FCC CFR47 PART 15 SUBPART C
(RADIATED EMISSIONS ONLY)

CERTIFICATION TEST REPORT

FOR

DOCKING STATION

MODEL NUMBER: TAGG DOCKING STATION

FCC ID: J9CFBC1

REPORT NUMBER: 11U13834-1

ISSUE DATE: MAY 27, 2011

Prepared for
QUALCOMM CORPORATE HEADQUARTERS
5775 MOREHOUSE DRIVE
SAN DIEGE, CA 92121, U.S.A.

Prepared by
COMPLIANCE CERTIFICATION SERVICES (UL CCS)
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	05/27/2011	Initial Issue	T. Chan

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: QUALCOMM CORPORATE HEADQUARTERS.
5775 MOREHOUSE DRIVE
SAN DIEGE, CA 92121, U.S.A.

EUT DESCRIPTION: DOCKING STATION

MODEL: TAGG DOCKING STATION

SERIAL NUMBER: FG001MT

DATE TESTED: MAY 26 AND 27, 2011

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

Compliance Certification Services (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested 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 herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS 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:

THU CHAN
ENGINEERING MANAGER
UL CCS

Tested By:

MENGISTU MEKURIA
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, 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 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

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	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a dog tracking transceiver base station unit that operate at 900MHz band. The EUT is manufactured by Qualcomm Communications.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The Tagg Docking Station utilizes a PIFA antenna with a maximum peak gain of -2dBi gain.

5.3. SOFTWARE AND FIRMWARE

The EUT Firmware software installed during testing FBC SW Version 1.0.0

The test utility software used during testing was Texas Instrument SmartRF Studio 7, version 1.3.2 11/15/10

5.4. WORST-CASE CONFIGURATION AND MODE

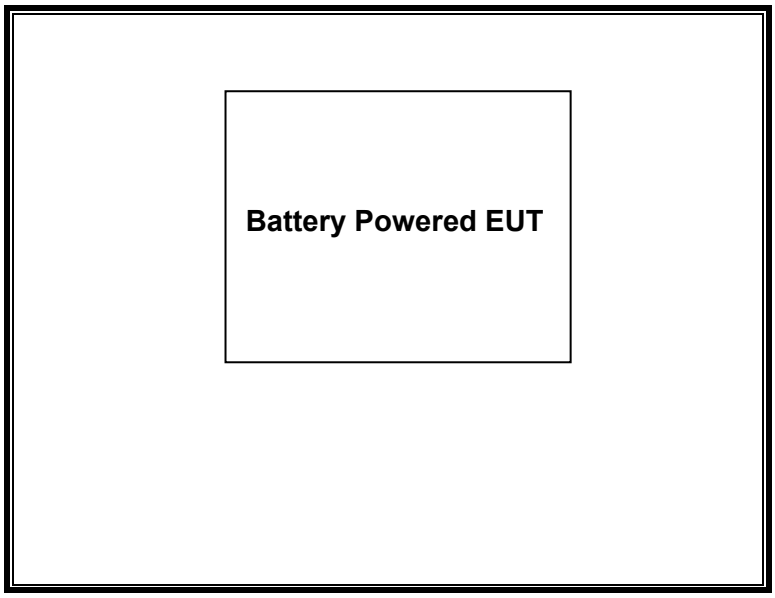
The worst-case channel is determined as the channel with the highest output power.

5.5. DESCRIPTION OF TEST SETUP

TEST SETUP

The EUT is connected to a host laptop computer during the tests only for configure the transceiver unit. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	05/11/12
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	01/27/12
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/14/11
Antenna, Horn, 18 GHz	EMCO	3115	C00783	06/29/11
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/12/11
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR

7. RADIATED TEST RESULTS

7.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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.

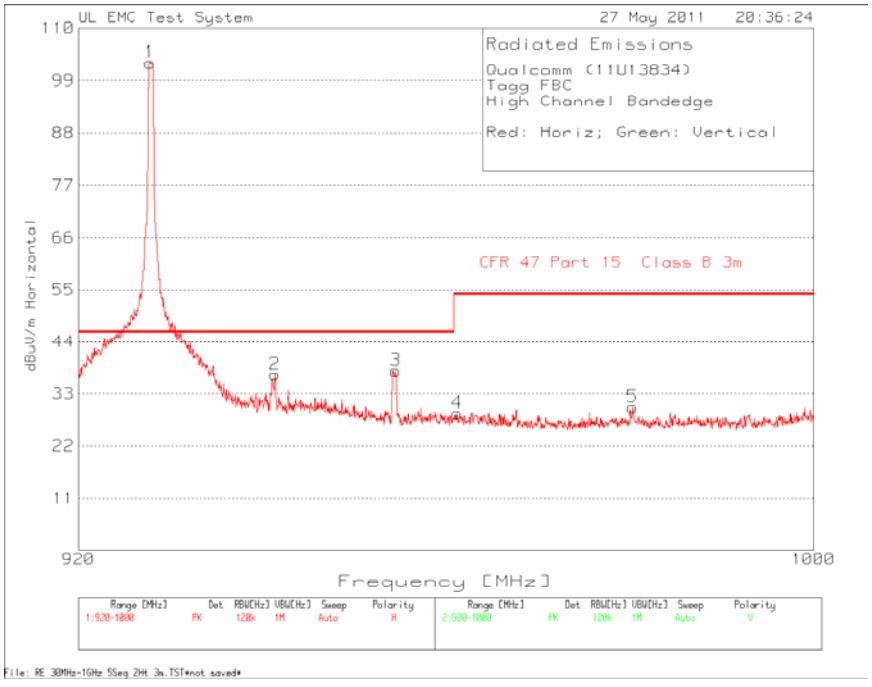
The spectrum from 30 MHz to 10 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 900 MHz band.

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.

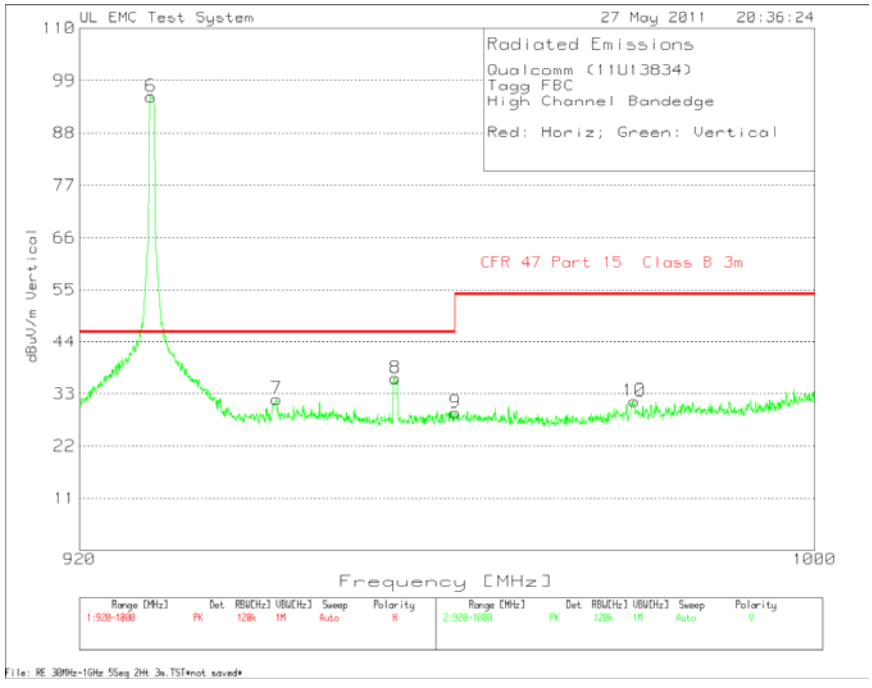
7.2. TRANSMITTER BELOW 1 GHz

RESTRICTED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL RESTRICTED, PEAK, HORIZ



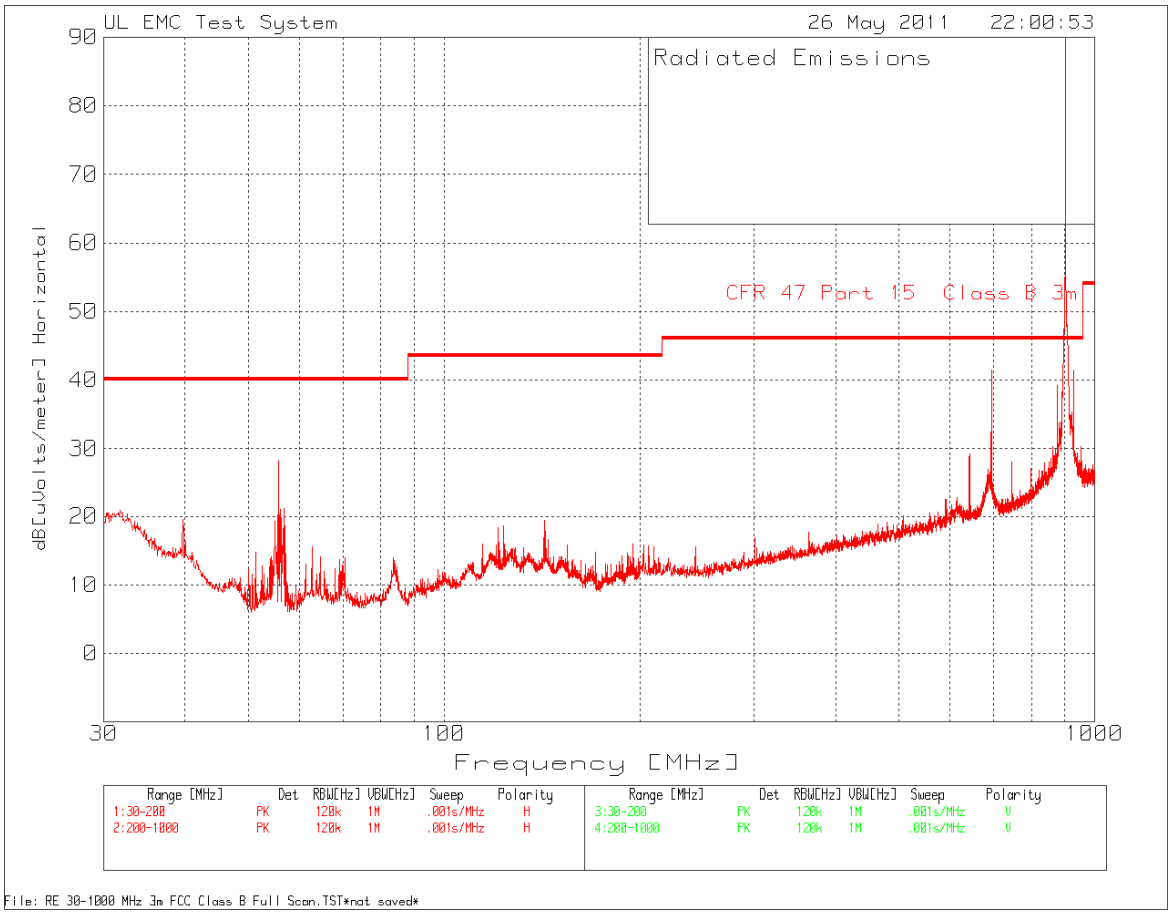
HIGH CHANNEL RESTRICTED, PEAK, VERT



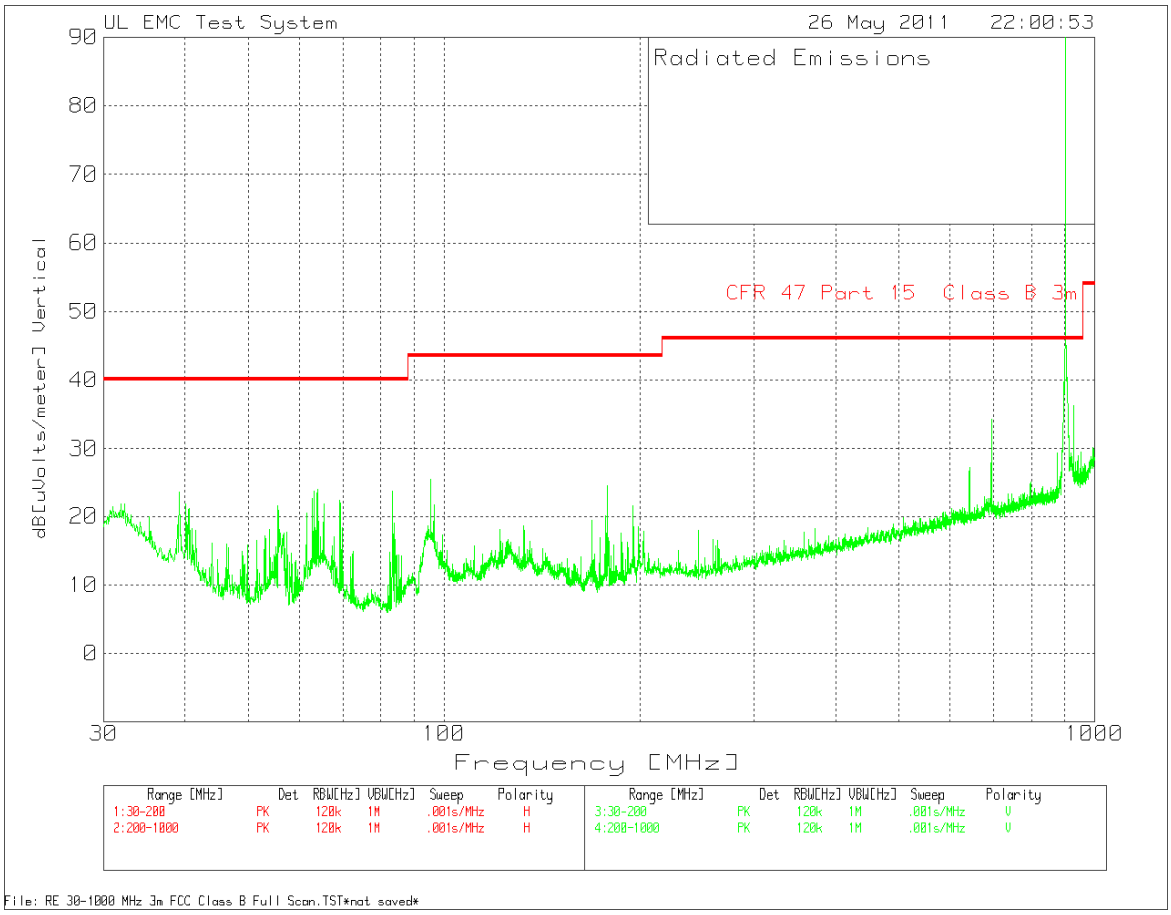
HIGH CHANNEL RESTRICTED (VERTICAL AND HORIZONTAL DATA)

Qualcomm (11U13834)										
Tagg FBC										
High Channel Bandedge										
Red: Horiz; Green: Vertical										
Range 1 920 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
960.4198	30.71	PK	4.3	-28.3	22.2	28.91	54	-25.09	100	Horz
979.7301	31.66	PK	4.4	-28.3	22.4	30.16	54	-23.84	100	Horz
Range 2 920 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
960.1199	30.86	PK	4.3	-28.3	22.2	29.06	54	-24.94	109	Vert
979.7701	32.96	PK	4.4	-28.3	22.4	31.46	54	-22.54	109	Vert

LOW CHANNEL HORIZONTAL PLOT



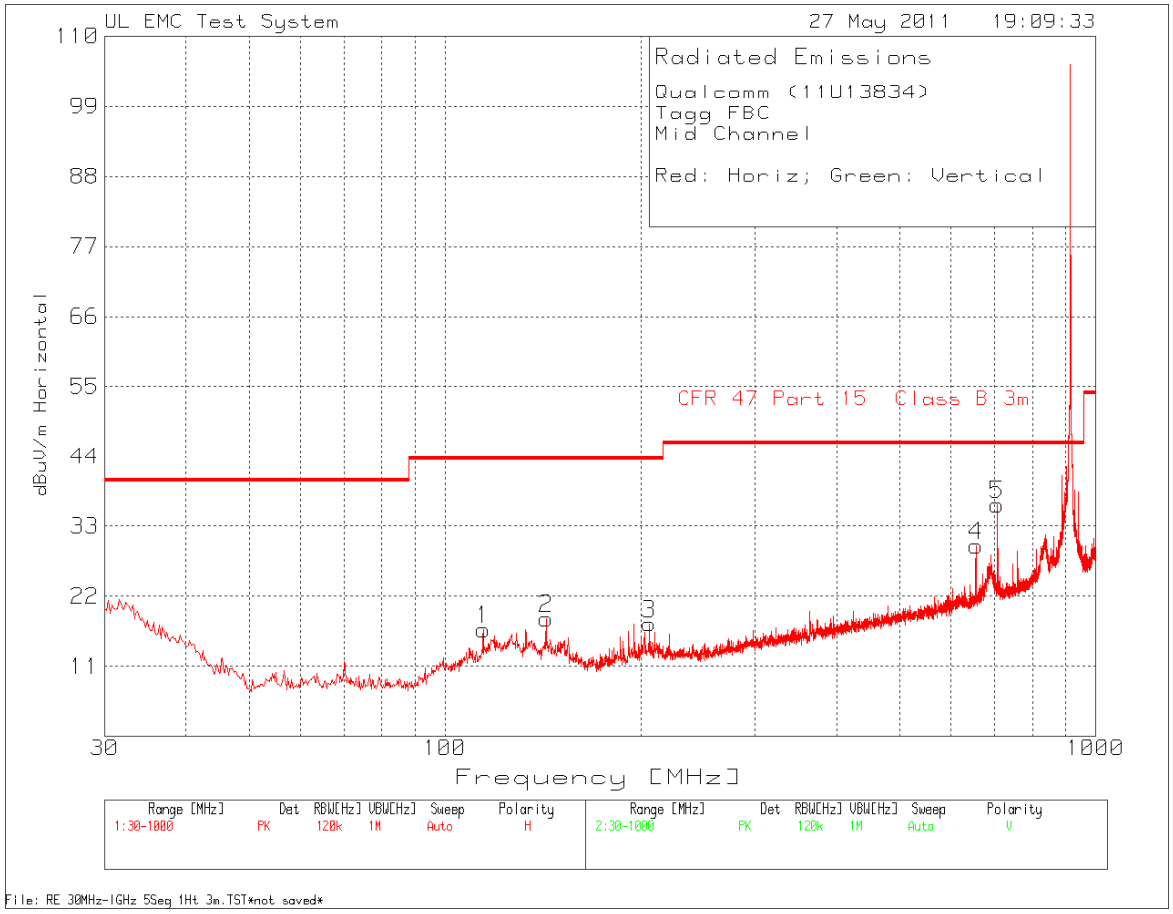
LOW CHANNEL VERTICAL PLOT



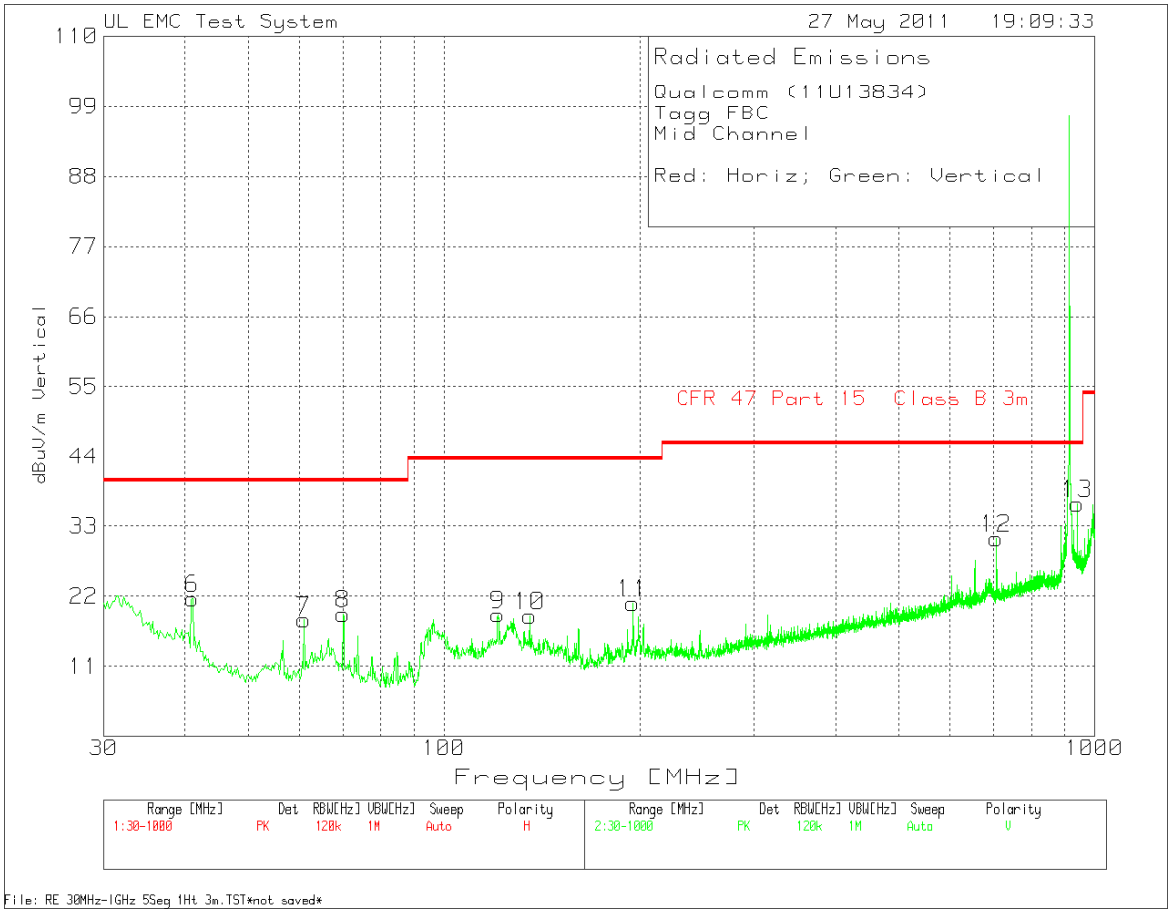
LOW CANNEL HORIZONTAL AND VERTICAL AND DATA

Qualcomm (11U13834)										
Tagg FBC										
Low Channel										
Red: Horiz; Green: Vertical										
Range 1 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dB[uVolts	CFR 47 Par	Margin	Height [cn	Polarity
39.6852	33.75	PK	0.9	-29.4	14.3	19.55	40	-20.45	200	Horz
55.7421	48.4	PK	1.1	-29.4	7.9	28	40	-12	300	Horz
56.8466	41.5	PK	1.1	-29.4	7.9	21.1	40	-18.9	400	Horz
123.6232	32.55	PK	1.5	-29.2	13.8	18.65	43.5	-24.85	300	Horz
142.7386	33.75	PK	1.7	-29.2	13.1	19.35	43.5	-24.15	200	Horz
642.6382	36.39	PK	3.5	-29.3	18.7	29.29	46	-16.71	100	Horz
694.6036	47.8	PK	3.7	-29.3	19.2	41.4	46	-4.6	100	Horz
876.3491	42.3	PK	4.1	-28.6	21.4	39.2	46	-6.8	100	Horz
928.5809	43.97	PK	4.2	-28.5	21.8	41.47	46	-4.53	100	Horz
Range 2 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dB[uVolts	CFR 47 Par	Margin	Height [cn	Polarity
39.1754	37.43	PK	0.9	-29.5	14.7	23.53	40	-16.47	100	Vert
55.4873	41.93	PK	1.1	-29.4	7.9	21.53	40	-18.47	100	Vert
63.8981	44.14	PK	1.2	-29.4	8	23.94	40	-16.06	100	Vert
69.1654	42.34	PK	1.2	-29.4	8.2	22.34	40	-17.66	100	Vert
83.3533	44.17	PK	1.3	-29.4	7.6	23.67	40	-16.33	100	Vert
95.3323	44.36	PK	1.4	-29.3	8.9	25.36	43.5	-18.14	100	Vert
178.4208	41.07	PK	1.8	-29	10.6	24.47	43.5	-19.03	100	Vert
642.3718	34.27	PK	3.5	-29.3	18.7	27.17	46	-18.83	100	Vert
694.3371	40.72	PK	3.7	-29.3	19.2	34.32	46	-11.68	100	Vert
928.5809	38.74	PK	4.2	-28.5	21.8	36.24	46	-9.76	100	Vert

MID CHANNEL HORIZONTAL PLOT



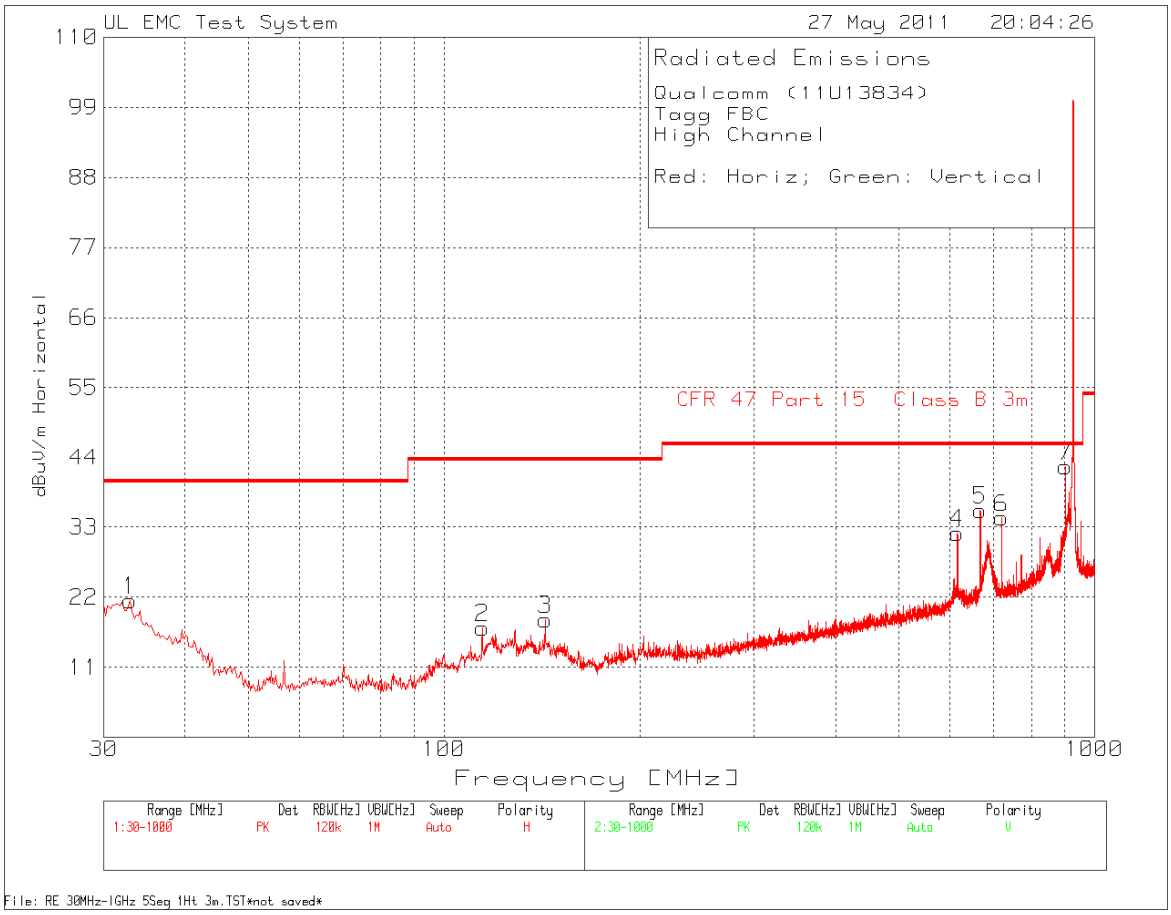
MID CHANNEL VERTICAL PLOT



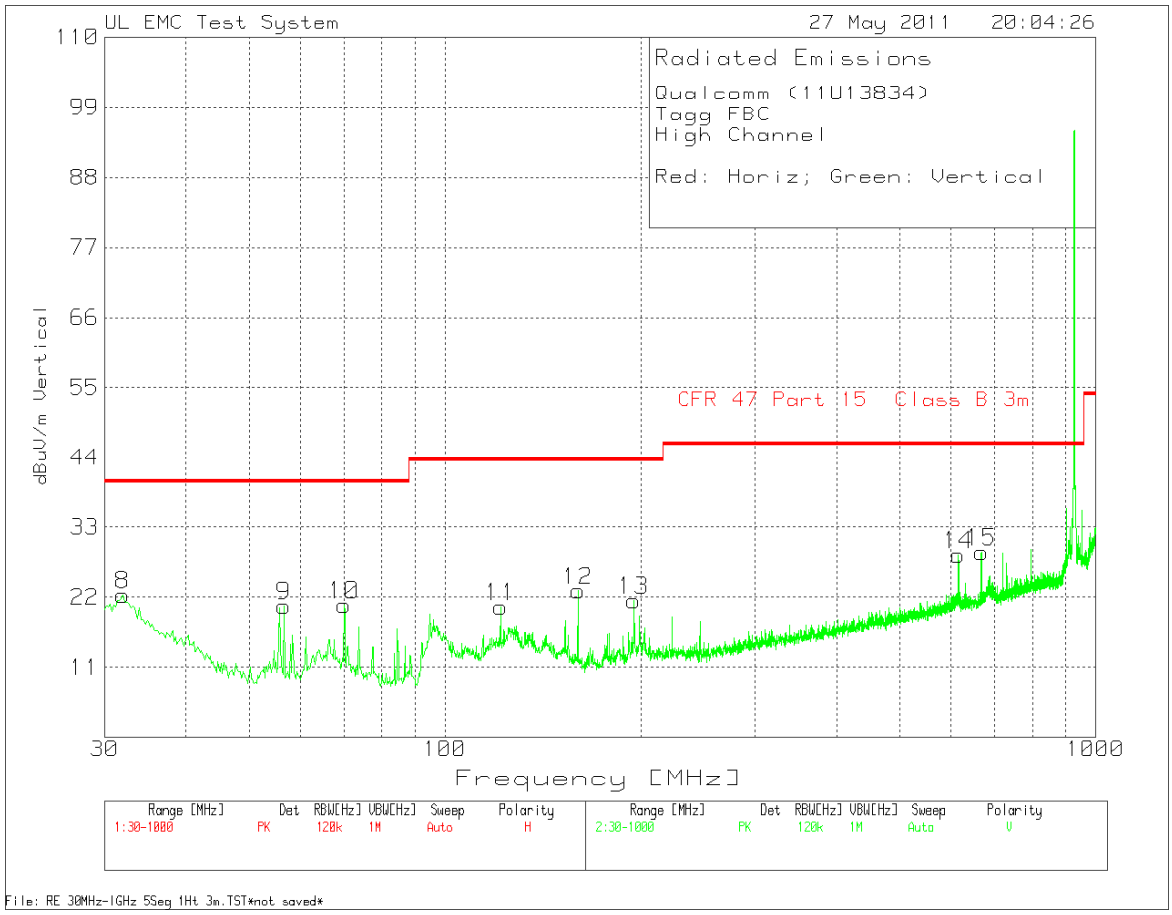
MIDDLE CANNEL HORIZONTAL AND VERTICAL AND DATA

Qualcomm (11U13834)										
Tagg FBC										
Mid Channel										
Red: Horiz; Green: Vertical										
Range 1 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
114.5164	31.86	PK	1.5	-29.3	12.7	16.76	43.5	-26.74	100	Horz
143.0116	32.98	PK	1.7	-29.2	13	18.48	43.5	-25.02	100	Horz
206.205	32.58	PK	2	-28.9	12	17.68	43.5	-25.82	100	Horz
654.956	36.8	PK	3.6	-29.3	18.8	29.9	46	-16.1	100	Horz
706.9065	42.56	PK	3.7	-29.3	19.4	36.36	46	-9.64	100	Horz
Range 2 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
41.0492	36.71	PK	0.9	-29.4	13.4	21.61	40	-18.39	109	Vert
61.0152	38.56	PK	1.2	-29.4	7.9	18.26	40	-21.74	109	Vert
69.9321	39.12	PK	1.2	-29.4	8.3	19.22	40	-20.78	109	Vert
120.9133	33.11	PK	1.5	-29.2	13.7	19.11	43.5	-24.39	109	Vert
135.4516	33.1	PK	1.6	-29.2	13.4	18.9	43.5	-24.6	109	Vert
195.1559	36.35	PK	1.9	-28.9	11.6	20.95	43.5	-22.55	109	Vert
707.1003	37.29	PK	3.7	-29.3	19.4	31.09	46	-14.91	109	Vert
940.8773	38.54	PK	4.3	-28.4	22	36.44	46	-9.56	109	Vert

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



HIGH CANNEL HORIZONTAL AND VERTICAL AND DATA

Qualcomm (11U13834)										
Tagg FBC										
High Channel										
Red: Horiz; Green: Vertical										
Range 1 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
32.9077	31.07	PK	0.9	-29.5	19	21.47	40	-18.53	119	Horz
114.5164	32.26	PK	1.5	-29.3	12.7	17.16	43.5	-26.34	119	Horz
143.0116	32.97	PK	1.7	-29.2	13	18.47	43.5	-25.03	119	Horz
615.7994	39.49	PK	3.5	-29.3	18.4	32.09	46	-13.91	119	Horz
667.556	42.41	PK	3.6	-29.3	18.9	35.61	46	-10.39	119	Horz
719.5064	40.22	PK	3.8	-29.2	19.6	34.42	46	-11.58	119	Horz
901.9145	45.49	PK	4.1	-28.6	21.5	42.49	46	-3.51	119	Horz
Range 2 30 - 1000MHz										
Test Frequ	Meter Rea	Detector	Chamber !	T10 Below	T130 Bilog	dBuV/m	CFR 47 Par	Margin	Height [cn	Polarity
31.9384	31.43	PK	0.9	-29.5	19.5	22.33	40	-17.67	109	Vert
56.5568	40.98	PK	1.1	-29.4	7.9	20.58	40	-19.42	109	Vert
69.9321	40.72	PK	1.2	-29.4	8.3	20.82	40	-19.18	109	Vert
121.6886	34.43	PK	1.5	-29.2	13.8	20.53	43.5	-22.97	109	Vert
160.0699	39.49	PK	1.8	-29.1	10.8	22.99	43.5	-20.51	109	Vert
195.3497	36.92	PK	1.9	-28.9	11.6	21.52	43.5	-21.98	109	Vert
615.7994	36.07	PK	3.5	-29.3	18.4	28.67	46	-17.33	109	Vert
667.7498	35.84	PK	3.6	-29.3	18.9	29.04	46	-16.96	109	Vert

7.3. TRANSMITTER ABOVE 1 GHz

HARMONIC AND SPURIOUS ABOVE 1 GHz

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: QUALCOMM CORPORATE
Project #: 11U13834
Date: 26/5/2011
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX MODE

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T59; S/N: 3245 @3m	T145 Agilent 3008A005(			FCC 15.209

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter
3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF_1.5GHz	

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Channel (902.4 MHz)															
1.805	3.0	46.3	38.9	26.9	3.3	-35.5	0.0	0.3	41.3	33.8	74	54	-32.7	-20.2	H
2.707	3.0	43.9	34.2	29.1	4.1	-35.2	0.0	0.6	42.5	32.8	74	54	-31.5	-21.2	H
3.610	3.0	45.4	36.9	31.3	4.8	-34.9	0.0	0.6	47.2	38.6	74	54	-26.8	-15.4	H
4.512	3.0	41.3	29.0	32.5	5.6	-34.8	0.0	0.6	45.2	32.9	74	54	-28.8	-21.1	H
5.414	3.0	39.6	27.2	33.4	6.2	-34.9	0.0	0.5	44.9	32.5	74	54	-29.1	-21.5	H
1.805	3.0	45.0	35.2	26.9	3.3	-35.5	0.0	0.3	39.9	30.2	74	54	-34.1	-23.8	V
2.707	3.0	43.9	34.7	29.1	4.1	-35.2	0.0	0.6	42.5	33.3	74	54	-31.5	-20.7	V
3.610	3.0	45.3	36.0	31.3	4.8	-34.9	0.0	0.6	47.1	37.8	74	54	-26.9	-16.2	V
4.512	3.0	42.3	30.5	32.5	5.6	-34.8	0.0	0.6	46.1	34.4	74	54	-27.9	-19.6	V
5.414	3.0	39.5	28.1	33.4	6.2	-34.9	0.0	0.5	44.8	33.4	74	54	-29.2	-20.6	V
Mid Channel (915.0 MHz)															
1.830	3.0	46.6	38.1	27.0	3.3	-35.5	0.0	0.3	41.7	33.2	74	54	-32.3	-20.8	H
2.745	3.0	44.2	33.4	29.3	4.1	-35.2	0.0	0.6	43.0	32.2	74	54	-31.0	-21.8	H
3.660	3.0	48.5	41.7	31.4	4.9	-34.9	0.0	0.6	50.5	43.6	74	54	-23.5	-10.4	H
4.575	3.0	43.3	32.6	32.6	5.6	-34.8	0.0	0.6	47.2	36.5	74	54	-26.8	-17.5	H
5.490	3.0	39.6	27.8	33.5	6.2	-34.9	0.0	0.5	44.9	33.1	74	54	-29.1	-20.9	H
1.830	3.0	44.4	35.1	27.0	3.3	-35.5	0.0	0.3	39.5	30.2	74	54	-34.5	-23.8	V
2.745	3.0	43.9	35.7	29.3	4.1	-35.2	0.0	0.6	42.7	34.5	74	54	-31.3	-19.5	V
3.660	3.0	47.1	39.3	31.4	4.9	-34.9	0.0	0.6	49.1	41.3	74	54	-24.9	-12.7	V
4.575	3.0	44.8	35.1	32.6	5.6	-34.8	0.0	0.6	48.7	39.0	74	54	-25.3	-15.0	V
5.490	3.0	40.5	28.5	33.5	6.2	-34.9	0.0	0.5	45.8	33.9	74	54	-28.2	-20.1	V
Hi Channel (927.6 MHz)															
1.855	3.0	47.5	39.2	27.1	3.3	-35.5	0.0	0.3	42.8	34.5	74	54	-31.2	-19.5	H
2.783	3.0	42.8	30.6	29.4	4.2	-35.2	0.0	0.6	41.7	29.5	74	54	-32.3	-24.5	H
3.710	3.0	48.9	42.1	31.5	4.9	-34.9	0.0	0.6	51.0	44.3	74	54	-23.0	-9.7	H
4.638	3.0	44.3	34.1	32.6	5.7	-34.8	0.0	0.6	48.3	38.2	74	54	-25.7	-15.8	H
5.566	3.0	39.6	28.5	33.6	6.3	-35.0	0.0	0.5	44.9	33.8	74	54	-29.1	-20.2	H
1.855	3.0	44.9	35.4	27.1	3.3	-35.5	0.0	0.3	40.1	30.7	74	54	-33.9	-23.3	V
2.783	3.0	42.2	31.0	29.4	4.2	-35.2	0.0	0.6	41.2	29.9	74	54	-32.8	-24.1	V
3.710	3.0	49.0	42.9	31.5	4.9	-34.9	0.0	0.6	51.1	45.0	74	54	-22.9	-9.0	V
4.638	3.0	45.3	36.5	32.6	5.7	-34.8	0.0	0.6	49.3	40.5	74	54	-24.7	-13.5	V
5.566	3.0	41.0	29.1	33.6	6.3	-35.0	0.0	0.5	46.4	34.5	74	54	-27.6	-19.5	V

Rev. 07.22.09

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		