Cellphone-Mate, Inc..

TEST REPORT FOR

Consumer Booster with WiFi
Model: Force 7

Tested to The Following Standards:

FCC Part 15 Subpart C Section(s)

15.207 & 15.247
(DTS 2400-2483.5 MHz)

Report No.: 98759-15

Date of issue: January 17, 2017

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.

Testing the Future
CKC LABORATORIES, INC.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Cellphone-Mate, Inc..
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Fremont, CA 94538

Representative: Dennis Findley
Customer Reference Number: CKC20161109

REPORT PREPARED BY:

Dianne Dudley
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 98759

DATE OF EQUIPMENT RECEIPT: November 23, 2016
DATE(S) OF TESTING: November 23 – December 14, 2016

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	5.03.02

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Fremont, CA	US0082	SL2-IN-E-1148R	3082B-1	US1023	A-0149

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C - 15.247 (DTS)

Test Procedure	Description	Modifications	Results
15.247(a)(2)	6dB Bandwidth	NA	Pass
15.247(b)(3)	Output Power	NA	Pass
15.247(e)	Power Spectral Density	NA	Pass
15.247(d)	RF Conducted Emissions & Band Edge	NA	Pass
15.247(d)	Radiated Emissions & Band Edge	NA	Pass
15.207	AC Conducted Emissions	MOD 1	Pass

NA = Not Applicable

Modifications During Testing

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

Summary of Conditions
MOD 1 = A different AC/DC Adapter is used to perform Conducted Emission on AC Power Line.

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
Notes: For Conducted Spurious Emissions, the frequency 2132.5MHz is over the limit from the Signal Generator which is permissible per FCC procedure for Cellphone Boosters with Wi-Fi. The customer used a different AC/DC Power adapter to test for Conducted Emission on AC Main. However, after verifying Radiated Spurious Emissions, RF Output Power and Conducted Emissions at the worst case 802.11b on low channel, there is no change from an original AC/DC Power adapter on Radiated Spurious Emissions, RF Output Power and Conducted Emissions.

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 1

Equipment Tested:

Device	Manufacturer	Model #	S/N
Consumer Booster with Wi-Fi	Cellphone-Mate, Inc.	Force 7	01
AC/DC Power Adapter	Cellphone-Mate, Inc.	HKA09019047-6D	Y90D861581000092

Support Equipment:

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

Configuration 2

Equipment Tested:

Device	Manufacturer	Model #	S/N
Wi-Fi Antenna	Cellphone mate DBA Surecall	SC222W	None
HDTV Antenna	Cellphone mate DBA Surecall	SC305H	None
AC/DC Power Adapter	Cellphone-Mate, Inc.	HKA09019047-6D	Y90D861581000092
Consumer Booster with Wi-Fi	Cellphone-Mate, Inc.	Force 7	01

Support Equipment:

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

Configuration 4

Equipment Tested:

Device	Manufacturer	Model #	S/N
Consumer Booster with Wi-Fi	Cellphone-Mate, Inc.	Force 7	01
AC/DC Power Adapter	Cellphone-Mate, Inc.	ATS090-P190	None
Wi-Fi Antenna	Cellphone mate DBA Surecall	SC222W	None
HDTV Antenna	Cellphone mate DBA Surecall	SC305H	None

Support Equipment:

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

General Product Information:

Product Information	Manufacturer-Provided Details
Equipment Type:	Stand-Alone Equipment
Type of Wideband System:	802.11
Operating Frequency Range:	2400MHz to 2483.5MHz
Modulation Type(s):	b/g/n HT20 and n HT40
Maximum Duty Cycle:	100%
Number of TX Chains:	11 channels for b/g/n HT20 and 7 channels for n HT40
Antenna Type(s) and Gain:	SC222W=6dBi
Beamforming Type:	NA
Antenna Connection Type:	External Connector
Nominal Input Voltage:	120V,60Hz
Firmware / Software used for Test:	MP_TEST MFC version 1.3.8.0

FCC Part 15 Subpart C

15.247(a)(2) 6dB Bandwidth

Test Setup/Conditions			
Test Location:	Fremont Lab C3	Test Engineer:	Hieu Song Nguyenpham
Test Method:	ANSI C63.10 (2013), KDB 558074	Test Date(s):	11/29/2016
Configuration:	1		
Test Setup:	The EUT is placed on non-conducted table. It is connected directly to a Spectrum Analyzer. It is set continuously transmitting as intend. 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.		

Environmental Conditions			
Temperature (ºC)	19.6	**Relative Humidity (%):**	46

Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
P01211	Attenuator	Aeroflex/Weinschel	23-10-34	3/31/2015	3/31/2017
P06900	Cable	Astrolab	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
03471	Spectrum Analyzer	Agilent	E4440A	1/4/2016	1/4/2018

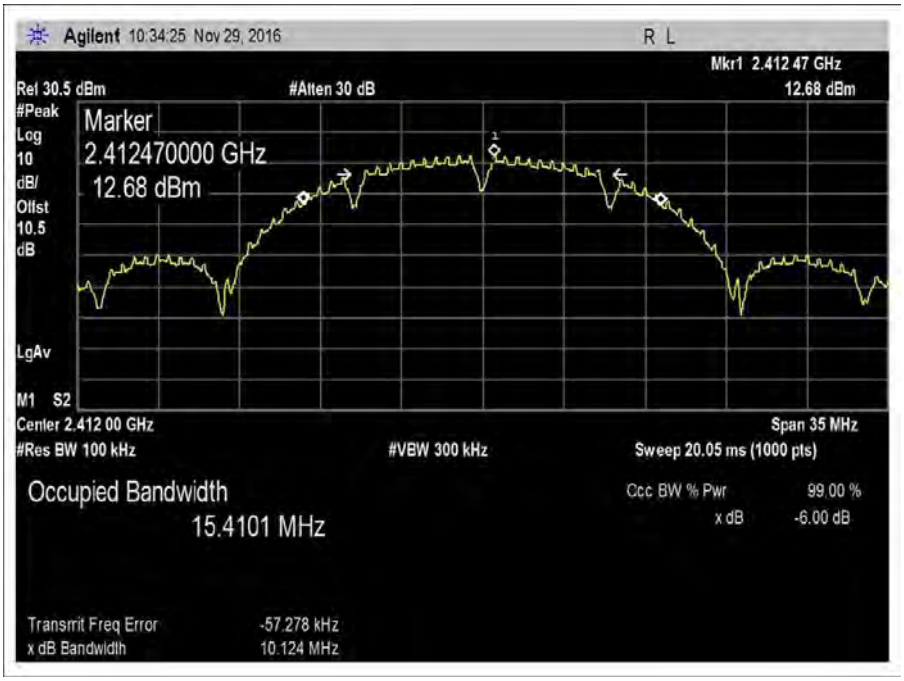
Test Data Summary, 802.11b					
Frequency (MHz)	Antenna Port	Modulation	Measured (kHz)	Limit (kHz)	Results
2412	1	802.11b	10124	≥500	Pass
2437	1	802.11b	10117	≥500	Pass
2462	1	802.11b	10112	≥500	Pass

Test Data Summary. 802.11g					
Frequency (MHz)	Antenna Port	Modulation	Measured (kHz)	Limit (kHz)	Results
2412	1	802.11g	16516	≥500	Pass
2437	1	802.11g	16520	≥500	Pass
2462	1	802.11g	16517	≥500	Pass

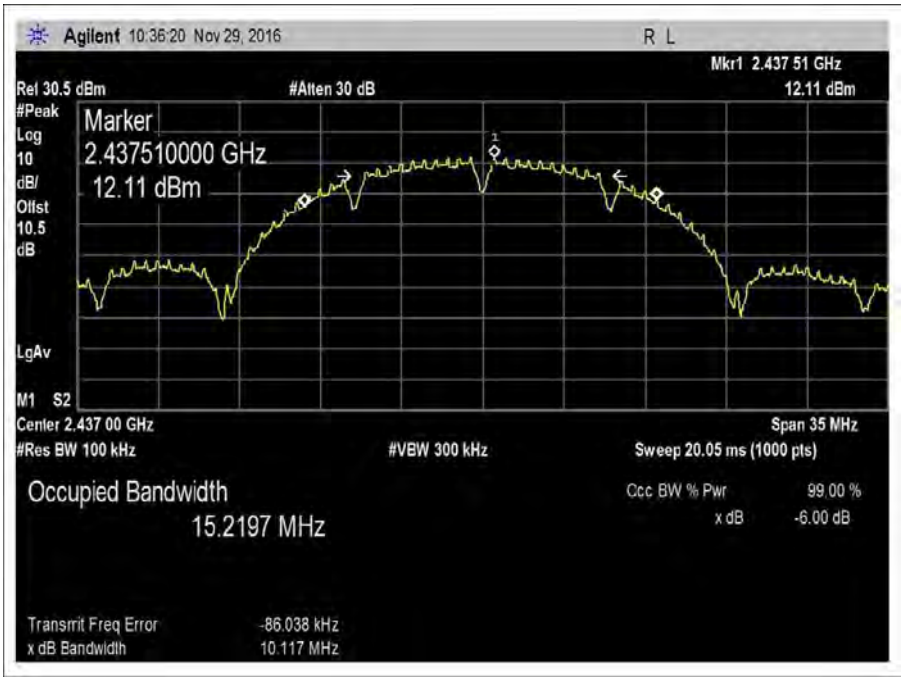
Test Data Summary, 802.11n HT20					
Frequency (MHz)	Antenna Port	Modulation	Measured (kHz)	Limit (kHz)	Results
2412	1	802.11n HT20	17748	≥500	Pass
2437	1	802.11n HT20	17731	≥500	Pass
2462	1	802.11n HT20	17744	≥500	Pass

Test Data Summary, 802.11n HT40					
Frequency (MHz)	Antenna Port	Modulation	Measured (kHz)	Limit (kHz)	Results
2422	1	802.11n HT40	36376	≥500	Pass
2437	1	802.11n HT40	36382	≥500	Pass
2452	1	802.11n HT40	39393	≥500	Pass

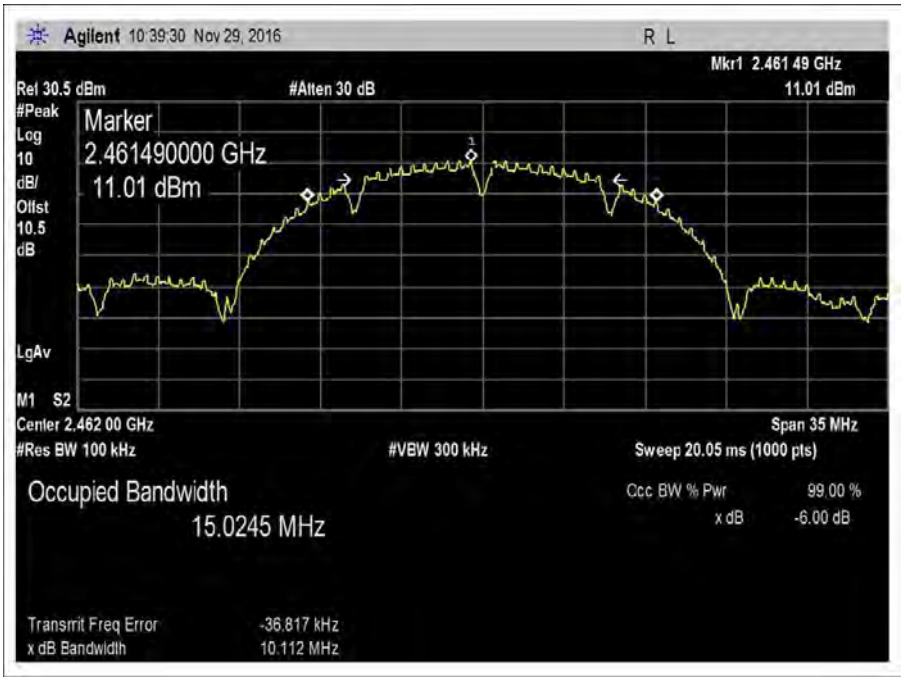
Plot(s)



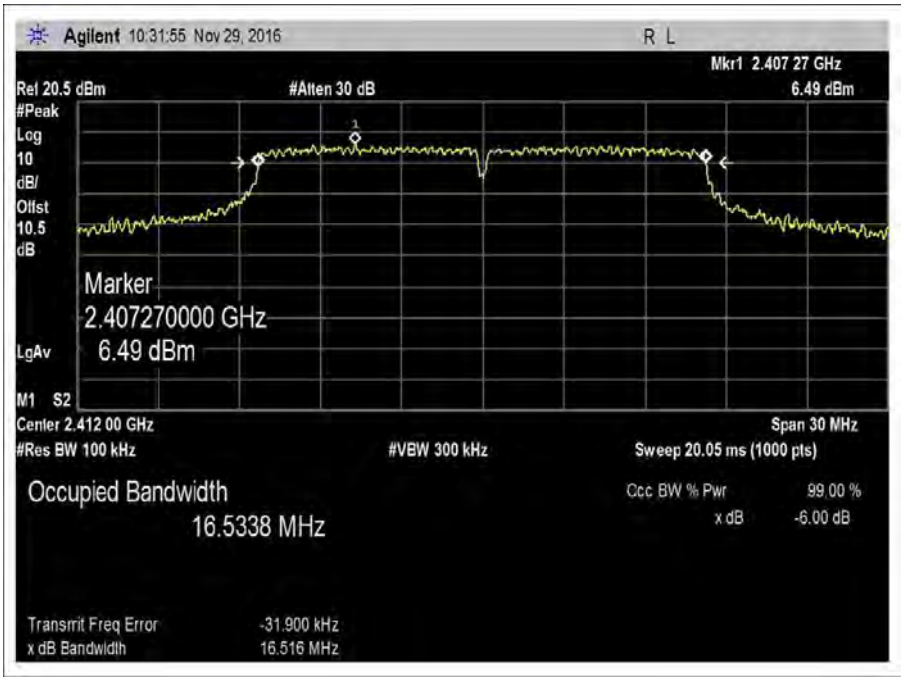
802.11b Low Channel



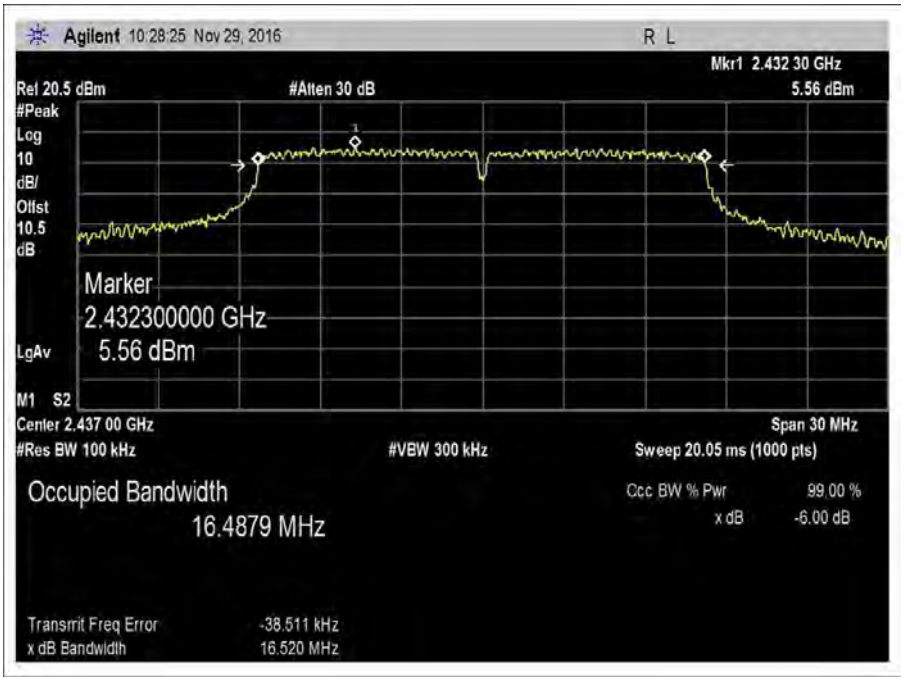
802.11b Middle Channel



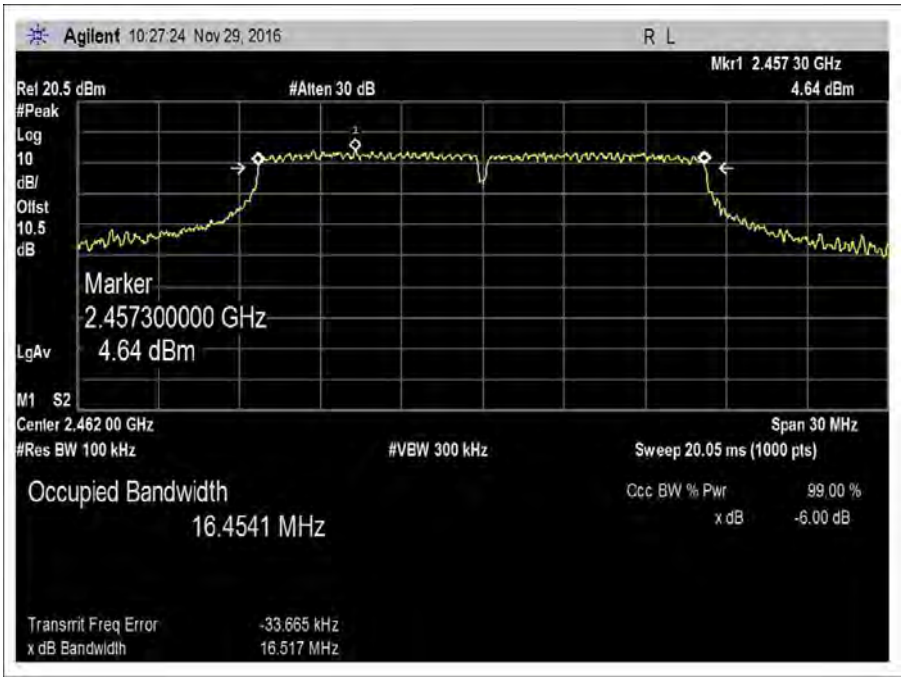
802.11b High Channel



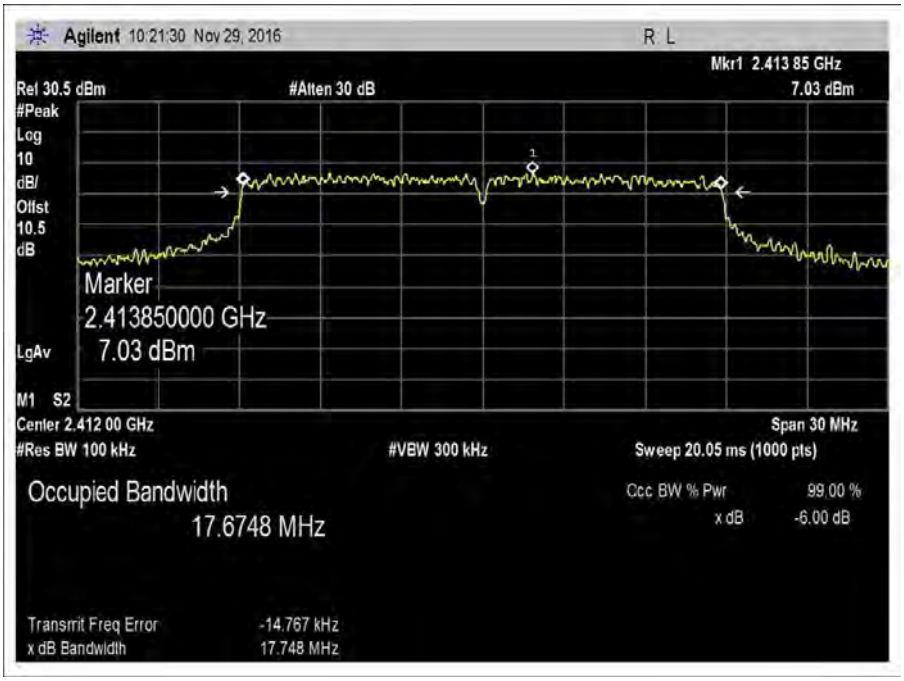
802.11g Low Channel



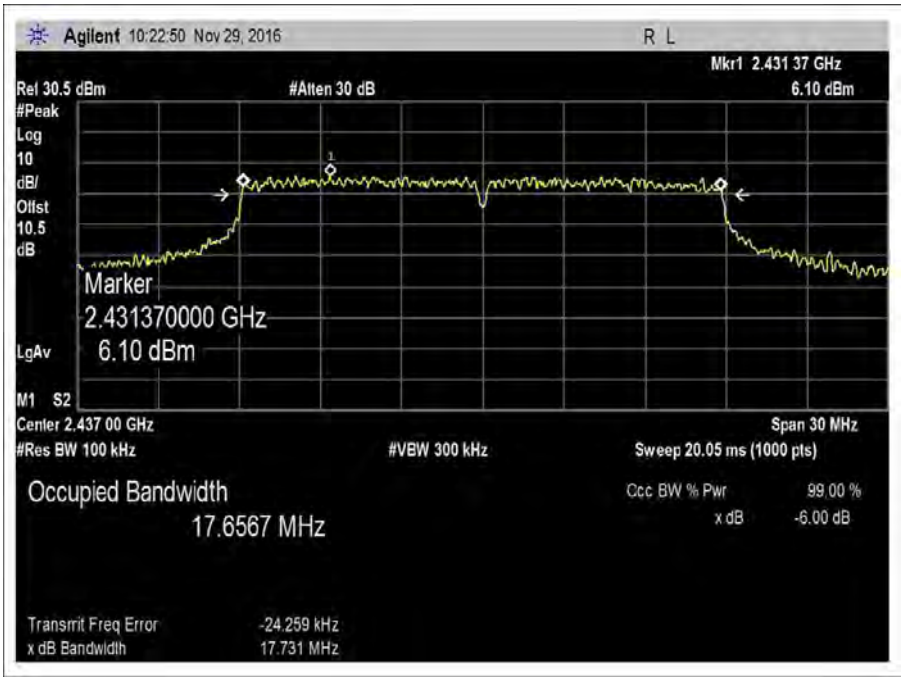
802.11g Middle Channel



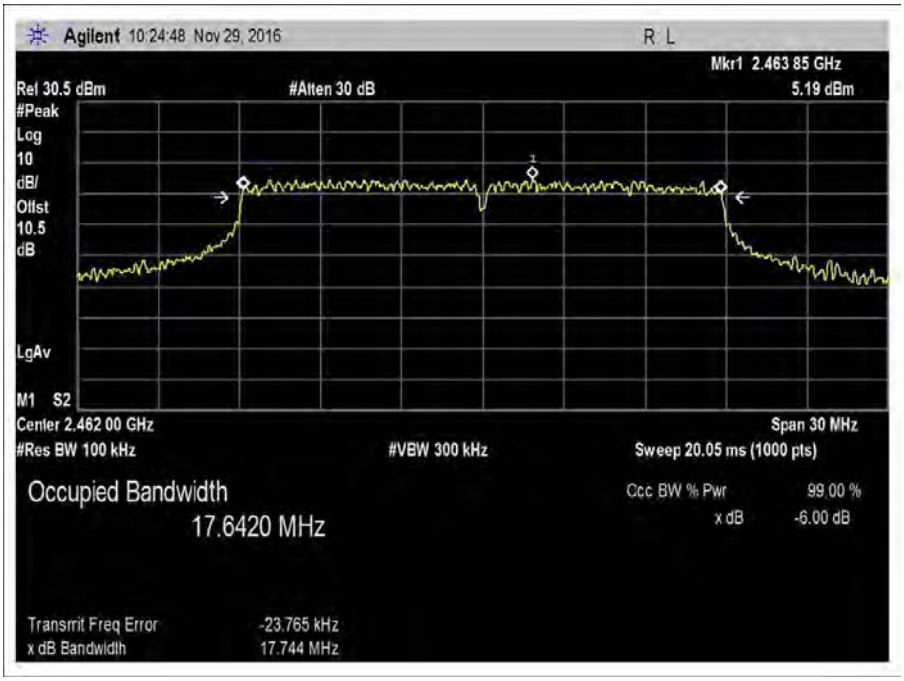
802.11g High Channel



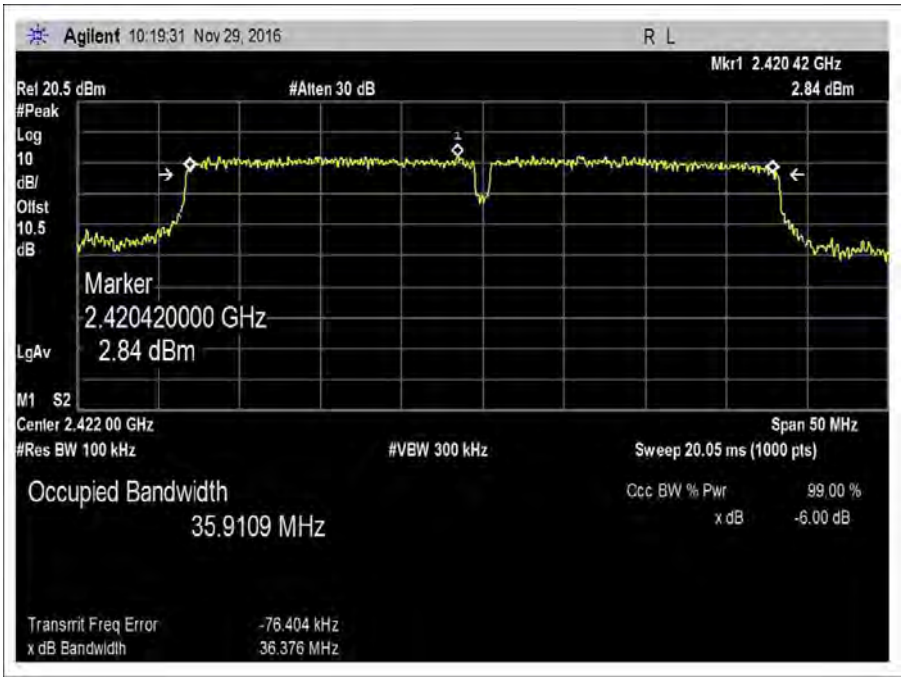
802.11n HT20 Low Channel



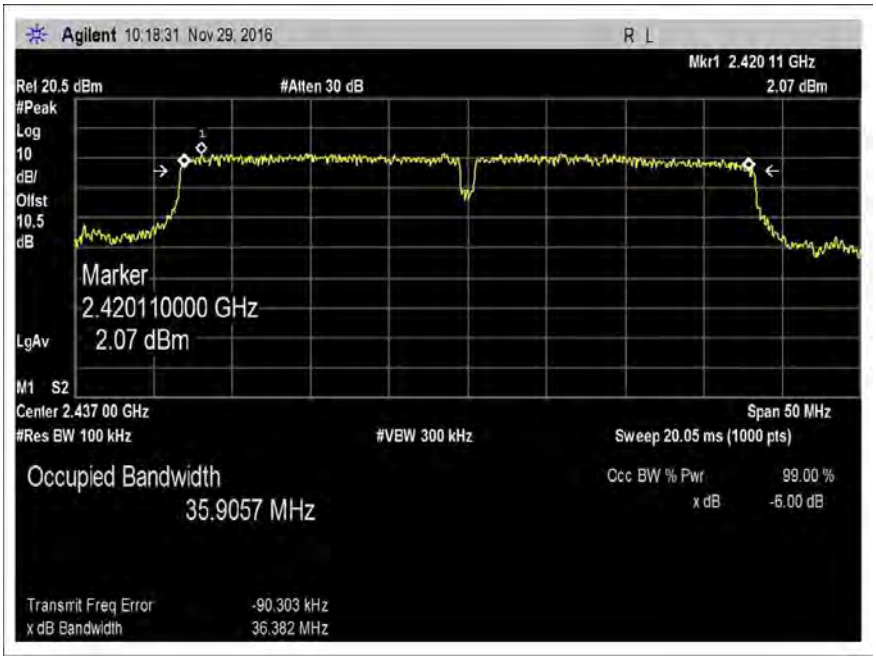
802.11n HT20 Middle Channel



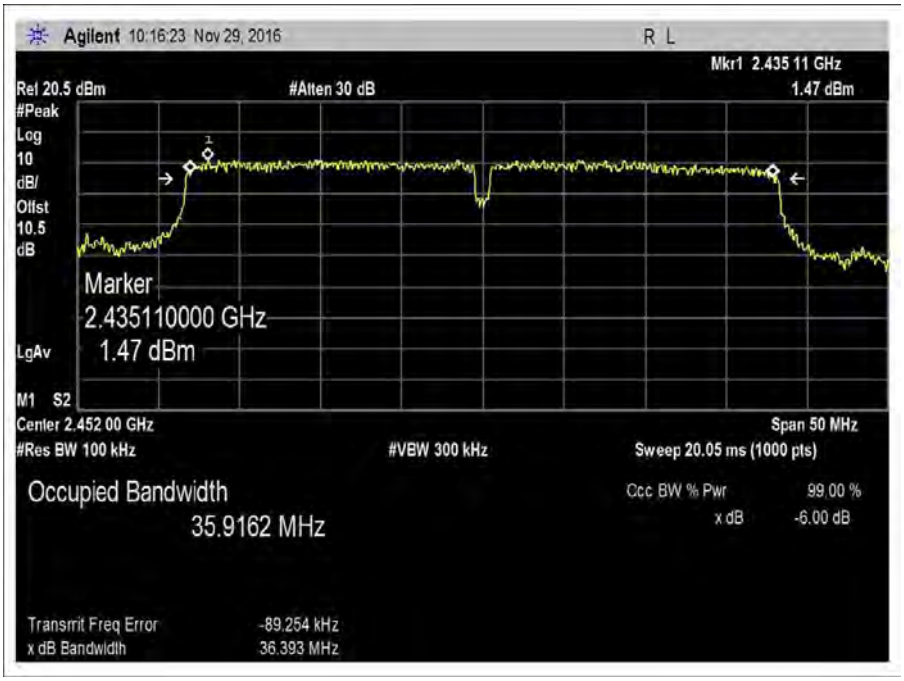
802.11n HT20 High Channel



802.11n HT40 Low Channel

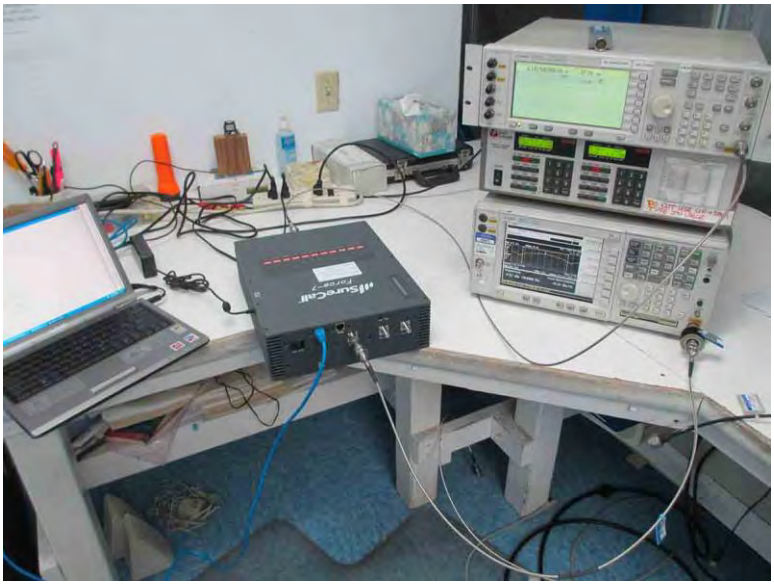


802.11n HT40 Middle Channel



802.11n HT40 High Channel

Test Setup Photo(s)



15.247(b)(3) Output Power

Test Setup/Conditions			
Test Location:	Fremont Lab C3	Test Engineer:	Hieu Song Nguyenpham
Test Method:	ANSI C63.10 (2013), KDB 558074	Test Date(s):	11/23/2016
Configuration:	1		
Test Setup:	The EUT is placed on non-conducted table. It is connected directly to a Spectrum Analyzer. It is set continuously transmitting as intend. The 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.		
Notes	1/ Choose the worst case 802.11b on low channel when booster off to check on Voltage Variations 2/ Measure RF output Power Levels a/ Antenna SC222W, Gain =6dBi I/ 802.11b - Set Attenuator =40 for Low and Middle Channel. Attenuator =28 for High Channel II/802.11g - Attenuator =48 for all channels III/ 802.11n HT20 - Attenuator= 48 for all channels IV/ 802.11 n HT40 - Attenuator =46 for all channels - 		

Environmental Conditions			
Temperature (ºC)	20.5	**Relative Humidity (%):**	42

Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
P01211	Attenuator	Aeroflex/Weinschel	23-10-34	3/31/2015	3/31/2017
P06900	Cable	Astrolab	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
03471	Spectrum Analyzer	Agilent	E4440A	1/4/2016	1/4/2018

Test Data Summary - Voltage Variations					
Frequency (MHz)	**Modulation / Ant Port**	**$V_{Minimum}$ (dBm)**	**$V_{Nominal}$ (dBm)**	**$V_{Maximum}$ (dBm)**	**Max Deviation from $V_{Nominal}$ (dB)**
2412	802.11b	26.22	26.35	26.56	0.34

Test performed using operational mode with the highest output power, representing worst case.

Parameter Definitions:

Measurements performed at input voltage Vnominal ± 15%.

Parameter	Value
$V_{Nominal}$:	120V
$V_{Minimum}$:	102V
$V_{Maximum}$:	138V

Test Data Summary - RF Conducted Measurement for Antenna SC222W

Measurement Option: AVGSA-3 Alternative

Frequency (MHz)	Modulation	Gain (dBi)	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	Limit (dBm)/ Cond/ EIRP	Results
2412	802.11b	6	26.22	26.96	26.13	26.25	26.42	≤30,≤36	Pass
2437	802.11b	6	25.35	26.15	25.11	25.39	25.54	≤30,≤36	Pass
2462	802.11b	6	19.17	19.25	19.15	19.1	19.23	≤30,≤36	Pass

The data rate is at 2Mbps when the RF output power is highest

Test Data Summary - RF Conducted Measurement for Antenna SC222W

Measurement Option: AVGSA-3 Alternative

Frequency (MHz)	Modulation	Gain (dBi)	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 AWG	Measured Power in dBm (Booster on) at 881.5MHz, GSM	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Limit (dBm)/ Cond/ EIRP	Results
2412	802.11g	6	26.24	26.94	26.14	26.36	26.5	≤30,≤36	Pass
2437	802.11g	6	25.39	26.22	25.32	25.6	25.65	≤30,≤36	Pass
2462	802.11g	6	24.47	25.41	24.48	24.71	24.76	≤30,≤36	Pass

The data rate is at 12Mbps when the RF output power is highest.

Test Data Summary - RF Conducted Measurement for Antenna SC222W

Measurement Option: AVGSA-3 Alternative

Frequency (MHz)	Modulation	Gain (dBi)	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	Limit (dBm)/ Cond/ EIRP	Results
2412	802.11n HT20	6	26.29	26.97	26.27	26.58	26.52	≤30,≤36	Pass
2437	802.11n HT20	6	25.39	26.08	25.39	25.63	25.7	≤30,≤36	Pass
2462	802.11n HT20	6	24.49	25.16	24.41	24.66	24.77	≤30,≤36	Pass

The data rate is at MCS6 when the RF output power is highest.

Test Data Summary - RF Conducted Measurement for Antenna SC222W

Measurement Option: AVGSA-3 Alternative

Frequency (MHz)	Modulation	Gain (dBi)	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, GS	Measured Power in dBm (Booster on) at 2132.5MHz, GSM	Limit (dBm)/ Cond/ EIRP	Results
2422	802.11n HT40	6	25.05	25.74	25.01	25.5	25.35	≤30,≤36	Pass
2437	802.11n HT40	6	24.52	25.13	24.43	25.04	24.71	≤30,≤36	Pass
2452	802.11n HT40	6	23.91	24.48	23.76	24.7	24.1	≤30,≤36	Pass

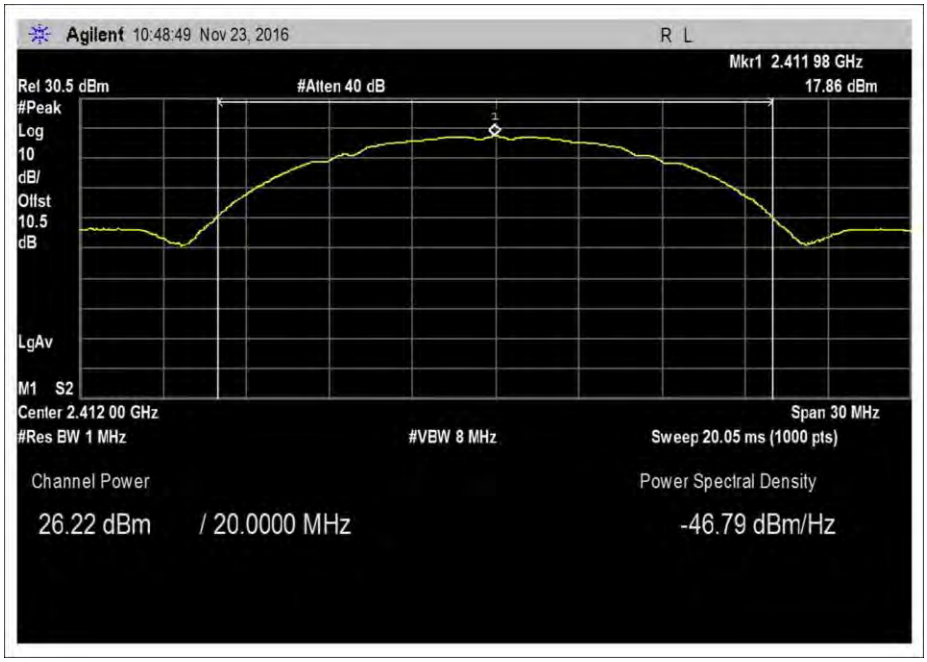
The data rate is at MCS6 when the RF output power is highest.

For fixed point-to-point antennas, the limit is calculated in accordance with 15.247(c)(1):

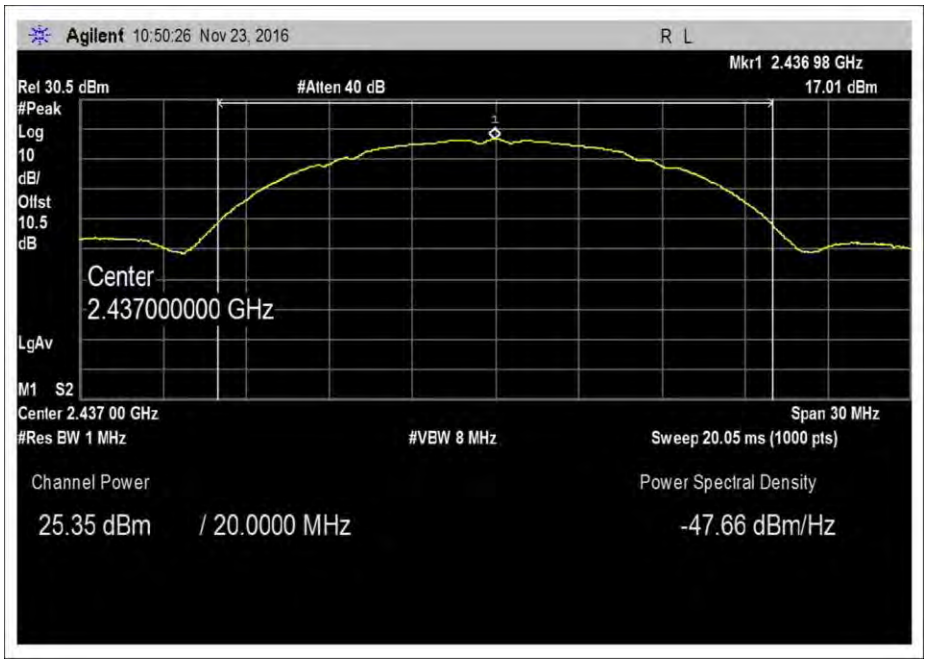
$$Limit = 30 - Roundup\left(\frac{G-6}{3}\right)$$

For directional beamforming antennas, the limit is calculated in accordance with 15.247(c)(2) and KDB 662911.

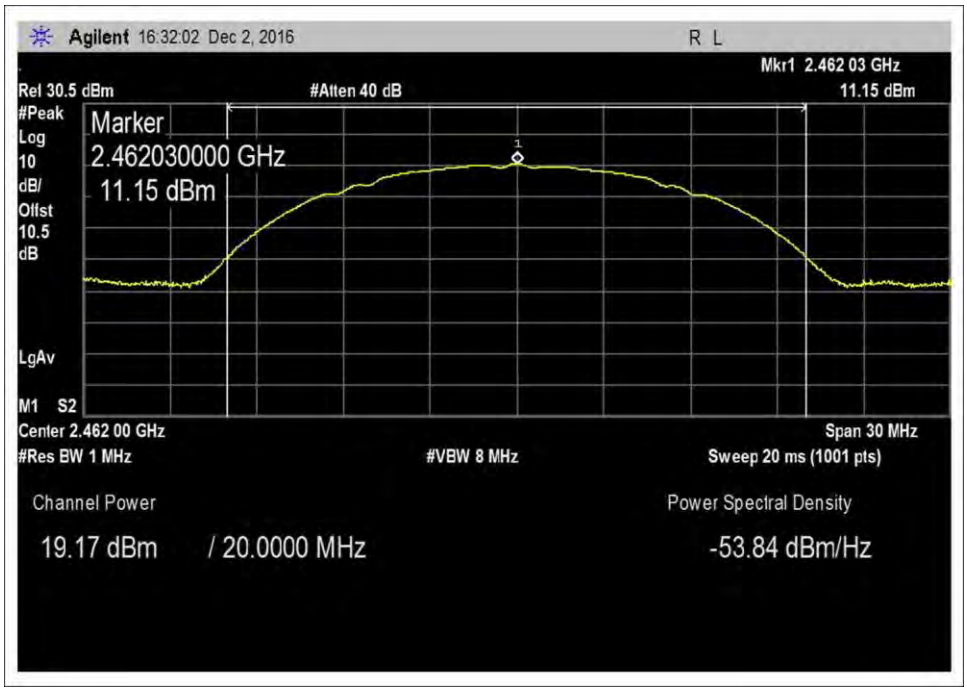
Plots



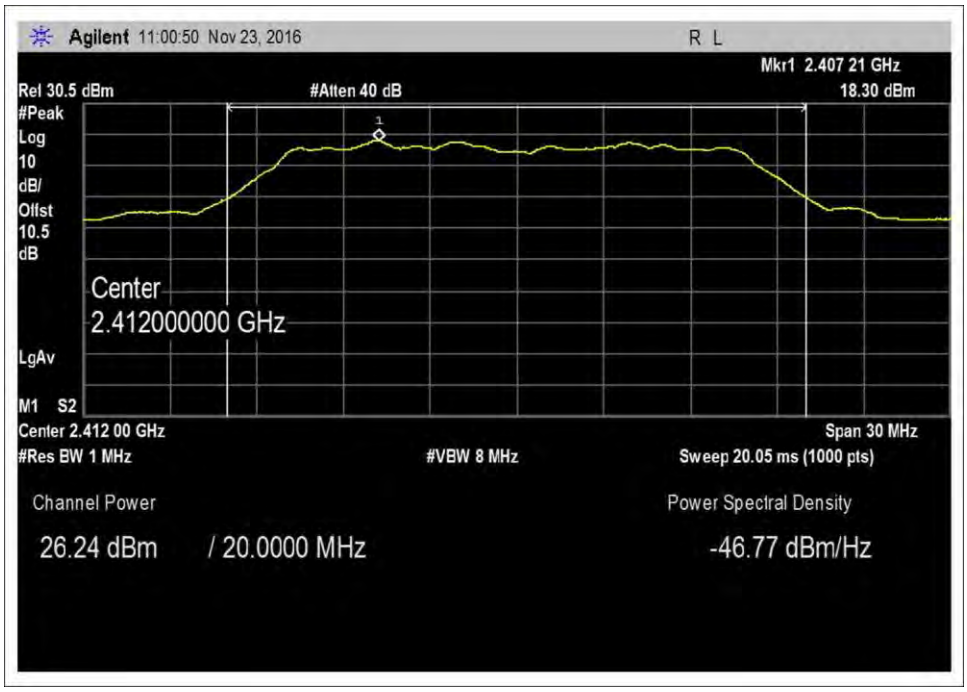
Booster Off, 802.11b Low Channel



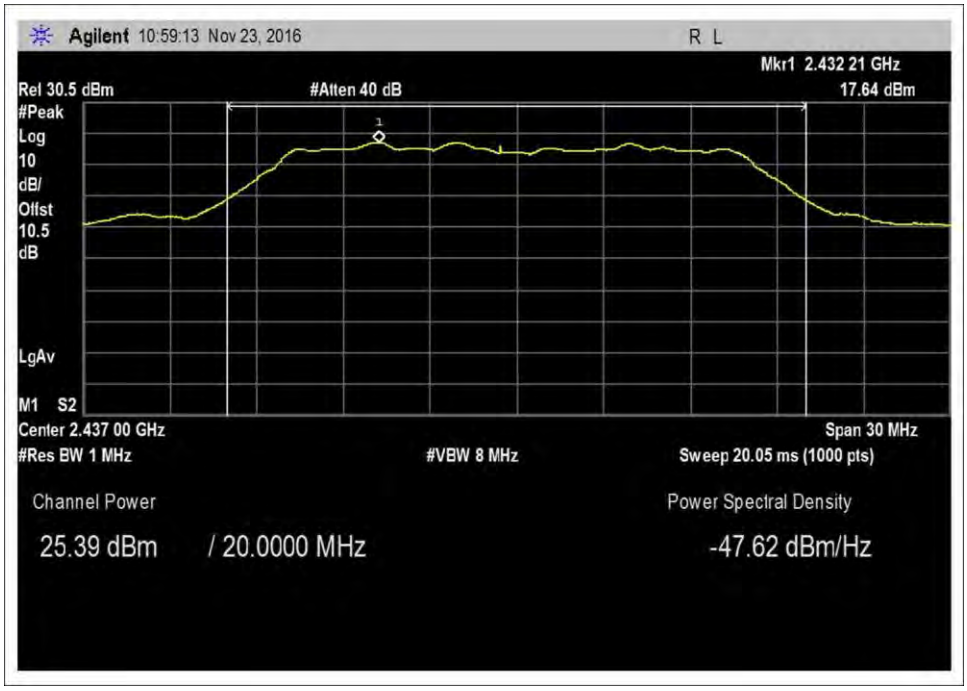
Booster Off, 802.11b Middle Channel



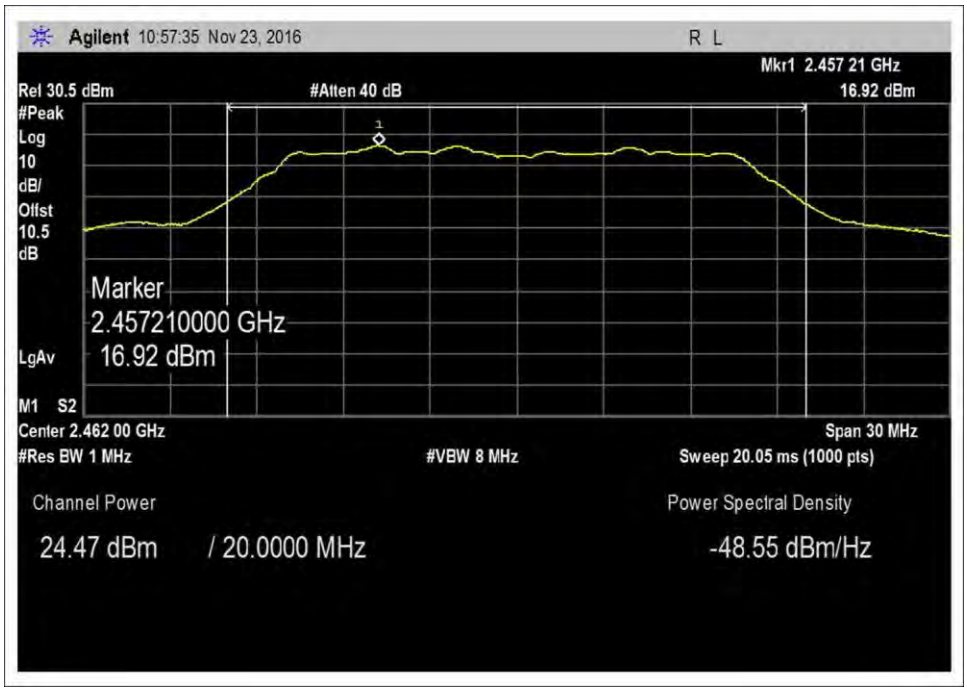
Booster Off, 802.11b Middle Channel



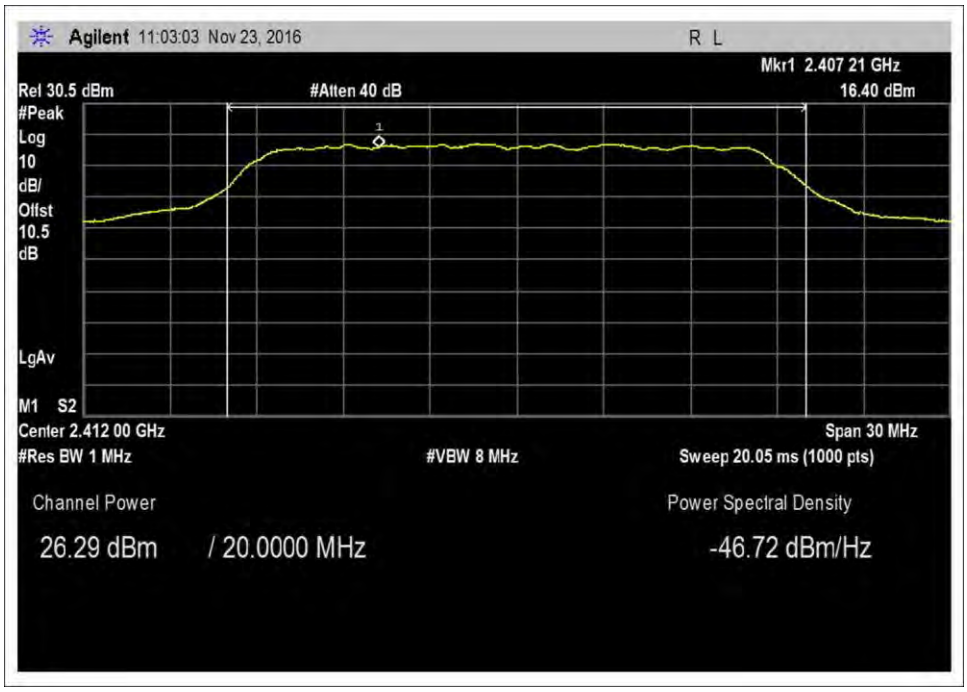
Booster Off, 802.11g Low Channel



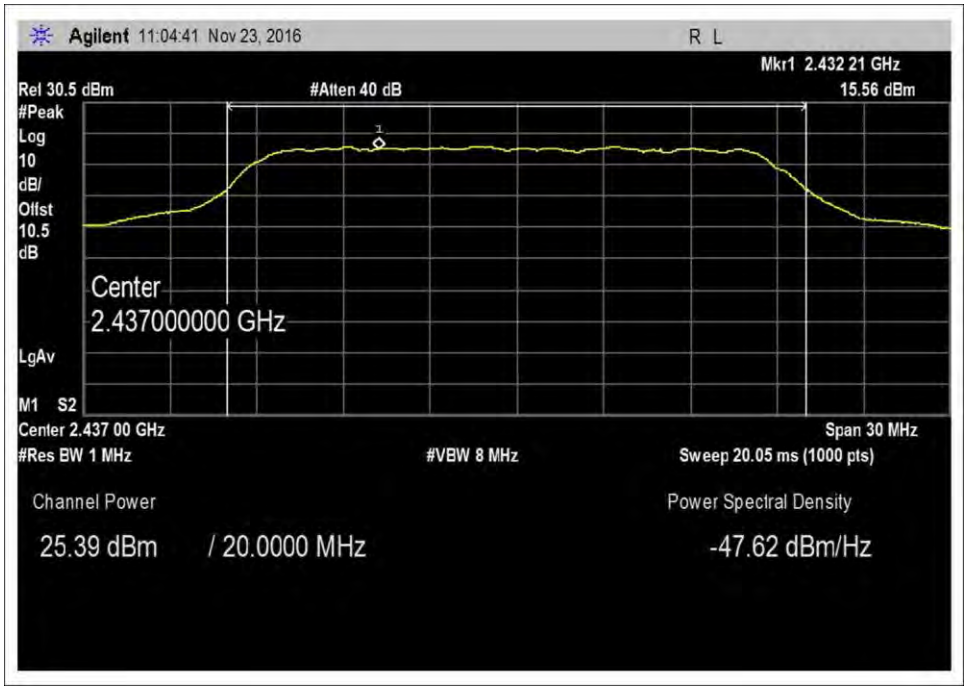
Booster Off, 802.11g Middle Channel



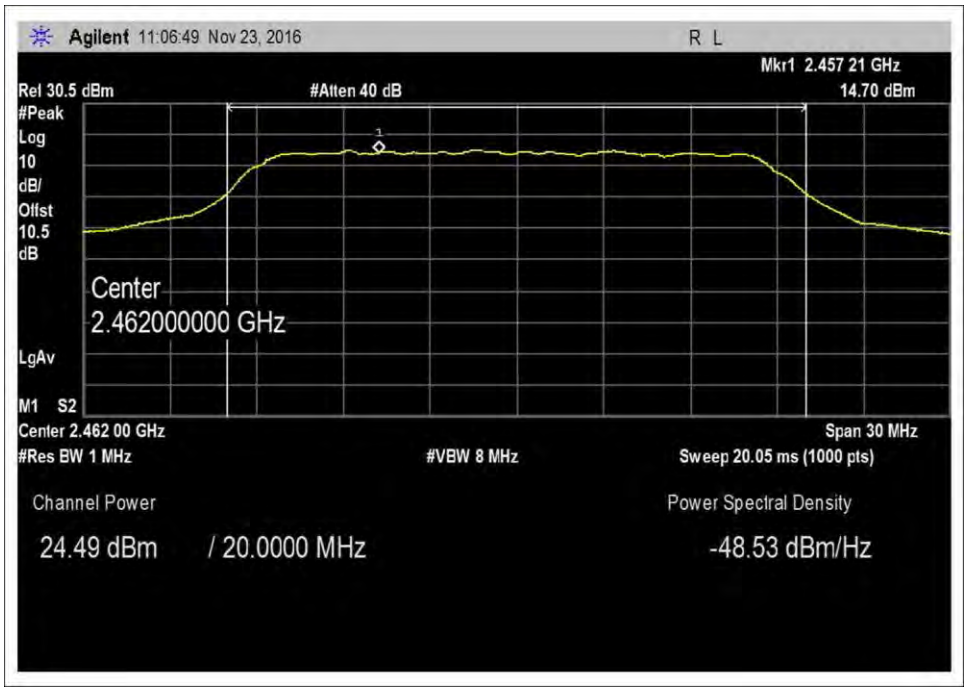
Booster Off, 802.11g High Channel



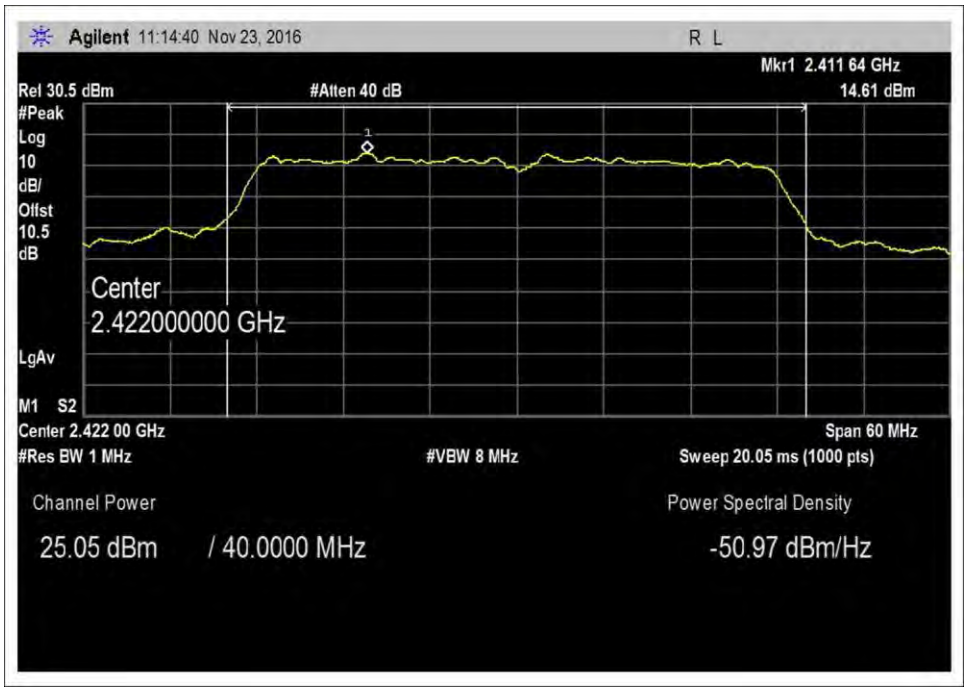
Booster Off, 802.11n HT20 Low Channel



Booster Off, 802.11n HT20 Middle Channel



Booster Off, 802.11n HT20 High Channel



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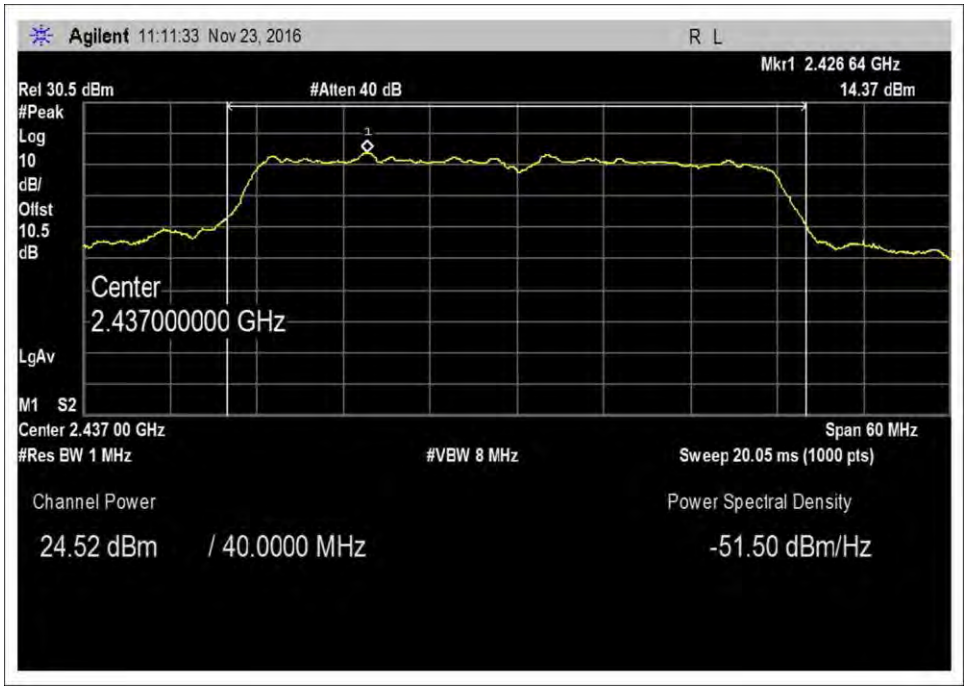
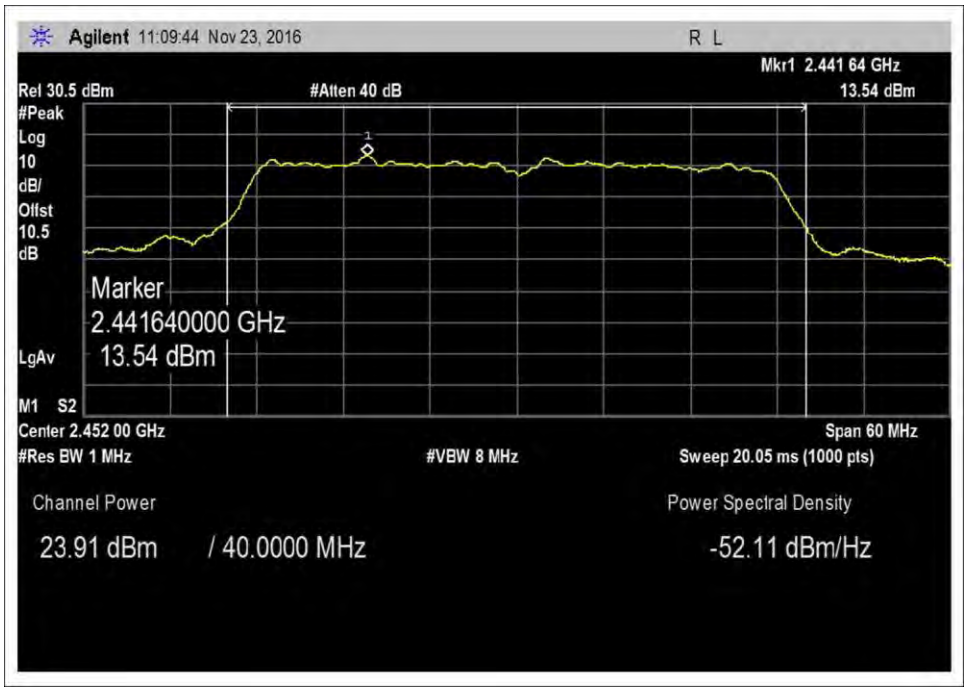
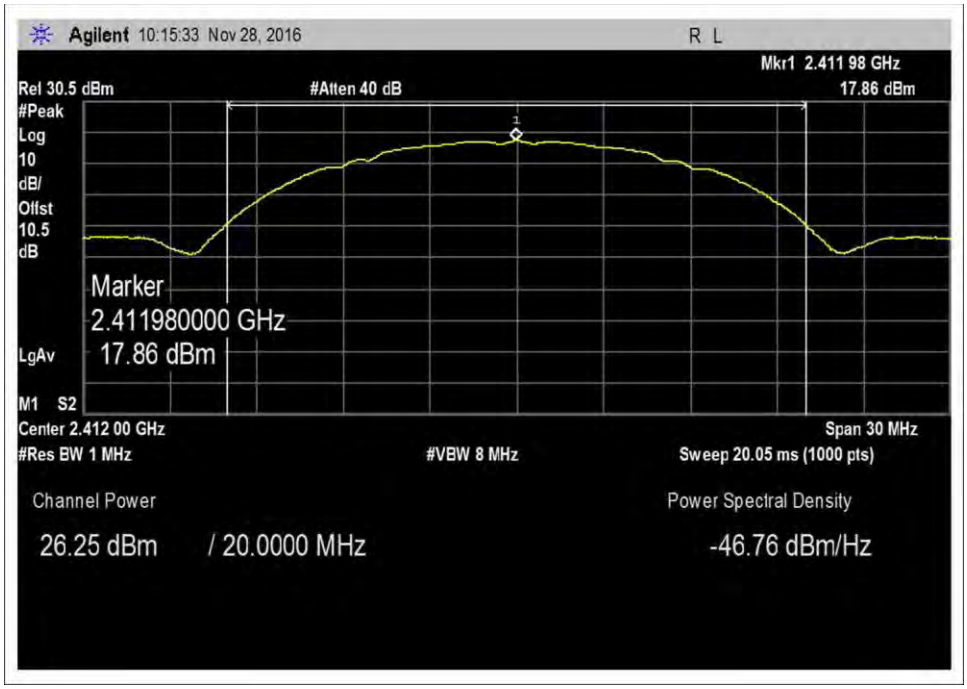


Booster Off, 802.11n HT40 Middle Channel

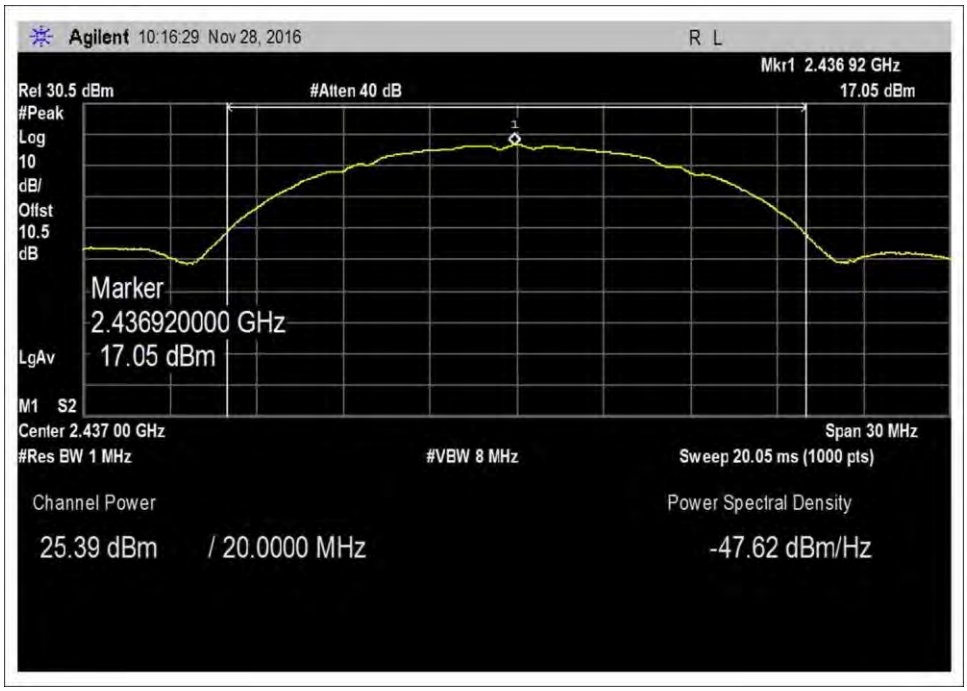


Booster Off, 802.11n HT40 High Channel

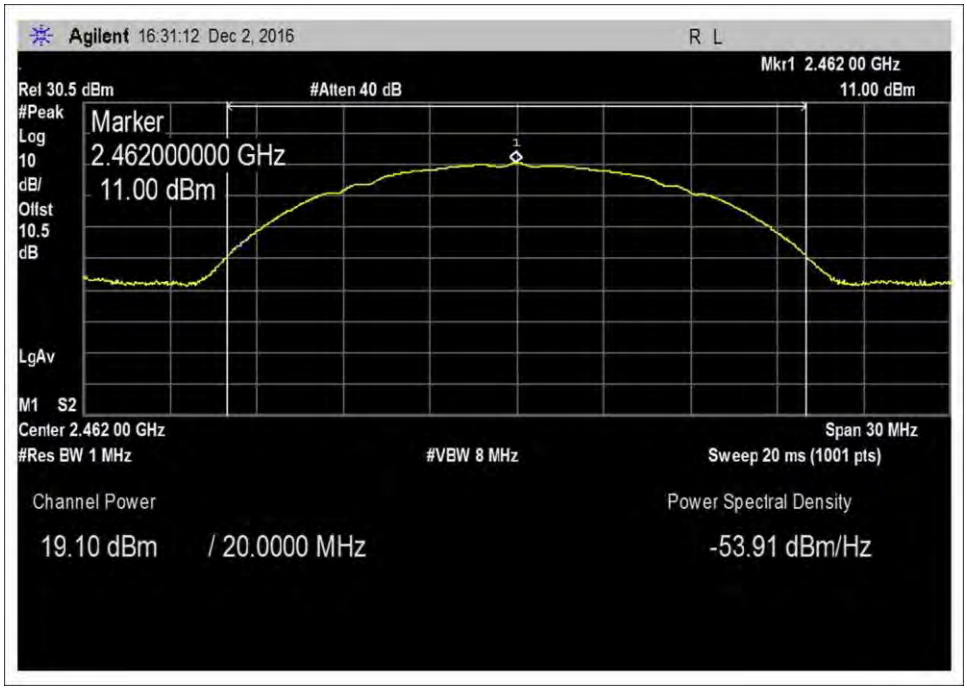
Booster on, 881.5 GSM



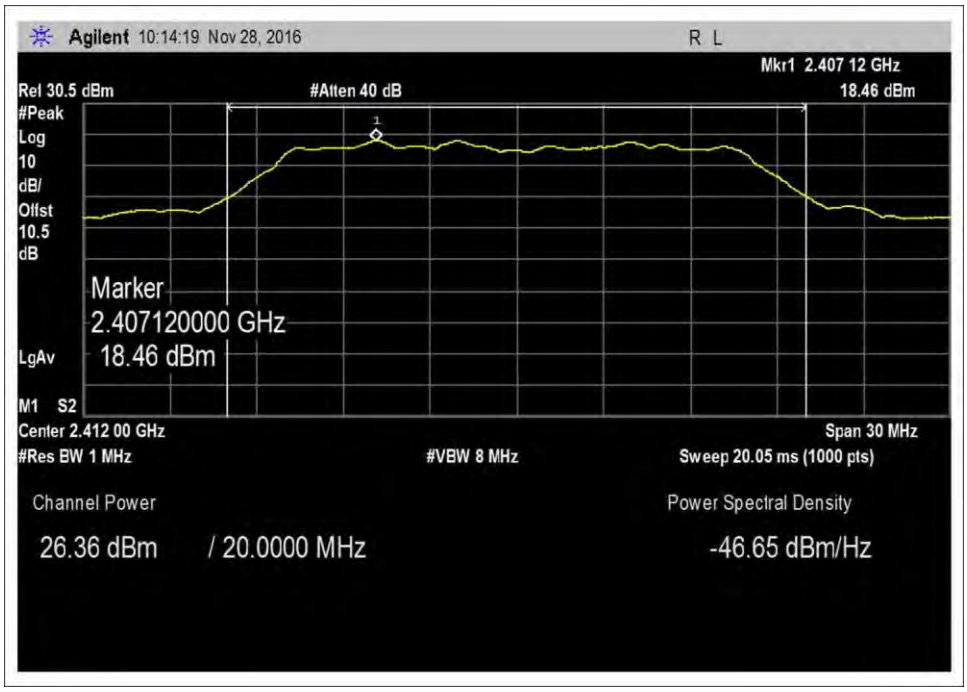
Booster on, 802.11b Low Channel



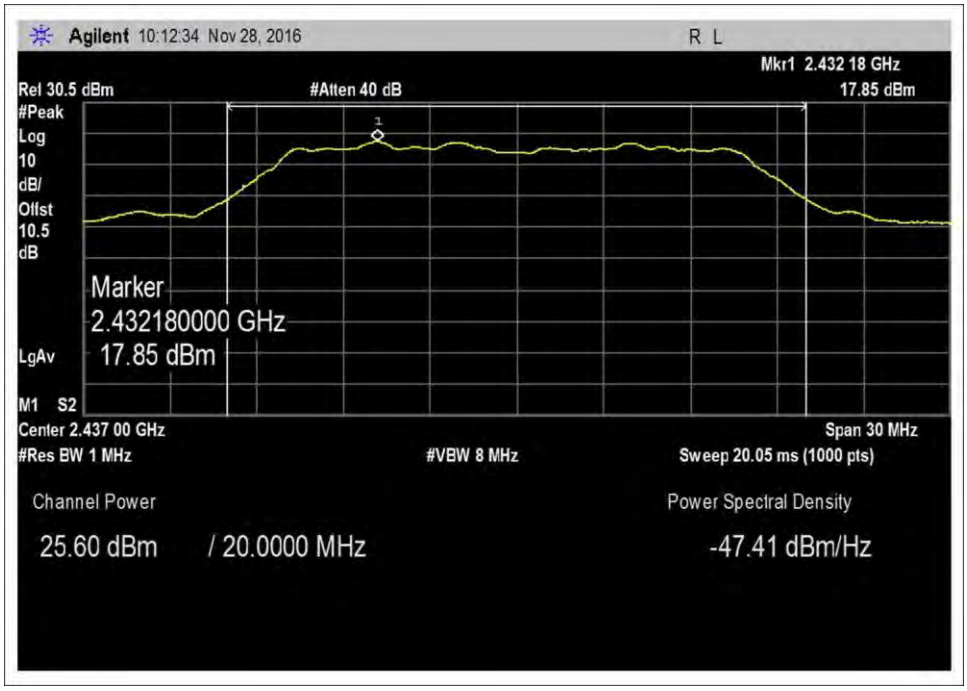
Booster on, 802.11b Middle Channel



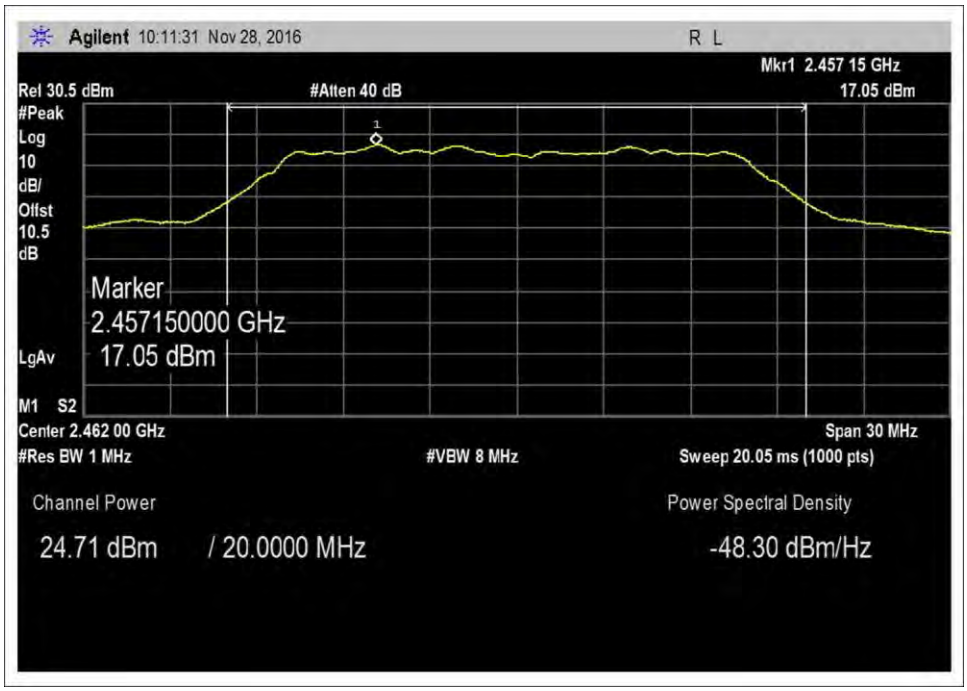
Booster on, 802.11b High Channel



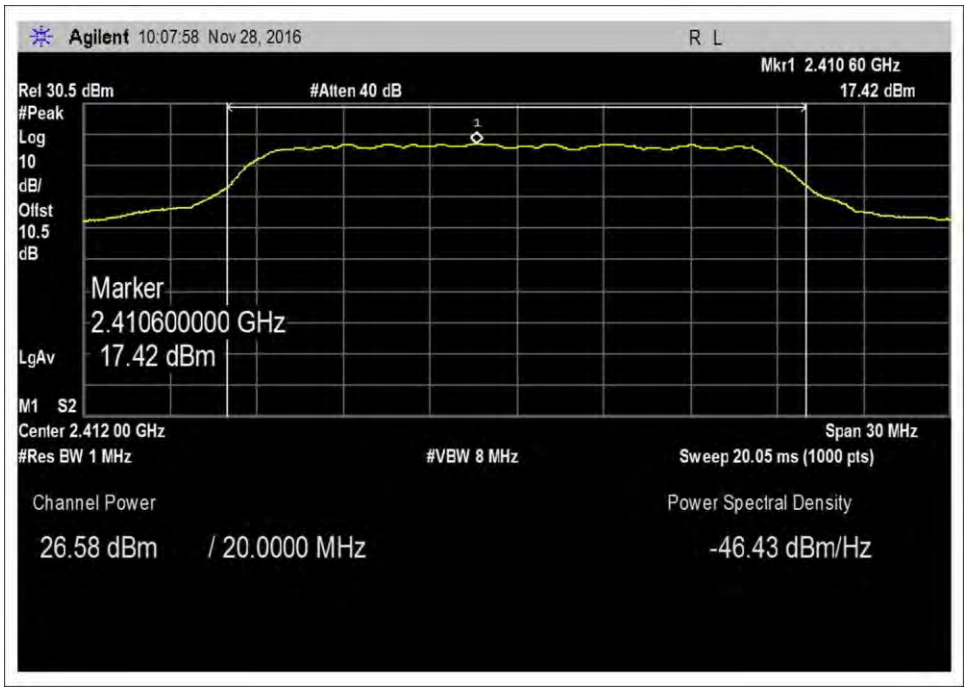
Booster on, 802.11g Low Channel



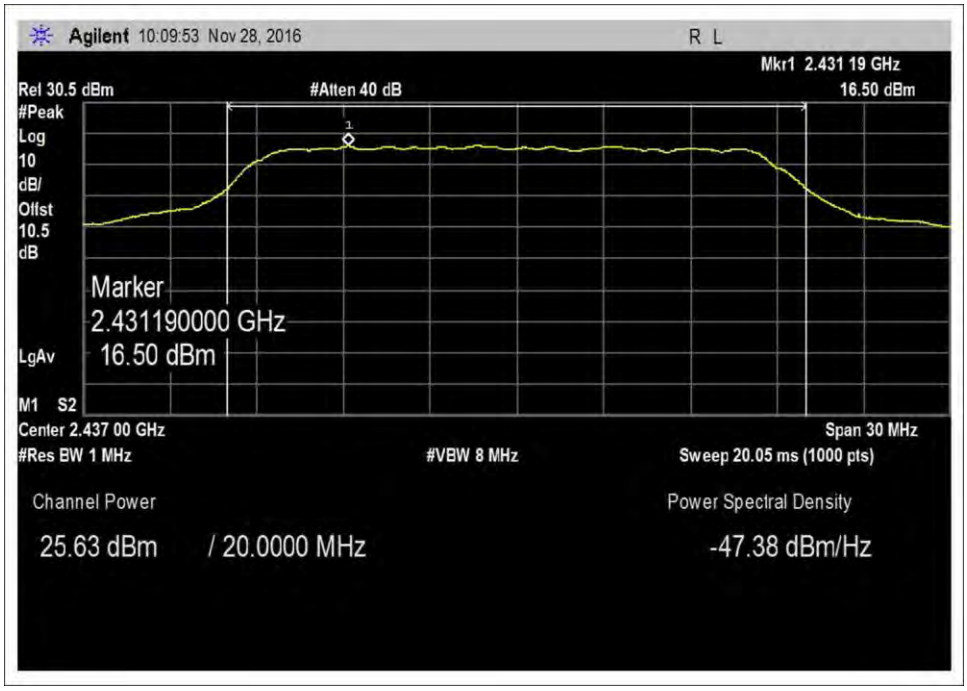
Booster on, 802.11g Middle Channel



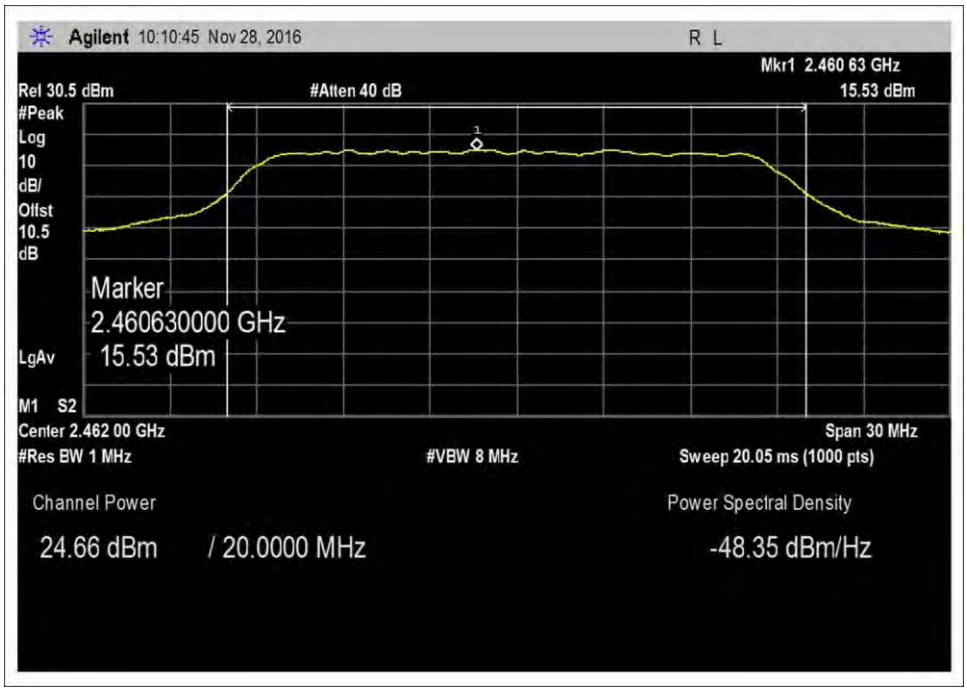
Booster on, 802.11g High Channel



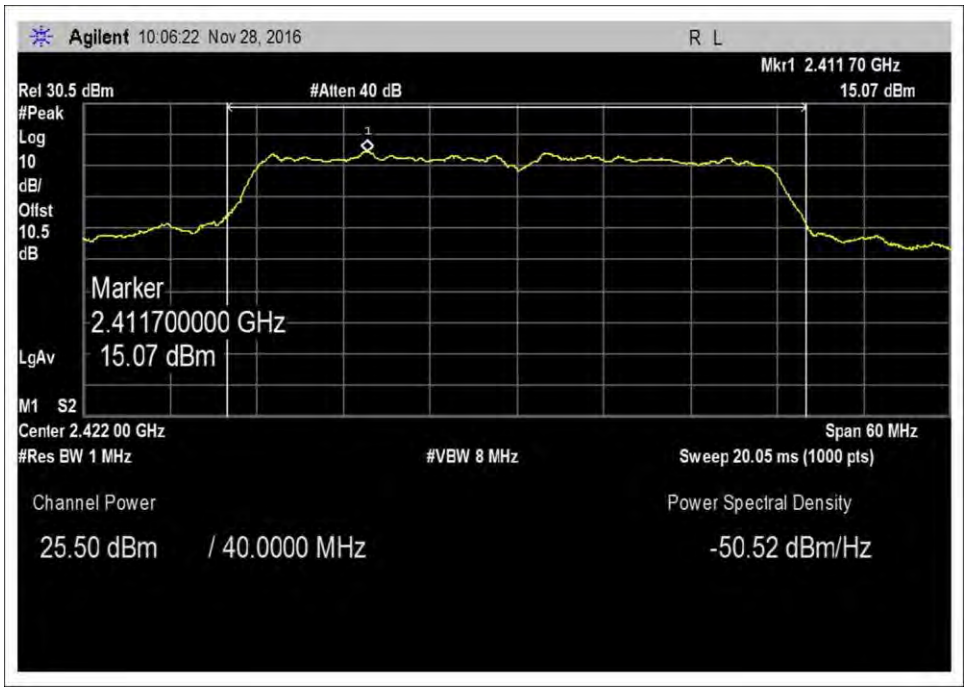
Booster on, 802.11n HT20, Low Channel



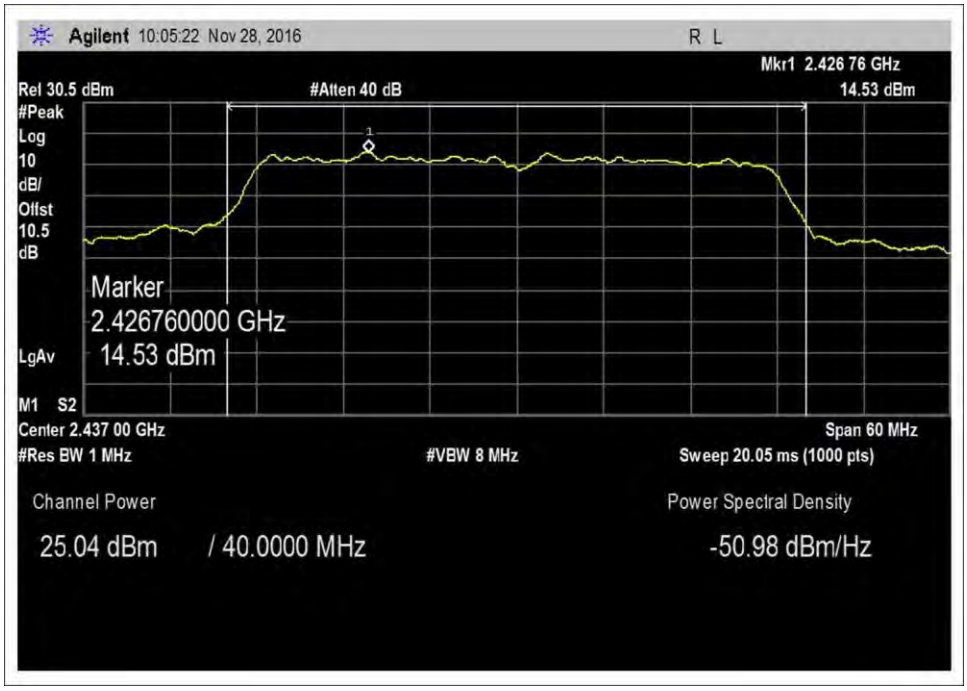
Booster on, 802.11n HT20, Middle Channel



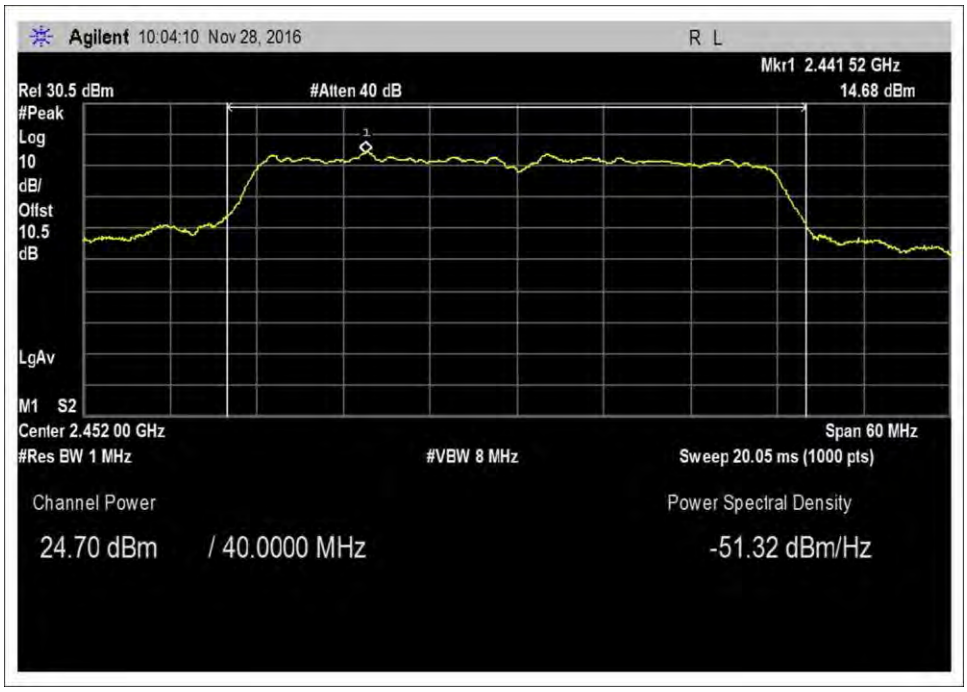
Booster on, 802.11n HT20, High Channel



Booster on, 802.11n HT40, Low Channel

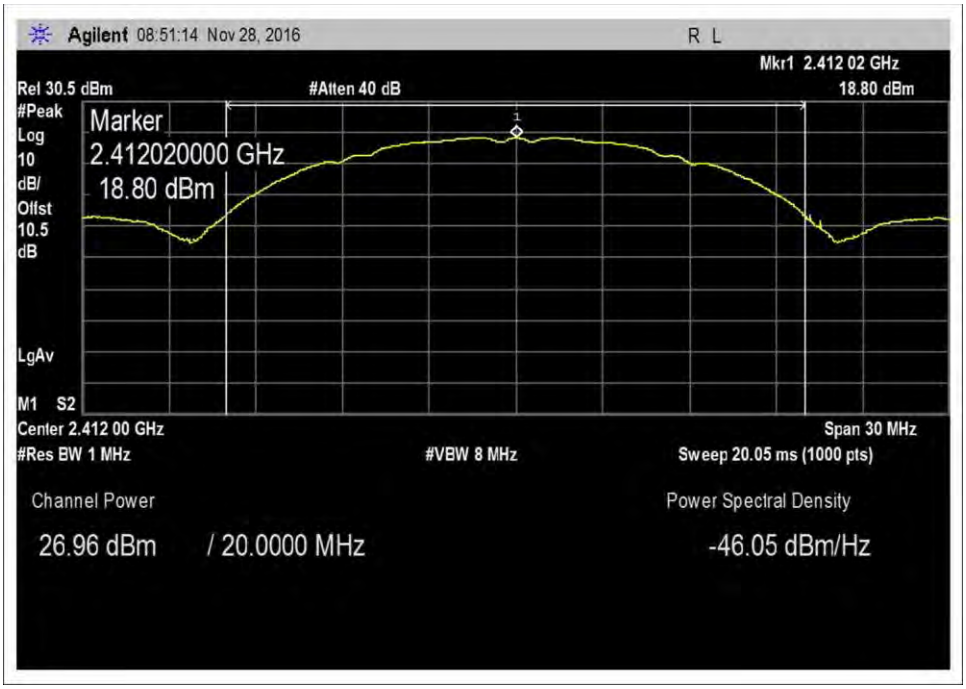


Booster on, 802.11n HT40, Middle Channel

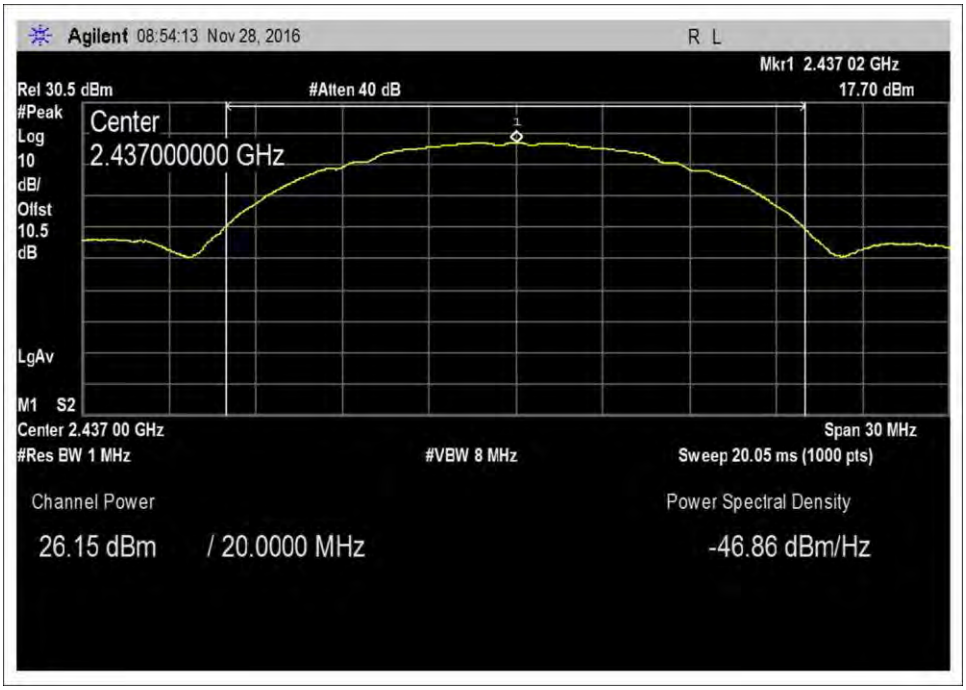


Booster on, 802.11n HT40, High Channel

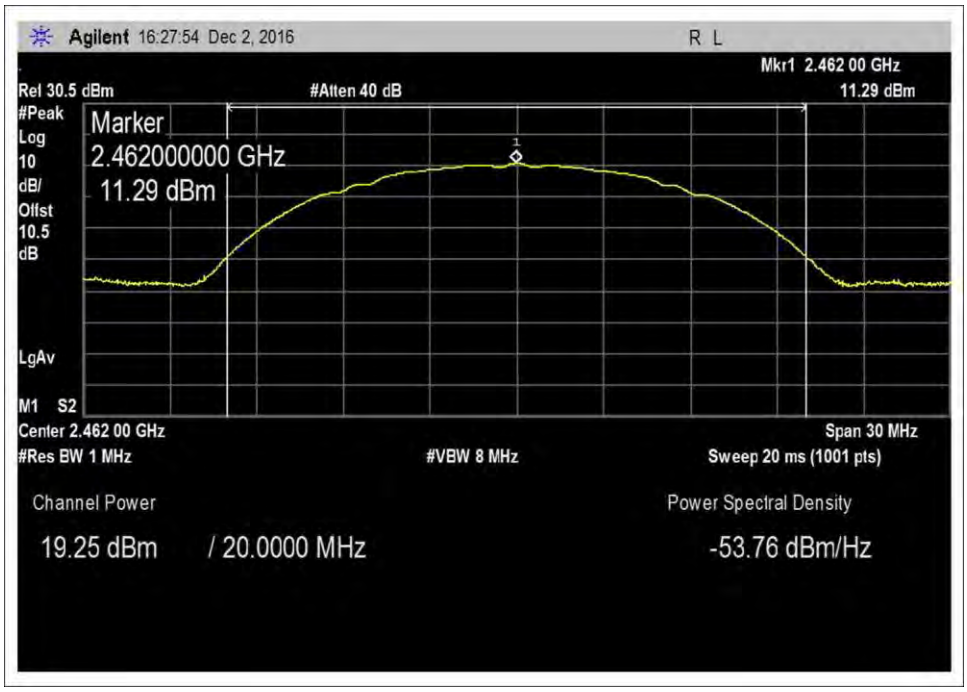
Booster on, 881.5 AWGN



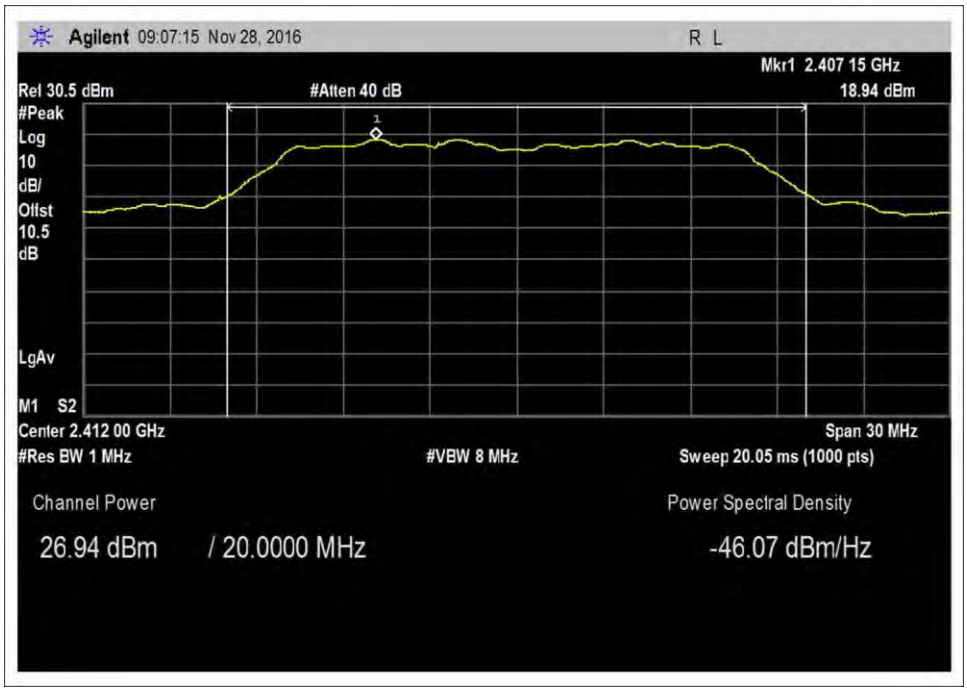
Booster on, 802.11b Low Channel



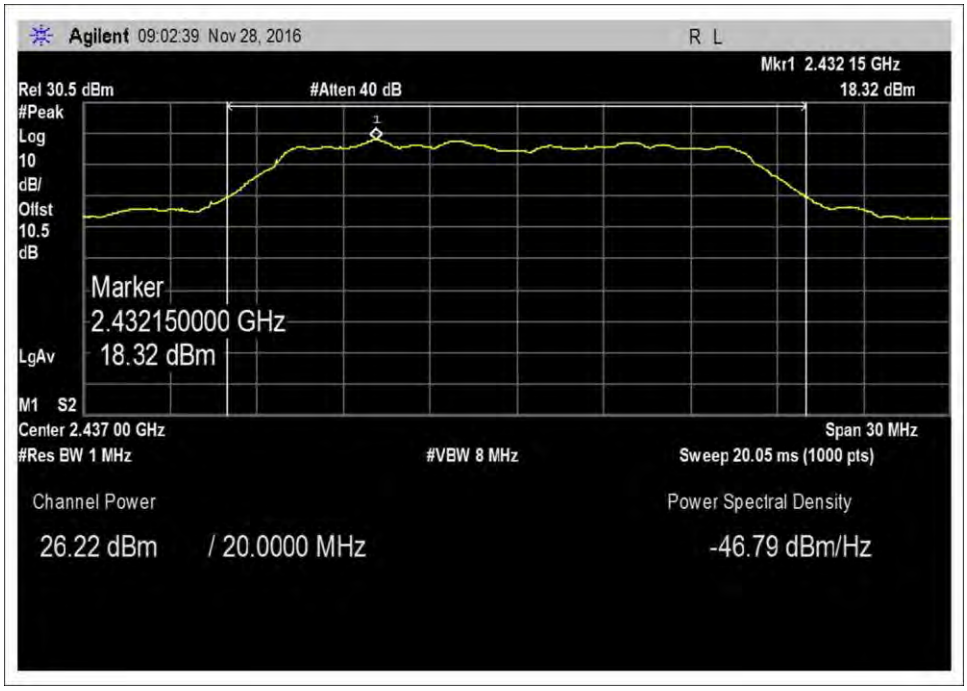
Booster on, 802.11b Middle Channel



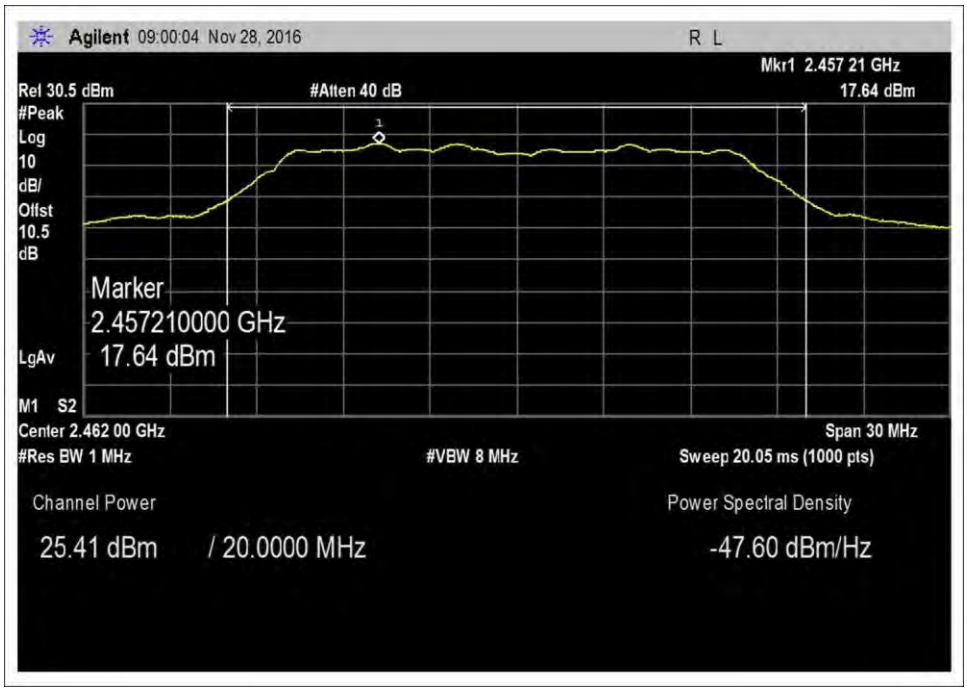
Booster on, 802.11b High Channel



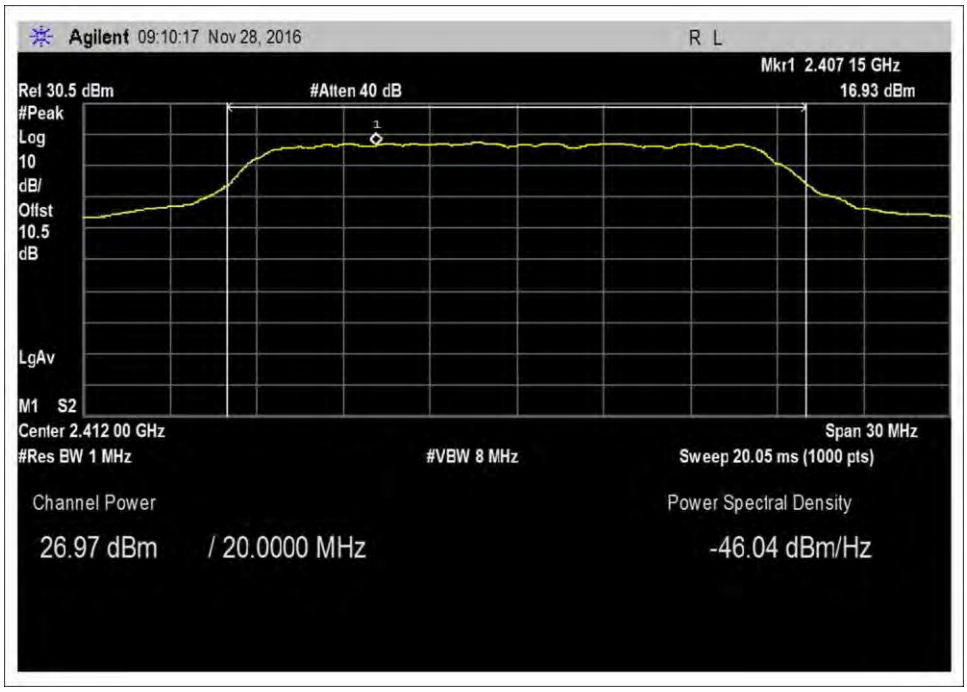
Booster on, 802.11g Low Channel



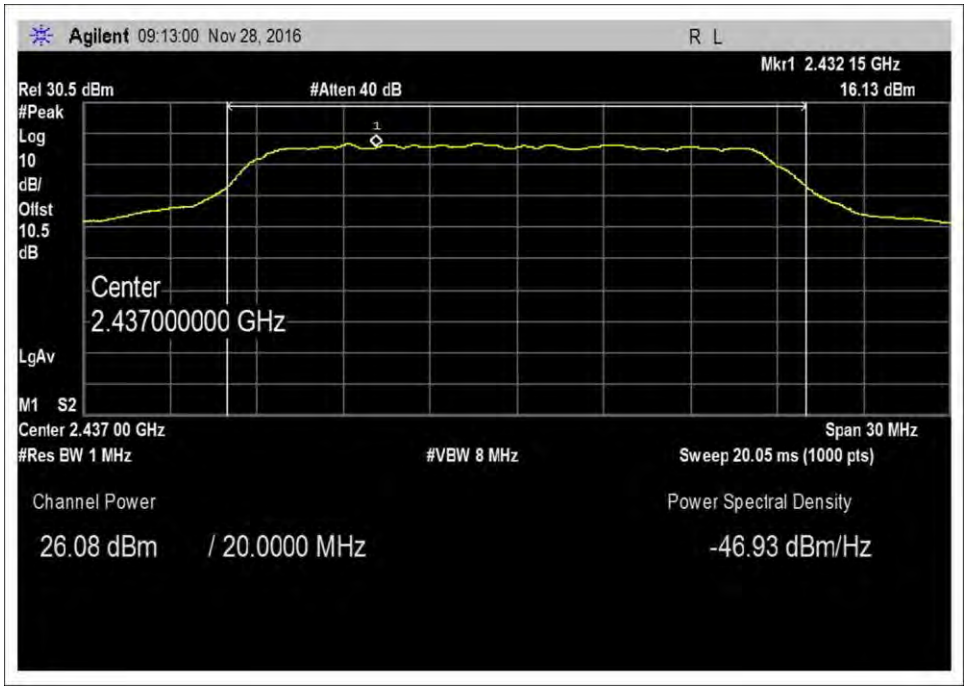
Booster on, 802.11g Middle Channel



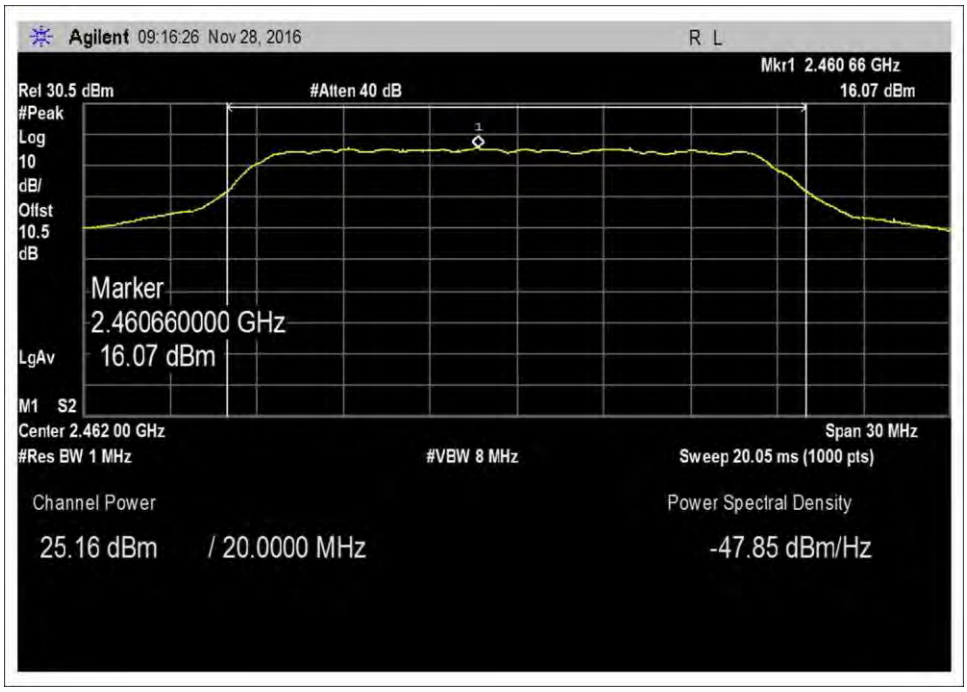
Booster on, 802.11g High Channel



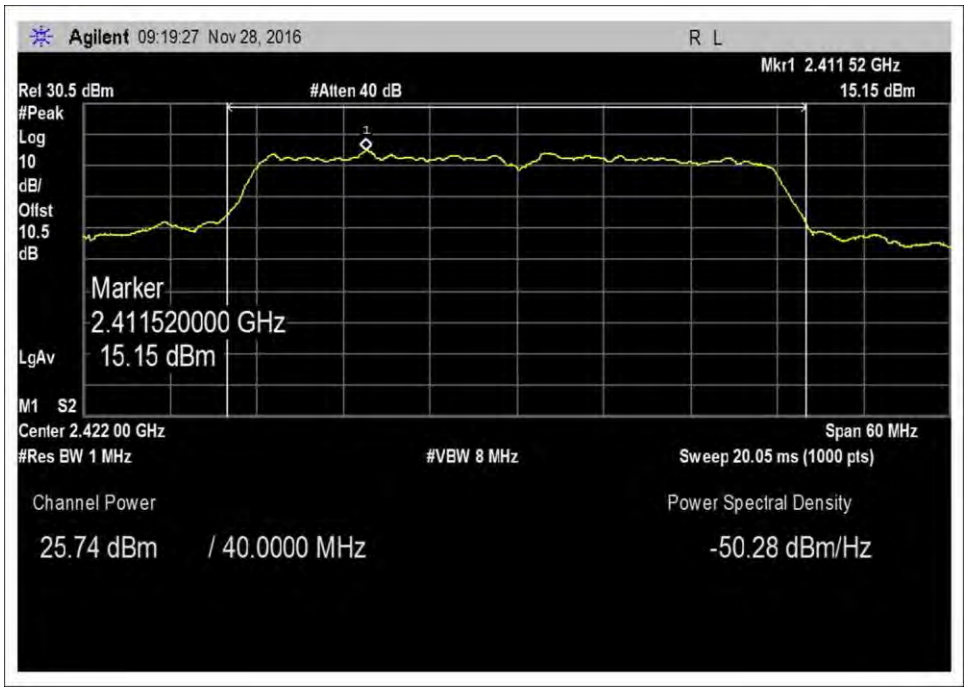
Booster on, 802.11n HT20, Low Channel



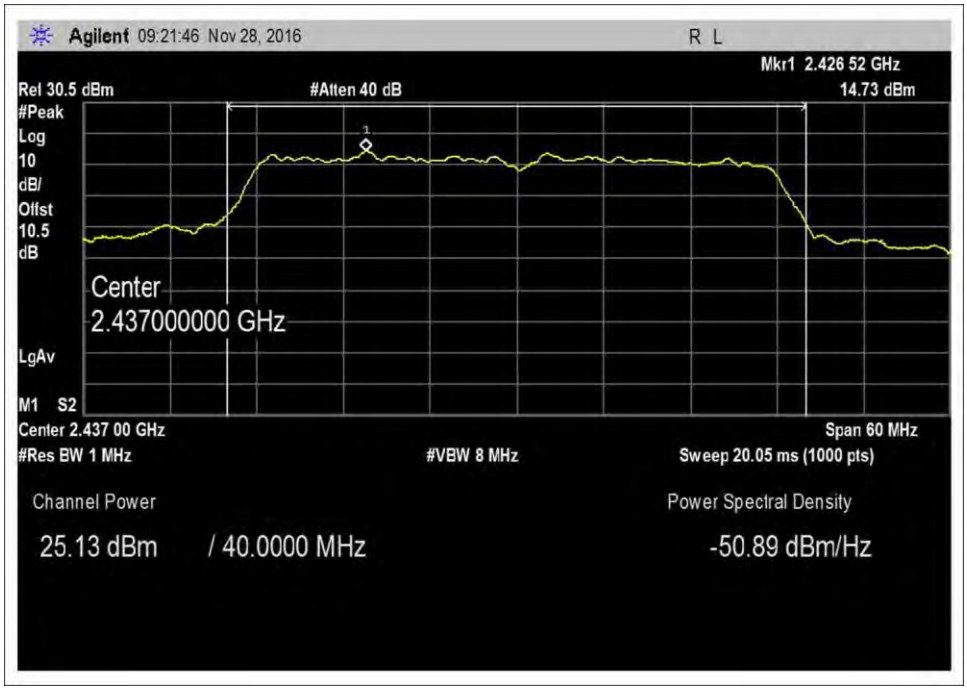
Booster on, 802.11n HT20, Middle Channel



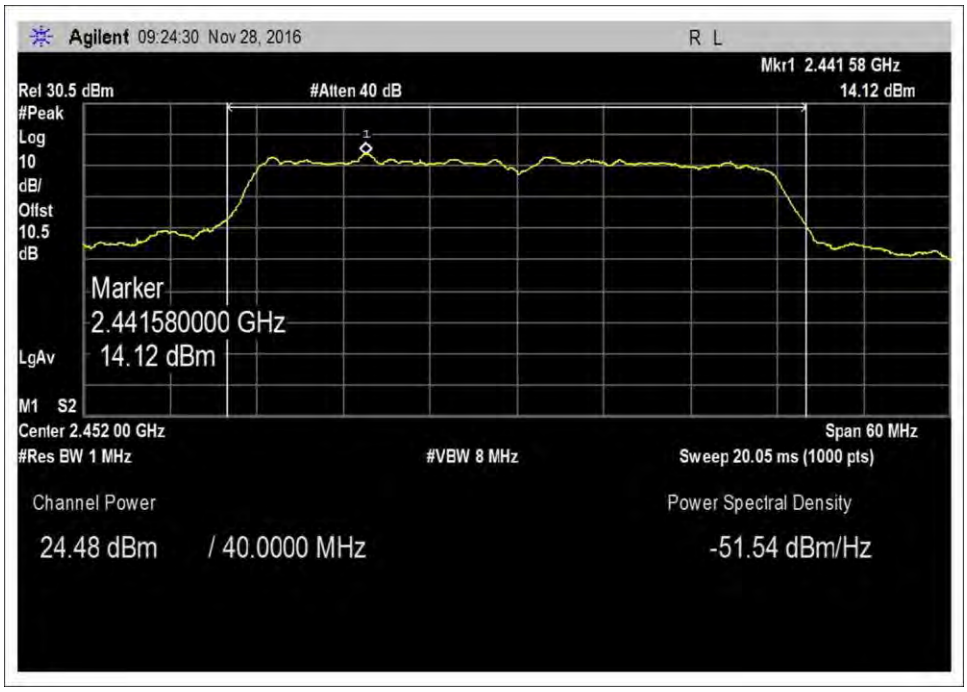
Booster on, 802.11n HT20, High Channel



Booster on, 802.11n HT40, Low Channel

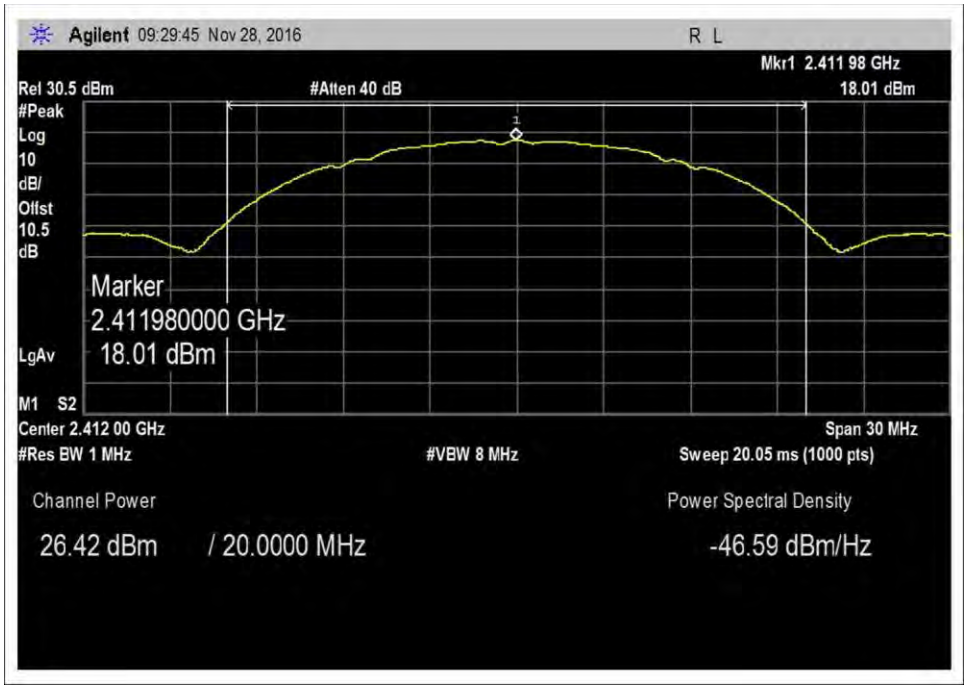


Booster on, 802.11n HT40, Middle Channel

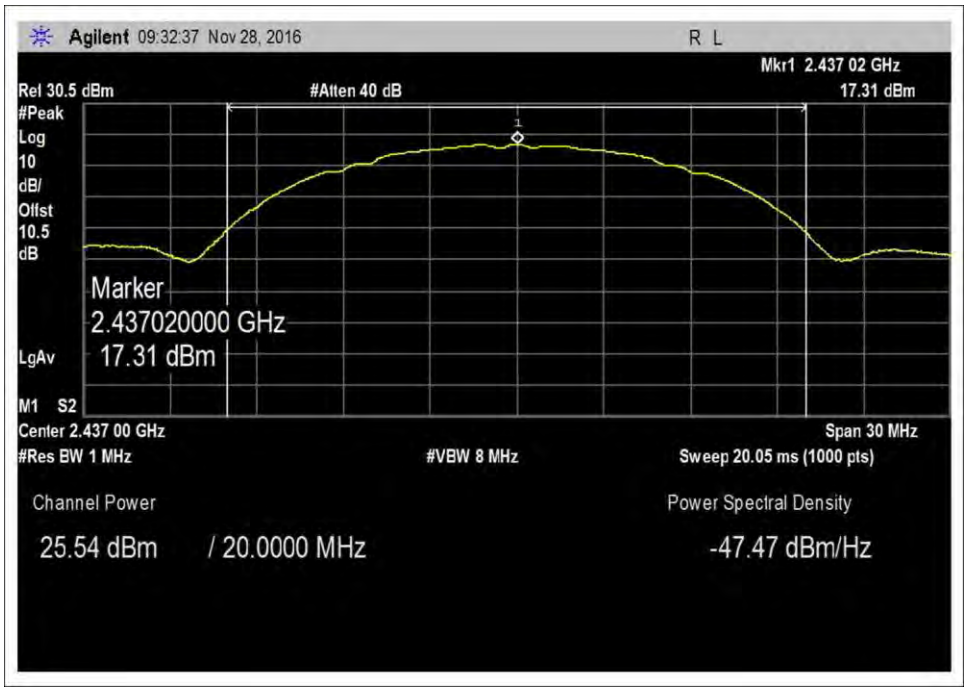


Booster on, 802.11n HT40, High Channel

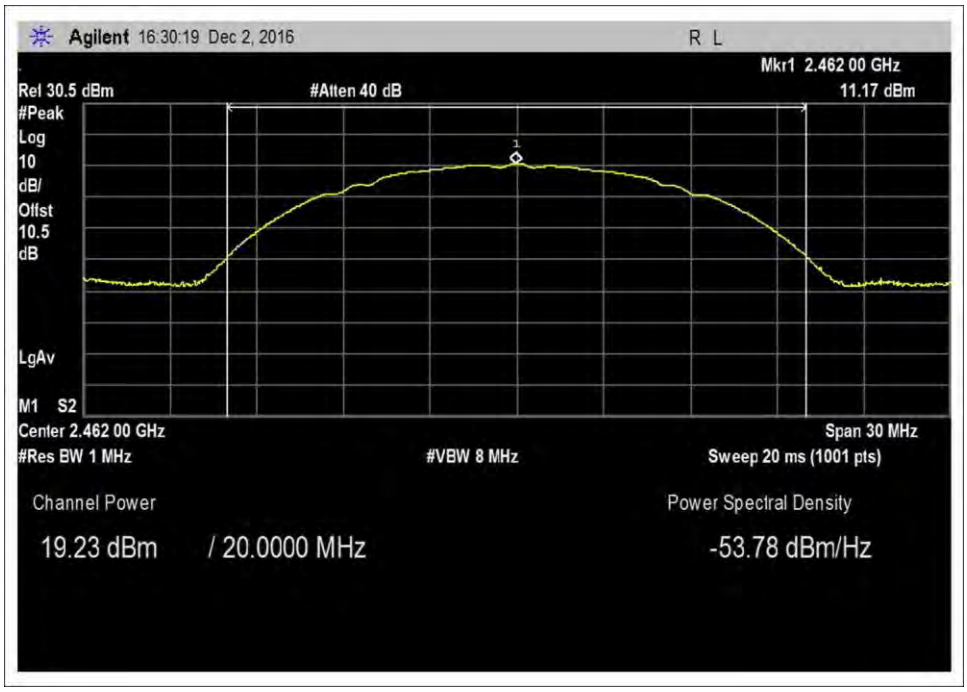
Booster on, 2132.5 GSM



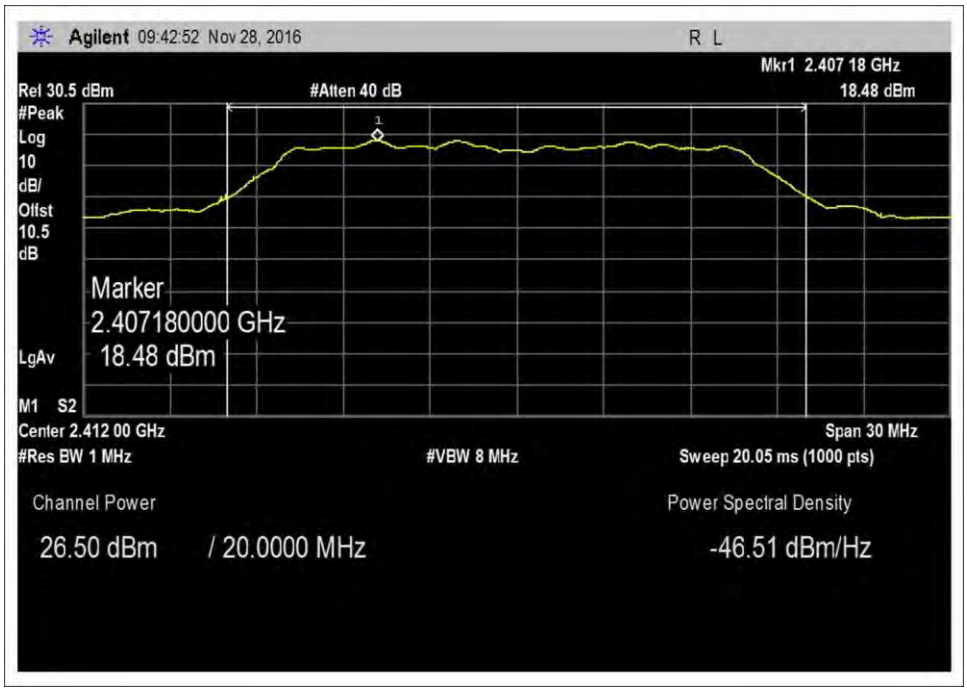
Booster on, 802.11b, Low Channel



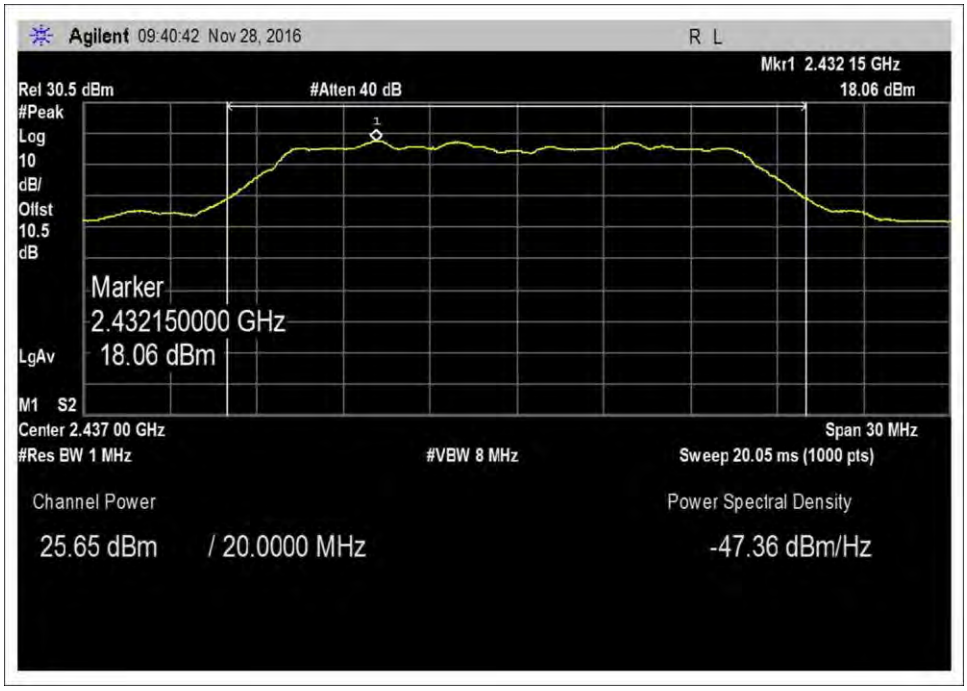
Booster on, 802.11b, Middle Channel



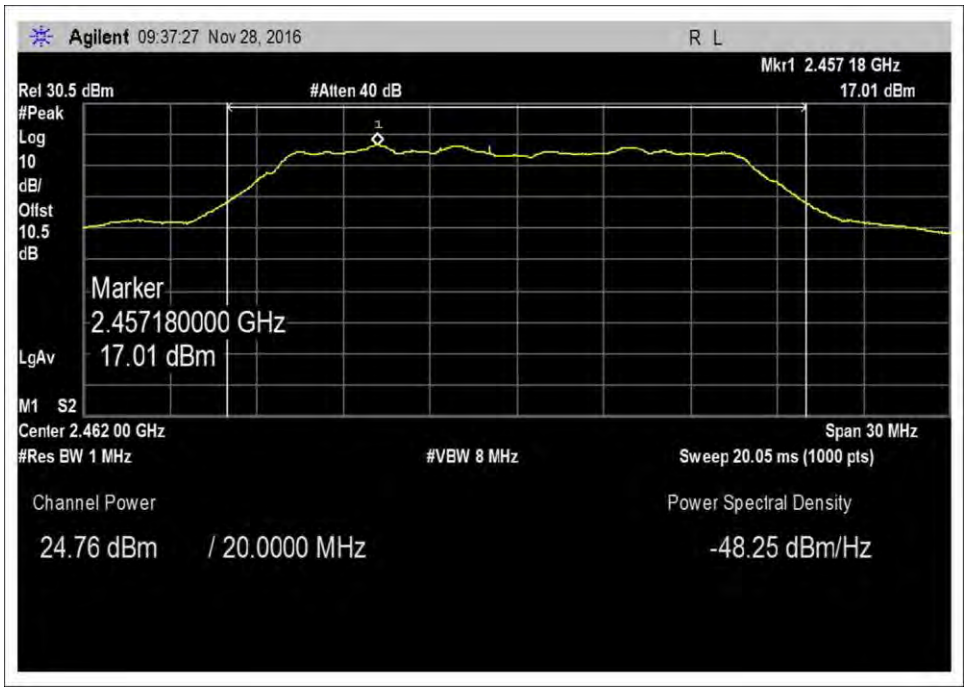
Booster on, 802.11b, High Channel



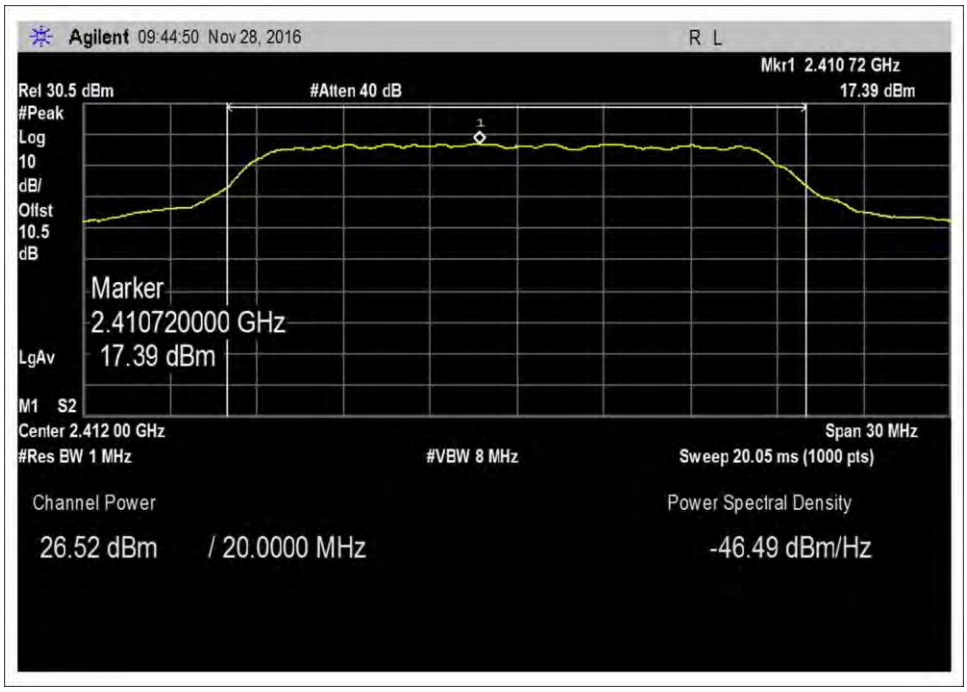
Booster on, 802.11g, Low Channel



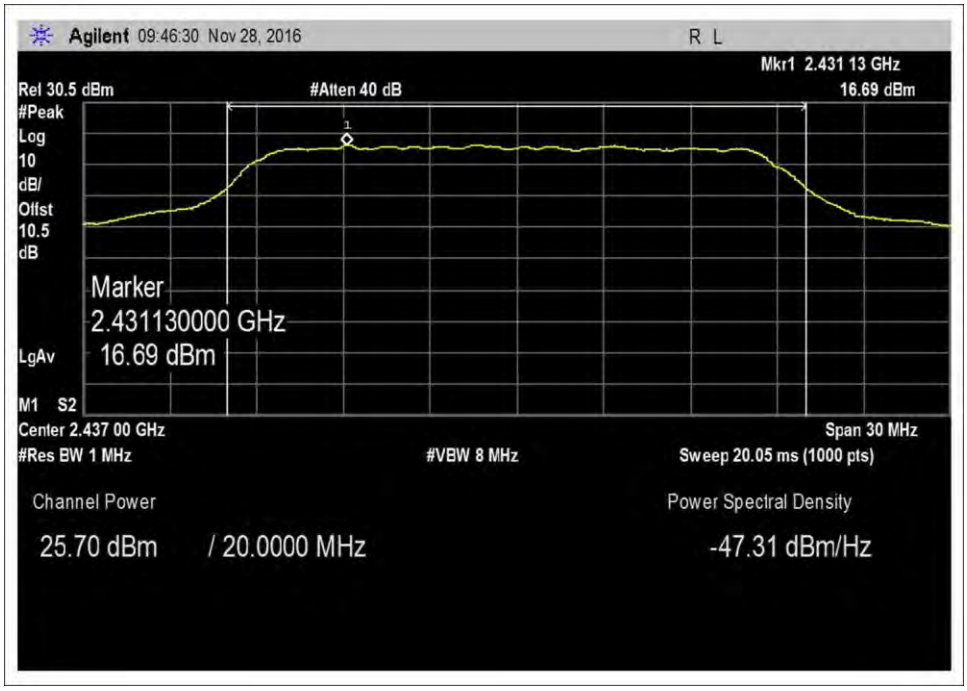
Booster on, 802.11g, Middle Channel



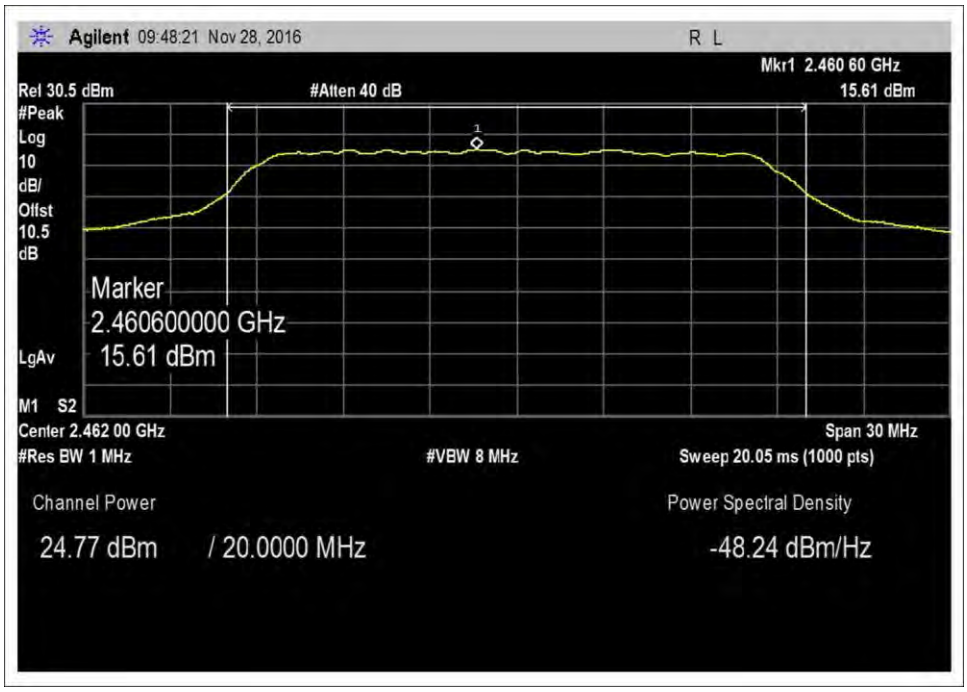
Booster on, 802.11g, High Channel



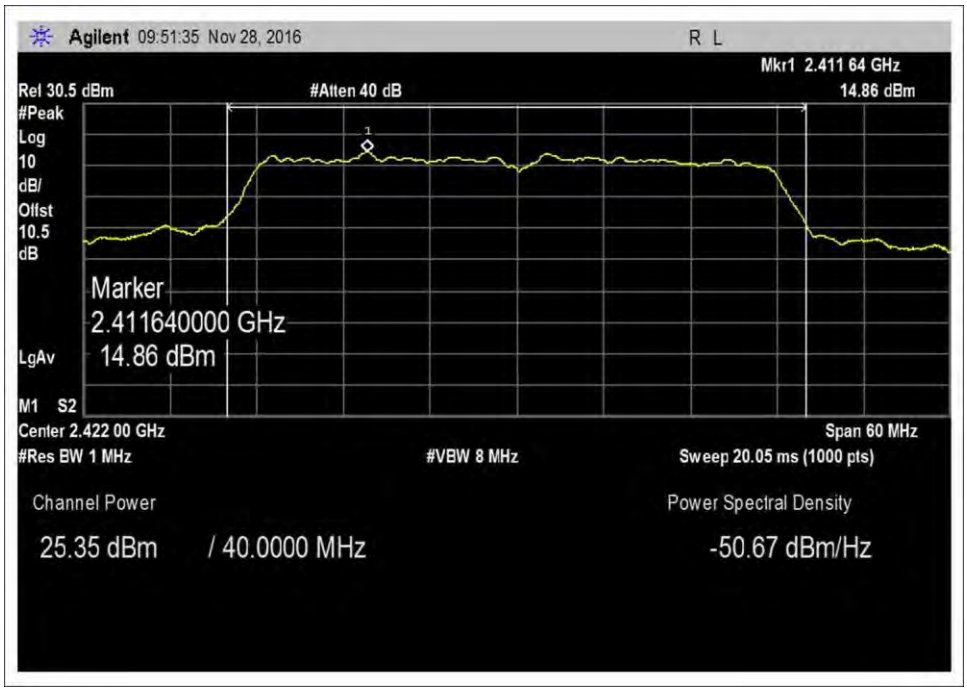
Booster on, 802.11n HT20, Low Channel



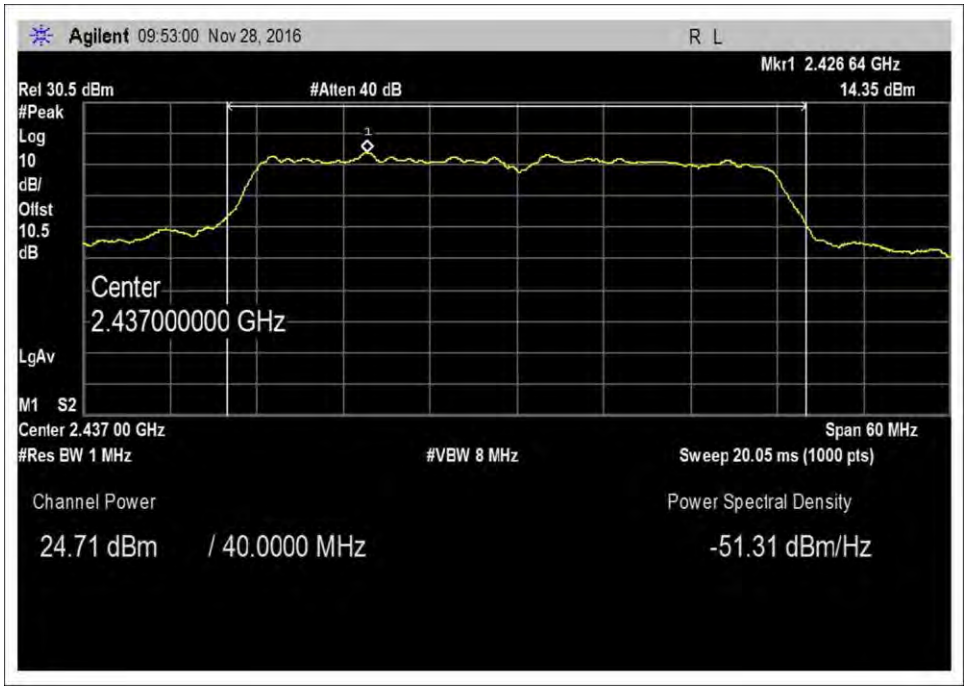
Booster on, 802.11n HT20, Middle Channel



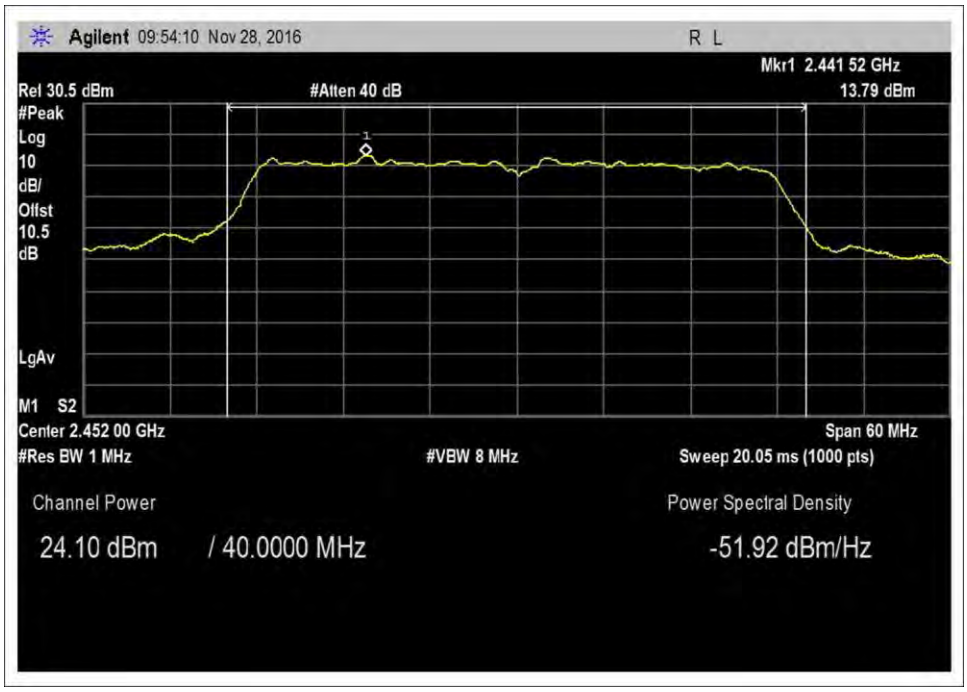
Booster on, 802.11n HT20, High Channel



Booster on, 802.11n HT40, Low Channel

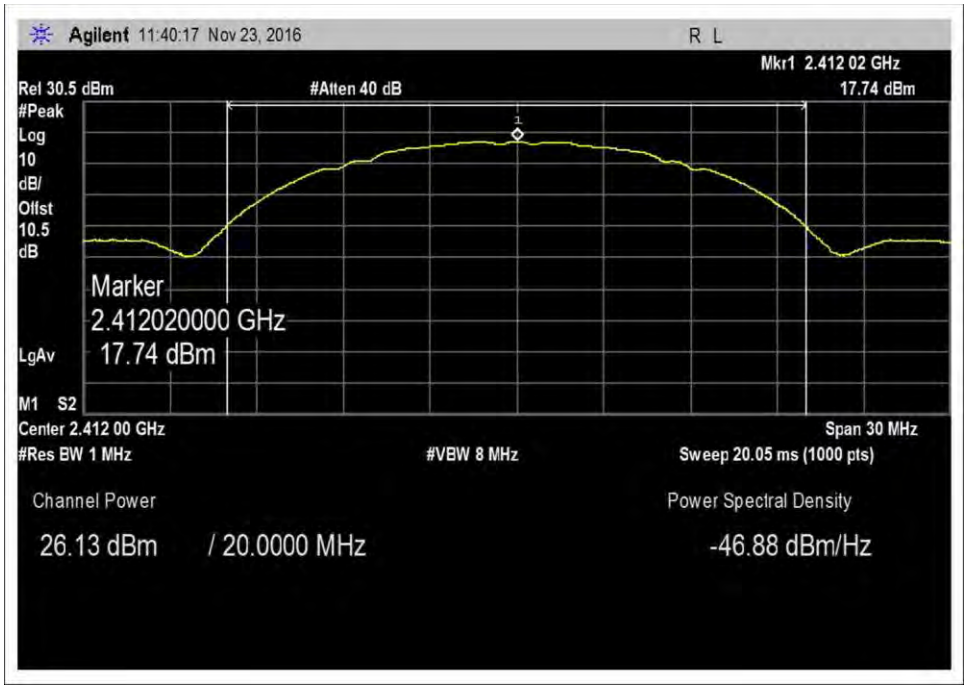


Booster on, 802.11n HT40, Middle Channel

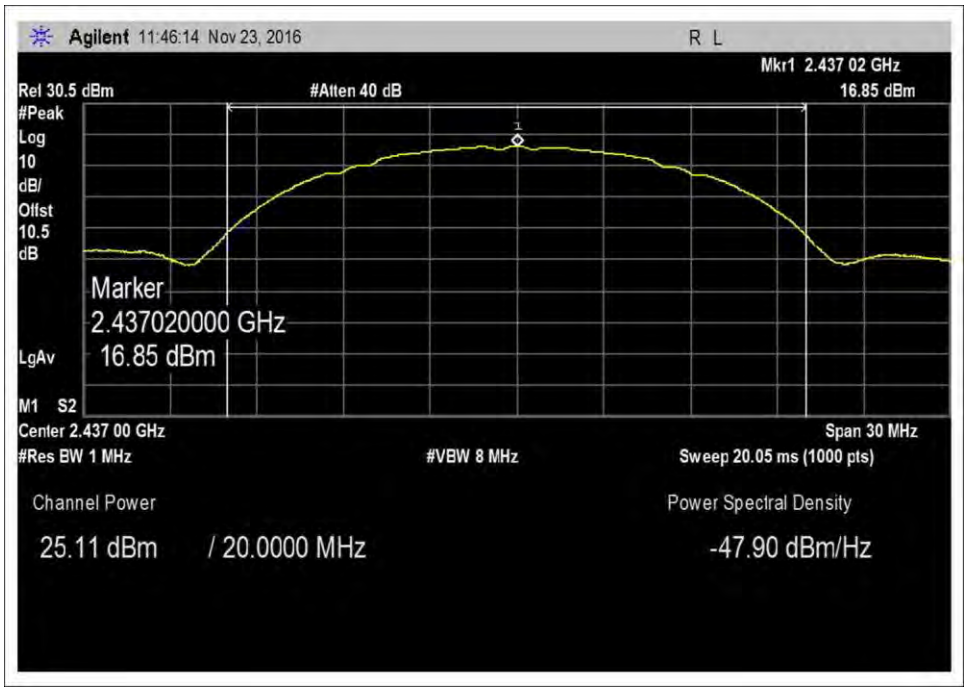


Booster on, 802.11n HT40, High Channel

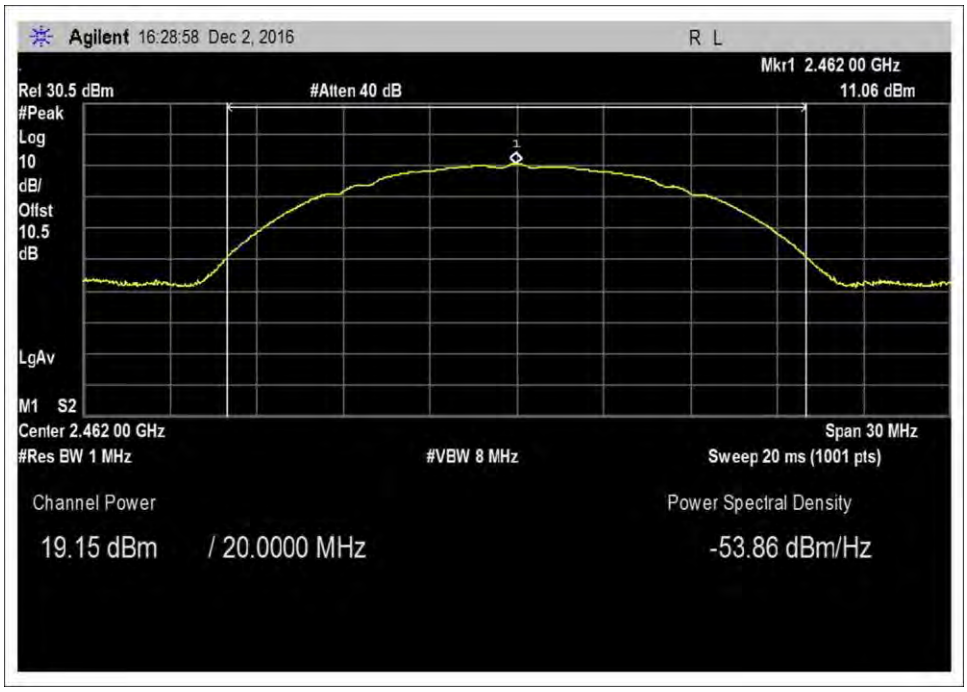
Booster on, 2132.5 AWGN



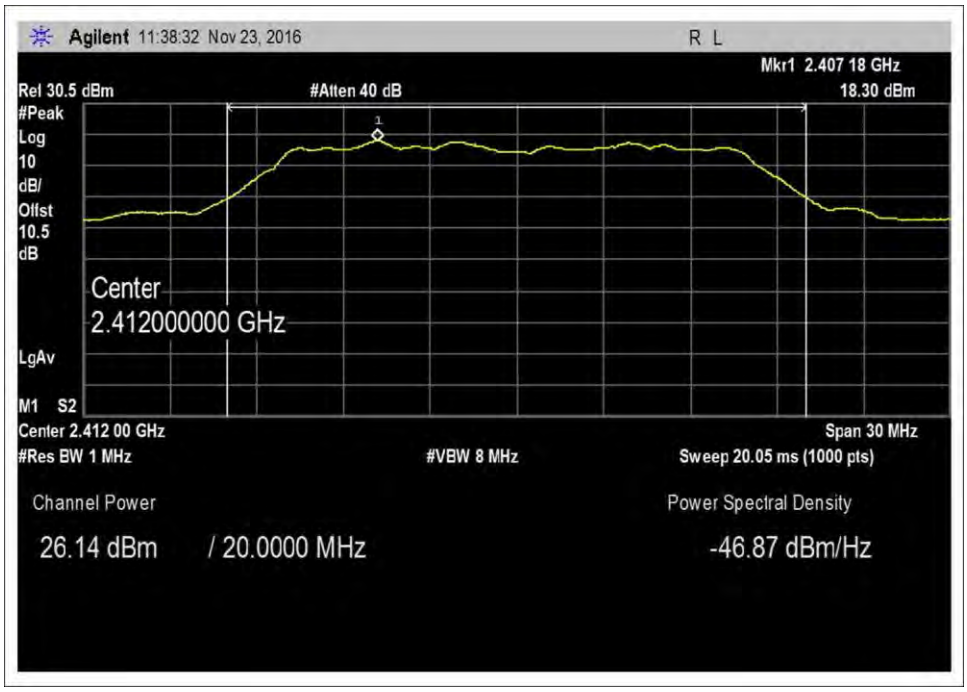
Booster on, 802.11b, Low Channel



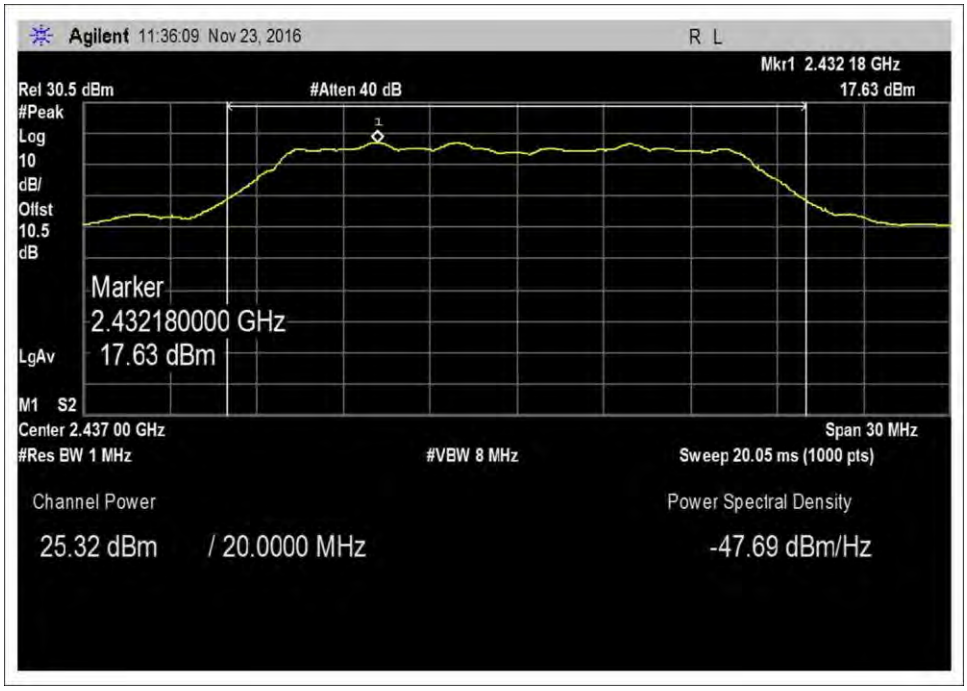
Booster on, 802.11b, Middle Channel



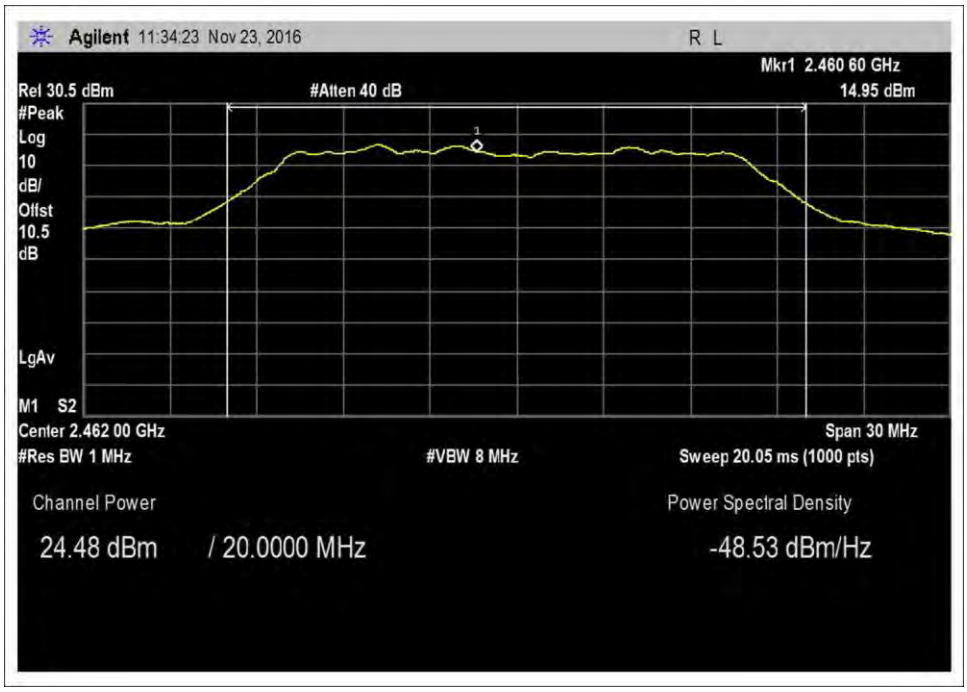
Booster on, 802.11b, High Channel



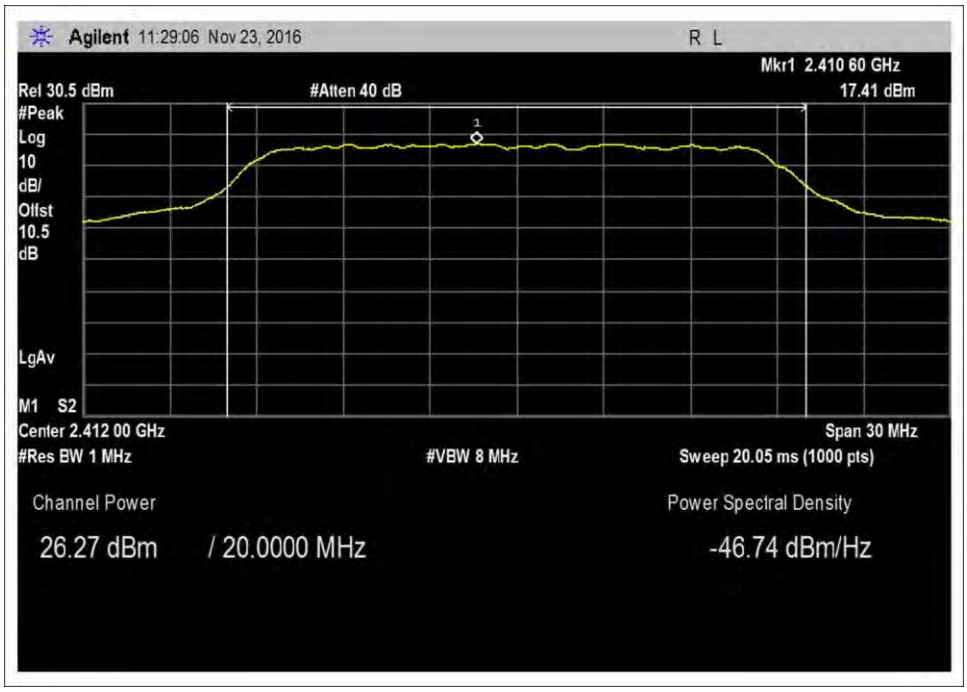
Booster on, 802.11g, Low Channel



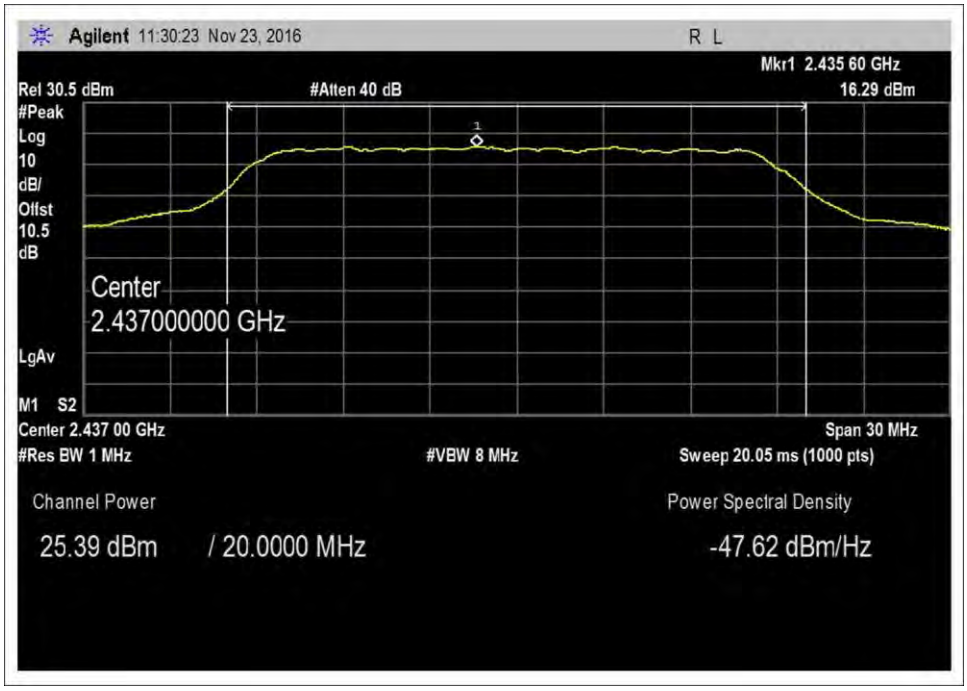
Booster on, 802.11g, Middle Channel



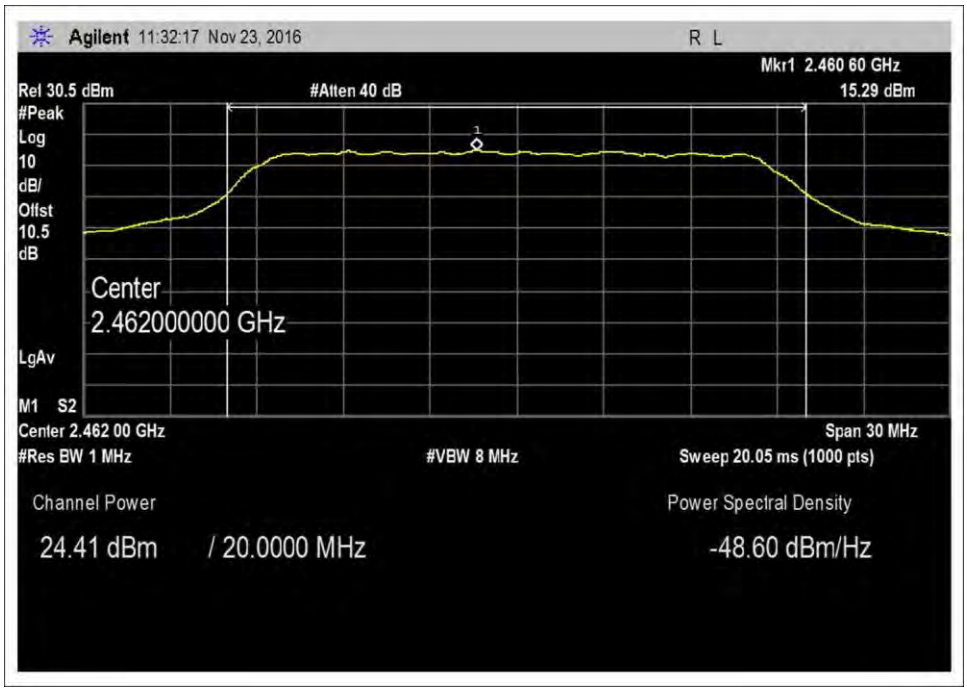
Booster on, 802.11g, High Channel



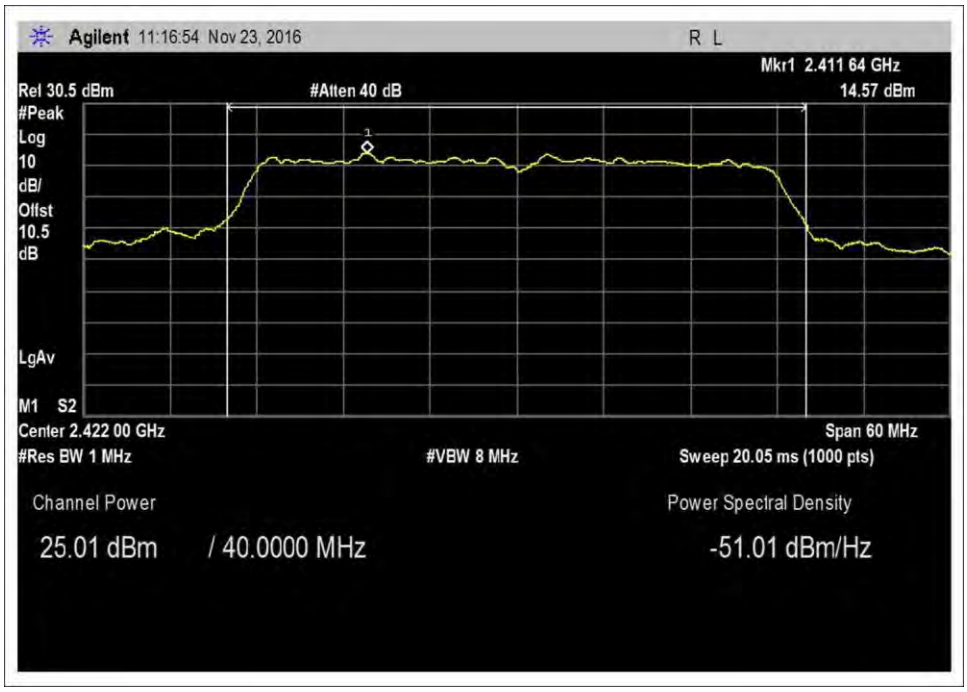
Booster on, 802.11n HT20, Low Channel



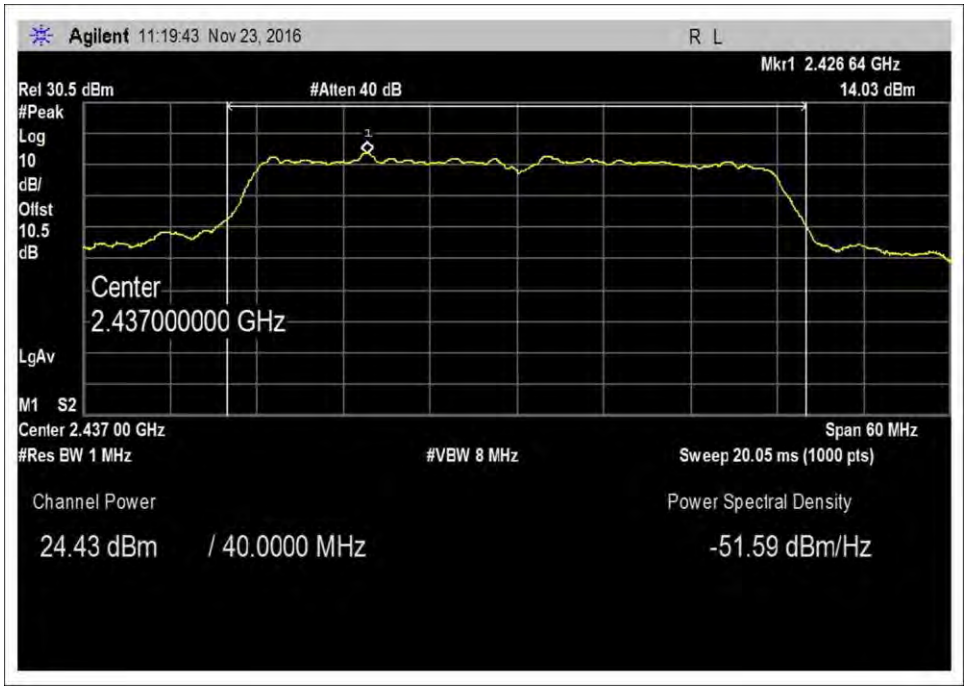
Booster on, 802.11n HT20, Middle Channel



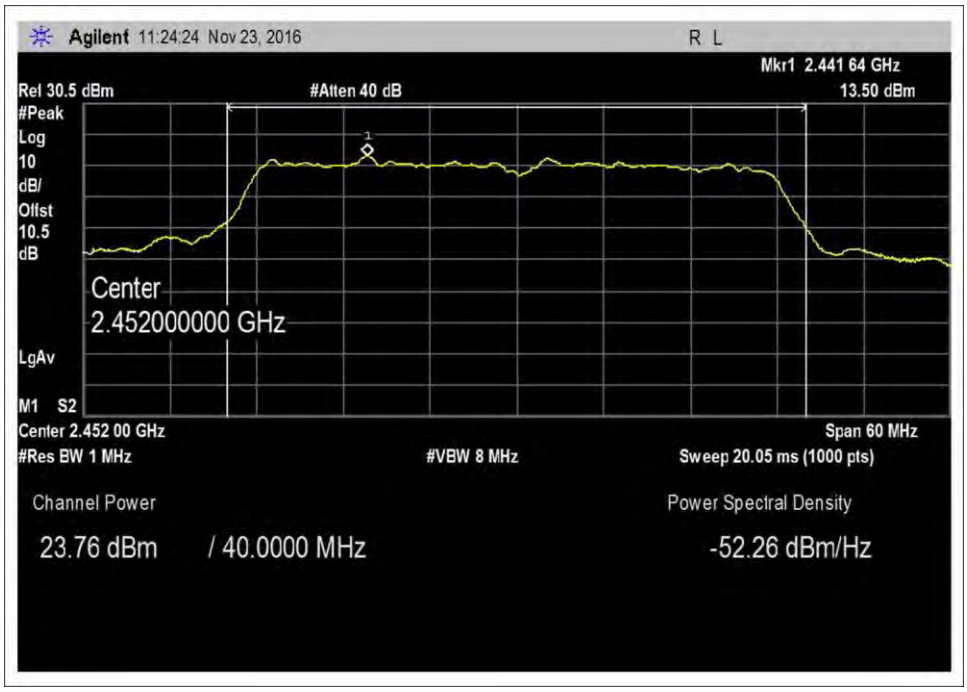
Booster on, 802.11n HT20, High Channel



Booster on, 802.11n HT40, Low Channel

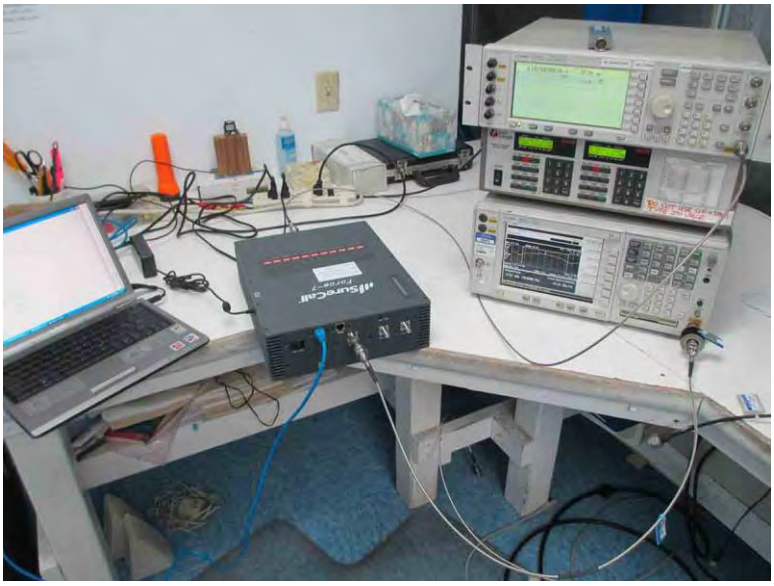


Booster on, 802.11n HT40, Middle Channel



Booster on, 802.11n HT40, High Channel

Test Setup Photo(s)



15.247(e) Power Spectral Density

Test Setup/Conditions			
Test Location:	Fremont Lab C3	Test Engineer:	Hieu Song Nguyenpham
Test Method:	ANSI C63.10 (2013), KDB 558074	Test Date(s):	11/29/2016
Configuration:	1		
Test Setup:	The EUT is placed on non-conducted table. It is connected directly to a Spectrum Analyzer. It is set continuously transmitting as intend. 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.		
Note:	1/ Measure Power Spectrum Density a/ Antenna SC222W, Gain =6dBi I/ 802.11b - Set Attenuator =40 for Low and Middle Channel. Attenuator =28 for High Channel II/802.11g - Attenuator =48 for all channels III/ 802.11n HT20 - Attenuator= 48 for all channels IV/ 802.11 n HT40 - Attenuator =46 for all channels -		

Environmental Conditions			
Temperature (ºC)	20.6	**Relative Humidity (%):**	43

Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
P01211	Attenuator	Aeroflex/Weinschel	23-10-34	3/31/2015	3/31/2017
P06900	Cable	Astrolab	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
03471	Spectrum Analyzer	Agilent	E4440A	1/4/2016	1/4/2018

Test Data Summary - RF Conducted Measurement for Antenna SC222W				
Measurement Method: PKPSD				
Frequency (MHz)	**Modulation**	**Measured (dBm/3kHz)**	**Limit (dBm/3kHz)**	**Results**
2412	802.11b	-6.99	≤8	Pass
2437	802.11b	-7.87	≤8	Pass
2462	802.11b	-14.31	≤8	Pass

Test Data Summary - RF Conducted Measurement for Antenna SC222W				
Measurement Method: PKPSD				
Frequency (MHz)	**Modulation**	**Measured (dBm/3kHz)**	**Limit (dBm/3kHz)**	**Results**
2412	802.11g	-6.99	≤8	Pass
2437	802.11g	-7.52	≤8	Pass
2462	802.11g	-8.2	≤8	Pass

Test Data Summary - RF Conducted Measurement for Antenna SC222W				
Measurement Method: PKPSD				
Frequency (MHz)	**Modulation**	**Measured (dBm/3kHz)**	**Limit (dBm/3kHz)**	**Results**
2412	802.11n HT20	-5.19	≤8	Pass
2437	802.11n HT20	-5.82	≤8	Pass
2462	802.11n HT20	-6.98	≤8	Pass

Test Data Summary - RF Conducted Measurement for Antenna SC222W				
Measurement Method: PKPSD				
Frequency (MHz)	**Modulation**	**Measured (dBm/3kHz)**	**Limit (dBm/3kHz)**	**Results**
2422	802.11n HT40	-9.74	≤8	Pass
2437	802.11n HT40	-10.35	≤8	Pass
2452	802.11n HT40	-11.04	≤8	Pass

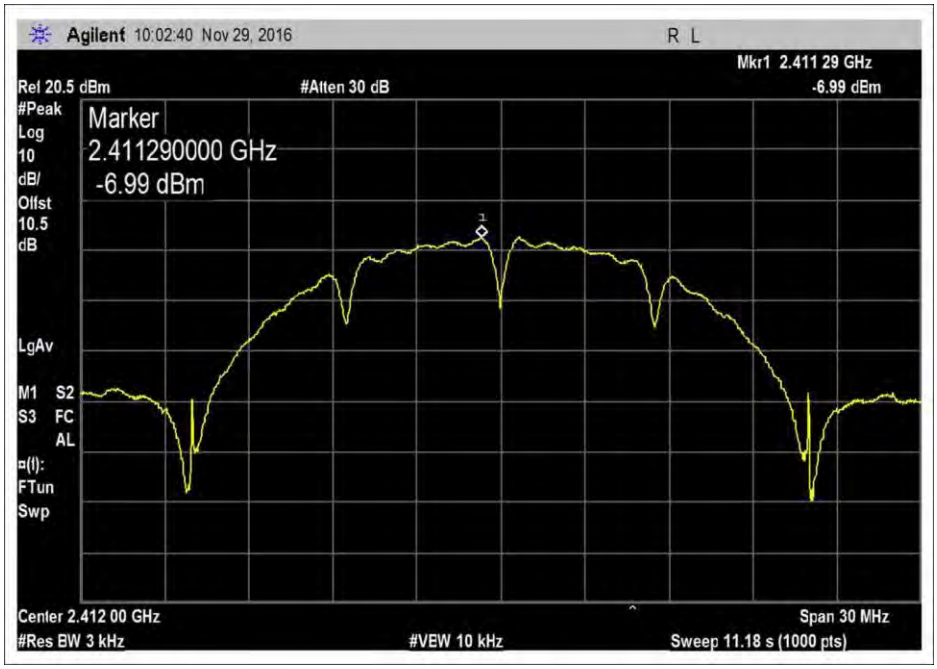
Conducted RF output power calculated in accordance with ANSI C63.10.

$$P(W) = \frac{(E \cdot d)^2}{30\ G}$$

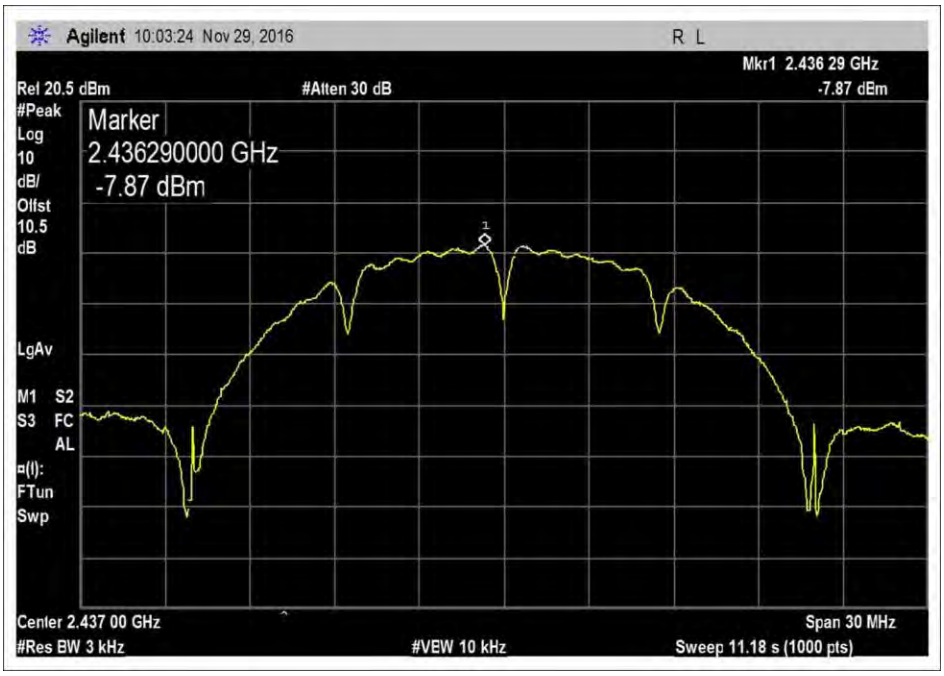
Or equivalently, in logarithmic form:

$$P(dBm) = E(dBuV/m) + 20LOG(d) - G\ - 104.77$$

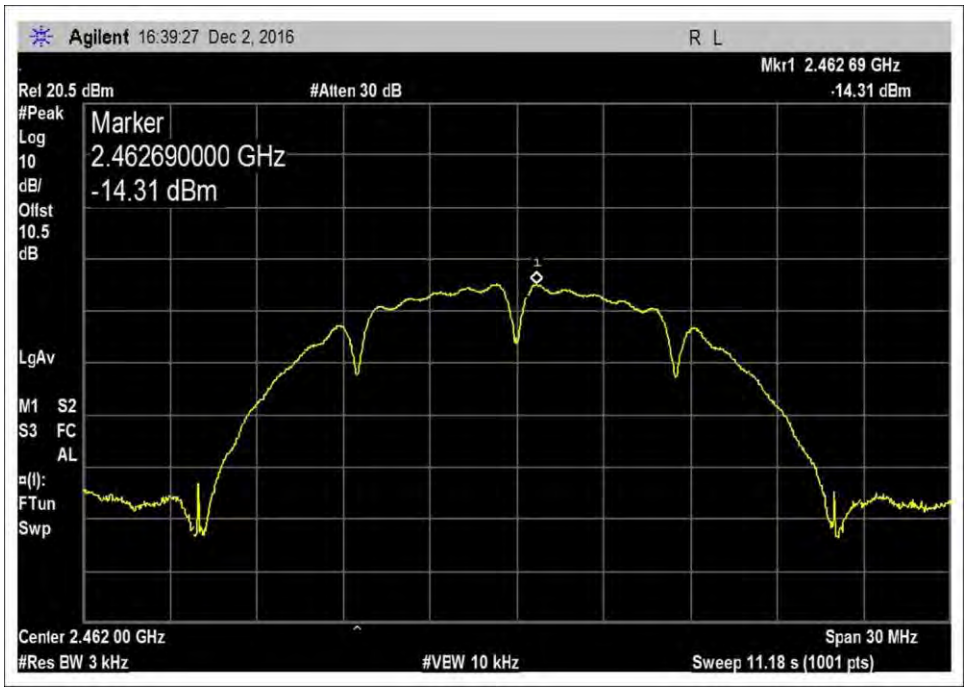
Plot(s)



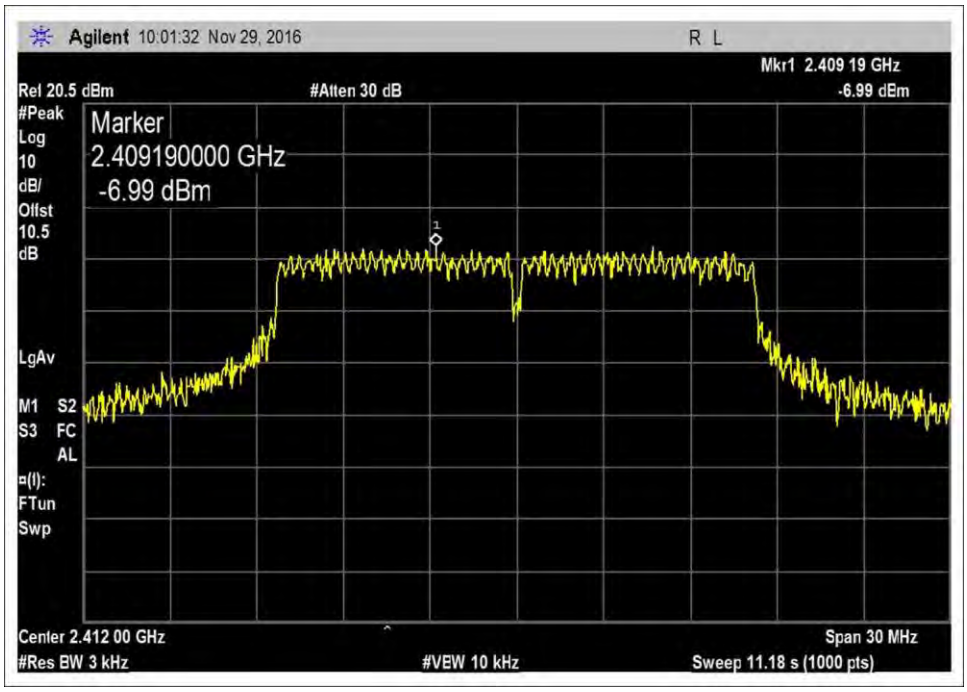
802.11b Low Channel



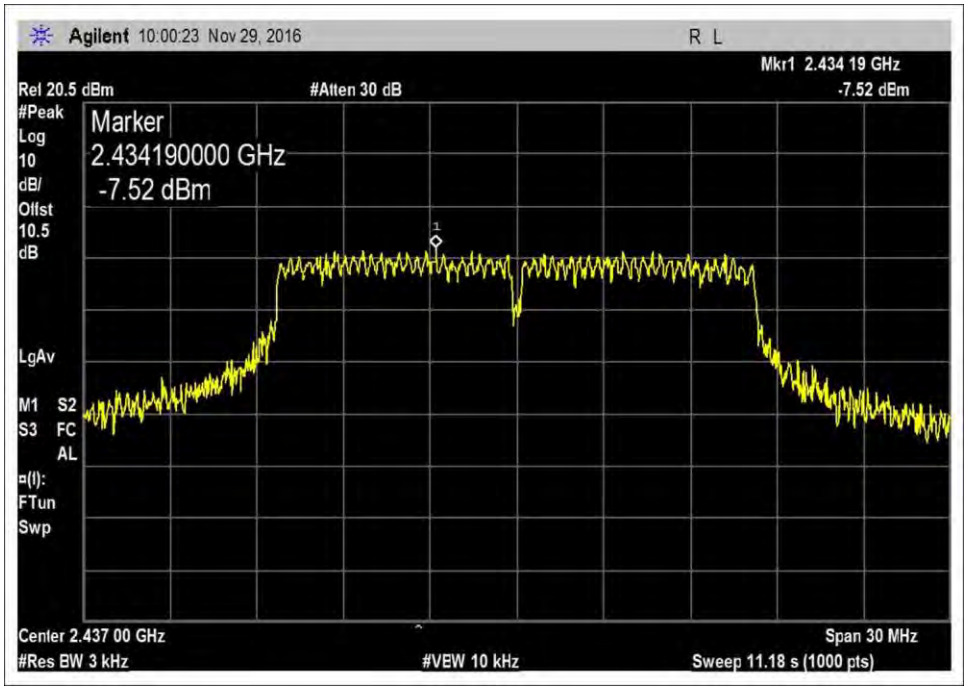
802.11b Middle Channel



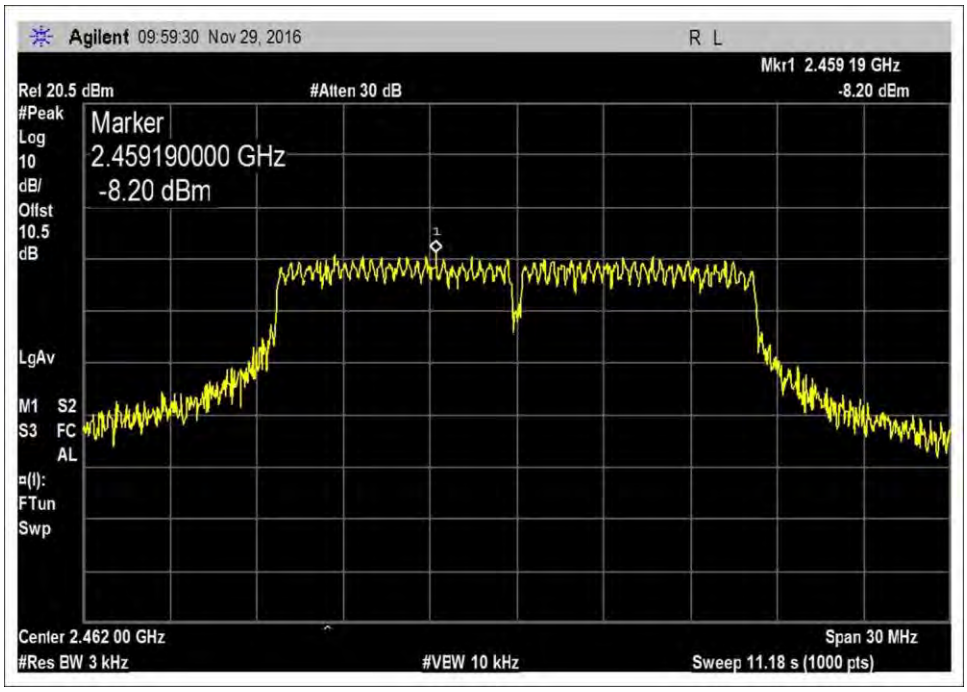
802.11b High Channel



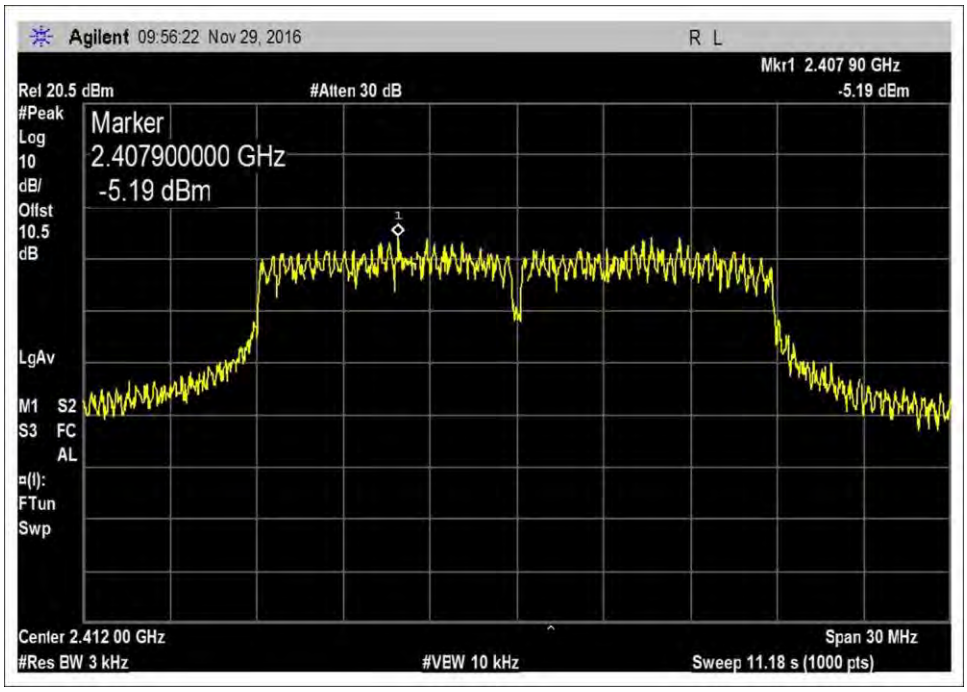
802.11g Low Channel



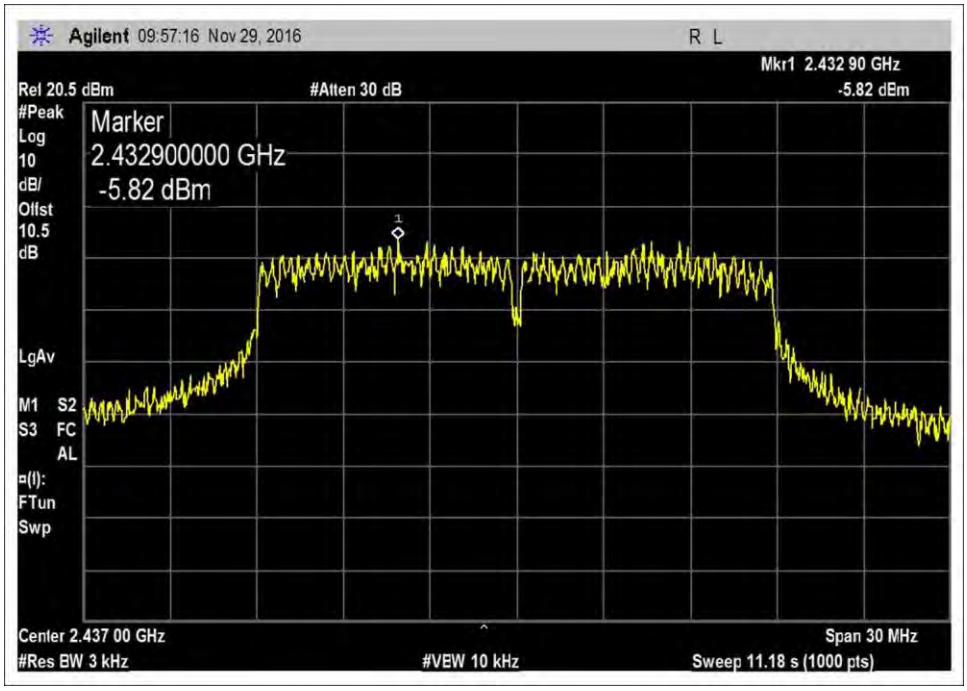
802.11g Middle Channel



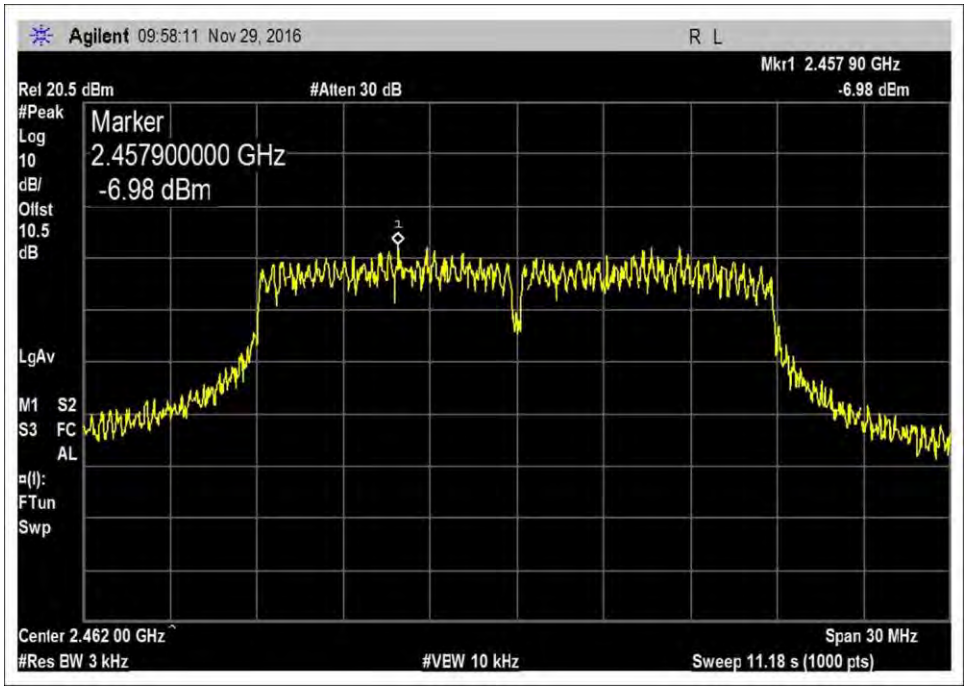
802.11g High Channel



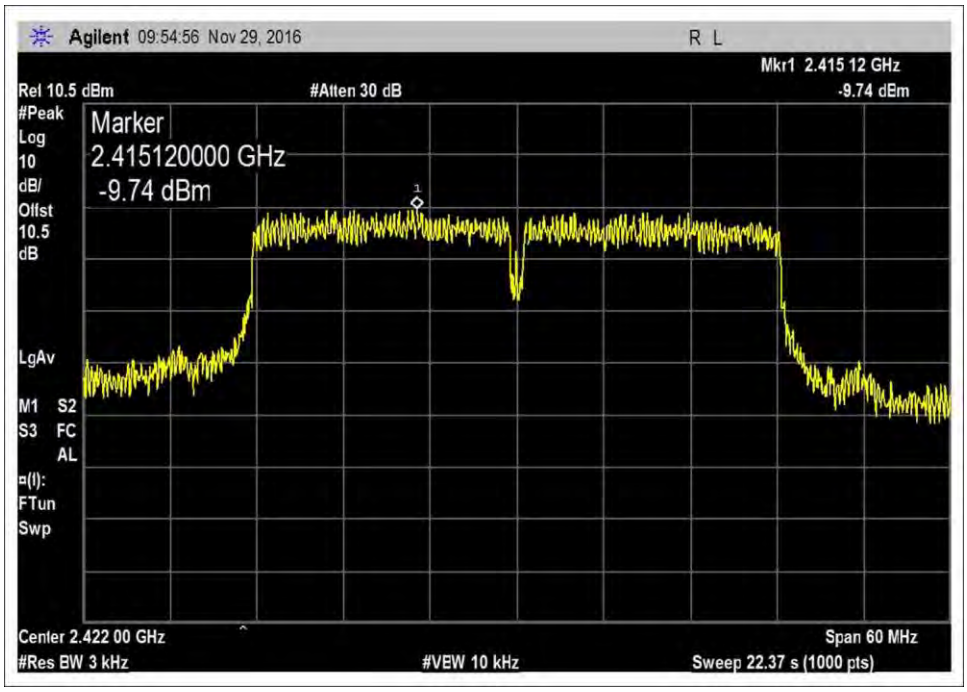
802.11n HT20 Low Channel



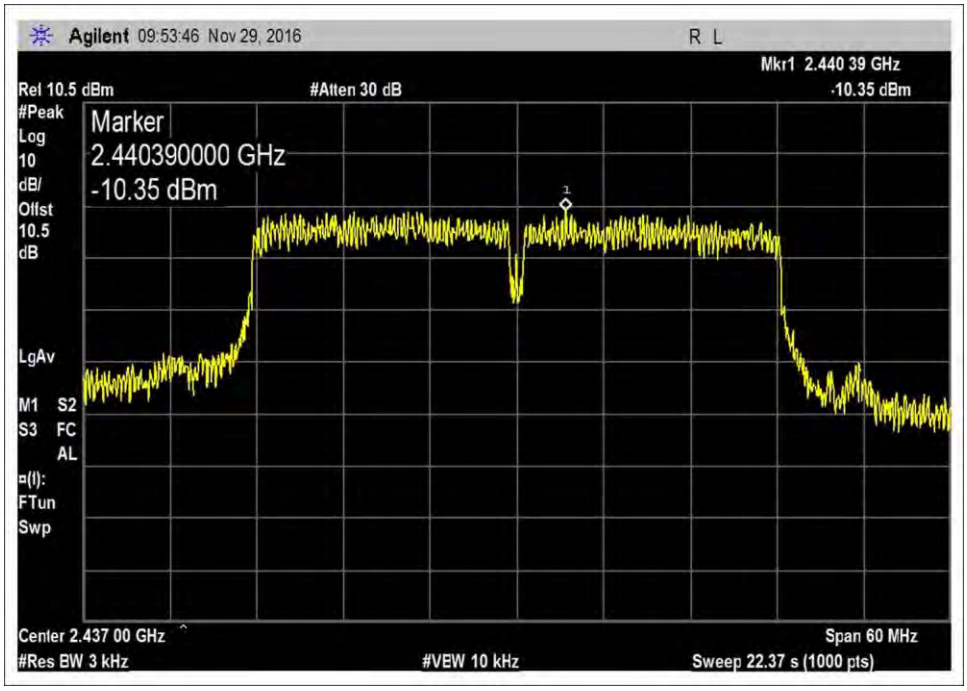
802.11n HT20 Middle Channel



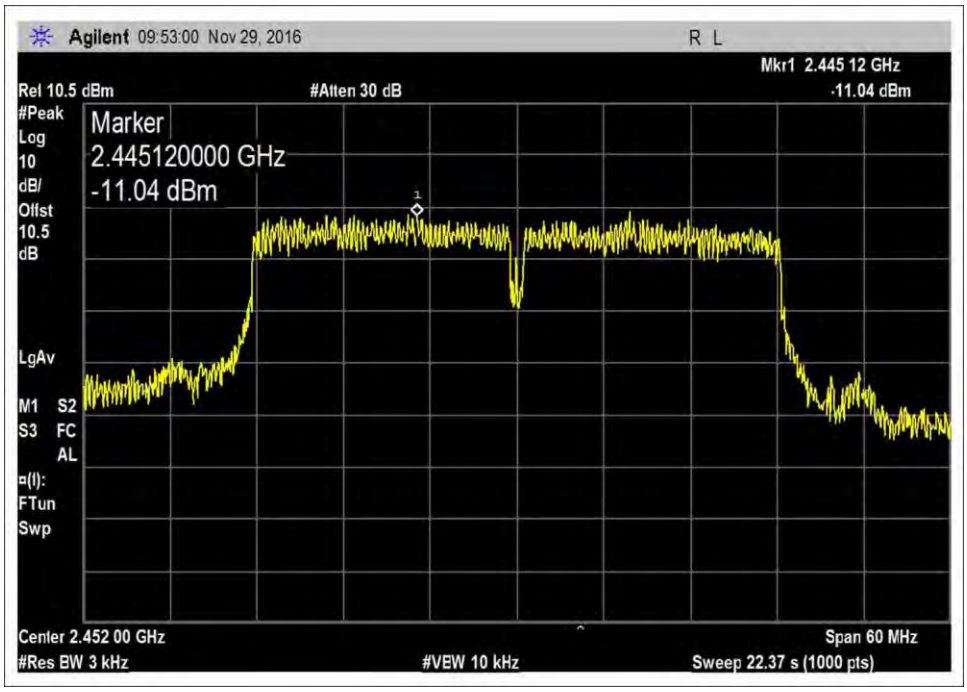
802.11n HT20 High Channel



802.11n HT40 Low Channel

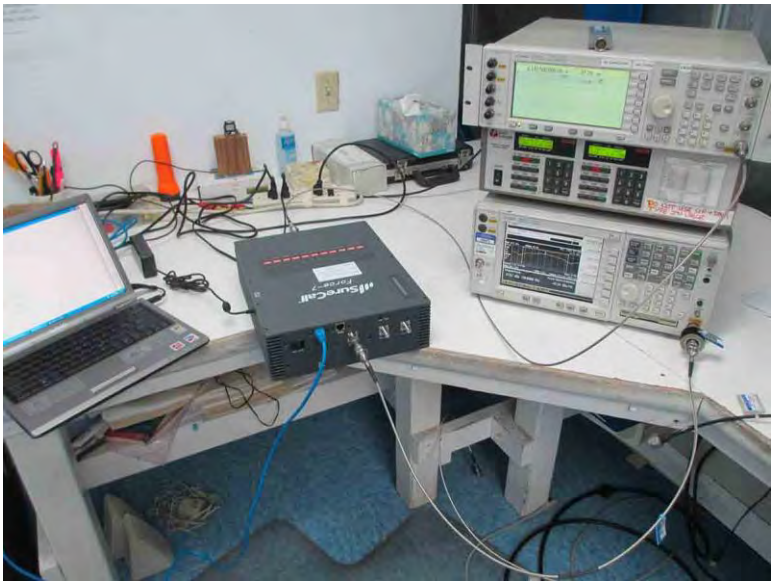


802.11n HT40 Middle Channel



802.11n HT40 High Channel

Test Setup Photo(s)



15.247(d) RF Conducted Emissions & Band Edge

Test Setup/Conditions			
Test Location:	Fremont Lab C3	Test Engineer:	Hieu Song Nguyenpham
Test Method:	ANSI C63.10 (2013), KDB 558074	Test Date(s):	11/29/2016
Configuration:	1		
Notes	1/ Measure Conducted Spurious Emission a/ Antenna SC222W, Gain =6dBi I/ 802.11b - Set Attenuator =40 for Low and Middle Channel. Attenuator =28 for High Channel II/802.11g - Attenuator =48 for all channels III/ 802.11n HT20 - Attenuator= 48 for all channels IV/ 802.11 n HT40 - Attenuator =46 for all channels		

Environmental Conditions			
Temperature (ºC)	19.7	Relative Humidity (%):	42

Test Setup / Conditions / Data

Testing Notes:
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 v05r03", Section 11 Emissions in non-restricted frequency band.

802.11b for SC222W Antenna

Reference Limit in 100kHz			
Channel	dBm in 100kHz	dBuV in 100kHz	Reference Limit dBuV
LO	12.88	119.88	99.88
MID	12.38	119.38	99.38
HI	5.77	112.77	92.77

The Data rate =2Mbps. Set attenuator at 40 for Low and Middle, and 28 for High Channel. Choose the worst case for the limit for all modes.

802.11g for SC222W Antenna

Reference Limit in 100kHz			
Channel	dBm in 100kHz	dBuV in 100kHz	Reference Limit dBuV
LO	6.55	113.55	93.55
MID	5.55	112.55	92.55
HI	4.54	111.54	91.54

The Data rate =12Mbps. Set attenuator at 48. Choose the worst case for the limit for all modes.

802.11n HT20 for SC222W Antenna			
Reference Limit in 100kHz			
Channel			
	dBm in 100kHz	dBuV in 100kHz	Reference Limit dBuV
LO	7.24	114.24	94.24
MID	6.37	113.37	93.37
HI	5.42	112.42	92.42

The Data rate =MCS6. Set attenuator at 48. Choose the worst case for the limit for all modes.

802.11n HT40 for SC222W Antenna			
Reference Limit in 100kHz			
Channel			
	dBm in 100kHz	dBuV in 100kHz	Reference Limit dBuV
LO	2.9	109.9	89.9
MID	2.22	109.22	89.22
HI	1.7	108.7	88.7

The Data rate =MCS6. Set attenuator at 46. Choose the worst case for the limit for all modes.

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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	1:20:01 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	1
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

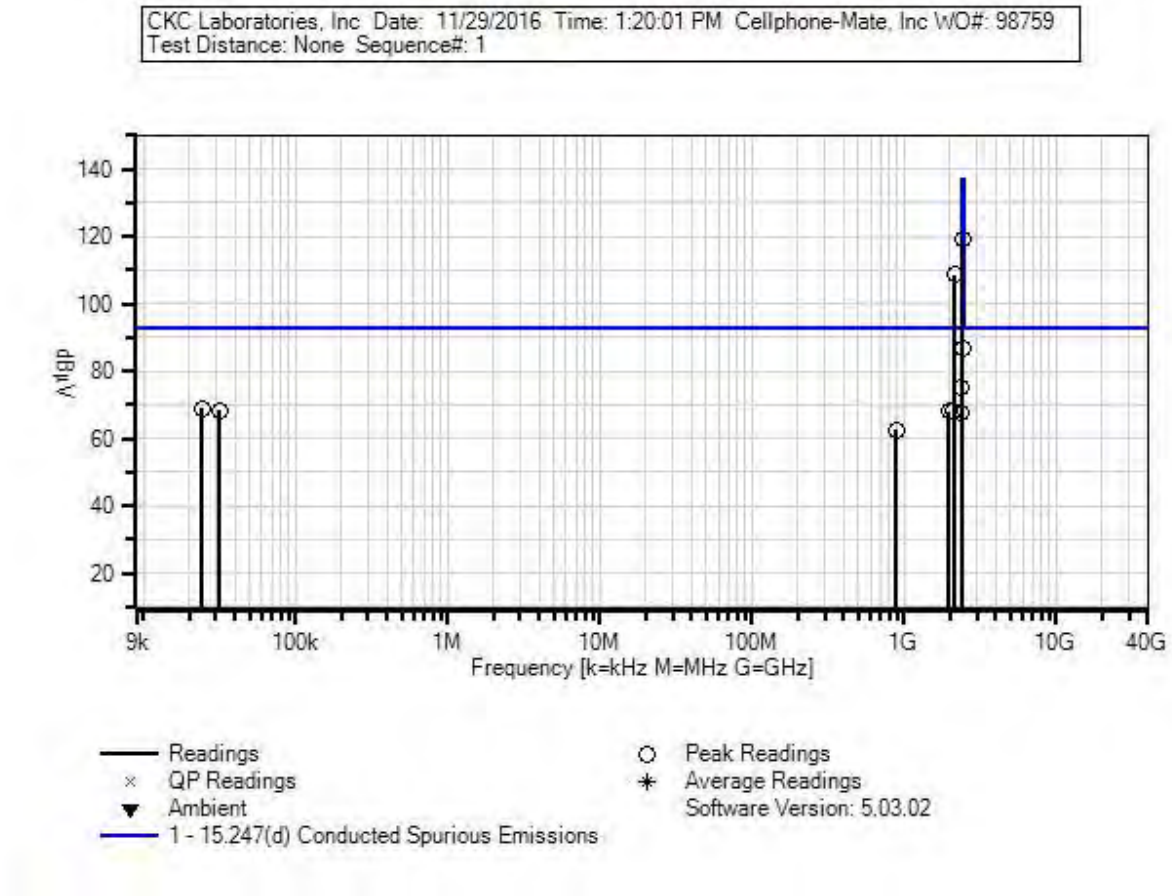
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11b Mode
Date rate =2 Mbps
Attenuator for 802.11b Mode=40
Low Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 1:20:01 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 1
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	99.0	+9.3	+0.5			+0.0	108.8	92.7 4.1MHz AWGN Signal	+16.1	None
2	2397.773M	76.8	+9.3	+0.5			+0.0	86.6	92.7	-6.1	None
3	2385.803M	65.6	+9.3	+0.5			+0.0	75.4	92.7	-17.3	None
4	2412.735M	109.2	+9.3	+0.5			+0.0	119.0	137.0	-18.0	None
5	24.349k	59.8	+9.2	+0.0			+0.0	69.0	92.7	-23.7	None
6	31.898k	59.0	+9.2	+0.0			+0.0	68.2	92.7	-24.5	None
7	1966.865M	58.3	+9.3	+0.5			+0.0	68.1	92.7	-24.6	None
8	2110.501M	58.1	+9.3	+0.5			+0.0	67.9	92.7	-24.8	None
9	2373.834M	57.8	+9.3	+0.5			+0.0	67.6	92.7	-25.1	None
10	877.992M	53.1	+9.2	+0.3			+0.0	62.6	92.7	-30.1	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	1:26:22 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	2
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

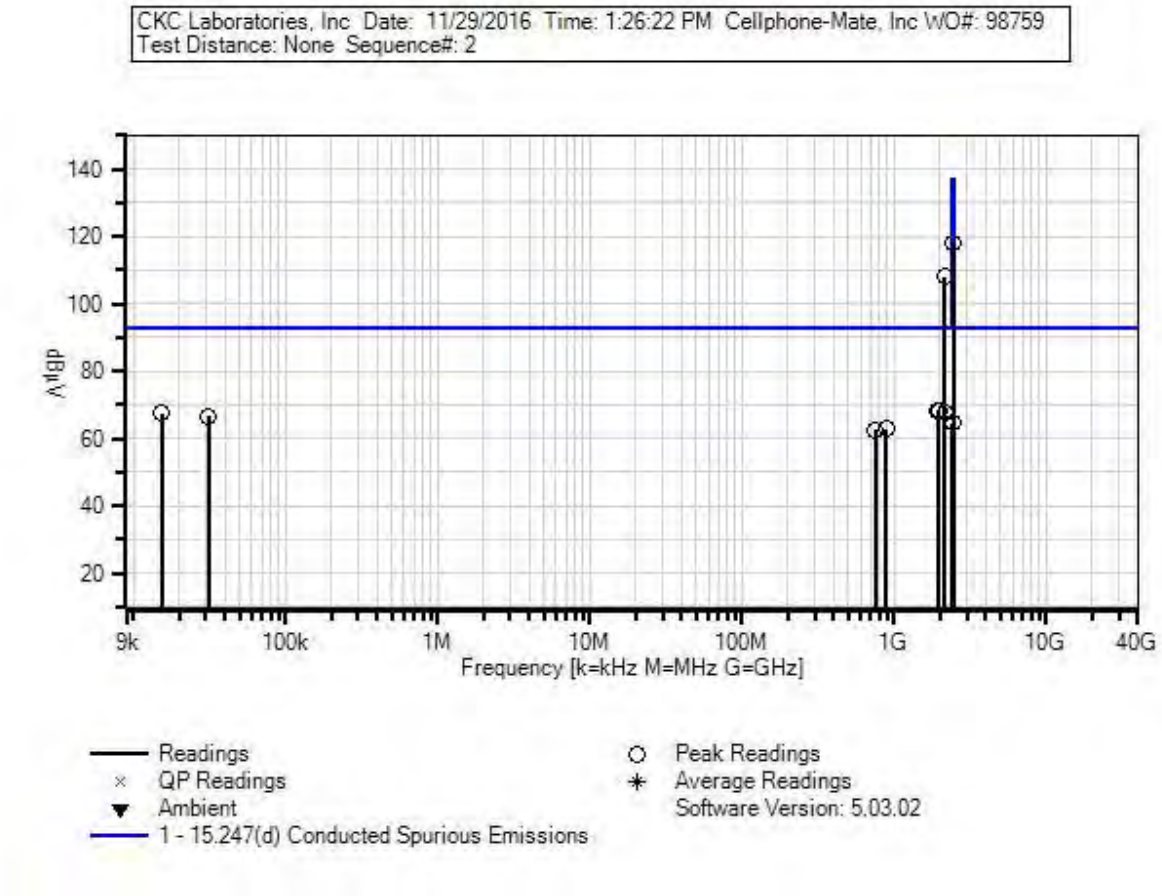
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11b Mode
Date rate =2 Mbps
Attenuator for 802.11b Mode=40
Middle Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 1:26:22 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 2
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	98.4	+9.3	+0.5			+0.0	108.2	92.7 4.1MHz AWGN Signal	+15.5	None
2	2436.674M	108.4	+9.3	+0.5			+0.0	118.2	137.0	-18.8	None
3	1960.880M	58.5	+9.3	+0.5			+0.0	68.3	92.7	-24.4	None
4	1936.940M	58.3	+9.3	+0.5			+0.0	68.1	92.7	-24.6	None
5	2149.402M	57.9	+9.3	+0.5			+0.0	67.7	92.7	-25.0	None
6	15.398k	58.3	+9.2	+0.0			+0.0	67.5	92.7	-25.2	None
7	31.141k	57.5	+9.2	+0.0			+0.0	66.7	92.7	-26.0	None
8	2397.773M	54.9	+9.3	+0.5			+0.0	64.7	92.7	-28.0	None
9	877.992M	53.2	+9.2	+0.3			+0.0	62.7	92.7	-30.0	None
10	747.633M	53.0	+9.2	+0.3			+0.0	62.5	92.7	-30.2	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	1:31:42 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	3
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

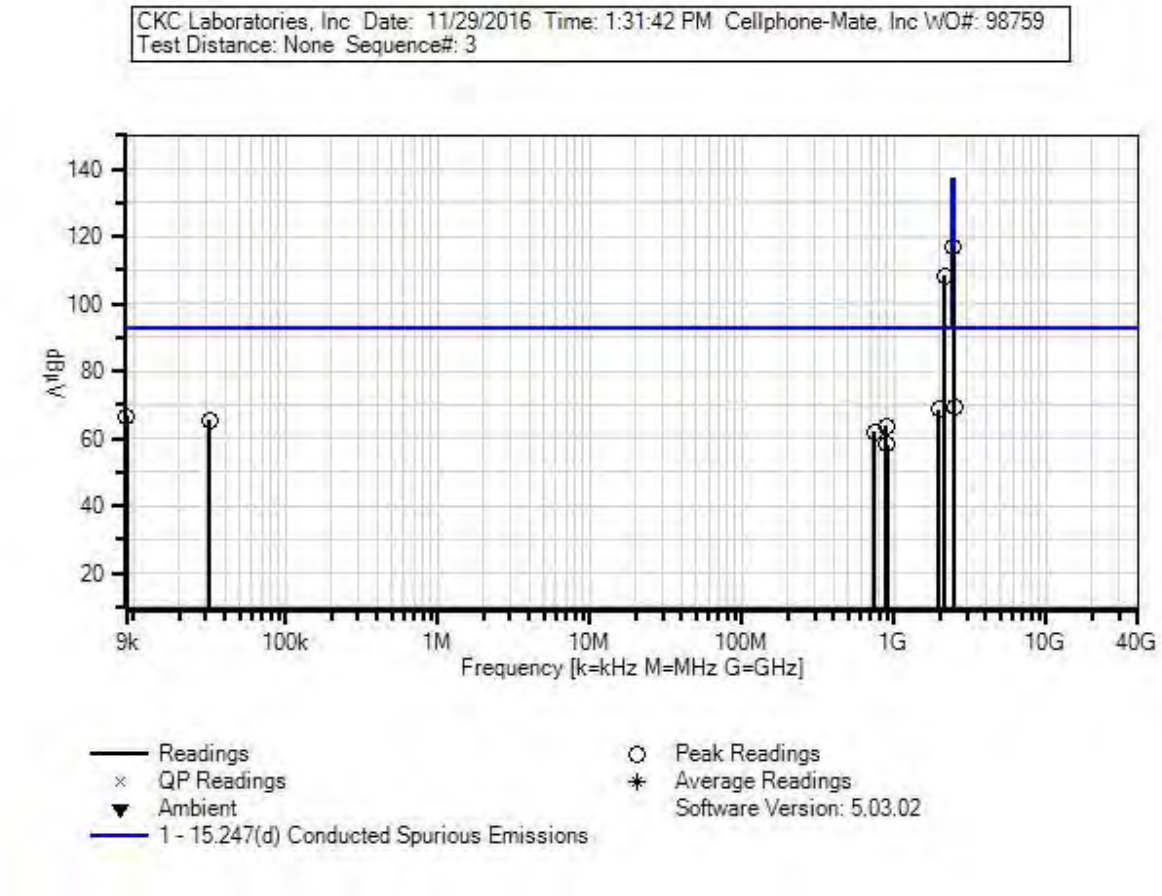
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11b Mode
Date rate =2 Mbps
Attenuator for 802.11b Mode=28
High Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 1:31:42 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 3
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	98.5	+9.3	+0.5			+0.0	108.3	92.7 4.1MHz AWGN Signal	+15.6	None
2	2460.614M	107.4	+9.3	+0.5			+0.0	117.2	137.0	-19.8	None
3	2487.545M	59.7	+9.3	+0.5			+0.0	69.5	92.7	-23.2	None
4	1957.887M	58.8	+9.3	+0.5			+0.0	68.6	92.7	-24.1	None
5	9.064k	57.5	+9.2	+0.0			+0.0	66.7	92.7	-26.0	None
6	31.822k	56.1	+9.2	+0.0			+0.0	65.3	92.7	-27.4	None
7	877.992M	54.2	+9.2	+0.3			+0.0	63.7	92.7	-29.0	None
8	736.336M	52.4	+9.2	+0.3			+0.0	61.9	92.7	-30.8	None
9	744.157M	52.2	+9.2	+0.3			+0.0	61.7	92.7	-31.0	None
10	893.635M	48.6	+9.2	+0.3			+0.0	58.1	92.7	-34.6	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	1:39:52 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	4
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

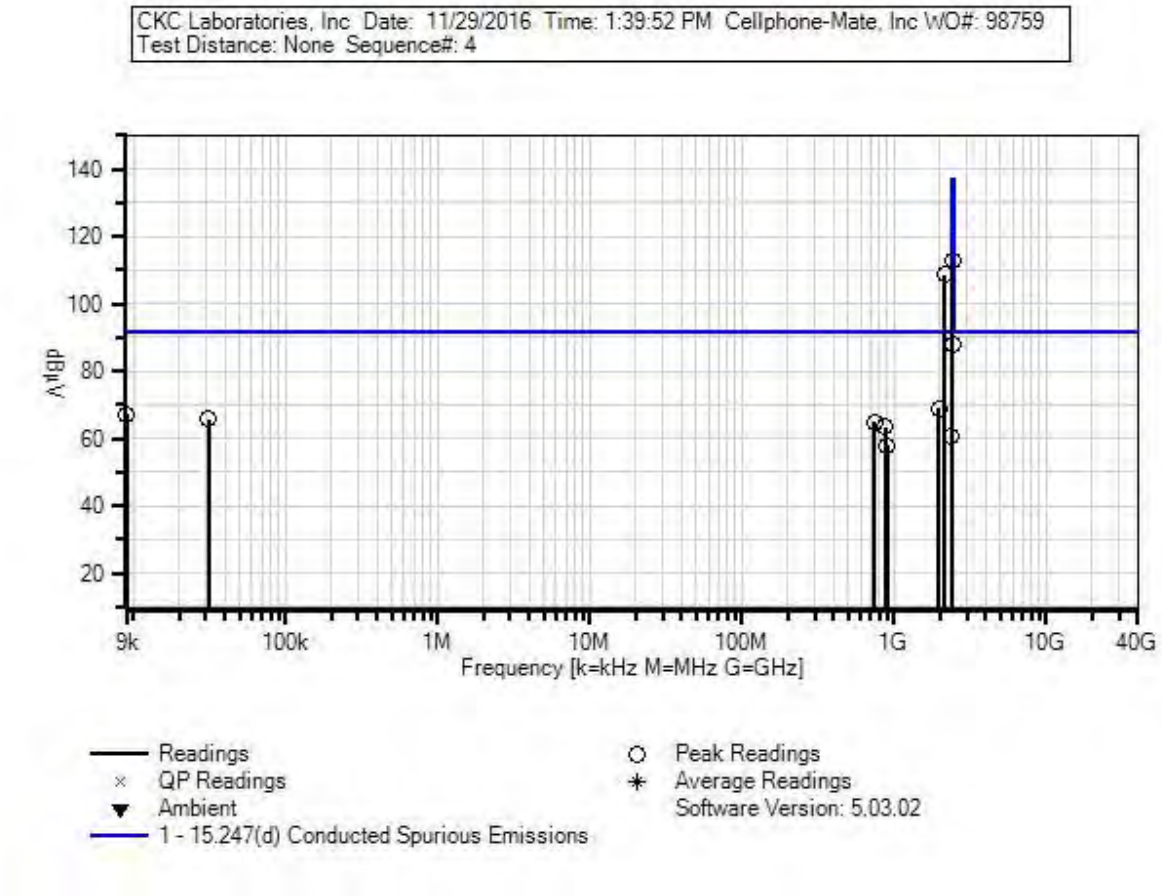
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11g Mode
Date rate =12 Mbps
Attenuator for 802.11g Mode=48
Low Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 1:39:52 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 4
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	98.8	+9.3	+0.5			+0.0	108.6	91.5 4.1MHz AWGN Signal	+17.1	None
2	2397.773M	78.3	+9.3	+0.5			+0.0	88.1	91.5	-3.4	None
3	1963.872M	59.1	+9.3	+0.5			+0.0	68.9	91.5	-22.6	None
4	9.020k	58.1	+9.2	+0.0			+0.0	67.3	91.5	-24.2	None
5	2406.750M	102.9	+9.3	+0.5			+0.0	112.7	137.0	-24.3	None
6	31.368k	56.4	+9.2	+0.0			+0.0	65.6	91.5	-25.9	None
7	740.681M	55.3	+9.2	+0.3			+0.0	64.8	91.5	-26.7	None
8	876.254M	53.8	+9.2	+0.3			+0.0	63.3	91.5	-28.2	None
9	2358.871M	50.8	+9.3	+0.5			+0.0	60.6	91.5	-30.9	None
10	894.504M	48.3	+9.2	+0.3			+0.0	57.8	91.5	-33.7	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	1:48:21 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	5
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

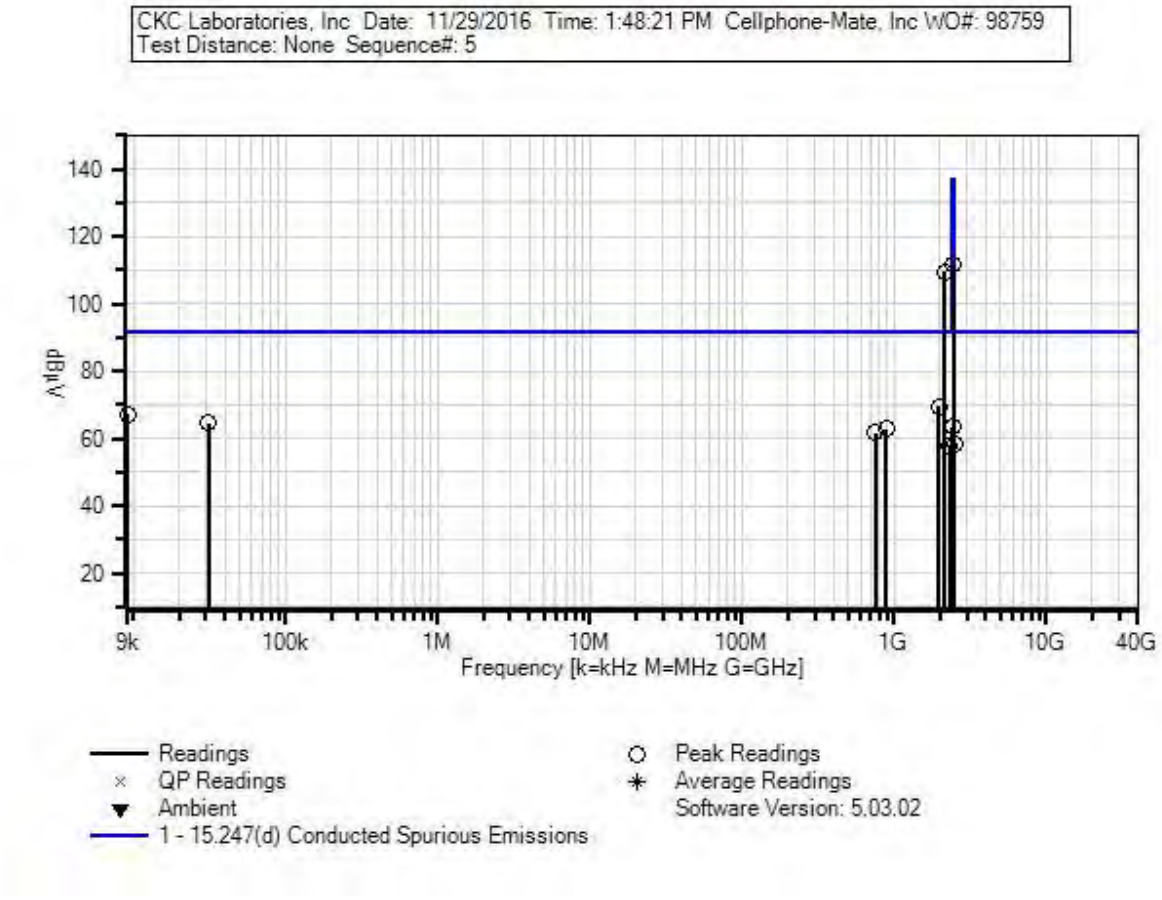
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11g Mode
Date rate =12 Mbps
Attenuator for 802.11g Mode=48
Middle Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 1:48:21 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 5
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	99.7	+9.3	+0.5			+0.0	109.5	91.5 4.1MHz AWGN Signal	+18.0	None
2	1957.887M	59.6	+9.3	+0.5			+0.0	69.4	91.5	-22.1	None
3	9.152k	58.0	+9.2	+0.0			+0.0	67.2	91.5	-24.3	None
4	2433.682M	101.9	+9.3	+0.5			+0.0	111.7	137.0	-25.3	None
5	31.217k	55.5	+9.2	+0.0			+0.0	64.7	91.5	-26.8	None
6	2397.773M	53.6	+9.3	+0.5			+0.0	63.4	91.5	-28.1	None
7	879.730M	53.3	+9.2	+0.3			+0.0	62.8	91.5	-28.7	None
8	747.633M	52.1	+9.2	+0.3			+0.0	61.6	91.5	-29.9	None
9	2484.553M	48.4	+9.3	+0.5			+0.0	58.2	91.5	-33.3	None
10	2319.970M	48.1	+9.3	+0.5			+0.0	57.9	91.5	-33.6	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:00:51 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	6
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

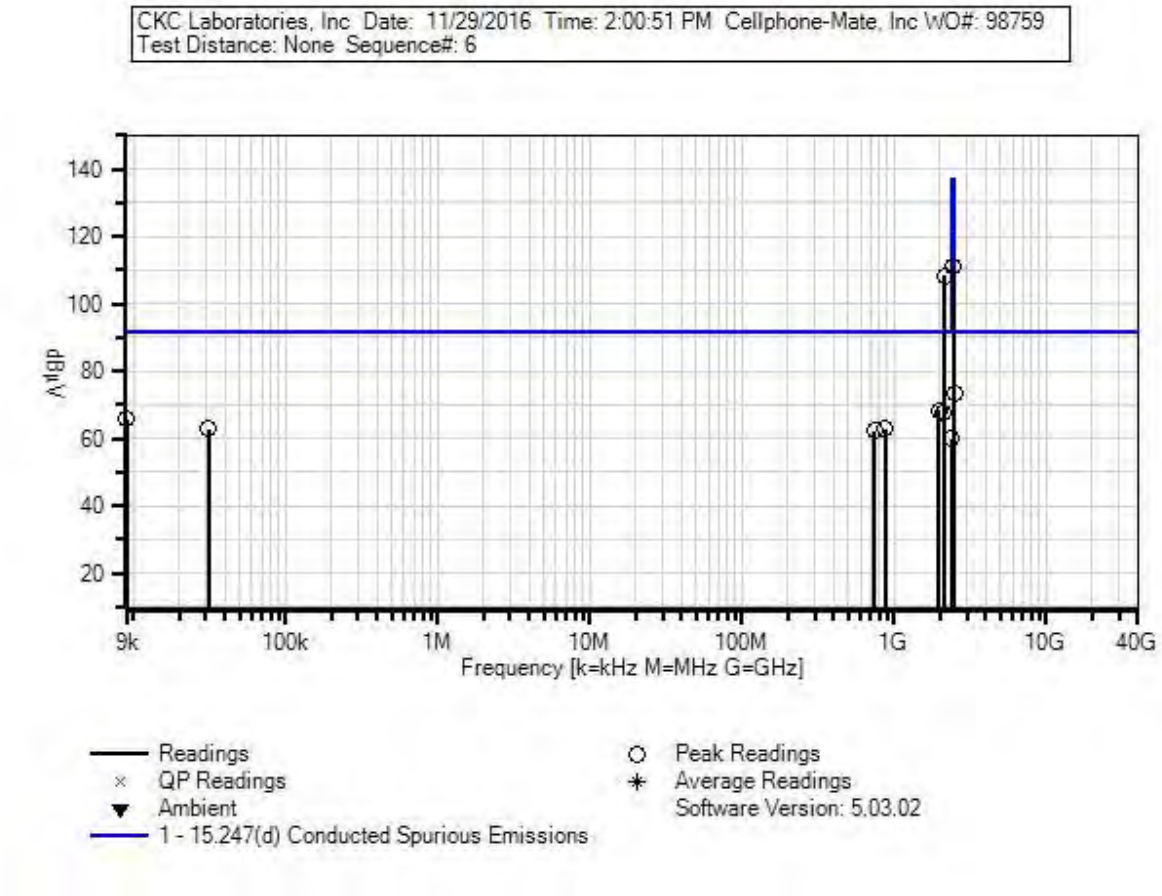
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11g Mode
Date rate =12 Mbps
Attenuator for 802.11g Mode=48
High Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 2:00:51 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 6
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	98.6	+9.3	+0.5			+0.0	108.4	91.5 4.1MHz AWGN Signal	+16.9	None
2	2484.553M	63.6	+9.3	+0.5			+0.0	73.4	91.5	-18.1	None
3	1960.880M	58.6	+9.3	+0.5			+0.0	68.4	91.5	-23.1	None
4	2110.501M	57.8	+9.3	+0.5			+0.0	67.6	91.5	-23.9	None
5	9.020k	56.6	+9.2	+0.0			+0.0	65.8	91.5	-25.7	None
6	2457.621M	101.1	+9.3	+0.5			+0.0	110.9	137.0	-26.1	None
7	31.141k	53.6	+9.2	+0.0			+0.0	62.8	91.5	-28.7	None
8	875.385M	53.3	+9.2	+0.3			+0.0	62.8	91.5	-28.7	None
9	745.895M	52.8	+9.2	+0.3			+0.0	62.3	91.5	-29.2	None
10	2358.871M	50.1	+9.3	+0.5			+0.0	59.9	91.5	-31.6	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:08:56 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	7
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

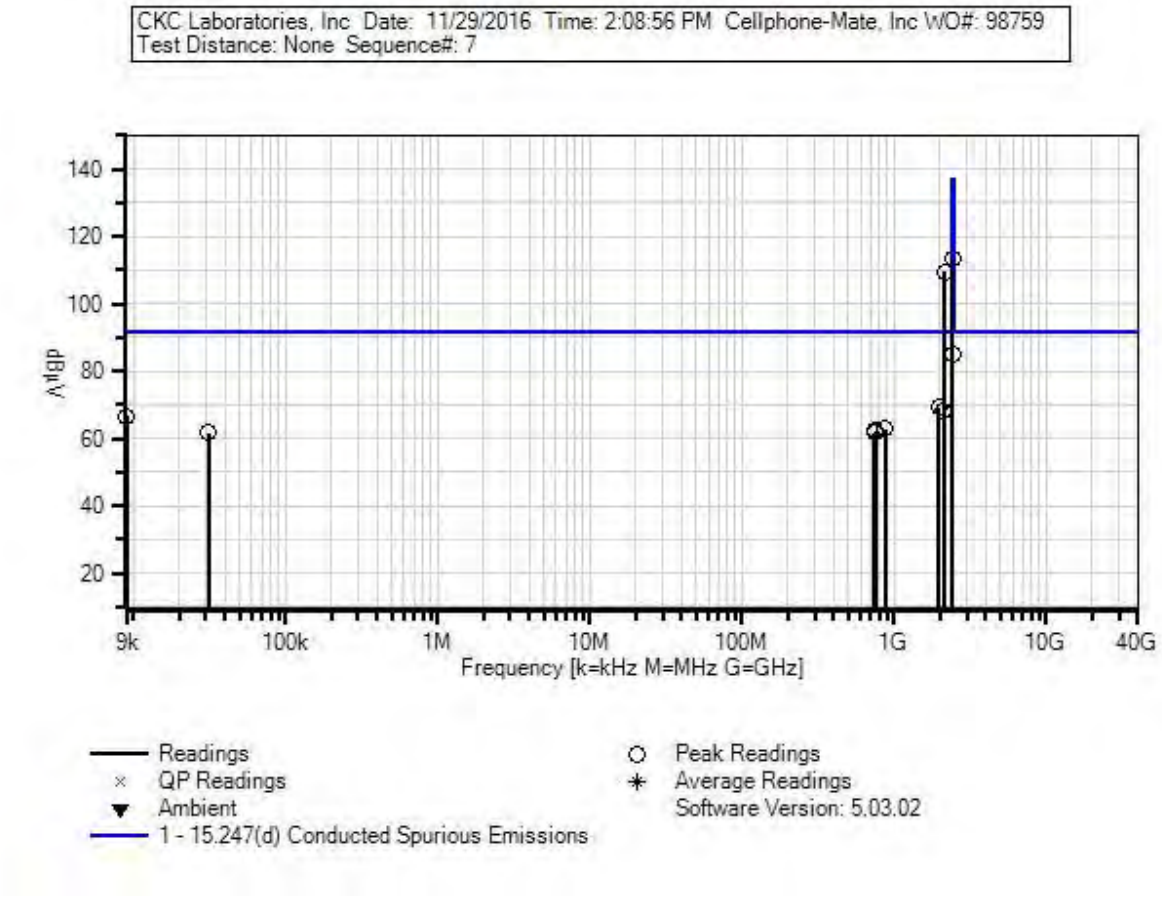
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate =MCS6
Attenuator for 802.11n HT20 Mode=48
Low Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 2:08:56 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 7
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	99.6	+9.3	+0.5			+0.0	109.4	91.5 4.1MHz AWGN Signal	+17.9	None
2	2397.773M	75.3	+9.3	+0.5			+0.0	85.1	91.5	-6.4	None
3	1966.865M	59.5	+9.3	+0.5			+0.0	69.3	91.5	-22.2	None
4	2116.486M	58.2	+9.3	+0.5			+0.0	68.0	91.5	-23.5	None
5	2412.735M	103.5	+9.3	+0.5			+0.0	113.3	137.0	-23.7	None
6	9.130k	57.5	+9.2	+0.0			+0.0	66.7	91.5	-24.8	None
7	876.254M	53.3	+9.2	+0.3			+0.0	62.8	91.5	-28.7	None
8	748.502M	52.6	+9.2	+0.3			+0.0	62.1	91.5	-29.4	None
9	737.205M	52.3	+9.2	+0.3			+0.0	61.8	91.5	-29.7	None
10	31.141k	52.4	+9.2	+0.0			+0.0	61.6	91.5	-29.9	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:25:09 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	8
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

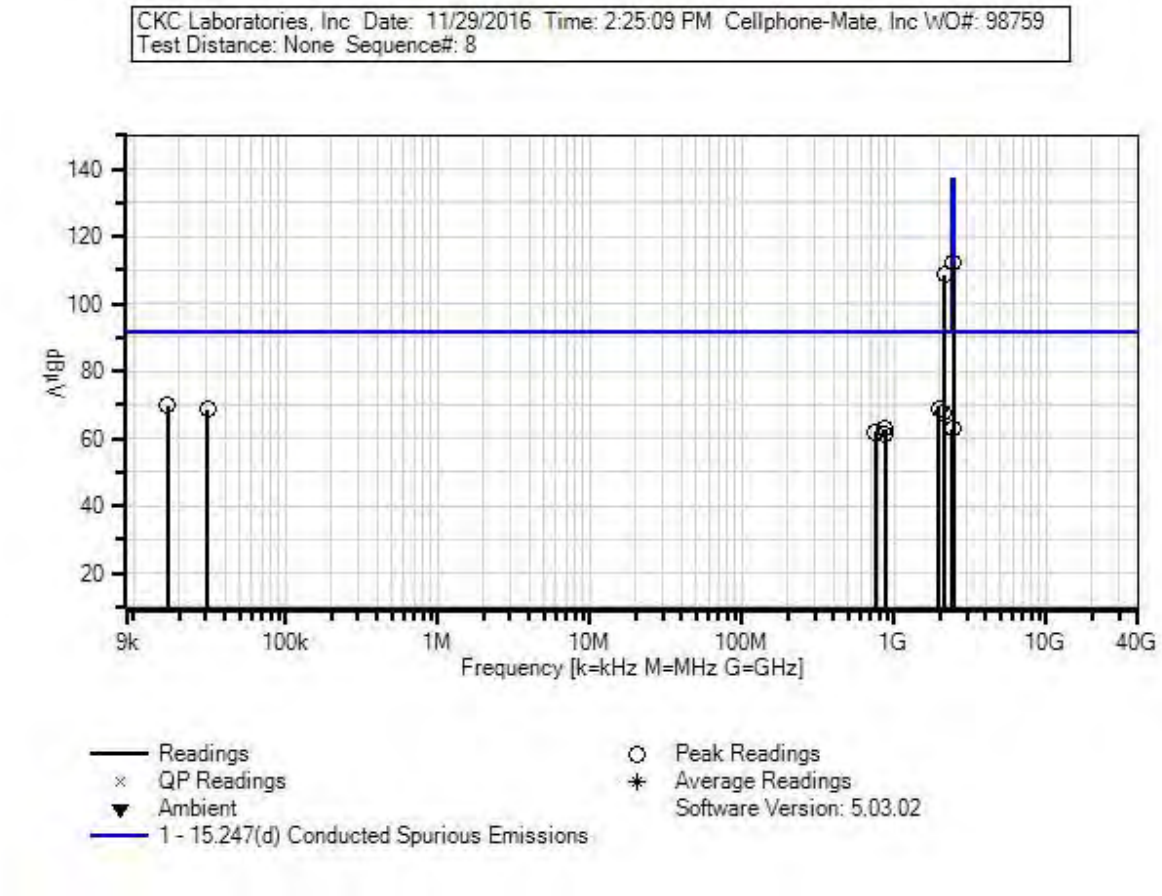
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate =MCS6
Attenuator for 802.11n HT20 Mode=48
Middle Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 2:25:09 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 8
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	99.0	+9.3	+0.5			+0.0	108.8	91.5 4.1MHz AWGN Signal	+17.3	None
2	16.894k	60.6	+9.2	+0.0			+0.0	69.8	91.5	-21.7	None
3	1963.872M	59.2	+9.3	+0.5			+0.0	69.0	91.5	-22.5	None
4	30.990k	59.4	+9.2	+0.0			+0.0	68.6	91.5	-22.9	None
5	2110.501M	58.0	+9.3	+0.5			+0.0	67.8	91.5	-23.7	None
6	2430.690M	102.4	+9.3	+0.5			+0.0	112.2	137.0	-24.8	None
7	2397.773M	53.0	+9.3	+0.5			+0.0	62.8	91.5	-28.7	None
8	876.254M	53.2	+9.2	+0.3			+0.0	62.7	91.5	-28.8	None
9	748.502M	52.4	+9.2	+0.3			+0.0	61.9	91.5	-29.6	None
10	870.170M	51.8	+9.2	+0.3			+0.0	61.3	91.5	-30.2	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:30:28 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	9
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

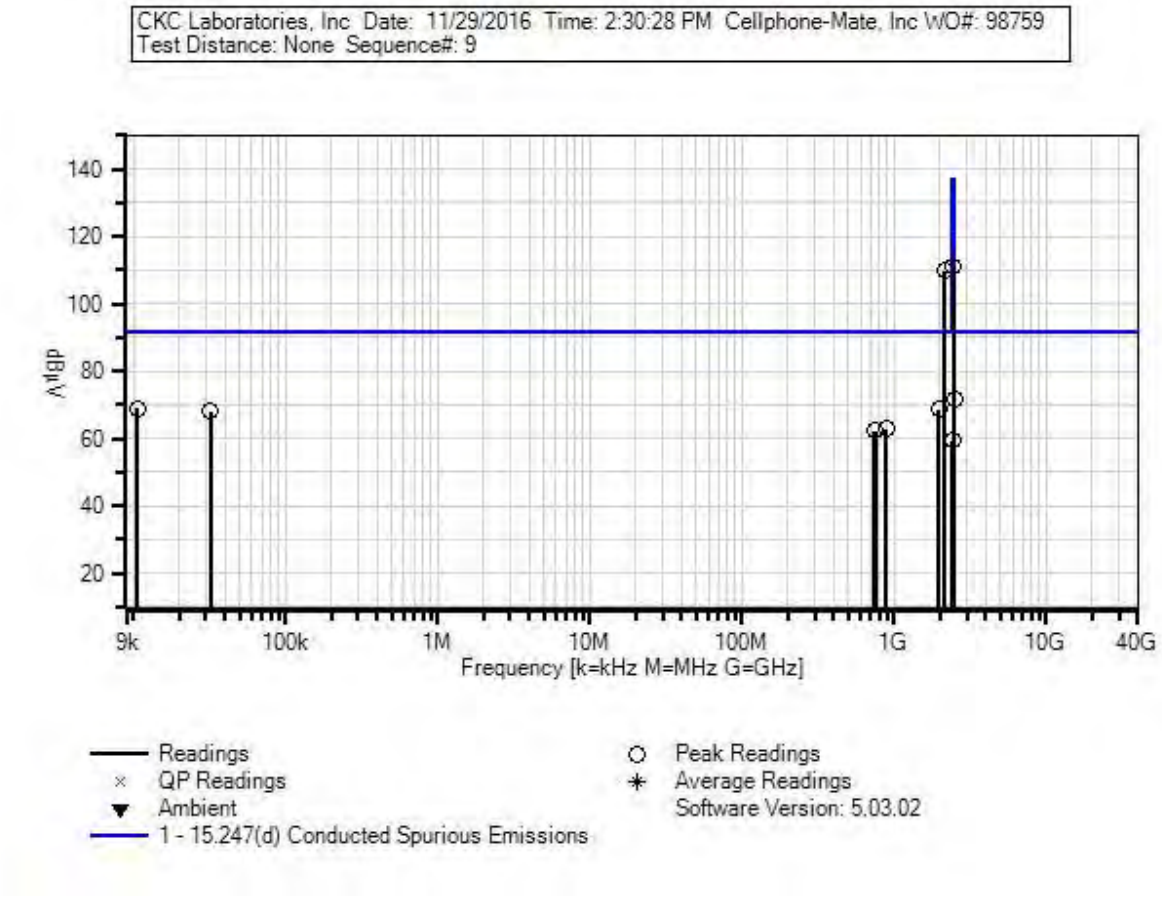
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT20 Mode
Date rate =MCS6
Attenuator for 802.11n HT20 Mode=48
High Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 2:30:28 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 9
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	100.1	+9.3	+0.5			+0.0	109.9	91.5 4.1MHz AWGN Signal	+18.4	None
2	2484.553M	61.9	+9.3	+0.5			+0.0	71.7	91.5	-19.8	None
3	10.670k	59.7	+9.2	+0.0			+0.0	68.9	91.5	-22.6	None
4	1951.903M	58.7	+9.3	+0.5			+0.0	68.5	91.5	-23.0	None
5	32.352k	58.7	+9.2	+0.0			+0.0	67.9	91.5	-23.6	None
6	2457.621M	101.4	+9.3	+0.5			+0.0	111.2	137.0	-25.8	None
7	877.992M	53.3	+9.2	+0.3			+0.0	62.8	91.5	-28.7	None
8	741.550M	52.8	+9.2	+0.3			+0.0	62.3	91.5	-29.2	None
9	747.633M	52.6	+9.2	+0.3			+0.0	62.1	91.5	-29.4	None
10	2397.773M	49.6	+9.3	+0.5			+0.0	59.4	91.5	-32.1	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:37:42 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	10
Software:	EMITest 5.03.02		

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

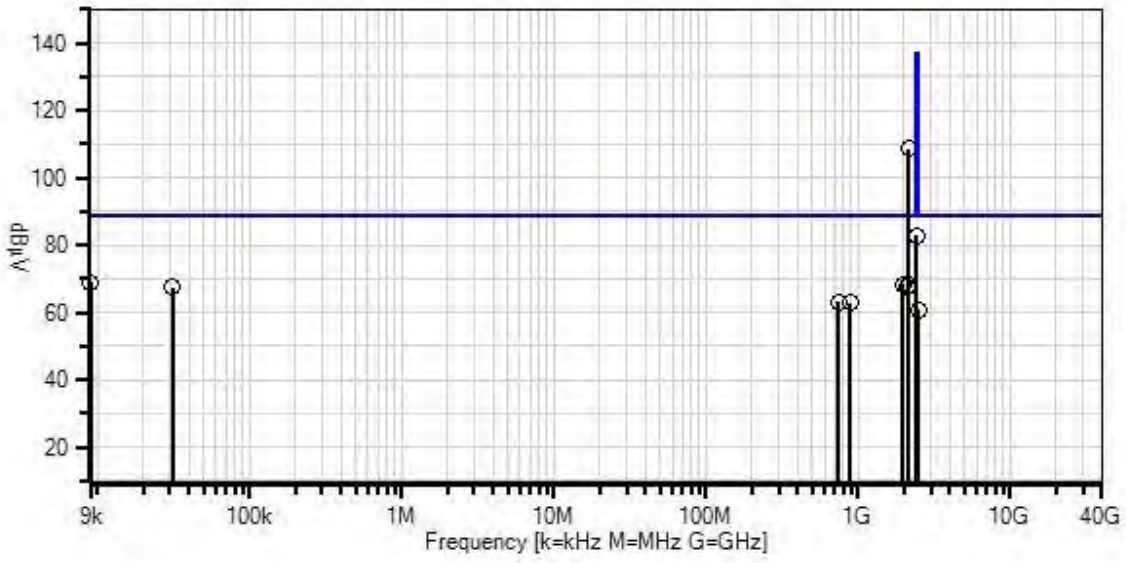
Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate =MCS6
Attenuator for 802.11n HT40 Mode=46
Low Channel

CKC Laboratories, Inc Date: 11/29/2016 Time: 2:37:42 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 10



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2131.448M	98.8	+9.3	+0.5			+0.0	108.6	88.7 4.1MHz AWGN Signal	+19.9	None
2	2397.773M	72.9	+9.3	+0.5			+0.0	82.7	88.7	-6.0	None
3	9.020k	59.6	+9.2	+0.0			+0.0	68.8	88.7	-19.9	None
4	2152.395M	58.6	+9.3	+0.5			+0.0	68.4	88.7	-20.3	None
5	1954.895M	58.5	+9.3	+0.5			+0.0	68.3	88.7	-20.4	None
6	31.141k	58.2	+9.2	+0.0			+0.0	67.4	88.7	-21.3	None
7	2110.501M	57.6	+9.3	+0.5			+0.0	67.4	88.7	-21.3	None
8	736.336M	53.6	+9.2	+0.3			+0.0	63.1	88.7	-25.6	None
9	879.730M	53.2	+9.2	+0.3			+0.0	62.7	88.7	-26.0	None
10	2484.553M	50.9	+9.3	+0.5			+0.0	60.7	88.7	-28.0	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	2:56:16 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	11
Software:	EMITest 5.03.02		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

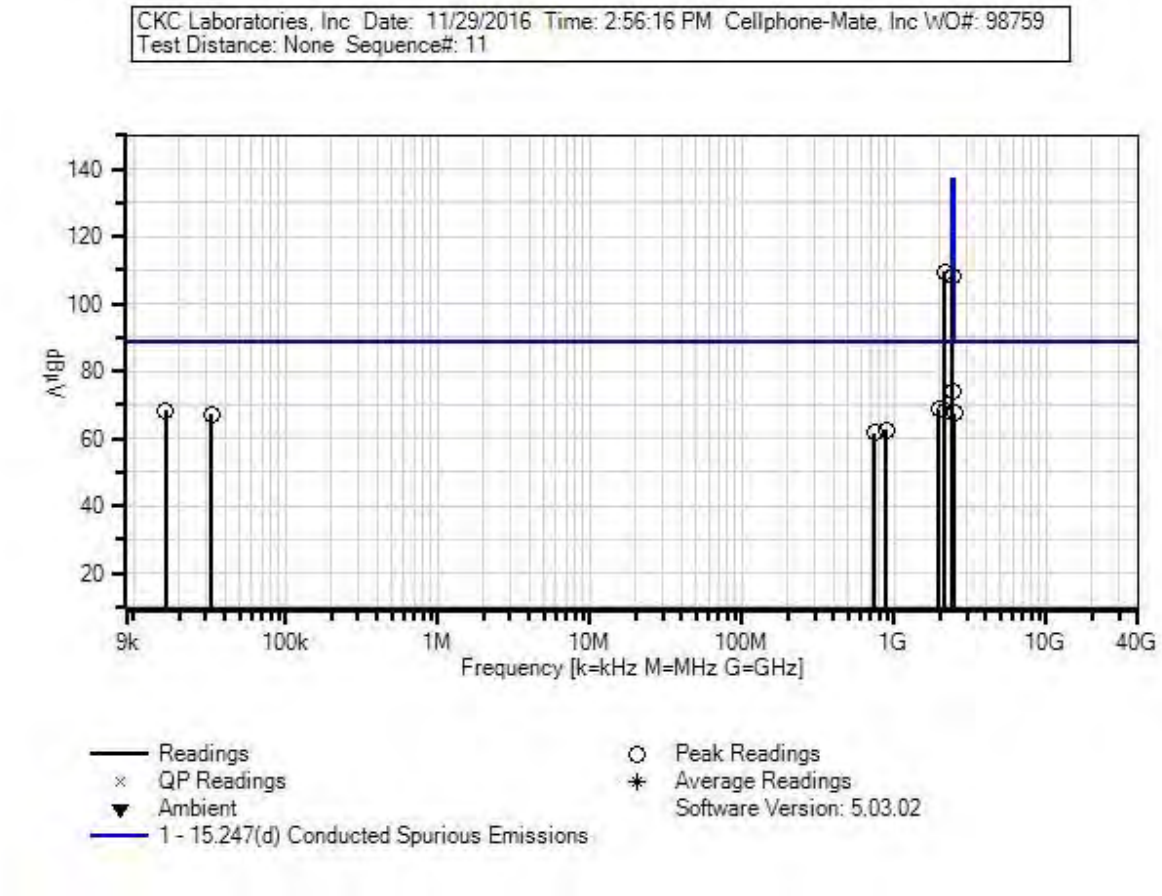
Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate =MCS6
Attenuator for 802.11n HT40 Mode=46
Middle Channel


CKC Laboratories, Inc Date: 11/29/2016 Time: 2:56:16 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 11
140
120
100
80
60
40
20
dBµV
9k
100k
1M
10M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2134.440M	99.6	+9.3	+0.5			+0.0	109.4	88.7 4.1MHz AWGN Signal	+20.7	None
2	2397.773M	64.4	+9.3	+0.5			+0.0	74.2	88.7	-14.5	None
3	1960.880M	58.8	+9.3	+0.5			+0.0	68.6	88.7	-20.1	None
4	16.454k	59.0	+9.2	+0.0			+0.0	68.2	88.7	-20.5	None
5	2149.402M	58.1	+9.3	+0.5			+0.0	67.9	88.7	-20.8	None
6	2484.553M	57.7	+9.3	+0.5			+0.0	67.5	88.7	-21.2	None
7	32.580k	57.9	+9.2	+0.0			+0.0	67.1	88.7	-21.6	None
8	878.861M	52.9	+9.2	+0.3			+0.0	62.4	88.7	-26.3	None
9	742.419M	52.2	+9.2	+0.3			+0.0	61.7	88.7	-27.0	None
10	2427.697M	98.2	+9.3	+0.5			+0.0	108.0	137.0	-29.0	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 #:	**98759**	Date:	11/29/2016
Test Type:	**Conducted Spurious Emission**	Time:	3:01:55 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	12
Software:	EMITest 5.03.02		

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

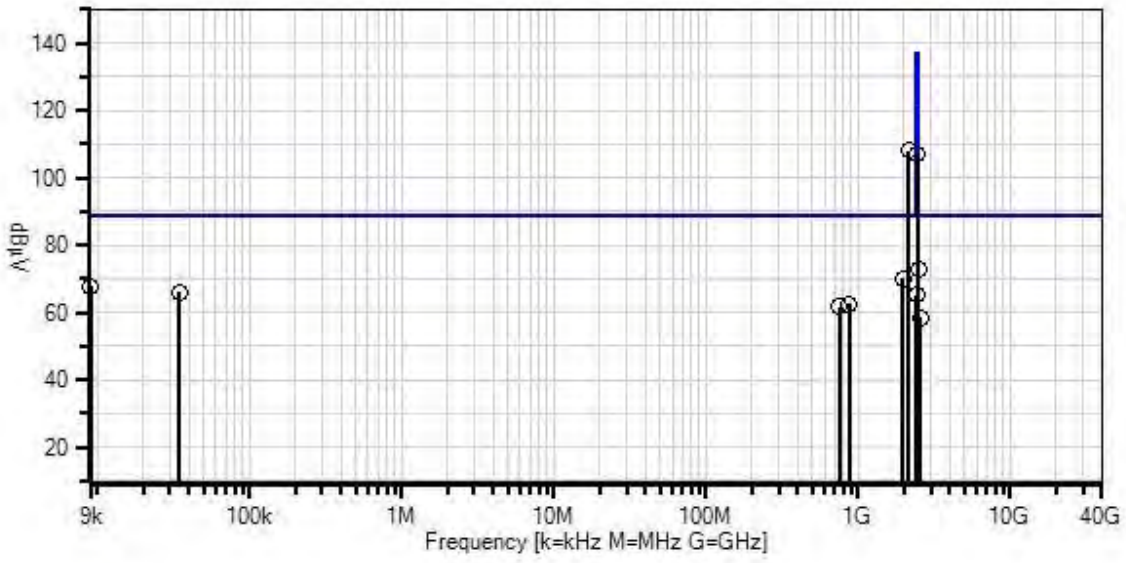
Temperature: 19.7°C
Humidity: 42%
Atmospheric Pressure:100.6kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Method: KDB 558074 D01 DTS Meas Guidance v03r05 section 11

The equipment under test (EUT) is placed on the table top. The 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.

RBW=100 kHz and VBW=300kHz

Note:
802.11n HT40 Mode
Date rate =MCS6
Attenuator for 802.11n HT40 Mode=46
High Channel

CKC Laboratories, Inc Date: 11/29/2016 Time: 3:01:55 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: None Sequence#: 12



Readings
QP Readings
Ambient
1 - 15.247(d) Conducted Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05411	Attenuator	54A-10	1/18/2016	1/18/2018
T2	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	2132.010M	98.4	+9.3	+0.5			+0.0	108.2	88.7	+19.5	None
2	2484.475M	63.3	+9.3	+0.5			+0.0	73.1	88.7	-15.6	None
3	1960.673M	60.3	+9.3	+0.5			+0.0	70.1	88.7	-18.6	None
4	9.024k	58.6	+9.2	+0.0			+0.0	67.8	88.7	-20.9	None
5	34.873k	56.7	+9.2	+0.0			+0.0	65.9	88.7	-22.8	None
6	2396.359M	55.4	+9.3	+0.5			+0.0	65.2	88.7	-23.5	None
7	877.340M	53.1	+9.2	+0.3			+0.0	62.6	88.7	-26.1	None
8	747.743M	52.1	+9.2	+0.3			+0.0	61.6	88.7	-27.1	None
9	2455.103M	97.3	+9.3	+0.5			+0.0	107.1	137.0	-29.9	None
10	2557.906M	48.8	+9.3	+0.5			+0.0	58.6	88.7	-30.1	None

Band Edge

Band Edge Summary, 802.11b for SC222W Antenna

Limit applied: Max Power/100kHz - 20dB.

Frequency (MHz)	Modulation	Measured (dBuV)	Limit (dBuV)	Results
2400.0	802.11b	84.43	<92.77	Pass
2483.5	802.11b	70.51	<92.77	Pass

Band Edge Summary, 802.11g for SC222W Antenna

Limit applied: Max Power/100kHz - 20dB.

Frequency (MHz)	Modulation	Measured (dBuV)	Limit (dBuV)	Results
2400.0	802.11g	89.72	<91.54	Pass
2483.5	802.11g	72.27	<91.54	Pass

Band Edge Summary, 802.11n HT20 for SC222W Antenna

Limit applied: Max Power/100kHz - 20dB.

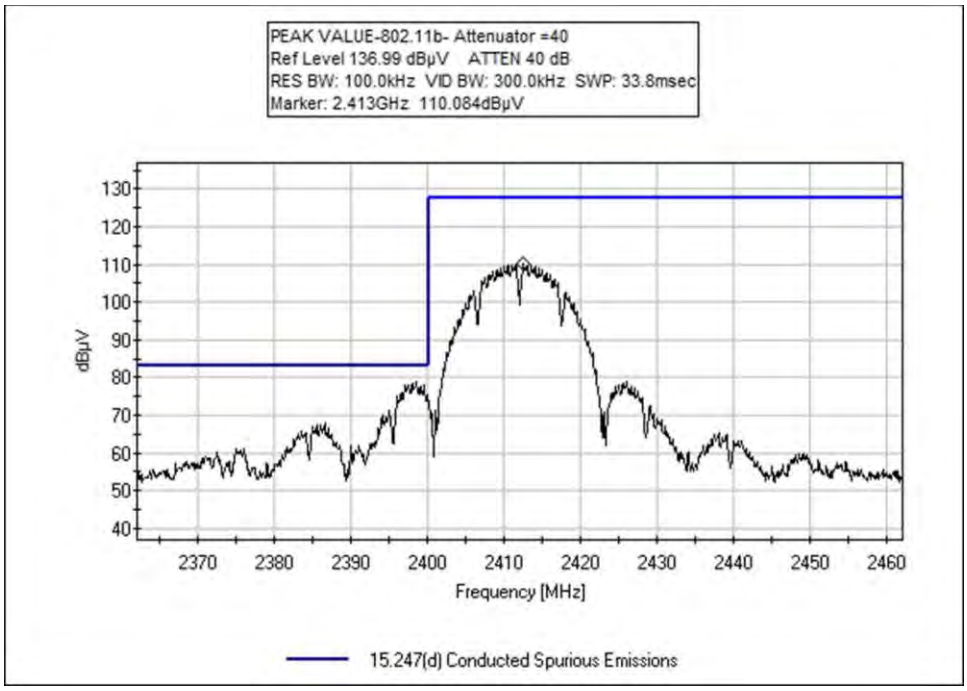
Frequency (MHz)	Modulation	Measured (dBuV)	Limit (dBuV)	Results
2400.0	802.11n HT20	90.5	<92.42	Pass
2483.5	802.11n HT20	75.23	<92.42	Pass

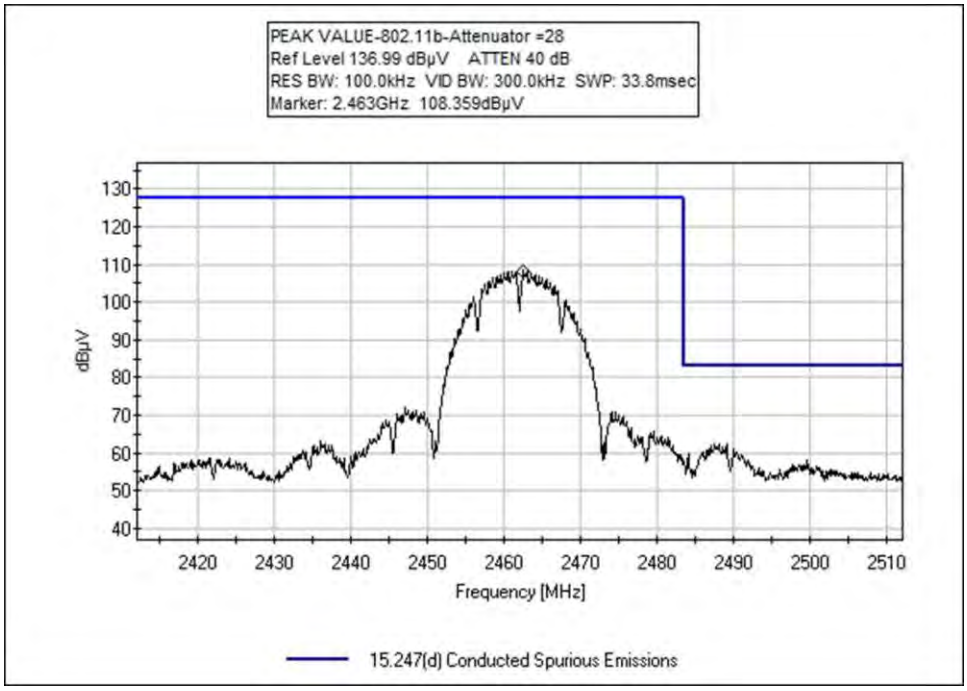
Band Edge Summary, 802.11n HT40 for SC222W Antenna

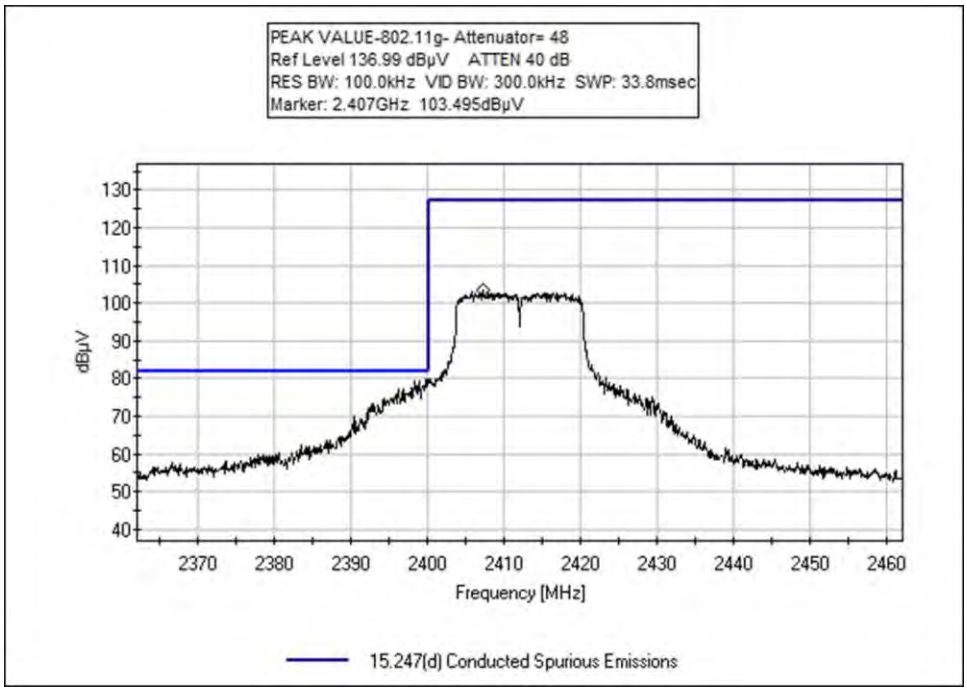
Limit applied: Max Power/100kHz - 20dB.

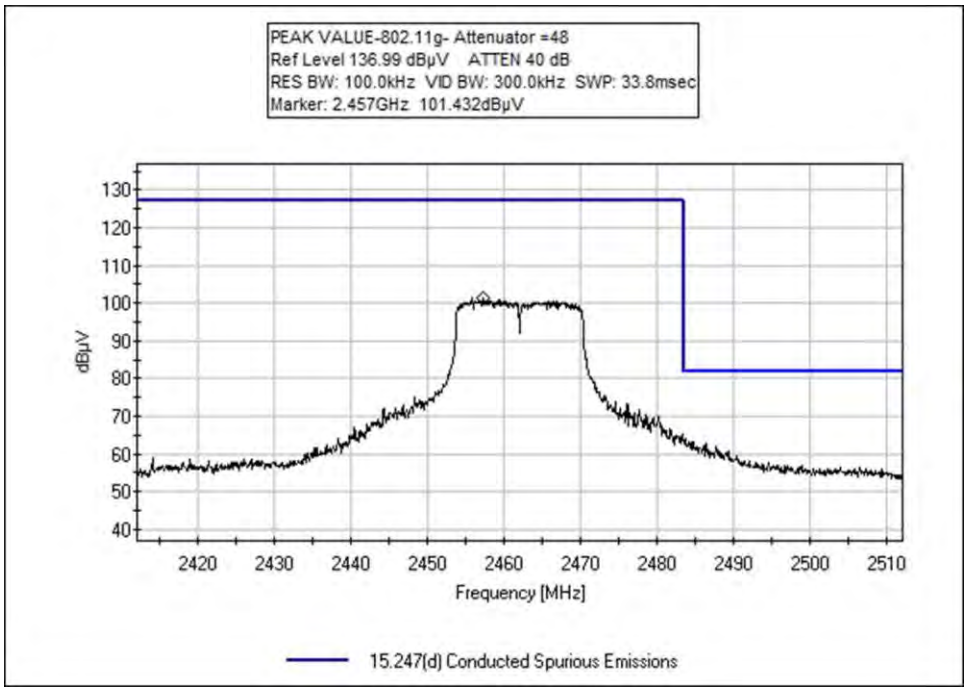
Frequency (MHz)	Modulation	Measured (dBuV)	Limit (dBuV)	Results
2400.0	802.11n HT40	81.23	<88.7	Pass
2483.5	802.11n HT40	74.53	<88.7	Pass

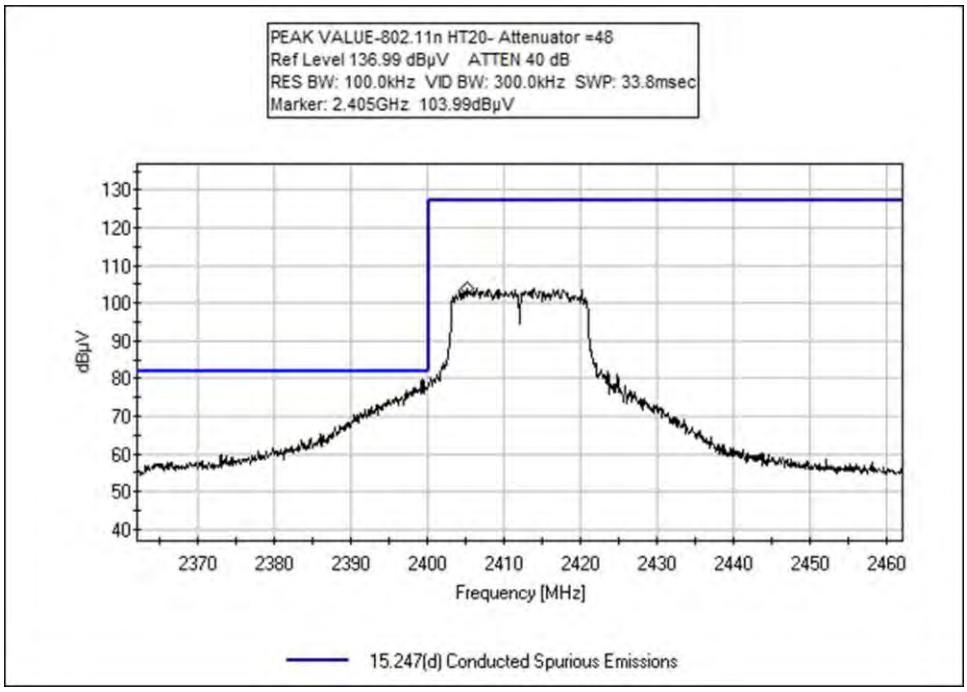
Band Edge Plots

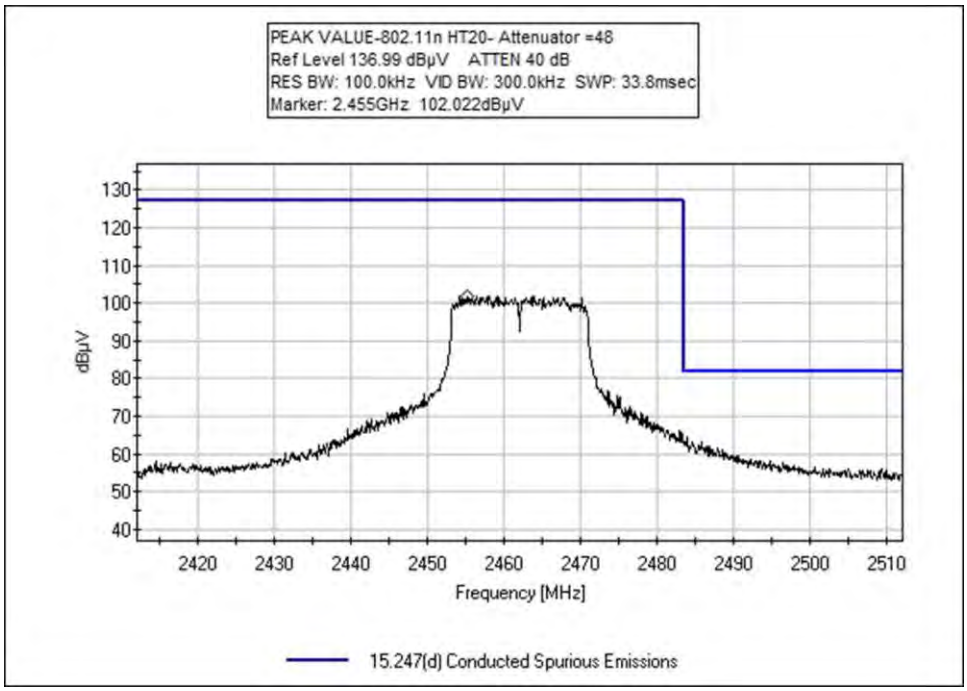


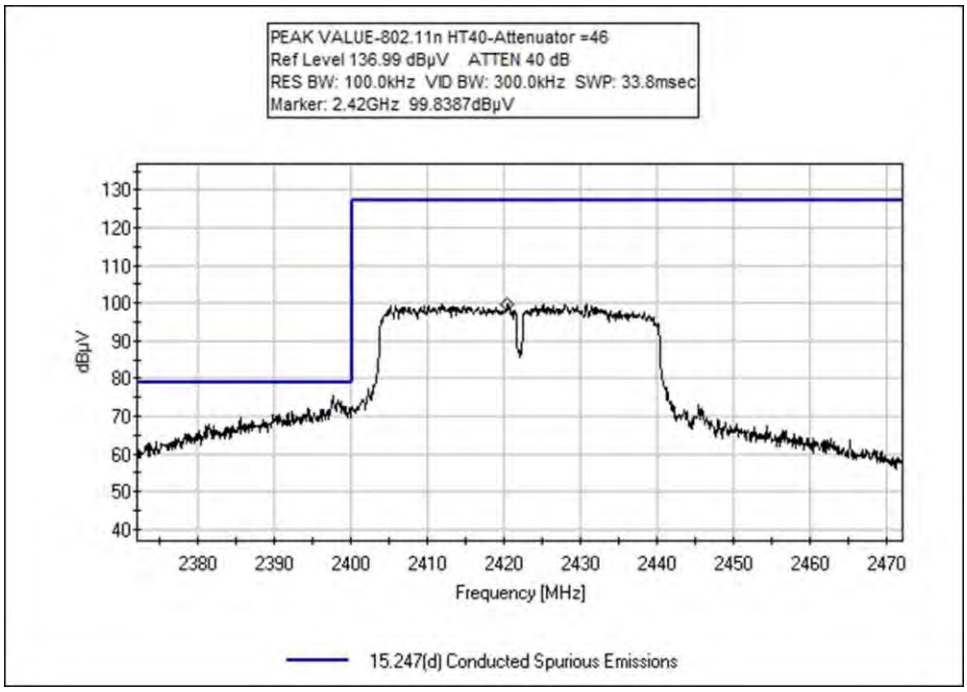


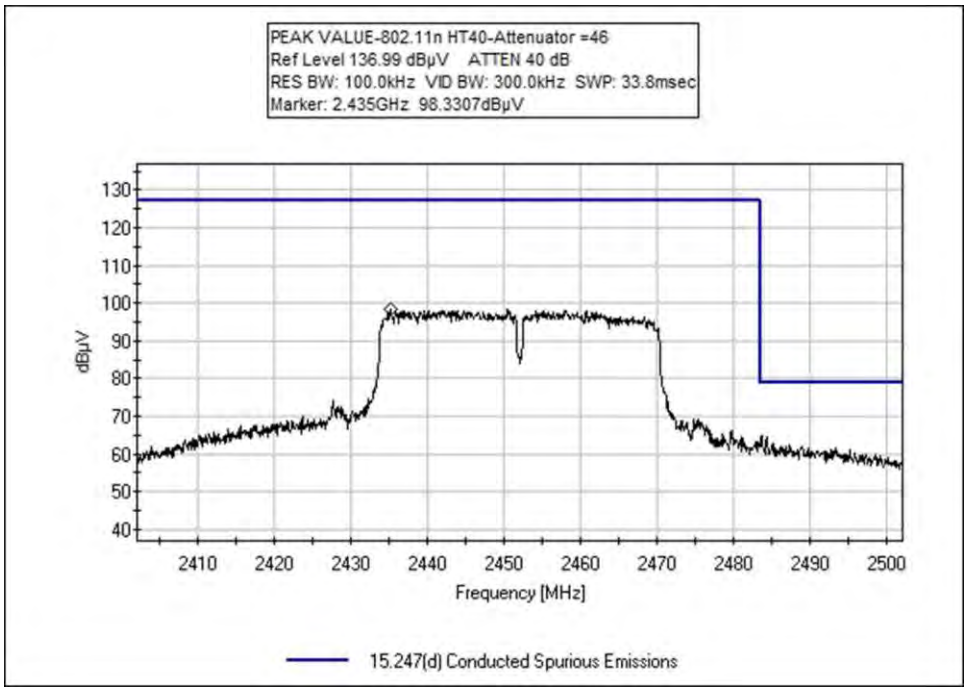

PEAK VALUE-802.11g- Attenuator= 48
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.407GHz 103.495dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2370
2380
2390
2400
2410
2420
2430
2440
2450
2460
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


PEAK VALUE-802.11g- Attenuator =48
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.457GHz 101.432dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2420
2430
2440
2450
2460
2470
2480
2490
2500
2510
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


PEAK VALUE-802.11n HT20- Attenuator =48
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.405GHz 103.99dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2370
2380
2390
2400
2410
2420
2430
2440
2450
2460
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


PEAK VALUE-802.11n HT20- Attenuator =48
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.455GHz 102.022dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2420
2430
2440
2450
2460
2470
2480
2490
2500
2510
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


PEAK VALUE-802.11n HT40-Attenuator =46
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.42GHz 99.8387dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2380
2390
2400
2410
2420
2430
2440
2450
2460
2470
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


PEAK VALUE-802.11n HT40-Attenuator =46
Ref Level 136.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 33.8msec
Marker: 2.435GHz 98.3307dBµV
dBµV
130
120
110
100
90
80
70
60
50
40
2410
2420
2430
2440
2450
2460
2470
2480
2490
2500
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

Test Setup Photo(s)

15.247(d) Radiated Emissions & Band Edge

Test Setup/Conditions			
Test Location:	Fremont Lab C3	Test Engineer:	Hieu Song Nguyenpham
Test Method:	ANSI C63.10 (2013), KDB 558074	Test Date(s):	11/30/2016
Configuration:	2 and 3		
Note	1/ Measure Radiated Spurious Emission a/ Antenna SC222W, Gain =6dBi I/ 802.11b - Set Attenuator =40 for Low and Middle Channel. Attenuator =28 for High Channel II/802.11g - Attenuator =48 for all channels III/ 802.11n HT20 - Attenuator= 48 for all channels IV/ 802.11 n HT40 - Attenuator =46 for all channels		

Environmental Conditions			
Temperature (ºC)	19.6	Relative Humidity (%):	46

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170		
Customer:	**Cellphone-Mate, Inc.**		
Specification:	**FCC 15.247 (d) (FCC 15.205 restricted band) (15.209)**		
Work Order #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	6:08:04 PM
Tested By:	Hieu Song Nguyenpham	Sequence#:	76
Software:	EMITest 5.03.02		

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

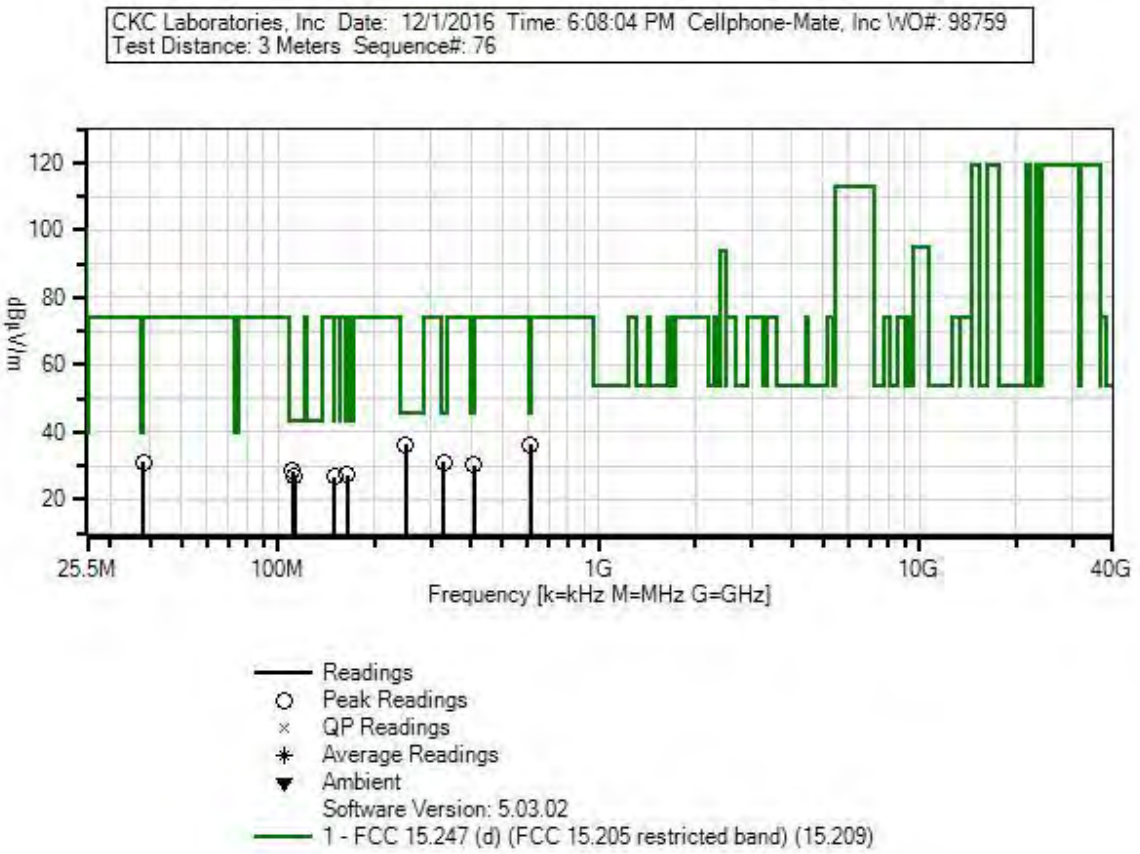
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=40
Low Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 6:08:04 PM Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 76
120
100
80
60
40
20
dBµV/m
25.5M
100M
1G
10G
40G
Frequency [k=kHz M=MHz G=GHz]
Readings
Peak Readings
QP Readings
Average Readings
Ambient
Software Version: 5.03.02
1 - FCC 15.247 (d) (FCC 15.205 restricted band) (15.209)

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T2	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T3	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T4	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T5	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T6	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.5	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.5	46.0	-4.5	Horiz
2	613.511M	35.3	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.6	46.0	-8.4	Horiz
3	38.206M	38.3	-28.0 +0.2	+5.9 +14.2	+0.5	+0.1	+0.0	31.2	40.0	-8.8	Vert
4	408.890M	39.5	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	36.9	46.0	-9.1	Horiz
5	329.437M	35.4	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	31.2	46.0	-14.8	Vert
6	111.521M	37.9	-27.7 +0.3	+5.9 +10.8	+1.0	+0.2	+0.0	28.4	43.5	-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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	16:57:20
Tested By:	Hieu Song Nguyenpham	Sequence#:	27
Software:	EMITest 5.03.02		

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

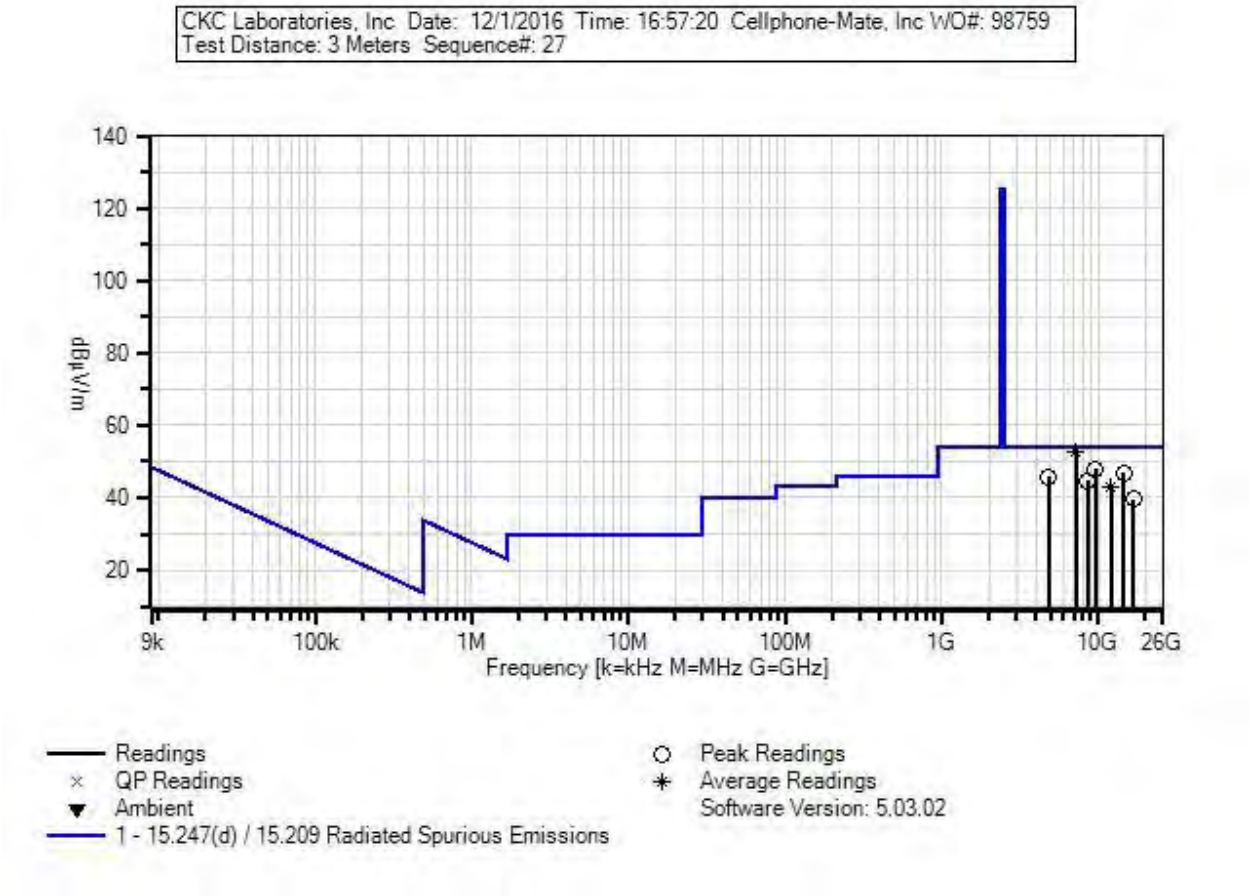
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=40
Low Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 16:57:20 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 27
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
T3	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T4	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
T5	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T6	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
T7	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T8	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T9	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
T10	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7236.415M Ave	68.5	-58.3 +0.0 +0.3	+34.1 +5.0 +0.0	+0.0 +0.0	+2.2 +1.0	+0.0	52.8	54.0	-1.2	Vert
^	7236.415M	73.5	-58.3 +0.0 +0.3	+34.1 +5.0 +0.0	+0.0 +0.0	+2.2 +1.0	+0.0	57.8	54.0	+3.8	Vert
3	9648.653M	61.0	-57.3 +0.0 +0.3	+34.8 +5.5 +0.0	+0.0 +0.0	+2.6 +1.1	+0.0	48.0	54.0	-6.0	Vert
4	14471.674 M	53.5	+0.0 +0.5 +0.0	+0.0 +0.0 -15.2	+5.4 +2.8	+0.0 +0.0	+0.0	47.0	54.0	-7.0	Vert
5	4824.327M	66.2	-57.8 +0.0 +0.3	+30.8 +3.8 +0.0	+0.0 +0.0	+1.8 +0.8	+0.0	45.9	54.0	-8.1	Vert

6	8545.032M	55.8	-56.1 +0.0 +0.4	+36.0 +5.1 +0.0	+0.0 +0.0	+2.4 +1.0	+0.0	44.6	54.0	-9.4	Vert
7	12060.169 M Ave	49.1	+0.0 +0.6 +0.0	+0.0 +0.0 -14.5	+4.9 +2.6	+0.0 +0.0	+0.0	42.7	54.0	-11.3	Vert
^	12060.169 M	56.2	+0.0 +0.6 +0.0	+0.0 +0.0 -14.5	+4.9 +2.6	+0.0 +0.0	+0.0	49.8	54.0	-4.2	Vert
9	16884.290 M	45.7	+0.0 +0.3 +0.0	+0.0 +0.0 -15.4	+5.9 +3.0	+0.0 +0.0	+0.0	39.5	54.0	-14.5	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	18:27:17
Tested By:	Hieu Song Nguyenpham	Sequence#:	80
Software:	EMITest 5.03.02		

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

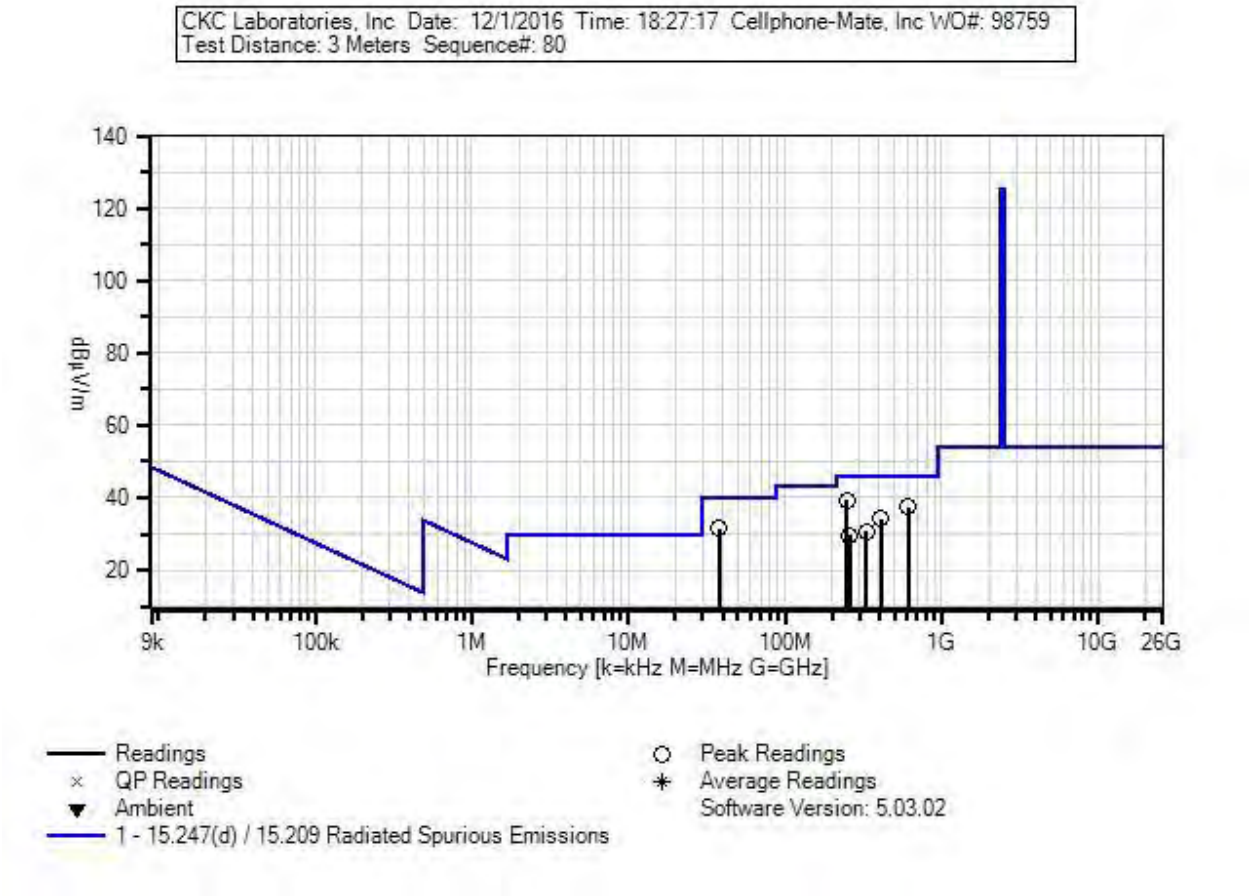
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=40
Middle Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 18:27:17 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 80
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	45.4	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	39.4	46.0	-6.6	Vert
2	613.511M	35.2	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.5	46.0	-8.5	Vert
3	38.206M	38.6	-28.0 +0.2	+5.9 +14.2	+0.5	+0.1	+0.0	31.5	40.0	-8.5	Vert
4	408.890M	36.8	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	34.2	46.0	-11.8	Vert
5	329.437M	34.8	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	30.6	46.0	-15.4	Horiz
6	259.947M	35.5	-27.0 +0.6	+5.9 +12.8	+1.6	+0.3	+0.0	29.7	46.0	-16.3	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	09:59:54
Tested By:	Hieu Song Nguyenpham	Sequence#:	30
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

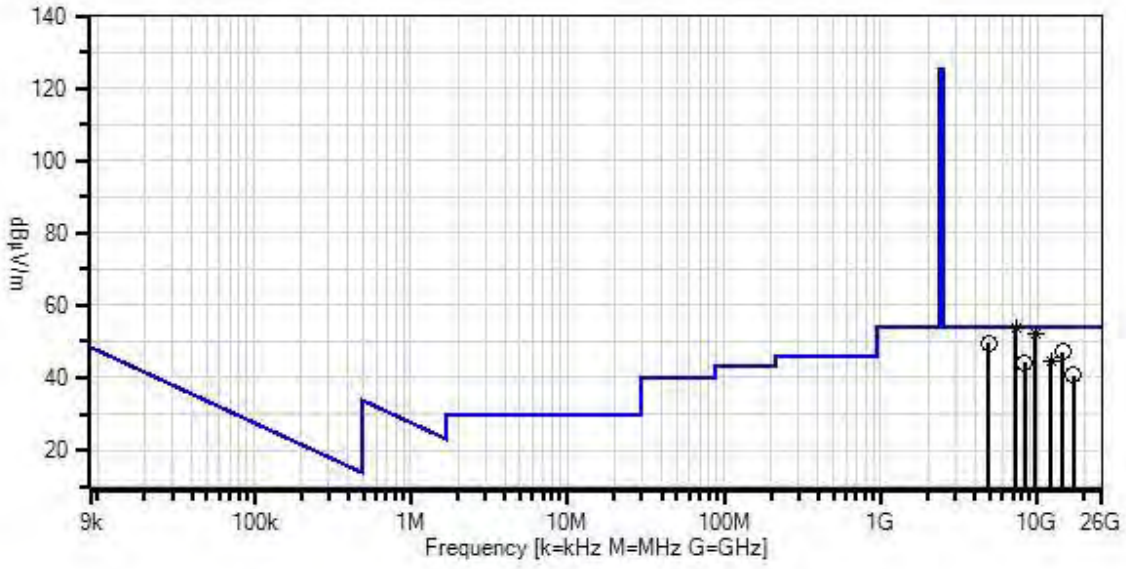
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=40
Middle Channel

CKC Laboratories, Inc Date: 11/30/2016 Time: 09:59:54 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 30



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
T3	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T4	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
T5	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T6	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
T7	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T8	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T9	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
T10	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7310.223M	69.0	-58.3	+34.2	+0.0	+2.3	+0.0	53.5	54.0	-0.5	Vert
	Ave		+0.0	+5.0	+0.0	+1.0					
			+0.3	+0.0							
^	7310.223M	72.3	-58.3	+34.2	+0.0	+2.3	+0.0	56.8	54.0	+2.8	Vert
			+0.0	+5.0	+0.0	+1.0					
			+0.3	+0.0							
3	9747.930M	65.2	-57.6	+34.9	+0.0	+2.6	+0.0	52.1	54.0	-1.9	Vert
	Ave		+0.0	+5.6	+0.0	+1.1					
			+0.3	+0.0							
^	9747.930M	67.3	-57.6	+34.9	+0.0	+2.6	+0.0	54.2	54.0	+0.2	Vert
			+0.0	+5.6	+0.0	+1.1					
			+0.3	+0.0							
5	4873.533M	69.8	-57.7	+30.9	+0.0	+1.8	+0.0	49.7	54.0	-4.3	Vert
			+0.0	+3.8	+0.0	+0.8					
			+0.3	+0.0							

6	14621.850 M	53.7	+0.0 +0.4 +0.0	+0.0 +0.0 -15.2	+5.4 +2.8	+0.0 +0.0	+0.0	47.1	54.0	-6.9	Vert
7	12184.396 M Ave	51.6	+0.0 +0.5 +0.0	+0.0 +0.0 -15.0	+4.9 +2.6	+0.0 +0.0	+0.0	44.6	54.0	-9.4	Vert
^	12184.396 M	56.7	+0.0 +0.5 +0.0	+0.0 +0.0 -15.0	+4.9 +2.6	+0.0 +0.0	+0.0	49.7	54.0	-4.3	Vert
9	8343.620M	55.9	-56.5 +0.0 +0.3	+35.9 +5.2 +0.0	+0.0 +0.0	+2.4 +1.0	+0.0	44.2	54.0	-9.8	Vert
10	17057.806 M	46.5	+0.0 +0.3 +0.0	+0.0 +0.0 -14.9	+5.9 +3.0	+0.0 +0.0	+0.0	40.8	54.0	-13.2	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	18:40:22
Tested By:	Hieu Song Nguyenpham	Sequence#:	83
Software:	EMITest 5.03.02		

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

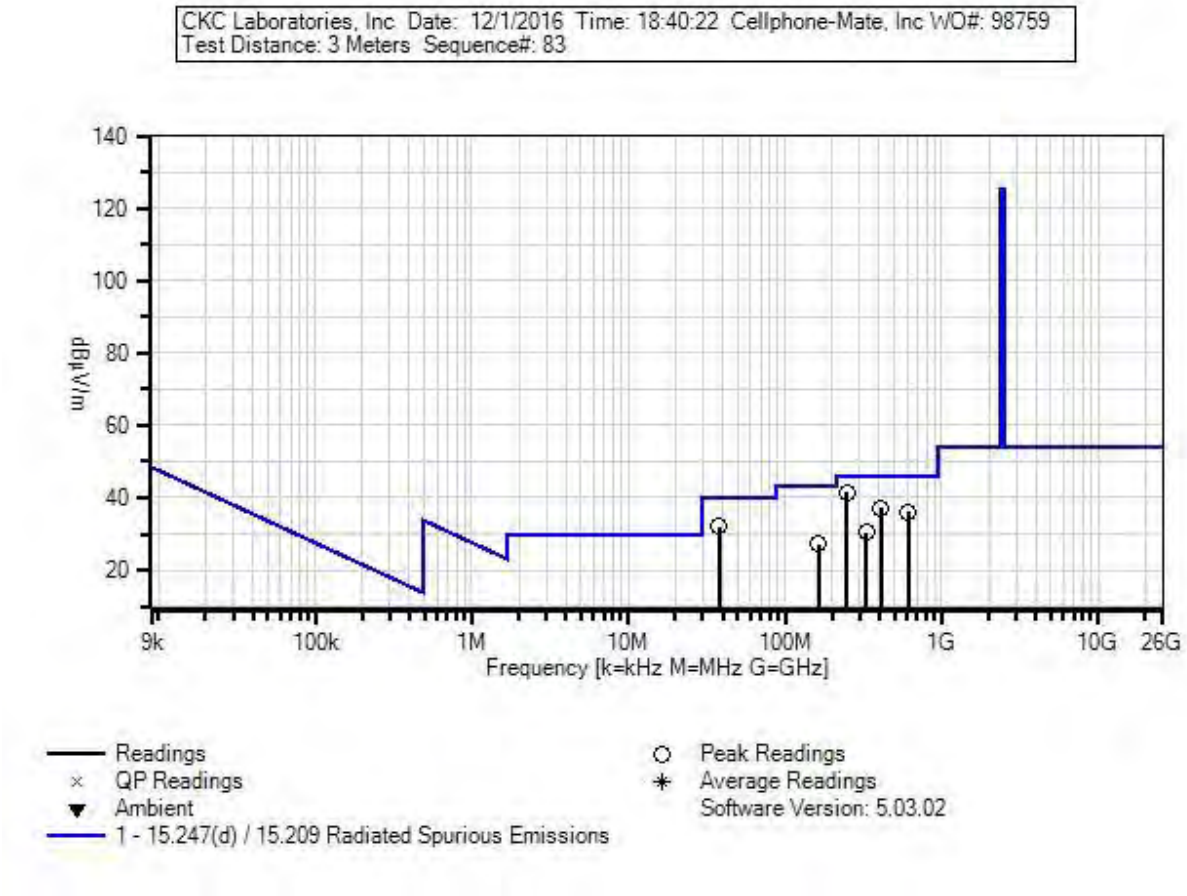
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=28
High Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 18:40:22 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 83
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.5	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.5	46.0	-4.5	Horiz
2	38.249M	39.2	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	32.0	40.0	-8.0	Vert
3	408.890M	39.8	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.2	46.0	-8.8	Horiz
4	613.511M	33.7	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	36.0	46.0	-10.0	Vert
5	329.437M	34.6	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	30.4	46.0	-15.6	Vert
6	164.509M	36.9	-27.5 +0.4	+5.9 +10.1	+1.2	+0.2	+0.0	27.2	43.5	-16.3	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	10:33:36
Tested By:	Hieu Song Nguyenpham	Sequence#:	33
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 2Mbps
Attenuator for 802.11b Mode=28
High Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 10:33:36 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 33
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4923.986M Ave	72.6	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	52.8	54.0	-1.2	Vert
^	4923.986M	74.1	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	54.3	54.0	+0.3	Vert
3	9848.992M	57.6	-57.6 +1.1	+35.0 +0.3	+2.6	+5.6	+0.0	44.6	54.0	-9.4	Vert
4	7384.302M	59.5	-58.3 +1.0	+34.3 +0.3	+2.3	+5.1	+0.0	44.2	54.0	-9.8	Vert
5	8244.209M	56.0	-56.7 +1.0	+35.7 +0.3	+2.4	+5.1	+0.0	43.8	54.0	-10.2	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	18:52:58
Tested By:	Hieu Song Nguyenpham	Sequence#:	86
Software:	EMITest 5.03.02		

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

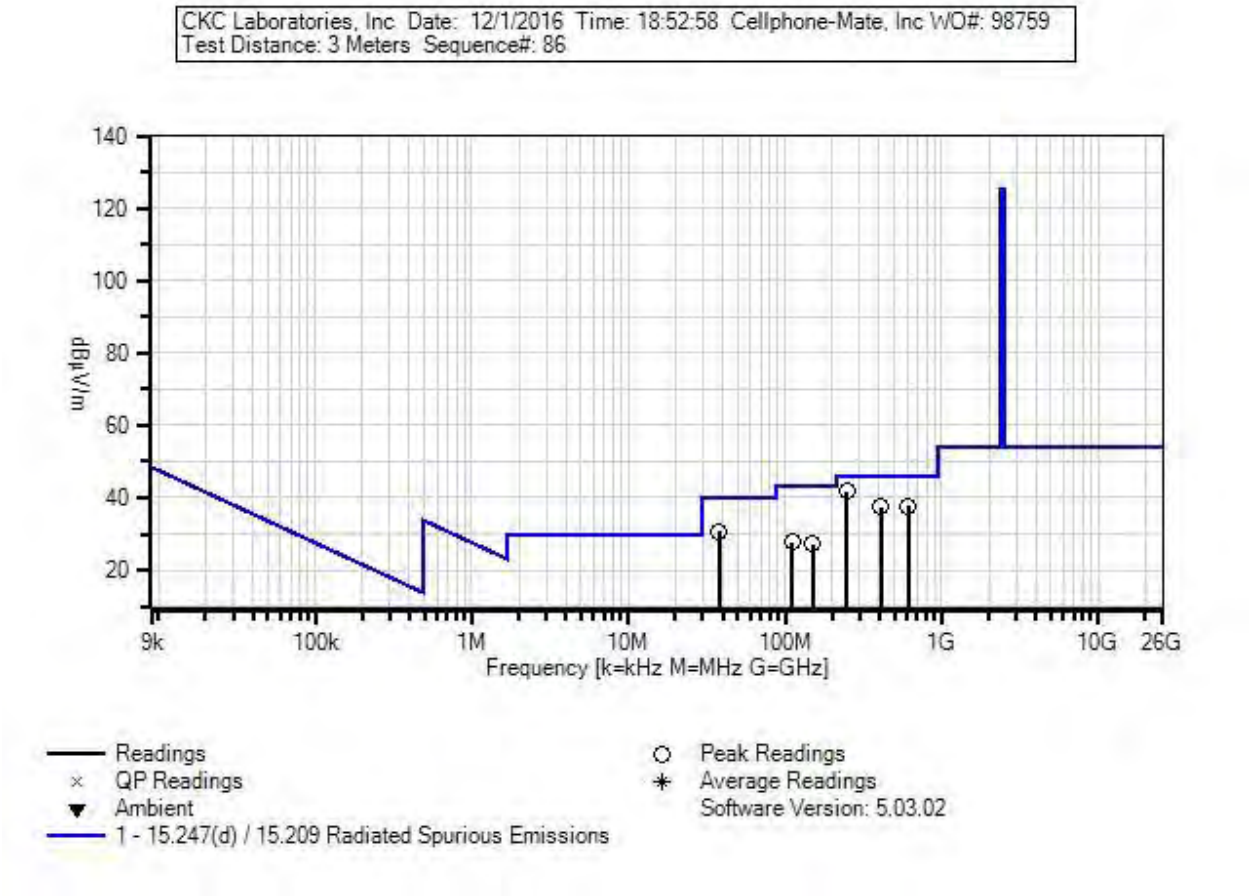
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11g Mode=48
Low Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 18:52:58 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 86
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.7	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.7	46.0	-4.3	Horiz
2	613.511M	35.4	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.7	46.0	-8.3	Horiz
3	408.890M	40.1	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.5	46.0	-8.5	Horiz
4	38.249M	37.9	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	30.7	40.0	-9.3	Vert
5	111.623M	37.3	-27.7 +0.3	+5.9 +10.8	+1.0	+0.2	+0.0	27.8	43.5	-15.7	Vert
6	149.947M	35.9	-27.6 +0.4	+5.9 +11.1	+1.2	+0.2	+0.0	27.1	43.5	-16.4	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	11:32:05
Tested By:	Hieu Song Nguyenpham	Sequence#:	36
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11b Mode=48
Low Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 11:32:05 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 36
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7863.961M	58.0	-57.7 +1.0	+35.2 +0.4	+2.3	+5.1	+0.0	44.3	54.0	-9.7	Vert
2	9638.109M	56.7	-57.3 +1.1	+34.8 +0.3	+2.6	+5.5	+0.0	43.7	54.0	-10.3	Vert
3	7235.185M Ave	59.0	-58.3 +1.0	+34.1 +0.3	+2.2	+5.0	+0.0	43.3	54.0	-10.7	Vert
^	7235.185M	70.6	-58.3 +1.0	+34.1 +0.3	+2.2	+5.0	+0.0	54.9	54.0	+0.9	Vert
5	4822.930M	61.1	-57.8 +0.8	+30.8 +0.3	+1.8	+3.8	+0.0	40.8	54.0	-13.2	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	19:03:29
Tested By:	Hieu Song Nguyenpham	Sequence#:	89
Software:	EMITest 5.03.02		

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

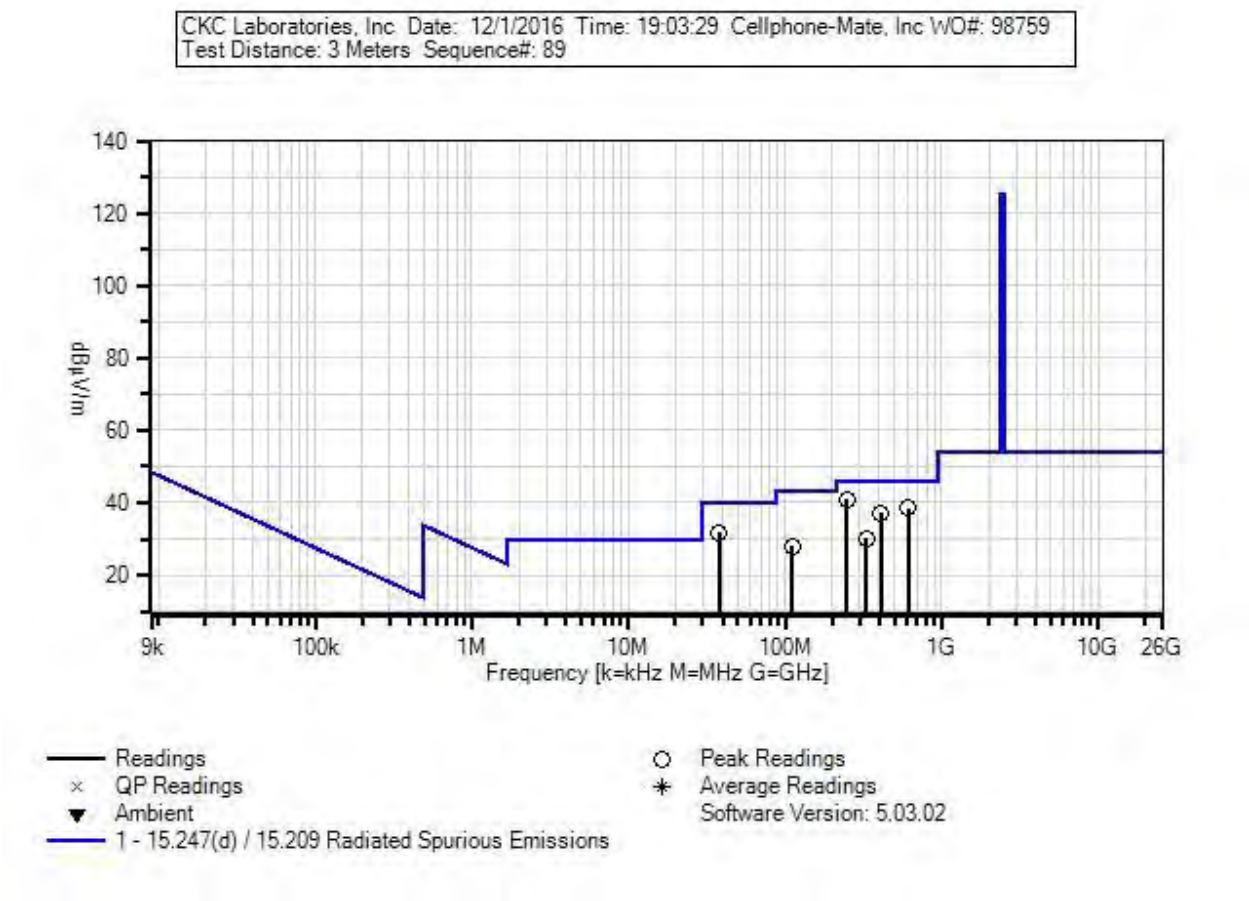
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11g Mode=48
Middle Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 19:03:29 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 89
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	46.9	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	40.9	46.0	-5.1	Horiz
2	613.511M	36.1	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	38.4	46.0	-7.6	Horiz
3	38.249M	39.0	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	31.8	40.0	-8.2	Vert
4	408.890M	39.9	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.3	46.0	-8.7	Horiz
5	111.521M	37.4	-27.7 +0.3	+5.9 +10.8	+1.0	+0.2	+0.0	27.9	43.5	-15.6	Vert
6	329.194M	34.4	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	30.2	46.0	-15.8	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	11:45:11
Tested By:	Hieu Song Nguyenpham	Sequence#:	39
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11b Mode=48
Middle Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 11:45:11 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 39
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4877.047M	64.4	-57.6 +0.8	+30.9 +0.3	+1.8	+3.8	+0.0	44.4	54.0	-9.6	Vert
2	8112.489M	56.7	-57.1 +1.0	+35.6 +0.4	+2.4	+5.2	+0.0	44.2	54.0	-9.8	Vert
3	9757.610M	56.7	-57.6 +1.1	+34.9 +0.3	+2.6	+5.6	+0.0	43.6	54.0	-10.4	Vert
4	7310.973M Ave	58.9	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	43.4	54.0	-10.6	Vert
^	7310.973M	71.2	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	55.7	54.0	+1.7	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	19:15:13
Tested By:	Hieu Song Nguyenpham	Sequence#:	92
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

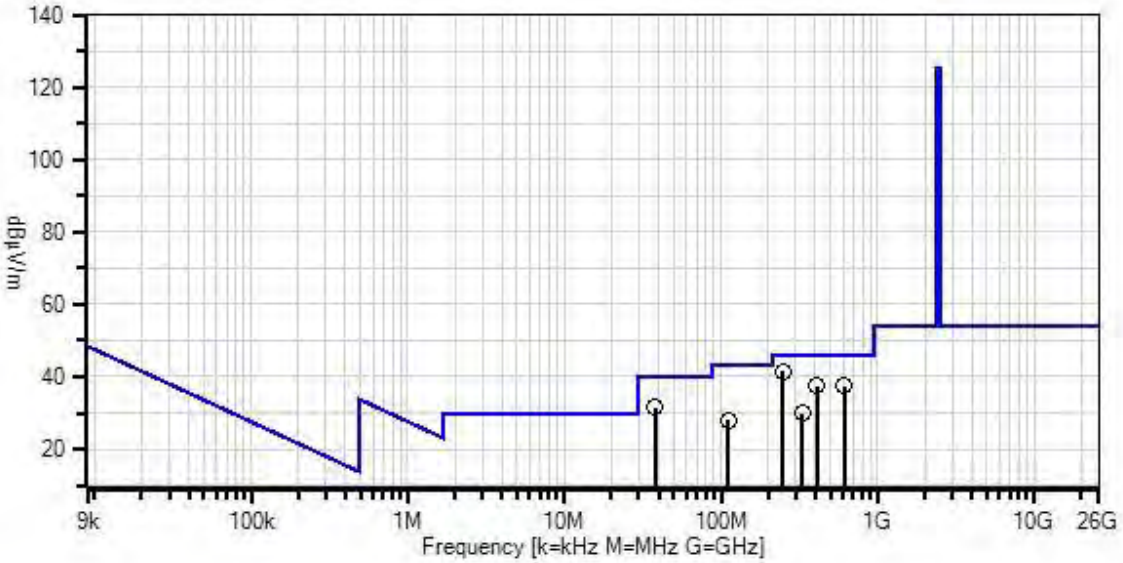
The equipment under test (EUT) is placed on the Styrofoam table top. EUT set at maximum gain. A remotely located signal generator is connected to input port of EUT. The DL power input signal 2132.5MHz, 4.1MHz AWGN at the outdoor antenna port is set at 3dB above AGC level. HDTV input is connected to the antenna which is sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11g Mode=48
High Channel

CKC Laboratories, Inc Date: 12/1/2016 Time: 19:15:13 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 92



Readings
QP Readings
Ambient
1 - 15.247(d) / 15.209 Radiated Spurious Emissions
Peak Readings
Average Readings
Software Version: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.5	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.5	46.0	-4.5	Horiz
2	38.249M	38.8	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	31.6	40.0	-8.4	Vert
3	408.890M	40.0	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.4	46.0	-8.6	Horiz
4	613.511M	35.1	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.4	46.0	-8.6	Horiz
5	111.623M	37.4	-27.7 +0.3	+5.9 +10.8	+1.0	+0.2	+0.0	27.9	43.5	-15.6	Vert
6	329.194M	34.2	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	30.0	46.0	-16.0	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	16:04:05
Tested By:	Hieu Song Nguyenpham	Sequence#:	40
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = 12Mbps
Attenuator for 802.11b Mode=48
High Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 16:04:05 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 40
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7374.361M	61.5	-58.3 +1.0	+34.3 +0.3	+2.3	+5.1	+0.0	46.2	54.0	-7.8	Vert
2	9856.022M	57.9	-57.6 +1.1	+35.0 +0.3	+2.6	+5.6	+0.0	44.9	54.0	-9.1	Vert
3	7881.358M	58.2	-57.7 +1.0	+35.2 +0.4	+2.3	+5.1	+0.0	44.5	54.0	-9.5	Vert
4	4924.396M Ave	60.9	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	41.1	54.0	-12.9	Vert
^	4924.396M	72.2	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	52.4	54.0	-1.6	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	19:26:48
Tested By:	Hieu Song Nguyenpham	Sequence#:	95
Software:	EMITest 5.03.02		

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

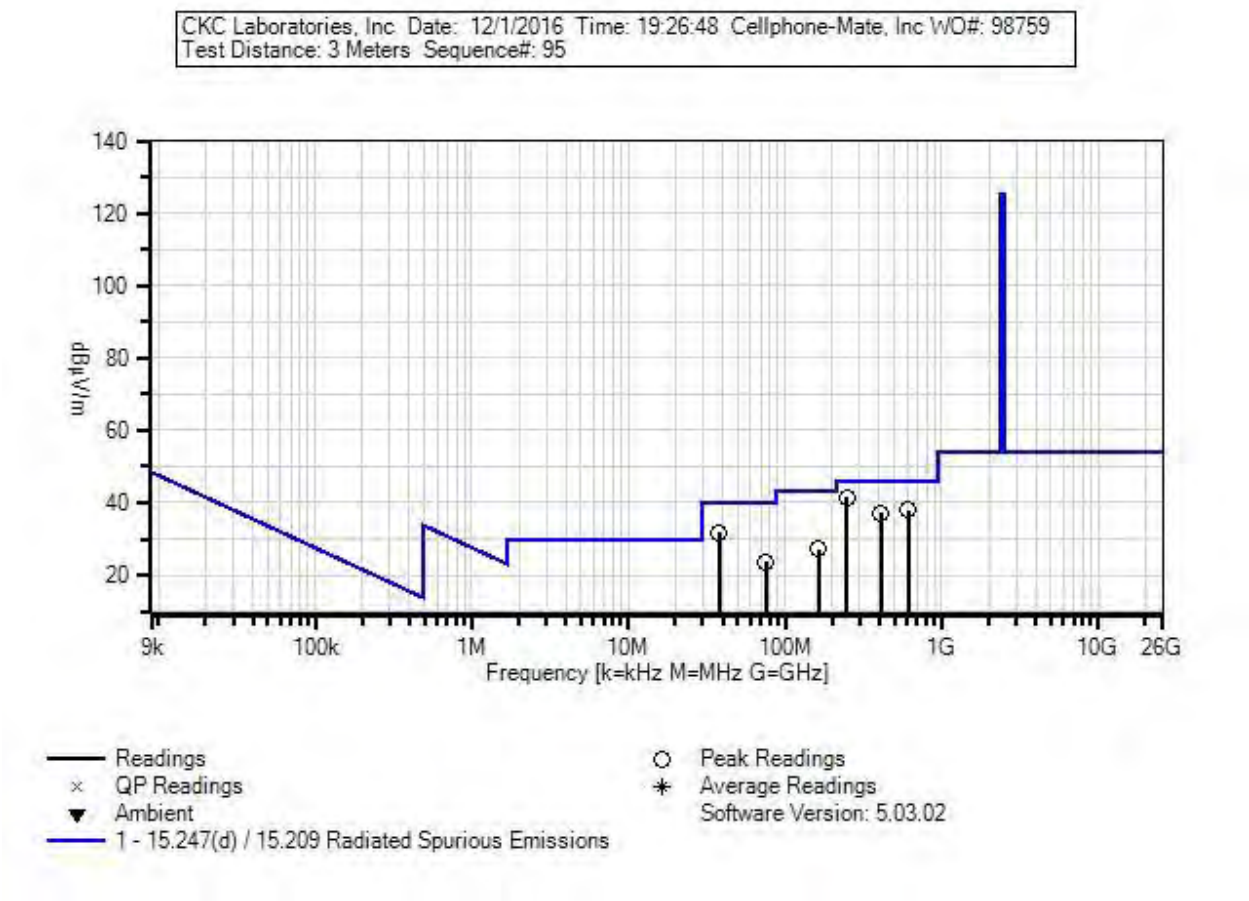
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
Low Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 19:26:48 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 95
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.4	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.4	46.0	-4.6	Horiz
2	613.511M	35.6	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.9	46.0	-8.1	Horiz
3	38.206M	38.8	-28.0 +0.2	+5.9 +14.2	+0.5	+0.1	+0.0	31.7	40.0	-8.3	Vert
4	408.890M	39.8	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.2	46.0	-8.8	Horiz
5	163.902M	36.9	-27.5 +0.4	+5.9 +10.2	+1.2	+0.2	+0.0	27.3	43.5	-16.2	Vert
6	75.118M	37.4	-27.8 +0.3	+5.9 +6.9	+0.8	+0.1	+0.0	23.6	40.0	-16.4	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	13:12:30
Tested By:	Hieu Song Nguyenpham	Sequence#:	43
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
Low Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 13:12:30 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 43
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	8134.857M	56.7	-57.1 +1.0	+35.6 +0.4	+2.4	+5.2	+0.0	44.2	54.0	-9.8	Vert
2	9641.900M	55.2	-57.3 +1.1	+34.8 +0.3	+2.6	+5.5	+0.0	42.2	54.0	-11.8	Vert
3	7236.955M Ave	57.6	-58.3 +1.0	+34.1 +0.3	+2.2	+5.0	+0.0	41.9	54.0	-12.1	Vert
^	7236.955M	71.4	-58.3 +1.0	+34.1 +0.3	+2.2	+5.0	+0.0	55.7	54.0	+1.7	Vert
5	4820.400M	62.2	-57.8 +0.8	+30.8 +0.3	+1.8	+3.8	+0.0	41.9	54.0	-12.1	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	19:40:44
Tested By:	Hieu Song Nguyenpham	Sequence#:	98
Software:	EMITest 5.03.02		

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

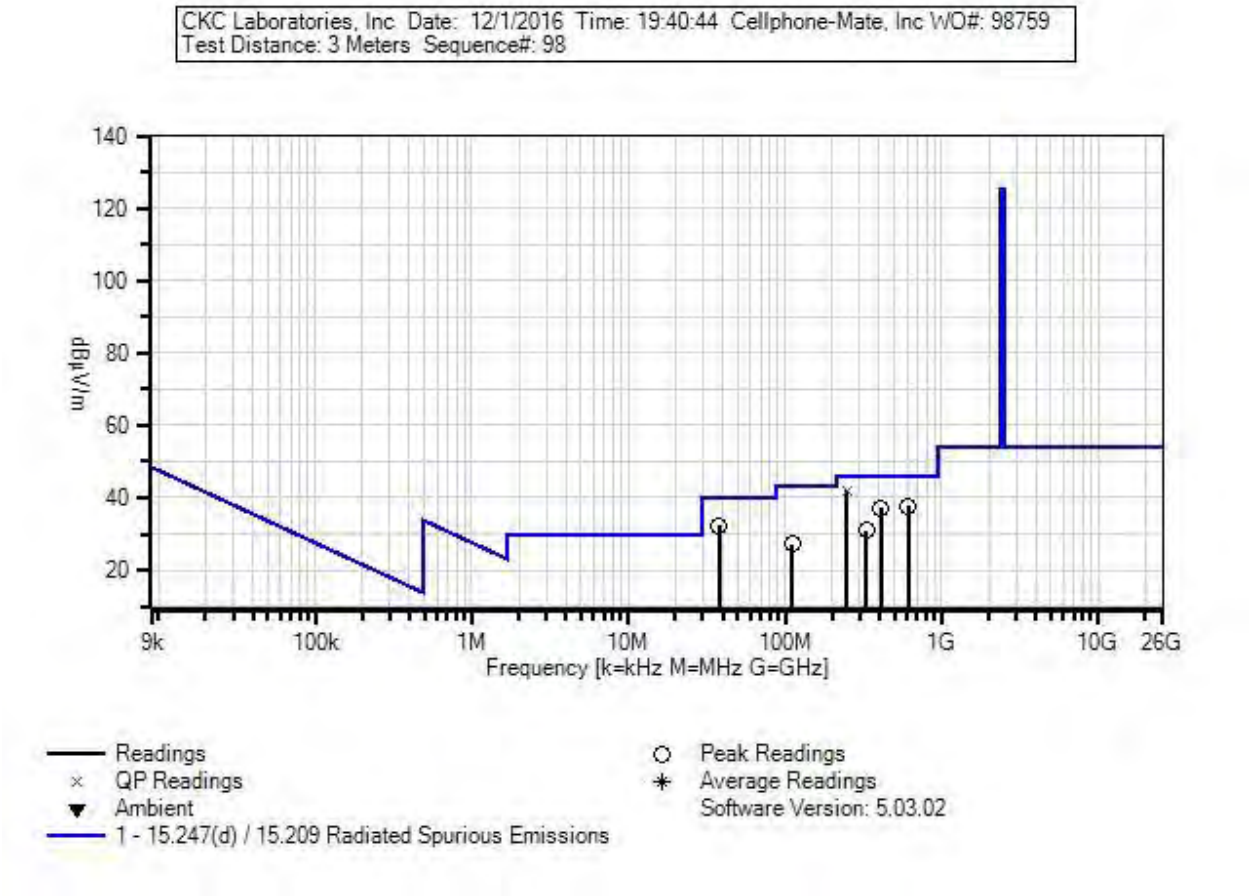
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
Middle Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 19:40:44 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 98
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	250.005M	48.1	-27.0	+5.9	+1.6	+0.3	+0.0	42.1	46.0	-3.9	Horiz
	QP		+0.6	+12.6							
^	250.005M	49.0	-27.0	+5.9	+1.6	+0.3	+0.0	43.0	46.0	-3.0	Horiz
			+0.6	+12.6							
3	38.206M	39.3	-28.0	+5.9	+0.5	+0.1	+0.0	32.2	40.0	-7.8	Vert
			+0.2	+14.2							
4	613.511M	35.3	-28.3	+5.9	+2.6	+0.7	+0.0	37.6	46.0	-8.4	Horiz
			+1.0	+20.4							
5	408.890M	39.7	-27.9	+5.9	+2.0	+0.4	+0.0	37.1	46.0	-8.9	Horiz
			+0.8	+16.2							
6	329.437M	35.1	-27.2	+5.9	+1.8	+0.4	+0.0	30.9	46.0	-15.1	Vert
			+0.7	+14.2							
7	111.623M	36.8	-27.7	+5.9	+1.0	+0.2	+0.0	27.3	43.5	-16.2	Vert
			+0.3	+10.8							

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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	13:24:03
Tested By:	Hieu Song Nguyenpham	Sequence#:	46
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
Middle Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 13:24:03 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 46
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9750.580M	57.6	-57.6 +1.1	+34.9 +0.3	+2.6	+5.6	+0.0	44.5	54.0	-9.5	Vert
2	4885.834M	64.3	-57.6 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	44.4	54.0	-9.6	Vert
3	7311.975M Ave	57.3	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	41.8	54.0	-12.2	Horiz
^	7311.975M	69.5	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	54.0	54.0	+0.0	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 #:	**98759**	Date:	12/1/2016
Test Type:	**Radiated Scan**	Time:	19:54:16
Tested By:	Hieu Song Nguyenpham	Sequence#:	101
Software:	EMITest 5.03.02		

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

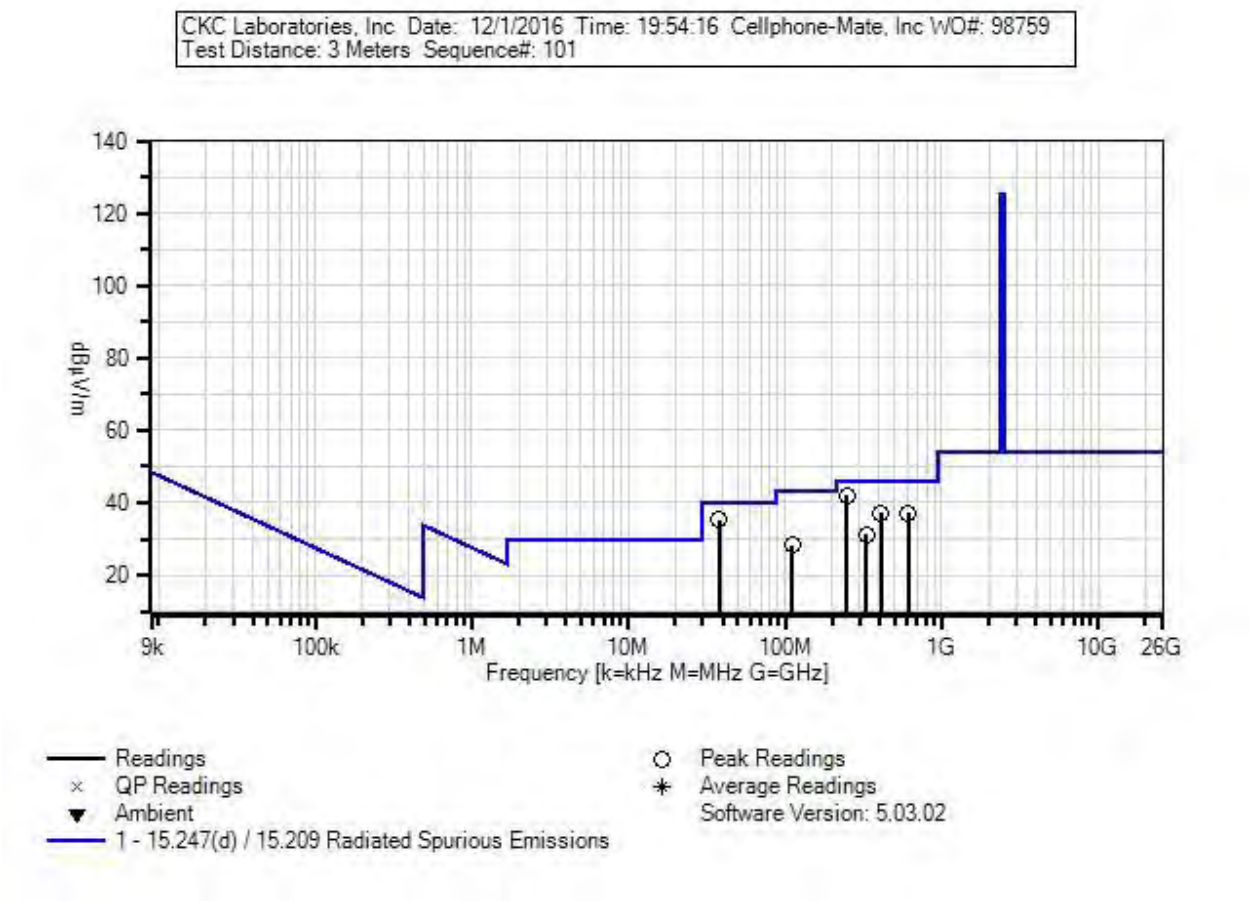
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6 C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
High Channel


CKC Laboratories, Inc Date: 12/1/2016 Time: 19:54:16 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 101
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	47.9	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.9	46.0	-4.1	Horiz
2	38.249M	42.4	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	35.2	40.0	-4.8	Vert
3	408.890M	39.7	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.1	46.0	-8.9	Horiz
4	613.511M	34.8	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	37.1	46.0	-8.9	Horiz
5	329.194M	35.5	-27.2 +0.7	+5.9 +14.2	+1.8	+0.4	+0.0	31.3	46.0	-14.7	Vert
6	111.521M	37.7	-27.7 +0.3	+5.9 +10.8	+1.0	+0.2	+0.0	28.2	43.5	-15.3	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	13:38:30
Tested By:	Hieu Song Nguyenpham	Sequence#:	49
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT20 Mode=48
High Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 13:38:30 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 49
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9856.022M	58.2	-57.6 +1.1	+35.0 +0.3	+2.6	+5.6	+0.0	45.2	54.0	-8.8	Vert
2	7379.331M	60.0	-58.3 +1.0	+34.3 +0.3	+2.3	+5.1	+0.0	44.7	54.0	-9.3	Vert
3	8629.385M	55.8	-56.2 +1.1	+35.8 +0.4	+2.5	+5.1	+0.0	44.5	54.0	-9.5	Vert
4	4922.276M Ave	60.5	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	40.7	54.0	-13.3	Vert
^	4922.276M	71.2	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	51.4	54.0	-2.6	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 #:	**98759**	Date:	12/2/2016
Test Type:	**Radiated Scan**	Time:	08:44:17
Tested By:	Hieu Song Nguyenpham	Sequence#:	105
Software:	EMITest 5.03.02		

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

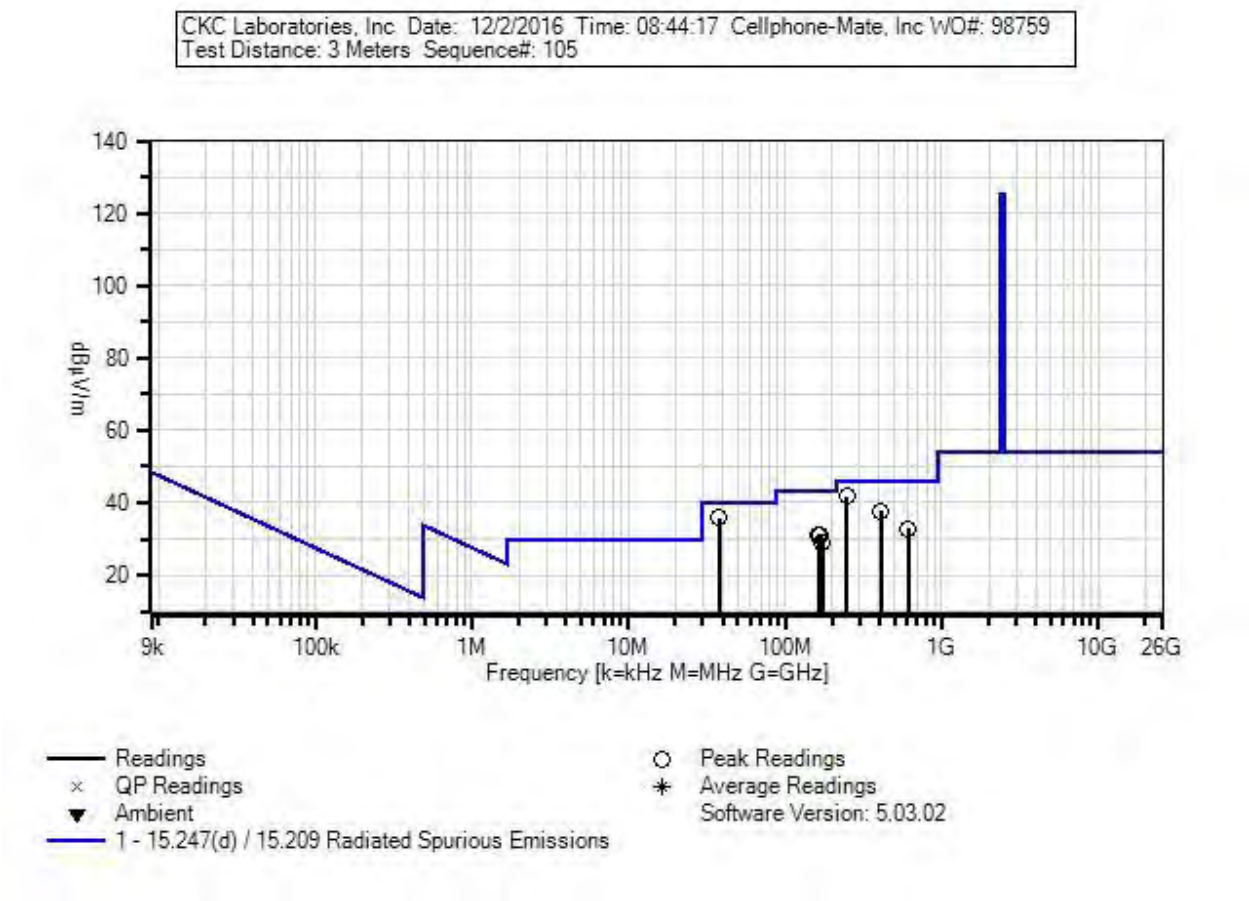
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
Low Channel


CKC Laboratories, Inc Date: 12/2/2016 Time: 08:44:17 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 105
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	38.249M	43.1	-28.0 +0.2	+5.9 +14.1	+0.5	+0.1	+0.0	35.9	40.0	-4.1	Vert
2	249.985M	47.8	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.8	46.0	-4.2	Horiz
3	408.890M	40.3	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.7	46.0	-8.3	Horiz
4	164.003M	40.8	-27.5 +0.4	+5.9 +10.2	+1.2	+0.2	+0.0	31.2	43.5	-12.3	Vert
5	168.857M	41.1	-27.5 +0.4	+5.9 +9.8	+1.2	+0.2	+0.0	31.1	43.5	-12.4	Vert
6	613.511M	30.6	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	32.9	46.0	-13.1	Horiz
7	172.801M	39.2	-27.5 +0.4	+5.9 +9.5	+1.3	+0.2	+0.0	29.0	43.5	-14.5	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	13:57:09
Tested By:	Hieu Song Nguyenpham	Sequence#:	52
Software:	EMITest 5.03.02		

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

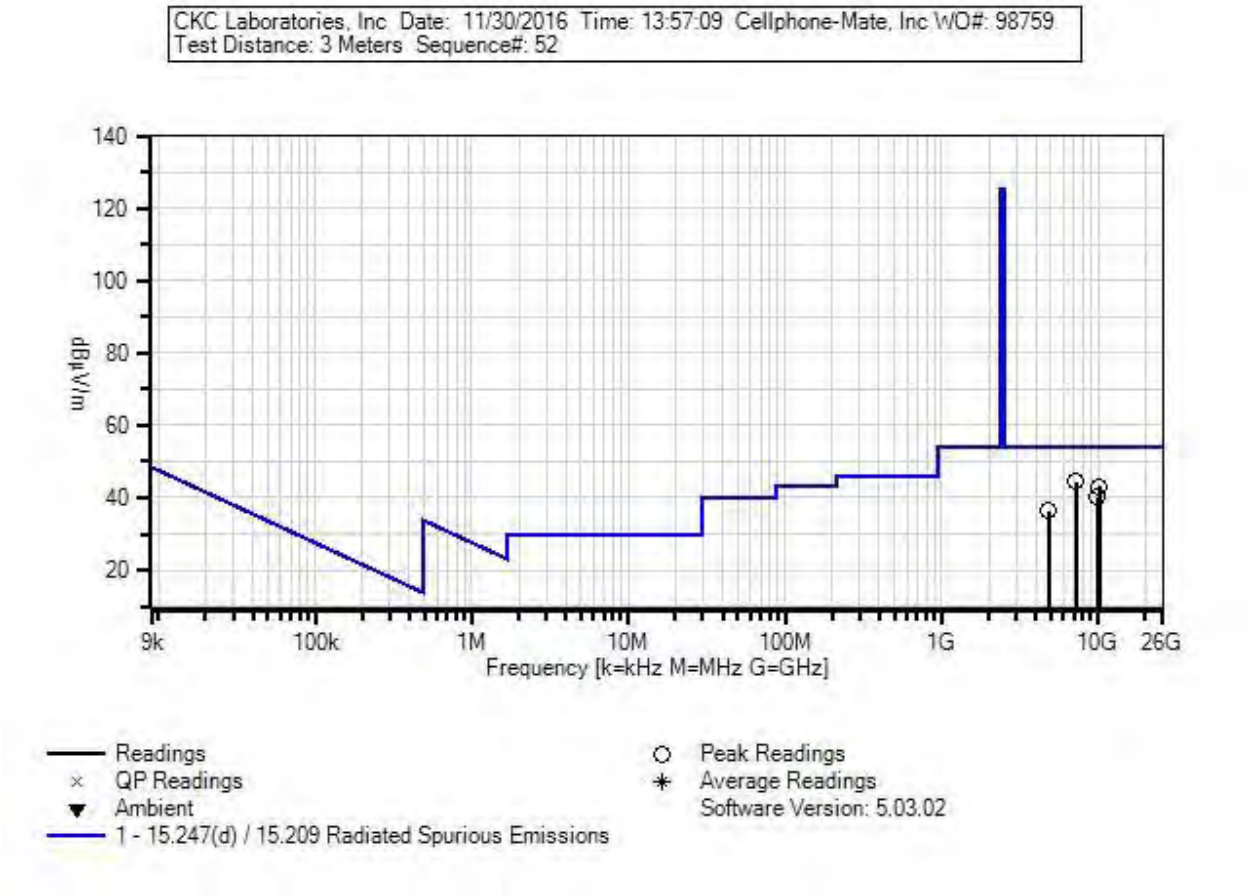
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
Low Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 13:57:09 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 52
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7260.038M	59.9	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	44.4	54.0	-9.6	Vert
2	10179.376 M	55.6	-57.9 +1.2	+35.2 +0.4	+2.7	+6.0	+0.0	43.2	54.0	-10.8	Vert
3	9941.000M	53.1	-57.8 +1.1	+35.1 +0.4	+2.6	+5.7	+0.0	40.2	54.0	-13.8	Vert
4	4823.000M	56.6	-57.8 +0.8	+30.8 +0.3	+1.8	+3.8	+0.0	36.3	54.0	-17.7	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 #:	**98759**	Date:	12/2/2016
Test Type:	**Radiated Scan**	Time:	08:59:04
Tested By:	Hieu Song Nguyenpham	Sequence#:	108
Software:	EMITest 5.03.02		

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

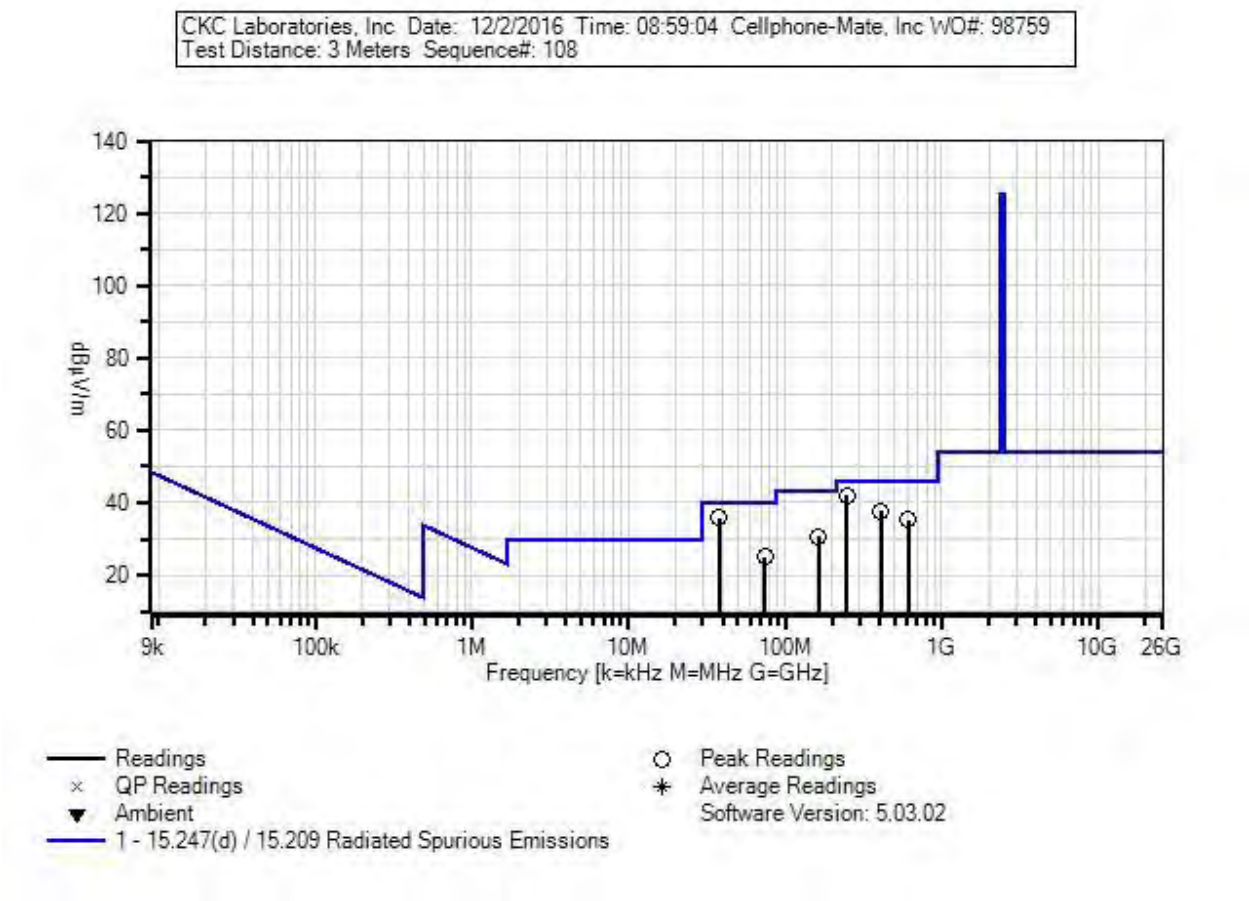
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
Middle Channel


CKC Laboratories, Inc Date: 12/2/2016 Time: 08:59:04 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 108
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	249.985M	48.0	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	42.0	46.0	-4.0	Horiz
2	38.206M	43.0	-28.0 +0.2	+5.9 +14.2	+0.5	+0.1	+0.0	35.9	40.0	-4.1	Vert
3	408.890M	40.2	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.6	46.0	-8.4	Horiz
4	613.511M	32.9	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	35.2	46.0	-10.8	Horiz
5	164.003M	40.2	-27.5 +0.4	+5.9 +10.2	+1.2	+0.2	+0.0	30.6	43.5	-12.9	Vert
6	74.511M	38.8	-27.7 +0.3	+5.9 +6.9	+0.8	+0.1	+0.0	25.1	40.0	-14.9	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	14:08:36
Tested By:	Hieu Song Nguyenpham	Sequence#:	55
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
Middle Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 14:08:36 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 55
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7302.287M	59.9	-58.3 +1.0	+34.2 +0.3	+2.3	+5.0	+0.0	44.4	54.0	-9.6	Vert
2	11936.735 M	52.8	-56.2 +1.3	+36.2 +0.4	+2.9	+6.6	+0.0	44.0	54.0	-10.0	Vert
3	4873.931M	63.6	-57.7 +0.8	+30.9 +0.3	+1.8	+3.8	+0.0	43.5	54.0	-10.5	Vert
4	9747.958M	54.9	-57.6 +1.1	+34.9 +0.3	+2.6	+5.6	+0.0	41.8	54.0	-12.2	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 #:	**98759**	Date:	12/2/2016
Test Type:	**Radiated Scan**	Time:	09:14:24
Tested By:	Hieu Song Nguyenpham	Sequence#:	111
Software:	EMITest 5.03.02		

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

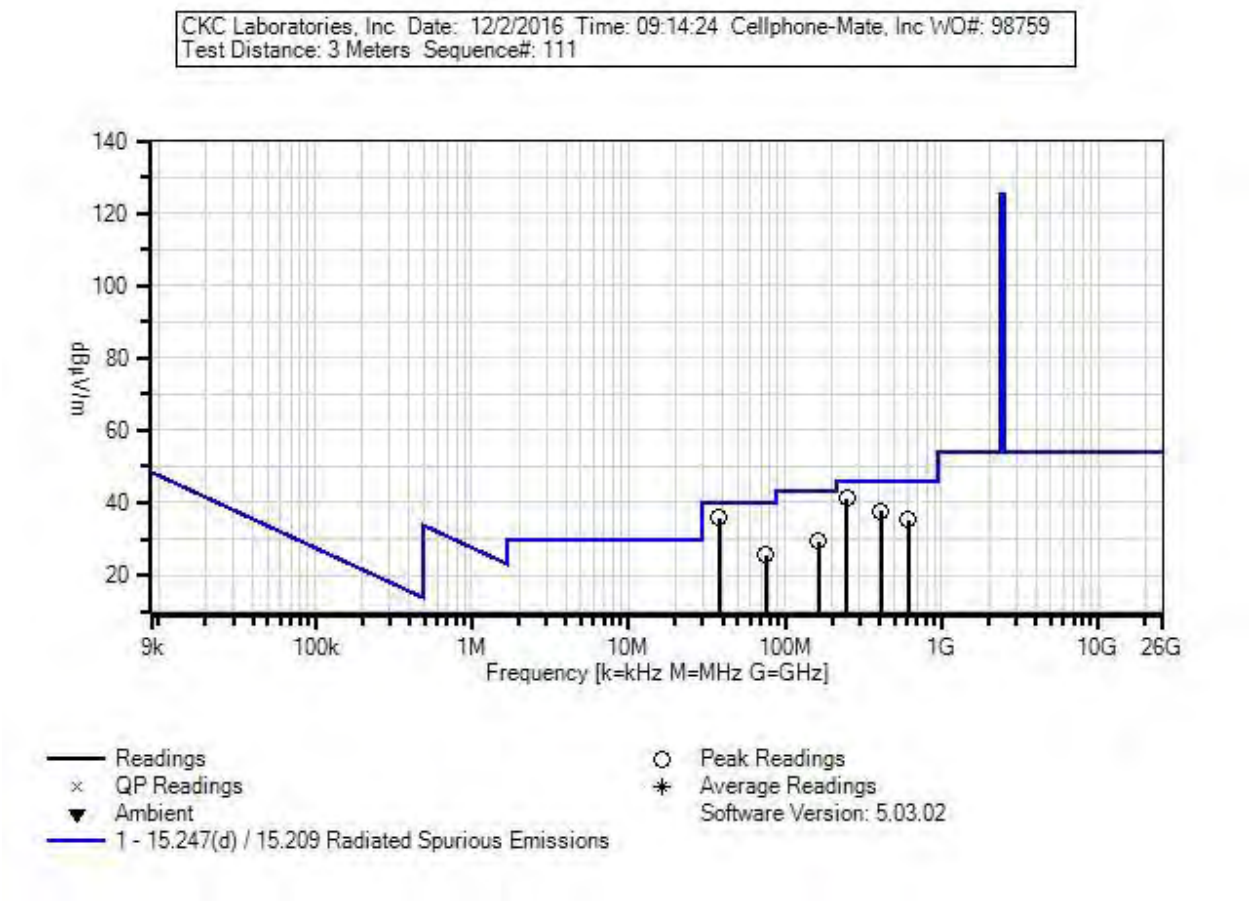
Application: MP_TEST MFC version 1.3.8.0
Temperature:19.6¹C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
High Channel


CKC Laboratories, Inc Date: 12/2/2016 Time: 09:14:24 Cellphone-Mate, Inc WO#: 98759
Test Distance: 3 Meters Sequence#: 111
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00226	Loop Antenna	6502	4/4/2016	4/4/2018
T1	AN00971A	Preamp	8447D	2/5/2016	2/5/2018
T2	ANP06049	Attenuator	PE7002-6	5/9/2016	5/9/2018
T3	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T4	ANP01187	Cable	CNT-195	8/8/2016	8/8/2018
T5	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN01996	Biconilog Antenna	CBL6111C	11/1/2016	11/1/2018

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	38.206M	42.8	-28.0 +0.2	+5.9 +14.2	+0.5	+0.1	+0.0	35.7	40.0	-4.3	Vert
2	249.985M	47.1	-27.0 +0.6	+5.9 +12.6	+1.6	+0.3	+0.0	41.1	46.0	-4.9	Horiz
3	408.890M	40.3	-27.9 +0.8	+5.9 +16.2	+2.0	+0.4	+0.0	37.7	46.0	-8.3	Horiz
4	613.511M	33.0	-28.3 +1.0	+5.9 +20.4	+2.6	+0.7	+0.0	35.3	46.0	-10.7	Horiz
5	163.902M	39.0	-27.5 +0.4	+5.9 +10.2	+1.2	+0.2	+0.0	29.4	43.5	-14.1	Vert
6	75.118M	39.3	-27.8 +0.3	+5.9 +6.9	+0.8	+0.1	+0.0	25.5	40.0	-14.5	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 #:	**98759**	Date:	11/30/2016
Test Type:	**Radiated Scan**	Time:	14:23:11
Tested By:	Hieu Song Nguyenpham	Sequence#:	58
Software:	EMITest 5.03.02		

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:19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: KDB 558074 v03r05 section 12.1 and ANSI C63.4 2014

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 sat 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 cable is terminated 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 = MCS6
Attenuator for 802.11n HT40 Mode=40
High Channel


CKC Laboratories, Inc Date: 11/30/2016 Time: 14:23:11 Cellphone-Mate, Inc \WO#: 98759
Test Distance: 3 Meters Sequence#: 58
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: 5.03.02

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/22/2015	4/22/2017
T2	AN02113	Horn Antenna	3115	2/3/2015	2/3/2017
	AN02694	Horn Antenna-ANSI C63.5 3m	AMFW-5F-18002650-20-10P	5/7/2015	5/7/2017
	AN03143	Cable	32022-29094K-144TC	3/18/2015	3/18/2017
T3	AN03302	Cable	32026-29094K-29094K-72TC	1/29/2016	1/29/2018
	ANP00928	Cable	various	1/25/2016	1/25/2018
	ANP00929	Cable	various	1/25/2016	1/25/2018
T4	ANP01210	Cable	FSJ1P-50A-4A	1/15/2015	1/15/2017
	ANP06138	Cable	32022-29094K-29094K-72TC	3/18/2015	3/18/2017
T5	ANP06900	Cable	32022-29094K-29094K-36TC	12/30/2015	12/30/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	1/18/2016	1/18/2018
	AN02693	Active Horn Antenna-ANSI C63.5 3m	AMFW-5F-12001800-20-10P	5/6/2015	5/6/2017

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4904.340M	65.4	-57.5 +0.8	+31.0 +0.3	+1.8	+3.8	+0.0	45.6	54.0	-8.4	Vert
2	8293.915M	55.6	-56.6 +1.0	+35.8 +0.3	+2.4	+5.1	+0.0	43.6	54.0	-10.4	Vert
3	7861.476M	57.5	-57.8 +1.0	+35.2 +0.3	+2.3	+5.1	+0.0	43.6	54.0	-10.4	Vert
4	9807.969M	55.5	-57.6 +1.1	+34.9 +0.3	+2.6	+5.6	+0.0	42.4	54.0	-11.6	Vert

Band Edge

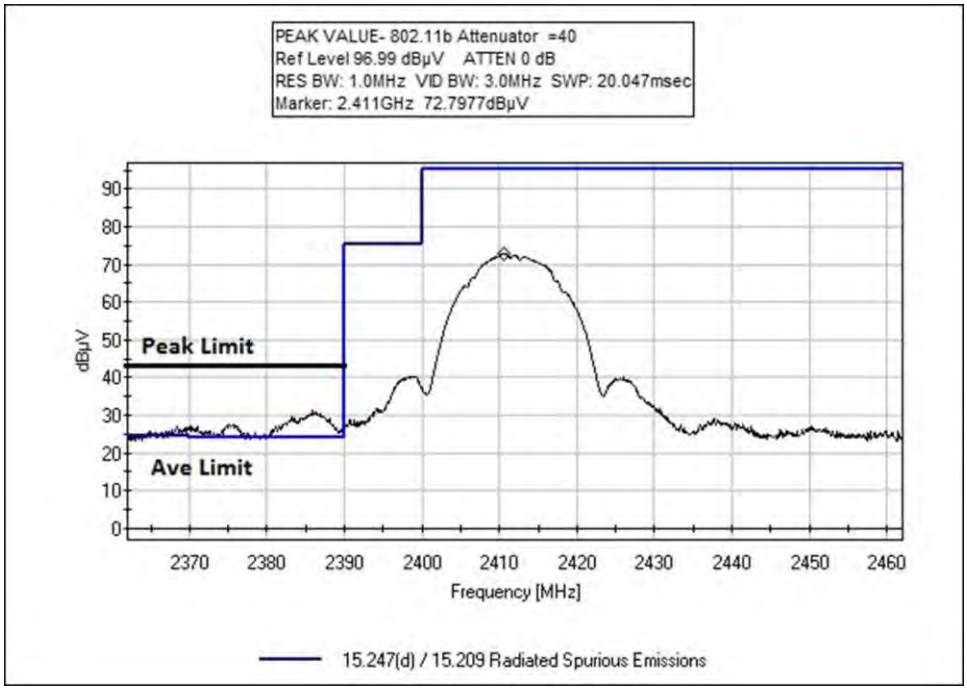
Band Edge Summary, 802.11b for SC222W Antenna					
Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
2390.0	802.11b	External	45.3	<54	Pass
2483.5	802.11b	External	46.8	<54	Pass

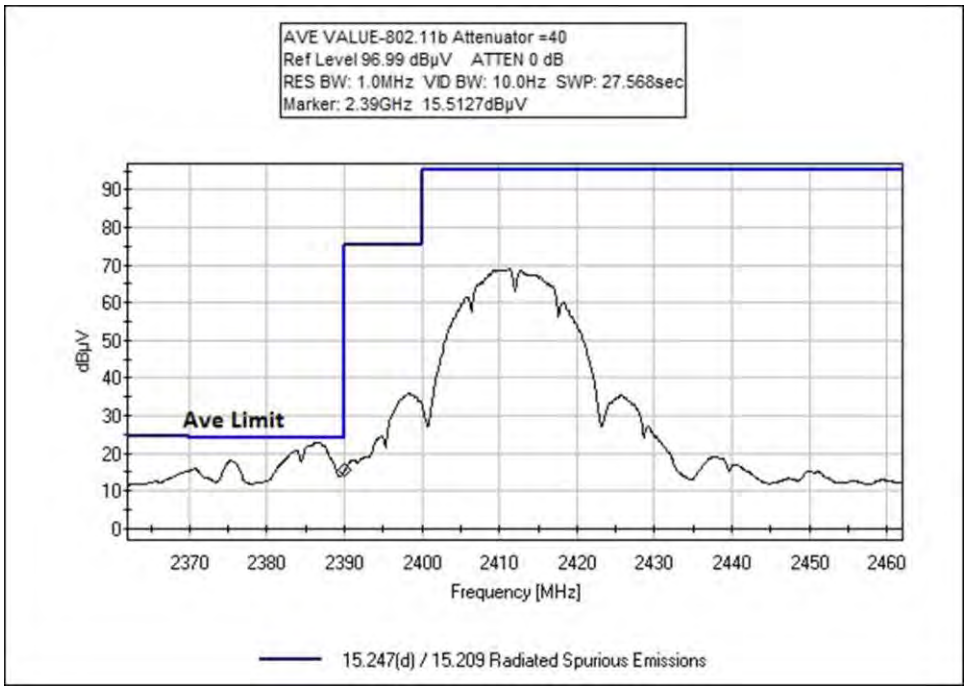
Band Edge Summary, 802.11g for SC222W Antenna					
Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
2390.0	802.11g	External	49.8	<54	Pass
2483.5	802.11g	External	49.6	<54	Pass

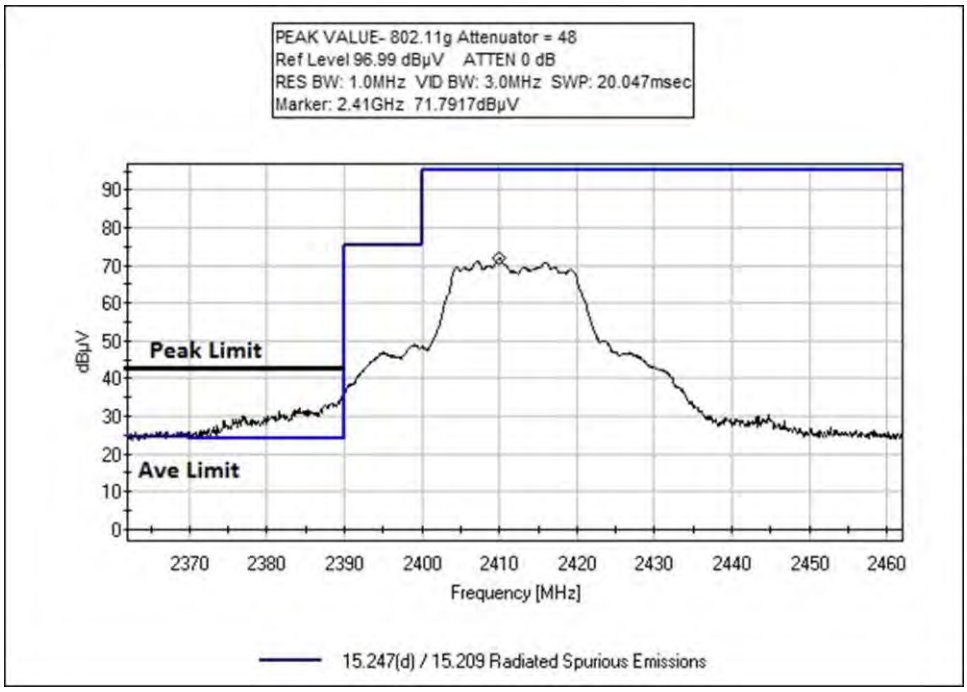
Band Edge Summary, 802.11n HT20 for SC222W Antenna					
Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
2390.0	802.11n HT20	External	51.8	<54	Pass
2483.5	802.11n HT20	External	53.1	<54	Pass

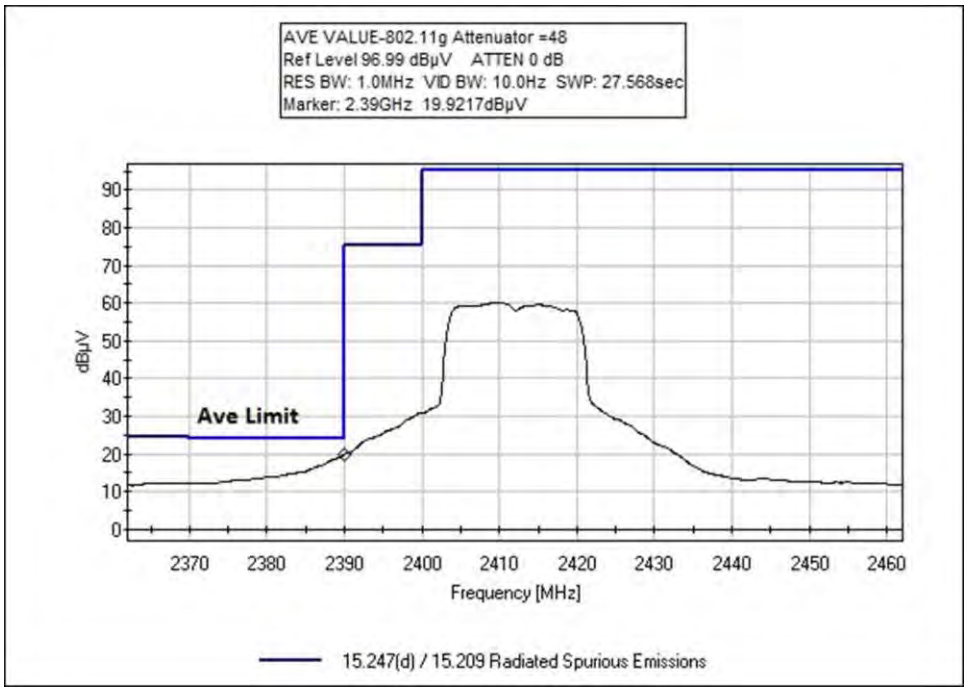
Band Edge Summary, 802.11n HT40 for SC222W Antenna					
Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
2390.0	802.11n HT40	External	51.0	<54	Pass
2483.5	802.11n HT40	External	50.1	<54	Pass

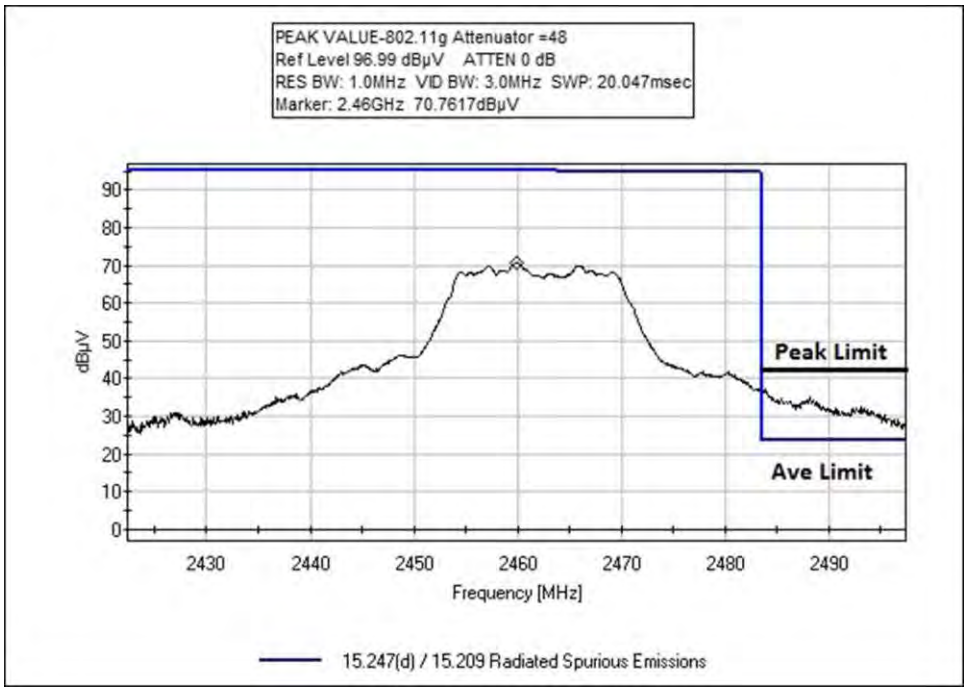
Band Edge Plots

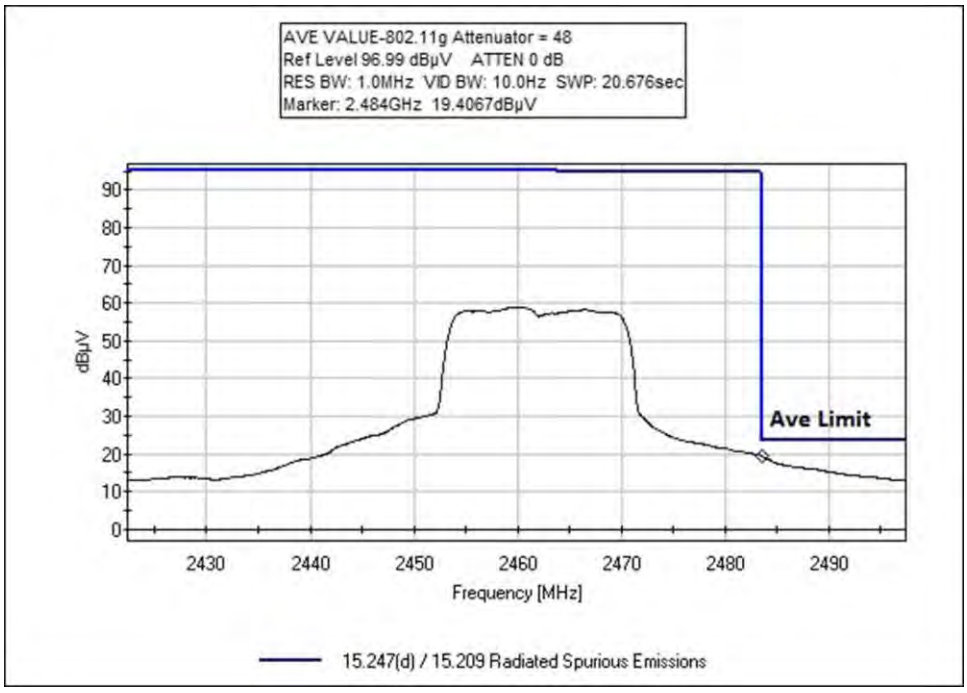


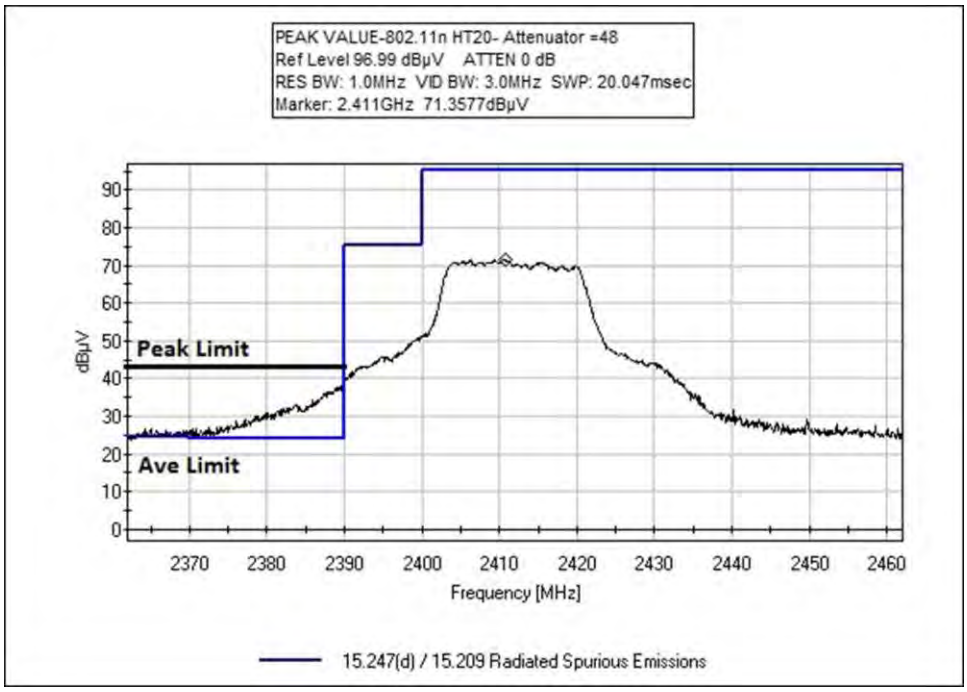


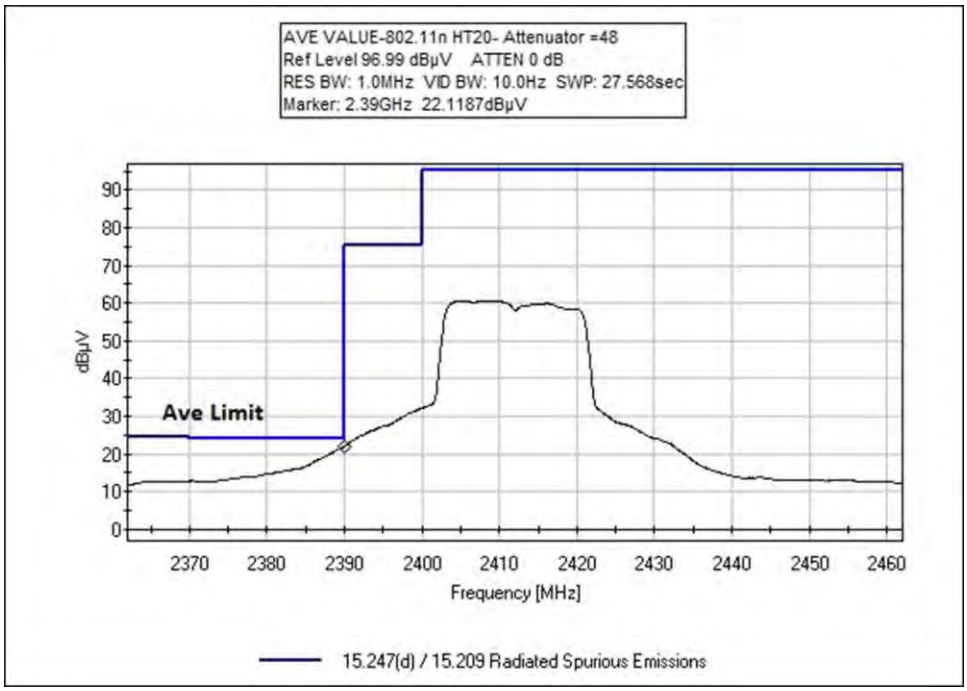

PEAK VALUE- 802.11g Attenuator = 48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.41GHz 71.7917dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

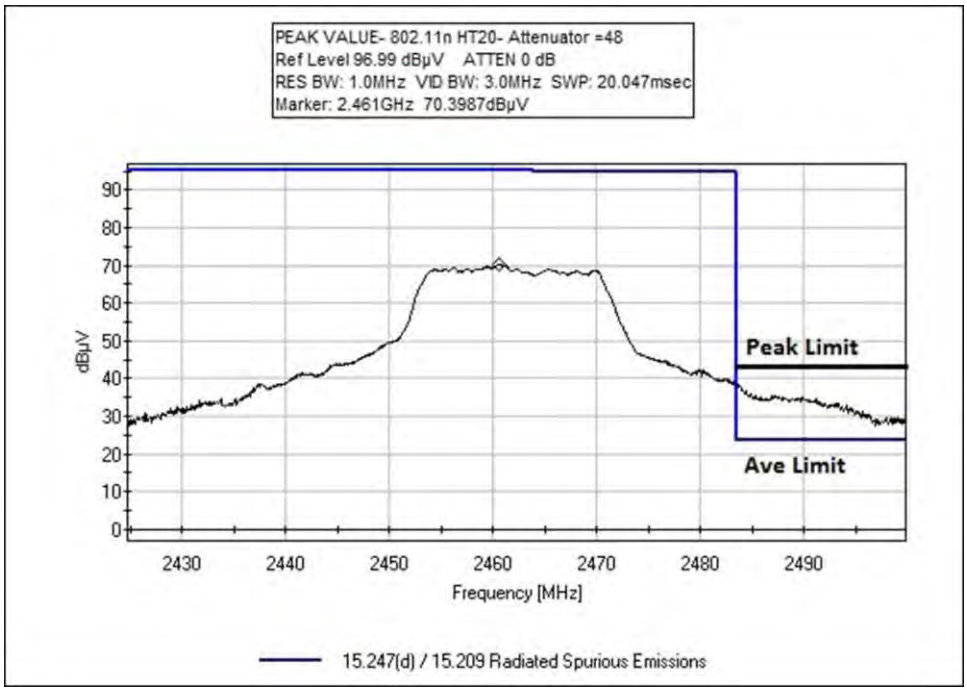

AVE VALUE-802.11g Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 27.568sec
Marker: 2.39GHz 19.9217dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

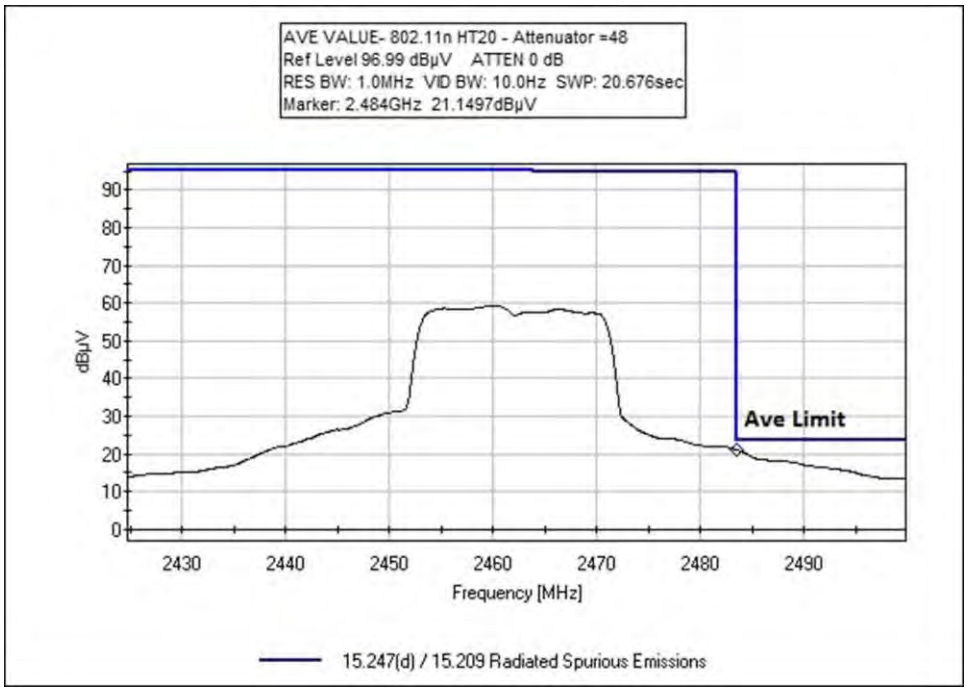

PEAK VALUE-802.11g Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.46GHz 70.7617dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

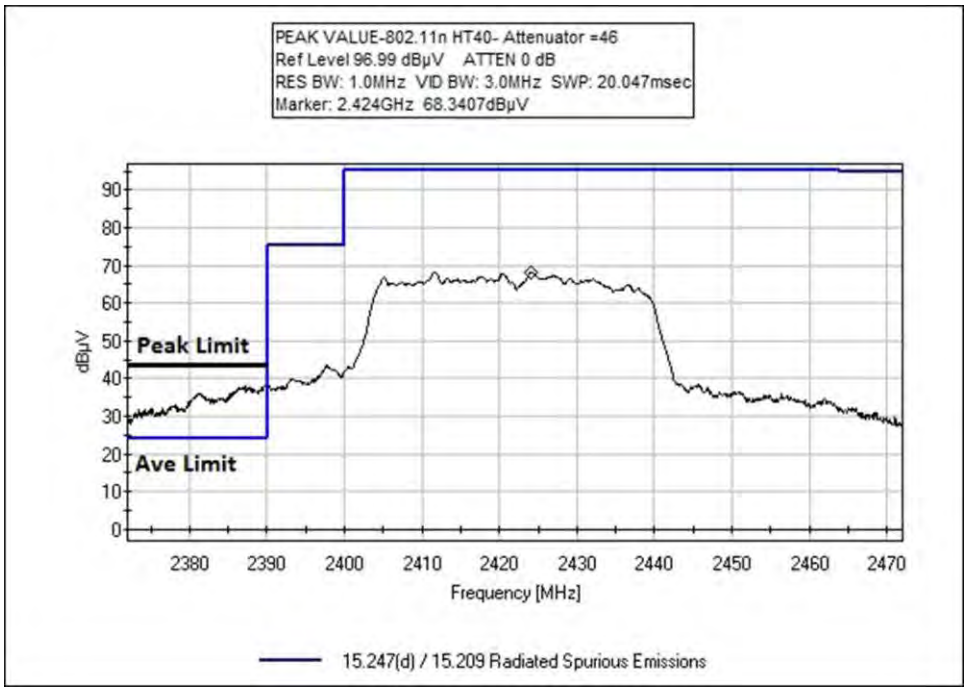

AVE VALUE-802.11g Attenuator = 48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 20.676sec
Marker: 2.484GHz 19.4067dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

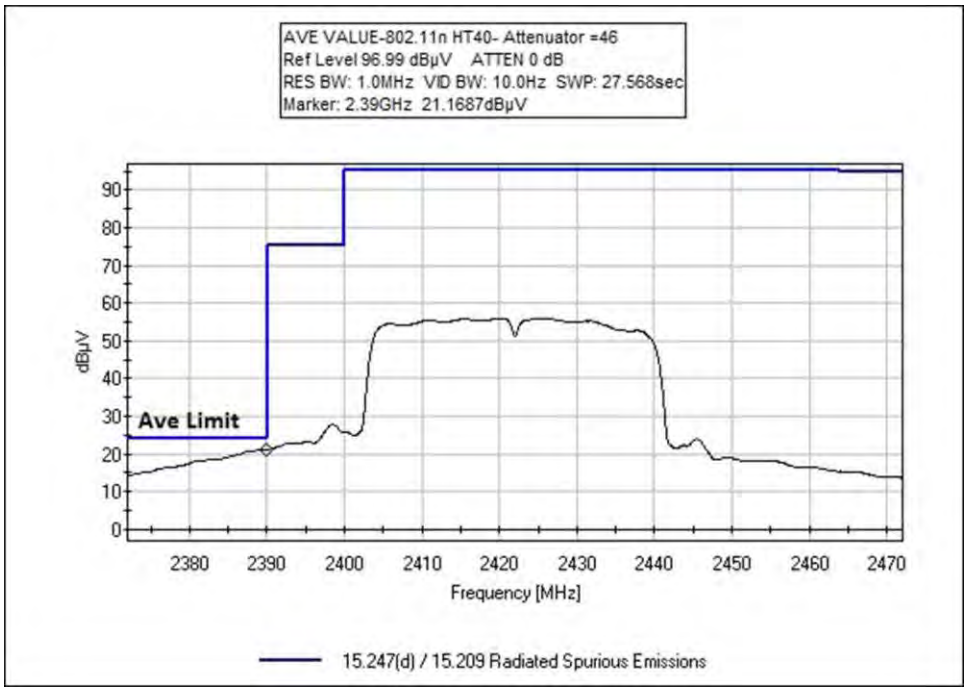

PEAK VALUE-802.11n HT20- Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.411GHz 71.3577dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

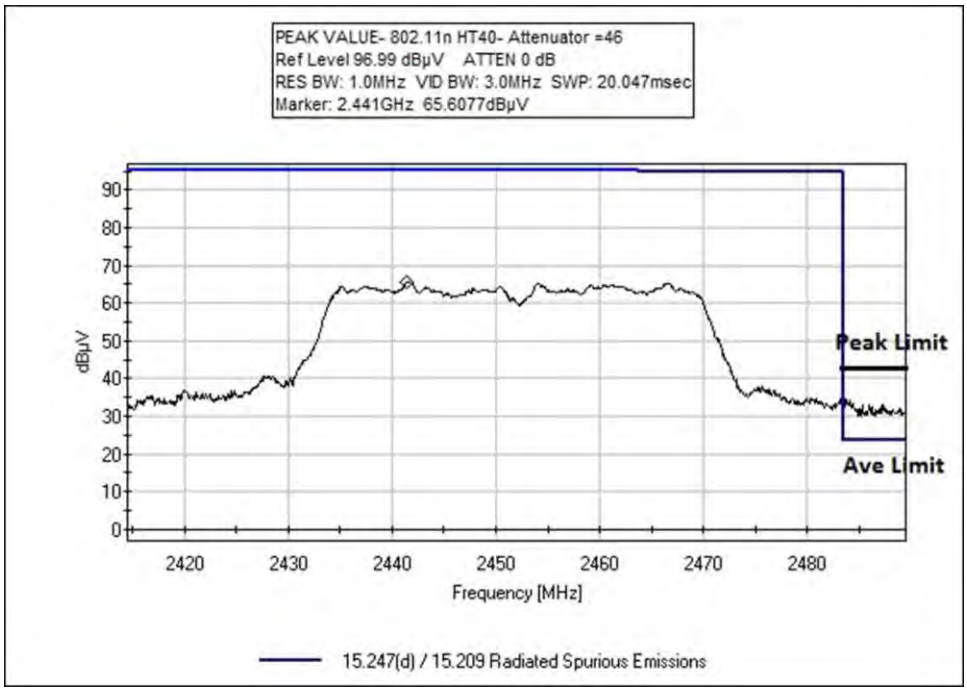

AVE VALUE-802.11n HT20- Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 27.568sec
Marker: 2.39GHz 22.1187dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

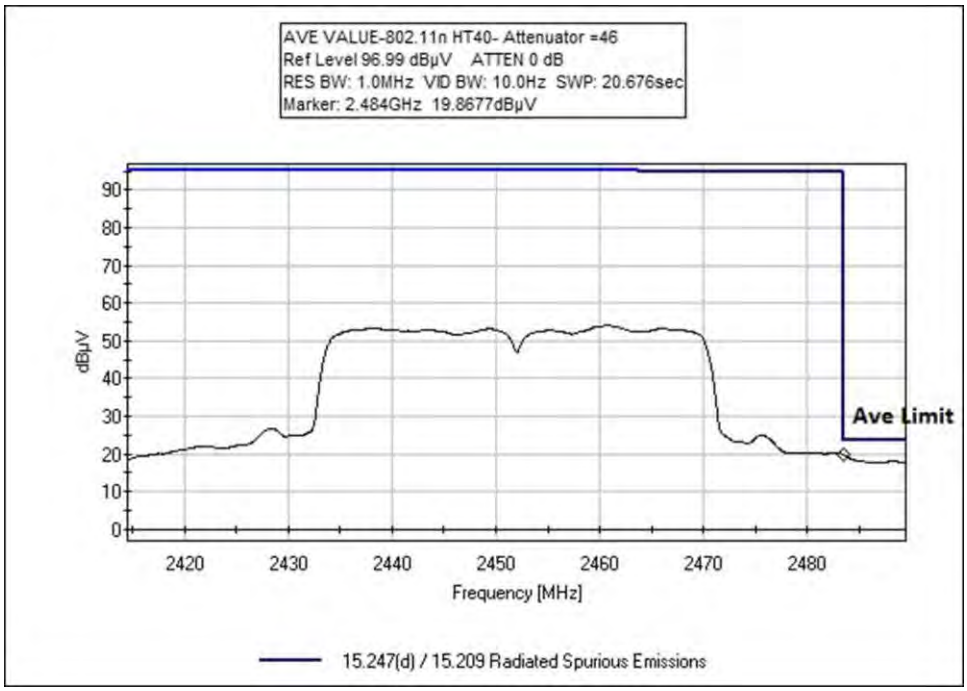

PEAK VALUE- 802.11n HT20- Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.461GHz 70.3987dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


AVE VALUE- 802.11n HT20 - Attenuator =48
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 20.676sec
Marker: 2.484GHz 21.1497dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

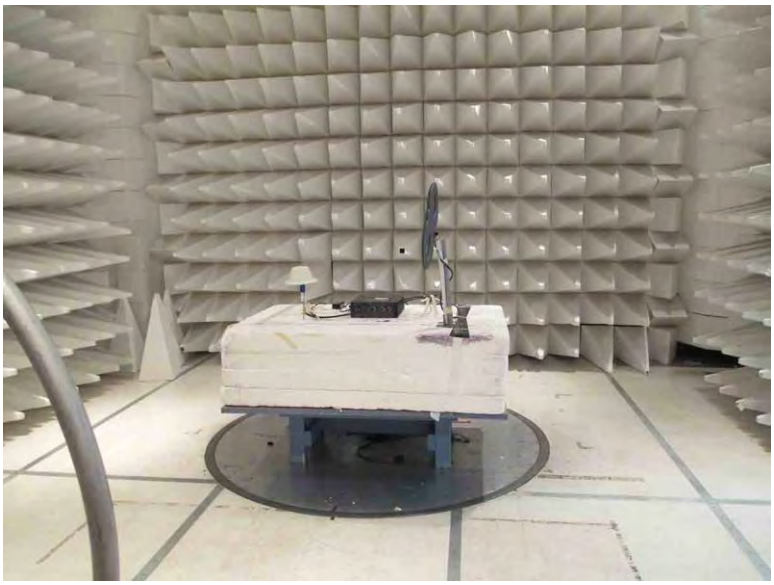

PEAK VALUE-802.11n HT40- Attenuator =46
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.424GHz 68.3407dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


AVE VALUE-802.11n HT40- Attenuator =46
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 27.568sec
Marker: 2.39GHz 21.1687dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

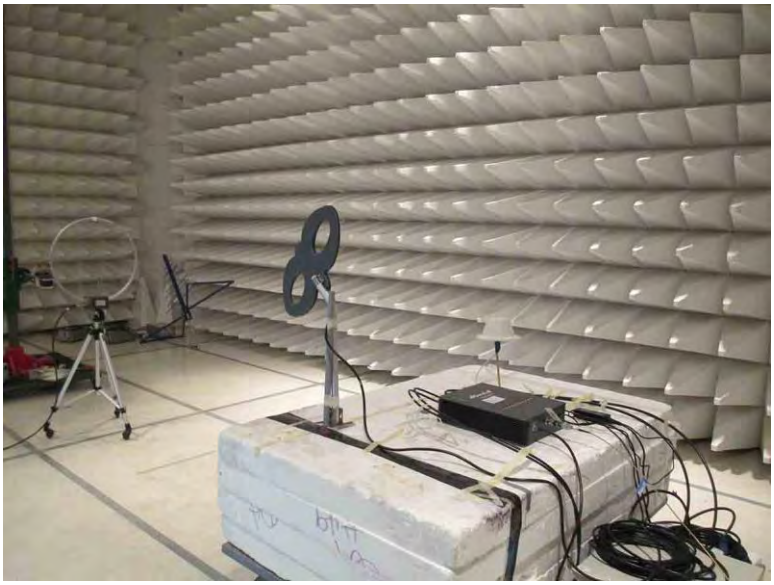

PEAK VALUE- 802.11n HT40- Attenuator =46
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.047msec
Marker: 2.441GHz 65.6077dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
2420
2430
2440
2450
2460
2470
2480
Frequency [MHz]
Peak Limit
Ave Limit
15.247(d) / 15.209 Radiated Spurious Emissions


AVE VALUE-802.11n HT40- Attenuator =46
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 20.676sec
Marker: 2.484GHz 19.8677dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
2420
2430
2440
2450
2460
2470
2480
Frequency [MHz]
Ave Limit
15.247(d) / 15.209 Radiated Spurious Emissions

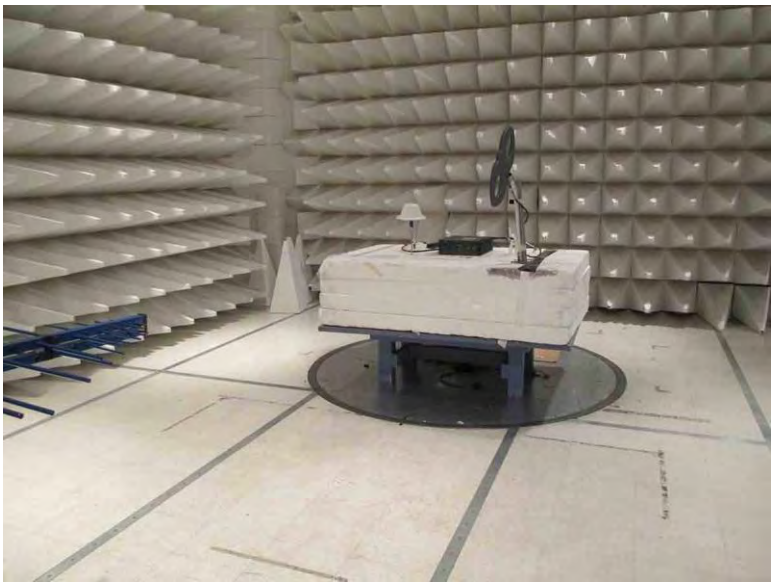
Test Setup Photo(s)



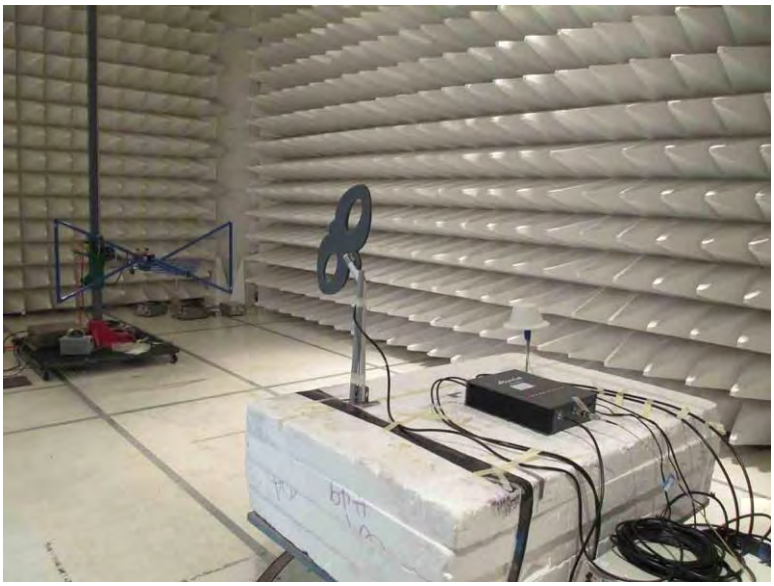
9kHz-30MHz



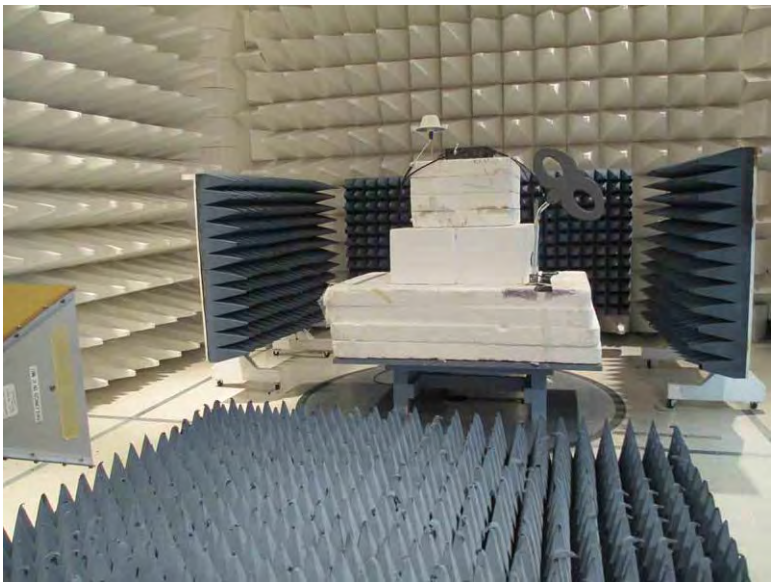
9kHz-30MHz



30MHz-1GHz

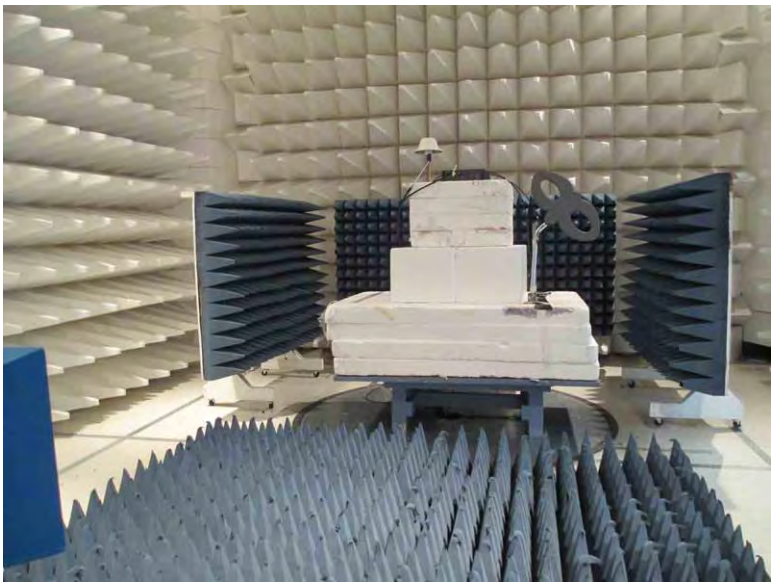


30MHz-1GHz



1-12GHz

1-12GHz



12-25GHz

12-25GHz

15.207 AC Conducted Emissions

See data sheets for test setup and test equipment.

Test Setup / Conditions / 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 #:	**98759**	Date:	12/14/2016
Test Type:	**Conducted Emissions**	Time:	10:16:22 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	149
Software:	EMITest 5.03.02		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 4			

Support Equipment:

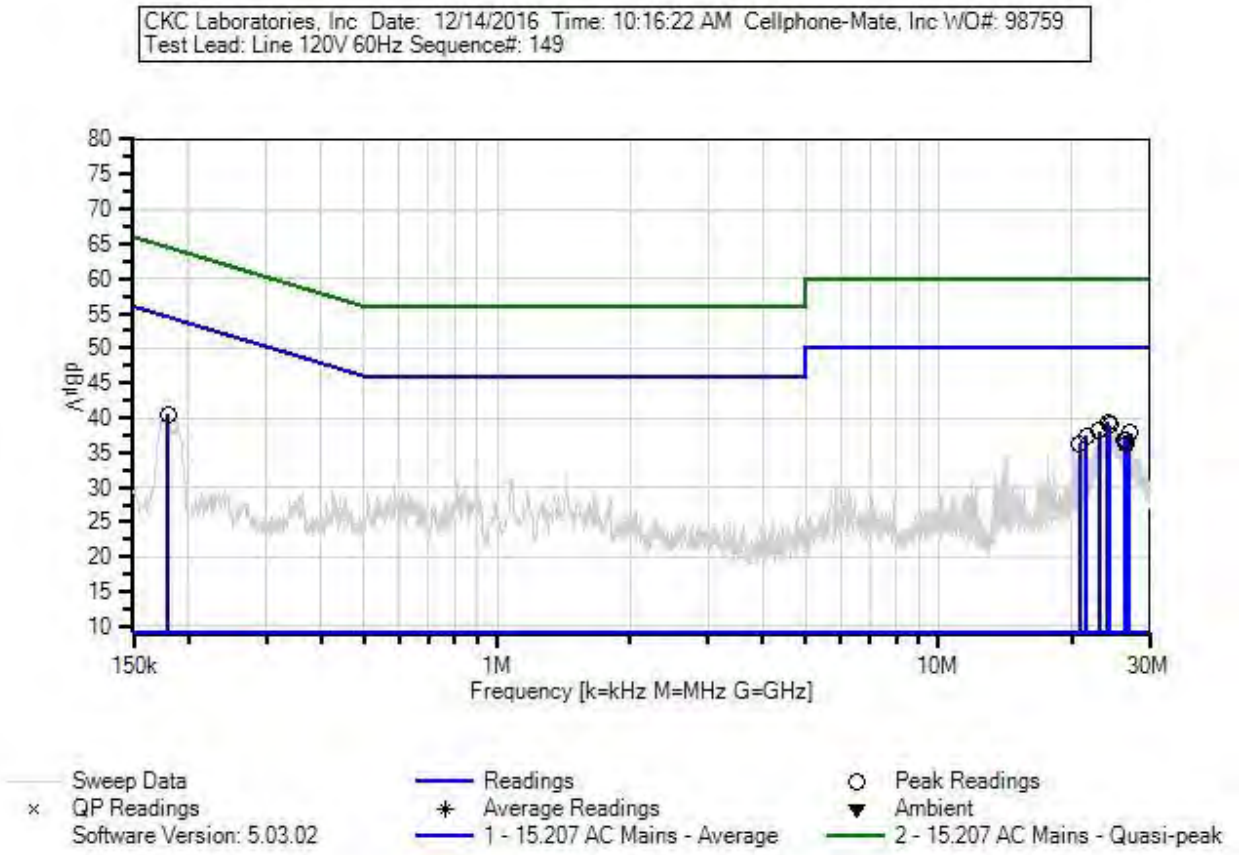
Device	Manufacturer	Model #	S/N
Configuration 4			

Test Conditions / Notes:

Conducted Emission
Frequency Range: 150kHz to 30MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 20.8°C
Humidity: 45 %
Atmospheric Pressure:101.4kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: ANSI C63.4 2014

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 sat 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 cable is terminated on WAN port.
Modification 1 was in place during testing.
Note:
802.11b Mode
Date rate = 2Mbps
Attenuator for 802.11b Mode=40
Middle Channel


CKC Laboratories, Inc Date: 12/14/2016 Time: 10:16:22 AM Cellphone-Mate, Inc WO#: 98759
Test Lead: Line 120V 60Hz Sequence#: 149
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
dBµV
150k
1M
10M
30M
Frequency [k=kHz M=MHz G=GHz]
Sweep Data
QP Readings
Software Version: 5.03.02
Readings
Average Readings
1 - 15.207 AC Mains - Average
Peak Readings
Ambient
2 - 15.207 AC Mains - Quasi-peak

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	3/31/2015	3/31/2017
T2	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T3	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
T4	AN00494	50uH LISN-Line Loss (dB)	3816/NM	3/4/2015	3/4/2017
	AN00494	50uH LISN-Return Loss (dB)	3816/NM	3/4/2015	3/4/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T5	ANP05258	High Pass Filter	HE9615-150K-50-720B	9/15/2016	9/15/2018

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	24.121M	28.4	+9.9 +0.2	+0.4	+0.1	+0.4	+0.0	39.4	50.0	-10.6	Line
2	24.395M	27.9	+9.9 +0.2	+0.4	+0.1	+0.4	+0.0	38.9	50.0	-11.1	Line
3	23.130M	27.0	+9.9 +0.2	+0.4	+0.1	+0.5	+0.0	38.1	50.0	-11.9	Line
4	27.060M	26.7	+9.9 +0.2	+0.5	+0.2	+0.3	+0.0	37.8	50.0	-12.2	Line
5	21.661M	26.5	+9.9 +0.2	+0.4	+0.1	+0.3	+0.0	37.4	50.0	-12.6	Line
6	26.416M	25.7	+9.9 +0.2	+0.5	+0.2	+0.3	+0.0	36.8	50.0	-13.2	Line
7	26.485M	25.7	+9.9 +0.2	+0.5	+0.2	+0.3	+0.0	36.8	50.0	-13.2	Line
8	20.806M	25.4	+9.9 +0.2	+0.4	+0.1	+0.3	+0.0	36.3	50.0	-13.7	Line
9	26.608M	25.2	+9.9 +0.2	+0.5	+0.2	+0.3	+0.0	36.3	50.0	-13.7	Line
10	179.815k	29.6	+9.9 +0.3	+0.0	+0.0	+0.7	+0.0	40.5	54.5	-14.0	Line

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 #:	**98759**	Date:	12/14/2016
Test Type:	**Conducted Emissions**	Time:	10:22:49 AM
Tested By:	Hieu Song Nguyenpham	Sequence#:	150
Software:	EMITest 5.03.02		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 4			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 4			

Test Conditions / Notes:

Conducted Emission
Frequency Range: 150kHz to 30MHz

Application: MP_TEST MFC version 1.3.8.0
Temperature: 19.6°C
Humidity: 46 %
Atmospheric Pressure:101.8kPa
Highest Generation Frequency: 2.462GHz
Attenuator = 63 at MAX Level
Antenna Gain for Wi-Fi Antenna (SC222W)=6dBi
Method: ANSI C63.4 2014

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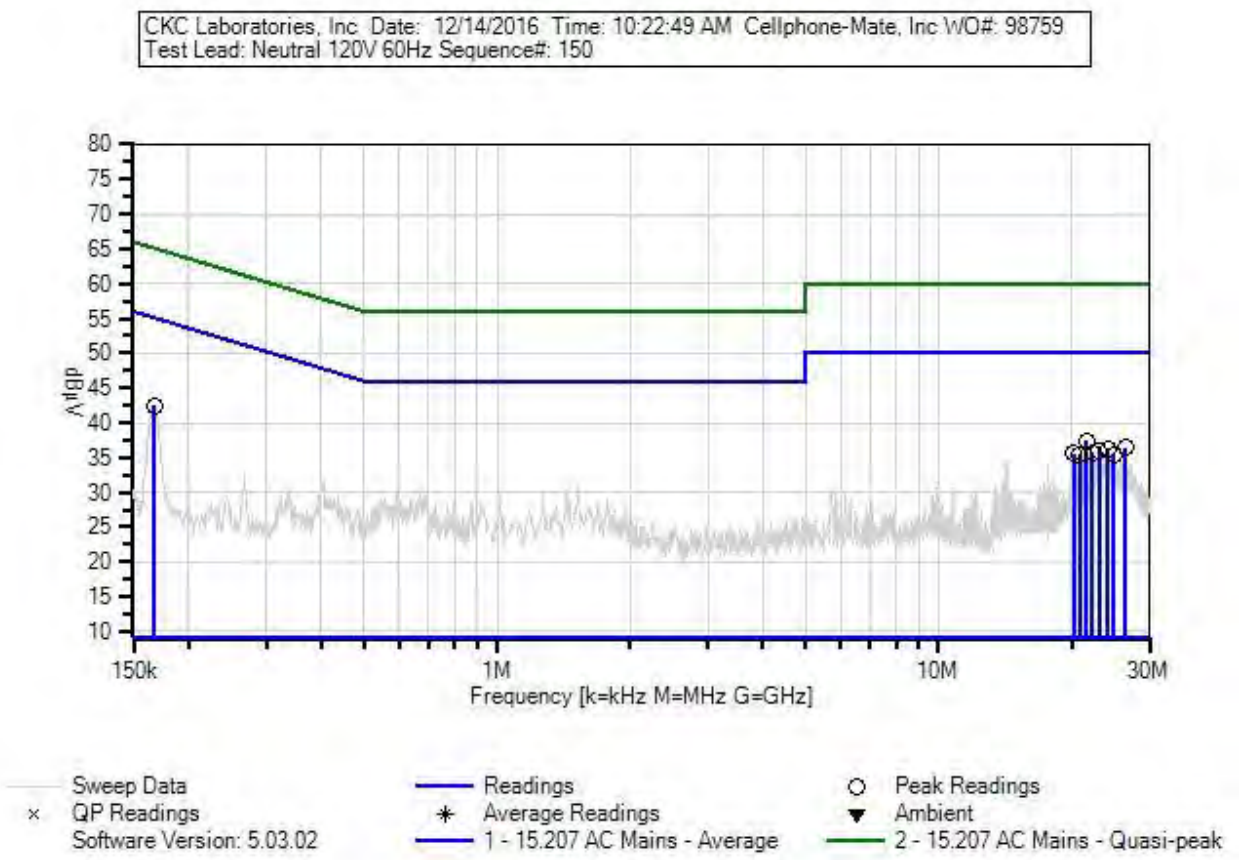
Modification 1 was in place during testing.

Note:
802.11b Mode
Date rate = 2Mbps
Attenuator for 802.11b Mode=40
Middle Channel


CKC Laboratories, Inc. Date: 12/14/2016 Time: 10:22:49 AM Cellphone-Mate, Inc WO#: 98759
Test Lead: Neutral 120V 60Hz Sequence#: 150
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: 5.03.02
Readings
Average Readings
1 - 15.207 AC Mains - Average
Peak Readings
Ambient
2 - 15.207 AC Mains - Quasi-peak

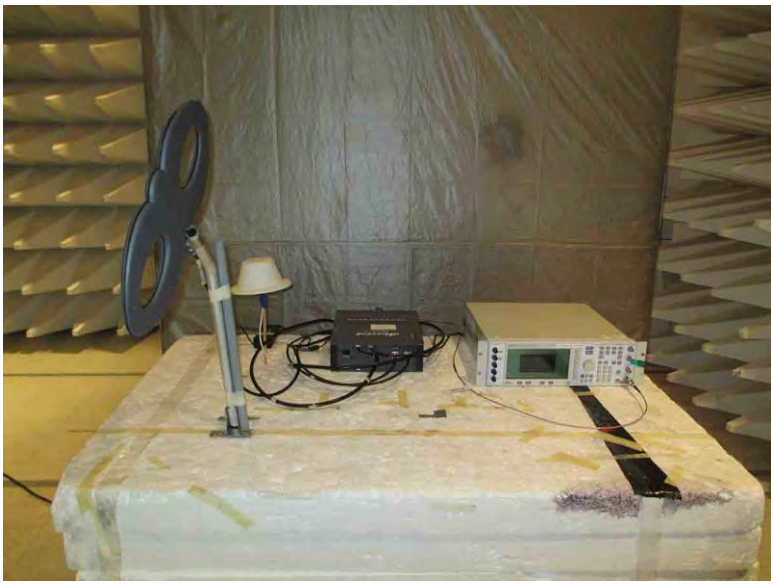
Test Equipment:

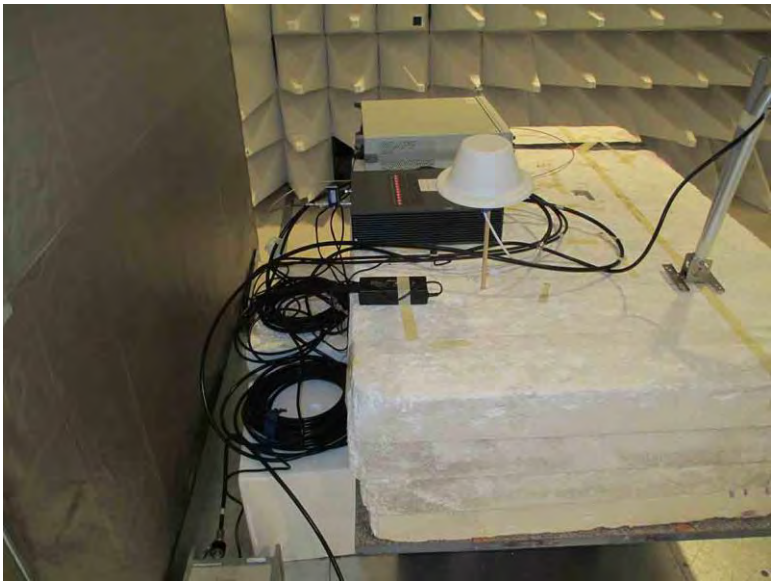
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	3/31/2015	3/31/2017
T2	ANP00880	Cable	RG214U	5/10/2016	5/10/2018
T3	ANP06691	Cable	PE3062-180	6/23/2016	6/23/2018
	AN00494	50uH LISN-Line Loss (dB)	3816/NM	3/4/2015	3/4/2017
T4	AN00494	50uH LISN-Return Loss (dB)	3816/NM	3/4/2015	3/4/2017
	AN03471	Spectrum Analyzer	E4440A	1/4/2016	1/4/2018
T5	ANP05258	High Pass Filter	HE9615-150K-50-720B	9/15/2016	9/15/2018

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	167.452k	31.6	+9.9 +0.4	+0.0	+0.0	+0.6	+0.0	42.5	55.1	-12.6	Neutr
2	21.661M	26.1	+9.9 +0.2	+0.4	+0.1	+0.7	+0.0	37.4	50.0	-12.6	Neutr
3	26.485M	25.4	+9.9 +0.2	+0.5	+0.2	+0.3	+0.0	36.5	50.0	-13.5	Neutr
4	24.169M	25.2	+9.9 +0.2	+0.4	+0.1	+0.4	+0.0	36.2	50.0	-13.8	Neutr
5	23.040M	24.9	+9.9 +0.2	+0.4	+0.1	+0.5	+0.0	36.0	50.0	-14.0	Neutr
6	23.130M	24.8	+9.9 +0.2	+0.4	+0.1	+0.5	+0.0	35.9	50.0	-14.1	Neutr
7	22.337M	24.6	+9.9 +0.2	+0.4	+0.1	+0.5	+0.0	35.7	50.0	-14.3	Neutr
8	20.256M	24.8	+9.9 +0.2	+0.4	+0.1	+0.2	+0.0	35.6	50.0	-14.4	Neutr
9	20.806M	24.7	+9.9 +0.2	+0.4	+0.1	+0.2	+0.0	35.5	50.0	-14.5	Neutr
10	24.902M	24.6	+9.9 +0.2	+0.4	+0.1	+0.3	+0.0	35.5	50.0	-14.5	Neutr

Test Setup Photo(s)





SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

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. Inc.orporating 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. Individual measurements were compared with the displayed limit value in the margin column. The margin was calculated based on subtracting the limit value from the corrected measurement value; a positive margin represents a measurement exceeding the limit, while a negative margin represents a measurement less than the limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB/m)
+	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 caret (“^”) 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.