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FCC PART 15 SUBPART B CLASS B

TEST REPORT

Applicant	**MOTOROLA SOLUTIONS, INC.**
Address	8000 WEST SUNRISE BLVD FT. LAUDERDALE FL 33322-9947 USA
FCC ID	AZ489FT5870
Model Number	DLR1060
Product Description	4 CH 900 MHZ FH RADIO
Date Sample Received	3/2/2015
Date Tested	3/2/2015
Date Report Issued	3/2/2015
Tested By	Cory Leverett
Approved By	Sid Sanders
Test Results	☒ PASS ☐ FAIL

Report Number	Version Number	Description	Issue Date
418UT15TestReport.docx	Rev.2	Updated rear view photo	3/11/2015
418UT15TestReport.docx	Rev.3	Added Testing With Laptop PC	4/10/2015

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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results only relate to the item tested.

SUMMARY OF TESTING RESULTS

The device under test does:

☒ fulfill the general approval requirements as identified in this test report
☐ not fulfill the general approval requirements as identified in this test report

ATTESTATIONS

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, Fl 32669

Authorized Signatory Name:

Cory Leverett
Engineering Project Manager

Date: 3/2/2015

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FCC PART RULES

Applicable Rule(s)	Pt 15.109, Pt 15.107

TEST ENVIRONMENT

Test Facility	Timco Engineering, Inc. 849 NW State Road 45 Newberry, FL 32669 USA.
Test Condition in the laboratory	Temperature: 24-26ºC Relative humidity: 50-65%

TEST SETUP SUMMARY

Test Setup Diagram/ Description	The EUT was placed on the turntable per setup per ANSI C63.4: 2003. A test set up explanation and photo is provided in each test section of this report for clarification.
Deviation from the standard/procedure	No deviation
Modification of EUT	No modification

TEST RESULTS SUMMARY

Radiated emissions – FCC Rules Part 15.109	Pass
Powerline Conducted Emissions – FCC Rules Part 15.107	Pass

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EUT SPECIFICATION

EUT Description	4 CH 900 MHZ FH RADIO
EUT Applications	Portable Radio
Model Number	DLR1060
EUT Power Source	☒ 110–120Vac/50– 60Hz (Rx Only with Charger)
	☐ DC Power
	☒ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☐ Mobile
	☒ Portable
Modifications to EUT:	☒ No ☐ Yes (explanation below)
Test Mode Description	Radio's Not Transmitting, Receive only.

EUT CABLES FOR TESTING

Description	Type	Connector	Length
NA			

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EUT EXTERNAL PHOTOS

FRONT

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EUT EXTERNAL PHOTOS

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EUT EXTERNAL PHOTOS

CHARGER 1


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EUT EXTERNAL PHOTOS

CHARGER 2

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RADIATED SPURIOUS EMISSIONS

RULES PART NO.:FCC PART 15.109

REQUIREMENTS:

Frequency MHz	Limits
30 – 88	40.0 dBµV/m measured @ 3 meters
88 – 216	43.5 dBµV/m measured @ 3 meters
216 – 960	46.0 dBµV/m measured @ 3 meters
Above 960	54.0 dBµV/m measured @ 3 meters

Radiated Emissions Test Setup:
EUT setup and arrangement was completed as described in ANSI C63.4-2003 Section 6. Exploratory measurements were taken following different peripheral placement and cable manipulations as described in ANSI C63.4-2003. A photo is provided of the Test setup to record the exact peripheral equipment and cable manipulation arrangement found to produce the highest possible level of radiated emissions.

Radiated Emissions Test Procedure:
The test procedure used for radiated emissions is described ANSI C63.4-2003 Section 8.3 using a spectrum analyzer. The resolution bandwidth used was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. All cable loss and antenna factors were calibrated to provide plots with correction factors applied to results using the formula and example described below. The video bandwidth of the analyzer was always greater than or equal to the resolution bandwidth, and a peak detector with max hold was used

Formula of Conversion Factors:
The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBµV) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Field Strength Correction Factor Conversion Example:

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dBµV	+ 10.36 dB/m	+0.40 dB	=30.76 dBµV/m @ 3m

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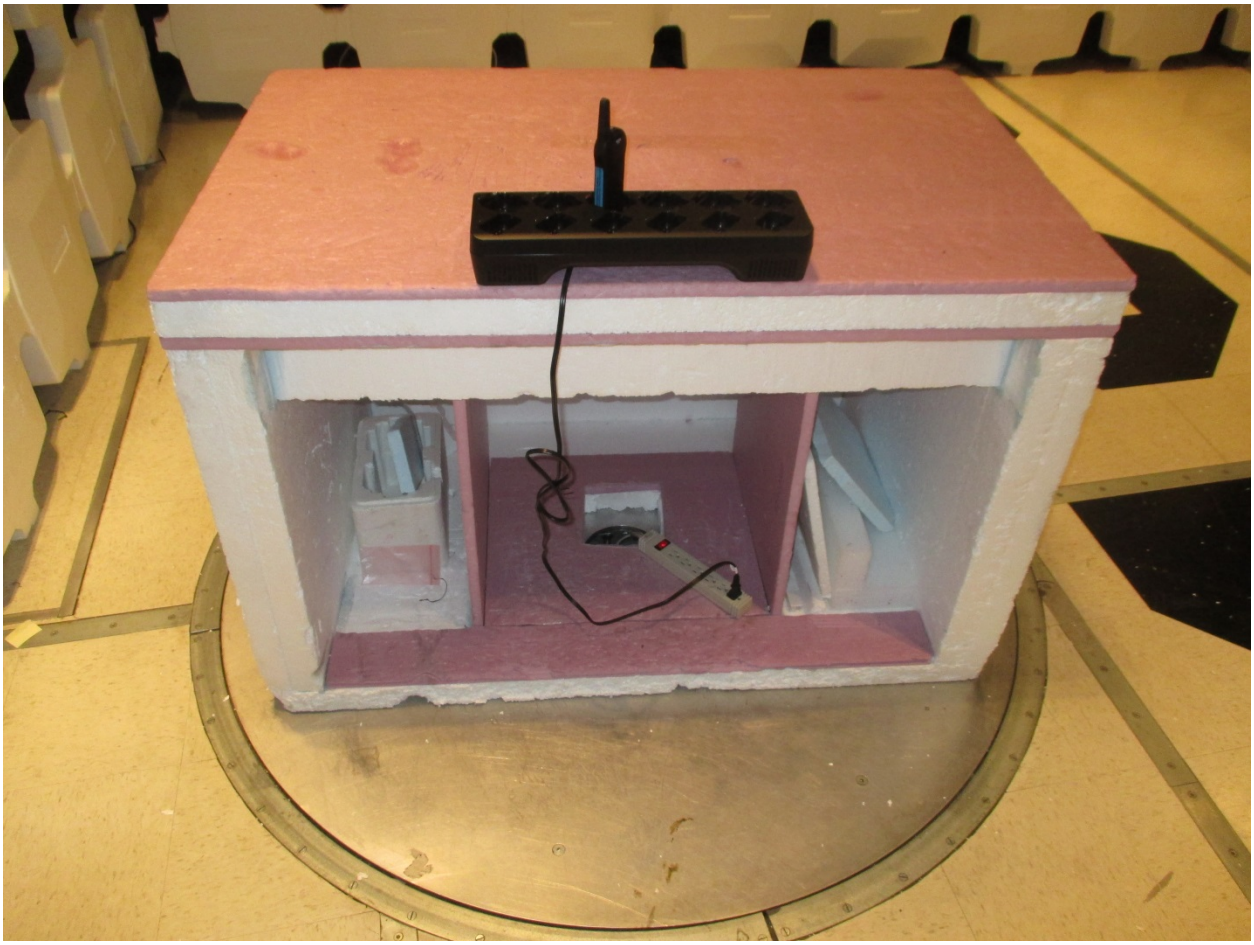
EUT CHARGER 1 FINAL MEASUREMENT SETUP PHOTO 1



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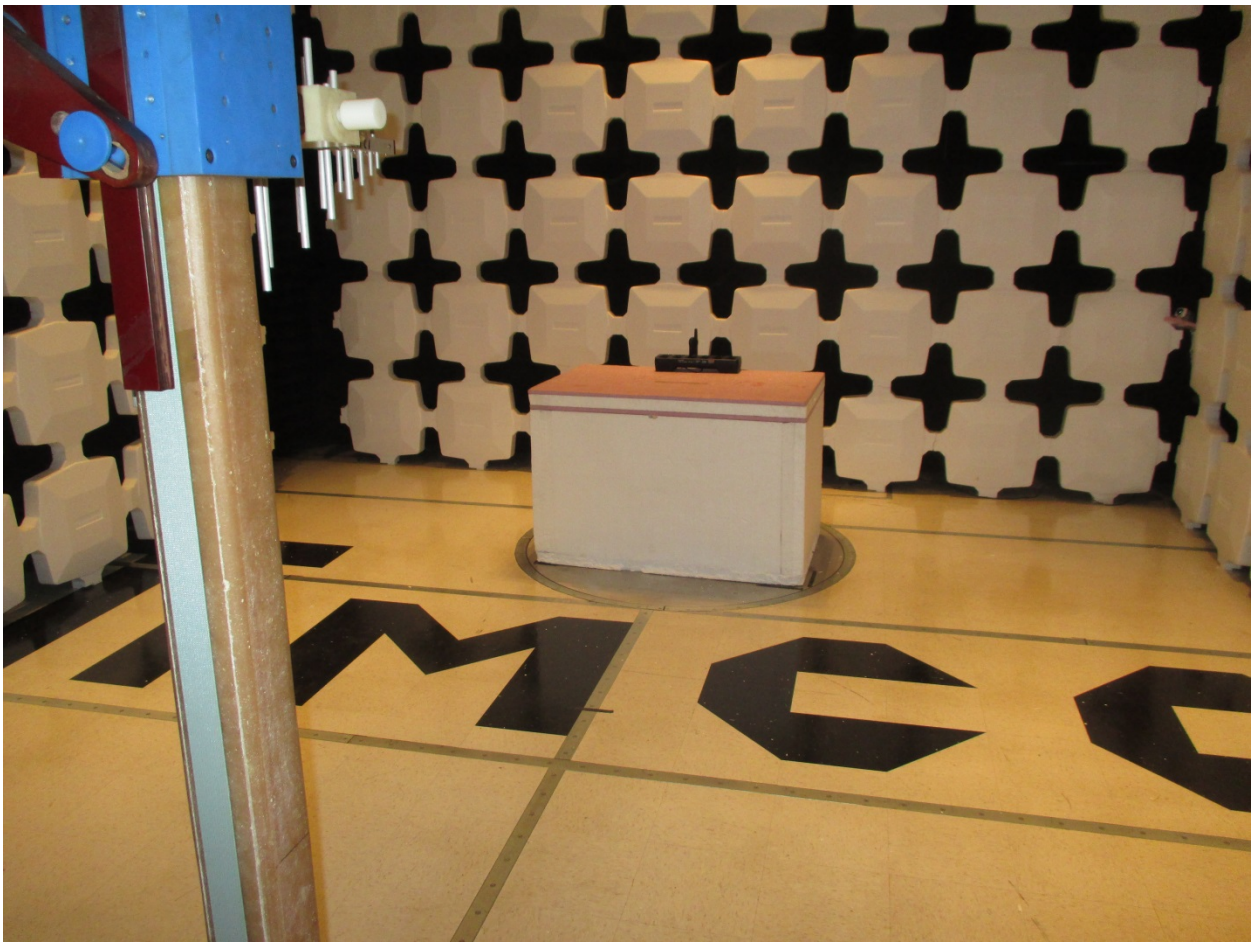
EUT CHARGER 1 FINAL MEASUREMENT SETUP PHOTO 2



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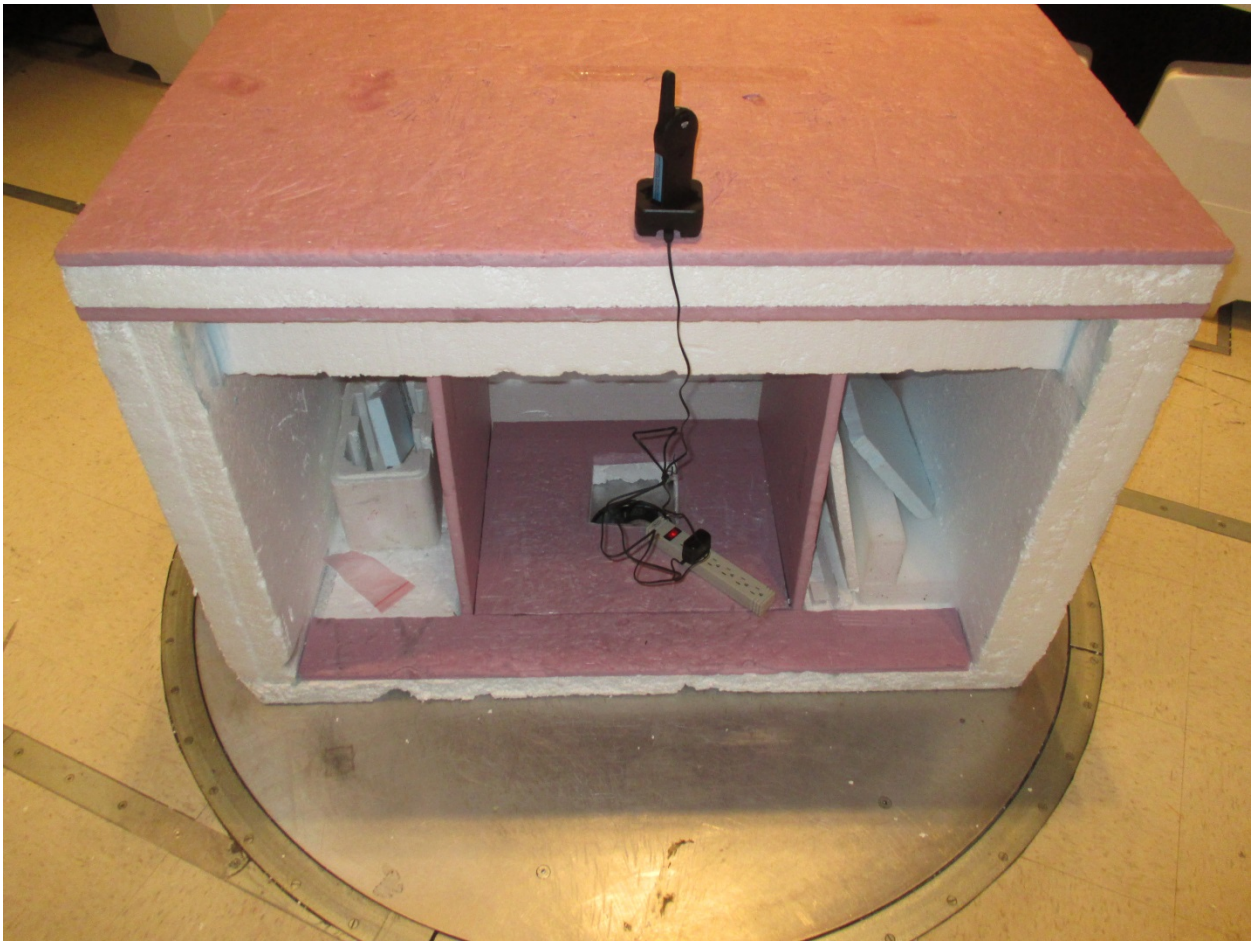
EUT CHARGER 2 FINAL MEASUREMENT SETUP PHOTO 3



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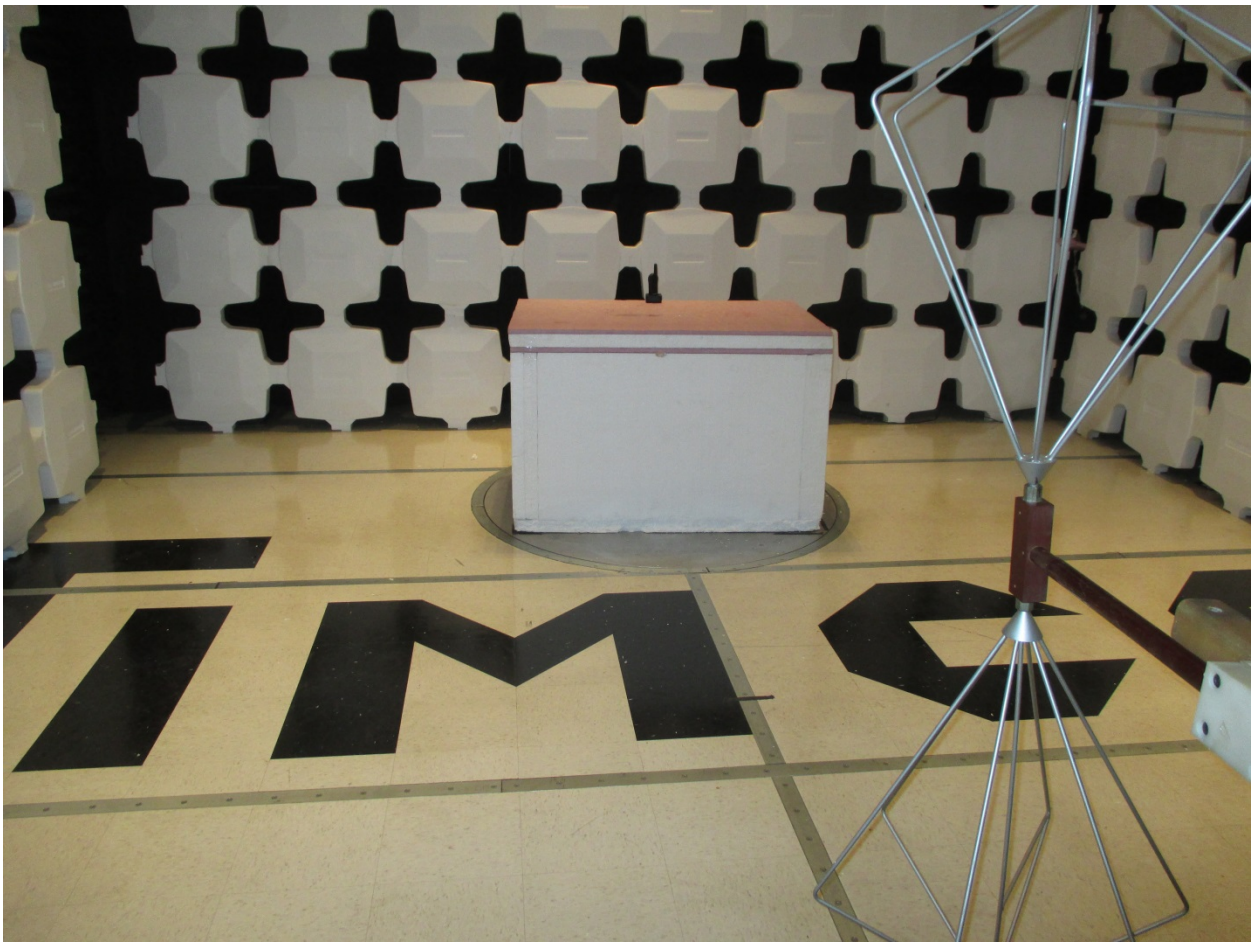
EUT CHARGER 2 FINAL MEASUREMENT SETUP PHOTO 4



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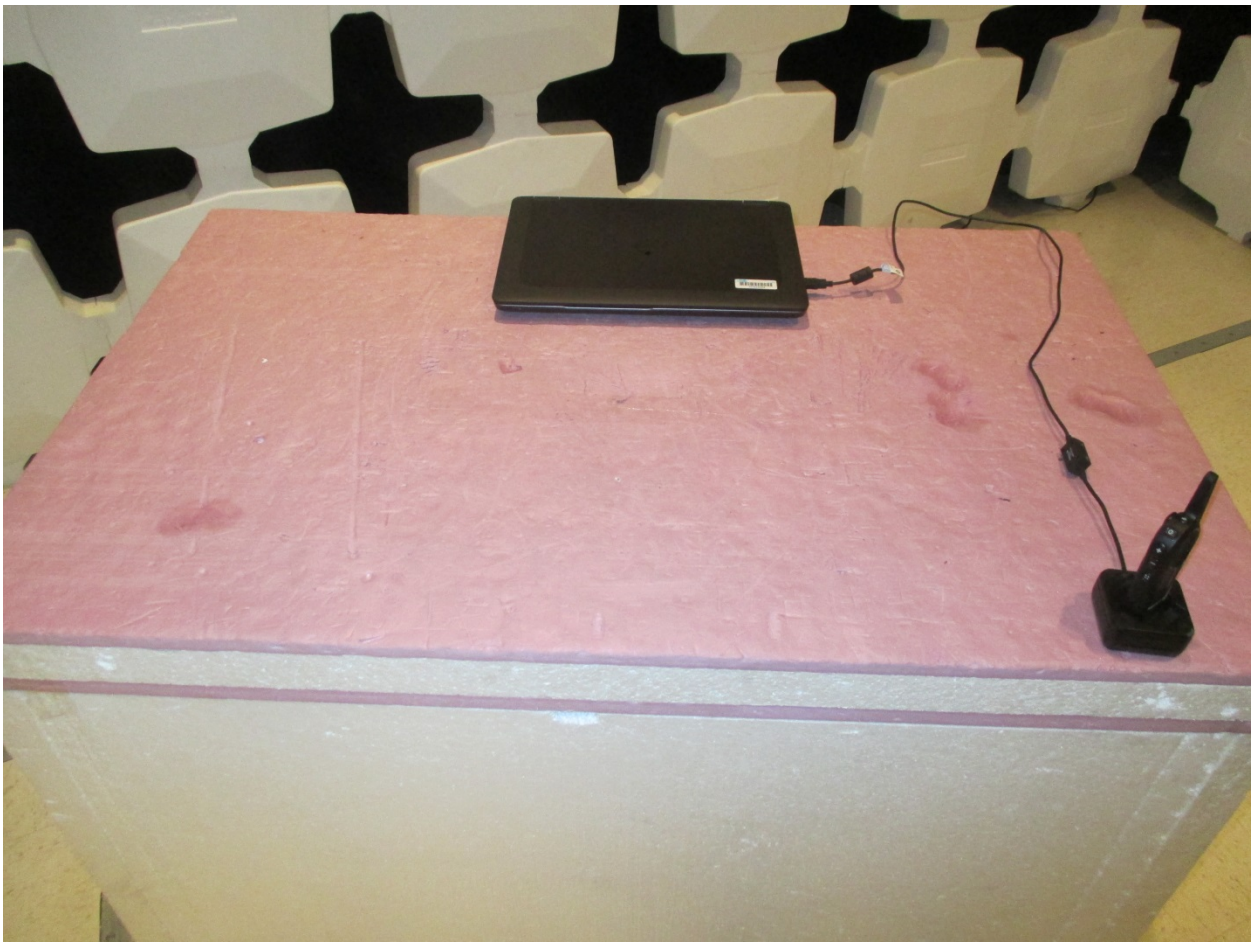
EUT LAPTOP FINAL MEASUREMENT SETUP PHOTO 5



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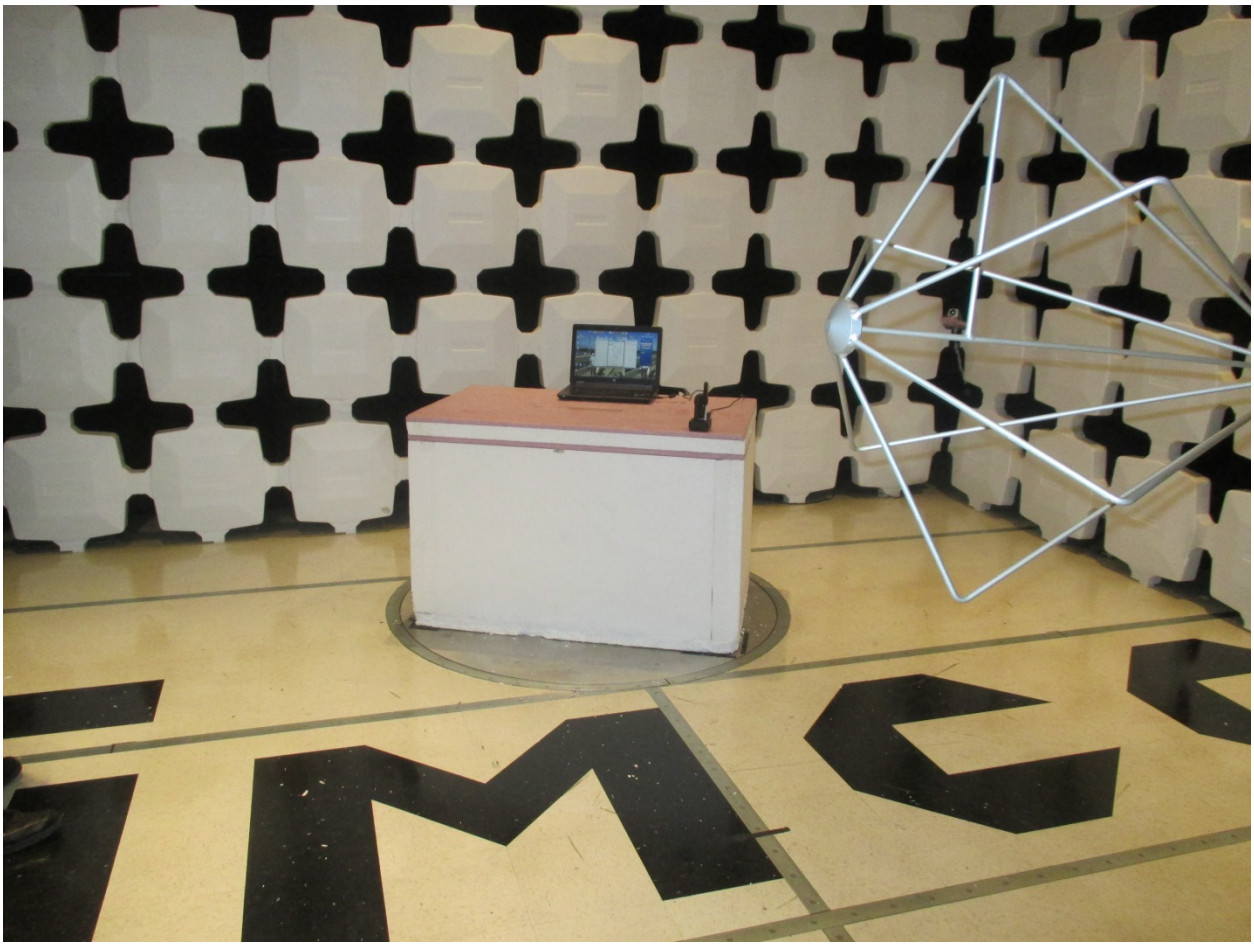
EUT LAPTOP FINAL MEASUREMENT SETUP PHOTO 6



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RADIATED EMISSIONS TEST DATA:

The following plots represent the maximum emissions found when taking final measurements following the procedure described in ANSI C63.4-2009 Section 8.3.2. The final measurements were preceded by taking exploratory measurements described in ANSI C63.4-2009 Section 8.3.1. The plots include the limit line for radiated emissions as required by FCC part 15.109.

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30-200 MHZ PLOT CHARGER 1

Date: 2.MAR.2015 09:46:00

Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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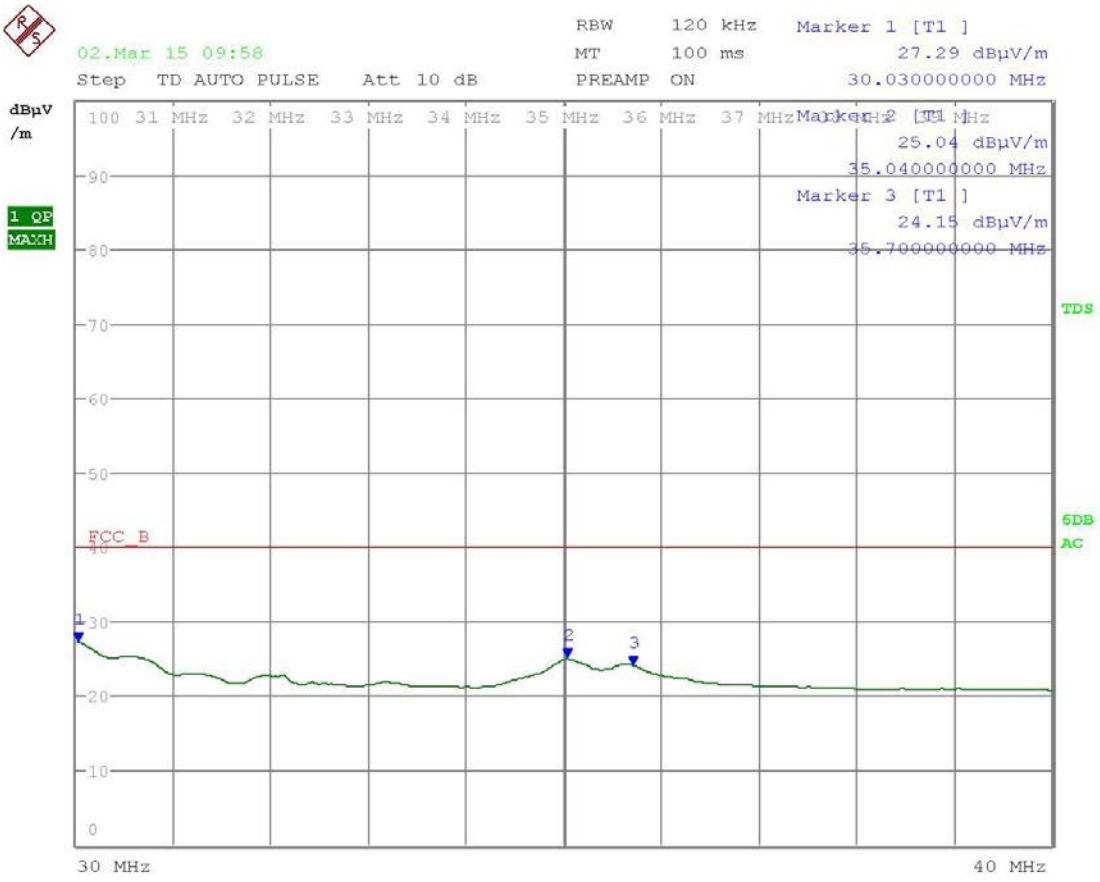
30-40 MHZ QUASI-PEAK SCAN CHARGER 1



Date: 2.MAR.2015 09:58:41

Ant Polarity: T1 (Green)=Vertical

Results Meets Requirements

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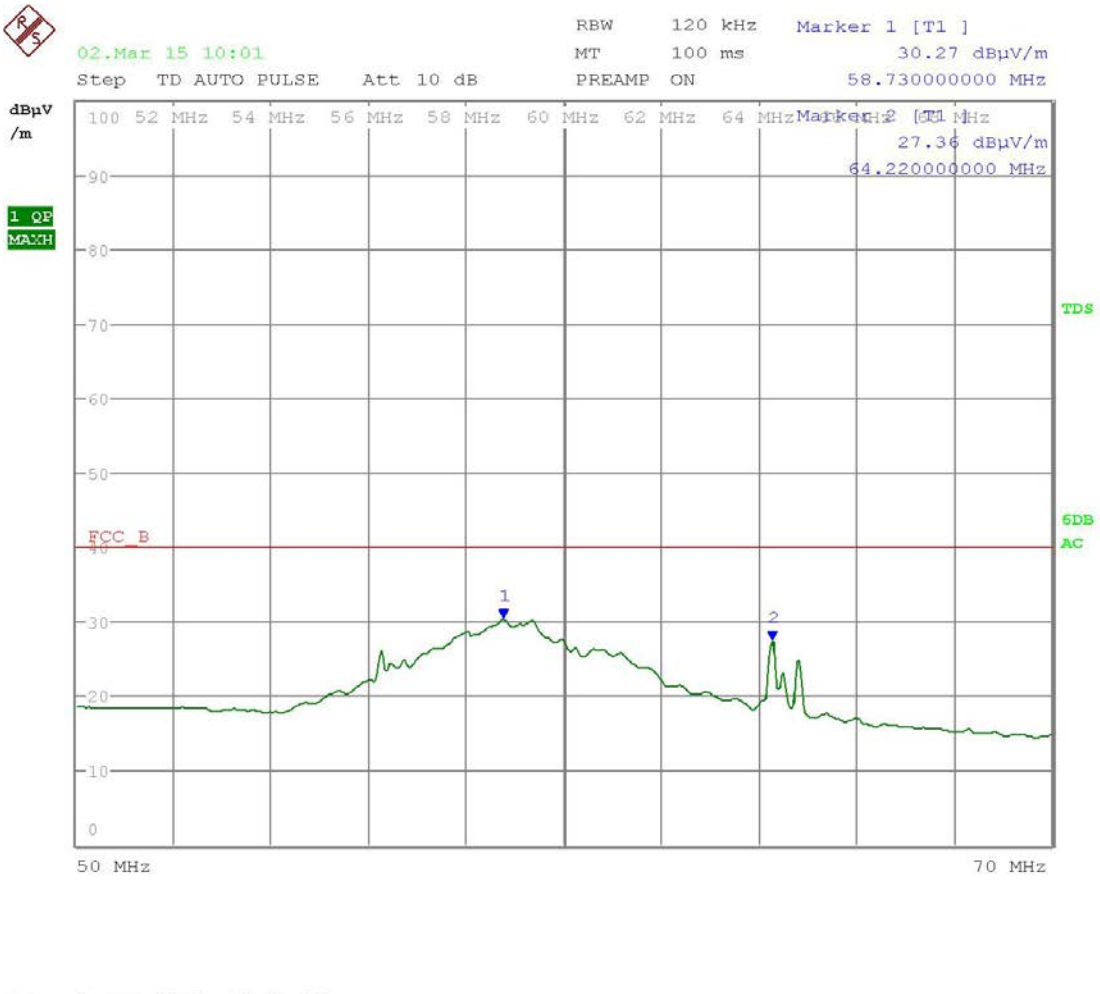
50-70 MHZ QUASI-PEAK SCAN CHARGER 1



Date: 2.MAR.2015 10:01:58

Ant Polarity: T1 (Green)=Vertical

Results Meets Requirements

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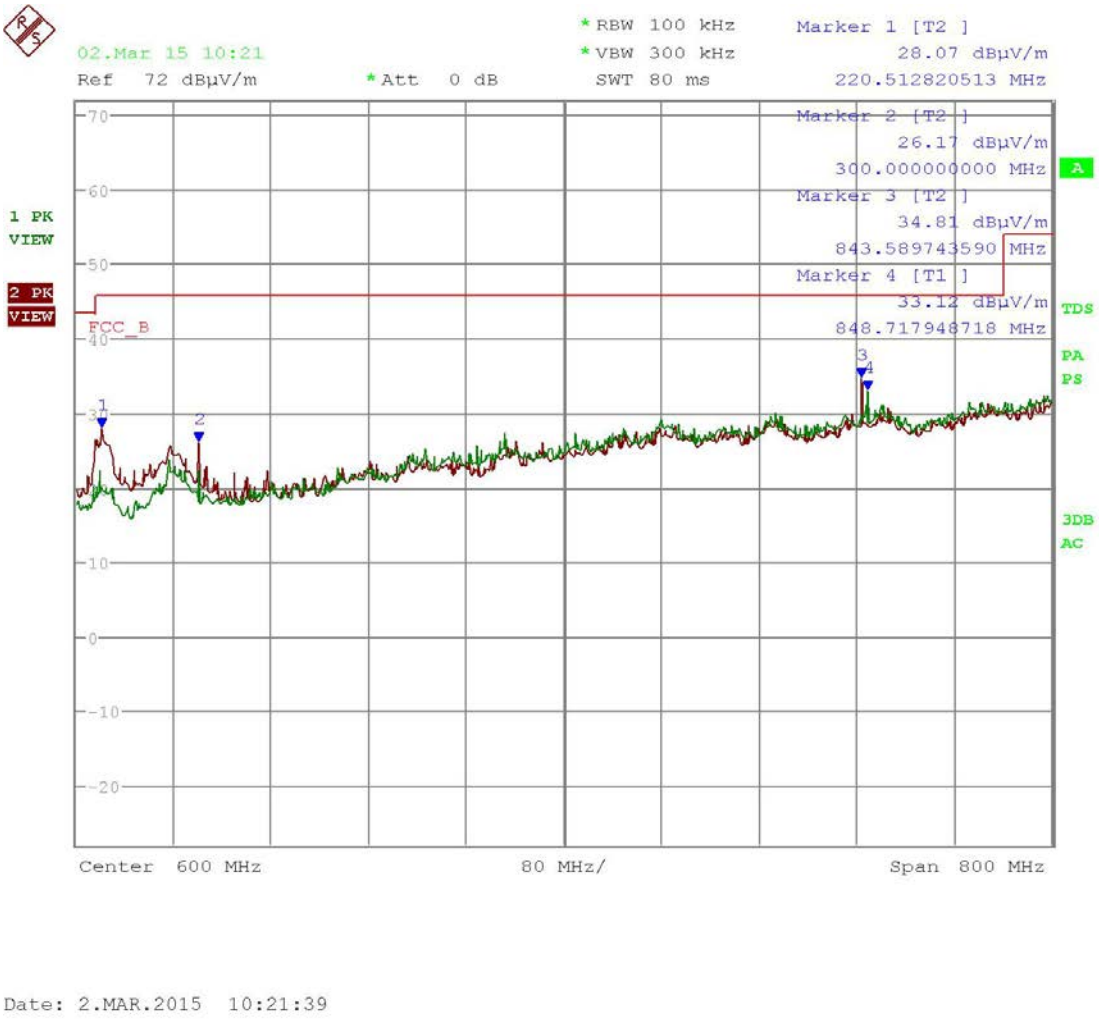
200-1000 MHZ PLOT CHARGER 1



Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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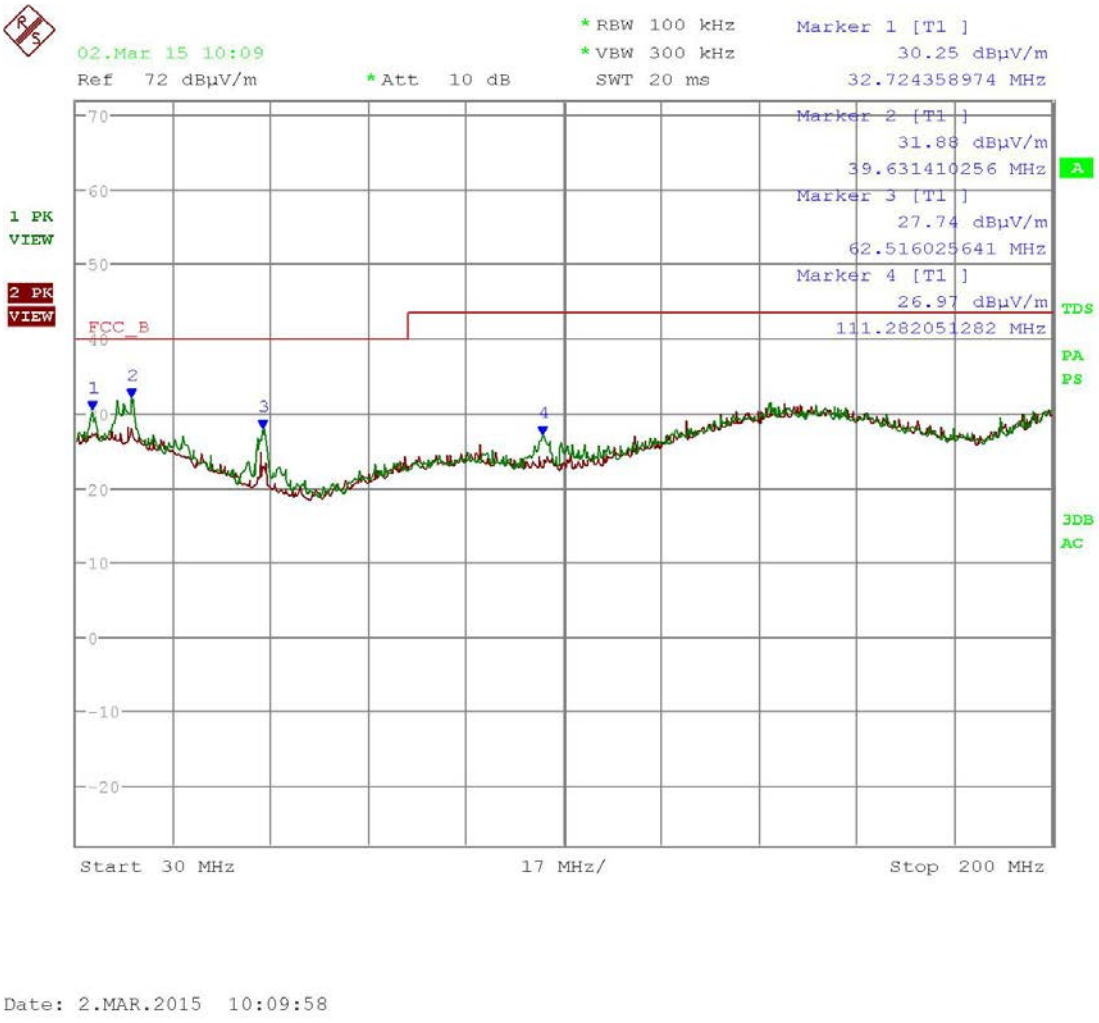
30-200 MHZ PLOT CHARGER 2



Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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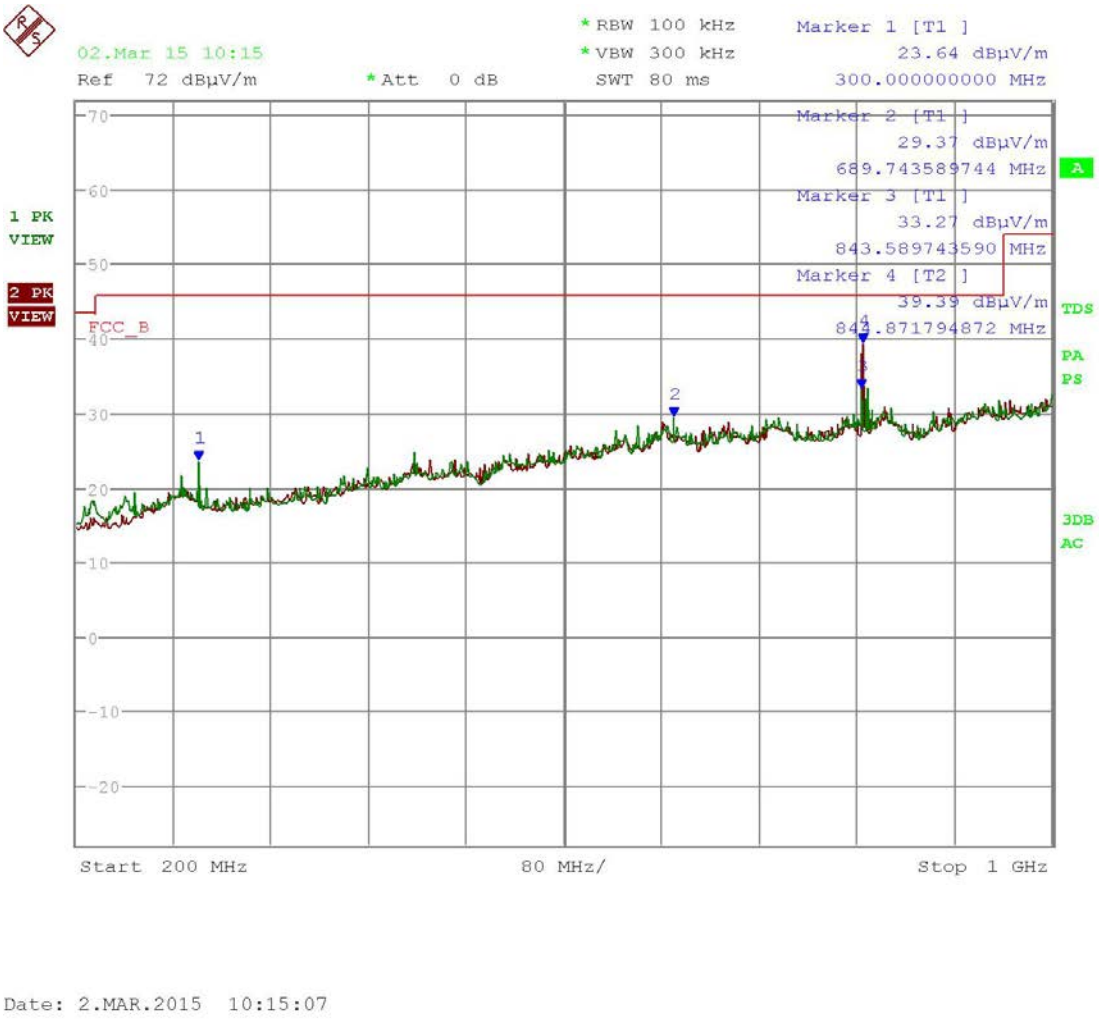
200-1000 MHZ PLOT CHARGER 2



Date: 2.MAR.2015 10:15:07

Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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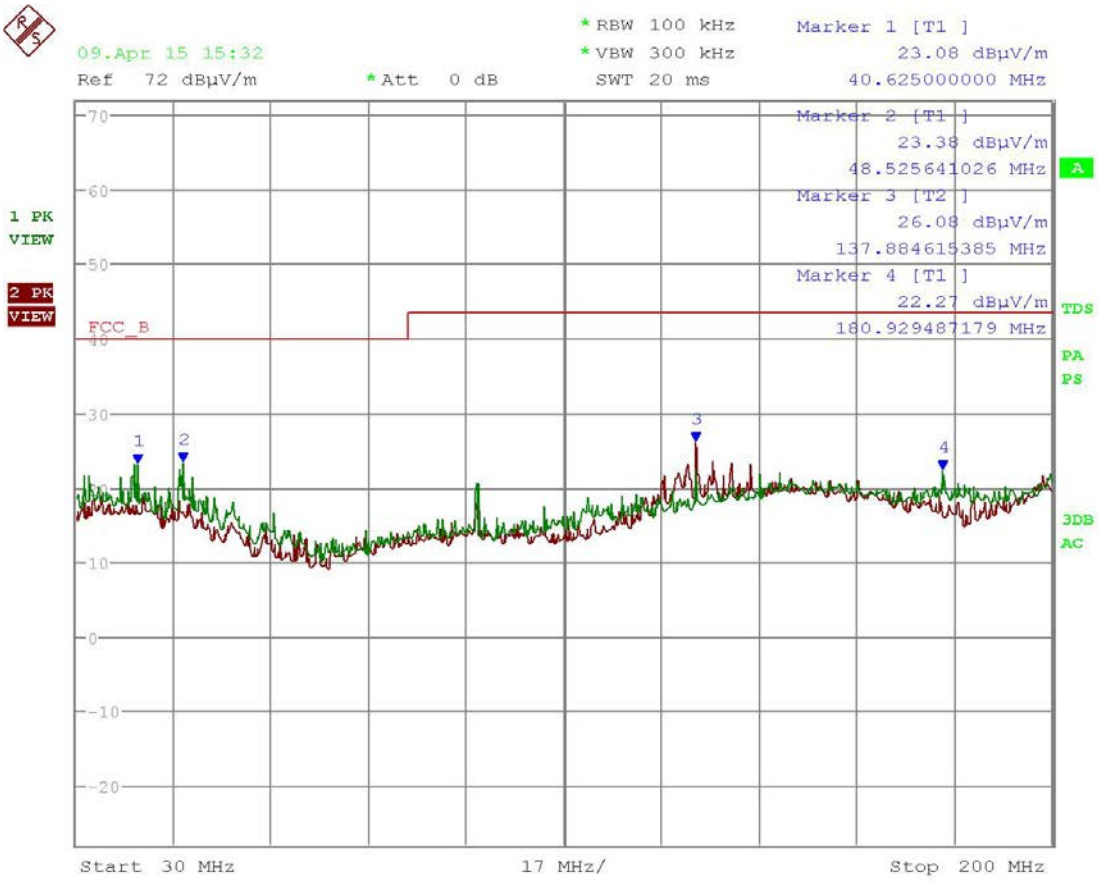
30-200 MHZ PLOT LAPTOP PC TRANSFERRING DATA



Date: 9.APR.2015 15:32:37

Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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200-1000 MHZ PLOT LAPTOP PC TRANSFERRING DATA

Date: 9.APR.2015 15:38:37

Ant Polarity: T1 (Green)=Vertical, T2 (Red)=Horizontal

Results Meets Requirements

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