Nextivity, Inc.

TEST REPORT FOR

Provider Specific Consumer Signal Booster, CELFI-RS225CU
and
Provider Specific Consumer Signal Booster, CELFI-RS225WU

Tested To The Following Standards:

FCC Part 20.21

Report No.: 95295-10

Date of issue: February 12, 2014

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Nextivity, Inc.
12230 World Trade Dr
San Diego, CA 92128

REPRESENTATIVE: Michiel Lotter
Customer Reference Number: 001832

REPORT PREPARED BY:

Morgan Tramontin & Joyce Walker
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 95295

DATE OF EQUIPMENT RECEIPT: January 7, 2014
DATE(S) OF TESTING: January 7-31, 2014

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Brea A	US0060	SL2-IN-E-1146R	3082D-1	90473	A-0147

SUMMARY OF RESULTS

Standard / Specification: FCC Part 20.21

Test Procedure for Provider Specific Consumer Boosters ANSI 63.26 Measurement Guidance Draft (February 05,2014)		FCC Part 20.21 Section Correlation		Results
Procedure Sec #	**Guidance Description**	**FCC Sec #**	**FCC Rule Description**	
7.1	Authorized Frequency Band Verification and Authorized CMRS Provider	20.21(a)(4) and 20.21(e)(3)	Frequency Bands	Pass
7.2	Maximum Power Measurement	20.21(e)(9)(i)(B) and 20.21(e)(9)(i)(D)	Power Limit	Pass
7.3	Maximum Booster Gain Computation	20.21(e)(9)(i)(B) 20.21(e)(9)(i)(C)(1) 20.21(e)(9)(i)(C)(2)	Bidirectional Capabilities	Pass
7.4	Intermodulation Product	20.21(e)(9)(i)(G)	Intermodulation Limit	Pass
7.5	Out of Band Emissions	20.21(e)(9)(i)(F)	Out of Band Emission	Pass
7.6	Conducted Spurious Emission[1]	2.1051 / 22/24/27[1]	Conducted Spurious Emission[1]	NA[1]
7.7	Noise Limits	20.21(e)(9)(i)(A)(2) 20.21(e)(9)(i)(I)	Noise Limits Transmit Power Off Mode	Pass
7.8	Uplink Inactivity	20.21(e)(9)(i)(J)	Uplink Inactivity	Pass
7.9	Variable Booster Gain	20.21(e)(9)(i)(C)(1)/(2) 20.21(e)(9)(i)(I)	Booster Gain Transmit Power Off Mode	Pass
7.10	Occupied Band Width[1]	2.1049 / 22/24/27[1]	Occupied Bandwidth[1]	NA[1]
7.11	Anti-oscillation	20.21(e)(9)(ii)(A)	Anti-oscillation	Pass
7.12	Radiated Spurious Emission[1]	2.1053 / 22/24/27[1]	Radiated Spurious Emission[1]	NA[1]
7.13	Spectrum Block Filtering	20.21(e)(9)(i)(B)	Spectrum block filtering	NA[2]
7.14	Out of Band Gain Limits	20.21(e)(9)(i)(E)	Out of Band Gain Limits	Pass
7.15	Frequency Stability[1]	2.1055 / 22/24/27[1]	Frequency Stability[1]	NA[1]

NA[1] = A different standard applies; see applicable test report.
NA[2] = Not applicable. See the section in the report for the reason.

Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

Provider Specific Consumer Signal Booster
Manuf: Nextivity, Inc.
Model: CELFI-RS225CU
Serial: 157216000246

Provider Specific Consumer Signal Booster
Manuf: Nextivity, Inc.
Model: CELFI-RS225WU
Serial: 157216000246

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Power Supply
Manuf: Nextivity
Model: WRG15F-120AB
Serial: 20120111

Power Supply
Manuf: Nextivity
Model: WRG15F-120AB
Serial: 20120815

Signal Generator
Manuf: Agilent
Model: E4438C
Serial: MY42082260

Base Station Simulator
Manuf: Agilent
Model: E5515C
Serial: GB47320116

Signal Generator
Manuf: Agilent
Model: E4438B
Serial: US40051692

RF Combiner
Manuf: Anaren
Model: 44000
Serial: 0583

FCC PART 20.21

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) CFR 47 Clause 20.21(e)(9) requirements for Provider-Specific Consumer Signal Boosters.

7.1 Authorized Frequency Band Verification and CMRS Provider

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.1 Authorized Freq band
Work Order #: **95295** Date: 1/7/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY42082260

7.1 Summary of Results

Pass: The plots in the data sectiont shows the device only relays/transmits when authorized CMRS code of 410 was received.

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.

For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators. Tx of WU is connected to RXc of CU, RX of WU is connected to UNII TX port of CU.

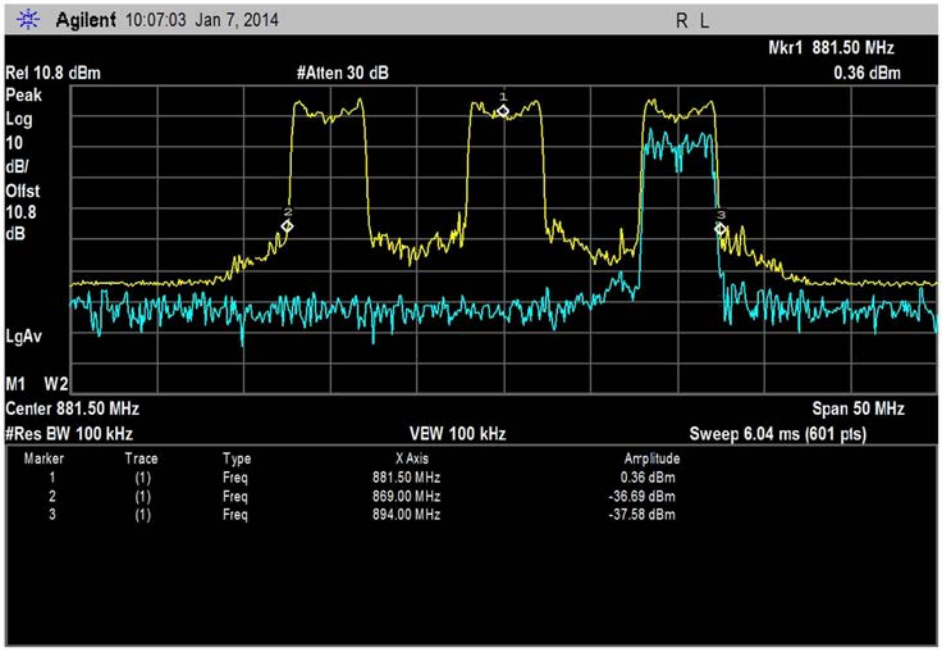
Intended band of operation

UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,

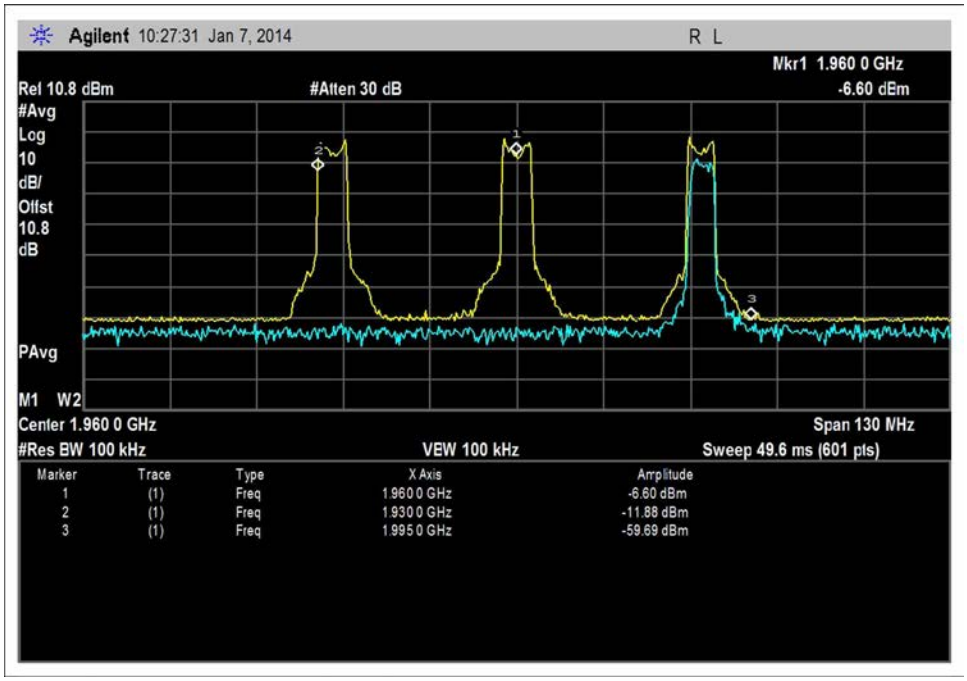
Test was performed with test mode, test signal: 4.1 MHz AWGN.

Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

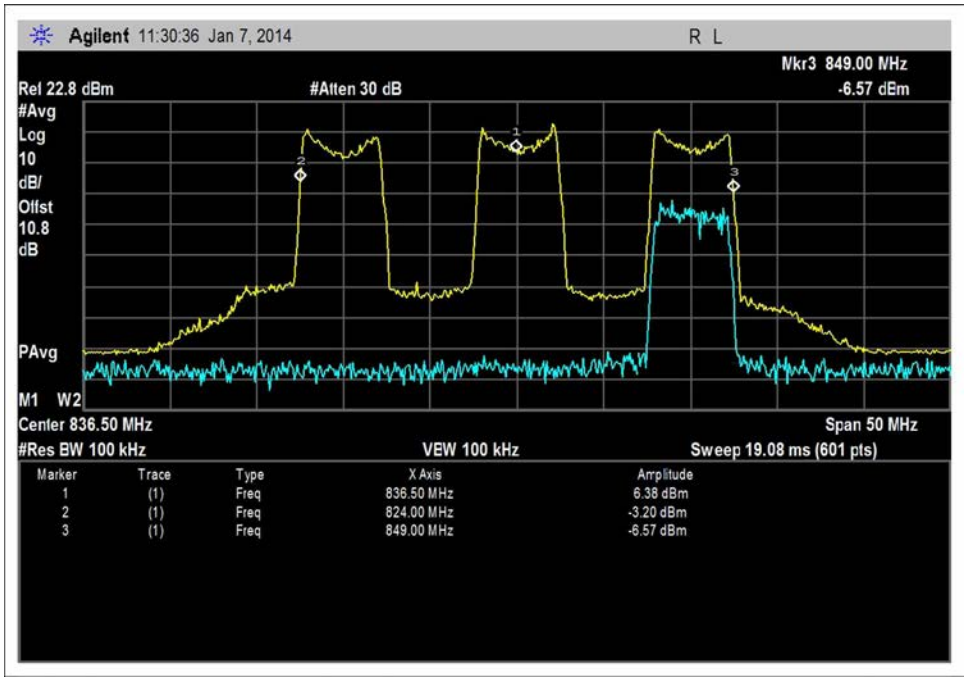
Test Data



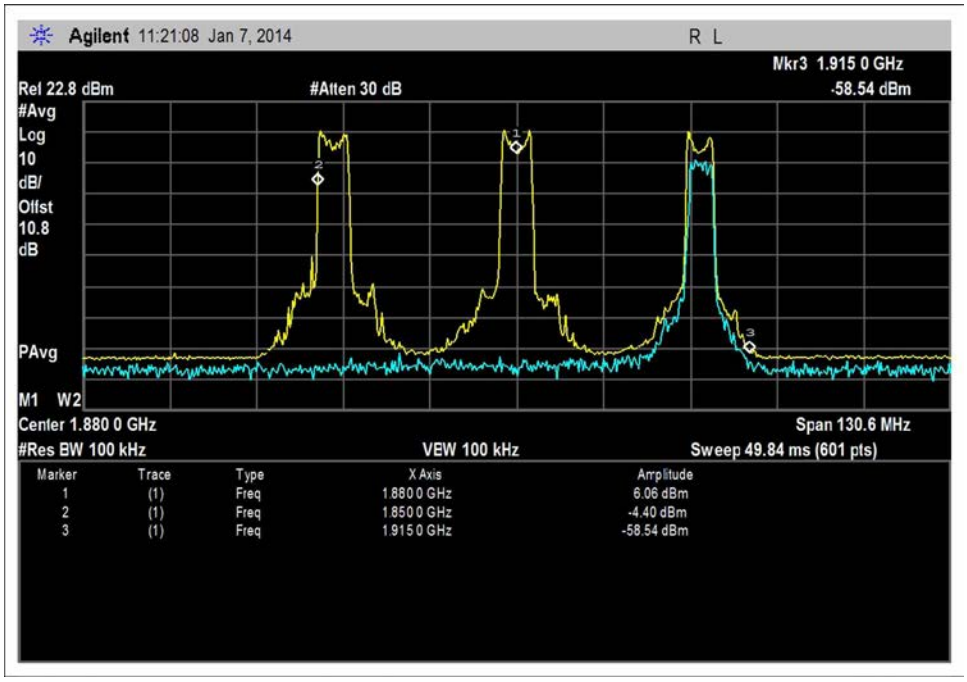
DL_869-894MHz



DL_1930-1990MHz



UL_824-849MHz



UL_1850-1915MHz

Test Conditions / Setup

Test Location: CKC Laboratories, Inc. 110 N. Olinda Pl, Brea, CA 92823

Customer:	**Nextivity, Inc.**		
Specification:	7.1 Authorized CMRS Provider		
Work Order #:	**95295**	Date:	1/9/2014
Test Type:	**Conducted Emissions**		
Equipment:	**Provider Specific Consumer Signal Booster**	Sequence#:	1
Manufacturer:	Nextivity, Inc.	Tested By:	E. Wong
Model:	CELFI-RS225CU, CELFI-RS225WU,		110V 60Hz
S/N:	157216000246, 157216000246		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	C00082	RF Coupler	722-10-1.500V	8/21/2013	8/21/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

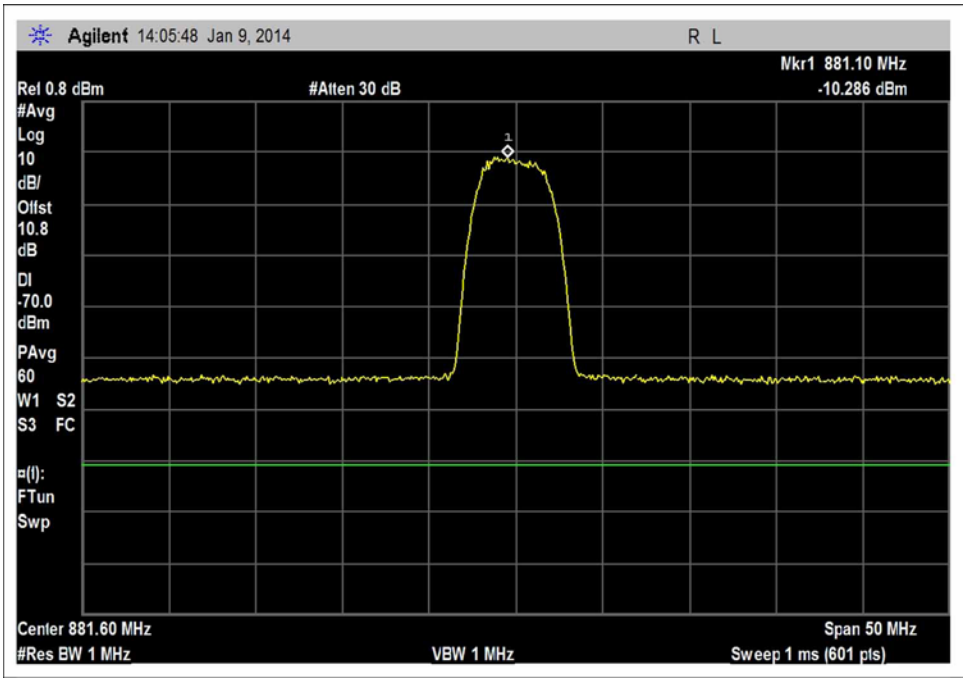
Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY42082260
Base Station Simulator	Agilent	E5515C	GB47320116

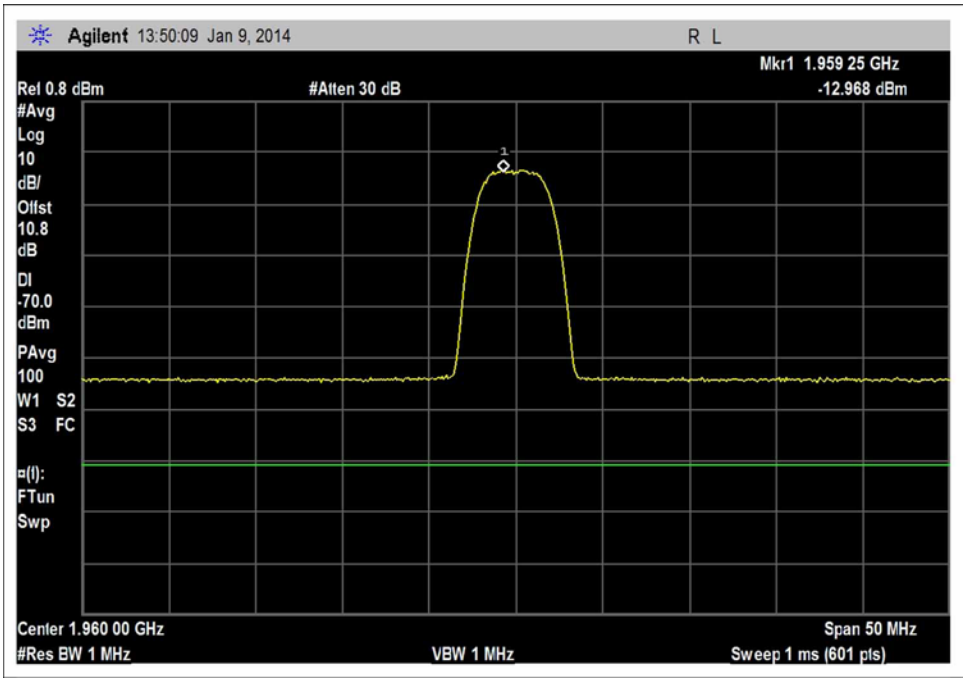
Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.
For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators.
Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.
Intended band of operation
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,
Authorized CMRS code = 410. Unauthorized CMRS code = 005, 260.
Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

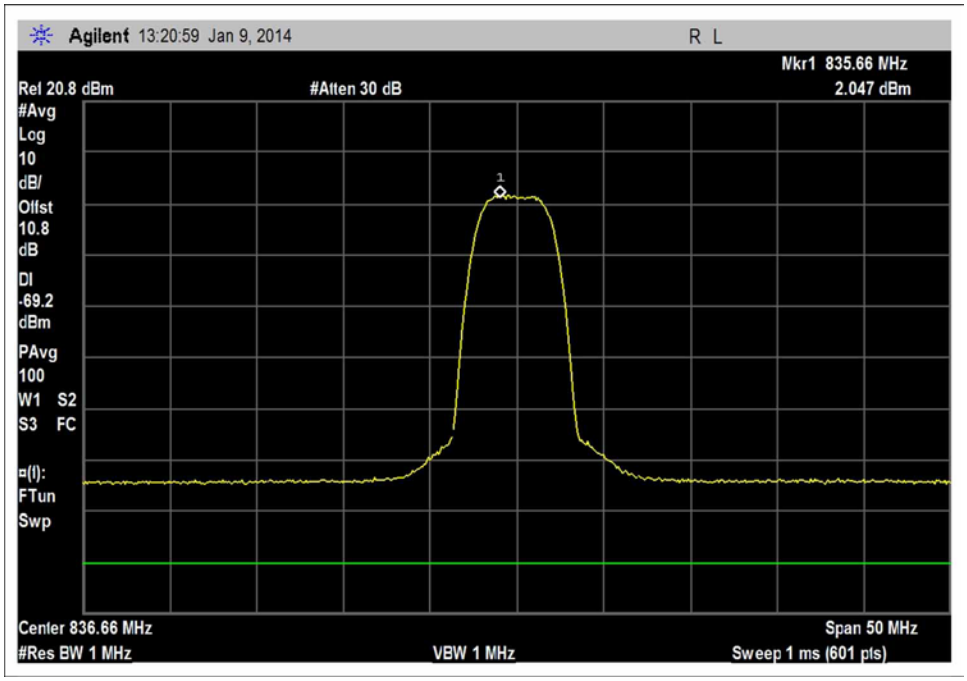
Test Data



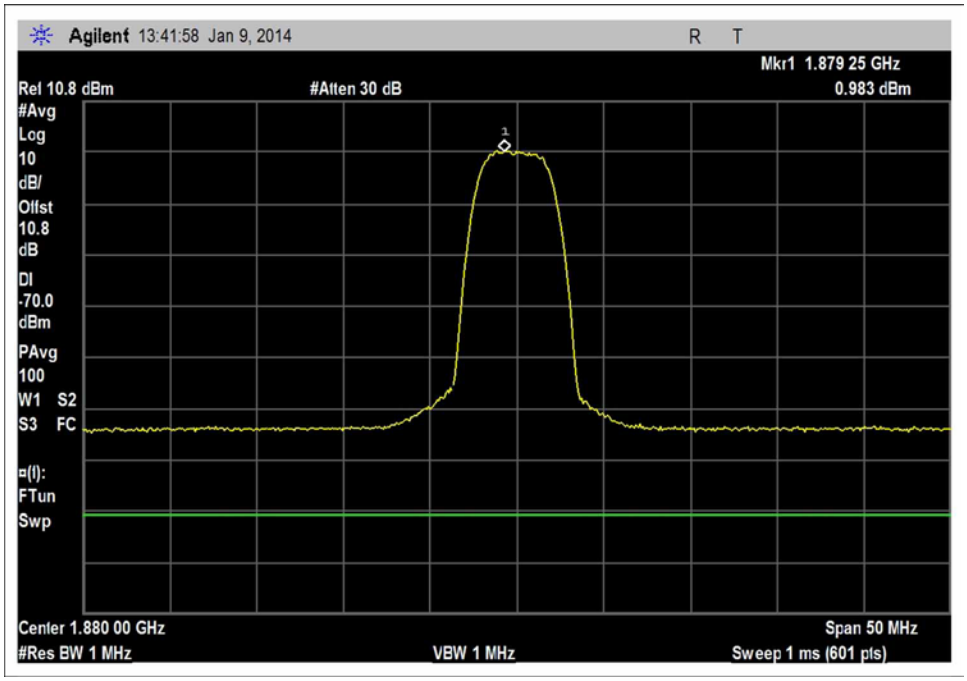
DL_869-894MHz_410



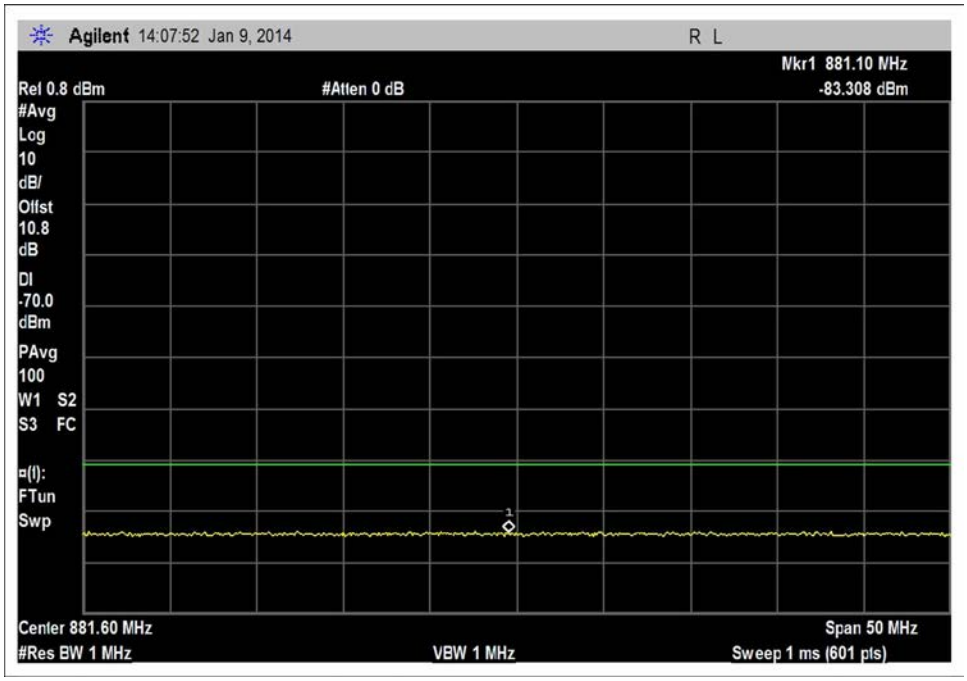
CMRS_DL_1930-1995MHz_410



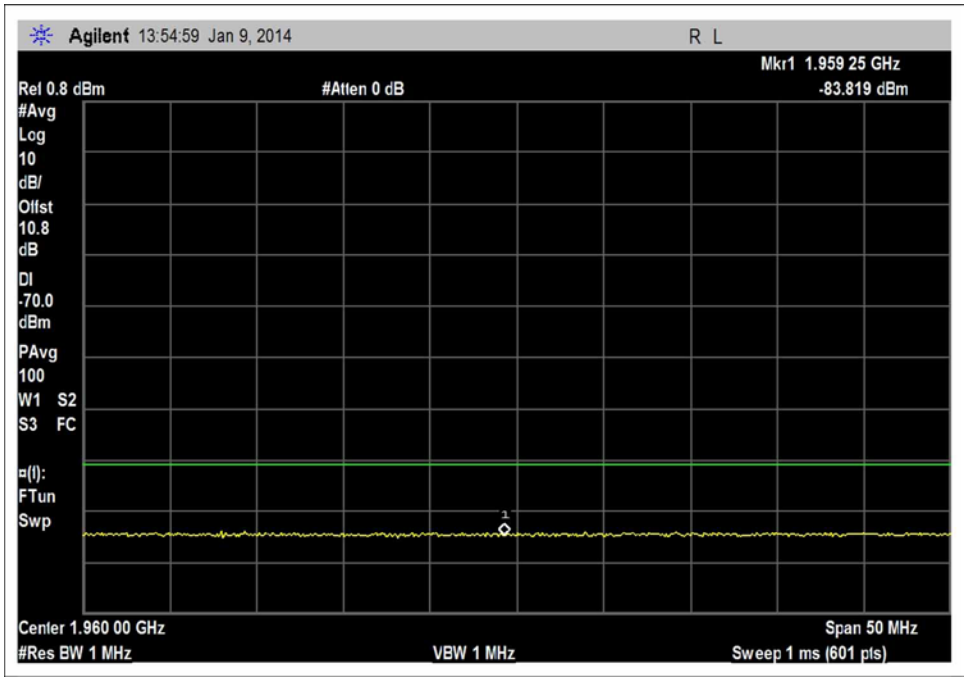
UL_824-849MHz_410



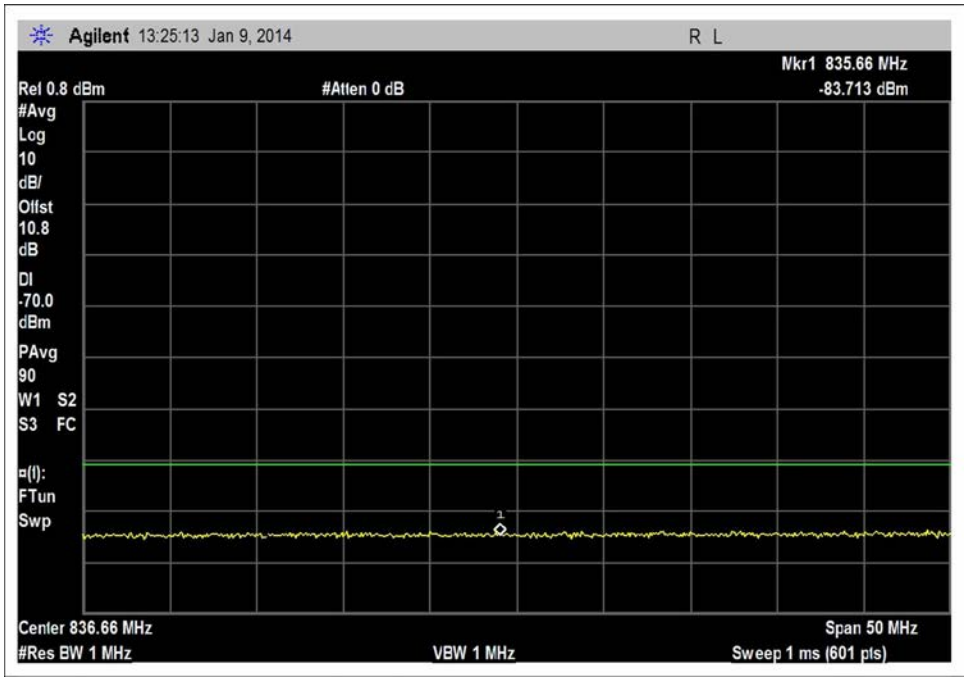
UL_1850-1915MHz_410



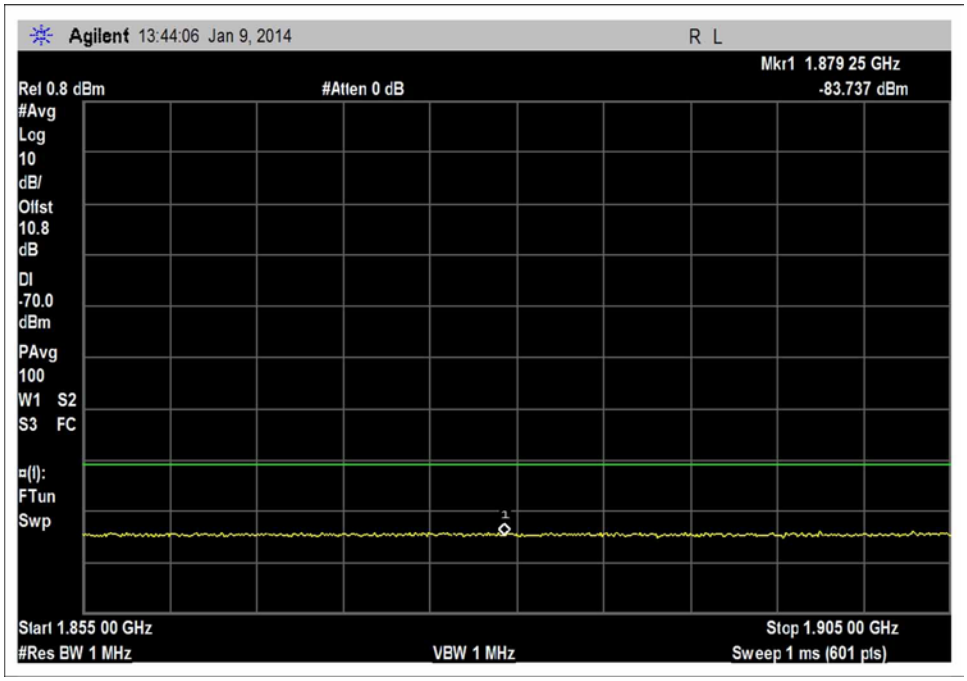
DL_869-894MHz_260



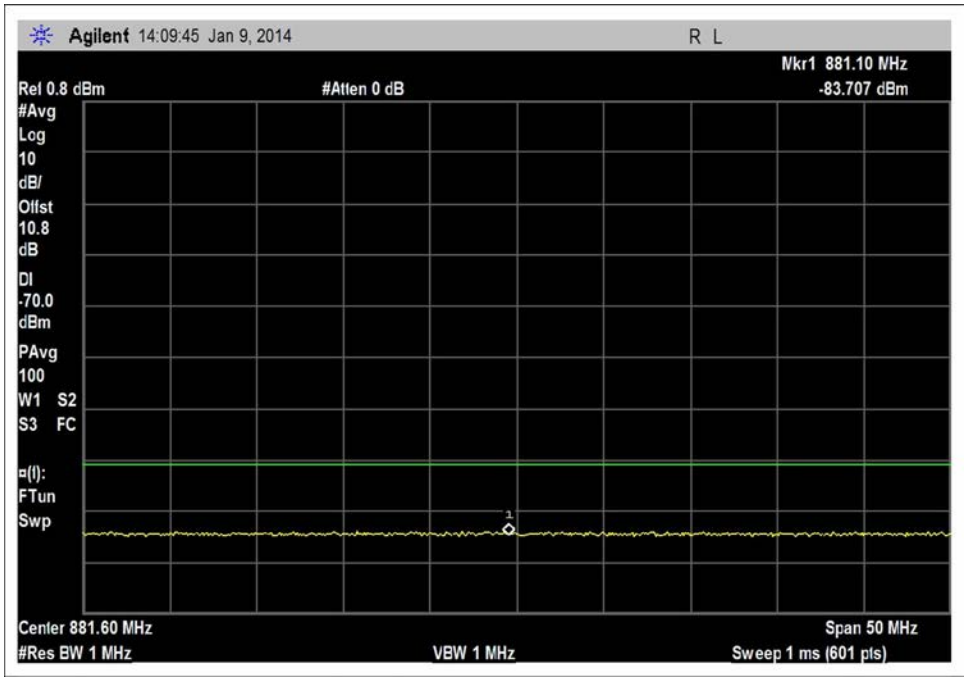
DL_1930-1995MHz_260



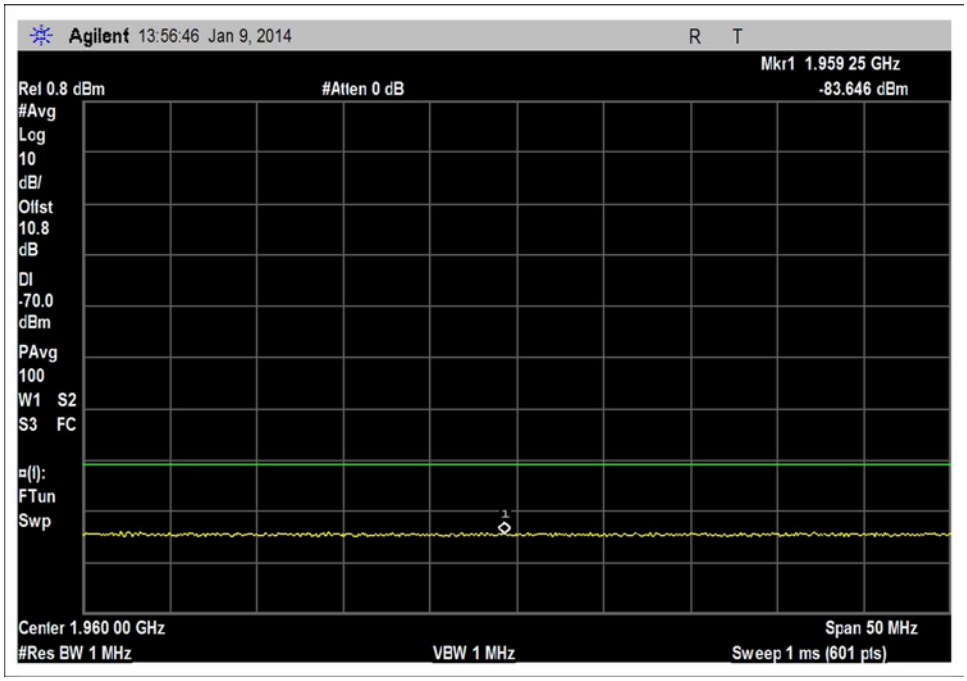
UL_824-849MHz_260



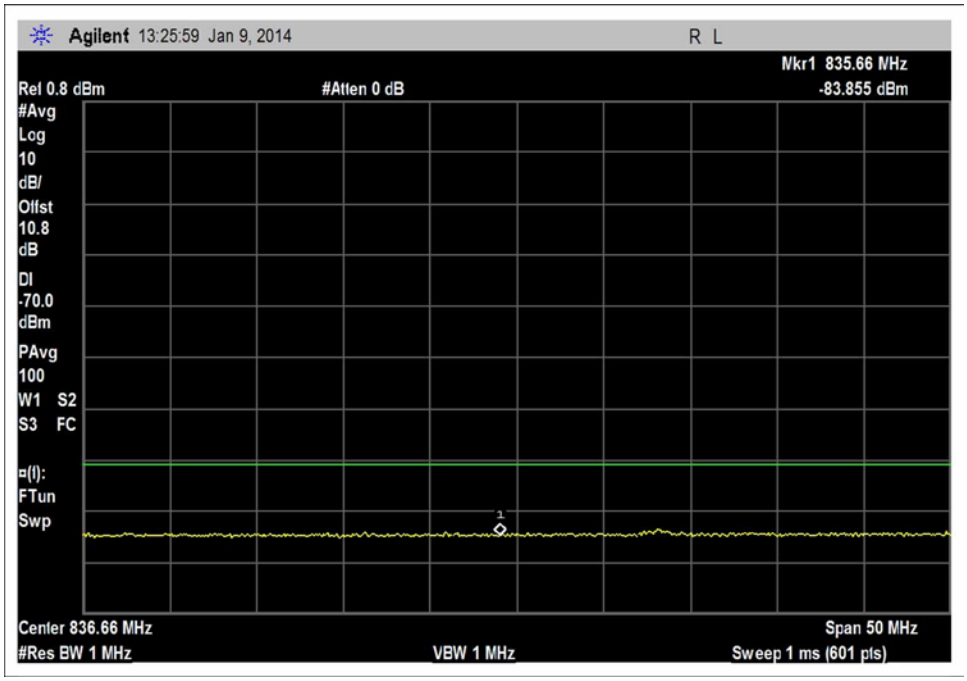
UL_1850-1915MHz_260



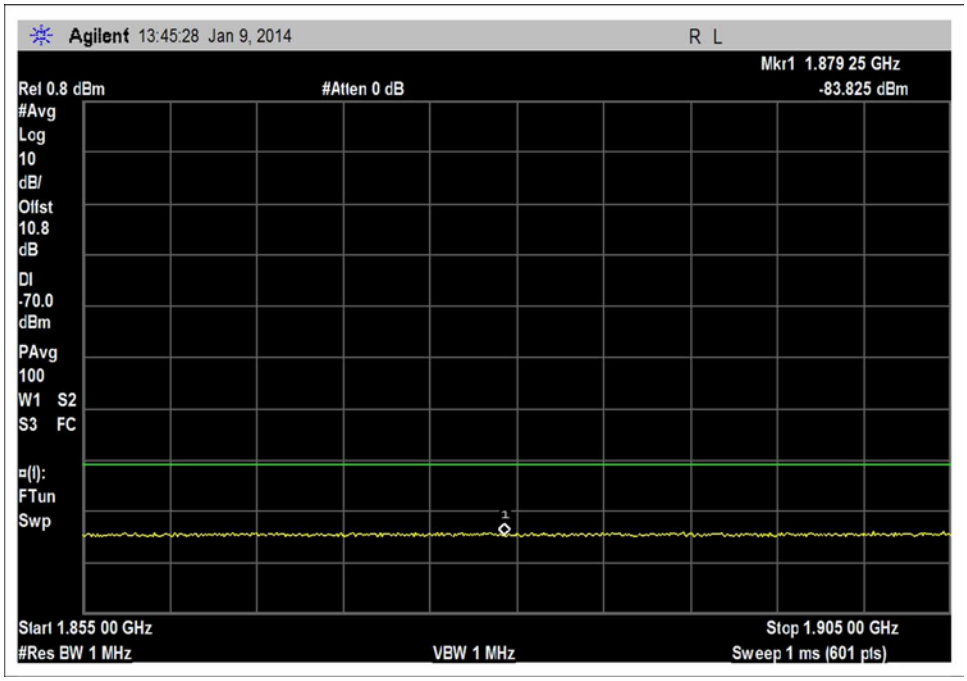
DL_869-894MHz_005



DL_1930-1995MHz_005

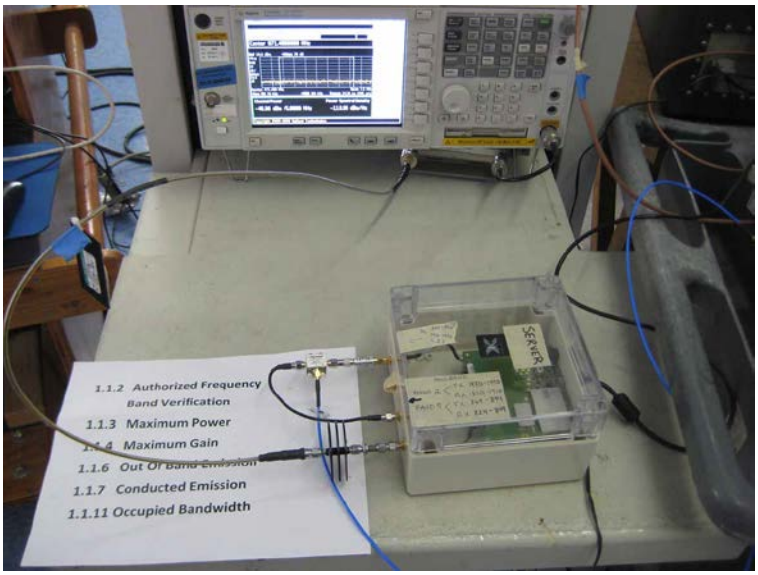


UL_824-849MHz_005

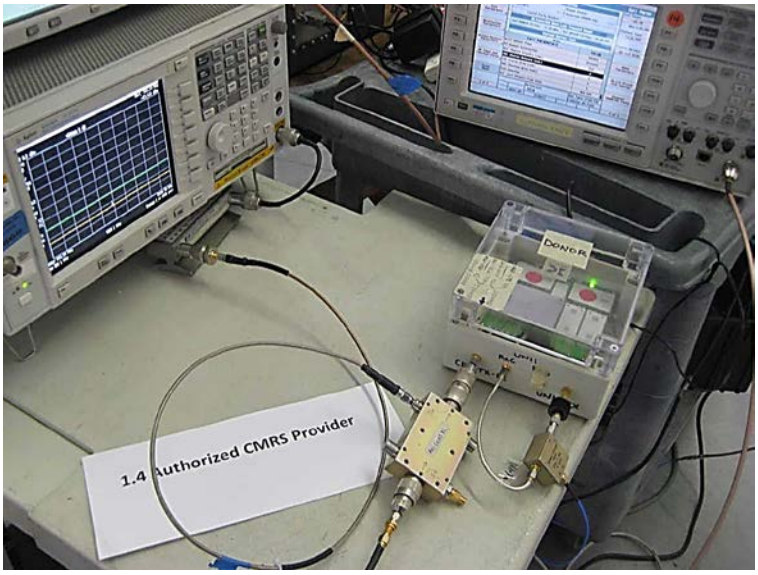


UL_1850-1915MHz_005

Test Setup Photo(s)



Note: The sign in the photo has the incorrect numbering reference. The proper reference is 7.1.



Note: The signs in the photos have the incorrect numbering references. The proper reference is 7.1.

7.2 Maximum Power Measurement

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.2 Maximum Power
Work Order #: **95295** Date: 1/7/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY42082260
Base Station Simulator	Agilent	E5515C	GB47320116

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.

For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators. Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.

Intended band of operation

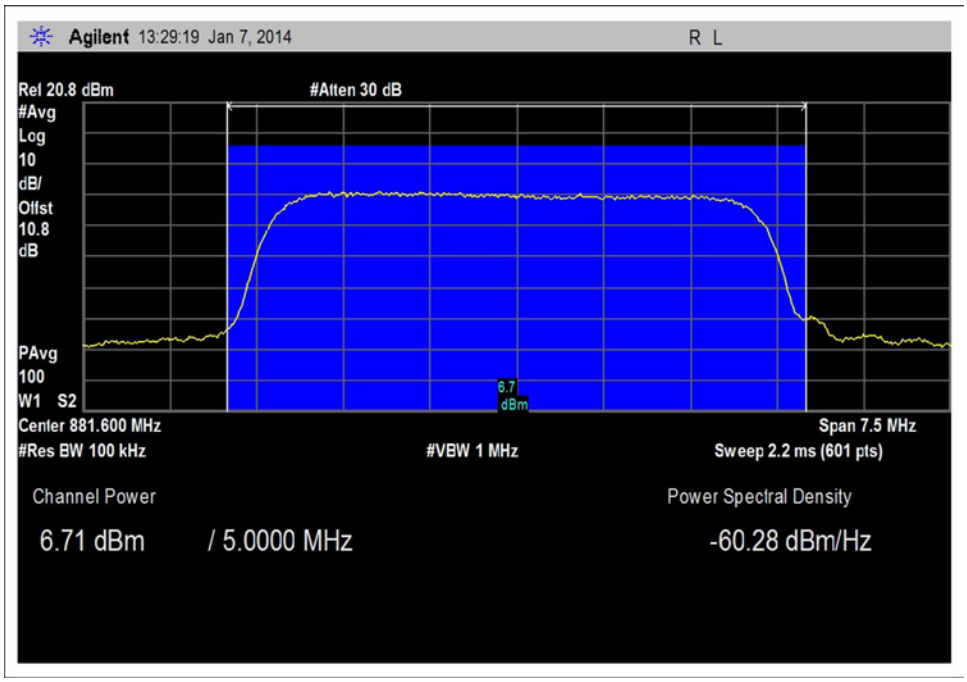
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,
Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

7.2 Summary of Results

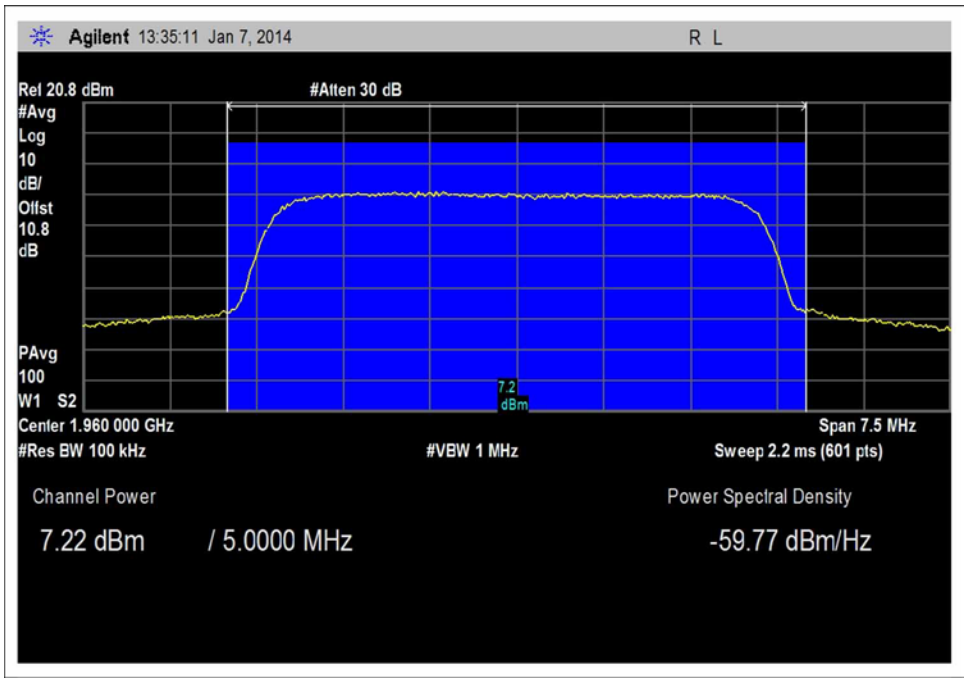
Pass: As summarized in the table below:

4.1MHz AWGN					
Frequency	**Output Power**	**Ant Gain**	**Cable Loss**	**EIRP(dBm)**	**Limit(dBm)**
UL 1850-1915	17.6	7.0	0.0	**24.6**	17 min/30 max
UL 824-849	17.0	1.5	0.0	**18.5**	17 min/30 max
DL 1930-1995	7.2	2.0	0.0	**9.2**	17 max
DL-869-894	6.7	-3.0	0.0	**3.7**	17 max

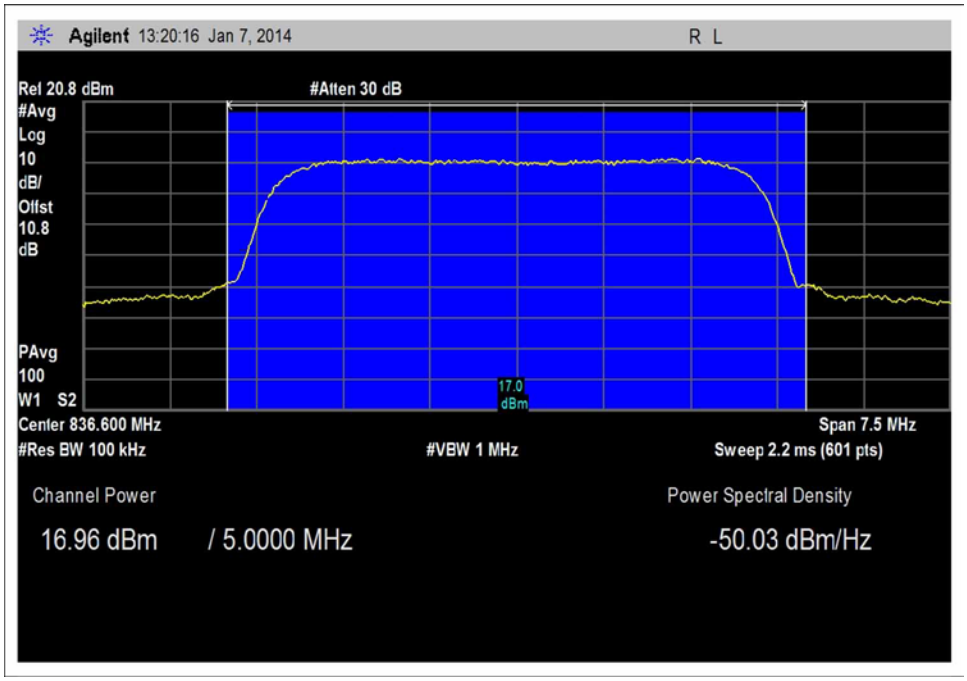
Test Data



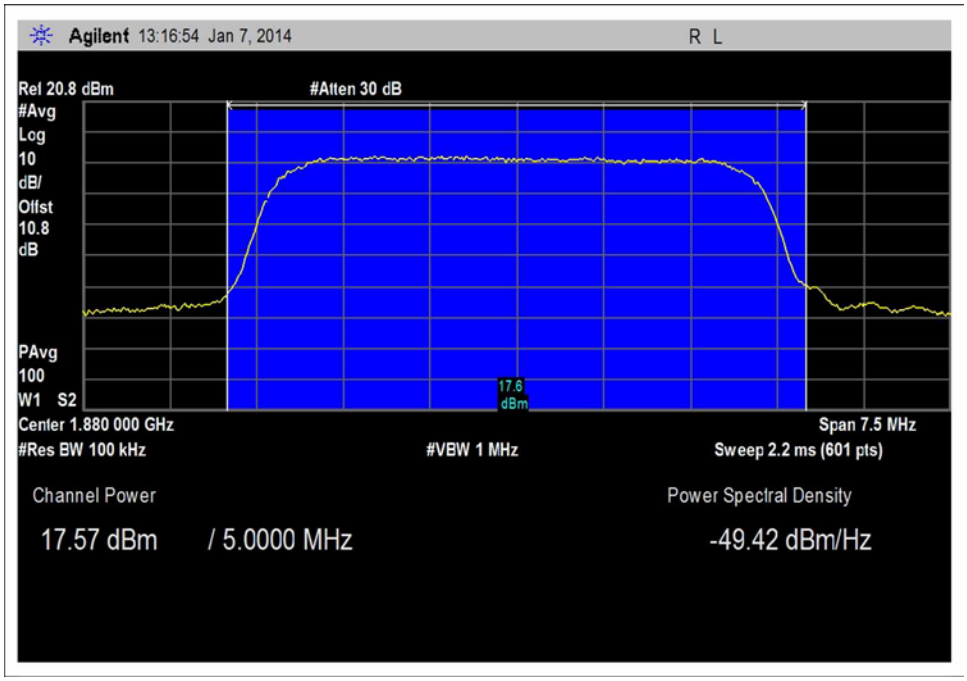
DL_869-894MHz



DL_1930-1990MHz

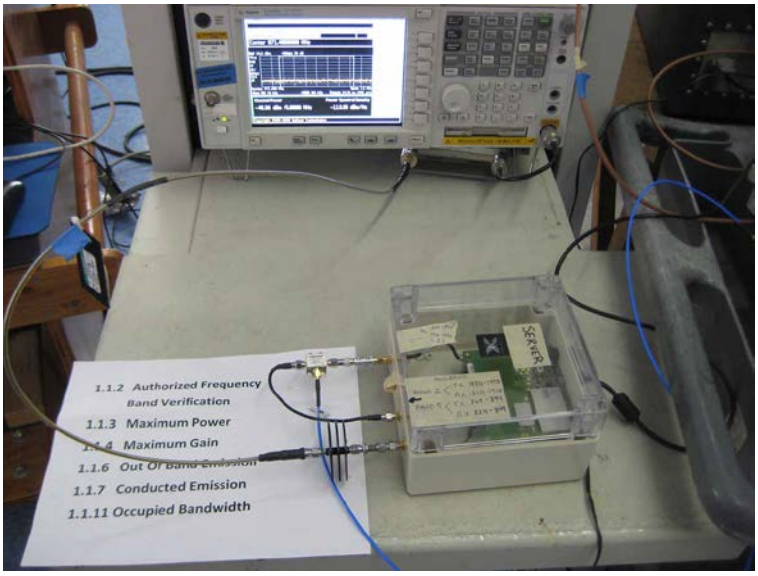


UL_824-849MHz_B



UL_1850-1915MHz_B

Test Setup Photo(s)



Note: The sign in the photo has the incorrect numbering reference. The proper reference is 7.2.

7.3 Maximum Booster Gain Computation

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.3 Maximum Booster Gain Computation
Work Order #: **95295** Date: 1/7/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY42082260
Base Station Simulator	Agilent	E5515C	GB47320116

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.

For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators. Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.

Intended band of operation
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,
Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

7.3 Summary of Results

Pass: Meets gain requirement as indicated in result tables above.

Test Data

				4.1 MHz AWGN		
Frequency				Input(dBm)	Output (dBm)	Gain(dB)
UL 1850-1915				-78.0	17.6	95.6
UL 824-849				-80.0	17.0	97.0
DL 1930-1995				-91.0	7.2	98.2
DL-869-894				-91.0	6.7	97.7

			Limit(dB)
UL gain vs DL gain 1800/1900		-2.6	9
UL gain vs DL gain 850/890		-0.7	9

4.1MHz AWGN					
Frequency	Output Power	Ant Gain	Cable Loss	EIRP(dBm)	Limit(dBm)
UL 1850-1915	17.6	7.0	0.0	**24.6**	17 min/30 max
UL 824-849	17.0	1.5	0.0	18.5	17 min/30 max
DL 1930-1995	7.2	2.0	0.0	9.2	17 max
DL-869-894	6.7	-3.0	0.0	3.7	17 max

Test Setup Photo(s)

Note: No setup photo is needed as this section is a computation only.

7.4 Intermodulation Product

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.4 Intermodulation.
Work Order #: **95295** Date: 1/10/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
RF Combiner	Anaren	44000	0583
Signal Generator	Agilent	E4438C	MY42082260
Signal Generator	Agilent	E4438B	US40051692

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.

For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators. Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.

Intended band of operation
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,

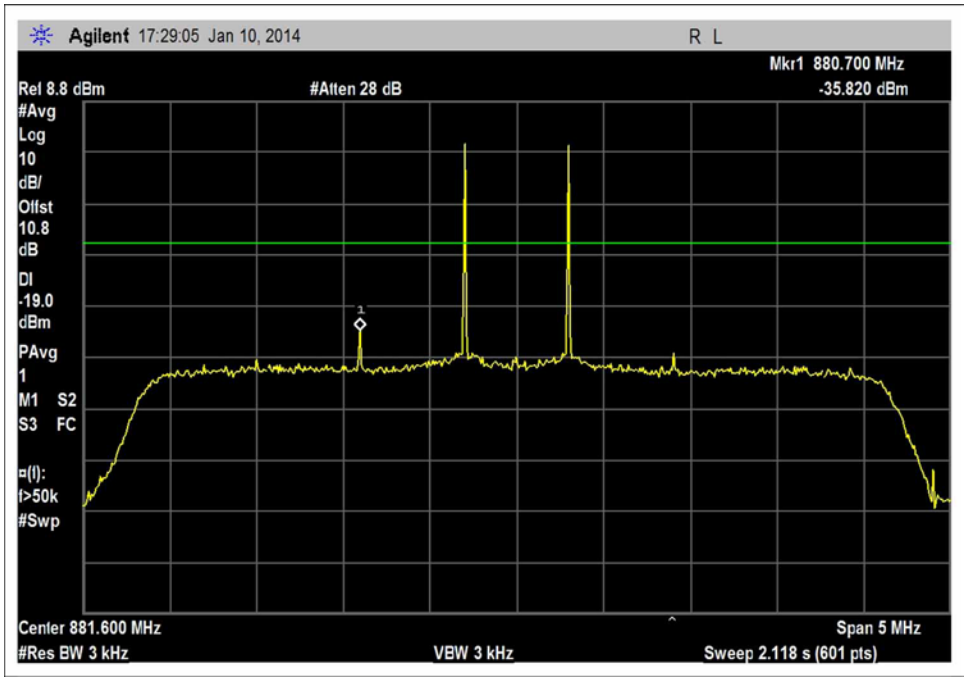
Anti-Echo circuit designed to prevent the booster to operate in the presence of CE was disable for this test.
Test was performed at RF input level prior to AGC and 10 dB above AGC, continue up to 0 dBm and -2dBm .
For Down link, the test was performed at input level prior to AGC and 10dB above AGC.

Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

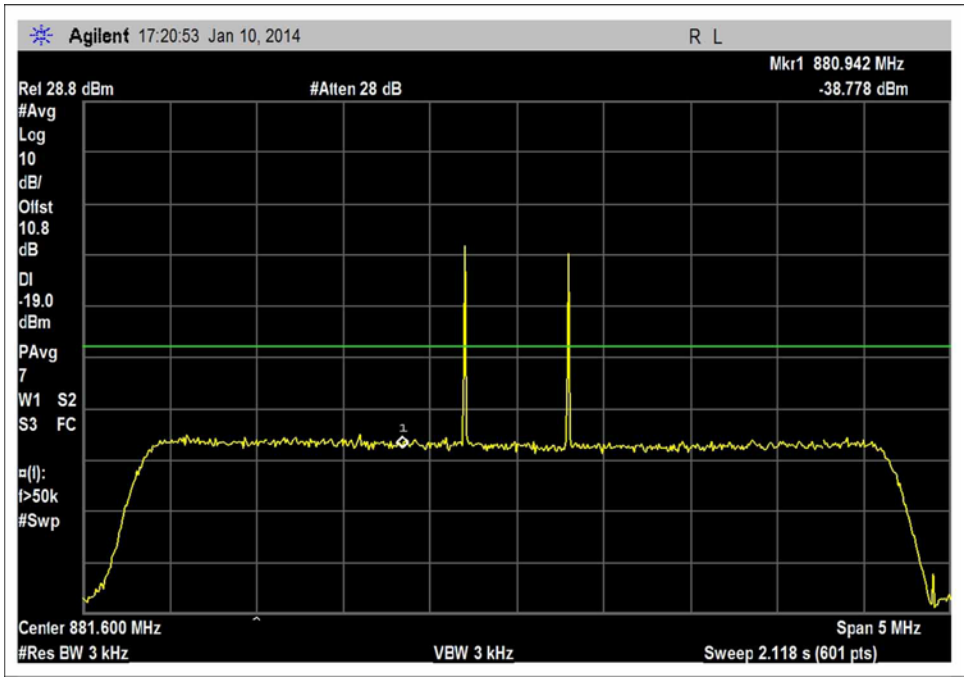
7.4 Summary of Results

Pass: Worst case intermodulation product is -19.9dBm, UL-1850-1915MHz at RF input level of -77dBm.

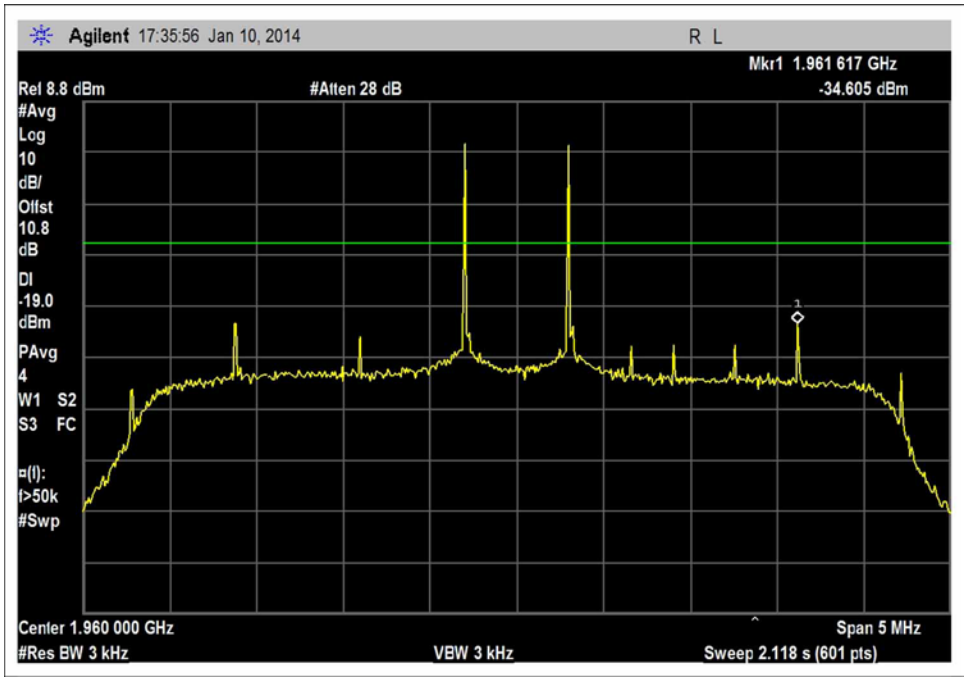
Test Data



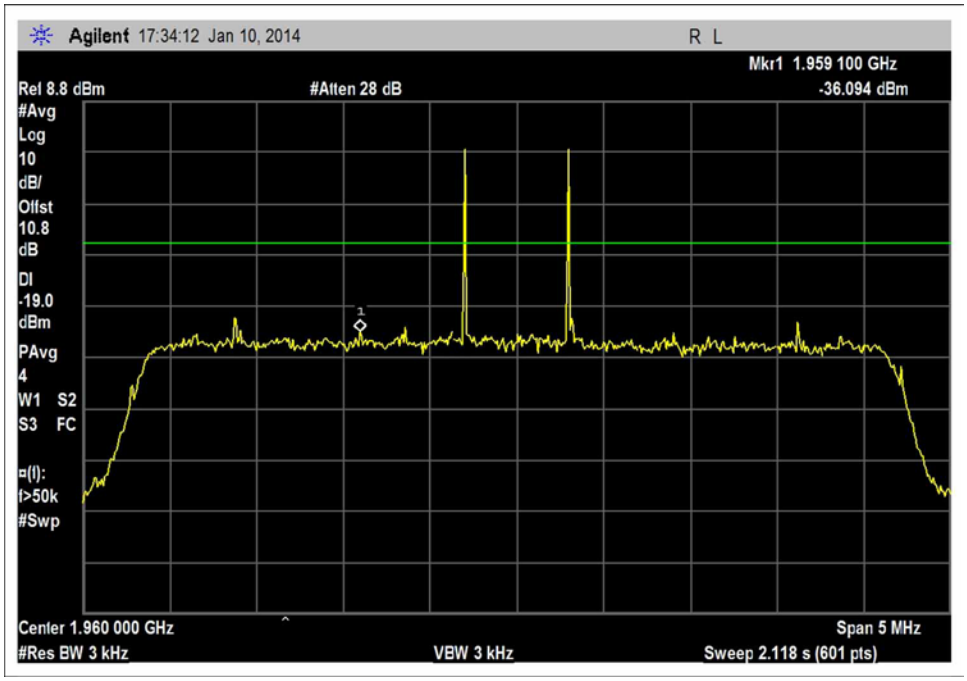
DL-869-894MHz_RF input -80dBm



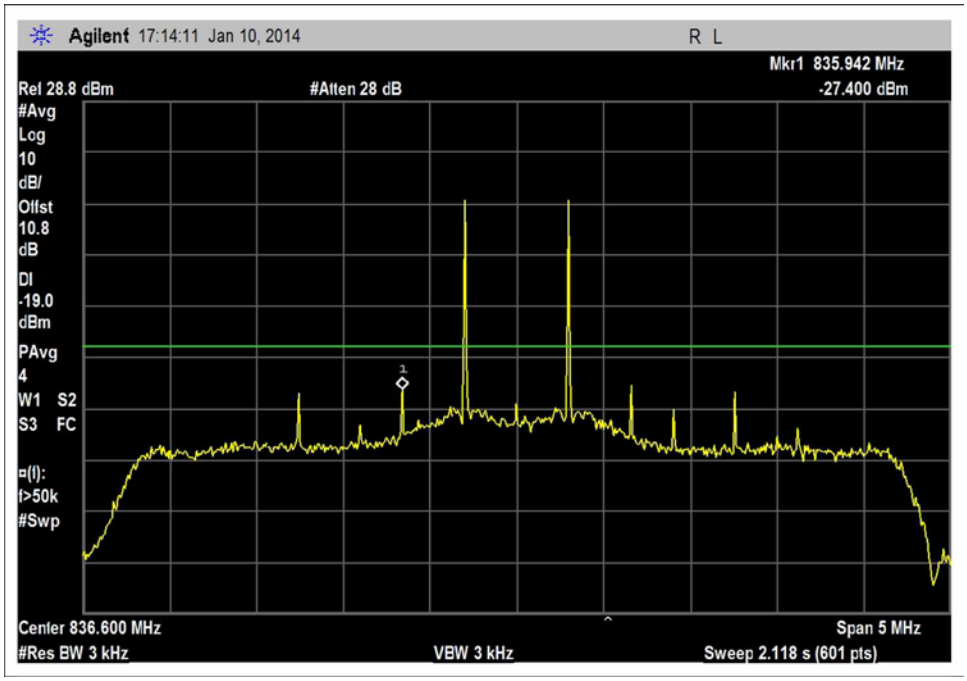
DL-869-894MHz_RF input -90dBm



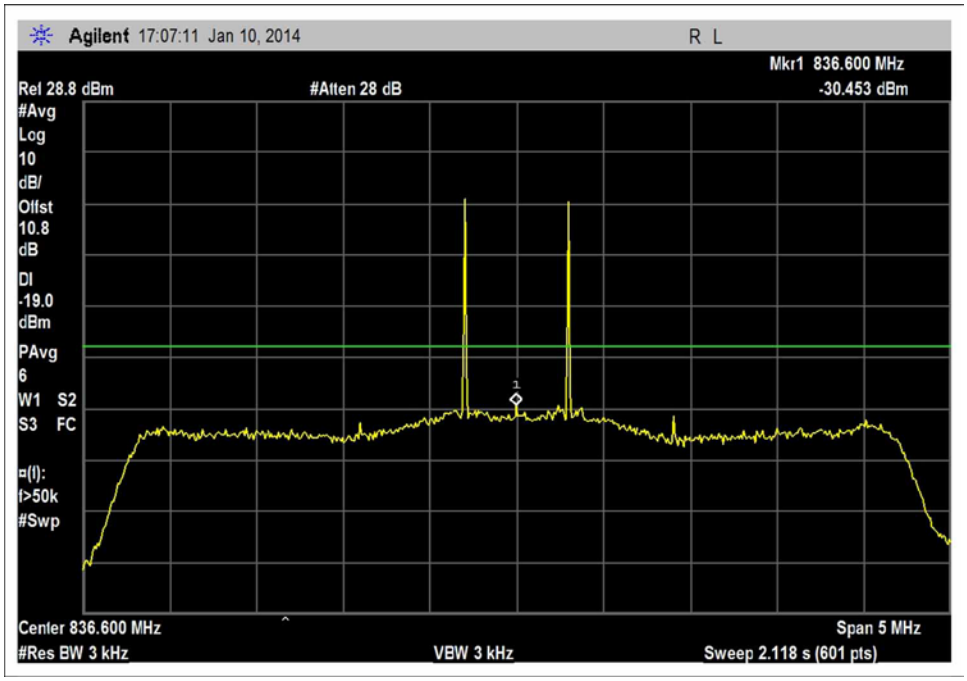
DL-1930-1995MHz_RF input -80dBm



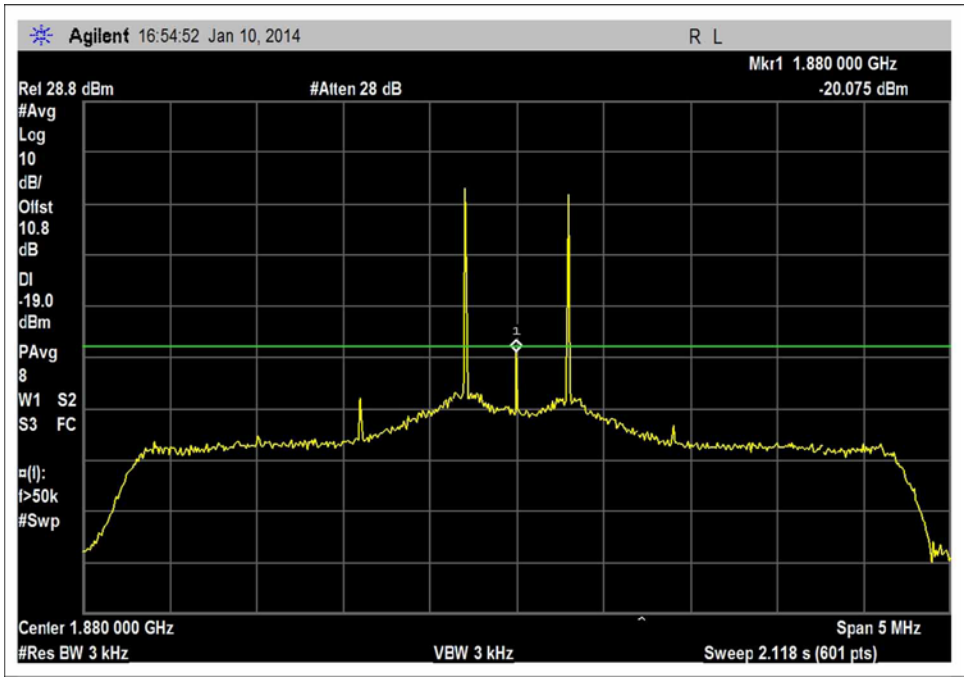
DL-1930-1995MHz_RF input -90dBm



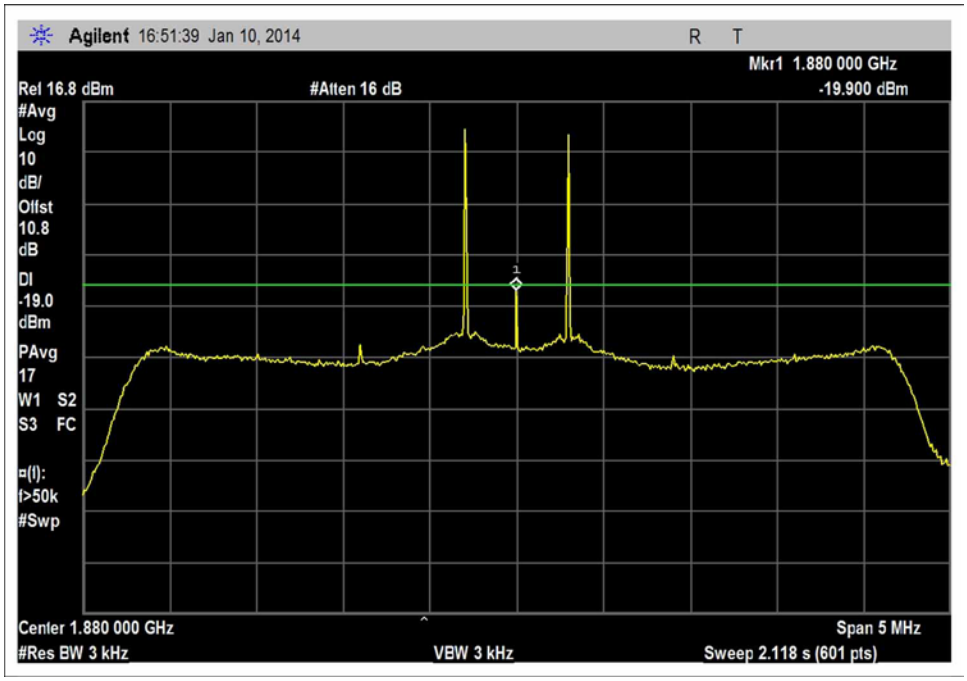
UL-824-849MHz_RF input -2dBm



UL-824-849MHz_RF input -80dBm

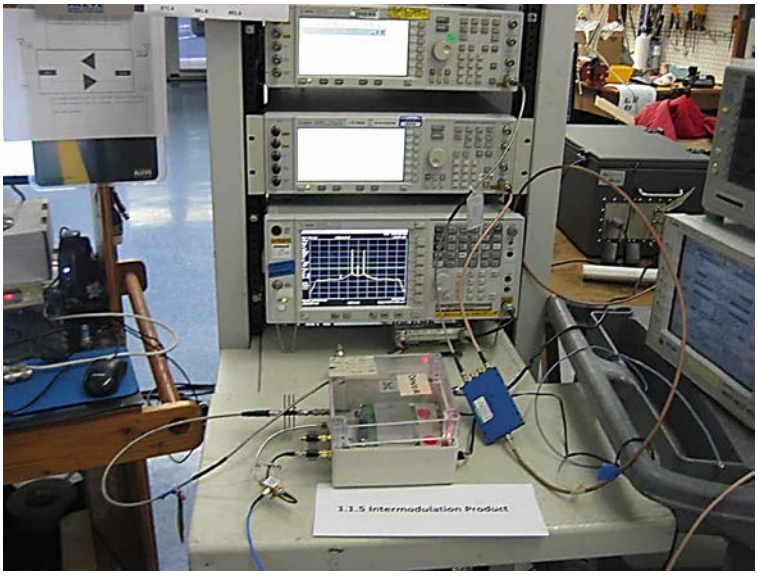


1.7_intermod_UL-1850-1915MHz_RF input 0dBm



UL-1850-1915MHz_RF input -77dBm

Test Setup Photo(s)



Note: The sign in the photo has the incorrect numbering reference. The proper reference is 7.4.

7.5 Out of Band Emissions

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.5 Out of Band Emission
Work Order #: **95295** Date: 1/7,8/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY42082260

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.

For testing purposes, the two EUT are placed on the test bench, connected via coax cable and 50 dB attenuators. Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.

Intended band of operation
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,

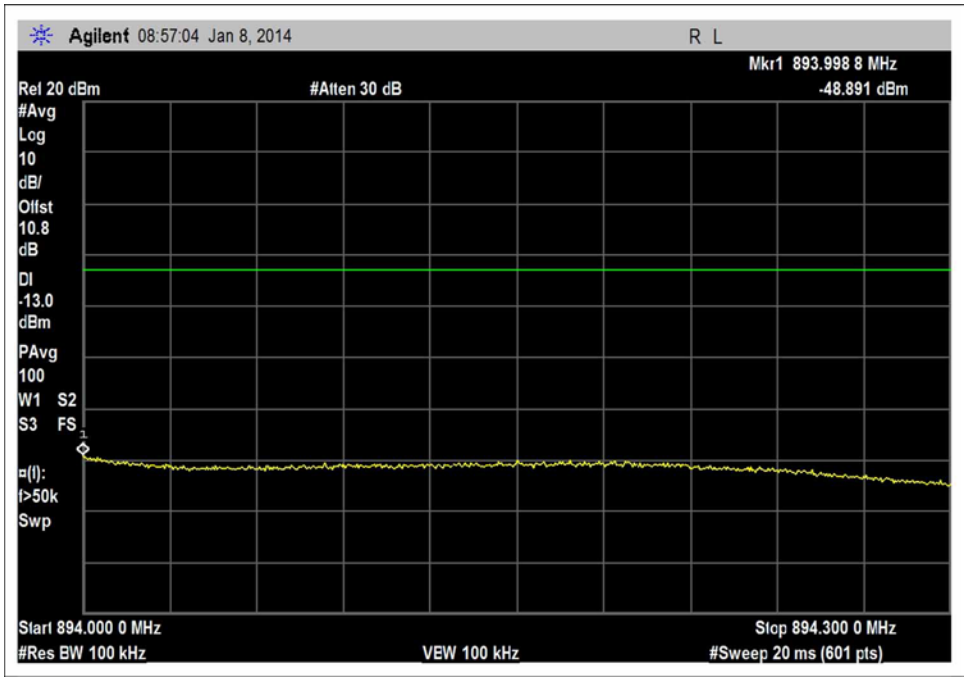
To enable demonstration of compliance measured with two different RBW presented in the same plot within 3 MHz from the bandedges, the OBE plots in the UL1850-1915MHz and DL 1930-1995MHz band were measured with Emission Mask function of the spectrum analyzer, with amplitude offset of 0.8dB and limit OBE limit line set at -13dBm. Marker 1 and 2 identifies the region 1 MHz outside the authorized spectrum block at RBW of at least 1% of the emission bandwidth.

Test environment conditions: 23°C, 15% Relative Humidity, 100kPa

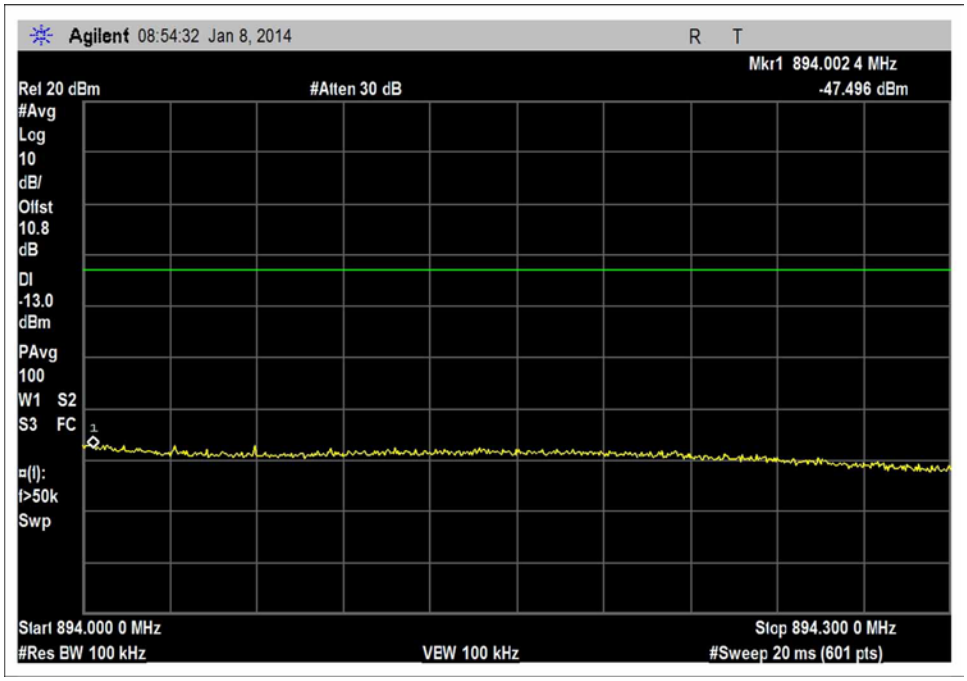
7.5 Summary of Results

Pass: As indicated in plots in the test data section, all OBE are under the limit of -13dBm.

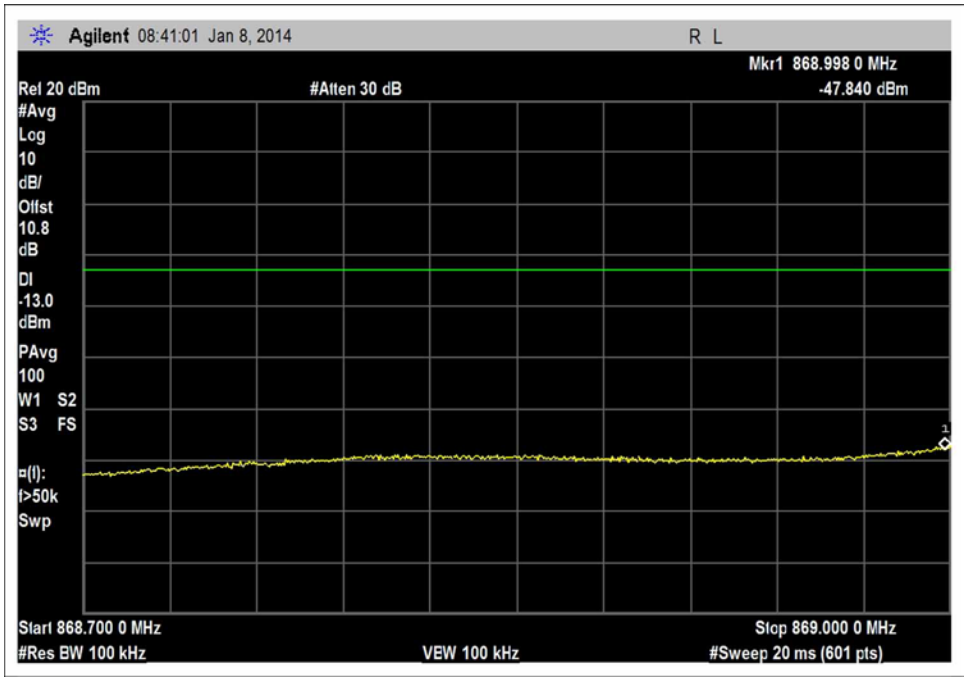
Test Data



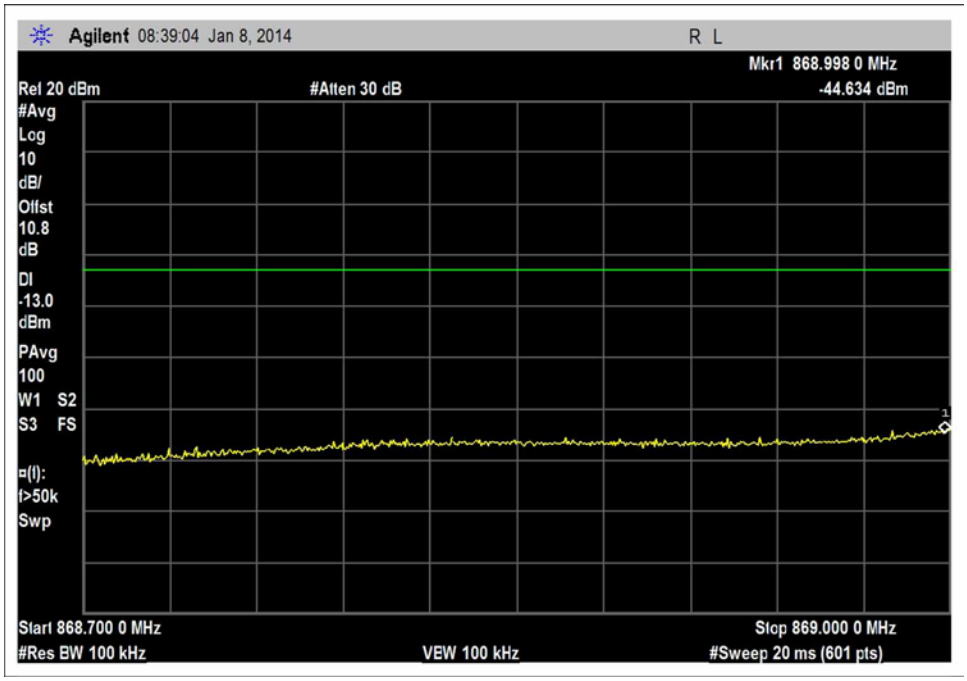
DL_869-894MHz_H_RF input=-20dBm_b



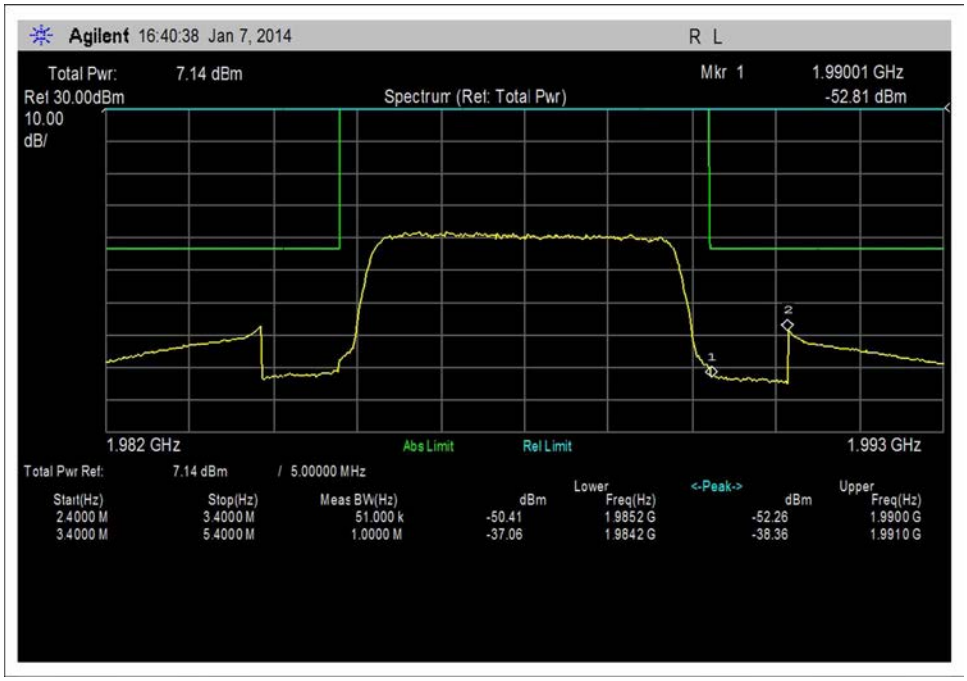
DL_869-894MHz_H_RF input=-90dBm_b



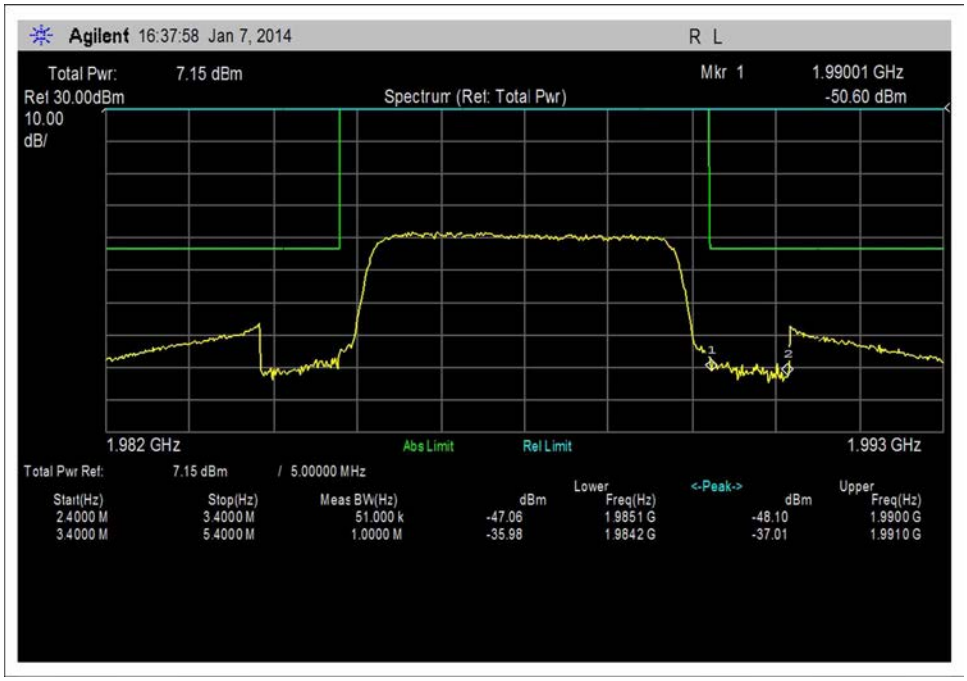
DL_869-894MHz_L_RF input=-20dBm_b



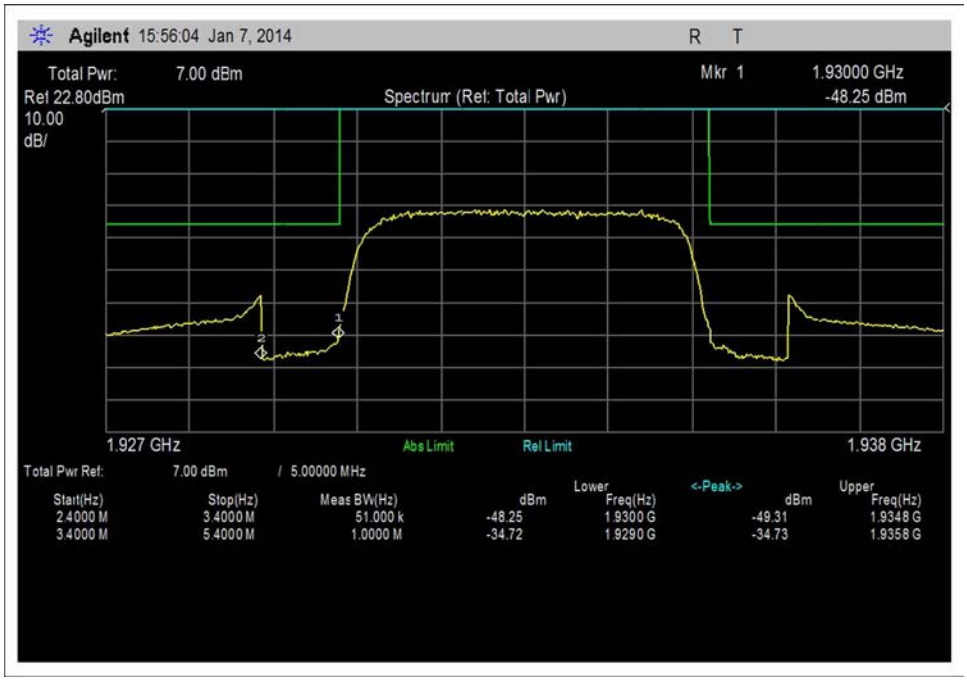
1.8_OBE_DL_869-894MHz_L_RF input=-90dBm_b



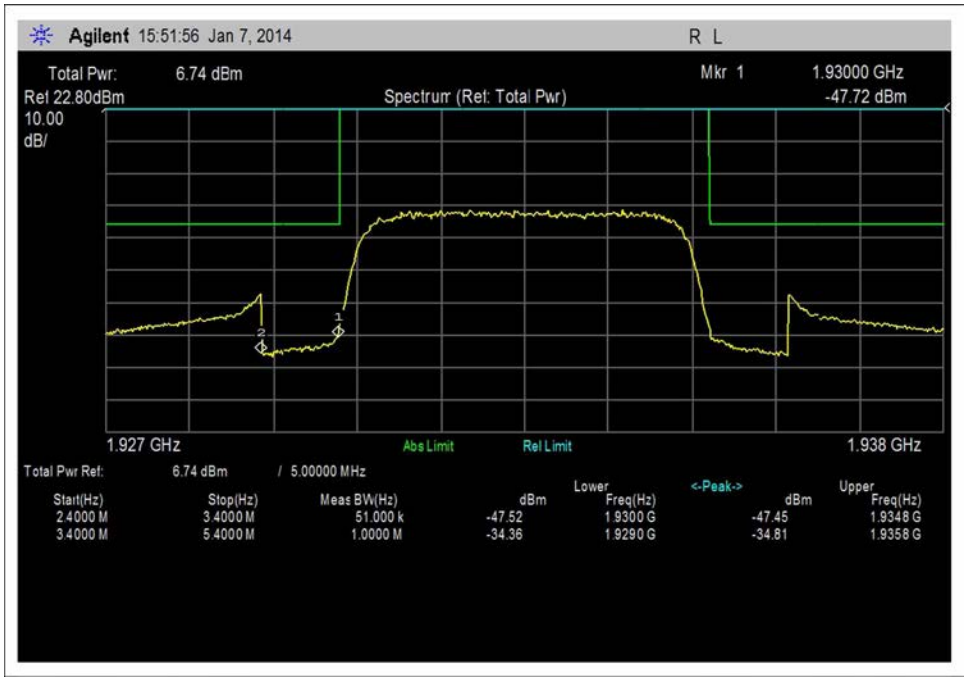
1.8_OBE_DL_1930-1990MHz_H_RF input=-20dBm



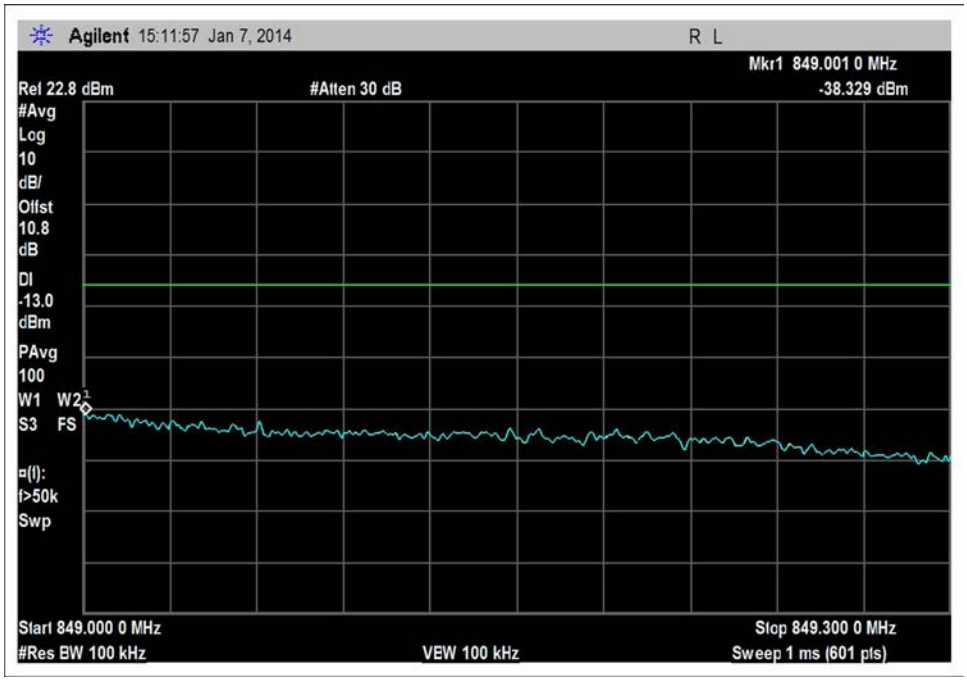
DL_1930-1990MHz_H_RF input=-90dBm



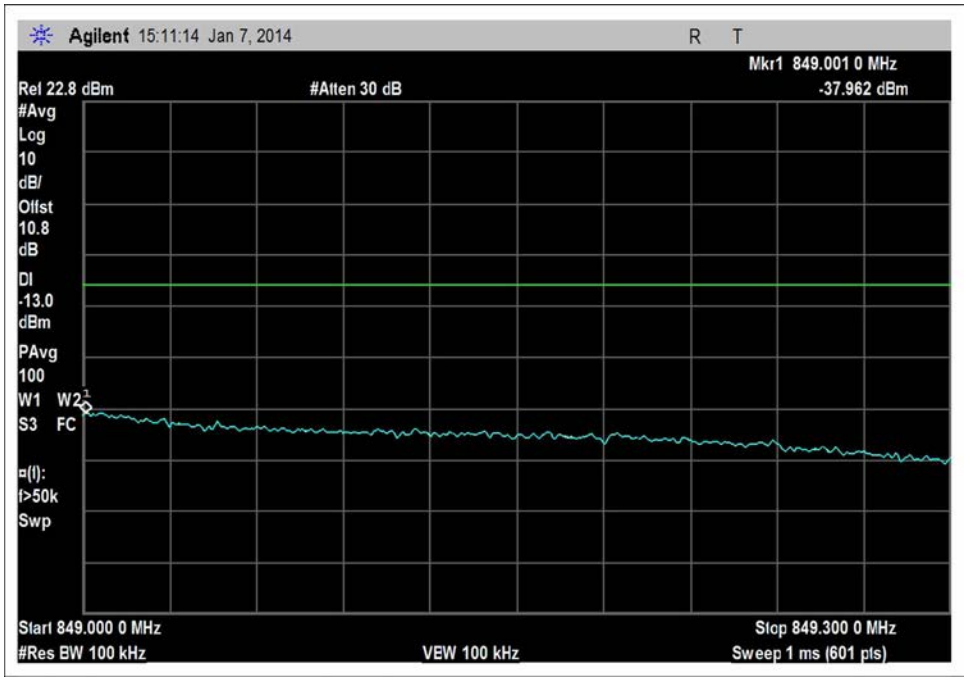
DL_1930-1990MHz_L_RF input=-20dBm



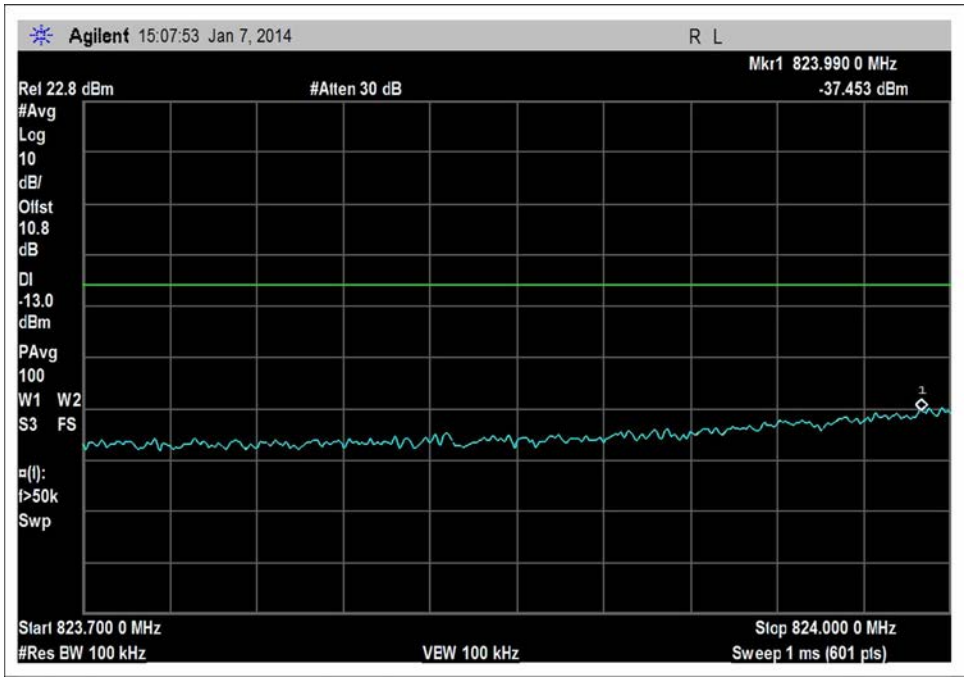
DL_1930-1990MHz_L_RF input=-90dBm



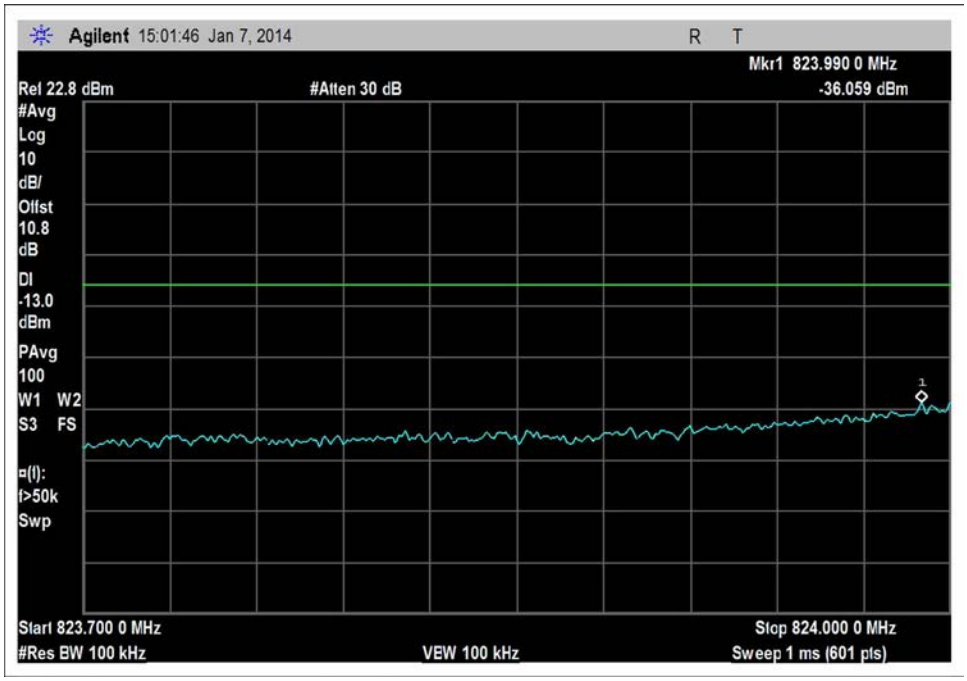
UL_824-849MHz_H_RF input=0dBm



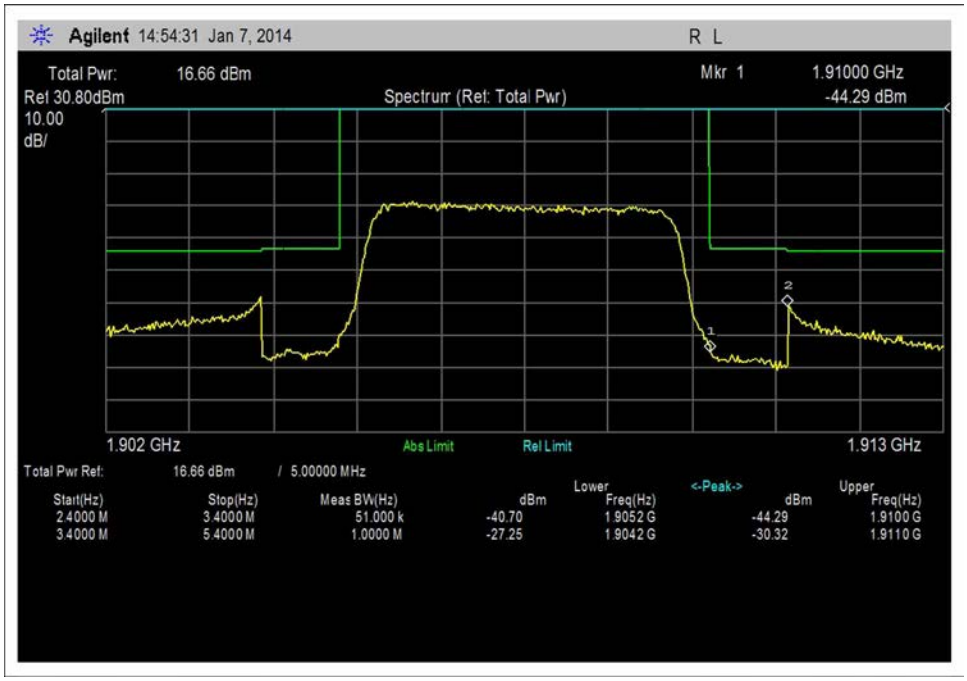
UL_824-849MHz_H_RF input=-75dBm



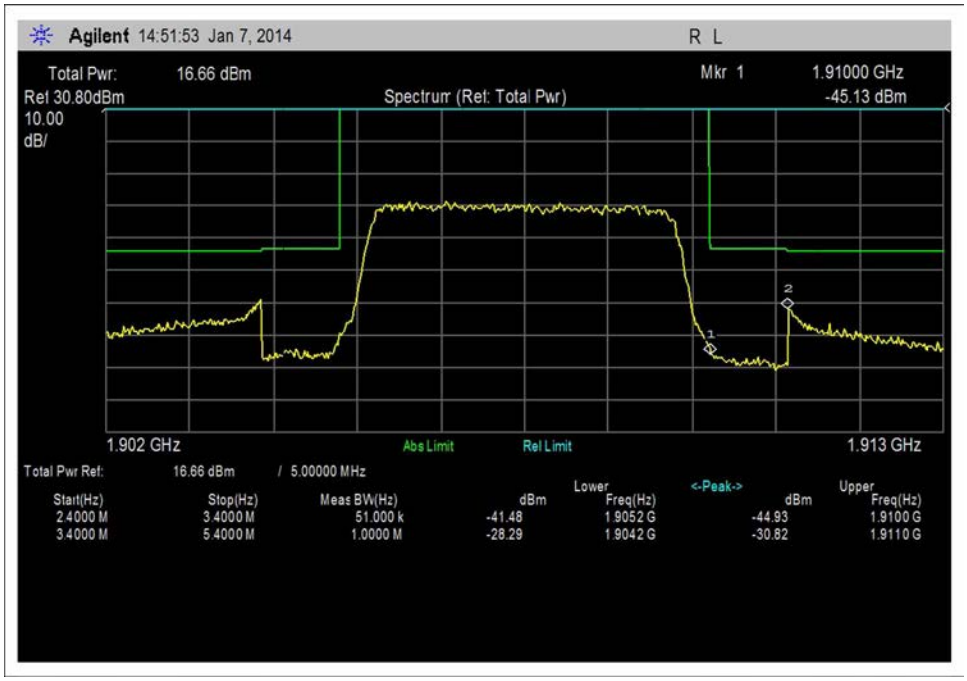
1.8_OBE_UL_824-849MHz_L_RF input=0dBm



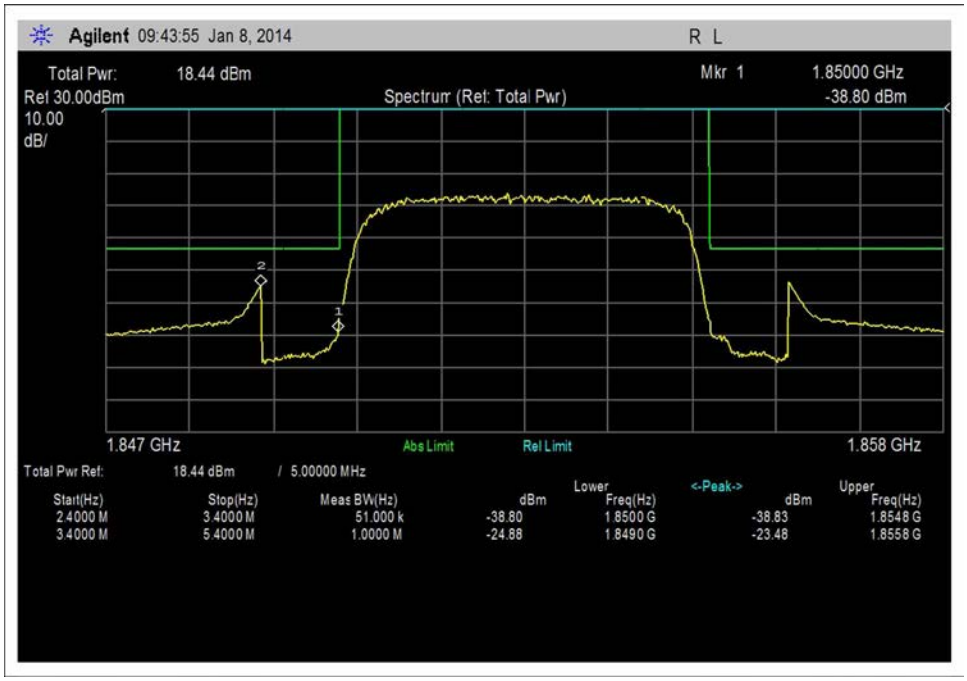
UL_824-849MHz_L_RF input=-75dBm



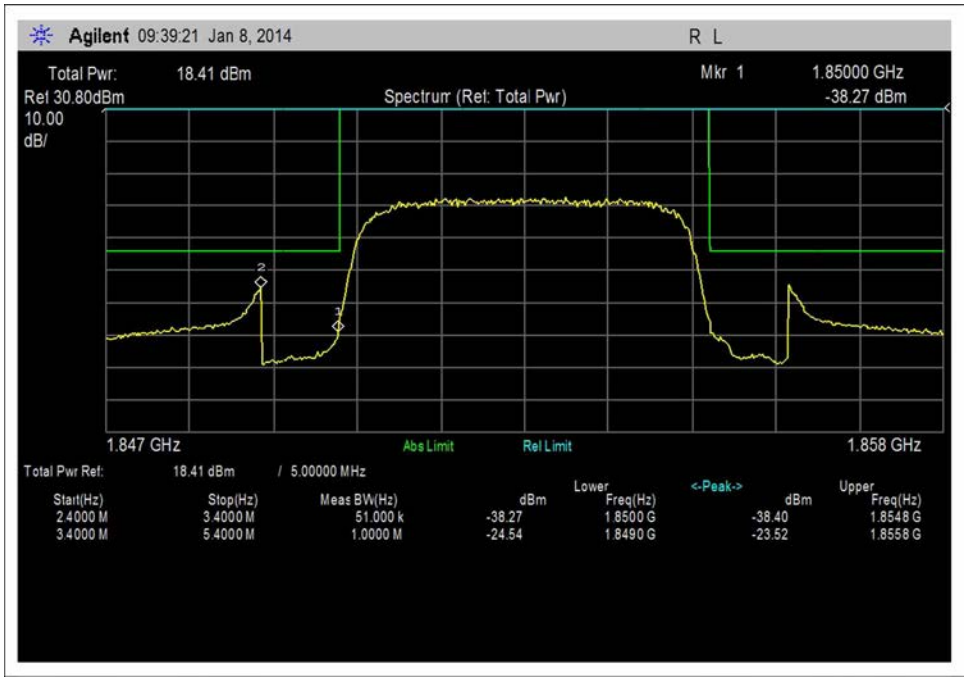
UL_1850-1915MHz_H_RF input=0dBm



UL_1850-1915MHz_H_RF input=-75dBm

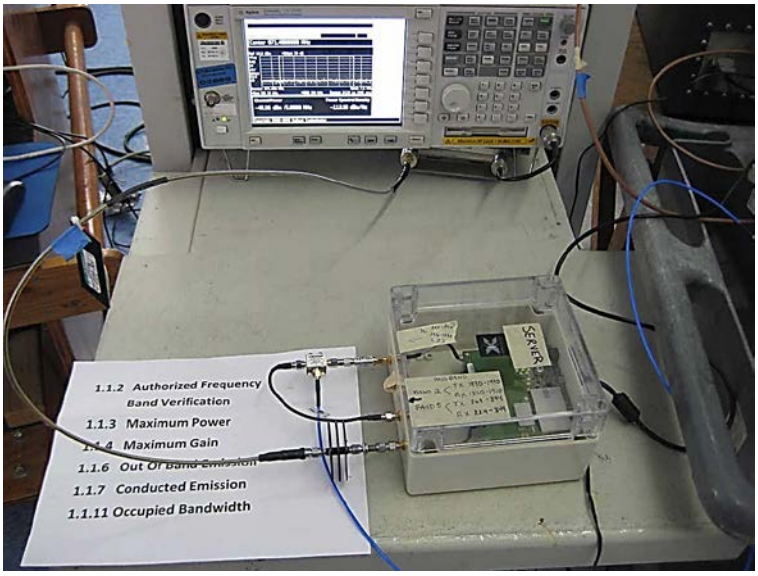


UL_1850-1915MHz_L_RF input=0dBm_b



UL_1850-1915MHz_L_RF input=-75dBm_b

Test Setup Photo(s)



Note: The sign in the photo has the incorrect numbering reference. The proper reference is 7.5.

7.7 Noise Limits

Test Conditions / Setup

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **Nextivity, Inc.**
Specification: 7.7 Noise limit
Work Order #: **95295** Date: 01/8,30,31/2014
Test Type: **Conducted Emissions**
Equipment: **Provider Specific Consumer Signal Booster** Sequence#: 1
Manufacturer: Nextivity, Inc. Tested By: E. Wong/S. Yamamoto
Model: CELFI-RS225CU, CELFI-RS225WU, 110V 60Hz
S/N: 157216000246, 157216000246

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/6/2013	2/6/2015
	AN02946	Cable	32022-2-2909K-36TC	7/31/2013	7/31/2015
	AN03430	Attenuator	75A-10-12	9/5/2013	9/5/2015
	C00082	RF Coupler	722-10-1.500V	8/21/2013	8/21/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Provider Specific Consumer Signal Booster*	Nextivity, Inc.	CELFI-RS225CU	157216000246
Provider Specific Consumer Signal Booster	Nextivity, Inc.	CELFI-RS225WU	157216000246

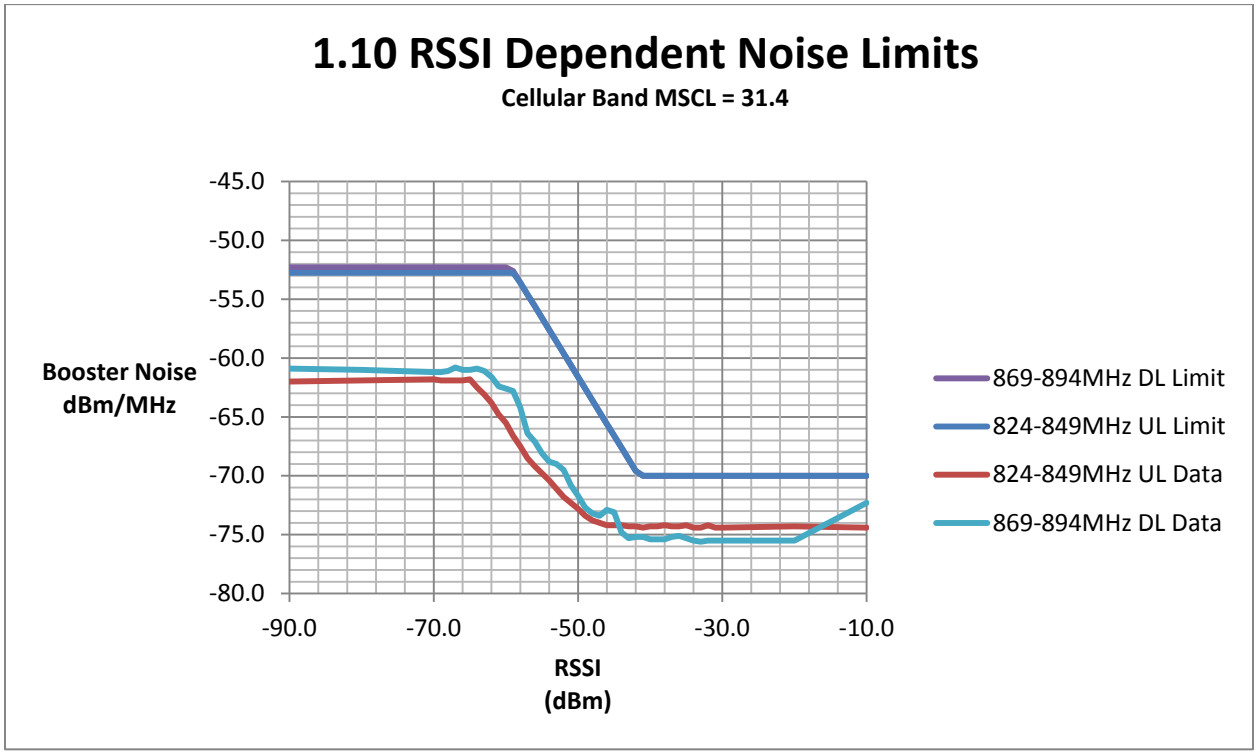
Support Devices:

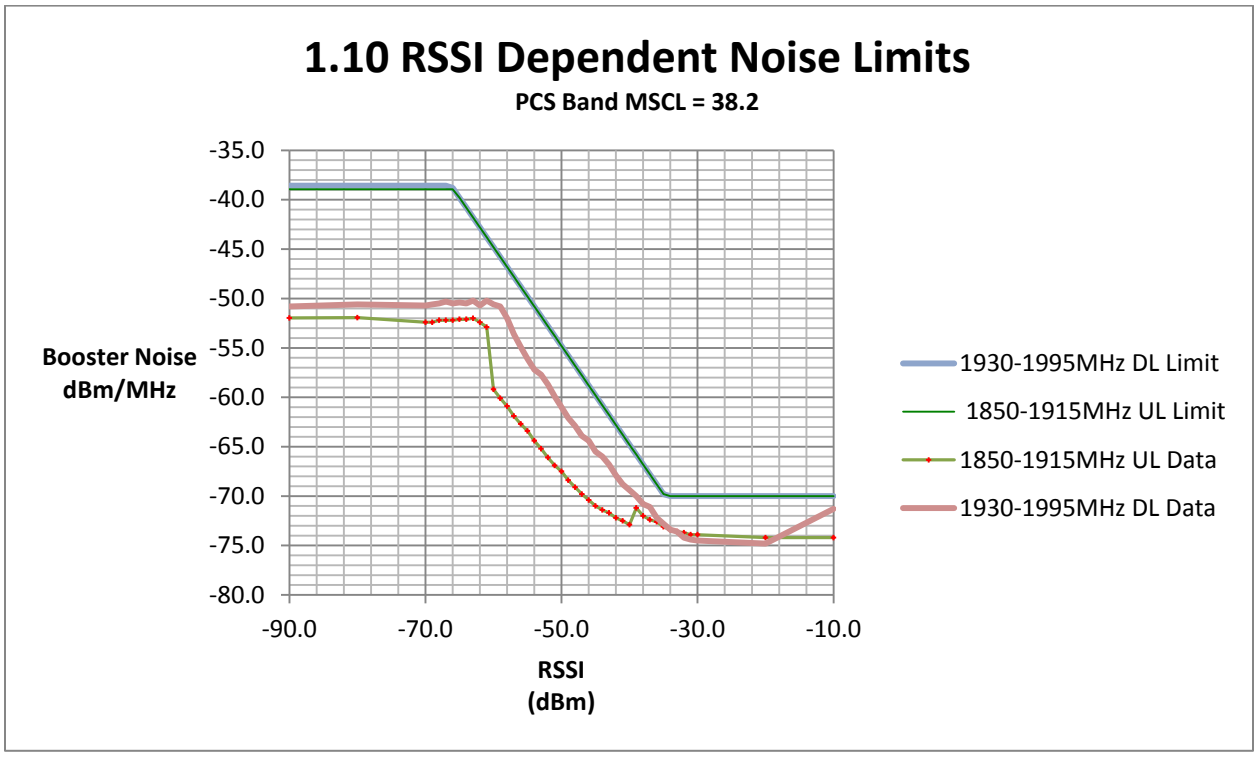
Function	Manufacturer	Model #	S/N
Power Supply	Nextivity	WRG15F-120AB	20120111
Power Supply	Nextivity	WRG15F-120AB	20120815
Signal Generator	Agilent	E4438C	MY49071314
Signal Generator	Agilent	E4438C	MY42082260

Test Conditions / Notes:

The EUT is provider specific signal booster pair consisted of a Window unit (WU) and a Coverage unit (CU) using proprietary 5.8 GHz Wireless interface.
For testing purposes, the EUT are placed on the test bench, connected via coax cable and 50 dB attenuators.
Tx of WU is connected to RX of CU, RX of WU is connected to UNII TX port of CU.
Intended band of operation
UL= 824-849 MHz, 1850-1910 MHz,
DL= 869-894 MHz 1930-1990 MHz,
1.10 (a) – (g), (h)-(m)
For measurement accuracy, additional DL plots using Adjacent Channel Power function of the spectrum analyzer was captured to show noise level per MHz, measured with smaller RBW and intergraded in 1 MHz.
1.10 (h)-(m)
4.1 MHz AWGN signal was used..

Test environment conditions: 23°C, 15% Relative Humidity, 100kPa




1.10 RSSI Dependent Noise Limits
PCS Band MSCL = 38.2
Booster Noise dBm/MHz
-35.0
-40.0
-45.0
-50.0
-55.0
-60.0
-65.0
-70.0
-75.0
-80.0
-90.0
-70.0
-50.0
-30.0
-10.0
RSSI (dBm)
1930-1995MHz DL Limit
1850-1915MHz UL Limit
1850-1915MHz UL Data
1930-1995MHz DL Data

7.7(h) to (m)

7.7 Summary of Results

Pass: All measured noise level is under the limit, maximum measured variable noise timing is 816mS.

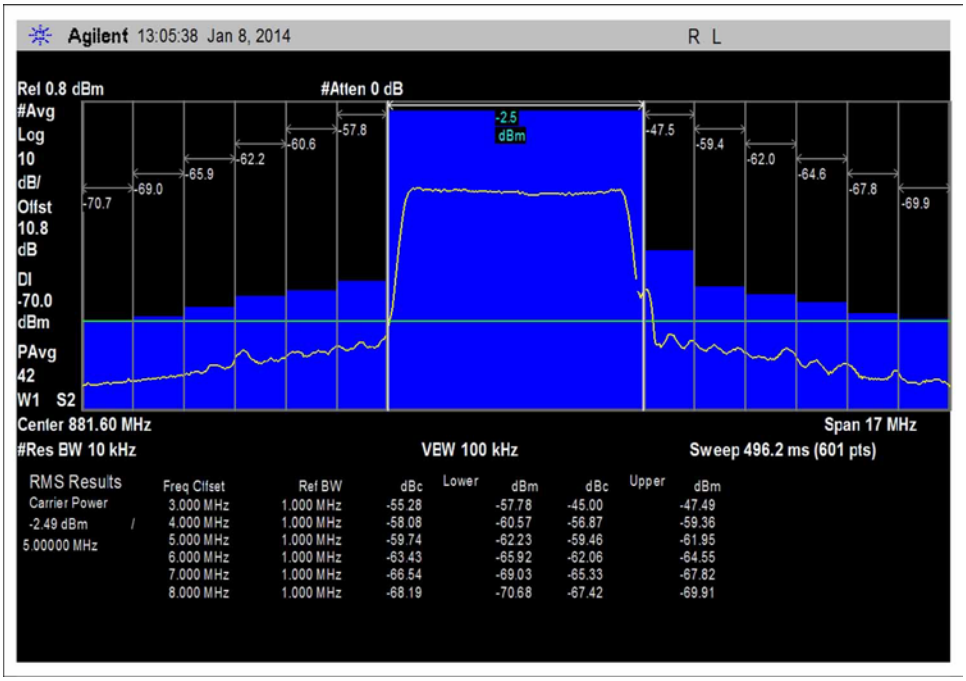
Noise Limit measurement 7.7 of KDB93521 DCx

	Part22 Celular		**Part 24 PCS**	
	UL	DL	UL	DL
Fl	824.0	869.0	1850.0	1930.0
Fh	849.0	894.0	1910.0	1990.0
Fmid	836.6	881.6	1880.0	1960.0
Span 2xCMRS	50	50	120	120

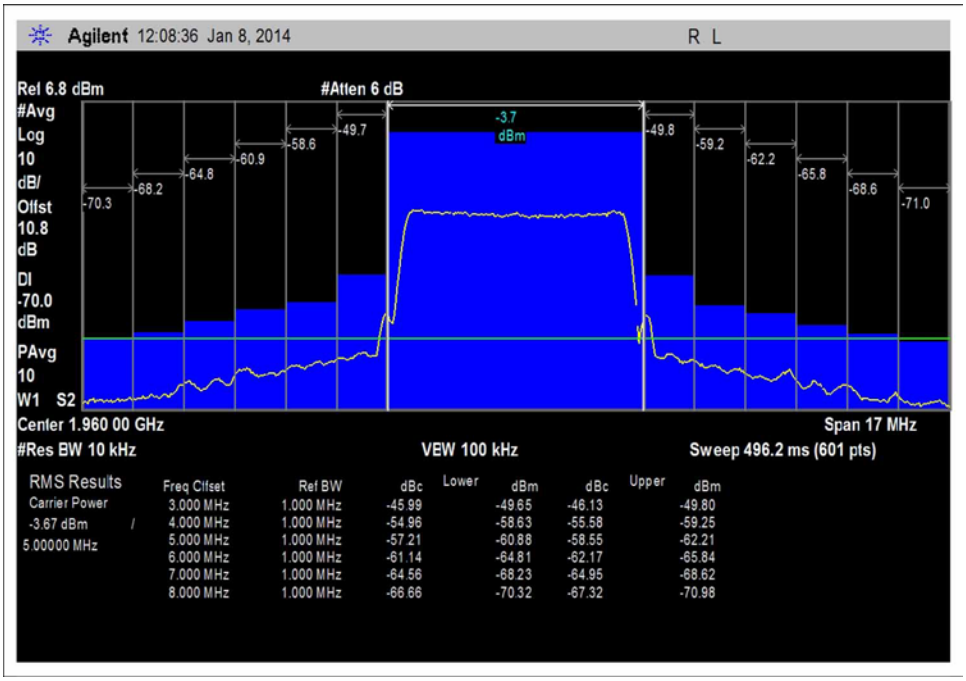
	Measured Noise level dBm/MHz			
RSSI (dBm)				
RF Off				
-90.0	-62.0	-60.9	-52.0	-50.8
-80.0	-61.9	-61.0	-51.9	-50.6
-70.0	-61.8	-61.2	-52.4	-50.7
-69.0	-61.9	-61.2	-52.4	-50.6
-68.0	-61.9	-61.1	-52.2	-50.5
-67.0	-61.9	-60.8	-52.2	-50.3
-66.0	-61.9	-61.0	-52.2	-50.5
-65.0	-61.8	-61.0	-52.1	-50.4
-64.0	-62.5	-60.9	-52.1	-50.5
-63.0	-63.1	-61.1	-52.0	-50.2
-62.0	-63.8	-61.6	-52.4	-50.7
-61.0	-64.8	-62.4	-52.9	-50.2
-60.0	-65.5	-62.6	-59.2	-50.6
-59.0	-66.6	-62.8	-60.1	-50.8
-58.0	-67.5	-64.2	-60.9	-52.0
-57.0	-68.5	-66.4	-61.9	-53.6
-56.0	-69.2	-67.1	-62.7	-54.9
-55.0	-69.8	-68.1	-63.4	-56.1
-54.0	-70.4	-68.8	-64.4	-57.2
-53.0	-71.1	-69.0	-65.2	-57.7
-52.0	-71.8	-69.5	-66.1	-58.7
-51.0	-72.3	-70.8	-66.9	-59.9
-50.0	-72.8	-71.7	-67.5	-61.0
-49.0	-73.4	-72.7	-68.4	-62.1

-48.0	-73.8	-73.2	-69.1	-62.9
-47.0	-74.0	-73.4	-69.8	-63.9
-46.0	-74.2	-72.9	-70.4	-64.4
-45.0	-74.2	-73.1	-71.0	-65.5
-44.0	-74.2	-74.8	-71.4	-66.0
-43.0	-74.3	-75.3	-71.7	-66.8
-42.0	-74.3	-75.2	-72.2	-67.9
-41.0	-74.4	-75.2	-72.5	-68.8
-40.0	-74.3	-75.4	-72.9	-69.4
-39.0	-74.3	-75.4	-71.2	-70.0
-38.0	-74.2	-75.4	-72.0	-70.8
-37.0	-74.3	-75.2	-72.4	-71.1
-36.0	-74.3	-75.1	-72.6	-72.2
-35.0	-74.2	-75.3	-73.1	-72.8
-34.0	-74.4	-75.5	-73.4	-73.4
-33.0	-74.4	-75.6	-73.6	-73.6
-32.0	-74.2	-75.5	-73.7	-74.2
-31.0	-74.4	-75.5	-73.9	-74.4
-30.0	-74.4	-75.5	-73.9	-74.5
-20.0	-74.3	-75.5	-74.2	-74.8

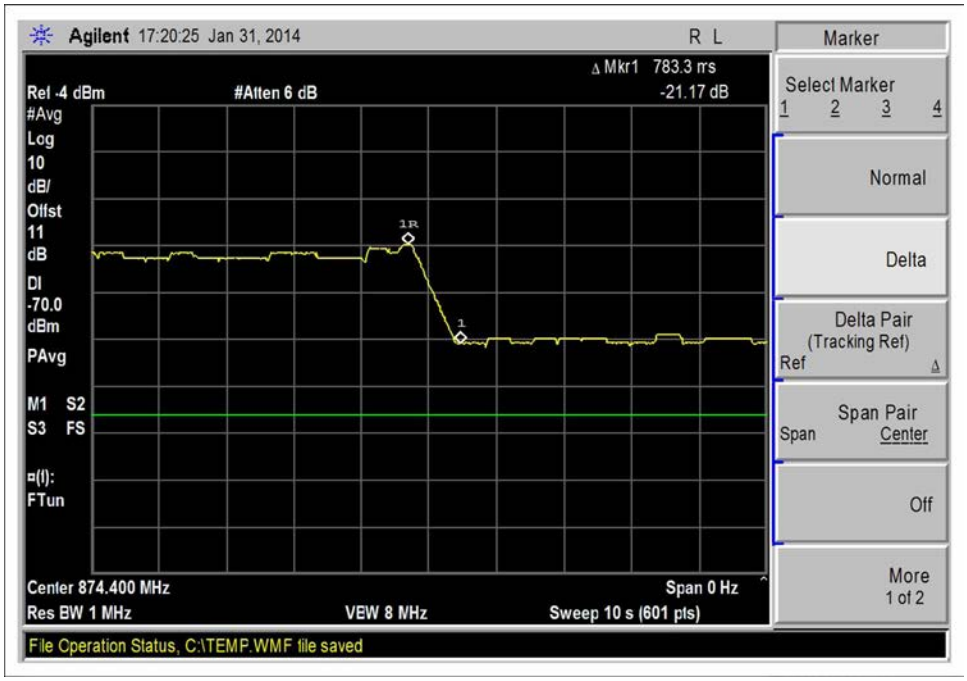
Test Data



7.7(a) – (g)DL_Max Noise_50Ohm_869-894MHz_ACP



7.7(a) – (g),DL_Max Noise_50Ohm_1930-1990MHz_ACP



7.7(n) - (t) DL_869-894MHz_Test CF+3MHz