FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

TRI-BAND PHONE WITH BT +2.1 & WIFI (2.4GHZ) RADIOS

MODEL NUMBER: C5171

FCC ID: V65C5171

REPORT NUMBER: 12U14556

ISSUE DATE: 2012-08-30

Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
--	08/30/12	Initial Issue	M. Antola

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 4

2. TEST METHODOLOGY 5

3. FACILITIES AND ACCREDITATION 5

4. CALIBRATION AND UNCERTAINTY 5

4.1. MEASURING INSTRUMENT CALIBRATION 5

4.2. SAMPLE CALCULATION 5

4.3. MEASUREMENT UNCERTAINTY 5

5. EQUIPMENT UNDER TEST 6

5.1. DESCRIPTION OF EUT 6

5.2. MAXIMUM OUTPUT POWER 6

5.3. SOFTWARE AND FIRMWARE 6

5.4. WORST-CASE CONFIGURATION AND MODE 6

5.5. DESCRIPTION OF TEST SETUP 7

6. TEST AND MEASUREMENT EQUIPMENT 9

7. RADIATED TEST RESULTS 11

7.1. LIMITS AND PROCEDURE 11

7.2. TRANSMITTER ABOVE 1 GHz 12

7.2.1. TX ABOVE 1 GHz FOR 802.11b 1TX MODE IN THE 2.4 GHz BAND 12

7.2.2. TX ABOVE 1 GHz FOR 802.11g 1TX MODE IN THE 2.4 GHz BAND 17

7.2.3. TX ABOVE 1 GHz FOR 802.11n HT20 1TX MODE IN THE 2.4 GHz BAND 22

7.3. WORST-CASE BELOW 1 GHz 27

8. AC POWER LINE CONDUCTED EMISSIONS 29

9. SETUP PHOTOS 33

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: KYROCERA WIRELESS
8611 BALBOA AVENUE
SAN DIEGO
CA, 92123, USA

EUT DESCRIPTION: TRI-BAND PHONE WITH BT +2.1 & WIFI (2.4GHZ) RADIOS

MODEL: C5171

SERIAL NUMBER: 268435457816727686

DATE TESTED: 2012-08-02 to 2012-08-06

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation, as described by the referenced documents. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

Bob DeLisi
WiSE Principal Engineer
UL LLC

Tested By:

Mike Antola
WiSE Project Lead
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/1002550.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.3 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.00 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11b/g/n transceiver Model: C5171.

The radio module is manufactured by Qualcomm.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	16.00	39.81
2412 - 2462	802.11g	16.00	39.81
2412 - 2462	802.11n HT20	16.00	39.81

Note: Maximum output power values were provided by the customer. Only radiated testing was performed as part of this investigation per request.

5.3. SOFTWARE AND FIRMWARE

The Kernel version was 3.0.8-perf, release@release #1 and utilized Android version 4.0.4.

The EUT Build number was C5171-eng 4.0.4 IMM76D, release.20120711.192024 release-keys.

The test utility software used during testing was FCC Test Application.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Travel Adapter	Kyocera	SCP-23ADT	N/A	N/A
Headphones	Kyocera	N/A	N/A	N/A

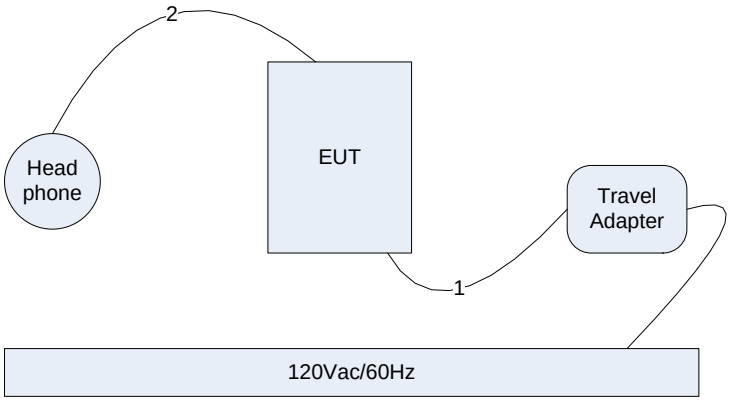
I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	USB	1	USB	Shielded	<3M	
2	Headphone	1	Audio	Unshielded	<3M	

TEST SETUP

The EUT is a stand-alone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Radiated Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2012-01-30	2013-01-30
Bicon Antenna	Schaffner	VBA6106A	54	2012-04-10	2013-04-10
Log-P Antenna	Schaffner	UPA6109	44067	2012-05-16	2013-05-16
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28
Above 1GHz (Band Optimized System)					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2012-03-06	2013-03-06
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3161-03	48106	2007-09-27	See * below
Horn Antenna (8-12 GHz)	ETS	3160-07	8933	2008-11-24	See * below
Horn Antenna (12-18 GHz)	ETS	3160-08	8932	2007-09-27	See * below
Horn Antenna (18-26.5 GHz)	ETS	3160-09	8947	2007-09-26	See * below
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration.
* Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.

Conducted Emissions - Mains					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Conducted Emissions – GP 1					
EMI Receiver	Rohde & Schwarz	ESCI7	75141	2012-01-05	2013-01-05
LISN	Solar	9252-50-R-24-BNC	ME5A-636	2012-02-03	2013-02-28
Switch Driver	HP	11713A	44397	N/A	N/A
RF Switch Box	UL	4	44404	N/A	N/A
Measurement Software	UL	Version 9.5	44736	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2012-03-13	2014-03-13
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

7. RADIATED TEST RESULTS

7.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

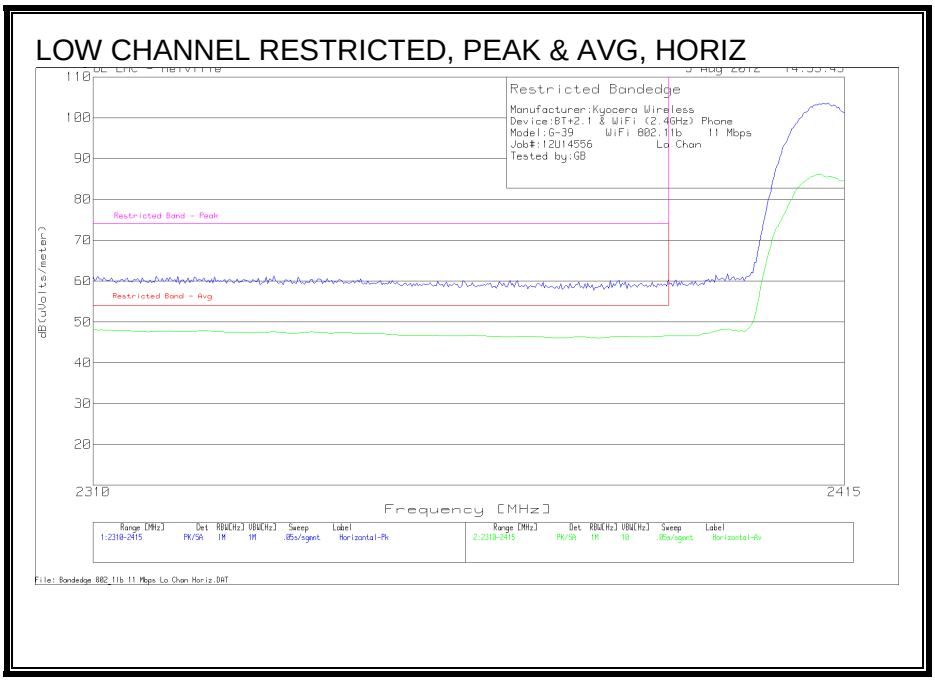
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

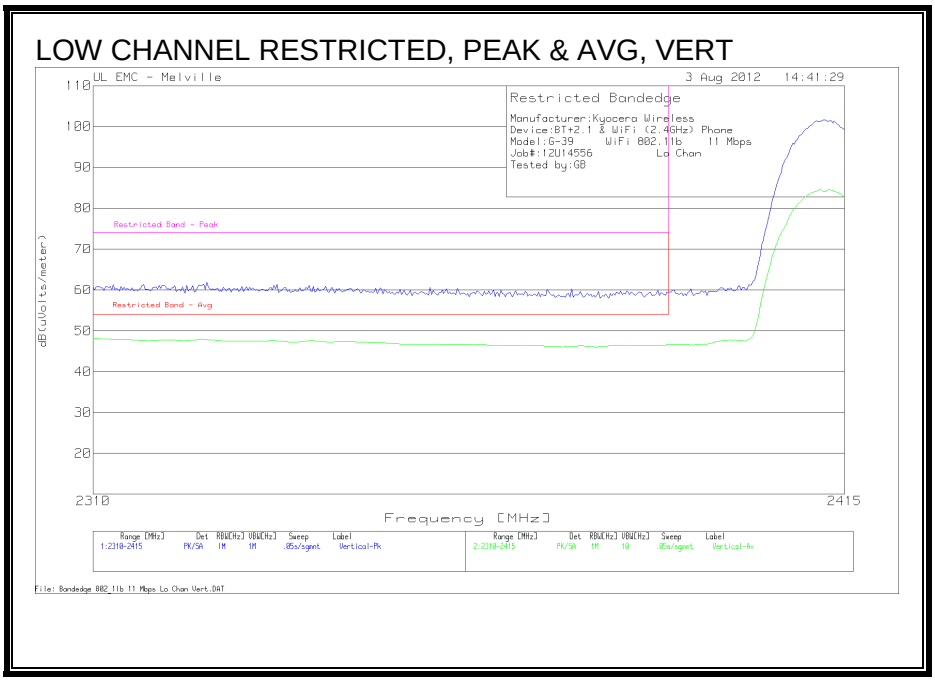
7.2. TRANSMITTER ABOVE 1 GHz

7.2.1. TX ABOVE 1 GHz FOR 802.11b 1TX MODE IN THE 2.4 GHz BAND

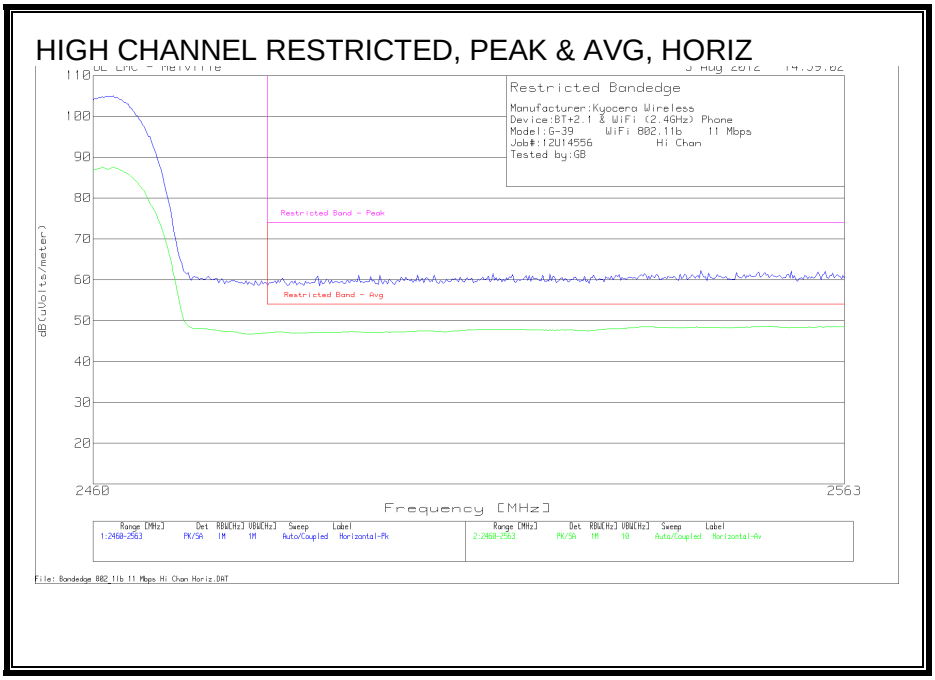
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



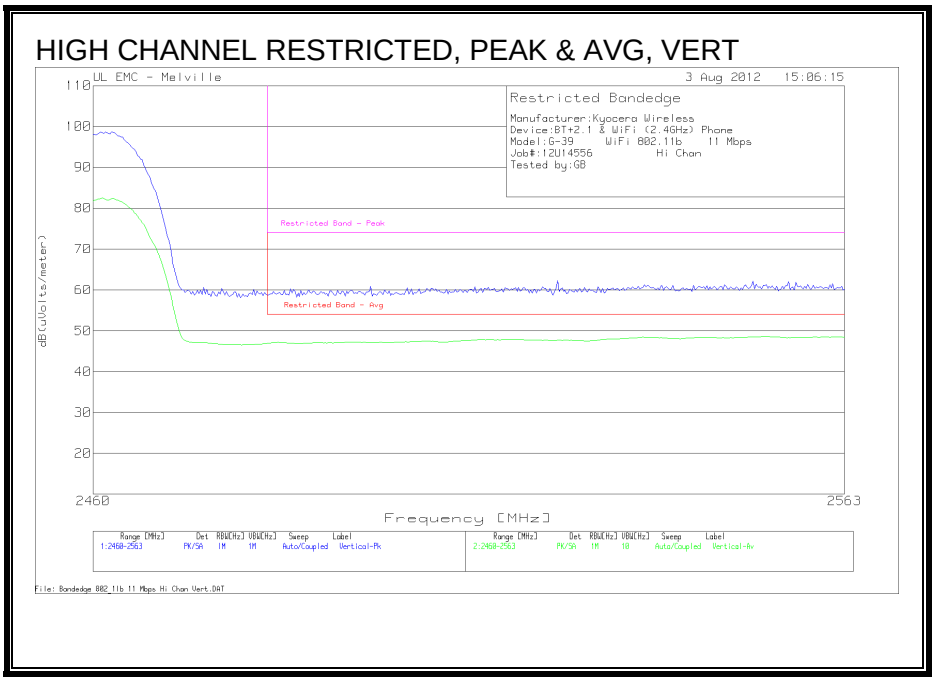
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:Kyocera Wireless
Device:BT+2.1 & WiFi (2.4GHz) Phone
Model:G-39 802.11b Mode
Job#:12U14556
Tested by:RM

Low Channel - 2412MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4824.02	69.5	PK	27.1	-52.4	44.16	54	-9.84	74	-29.84	131	191	Horz
4824.02	53.21	Av	27.1	-52.4	27.87	54	-26.13	74	-46.13	131	191	Horz
4824.02	71.52	PK	27.1	-52.4	46.18	54	-7.82	74	-27.82	270	251	Vert
4824.02	56.19	Av	27.1	-52.4	30.85	54	-23.15	74	-43.15	270	251	Vert

Mid Channel - 2437MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4874.005	67.03	PK	27.2	-52.6	41.62	54	-12.38	74	-32.38	125	185	Horz
4874.005	51.61	Av	27.2	-52.6	26.2	54	-27.8	74	-47.8	125	185	Horz
4874.005	69.63	PK	27.2	-52.6	44.22	54	-9.78	74	-29.78	117	248	Vert
4874.005	54.57	Av	27.2	-52.6	29.16	54	-24.84	74	-44.84	117	248	Vert

High Channel - 2462MHz

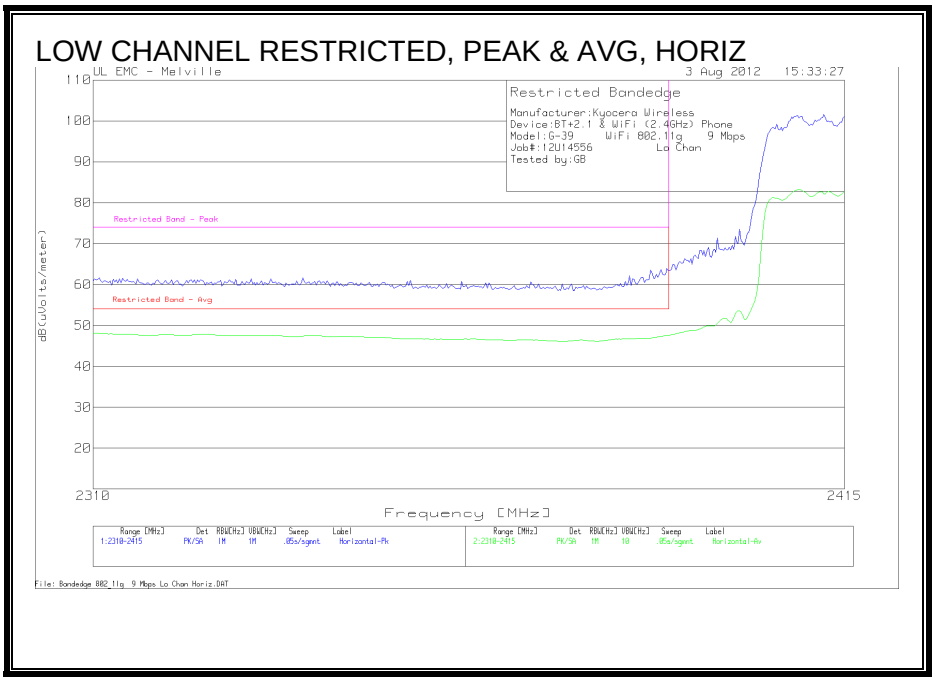
Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4924.014	65.77	PK	27.2	-52.5	40.44	54	-13.56	74	-33.56	306	356	Horz
4924.014	50.89	Av	27.2	-52.5	25.56	54	-28.44	74	-48.44	306	356	Horz
4924.014	70.1	PK	27.2	-52.5	44.77	54	-9.23	74	-29.23	100	315	Vert
4924.014	54.97	Av	27.2	-52.5	29.64	54	-24.36	74	-44.36	100	315	Vert

PK - Peak detector
Av - Average detector

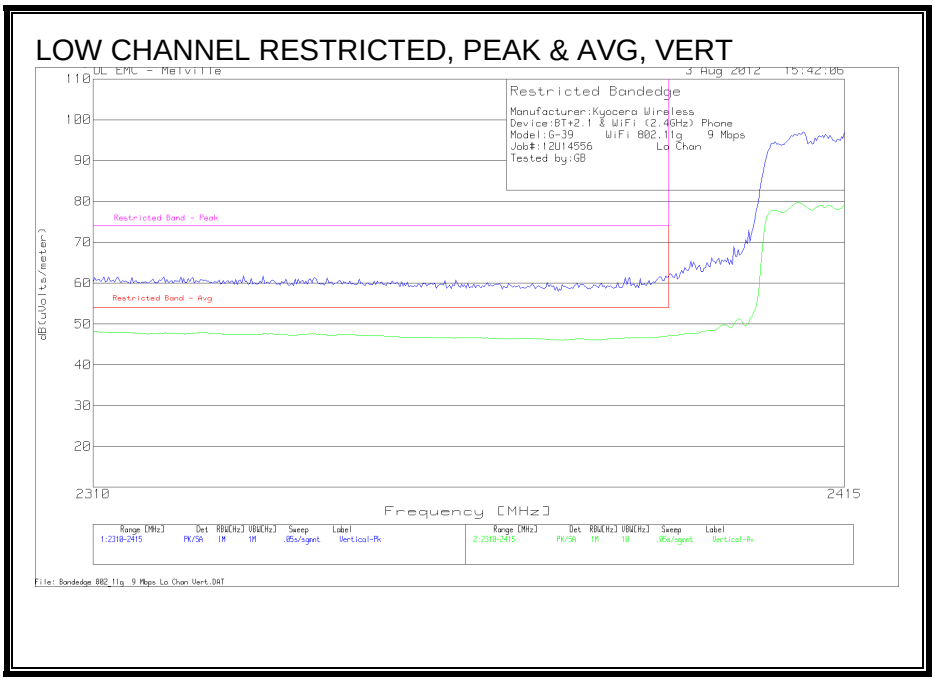
Note: No other emissions were detected above the system noise floor.

7.2.2. TX ABOVE 1 GHz FOR 802.11g 1TX MODE IN THE 2.4 GHz BAND

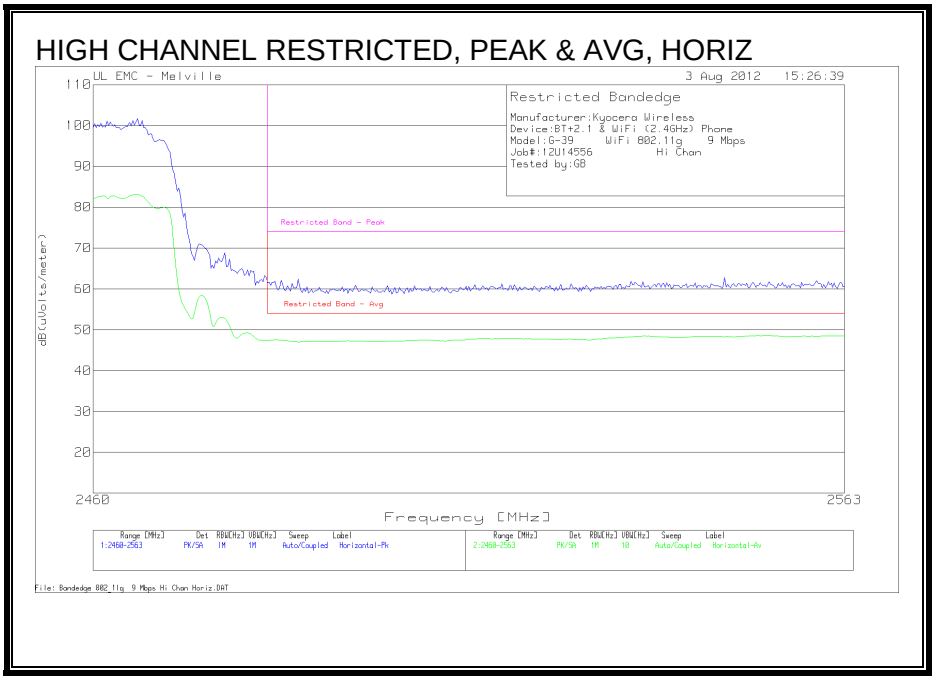
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



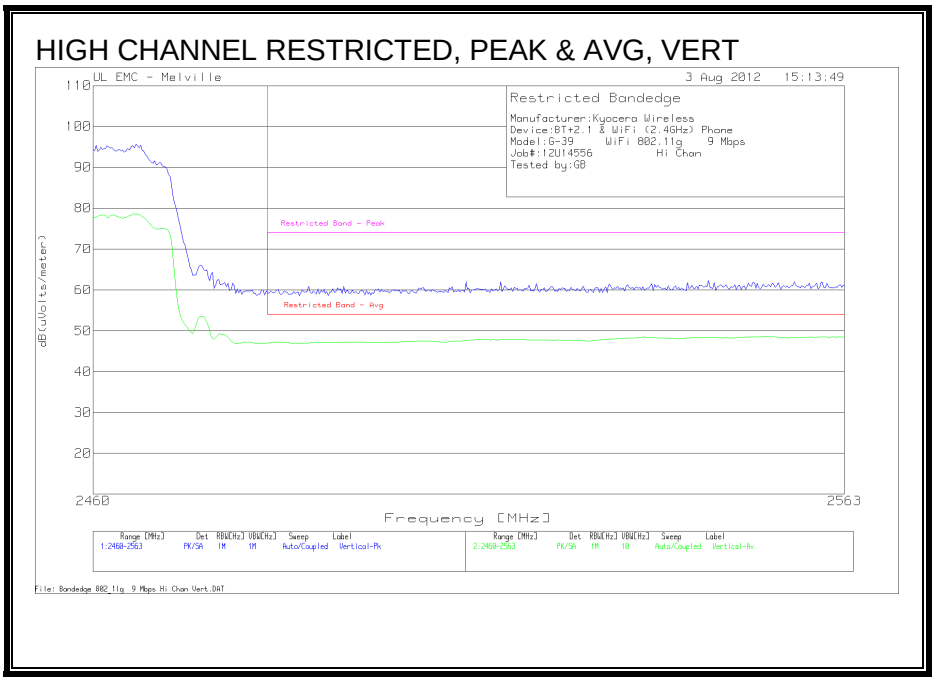
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:Kyocera Wireless
Device:BT+2.1 & WiFi (2.4GHz) Phone
Model:G-39 802.11g Mode
Job#:12U14556
Tested by:RM

Low Channel - 2412MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4825.2224	64.22	PK	27.1	-52.3	38.98	54	-15.02	74	-35.02	194	295	Horz
4825.2224	49.62	Av	27.1	-52.3	24.38	54	-29.62	74	-49.62	194	295	Horz
4825.2224	69.67	PK	27.1	-52.3	44.43	54	-9.57	74	-29.57	136	387	Vert
4825.2224	52.7	Av	27.1	-52.3	27.46	54	-26.54	74	-46.54	136	387	Vert

Mid Channel - 2437MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4874.6814	62.67	PK	27.2	-52.6	37.23	54	-16.77	74	-36.77	271	323	Horz
4874.6814	48.09	Av	27.2	-52.6	22.65	54	-31.35	74	-51.35	271	323	Horz
4874.6814	67.69	PK	27.2	-52.6	42.25	54	-11.75	74	-31.75	114	248	Vert
4874.6814	51.69	Av	27.2	-52.6	26.25	54	-27.75	74	-47.75	114	248	Vert

High Channel - 2462MHz

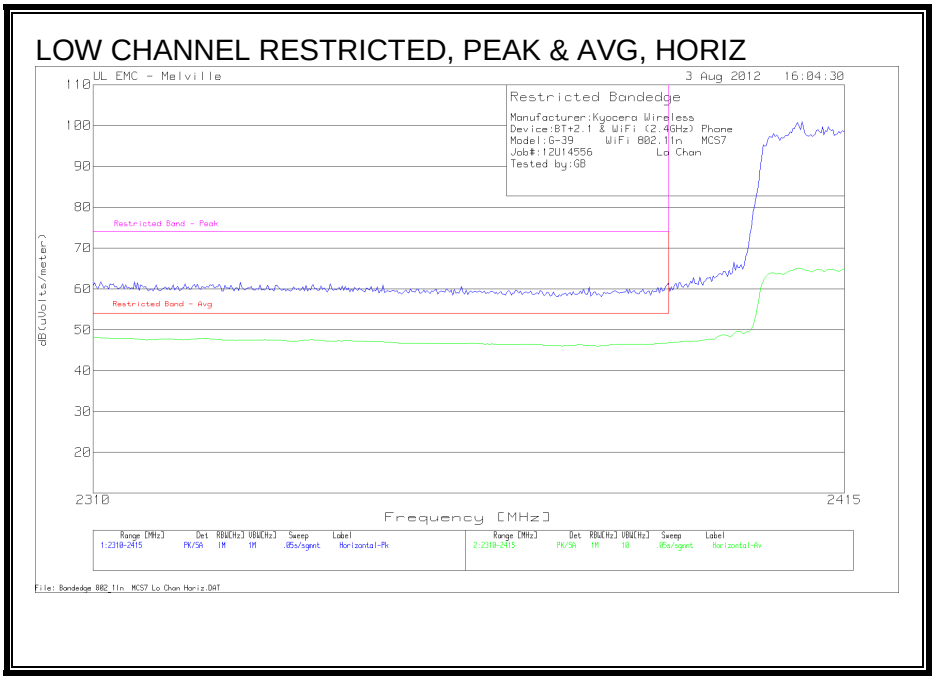
Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4924	41.07	PK	27.2	-52.5	15.74	54	-38.26	74	-58.26	117	239	Horz
4924	25.79	Av	27.2	-52.5	0.46	54	-53.54	74	-73.54	117	239	Horz
4924	40.37	PK	27.2	-52.5	15.04	54	-38.96	74	-58.96	172	195	Vert
4924	25.78	Av	27.2	-52.5	0.45	54	-53.55	74	-73.55	172	195	Vert

PK - Peak detector
Av - Average detector

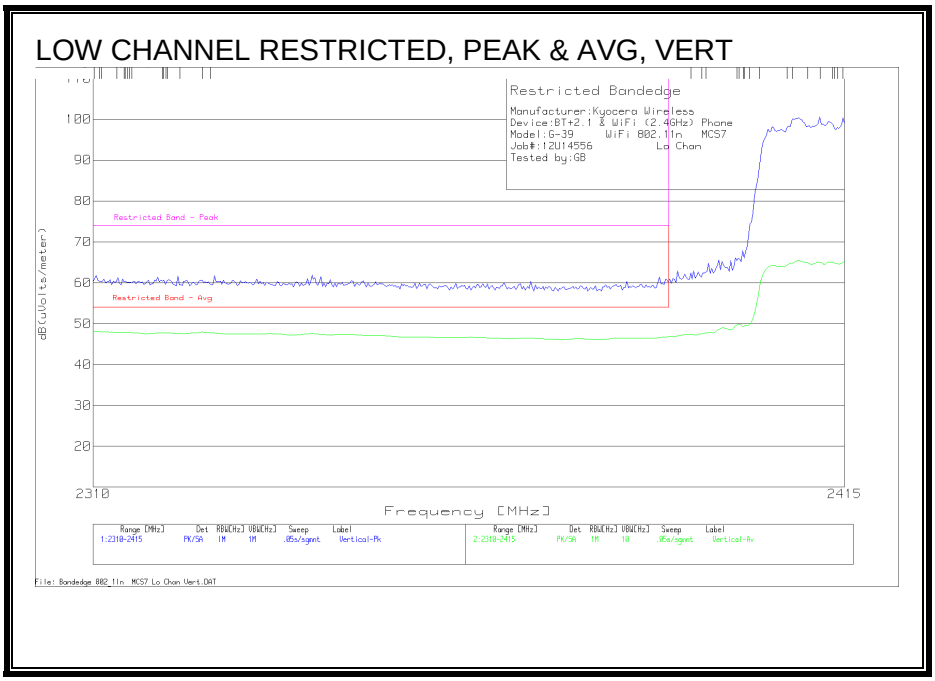
Note: No other emissions were detected above the system noise floor.

7.2.3. TX ABOVE 1 GHz FOR 802.11n HT20 1TX MODE IN THE 2.4 GHz BAND

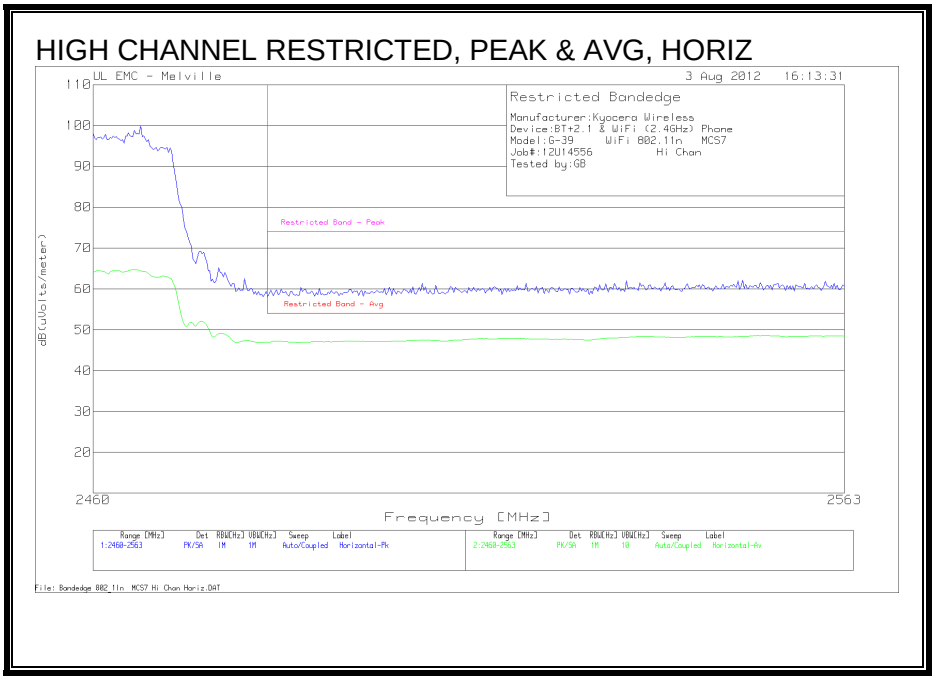
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



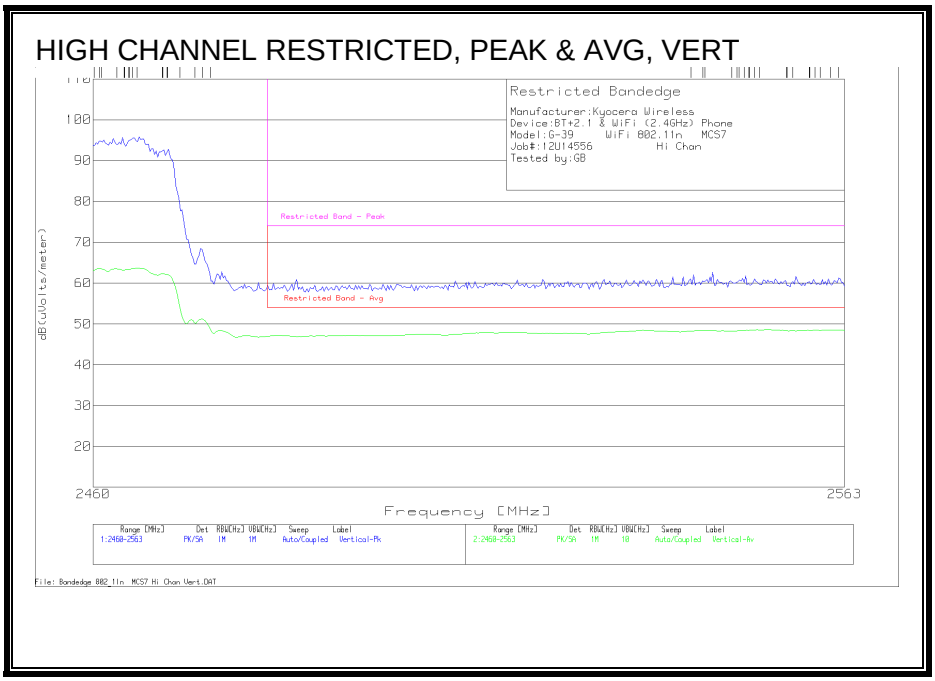
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:Kyocera Wireless
Device:BT+2.1 & WiFi (2.4GHz) Phone
Model:G-39 802.11n Mode
Job#:12U14556
Tested by:RM

Low Channel - 2412MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4824.0401	64.39	PK	27.1	-52.4	39.05	54	-14.95	74	-34.95	306	391	Horz
4824.0401	49.8	Av	27.1	-52.4	24.46	54	-29.54	74	-49.54	306	391	Horz
4824.0401	70.55	PK	27.1	-52.4	45.21	54	-8.79	74	-28.79	86	317	Vert
4824.0401	51.55	Av	27.1	-52.4	26.21	54	-27.79	74	-47.79	86	317	Vert

Mid Channel - 2437MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4874.8818	69.8	PK	27.2	-52.7	44.35	54	-9.65	74	-29.65	85	391	Vert
4874.8818	51.57	Av	27.2	-52.7	26.12	54	-27.88	74	-47.88	85	391	Vert
4874.8818	64.29	PK	27.2	-52.7	38.84	54	-15.16	74	-35.16	11	156	Horz
4874.8818	49.62	Av	27.2	-52.7	24.17	54	-29.83	74	-49.83	11	156	Horz

High Channel - 2462MHz

Test Frequency	Meter Reading	Detector	AF-48106 [dB]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
4923.5992	66.68	PK	27.2	-52.5	41.37	54	-12.63	74	-32.63	100	308	Vert
4923.5992	50.17	Av	27.2	-52.5	24.86	54	-29.14	74	-49.14	100	308	Vert
4923.5992	65.16	PK	27.2	-52.5	39.85	54	-14.15	74	-34.15	260	228	Horz
4923.5992	49.67	Av	27.2	-52.5	24.36	54	-29.64	74	-49.64	260	228	Horz

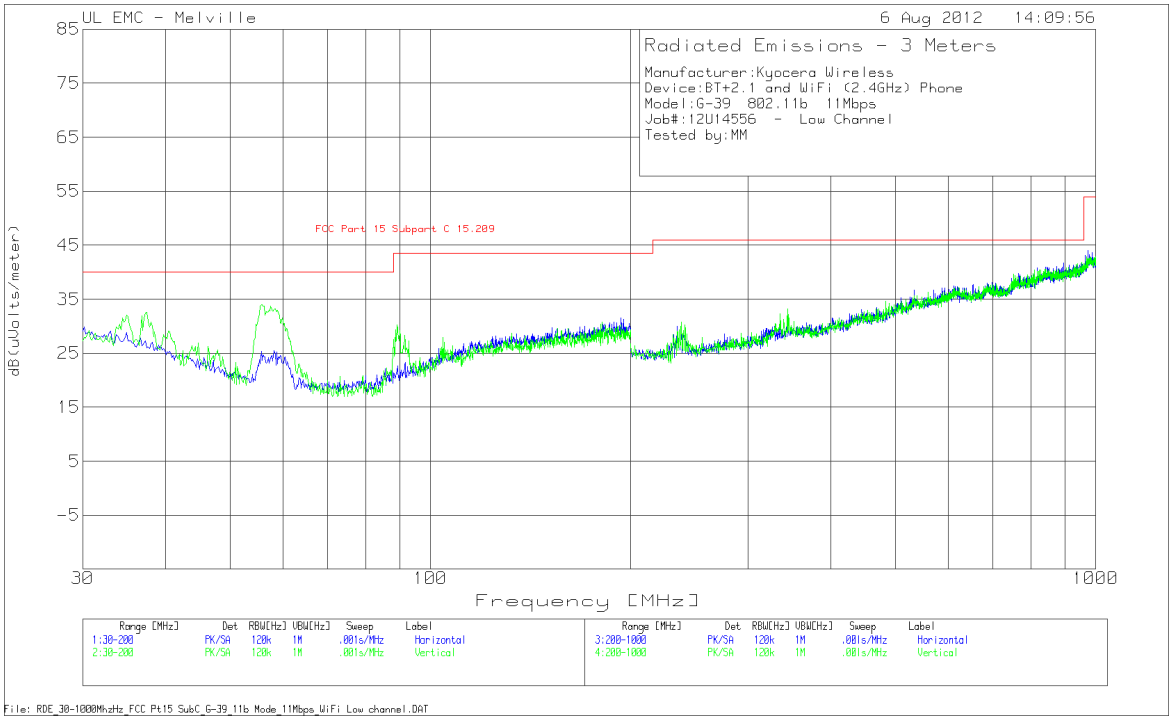
PK - Peak detector
Av - Average detector

Note: No other emissions were detected above the system noise floor.

7.3. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORZ & VERT)

HORZ & VERT PLOT



HORZ & VERT DATA

Manufacturer:Kyocera Wireless											
Device:BT+2.1 and WiFi (2.4GHz) Phone											
Model:G-39 802.11b 11Mbps											
Job#:12U14556 - Low Channel											
Tested by:MM											
Vertical 30 - 200MHz											
Marker No.	Test Frequency	Meter Reading	Detector	AF-54 (dB)	GL-3M (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	Azimuth [Degs]	Height [cm]	Polarity
1	34.9349	15.7	PK	15.8	0.6	32.1	40	-7.9	153	100	Vert
2	37.998	15.72	PK	14.5	0.6	30.82	40	-9.18	20	100	Vert
3	56.036	25.46	PK	7.6	0.7	33.76	40	-6.24	153	100	Vert
4	89.049	20.63	PK	8.6	1	30.23	43.5	-13.27	178	100	Vert
5	104.8749	14.48	PK	11.4	1.1	26.98	43.5	-16.52	153	100	Vert
Vertical 200 - 1000MHz											
Marker No.	Test Frequency	Meter Reading	Detector	AF-44067 (dB)	GL-3M (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	Azimuth [Degs]	Height [cm]	Polarity
6	241.2206	17.35	PK	11.3	1.6	30.25	46	-15.75	86	200	Vert
PK - Peak detector											

8. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

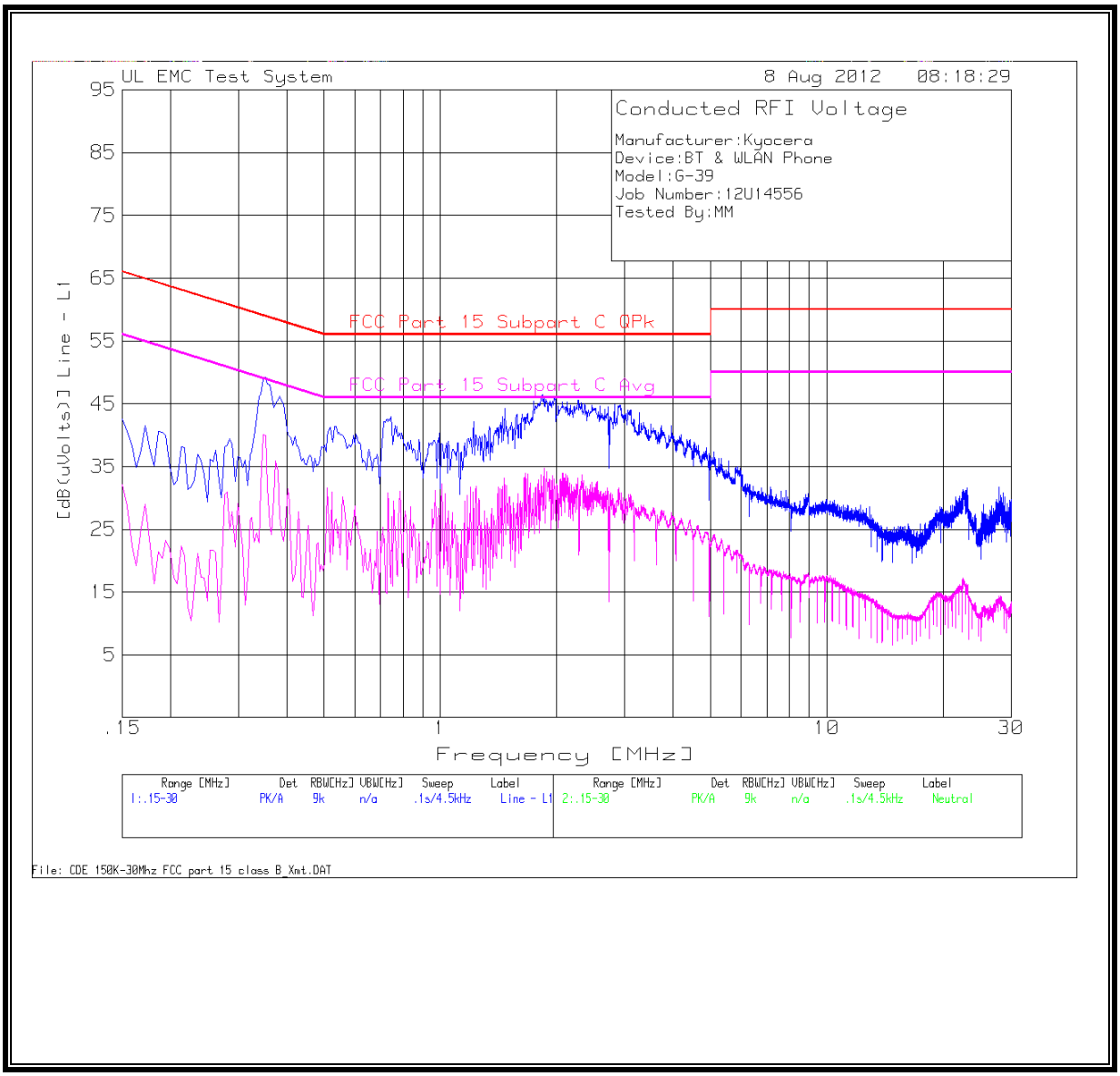
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

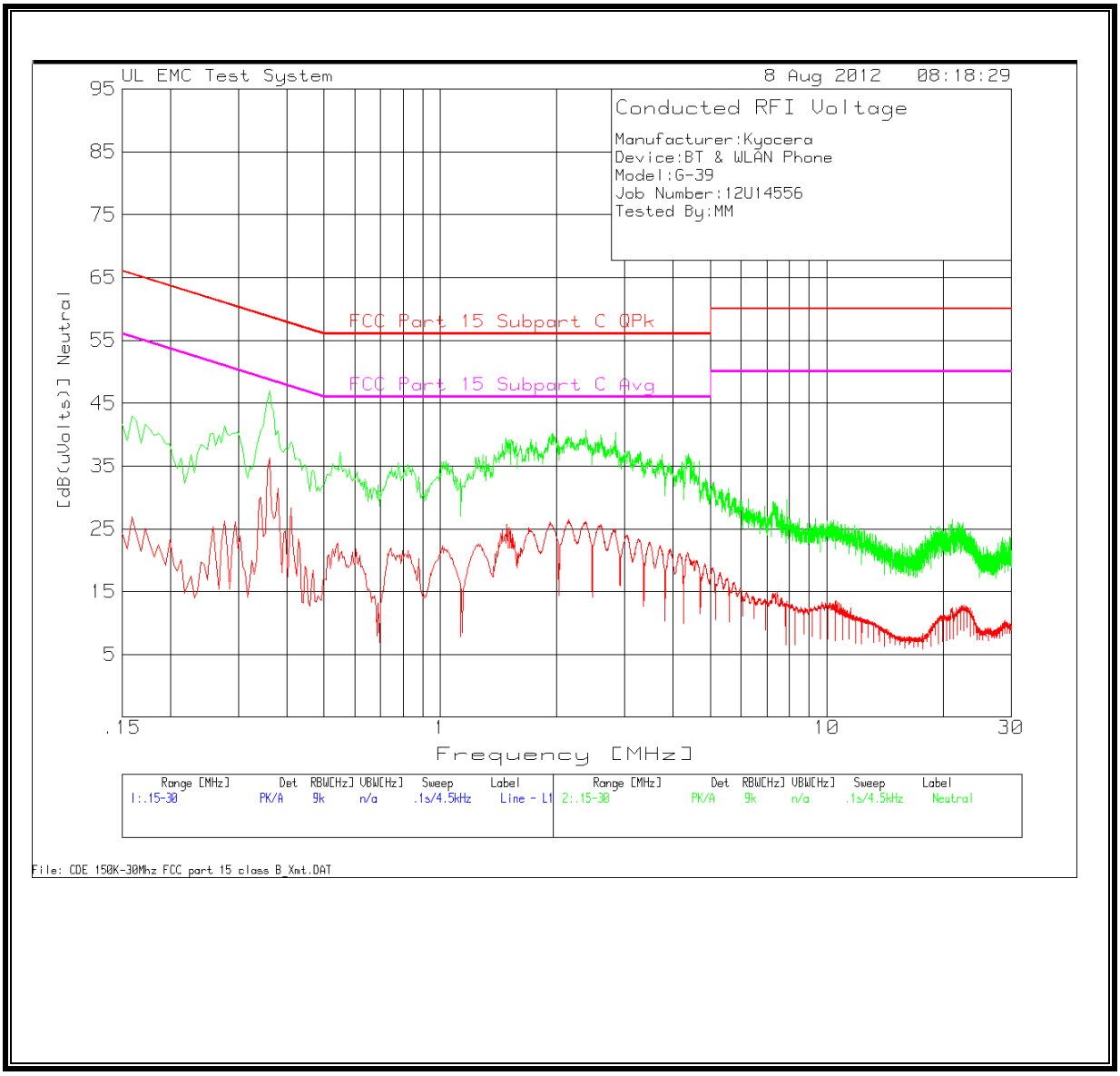
RESULTS

6 WORST EMISSIONS

LINE 1 RESULTS



LINE 2 RESULTS



NUMERICAL RESULTS

Manufacturer:Kyocera								
Device:BT & WLAN Phone								
Model:G-39								
Job Number:12U14556								
Tested By:MM								
Line - L1 .15 - 30MHz								
Test Frequency	Meter Reading	Detector	LISN 5A636 L1 [dB]	[dB(uVolts)]	FCC Part 15 Subpart C QPk	Margin	FCC Part 15 Subpart C Avg	Margin
0.3525	39.16	PK	10	49.16	58.9	-9.74	48.9	0.26
0.3525	29.97	Av	10	39.97	58.9	-18.93	48.9	-8.93
0.537	31.27	PK	10.1	41.37	56	-14.63	46	-4.63
0.537	16.58	Av	10.1	26.68	56	-29.32	46	-19.32
0.744	32.79	PK	10.1	42.89	56	-13.11	46	-3.11
0.744	6.29	Av	10.1	16.39	56	-39.61	46	-29.61
1.8375	36.36	PK	10.1	46.46	56	-9.54	46	0.46
1.8375	20.69	Av	10.1	30.79	56	-25.21	46	-15.21
2.283	35.41	PK	10.1	45.51	56	-10.49	46	-0.49
2.283	19.07	Av	10.1	29.17	56	-26.83	46	-16.83
2.9175	34.61	PK	10.2	44.81	56	-11.19	46	-1.19
2.9175	18.39	Av	10.2	28.59	56	-27.41	46	-17.41
Neutral .15 - 30MHz								
Test Frequency	Meter Reading	Detector	LISN 5A636 L2 [dB]	[dB(uVolts)]	FCC Part 15 Subpart C QPk	Margin	FCC Part 15 Subpart C Avg	Margin
0.3615	37.01	PK	10	47.01	58.7	-11.69	48.7	-1.69
0.3615	26.32	Av	10	36.32	58.7	-22.38	48.7	-12.38
0.5505	27.04	PK	10.1	37.14	56	-18.86	46	-8.86
0.5505	10.84	Av	10.1	20.94	56	-35.06	46	-25.06
1.032	25.72	PK	10.1	35.82	56	-20.18	46	-10.18
1.032	11.57	Av	10.1	21.67	56	-34.33	46	-24.33
1.4775	29.33	PK	10.1	39.43	56	-16.57	46	-6.57
1.4775	12.68	Av	10.1	22.78	56	-33.22	46	-23.22
1.9455	30.08	PK	10.1	40.18	56	-15.82	46	-5.82
1.9455	15.44	Av	10.1	25.54	56	-30.46	46	-20.46
2.832	30.29	PK	10.1	40.39	56	-15.61	46	-5.61
2.832	14.71	Av	10.1	24.81	56	-31.19	46	-21.19
PK - Peak detector								
Av - Average detector								