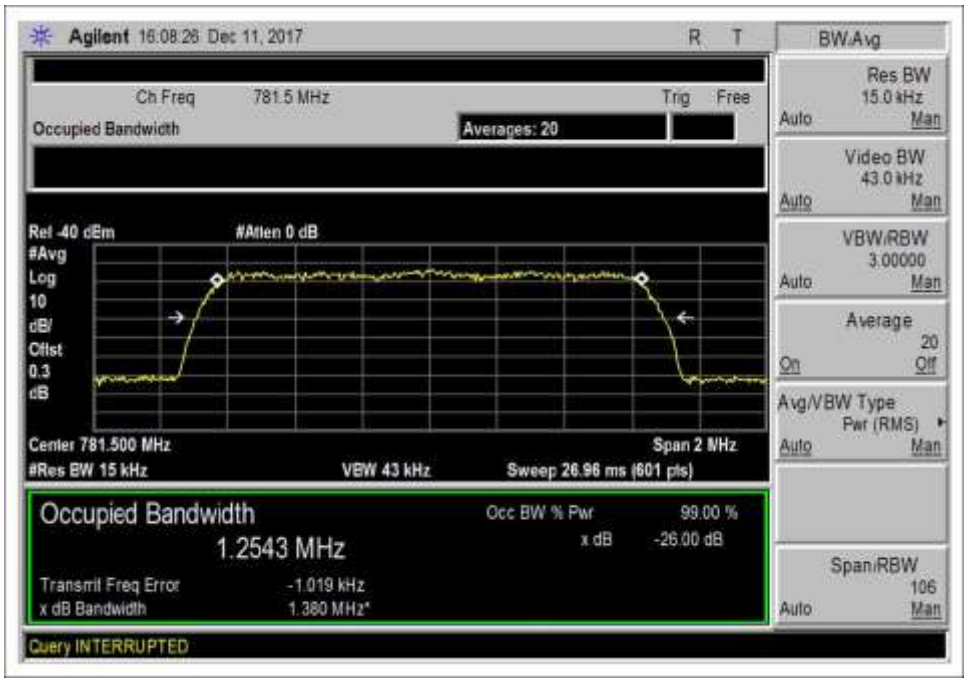
CDMA



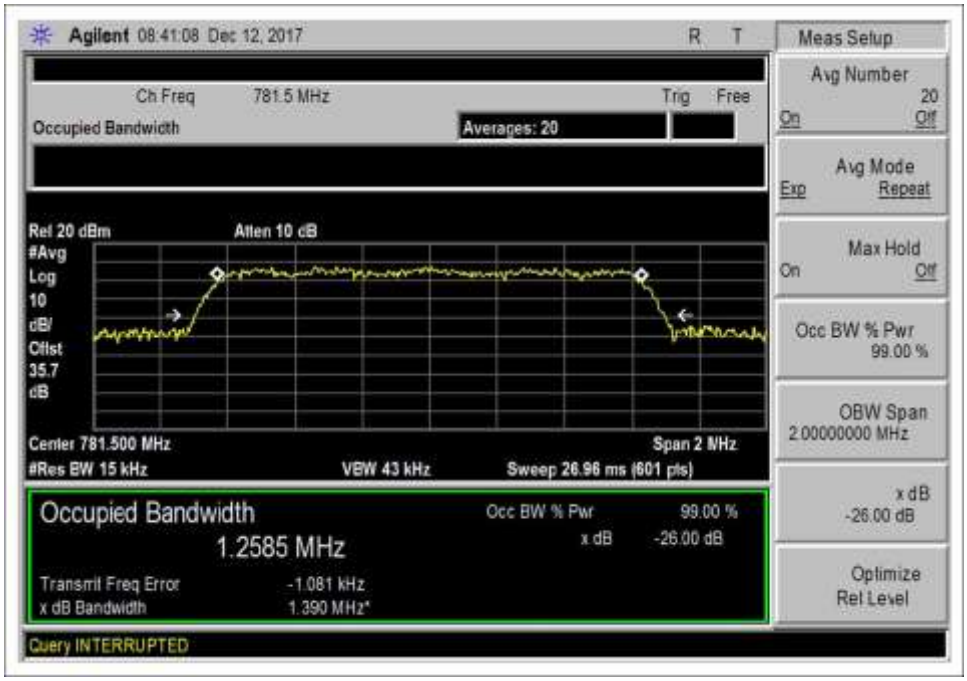
7.10 UL 698-716_CDMA_IN



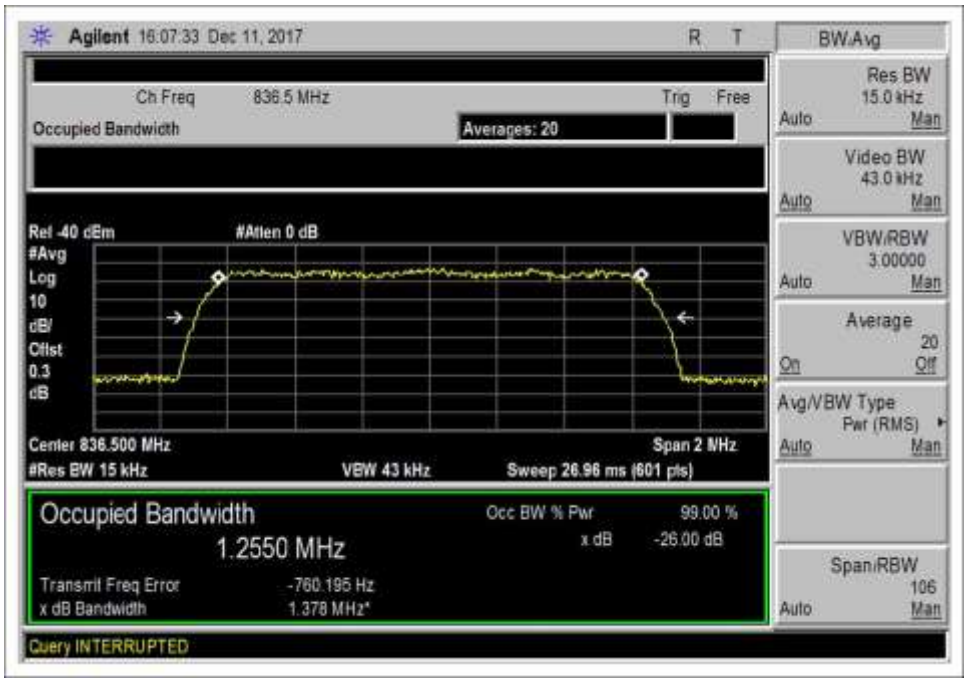
7.10 UL 698-716_CDMA_OUT



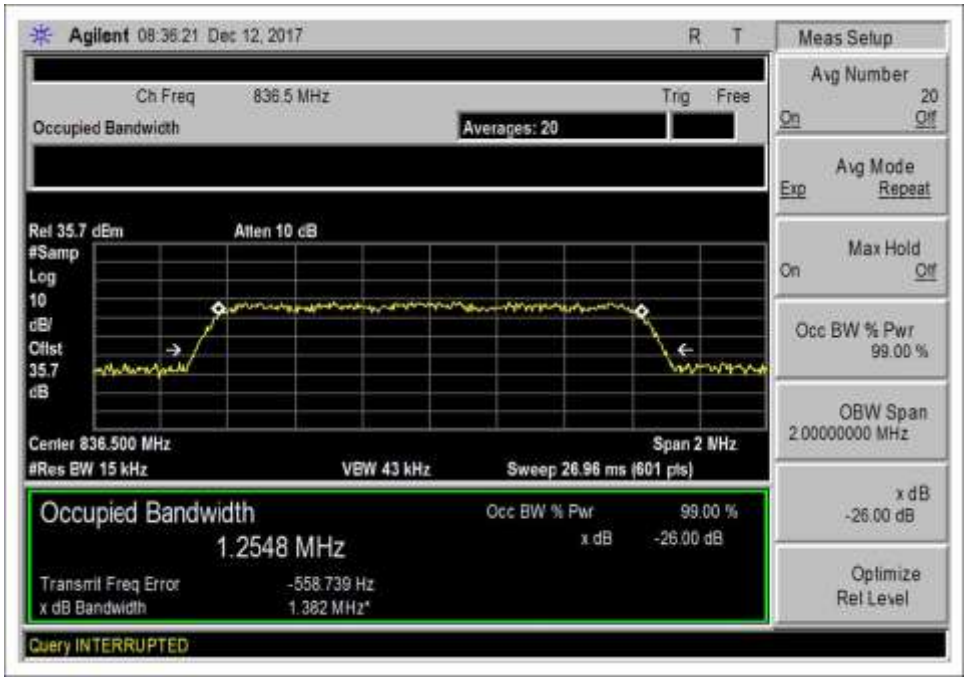
7.10 UL 776-787_CDMA_IN



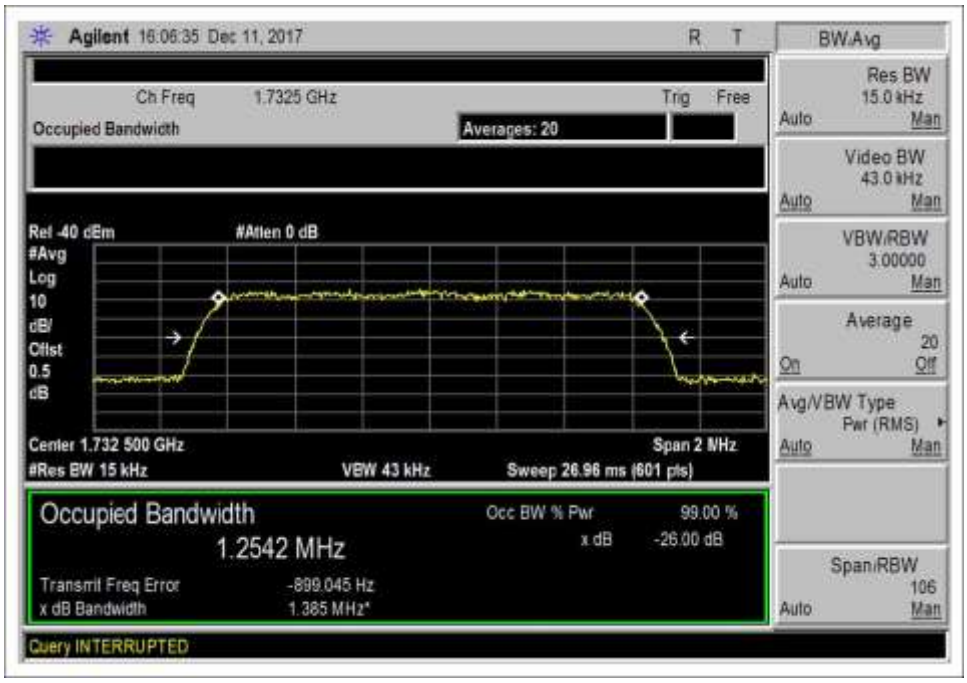
7.10 UL 776-787_CDMA_OUT



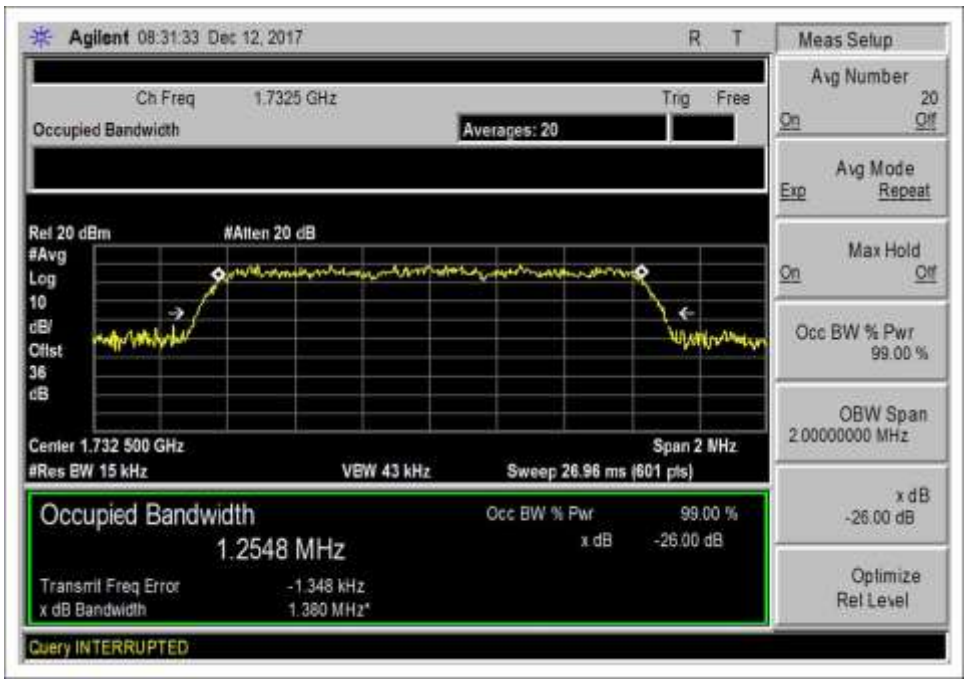
7.10 UL 824-849_CDMA_IN



7.10 UL 824-849_CDMA_OUT

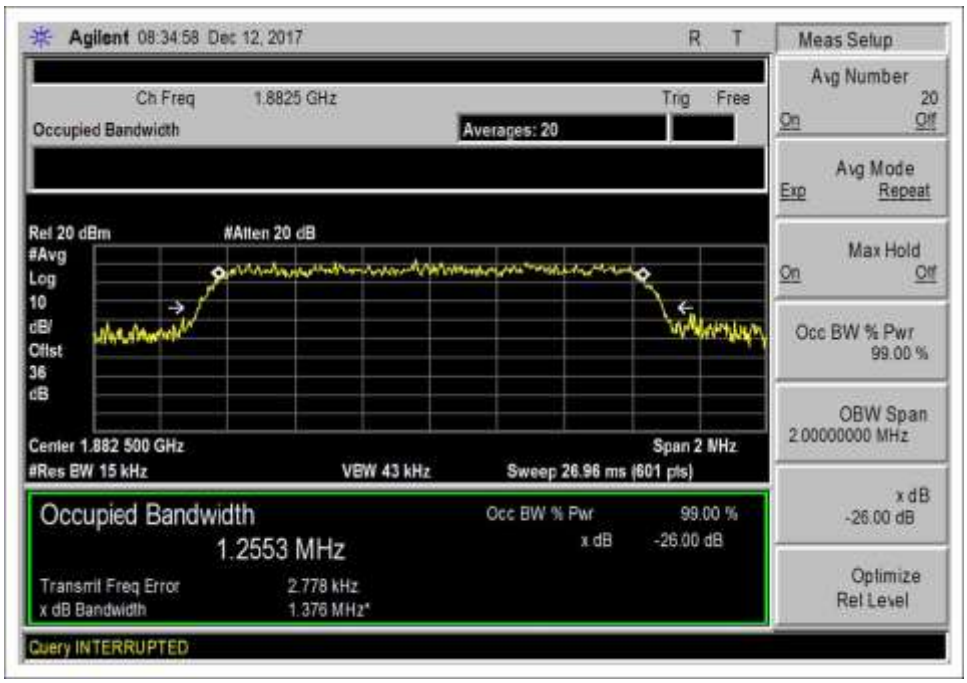


7.10 UL 1710-1755_CDMA_IN



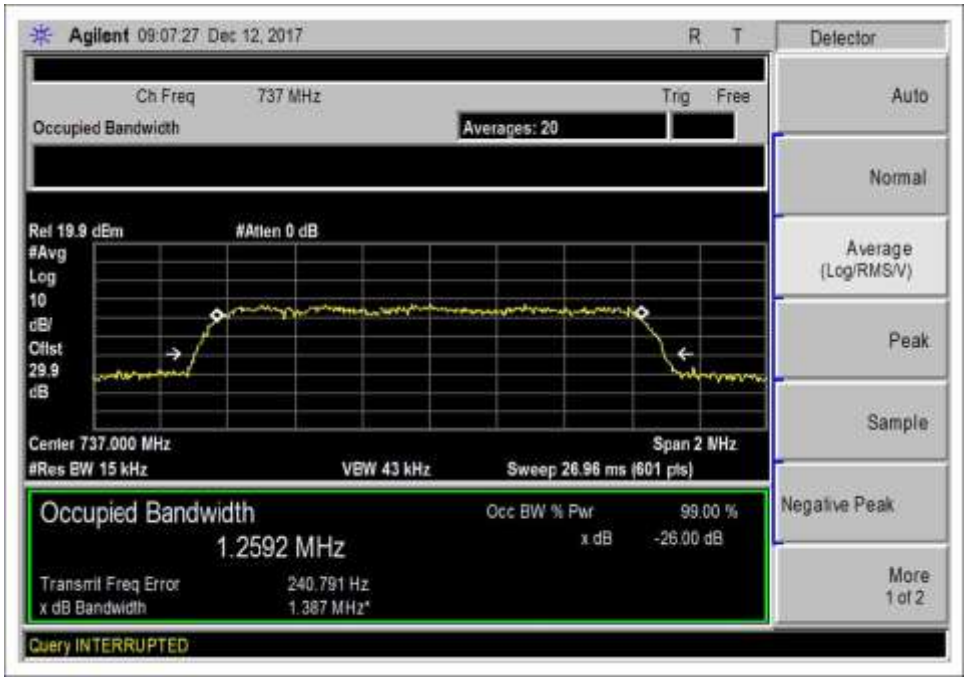
7.10 UL 1710-1755_CDMA_OUT

7.10 UL 1850-1915_CDMA_IN

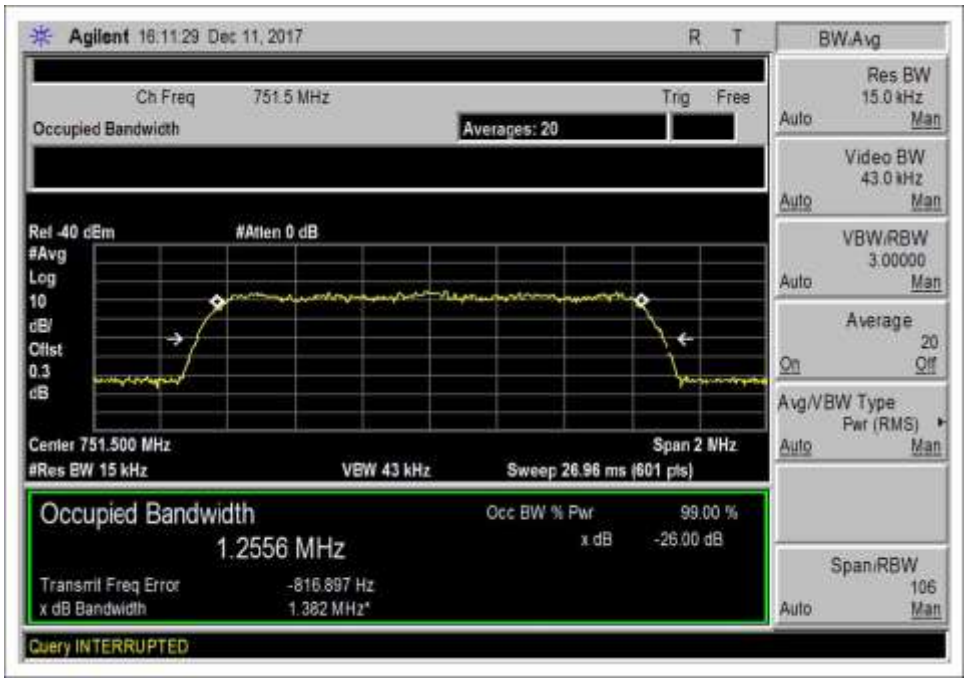


7.10 UL 1850-1915_CDMA_OUT

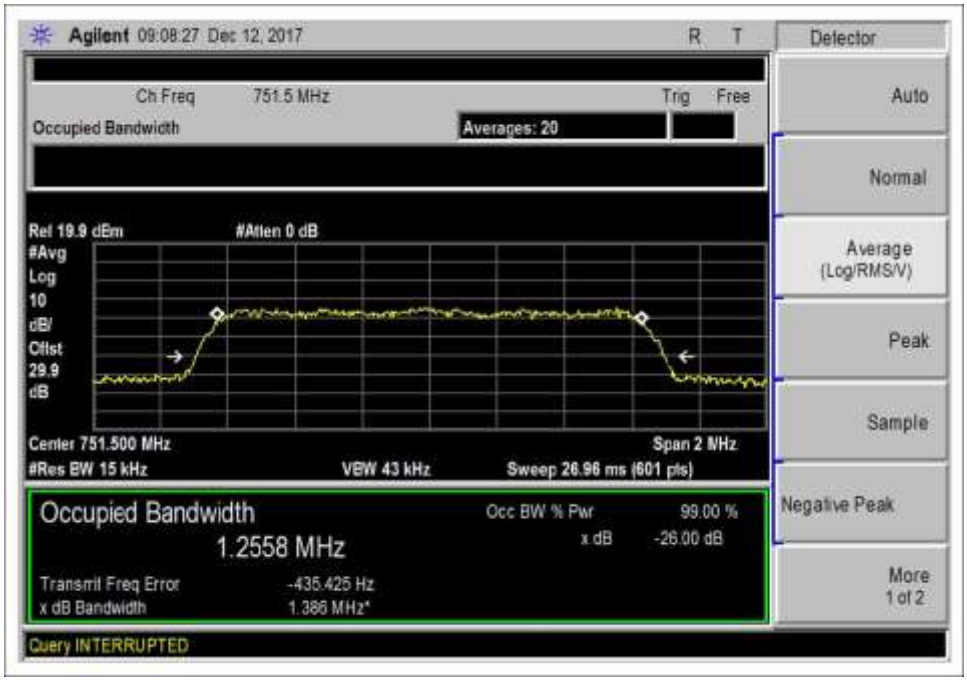
7.10 DL 728-746_CDMA_IN



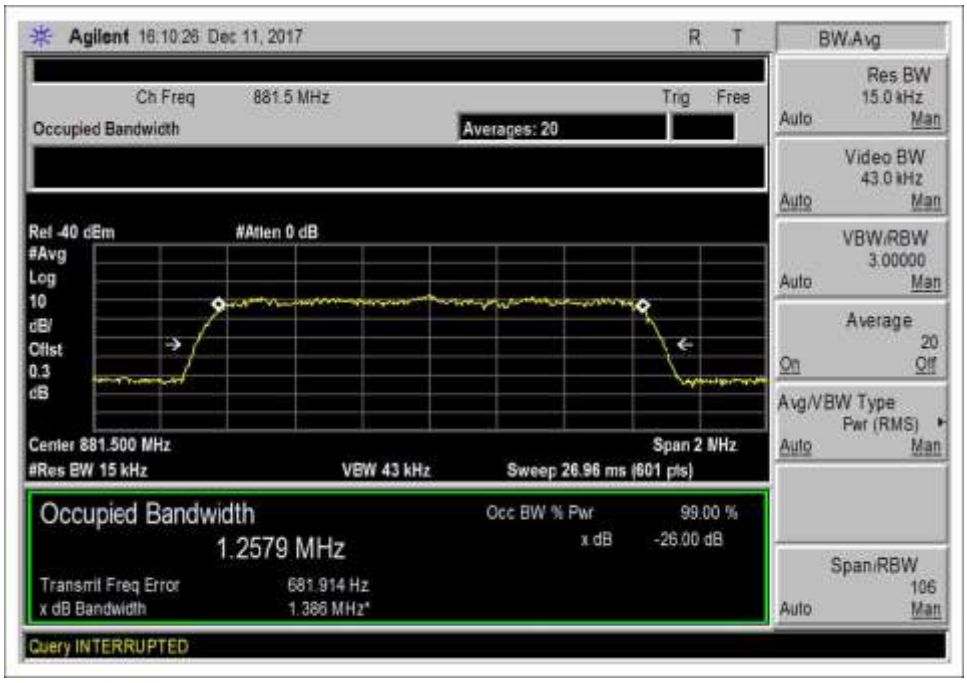
7.10 DL 728-746_CDMA_OUT



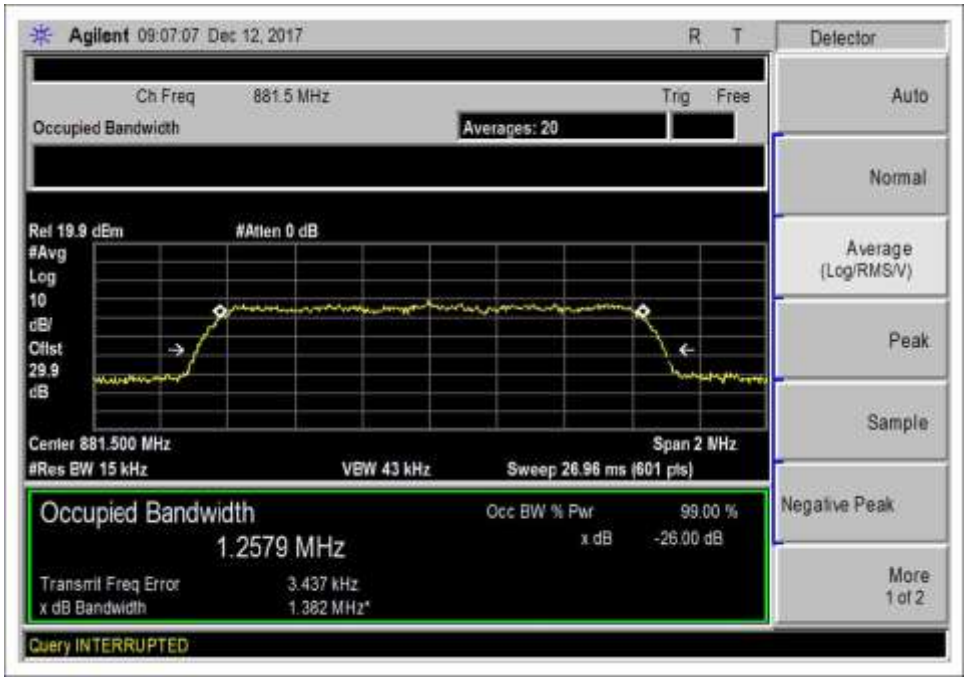
7.10 DL 746-757_CDMA_IN



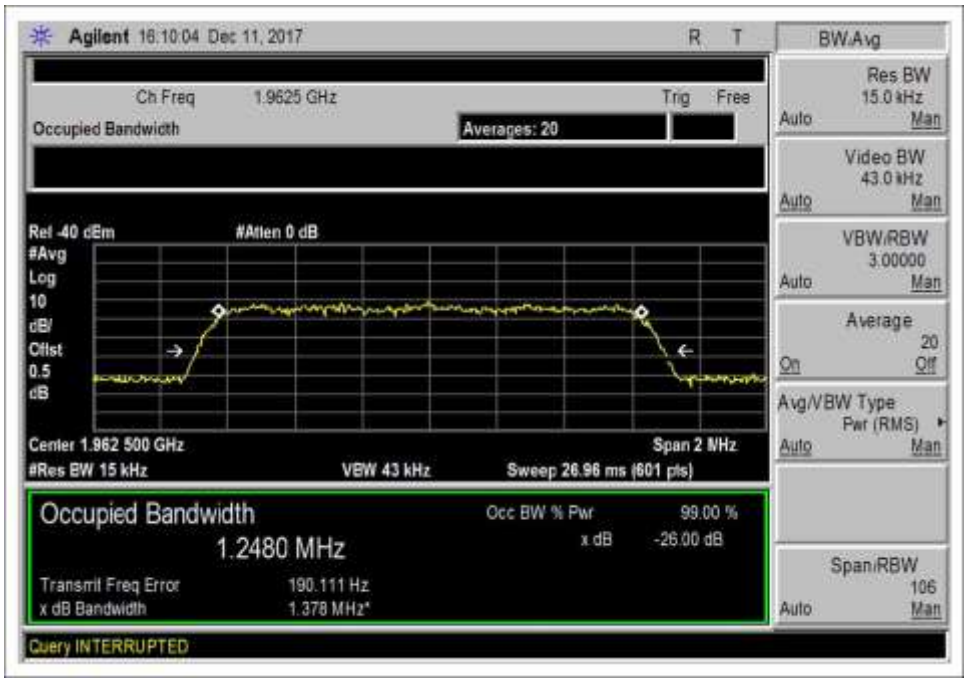
7.10 DL 746-757_CDMA_OUT



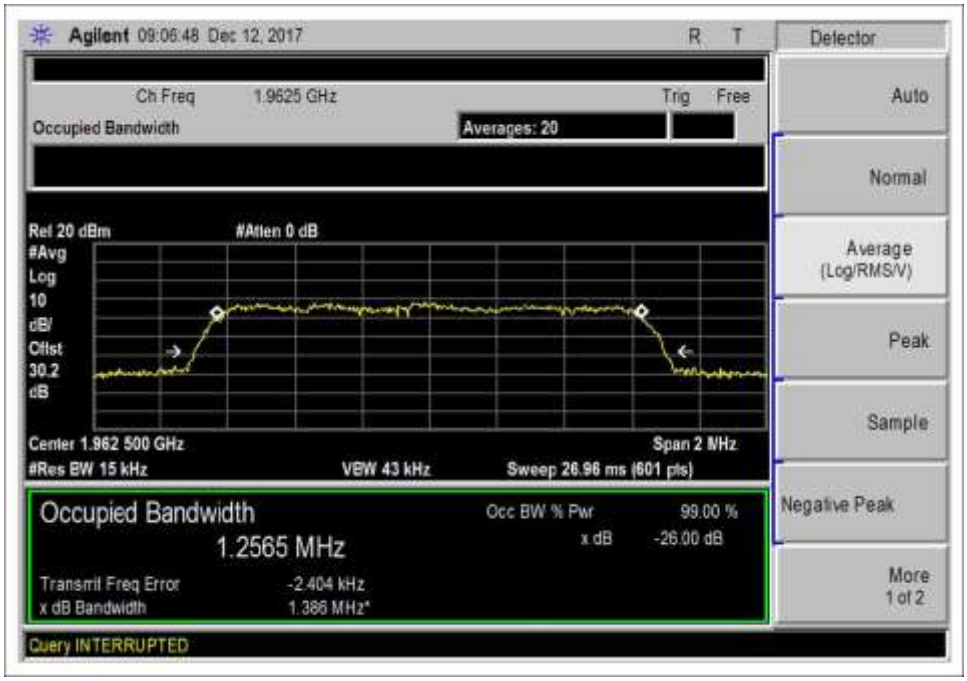
7.10 DL 869-894_CDMA_IN



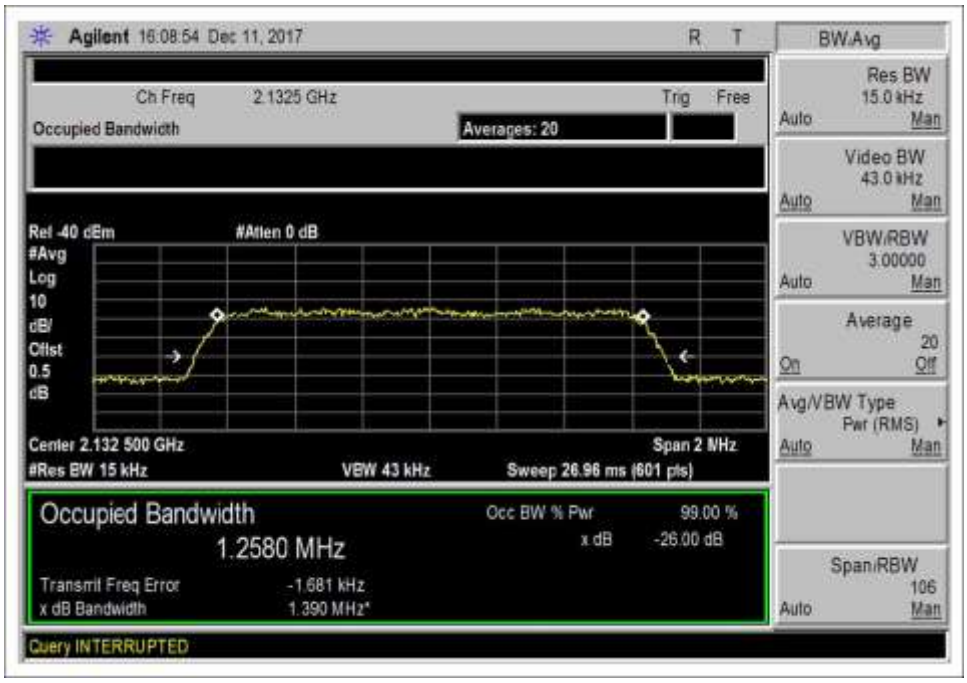
7.10 DL 869-894_CDMA_OUT



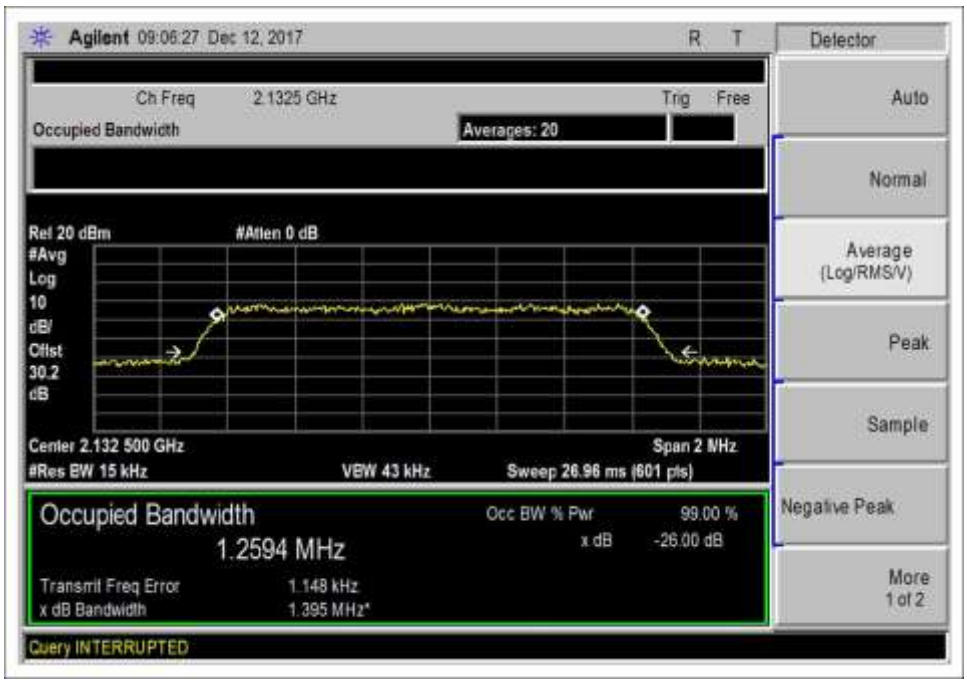
7.10 DL 1930-1995_CDMA_IN



7.10 DL 1930-1995_CDMA_OUT

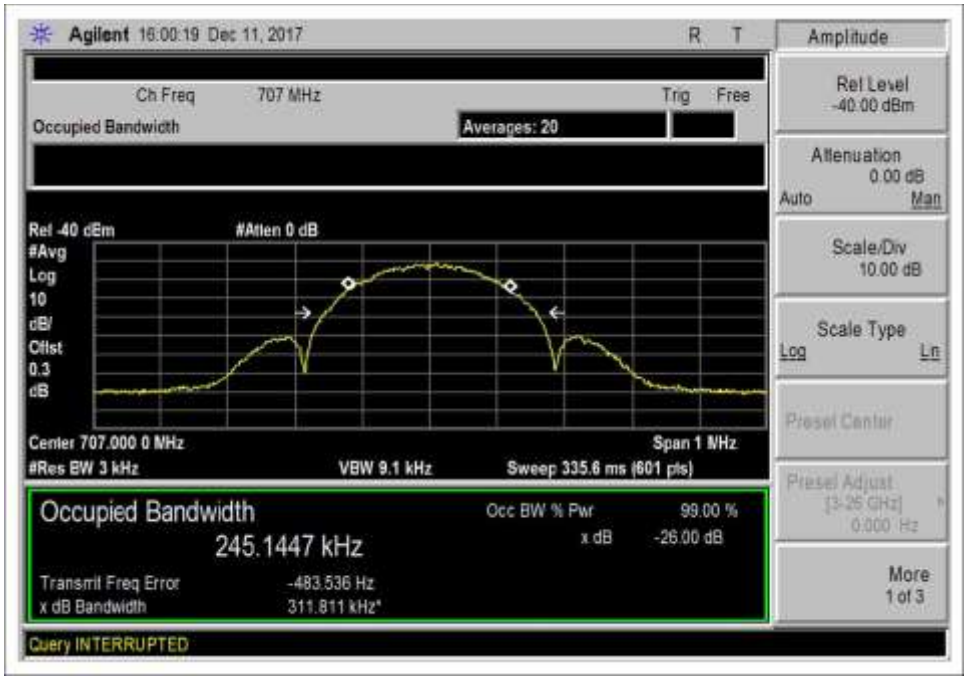


7.10 DL 2110-2155_CDMA_IN

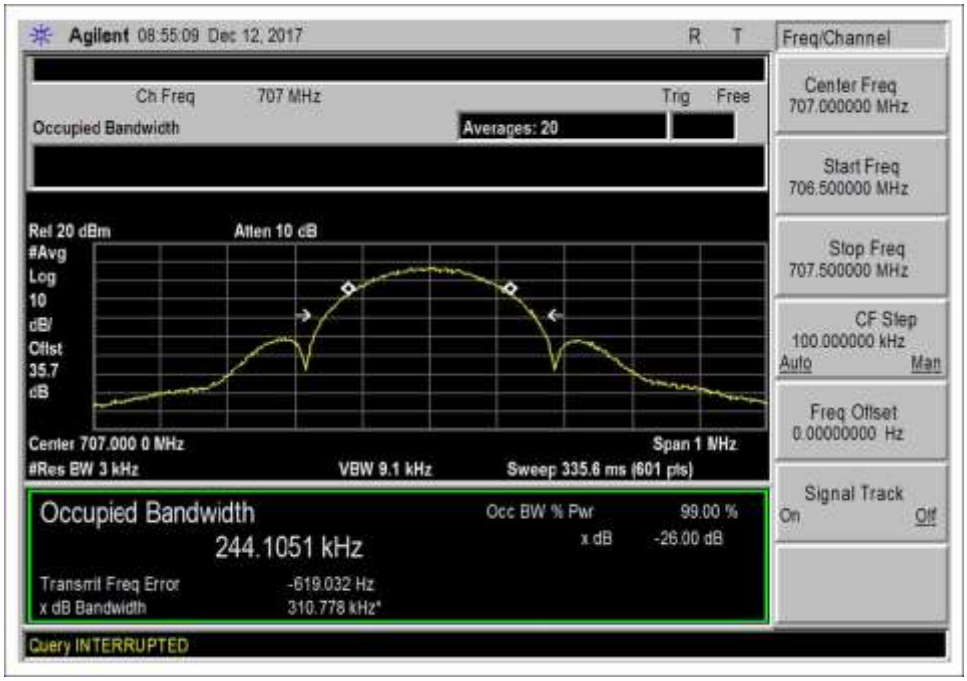


7.10 DL 2110-2155_CDMA_OUT

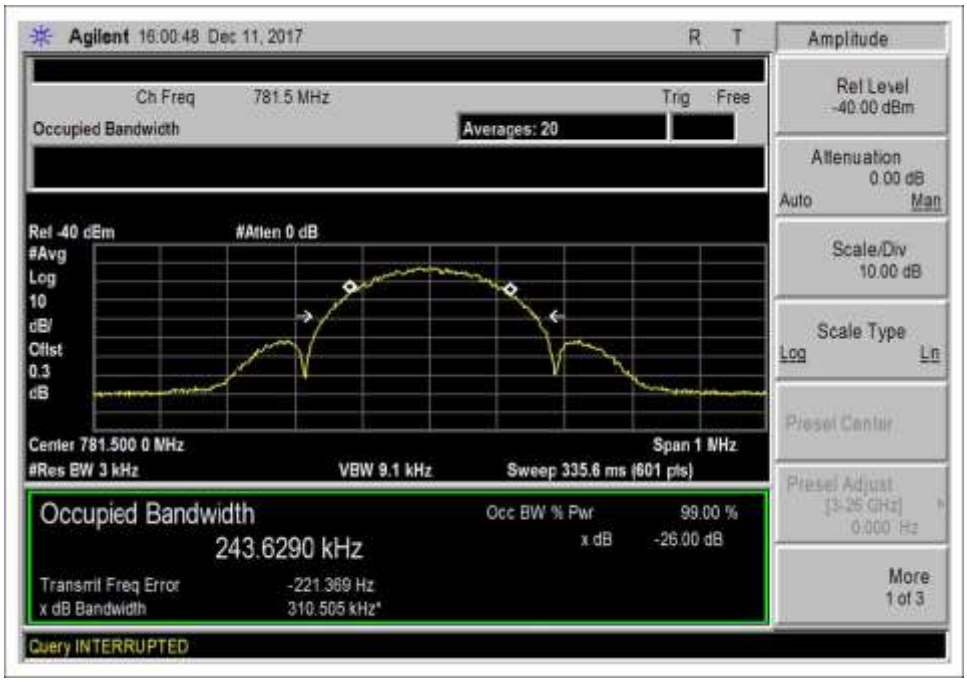
EDGE



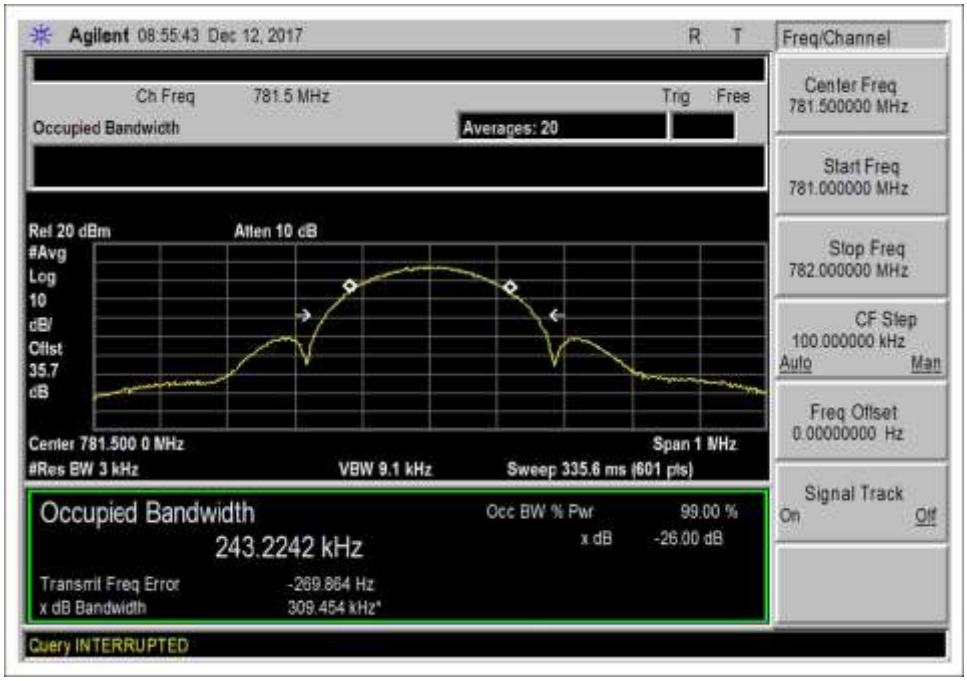
7.10 UL 698-716_EDGE_IN



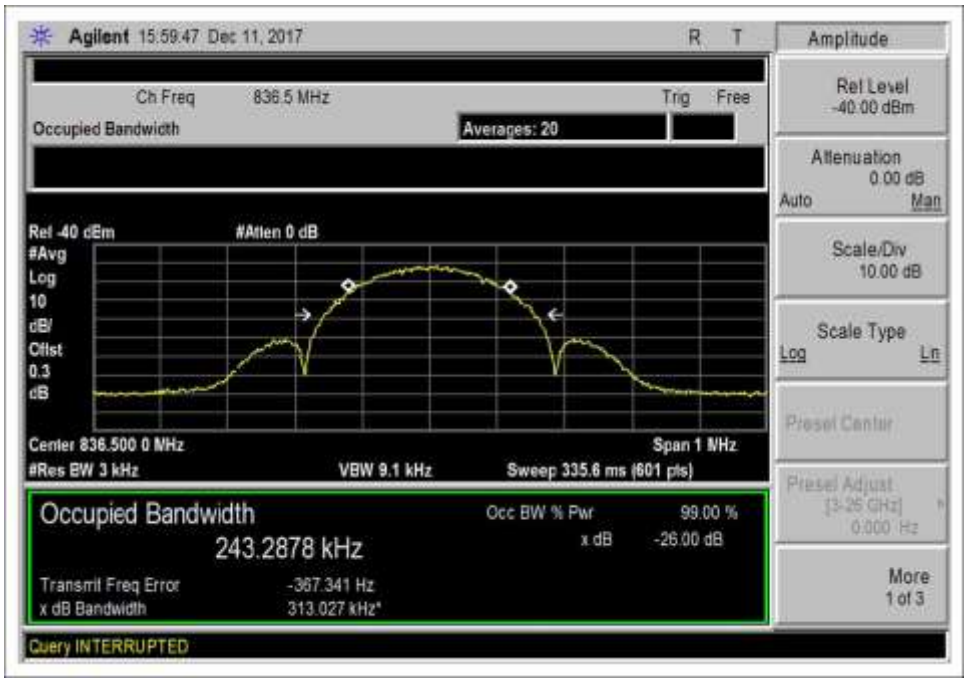
7.10 UL 698-716_EDGE_OUT



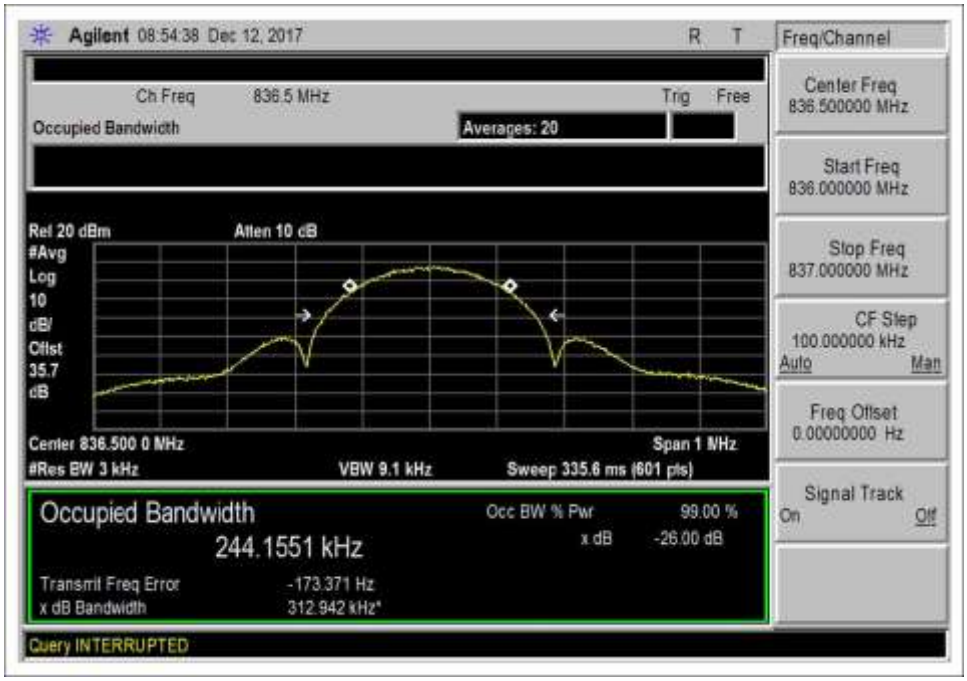
7.10 UL 776-787_EDGE_IN



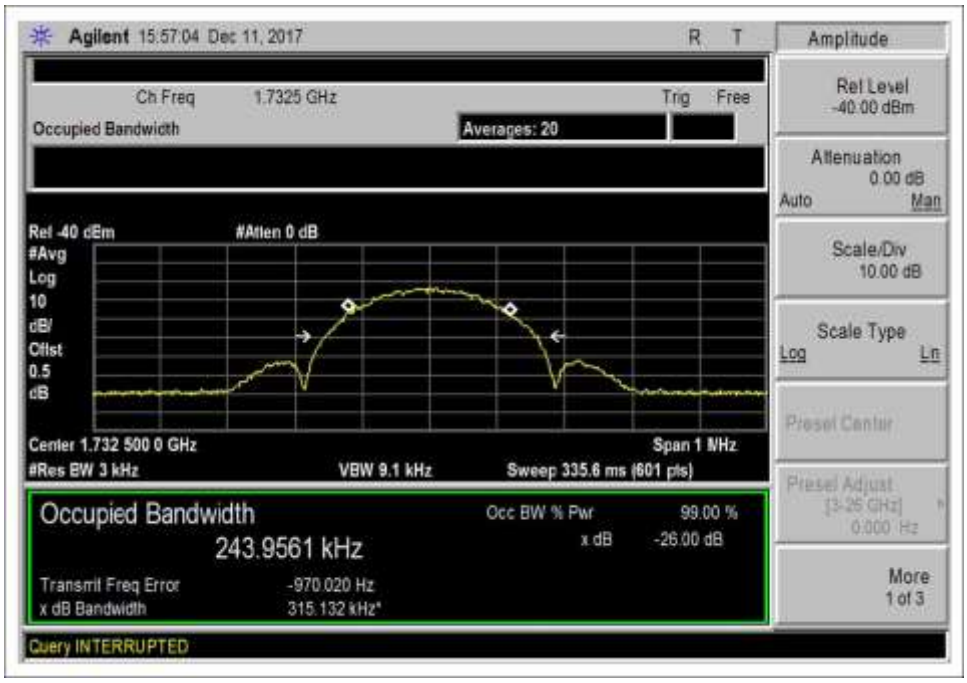
7.10 UL 776-787_EDGE_OUT



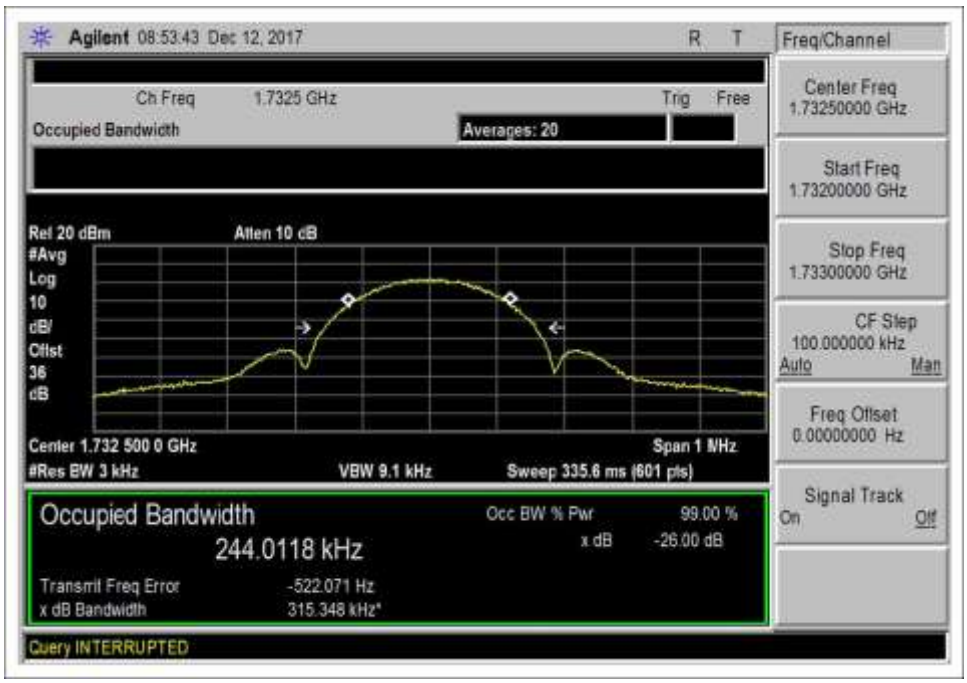
7.10 UL 824-849_EDGE_IN



7.10 UL 824-849_EDGE_OUT



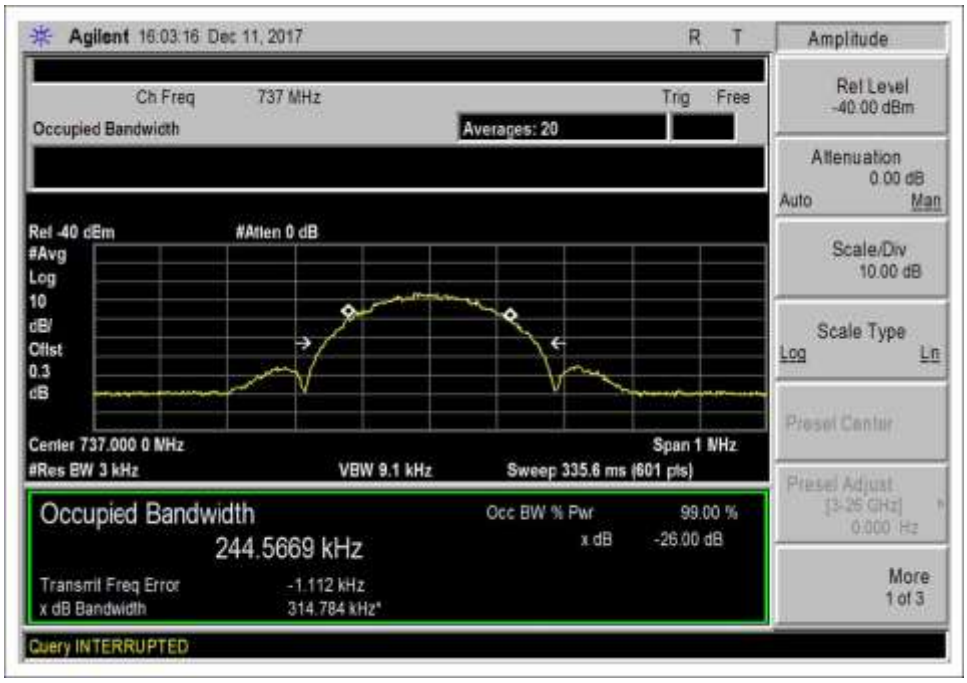
7.10 UL 1710-1755_EDGE_IN



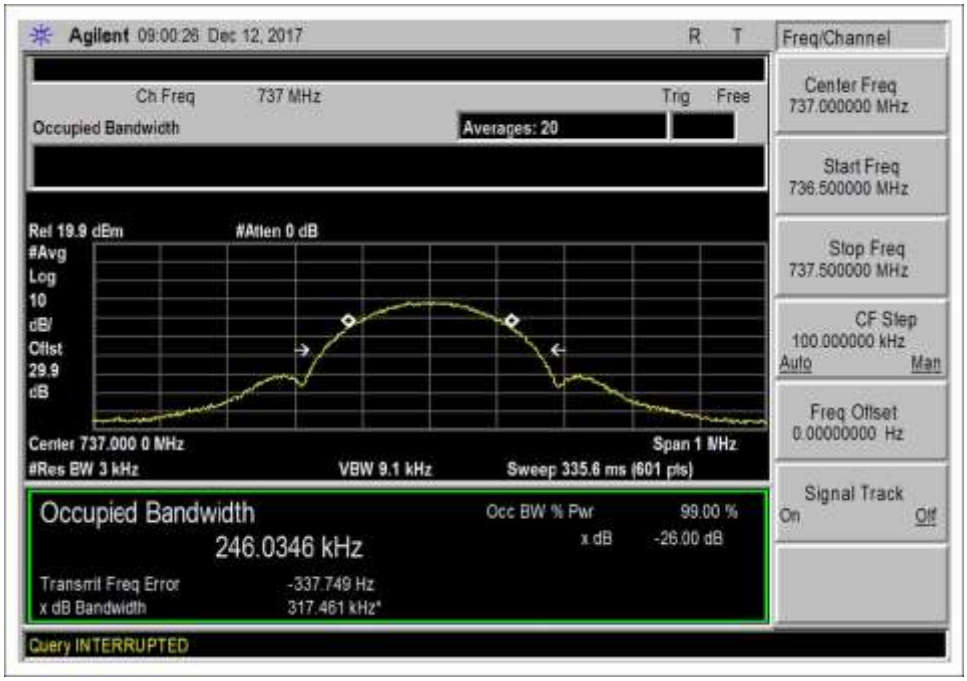
7.10 UL 1710-1755_EDGE_OUT

7.10 UL 1850-1915_EDGE_IN

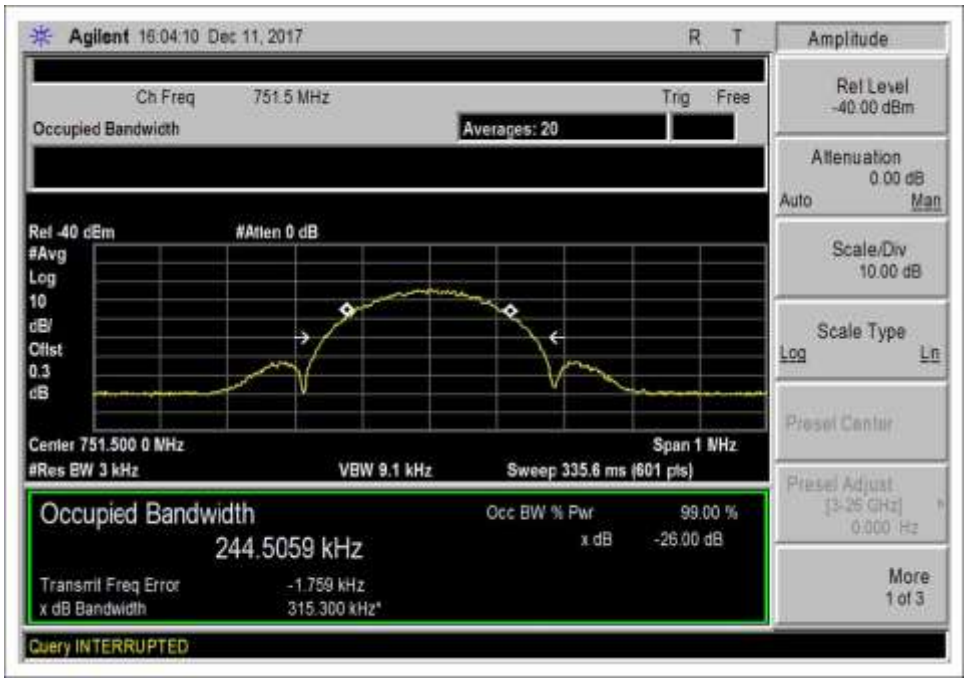
7.10 UL 1850-1915_EDGE_OUT



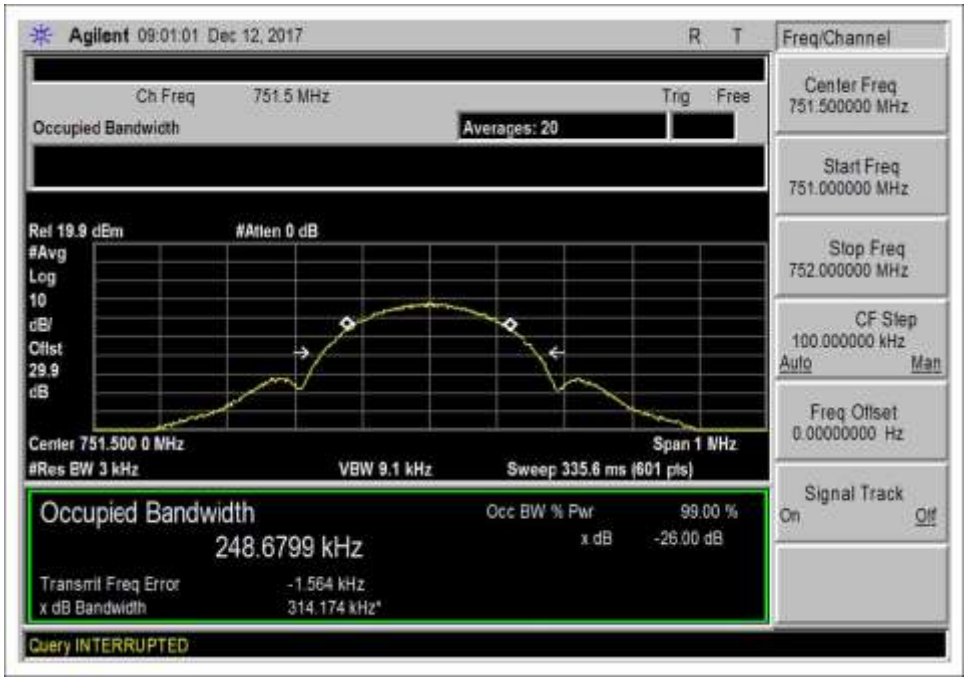
7.10 DL 728-746_EDGE_IN



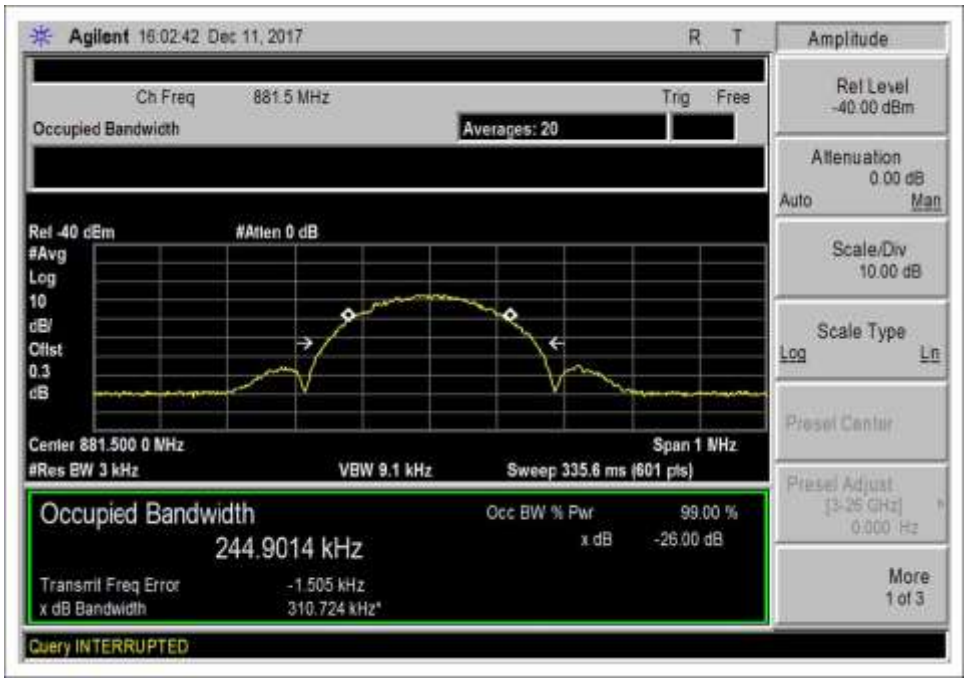
7.10 DL 728-746_EDGE_OUT



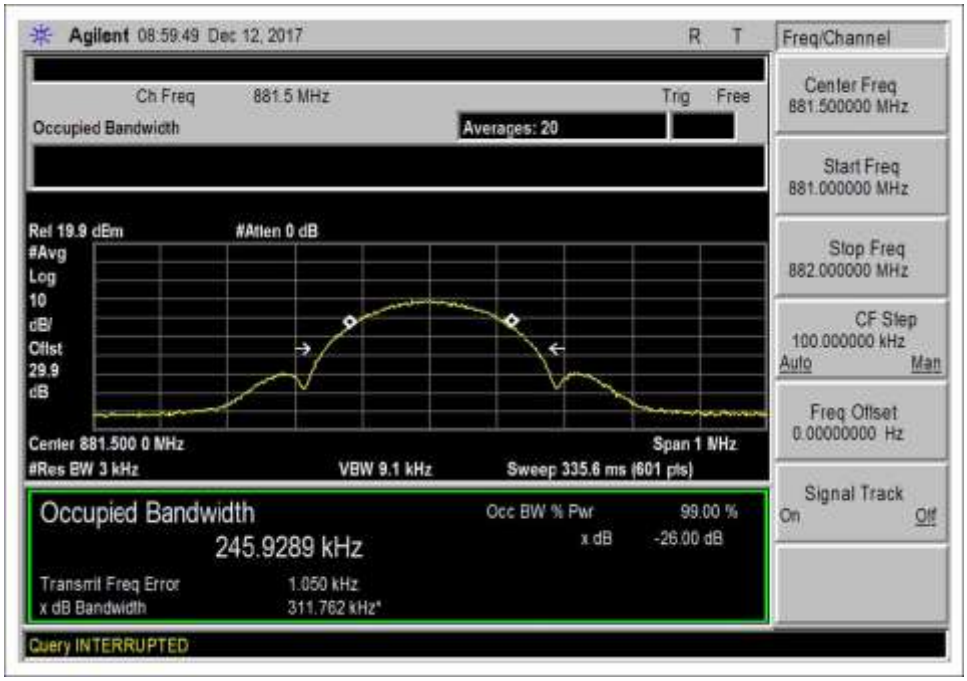
7.10 DL 746-757_EDGE_IN



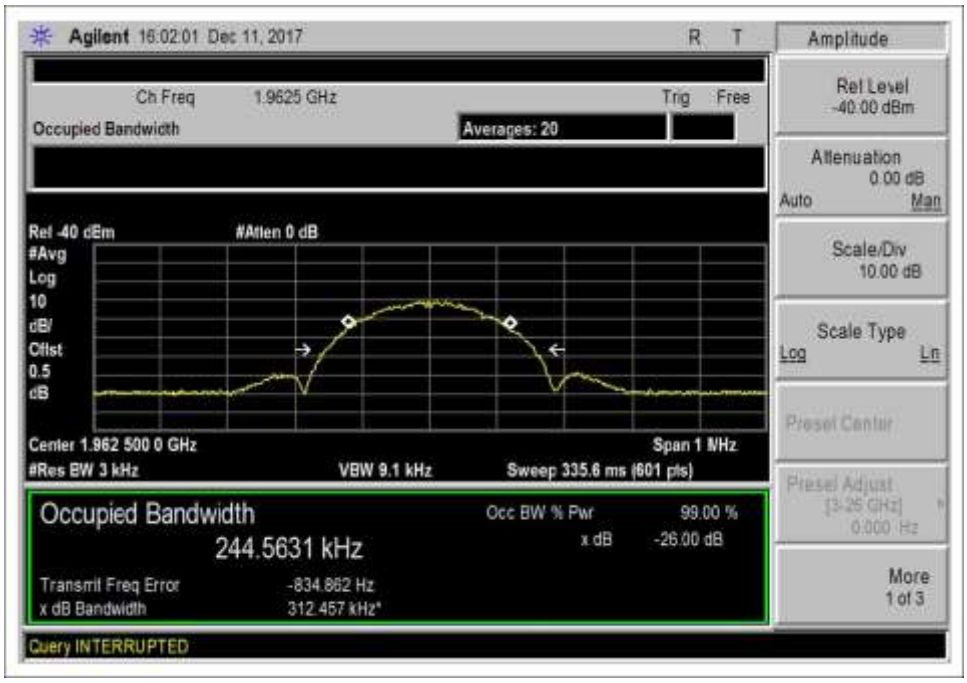
7.10 DL 746-757_EDGE_OUT



7.10 DL 869-894_EDGE_IN

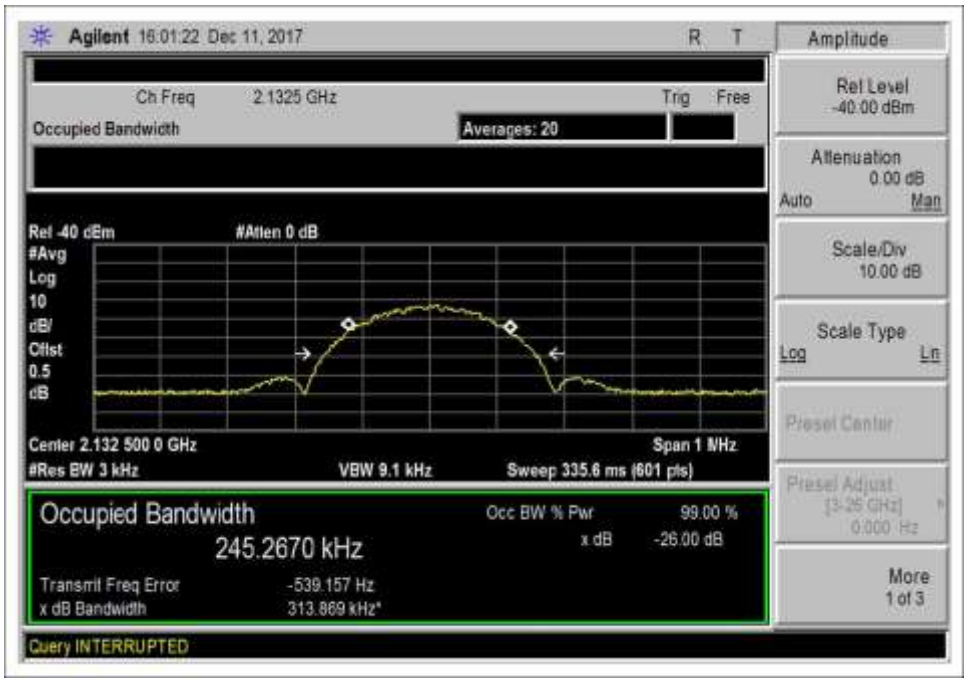


7.10 DL 869-894_EDGE_OUT

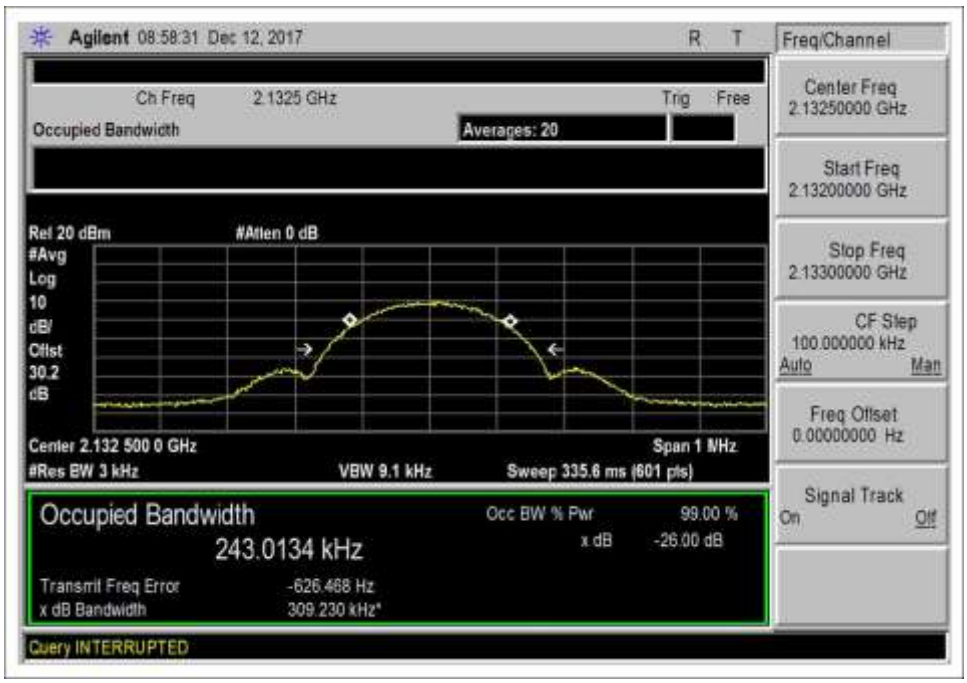


7.10 DL 1930-1995_EDGE_IN

7.10 DL 1930-1995_EDGE_OUT

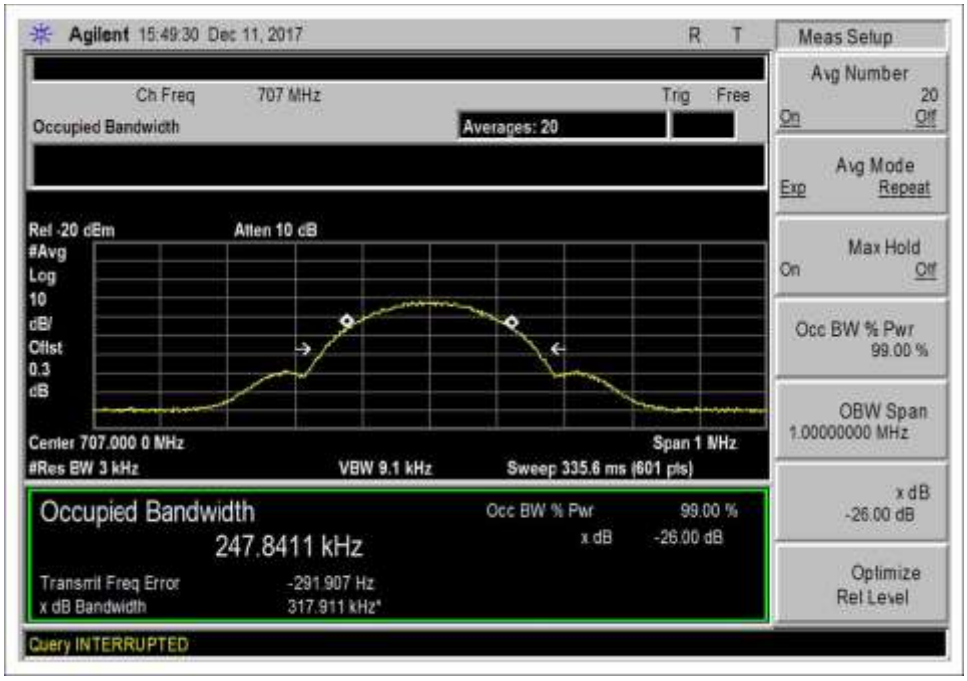


7.10 DL 2110-2155_EDGE_IN

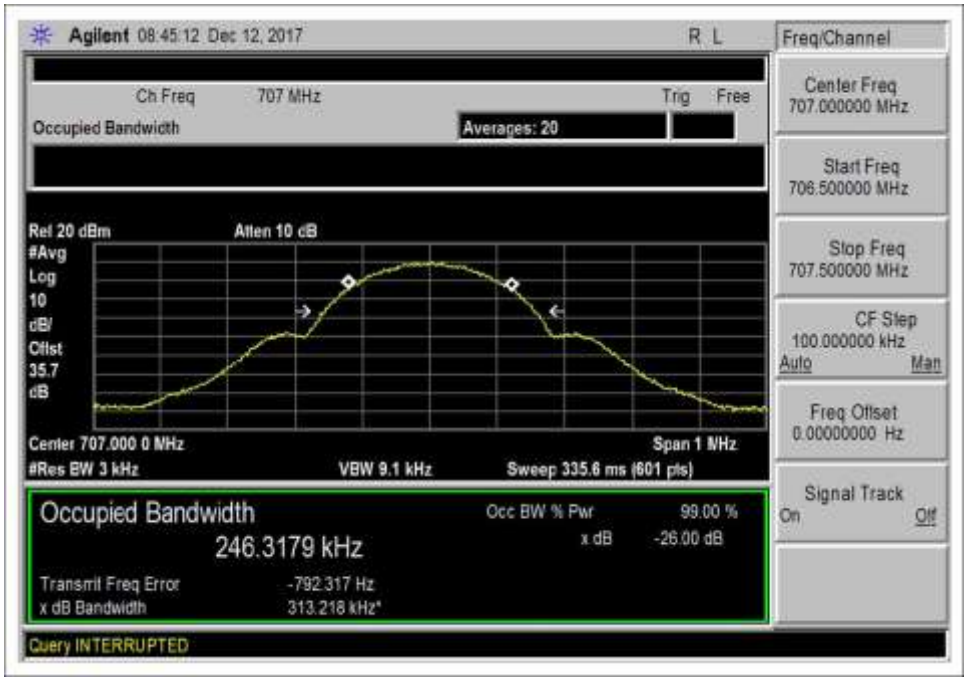


7.10 DL 2110-2155_EDGE_OUT

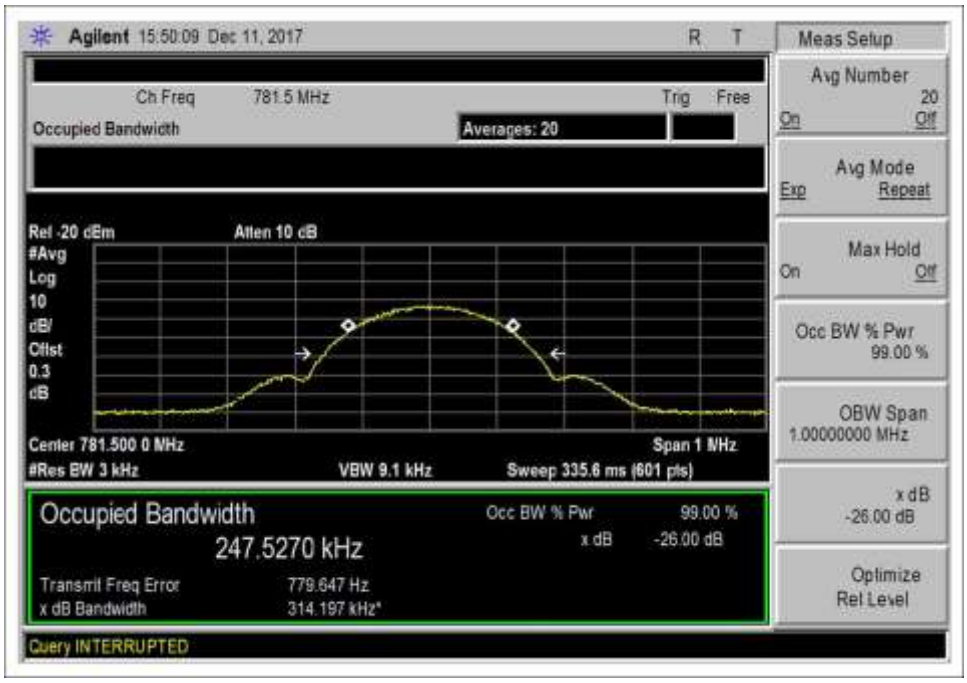
GSM



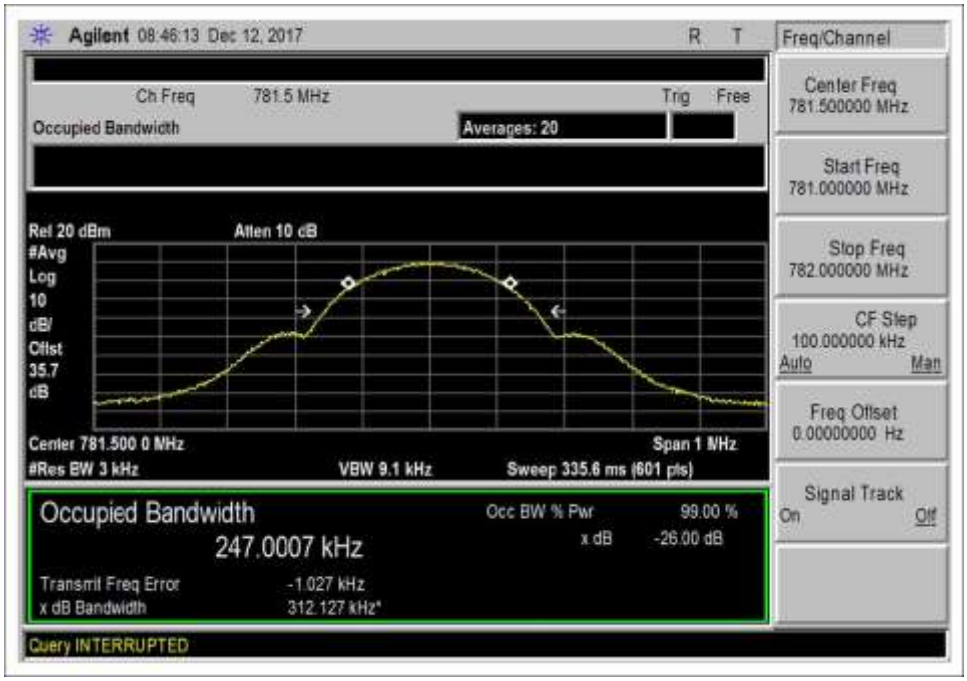
7.10 UL 698-716_GSM_IN



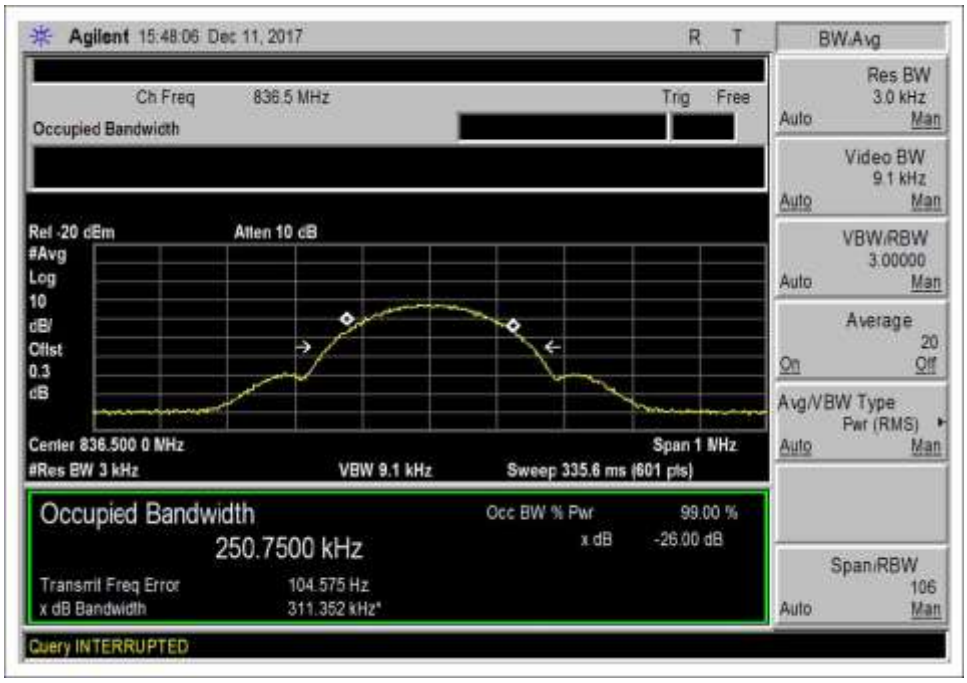
7.10 UL 698-716_GSM_OUT



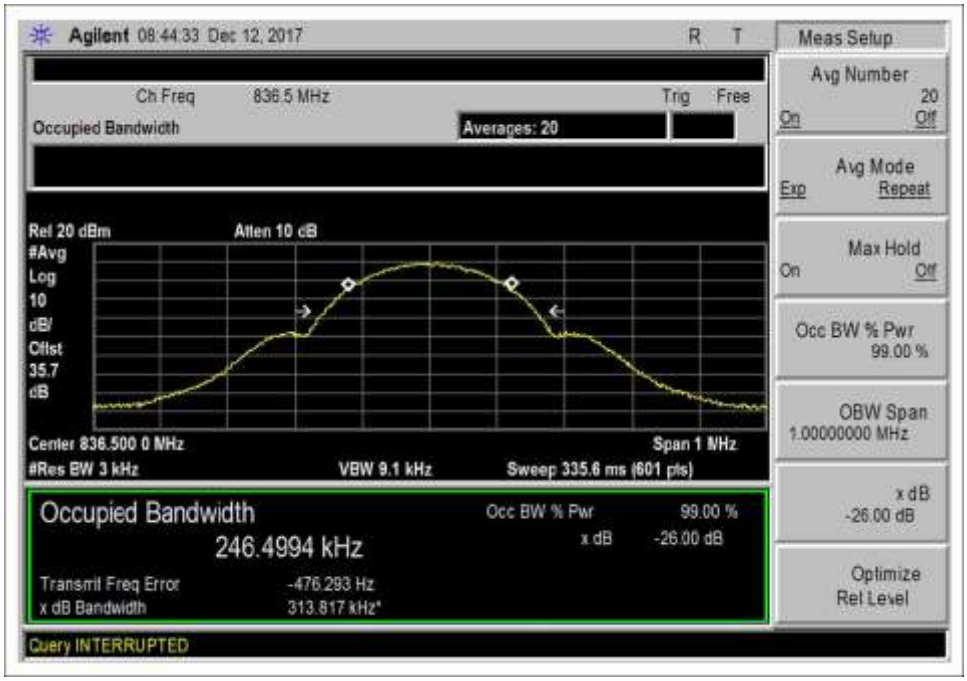
7.10 UL 776-787_GSM_IN



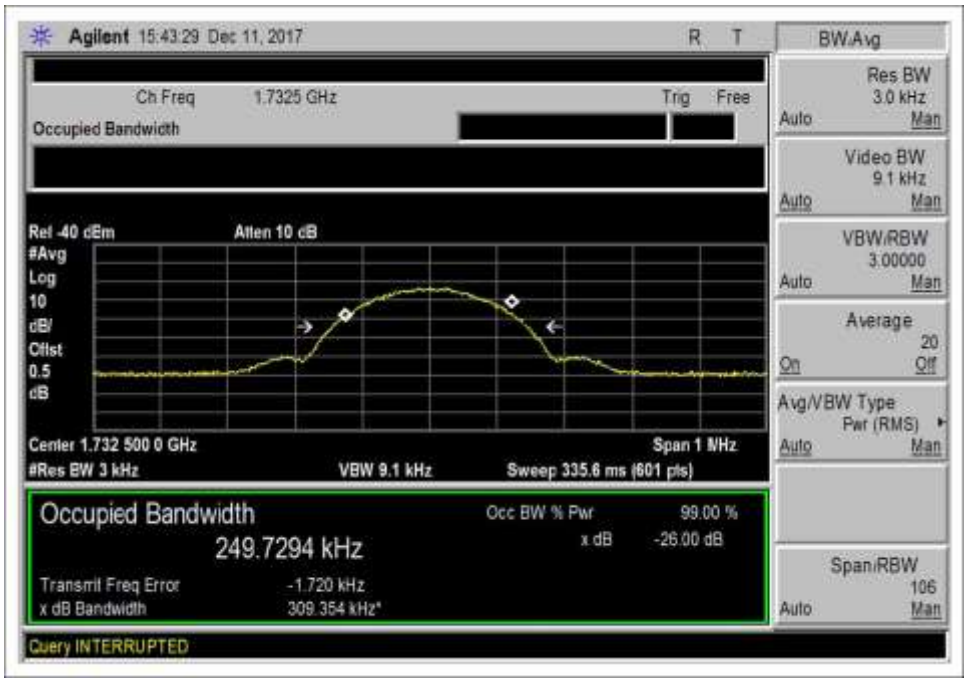
7.10 UL 776-787_GSM_OUT



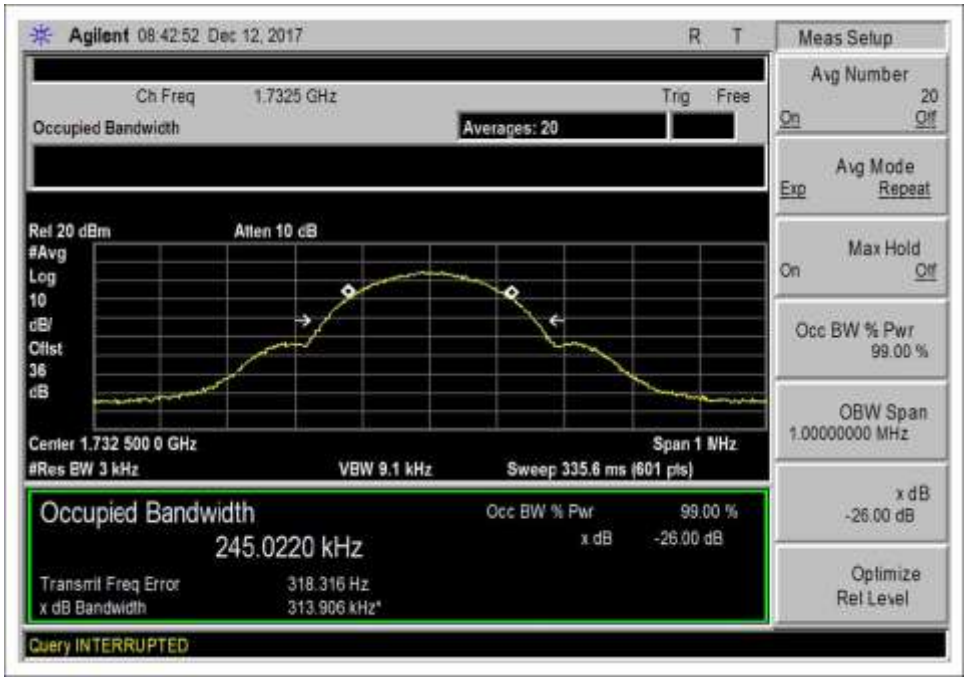
7.10 UL 824-849_GSM_IN



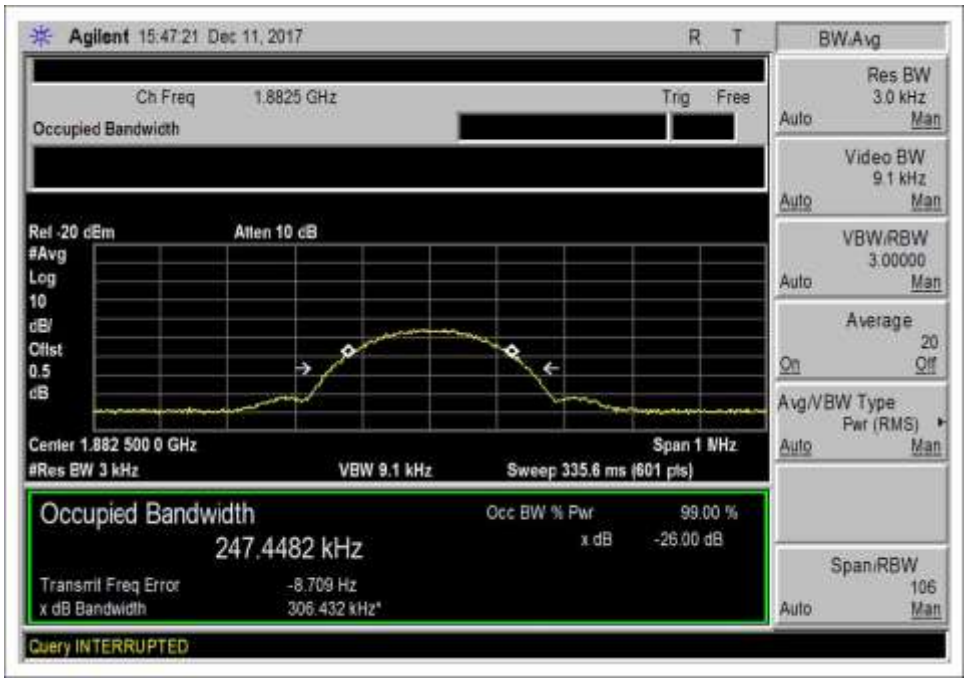
7.10 UL 824-849_GSM_OUT



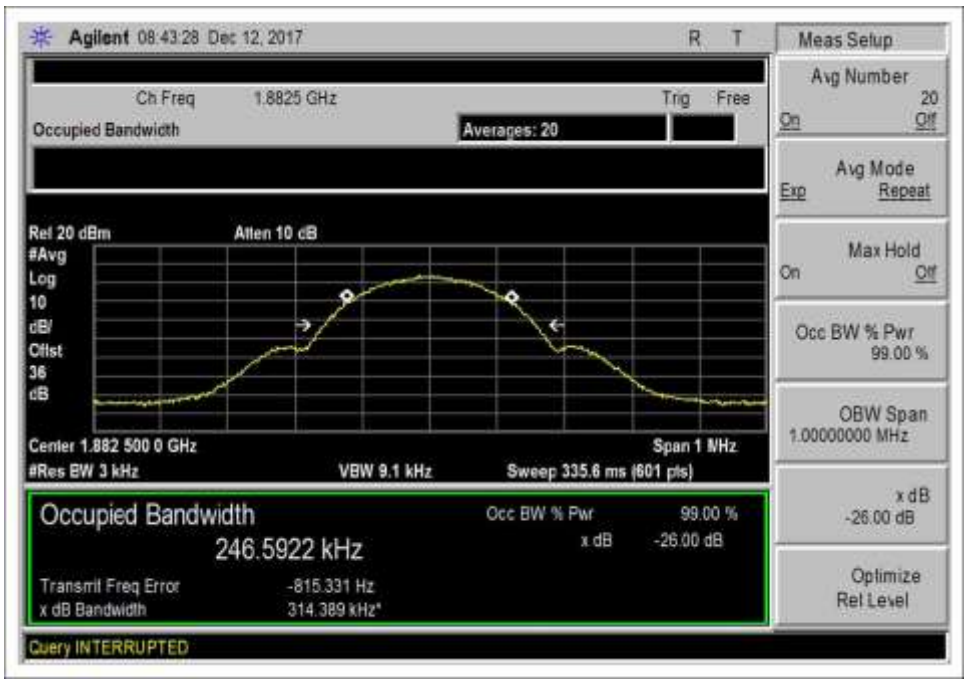
7.10 UL 1710-1755_GSM_IN



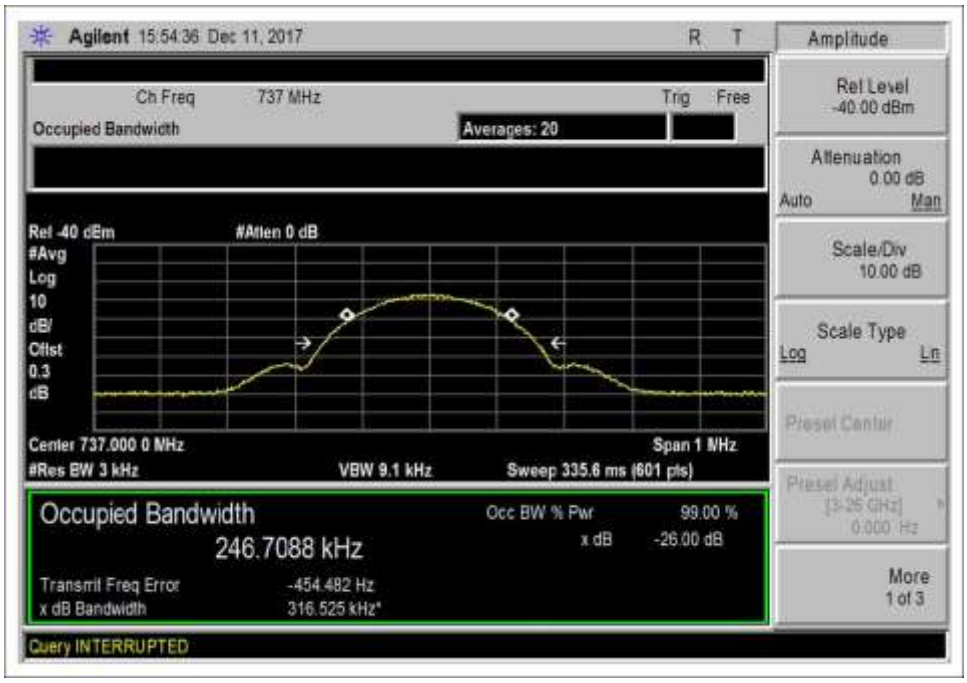
7.10 UL 1710-1755_GSM_OUT



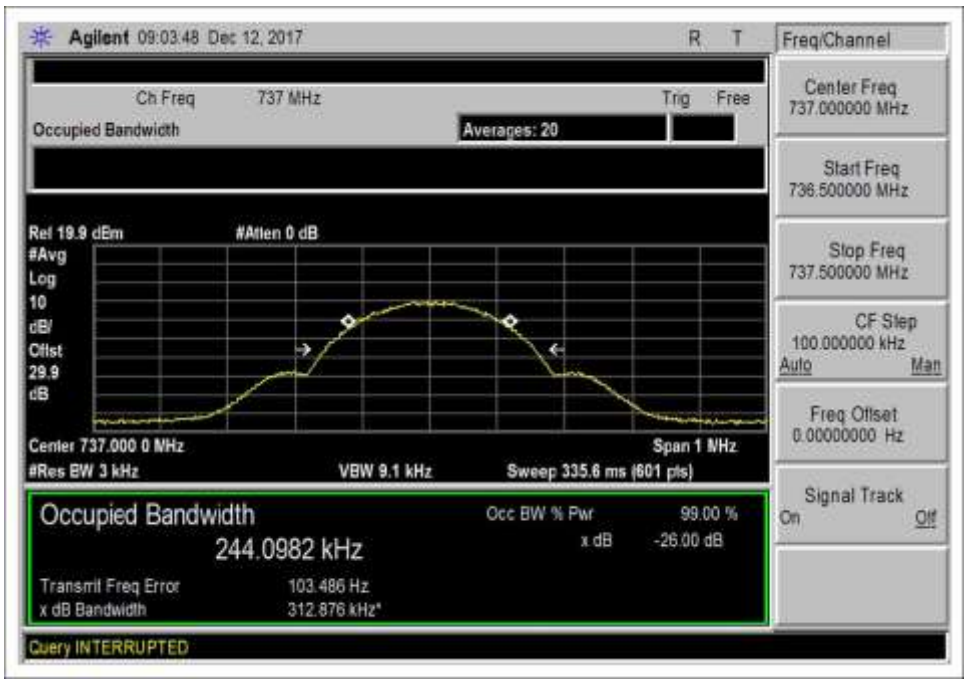
7.10 UL 1850-1915_GSM_IN



7.10 UL 1850-1915_GSM_OUT

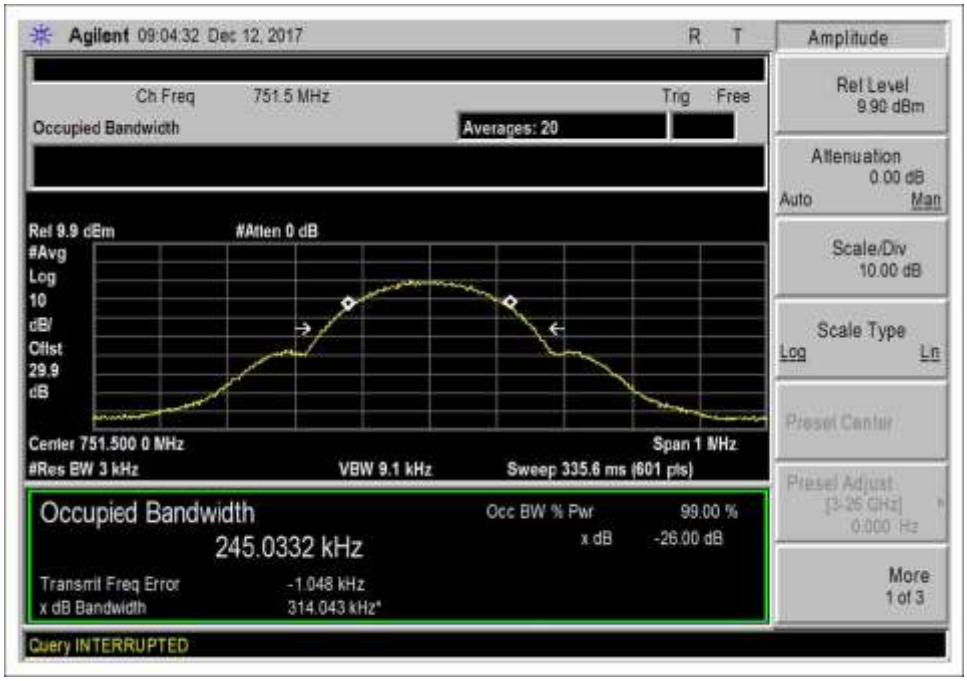


7.10 DL 728-746_GSM_IN



7.10 DL 728-746_GSM_OUT

7.10 DL 746-757_GSM_IN



7.10 DL 746-757_GSM_OUT