



849 NW State Road 45  
 Newberry, Fl 32669 USA  
 Phone: 888.472.2424 or 352.472.5500  
 Fax: 352.472.2030  
 Email: [info@timcoengr.com](mailto:info@timcoengr.com)  
 Website: [www.timcoengr.com](http://www.timcoengr.com)

## FCC PART 15 SCANNING RECEIVER

<b>Applicant</b>	UNIDEN AMERICA CORPORATION
<b>Address</b>	3001 GATEWAY DRIVE SUITE 130 IRVING TEXAS 75063 USA
<b>FCC ID:</b>	AMWUB379
<b>Model Number</b>	BCD32SPD
<b>Product Description</b>	DIGITAL SCANNING RECEIVER
<b>Date Sample Received</b>	1/27/2015
<b>Date Tested</b>	3/2/2015
<b>Tested By</b>	Christian Pawlak
<b>Approved By</b>	Sid Sanders
<b>Test Results</b>	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

Report Number	Version Number	Description	Issue Date
212AUT15TestReport.doc	Rev.1	Initial Issue	3/2/2015

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**

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## GENERAL REMARKS

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

### Summary

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



Christian Pawlak

Compliance Engineer

**Date: 3/5/2015**

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## REPORT SUMMARY PAGE

### REPORT

Disclaimer	The test results only relate to the item tested.
Standards Applied Rule(s)	CFR 47 FCC Pt 15.109, Pt 15.107, ANSI C63.4: 2003
Related Report	NA

### ENVIRONMENT

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

### SETUP

Test Setup Diagram/ Description	The EUT was placed on the turntable per setup per ANSI C63.4: 2003. A test set up photo is provided for clarification.
Deviation from the standard/procedure	No deviation
Revision History of EUT	No modification

### RESULTS

15.109 Radiated Emissions	PASS
15.107 Powerline Conducted Emissions	NOT APPLICABLE
15.121(b) 38 dB Rejection Ratio	PASS

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APPLICANT: UNIDEN AMERICA CORPORATION  
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**GENERAL INFORMATION**

The test results relate only to the items tested.	
<b>DUT Description</b>	DIGITAL SCANNING RECEIVER
<b>FCC ID</b>	AMWUB379
<b>Model Number</b>	BCD32SPD
<b>DUT Power Source</b>	<input type="checkbox"/> 110–120Vac/50– 60Hz
	<input type="checkbox"/> DC Power
	<input checked="" type="checkbox"/> Battery Operated Exclusively
<b>Test Item</b>	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> Pre-Production
	<input type="checkbox"/> Production
<b>Modifications to DUT</b>	None
<b>Test Standards</b>	FCC Part 15, Subpart B, ANSI C63.4-2003

APPLICANT: UNIDEN AMERICA CORPORATION  
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**TEST PROCEDURE**

**General:** This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

**Radiation Interference:** The test procedure used was ANSI C63.4-2003 using a spectrum analyzer with a pre-selector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The video bandwidth was always greater than or equal to the RBW.

**Formula of Conversion Factors:** The field strength at 3 m 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. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the spectrum analyzer Meter Reading.

**Example:**

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

**ANSI C63.4-2003 Section 10.1.7 Measurement Procedures:** The unit under test was placed on a table 80 cm high and with dimensions of 1 by 1.5 meters. The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1 to 4 meters. The antenna was placed in both the horizontal and verticals planes.

If power line conducted testing was required for this device, the situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI C63.4-2003 with the EUT 40 cm from the vertical ground wall.

## RADIATED SPURIOUS EMISSIONS

Rules Part No.: 15.109

### Requirements:

Frequency	Limits
30 – 88	40.0 dB $\mu$ V/m measured @ 3 meters
80 – 216	43.5 dB $\mu$ V/m measured @ 3 meters
216 – 960	46.0 dB $\mu$ V/m measured @ 3 meters
Above 960	54.0 dB $\mu$ V/m measured @ 3 meters

**Test Procedure:** The procedure used was ANSI C63.4-2003. The frequency was scanned from 30 MHz to 1 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The DUT was measured in three (3) orthogonal planes.

### Test Data:

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# RADIATED SPURIOUS EMISSIONS

## Test Data: Plots Low End of Band 25.0 MHz

30-200 MHz PLOT



Date: 4.FEB.2015 13:04:16

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

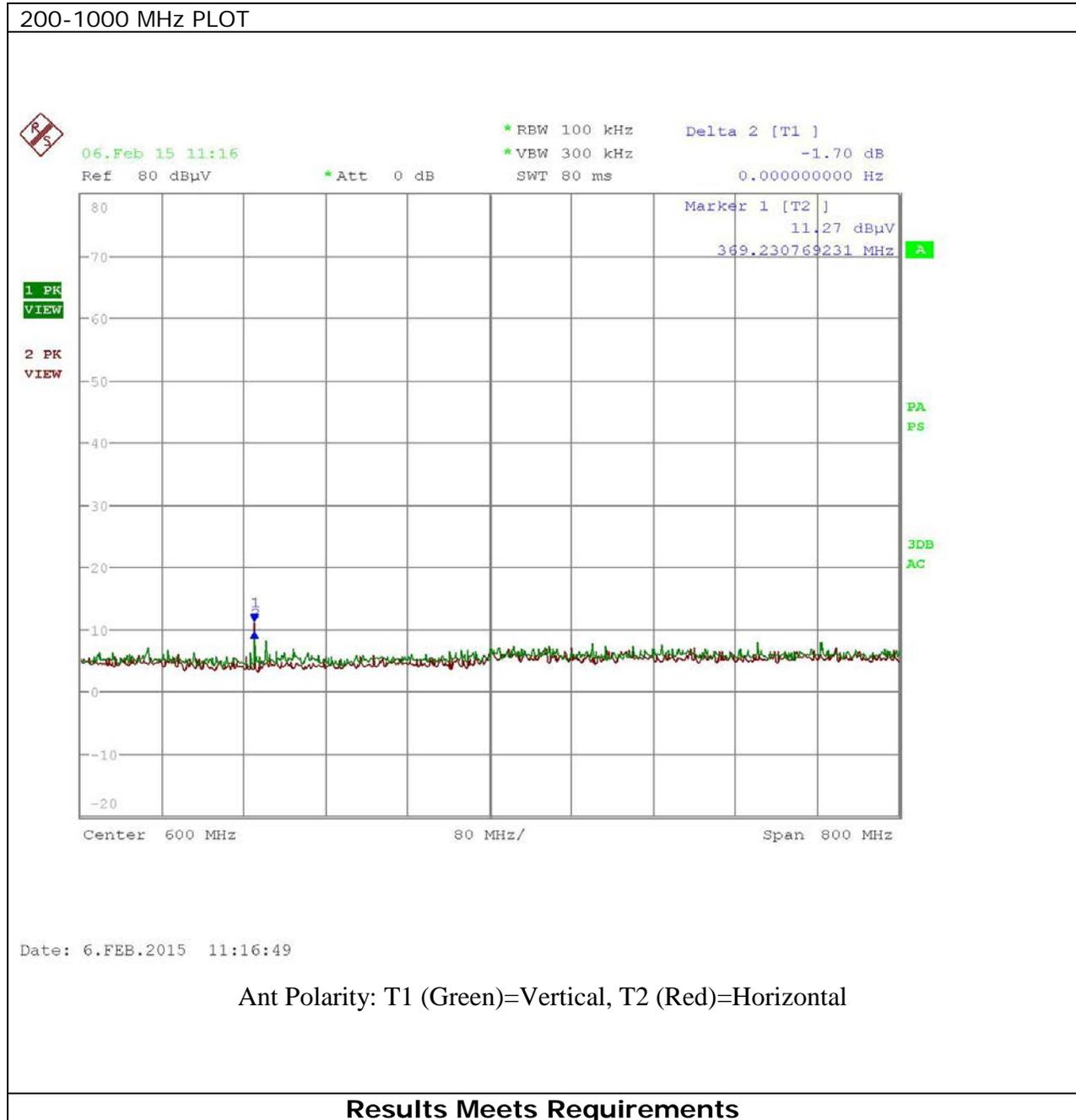
**Results Meets Requirements**

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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots Low End of Band 25.0 MHz

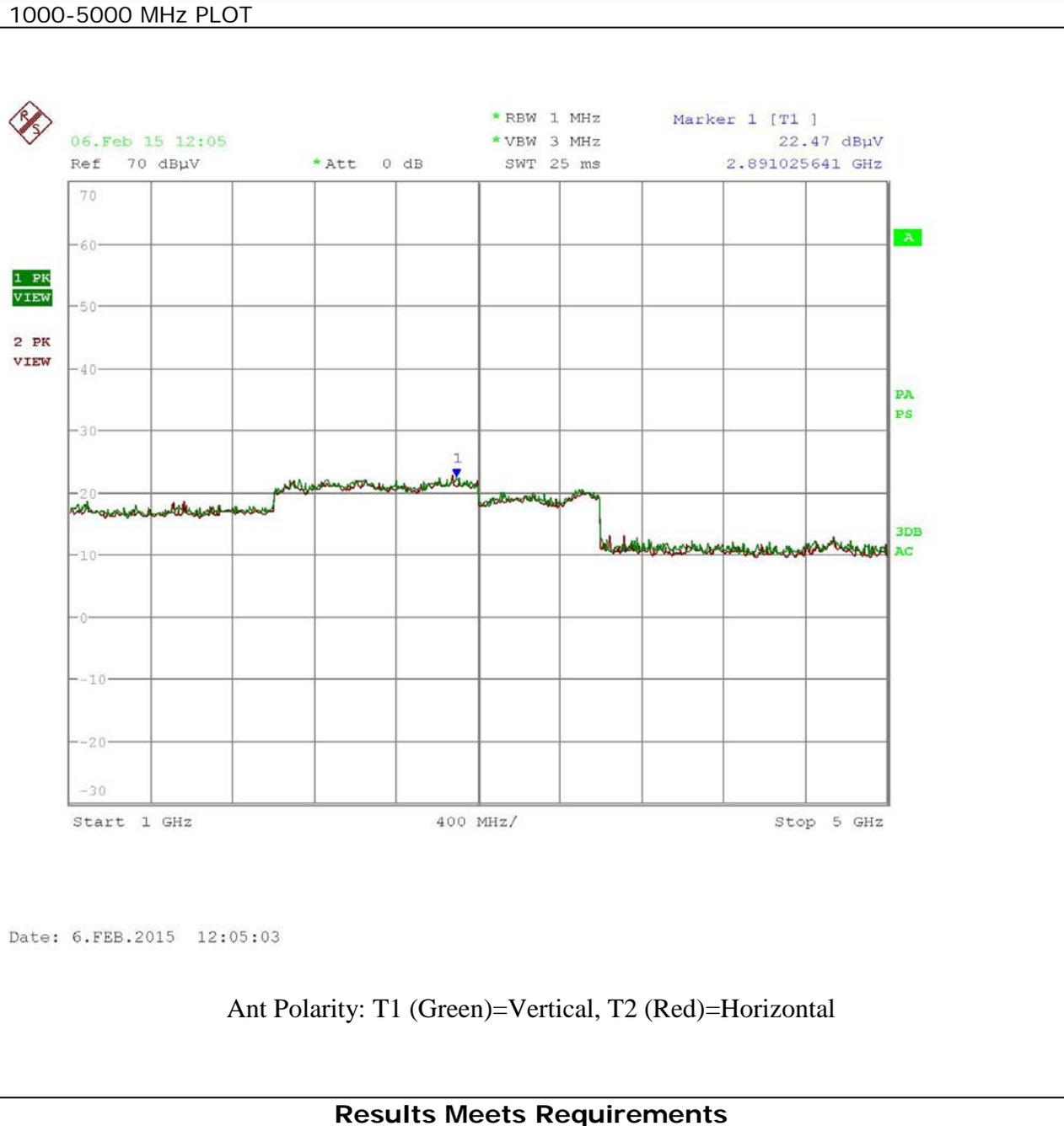


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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots Low End of Band 25.0 MHz



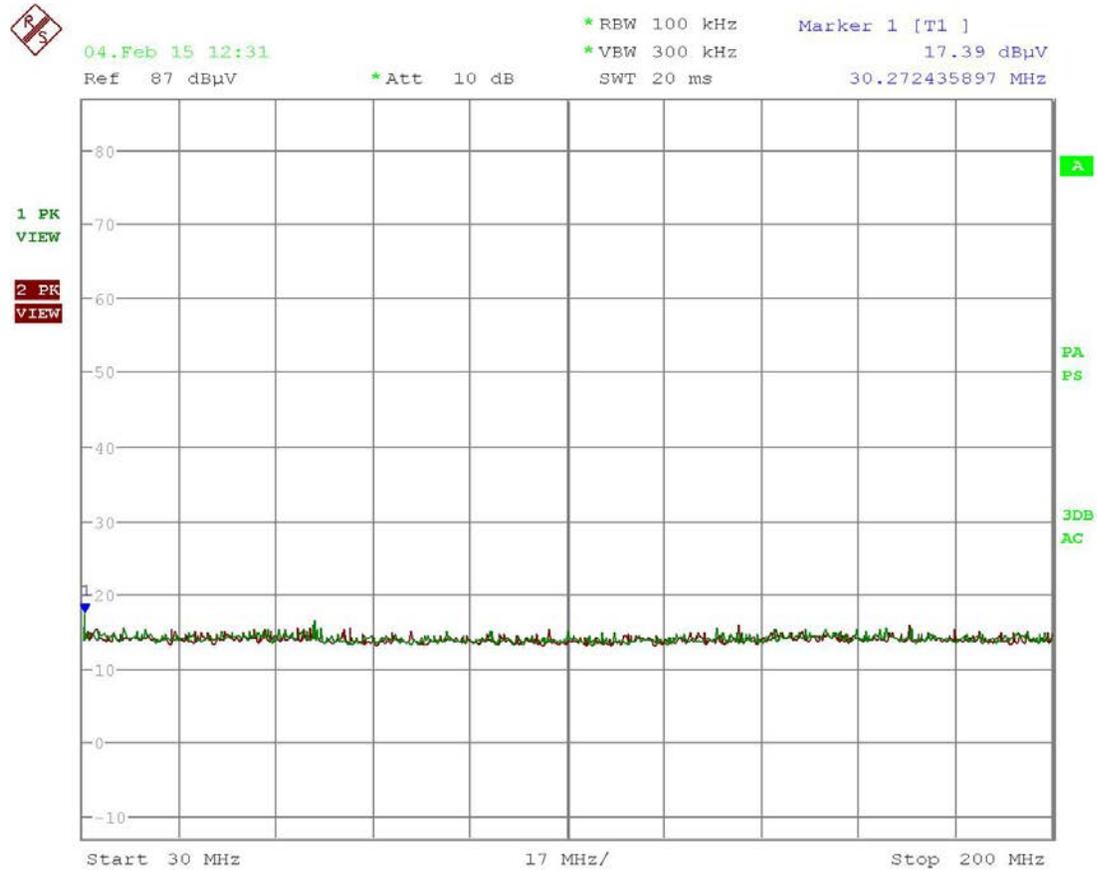
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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots Middle of Band 489.5 MHz

## 30-200 MHz PLOT



Date: 4.FEB.2015 12:31:50

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

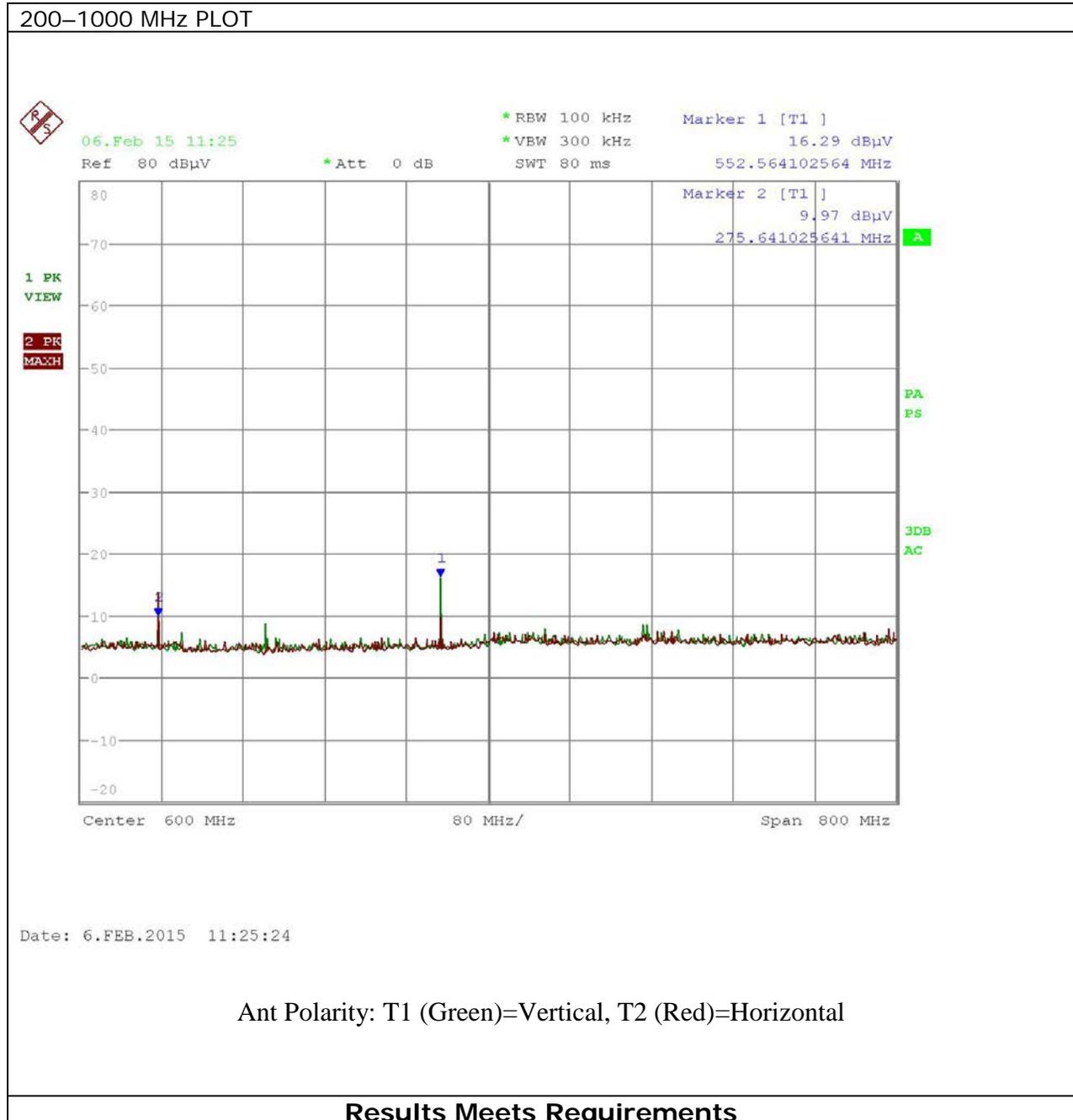
**Results Meets Requirements**

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# RADIATED SPURIOUS EMISSIONS

## Test Data: Plots Middle of Band 489.5 MHz

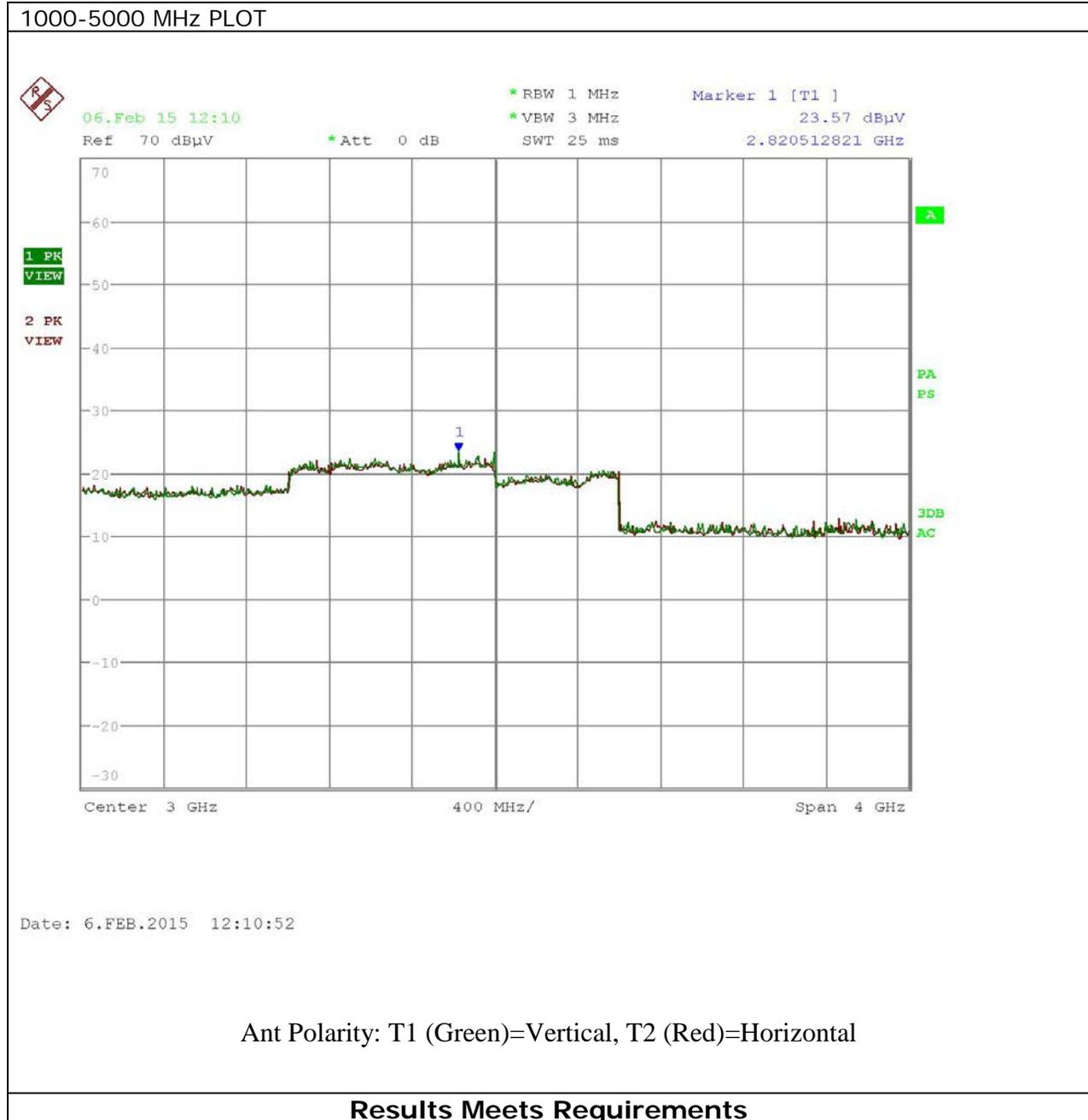


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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots Middle of Band 489.5 MHz



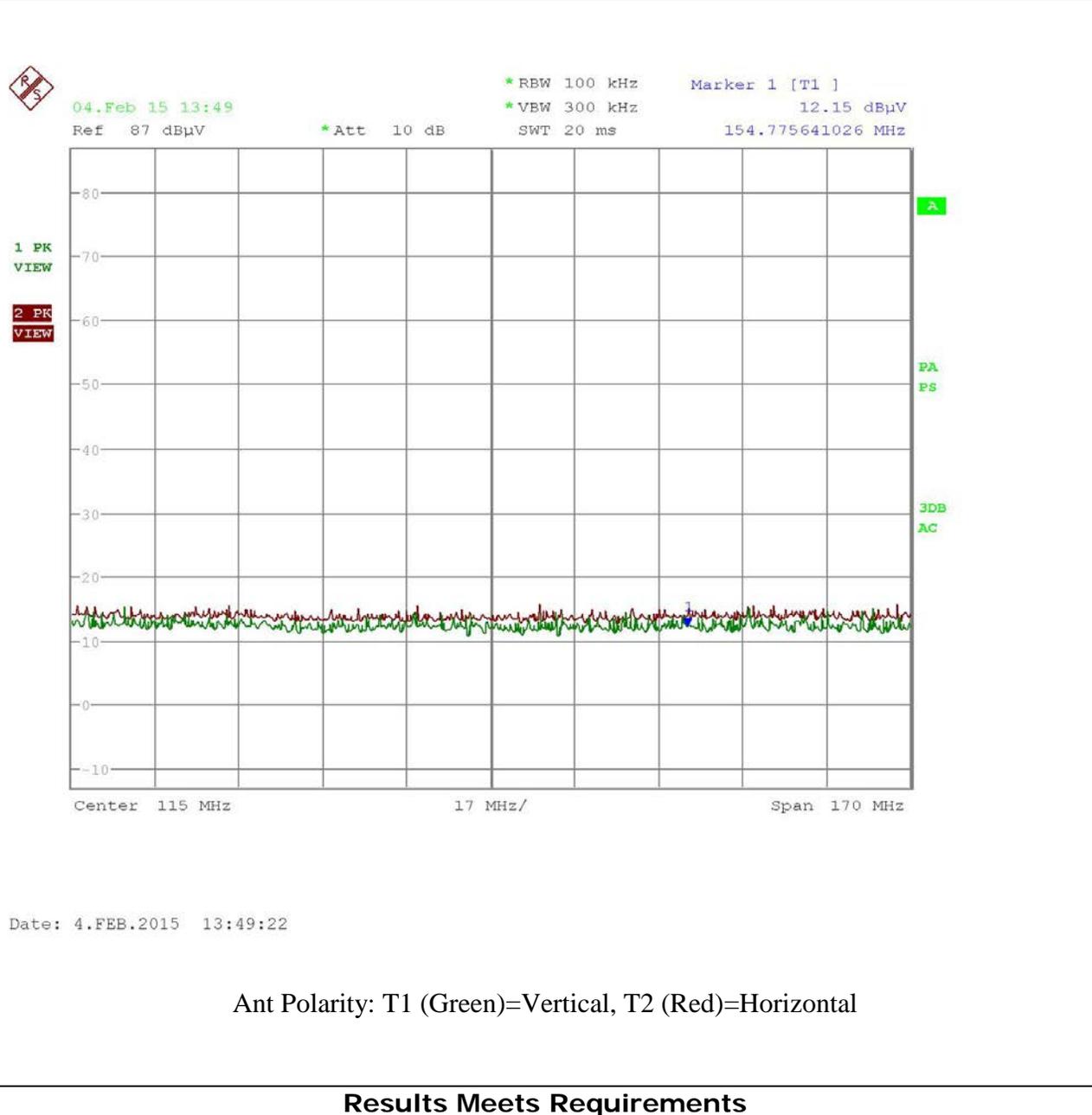
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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots High End of Band 850.0 MHz

30-200 MHz Plot

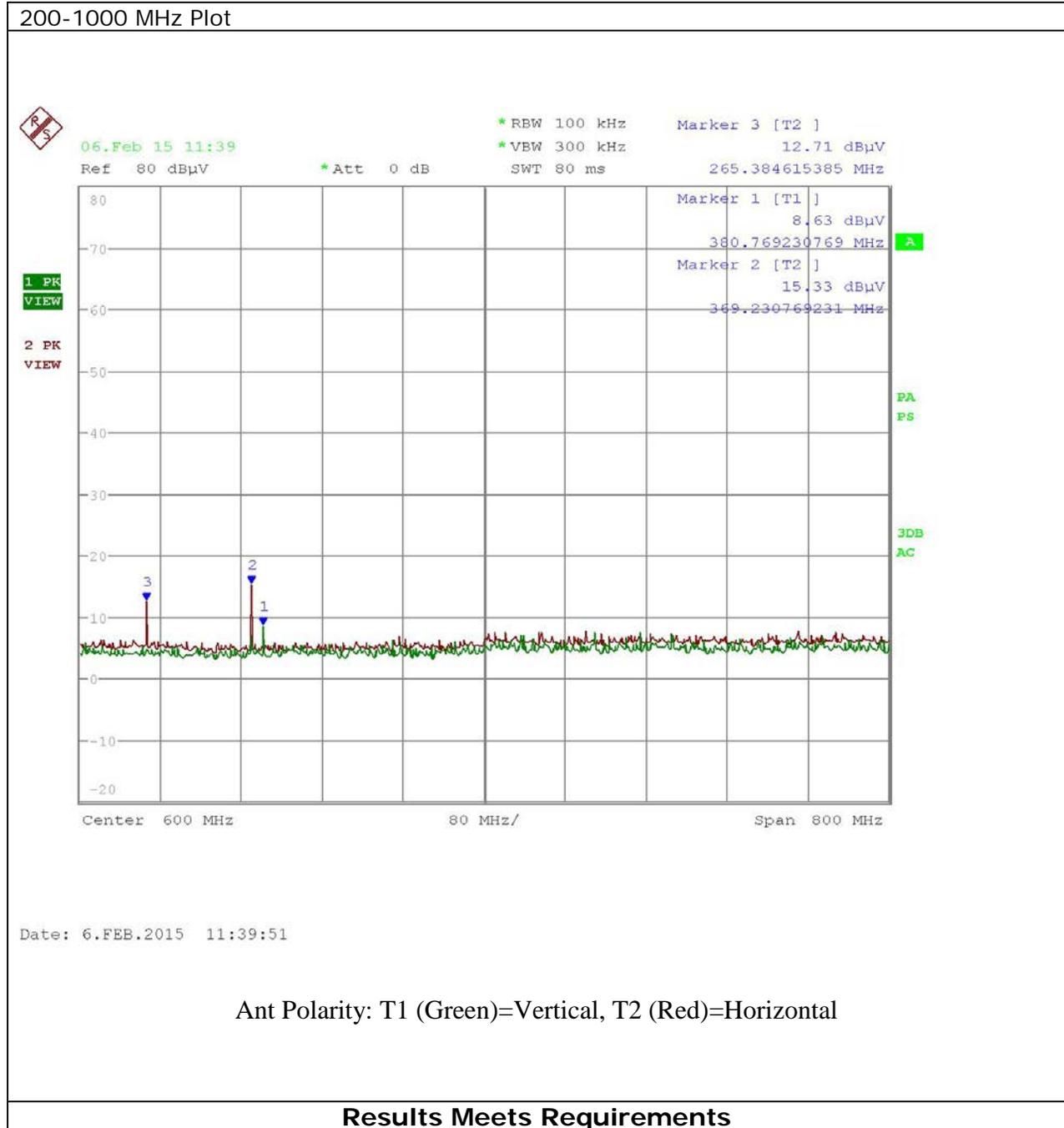


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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots High End of Band 850.0 MHz

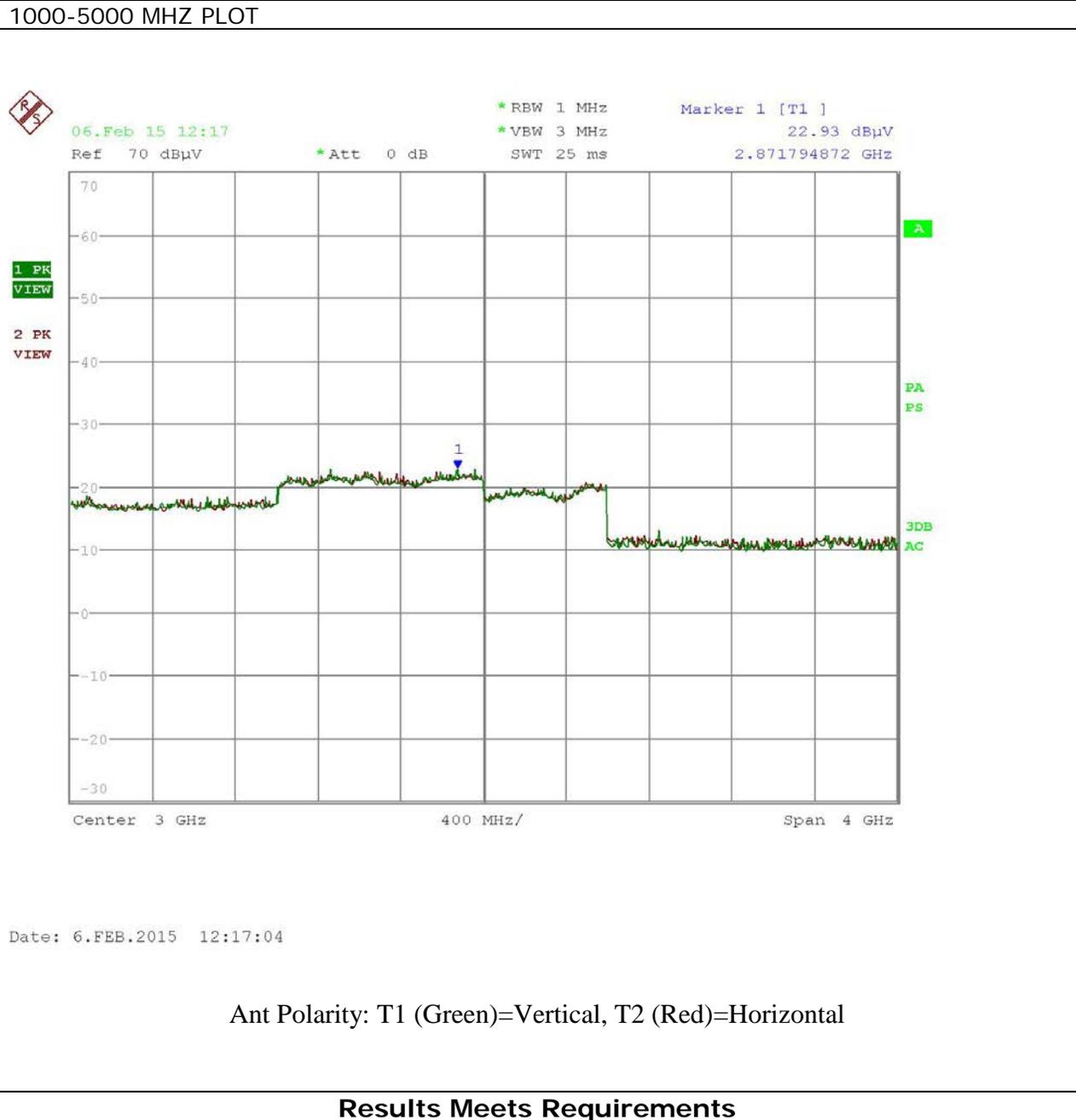


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# RADIATED SPURIOUS EMISSIONS

Test Data: Plots High End of Band 850.0 MHz



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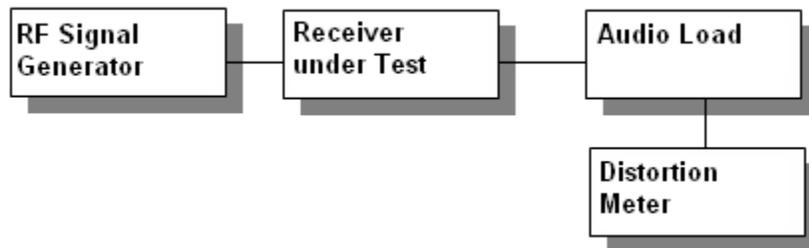
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## 38 dB REJECTION RATIO

**RULES PART NUMBER:** 15.121(b)

**REQUIREMENTS:** 38 dB REJECTION RATIO TO SENSITIVITY OF THE RECEIVER.

### TEST SET-UP



- a. Equipment connected as illustrated
- b. A standard signal was applied to the receiver input terminals.
- c. Receiver output audio output was adjusted for rated output.
- d. The RF Signal generator was adjusted to the lowest level to produce a 12 dB SINAD without the audio output dropping more than 3 dB. Make note of sensitivity level.
- e. This was done across the different bands to establish a reference level. The reference taken was the worst case sensitivity.
- f. The output of the signal generator was then adjusted to a level of 60 dB above the reference level at a frequency of 824.5MHz.
- g. With the level set 60 dB above the level measured in step e.
- h. Set squelch on receiver to threshold, the signal level required to open the squelch must be lower than the level measured in step d.
- i. Cause the receiver to scan or step-it through its complete range of frequencies.
- j. If receiver stops or unsquelches on any frequency, record the frequency and then adjust the level until a 12 dB SINAD is produced. This level must be greater than 38 dB above the level in step e.
- k. Repeat steps f through j for frequencies 836.0, 848.5, 869.1, 881.0, & 893.5MHz.

**TEST RESULTS:** The DUT meets the 38 dB REJECTION RATIO.

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**TEST EQUIPMENT LIST**

<b>Device</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial Number</b>	<b>Cal/Char Date</b>	<b>Due Date</b>
<b>Antenna: Biconnical Chamber</b>	<b>Eaton Chamber</b>	<b>94455-1</b>	<b>1057</b>	<b>06/14/13</b>	<b>06/14/15</b>
<b>Antenna: Log- Periodic Chamber</b>	<b>Eaton</b>	<b>96005</b>	<b>1243</b>	<b>05/31/13</b>	<b>05/31/15</b>
<b>LISN</b>	<b>Electro- Metrics</b>	<b>ANS-25/2</b>	<b>2604</b>	<b>01/07/14</b>	<b>01/07/16</b>
<b>3-Meter Semi- Anechoic Chamber</b>	<b>Panashield</b>	<b>N/A</b>	<b>N/A</b>	<b>12/31/13</b>	<b>12/31/15</b>
<b>Antenna: Double- Ridged Horn/ETS Horn 2</b>	<b>ETS-Lindgren</b>	<b>3117</b>	<b>00041534</b>	<b>02/25/15</b>	<b>02/25/17</b>
<b>EMI Test Receiver R &amp; S ESIB 40 Screen Room</b>	<b>Rohde &amp; Schwarz</b>	<b>ESIB 40</b>	<b>100274</b>	<b>08/12/14</b>	<b>08/12/16</b>
<b>Software: Field Strength Program</b>	<b>Timco</b>	<b>N/A</b>	<b>Version 4.0</b>	<b>12/12/99</b>	<b>12/12/99</b>
<b>EMI Test Receiver R &amp; S ESU 40 Chamber</b>	<b>Rohde &amp; Schwarz</b>	<b>ESU 40</b>	<b>100320</b>	<b>03/11/14</b>	<b>03/11/16</b>

**\*EMI RECEIVER SOFTWARE VERSION**

The receiver firmware used was version 4.43 Service Pack 3

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