NVLAP LAB CODE 200707-0

FCC PART 15.247

MEASUREMENT AND TEST REPORT

For

Tobii Technology AB

Karlsrovägen 2D, 18256 Danderyd, Sweden

FCC ID: W5MTOBIIC8

Report Type: Original Report	**Product Type:** A Laptop Computer with Bluetooth, WiFi and GSM Modules
Test Engineer:	Bruce Zhang
Report Number:	RSZ08121003-wifi
Report Date:	2009-03-24
Reviewed By:	Merry Zhao EMC Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Tobii Technology AB's* product, model number: *T-C84-R1.0A-V0 o*r the "EUT" as referred to in this report is a *Tobii C8(A Laptop Computer with Bluetooth, WiFi and GSM Modules)*, which measures approximately: 23.2 cm L x 20.6 cm W x 3.9 cm H, input voltage: DC 24V Adapter or DC 11.1V battery.

** All measurement and test data in this report was gathered from production sample serial number: 0812032 (Assigned by BACL, Shenzhen). The EUT was received on 2008-12-10.*

Objective

This Type approval report is prepared on behalf of *Tobii Technology AB in* accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 24E and Part 15 B submission with FCC ID: W5MTOBIIC8.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 21, 2007. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at
http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 802.11b and 802.11g mode, 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437		

EUT was tested with Channel 1, 6 and 11.

The worst case data rate is determined with the data rate with highest output power. For 802.11b mode, 1 Mbps data rate was chosen for full testing. For 802.11g mode, 6 Mbps data rate was chosen for full testing.

Equipment Modifications

No modification was made to the unit tested.

Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	Motherboard	OWC297	CN-OWC297-70821-566-02BR	DoC
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E8NBM	DoC
Seagate	Hard Disk	ST340014A	5JXK3NAD	DoC
DELL	3.5' Floppy	N/A	CN-0N8893-69802-54Q-02OZ	DoC
Lite-ON	CD-Rom	LTN-489S	N/A	DoC
Intel	CPU	Celeron D-2533	N/A	N/A
ProMOS	Memory	V826632K24SATG-C0	0525-K1933700	N/A
Intel	Ethernet	PRO 10/100 VE	N/A	DoC

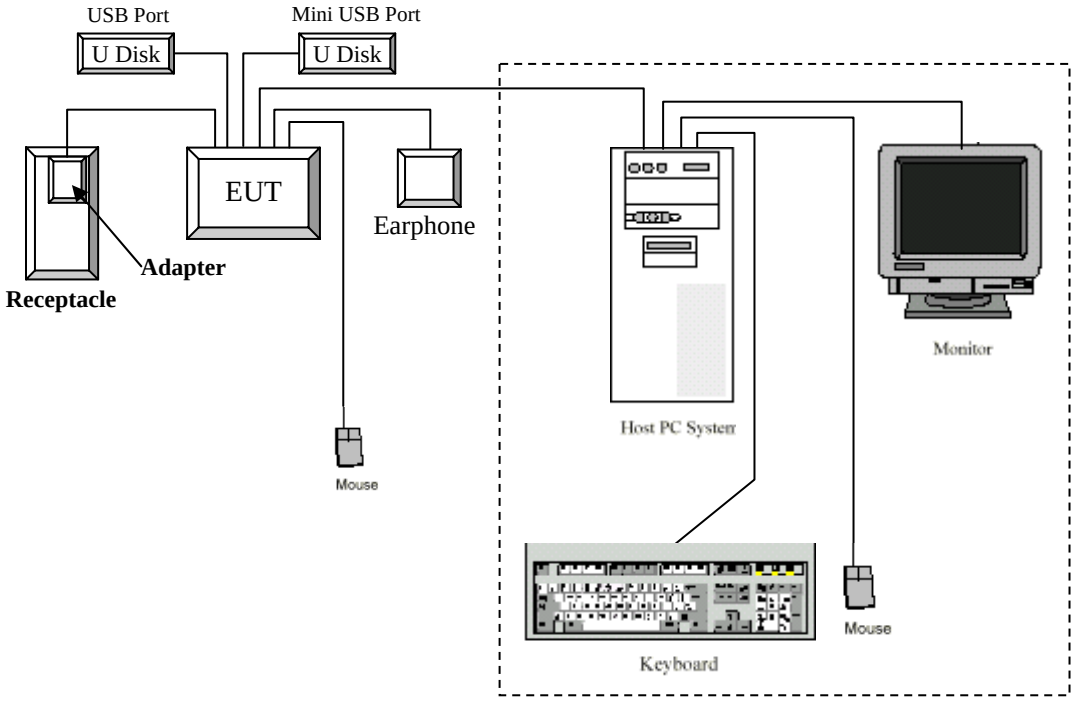
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	PC	DELL 170L	CN-0TC670-70821-560-F4WQ	DoC
DELL	Keyboard	SK-8110	CN07N244-71616-56I-1I0O	DoC
DELL	Mouse	M071KC	519046820	DoC
DELL	Mouse	MUC5UO	N/A	DoC
DELL	LCD Monitor	1505FP	Y4287-7168-574-GBSH	DoC
SOMIC	Earphone	ST-818	N/A	DoC
Kingston	U disk 1	Data Traveler	N/A	DoC
HuaPu	U Disk 2	DPF-802	N/A	DoC
Powerbox AB	Adapter	EXM805121	084700072/FC:11	Verification

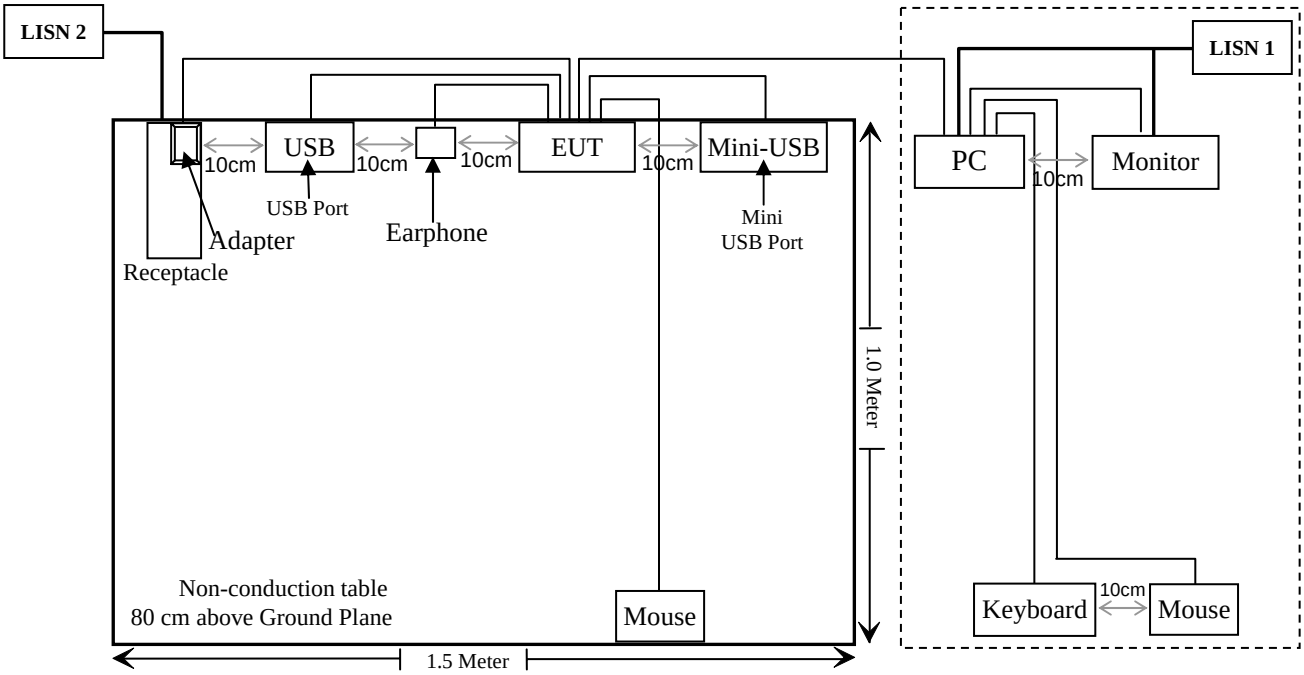
External I/O Cable

Cable Description	Length (M)	From/Port	To
Shielded Detachable K/B Cable	1.5	K/B Port	K/B
Shielded Detachable Mouse Cable	1.5	Mouse Port	Mouse
Shielded Detachable VGA Cable	1.5	VGA Port	Monitor
Shielded Detachable Power Line	1.96	EUT	Adapter

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i) , §1.1307 (b) (1), §2.1093	RF Exposure	Compliance*
§15.203	Antenna Requirement	Compliance*
§15.207 (a)	Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205	Restricted Bands	Compliance
§15.209, §15.205, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Bandwidth	Compliance*
§15.247(b)(3)	Maximum Peak Output Power	Compliance*
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	Compliance*
§15.247(e)	Power Spectral Density	Compliance*

* Please refer to FCC ID: RUJ-LR802UKG granted on 2007-05-25, report number: RF960323L04.

§15.247 (i) and §1.1307 (b) (1), §2.1093 – RF EXPOSURE

Standard Applicable

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

According to FCC Exclusion list, In the following table, f_{GHz} is mid-band frequency in GHz, and d is the distance to a person'sbody, excluding hands, wrists, feet, and ankles.

Exposure category	low threshold	high threshold
general population	$(60/f_{GHz})$ mW, $d < 2.5$ cm $(120/f_{GHz})$ mW, $d \geq 2.5$ cm	$(900/f_{GHz})$ mW, $d < 20$ cm
occupational	$(375/f_{GHz})$ mW, $d < 2.5$ cm $(900/f_{GHz})$ mW, $d \geq 2.5$ cm	$(2250/f_{GHz})$ mW, $d < 20$ cm

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

Result: Pass

* Please refer to the SAR report, report No.R0901121-SAR.

§15.203 - ANTENNA REQUIREMENT

Standard Applicable

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Result: Compliance.

* The EUT has 3 antennae, one is for Bluetooth, the gain is -4.6dBi; one is for WiFi, the gain is -2.3dBi; other is for PCS, the gain is -5.8dBi. All antennae are printed on PCB (integral).

§15.207 (a) - CONDUCTED EMISSIONS

Applicable Standard

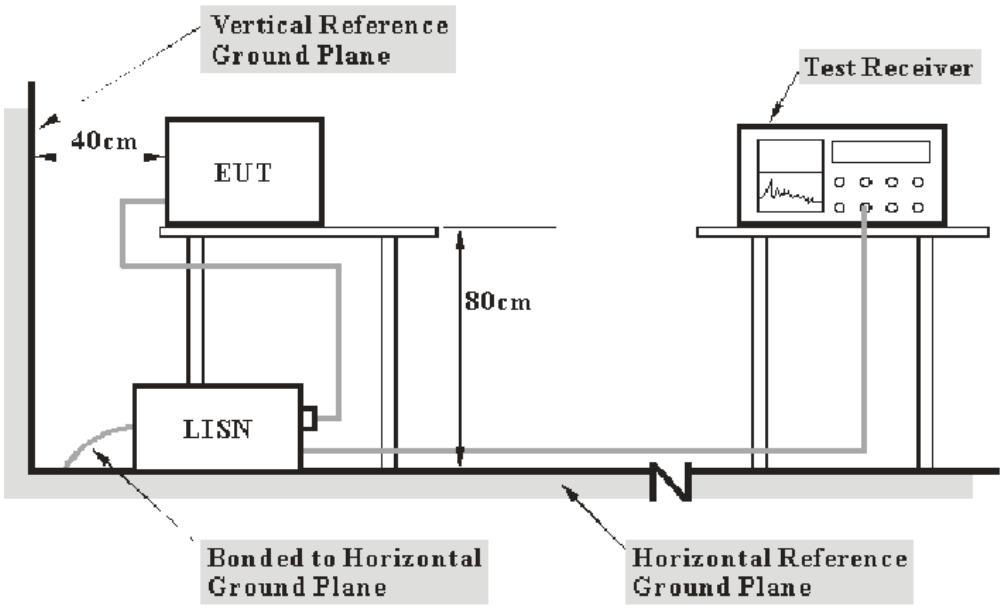
CFR47 §15.207

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is ±2.4 dB.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	DE25330	2008-03-25	2009-03-25
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2008-03-25	2009-03-25

*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the adapter was connected to the LISN 1, the host PC and the monitor was connected to the LISN 2.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

802.11b: **2.50 dB** at **0.1500 MHz** in the **Neutral** conductor mode

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Bruce Zhang on 2009-03-02.

Test Mode: Transmitting (802.11b)

Line Conducted Emissions				FCC Part 15.207	
Frequency (MHz)	**Amplitude (dBμV)**	**Detector (QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBμV)**	**Margin (dB)**
0.1500	63.50	QP	Neutral	66.00	2.50
0.1500	61.30	QP	Line	66.00	4.70
12.3050	44.70	AV	Neutral	50.00	5.30
23.4200	44.60	AV	Line	50.00	5.40
12.0600	44.30	AV	Line	50.00	5.70
24.0300	43.70	AV	Neutral	50.00	6.30
22.0150	43.00	AV	Line	50.00	7.00
23.4150	49.80	QP	Line	60.00	10.20
22.1200	48.60	QP	Line	60.00	11.40
12.0600	48.50	QP	Line	60.00	11.50
12.2450	48.40	QP	Neutral	60.00	11.60
7.7850	47.70	QP	Line	60.00	12.30
7.6650	47.40	QP	Neutral	60.00	12.60
7.6650	36.40	AV	Neutral	50.00	13.60
0.5900	42.30	QP	Neutral	56.00	13.70
23.9700	45.80	QP	Neutral	60.00	14.20
7.7850	35.70	AV	Line	50.00	14.30
0.7050	40.30	QP	Line	56.00	15.70
1.1050	39.00	QP	Neutral	56.00	17.00
0.5900	28.40	AV	Neutral	46.00	17.60
0.7000	25.90	AV	Line	46.00	20.10
1.1000	24.90	AV	Neutral	46.00	21.10
0.1500	29.70	AV	Neutral	56.00	26.30
0.1500	26.50	AV	Line	56.00	29.50

Note: The power of 802.11b is higher than 802.11g, so operating on 802.11b is the worse case.

Plot(s) of Test Data

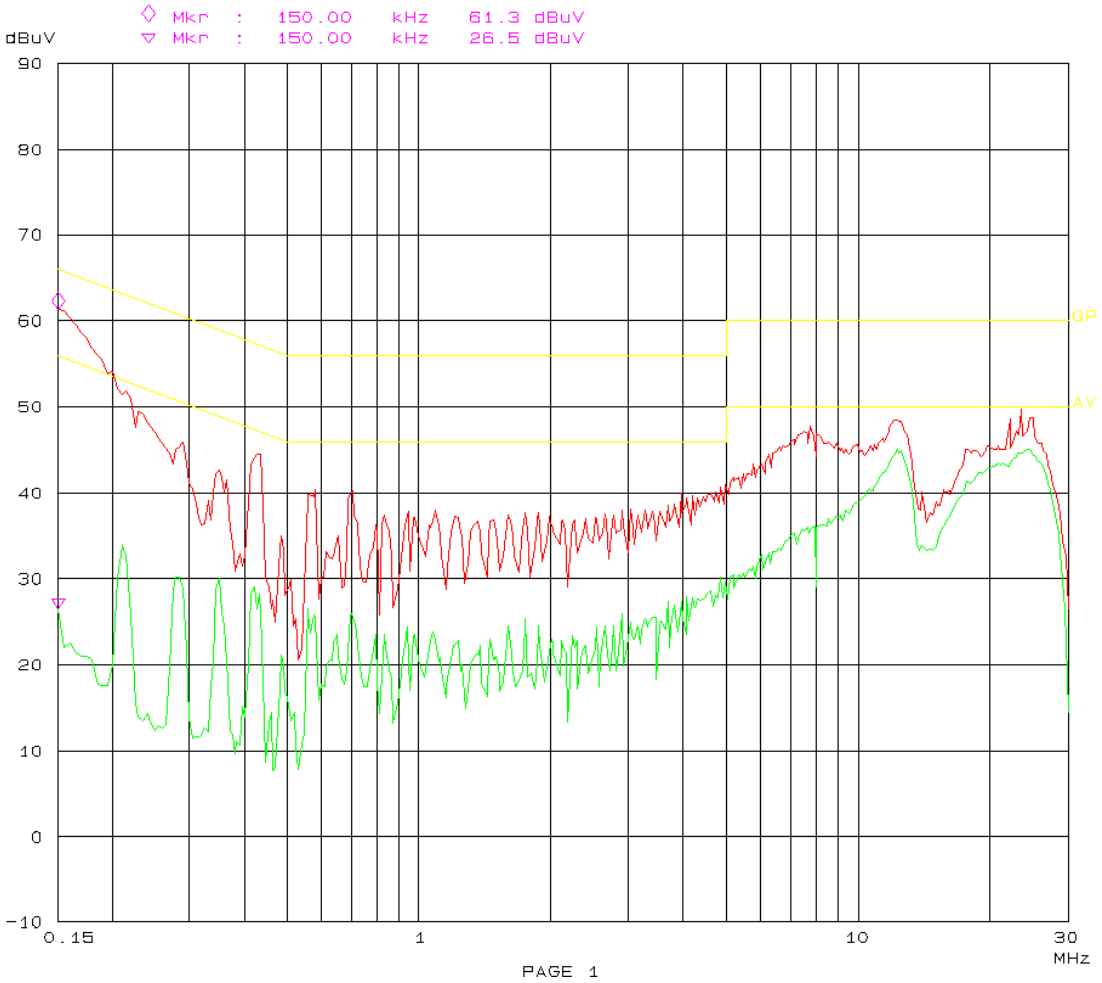
Plot(s) of Test Data is presented hereinafter as reference.

802.11b

Conducted emission
FCC part15

02. Mar 09 11:44

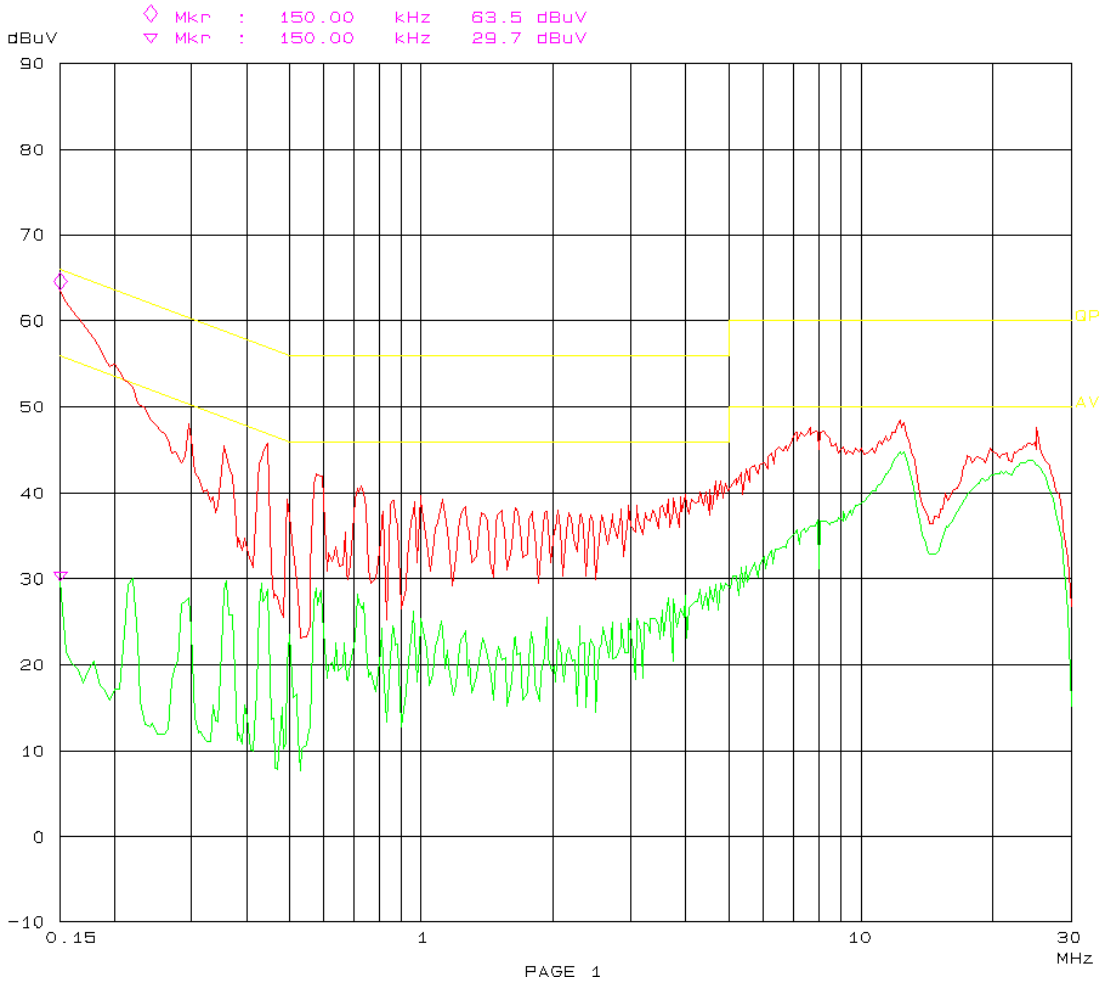
EUT: Tobill C8 M/N: T-C84-R1.0A-V0
Manuf: Tobill
Op Cond: Operating
Operator: Bruce
Test Spec: AC 120V/60Hz L
Comment: Temp: 25 Hum: 56%
BACL



Conducted emission
FCC part15

02. Mar 09 13:13

EUT:	Tobill C8 M/N: T-C84-R1.0A-V0
Manuf:	Tobill
Op Cond:	Operating
Operator:	Bruce
Test Spec:	AC 120V/60Hz N
Comment:	Temp: 25 Hum: 56%
	BACL



§15.209, §15.205, §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

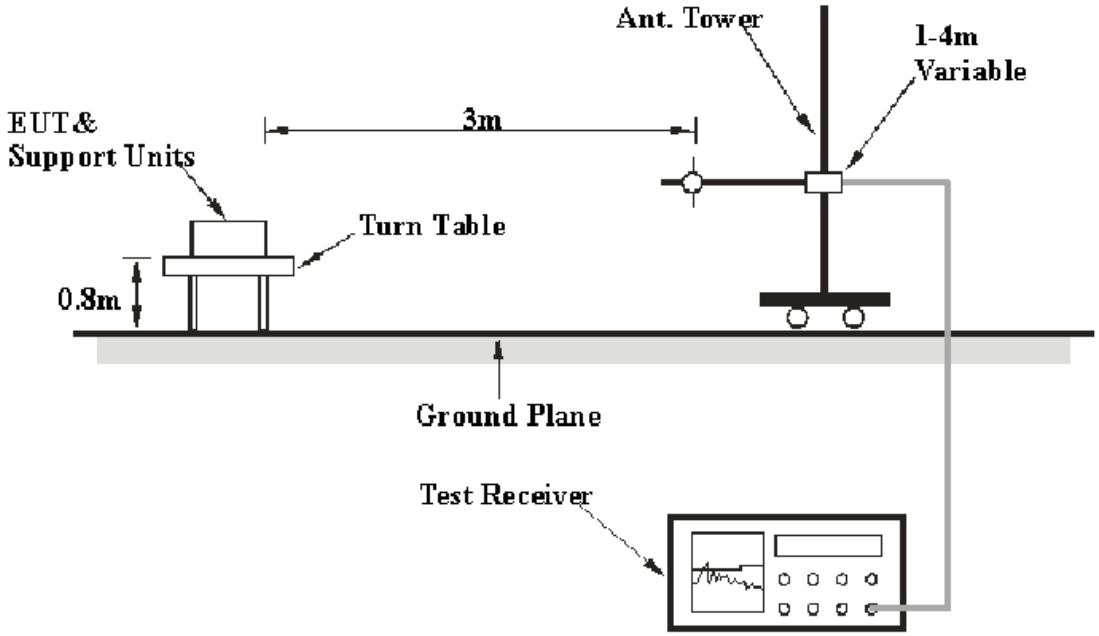
FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part 15.209 15.205 and 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	***RBW***	***Video B/W***
30MHz – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25 GHz	1 MHz	3 MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2008-11-15	2009-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2008-11-07	2009-11-06
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2008-04-12	2009-04-11
HP	Amplifier	8449B	3008A00277	2008-09-29	2009-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2008-09-25	2009-09-25
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-08-28	2009-08-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the adapter, the host PC and monitor were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz and peak and Average detection modes for frequencies above 1GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit for Class B. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.209, 15.205, and 15.247, with the worst margin reading of:

30 -1000 MHz:

802.11b: 10.2 dB at **33.330075 MHz** in the **Vertical** polarization
802.11g: 8.2 dB at **33.336225 MHz** in the **Vertical** polarization

Above 1GHz:

8.38 dB at **2386 MHz** in the **Vertical** polarization**, 802.11b Low Channel**
10.81 dB at **1600 MHz** in the **Vertical** polarization**, 802.11b Middle Channel**
7.17 dB at **2784.8MHz** in the **Vertical** polarization**, 802.11b High Channel**

10.6 dB at **4824 MHz** in the **Vertical** polarization**, 802.11g Low Channel**
9.59 dB at **1600 MHz** in the **Vertical** polarization**, 802.11g Middle Channel**
5.40 dB at **2483.5 MHz** in the **Vertical** polarization**, 802.11g High Channel**

Test Data

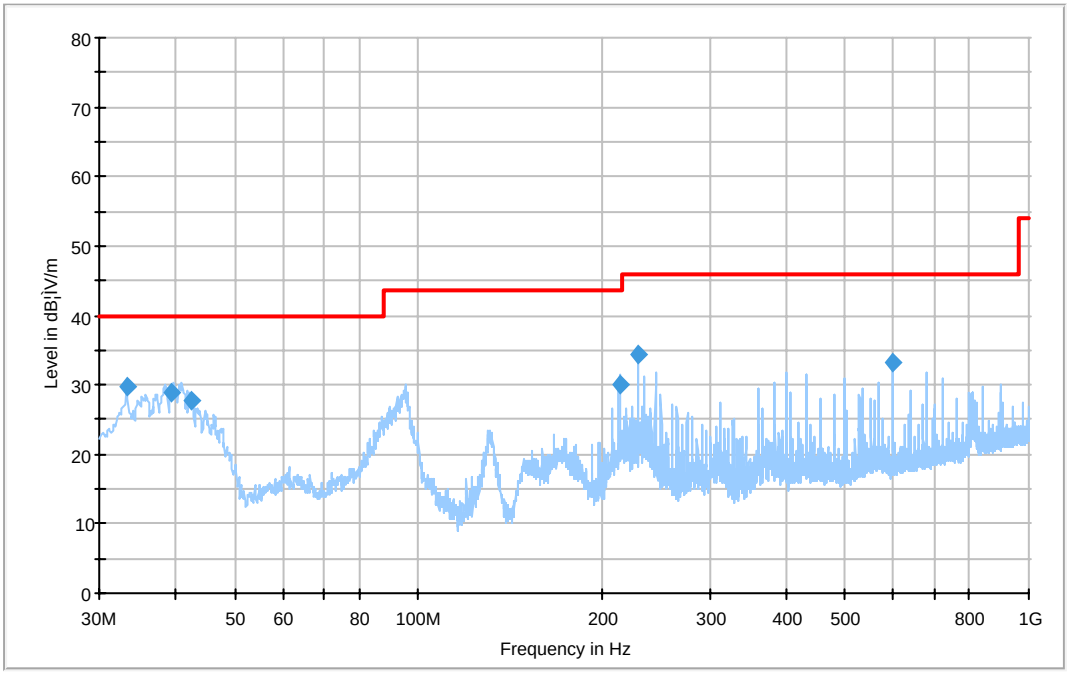
Environmental Conditions

Temperature:	24 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

The testing was performed by Bruce Zhang on 2009-03-19.

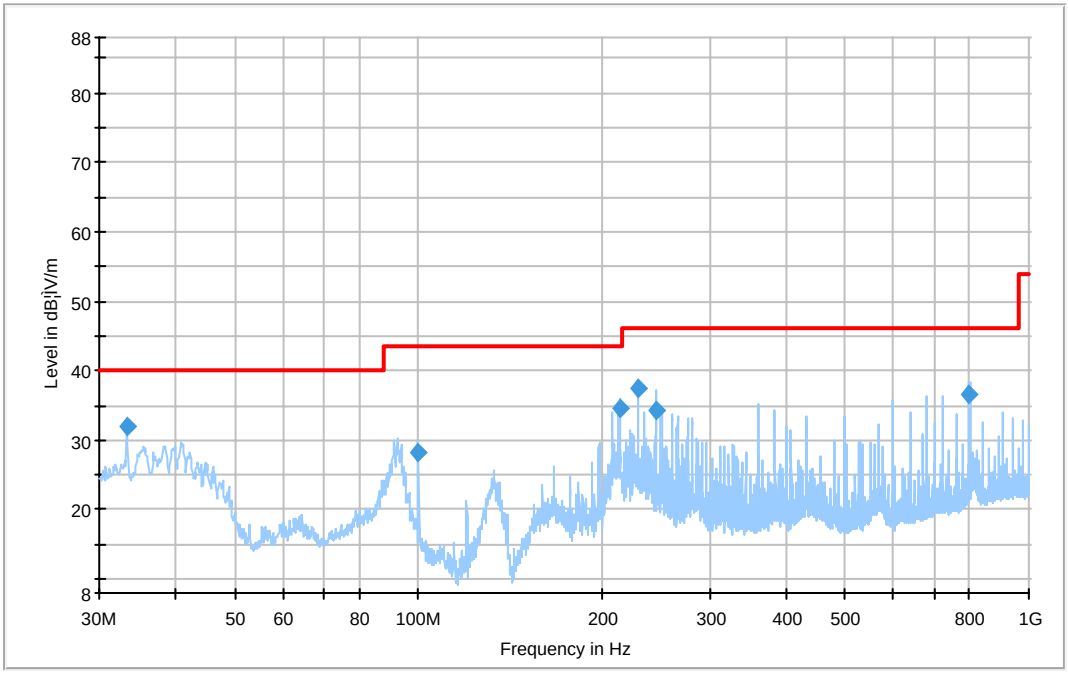
30-1000 MHz:

Test Mode: Transmitting (802.11b)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
33.330075	29.8	109.0	V	357.0	-10.8	40.0	10.2
39.501175	28.9	109.0	V	230.0	-15.1	40.0	11.1
228.902950	34.4	158.0	H	75.0	-16.6	46.0	11.6
42.464775	27.7	109.0	V	234.0	-16.8	40.0	12.3
600.091250	33.3	109.0	V	102.0	-8.7	46.0	12.7
213.495900	30.1	228.0	H	57.0	-17.3	43.5	13.4

Test Mode: Transmitting (802.11g)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
33.336225	31.8	106.0	V	177.0	-10.8	40.0	8.2
228.961500	37.5	118.0	H	143.0	-16.6	46.0	8.5
213.428300	34.5	107.0	V	14.0	-17.3	43.5	9.0
800.093850	36.7	118.0	V	25.0	-5.4	46.0	9.3
244.521800	34.1	144.0	H	168.0	-16.0	46.0	11.9
100.082500	28.3	235.0	V	274.0	-3.6	43.5	15.2

Above 1GHz:
Test mode: Transmitting (802.11b):

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Ant. Loss (dB)	Cable Loss (dB)	Amp. Gain (dB)	Correction Factor (dBμV/m)	FCC Part 15.247/15.209		
Frenquency (MHz)	Reading (dBμV/m)			Height (m)	Polar (H/V)					Limit (dBμV/m)	Margin (dB)	Comment
Frequency In Low Channel												
2412	90.47	PK	250	1.10	H	28.9	7.22	34	92.59			fundamental
2412	85.24	AV	250	1.10	H	28.9	7.22	34	87.36			fundamental
2412	91.05	PK	168	1.16	V	29.1	7.22	34	93.37			fundamental
2412	86.06	AV	168	1.16	V	29.1	7.22	34	88.38			fundamental
2386	43.51	AV	163	1.10	V	29.1	7.01	34	45.62	54	8.38	spurious
2386	43.69	AV	120	1.30	H	28.9	7.01	34	45.60	54	8.40	spurious
4824	38.34	AV	320	1.60	V	33.5	6.45	33.4	44.89	54	9.11	harmonic
1600	46.95	AV	175	1.90	V	25.5	5.06	34.4	43.11	54	10.89	spurious
1080	68.17	PK	354	1.00	V	23.6	4.32	35	61.09	74	12.91	spurious
4824	33.23	AV	270	1.76	H	33.8	6.45	33.7	39.78	54	14.22	harmonic
1600	40.52	AV	260	2.20	H	25.3	5.06	34.4	36.48	54	17.52	spurious
1600	59.34	PK	175	1.90	V	25.5	5.06	34.4	55.50	74	18.50	spurious
2386	52.03	PK	163	1.10	V	29.1	7.01	34	54.14	74	19.86	spurious
2386	52.08	PK	120	1.30	H	28.9	7.01	34	53.99	74	20.01	spurious
1080	60.91	PK	260	1.10	H	23.6	4.32	35	53.83	74	20.17	spurious
4824	47.14	PK	320	1.60	V	33.5	6.45	33.4	53.69	74	20.31	harmonic
4824	44.67	PK	270	1.76	H	33.8	6.45	33.7	51.22	74	22.78	harmonic
1600	54.23	PK	260	2.20	H	25.3	5.06	34.4	50.19	74	23.81	spurious
1080	35.48	AV	354	1.00	V	23.6	4.32	35	28.40	54	25.60	spurious
1080	35.10	AV	260	1.10	H	23.6	4.32	35	28.02	54	25.98	spurious
Frequency In Middle Channel												
2437	88.60	PK	120	1.4	H	28.9	7.22	34	90.72			fundamental
2437	83.81	AV	120	1.4	H	28.9	7.22	34	85.93			fundamental
2437	91.67	PK	168	1.15	V	29.1	7.22	34	93.99			fundamental
2437	86.77	AV	168	1.15	V	29.1	7.22	34	89.09			fundamental
1600	47.03	AV	130	1.07	V	25.5	5.06	34.4	43.19	54	10.81	spurious
4874	36.60	AV	340	1.77	V	33.5	6.45	33.4	43.15	54	10.85	harmonic
4874	34.12	AV	77	1.8	H	33.8	6.45	33.7	40.67	54	13.33	harmonic
1600	62.14	PK	130	1.07	V	25.5	5.06	34.4	58.3	74	15.70	spurious
1080	64.42	PK	190	1.35	V	23.6	4.32	35	57.34	74	16.66	spurious
1600	40.59	AV	175	1.37	H	25.3	5.06	34.4	36.55	54	17.45	spurious
1080	60.25	PK	260	1.1	H	23.6	4.32	35	53.17	74	20.83	spurious
4874	45.83	PK	340	1.77	V	33.5	6.45	33.4	52.38	74	21.62	harmonic
4874	44.65	PK	77	1.8	H	33.8	6.45	33.7	51.2	74	22.80	harmonic
1600	55.13	PK	175	1.37	H	25.3	5.06	34.4	51.09	74	22.91	spurious
1080	35.04	AV	190	1.35	V	23.6	4.32	35	27.96	54	26.04	spurious
1080	34.72	AV	260	1.1	H	23.6	4.32	35	27.64	54	26.36	spurious

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Ant. Loss (dB)	Cable Loss (dB)	Amp. Gain (dB)	Correction Factor (dBμV/m)	FCC Part 15.247/15.209		
Frenquency (MHz)	Reading (dBμV/m)			Height (m)	Polar (H/V)					Limit (dBμV/m)	Margin (dB)	Comment
Frequency In High Channel												
2462	85.47	PK	278	1.72	H	28.9	7.22	34	87.59			fundamental
2462	80.45	AV	278	1.72	H	28.9	7.22	34	82.57			fundamental
2462	91.96	PK	168	1.1	V	29.1	7.22	34	94.28			fundamental
2462	87.04	AV	168	1.1	V	29.1	7.22	34	89.36			fundamental
2487.8	44.72	AV	175	1.06	V	29.1	7.01	34	46.83	54	7.17	spurious
4924	38.90	AV	340	1.83	V	33.5	6.45	33.4	45.45	54	8.55	harmonic
1600	45.04	AV	178	1.83	V	25.5	5.06	34.4	41.2	54	12.8	spurious
4924	33.51	AV	55	1.8	H	33.8	6.45	33.7	40.06	54	13.94	harmonic
1080	65.51	PK	180	2.2	V	23.6	4.32	35	58.43	74	15.57	spurious
2487.8	34.86	AV	272	1.31	H	28.9	7.01	34	36.77	54	17.23	spurious
1600	60.37	PK	178	1.83	V	25.5	5.06	34.4	56.53	74	17.47	spurious
2487.8	53.83	PK	175	1.06	V	29.1	7.01	34	55.94	74	18.06	spurious
1600	39.42	AV	255	2.2	H	25.3	5.06	34.4	35.38	54	18.62	spurious
4924	47.75	PK	340	1.83	V	33.5	6.45	33.4	54.3	74	19.7	harmonic
1080	60.48	PK	107	1.1	H	23.6	4.32	35	53.4	74	20.6	spurious
4924	45.32	PK	55	1.8	H	33.8	6.45	33.7	51.87	74	22.13	harmonic
2487.8	47.87	PK	272	1.31	H	28.9	7.01	34	49.78	74	24.22	spurious
1600	53.49	PK	255	2.2	H	25.3	5.06	34.4	49.45	74	24.55	spurious
1080	35.11	AV	180	2.2	V	23.6	4.32	35	28.03	54	25.97	spurious
1080	34.67	AV	107	1.1	H	23.6	4.32	35	27.59	54	26.41	spurious

Test mode: Transmitting (802.11g):

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Ant. Loss (dB)	Cable Loss (dB)	Amp. Gain (dB)	Correction Factor (dBμV/m)	FCC Part 15.247/15.209		
Frenquency (MHz)	Reading (dBμV/m)			Height (m)	Polar (H/V)					Limit (dBμV/m)	Margin (dB)	Comment
Frequency In Low Channel												
2412	88.02	PK	120	1.30	H	28.9	7.22	34	90.14			fundamental
2412	77.28	AV	120	1.30	H	28.9	7.22	34	79.4			fundamental
2412	90.67	PK	174	1.10	V	29.1	7.22	34	92.99			fundamental
2412	80.17	AV	174	1.10	V	29.1	7.22	34	82.49			fundamental
4824	36.85	AV	350	2.20	V	33.5	6.45	33.4	43.4	54	10.6	harmonic
1600	46.04	AV	210	1.80	V	25.5	5.06	34.4	42.2	54	11.8	spurious
2390	40.16	AV	131	1.33	H	28.9	7.01	34	42.07	54	11.93	spurious
2390	59.56	PK	131	1.33	H	28.9	7.01	34	61.47	74	12.53	spurious
1080	66.47	PK	360	1.00	V	23.6	4.32	35	59.39	74	14.61	spurious
4824	31.82	AV	276	2.00	H	33.8	6.45	33.7	38.67	54	15.33	harmonic
4824	51.78	PK	350	2.20	V	33.5	6.45	33.4	58.33	74	15.67	harmonic
2390	35.68	AV	327	1.80	V	29.1	7.01	34	37.79	54	16.21	spurious
1600	41.50	AV	0	1.20	H	25.3	5.06	34.4	37.46	54	16.54	spurious
2390	53.57	PK	327	1.80	V	29.1	7.01	34	55.68	74	18.32	spurious
1600	58.83	PK	210	1.80	V	25.5	5.06	34.4	54.99	74	19.01	spurious
1080	60.84	PK	300	1.00	H	23.6	4.32	35	53.76	74	20.24	spurious
4824	45.69	PK	276	2.00	H	33.8	6.45	33.7	52.54	74	21.46	harmonic
1600	53.33	PK	0	1.20	H	25.3	5.06	34.4	49.29	74	24.71	spurious
1080	35.44	AV	360	1.00	V	23.6	4.32	35	28.36	54	25.64	spurious
1080	34.87	AV	300	1.00	H	23.6	4.32	35	27.79	54	26.21	spurious
Frequency In Middle Channel												
2437	88.49	PK	90	1.6	H	28.9	7.22	34	90.61			fundamental
2437	77.07	AV	90	1.6	H	28.9	7.22	34	79.19			fundamental
2437	84.73	PK	70	1.82	V	29.1	7.22	34	87.05			fundamental
2437	74.38	AV	70	1.82	V	29.1	7.22	34	76.7			fundamental
1600	48.25	AV	200	1.8	V	25.5	5.06	34.4	44.41	54	9.59	spurious
4874	37.38	AV	348	2.2	V	33.5	6.45	33.4	43.93	54	10.07	harmonic
1080	67.15	PK	360	1.0	V	23.6	4.32	35	60.07	74	13.93	spurious
1600	41.70	AV	360	1.2	H	25.3	5.06	34.4	37.66	54	16.34	spurious
4874	30.54	AV	276	2.2	H	33.8	6.45	33.4	37.39	54	16.61	harmonic
4874	50.83	PK	348	2.2	V	33.5	6.45	33.4	57.38	74	16.62	harmonic
1600	60.94	PK	200	1.8	V	25.5	5.06	34.4	57.1	74	16.9	spurious
1080	60.56	PK	113	1.0	H	23.6	4.32	35	53.48	74	20.52	spurious
4874	44.63	PK	276	2.2	H	33.8	6.45	33.4	51.48	74	22.52	harmonic
1080	36.18	AV	360	1.0	V	23.6	4.32	35	29.1	54	24.9	spurious
1600	52.98	PK	360	1.2	H	25.3	5.06	34.4	48.94	74	25.06	spurious
1080	34.55	AV	113	1.0	H	23.6	4.32	35	27.47	54	26.53	spurious

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Ant. Loss (dB)	Cable Loss (dB)	Amp. Gain (dB)	Correction Factor (dBμV/m)	FCC Part 15.247/15.209		
Frenquency (MHz)	Reading (dBμV/m)			Height (m)	Polar (H/V)					Limit (dBμV/m)	Margin (dB)	Comment
Frequency In High Channel												
2462	87.18	PK	96	1.6	H	28.9	7.22	34	89.3			fundamental
2462	76.72	AV	96	1.6	H	28.9	7.22	34	78.84			fundamental
2462	84.72	PK	60	1.76	V	29.1	7.22	34	87.04			fundamental
2462	74.08	AV	60	1.76	V	29.1	7.22	34	76.4			fundamental
2483.5	46.49	AV	170	1.04	V	29.1	7.01	34	48.6	54	5.40	spurious
2483.5	65.00	PK	170	1.04	V	29.1	7.01	34	67.11	74	6.89	spurious
4924	39.52	AV	350	1.62	V	33.5	6.45	33.4	46.07	54	7.93	harmonic
1600	45.28	AV	210	1.0	V	25.5	5.06	34.4	41.44	54	12.56	spurious
4924	54.70	PK	350	1.62	V	33.5	6.45	33.4	61.25	74	12.75	harmonic
2483.5	39.06	AV	125	1.0	H	28.9	7.01	34	40.97	54	13.03	spurious
1080	67.08	PK	0	1.0	V	23.6	4.32	35	60	74	14.00	spurious
2483.5	57.27	PK	125	1.0	H	28.9	7.01	34	59.18	74	14.82	spurious
4924	31.08	AV	68	1.53	H	33.8	6.45	33.4	37.93	54	16.07	harmonic
1600	41.83	AV	360	1.18	H	25.3	5.06	34.4	37.79	54	16.21	spurious
1600	58.23	PK	210	1.0	V	25.5	5.06	34.4	54.39	74	19.61	spurious
1080	60.78	PK	115	1.0	H	23.6	4.32	35	53.7	74	20.30	spurious
4924	45.02	PK	68	1.53	H	33.8	6.45	33.4	51.87	74	22.13	harmonic
1600	53.51	PK	360	1.18	H	25.3	5.06	34.4	49.47	74	24.53	spurious
1080	35.11	AV	0	1.0	V	23.6	4.32	35	28.03	54	25.97	spurious
1080	34.50	AV	115	1.0	H	23.6	4.32	35	27.42	54	26.58	spurious

§15.247(a) (2) – 6dB BANDWIDTH TESTING

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Data

* Please refer to FCC ID: RUJ-LR802UKG granted on 2007-05-25, report number: RF960323L04.

§15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Data

* Please refer to FCC ID: RUJ-LR802UKG granted on 2007-05-25, report number: RF960323L04.

§15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Data

* Please refer to FCC ID: RUJ-LR802UKG granted on 2007-05-25, report number: RF960323L04.

§15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Data

* Please refer to FCC ID: RUJ-LR802UKG granted on 2007-05-25, report number: RF960323L04.

******* END OF REPORT *******