FCC CFR47 PART 22 SUBPART H
CLASS II PERMISSIVE CHANGE
CERTIFICATION
TEST REPORT

FOR

3G WIRELESS MODULE

MODEL NUMBER: PA3494E-1HSD

FCC ID: CJ6UPA3494G3

REPORT NUMBER: 06U10591-1

ISSUE DATE: OCTOBER 4, 2006

Prepared for
TOSHIBA CORPORATION DIGITAL MEDIA NETWORK COMPANY
OME COMPLEX, 2-9, SUEHIRO-CHO
TOKYO, 198-8710, JAPAN

Prepared by
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Revision History

Rev.	Issue Date	Revisions	Revised By
--	10/04/06	Initial Issue	Thu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: TOSHIBA CORPORATION DIGITAL MEDIA NETWORK COMPANY
OME COMPLEX, 2-9, SUEHIRO-CHO
TOKYO, 198-8710, JAPAN

EUT DESCRIPTION: WIRELESS MODEM

MODEL: PA3494E-1HSD

SERIAL NUMBER: 36034592J

DATE TESTED: SEPTEMBER 15-18, 2006

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22 SUBPART H	NO NON-COMPLIANCE NOTED
FCC PART 24 SUBPART E	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: Tested By:

THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

CHIN PANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC CFR 47 Part 22H and 24E.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 850/1900 MHz dual-band transceiver module installed in the Toshiba Aspen laptop.

The radio module is manufactured by TOSHIBA.

The model number was changed after testing commenced. All data in this report is applicable to the model number documented in Section 1 above.

5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION

The major change filed under this application is:

Change #1 The subject approved module is being used in a different host.
Change #2 Additional antennas and antenna types are added
Change #3 Collocation with Bluetooth module.
Change #4 Collocation with Wireless LAN module.

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak radiated output power ERP as follows:

Part 22 (824 - 849MHz) & Part 24 (1850 - 1910MHz) Authorized Band:

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
824.2 - 848.8	GPRS	28.70	741.31
824.2 - 848.8	EGPRS	28.30	676.08

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
1850.20 - 1909.8	GPRS	30.10	1023.29
1850.20 - 1909.9	EGPRS	29.90	977.24

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5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a mono-pole antenna, with a maximum gain of -0.20dBi at the Cellular band and –1.46 dBi at the PCS band.

5.5. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

The test software used during Part 15B testing was EMCTest Program.

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 824.2MHz.on GPRS850 and 1880MHz on GPRS1900.

5.7. TEST CONFIGURATION FOR DIGITAL DEVICE

The following configuration was investigated during testing:

EUT Configuration	Description
Typical Configuration	EUT was connected to a Telephone Simulator, USB mouse, USB printer.

5.8. MODE(s) OF OPERATION

Mode	Description
EMC Test	All I/O ports activate with H' patterns scrolling on the screen display. Also radio card was exercised by transmitting a signal.

5.9. MODIFICATIONS

No modifications were made during testing.

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5.10. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Toshiba	PPM41E-AAAA1	36034592J	DoC
AC Adapter	Toshiba	PA3578E-2ACA	G71C00049510	NA

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	US 115V	Un-shielded	2m	NA
2	DC	1	DC	Un-shielded	2m	NA

TEST SETUP

The EUT is installed in the Laptop during tests. The EUT is linked with Agilent Communication Test Set

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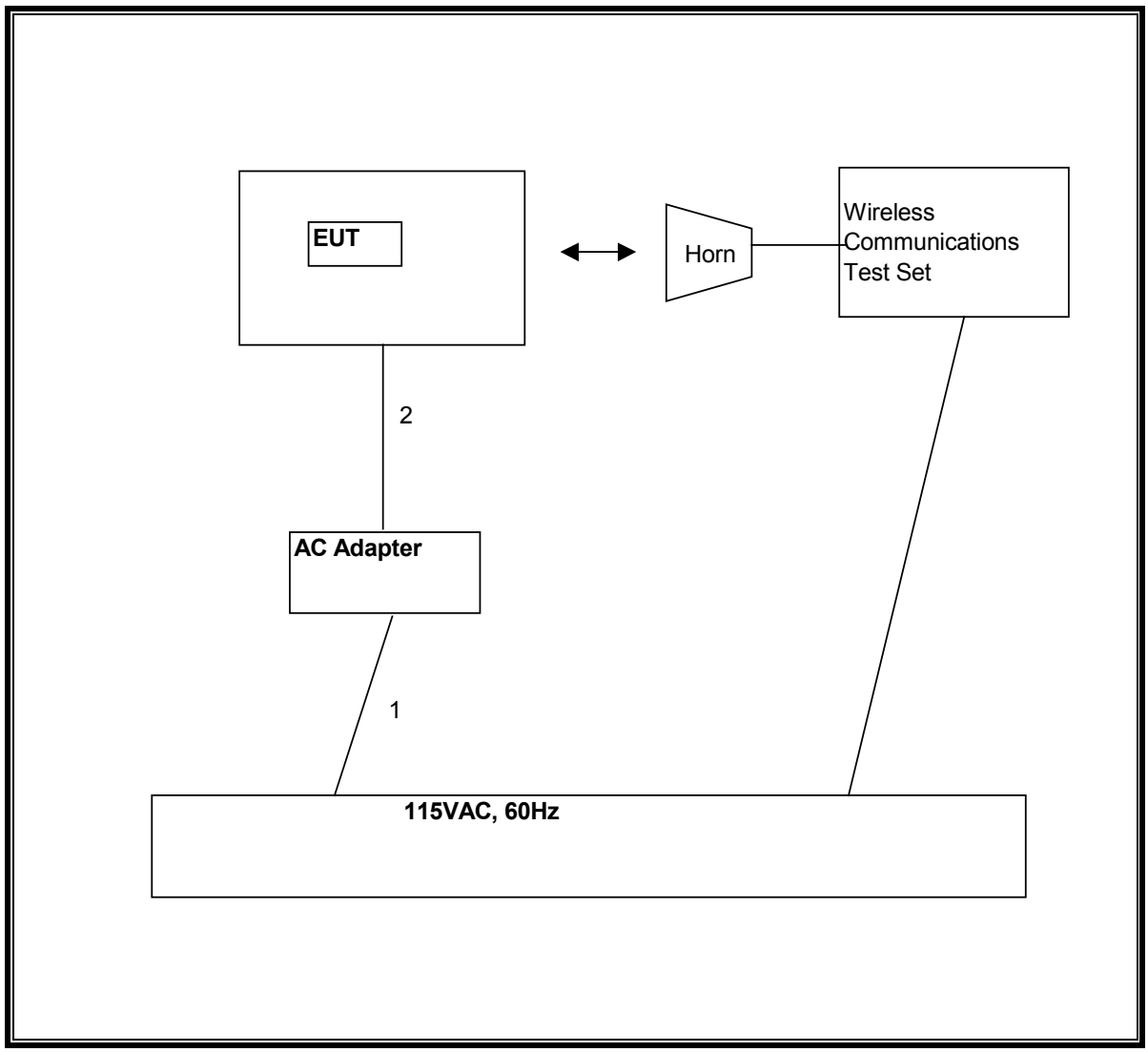
SETUP DIAGRAM FOR TESTS



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SETUP FOR DIGITAL DEVICE TESTS

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Media Reader	Belkin	F5U249	P10134	DoC
Monitor	LG	L1750S	512MXGL0B559	DoC
Printer	OKI DATA	Microline 186	AC5C018494A0	DoC
USB Mouse	Logitech	90.00026.7730	HCA55002166	DoC
Telephone Simulator	Teltone	TSL3	NA	NA
Headset	Sony	DR-220	1609	NA
Laptop	Toshiba	PPM41E-AAAA1	36034592J	DoC

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	US 115V	Un-shielded	2m	No
2	DC	1	DC	Un-shielded	2m	No
3	Video	1	DB15	Shielded	2m	Yes
4	USB	1	Mouse	Un-shielded	2m	Yes
5	Din	1	Headset	Un-shielded	2m	Yes
6	USB	1	Reader	Un-shielded	2m	Yes
7	USB	1	Printer	Un-shielded	2m	Yes
8	RJ11	1	Telephone	Un-shielded	5m	No
9	Ethernet	1	RJ45	Shielded	30m	Yes

TEST SETUP

The EUT module is installed in the host laptop with a typical configuration. Test software exercised the radio card and activated all I/O ports

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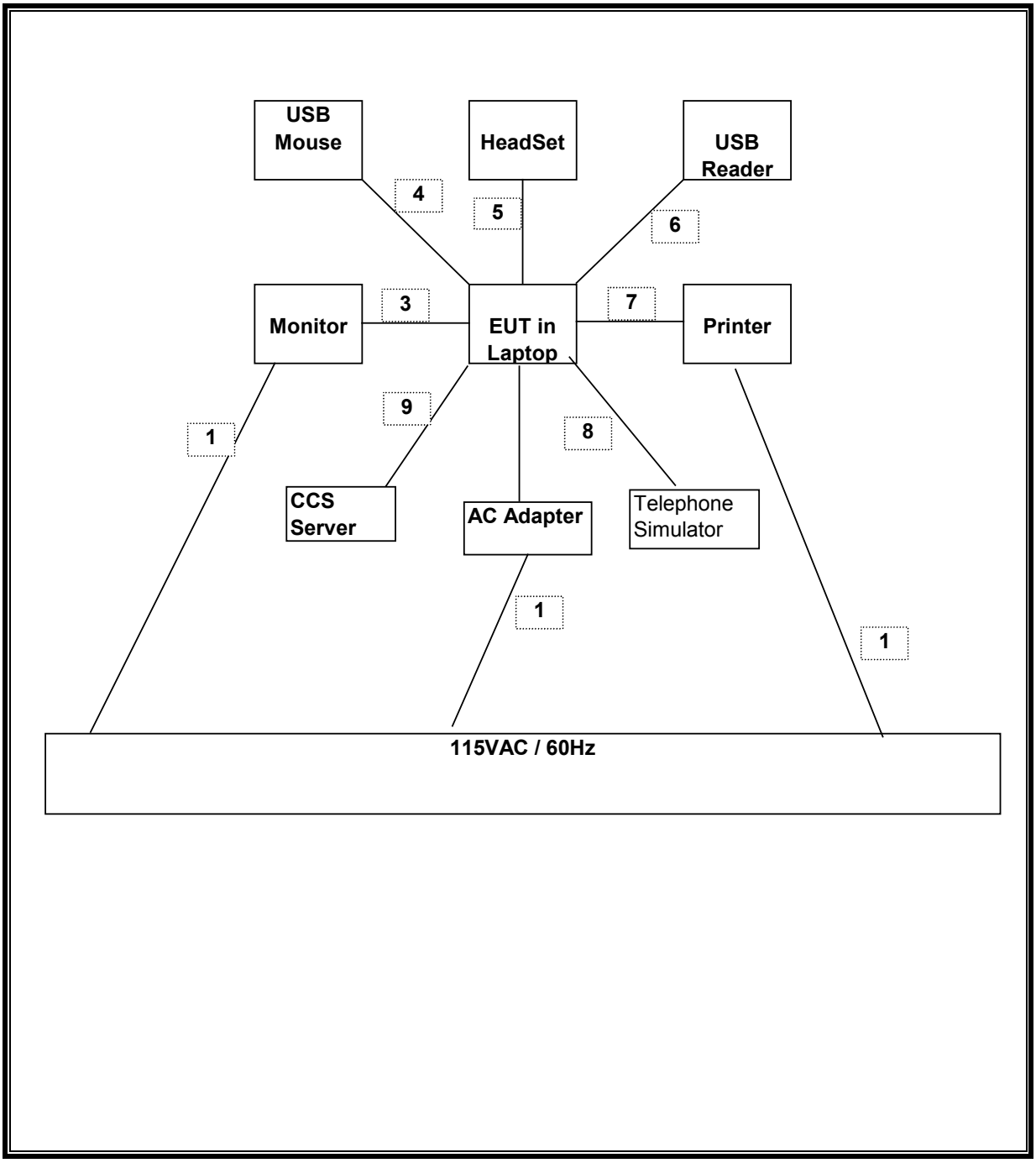
SETUP DIAGRAM FOR DIGITAL DEVICE TESTS



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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**	**Serial Number**	**Cal Due**
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	8/13/07
Preamplifier, 1300 MHz	HP	8447D	1937A02062	1/7/07
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	9/15/07
Preamplifier, 1 ~ 26.5 GHz	HP	8449B	3008A00369	8/11/07
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	MY43360112	5/3/07
Dipole	EMCO	3121C-DB2	22435	5/7/07
Signal Generator, 1024 MHz	R & S	SMY01	DE 12311	04/11/07
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	04/22/07
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	04/22/07
Signal Generator, 10 MHz ~ 20 GHz	Agilent / HP	83732B	US34490599	5/8/08

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7. LIMITS AND RESULTS

7.1. RADIATED RF POWER OUTPUT

LIMIT

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17
The transmitter output is connected to the spectrum analyzer.

RESULTS

No non-compliance noted.

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GPRS850 Output Power (ERP)

Cellular Fundamental Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9-16-2006
Test Engineer:Chin Pang
Configuration:Worst case Config
Mode:GPRS850

Test Equipment:
Receiving: EMCO LP T17, and 12 ft Chin SMA Cable (Setup this one for testing EUT)
Substitution: Dipole ETS S/N: 1629, and 6ft SMA Cable Warehouse S/N: 208947 002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
824.70	103.9	V	29.3	0.6	0.0	28.7	38.5	-9.7	
824.70	99.3	H	24.7	0.6	0.0	24.1	38.5	-14.3	
Mid Ch									
836.52	102.6	V	28.0	0.6	0.0	27.4	38.5	-11.0	
836.52	100.0	H	25.5	0.6	0.0	24.9	38.5	-13.5	
High Ch									
848.31	102.5	V	27.9	0.7	0.0	27.2	38.5	-11.2	
848.31	99.0	H	24.4	0.7	0.0	23.7	38.5	-14.7	

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EGPRS850 Output Power (ERP)

Cellular Fundamental Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9-16-2006
Test Engineer:Chin Pang
Configuration:Worst case Config
Mode:EGPRS850

Test Equipment:
Receiving: EMCO LP T17, and 12 ft Chin SMA Cable (Setup this one for testing EUT)
Substitution: Dipole ETS S/N: 1629, and 6ft SMA Cable Warehouse S/N: 208947 002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
824.20	103.5	V	28.9	0.6	0.0	28.3	38.5	-10.1	
824.20	98.7	H	24.1	0.6	0.0	23.5	38.5	-14.9	
Mid Channel									
836.52	102.2	V	27.6	0.6	0.0	27.0	38.5	-11.4	
836.52	97.5	H	23.0	0.6	0.0	22.4	38.5	-16.0	
High Ch.									
848.80	101.3	V	26.7	0.7	0.0	26.0	38.5	-12.4	
848.31	98.0	H	23.4	0.7	0.0	22.7	38.5	-15.7	

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GPRS1900 Output Power (EIRP)

PCS Fundamental Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9-16-2006
Test Engineer:Chin Pang
Configuration:Worst case Config
Mode:GPRS1900

Test Equipment:
Receiving: Horn T59, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Worst Case									
Low Channel									
1.850	95.0	V	21.0	0.9	8.3	28.4	33.0	-4.6	
1.850	91.5	H	15.5	0.9	8.3	22.9	33.0	-10.1	
Mid Channel									
1.880	95.8	V	22.7	0.9	8.3	30.1	33.0	-2.9	
1.880	92.3	H	17.5	0.9	8.3	24.9	33.0	-8.1	
High Channel									
1.910	95.4	V	22.1	0.9	8.4	29.6	33.0	-3.4	
1.910	92.0	H	16.9	0.9	8.4	24.4	33.0	-8.6	

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EGPRS1900 Output Power (EIRP)

PCS Fundamental Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9-16-2006
Test Engineer:Chin Pang
Configuration:Worst case Config
Mode:EGPRS1900

Test Equipment:
Receiving: Horn T59, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Worst Case									
Low Channel									
1.850	94.8	V	20.8	0.9	8.3	28.2	33.0	-4.8	
1.850	92.3	H	16.3	0.9	8.3	23.7	33.0	-9.3	
Mid Channel									
1.880	95.6	V	22.5	0.9	8.3	29.9	33.0	-3.1	
1.880	92.5	H	17.7	0.9	8.3	25.1	33.0	-7.9	
High Channel									
1.910	95.4	V	22.1	0.9	8.4	29.6	33.0	-3.4	
1.910	92.0	H	16.9	0.9	8.4	24.4	33.0	-8.6	

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7.2. FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

§22.917 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

§24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b)

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 24.238 (b)

LTS

No non-compliance noted.

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GPRS850 Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9/17/2006
Test Engineer:Chin Pang
Configuration:EUT inside the Laptop
Mode:GPRS850

Test Equipment:
Receiving: Horn T59, Pre-amp T34, Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (824.7MHz)									
1.649	60.6	V	-52.7	0.8	4.9	-48.6	-13.0	-35.6	
2.474	57.4	V	-53.0	1.0	7.1	-46.8	-13.0	-33.8	
3.299	47.6	V	-57.9	1.2	7.3	-51.8	-13.0	-38.8	
1.649	64.5	H	-49.8	0.8	4.9	-45.7	-13.0	-32.7	
2.474	62.5	H	-48.2	1.0	7.1	-42.0	-13.0	-29.0	
3.299	49.3	H	-58.1	1.2	7.3	-52.0	-13.0	-39.0	
Mid Channel (836.52MHz)									
1.673	58.0	V	-55.1	0.8	5.0	-50.9	-13.0	-37.9	
2.510	52.0	V	-57.4	1.0	7.1	-51.3	-13.0	-38.3	
3.346	46.0	V	-60.8	1.2	7.3	-54.6	-13.0	-41.6	
1.673	61.0	H	-53.2	0.8	5.0	-49.0	-13.0	-36.0	
2.510	56.0	H	-55.0	1.0	7.1	-48.9	-13.0	-35.9	
3.346	47.3	H	-60.3	1.2	7.3	-54.1	-13.0	-41.1	
High Channel (848.31MHz)									
1.697	57.0	V	-55.9	0.8	5.1	-51.6	-13.0	-38.6	
2.545	54.3	V	-54.5	1.0	7.1	-48.3	-13.0	-35.3	
3.393	45.7	V	-60.8	1.2	7.4	-54.6	-13.0	-41.6	
1.697	59.0	H	-54.7	0.8	5.1	-50.4	-13.0	-37.4	
2.545	58.5	H	-52.8	1.0	7.1	-46.7	-13.0	-33.7	
3.393	47.0	H	-60.6	1.2	7.4	-54.4	-13.0	-41.4	

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

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EGPRS850 Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9/17/2006
Test Engineer:Chin Pang
Configuration:EUT inside the Laptop
Mode:EGPRS850

Test Equipment:
Receiving: Horn T59, Pre-amp T34, Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (824.7MHz)									
1.649	60.0	V	-53.3	0.8	4.9	-49.2	-13.0	-36.2	
2.474	57.0	V	-53.4	1.0	7.1	-47.2	-13.0	-34.2	
3.299	48.0	V	-57.5	1.2	7.3	-51.4	-13.0	-38.4	
1.649	65.0	H	-49.3	0.8	4.9	-45.2	-13.0	-32.2	
2.474	62.8	H	-47.9	1.0	7.1	-41.7	-13.0	-28.7	
3.299	50.0	H	-57.4	1.2	7.3	-51.3	-13.0	-38.3	
Mid Channel (836.52MHz)									
1.673	59.6	V	-53.5	0.8	5.0	-49.3	-13.0	-36.3	
2.510	54.8	V	-54.6	1.0	7.1	-48.5	-13.0	-35.5	
3.346	46.8	V	-60.0	1.2	7.3	-53.8	-13.0	-40.8	
1.673	63.0	H	-51.2	0.8	5.0	-47.0	-13.0	-34.0	
2.510	58.5	H	-52.5	1.0	7.1	-46.4	-13.0	-33.4	
3.346	48.3	H	-59.3	1.2	7.3	-53.1	-13.0	-40.1	
High Channel (848.31MHz)									
1.697	58.0	V	-54.9	0.8	5.1	-50.6	-13.0	-37.6	
2.545	54.0	V	-54.8	1.0	7.1	-48.6	-13.0	-35.6	
3.393	46.5	V	-60.0	1.2	7.4	-53.8	-13.0	-40.8	
1.697	60.0	H	-53.7	0.8	5.1	-49.4	-13.0	-36.4	
2.545	59.6	H	-51.7	1.0	7.1	-45.6	-13.0	-32.6	
3.393	48.0	H	-59.6	1.2	7.4	-53.4	-13.0	-40.4	

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

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GPRS1900 Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9/17/2006
Test Engineer:Chin Pang
Configuration:EUT Inside the Laptop
Mode:TX, GPRS1900

Test Equipment:
Receiving: Horn T59, Pre-amp T34, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (1851.25MHz)									
3.703	60.0	V	-45.0	1.2	9.7	-36.6	-13.0	-23.6	
5.554	62.0	V	-40.5	1.6	11.0	-31.1	-13.0	-18.1	
7.405	47.5	V	-52.1	1.9	12.0	-42.0	-13.0	-29.0	
3.703	55.6	H	-50.9	1.2	9.7	-42.5	-13.0	-29.5	
5.554	58.7	H	-43.3	1.6	11.0	-33.9	-13.0	-20.9	
7.405	45.0	H	-53.7	1.9	12.0	-43.6	-13.0	-30.6	
Mid Channel (1880MHz)									
3.760	58.5	V	-46.0	1.3	9.7	-37.6	-13.0	-24.6	
5.640	62.0	V	-40.8	1.7	11.2	-31.3	-13.0	-18.3	
7.520	47.4	V	-53.0	1.9	12.0	-42.9	-13.0	-29.9	
3.760	55.0	H	-51.1	1.3	9.7	-42.6	-13.0	-29.6	
5.640	53.0	H	-48.9	1.7	11.2	-39.4	-13.0	-26.4	
7.520	45.0	H	-54.1	1.9	12.0	-44.0	-13.0	-31.0	
High Channel (1908.75MHz)									
3.818	58.0	V	-46.2	1.3	9.7	-37.8	-13.0	-24.8	
5.726	56.6	V	-45.9	1.7	11.3	-36.3	-13.0	-23.3	
7.635	44.7	V	-55.3	1.9	12.0	-45.1	-13.0	-32.1	
3.818	56.3	H	-49.1	1.3	9.7	-40.6	-13.0	-27.6	
5.726	54.0	H	-48.2	1.7	11.3	-38.6	-13.0	-25.6	
7.635	44.0	H	-54.9	1.9	12.0	-44.8	-13.0	-31.8	

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

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EGPRS1900 Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement
Compliance Certification Services, Morgan Hill Immunity Chamber

Company:Toshiba
Project #:06U10591
Date:9/17/2006
Test Engineer:Chin Pang
Configuration:EUT Inside the Laptop
Mode:TX, EGPRS1900

Test Equipment:
Receiving: Horn T59, Pre-amp T34, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (1851.25MHz)									
3.703	59.0	V	-46.0	1.2	9.7	-37.6	-13.0	-24.6	
5.554	60.3	V	-42.2	1.6	11.0	-32.8	-13.0	-19.8	
7.405	46.7	V	-52.9	1.9	12.0	-42.8	-13.0	-29.8	
3.703	56.0	H	-50.5	1.2	9.7	-42.1	-13.0	-29.1	
5.554	59.2	H	-42.8	1.6	11.0	-33.4	-13.0	-20.4	
7.405	45.5	H	-53.2	1.9	12.0	-43.1	-13.0	-30.1	
Mid Channel (1880MHz)									
3.760	58.0	V	-46.5	1.3	9.7	-38.1	-13.0	-25.1	
5.640	60.5	V	-42.3	1.7	11.2	-32.8	-13.0	-19.8	
7.520	48.0	V	-52.4	1.9	12.0	-42.3	-13.0	-29.3	
3.760	57.0	H	-49.1	1.3	9.7	-40.6	-13.0	-27.6	
5.640	53.7	H	-48.2	1.7	11.2	-38.7	-13.0	-25.7	
7.520	46.0	H	-53.1	1.9	12.0	-43.0	-13.0	-30.0	
High Channel (1908.75MHz)									
3.818	58.5	V	-45.7	1.3	9.7	-37.3	-13.0	-24.3	
5.726	59.0	V	-43.5	1.7	11.3	-33.9	-13.0	-20.9	
7.635	45.0	V	-55.0	1.9	12.0	-44.8	-13.0	-31.8	
3.818	55.0	H	-50.4	1.3	9.7	-41.9	-13.0	-28.9	
5.726	53.0	H	-49.2	1.7	11.3	-39.6	-13.0	-26.6	
7.635	44.7	H	-54.2	1.9	12.0	-44.1	-13.0	-31.1	

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

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7.3. RADIATED EMISSIONS FOR DIGITAL DEVICE

TEST PROCEDURE

ANSI C63.4

The highest clock frequency generated or used in the EUT is 2.16 GHz, therefore the frequency range was investigated from 30 MHz to 12 GHz.

CLASS B LIMITS

§15.107 (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:

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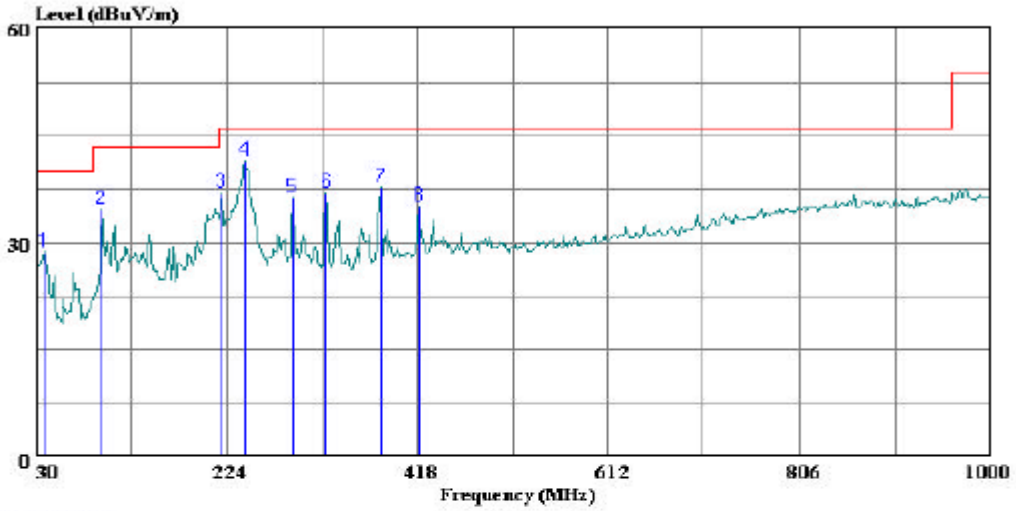
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 2 File#: Toshiba EMI.EMI Date: 09-17-2006 Time: 08:46:13



(Audix ATC)
Trace: 1 Ref Trace:

Condition: FCC CLASS-B HORIZONTAL
Test Operator : Chin Pang
Company : Toshiba
Project # : 06U10591-1
Configuration : EUT/Support Equipment
Mode of Operation: Run EMC program+ Pinging
Model : PA3494E-1

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	37.760	11.75	16.83	28.57	40.00	-11.43	Peak
2	96.930	24.12	10.58	34.70	43.50	-8.80	Peak
3	218.180	24.44	12.51	36.95	46.00	-9.05	Peak
4	242.430	27.95	13.63	41.58	46.00	-4.42	Peak
5	290.930	21.05	15.33	36.38	46.00	-9.62	Peak
6	324.880	20.77	16.28	37.05	46.00	-8.95	Peak
7	381.140	20.15	17.62	37.77	46.00	-8.23	Peak
8	419.940	16.51	18.51	35.02	46.00	-10.98	Peak

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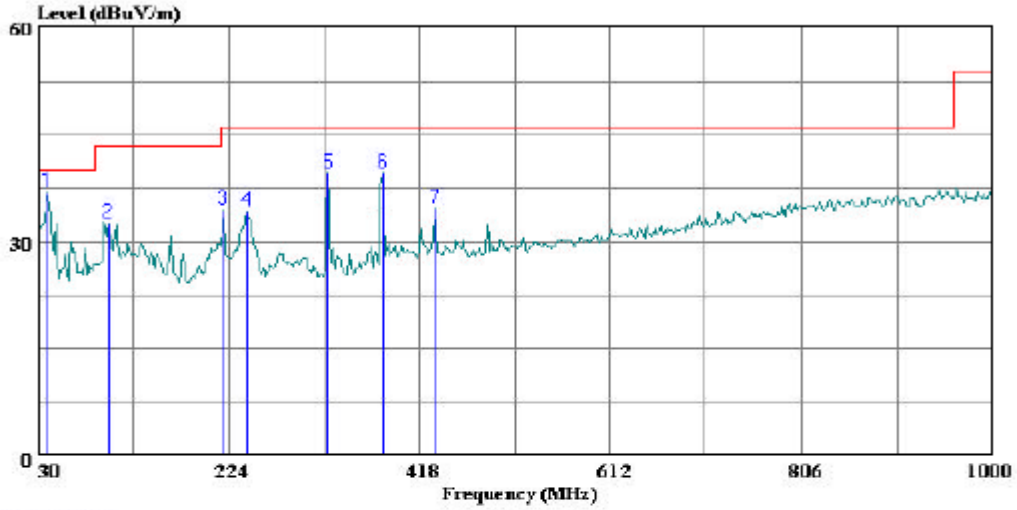
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 4 File#: Toshiba EMI.EMI Date: 09-17-2006 Time: 08:49:48



(Audix ATC)
Trace: 3 Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator : Chin Pang
Company : Toshiba
Project #: : 06U10591-1
Configuration: : EUT/Support Equipment
Mode of Operation: Run EMC program+ Pinging
Model : PA3494E-1

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	38.730	20.93	16.12	37.05	40.00	-2.95	Peak
2	101.780	20.86	11.77	32.63	43.50	-10.87	Peak
3	218.180	22.06	12.51	34.57	46.00	-11.43	Peak
4	242.430	20.71	13.63	34.34	46.00	-11.66	Peak
5	324.880	23.45	16.28	39.73	46.00	-6.27	Peak
6	381.140	22.07	17.62	39.69	46.00	-6.31	Peak
7	434.490	15.85	18.84	34.69	46.00	-11.31	Peak

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7.4. POWERLINE CONDUCTED EMISSIONS

LIMIT

§15.107 (a) (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 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

ANSI C63.4

RESULTS

No non-compliance noted:

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6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit		Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.16	45.22	--	--	0.00	65.62	55.62	-20.40	-10.40	L1
6.35	39.66	--	--	0.00	60.00	50.00	-20.34	-10.34	L1
16.57	41.42	--	--	0.00	60.00	50.00	-18.58	-8.58	L1
0.15	47.24	--	--	0.00	65.84	55.84	-18.60	-8.60	L2
4.80	34.78	--	--	0.00	56.00	46.00	-21.22	-11.22	L2
16.14	39.94	--	--	0.00	60.00	50.00	-20.06	-10.06	L2
6 Worst Data									

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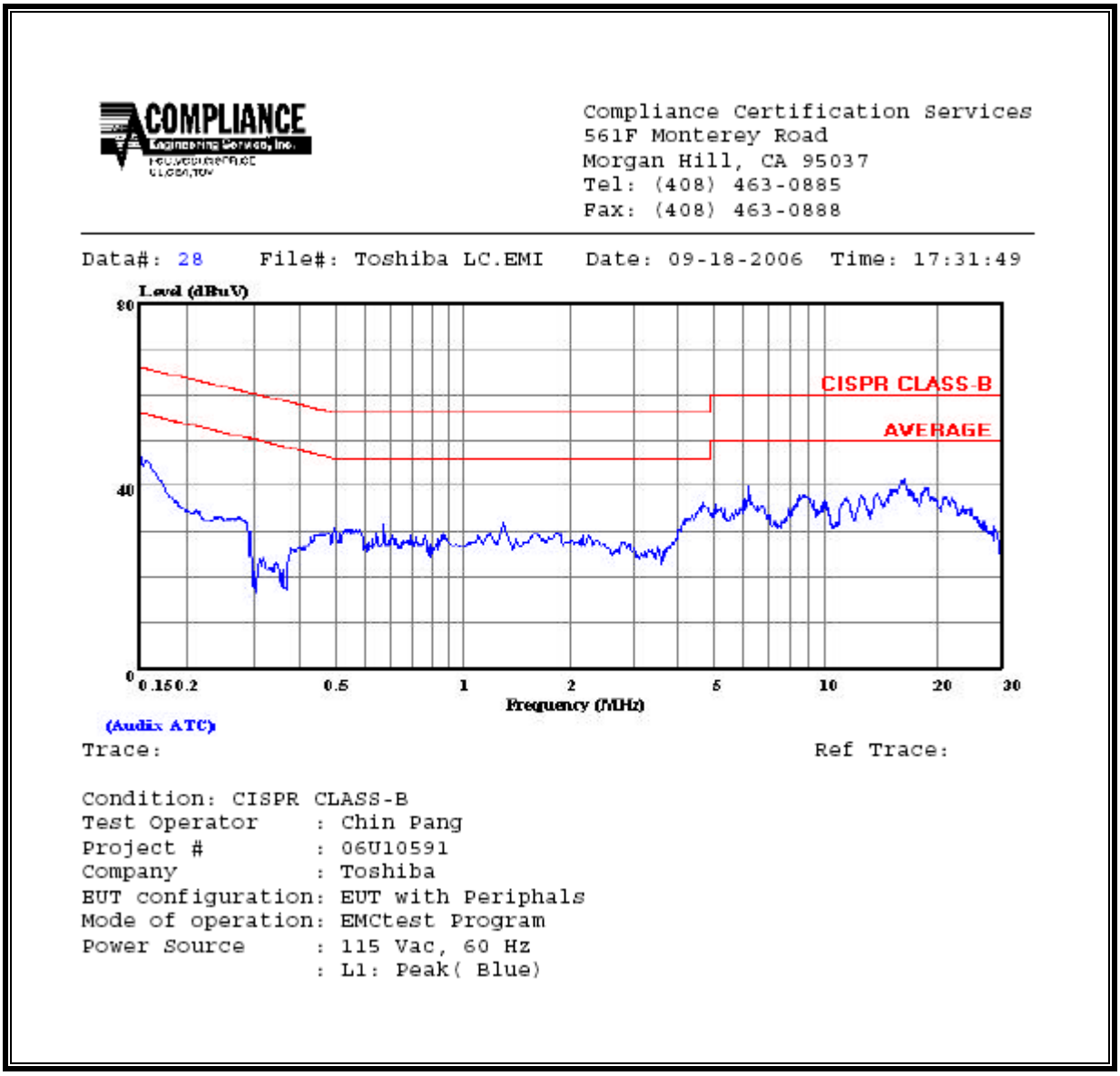
LINE 1 RESULTS



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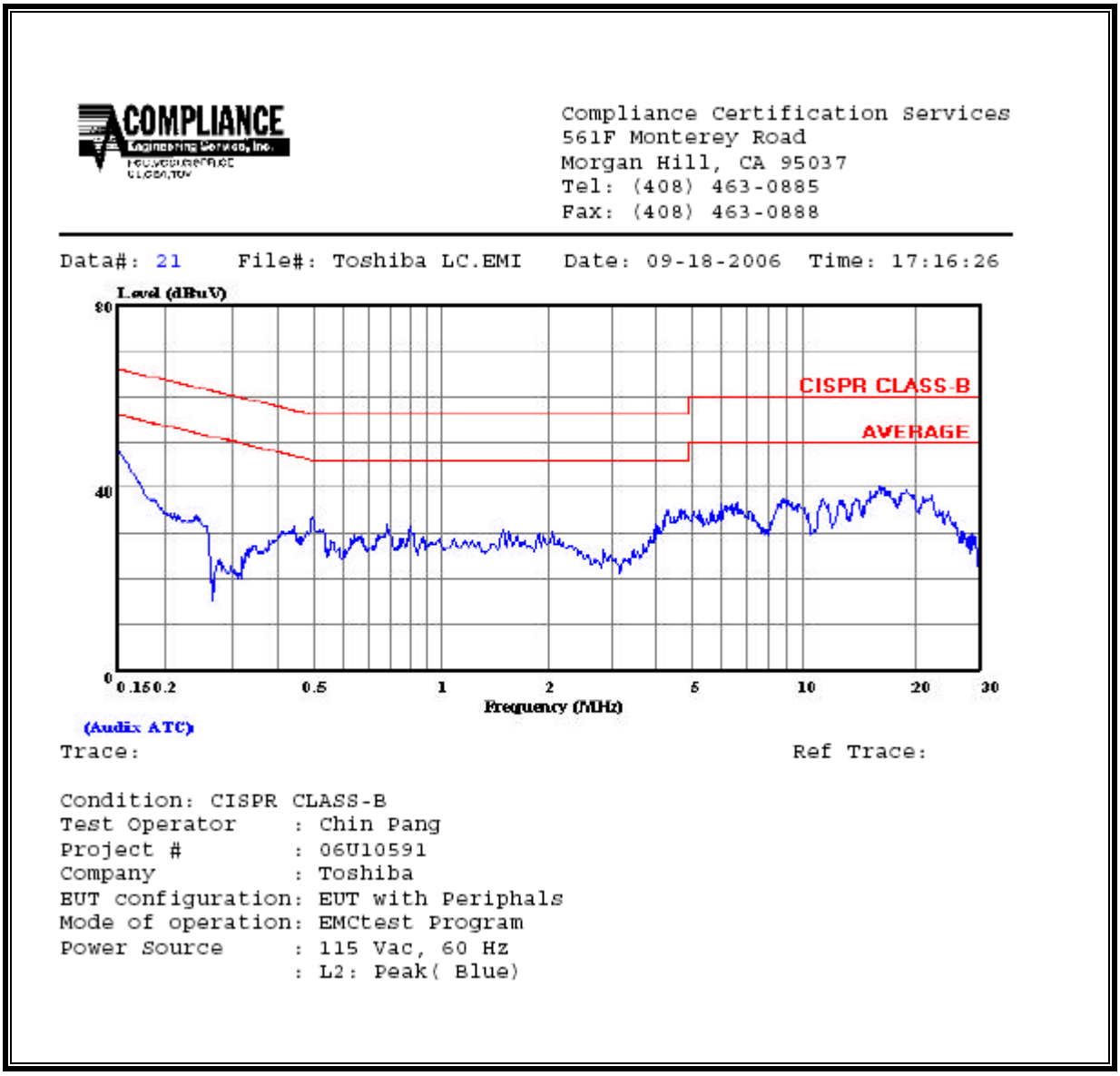
LINE 2 RESULTS



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