Cellphone-Mate, Inc.

ADDENDUM EMC TEST REPORT TO 96950-13

Industrial Booster, Force 7
AC/DC Power Adapter, ATS090-P190
Wifi Antenna, SC222W
HDTV Antenna, SC306W-H

Tested To The Following Standards:

FCC Part 15 Subpart C Section(s)
15.207
&
15.247
(DTS 2400-2483.5 MHz)

Report No.: 96950-13A

Date of issue: July 14, 2015

ACCREDITED
Testing Certificates:
803.01, 803.02, 803.05, 803.06

This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

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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Testing the Future
CKC LABORATORIES, INC.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Cellphone-Mate, Inc.
48346 Milmont Drive
Fremont, CA 94538

Representative: Hongtao Zhan
Customer Reference Number: CKC20150529

REPORT PREPARED BY:

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CKC Laboratories, Inc.
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Mariposa, CA 95338

Project Number: 96950

DATE OF EQUIPMENT RECEIPT: June 1, 2015
DATE(S) OF TESTING: June 1, 4 , & 10, 2015

Revision History

Original: Testing of the Industrial Booster (Force 7), AC/DC Power Adapter (ATS090-P190), Wifi Antenna (SC222W) and HDTV Antenna (SC306W-H) to FCC Part 15 Subpart C Sections 15.207 and 15.247.
Addendum A: To correct and error in the frequency range listed in the table on page 42 for the low and high channels.

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.
1120 Fulton Place
Fremont, CA 94539

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.02.00
EMITest Immunity	5.02.00

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Fremont	US0082	SL2-IN-E-1148R	3082B-1	958979	A-0149

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C

Test Procedure	Description	Modifications*	Results
15.31(e)	Voltage Variations	NA	Pass
15.207	AC Conducted Emissions	NA	Pass
15.247(a)(2)	6dB Bandwidth	NA	Pass
15.247(b)(3)	Output Power	NA	Pass
15.247(d)	RF Conducted Emissions	NA	Pass
15.247(d)	Radiated Emissions & Band Edge	NA	Pass
15.247(e)	Power Spectral Density	NA	Pass

NA = Not applicable.

Modifications* During Testing

This list is a summary of the modifications made to the equipment during testing.

Summary of Conditions
No modifications were made during testing.

***Modifications listed above must be incorporated into all production units.**

Conditions During Testing

This list is a summary of the conditions noted to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

During testing numerous configurations may have been utilized. The configurations listed below support compliance to the standard(s) listed in the Summary of Results section.

Configuration 2

Equipment Tested:

Device	Manufacturer	Model #	S/N
Industrial Booster	Cellphone-Mate, Inc.	FORCE 7	01
AC/DC Power Adapter	Cellphone-Mate, Inc.	ATS090-P190	None
Wifi Antenna	Cellphone mate DBA Surecall	SC222W	None
HDTV Antenna	Cellphone-Mate DBA Surecall	SC288W	None

Support Equipment:

Device	Manufacturer	Model #	S/N
Signal Generator	Agilent	E4433B	US40052164
Laptop	Sony	PCG-6C2L	CXSM507BRD01-D480
AC/DC Adapter	Sony	PCGA-AC16V	1477749530023127

FCC PART 15 SUBPART C

15.31(e) Voltage Variations

Test Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170
Customer: **Cellphone-Mate, Inc.**
Specification: **15.31e**
Work Order #: **96750** Date: 5/29/2015
Test Type: **Conducted Measurement** Time: 08:48:53
Tested By: Hieu Song Nguyenpham Sequence#: 2
Software: EMITest 5.02.00

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

15.31e set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C, Humidity: 42%, Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz,4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11b Mode=30
The Data rate is at 5.5Mbps

15.31(e) the RF output power was not changed when adjusting the voltage 120V down to 85% and up to 115%.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.31e**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

15.31e Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz,4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11g Mode=45

The Data rate is at 18Mbps

15.31(e) the RF output power was not changed when adjusting the voltage 120V down to 85% and up to 115%.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.31e**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

15.31e Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 13.2

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz,4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT20 Mode=45

The Data rate is at MCS2

15.31(e) the RF output power was not changed when adjusting the voltage 120V down to 85% and up to 115%.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.31e**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

15.31e Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz,4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT40 Mode=40

The Data rate is at MCS2

15.31(e) the RF output power was not changed when adjusting the voltage 120V down to 85% and up to 115%.

Test Setup Photo

15.207 AC Conducted Emissions

Test Data

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Conducted Emissions**	Time:	12:22:30
Tested By:	Hieu Song Nguyenpham	Sequence#:	122
Software:	EMITest 5.02.00		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

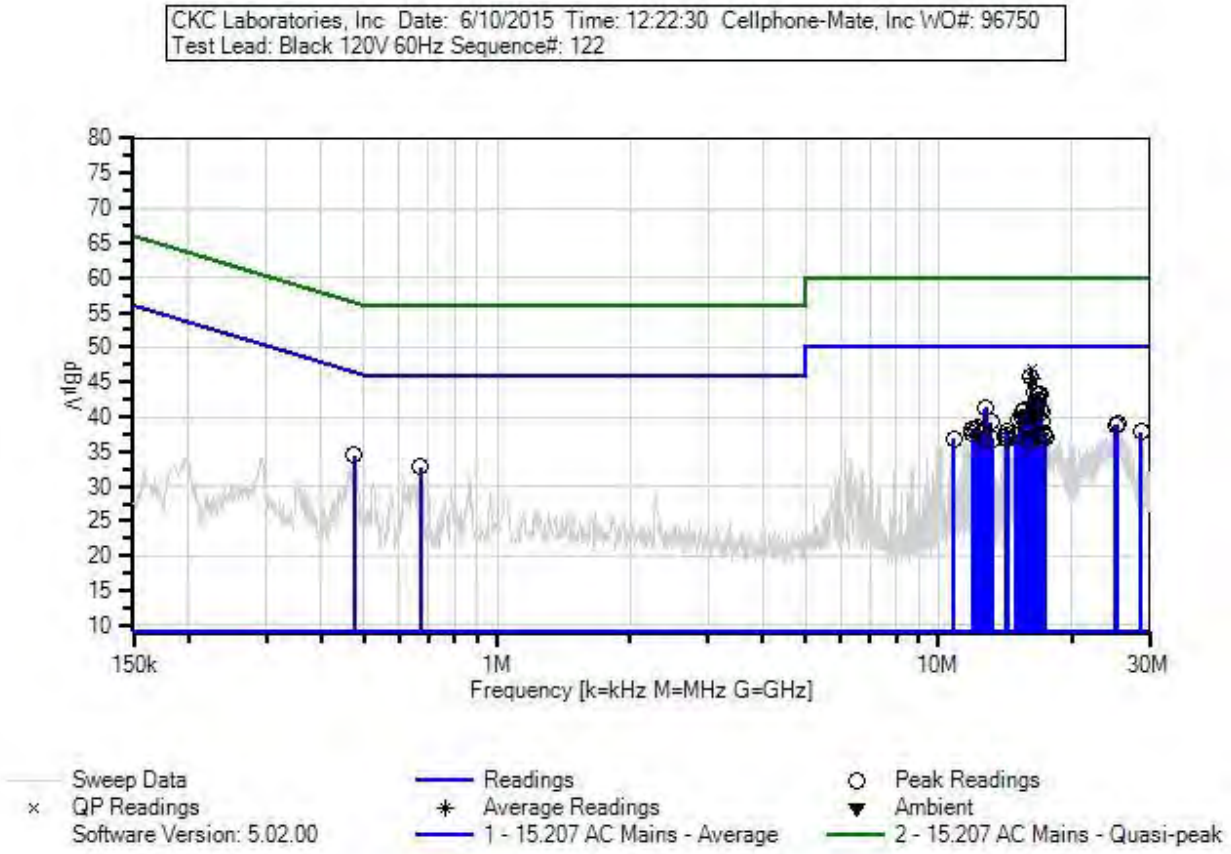
Test Conditions / Notes:

Conducted Emission
Frequency Range: 150kHz to 30MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: ANSI C 63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. A remotely located signal generator which sits next to the EUT is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to operate the WIFI portion at the beginning and disconnect the port of RJ45 from the Laptop due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Note:
802.11b Mode
Date rate = 5.5Mbps
Attenuator for 802.11b Mode=30
Middle Channel


CKC Laboratories, Inc Date: 6/10/2015 Time: 12:22:30 Cellphone-Mate, Inc WO#: 96750
Test Lead: Black 120V 60Hz Sequence#: 122
dBµV
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
150k
1M
10M
30M
Frequency [k=kHz M=MHz G=GHz]
Sweep Data
QP Readings
Software Version: 5.02.00
Readings
Average Readings
1 - 15.207 AC Mains - Average
Peak Readings
Ambient
2 - 15.207 AC Mains - Quasi-peak

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	3/31/2015	3/31/2017
T2	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T3	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
T4	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/4/2015	3/4/2017
	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/4/2015	3/4/2017
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	ANP05258	High Pass Filter	HE9615-150K-50-720B	11/14/2014	11/14/2016

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	16.166M	35.4	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	45.9	50.0	-4.1	Black
2	16.228M Ave	35.0	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	45.5	50.0	-4.5	Black
3	16.472M	32.9	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	43.4	50.0	-6.6	Black
4	16.842M	32.8	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	43.3	50.0	-6.7	Black
5	16.896M	32.6	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	43.1	50.0	-6.9	Black
6	16.779M	31.9	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	42.4	50.0	-7.6	Black
7	16.652M	31.2	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.7	50.0	-8.3	Black
8	16.535M	31.1	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.6	50.0	-8.4	Black
9	12.806M	30.9	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.4	50.0	-8.6	Black
10	12.752M	30.7	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.2	50.0	-8.8	Black
11	16.598M	30.6	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.1	50.0	-8.9	Black
12	16.959M	30.3	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	41.0	50.0	-9.0	Black
13	15.616M	30.5	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	41.0	50.0	-9.0	Black
14	15.553M	30.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	40.8	50.0	-9.2	Black

15	17.085M	30.1	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	40.8	50.0	-9.2	Black
16	16.355M	30.0	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	40.5	50.0	-9.5	Black
17	16.409M	29.8	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	40.3	50.0	-9.7	Black
18	15.923M	29.7	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	40.2	50.0	-9.8	Black
19	15.436M	29.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	39.8	50.0	-10.2	Black
20	15.247M	29.1	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	39.6	50.0	-10.4	Black
21	17.139M	28.7	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	39.4	50.0	-10.6	Black
22	13.112M	28.7	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	39.2	50.0	-10.8	Black
23	25.430M	27.8	+9.9 +0.3	+0.4	+0.1	+0.5	+0.0	39.0	50.0	-11.0	Black
24	25.169M	27.6	+9.9 +0.3	+0.4	+0.1	+0.5	+0.0	38.8	50.0	-11.2	Black
25	15.986M	28.2	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	38.7	50.0	-11.3	Black
26	12.202M	28.0	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	38.5	50.0	-11.5	Black
27	11.896M	27.8	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	38.3	50.0	-11.7	Black
28	15.860M	27.7	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	38.2	50.0	-11.8	Black
29	12.139M	27.6	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	38.1	50.0	-11.9	Black
30	473.606k	24.2	+9.9 +0.2	+0.0	+0.0	+0.1	+0.0	34.4	46.5	-12.1	Black
31	14.274M	27.3	+9.9 +0.2	+0.3	+0.1	+0.1	+0.0	37.9	50.0	-12.1	Black
32	28.684M	26.6	+9.9 +0.2	+0.4	+0.2	+0.5	+0.0	37.8	50.0	-12.2	Black
33	12.508M	27.1	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	37.6	50.0	-12.4	Black
34	11.950M	27.1	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	37.6	50.0	-12.4	Black
35	17.391M	26.8	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	37.5	50.0	-12.5	Black
36	16.688M	26.9	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	37.4	50.0	-12.6	Black
37	15.004M	26.8	+9.9 +0.2	+0.3	+0.1	+0.1	+0.0	37.4	50.0	-12.6	Black
38	14.337M	26.8	+9.9 +0.2	+0.3	+0.1	+0.1	+0.0	37.4	50.0	-12.6	Black
39	17.319M	26.7	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	37.4	50.0	-12.6	Black
40	17.445M	26.5	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	37.2	50.0	-12.8	Black

41	14.157M	26.6	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	37.1	50.0	-12.9	Black
42	16.228M QP	36.5	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	47.0	60.0	-13.0	Black
^	16.228M	37.8	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	48.3	50.0	-1.7	Black
44	12.688M	26.4	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.9	50.0	-13.1	Black
45	13.238M	26.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.8	50.0	-13.2	Black
46	10.797M	26.4	+9.9 +0.2	+0.2	+0.0	+0.1	+0.0	36.8	50.0	-13.2	Black
47	671.406k	22.8	+9.8 +0.1	+0.0	+0.0	+0.1	+0.0	32.8	46.0	-13.2	Black
48	16.103M	26.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.8	50.0	-13.2	Black
49	16.013M	26.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.8	50.0	-13.2	Black
50	14.211M	26.3	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.8	50.0	-13.2	Black
51	16.040M	26.2	+9.9 +0.2	+0.3	+0.0	+0.1	+0.0	36.7	50.0	-13.3	Black
52	17.202M	26.0	+9.9 +0.2	+0.3	+0.1	+0.2	+0.0	36.7	50.0	-13.3	Black

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Conducted Emissions**	Time:	12:30:14
Tested By:	Hieu Song Nguyenpham	Sequence#:	123
Software:	EMITest 5.02.00		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

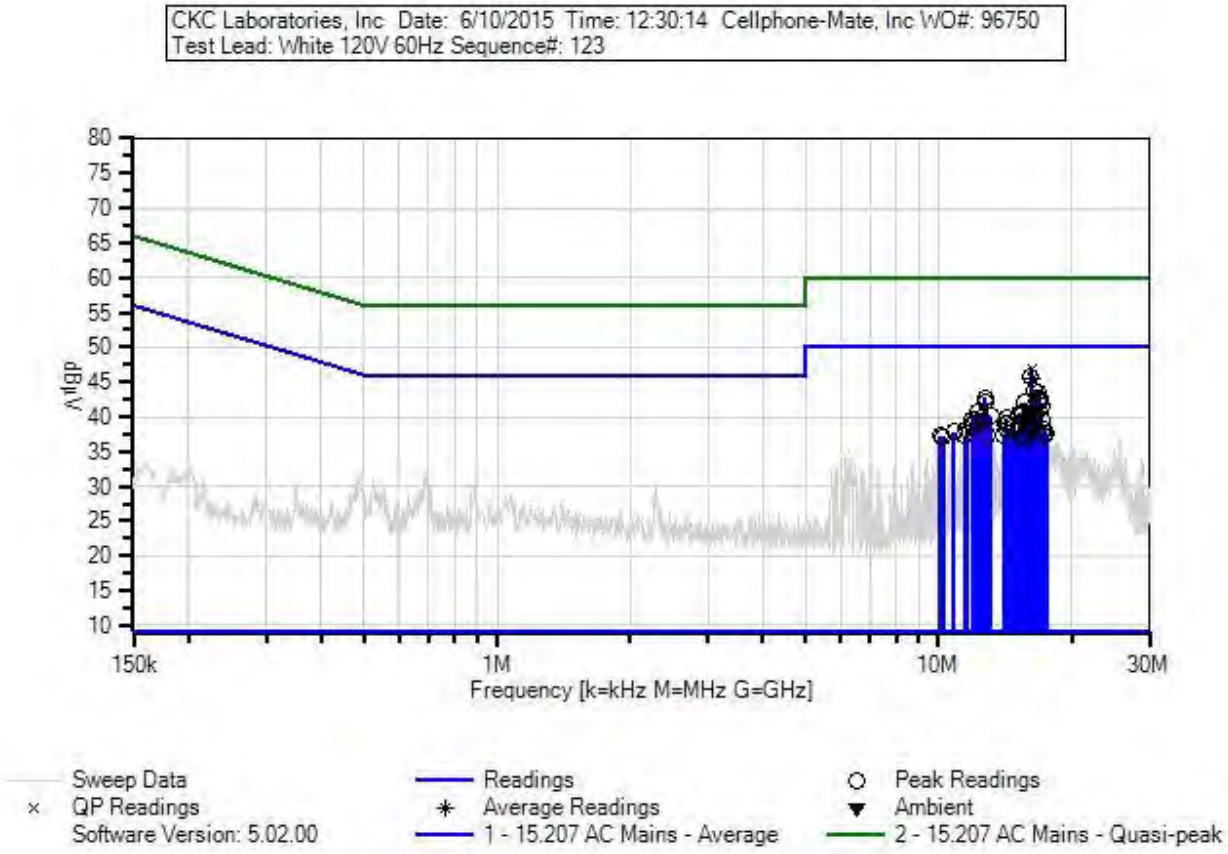
Conducted Emission
Frequency Range: 150kHz to 30MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: ANSI C 63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. A remotely located signal generator which sits next to the EUT is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to operate the WIFI portion at the beginning and disconnect the port of RJ45 from the Laptop due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz

Note:
802.11b Mode
Date rate = 5.5Mbps
Attenuator for 802.11b Mode=30
Middle Channel


CKC Laboratories, Inc Date: 6/10/2015 Time: 12:30:14 Cellphone-Mate, Inc WO#: 96750
Test Lead: White 120V 60Hz Sequence#: 123
dBµV
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
150k
1M
10M
30M
Frequency [k=kHz M=MHz G=GHz]
Sweep Data
QP Readings
Software Version: 5.02.00
Readings
Average Readings
1 - 15.207 AC Mains - Average
Peak Readings
Ambient
2 - 15.207 AC Mains - Quasi-peak

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	3/31/2015	3/31/2017
T2	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T3	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/4/2015	3/4/2017
T4	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/4/2015	3/4/2017
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	ANP05258	High Pass Filter	HE9615-150K-50-720B	11/14/2014	11/14/2016

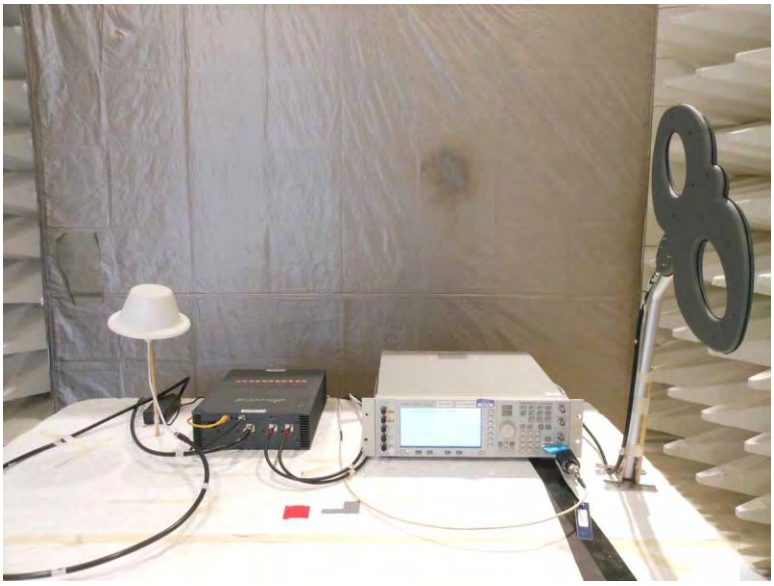
Measurement Data: Reading listed by margin. Test Lead: White

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	16.166M	34.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	45.8	50.0	-4.2	White
2	16.228M Ave	34.5	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	45.6	50.0	-4.4	White
3	16.472M	32.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	43.8	50.0	-6.2	White
4	16.842M	32.4	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	43.5	50.0	-6.5	White
5	16.896M	31.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	42.8	50.0	-7.2	White
6	12.743M	31.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	42.8	50.0	-7.2	White
7	16.779M	31.4	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	42.5	50.0	-7.5	White
8	16.959M	31.0	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	42.2	50.0	-7.8	White
9	15.616M	31.0	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	42.1	50.0	-7.9	White
10	12.806M	30.9	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	42.0	50.0	-8.0	White
11	16.409M	30.5	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	41.6	50.0	-8.4	White
12	17.085M	30.3	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	41.5	50.0	-8.5	White
13	12.202M	29.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.8	50.0	-9.2	White
14	15.436M	29.6	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.7	50.0	-9.3	White

15	16.589M	29.4	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.5	50.0	-9.5	White
16	15.247M	29.4	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.5	50.0	-9.5	White
17	16.652M	29.3	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.4	50.0	-9.6	White
18	16.535M	29.2	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.3	50.0	-9.7	White
19	15.553M	29.2	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.3	50.0	-9.7	White
20	13.112M	29.0	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.1	50.0	-9.9	White
21	16.346M	28.9	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	40.0	50.0	-10.0	White
22	15.923M	28.8	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.9	50.0	-10.1	White
23	14.274M	28.6	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	39.8	50.0	-10.2	White
24	12.508M	28.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.8	50.0	-10.2	White
25	11.896M	28.6	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.7	50.0	-10.3	White
26	12.139M	28.5	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.6	50.0	-10.4	White
27	17.148M	28.3	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	39.5	50.0	-10.5	White
28	15.986M	28.3	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.4	50.0	-10.6	White
29	12.688M	28.2	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.3	50.0	-10.7	White
30	14.211M	28.0	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	39.1	50.0	-10.9	White
31	14.157M	27.8	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	38.9	50.0	-11.1	White
32	11.950M	27.6	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	38.7	50.0	-11.3	White
33	14.697M	27.2	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	38.4	50.0	-11.6	White
34	15.860M	27.1	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	38.2	50.0	-11.8	White
35	14.337M	27.0	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	38.2	50.0	-11.8	White
36	11.589M	27.1	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	38.2	50.0	-11.8	White
37	17.391M	27.0	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	38.2	50.0	-11.8	White
38	16.049M	26.9	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	38.0	50.0	-12.0	White
39	15.004M	26.8	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	38.0	50.0	-12.0	White
40	10.797M	26.8	+9.9 +0.2	+0.2	+0.0	+0.8	+0.0	37.9	50.0	-12.1	White

41	16.688M	26.7	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.8	50.0	-12.2	White
42	17.562M	26.3	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	37.5	50.0	-12.5	White
43	12.869M	26.3	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.4	50.0	-12.6	White
44	17.292M	26.2	+9.9 +0.2	+0.3	+0.1	+0.7	+0.0	37.4	50.0	-12.6	White
45	10.058M	26.2	+9.9 +0.2	+0.2	+0.0	+0.8	+0.0	37.3	50.0	-12.7	White
46	14.031M	26.2	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.3	50.0	-12.7	White
47	11.463M	26.2	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.3	50.0	-12.7	White
48	10.247M	26.1	+9.9 +0.2	+0.2	+0.0	+0.8	+0.0	37.2	50.0	-12.8	White
49	15.679M	26.0	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.1	50.0	-12.9	White
50	15.373M	26.0	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	37.1	50.0	-12.9	White
51	16.228M QP	35.9	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	47.0	60.0	-13.0	White
^	16.228M	36.8	+9.9 +0.2	+0.3	+0.0	+0.7	+0.0	47.9	50.0	-2.1	White

Test Setup Photo(s)



15.247(a)(2) 6dB Bandwidth

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**OBW Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

OBW set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 8.1

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11b Mode=30

RBW=100kHz and VBW=300kHz
The Data rate is at 5.5Mbps

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**OBW Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

OBW set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 8.1

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11g Mode=45

RBW=100kHz and VBW=300kHz
The Data rate is at 18Mbps

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**OBW Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

OBW set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 8.1

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT20 Mode =45

RBW=100kHz and VBW=300kHz
The Data rate is at MCS2

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**OBW Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

OBW set up

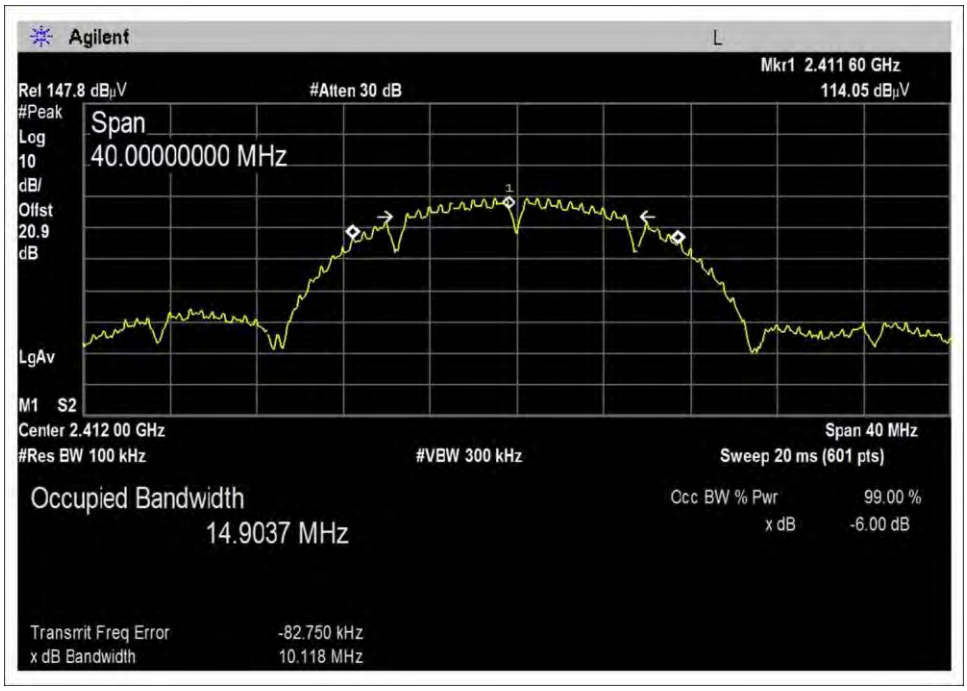
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 8.1

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

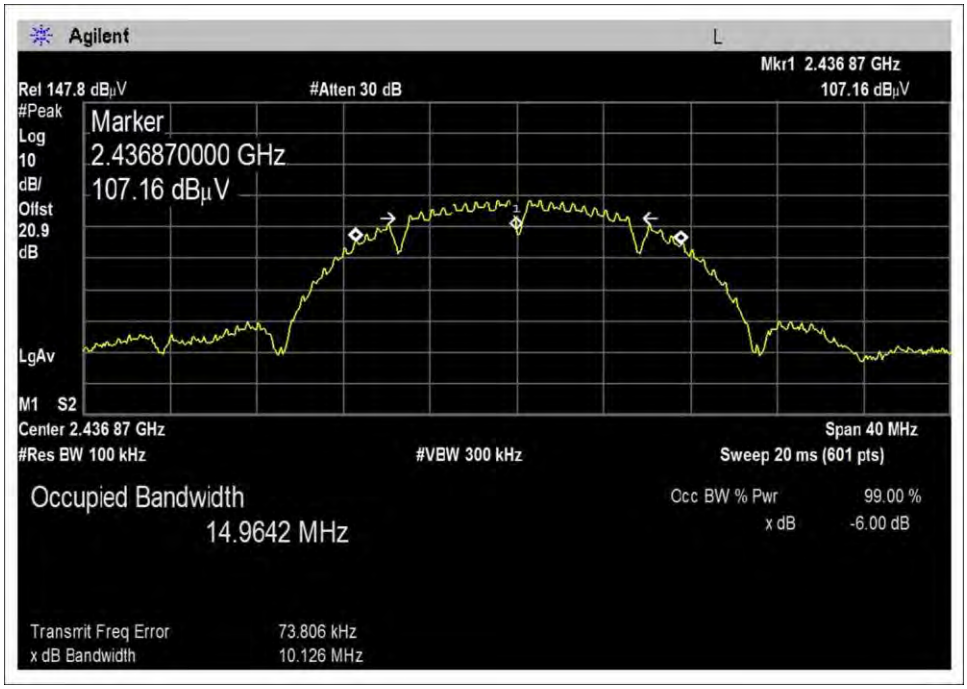
Attenuator for 802.11n HT40 Mode =40

RBW=100kHz and VBW=300kHz
The Data rate is at MCS2

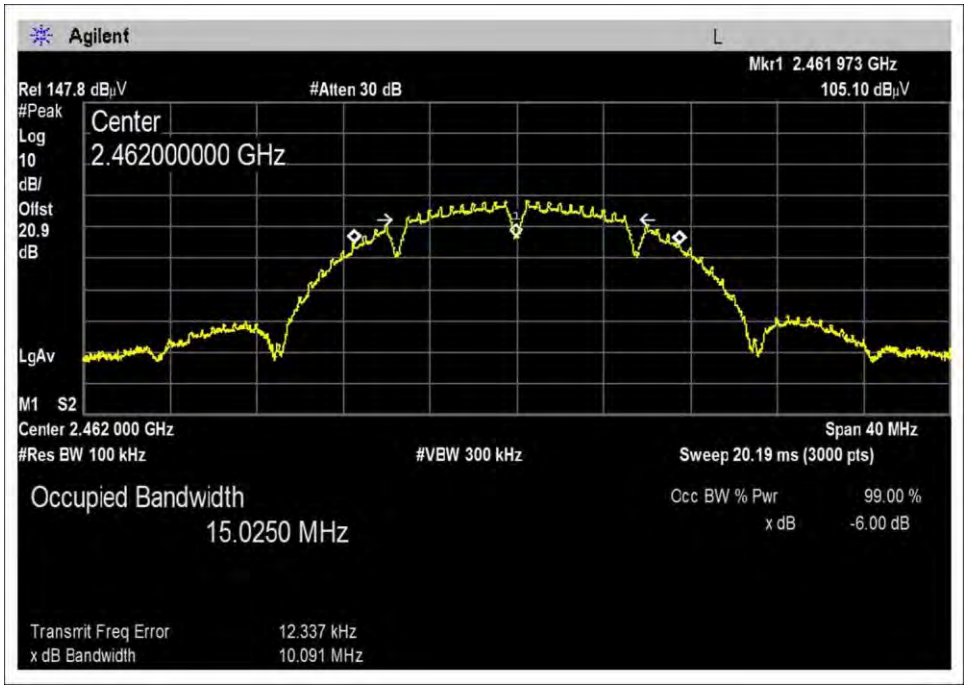
Plot(s)



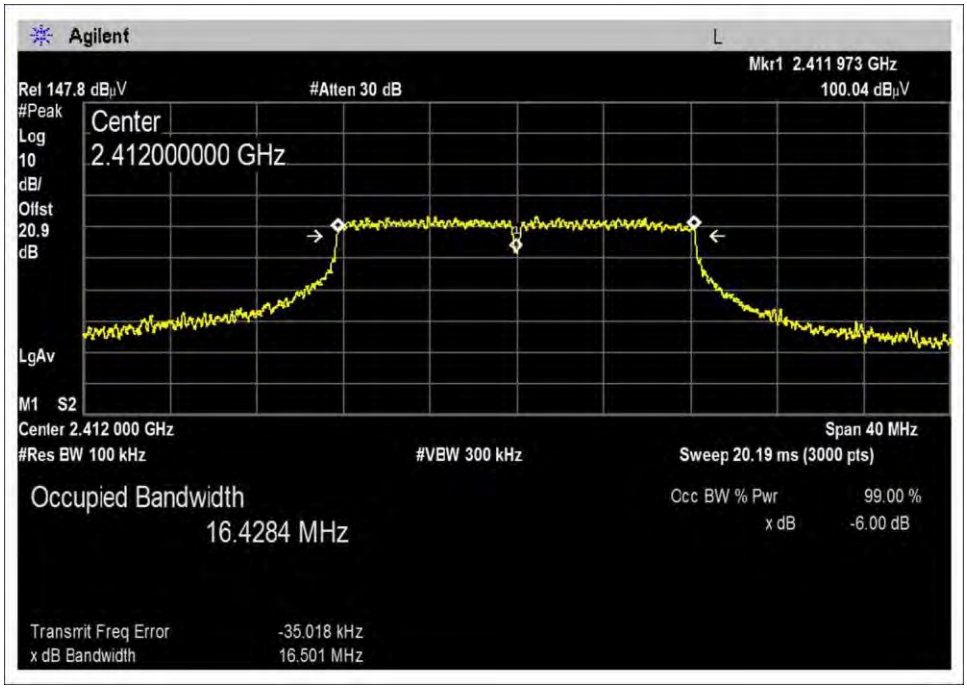
Low Channel, B Mode



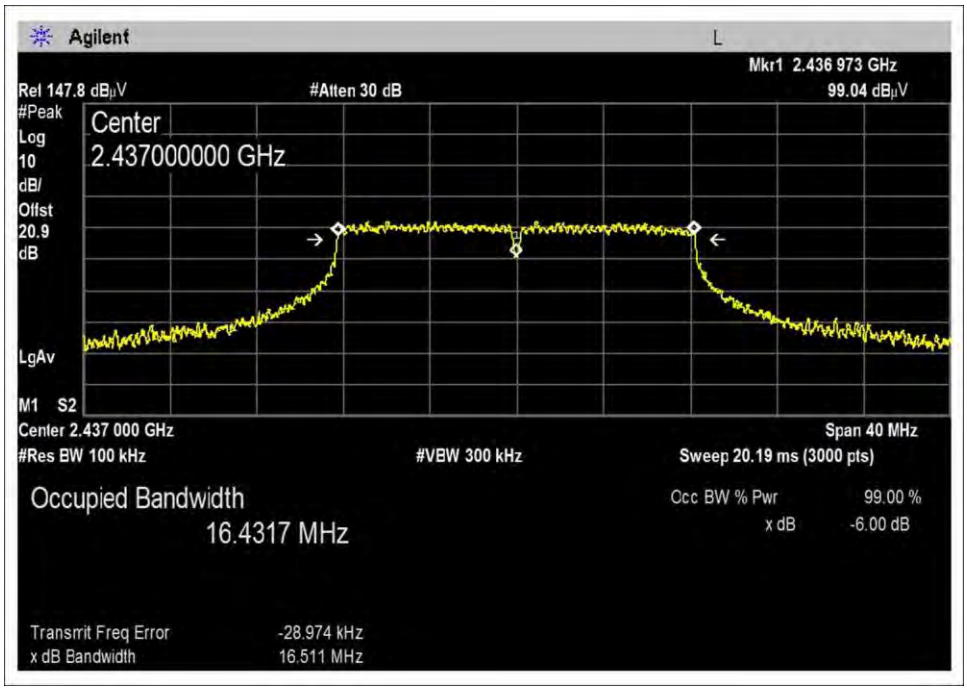
Middle Channel, B Mode



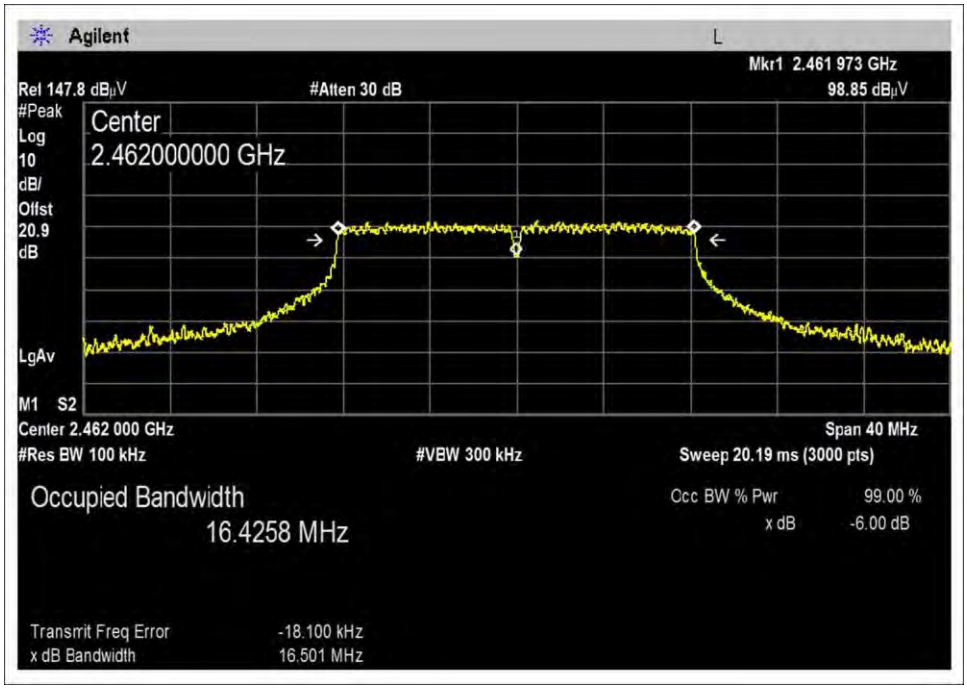
High Channel, B Mode



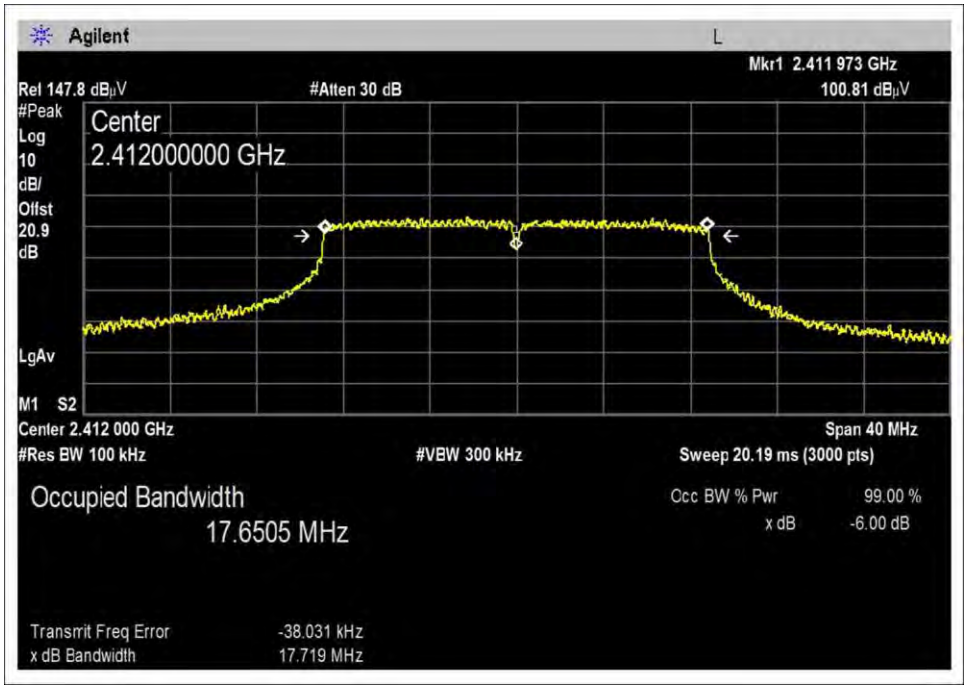
Low Channel, G Mode



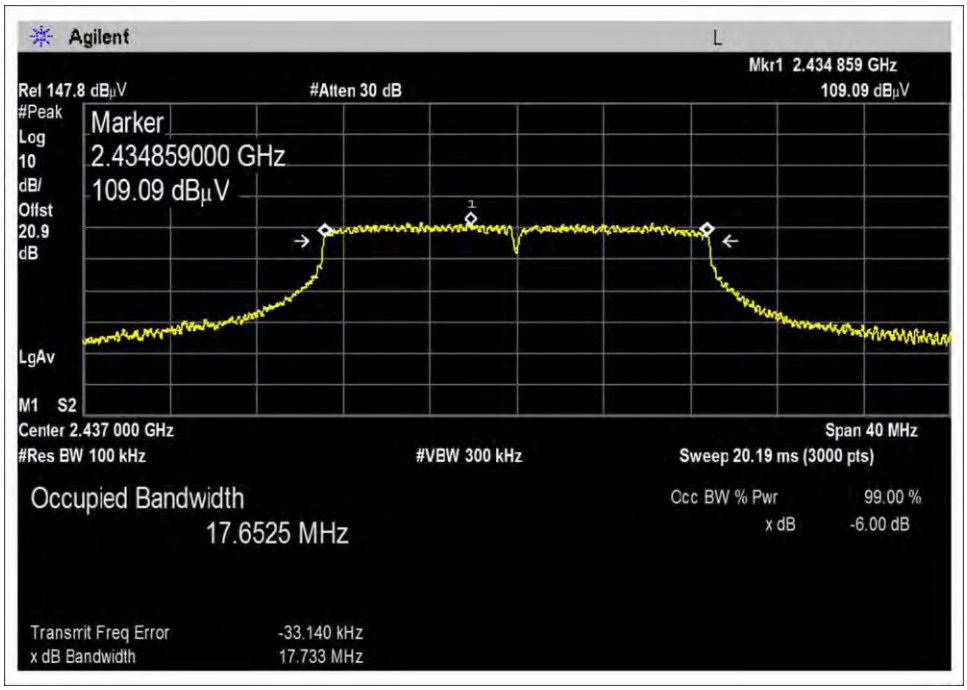
Middle Channel, G Mode



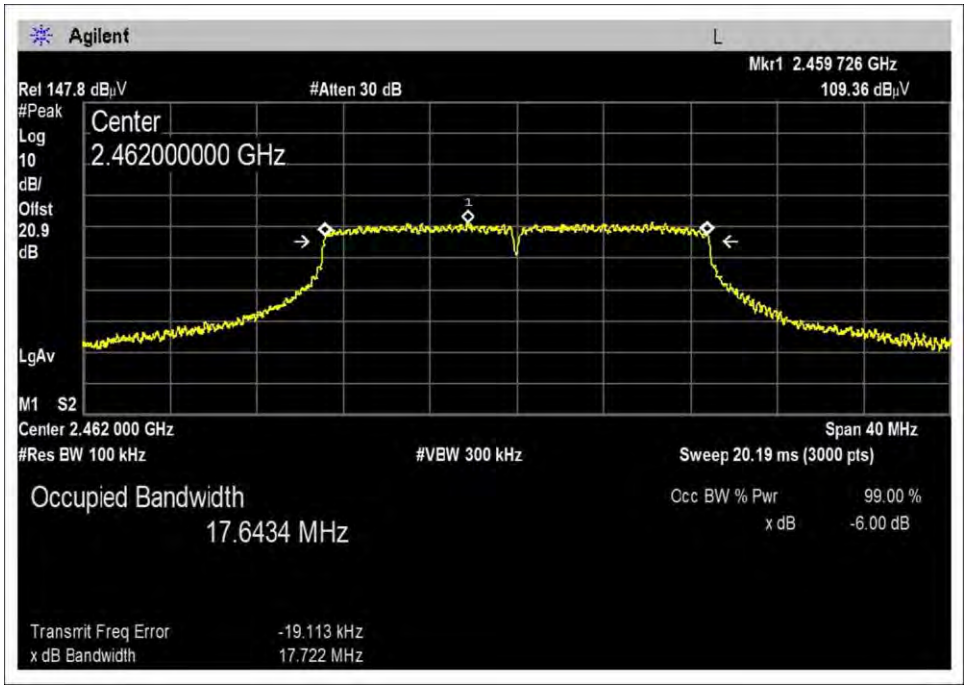
High Channel, G Mode



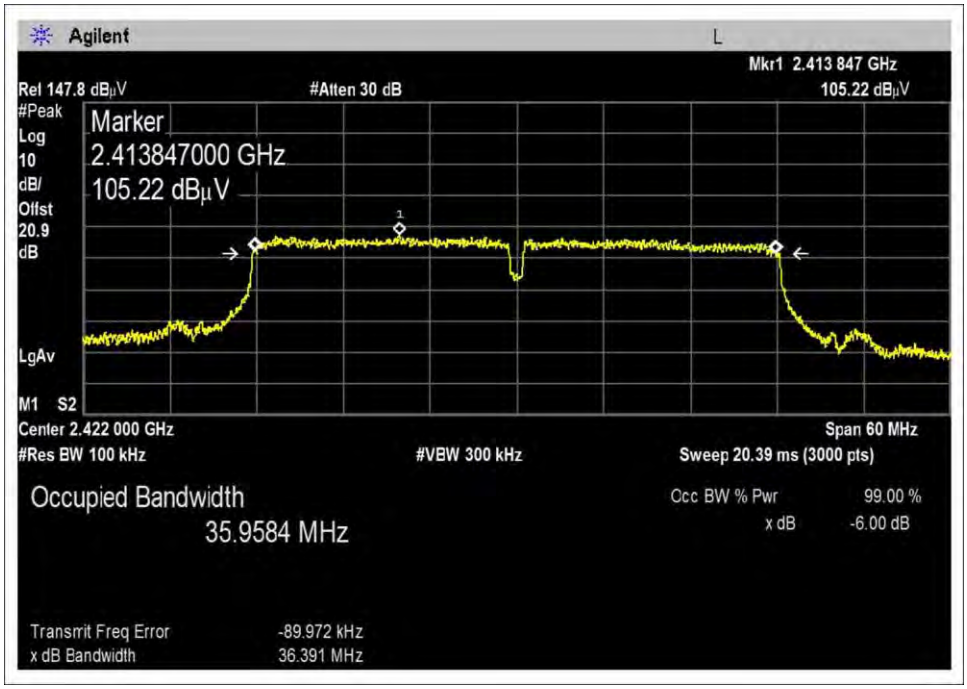
Low Channel, N (20) Mode



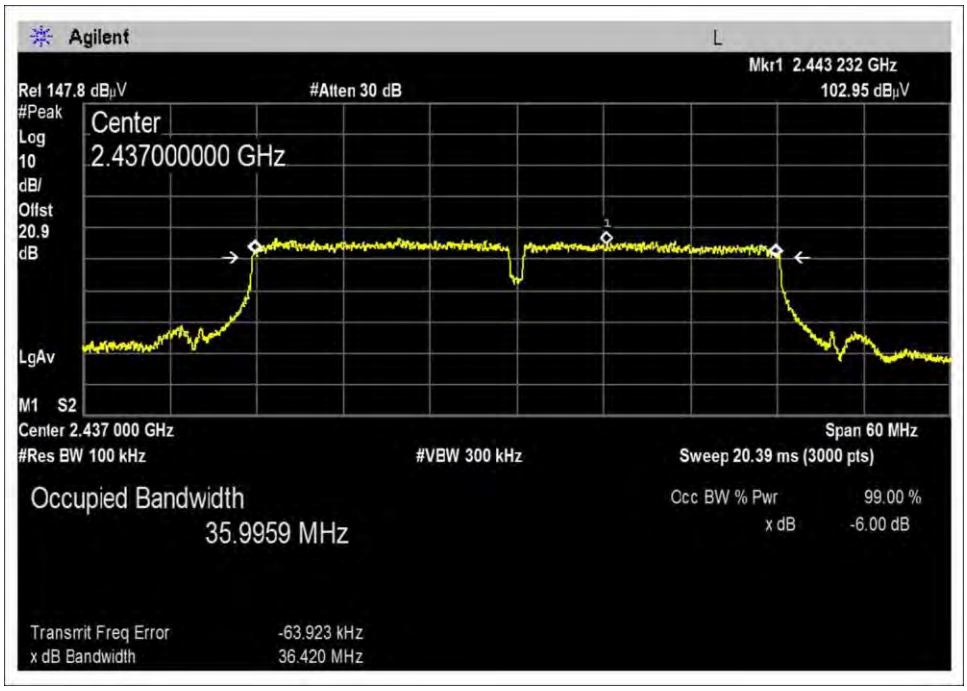
Middle Channel, N (20) Mode



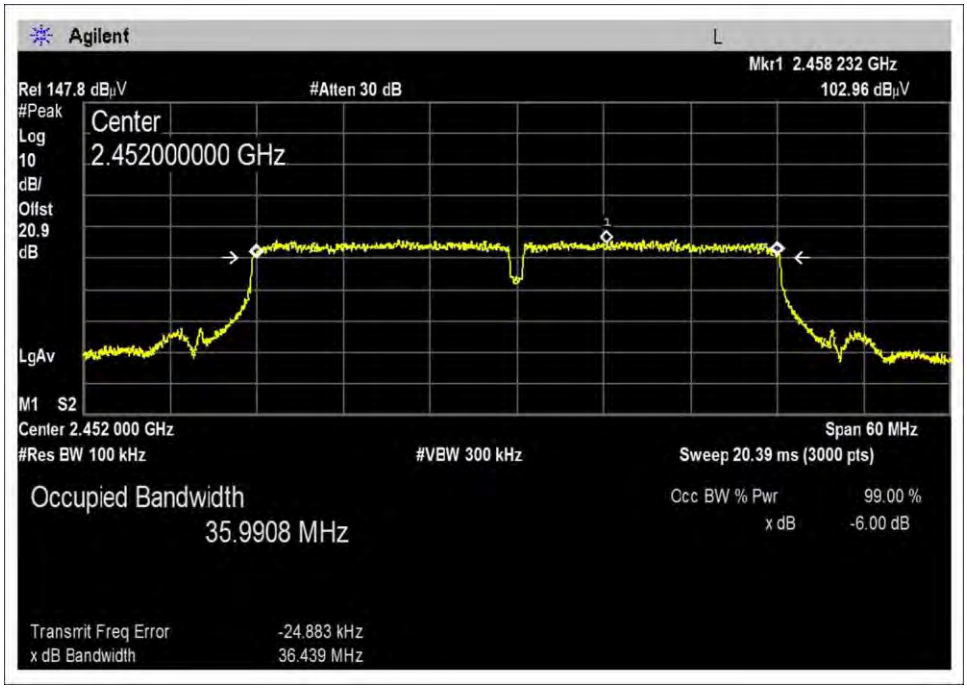
High Channel, N (20) Mode



Low Channel, N (40) Mode



Middle Channel, N (40) Mode



High Channel, N (40) Mode

Test Setup Photo

15.247(b)(3) Output Power

Test Data

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(b) Power Output (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Fundamental Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Test Method: KDB 558074 v03r02 section 9.2.2.7

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI.
A remotely located signal generator is connected to input port of EUT. Output power with the booster max DL output power at the indoor antenna port with AWGN signal of 4.1MHz AWGN and sequentially with a GSM signal. The DL power input signal at the outdoor antenna port is set at 3dB above AGC level.
DL input signal: 881.5MHz and 2132.5MHz, 4.1MHz AWGN / GSM

Attenuator for 802.11b Mode=30

Result Table

Frequency (MHz)	Measured Power in dBm (Booster off)	Measured Power in dBm (Booster on) at 881.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 2132.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 881.5MHz, GSM	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Power Limit in dBm	Pass/Fail
2412 Low Channel	23.74	23.8	23.86	23.83	23.78	30	Pass
2437 Middle Channel	22.74	22.76	22.94	22.84	22.71	30	Pass
2462 High Channel	22.42	22.53	22.79	22.49	22.54	30	Pass

The data rate is at 5.5Mbps when the RF output power is highest

Test Method Paragraph:

The Emissions Bandwidth measurements were made using the automatic bandwidth capability of the spectrum analyzer using the settings set out in KDB "558074 D01 DTS Meas Guidance v03r02, Section 9.2.2.7 .The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 1 Watt or 30dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(b) Power Output (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Fundamental Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 9.2.2.7

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI
A remotely located signal generator is connected to input port of EUT. Output power with the booster max DL output power at the indoor antenna port with AWGN signal of 4.1MHz AWGN and sequentially with a GSM signal.
The DL power input signal at the outdoor antenna port is set at 3dB above AGC level.
DL input signal: 881.5MHz and 2132.5MHz, 4.1MHz AWGN / GSM

Attenuator for 802.11g Mode=45

Result Table

Frequency (MHz)	Measured Power in dBm (Booster off)	Measured Power in dBm (Booster on) at 881.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 2132.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 881.5MHz, GSM	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Power Limit in dBm	Pass/Fail
2412 Low Channel	23.4	23.38	23.38	23.25	23.23	30	Pass
2437 Middle Channel	22.29	22.16	22.19	22.07	22.16	30	Pass
2462 High Channel	21.97	21.82	21.84	21.77	21.93	30	Pass

The data rate is at 18Mbps when the RF output power is highest.

Test Method Paragraph:

The Emissions Bandwidth measurements were made using the automatic bandwidth capability of the spectrum analyzer using the settings set out in KDB "558074 D01 DTS Meas Guidance v03r02, Section 9.2.2.7 .The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 1 Watt or 30dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(b) Power Output (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Fundamental Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 9.2.2.7

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI.
A remotely located signal generator is connected to input port of EUT. Output power with the booster max DL output power at the indoor antenna port with AWGN signal of 4.1MHz AWGN and sequentially with a GSM signal.
The DL power input signal at the outdoor antenna port is set at 3dB above AGC level.
DL input signal: 881.5MHz and 2132.5MHz, 4.1MHz AWGN / GSM

Attenuator for 802.11n HT20 Mode =45

Result Table

Frequency (MHz)	Measured Power in dBm (Booster off)	Measured Power in dBm (Booster on) at 881.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 2132.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 881.5MHz, GSM	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Power Limit in dBm	Pass/Fail
2412 Low Channel	23.06	23.27	23.02	23.06	23.01	30	Pass
2437 Middle Channel	21.91	21.96	22.12	22.03	21.95	30	Pass
2462 High Channel	22.26	21.66	22.03	21.79	21.65	30	Pass

The data rate is at MCS2 when the RF output power is highest.

Test Method Paragraph:

The Emissions Bandwidth measurements were made using the automatic bandwidth capability of the spectrum analyzer using the settings set out in KDB "558074 D01 DTS Meas Guidance v03r02, Section 9.2.2.7 .The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 1 Watt or 30dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(b) Power Output (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Fundamental Set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 9.2.2.7

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI.
A remotely located signal generator is connected to input port of EUT. Output power with the booster max DL output power at the indoor antenna port with AWGN signal of 4.1MHz AWGN and sequentially with a GSM signal.
The DL power input signal at the outdoor antenna port is set at 3dB above AGC level.
DL input signal: 881.5MHz and 2132.5MHz, 4.1MHz AWGN / GSM

Attenuator for 802.11n HT40 Mode =40

Result Table

Frequency (MHz)	Measured Power in dBm (Booster off)	Measured Power in dBm (Booster on) at 881.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 2132.5MHz, 4.1MHz AWGN	Measured Power in dBm (Booster on) at 881.5MHz, GSM	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Power Limit in dBm	Pass/Fail
2422 Low Channel	17.55	17.33	17.22	17.1	17.29	30	Pass
2437 Middle Channel	16.86	16.6	16.72	16.55	16.45	30	Pass
2452 High Channel	16.4	16.14	16.41	16.39	16.06	30	Pass

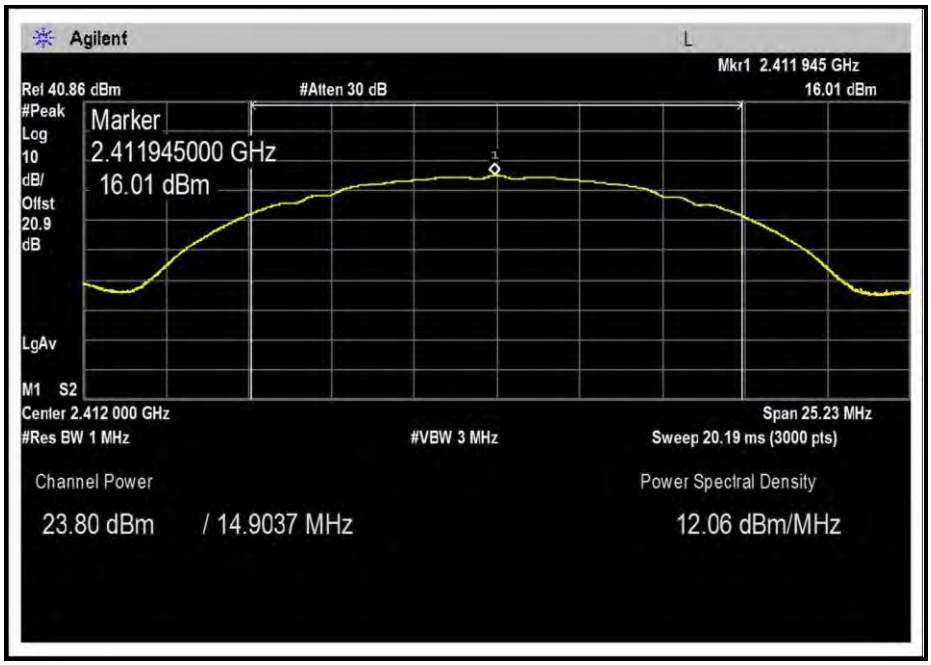
The data rate is at MCS2 when the RF output power is highest.

Test Method Paragraph:

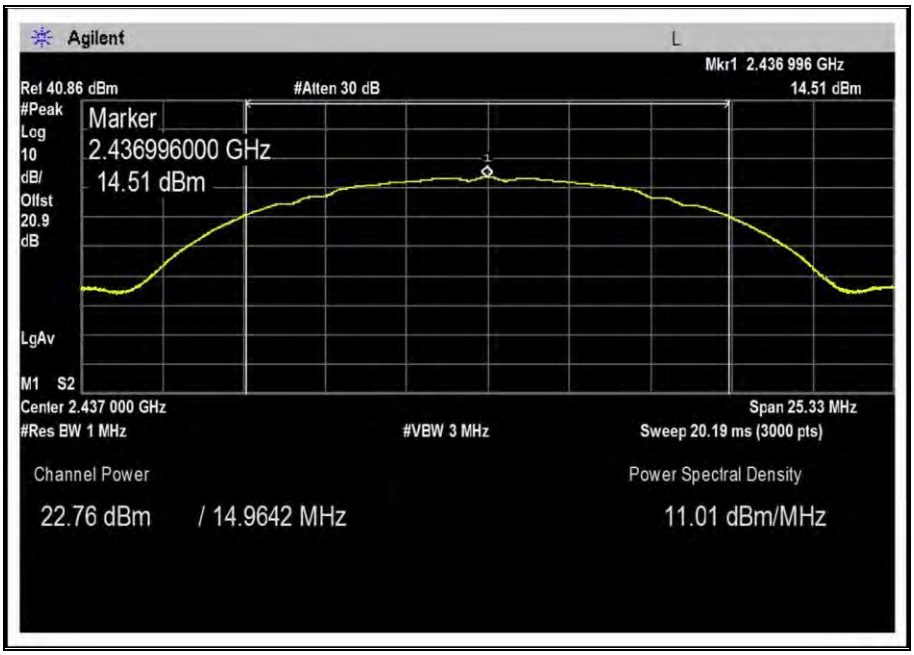
The Emissions Bandwidth measurements were made using the automatic bandwidth capability of the spectrum analyzer using the settings set out in KDB "558074 D01 DTS Meas Guidance v03r02, Section 9.2.2.7 .The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 1 Watt or 30dBm.

Test Plot(s)

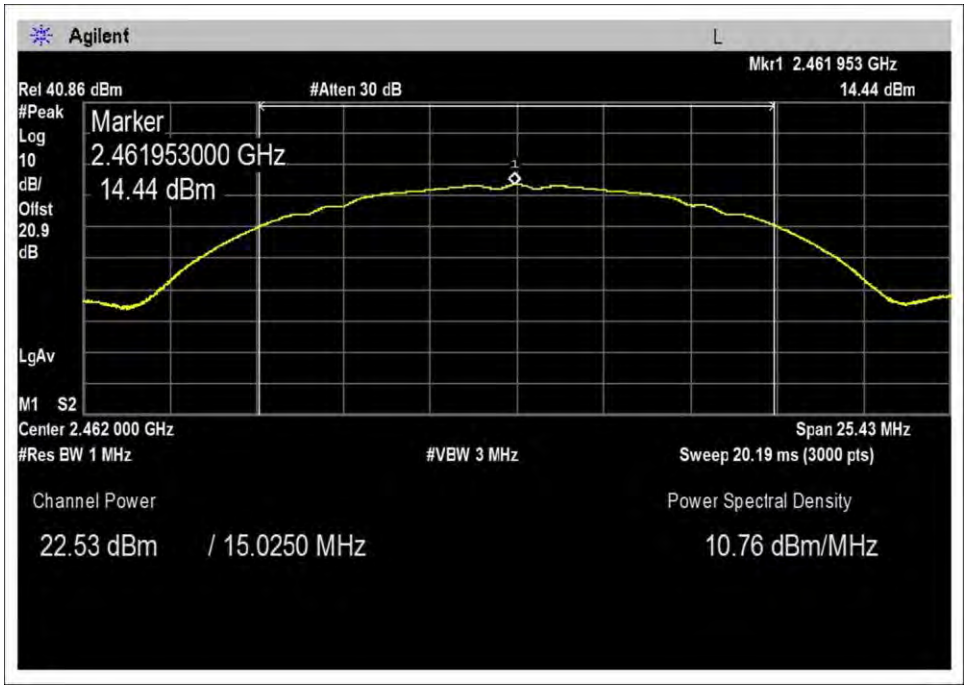
B Mode - AWGN



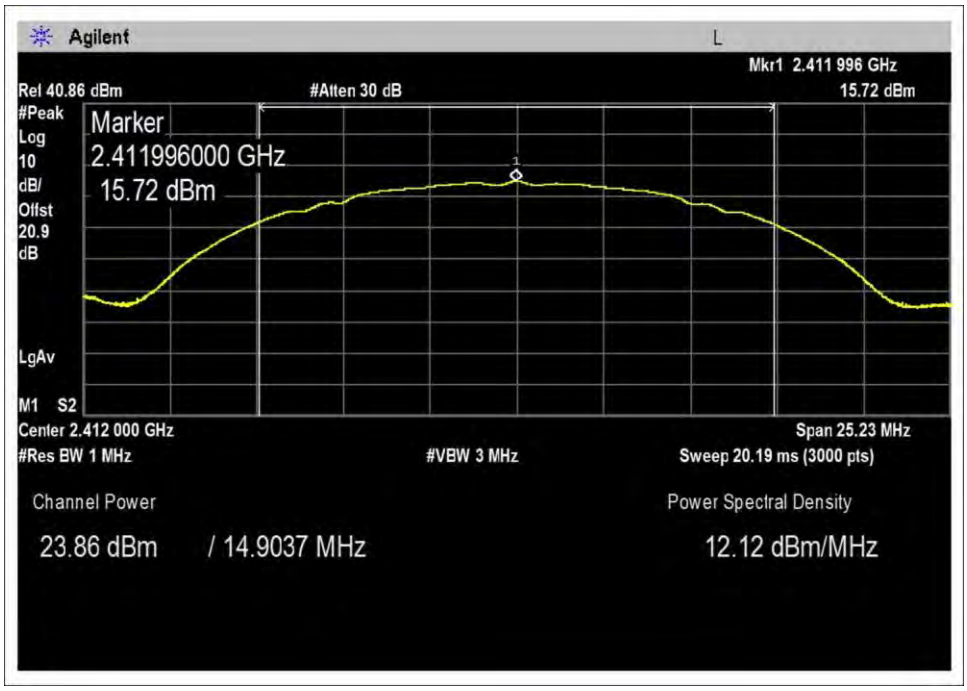
Low Channel, 881.5 AWGN – Booster ON



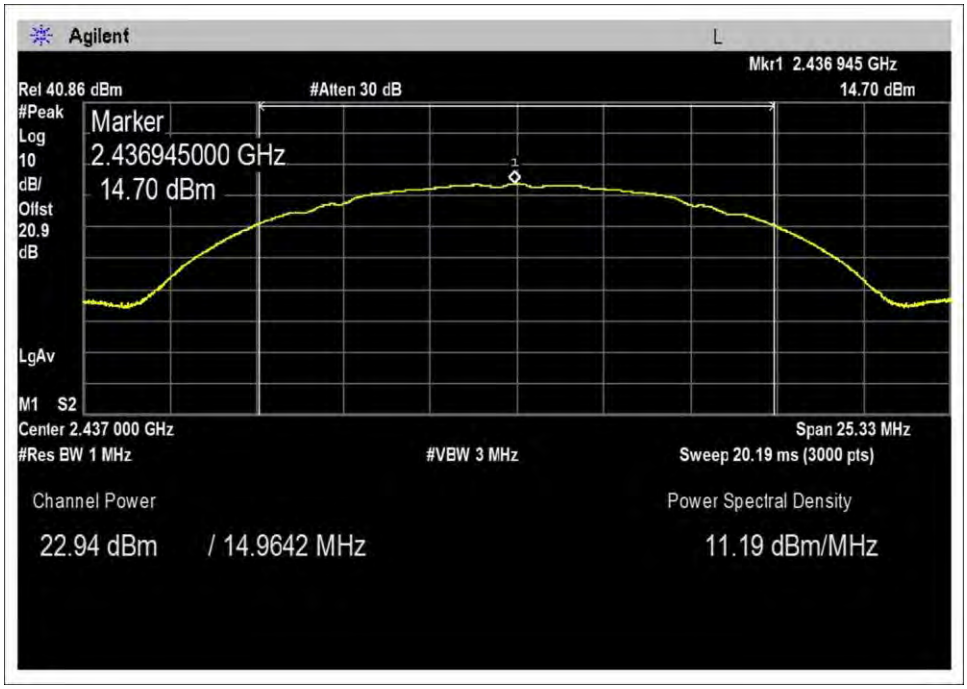
Middle Channel, 881.5 AWGN – Booster ON



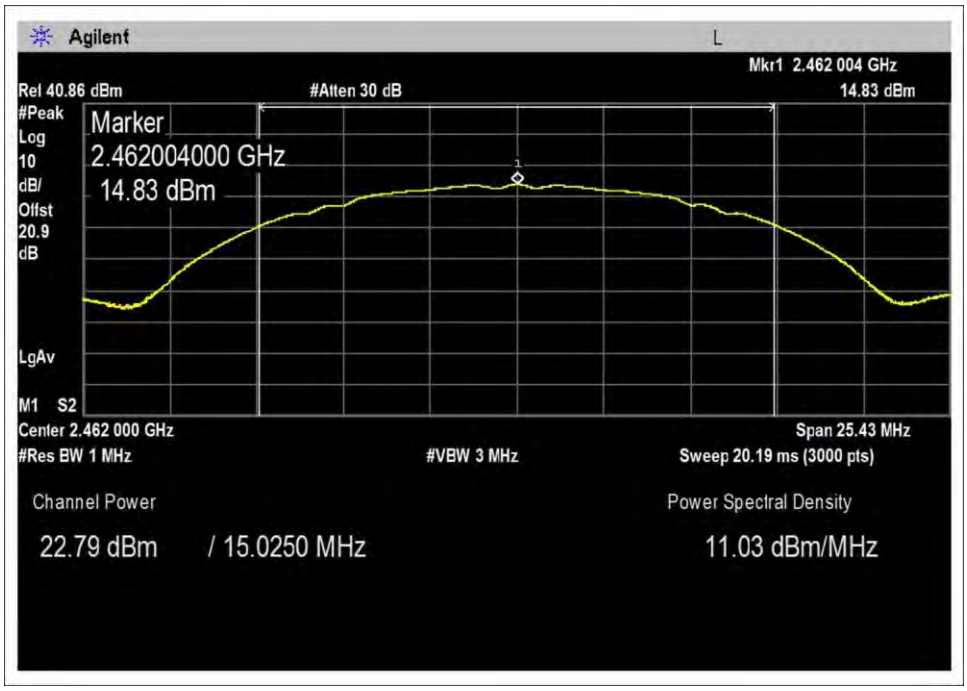
High Channel, 881.5 AWGN – Booster ON



Low Channel, 2132.5 AWGN – Booster ON

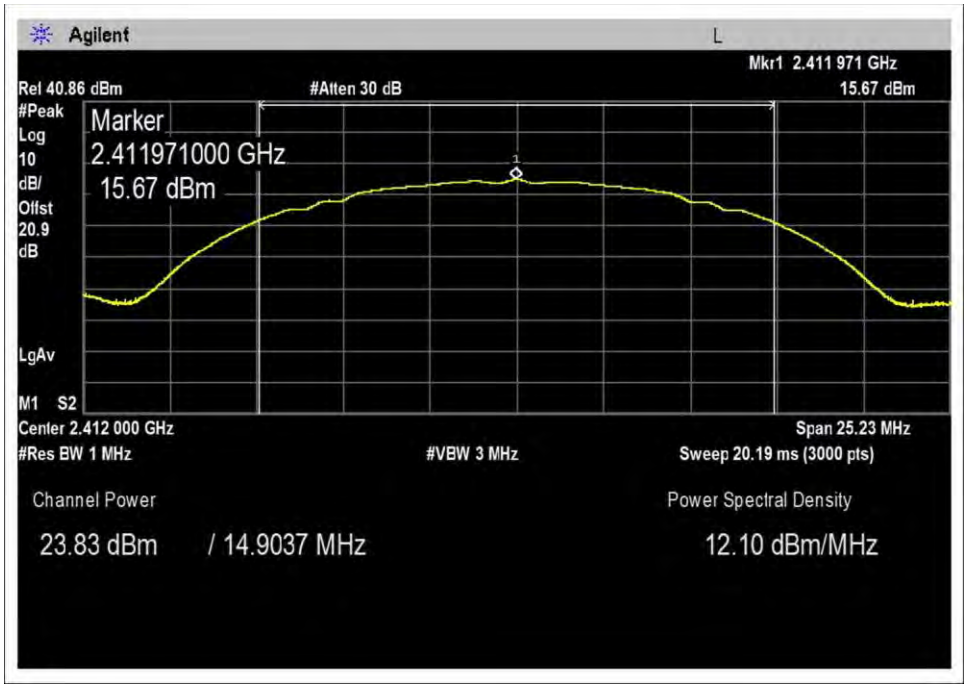


Middle Channel, 2132.5 AWGN – Booster ON

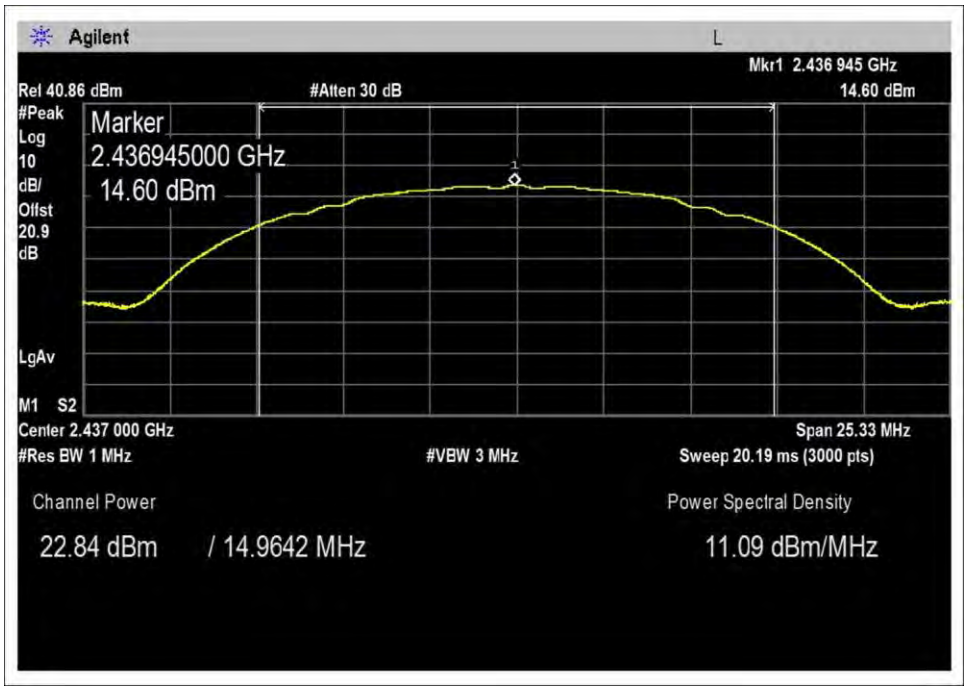


High Channel, 2132.5 AWGN – Booster ON

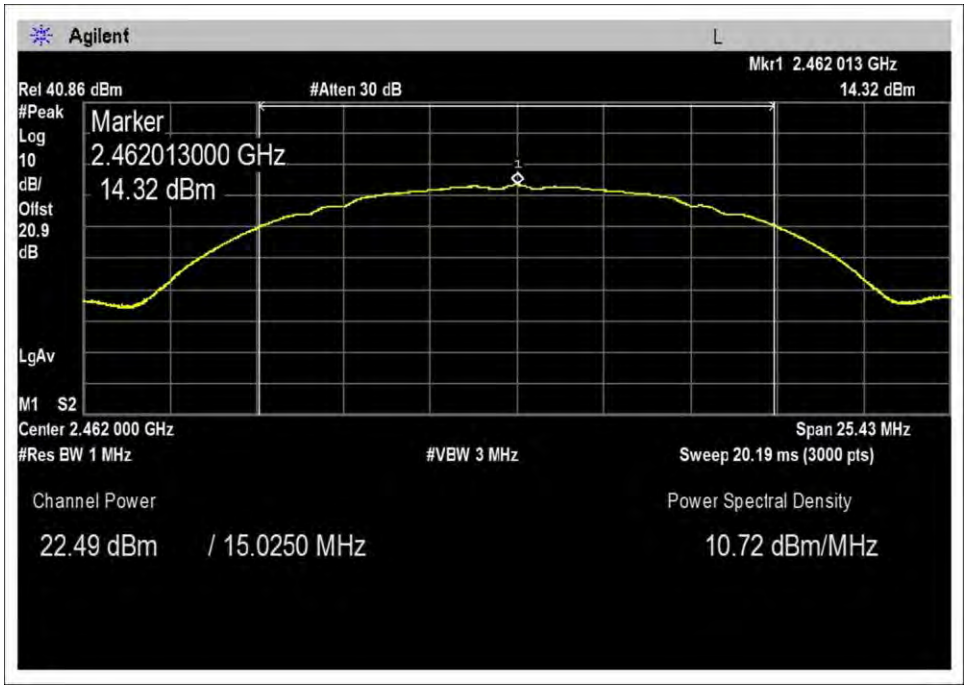
B Mode - GSM



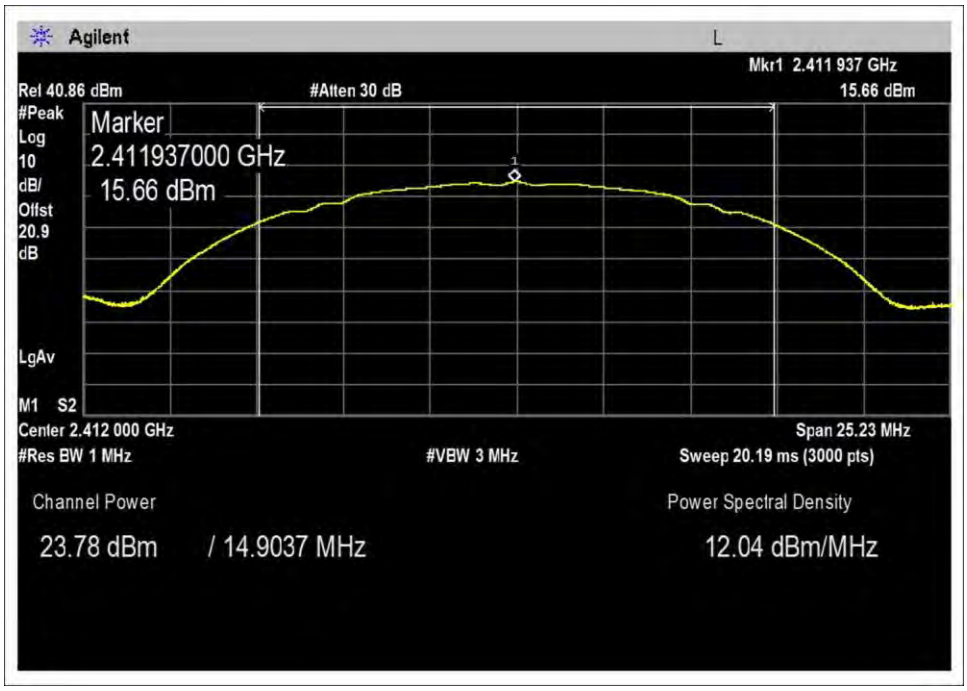
Low Channel, 881.5 GSM – Booster ON



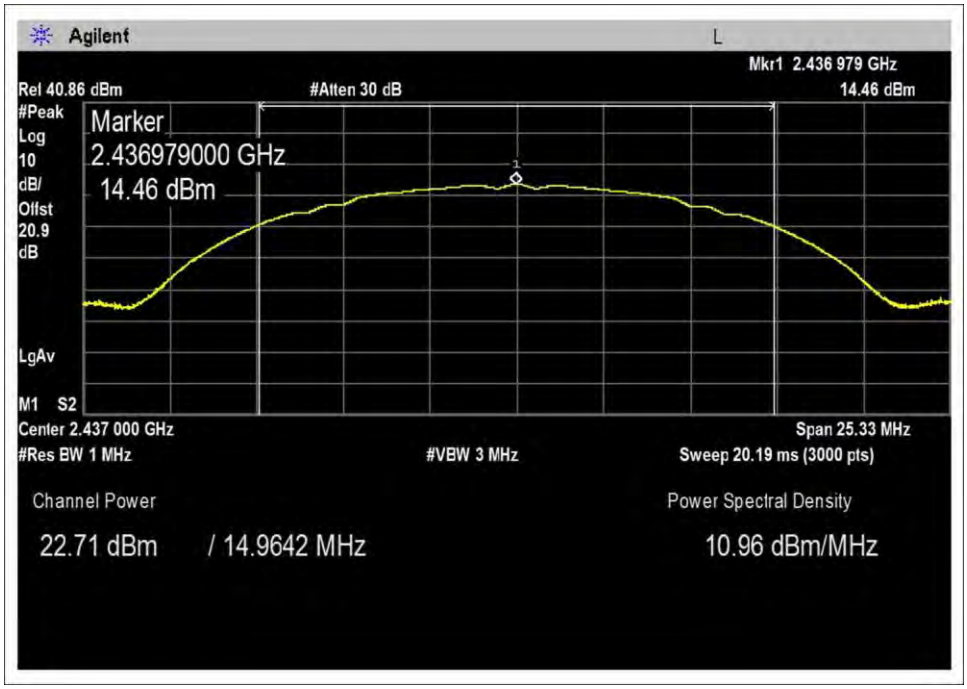
Middle Channel, 881.5 GSM – Booster ON



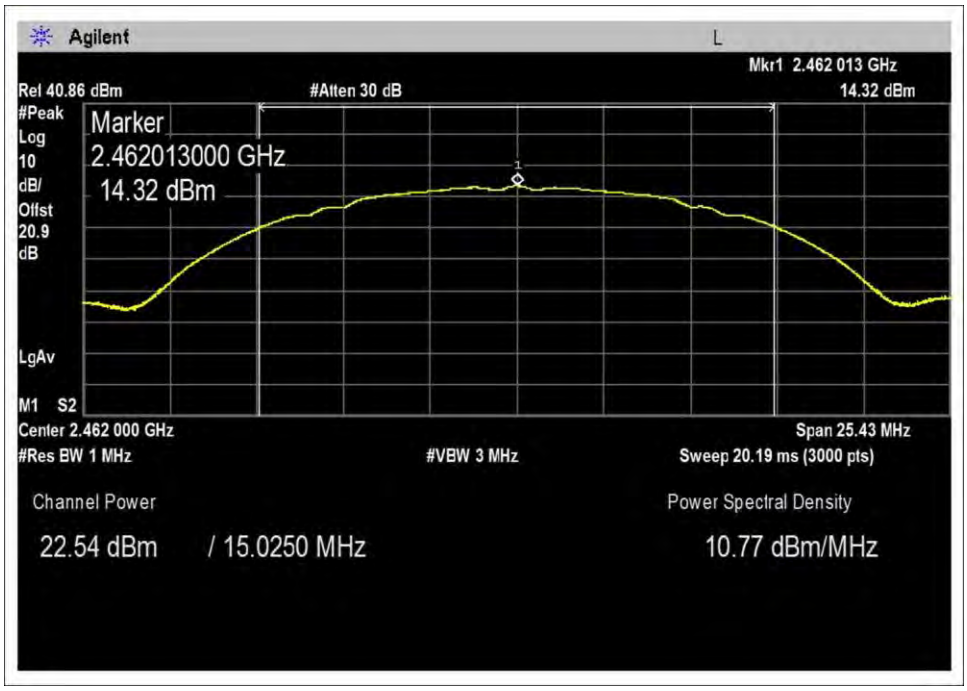
High Channel, 881.5 GSM – Booster ON



Low Channel, 2132.5 GSM – Booster ON

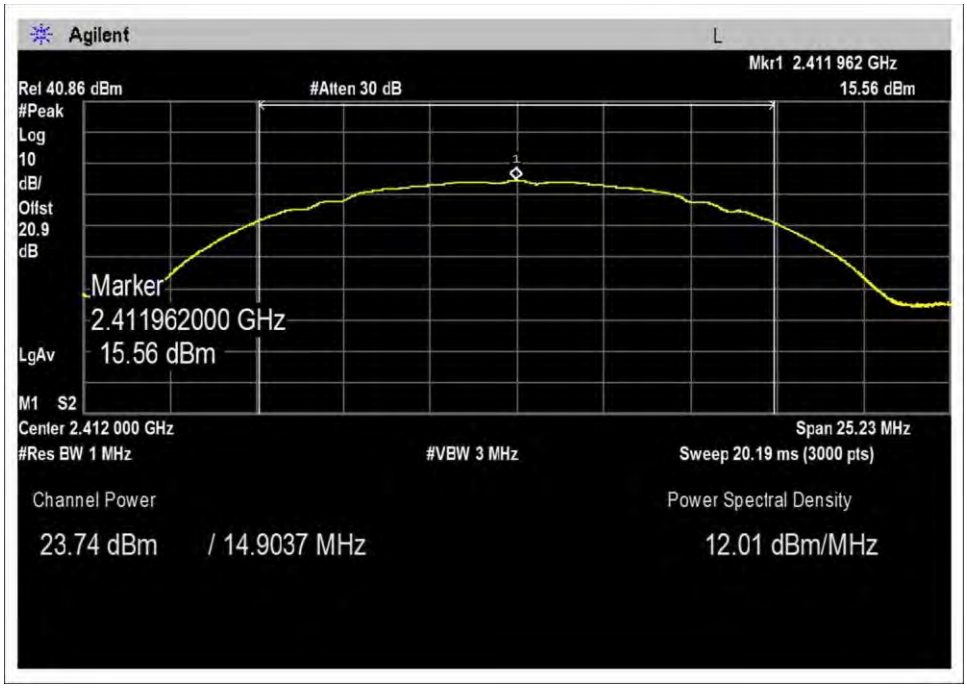


Middle Channel, 2132.5 GSM – Booster ON

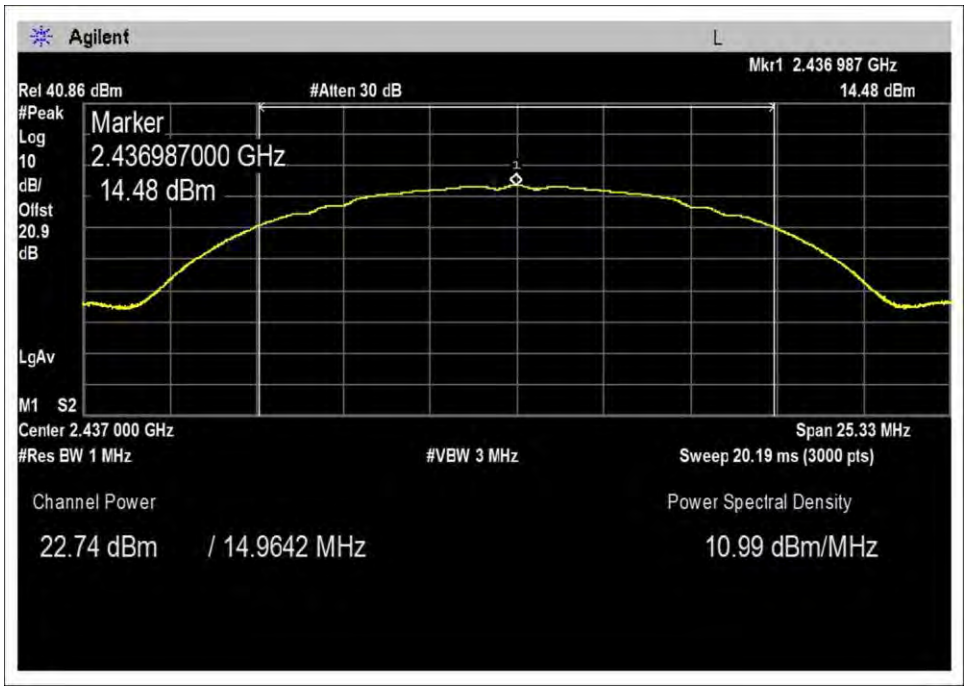


High Channel, 2132.5 GSM – Booster ON

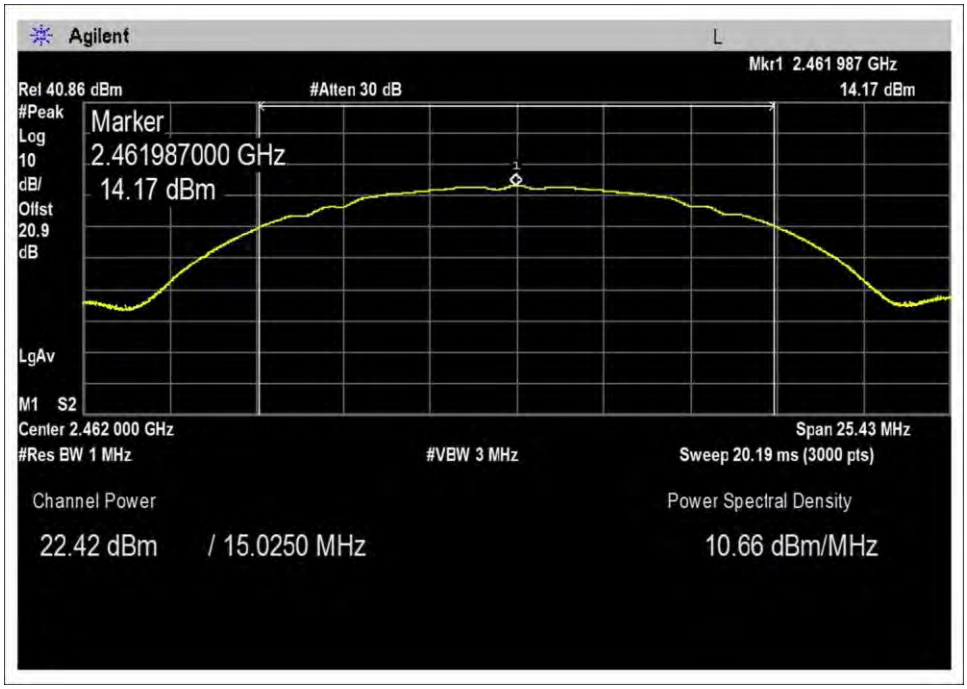
B Mode – Booster OFF



Low Channel, Booster OFF

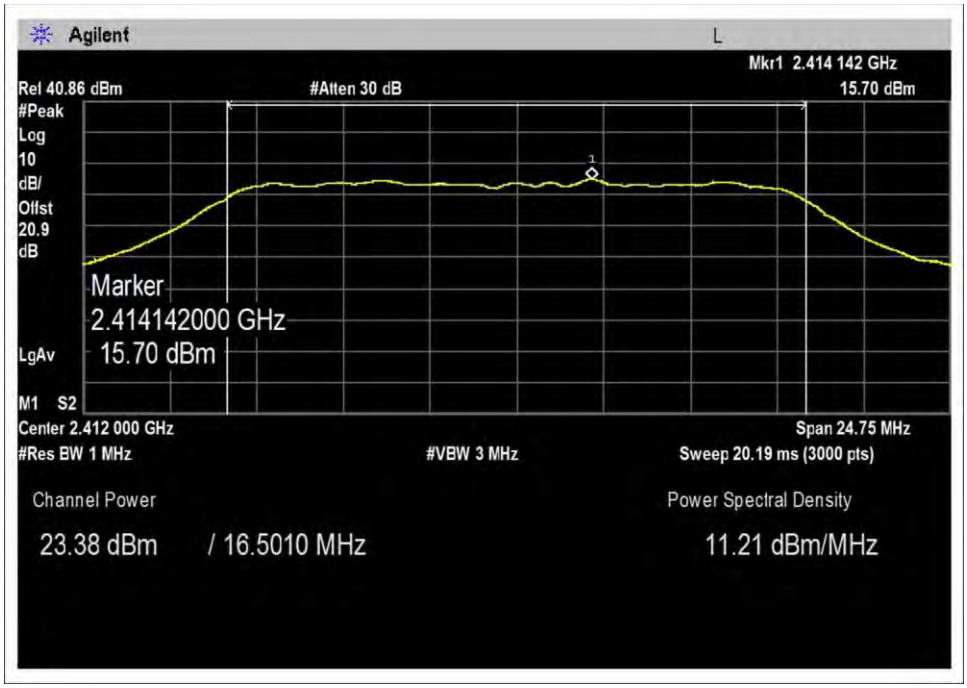


Middle Channel, Booster OFF

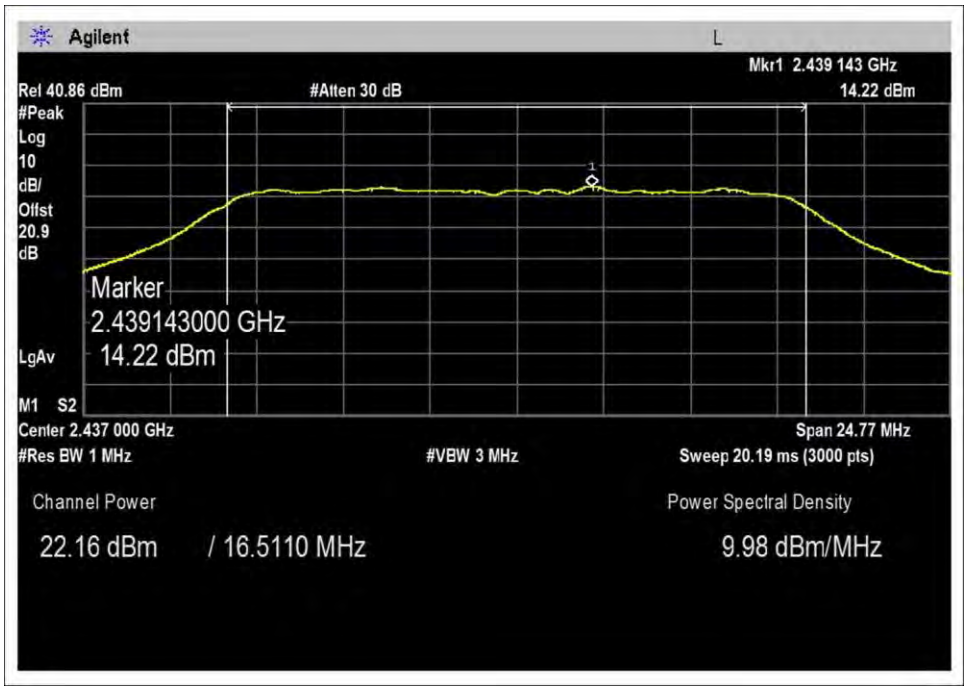


High Channel, Booster OFF

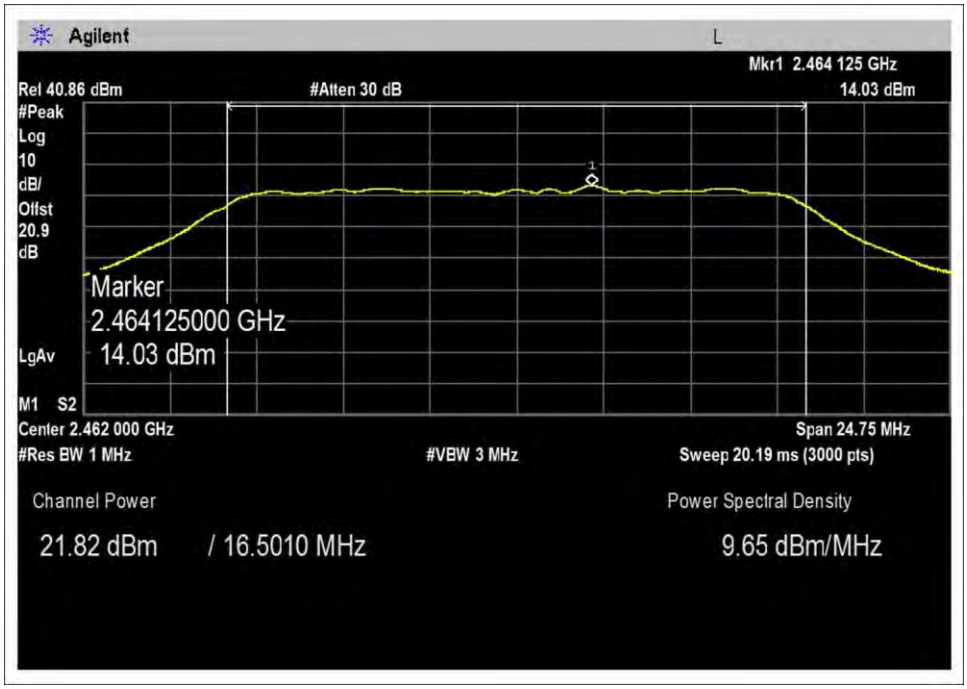
G Mode - AWGN



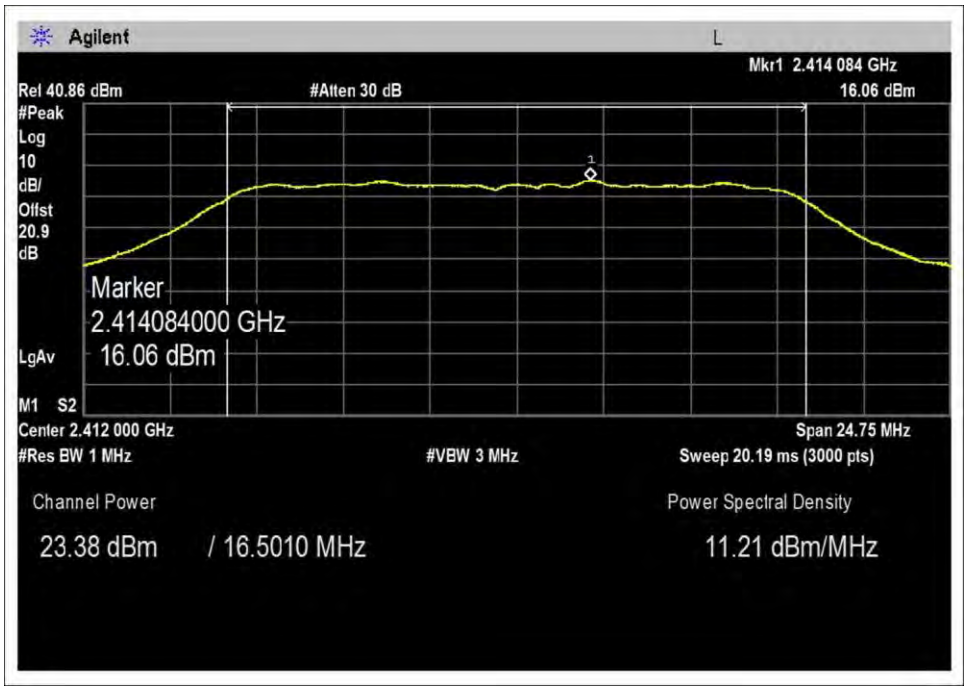
Low Channel – G Mode, 881.5 AWGN – Booster ON



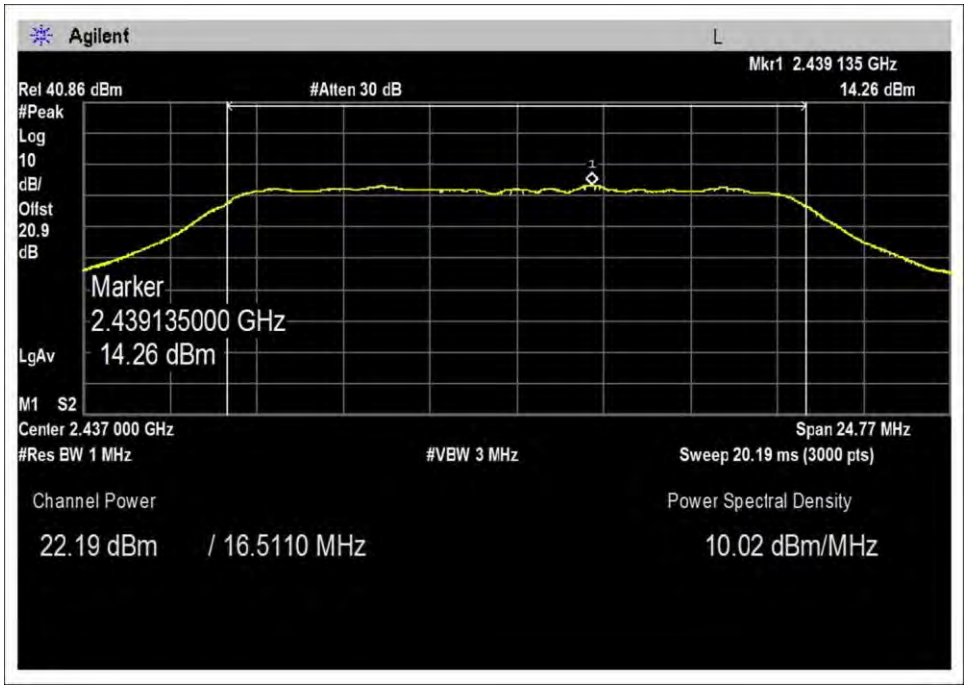
Middle Channel – G Mode, 881.5 AWGN – Booster ON



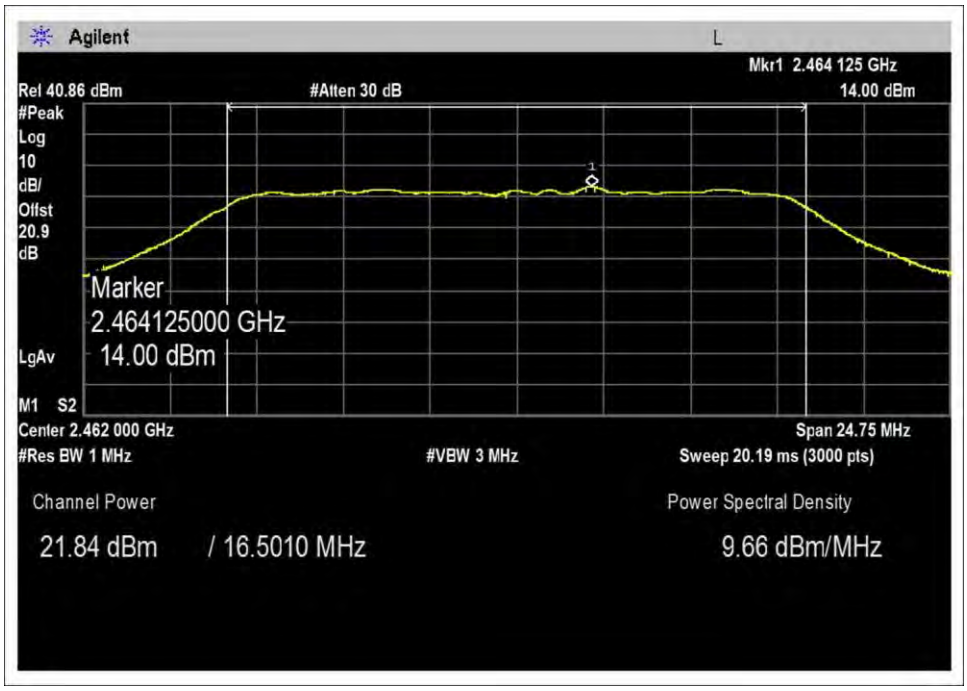
High Channel – G Mode, 881.5 AWGN – Booster ON



Low Channel – G Mode, 2132.5 AWGN – Booster ON

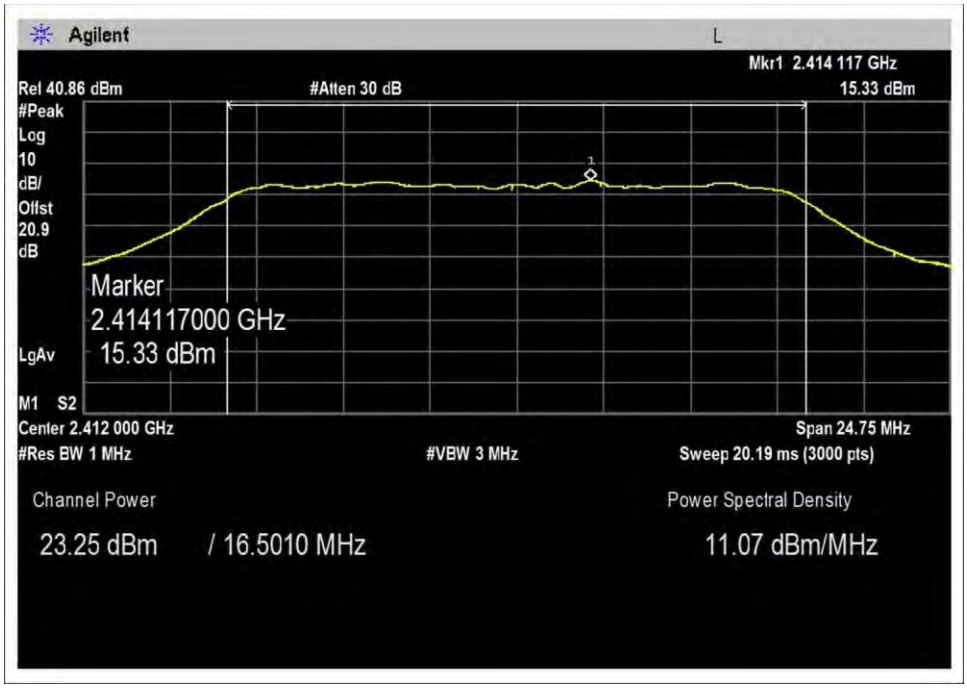


Middle Channel – G Mode, 2132.5 AWGN – Booster ON

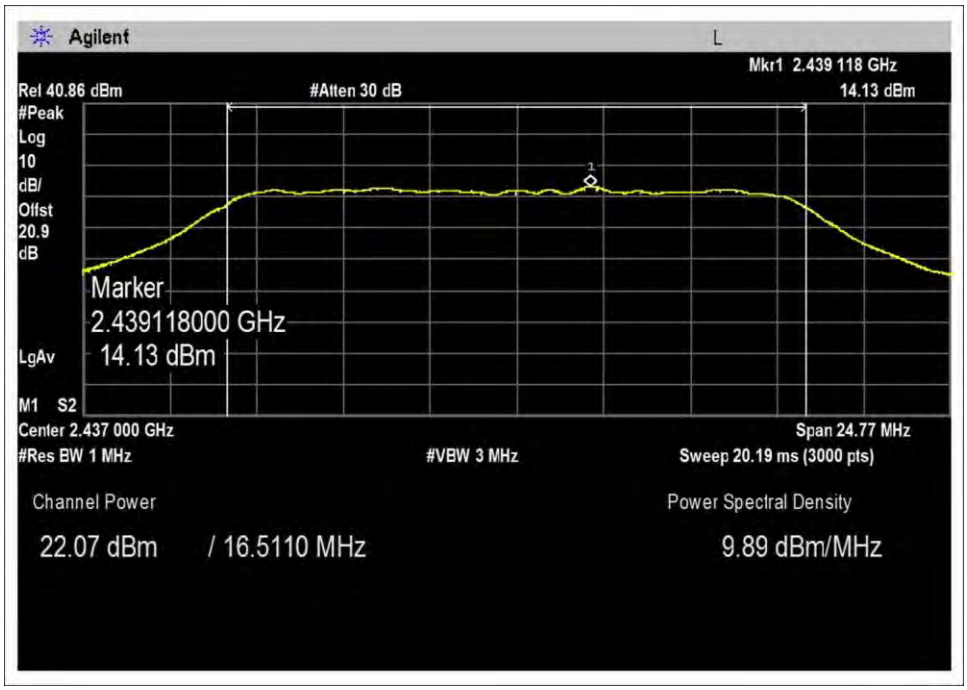


High Channel – G Mode, 2132.5 AWGN - Booster ON

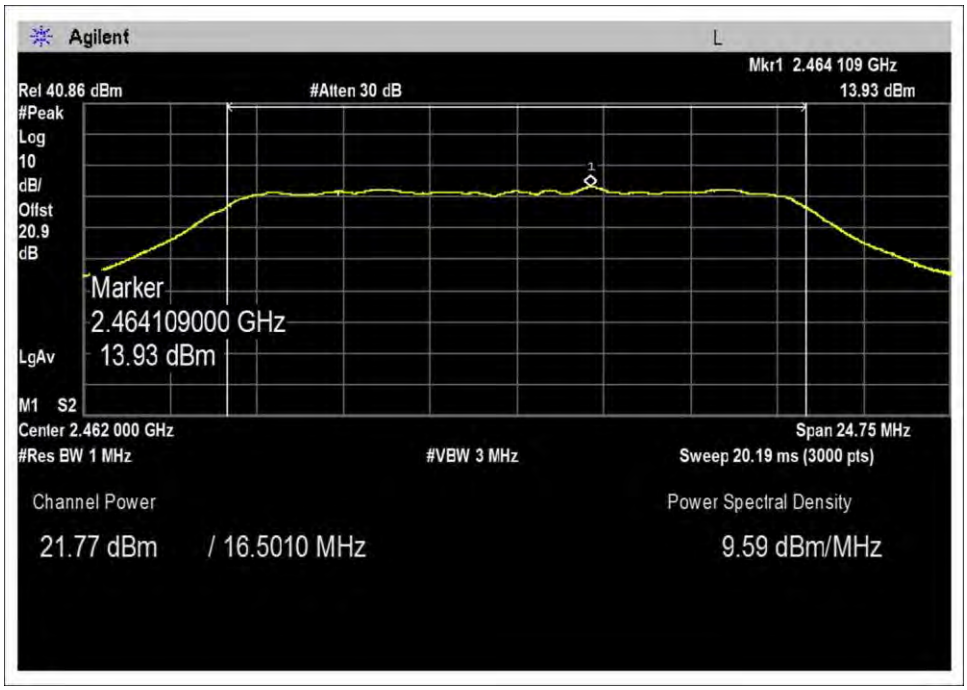
G Mode - GSM



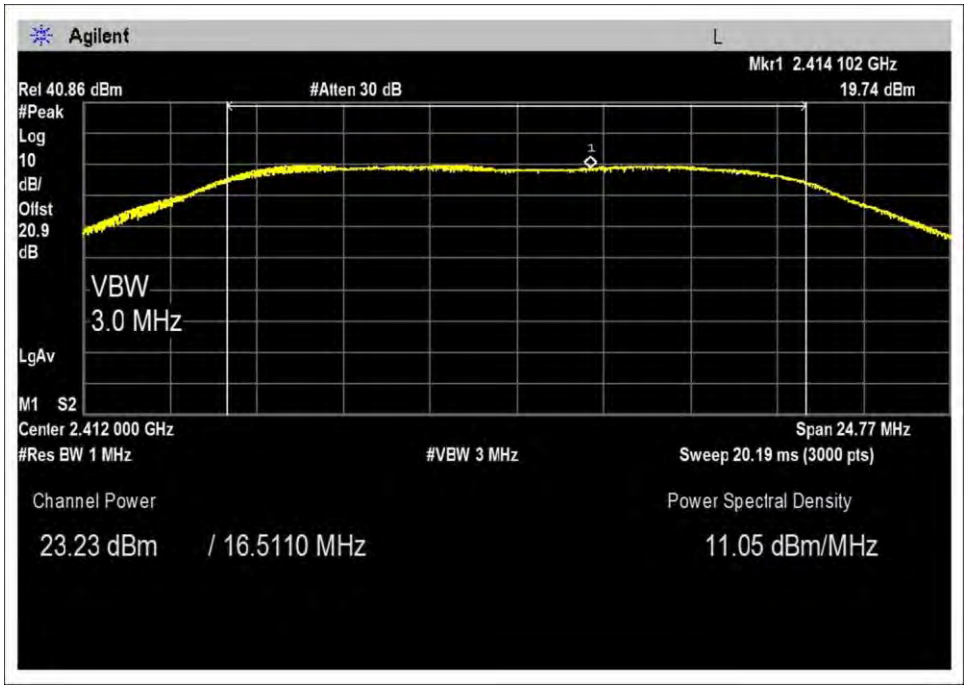
Low Channel – G Mode, 2132.5 AWGN - Booster ON



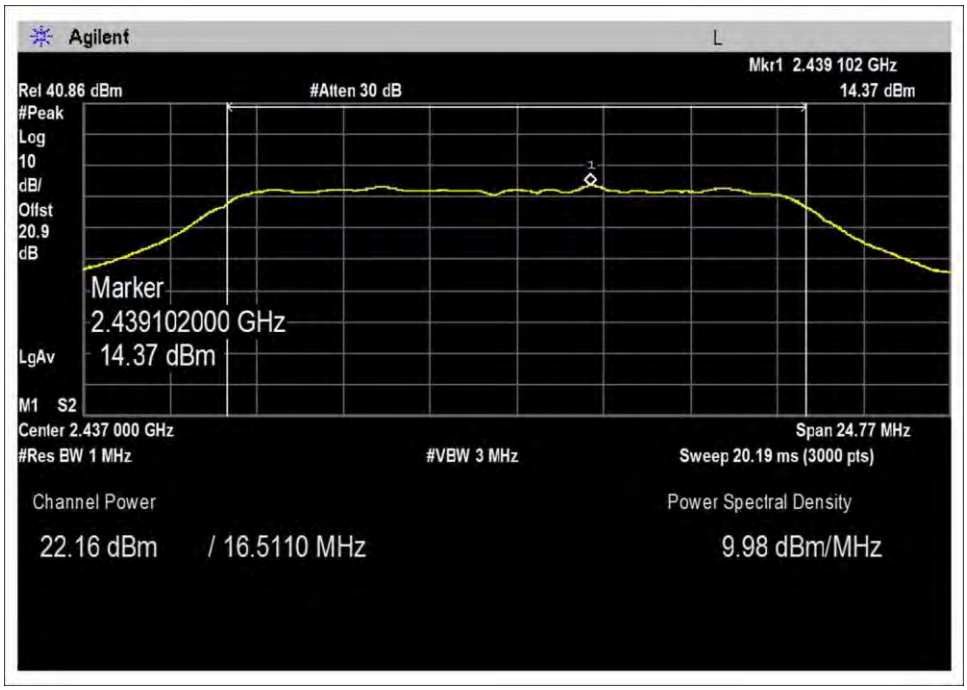
Middle Channel – G Mode, 881.5 GSM - Booster ON



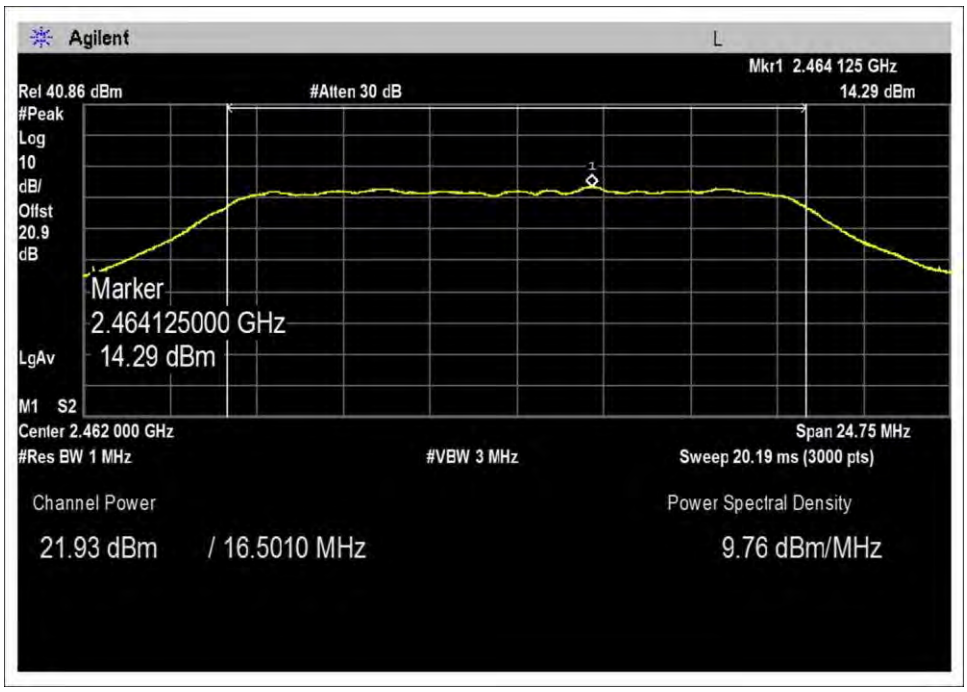
High Channel – G Mode, 881.5 GSM - Booster ON



Low Channel – G Mode, 2132.5 GSM - Booster ON

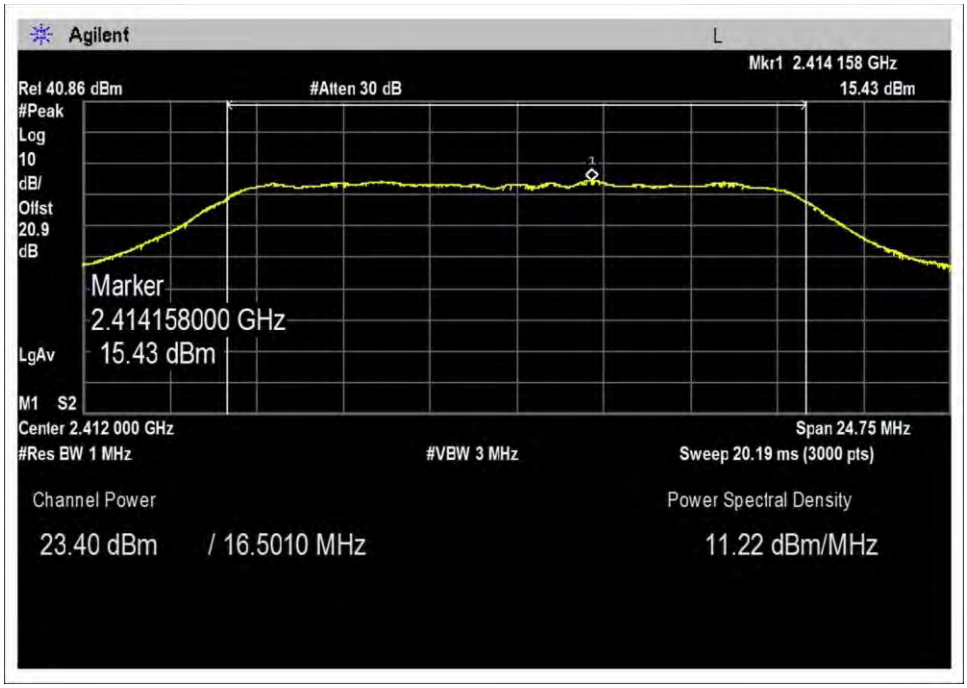


Middle Channel – G Mode, 2132.5 GSM - Booster ON

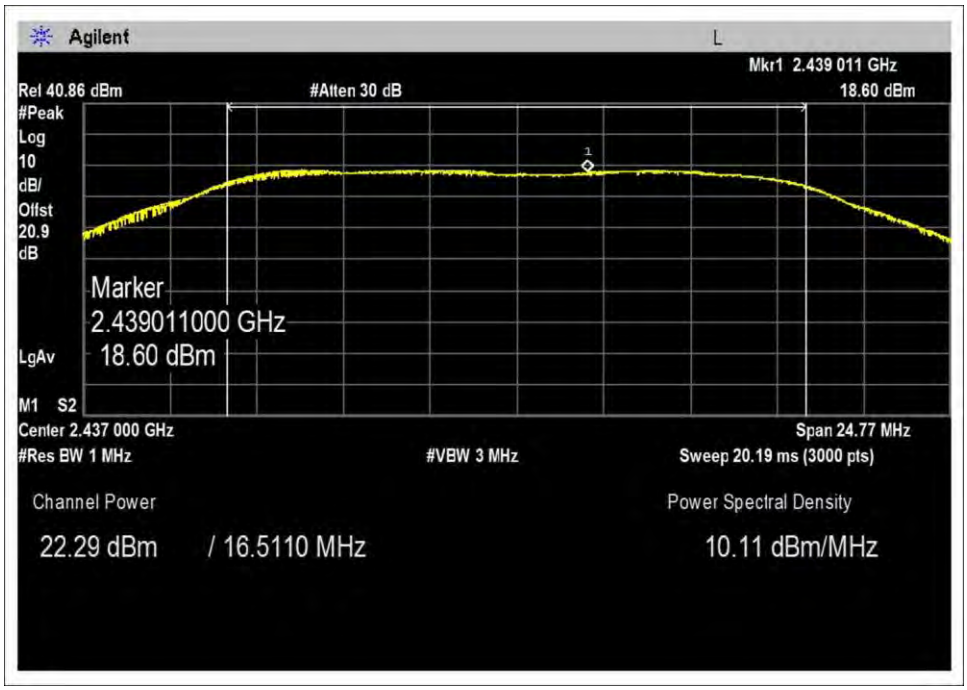


High Channel – G Mode, 2132.5 GSM - Booster ON

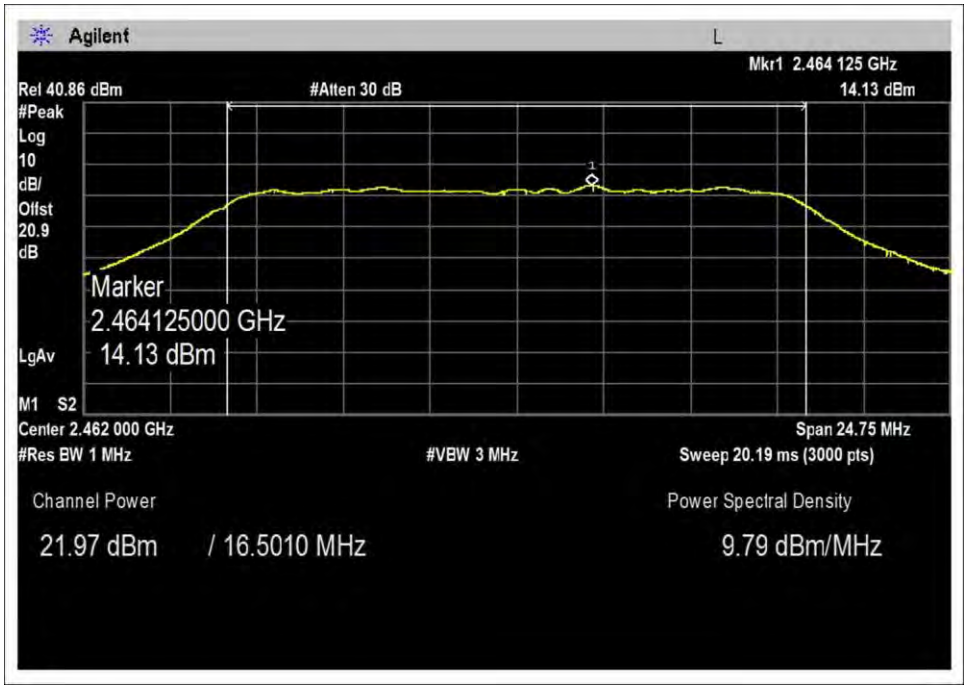
G Mode – Booster OFF



Low Channel – G Mode, Booster OFF

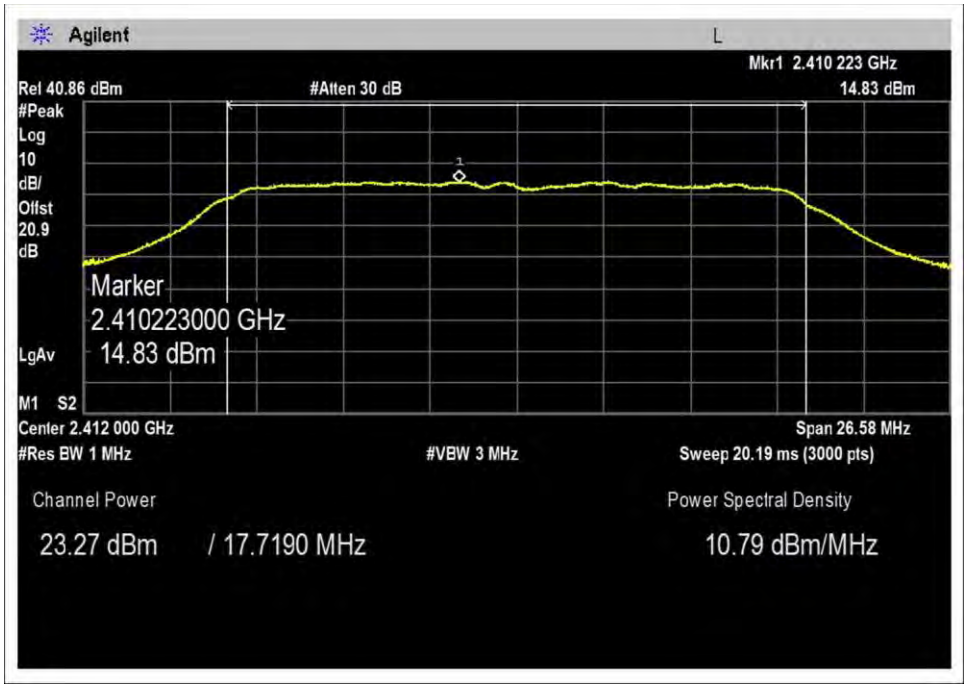


Middle Channel – G Mode, Booster OFF

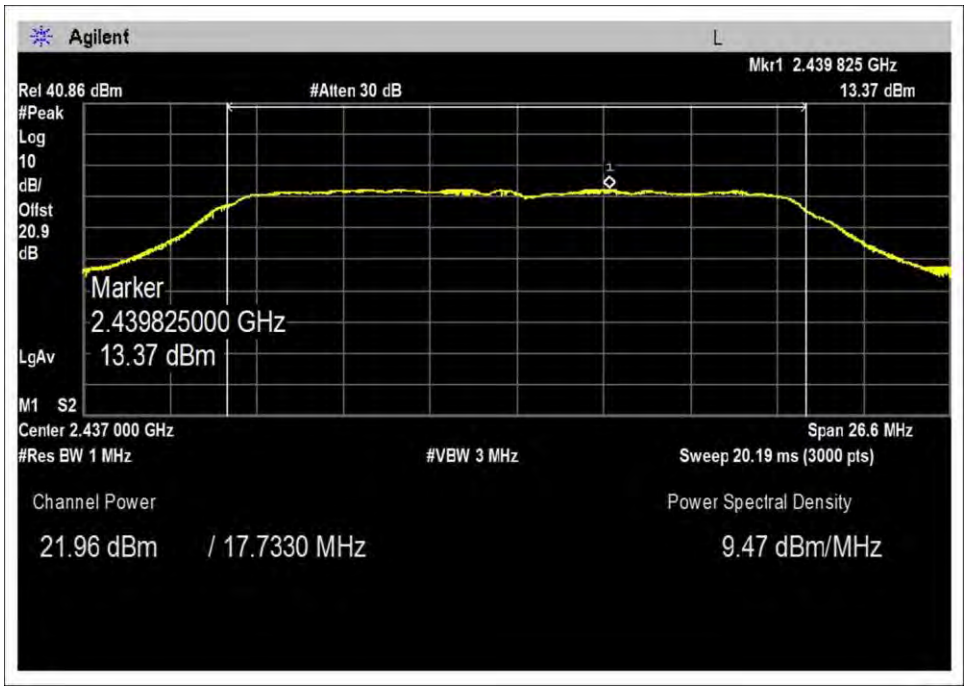


High Channel – G Mode, Booster OFF

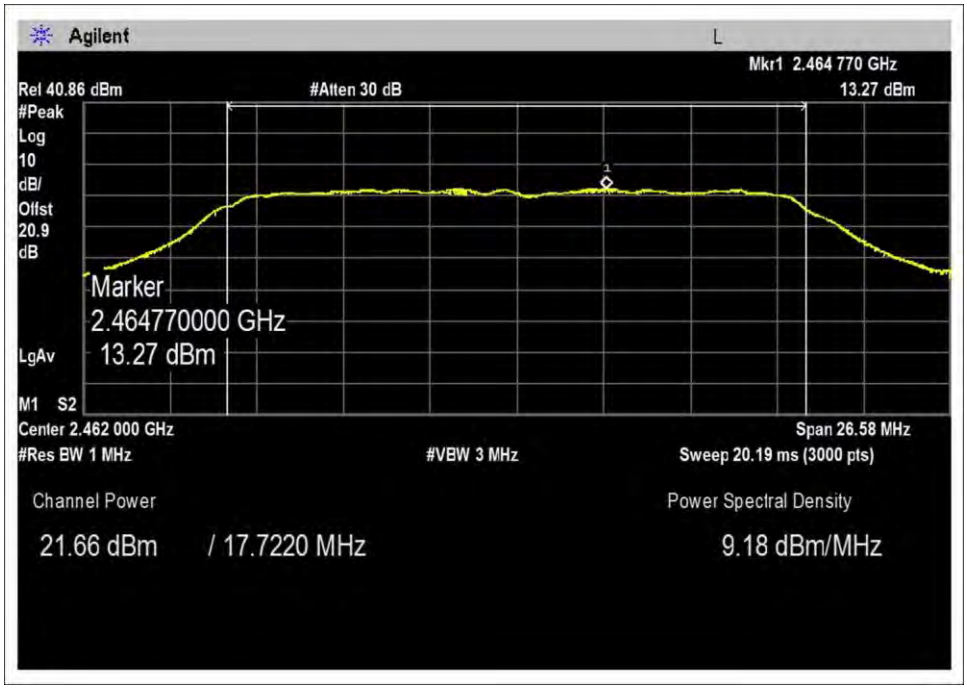
N (20) Mode - AWGN



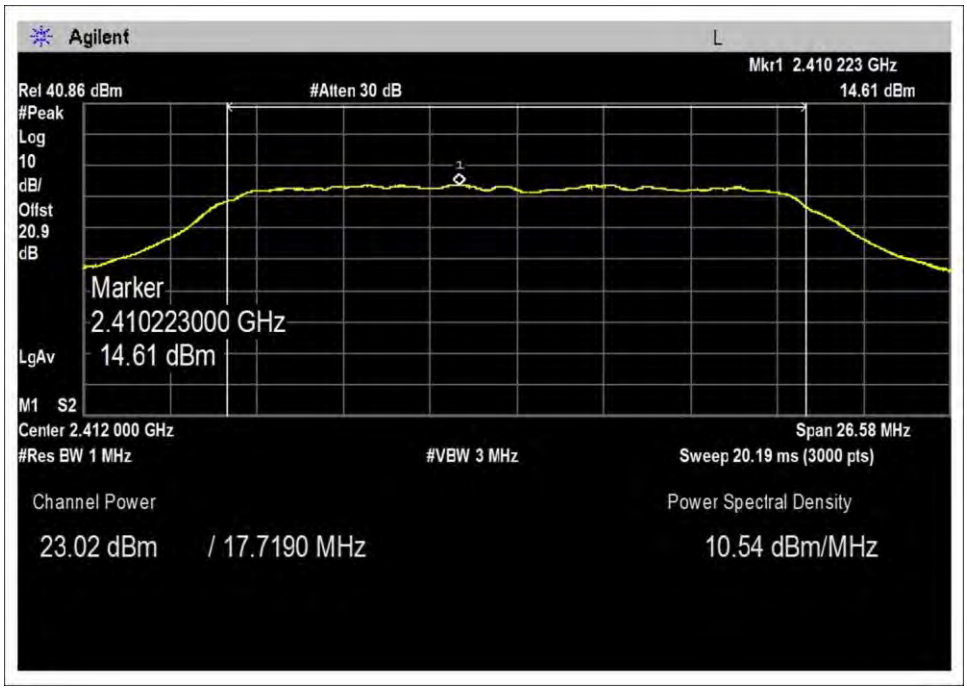
Low Channel, 881.5 AWGN - Booster ON



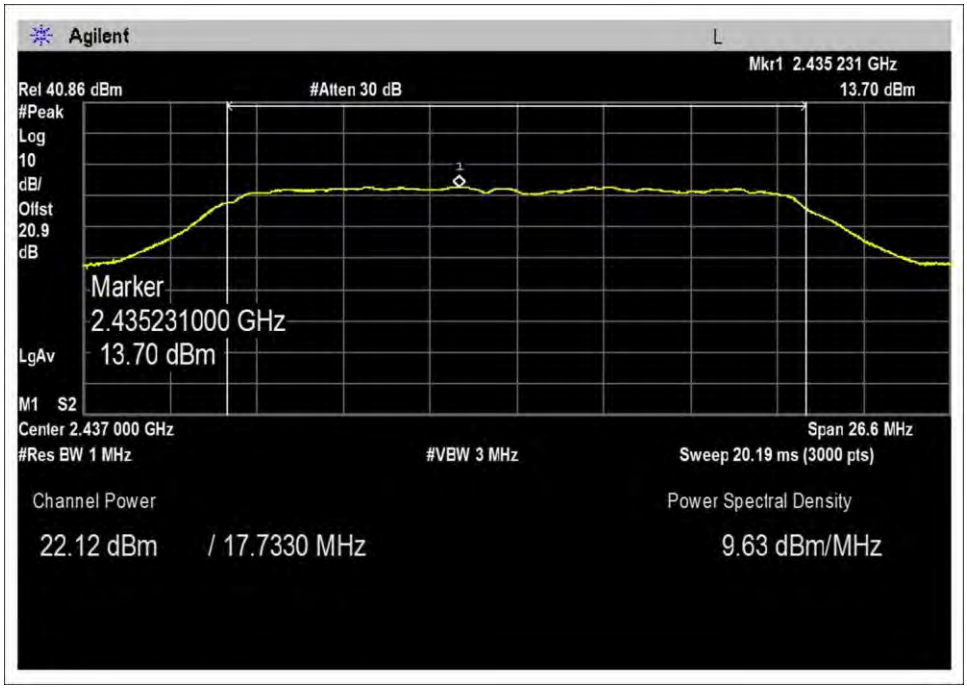
Middle Channel, 881.5 AWGN - Booster ON



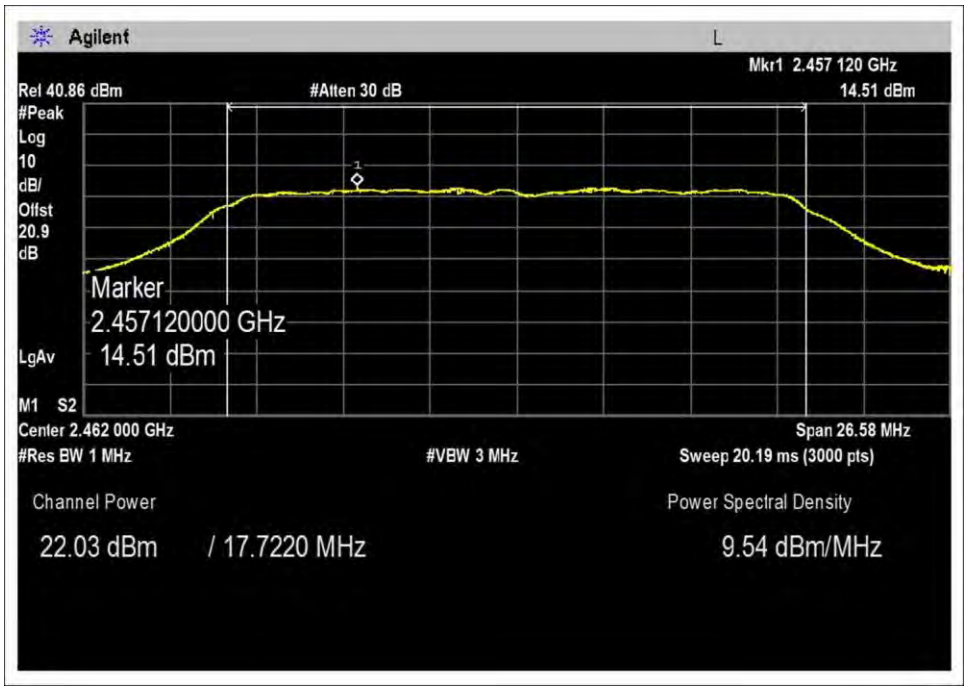
High Channel, 881.5 AWGN – Booster ON



Low Channel, 2132.5 AWGN – Booster ON

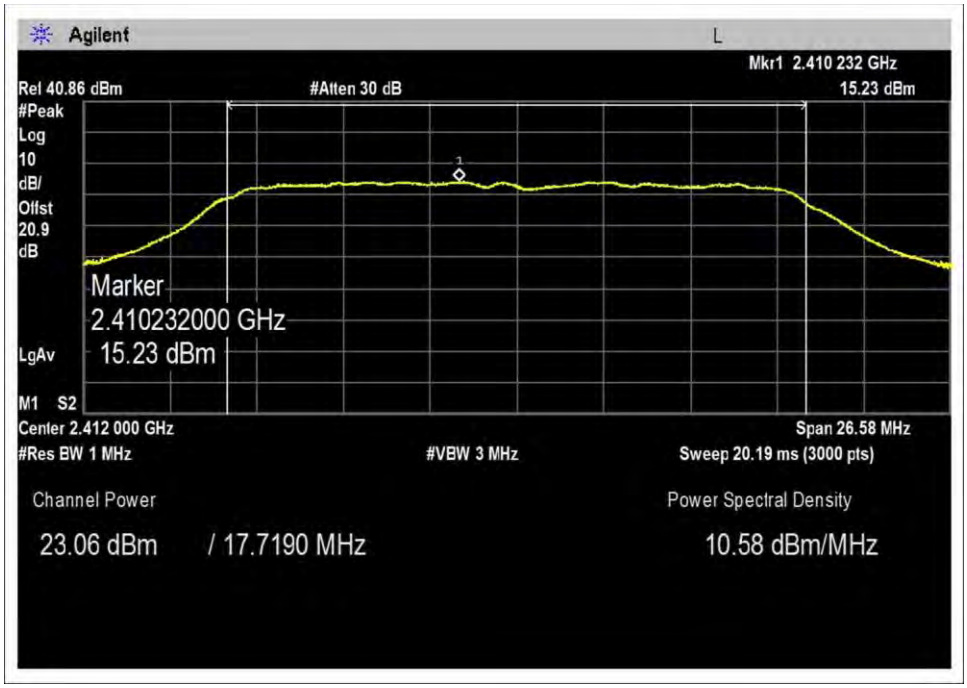


Middle Channel, 2132.5 AWGN – Booster ON

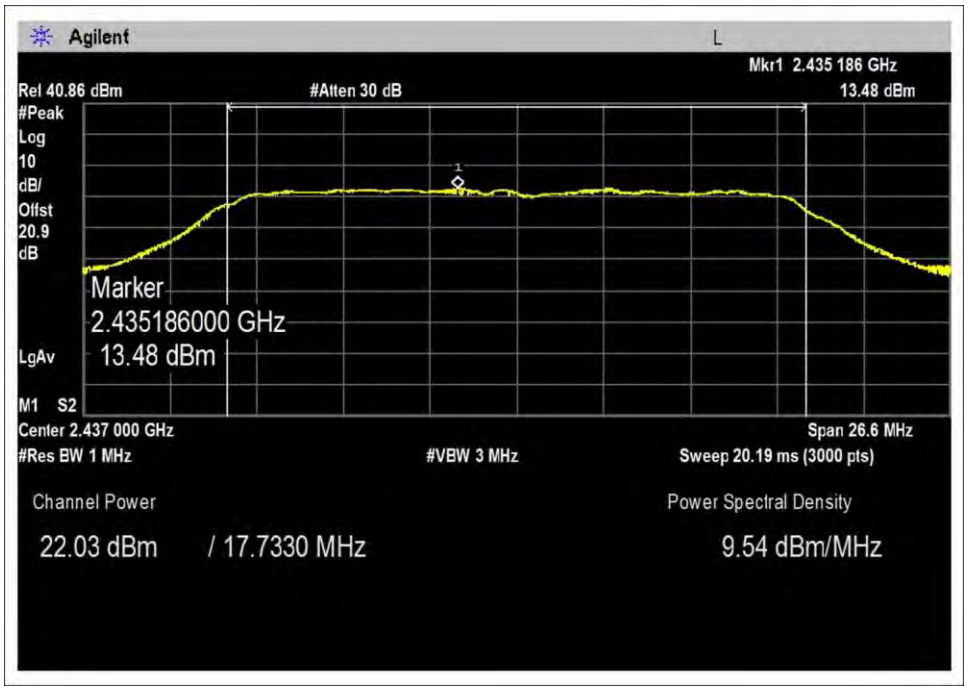


High Channel, 2132.5 AWGN – Booster ON

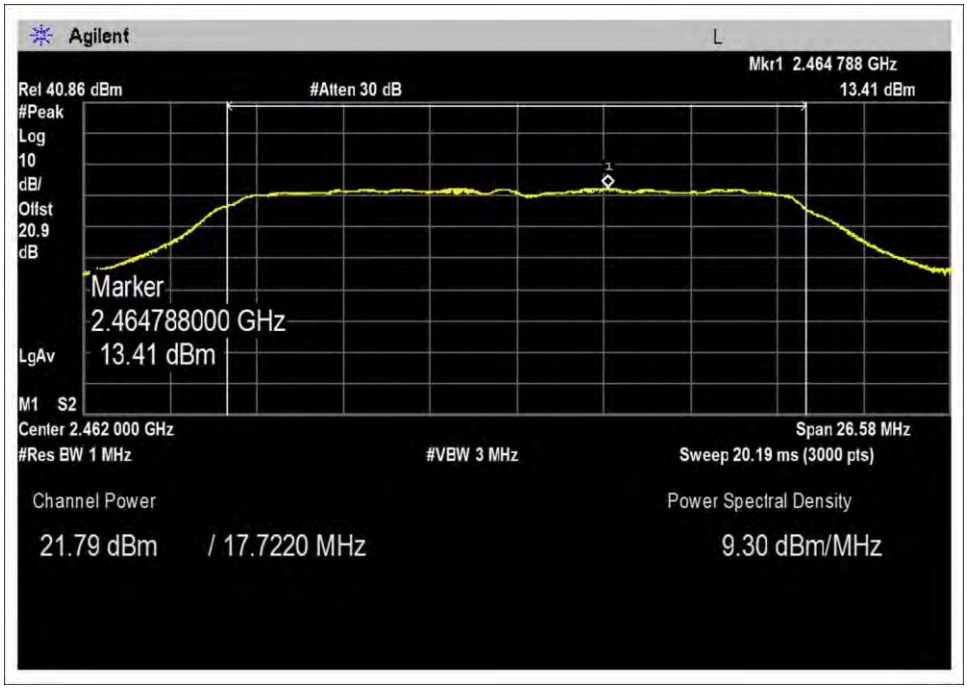
N (20) Mode - GSM



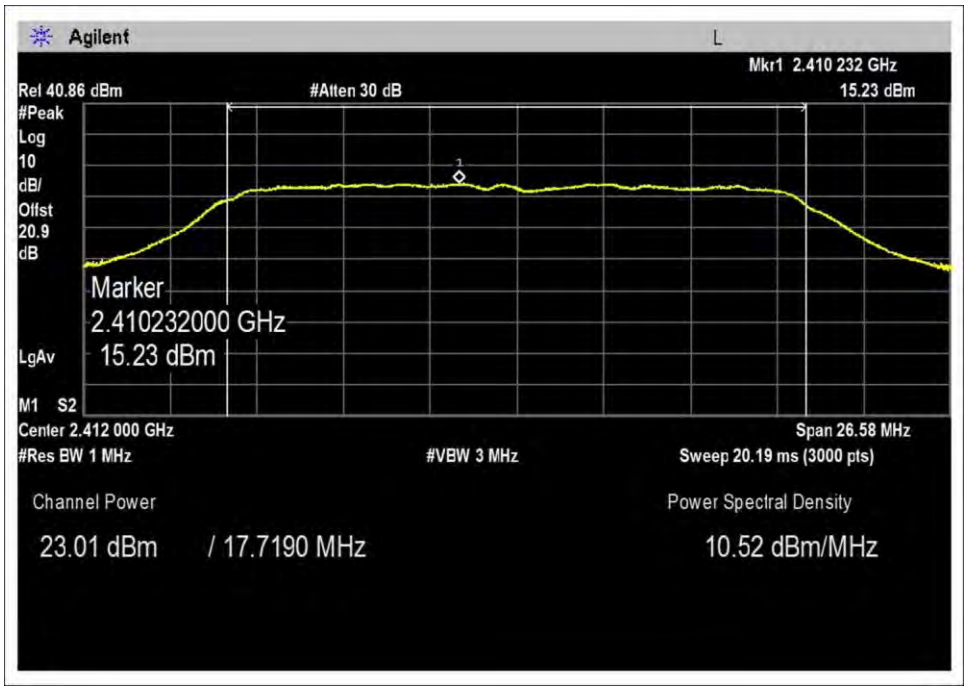
Low Channel, 881.5 GSM – Booster ON



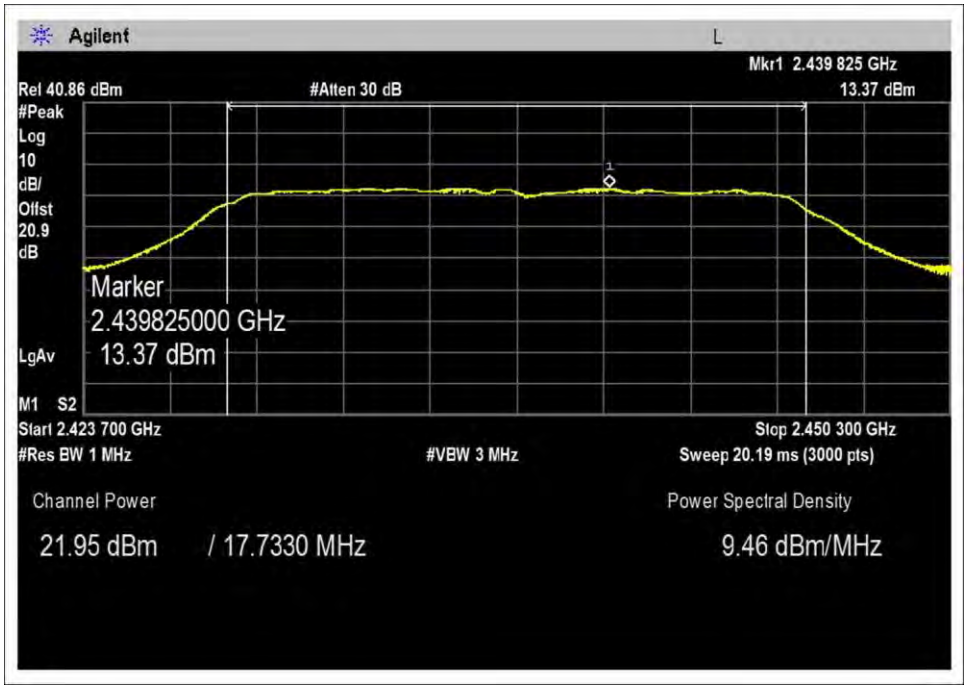
Middle Channel, 881.5 GSM – Booster ON



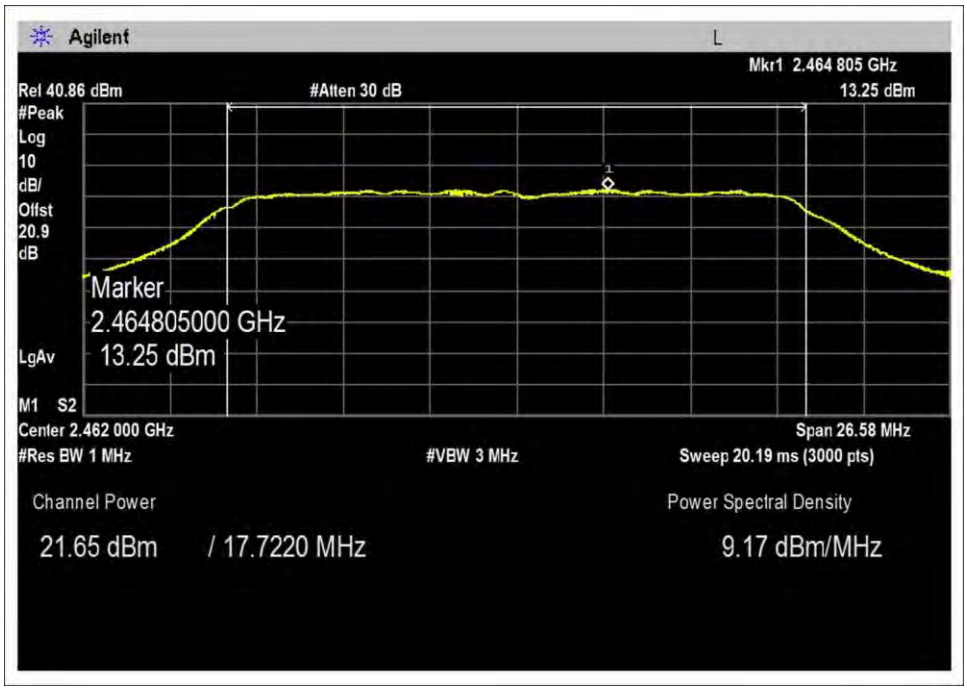
High Channel, 881.5 GSM – Booster ON



Low Channel, 2132.5 GSM – Booster ON

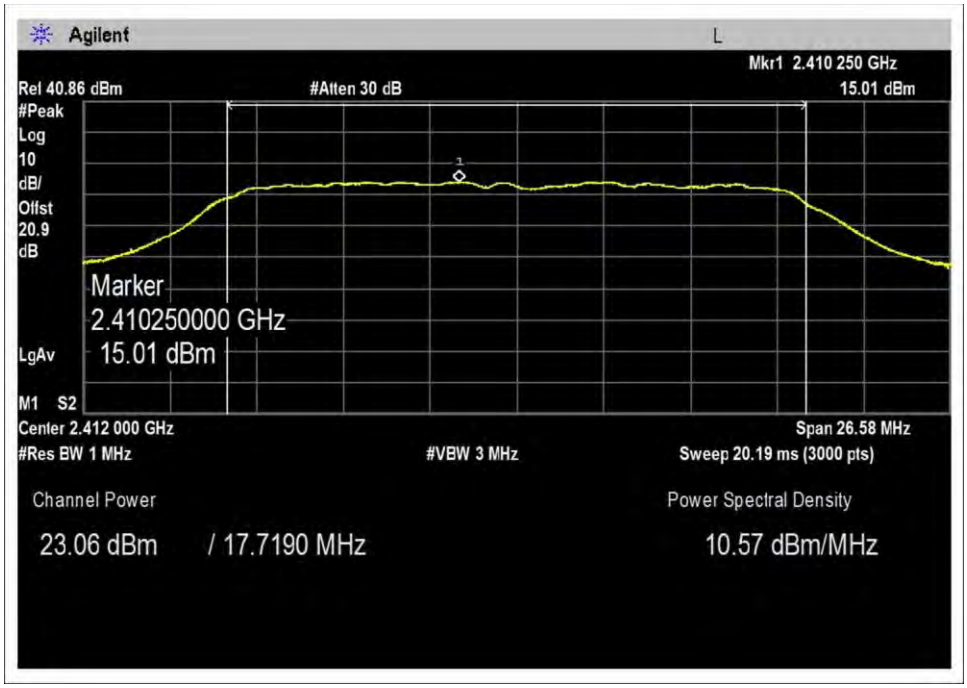


Middle Channel, 2132.5 GSM – Booster ON

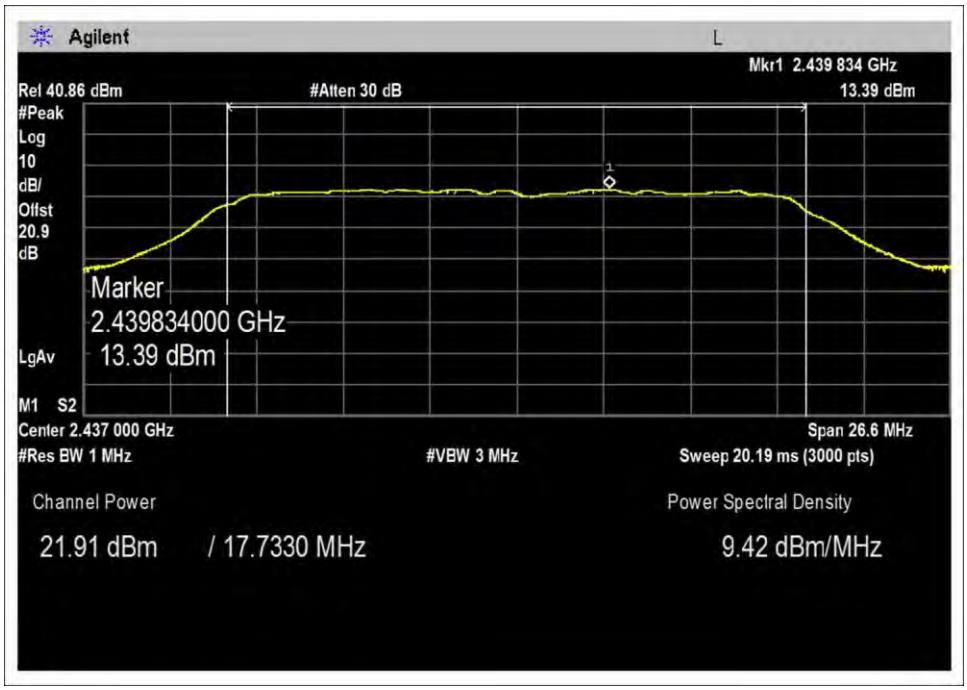


High Frequency, 2132.5 GSM – Booster ON

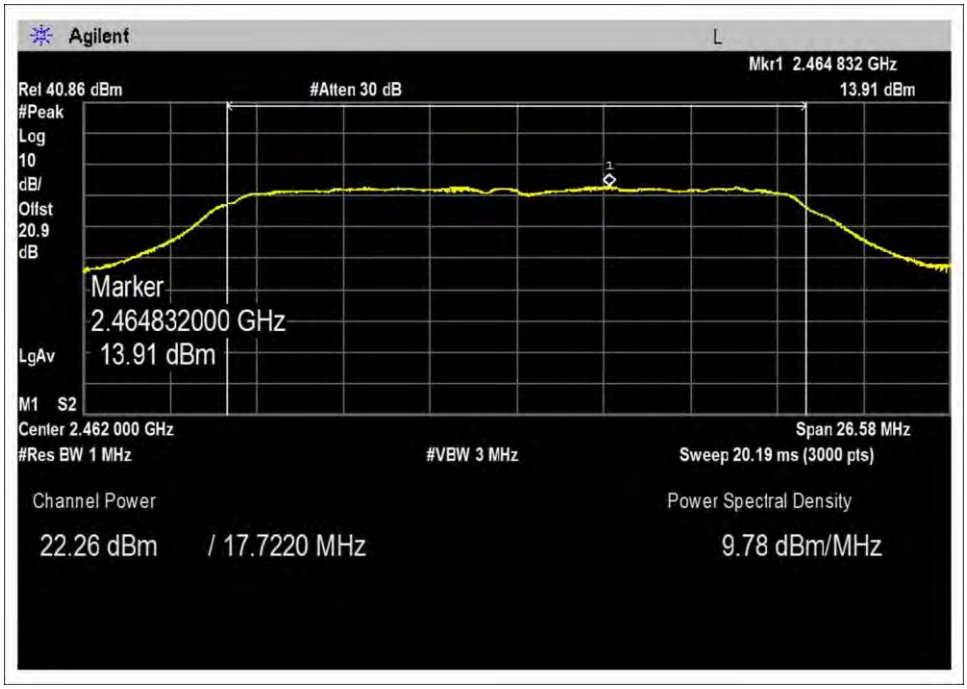
N (20) Mode – Booster OFF



Low Channel, Booster OFF

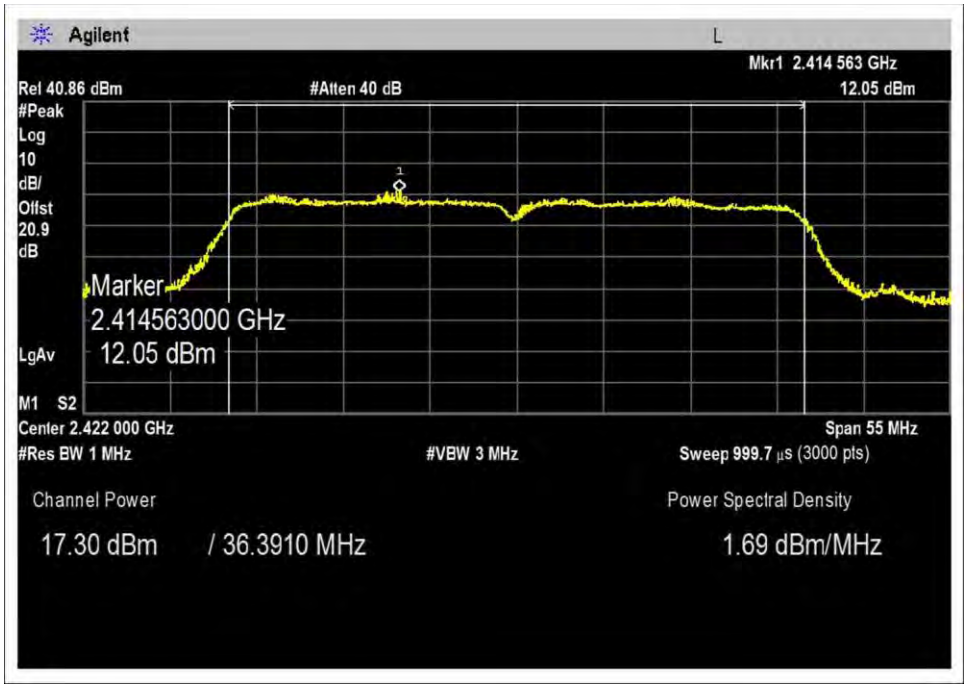


Middle Channel, Booster OFF

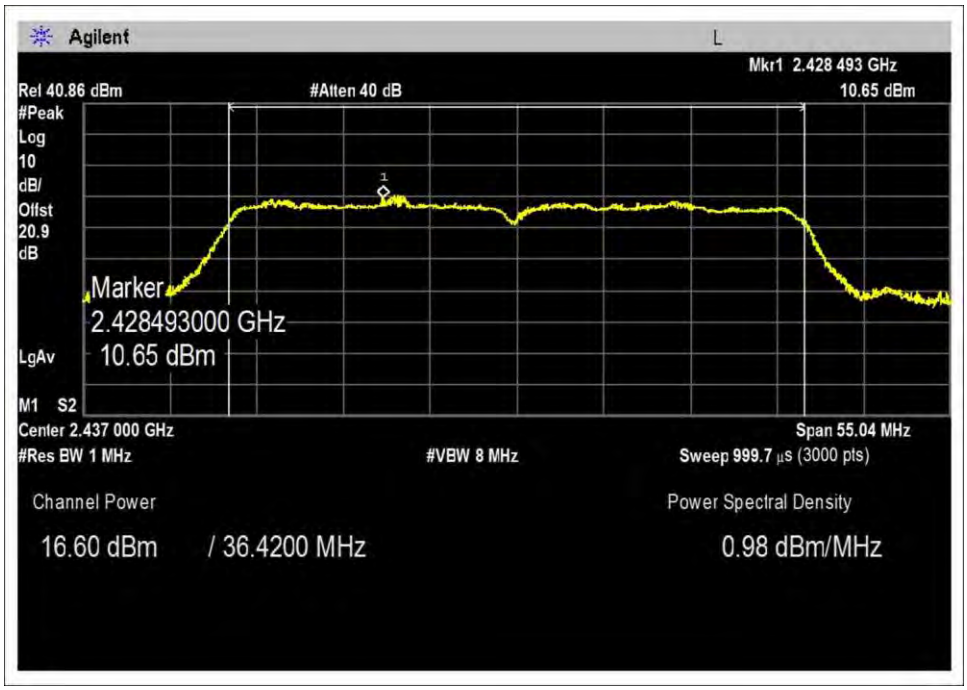


High Channel, Booster OFF

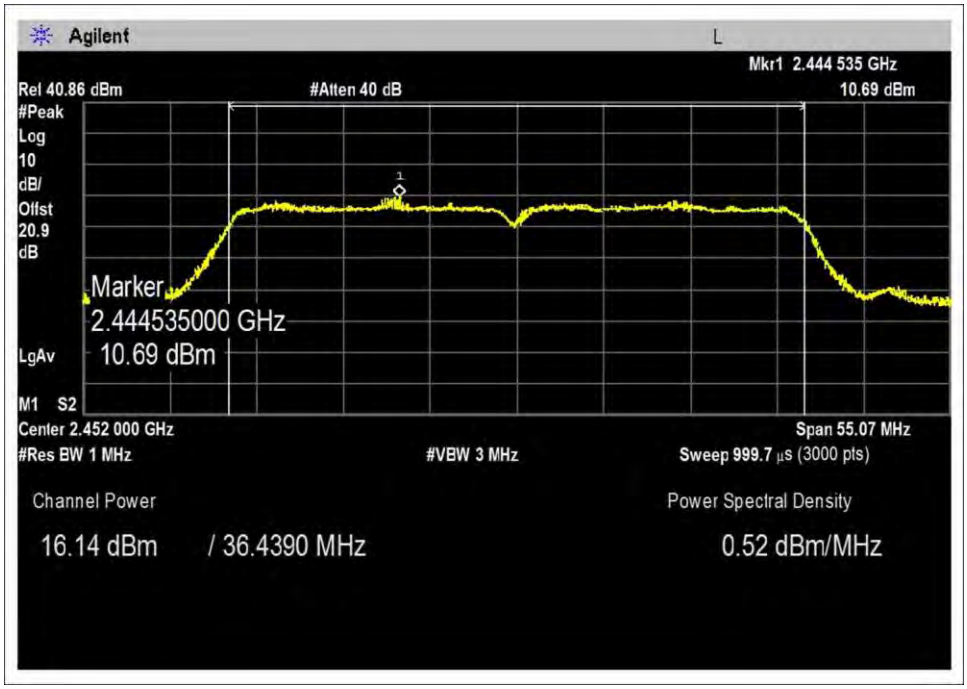
N (40) Mode - AWGN



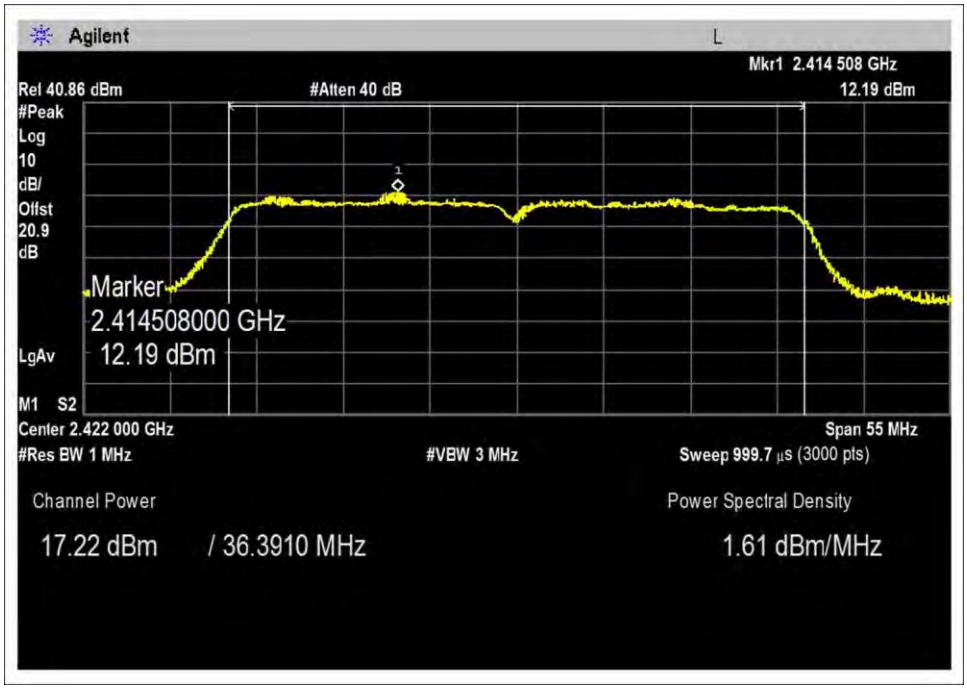
Low Channel, 881.5 AWGN – Booster ON



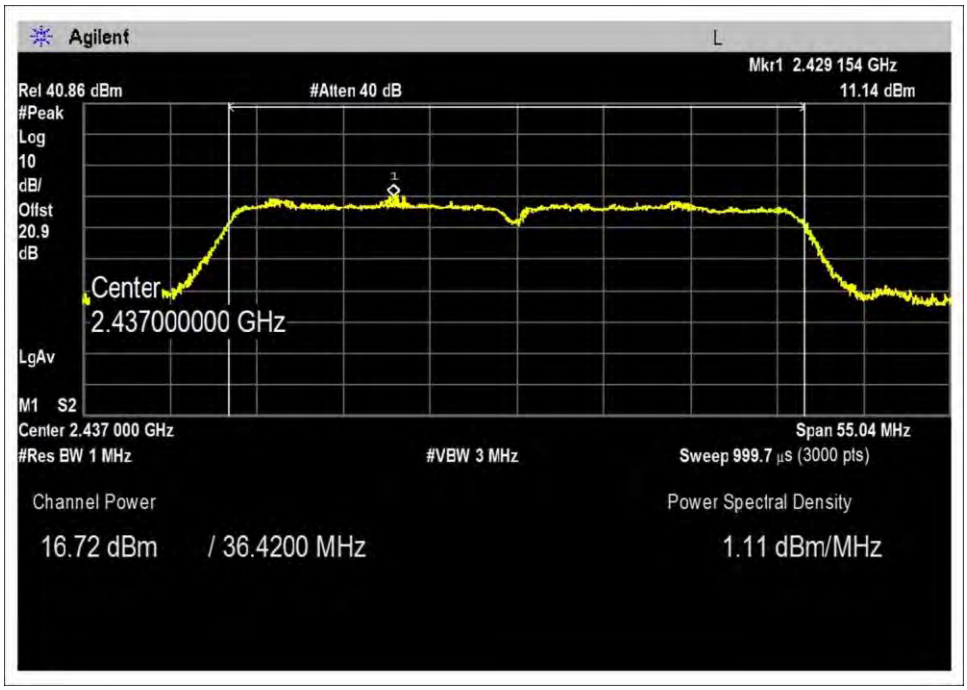
Middle Channel, 881.5 AWGN – Booster ON



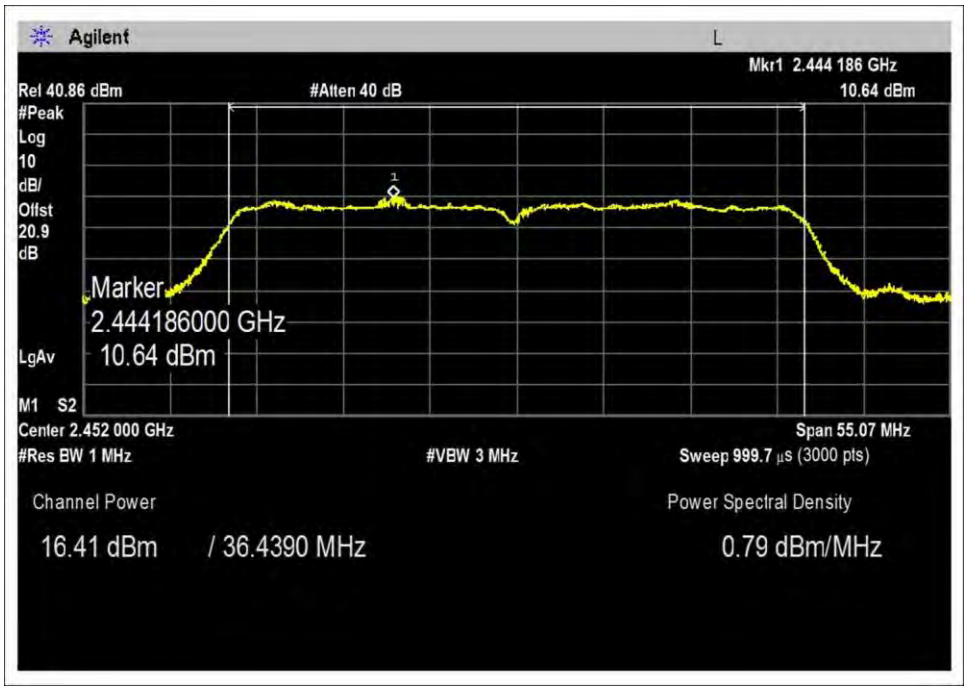
High Channel, 881.5 AWGN – Booster ON



Low Channel, 2132.5 AWGN – Booster ON

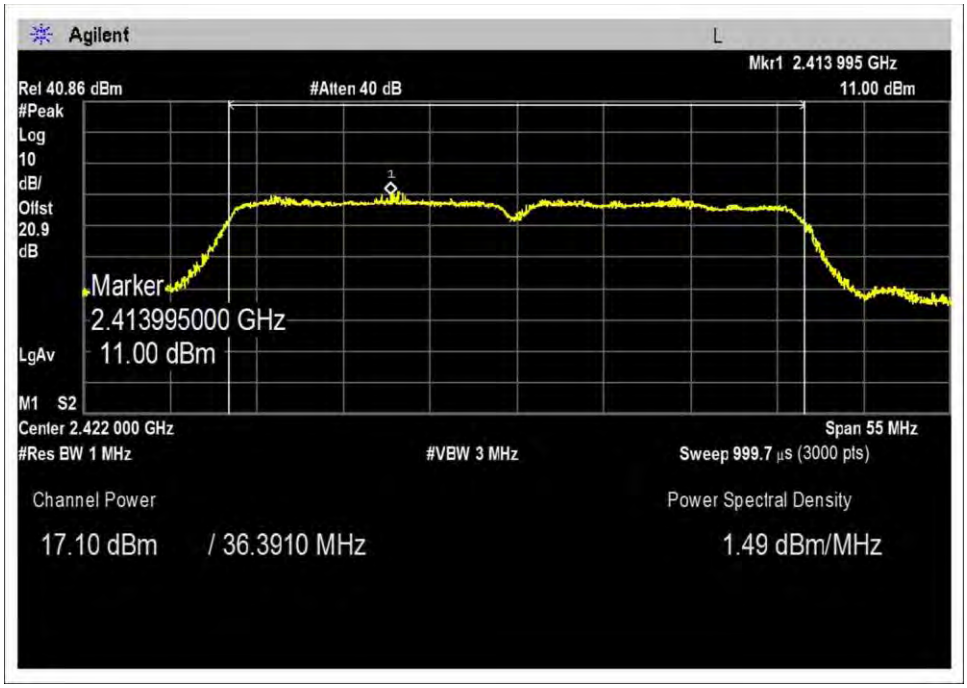


Middle Channel, 2132.5 AWGN – Booster ON

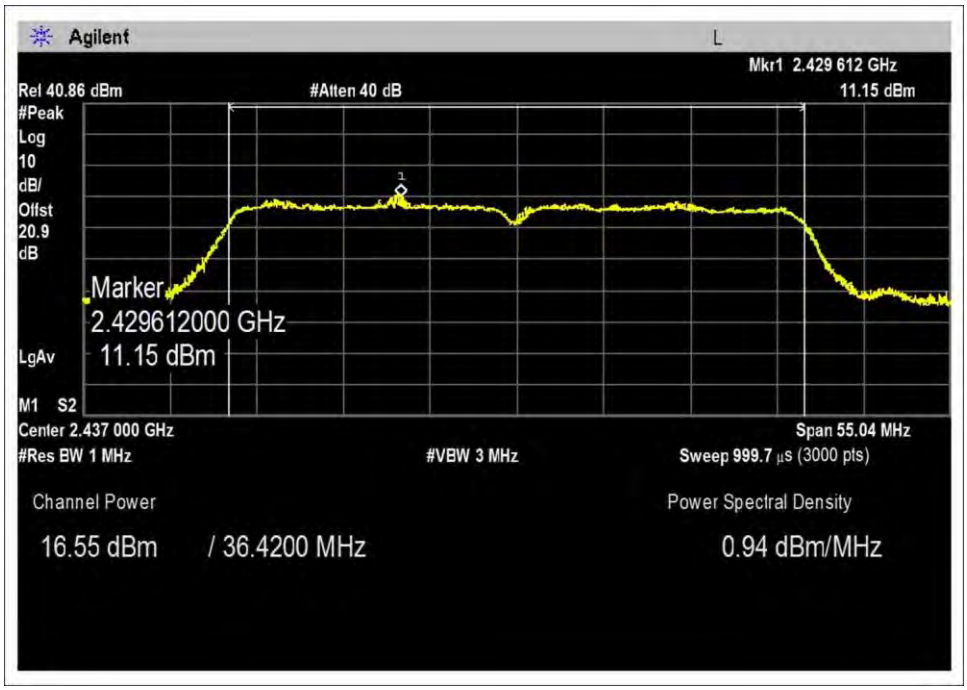


High Channel, 2132.5 AWGN – Booster ON

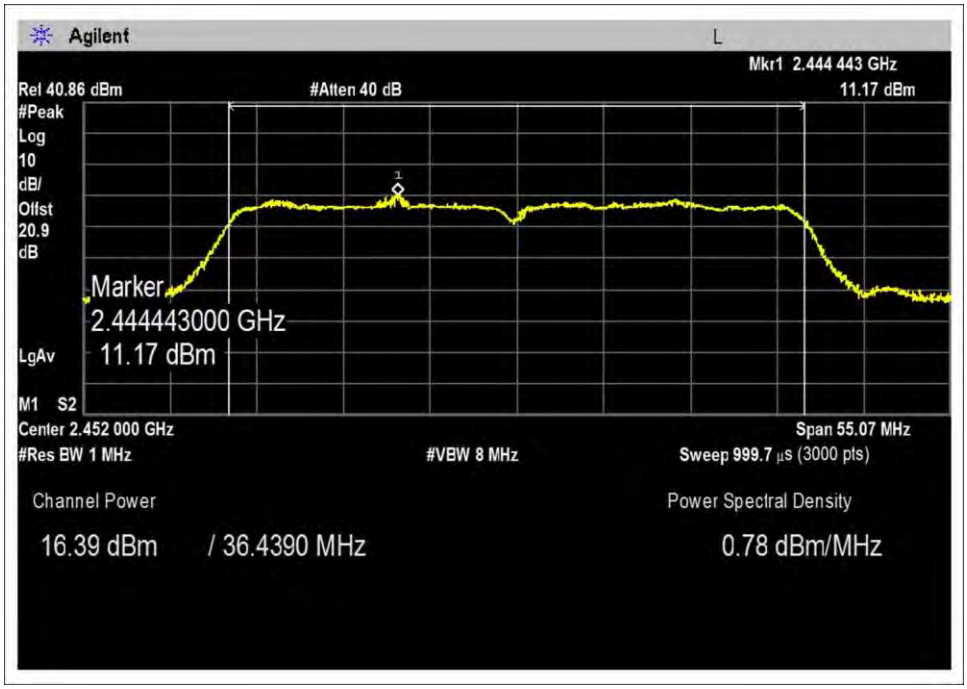
N (40) Mode, GSM



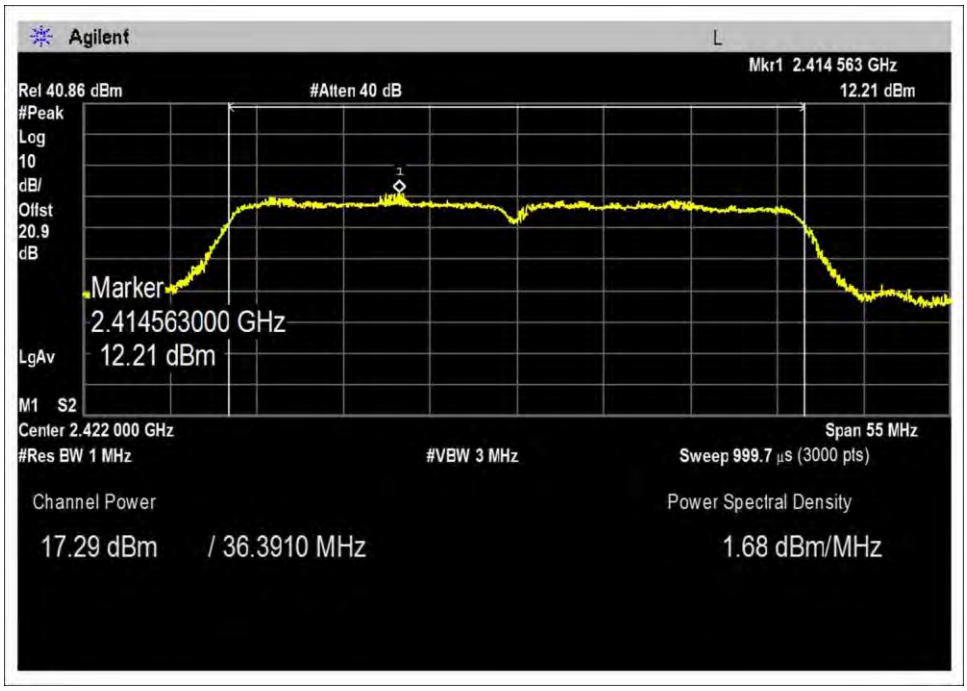
Low Channel, 881.5 GSM – Booster ON



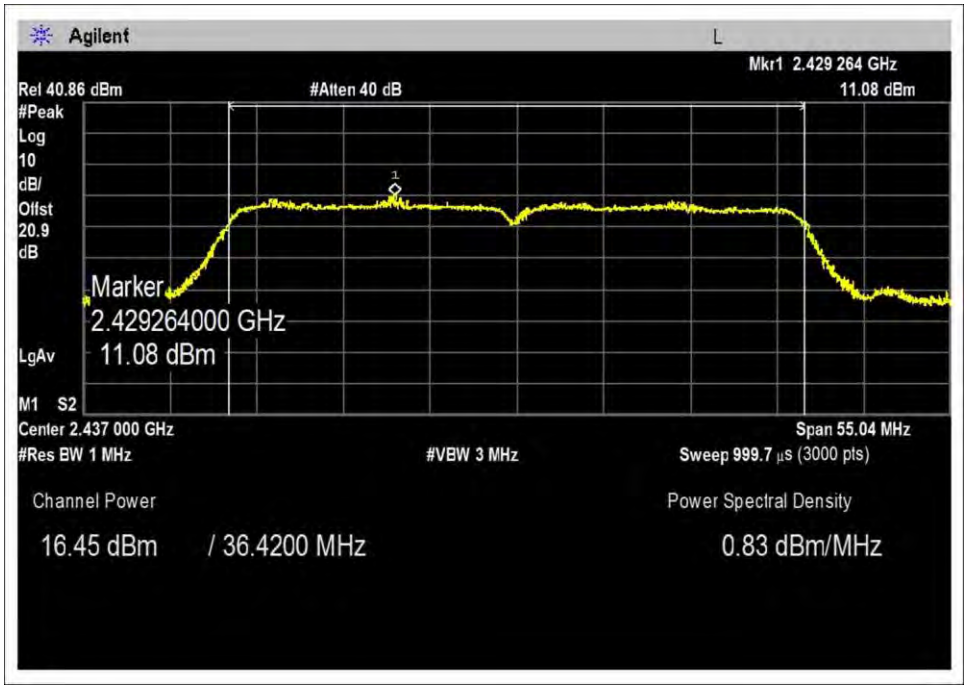
Middle Channel, 881.5 GSM – Booster ON



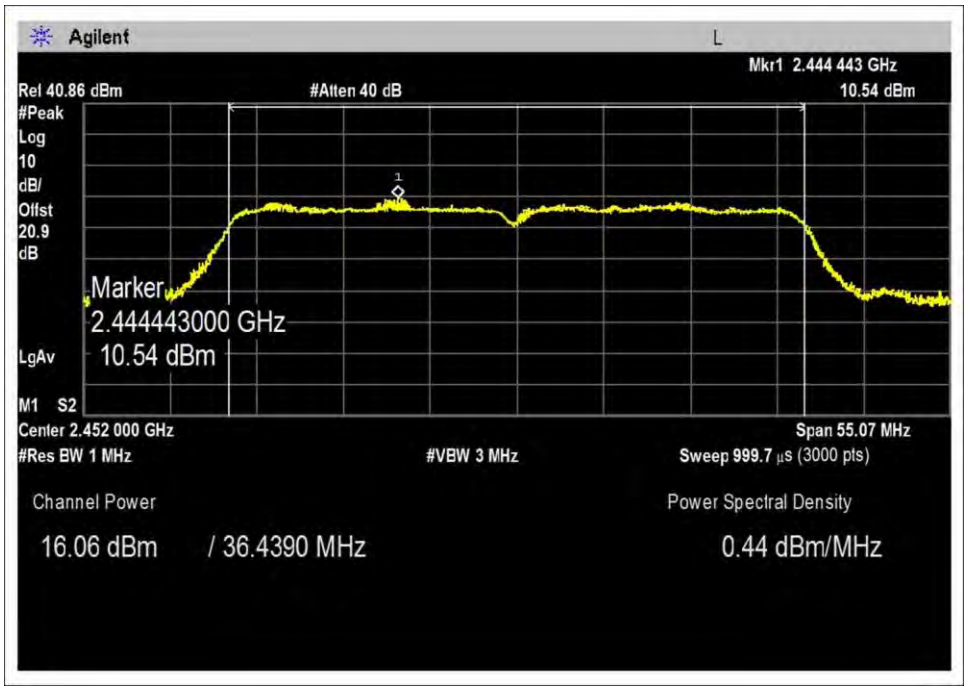
High Channel, 881.5 GSM – Booster ON



Low Channel, 2132.5 GSM – Booster ON

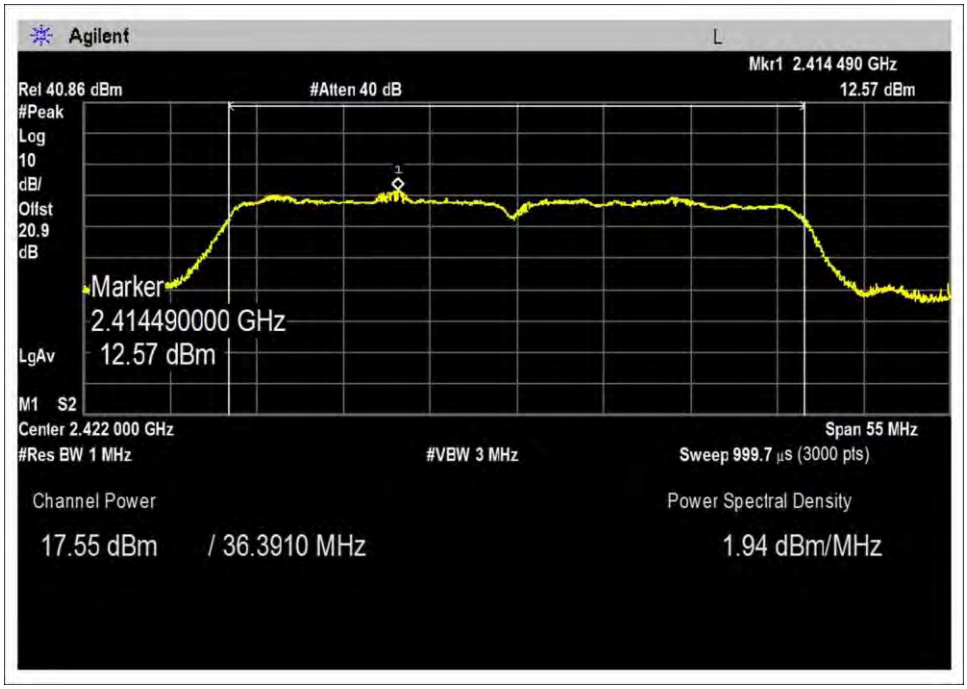


Middle Channel, 2132.5 GSM – Booster ON

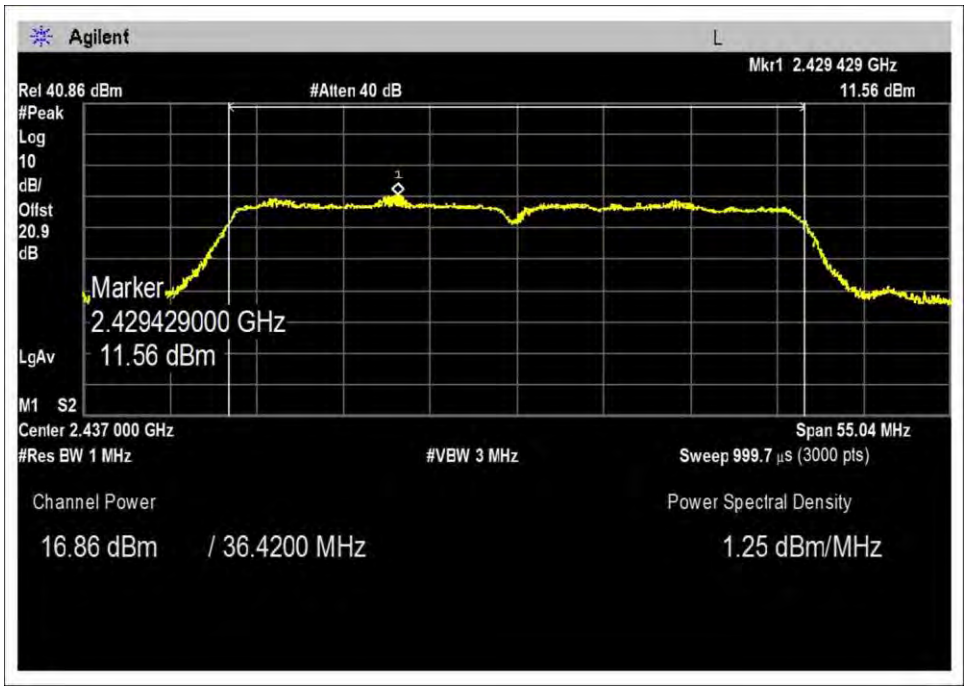


High Channel, 2132.5 GSM – Booster ON

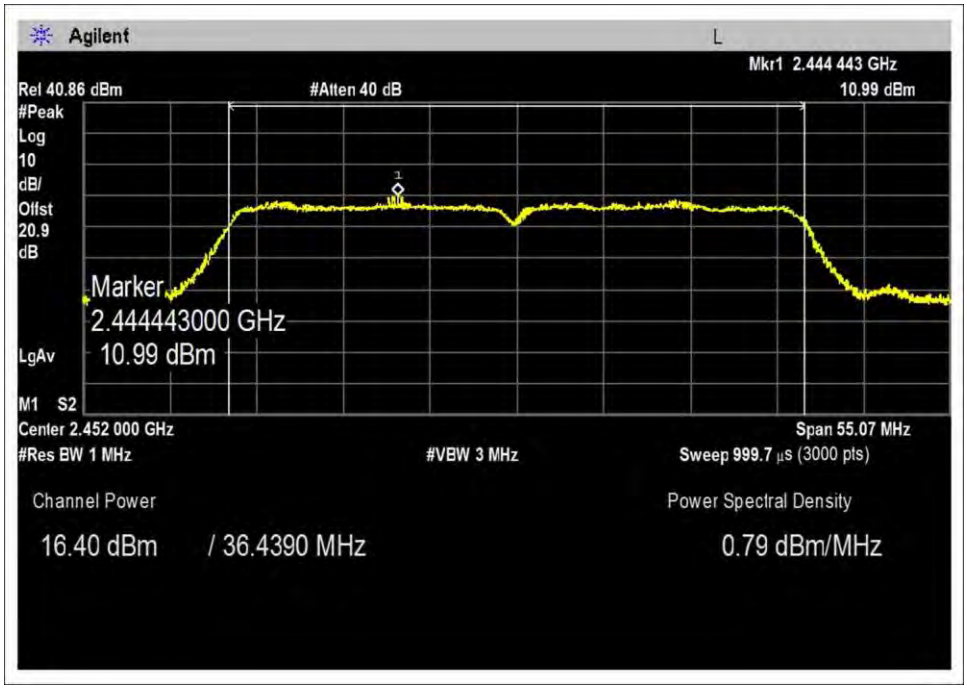
N (40) Mode – Booster OFF



Low Channel, Booster OFF



Middle Channel, Booster OFF



High Channel, Booster OFF

Test Setup Photo

15.247(d) RF Conducted Emissions

Test Data

The Reference level measurement for Emission is non restricted frequency bands were made using the methods set out in KDB "558074 D01 DTS Meas Guidance v03r02", Section 11 Emissions in non-restricted frequency band. Note: The Reference Level is the limit line for Conducted Spurious Emission for Non-Restricted Frequency Band.

B Mode

Reference Limit in 100kHz			
Channel	**dBm in 100kHz**	**dBuV in 100kHz**	**Reference Limit dBuV**
LO	11.77	118.77	98.77
MID	11.25	118.25	98.25
HI	10.04	117.04	97.04

Maximum Power Output= 26 dBm and Set attenuator at 30. The Data rate =5.5Mbps. Choose the worst case for limit=97.04 dBuV

G Mode

Reference Limit in 100kHz			
Channel	**dBm in 100kHz**	**dBuV in 100kHz**	**Reference Limit dBuV**
LO	4.82	111.82	91.82
MID	3.58	110.58	90.58
HI	3.02	110.02	90.02

Maximum Power Output= 26 dBm Set attenuator at 45. The Data rate =18Mbps. Choose the worst case for limit= 90.02dBuV

N (20MHz) Mode

Reference Limit in 100kHz			
Channel	**dBm in 100kHz**	**dBuV in 100kHz**	**Reference Limit dBuV**
LO	3.83	110.83	90.83
MID	2.95	109.95	89.95
HI	2.48	109.48	89.48

Maximum Power Output= 26 dBm Set attenuator at 45. The Data rate = MCS2. Choose the worst case for limit= 89.48dBuV

N (40MHz) Mode

Reference Limit in 100kHz			
Channel	**dBm in 100kHz**	**dBuV in 100kHz**	**Reference Limit dBuV**
LO	-1.07	105.93	85.93
MID	-1.71	105.29	85.29
HI	-2.76	104.24	84.24

Maximum Power Output= 26 dBm Set attenuator at 40. The Data rate = MCS2. Choose the worst case for limit=84.24 dBuV

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:03:03 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	3
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

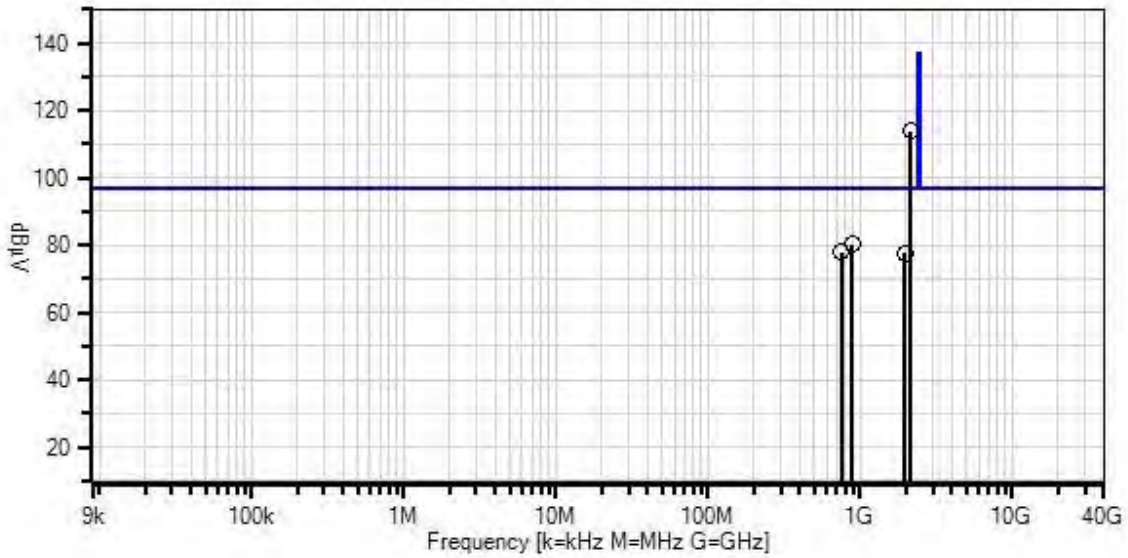
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz and VBW=300kHz

Note:
802.11b Mode
Date rate =5.5 Mbps
Attenuator for 802.11b Mode=30
Low Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:03:03 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 3



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	97.2	+0.7	+6.0	+9.9		+0.0	113.8	97.0	+16.8	None
									4.1MHz AWGN Signal		
2	878.861M	64.1	+0.4	+5.9	+9.9		+0.0	80.3	97.0	-16.7	None
3	751.110M	61.7	+0.3	+5.9	+9.9		+0.0	77.8	97.0	-19.2	None
4	1948.910M	60.9	+0.7	+6.0	+9.9		+0.0	77.5	97.0	-19.5	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:13:09 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	4
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

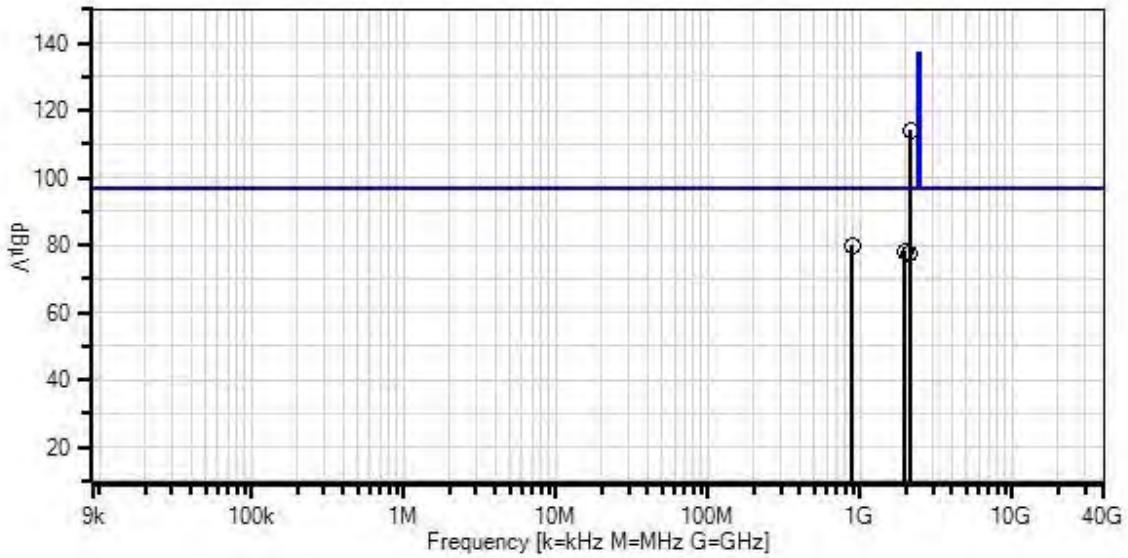
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11b Mode
Date rate =5.5 Mbps
Attenuator for 802.11b Mode=30
Middle Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:13:09 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 4



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	97.5	+0.7	+6.0	+9.9		+0.0	114.1	97.0	+17.1	None
									4.1MHz AWGN signal		
2	879.730M	63.6	+0.4	+5.9	+9.9		+0.0	79.8	97.0	-17.2	None
3	1951.903M	61.7	+0.7	+6.0	+9.9		+0.0	78.3	97.0	-18.7	None
4	2110.501M	61.1	+0.7	+6.0	+9.9		+0.0	77.7	97.0	-19.3	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:19:33 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	5
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

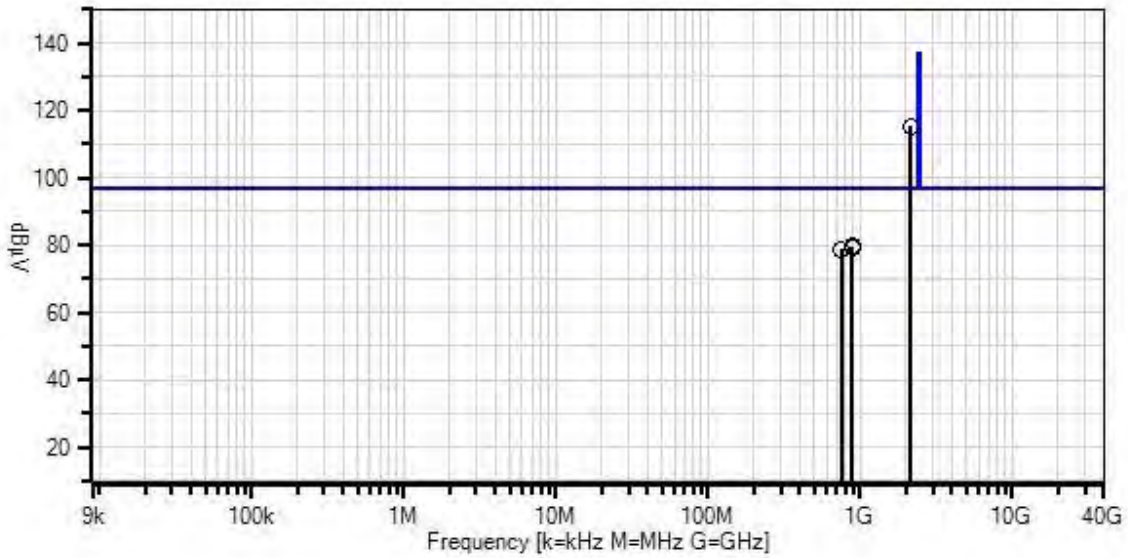
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11b Mode
Date rate =5.5 Mbps
Attenuator for 802.11b Mode=30
High Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:19:33 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 5



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.7	+0.7	+6.0	+9.9		+0.0	115.3	97.0	+18.3	None
									4.1MHz, AWGN signal		
2	888.420M	63.5	+0.4	+5.9	+9.9		+0.0	79.7	97.0	-17.3	None
3	879.730M	63.3	+0.4	+5.9	+9.9		+0.0	79.5	97.0	-17.5	None
4	753.717M	62.7	+0.3	+5.9	+9.9		+0.0	78.8	97.0	-18.2	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:39:54 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	6
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

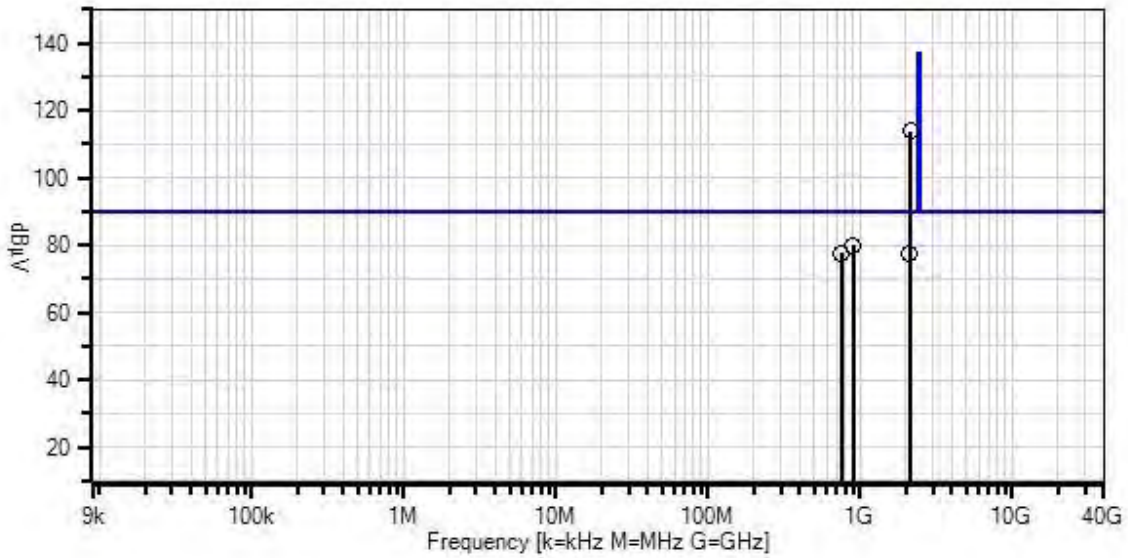
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11g Mode
Date rate =18Mbps
Attenuator for 802.11g Mode=45
Low Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:39:54 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 6



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	97.4	+0.7	+6.0	+9.9		+0.0	114.0	90.0	+24.0	None
									4.1MHz, AGWN signal		
2	891.028M	63.6	+0.4	+5.9	+9.9		+0.0	79.8	90.0	-10.2	None
3	752.848M	61.5	+0.3	+5.9	+9.9		+0.0	77.6	90.0	-12.4	None
4	2113.493M	61.0	+0.7	+6.0	+9.9		+0.0	77.6	90.0	-12.4	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:46:52 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	7
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

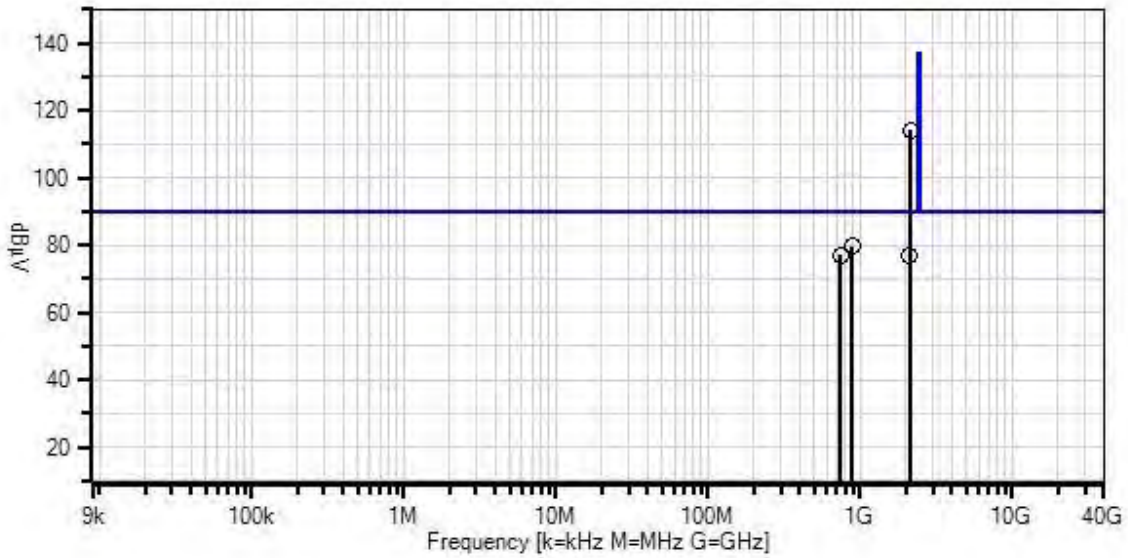
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11g Mode
Date rate =18Mbps
Attenuator for 802.11g Mode=45
Middle Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:46:52 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 7



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	97.5	+0.7	+6.0	+9.9		+0.0	114.1	90.0	+24.1	None
									4.1MHz, AWGN signal		
2	877.992M	63.4	+0.4	+5.9	+9.9		+0.0	79.6	90.0	-10.4	None
3	737.205M	61.0	+0.3	+5.9	+9.9		+0.0	77.1	90.0	-12.9	None
4	2113.493M	60.5	+0.7	+6.0	+9.9		+0.0	77.1	90.0	-12.9	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:52:40 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	8
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

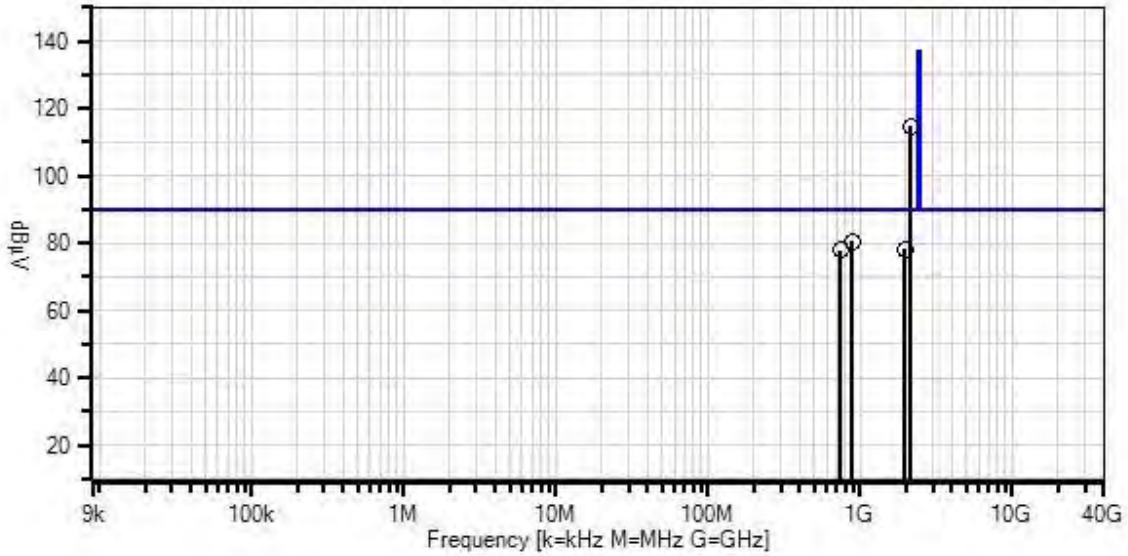
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11g Mode
Date rate =18Mbps
Attenuator for 802.11g Mode=45
High Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:52:40 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 8



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.1	+0.7	+6.0	+9.9		+0.0	114.7	90.0	+24.7	None
									4.1MHz AWGN signal		
2	880.599M	64.2	+0.4	+5.9	+9.9		+0.0	80.4	90.0	-9.6	None
3	1954.895M	61.7	+0.7	+6.0	+9.9		+0.0	78.3	90.0	-11.7	None
4	737.205M	61.8	+0.3	+5.9	+9.9		+0.0	77.9	90.0	-12.1	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	11:59:58 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	9
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

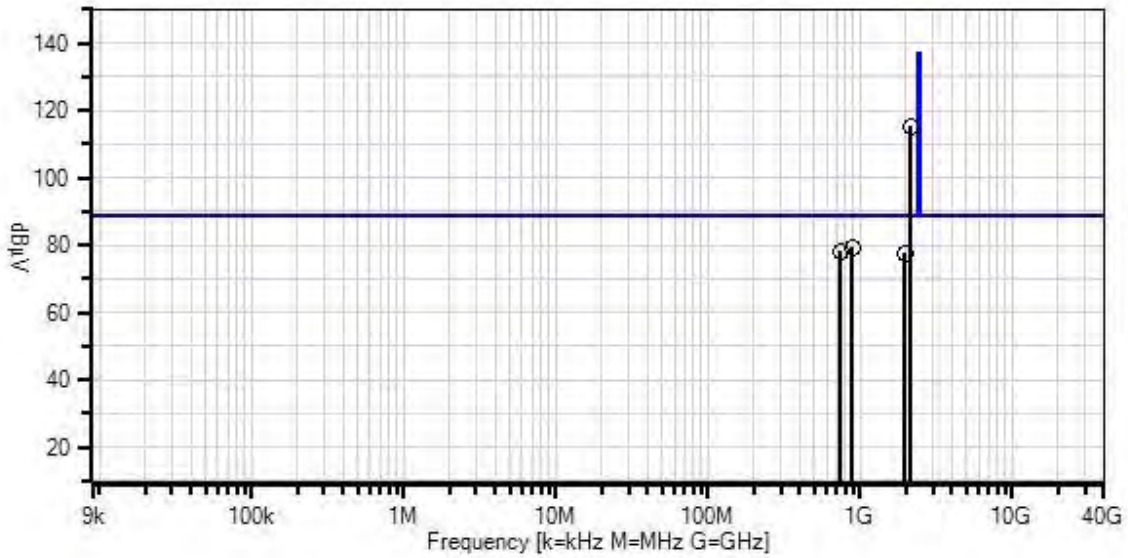
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode =45
Low Channel

CKC Laboratories, Inc Date: 6/1/2015 Time: 11:59:58 AM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 9



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	98.6	+0.7	+6.0	+9.9		+0.0	115.2	89.0	+26.2	None
									4.1MHz AWGN signal		
2	888.420M	63.2	+0.4	+5.9	+9.9		+0.0	79.4	89.0	-9.6	None
3	736.336M	62.0	+0.3	+5.9	+9.9		+0.0	78.1	89.0	-10.9	None
4	1951.903M	60.9	+0.7	+6.0	+9.9		+0.0	77.5	89.0	-11.5	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	1:02:51 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	10
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

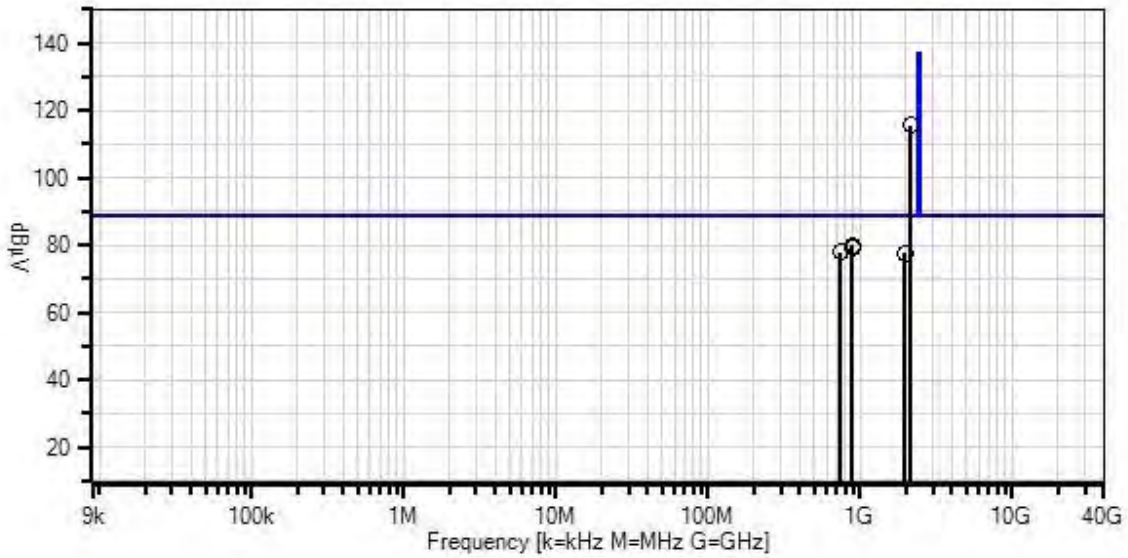
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode =45
Middle Channel

CKC Laboratories, Inc. Date: 6/1/2015 Time: 1:02:51 PM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 10



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.9	+0.7	+6.0	+9.9		+0.0	115.5	89.0	+26.5	None
									4.1MHz AWGN signal		
2	890.158M	63.6	+0.4	+5.9	+9.9		+0.0	79.8	89.0	-9.2	None
3	877.992M	63.1	+0.4	+5.9	+9.9		+0.0	79.3	89.0	-9.7	None
4	735.467M	61.7	+0.3	+5.9	+9.9		+0.0	77.8	89.0	-11.2	None
5	1948.910M	61.0	+0.7	+6.0	+9.9		+0.0	77.6	89.0	-11.4	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	1:18:53 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	11
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

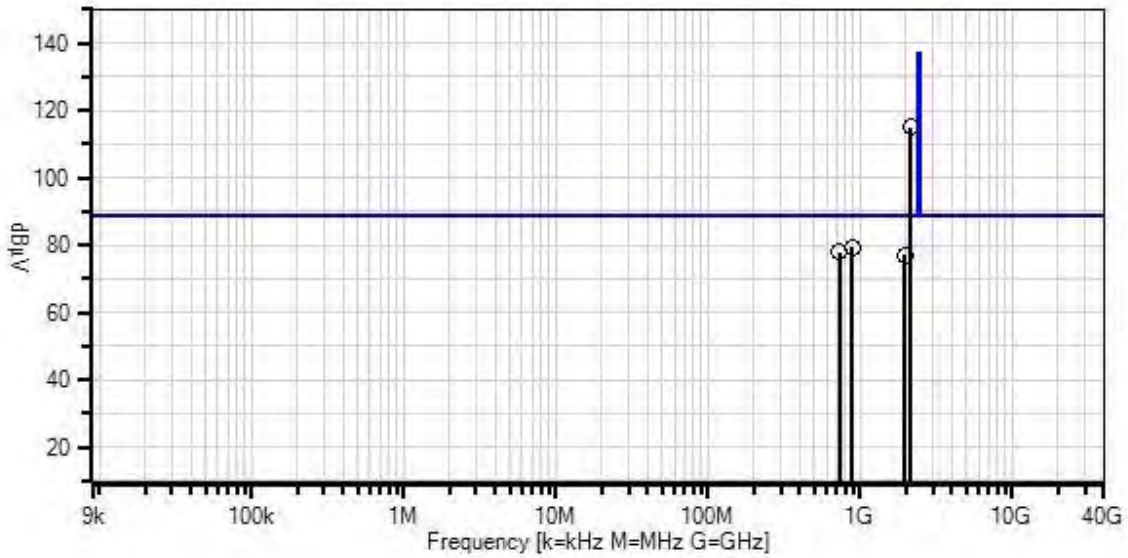
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode =45
High Channel

CKC Laboratories, Inc. Date: 6/1/2015 Time: 1:18:53 PM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 11



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.5	+0.7	+6.0	+9.9		+0.0	115.1	89.0	+26.1	None
									4.1MHz AWGN signal		
2	879.730M	63.1	+0.4	+5.9	+9.9		+0.0	79.3	89.0	-9.7	None
3	734.598M	61.8	+0.3	+5.9	+9.9		+0.0	77.9	89.0	-11.1	None
4	1948.910M	60.4	+0.7	+6.0	+9.9		+0.0	77.0	89.0	-12.0	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	1:24:58 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	12
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

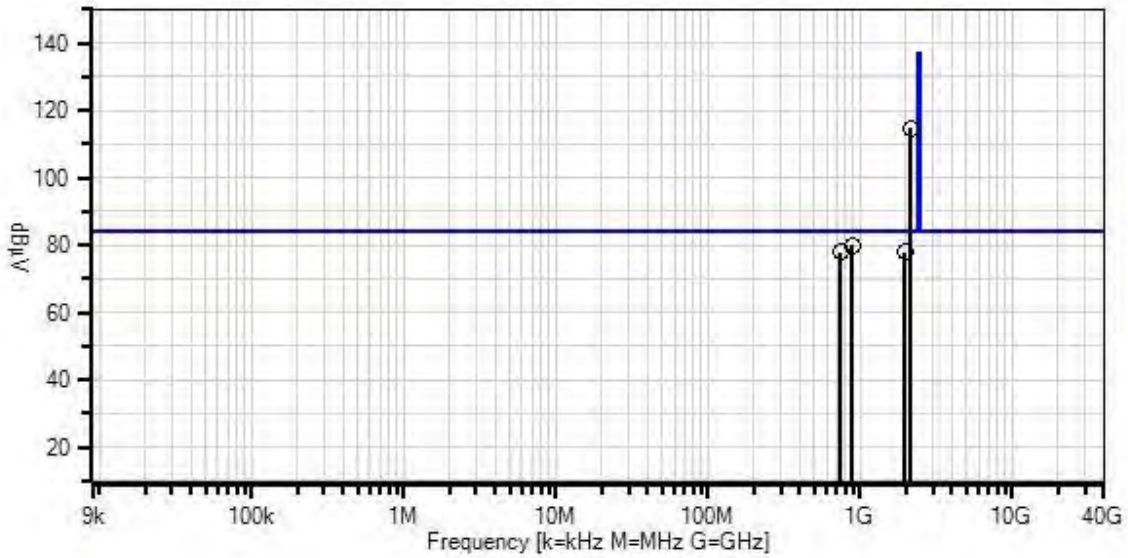
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode =40
Low Channel

CKC Laboratories, Inc. Date: 6/1/2015 Time: 1:24:58 PM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 12



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.1	+0.7	+6.0	+9.9		+0.0	114.7	84.2	+30.5	None
									4.1MHz AWGN signal		
2	878.861M	63.8	+0.4	+5.9	+9.9		+0.0	80.0	84.2	-4.2	None
3	739.812M	61.9	+0.3	+5.9	+9.9		+0.0	78.0	84.2	-6.2	None
4	1969.857M	61.4	+0.7	+6.0	+9.9		+0.0	78.0	84.2	-6.2	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	1:34:05 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	13
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

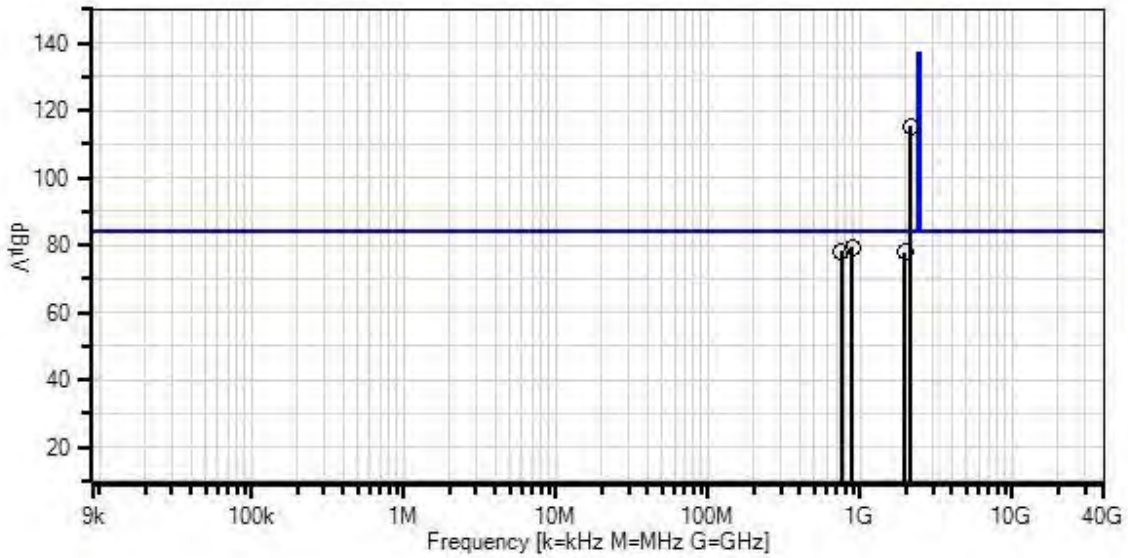
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode =40
Middle Channel

CKC Laboratories, Inc. Date: 6/1/2015 Time: 1:34:05 PM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 13



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.6	+0.7	+6.0	+9.9		+0.0	115.2	84.2	+31.0	None
									4.1MHz AWGN signal		
2	879.730M	63.2	+0.4	+5.9	+9.9		+0.0	79.4	84.2	-4.8	None
3	750.241M	62.1	+0.3	+5.9	+9.9		+0.0	78.2	84.2	-6.0	None
4	1969.857M	61.4	+0.7	+6.0	+9.9		+0.0	78.0	84.2	-6.2	None

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**96750**	Date:	6/1/2015
Test Type:	**Conducted Spurious Emission**	Time:	1:40:29 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	14
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

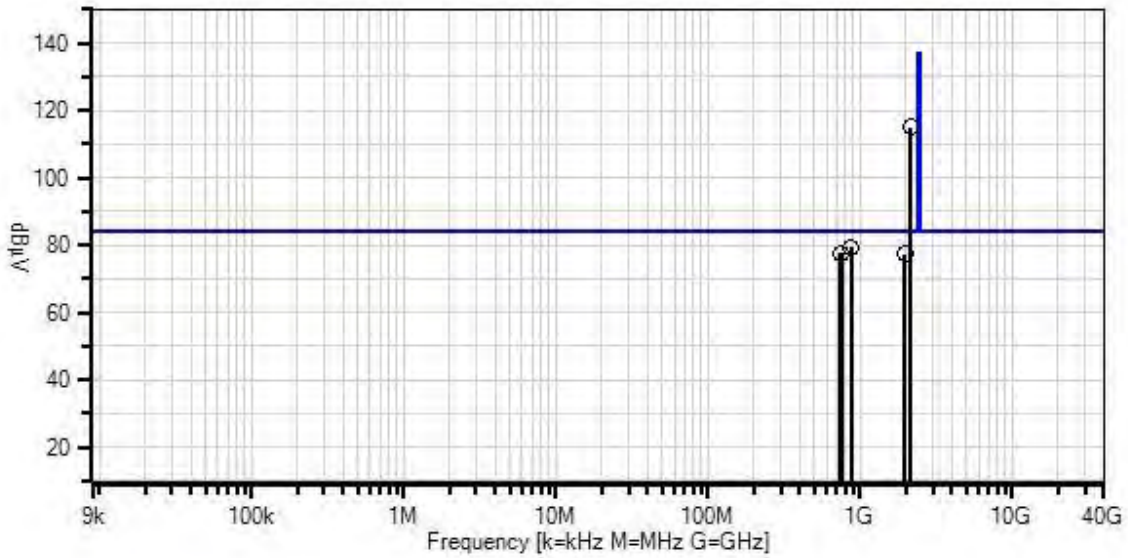
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level

The equipment under test (EUT) is placed on the table top. EUT set at maximum gain.
A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Frequency range of measurement = 9 kHz- 25GHz.
RBW=100 kHz, and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode =40
High Channel

CKC Laboratories, Inc. Date: 6/1/2015 Time: 1:40:29 PM Cellphone-Mate, Inc WO#: 96750
Test Distance: None Sequence#: 14



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T2	ANP05934	Attenuator	F84A-6	9/20/2013	9/20/2015
T3	ANP06239	Attenuator	54A-10	7/9/2014	7/9/2016

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.4	+0.7	+6.0	+9.9		+0.0	115.0	84.2	+30.8	None
									4.1MHz AWGN Signal		
2	877.123M	63.3	+0.4	+5.9	+9.9		+0.0	79.5	84.2	-4.7	None
3	752.848M	61.5	+0.3	+5.9	+9.9		+0.0	77.6	84.2	-6.6	None
4	739.812M	61.4	+0.3	+5.9	+9.9		+0.0	77.5	84.2	-6.7	None
5	1951.903M	60.8	+0.7	+6.0	+9.9		+0.0	77.4	84.2	-6.8	None

Test Setup Photo

15.247(d) Radiated Emissions & Band Edge

Test Data

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	08:48:36
Tested By:	Hieu Song Nguyenpham	Sequence#:	52
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C, Humidity: 42%, Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

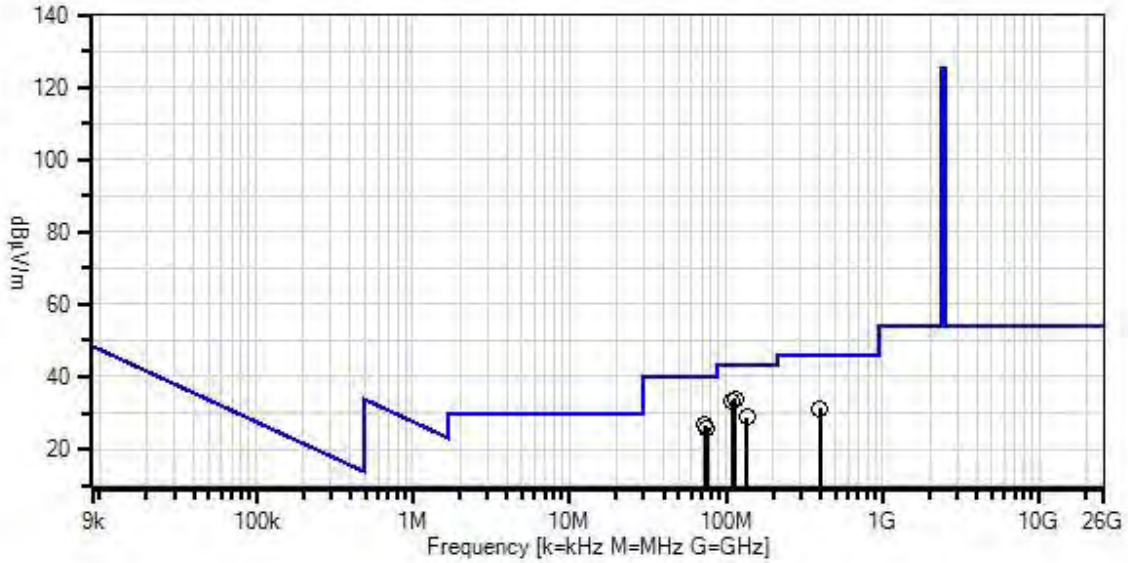
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5 Mbps
Attenuator for 802.11b Mode=30
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 08:48:36 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 52



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	114.353M	50.1	-29.1 +0.4	+11.4	+0.9	+0.2	+0.0	33.9	43.5	-9.6	Vert
2	110.409M	49.9	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.4	43.5	-10.1	Vert
3	73.601M	47.9	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	26.6	40.0	-13.4	Vert
4	75.118M	46.9	-29.3 +0.3	+6.9	+0.7	+0.3	+0.0	25.8	40.0	-14.2	Horiz
5	400.143M	40.5	-29.1 +0.8	+16.4	+2.0	+0.7	+0.0	31.3	46.0	-14.7	Horiz
6	135.184M	44.3	-29.0 +0.4	+11.7	+1.0	+0.4	+0.0	28.8	43.5	-14.7	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	11:40:28
Tested By:	Hieu Song Nguyenpham	Sequence#:	115
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

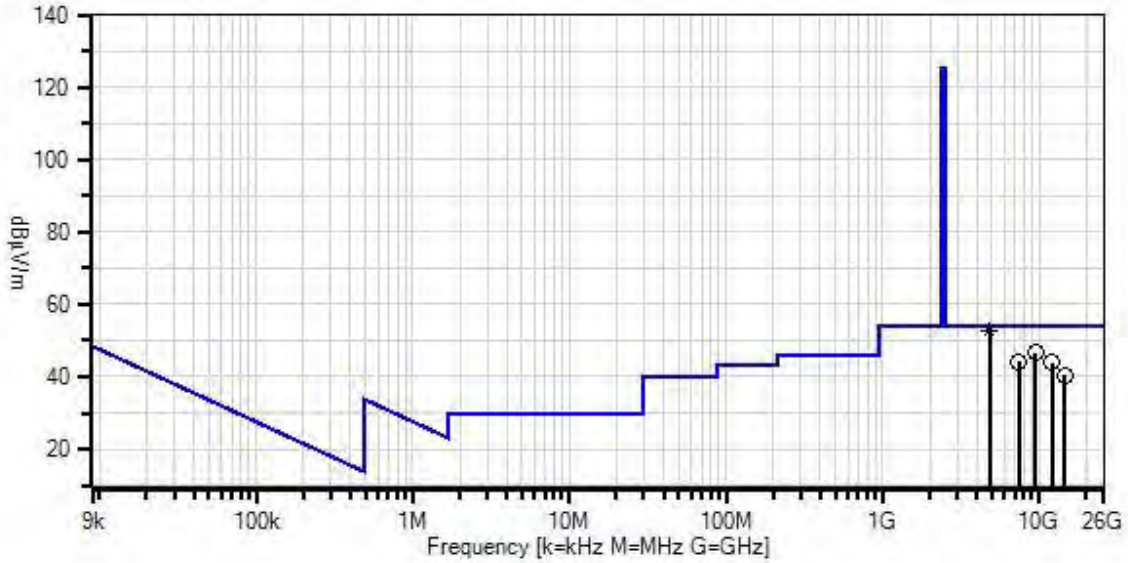
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5Mbps
Attenuator for 802.11b Mode=30
Low Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 11:40:28 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 115



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
T8	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
T9	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4824.000M Ave	67.7	-57.8 +0.2 +0.0	+33.3 +2.9	+1.7 +3.6	+1.1 +0.0	+0.0	52.7	54.0	-1.3	Vert
^	4824.000M	69.1	-57.8 +0.2 +0.0	+33.3 +2.9	+1.7 +3.6	+1.1 +0.0	+0.0	54.1	54.0	+0.1	Vert
3	9409.652M	51.5	-57.1 +0.2 +0.0	+38.5 +4.2	+2.4 +5.3	+1.6 +0.0	+0.0	46.6	54.0	-7.4	Vert
4	7384.302M	54.1	-58.3 +0.2 +0.0	+36.6 +3.6	+2.1 +4.6	+1.4 +0.0	+0.0	44.3	54.0	-9.7	Vert
5	12058.880 M	49.5	+0.0 +0.0 -13.3	+0.0 +4.9	+0.0 +0.0	+1.9 +0.9	+0.0	43.9	54.0	-10.1	Vert
6	14471.740 M	46.6	+0.0 +0.0 -14.3	+0.0 +5.4	+0.0 +0.0	+2.0 +0.8	+0.0	40.5	54.0	-13.5	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	09:13:39
Tested By:	Hieu Song Nguyenpham	Sequence#:	55
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

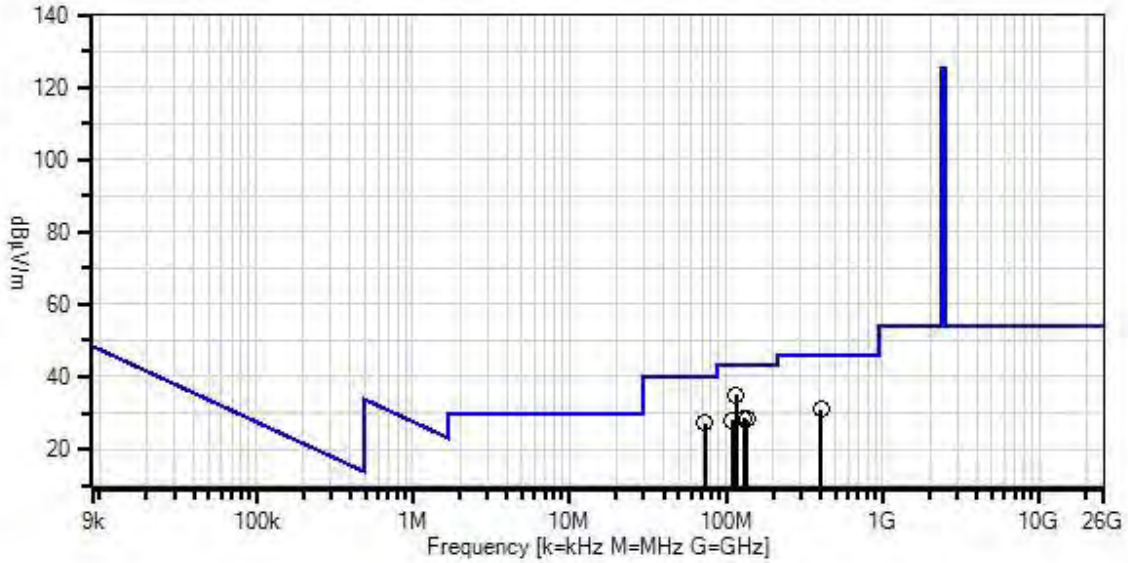
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5 Mbps
Attenuator for 802.11b Mode=30
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 09:13:39 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 55



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.465M	51.0	-29.1 +0.4	+11.5	+0.9	+0.3	+0.0	35.0	43.5	-8.5	Vert
2	73.197M	48.6	-29.3 +0.3	+6.6	+0.7	+0.3	+0.0	27.2	40.0	-12.8	Vert
3	406.460M	40.2	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.1	46.0	-14.9	Horiz
4	130.128M	44.0	-29.1 +0.4	+11.7	+1.0	+0.5	+0.0	28.5	43.5	-15.0	Vert
5	136.094M	43.9	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.3	43.5	-15.2	Horiz
6	109.095M	44.7	-29.1 +0.4	+11.0	+0.9	+0.2	+0.0	28.1	43.5	-15.4	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	11:45:12
Tested By:	Hieu Song Nguyenpham	Sequence#:	118
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

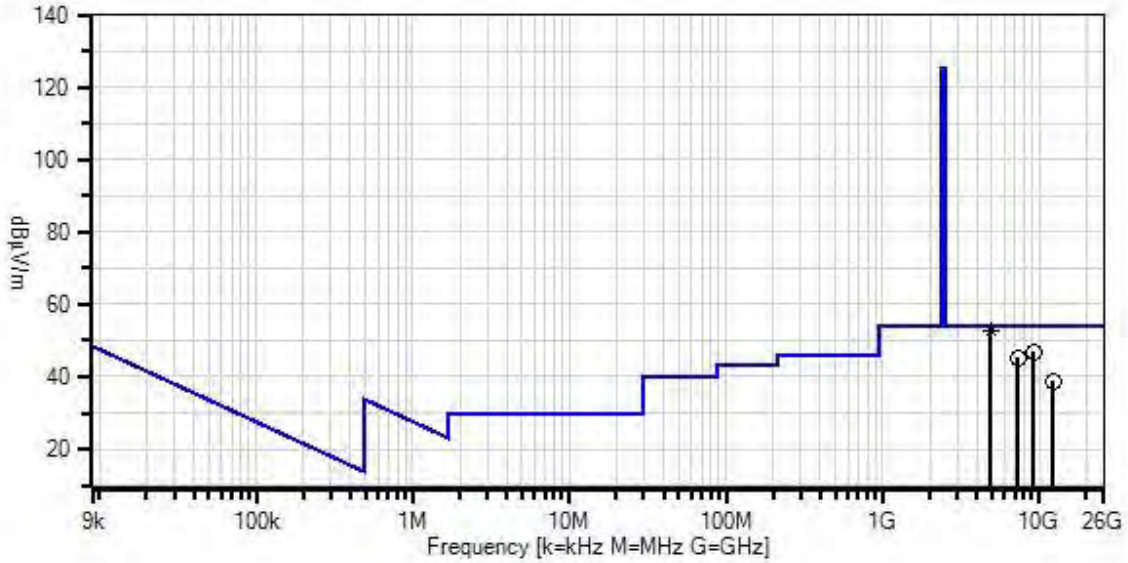
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5Mbps
Attenuator for 802.11b Mode=30
Middle Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 11:45:12 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 118



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
T8	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
T9	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4873.975M Ave	67.3	-57.7 +0.2 +0.0	+33.4 +2.9	+1.7 +3.6	+1.1 +0.0	+0.0	52.5	54.0	-1.5	Vert
^	4873.975M	68.5	-57.7 +0.2 +0.0	+33.4 +2.9	+1.7 +3.6	+1.1 +0.0	+0.0	53.7	54.0	-0.3	Vert
3	9156.593M	51.7	-56.6 +0.3 +0.0	+38.2 +4.2	+2.3 +5.2	+1.6 +0.0	+0.0	46.9	54.0	-7.1	Vert
4	7309.743M	55.5	-58.3 +0.2 +0.0	+36.4 +3.6	+2.1 +4.5	+1.3 +0.0	+0.0	45.3	54.0	-8.7	Vert
5	12183.900 M	44.6	+0.0 +0.0 -13.4	+0.0 +4.9	+0.0 +0.0	+1.9 +0.9	+0.0	38.9	54.0	-15.1	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	09:32:31
Tested By:	Hieu Song Nguyenpham	Sequence#:	58
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

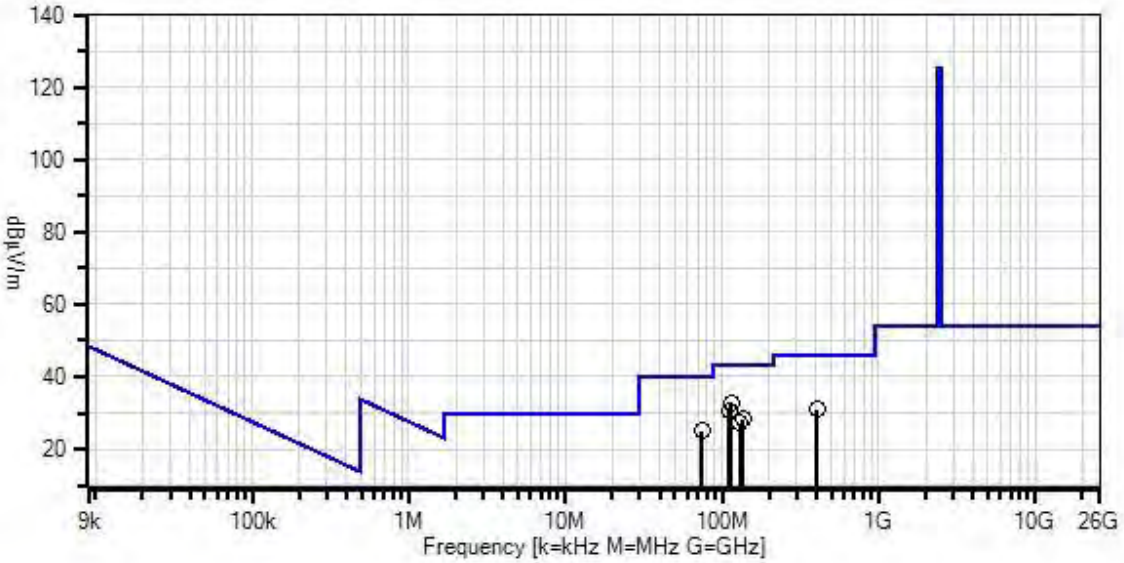
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5 Mbps
Attenuator for 802.11b Mode=30
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 09:32:31 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 58



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	114.353M	49.0	-29.1 +0.4	+11.4	+0.9	+0.2	+0.0	32.8	43.5	-10.7	Vert
2	110.915M	47.2	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	30.7	43.5	-12.8	Vert
3	74.410M	46.3	-29.3 +0.3	+6.8	+0.7	+0.3	+0.0	25.1	40.0	-14.9	Horiz
4	406.217M	40.2	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.1	46.0	-14.9	Horiz
5	136.700M	44.0	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.4	43.5	-15.1	Horiz
6	130.532M	42.8	-29.1 +0.4	+11.7	+1.0	+0.5	+0.0	27.3	43.5	-16.2	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	11:17:02
Tested By:	Hieu Song Nguyenpham	Sequence#:	121
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

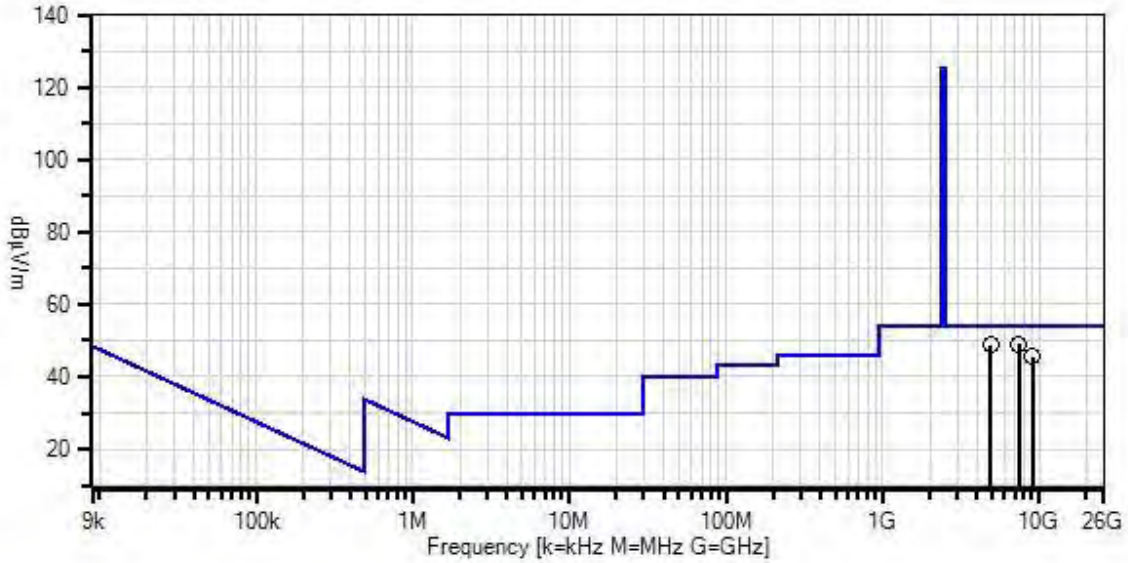
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11b Mode
Date rate = 5.5Mbps
Attenuator for 802.11b Mode=30
High Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 11:17:02 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 121



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7386.787M	58.7	-58.3 +0.2	+36.6 +3.7	+2.1 +4.6	+1.4	+0.0	49.0	54.0	-5.0	Vert
2	4924.496M	63.2	-57.5 +0.2	+33.5 +2.9	+1.7 +3.6	+1.1	+0.0	48.7	54.0	-5.3	Vert
3	9065.210M	50.5	-56.6 +0.3	+38.2 +4.1	+2.3 +5.2	+1.6	+0.0	45.6	54.0	-8.4	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	09:52:17
Tested By:	Hieu Song Nguyenpham	Sequence#:	61
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18 Mbps
Attenuator for 802.11g Mode=45
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 09:52:17 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 61
140
120
100
80
60
40
20
dBµV/m
9k
100k
1M
10M
100M
1G
10G
26G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.667M	49.2	-29.1 +0.4	+11.5	+0.9	+0.3	+0.0	33.2	43.5	-10.3	Vert
2	110.611M	49.6	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.1	43.5	-10.4	Vert
3	108.892M	48.4	-29.1 +0.4	+10.9	+0.9	+0.2	+0.0	31.7	43.5	-11.8	Horiz
4	73.803M	48.1	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	26.8	40.0	-13.2	Vert
5	136.296M	44.6	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	29.0	43.5	-14.5	Horiz
6	406.460M	40.3	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.2	46.0	-14.8	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	09:23:05
Tested By:	Hieu Song Nguyenpham	Sequence#:	106
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18Mbps
Attenuator for 802.11g Mode=45
Low Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 09:23:05 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 106

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4824.327M	63.4	-57.8 +0.2	+33.3 +2.9	+1.7 +3.6	+1.1	+0.0	48.4	54.0	-5.6	Vert
2	9019.519M	50.6	-56.4 +0.3	+38.2 +4.1	+2.3 +5.1	+1.6	+0.0	45.8	54.0	-8.2	Vert
3	7399.213M	54.5	-58.3 +0.2	+36.6 +3.7	+2.1 +4.6	+1.4	+0.0	44.8	54.0	-9.2	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	10:14:31
Tested By:	Hieu Song Nguyenpham	Sequence#:	64
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

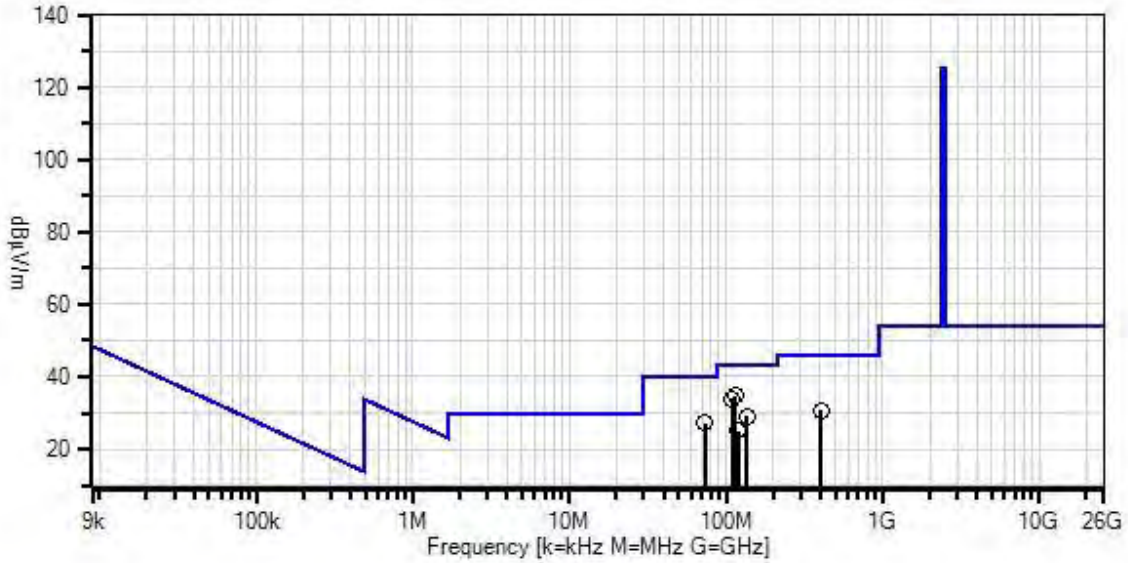
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18 Mbps
Attenuator for 802.11g Mode=45
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 10:14:31 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 64



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.263M	50.9	-29.1 +0.4	+11.4	+0.9	+0.3	+0.0	34.8	43.5	-8.7	Vert
2	110.207M	50.4	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.9	43.5	-9.6	Vert
3	73.500M	48.5	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	27.2	40.0	-12.8	Vert
4	135.689M	44.5	-29.0 +0.4	+11.7	+1.0	+0.4	+0.0	29.0	43.5	-14.5	Horiz
5	406.217M	39.8	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	30.7	46.0	-15.3	Horiz
6	120.218M	40.6	-29.1 +0.4	+11.8	+1.0	+0.3	+0.0	25.0	43.5	-18.5	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	09:44:44
Tested By:	Hieu Song Nguyenpham	Sequence#:	109
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18Mbps
Attenuator for 802.11g Mode=45
Middle Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 09:44:44 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 109

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9012.489M	50.8	-56.4 +0.3	+38.2 +4.1	+2.3 +5.1	+1.6	+0.0	46.0	54.0	-8.0	Vert
2	4878.805M	60.1	-57.6 +0.2	+33.4 +2.9	+1.7 +3.6	+1.1	+0.0	45.4	54.0	-8.6	Vert
3	7304.773M	55.4	-58.3 +0.2	+36.4 +3.6	+2.1 +4.5	+1.3	+0.0	45.2	54.0	-8.8	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	10:39:29
Tested By:	Hieu Song Nguyenpham	Sequence#:	67
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

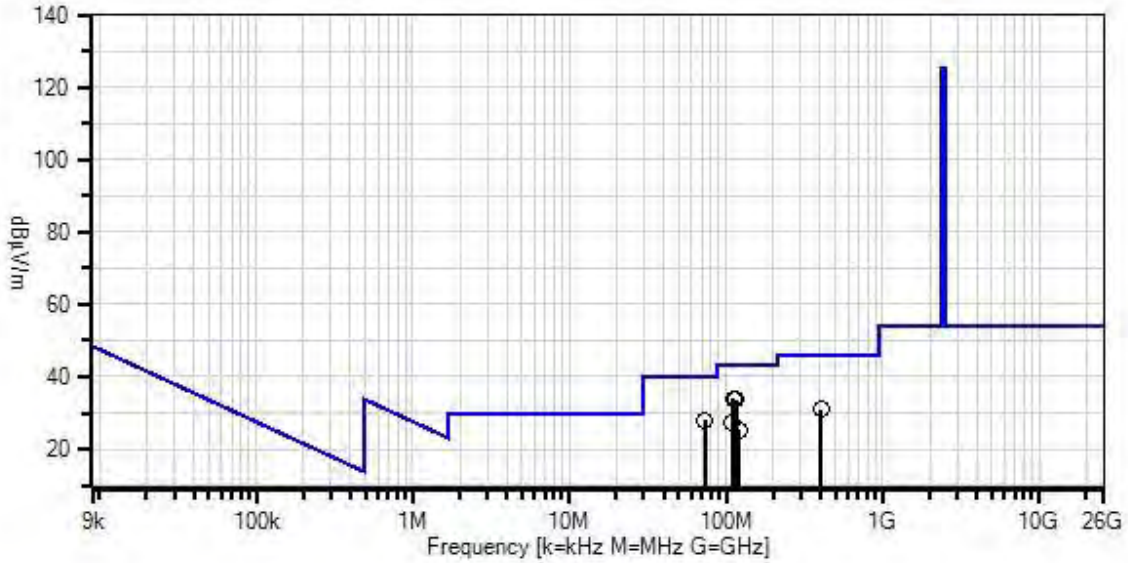
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18 Mbps
Attenuator for 802.11g Mode=45
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 10:39:29 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 67



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	111.218M	50.4	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.9	43.5	-9.6	Vert
2	116.173M	49.5	-29.1 +0.4	+11.5	+1.0	+0.3	+0.0	33.6	43.5	-9.9	Vert
3	73.702M	49.3	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	28.0	40.0	-12.0	Vert
4	406.460M	40.1	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.0	46.0	-15.0	Horiz
5	110.005M	44.1	-29.1 +0.4	+11.0	+0.9	+0.2	+0.0	27.5	43.5	-16.0	Horiz
6	120.622M	41.0	-29.1 +0.4	+11.8	+1.0	+0.3	+0.0	25.4	43.5	-18.1	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/10/2015
Test Type:	**Radiated Scan**	Time:	10:06:26
Tested By:	Hieu Song Nguyenpham	Sequence#:	112
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11g Mode
Date rate = 18Mbps
Attenuator for 802.11g Mode=45
High Channel

CKC Laboratories, Inc Date: 6/10/2015 Time: 10:06:26 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 112

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7384.302M	57.5	-58.3 +0.2	+36.6 +3.6	+2.1 +4.6	+1.4	+0.0	47.7	54.0	-6.3	Vert
2	9146.048M	50.2	-56.6 +0.3	+38.2 +4.2	+2.3 +5.2	+1.6	+0.0	45.4	54.0	-8.6	Vert
3	4928.011M	57.0	-57.5 +0.2	+33.5 +2.9	+1.7 +3.6	+1.1	+0.0	42.5	54.0	-11.5	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	11:01:24
Tested By:	Hieu Song Nguyenpham	Sequence#:	70
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

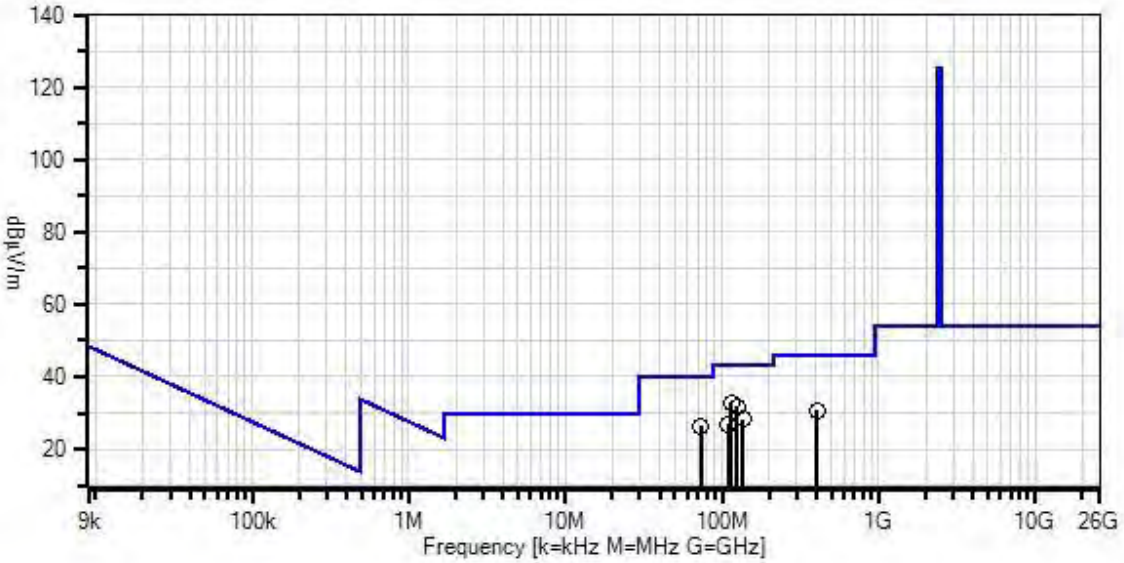
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 11:01:24 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 70



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.364M	48.8	-29.1 +0.4	+11.5	+0.9	+0.3	+0.0	32.8	43.5	-10.7	Vert
2	125.173M	47.3	-29.1 +0.4	+11.8	+1.0	+0.3	+0.0	31.7	43.5	-11.8	Vert
3	73.803M	47.6	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	26.3	40.0	-13.7	Vert
4	406.217M	39.9	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	30.8	46.0	-15.2	Horiz
5	136.700M	43.9	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.3	43.5	-15.2	Horiz
6	109.297M	43.6	-29.1 +0.4	+11.0	+0.9	+0.2	+0.0	27.0	43.5	-16.5	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	16:21:41
Tested By:	Hieu Song Nguyenpham	Sequence#:	97
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 16:21:41 Cellphone-Mate, Inc W/O#: 96750
Test Distance: 3 Meters Sequence#: 97

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4826.084M	62.0	-57.8 +0.2	+33.3 +2.9	+1.7 +3.6	+1.1	+0.0	47.0	54.0	-7.0	Vert
2	9409.652M	50.1	-57.1 +0.2	+38.5 +4.2	+2.4 +5.3	+1.6	+0.0	45.2	54.0	-8.8	Vert
3	7381.816M	54.0	-58.3 +0.2	+36.5 +3.6	+2.1 +4.6	+1.4	+0.0	44.1	54.0	-9.9	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	11:18:35
Tested By:	Hieu Song Nguyenpham	Sequence#:	73
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

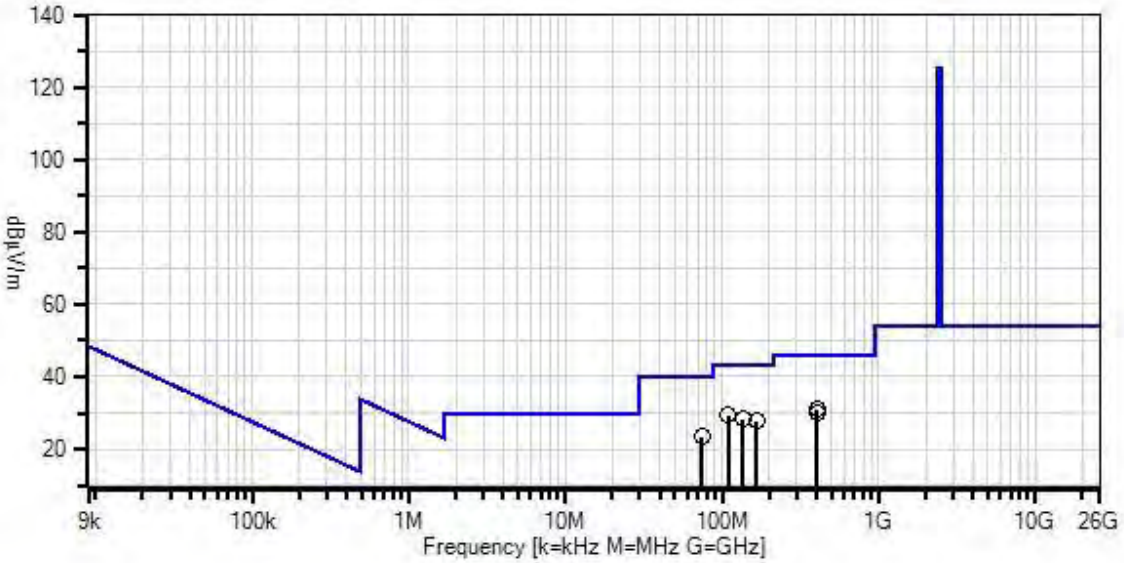
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 11:18:35 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 73



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	110.338M	45.9	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	29.4	43.5	-14.1	Vert
2	406.460M	40.1	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.0	46.0	-15.0	Horiz
3	136.296M	44.0	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.4	43.5	-15.1	Horiz
4	166.045M	44.3	-28.9 +0.5	+10.2	+1.2	+0.3	+0.0	27.6	43.5	-15.9	Vert
5	403.881M	39.2	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	30.1	46.0	-15.9	Vert
6	74.916M	44.5	-29.3 +0.3	+6.9	+0.7	+0.3	+0.0	23.4	40.0	-16.6	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	16:43:01
Tested By:	Hieu Song Nguyenpham	Sequence#:	100
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

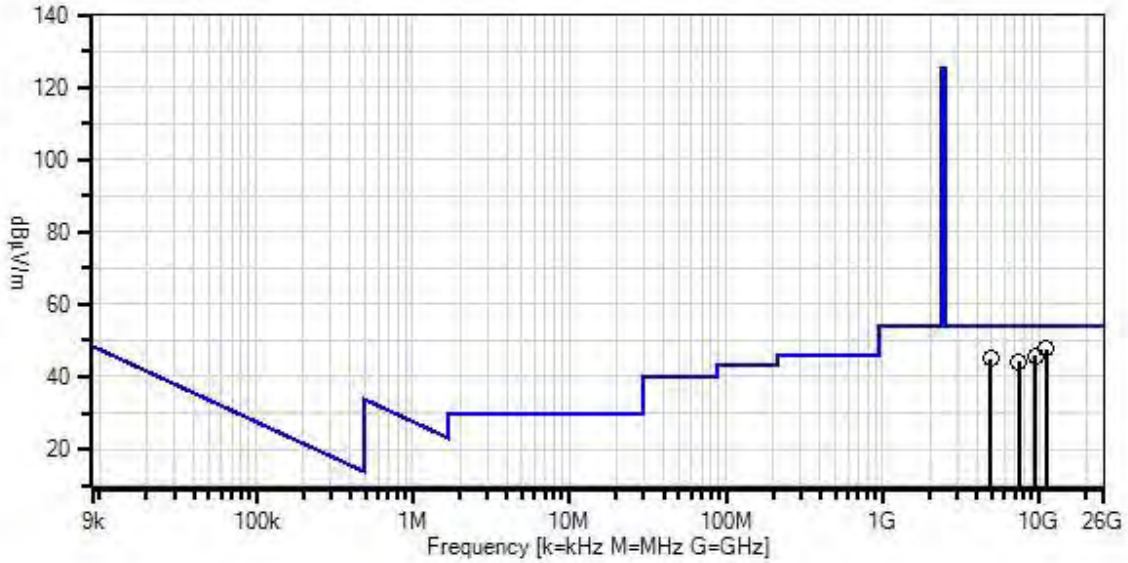
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 16:43:01 Cellphone-Mate, Inc W/O#: 96750
Test Distance: 3 Meters Sequence#: 100



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 T5 dB	T2 T6 dB	T3 T7 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	11152.953 M	50.9	-57.2 +0.2	+38.9 +4.6	+2.6 +5.8	+1.8	+0.0	47.6	54.0	-6.4	Vert
2	9427.226M	50.7	-57.2 +0.2	+38.5 +4.2	+2.4 +5.3	+1.6	+0.0	45.7	54.0	-8.3	Horiz
3	4877.047M	59.7	-57.6 +0.2	+33.4 +2.9	+1.7 +3.6	+1.1	+0.0	45.0	54.0	-9.0	Vert
4	7441.463M	53.9	-58.2 +0.2	+36.6 +3.7	+2.1 +4.6	+1.4	+0.0	44.3	54.0	-9.7	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	11:40:42
Tested By:	Hieu Song Nguyenpham	Sequence#:	76
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

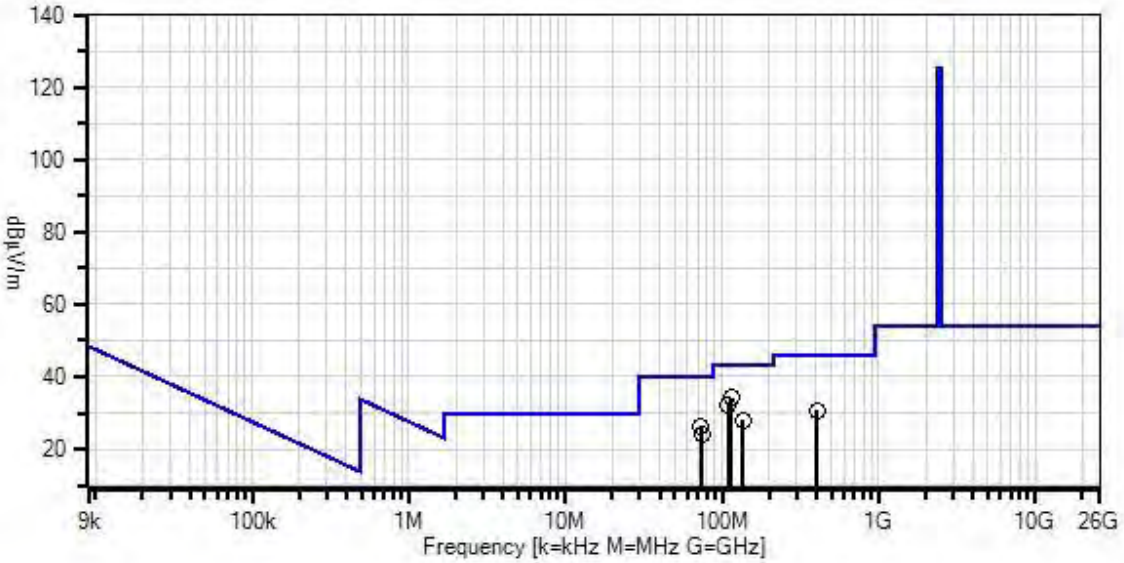
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 11:40:42 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 76



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.263M	50.4	-29.1 +0.4	+11.4	+0.9	+0.3	+0.0	34.3	43.5	-9.2	Vert
2	109.701M	48.9	-29.1 +0.4	+11.0	+0.9	+0.2	+0.0	32.3	43.5	-11.2	Vert
3	73.702M	47.4	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	26.1	40.0	-13.9	Vert
4	406.460M	39.9	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	30.8	46.0	-15.2	Horiz
5	136.903M	43.7	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.1	43.5	-15.4	Horiz
6	74.815M	45.5	-29.3 +0.3	+6.8	+0.7	+0.3	+0.0	24.3	40.0	-15.7	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	16:59:17
Tested By:	Hieu Song Nguyenpham	Sequence#:	103
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT20 Mode
Date rate = MCS2
Attenuator for 802.11n HT20 Mode=45
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 16:59:17 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 103

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9153.078M	51.5	-56.6 +0.3	+38.2 +4.2	+2.3 +5.2	+1.6	+0.0	46.7	54.0	-7.3	Vert
2	7394.243M	56.3	-58.3 +0.2	+36.6 +3.7	+2.1 +4.6	+1.4	+0.0	46.6	54.0	-7.4	Vert
3	4922.739M	56.8	-57.5 +0.2	+33.5 +2.9	+1.7 +3.6	+1.1	+0.0	42.3	54.0	-11.7	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	11:59:32
Tested By:	Hieu Song Nguyenpham	Sequence#:	79
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

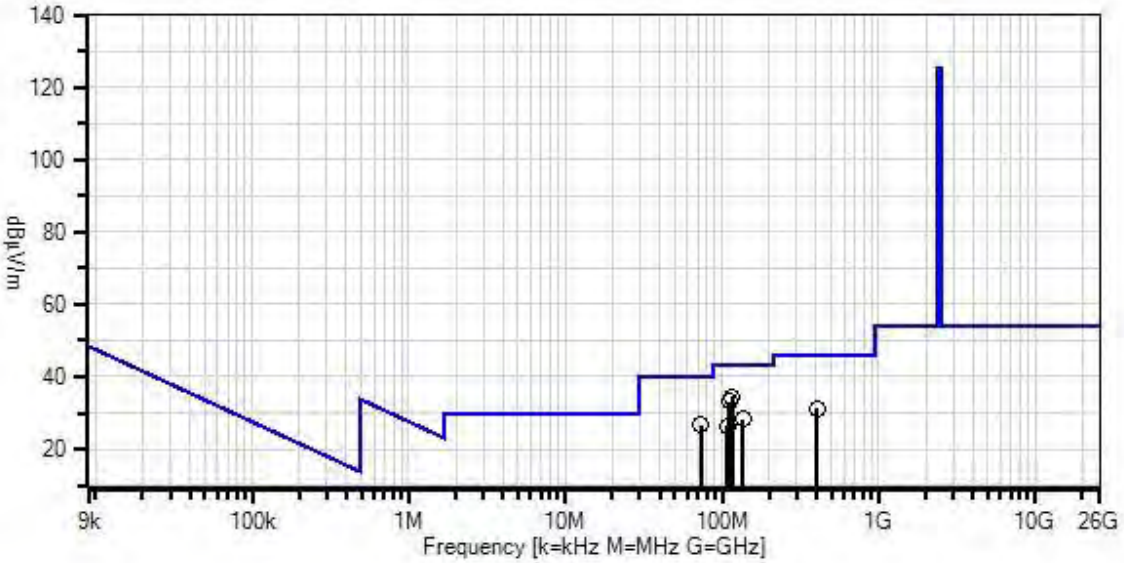
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 11:59:32 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 79



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.566M	50.4	-29.1 +0.4	+11.5	+0.9	+0.3	+0.0	34.4	43.5	-9.1	Vert
2	110.611M	49.7	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.2	43.5	-10.3	Vert
3	73.500M	48.0	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	26.7	40.0	-13.3	Vert
4	406.217M	40.4	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.3	46.0	-14.7	Horiz
5	136.802M	43.9	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.3	43.5	-15.2	Horiz
6	108.083M	43.1	-29.1 +0.4	+10.9	+0.9	+0.2	+0.0	26.4	43.5	-17.1	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	15:08:47
Tested By:	Hieu Song Nguyenpham	Sequence#:	88
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

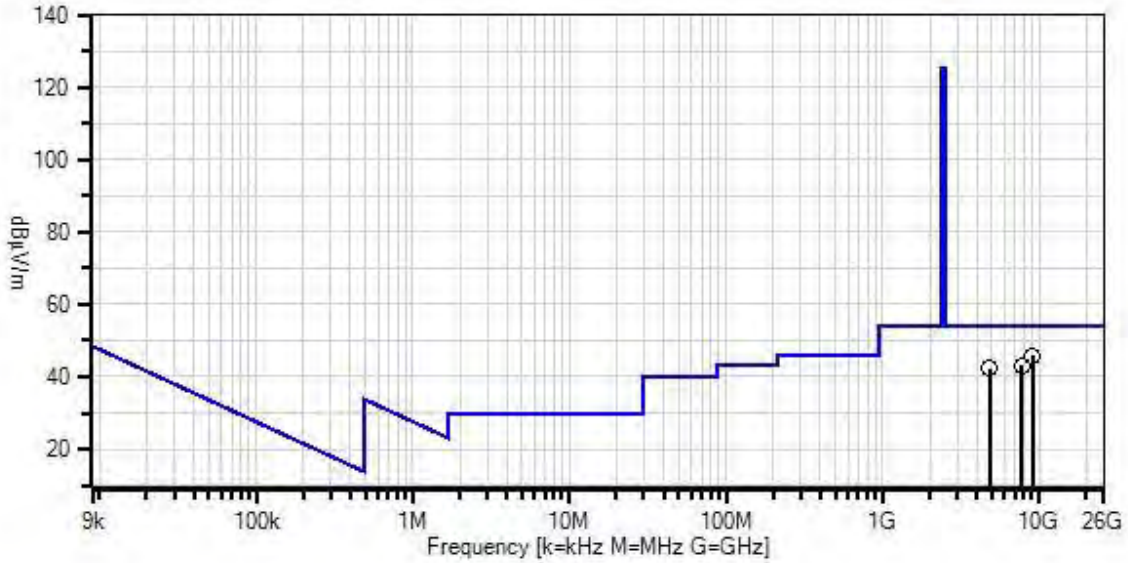
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
Low Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 15:08:47 Cellphone-Mate, Inc W/O#: 96750
Test Distance: 3 Meters Sequence#: 88



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9086.298M	50.6	-56.6 +0.3	+38.2 +4.1	+2.3 +5.2	+1.6	+0.0	45.7	54.0	-8.3	Vert
2	7724.785M	52.5	-57.9 +0.2	+36.4 +3.8	+2.1 +4.7	+1.4	+0.0	43.2	54.0	-10.8	Vert
3	4840.143M	57.2	-57.8 +0.2	+33.3 +2.9	+1.7 +3.6	+1.1	+0.0	42.2	54.0	-11.8	Vert

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	13:36:19
Tested By:	Hieu Song Nguyenpham	Sequence#:	82
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

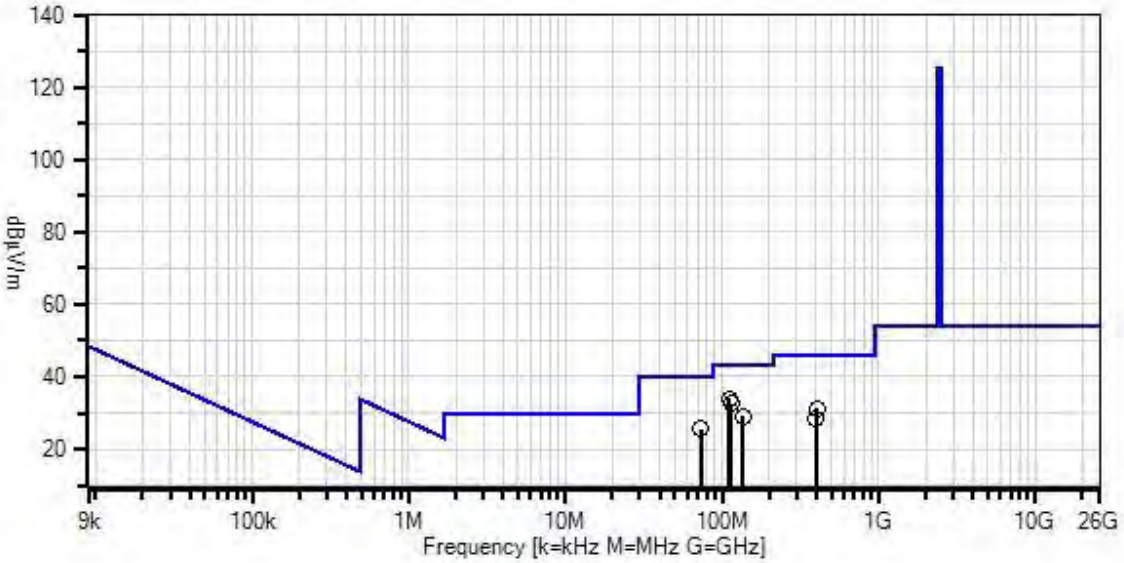
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 13:36:19 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 82



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	110.915M	50.4	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	33.9	43.5	-9.6	Vert
2	114.858M	48.6	-29.1 +0.4	+11.4	+0.9	+0.3	+0.0	32.5	43.5	-11.0	Vert
3	73.905M	47.0	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	25.7	40.0	-14.3	Vert
4	136.802M	44.7	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	29.1	43.5	-14.4	Horiz
5	406.217M	40.4	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.3	46.0	-14.7	Horiz
6	400.143M	37.5	-29.1 +0.8	+16.4	+2.0	+0.7	+0.0	28.3	46.0	-17.7	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	15:34:49
Tested By:	Hieu Song Nguyenpham	Sequence#:	91
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
Middle Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 15:34:49 Cellphone-Mate, Inc W/O#: 96750
Test Distance: 3 Meters Sequence#: 91

Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9406.138M	50.3	-57.1 +0.2	+38.5 +4.2	+2.4 +5.3	+1.6	+0.0	45.4	54.0	-8.6	Vert
2	7384.302M	53.7	-58.3 +0.2	+36.6 +3.6	+2.1 +4.6	+1.4	+0.0	43.9	54.0	-10.1	Horiz
3	4885.834M	56.1	-57.6 +0.2	+33.4 +2.9	+1.7 +3.6	+1.1	+0.0	41.4	54.0	-12.6	Vert
4	5386.682M	51.7	-56.4 +0.2	+34.6 +3.1	+1.8 +3.8	+1.1	+0.0	39.9	54.0	-14.1	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	13:59:48
Tested By:	Hieu Song Nguyenpham	Sequence#:	85
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 1000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

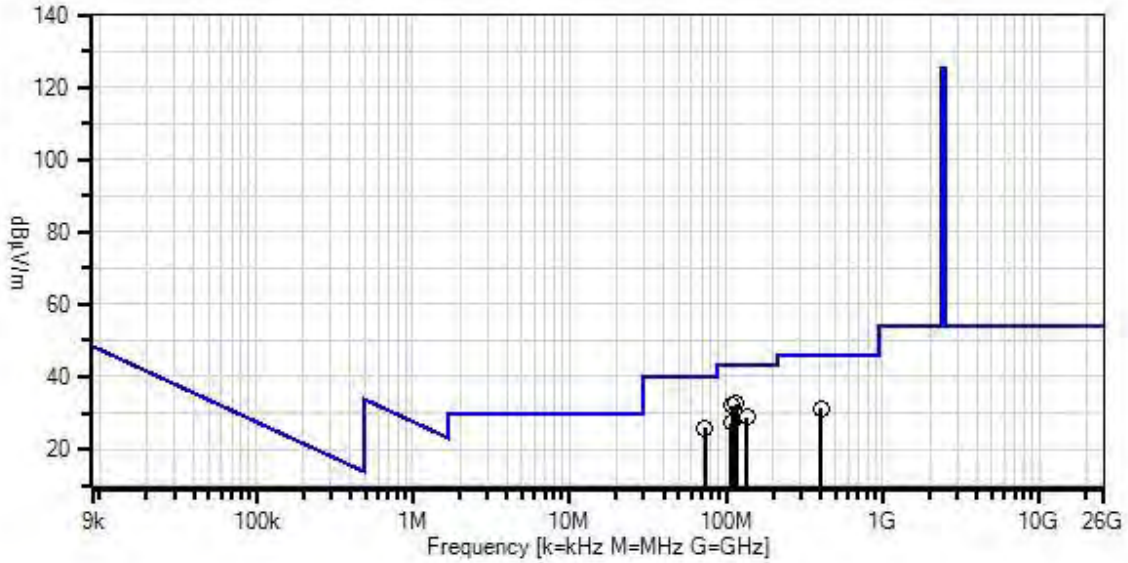
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 13:59:48 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 85



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP06691	Cable	PE3062-180	8/8/2014	8/8/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	5/8/2015	5/8/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	115.971M	48.6	-29.1 +0.4	+11.5	+1.0	+0.3	+0.0	32.7	43.5	-10.8	Vert
2	110.409M	48.5	-29.1 +0.4	+11.1	+0.9	+0.2	+0.0	32.0	43.5	-11.5	Vert
3	73.601M	47.2	-29.3 +0.3	+6.7	+0.7	+0.3	+0.0	25.9	40.0	-14.1	Vert
4	136.700M	44.4	-29.0 +0.4	+11.6	+1.0	+0.4	+0.0	28.8	43.5	-14.7	Horiz
5	406.460M	40.3	-29.1 +0.8	+16.5	+2.0	+0.7	+0.0	31.2	46.0	-14.8	Horiz
6	108.690M	43.8	-29.1 +0.4	+10.9	+0.9	+0.2	+0.0	27.1	43.5	-16.4	Horiz

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**96750**	Date:	6/4/2015
Test Type:	**Radiated Scan**	Time:	16:05:23
Tested By:	Hieu Song Nguyenpham	Sequence#:	94
Software:	EMITest 5.02.00		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 25000MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 12.1 and ANSI C63.4 2009

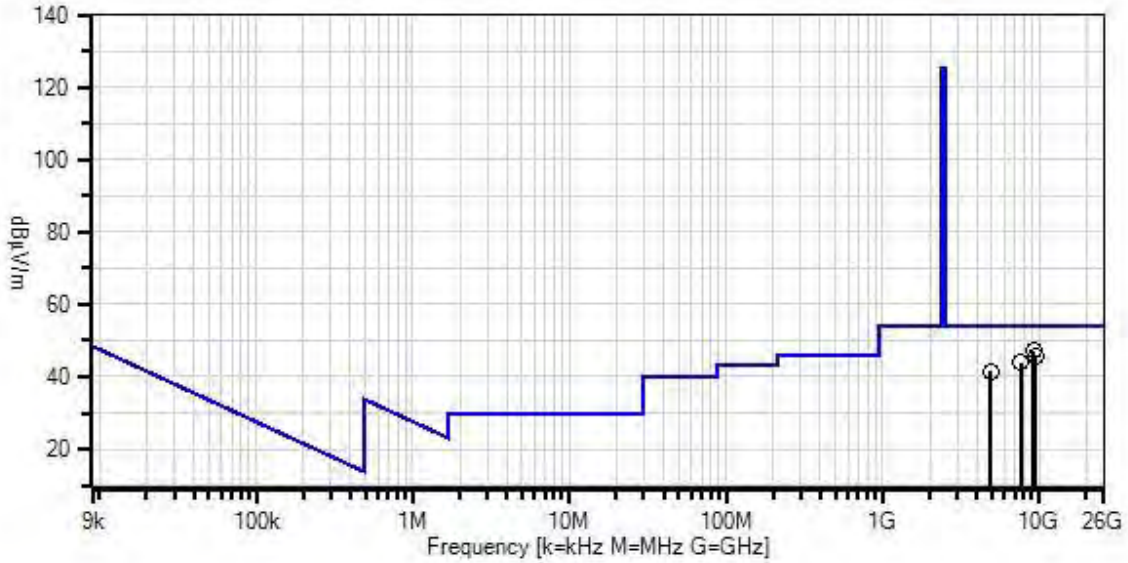
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is a square antenna and sit next to the EUT. The HDTV output ports are connected to F-type cables and terminated by 75Ohm terminator on another end. The EUT is connected to the laptop through RJ45 on LAN Port which is outside of the chamber to adjust the channel frequency for testing purpose and remove the port of RJ45 from the Laptop after due to the LAN port is used for service only. Another RJ45 is hanging on WAN port.

Frequency range of measurement = 9 kHz- 25GHz.

9 kHz - 150 kHz ->	RBW=200 Hz	VBW=200 Hz
150 kHz - 30 MHz ->	RBW=9 kHz	VBW=9 kHz
30 MHz - 1000MHz ->	RBW=120 kHz	VBW=120 kHz
1000MHz-25000MHz ->	RBW=1 MHz	VBW=1 MHz

Note:
802.11n HT40 Mode
Date rate = MCS2
Attenuator for 802.11n HT40 Mode=40
High Channel

CKC Laboratories, Inc Date: 6/4/2015 Time: 16:05:23 Cellphone-Mate, Inc WO#: 96750
Test Distance: 3 Meters Sequence#: 94



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.02.00

Test Equipment:

ID	Asset #/Serial #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02157	Horn Antenna-ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T5	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T6	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T7	ANP06126	Cable	32022-29094K-29094K-168TC	3/18/2015	3/18/2017
	ANP00928	Cable	various	1/23/2014	1/23/2016
	ANP00929	Cable	various	1/23/2014	1/23/2016
	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	1/14/2015	1/14/2017
	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9160.107M	51.9	-56.6 +0.3	+38.2 +4.2	+2.3 +5.2	+1.6	+0.0	47.1	54.0	-6.9	Horiz
2	9483.461M	50.7	-57.2 +0.2	+38.5 +4.2	+2.4 +5.3	+1.6	+0.0	45.7	54.0	-8.3	Vert
3	7625.374M	53.5	-58.1 +0.2	+36.5 +3.7	+2.1 +4.6	+1.4	+0.0	43.9	54.0	-10.1	Vert
4	4903.408M	56.1	-57.6 +0.2	+33.4 +2.9	+1.7 +3.6	+1.1	+0.0	41.4	54.0	-12.6	Vert

Band Edge

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**Band edge Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Radiated Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02157	Horn Antenna - ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Band edge set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 13.2

The equipment under test (EUT) is placed on 80cm Styrofoam table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11b Mode=30

The Data rate is at 5.5Mbps

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**Band edge Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Radiated Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02157	Horn Antenna - ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Band edge set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 13.2

The equipment under test (EUT) is placed on 80cm Styrofoam table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11g Mode=45

The Data rate is at 18Mbps

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**Band edge Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Radiated Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02157	Horn Antenna - ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Band edge set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 13.2

The equipment under test (EUT) is placed on 80cm Styrofoam table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT20 Mode=45

The Data rate is at MCS2

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**Band edge Set up**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Radiated Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02157	Horn Antenna - ANSI C63.5 Calibration	3115	12/2/2014	12/2/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Band edge set up

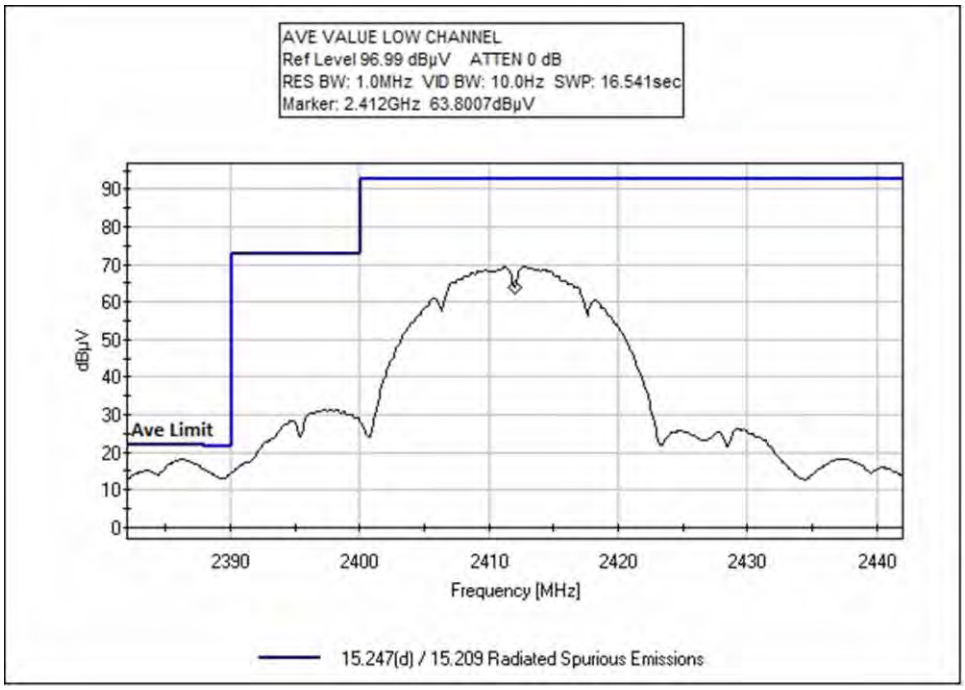
Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 13.2

The equipment under test (EUT) is placed on 80cm Styrofoam table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

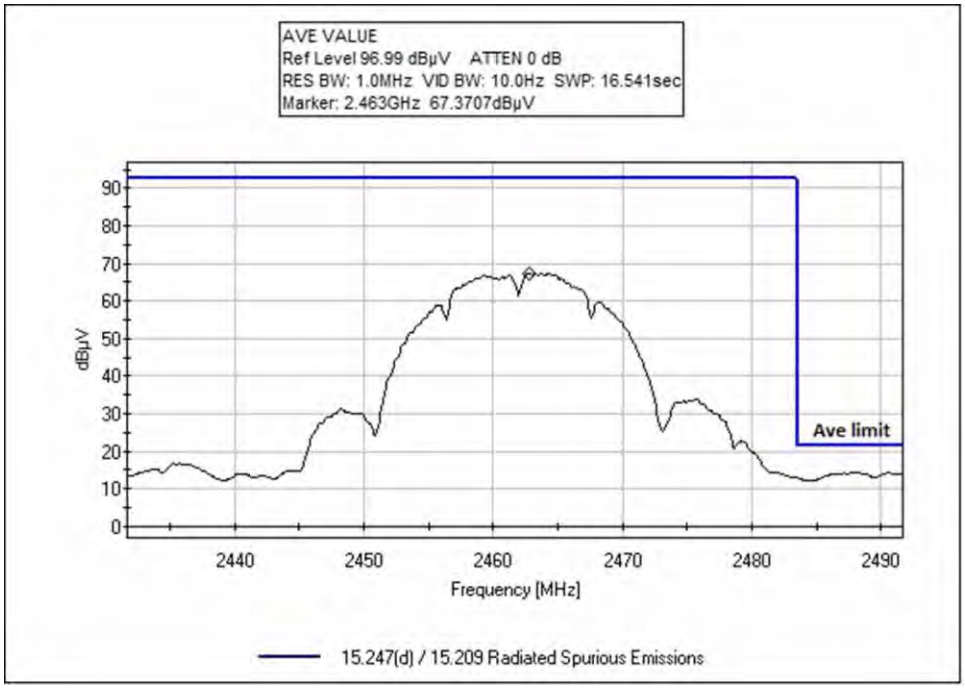
Attenuator for 802.11n HT40 Mode=40

The Data rate is at MCS2

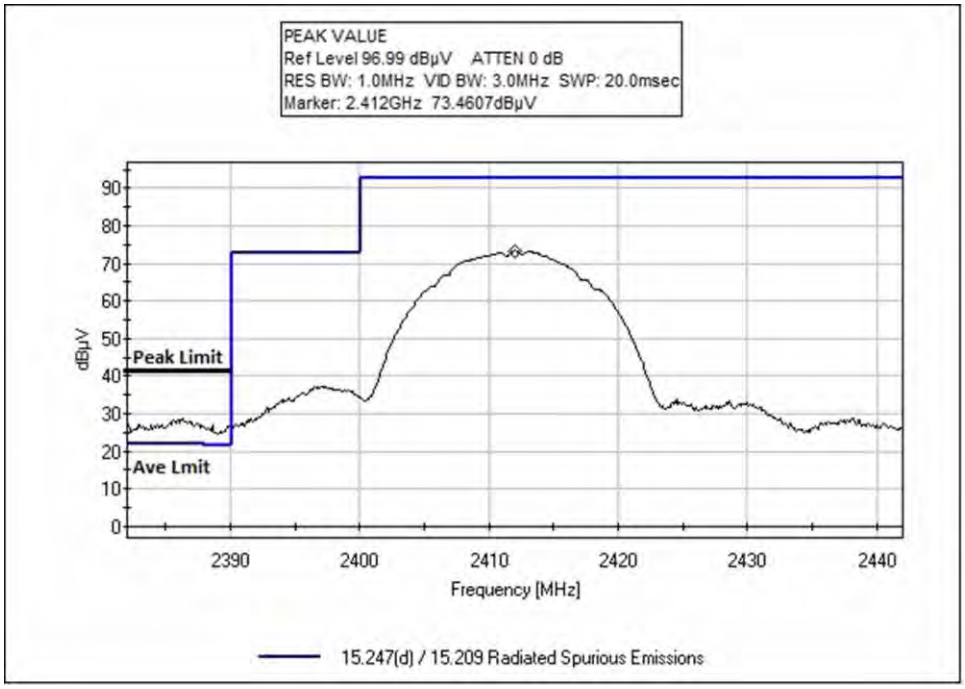
Plot(s)



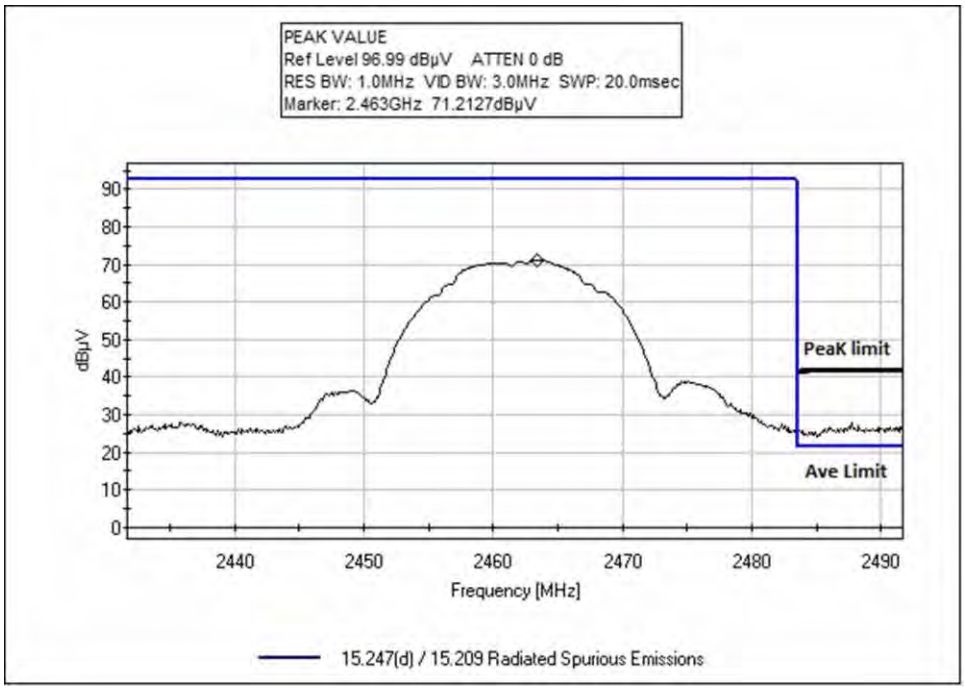
Low Channel, B Mode



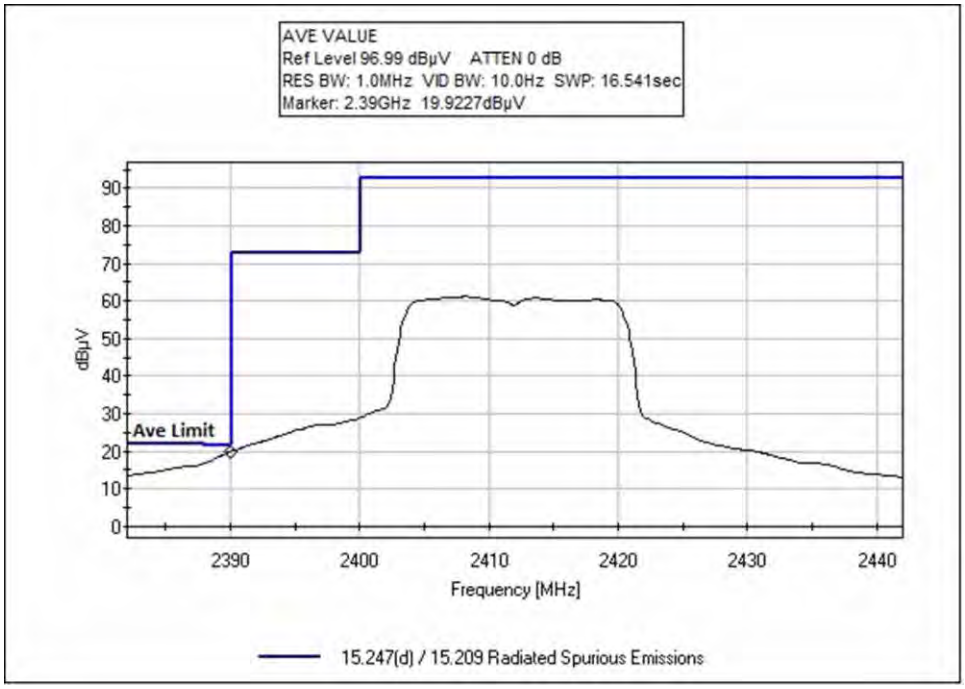
High Channel, B Mode



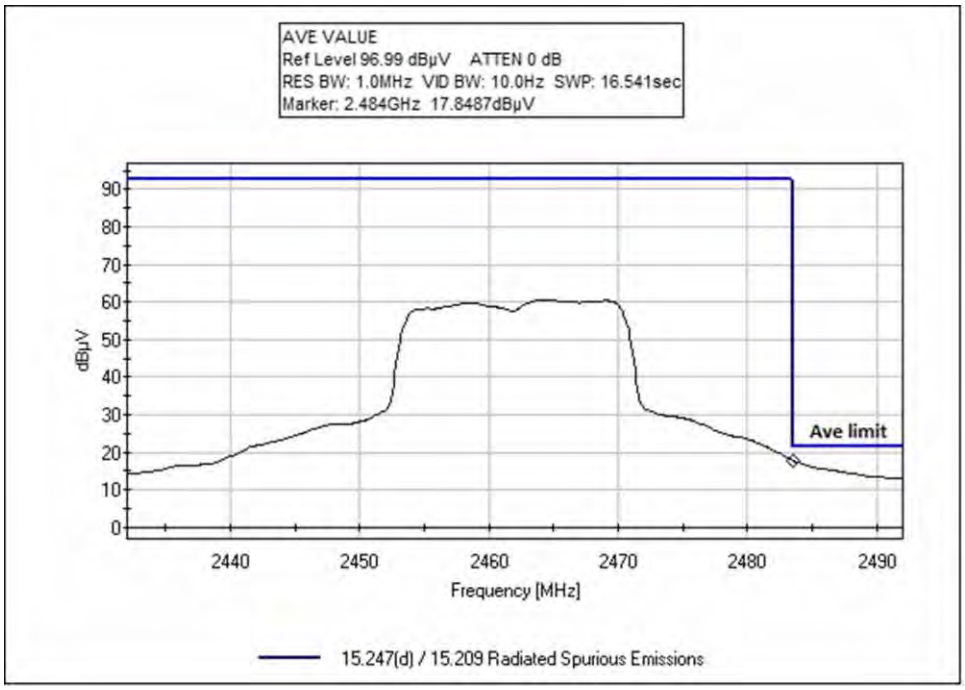
Low Channel, B Mode



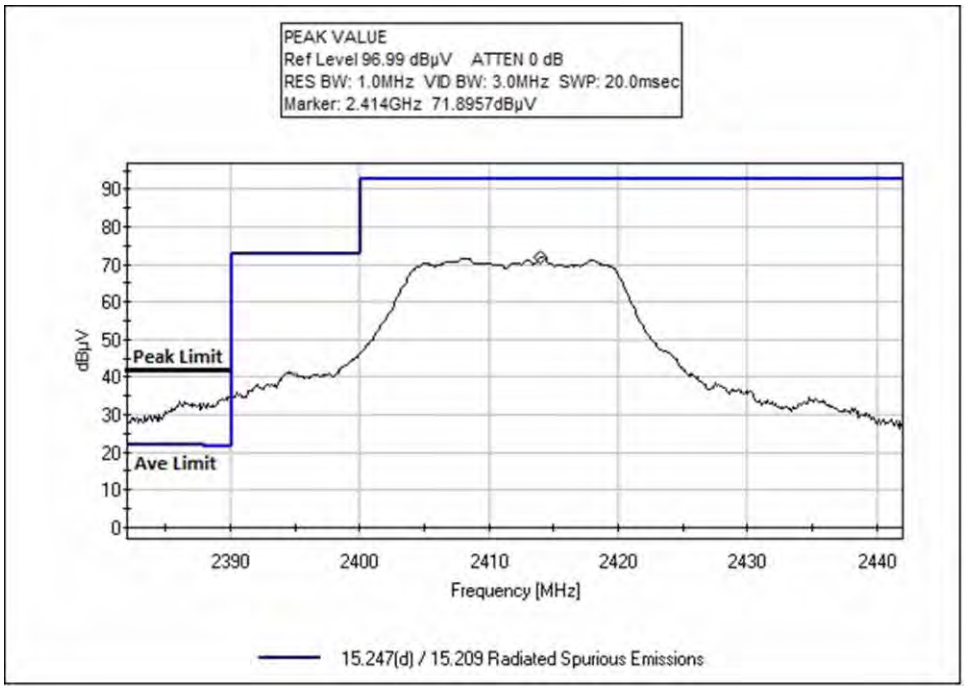
High Channel, B Mode



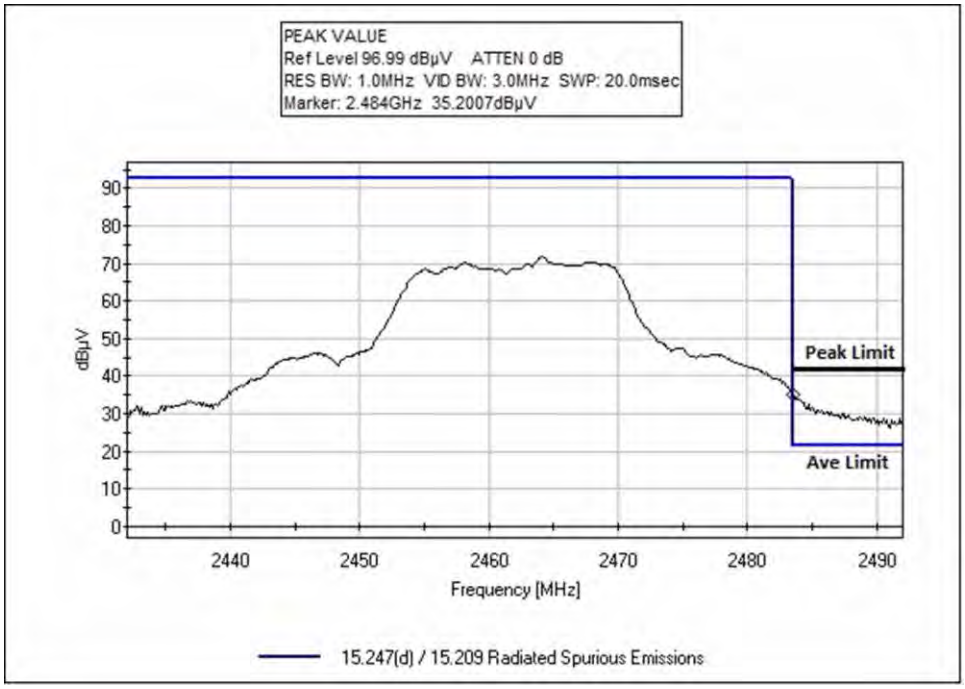
Low Channel, G Mode



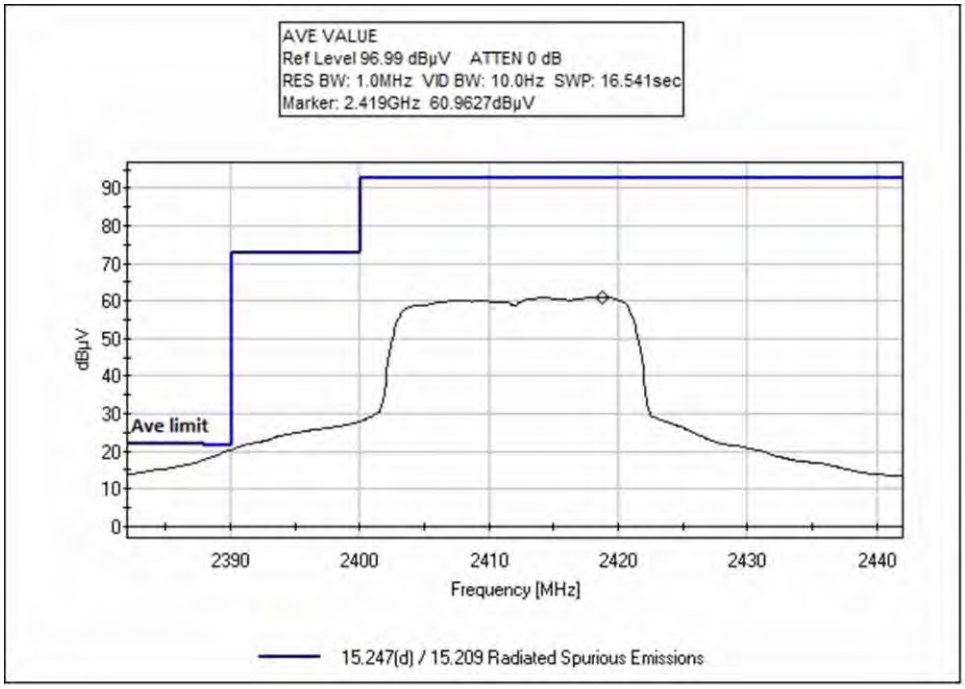
High Channel, G Mode



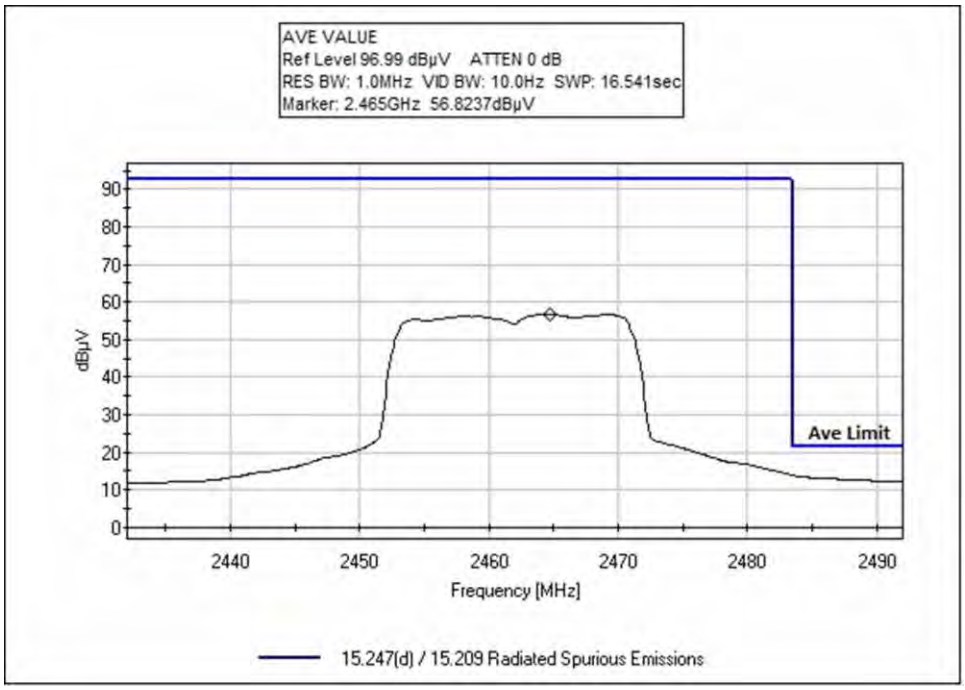
Low Channel, G Mode



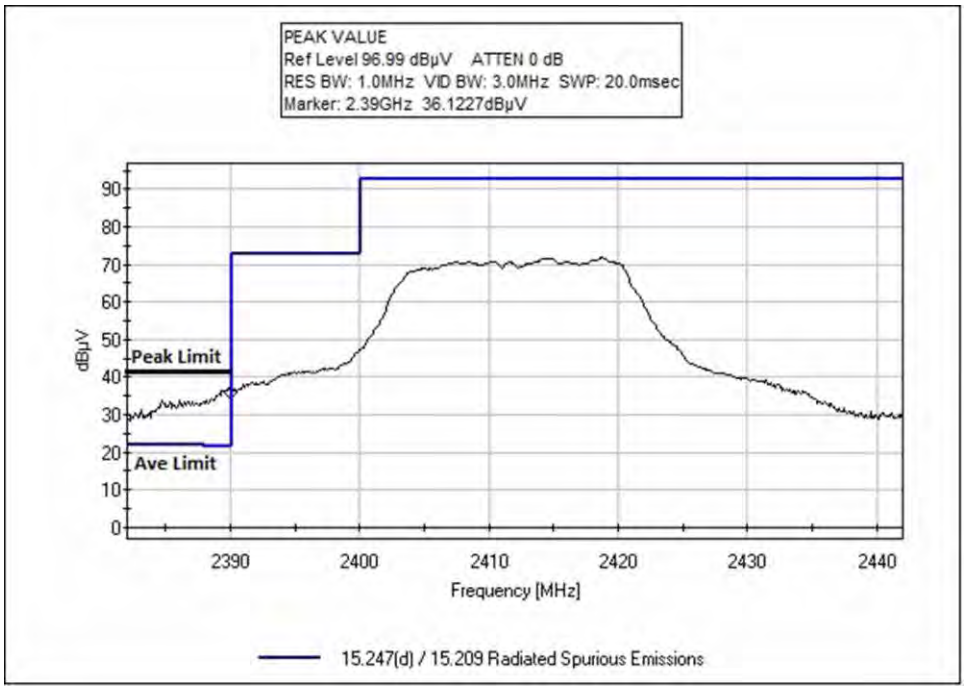
High Channel, G Mode



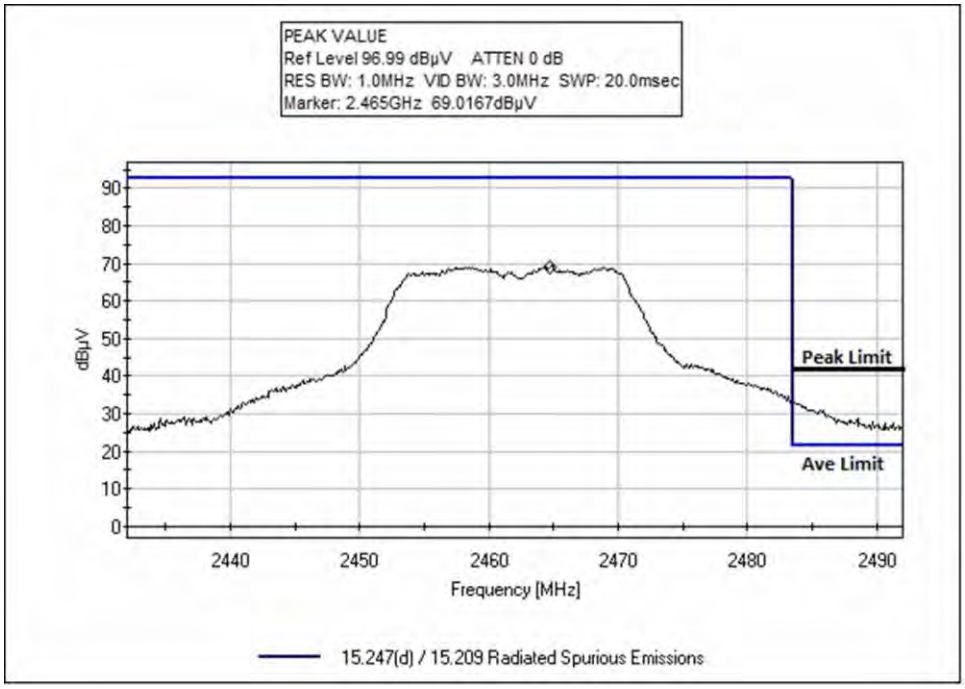
Low Channel, N (20) Mode



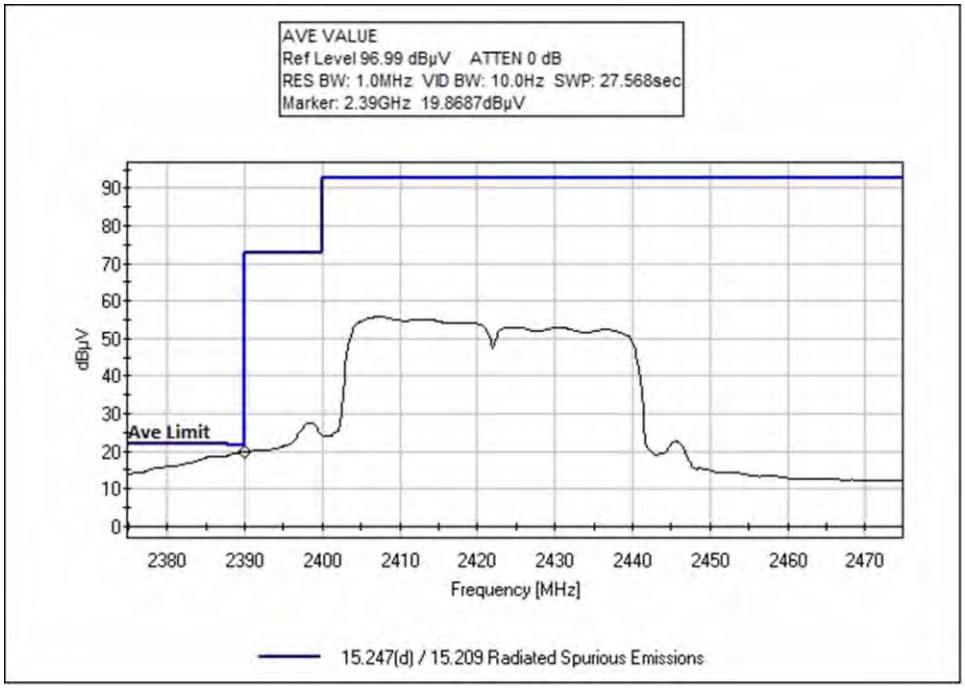
High Channel, N (20) Mode



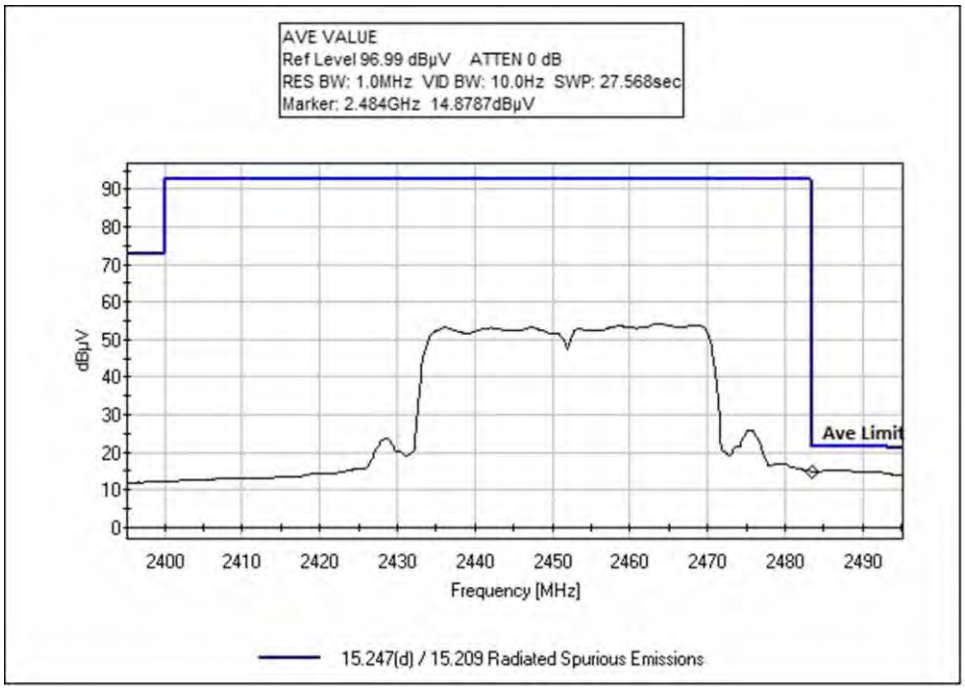
Low Channel, N (20) Mode



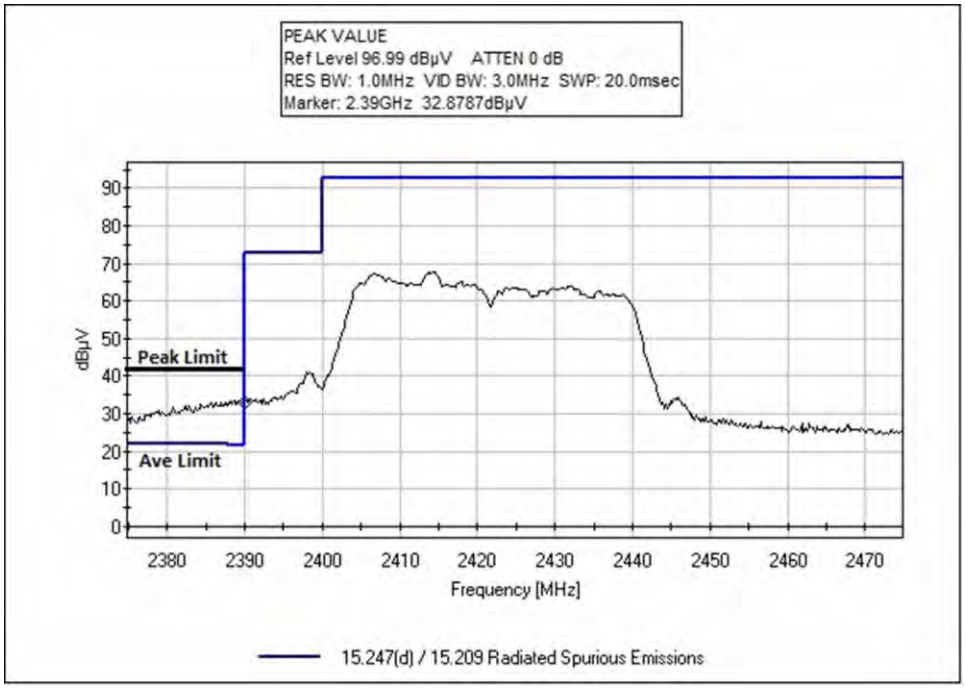
High Channel, N (20) Mode



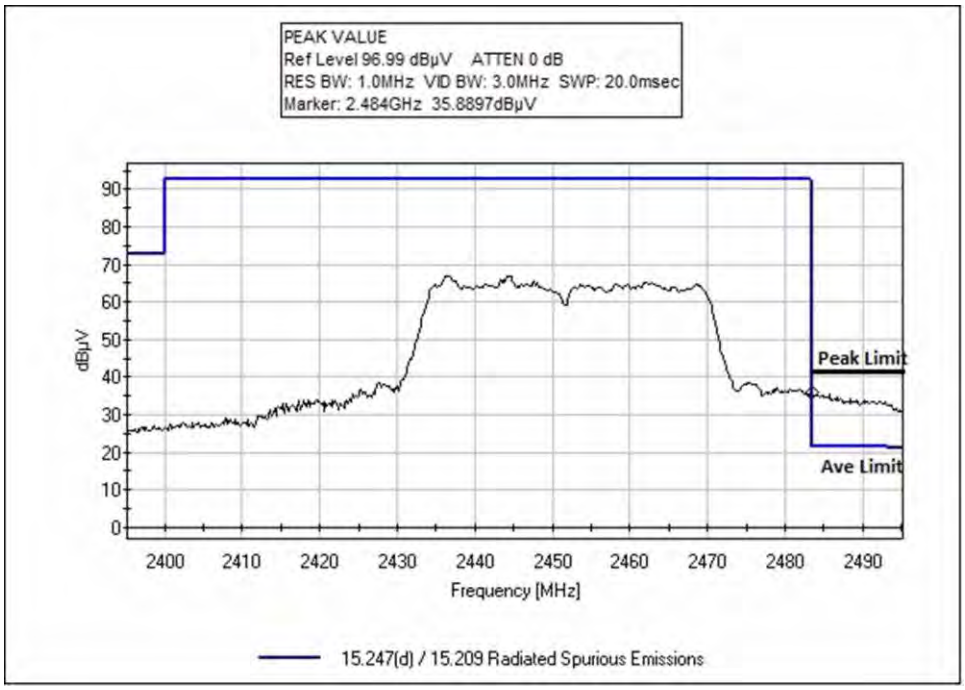
Low Channel, N (40) Mode



High Channel, N (40) Mode

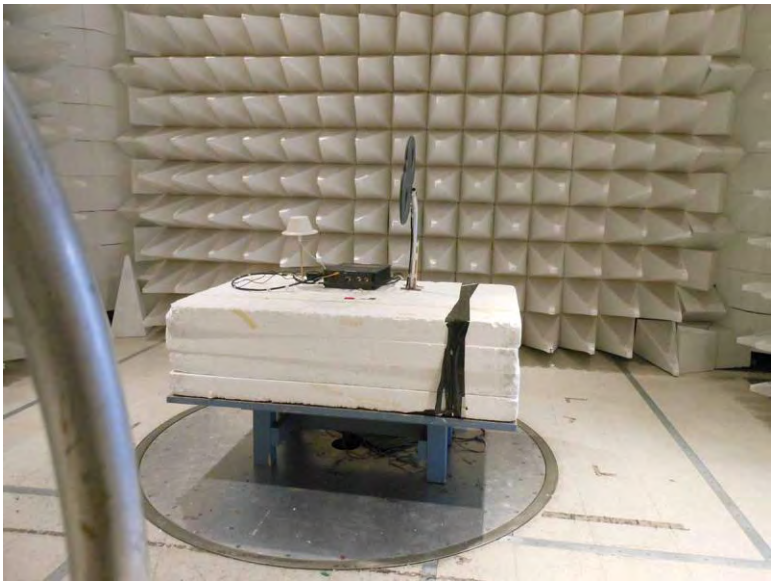


Low Channel, N (40) Mode

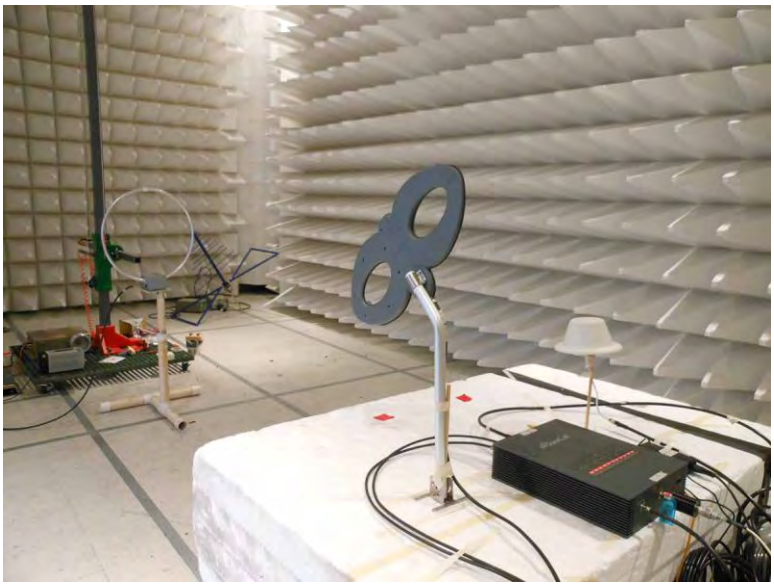


High Channel, N (40) Mode

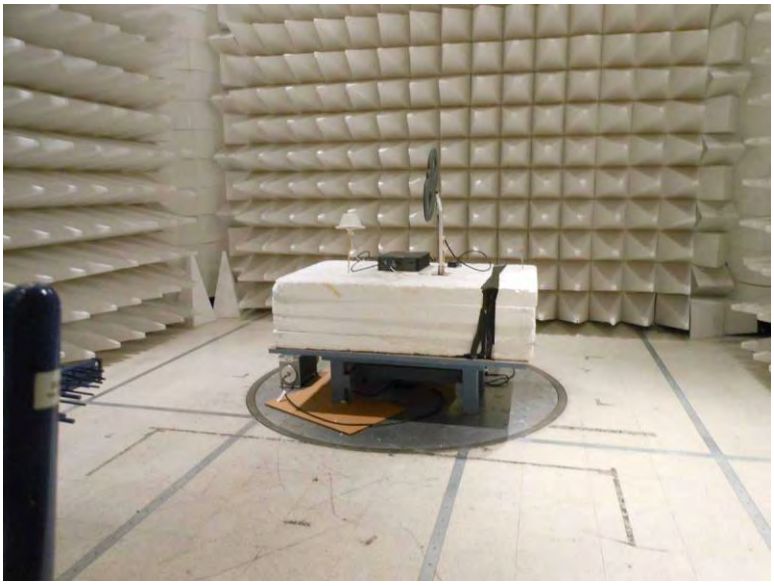
Test Setup Photo(s)



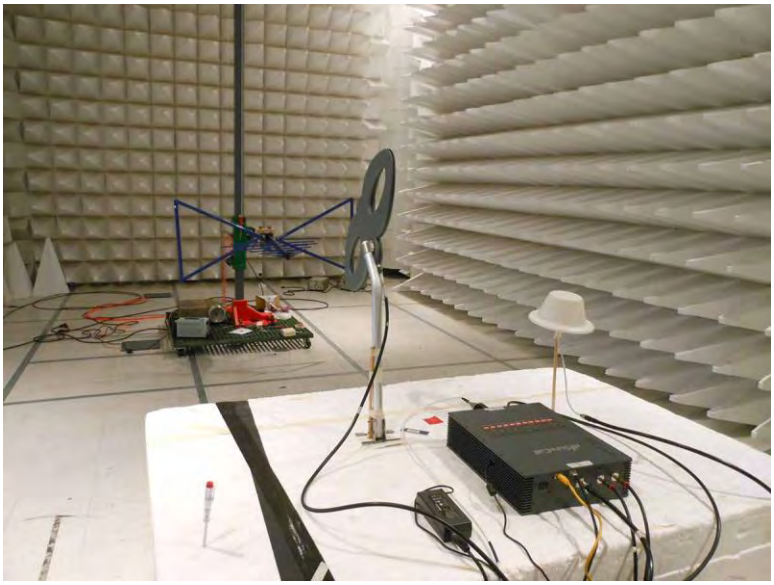
9kHz – 30MHz



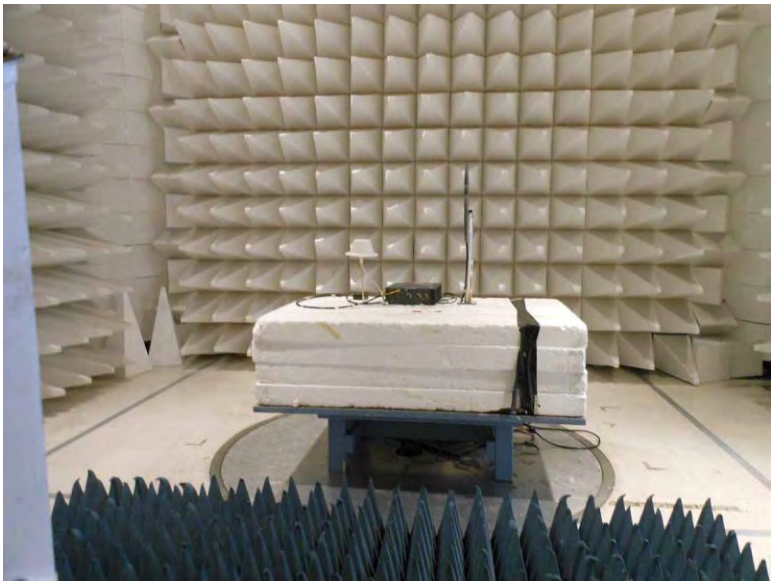
9kHz – 30MHz



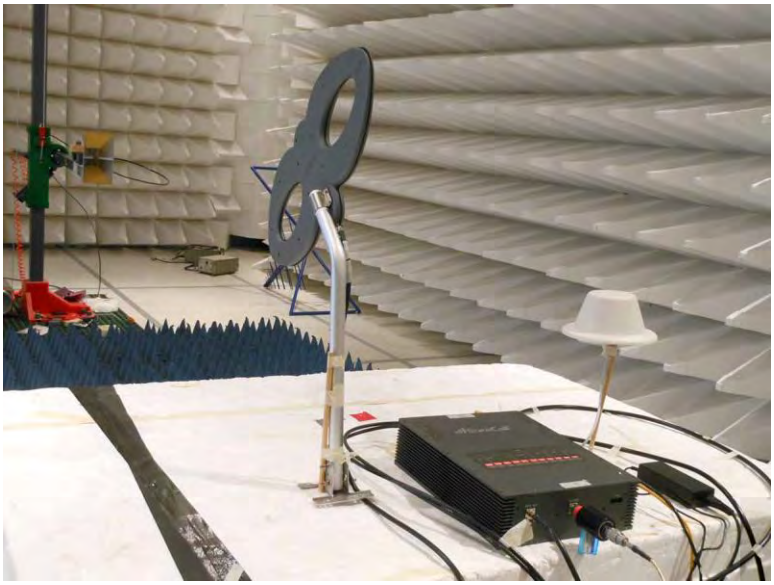
30MHz – 1GHz



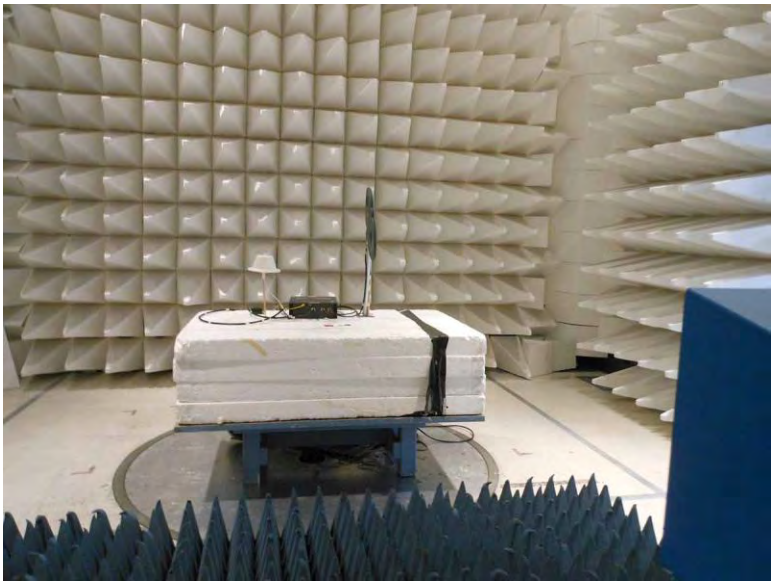
30MHz – 1GHz



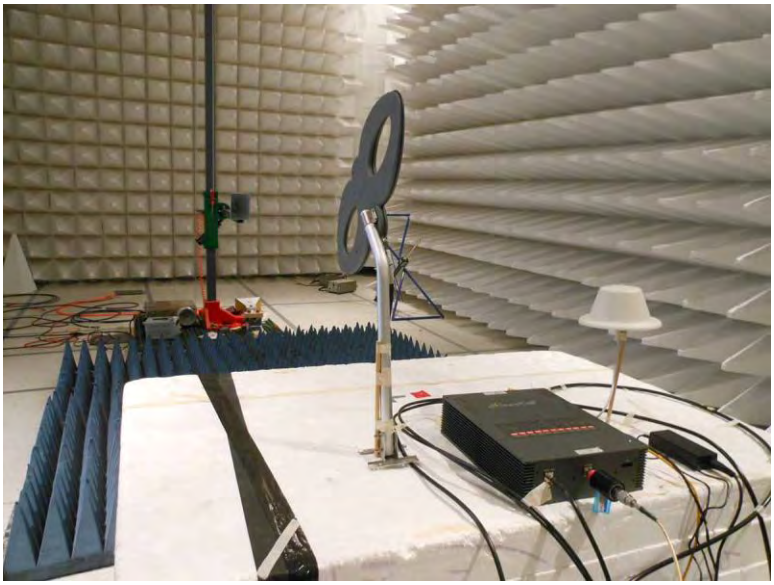
1 – 12GHz



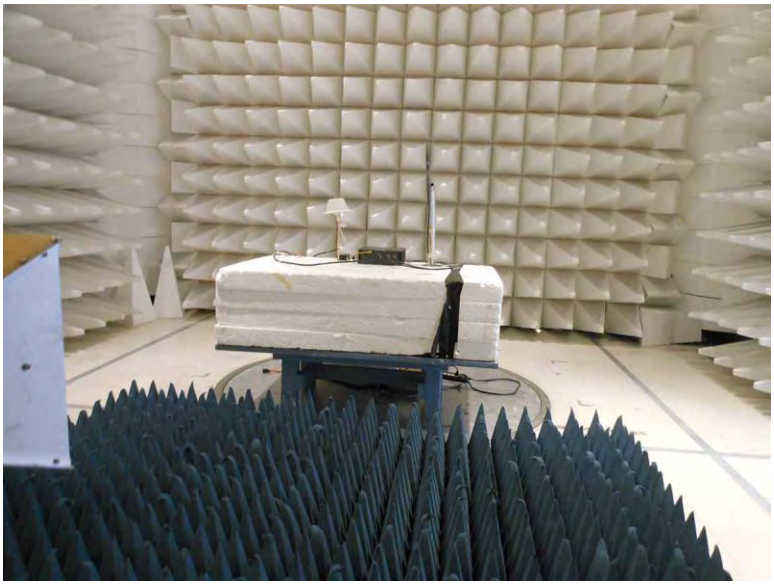
1 – 12GHz



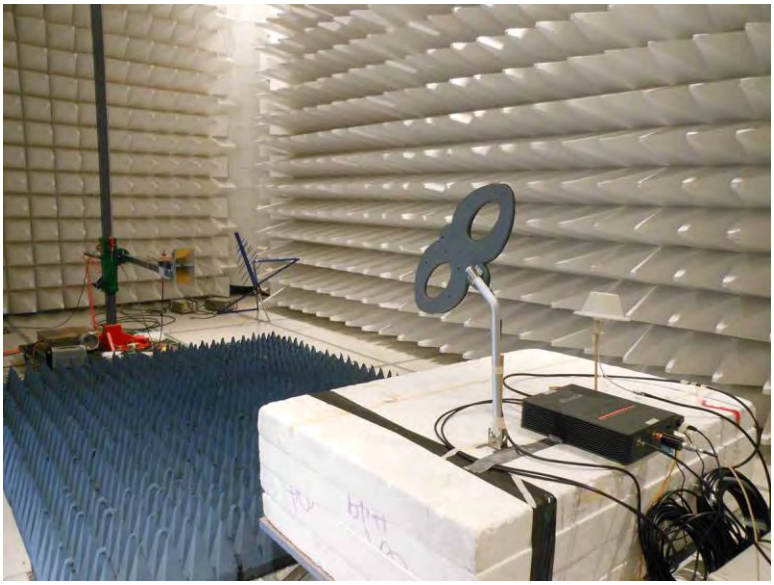
12 – 25GHz



12 – 25GHz



Band Edge



Band Edge

15.247(e) Power Spectral Density

Test Conditions / Setup

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(e) Peak Power Spectral Density (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Power Spectrum Density set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C
Humidity: 42%
Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 10.2

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11b Mode=30
RBW=3 kHz and VBW=10 kHz

Result Table

Frequency (MHz)	Measured Power in dBm	Power Limit in dBm	Pass/Fail
2412 Low Channel	-8.32	8	Pass
2437 Middle Channel	-9.32	8	Pass
2462 High Channel	-9.82	8	Pass

The data rate is at 5.5Mbps when the RF output power is highest

The Power Spectral Density measurements were made using the methods set out in KDB "558074 D01 DTS Meas Guidance v03r02", Section 10.2 Measurement Procedure PKPSD. The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 8dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(e) Peak Power Spectral Density (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Power Spectrum Density set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C, Humidity: 42%, Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 10.2

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz,4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level

Attenuator for 802.11g Mode= 45
RBW=3 kHz and VBW=10 kHz

Result Table

Frequency (MHz)	Measured Power in dBm	Power Limit in dBm	Pass/Fail
2412 Low Channel	-9.11	8	Pass
2437 Middle Channel	-9.78	8	Pass
2462 High Channel	-10.65	8	Pass

The data rate is at 18Mbps when the RF output power is highest.

The Power Spectral Density measurements were made using the methods set out in KDB "558074 D01 DTS Meas Guidance v03r02", Section 10.2 Measurement Procedure PKPSD. The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 8dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(e) Peak Power Spectral Density (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Power Spectrum Density set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C, Humidity: 42%, Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 10.2

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT20 Mode= 45
RBW=3 kHz and VBW=10 kHz

Result Table

Frequency (MHz)	Measured Power in dBm	Power Limit in dBm	Pass/Fail
2412 Low Channel	-8.86	8	Pass
2437 Middle Channel	-9.98	8	Pass
2462 High Channel	-10.37	8	Pass

The data rate is at MCS2 when the RF output power is highest.

The Power Spectral Density measurements were made using the methods set out in KDB "558074 D01 DTS Meas Guidance v03r02", Section 10.2 Measurement Procedure PKPSD. The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 8dBm.

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**15.247(e) Peak Power Spectral Density (2400-2483.5 MHz DTS)**		
Work Order #:	**96750**	Date:	5/29/2015
Test Type:	**Conducted Power Measurement**	Time:	08:48:53
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.02.00		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	P06131	Attenuator	18N20W-20	2/27/2014	2/27/2016
T2	P06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
	03471	Spectrum Analyzer	E4440A	12/19/2013	12/19/2015

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Power Spectrum Density set up

Application: MP_TEST MFC version 1.3.8.0
Temperature: 23.4°C, Humidity: 42%, Atmospheric Pressure: 100.8kPa
Highest Generation Frequency: 2.4GHz
RF output: 26dBm
Attenuator = 63 at MAX Level
Antenna Gain for Wifi=6dBi
Method: KDB 558074 v03r02 section 10.2

The equipment under test (EUT) is placed on the table. The EUT is set up as intended to operate on WIFI continuously transmit. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level.

Attenuator for 802.11n HT40 Mode= 40
RBW=3 kHz and VBW=10 kHz

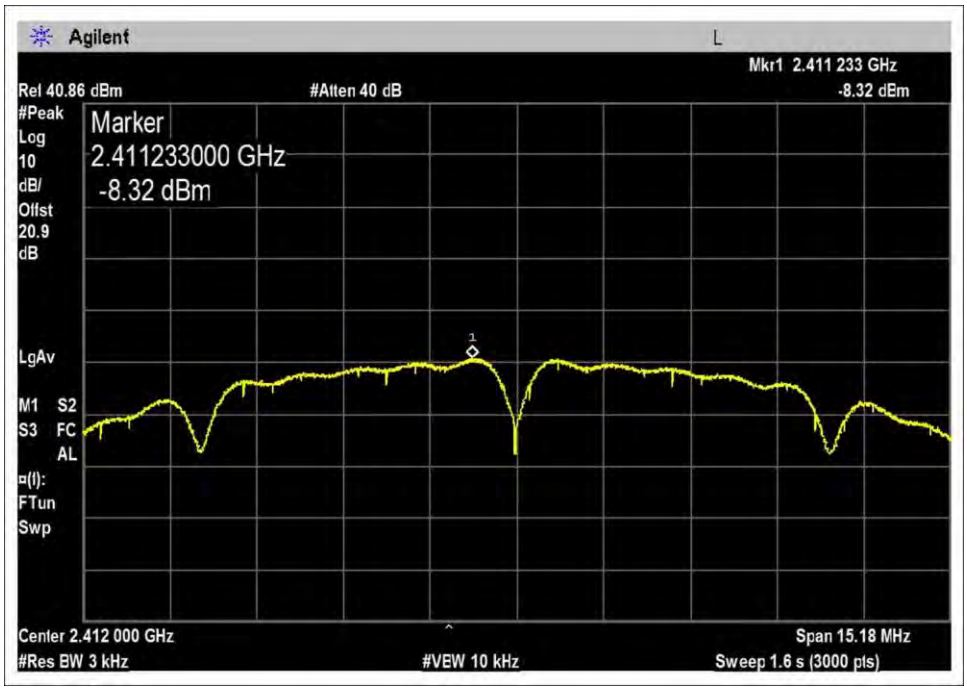
Result Table

Frequency (MHz)	Measured Power in dBm	Power Limit in dBm	Pass/Fail
2422 Low Channel	-13.79	8	Pass
2437 Middle Channel	-14.33	8	Pass
2452 High Channel	-14.9	8	Pass

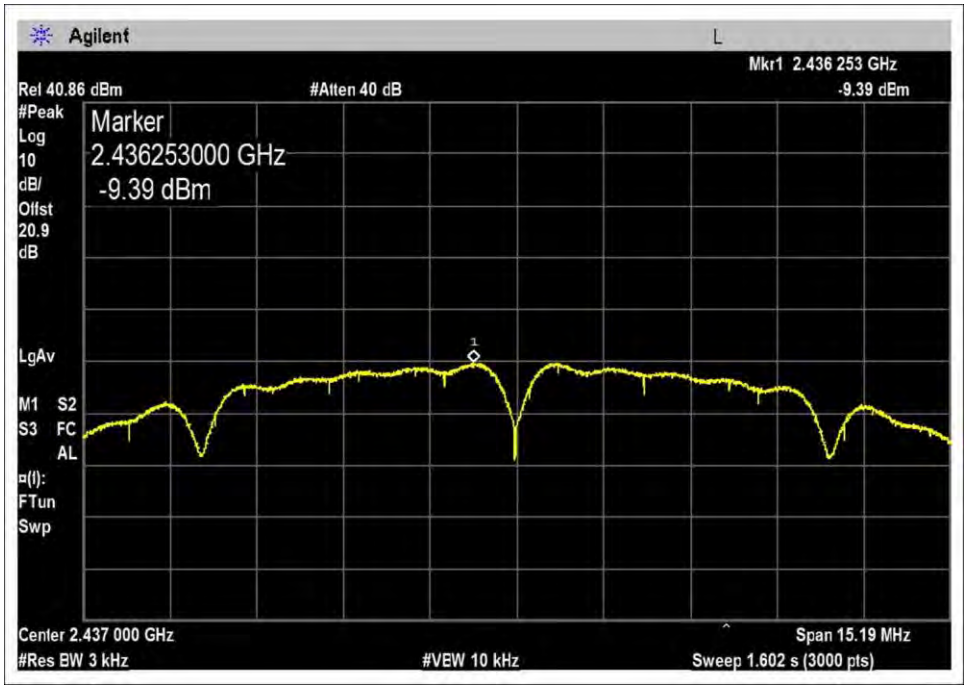
The data rate is at MCS2 when the RF output power is highest.

The Power Spectral Density measurements were made using the methods set out in KDB "558074 D01 DTS Meas Guidance v03r02", Section 10.2 Measurement Procedure PKPSD. The offset of the analyzer was set to correct for the cable and attenuator used during measurement. The units are in dBm. The limit is 8dBm.

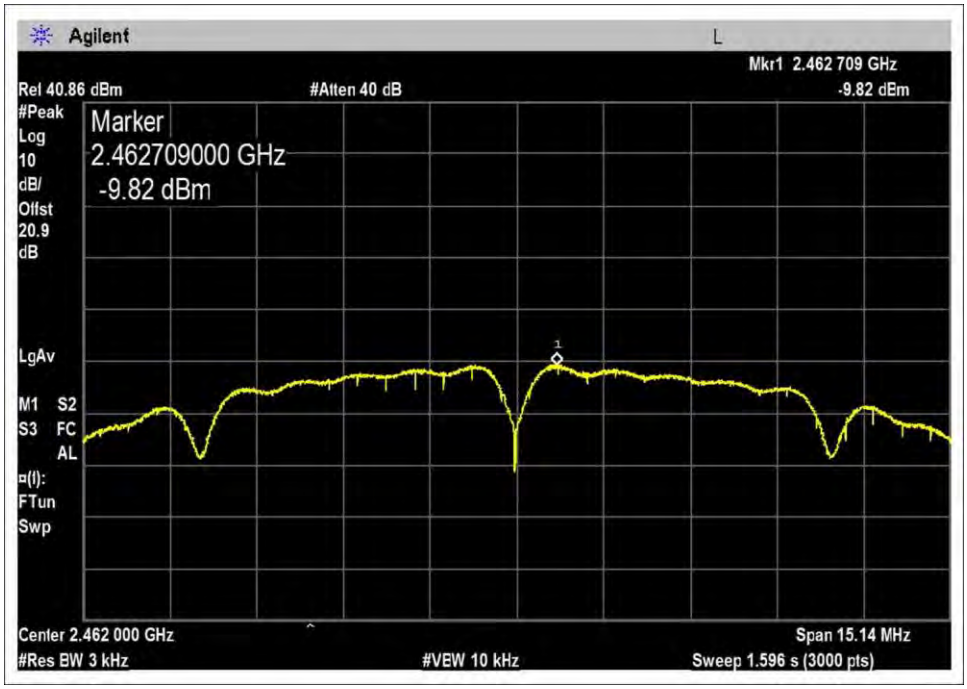
Test Data



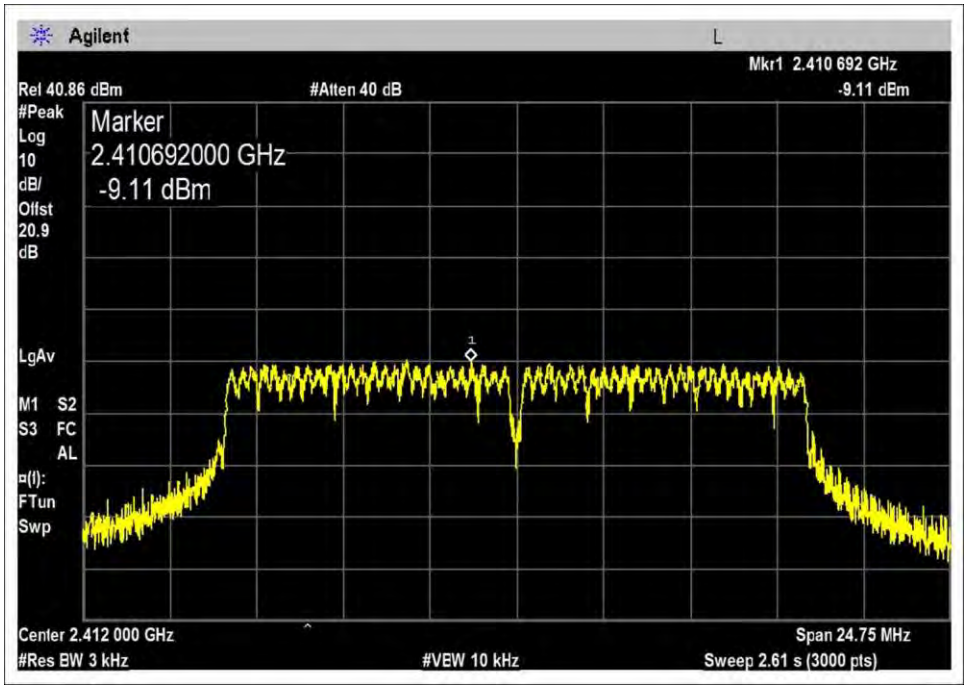
Low Channel, B Mode



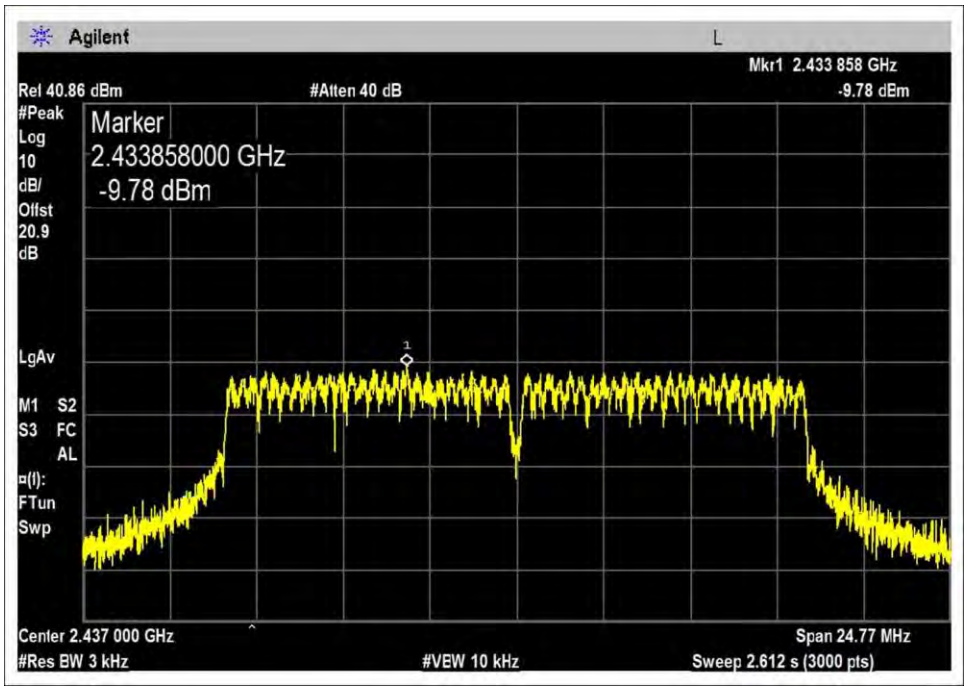
Middle Channel, B Mode



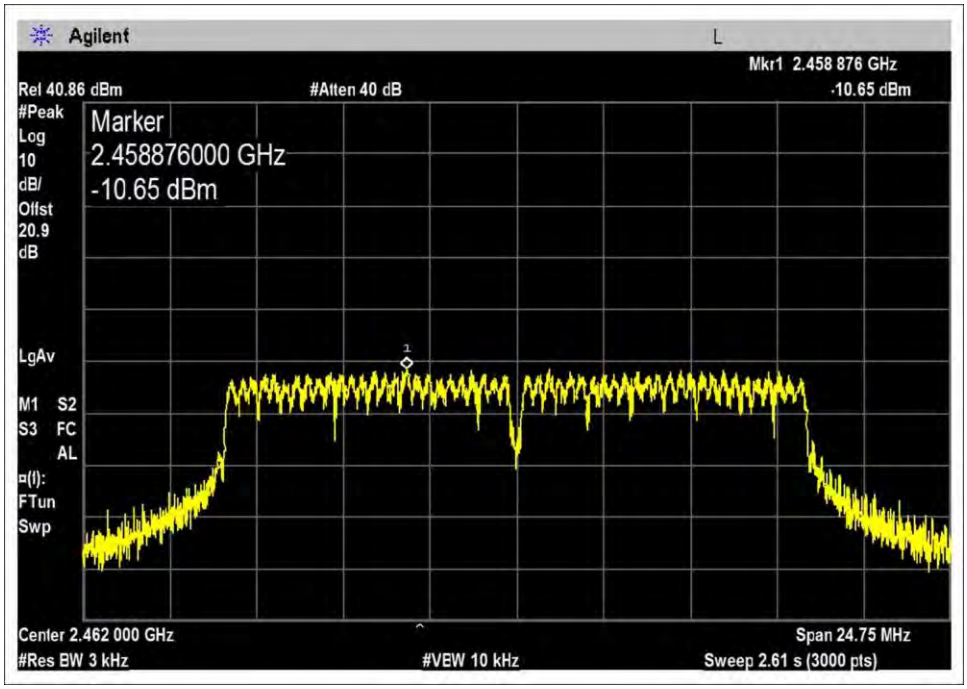
High Channel, B Mode



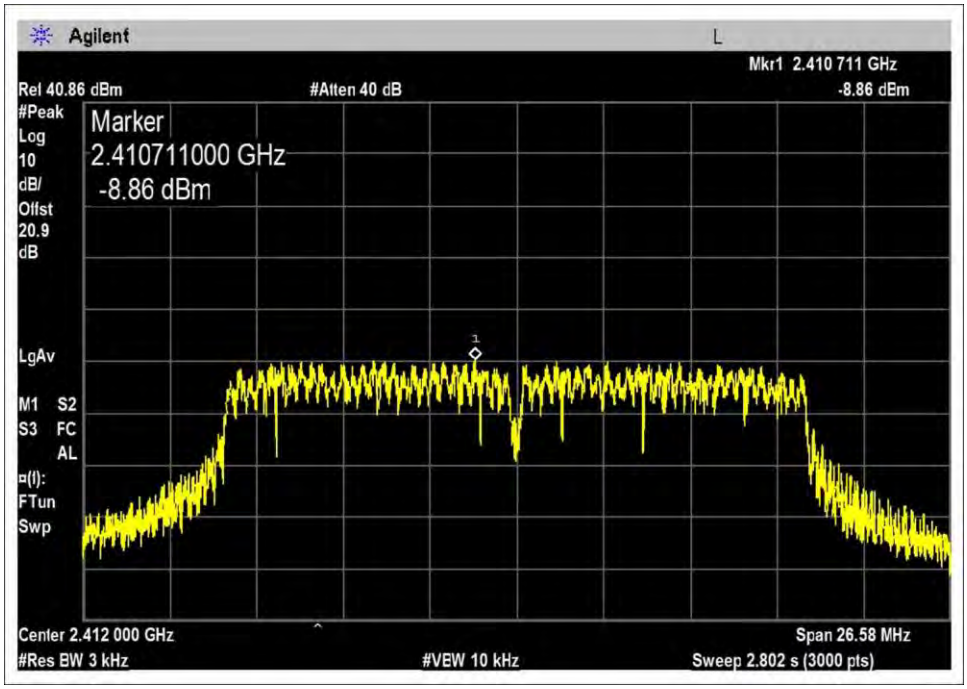
Low Channel, G Mode



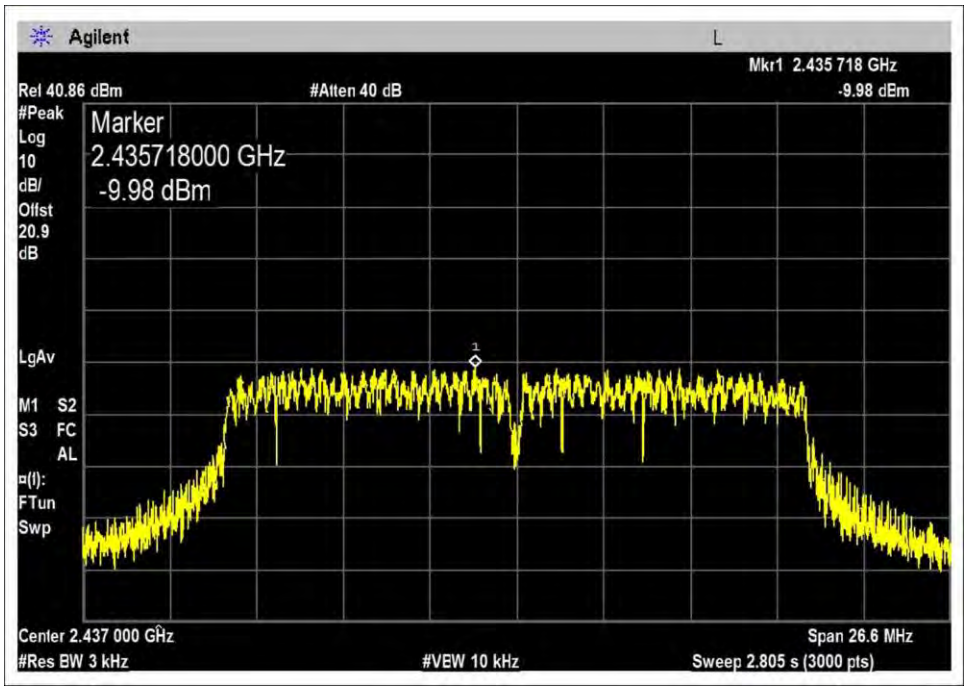
Middle Channel, G Mode



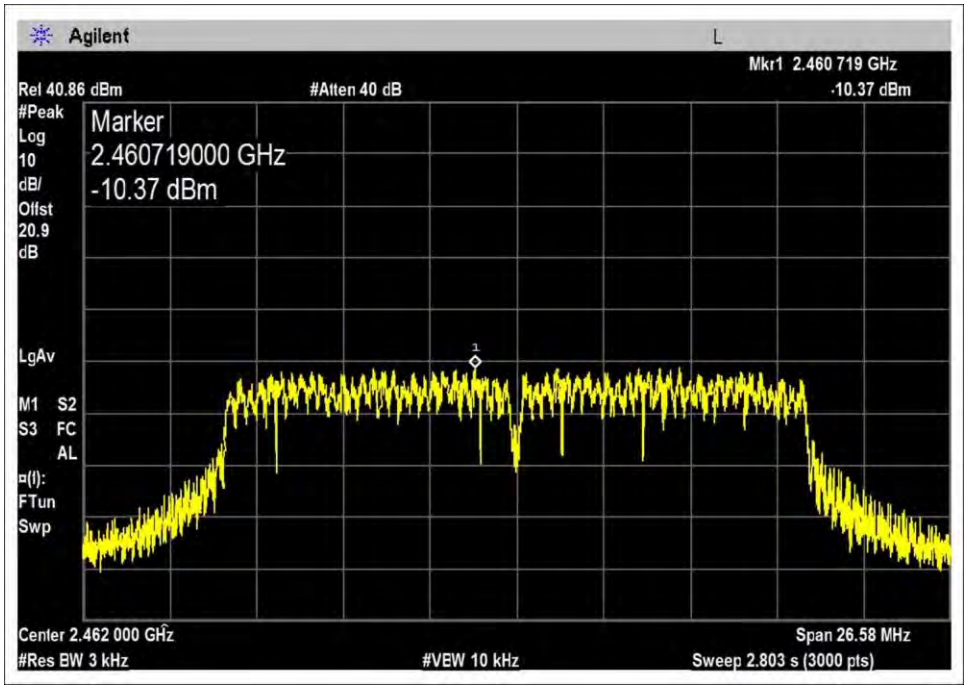
High Channel, G Mode



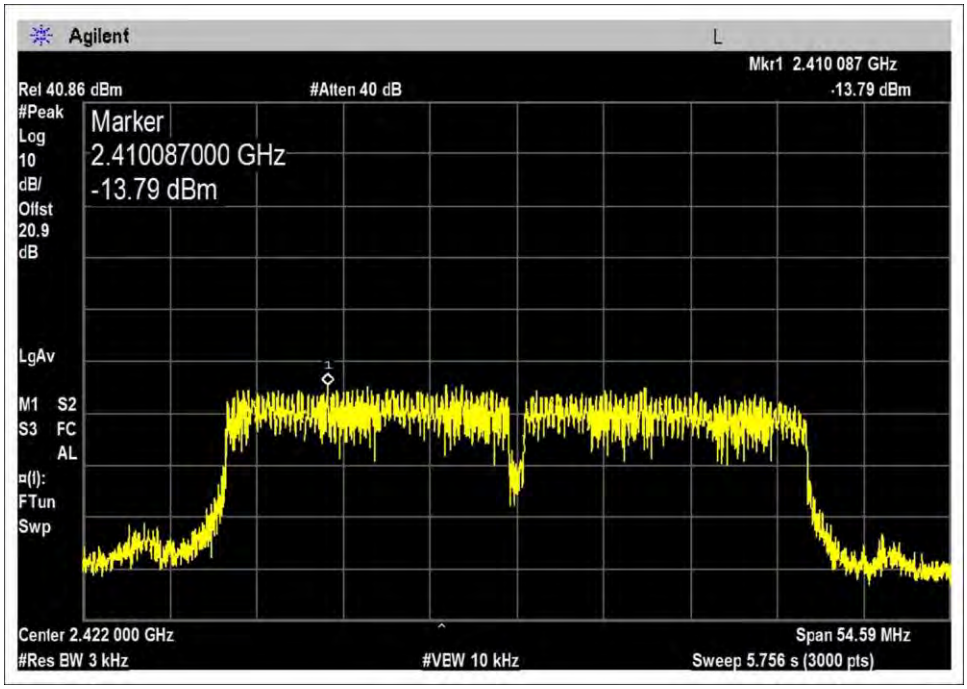
Low Channel, N (20) Mode



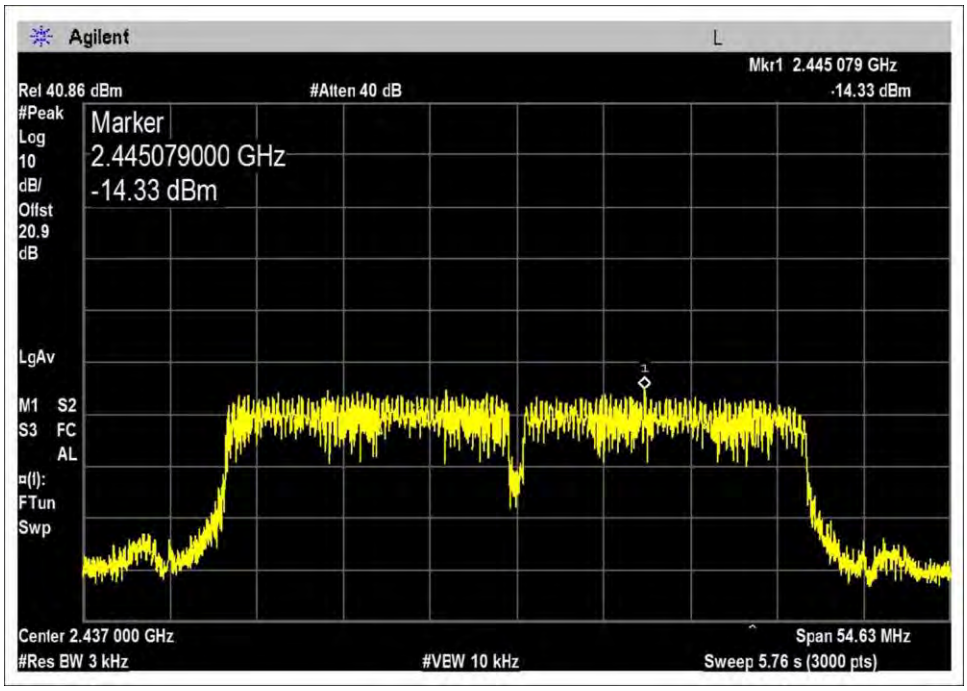
Middle Channel, N (20) Mode



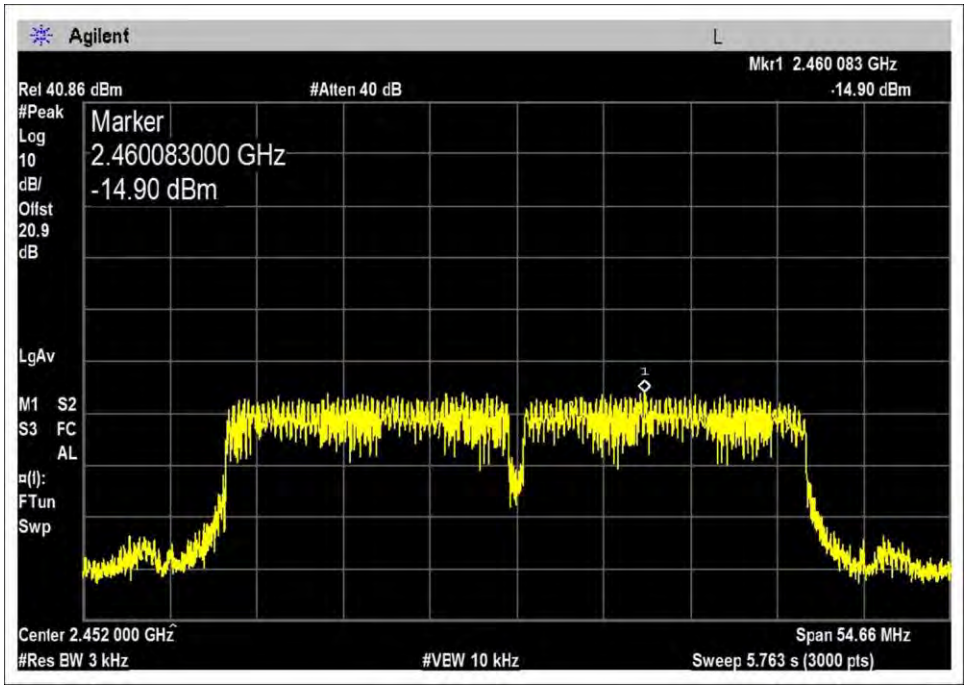
High Channel, N (20) Mode



Low Channel, N (40) Mode



Middle Channel, N (40) Mode



High Channel, N (40) Mode

Test Setup Photo

SUPPLEMENTAL INFORMATION

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.