FCC CFR47 PART 15 SUBPART B

DECLARATION OF CONFORMITY TEST REPORT

FOR

Broadcom Bluetooth Transceiver

MODEL NUMBER: BCM92046mPCIe_FLSH

REPORT NUMBER: 07U11433-7

ISSUE DATE: DECEMBER 12, 2007

Prepared for

BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086, U.S.A.

Prepared by

COMPLIANCE CERTIFICATION SERVICES
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	12/12/07	Initial Issue	H. Shih

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086, USA

EUT DESCRIPTION: Broadcom Bluetooth Transceiver

MODEL: BCM92046mPCIe_FLSH

SERIAL NUMBER: CN-0YP866-71617-0064

DATE TESTED: DECEMBER 10 - 11, 2007

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART B	No Non-Compliance Noted

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. 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 Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

HSIN FU SHIH
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:

DEVIN CHANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003.

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. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth transceiver.

The radio module is manufactured by Hong Fu Jin Precision Industry (Shenzhen) Co., Ltd.

5.2. PRELIMINARY TEST CONFIGURATIONS

The following configurations were investigated during preliminary testing:

EUT Configuration	Description
Minimum Configuration	The Notebook connect to printer, modem and USB Mouse

5.3. MODE(S) OF OPERATION

Mode	Description
EMI test	Scrolling H Pattern, Video Display on the screen.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing was EMI Test Software.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Printer	Microline 186	D22300A	AE5A048148A0	DoC
Laptop	HP	Pavilion dv6000	CNF6463KP7	DoC
AC Adapter	HP	0	0	0
Telephone Simulator	TelTone	TLS3	993	NA
Mouse	Logitech	90.00026.7730	HCA55002148	DoC

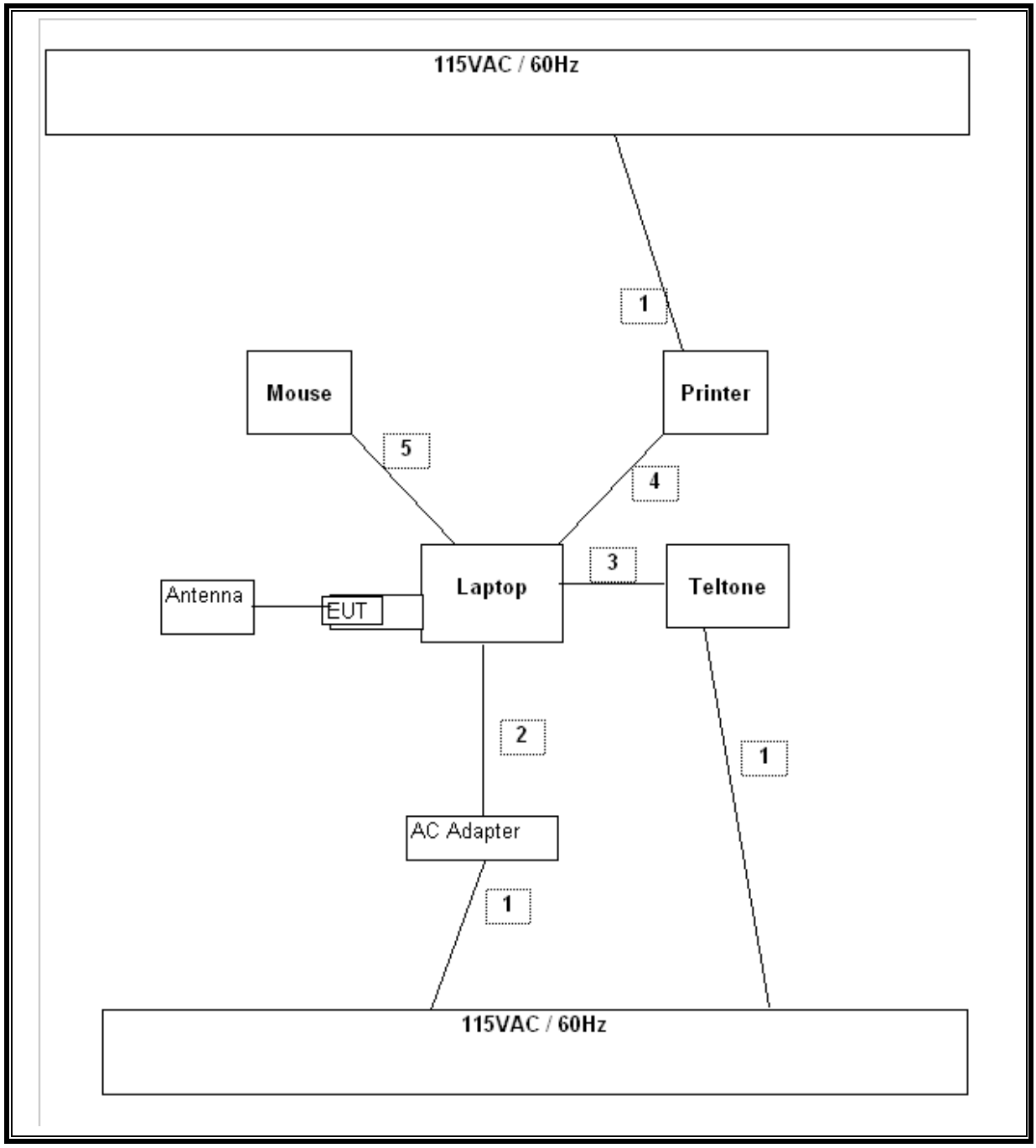
I/O CABLES

TEST I/O CABLES								
Cable No	**I/O Port**	**# of I/O Port**	**Connector Type**	**Type of Cable**	**Cable Length**	**Data Traffic**	**Bundled**	**Remark**
1	AC	3	US 115V	Un-shielded	2m	No	No	N/A
2	DC	1	DC	Un-shielded	2m	No	No	N/A
3	RJ11	1	TelTone	Un-shielded	2m	Yes	No	N/A
4	USB	1	Printer	Un-shielded	2m	Yes	Yes	N/A
5	USB	1	Mouse	Un-shielded	2m	Yes	No	N/A

TEST SETUP

The EUT is installed in a typical configuration. Test software exercised the EUT.

TEST SETUP DIAGRAM



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**Asset**	**Cal Date**	**Cal Due**
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	02/06/07	6/12/2008
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	02/06/07	6/12/2008
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	09/28/07	9/28/2008
Preamp, 1000MHz	Sonoma	310N	NA	01/20/07	1/20/2008
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	10/16/06	1/27/2008
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/25/07	10/25/2008
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	05/02/06	8/7/2008
Antenna, Horn, 18 GHz	EMCO	3115	C00945	04/15/07	4/15/2008
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	09/27/07	9/27/2008

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4

The highest clock frequency generated or used in the EUT is 2480 MHz, therefore the frequency range was investigated from 30 MHz to 1000 MHz.

LIMIT

§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dBµV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

RESULTS

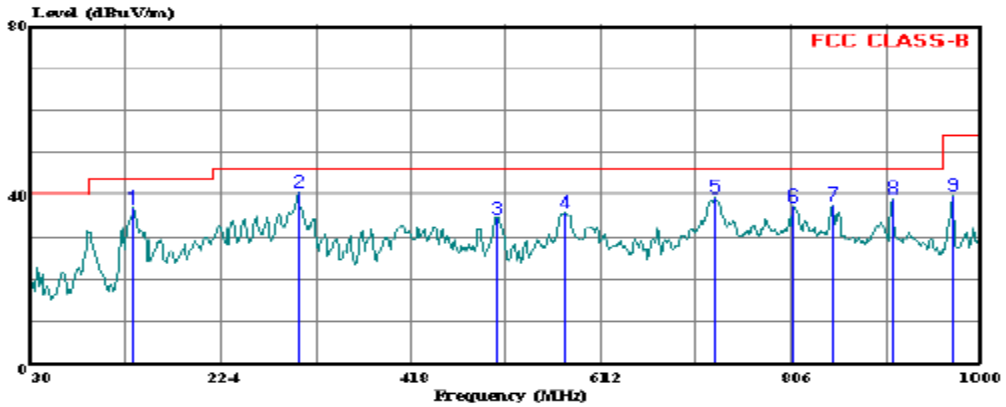
No non-compliance noted:

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT

Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 5 File#: 07u11433.EMI Date: 12-10-2007 Time: 17:32:46



Trace: 4 Ref Trace:

Condition: FCC CLASS-B HORIZONTAL
Test Operator: Chin Pang
Project # : 07U11433
Company : Broadcom
Config : EUT /Laptop/Basic Support Equipment
Model : BCM92046mPCIe_FLSH
Mode : Normal
Target : FCC Class B

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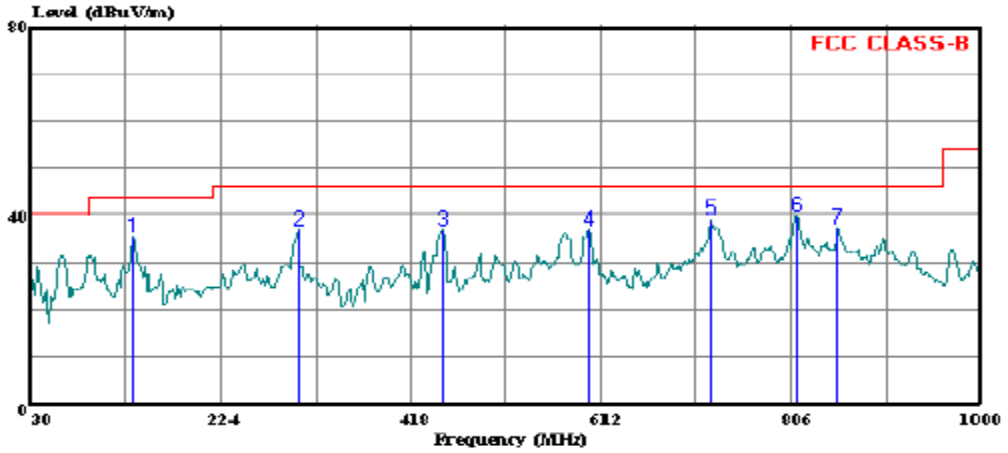
	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dB	dBuV/m	dB	
1	135.730	53.88	37.08	-16.80	43.50	-6.42	Peak
2	303.540	56.23	40.52	-15.71	46.00	-5.48	Peak
3	505.300	45.79	34.51	-11.28	46.00	-11.49	Peak
4	575.140	46.20	36.02	-10.18	46.00	-9.98	Peak
5	727.430	47.32	39.33	-8.00	46.00	-6.68	Peak
6	807.940	44.27	37.45	-6.82	46.00	-8.55	Peak
7	848.680	43.73	37.63	-6.10	46.00	-8.37	Peak
8	909.790	43.74	39.02	-4.72	46.00	-6.98	Peak
9	969.930	43.39	39.90	-3.49	54.00	-14.10	Peak

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT

Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 3 File#: 07u11433.EMI Date: 12-10-2007 Time: 17:26:57



Trace: 2 Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator: Chin Pang
Project # : 07U11433
Company : Broadcom
Config : EUT /Laptop/Basic Support Equipment
Model : BCM92046mPCIe_FLSH
Mode : Normal
Target : FCC Class B

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	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dB	dBuV/m	dB	
1	135.730	52.54	35.74	-16.80	43.50	-7.76	Peak
2	303.540	52.91	37.20	-15.71	46.00	-8.80	Peak
3	450.980	49.36	37.15	-12.21	46.00	-8.85	Peak
4	599.390	47.11	37.19	-9.92	46.00	-8.81	Peak
5	722.580	47.14	39.03	-8.11	46.00	-6.97	Peak
6	811.820	46.50	39.79	-6.71	46.00	-6.21	Peak
7	853.530	43.07	37.27	-5.80	46.00	-8.73	Peak

7.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4

LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

RESULTS

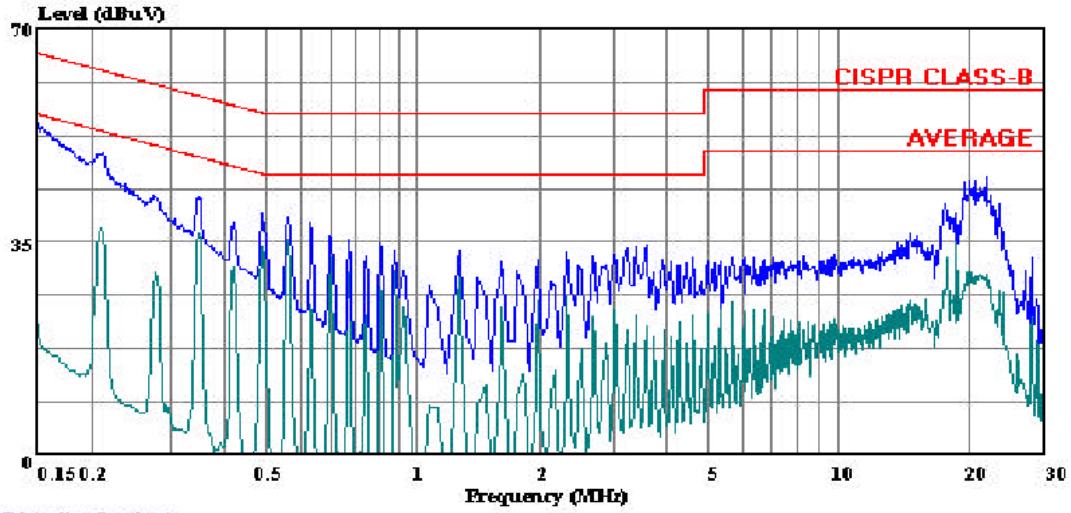
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.21	49.58	--	35.95	0.00	63.13	53.13	-13.55	-17.18	L1
0.56	39.00	--	35.18	0.00	56.00	46.00	-17.00	-10.82	L1
21.95	45.72	--	29.79	0.00	60.00	50.00	-14.28	-20.21	L1
0.21	48.98	--	34.39	0.00	63.41	53.41	-14.43	-19.02	L2
0.63	38.46	--	32.58	0.00	56.00	46.00	-17.54	-13.42	L2
20.81	42.94	--	27.09	0.00	60.00	50.00	-17.06	-22.91	L2
6 Worst Data									

LINE 1 RESULTS

Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 7 File#: 07U11433.EMI Date: 12-11-2007 Time: 09:49:32



(Line Conduction)

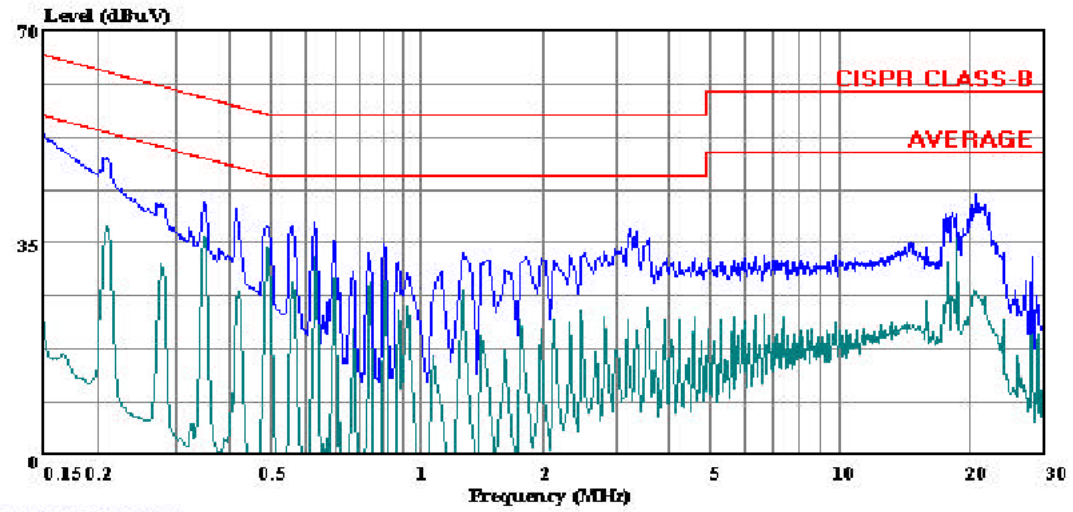
Trace: 5 Ref Trace:

Condition: CISPR CLASS-B
Test Operator:: Yobi Zhou
Project #: : 07U11433
Company: : Broadcom
Configuration:: EUT With Support Equipment
Mode: : Normal
Target: : FCC CLASS B
Voltage: : 115VAC/60Hz
: Line 1: Peak (Blue) ; Average (Green)

LINE 2 RESULTS

Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 14 File#: 07U11433.EMI Date: 12-11-2007 Time: 10:03:11



(Line Conduction)

Trace: 12 Ref Trace:

Condition: CISPR CLASS-B
Test Operator:: Yobi Zhou
Project #: : 07U11433
Company: : Broadcom
Configuration:: EUT With Support Equipment
Mode: : Normal
Target: : FCC CLASS B
Voltage: : 115VAC/60Hz
: Line 2: Peak (Blue) ; Average (Green)