



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

CELLULAR/AWS/PCS CDMA & AWS/PCS LTE PHONE WITH BLUETHOOTH AND WLAN

MODEL NUMBER: MS770, LG-MS770, LGMS770, LW770, LG-LW770, LGLW770

FCC ID: ZNFMS770

REPORT NUMBER: 12U14406-3

ISSUE DATE: MAY 9, 2012

Prepared for LG ELECTRONICS MOBILECOMM U.S.A., INC. 1000 SYLVAN AVE. ENGLEWOODS CLIFFS, NJ 07632

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

NVLAP LAB CODE 200065-0

Revision History

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC. 1000 SYLVAN AVE. ENGLEWOODS CLIFFS, NJ 07632				
EUT DESCRIPTION:	Cellular/AWS/PCS CDMA & AWS/PCS LTE Phone with Bluetooth and WLAN			
MODEL: MS770, LG-MS770, LGMS770, LW770, LG-LW770, LGLW770				
SERIAL NUMBER:	SERIAL NUMBER: 99000077000285			
DATE TESTED:	MAY 2-9, 2012			
	APPLICABLE STANDARDS			
ST	ANDARD	TEST RESULTS		
CFR 47 Part 15 Subpart C Pass				

Compliance Certification Services (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

TIM LEE STAFF ENGINEER UL CCS

Tested By:

TOM CHEN EMC ENGINEER UL CCS

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB) 36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Cellular/AWS/PCS CDMA & AWS/PCS LTE Phone with Bluetooth and WLAN.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range	Mode	Output Power	Output Power
(MHz)		(dBm)	(mW)
2412 - 2462	Bluetooth Low Energy	9.39	8.69

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of 1.34 dBi.

5.4. SOFTWARE AND FIRMWARE

The EUT software installed during testing was LAP8960IR120417.

5.5. MODEL DIFFERNECE

Model MS770 is identical to Models LG-MS770, LGMS770, LW770, LG-LW770, and LGLW770 except for model designation.

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5.6. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.

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5.7. DESCRIPTION OF TEST SETUP

Support Equipment List						
Description Manufacturer Model Serial Number						
AC ADAPTER	LG ELECTRONICS	MCS-01WR	RA1Z0051473			
HEADSET	LG ELECTRONICS	NA	N/A			

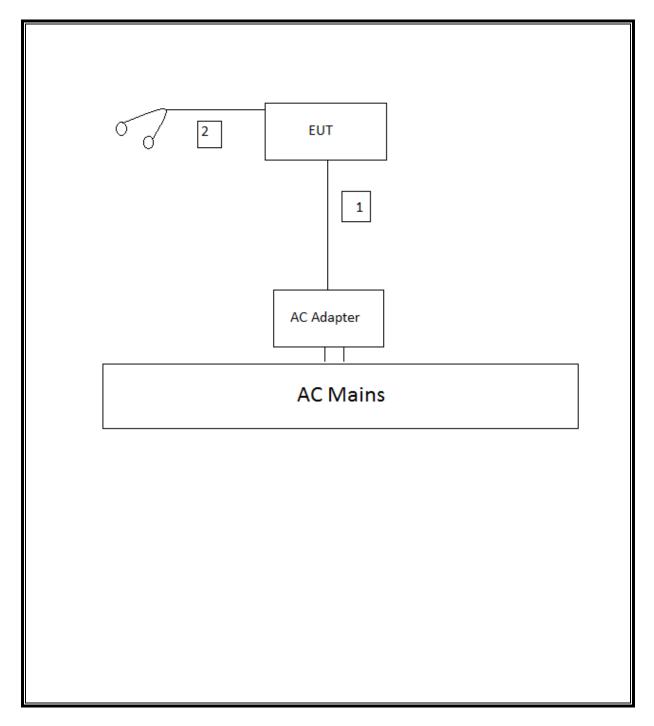
I/O CABLES

	I/O Cable List							
Cable	Cable Port # of identical Connector Cable Type Cable Length Remarks							
No		ports	Туре		(m)			
1	DC	1	MINI USB	UN-SHELDED	1.0m	LG-DLC300 (BA21)		
2	AUDIO	1	MINI JACK	UN-SHELDED	1.0m	N/A		

TEST SETUP

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SETUP DIAGRAM FOR 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	Asset	Cal Due		
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	07/14/12		
Antenna, Horn, 18 GHz	EMCO	3115	C00945	06/29/12		
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	11/11/12		
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/12/12		
Horn Antenna, 26.5 GHz	ARA	MWH-1826/B	C00589	07/28/12		
Preamplifier, 40 GHz	Miteq	NSP4000-SP2	C00990	03/14/13		
Reject Filter, 2.0-2.9 GHz	Micro-Tronics	BRM50702	N02684	CNR		
High Pass Filter, 7.6 GHz	Micro-Tronics	HPM13195	N02682	CNR		
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	04/09/13		
Peak Power Meter	Agilent	N1911A	1260847C	08/04/12		
Peak Power Sensor	Agilent	E9323A	1244073F	08/04/12		
Reject Filter, 2.4-2.5 GHz	Micro-Tronics	BRM50702	N02685	CNR		
EMI Test Receiver, 30MHz	R&S	ESHS 20	N02396	08/19/13		
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	12/13/12		

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7. ANTENNA PORT TEST RESULTS

7.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

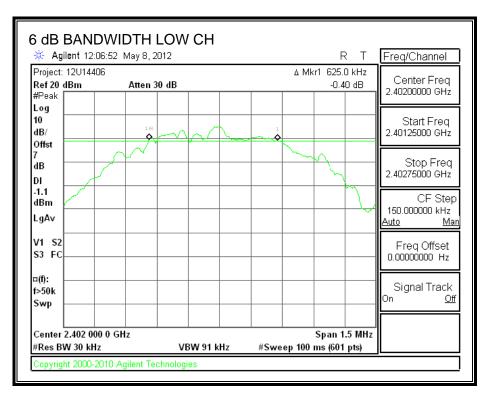
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency	6 dB Bandwidth	Minimum Limit
	(MHz)	(MHz)	(MHz)
Low	2402	0.63	0.5
Middle	2440	0.60	0.5
High	2480	0.59	0.5

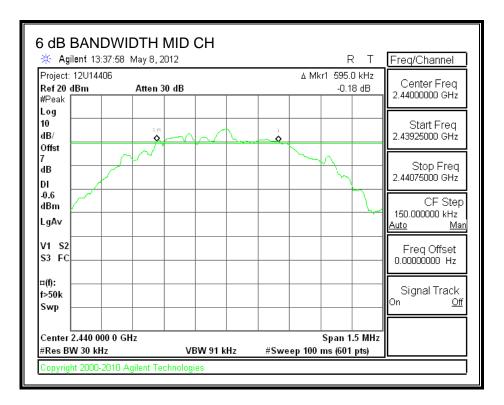
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6 dB BANDWIDTH

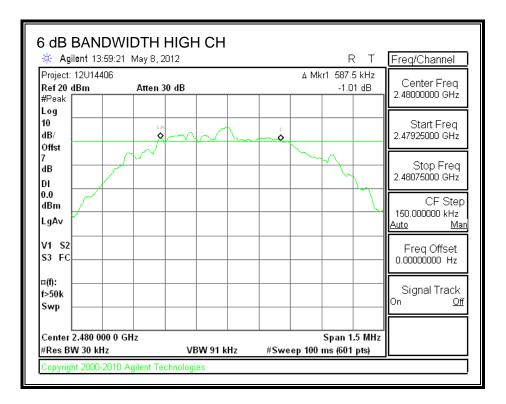


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7.2. 99% **BANDWIDTH**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

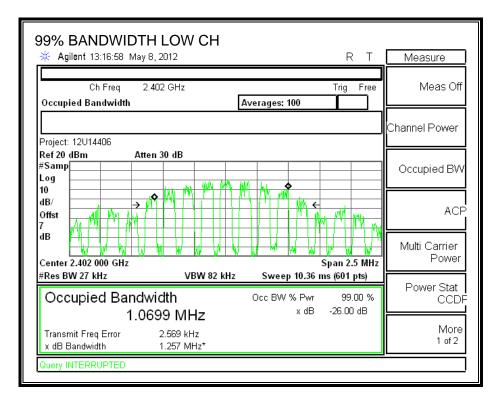
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

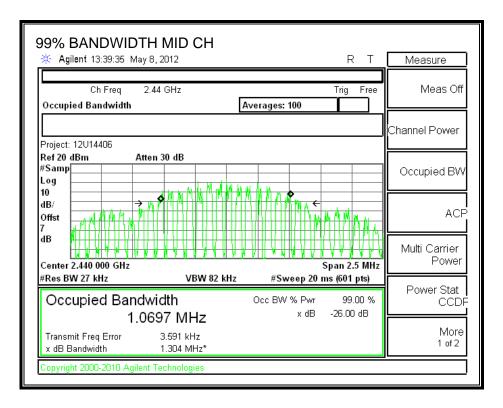
Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	2402	1.0699
Middle	2440	1.0697
High	2480	1.0728

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99% BANDWIDTH



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99% BANDWIDTH			RΤ	Measure
Ch Freq 2.48 Occupied Bandwidth	GHz Av	erages: 100	Trig Free	Meas Off
Project: 12U14406	20.40			Channel Power
Ref 20 dBm Atten #Samp Log 10				Occupied BW
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		<u> </u>		ACP
Center 2.480 000 GHz #Res BW 27 kHz	VBW 82 kHz	#Sweep 20	Span 2.5 MHz ms (601 pts)	Multi Carrier Power
Occupied Bandwid 1.072	dth 8 MHz	Occ BW % Pwr x dB		Power Stat CCDF
	2.822 kHz 1.289 MHz*			More 1 of 2
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7.3. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-210 A8.4

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

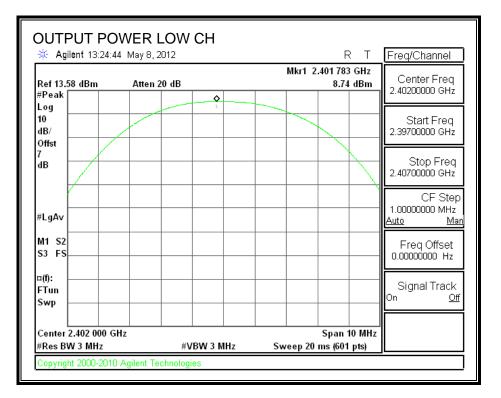
Peak power is measured using the Channel bandwidth Alternative peak output power procedure specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003.

RESULTS

Channel	Frequency	Peak Power	Output	Limit	Margin
		Reading	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	2402	8.74	8.74	30	-21.26
Middle	2440	8.99	8.99	30	-21.01
High	2480	9.39	9.39	30	-20.61

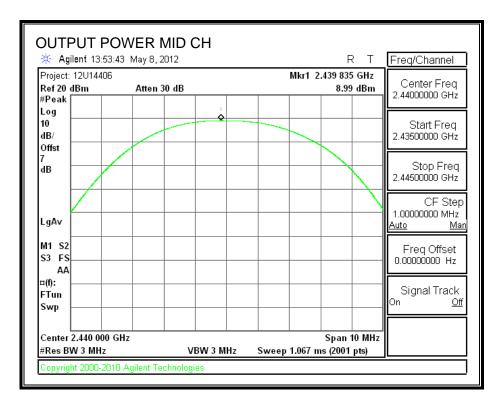
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OUTPUT POWER



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🔆 Agilent 13:56				RT	Freq/Channel
Project: 12U14406 Ref 20 dBm #Peak	Atten 30 dB		Mkr1	2.479 820 GHz 9.39 dBm	Center Freq 2.48000000 GHz
Log 10 dB/					Start Freq 2.47500000 GHz
Offst 7 dB					Stop Freq 2.48500000 GHz
LgAv					CF Step 1.00000000 MHz <u>Auto Mar</u>
M1 S2 S3 FS AA					Freq Offset 0.00000000 Hz
¤(f): FTun Swp					Signal Track On <u>Off</u>
Center 2.480 000 #Res BW 3 MHz		/BW 3 MHz	Sweep 1.067	Span 10 MHz ms (2001 pts)	 :

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7.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

<u>RESULTS</u>

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power
	(MHz)	(dBm)
Low	2402	5.75
Middle	2440	6.01
High	2480	6.48

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7.5. POWER SPECTRAL DENSITY

<u>LIMITS</u>

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST PROCEDURE

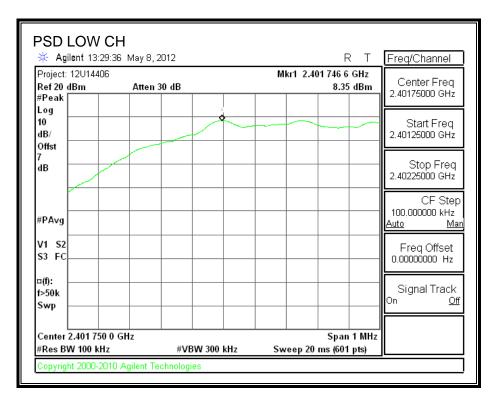
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency	PPSD	10log(3KHz /100KHz)	Limit	Margin
	(MHz)	(dBm)	= -15.2	(dBm)	(dB)
Low	2402	8.35	-15.2	8	-14.85
Middle	2440	8.58	-15.2	8	-14.62
High	2480	9.00	-15.2	8	-14.20

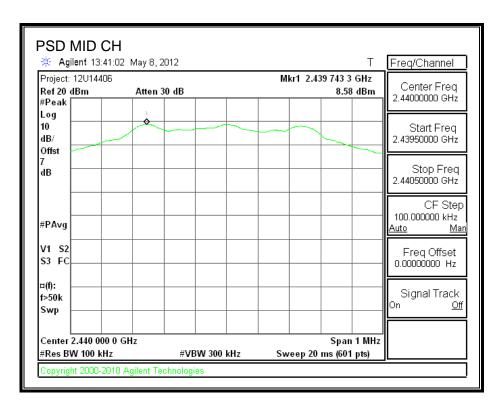
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POWER SPECTRAL DENSITY



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Agilent 14:03: Project: 12U14406		Mkr1 2.479 741 1	T Freq/Channel
Ref 20 dBm #Peak	Atten 30 dB		dBm Center Freq 2.48001700 GHz
Log			
10 dB/			Start Freq 2.47951700 GHz
Offst 7			Stop Freq
dB			2.48051700 GHz
			CF Step
#PAvg			Auto Ma
V1 S2 S3 FC			Freq Offset
			0.00000000 Hz
¤(f): f>50k			Signal Track
Swp			On <u>Off</u>
Center 2.480 017) GHz	Span	1 MHz

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7.6. CONDUCTED SPURIOUS EMISSIONS

<u>LIMITS</u>

FCC §15.247 (d)

IC RSS-210 A8.5

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

TEST PROCEDURE

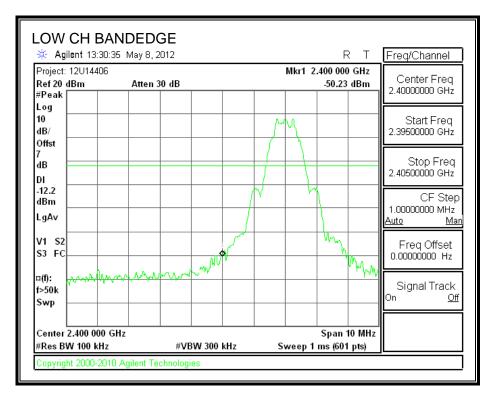
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

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RESULTS

SPURIOUS EMISSIONS, LOW CHANNEL



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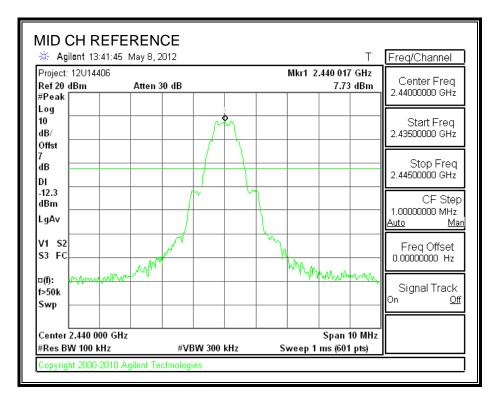
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Project: 12 Ref 20 dBi		Atten 30	dB			Mk	.12 7.21 -37.85		Center 13.01500	
#Peak									13.01500	
Log 10 dB/									Stari 30.00000	t Freq
Offst									30.00000	00 1911 12
7 dB		1 0							Sto	p Freq
									26.00000	00 GHz
-12.2 dBm	-	A Part and Marked Mark		m Alexandra	an and a surf	مى مەربىيە يەربىيە يەر يەربىيە يەربىيە	and an other states			CF Step
									2.597000	00 GHz
									<u>Auto</u>	<u>Ma</u>
Start 30 M #Res BW 1			#VBW 300) kHz	Swee	Sto 9 2.482	p 26.00 s (2001			Offset
Marker	Trace	Туре		X Axis			Amplitu	ıde	0.000000	JUU HZ
1	(1)	Freq		.808 GHz			40.47 dB			
2	(1)	Freq	7	.211 GHz			.37.85 dB	m	Signal On	l Track <u>Off</u>

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SPURIOUS EMISSIONS, MID CHANNEL

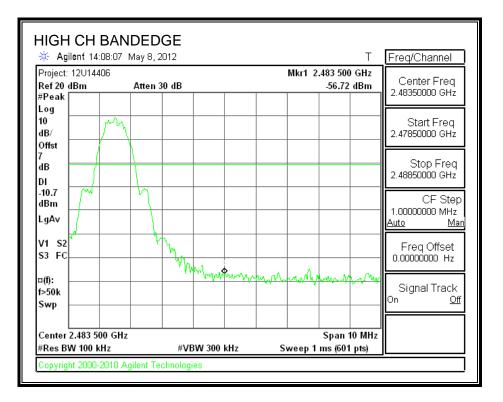


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Project: 12 Ref 20 dBi		Atten 30	dB		М	kr2 7.31 -40.47		Center Freq
#Peak								13.0150000 GHz
Log 10 dB/								Start Freq 30.0000000 MHz
Offst 7 dB DI								Stop Freq 26.000000 GHz
-12.3 dBm	melle have	and the second					and a stand of the second second	CF Ster
abm LgAv —								2.59700000 GHz Auto Ma
Start 30 M						op 26.00		Freq Offset
#Res BW 1 Marker	Trace	T	#VBW 300	KHZ S	weep 2.482	s (2001 Amplitu	• /	0.00000000 Hz
1 1	(1)	Type Freg		. Aoxis 186 GHz		-46.14 dB		
2	ŏ	Freq		315 GHz		-40.47 dB		Signal Track On <u>Of</u>

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SPURIOUS EMISSIONS, HIGH CHANNEL



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Project: 12U14 Ref 20 dBm		ten 30 dB			Mk	ur2 7.44 -33.08		Center Fr 13.0150000 G	
#Peak								13.0150000 6	2012
Log 10 dB/								Start Fr 30.0000000 N	
Offst					_				
7 dB	1	2						Stop Fi 26.0000000 G	
DI	Ŷ							20.0000000	9112
-10.7 dBm	warness and	Jan Martin Martin	and the second second		*****			CF S	
LgAv								2.59700000 G <u>Auto</u>	Hz <u>Ma</u>
Start 30 MHz					Sto	p 26.000) GHz	FO #_	
#Res BW 100		#VB\	N 300 kH	z Sw	eep 2.482 :	· ·	<u> </u>	Freq Offs 0.00000000	
		ype reg	X Ax 4.964	-		Amplitu 43.35 dBr			
		req	7.444			-33.08 dBr		Signal Tra On	ack <u>Off</u>

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8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

<u>LIMITS</u>

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. TX ABOVE 1 GHz FOR BLE MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

🗧 Agilent 15:09:28 May i	8, 2012			RT	Freq/Channel
roject: 12U14406 l ef 104.5 dB µ∨ #At Peak	ten 0 dB			359 47 GHz 48.01 dBµ∨	Center Freq 2.35000000 GHz
og D B/					Start Freq 2.31000000 GHz
Iffst .53 B					Stop Freq 2.3900000 GHz
I 4.0 ΒμV					CF Ste 8.0000000 MHz
gAv no.Norskeldlikassini ingen	della mathematic		Mumulinen marine	and the factor of the	<u>Auto Ma</u>
1 V2 3 FC					Freq Offset 0.00000000 Hz
(f): Tun wp					Signal Track On <u>O</u>
tart 2.310 00 GHz		1 MHz	Stop 2. Sweep 1 m	390 00 GHz	

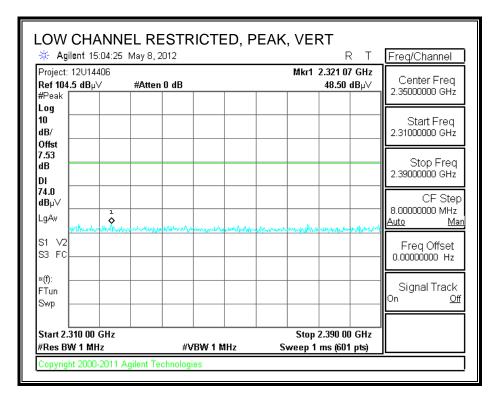
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LOW CHANNE		ED, A	VG, HOR	IZ RT	Freq/Channel
Project: 12U14406 Ref 104.5 dB µ∨ #Peak	#Atten 0 dB		Mkr1 :	2.315 20 GHz 35.53 dBµ∀	Center Freq 2.3500000 GHz
Log 10 dB/ Offst					Start Freq 2.3100000 GHz
7.53 dB					Stop Freq 2.3900000 GHz
54.0 dBµ∀ LgAv					CF Step 8.0000000 MHz <u>Auto Man</u>
S1 V2 1 S3 FC •					Freq Offset 0.00000000 Hz
×(f): FTun Swp					Signal Track On <u>Off</u>
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 1	0 Hz	Stop 2 Sweep 6.238	2.390 00 GHz 8 s (601 pts)	
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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



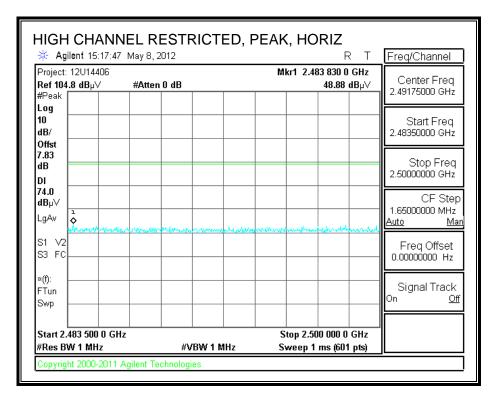
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LOW CHANNE		TED, A	VG, VER	T RT	Freq/Channel
Project: 12U14406 Ref 104.5 dB µ∨ #Peak	#Atten 0 dB		Mkr1 :	2.315 07 GHz 35.49 dBµ∨	Center Freq 2.3500000 GHz
Log 10 dB/ Offst					Start Freq 2.3100000 GHz
7.53 dB					Stop Freq 2.3900000 GHz
54.0 dBµ√ LgAv					CF Step 8.0000000 MHz <u>Auto Man</u>
S1 V2 1 S3 FC					Freq Offset 0.00000000 Hz
×(f): FTun Swp					Signal Track On <u>Off</u>
Start 2.310 00 GHz #Res BW 1 MHz	# VBW 1	IO Hz	Stop 2 Sweep 6.238	2.390 00 GHz 3 s (601 pts)	
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RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



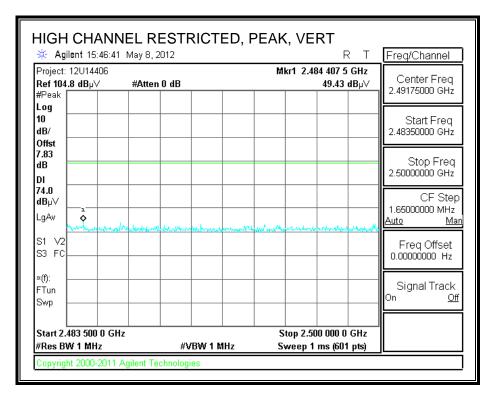
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HIGH CHANNEL			
🔆 Agilent 15:18:19 May	8, 2012	RT	Freq/Channel
Project: 12∪14406 Ref 104.8 dB µ∨ # A 4 #Peak	ten 0 dB	Mkr1 2.484 187 5 GHz 35.63 dBµ∨	Center Freq 2.49175000 GHz
Log 10 dB/ Offst			Start Freq 2.48350000 GHz
7.83 dB			Stop Freq 2.5000000 GHz
54.0 dBµ√ LgAv			CF Step 1.6500000 MHz <u>Auto Man</u>
S1 V2 S3 FC			Freq Offset 0.00000000 Hz
×(f): FTun Swp			Signal Track ^{On <u>Off</u>}
Start 2.483 500 0 GHz #Res BW 1 MHz	#VBW 10 Hz	Stop 2.500 000 0 GHz Sweep 1.287 s (601 pts)	
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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



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HIGH CHANNEL		•						
🔆 Agilent 15:47:13 May	8,2012	RT	Freq/Channel					
Project: 12∪14406 Ref 104.8 dB µ∨ #Ad #Peak	ten 0 dB	Mkr1 2.483 582 5 GHz dB 35.85 dBµ∨						
Log 10 dB/ Offst			Start Freq 2.48350000 GHz					
7.83 dB			Stop Freq 2.5000000 GHz					
54.0 dBµ√ LgAw			CF Step 1.6500000 MHz <u>Auto Man</u>					
S1 V2i S3 FC			Freq Offset 0.00000000 Hz					
×(f): FTun Swp			Signal Track ^{On <u>Off</u>}					
Start 2.483 500 0 GHz #Res BW 1 MHz	#VBW 10 Hz	Stop 2.500 000 0 GHz Sweep 1.287 s (601 pts)						
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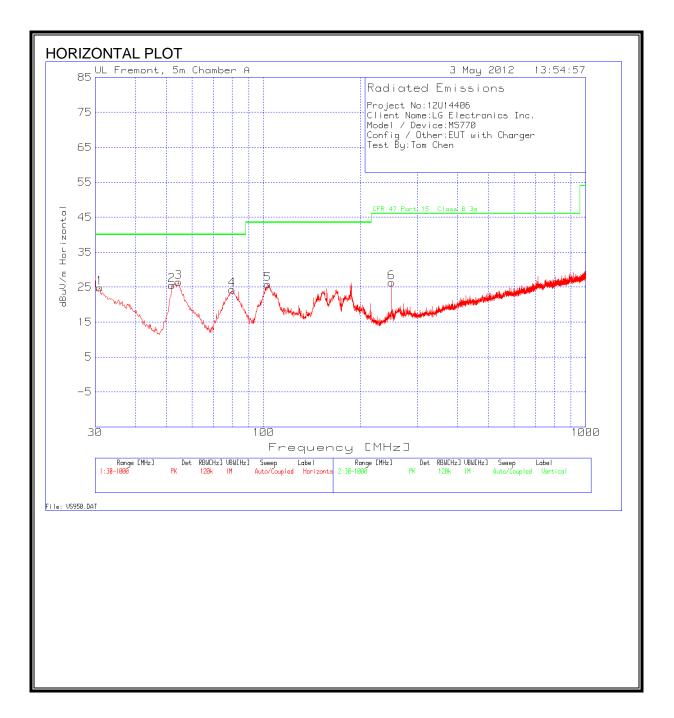
HARMONICS AND SPURIOUS EMISSIONS

Test Engr:		Tom Ch	en										
Date:		05/08/12											
Project #: 12U14406													
Company: LG Electronics In				nc.									
Test Target: FCC C		FCC Cla	ass B										
		BT LE, TX mode											
	f	Measuren	nent Fred	nencs	Amo	Preamp (lain			Average	Field Stren	eth Limit	
	Dist	Distance				Distance		rt to 3 me	ters	_	ld Strength	-	
	Read	Analyzer			Avg			trength @			/s. Average		
	AF	Antenna			Peak			r Field Stre			rs. Peak Lis		
	CL	Cable Los			HPF	High Pas							
						Ĩ							
f	Dist	Read	AF	CL		D Corr		Corr.			Ant. Pol.	:	Notes
GHz	(m)	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dB	V/H	P/A/QP	
402 MHz												_	
4.804	3.0	46.2	33.1	6.3	-34.8	0.0	0.0	50.7	74.0	-23.3	V	P	
4.804	3.0	34.1	33.1	6.3	-34.8	0.0	0.0	38.6	54.0	-15.4	V	A	
4.804 4.804	3.0 3.0	46.8 34.9	33.1 33.1	6.3 6.3	-34.8 -34.8	0.0	0.0	51.3 39.4	74.0 54.0	-22.7 -14.6	H H	P A	
440 MHz		34.7	33.1	0.0	-34.0	0.0	0.0	37.4	24.0	-14.0	п	<u>A</u>	
4.880	3.0	43.7	33.1	6.3	-34.8	0.0	0.0	48.3	74.0	-25.7	Н	P	
4.880	3.0	31.8	•••••••• ••••••••••••••••••••••••••••	6.3	-34.8		0.0	36.5	54.0	-17.5	H	Ā	
4.880	3.0	41.3	33.1	6.3	-34.8	0.0	0.0	45.9	74.0	-28.1			
4.880	3.0	29.4	33.1	6.3	-34.8	0.0	0.0	34.0	54.0	-20.0	V V	P A	
2480 MHz	5		ĺ					ĺ					
	3.0	39.7	33.2	6.4	-34.8	0.0	0.0	44.4	74.0	-29.6	V	P	
4.960	3.0	25.4	33.2	6.4	-34.8	0.0	0.0	30.1	54.0	-23.9	V	A	
4.960 4.960		40.3	33.2 33.2	6.4	-34.8	0.0	0.0	45.1	74.0	-29.0	H	P	
	3.0 3.0	28.2			-34.8	0.0	0.0	32.9	54.0	-21.1	н	A	

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8.3. WORST-CASE BELOW 1 GHz

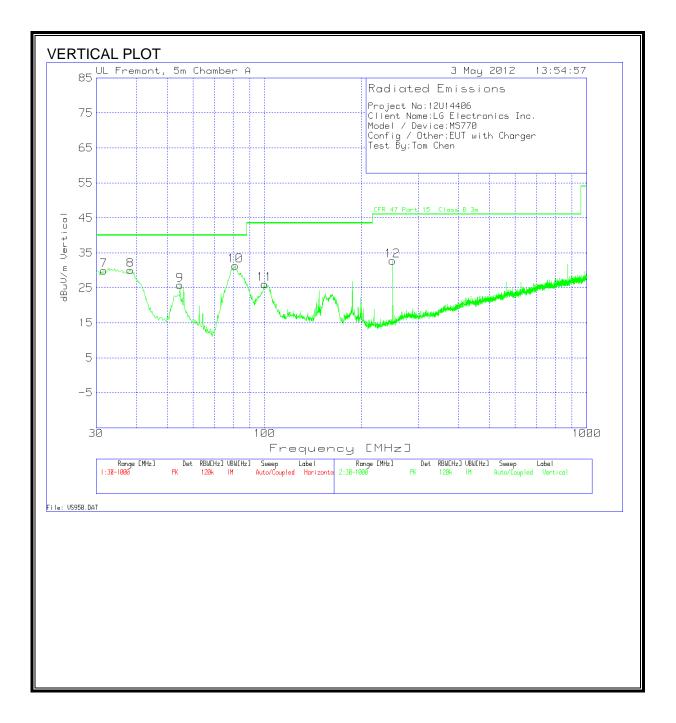
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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



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Project No:	12U14406							
Client Name		onics Inc.						
Model / Dev	vice:MS770)						
Config / Otl	Config / Other:EUT with Charger							
Test By:Tom	n Chen							
Horizontal 3	30 - 1000MI	Hz						
			25MHz-1GHz	T243		CFR 47		
	!		ChmbrA	Sunol		Part 15		1
Test	Meter		Amplified.TX	Bilog.TXT		Class B		1
Frequency	Reading	Detector	[dB]	[dB]	dBuV/m	3m	Margin	Polarity
30.9692			-27.5	20.4	24.85	40	-15.15	Horz
51.9045	45.15	РК	-27.2	7.6	25.55	40	-14.45	Horz
54.4245	46.54	РК	-27.3	7.2	26.44	40	-13.56	Horz
80.012			-27.1					
103.0795	+ +		-26.9	11	25.79			
250.014	40.71	РК	-25.9	11.5	26.31	46	-19.69	Horz
Vertical 30 -	1000MHz							
	!		25MHz-1GHz			CFR 47		1
	!		ChmbrA	Sunol		Part 15		1
Test	Meter		Amplified.TX	-		Class B	·	L
Frequency					dBuV/m	3m		Polarity
31.7446			-27.5					
38.3353	+ +		-27.4		30.07			
54.6183			-27.3					
81.1751			-27					
100.1719 250.014			-26.9					
200.014	47.21	РК	-23.5	11.3	52.01	40	-15,15	Ven

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9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted I	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

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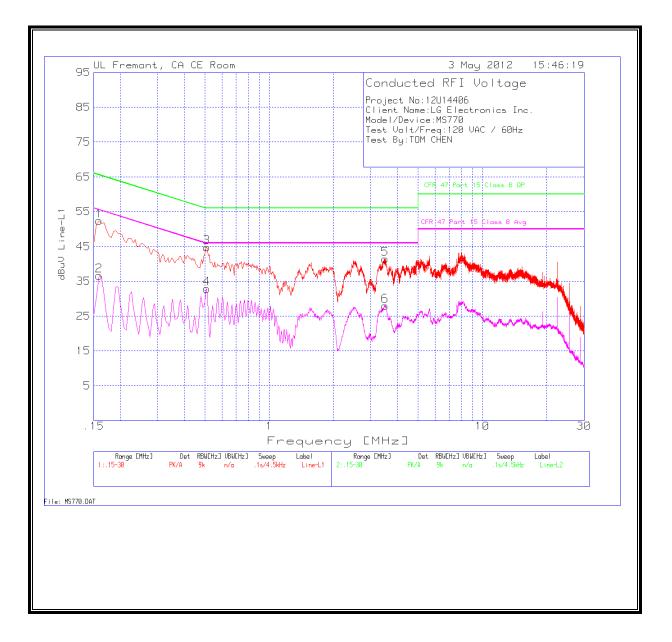
6 WORST EMISSIONS

Project No:	12U14406								
Client Nam	e:LG Electi	ronics Inc.							
Model/Dev	vice:MS770								
Test Volt/F	req:120 VA	AC / 60Hz							
Test By:TO	M CHEN								
Line-L1.15	Line-L1 .15 - 30MHz								
			T24 IL	LC Cables		CFR 47 Part		CFR 47 Part	
Test	Meter		L1.TXT	1&3.TXT		15 Class B		15 Class B	
Frequency	Reading	Detector	(dB)	(dB)	dBuV	QP	Margin	Avg	Margin
0.159	52.26	PK	0.1	0	52.36	65.5	-13.14	55.5	-3.14
0.159	36.54	Av	0.1	0	36.64	65.5	-28.86	55.5	-18.86
0.51	44.69	РК	0.1	0	44.79	56	-11.21	46	-1.21
0.51	32.73	Av	0.1	0	32.83	56	-23.17	46	-13.17
3.4935	41.26	РК	0.1	0.1	41.46	56	-14.54	46	-4.54
3.4935	27.71	Av	0.1	0.1	27.91	56	-28.09	46	-18.09
Line-L2 .15	- 30MHz								
			T24 IL	LC Cables		CFR 47 Part		CFR 47 Part	
Test	Meter		L2.TXT	2&3.TXT		15 Class B		15 Class B	
Frequency	Reading	Detector	(dB)	(dB)	dBuV	QP	Margin	Avg	Margin
0.1995	43.94	РК	0.1	0	44.04	63.6	-19.56	53.6	-9.56
0.1995	19.61	Av	0.1	0	19.71	63.6	-43.89	53.6	-33.89
0.3435	41.85	РК	0.1	0	41.95	59.1	-17.15	49.1	-7.15
0.3435	20.4	Av	0.1	0	20.5	59.1	-38.6	49.1	-28.6
0.582	42.71	PK	0.1	0	42.81	56	-13.19	46	-3.19
0.582	22.59	Av	0.1	0	22.69	56	-33.31	46	-23.31

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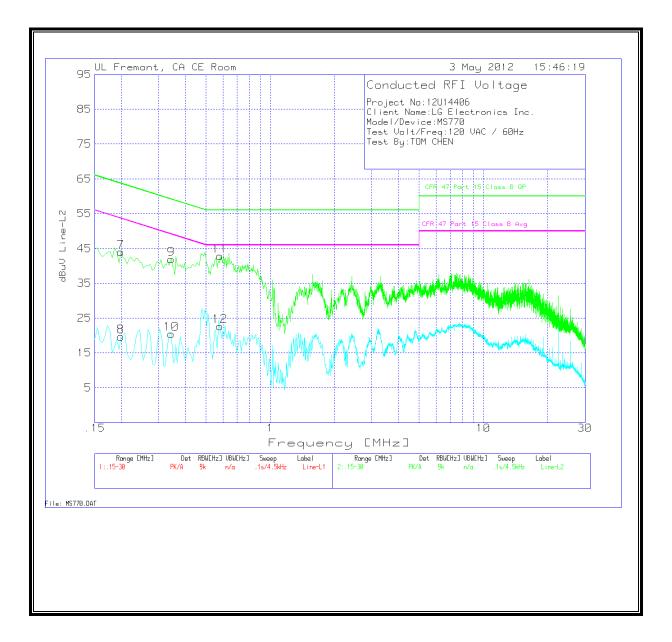
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LINE 1 RESULTS



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LINE 2 RESULTS



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