

# Universal Electronics Inc.

## TPMC-4XG

May 01, 2008

Report No. UEIC0002

Report Prepared By



[www.nwemc.com](http://www.nwemc.com)  
1-888-EMI-CERT

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EMC Test Report



22975 NW Evergreen Parkway  
Suite 400  
Hillsboro, Oregon 97124

**Certificate of Test**  
**Issue Date: May 01, 2008**  
**Universal Electronics Inc.**  
**Model: TPMC-4XG**

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	Pass
AC Power Line Conducted Emissions	FCC 15.209:2007	ANSI C63.4:2003	Pass

**Modifications made to the product**

**See the Modifications section of this report**

**Test Facility**

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.  
41 Tesla Ave.  
Irvine, CA 92618

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site Filing #2834B).

**Approved By:**

Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200676-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.*

*Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.*

Revision Number	Description	Date	Page Number
00	None		

**FCC:** Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



**NVLAP:** Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0  
NVLAP LAB CODE 200630-0  
NVLAP LAB CODE 200676-0  
NVLAP LAB CODE 200761-0

**Industry Canada:** Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.



**CAB:** Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



**TÜV Product Service:** Included in TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories, available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0604C.



**TÜV Rheinland:** Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



**NEMKO:** Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



**Australia/New Zealand:** The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



**VCCI:** Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294.*)



**BSMI:** Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement. License No.SL2-IN-E-1017.



**GOST:** Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



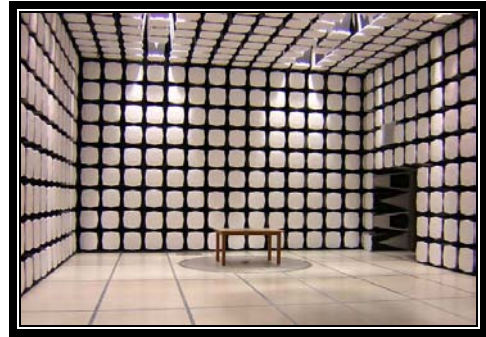
**MIC:** Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



## SCOPE

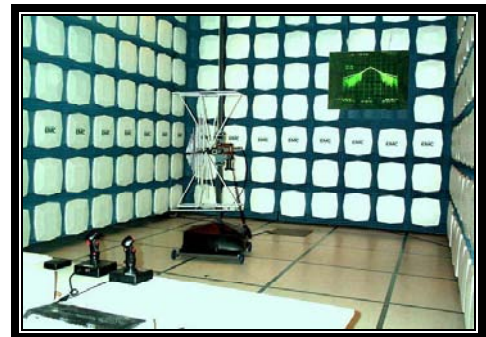
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/scope.asp>



**California – Orange County Facility  
Labs OC01 – OC13**

41 Tesla Ave. Irvine, CA 92618  
(888) 364-2378 Fax: (503) 844-3826



**Oregon – Evergreen Facility  
Labs EV01 – EV11**

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124  
(503) 844-4066 Fax: (503) 844-3826



**Washington – Sultan Facility  
Labs SU01 – SU07**

14128 339<sup>th</sup> Ave. SE Sultan, WA 98294  
(888) 364-2378

**Party Requesting the Test**

<b>Company Name:</b>	Universal Electronics Inc.
<b>Address:</b>	6101 Gateway Way
<b>City, State, Zip:</b>	Cypress, CA 90630
<b>Test Requested By:</b>	Graham Williams
<b>Model:</b>	TPMC-4XG
<b>First Date of Test:</b>	April 26, 2008
<b>Last Date of Test:</b>	April 28, 2008
<b>Receipt Date of Samples:</b>	April 26, 2008
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

**Information Provided by the Party Requesting the Test****Functional Description of the EUT (Equipment Under Test):**

Universal controller for use in home theaters. Contains an 802.11b/g radio

**Testing Objective:**

Seeking TCB certification under 15.247.

**CONFIGURATION 1 UEIC0002**

Software/Firmware Running during test	
Description	Version
Windows CE	5.0

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT	Universal Electronics	TPMC-4XG	0000010

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB	Yes	0.5m	No	Remote Control Unit #8	Unterminated
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

**CONFIGURATION 2 UEIC0002**

Software/Firmware Running during test	
Description	Version
Windows CE	5.0

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT	Universal Electronics	TPMC-4XG	0000010

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Charging Dock	Crestron	TPMC-4XG-DS	None
AC Power Adaptor	Crestron	SCP0501200P	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	No	1.9m	No	AC Power Adaptor	Charging Dock
USB	Yes	0.5m	No	Remote Control Unit #8	Unterminated
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					



Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	4/26/2008	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	4/28/2008	AC Power Line Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

**MODES OF OPERATION**

Continuous Tx, High channel  
Continuous Tx, Mid channel  
Continuous Tx, Low channel

**POWER SETTINGS INVESTIGATED**

Internal Battery  
120V/60Hz to Charging Dock

**CONFIGURATIONS INVESTIGATED**

UEIC0002 - 1  
UEIC0002 - 2

**DATA RATES INVESTIGATED**

1 MBpS  
6 MBpS  
11 MBpS  
36 MBpS  
54 MBpS

**FREQUENCY RANGE INVESTIGATED**

Start Frequency 30MHz Stop Frequency 26000MHz

**CLOCKS AND OSCILLATORS**

2.4GHz Radio

**SAMPLE CALCULATIONS**

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

**TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	12/14/2007	13
High Pass Filter	Micro-Tronics	HPM50111	HFM	1/7/2008	13
OC10 SMA cable for 18026 GHz			OCK	3/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	3/3/2008	13
Antenna, Horn	EMCO	3160-09	AHN	NCR	0
OC 10 Cables a, b, c, l Cables			OCO	2/2/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	10/13/2006	24
Antenna, Horn	ETS	3160-08	AHT	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	10/13/2006	24
Antenna, Horn	ETS	3160-07	AHR	NCR	0
OC10 cables a,b,c,e,f Horn Cables			OCJ	2/2/2008	13
Pre-Amplifier	Miteq	AMF-4D-010120-30-10P-1	AOP	2/2/2008	13
Antenna, Horn	ETS	3117	AHQ	6/29/2006	24
OC10 cables a,b,c,d Bilog			OCH	1/7/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AOM	1/7/2008	13
Antenna, Biconilog	EMCO	3142	AXJ	2/25/2008	24

**MEASUREMENT BANDWIDTHS**

Frequency Range	Peak Data	Quasi-Peak Data	Average Data
(MHz)	(kHz)	(kHz)	(kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

**MEASUREMENT UNCERTAINTY**

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

**TEST DESCRIPTION**

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

## RADIATED SPURIOUS EMISSIONS DATA SHEET

EUT:	TPMC-4XG	Work Order:	UEIC0002
Serial Number:	0000010	Date:	04/26/08
Customer:	Universal Electronics Inc.	Temperature:	22.1°C
Attendees:	None	Humidity:	30%
Project:	None	Barometric Pres.:	1015.5mb
Tested by:	Dan Haas	Power:	Internal Battery
		Job Site:	OC10

## TEST SPECIFICATIONS

FCC 15.247 (DTS):2007

## Test Method

ANSI C63.4:2003 KDB No. 558074

## TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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## COMMENTS

EUT flat on turntable.

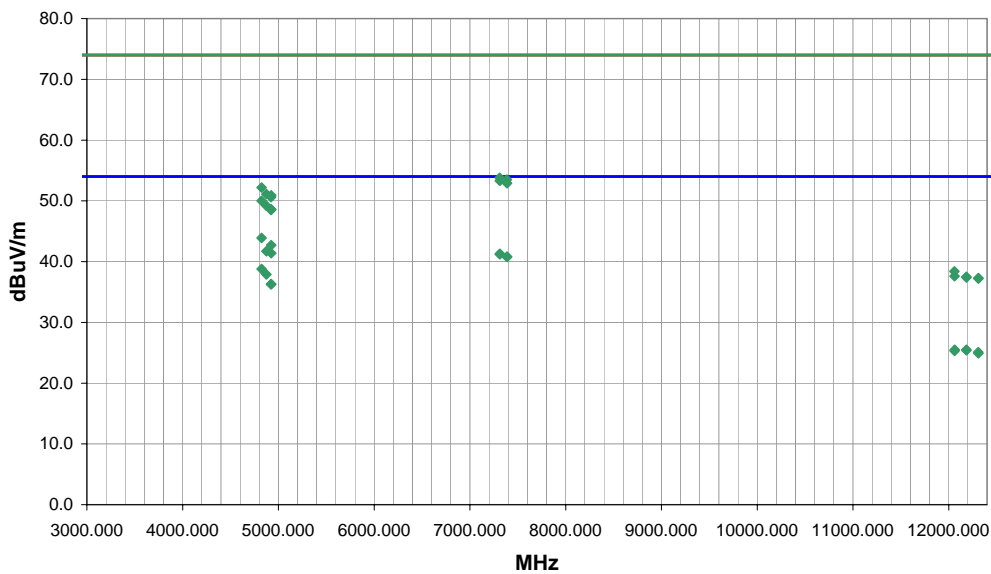
## EUT OPERATING MODES

Continuous Tx


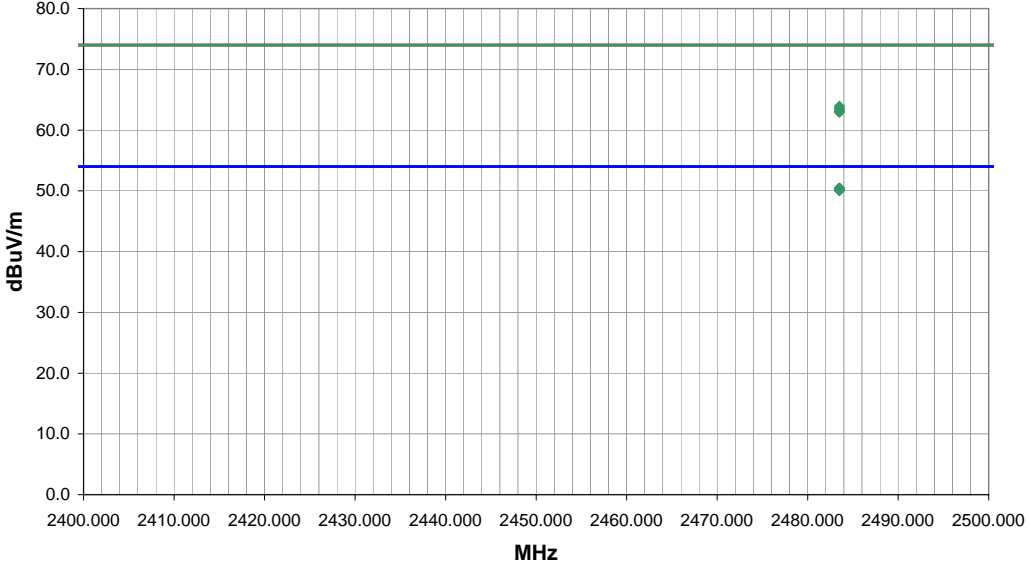
## DEVIATIONS FROM TEST STANDARD


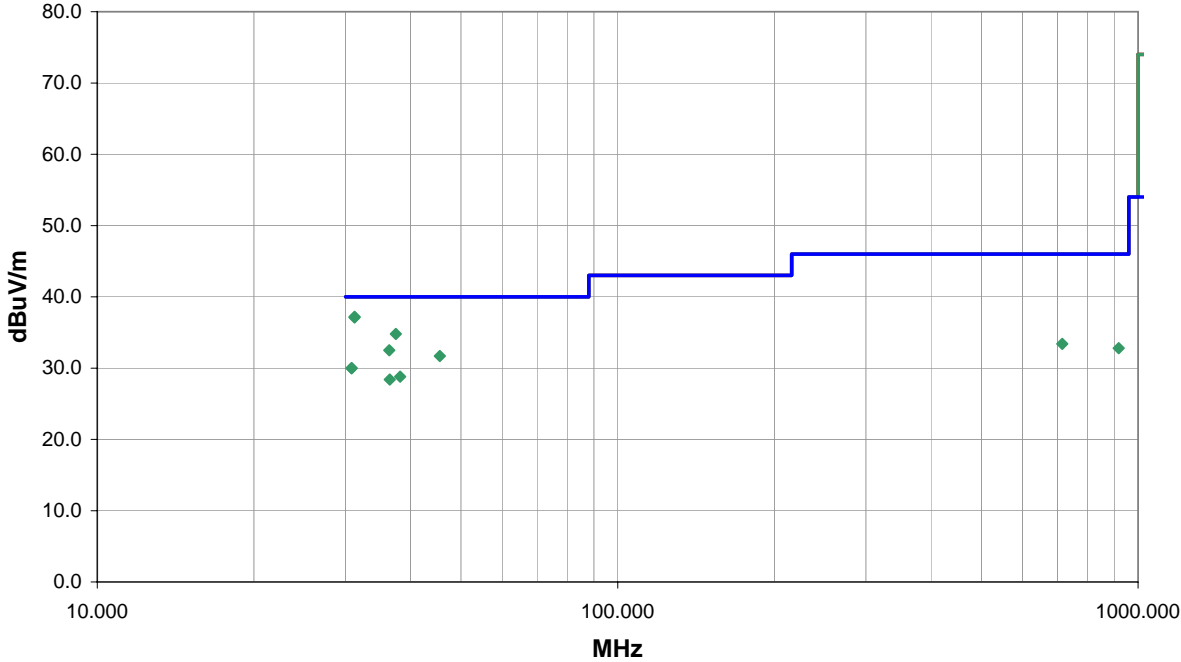
No deviations.

Run #	3	Signature 
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
4823.996	31.3	12.6	1.0	2.3	3.0	0.0	V-Horn	AV	0.0	43.9	54.0	-10.1	Low channel, 1Mbps
4923.991	30.1	12.6	36.0	1.0	3.0	0.0	H-Horn	AV	0.0	42.7	54.0	-11.3	High channel, 1Mbps
4873.991	29.1	12.6	327.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	Mid channel, 1Mbps
4923.996	28.8	12.6	137.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.4	54.0	-12.6	High channel, 1Mbps
7313.042	24.9	16.4	271.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.3	54.0	-12.7	Mid channel, 1Mbps
7311.897	24.8	16.4	270.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.2	54.0	-12.8	Mid channel, 1Mbps
7387.098	24.4	16.4	39.0	3.0	3.0	0.0	V-Horn	AV	0.0	40.8	54.0	-13.2	High channel, 1Mbps
7387.155	24.4	16.4	52.0	2.2	3.0	0.0	H-Horn	AV	0.0	40.8	54.0	-13.2	High channel, 1Mbps
4823.963	26.2	12.6	119.0	1.0	3.0	0.0	H-Horn	AV	0.0	38.8	54.0	-15.2	Low channel, 1Mbps
4873.996	25.3	12.6	37.0	1.0	3.0	0.0	H-Horn	AV	0.0	37.9	54.0	-16.1	Mid channel, 1Mbps
4922.716	23.7	12.6	322.0	3.6	3.0	0.0	V-Horn	AV	0.0	36.3	54.0	-17.7	Low channel, 1Mbps
4924.746	23.7	12.6	196.0	1.0	3.0	0.0	H-Horn	AV	0.0	36.3	54.0	-17.7	Low channel, 1Mbps
7310.298	37.4	16.4	270.0	1.0	3.0	0.0	H-Horn	PK	0.0	53.8	74.0	-20.2	Mid channel, 1Mbps
7386.006	37.1	16.4	52.0	2.2	3.0	0.0	H-Horn	PK	0.0	53.5	74.0	-20.5	High channel, 1Mbps
7312.405	36.9	16.4	271.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.3	74.0	-20.7	Mid channel, 1Mbps
7387.172	36.5	16.4	39.0	3.0	3.0	0.0	V-Horn	PK	0.0	52.9	74.0	-21.1	High channel, 1Mbps
4824.003	39.6	12.6	1.0	2.3	3.0	0.0	V-Horn	PK	0.0	52.2	74.0	-21.8	Low channel, 1Mbps
4873.952	38.5	12.6	327.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.1	74.0	-22.9	Mid channel, 1Mbps
4924.134	38.3	12.6	36.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.9	74.0	-23.1	High channel, 1Mbps
4923.542	38.0	12.6	137.0	1.0	3.0	0.0	V-Horn	PK	0.0	50.6	74.0	-23.4	High channel, 1Mbps

NORTHWEST EMC										RADIATED SPURIOUS EMISSIONS DATA SHEET				PSA 2007.05.07 EMI 2006.4.26	
EUT: TPMC-4XG					Work Order: UEIC0002										
Serial Number: 0000010					Date: 04/26/08										
Customer: Universal Electronics Inc.					Temperature: 22.1°C										
Attendees: None					Humidity: 30%										
Project: None					Barometric Pres.: 1015.5mb										
Tested by: Dan Haas			Power: Internal Battery		Job Site: OC10										
TEST SPECIFICATIONS					Test Method										
FCC 15.247 (DTS):2007					ANSI C63.4:2003 KDB No. 558074										
TEST PARAMETERS															
Antenna Height(s) (m)		1 - 4			Test Distance (m)		3								
COMMENTS															
EUT flat on turntable.															
EUT OPERATING MODES															
Continuous Tx, High channel															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
Run #		4			<div style="text-align: right;">Signature </div>										
Configuration #		1													
Results		Pass													
															
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments		
2483.500	25.1	5.4	350.0	2.9	3.0	20.0	V-Horn	AV	0.0	50.5	54.0	-3.5	High channel, 1Mbps		
2483.500	25.0	5.4	296.0	2.6	3.0	20.0	V-Horn	AV	0.0	50.4	54.0	-3.6	High channel, 11Mbps		
2483.500	25.0	5.4	359.0	2.5	3.0	20.0	H-Horn	AV	0.0	50.4	54.0	-3.6	High channel, 1Mbps		
2483.500	25.0	5.4	205.0	2.9	3.0	20.0	H-Horn	AV	0.0	50.4	54.0	-3.6	High channel, 11Mbps		
2483.500	24.8	5.4	41.0	2.8	3.0	20.0	H-Horn	AV	0.0	50.2	54.0	-3.8	High channel, 36Mbps		
2483.500	24.8	5.4	208.0	2.6	3.0	20.0	V-Horn	AV	0.0	50.2	54.0	-3.8	High channel, 6Mbps		
2483.500	24.8	5.4	59.0	2.9	3.0	20.0	H-Horn	AV	0.0	50.2	54.0	-3.8	High channel, 6Mbps		
2483.500	24.7	5.4	82.0	2.8	3.0	20.0	H-Horn	AV	0.0	50.1	54.0	-3.9	High channel, 54Mbps		
2483.501	24.7	5.4	127.0	2.5	3.0	20.0	V-Horn	AV	0.0	50.1	54.0	-3.9	High channel, 36Mbps		
2483.500	24.6	5.4	198.0	1.5	3.0	20.0	V-Horn	AV	0.0	50.0	54.0	-4.0	High channel, 54Mbps		
2483.500	38.5	5.4	205.0	2.9	3.0	20.0	H-Horn	PK	0.0	63.9	74.0	-10.1	High channel, 11Mbps		
2483.500	38.5	5.4	296.0	2.6	3.0	20.0	V-Horn	PK	0.0	63.9	74.0	-10.1	High channel, 11Mbps		
2483.500	38.2	5.4	350.0	2.6	3.0	20.0	V-Horn	PK	0.0	63.6	74.0	-10.4	High channel, 1Mbps		
2483.500	38.1	5.4	127.0	2.5	3.0	20.0	V-Horn	PK	0.0	63.5	74.0	-10.5	High channel, 36Mbps		
2483.500	38.1	5.4	198.0	1.5	3.0	20.0	V-Horn	PK	0.0	63.5	74.0	-10.5	High channel, 54Mbps		
2483.500	37.8	5.4	208.0	2.6	3.0	20.0	V-Horn	PK	0.0	63.2	74.0	-10.8	High channel, 6Mbps		
2483.500	37.7	5.4	359.0	2.5	3.0	20.0	H-Horn	PK	0.0	63.1	74.0	-10.9	High channel, 1Mbps		
2483.500	37.7	5.4	41.0	2.8	3.0	20.0	H-Horn	PK	0.0	63.1	74.0	-10.9	High channel, 36Mbps		
2483.500	37.6	5.4	82.0	2.8	3.0	20.0	H-Horn	PK	0.0	63.0	74.0	-11.0	High channel, 54Mbps		
2483.500	37.5	5.4	59.0	2.9	3.0	20.0	H-Horn	PK	0.0	62.9	74.0	-11.1	High channel, 6Mbps		

NORTHWEST EMC		RADIATED SPURIOUS EMISSIONS DATA SHEET		PSA 2007.05.07 EMI 2006.4.26								
EUT: TPMC-4XG			Work Order: UEIC0002									
Serial Number: 0000010			Date: 04/26/08									
Customer: Universal Electronics Inc.			Temperature: 22.1°C									
Attendees: None			Humidity: 30%									
Project: None			Barometric Pres.: 1015.5mb									
Tested by: Dan Haas		Power: Internal Battery		Job Site: OC10								
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2007			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
EUT flat on turntable.												
EUT OPERATING MODES												
Continuous Tx, High channel, 1Mbps												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #		1		Signature 								
Configuration #		1										
Results		Pass										
												
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
31.217	34.2	3.0	344.0	1.4	3.0	0.0	H-Bilog	QP	0.0	37.2	40.0	-2.8
31.217	34.1	3.0	359.0	1.5	3.0	0.0	H-Bilog	QP	0.0	37.1	40.0	-2.9
37.483	35.5	-0.7	304.0	1.0	3.0	0.0	V-Bilog	PK	0.0	34.8	40.0	-5.2
36.407	32.6	-0.1	308.0	1.0	3.0	0.0	H-Bilog	QP	0.0	32.5	40.0	-7.5
45.514	36.2	-4.5	73.0	1.0	3.0	0.0	H-Bilog	PK	0.0	31.7	40.0	-8.3
30.793	26.8	3.2	177.0	1.0	3.0	0.0	V-Bilog	QP	0.0	30.0	40.0	-10.0
30.813	26.8	3.2	127.0	1.0	3.0	0.0	V-Bilog	QP	0.0	30.0	40.0	-10.0
38.208	30.0	-1.2	304.0	1.0	3.0	0.0	V-Bilog	QP	0.0	28.8	40.0	-11.2
36.477	28.6	-0.2	133.0	3.5	3.0	0.0	V-Bilog	QP	0.0	28.4	40.0	-11.6
714.804	23.1	10.3	325.0	1.0	3.0	0.0	V-Bilog	PK	0.0	33.4	46.0	-12.6
918.177	22.2	10.6	66.0	1.0	3.0	0.0	H-Bilog	PK	0.0	32.8	46.0	-13.2

## RADIATED SPURIOUS EMISSIONS DATA SHEET

EUT:	TPMC-4XG	Work Order:	UEIC0002
Serial Number:	0000010	Date:	04/26/08
Customer:	Universal Electronics Inc.	Temperature:	22.1°C
Attendees:	None	Humidity:	30%
Project:	None	Barometric Pres.:	1015.5mb
Tested by:	Dan Haas	Power:	120V/60Hz
		Job Site:	OC10

## TEST SPECIFICATIONS

FCC 15.247 (DTS):2007

## Test Method

ANSI C63.4:2003 KDB No. 558074

## TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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## COMMENTS

EUT in charging dock.

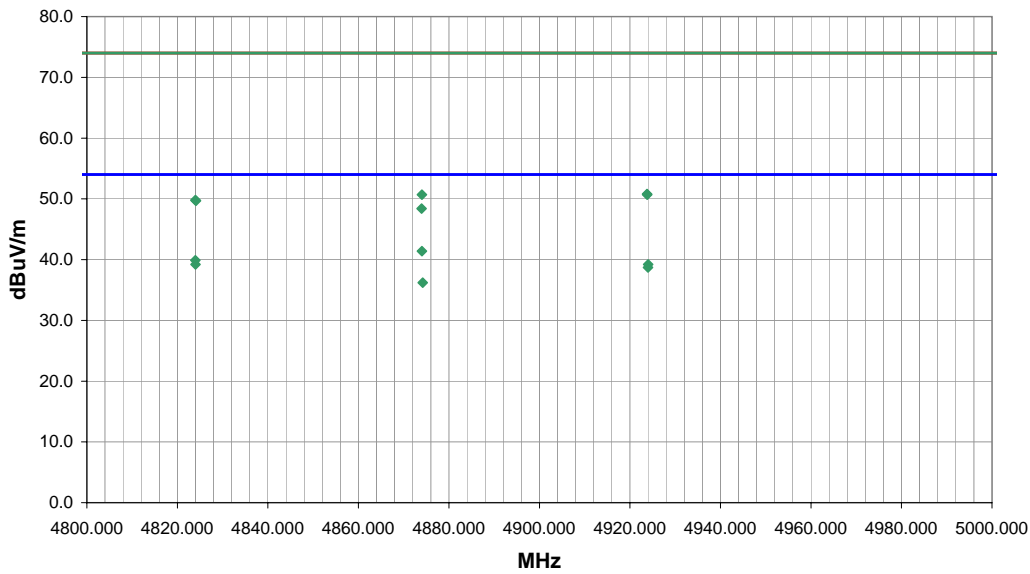
## EUT OPERATING MODES

Continuous Tx.

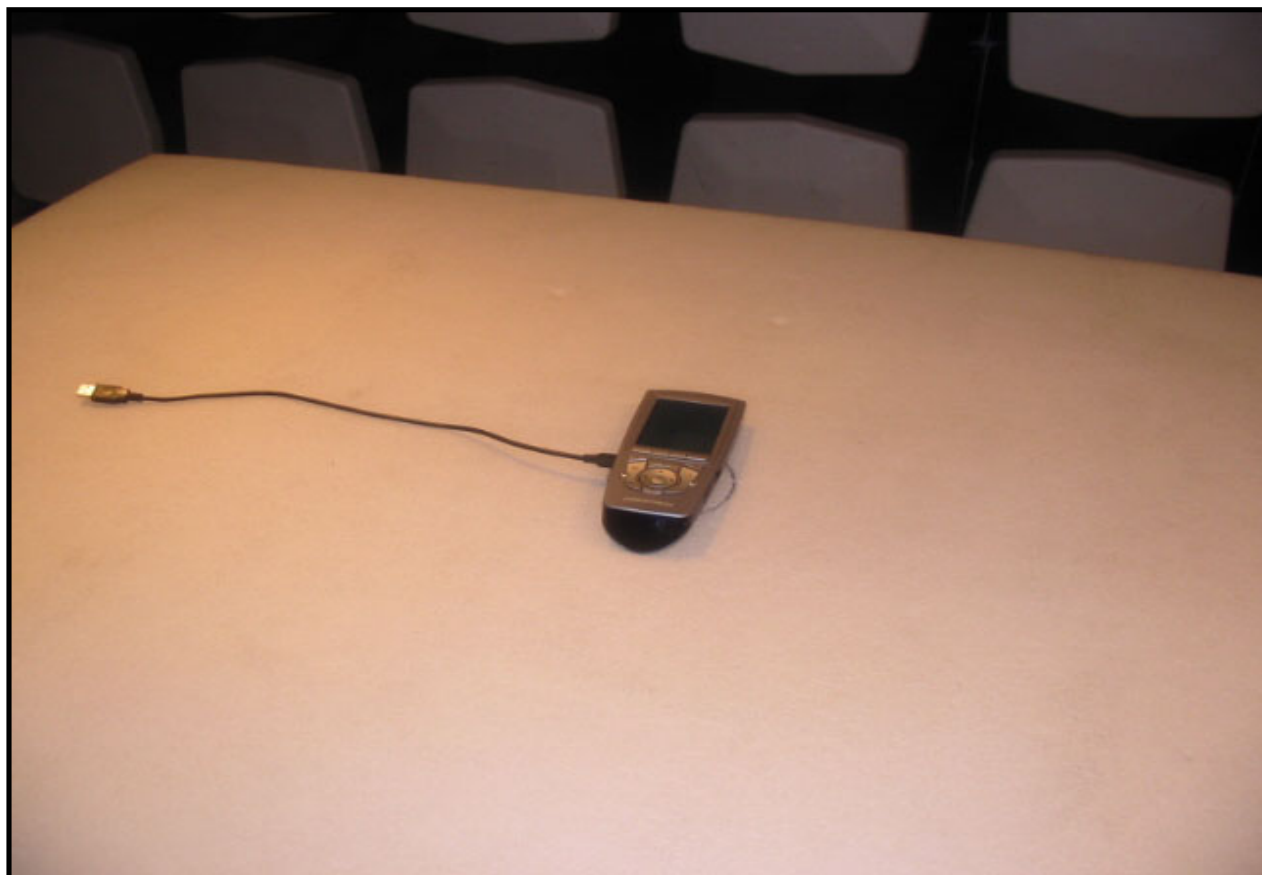
## DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	5	Signature 
Configuration #	2	
Results	Pass	

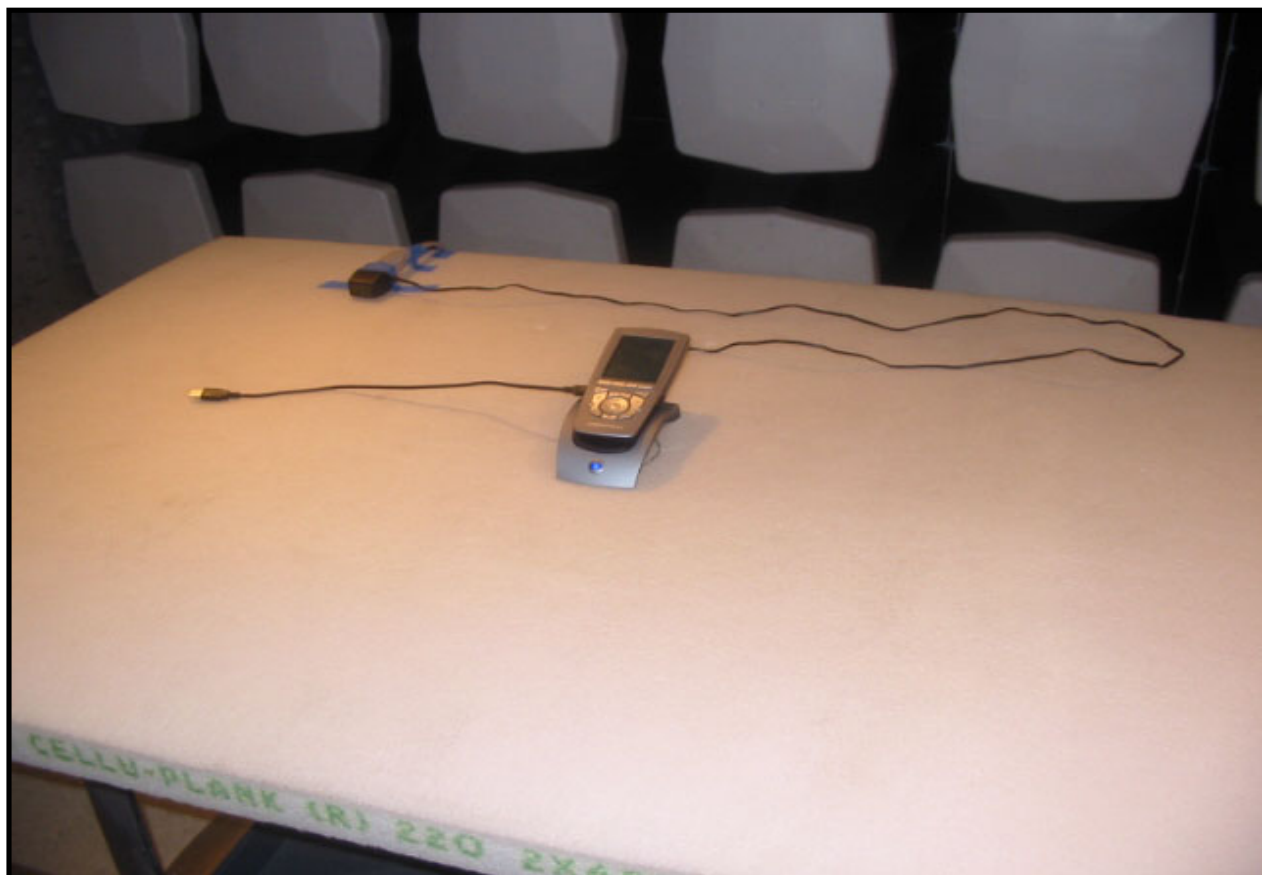


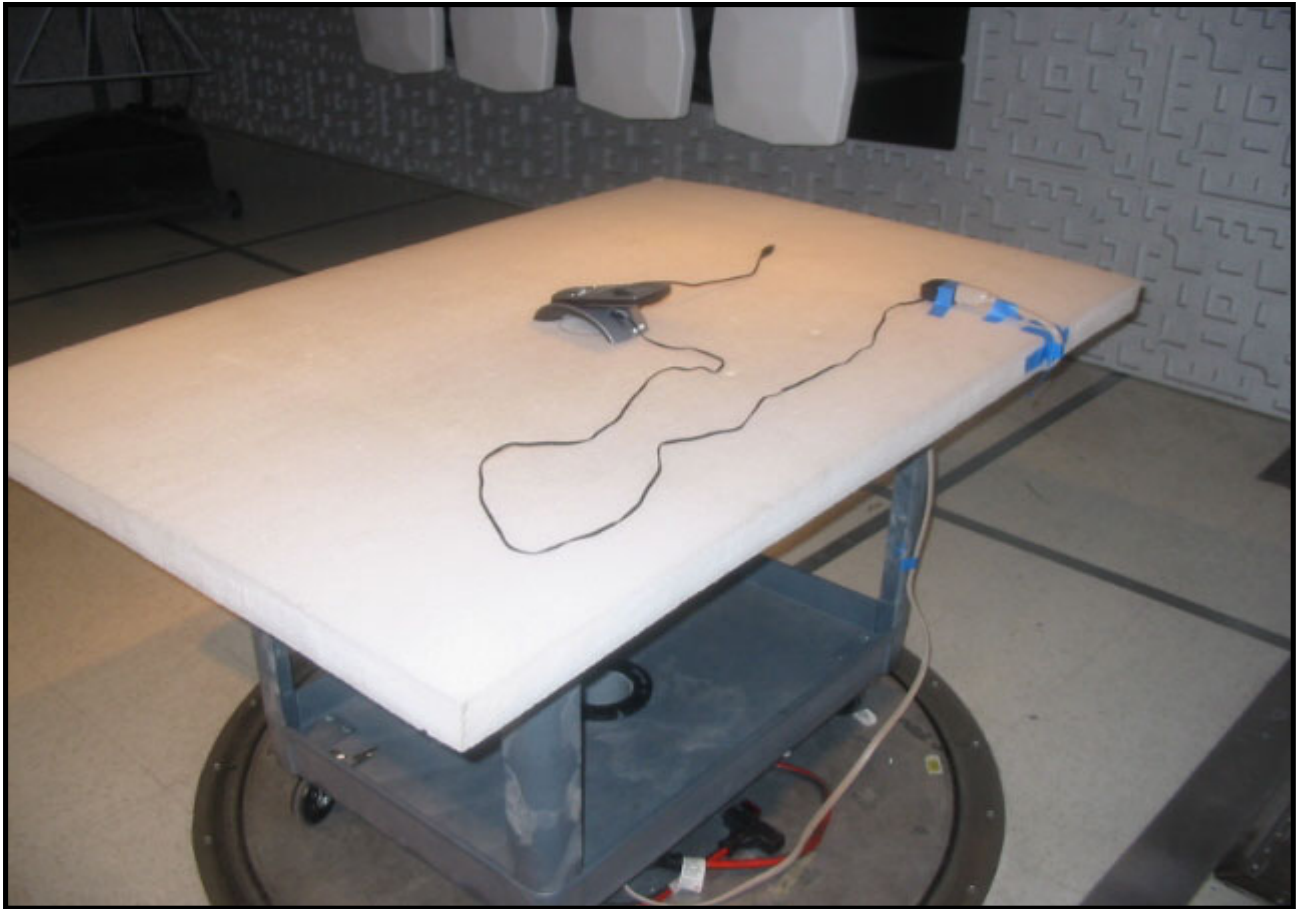
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
4874.025	28.8	12.6	197.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.4	54.0	-12.6	Mid channel, 1Mbps
4823.974	27.3	12.6	221.0	1.0	3.0	0.0	V-Horn	AV	0.0	39.9	54.0	-14.1	Low channel, 1Mbps
4924.039	26.6	12.6	181.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.2	54.0	-14.8	High channel, 1Mbps
4823.991	26.6	12.6	183.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.2	54.0	-14.8	Low channel, 1Mbps
4923.997	26.1	12.6	109.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.7	54.0	-15.3	High channel, 1Mbps
4874.198	23.6	12.6	230.0	1.7	3.0	0.0	H-Horn	AV	0.0	36.2	54.0	-17.8	Mid channel, 1Mbps
4923.787	38.2	12.6	109.0	1.2	3.0	0.0	V-Horn	PK	0.0	50.8	74.0	-23.2	High channel, 1Mbps
4923.821	38.1	12.6	181.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.7	74.0	-23.3	High channel, 1Mbps
4874.045	38.1	12.6	197.0	1.0	3.0	0.0	V-Horn	PK	0.0	50.7	74.0	-23.3	Mid channel, 1Mbps
4823.976	37.2	12.6	221.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.8	74.0	-24.2	Low channel, 1Mbps
4824.108	37.1	12.6	183.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.7	74.0	-24.3	Low channel, 1Mbps
4873.974	35.8	12.6	230.0	1.7	3.0	0.0	H-Horn	PK	0.0	48.4	74.0	-25.6	Mid channel, 1Mbps











Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

**MODES OF OPERATION**

Continuous Tx, High channel  
Continuous Tx, Mid channel  
Continuous Tx, Low channel

**POWER SETTINGS INVESTIGATED**

120V/60Hz

**CONFIGURATIONS INVESTIGATED**

UEIC0002 - 2

**SAMPLE CALCULATIONS**

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

**TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Receiver	Rohde & Schwartz	ESCI	ARF	12/14/2007	13 mo
OC06 Cables B and C			OCM	1/10/2008	13 mo
Attenuator	Pasternack	6N10W-20	AWC	1/10/2008	13 mo
LISN	Solar	9252-50-R-24-BNC	LIC	2/6/2008	13 mo

**MEASUREMENT BANDWIDTHS**

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0


Measurements were made using the bandwidths and detectors specified. No video filter was used.

**MEASUREMENT UNCERTAINTY**

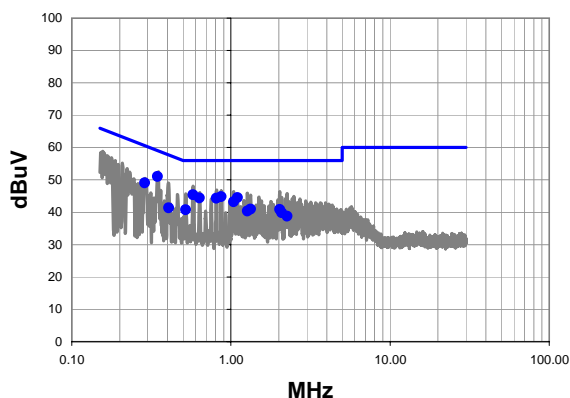
Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

**TEST DESCRIPTION**

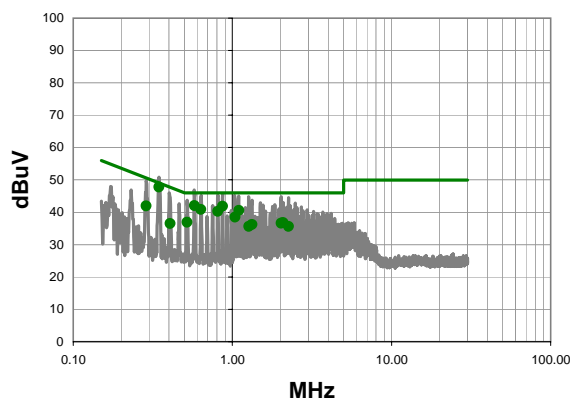
Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm.

<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/27/08		
<b>Project:</b>	None	<b>Temperature:</b>	22.°C		
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2		
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Dan Haas	
<b>EUT:</b>	TPMC-4XG				
<b>Configuration:</b>	2				
<b>Customer:</b>	Universal Electronics Inc.				
<b>Attendees:</b>	None				
<b>EUT Power:</b>	120V/60Hz				
<b>Operating Mode:</b>	Continuous Tx, Mid channel				
<b>Deviations:</b>	No deviations.				
<b>Comments:</b>	EUT in charging dock.				
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003	
<b>Run #</b>	2	<b>Line:</b>	Neutral	<b>Ext. Attenuation:</b> 20	<b>Results</b> Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit




Quasi Peak Data - vs - Quasi Peak Limit

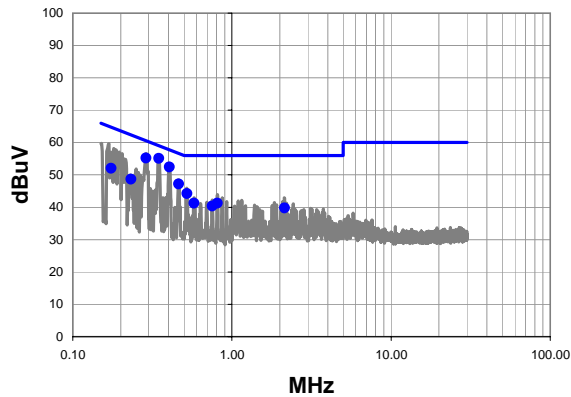
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.346	30.0	21.1	51.1	59.1	-8.0
0.577	24.5	20.9	45.4	56.0	-10.6
0.867	24.2	20.6	44.8	56.0	-11.2
1.100	24.0	20.5	44.5	56.0	-11.5
0.288	27.9	21.1	49.0	60.6	-11.6
0.634	23.6	20.8	44.4	56.0	-11.6
0.811	23.6	20.7	44.3	56.0	-11.7
1.040	22.7	20.5	43.2	56.0	-12.8
1.328	20.4	20.5	40.9	56.0	-15.1
2.024	20.2	20.6	40.8	56.0	-15.2
0.519	19.9	20.8	40.7	56.0	-15.3
1.272	19.9	20.5	40.4	56.0	-15.6
2.080	19.3	20.6	39.9	56.0	-16.1
0.406	20.3	21.0	41.3	57.7	-16.4
2.252	18.2	20.6	38.8	56.0	-17.2

Average Data - vs - Average Limit

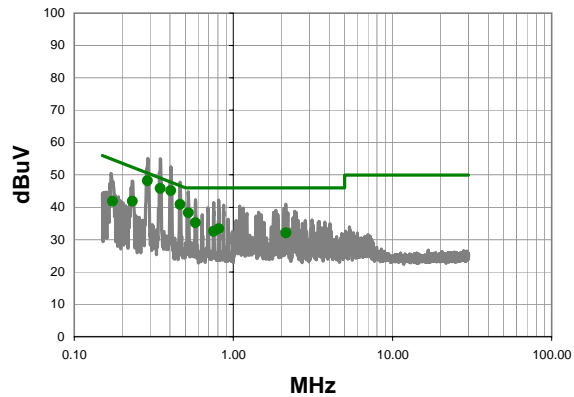
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.346	26.7	21.1	47.8	49.1	-1.3
0.577	21.2	20.9	42.1	46.0	-3.9
0.867	21.2	20.6	41.8	46.0	-4.2
0.634	20.0	20.8	40.8	46.0	-5.2
1.100	20.1	20.5	40.6	46.0	-5.4
0.811	19.6	20.7	40.3	46.0	-5.7
1.040	18.0	20.5	38.5	46.0	-7.5
0.288	20.8	21.1	41.9	50.6	-8.7
0.519	16.1	20.8	36.9	46.0	-9.1
2.080	16.2	20.6	36.8	46.0	-9.2
2.024	16.0	20.6	36.6	46.0	-9.4
1.328	15.7	20.5	36.2	46.0	-9.8
2.252	15.0	20.6	35.6	46.0	-10.4
1.272	15.1	20.5	35.6	46.0	-10.4
0.406	15.5	21.0	36.5	47.7	-11.2

<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/27/08		
<b>Project:</b>	None	<b>Temperature:</b>	22.°C		
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2		
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Dan Haas	
<b>EUT:</b>	TPMC-4XG				
<b>Configuration:</b>	2				
<b>Customer:</b>	Universal Electronics Inc.				
<b>Attendees:</b>	None				
<b>EUT Power:</b>	120V/60Hz				
<b>Operating Mode:</b>	Continuous Tx, Mid channel				
<b>Deviations:</b>	No deviations.				
<b>Comments:</b>	EUT in charging dock.				
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003	
<b>Run #</b>	5	<b>Line:</b>	High Line	<b>Ext. Attenuation:</b> 20	<b>Results</b> Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit




Quasi Peak Data - vs - Quasi Peak Limit

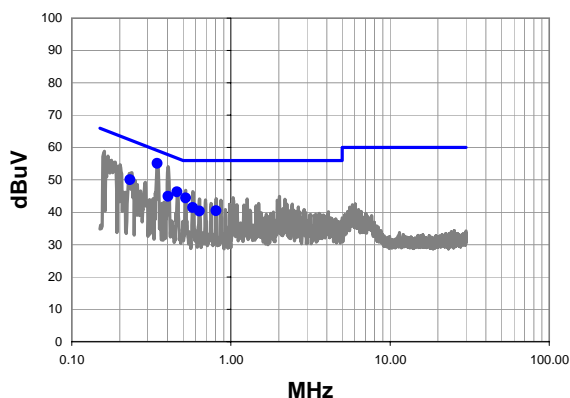
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.347	34.0	21.1	55.1	59.0	-4.0
0.405	31.4	21.0	52.4	57.8	-5.3
0.289	34.1	21.1	55.2	60.6	-5.3
0.463	26.2	21.0	47.2	56.6	-9.5
0.521	23.4	20.8	44.2	56.0	-11.8
0.174	29.9	22.1	52.0	64.8	-12.7
0.232	27.5	21.2	48.7	62.4	-13.7
0.578	20.4	20.9	41.3	56.0	-14.7
0.812	20.6	20.7	41.3	56.0	-14.7
0.752	19.6	20.7	40.3	56.0	-15.7
2.140	19.2	20.6	39.8	56.0	-16.2

Average Data - vs - Average Limit

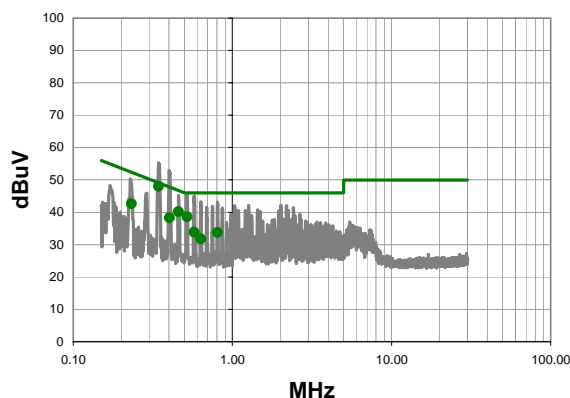
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.289	27.0	21.1	48.1	50.6	-2.4
0.405	24.1	21.0	45.1	47.8	-2.6
0.347	24.7	21.1	45.8	49.0	-3.3
0.463	19.9	21.0	40.9	46.6	-5.8
0.521	17.5	20.8	38.3	46.0	-7.7
0.232	20.6	21.2	41.8	52.4	-10.6
0.578	14.3	20.9	35.2	46.0	-10.8
0.812	12.7	20.7	33.4	46.0	-12.6
0.174	19.7	22.1	41.8	54.8	-12.9
0.752	11.8	20.7	32.5	46.0	-13.5
2.140	11.4	20.6	32.0	46.0	-14.0

<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/27/08				
<b>Project:</b>	None	<b>Temperature:</b>	22.°C				
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2				
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Dan Haas			
<b>EUT:</b>	TPMC-4XG						
<b>Configuration:</b>	2						
<b>Customer:</b>	Universal Electronics Inc.						
<b>Attendees:</b>	None						
<b>EUT Power:</b>	120V/60Hz						
<b>Operating Mode:</b>	Continuous Tx, High channel						
<b>Deviations:</b>	No deviations.						
<b>Comments:</b>	EUT in charging dock.						
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003			
<b>Run #</b>	3	<b>Line:</b>	High Line	<b>Ext. Attenuation:</b>	20	<b>Results</b>	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit




Quasi Peak Data - vs - Quasi Peak Limit

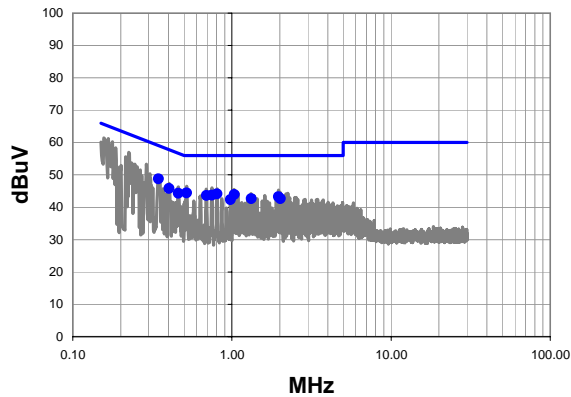
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.344	34.0	21.1	55.1	59.1	-4.0
0.459	25.3	21.0	46.3	56.7	-10.4
0.519	23.6	20.8	44.4	56.0	-11.6
0.232	28.8	21.2	50.0	62.4	-12.4
0.402	23.9	21.0	44.9	57.8	-12.9
0.575	20.6	20.9	41.5	56.0	-14.5
0.806	19.8	20.7	40.5	56.0	-15.5
0.635	19.5	20.8	40.3	56.0	-15.7

Average Data - vs - Average Limit

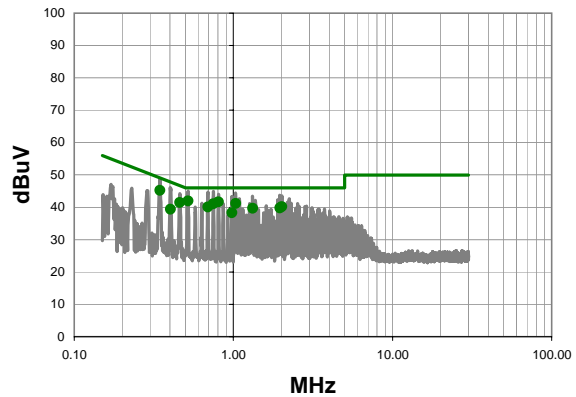
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.344	26.9	21.1	48.0	49.1	-1.1
0.459	19.2	21.0	40.2	46.7	-6.5
0.519	17.8	20.8	38.6	46.0	-7.4
0.402	17.3	21.0	38.3	47.8	-9.5
0.232	21.4	21.2	42.6	52.4	-9.8
0.575	13.0	20.9	33.9	46.0	-12.1
0.806	13.1	20.7	33.8	46.0	-12.2
0.635	10.9	20.8	31.7	46.0	-14.3

<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/27/08				
<b>Project:</b>	None	<b>Temperature:</b>	22.°C				
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2				
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Dan Haas			
<b>EUT:</b>	TPMC-4XG						
<b>Configuration:</b>	2						
<b>Customer:</b>	Universal Electronics Inc.						
<b>Attendees:</b>	None						
<b>EUT Power:</b>	120V/60Hz						
<b>Operating Mode:</b>	Continuous Tx, High channel						
<b>Deviations:</b>	No deviations.						
<b>Comments:</b>	EUT in charging dock.						
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003			
<b>Run #</b>	4	<b>Line:</b>	Neutral	<b>Ext. Attenuation:</b>	20	<b>Results</b>	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit




Quasi Peak Data - vs - Quasi Peak Limit

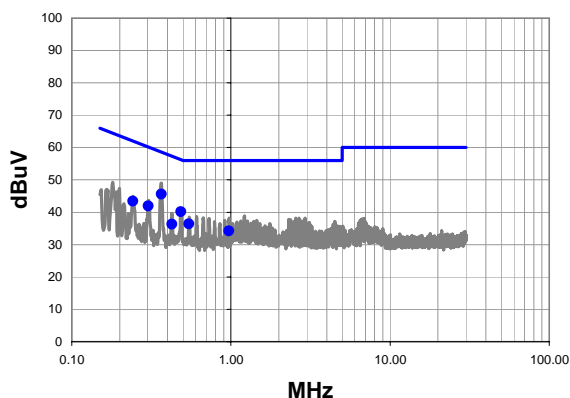
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.346	27.7	21.1	48.8	59.1	-10.3
0.519	23.6	20.8	44.4	56.0	-11.6
0.806	23.4	20.7	44.1	56.0	-11.9
0.402	24.8	21.0	45.8	57.8	-12.0
1.036	23.4	20.5	43.9	56.0	-12.1
0.750	23.0	20.7	43.7	56.0	-12.3
0.692	22.9	20.8	43.7	56.0	-12.3
0.461	23.3	21.0	44.3	56.7	-12.4
1.960	22.6	20.6	43.2	56.0	-12.8
2.016	22.0	20.6	42.6	56.0	-13.4
1.324	22.1	20.5	42.6	56.0	-13.4
0.980	21.8	20.5	42.3	56.0	-13.7

Average Data - vs - Average Limit

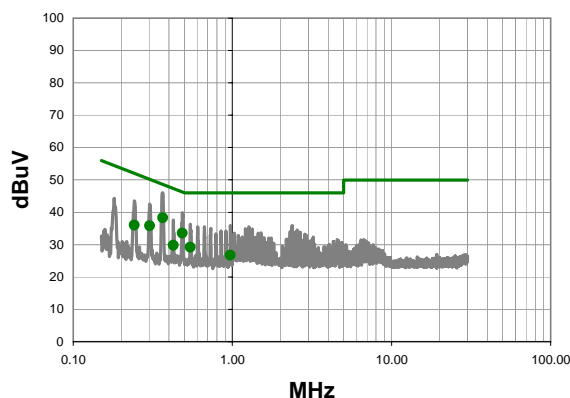
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.346	24.1	21.1	45.2	49.1	-3.9
0.519	21.1	20.8	41.9	46.0	-4.1
0.806	21.0	20.7	41.7	46.0	-4.3
1.036	20.6	20.5	41.1	46.0	-4.9
0.750	20.3	20.7	41.0	46.0	-5.0
0.461	20.5	21.0	41.5	46.7	-5.2
2.016	19.6	20.6	40.2	46.0	-5.8
0.692	19.3	20.8	40.1	46.0	-5.9
1.960	19.2	20.6	39.8	46.0	-6.2
1.324	19.2	20.5	39.7	46.0	-6.3
0.980	17.8	20.5	38.3	46.0	-7.7
0.402	18.3	21.0	39.3	47.8	-8.5

<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/28/08				
<b>Project:</b>	None	<b>Temperature:</b>	22.°C				
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2				
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Mark Baytan			
<b>EUT:</b>	TPMC-4XG						
<b>Configuration:</b>	2						
<b>Customer:</b>	Universal Electronics Inc.						
<b>Attendees:</b>	None						
<b>EUT Power:</b>	120V/60Hz						
<b>Operating Mode:</b>	Continuous Tx, Low channel						
<b>Deviations:</b>	No deviations.						
<b>Comments:</b>	EUT in charging dock.						
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003			
<b>Run #</b>	6	<b>Line:</b>	High Line	<b>Ext. Attenuation:</b>	20	<b>Results</b>	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit




Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.366	24.5	21.1	45.6	58.6	-13.0
0.485	19.2	20.9	40.1	56.3	-16.1
0.303	20.8	21.1	41.9	60.2	-18.3
0.242	22.3	21.2	43.5	62.0	-18.6
0.544	15.6	20.8	36.4	56.0	-19.6
0.425	15.3	21.0	36.3	57.3	-21.0
0.969	13.7	20.5	34.2	56.0	-21.8

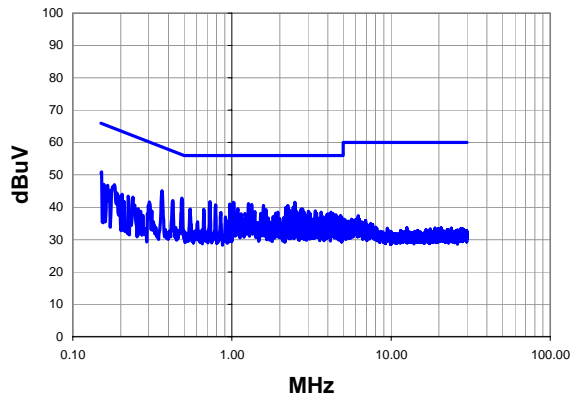
Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.366	17.2	21.1	38.3	48.6	-10.3
0.485	12.6	20.9	33.5	46.3	-12.7
0.303	14.7	21.1	35.8	50.2	-14.4
0.242	14.8	21.2	36.0	52.0	-16.1
0.544	8.3	20.8	29.1	46.0	-16.9
0.425	8.8	21.0	29.8	47.3	-17.5
0.969	6.2	20.5	26.7	46.0	-19.3

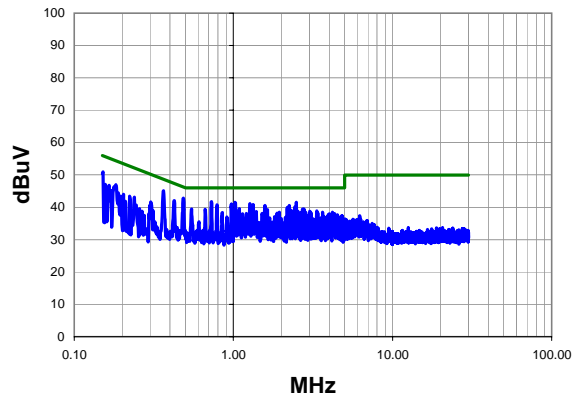


<b>Work Order:</b>	UEIC0002	<b>Date:</b>	04/28/08		
<b>Project:</b>	None	<b>Temperature:</b>	22.°C		
<b>Job Site:</b>	OC06	<b>Humidity:</b>	31.2		
<b>Serial Number:</b>	0000010	<b>Barometric Pres.:</b>	1015.1mb	<b>Tested by:</b> Mark Baytan	
<b>EUT:</b>	TPMC-4XG				
<b>Configuration:</b>	2				
<b>Customer:</b>	Universal Electronics Inc.				
<b>Attendees:</b>	None				
<b>EUT Power:</b>	120V/60Hz				
<b>Operating Mode:</b>	Continuous Tx, Low channel				
<b>Deviations:</b>	No deviations.				
<b>Comments:</b>	EUT in charging dock.				
<b>Test Specifications</b> FCC 15.209:2007		<b>Class B</b>		<b>Test Method</b> ANSI C63.4:2003	
<b>Run #</b>	7	<b>Line:</b>	Neutral	<b>Ext. Attenuation:</b> 20	<b>Results</b> Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.485	21.9	20.9	42.8	56.3	-13.4
0.364	24.0	21.1	45.1	58.6	-13.6
0.728	21.0	20.7	41.7	56.0	-14.3
2.488	20.9	20.6	41.5	56.0	-14.5
1.024	21.0	20.5	41.5	56.0	-14.5
1.272	20.5	20.5	41.0	56.0	-15.0
0.152	28.5	22.4	50.9	65.9	-15.0
0.971	20.4	20.5	40.9	56.0	-15.1
1.328	20.3	20.5	40.8	56.0	-15.2
0.789	20.1	20.7	40.8	56.0	-15.2
0.424	21.0	21.0	42.0	57.4	-15.4
1.576	20.0	20.6	40.6	56.0	-15.4
2.240	19.9	20.6	40.5	56.0	-15.5
2.424	19.5	20.6	40.1	56.0	-15.9
2.184	19.4	20.6	40.0	56.0	-16.0
1.088	19.1	20.5	39.6	56.0	-16.4
2.784	18.9	20.6	39.5	56.0	-16.5
2.728	18.9	20.6	39.5	56.0	-16.5
0.546	18.6	20.8	39.4	56.0	-16.6
0.665	18.6	20.8	39.4	56.0	-16.6

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.485	21.9	20.9	42.8	46.3	-3.4
0.364	24.0	21.1	45.1	48.6	-3.6
0.728	21.0	20.7	41.7	46.0	-4.3
2.488	20.9	20.6	41.5	46.0	-4.5
1.024	21.0	20.5	41.5	46.0	-4.5
1.272	20.5	20.5	41.0	46.0	-5.0
0.152	28.5	22.4	50.9	55.9	-5.0
0.971	20.4	20.5	40.9	46.0	-5.1
1.328	20.3	20.5	40.8	46.0	-5.2
0.789	20.1	20.7	40.8	46.0	-5.2
0.424	21.0	21.0	42.0	47.4	-5.4
1.576	20.0	20.6	40.6	46.0	-5.4
2.240	19.9	20.6	40.5	46.0	-5.5
2.424	19.5	20.6	40.1	46.0	-5.9
2.184	19.4	20.6	40.0	46.0	-6.0
1.088	19.1	20.5	39.6	46.0	-6.4
2.784	18.9	20.6	39.5	46.0	-6.5
2.728	18.9	20.6	39.5	46.0	-6.5
0.546	18.6	20.8	39.4	46.0	-6.6
0.665	18.6	20.8	39.4	46.0	-6.6

