

Prepared (also subject responsible if other) EWUTHFU		No. 2/0360-FCP 101 3765 Uen		
Approved EWU/PR/HD [Keith Goshia]	Checked	Date 2005-11-29	Rev B	Reference TA8AKRC11822-1

Sub-part 2.1033 (c):

**Equipment Identification**

FCC ID: TA8AKRC11822-1

**Date of Report**

Thursday, October 06, 2005

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The applicant has been cautioned as to the following:

#### 15.21 Information to User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### 15.27 (a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

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### List of General Information Required for Type Acceptance

In Accordance with FCC Rules and Regulations,  
Volume II, Part 2 and to  
Part 22 sub-part H

#### Sub-part

2.1033 (c)(1)      Name and Address of Applicant:

Ericsson Wireless Communications  
6210 Spine Rd.  
Boulder, CO 80301

Vendor:

Applicant

2.1033(c)(2):      FCC ID:      TA8AKRC11822-1

2.924      Model No      RBS3206 & RBS3106

#### Technical Description:

2.1033(c)(4):      Type of Emission:      4M17F9W

2.1033(c)(5)      Frequency Range, MHz:      871.5 MHz  
891.5 MHz

2.1033(c)(6)      Power Rating, Watts:      5, 40

Switchable \_\_\_\_\_ Adjustable x \_\_\_\_\_ N/A \_\_\_\_\_

2.1033(c)(7)      Maximum Power Rating, Watts:      40

2.1033(c)(8)      Voltages & Currents in all Elements in Final RF Stage,  
Including Final Transistor or Solid State Device:

Collector Current, ADC: 4X70A, 100A      = per manual  
Collector Voltage, VDC: +24, -48      = per manual  
Supply Voltage, Vac 100-433 1Ø or 3Ø      = per manual

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### **Open Exhibits**

- 2.1033      Cover Letter:  
Please see Attached Exhibit 1
- 2.1033      Cover Letter Confidentiality:  
Please see Attached Exhibit 2
- 2.1033      Cover Letter Temperature Range:  
Please see Attached Exhibit 3
- 2.1033      Cover Letter Filter Unit:  
Please see Attached Exhibit 4
- 2.1033      External Photo's:  
Please see Attached Exhibits 5
- 2.1033      Photo FCC ID:  
Please see Attached Exhibit 6
- 2.1033      Tuen-Up Procedure:  
Please see Attached Exhibit 7
- 2.1033      FCC Form 731 Including Fee Processing Form:  
Please see Attached Exhibit 8
- 2.1033      Test Report:  
Please see Attached

### **Confidential Exhibits**

- 2.1033      Internal Photo's:  
Please see Attached Exhibit 10
- 2.1033      System Block Diagram:  
Please see Attached Exhibit 11
- 2.1033      Schematics:  
Please see Attached Exhibit 12
- 2.1033      Technical Product Guide:  
Please see Attached Exhibit 13

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2.1033      Installation Instruction:  
Please see Attached Exhibit 14

2.1033      Parts List:  
Please see Attached Exhibit 15

2.1033      Technical Circuit Description:  
Please see Attached Exhibit 16

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2.1033(c)(14)

**Test Report:**  
Test Report Follows

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Sub-part

2.1033 (c) : Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.1046, 2.1049, 2.1051, 2.1053, 2.1055 and the following individual Parts:

<u>21</u>	Domestic Public Radio Services	—
<u>24</u>	Personal Communications Services	—
<u>22E</u>	Broadband PCS	—
22.901	Special Provisions for Alternative Cellular Technologies and and Auxiliary Services	<u>X</u>
<u>23</u>	International Fixed Public Radio Communications Service	—
<u>74</u>	Experimental, Auxiliary & Special Broadcast and Other Program Distribution Services	—
<u>74H</u>	Low Power Auxiliary Stations	—
<u>80</u>	Stations in the Maritime Service	—
<u>80.209 (5)(I)</u>	Transmitter Frequency Tolerances, 156–162 MHz, Coast Stations	—
<u>80K</u>	Private Coast Stations & Marine Utility Stations	—
<u>80S</u>	Compulsory R/T Installations for Small Passenger Boats	—
<u>80T</u>	Radio Telegraph Installation Required for Vessels on the Great Lakes	—
<u>80U</u>	Radio Telegraph Installation Required by the Bridge-to-Bridge Act	—
<u>87</u>	Aviation Services	—
<u>90</u>	Private Land Mobile Radio Services	—
<u>94</u>	Private Operational–Fixed microwave Services	—
<u>95</u>	General Mobile Radio Service	—



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General Information

1. Spurious radiation was measured at three (3) meters.
2. The normal modes of modulation are:
  - (a) Voice \_\_\_\_\_
  - (b) Wideband Data \_\_\_\_\_
  - (c) SAT \_\_\_\_\_
  - (d) ST \_\_\_\_\_
  - (e) SAT + Voice \_\_\_\_\_
  - (f) SAT + DTMF \_\_\_\_\_
  - (g) 16QAM or QPSK WCDMA   X
  - (h) Pi/4 DQPSK \_\_\_\_\_
  - (i) NAMPS Voice \_\_\_\_\_
  - (j) NAMPS DSAT \_\_\_\_\_
  - (k) NAMPS ST \_\_\_\_\_

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Standard Test Conditions  
And Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

Room Temperature	= 25 ± 5° C
Room Humidity	= 20–50%
Supply Voltage	+24, VDC - 48VDC, 110-433VAC

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

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Name of Test: RF Power Output & Occupied Bandwidth

Paragraph: 47 CFR 2.1046 & 2.1049

Guide: EIA Standard RS 152B, Paragraph 3.3

Test Condition: Standard Temperature & Humidity

Test Equipment: As per Attached Appendix J

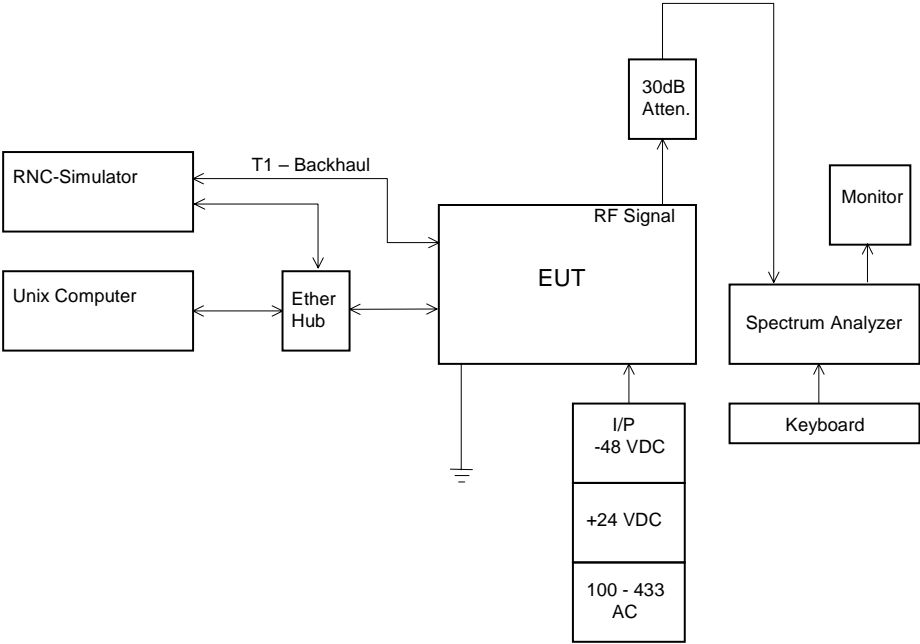
### Measurement Procedures

1. The EUT was connected to a directional coupler and a resistive coaxial attenuator of normal load impedance, and the modulated output power was measured by means of an RF power meter. The reading made with the Spectrum Analyzer where done at the best possible RBW of 30kHz any other RBW caused the band edges to fall into the noise floor and they could not be observed.
2. Measurement accuracy is  $\pm 3\%$ .

### Measurement Results

Nominal, MHz	Channel	Band	RF Power Output, Watts	
			Low Power	High Power
871.5	782	A	5.0	40.0
891.4	862	B	5.0	40.0

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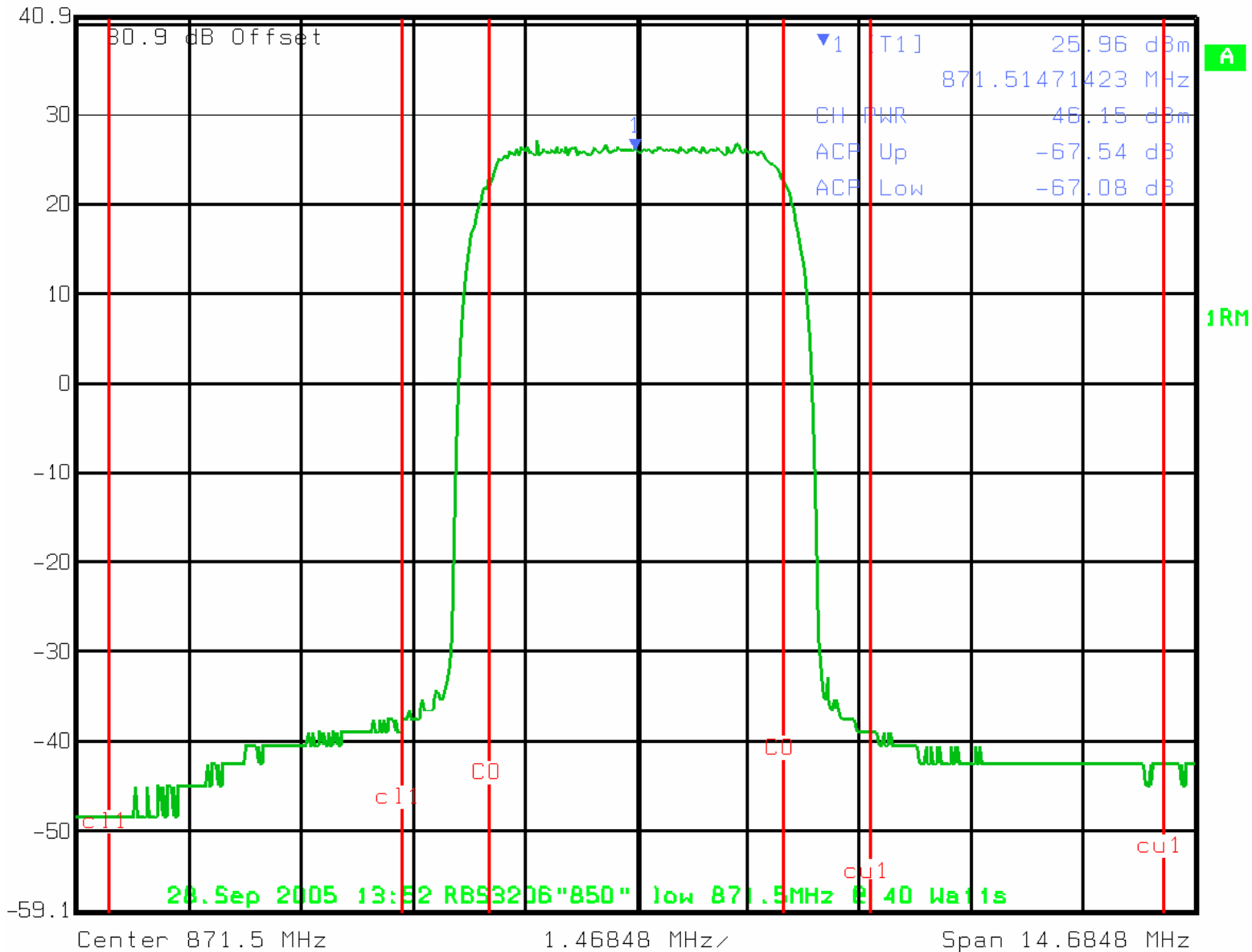
Marker 1 [T1]

RBW 30 kHz RF Att 30 dB

Ref Lvl 25.96 dBm

VBW 300 kHz

40.9 dBm 871.51471423 MHz SWT 2 s Unit dBm

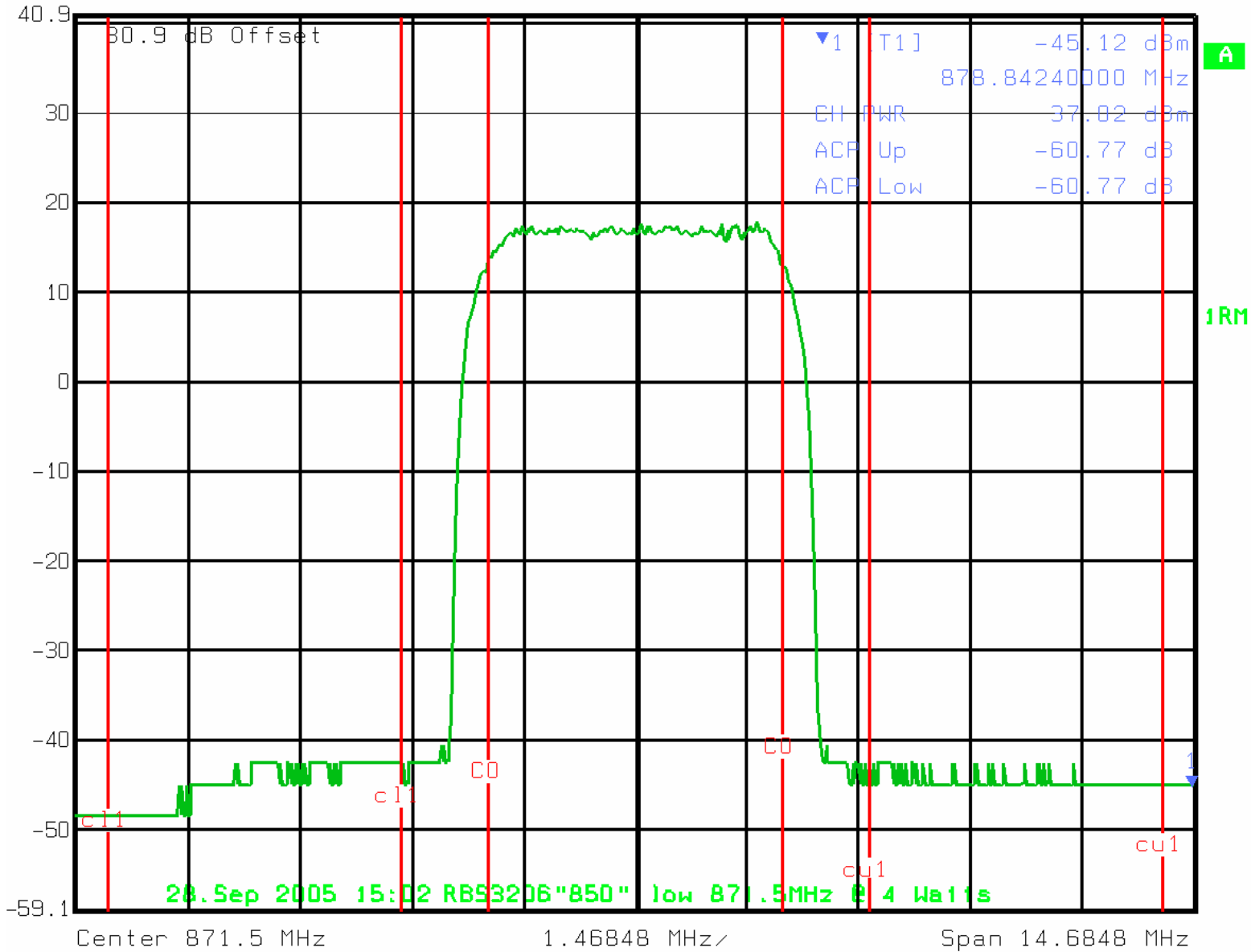


Date: 28.SEP.2005 13:52:25

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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
 Ref Lvl -45.12 dBm VBW 300 kHz  
 40.9 dBm 878.84240000 MHz SWT 2 s Unit dBm



Date: 28.SEP.2005 15:02:47

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Marker 1 [T1]

RBW 30 kHz RF Att 30 dB

Ref Lvl

25.56 dBm

VBW 300 kHz

40.9 dBm

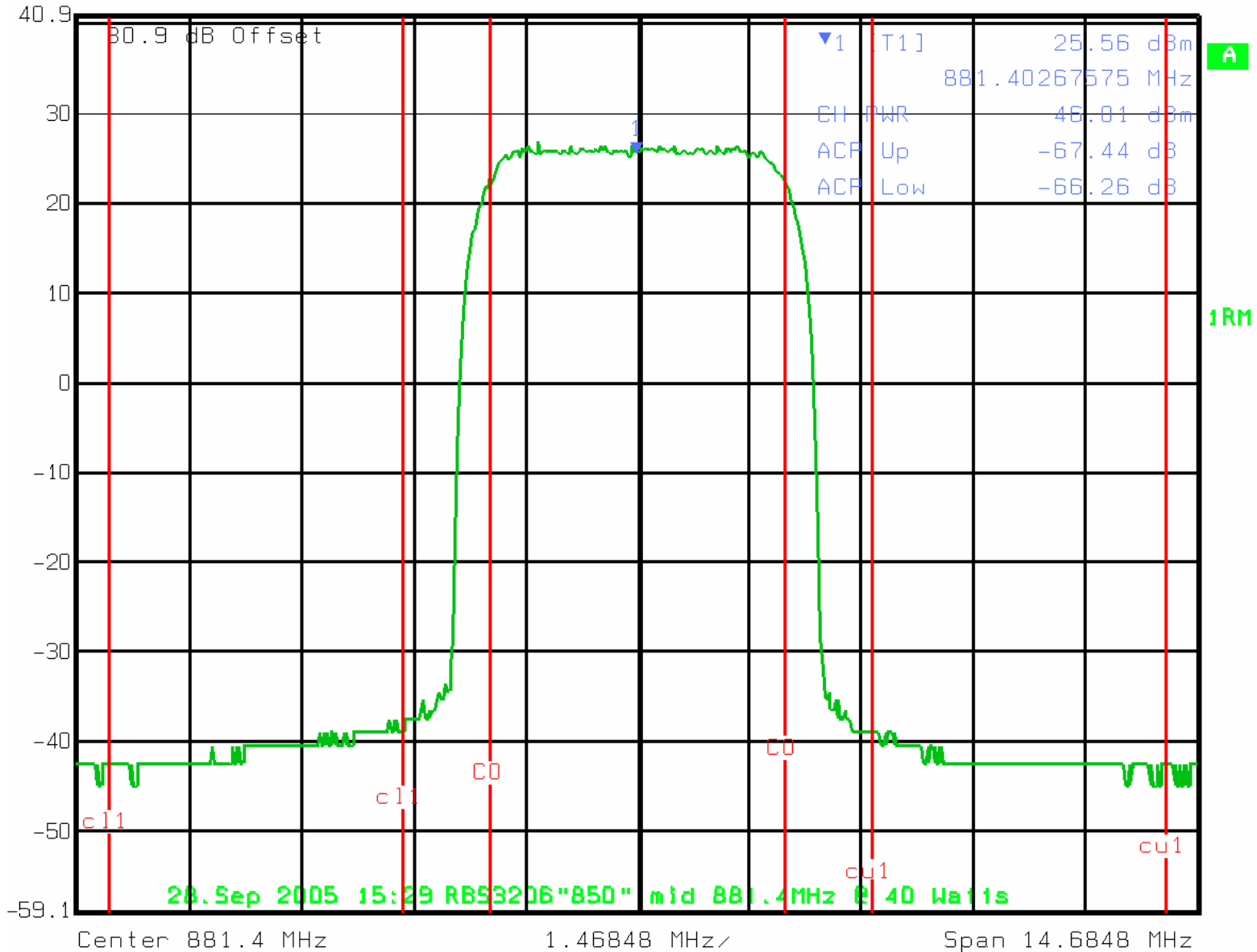
881.40267575 MHz

SWT

2 s

Unit

dBm



Date: 28.SEP.2005 15:29:25

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Marker 1 [T1]

RBW 30 kHz RF Att 30 dB

Ref Lvl

-45.12 dBm

VBW 300 kHz

RF Att 30 dB

40.9 dBm

888.74240000 MHz

SWT 2 s

Unit dBm

30.9 dB Offset

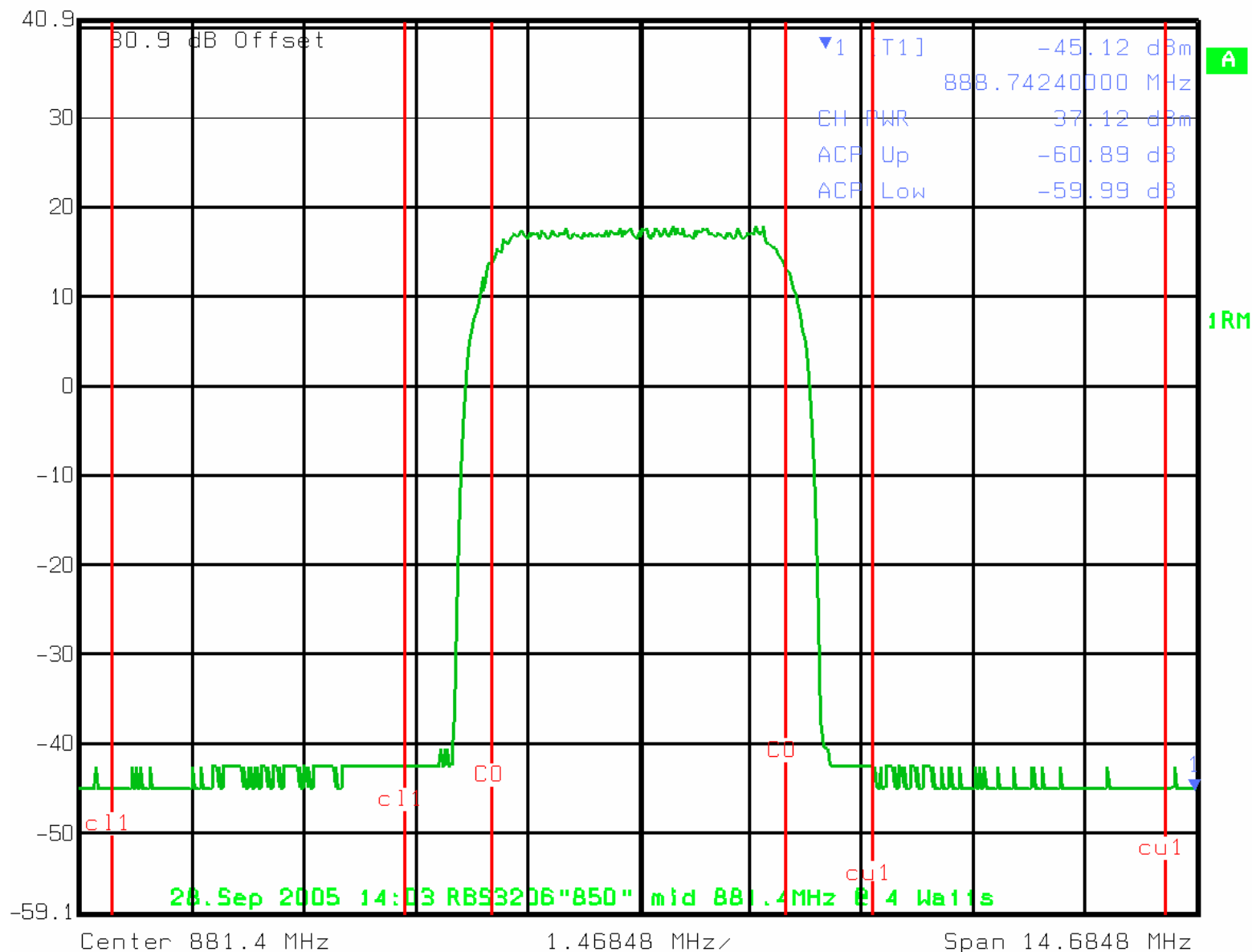
▼1	[T1]	-45.12 dBm
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888.74240000 MHz

CH	PWR	37.12	dBm
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ACP Up -60.89 dB

ACP Low -59.99 dB



Center 881.4 MHz

1.46848 MHz/

Span 14.6848 MHz

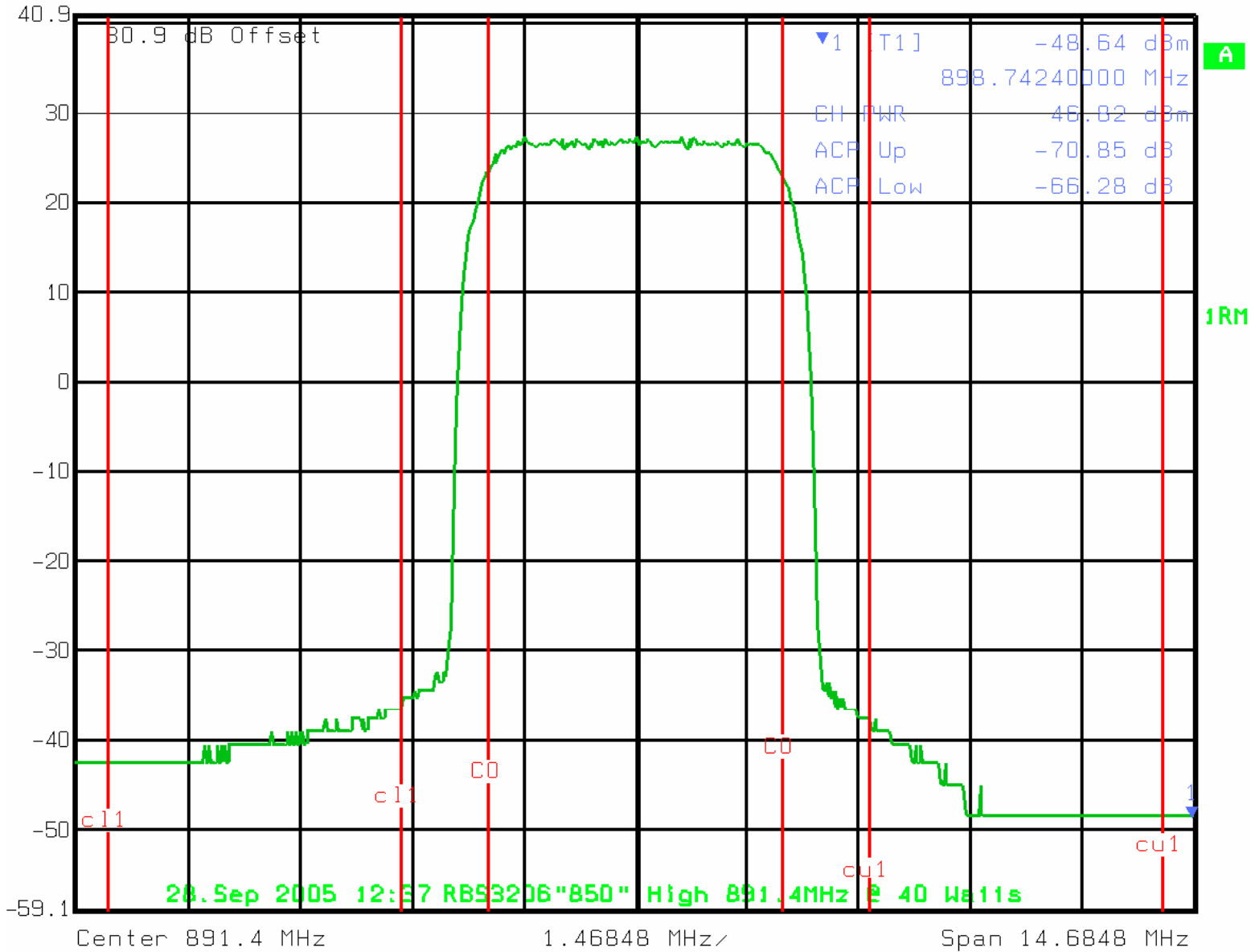
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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
 -48.64 dBm VBW 300 kHz  
 Ref Lvl 40.9 dBm 898.74240000 MHz SWT 2 s Unit dBm



Date: 28.SEP.2005 12:37:09

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Marker 1 [T1]

RBW 30 kHz RF Att 30 dB

Ref Lvl

-45.12 dBm

VBW 300 kHz

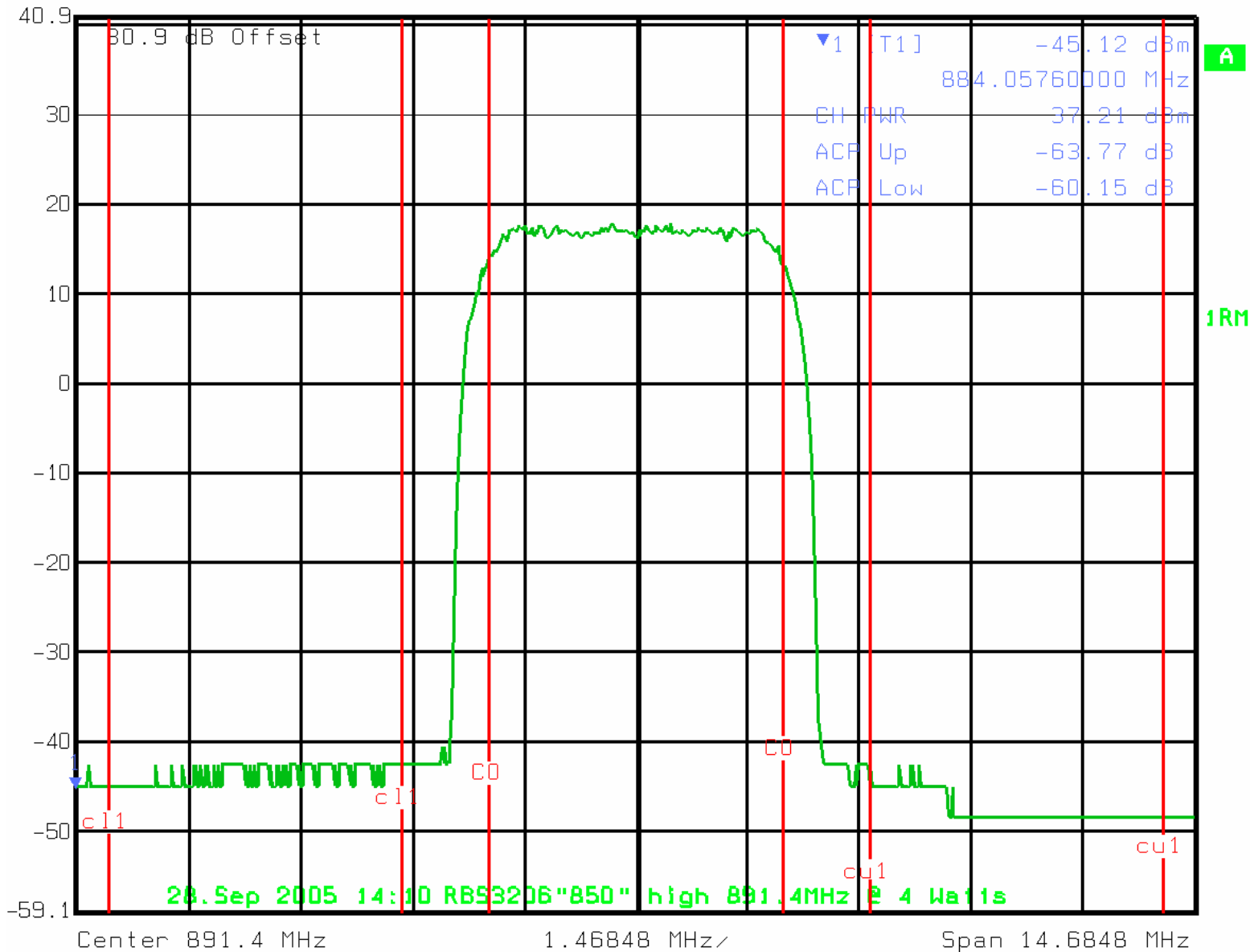
40.9 dBm

884.05760000 MHz

SWT 2 s

Unit

dBm



Date: 28.SEP.2005 14:10:16

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Name of Test: Spurious Emissions at Antenna Terminals

Paragraph: 47 CFR 2.1051, 22.917(b)

Guide: EIA Standard RS 152B, Paragraph 17

Test Condition: Standard Temperature & Humidity

Test Equipment: As per Attached Appendix J

### Measurement Procedures

1. The EUT was connected, through a directional coupler, a 30 dB coaxial attenuator then to a Rohde & Schwarz Spectrum Analyzer.
2. Measurements were made over the range from 1Ghz to 10 Ghz for the worst case modulation at the highest RF power settings.
3. All other emissions were 20 dB or more below the limit.
4. Spectrum analyzer bandwidth was set to section 22.917 (h)(1) & (2) as applicable.
5. Measurement Results: ***All emissions are 30dB below and more.***

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Ref Lvl

-4 dBm

Marker 1 [T1]

-6.01 dBm

881.90100200 MHz

RBW

30 kHz

RF Att

30 dB

VBW

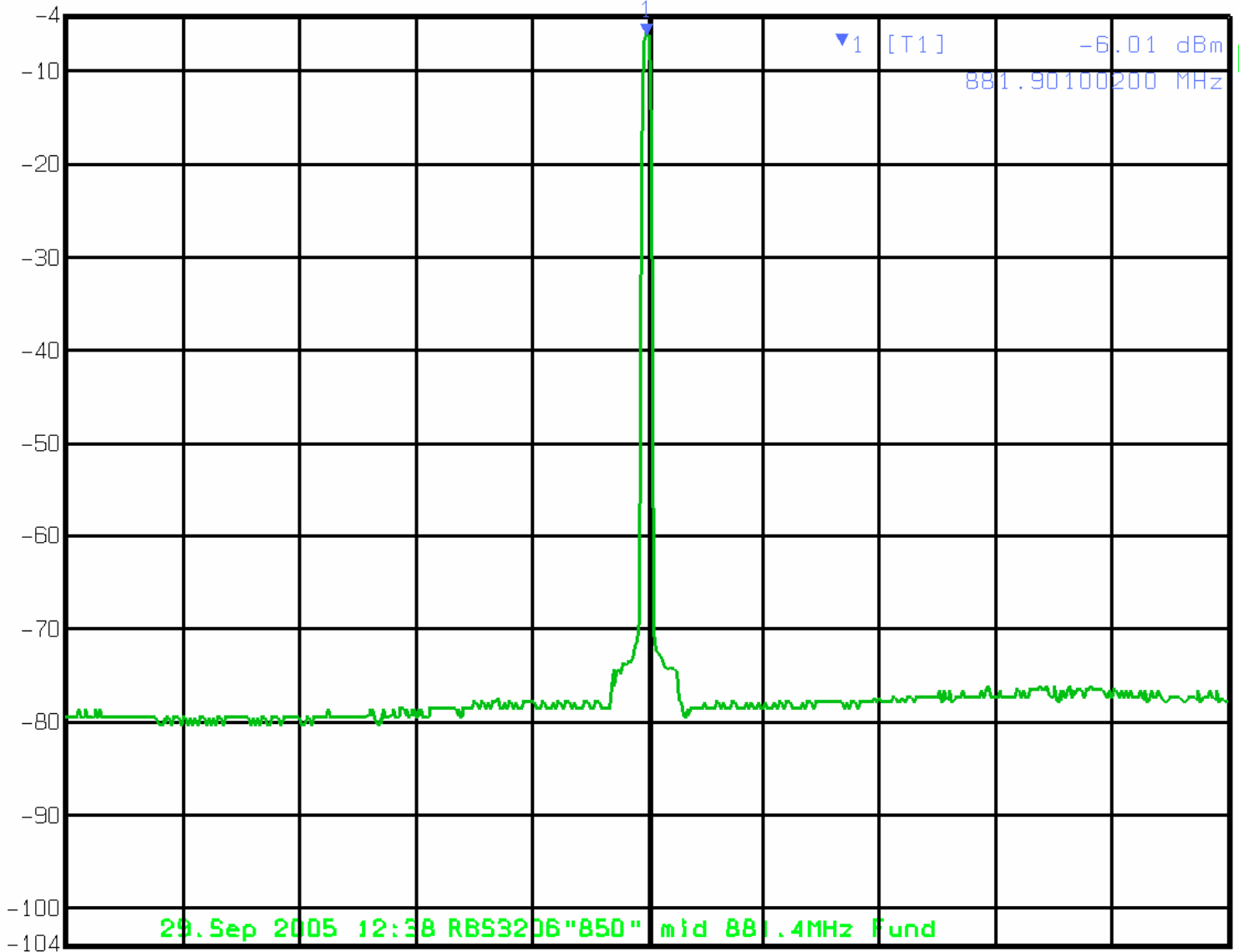
30 kHz

SWT

2 s

Unit

dBm



Center 881.4 MHz

50 MHz

Span 500 MHz

Date: 29.SEP.2005 12:39:01

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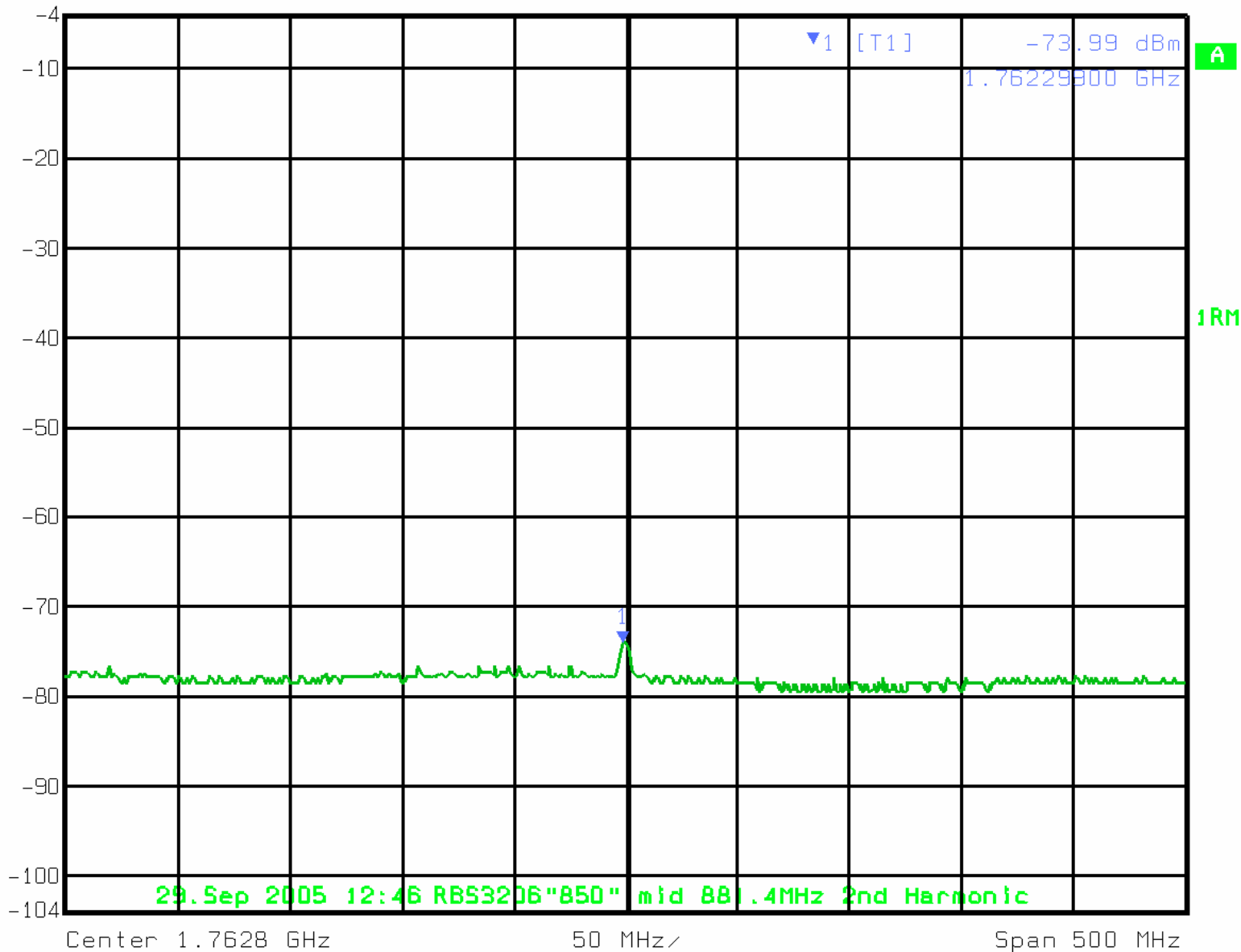
2005-11-29

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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-73.99 dBm VBW 30 kHz  
-4 dBm 1.76229900 GHz SWT 2 s Unit dBm

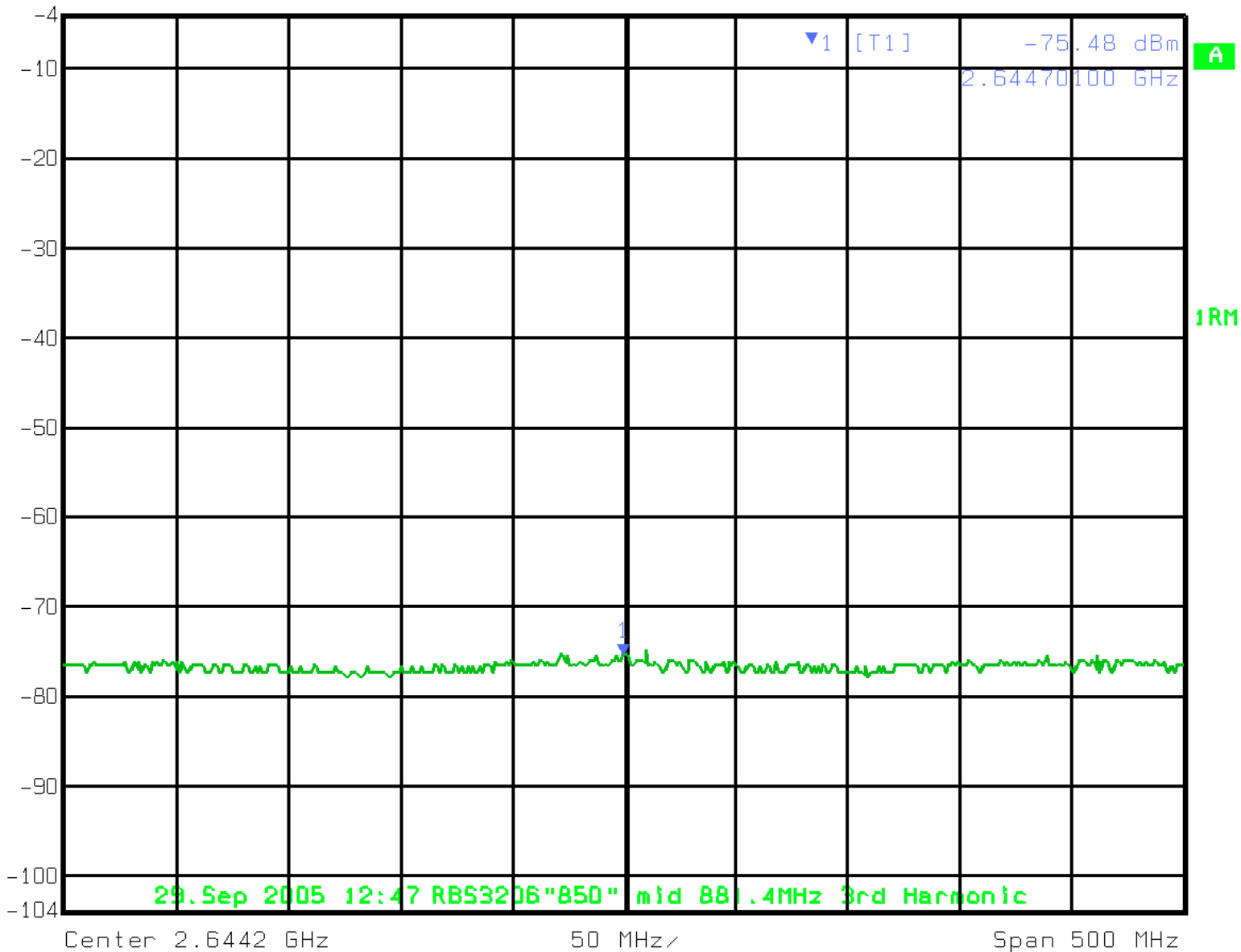


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Ref Lvl      Marker 1 [T1]      RBW      30 kHz      RF Att      30 dB  
-4 dBm      -75.48 dBm      VBW      30 kHz  
2.64470100 GHz      SWT      2 s      Unit      dBm

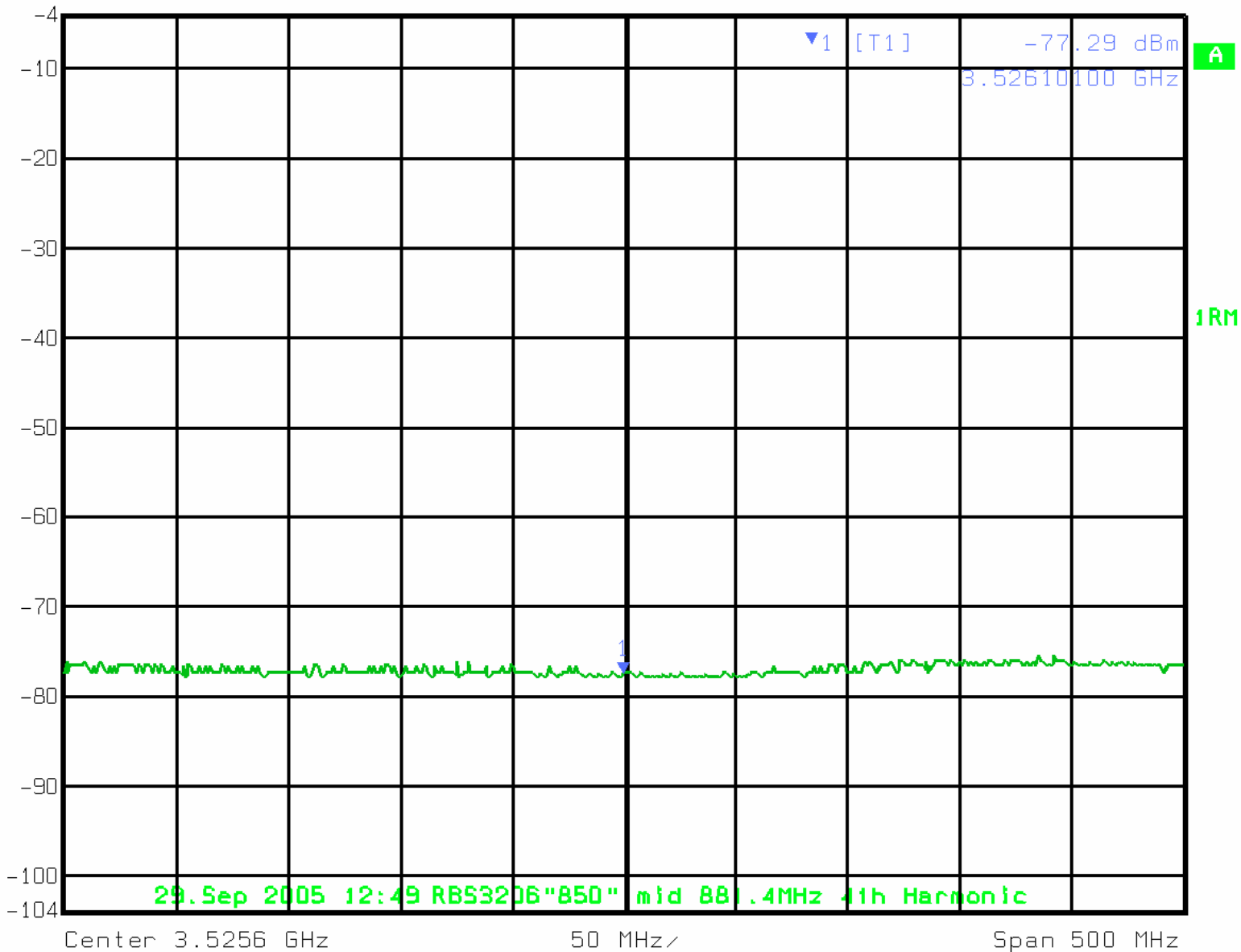


Date:      29.SEP.2005      12:48:00

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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-77.29 dBm VBW 30 kHz  
-4 dBm 3.52610100 GHz SWT 2 s Unit dBm



Date: 29.SEP.2005 12:49:36

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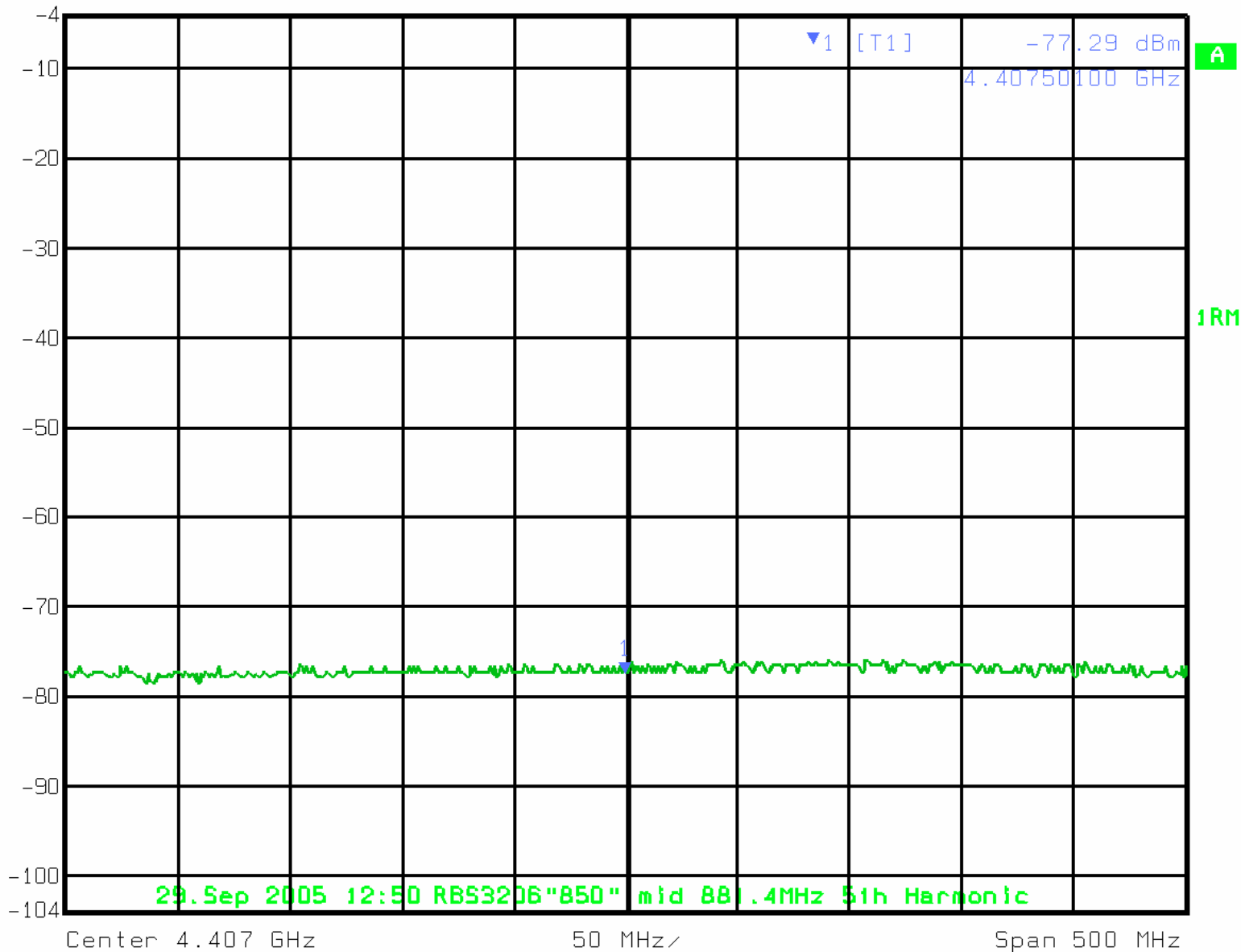
2005-11-29

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Ref Lvl      Marker 1 [T1]      RBW      30 kHz      RF Att      30 dB  
-4 dBm      -77.29 dBm      VBW      30 kHz  
4.40750100 GHz      SWT      2 s      Unit      dBm



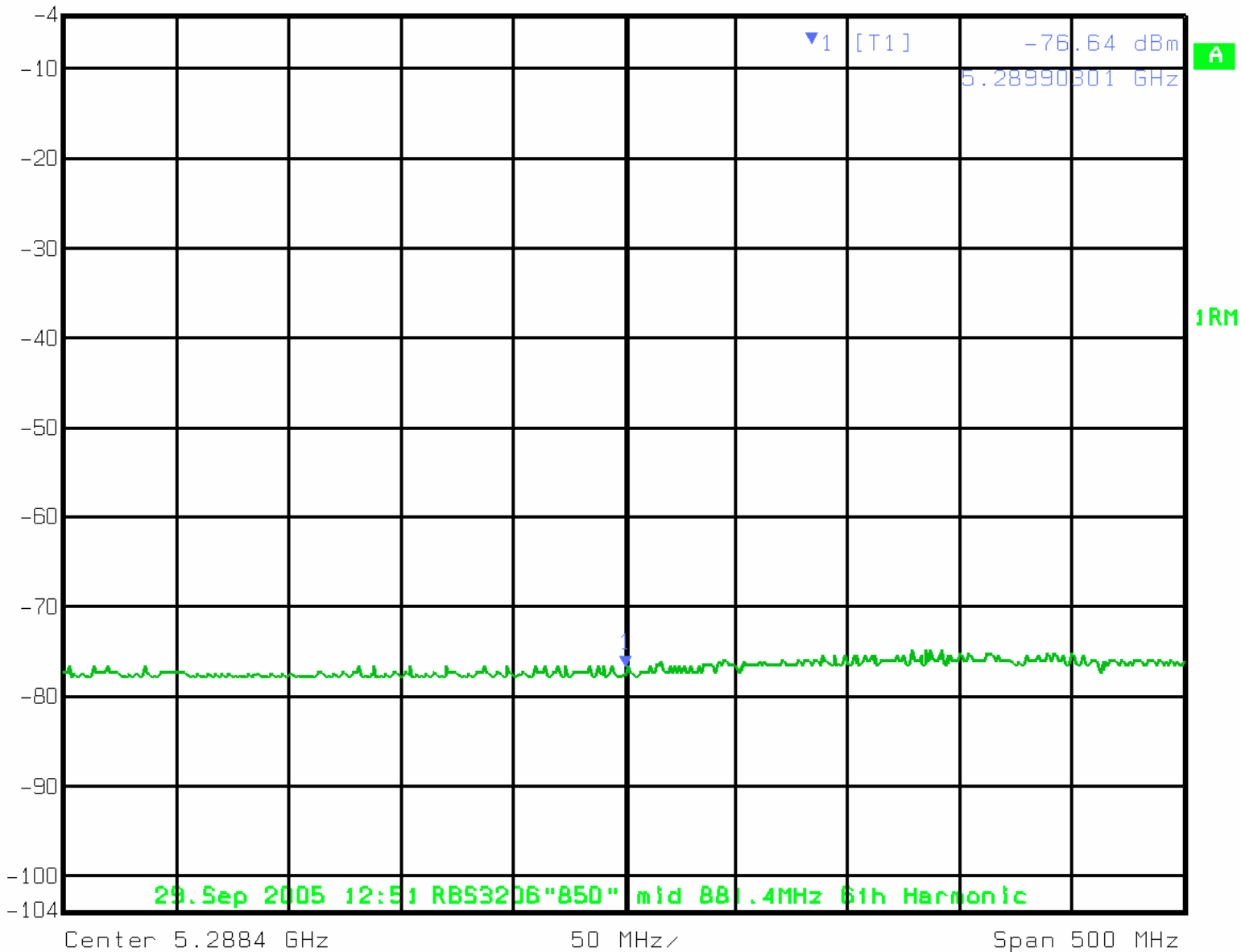
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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-76.64 dBm VBW 30 kHz  
-4 dBm 5.28990301 GHz SWT 2 s Unit dBm

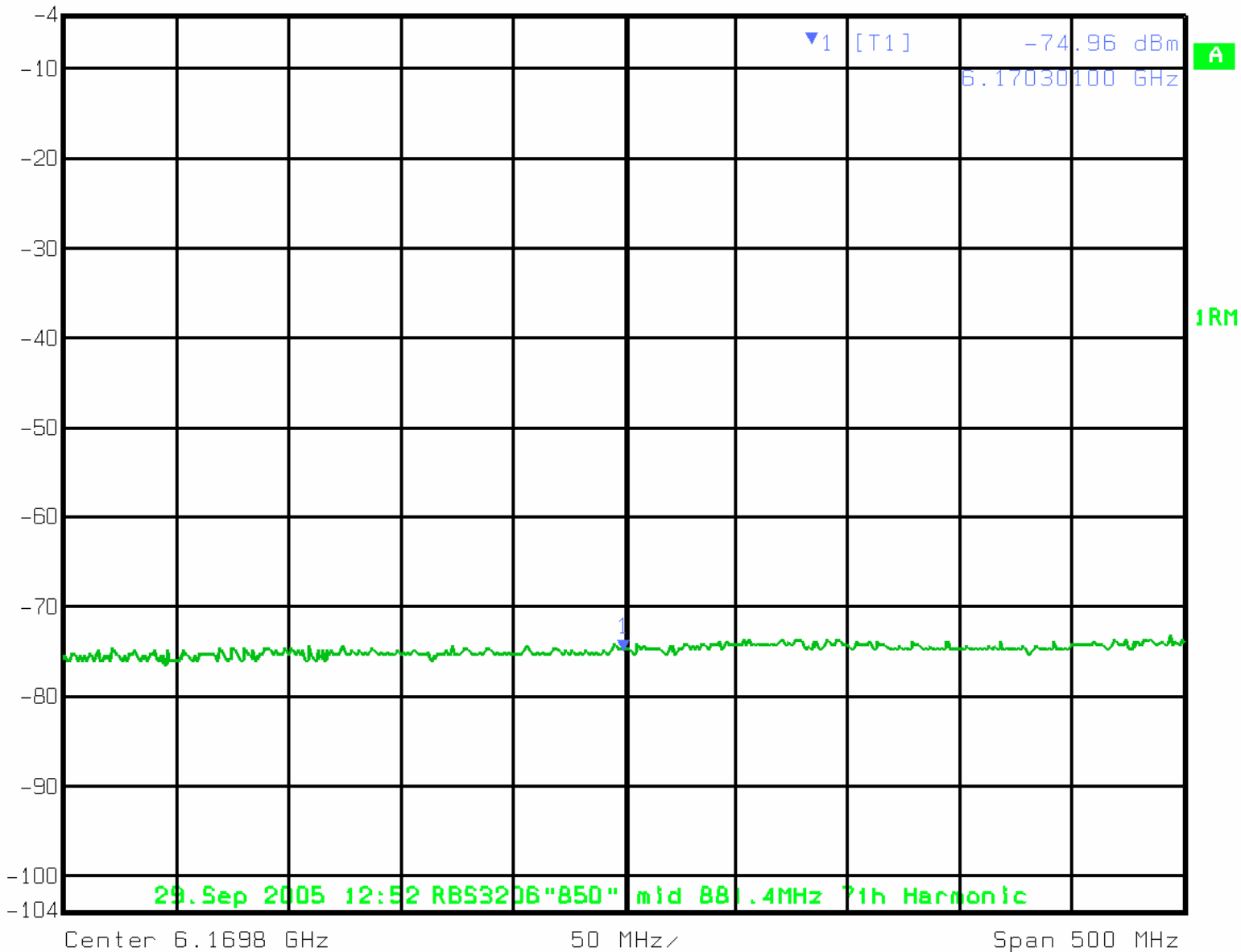


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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-74.96 dBm VBW 30 kHz  
-4 dBm 6.17030100 GHz SWT 2 s Unit dBm

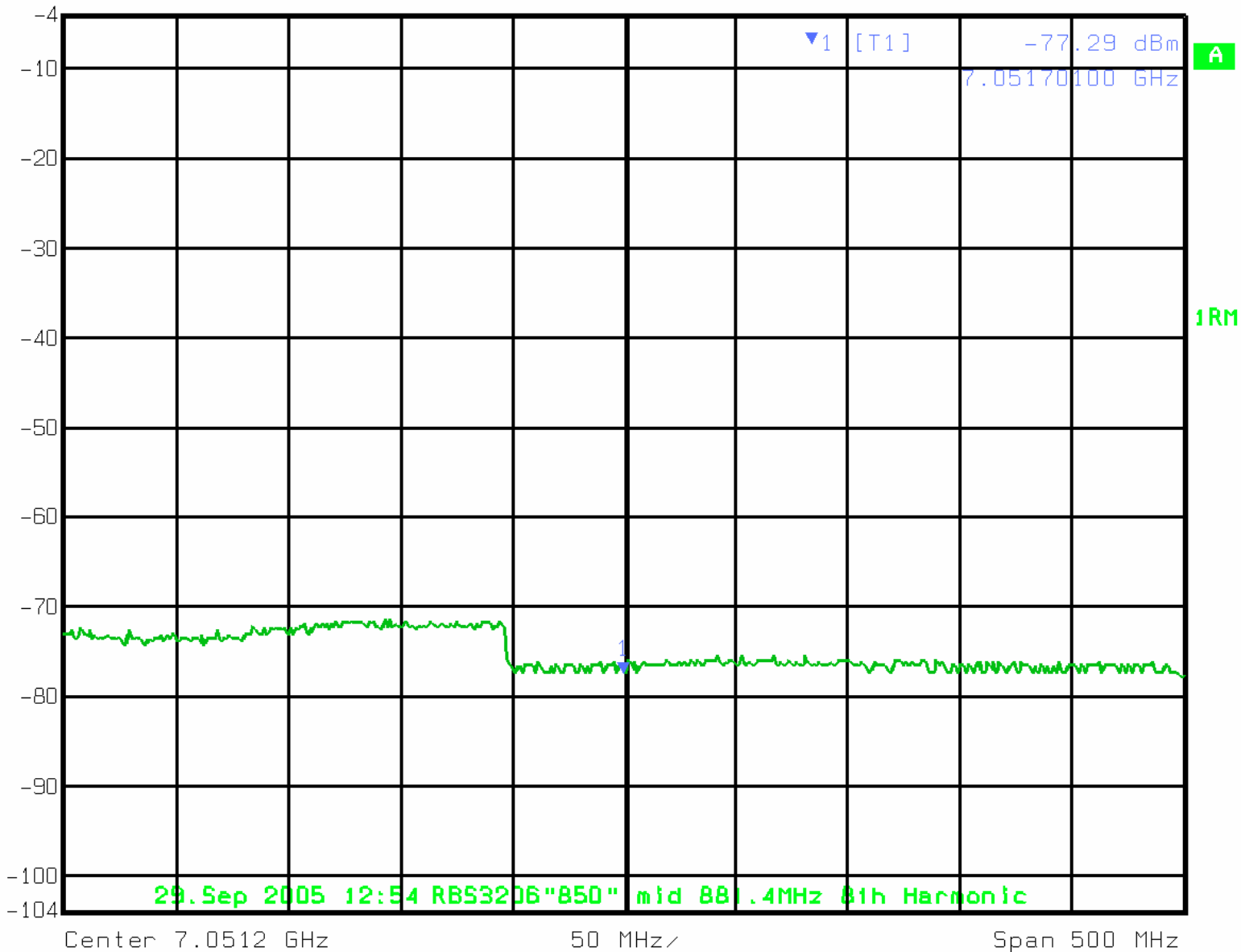


Date: 29.SEP.2005 12:52:54

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Ref Lvl      Marker 1 [T1]      RBW      30 kHz      RF Att      30 dB  
-4 dBm      -77.29 dBm      VBW      30 kHz  
7.05170100 GHz      SWT      2 s      Unit      dBm

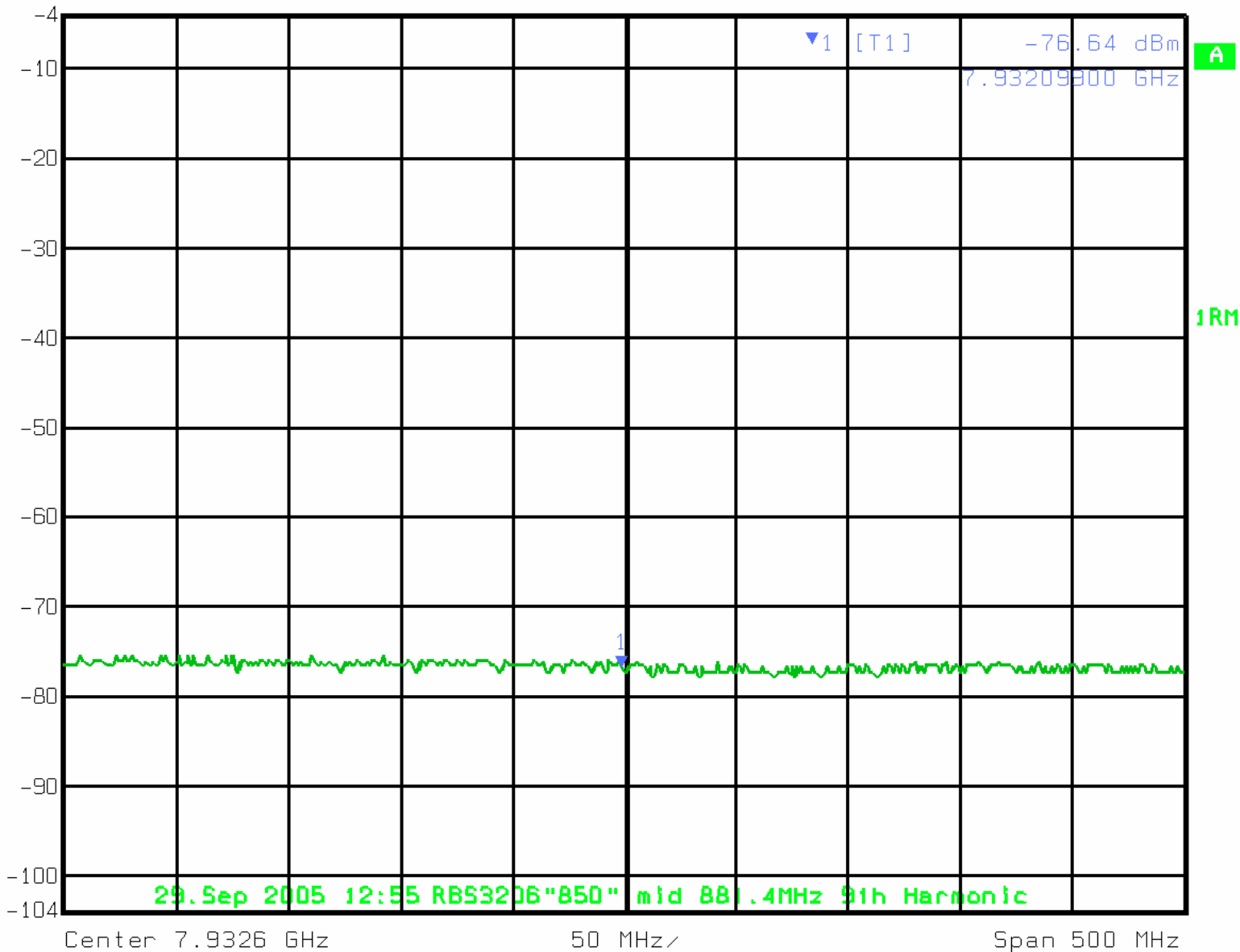


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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-76.64 dBm VBW 30 kHz  
Ref Lvl -4 dBm 7.93209900 GHz SWT 2 s Unit dBm

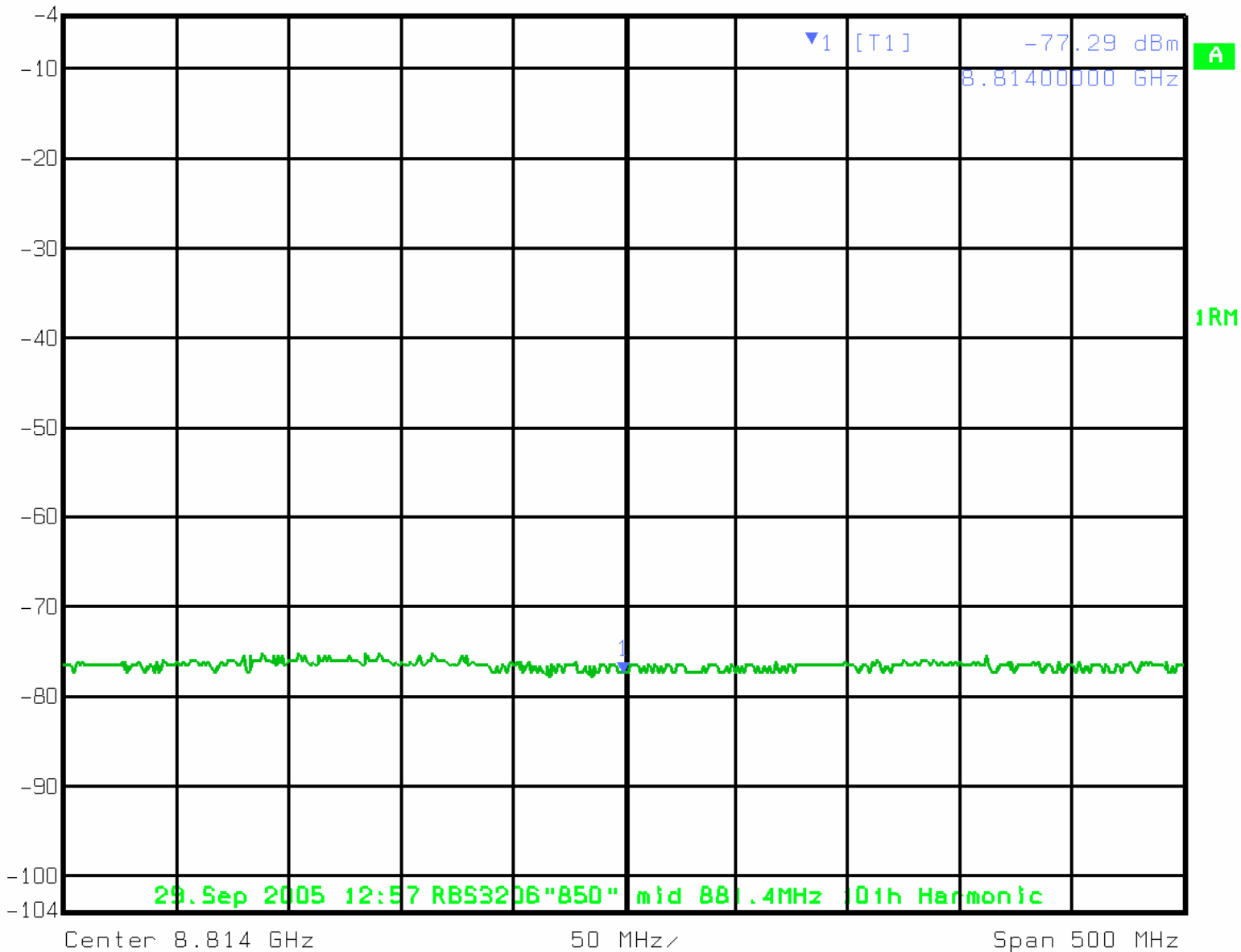


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Marker 1 [T1] RBW 30 kHz RF Att 30 dB  
-77.29 dBm VBW 30 kHz  
Ref Lvl -4 dBm 8.81400000 GHz SWT 2 s Unit dBm



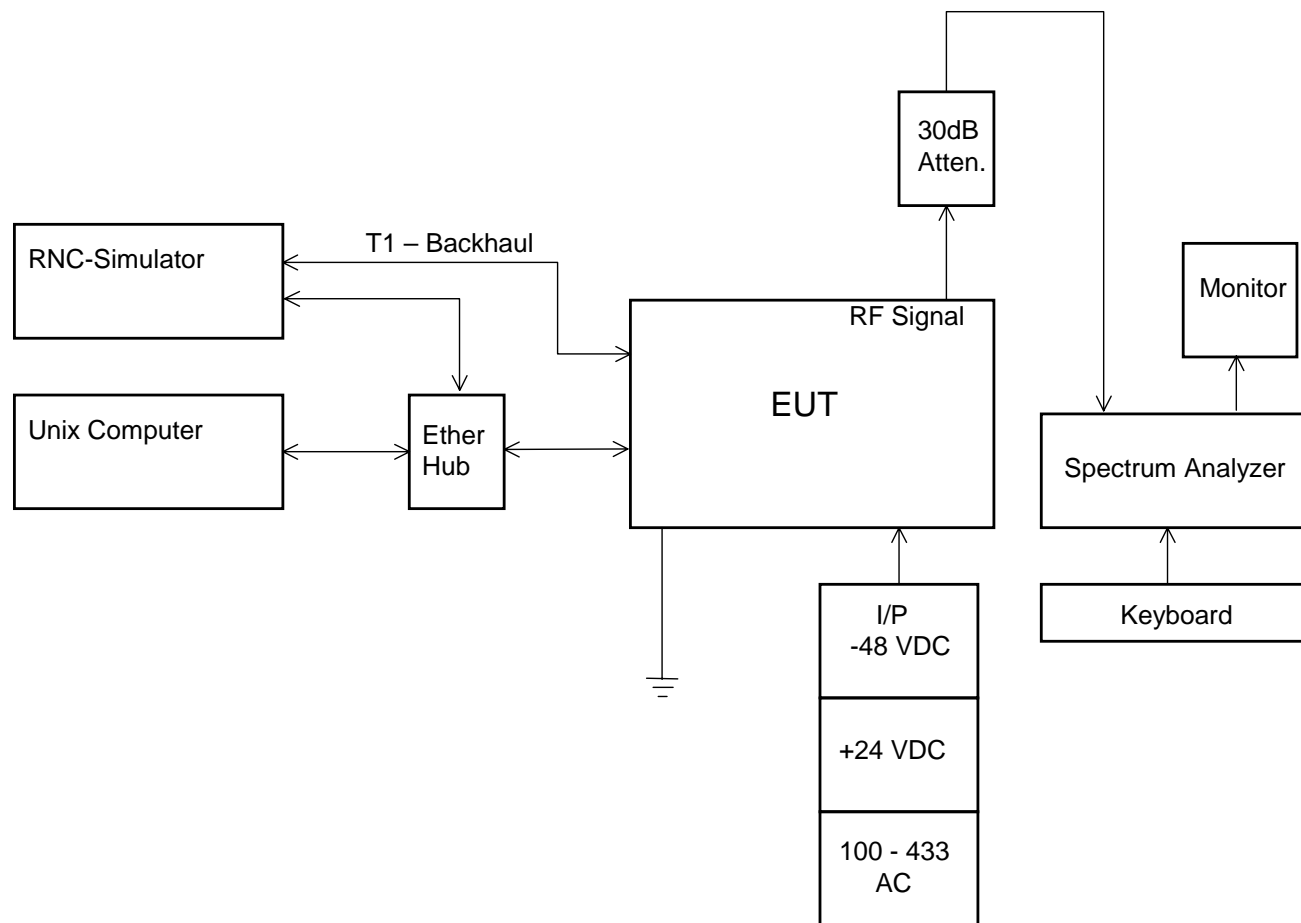
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## Spurious Emissions at Antenna Terminals

### Test 1: Spurious Emissions at Antenna Terminals

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Name of Test:

Field Strength of Spurious Radiation

Paragraph: 47 CFR 2.1053Guide: See Measurement Procedure BelowTest Condition: Standard Temperature & HumidityTest Equipment: As per Attached Appendix JMeasurement Procedures

1. A description of the measurement facilities was filed with the FCC and was found to be in compliance with the requirements of Section 15.38, by letter from the FCC. The test facility used was Criterion Technologies, Rollinsville Co.
2. In the field, the test sample was placed on a turntable at ten and three meters away from the search antenna. The test sample was connected to an RF wattmeter and a 50 ohm dummy load, and adjusted to its rated output.

In order to obtain the maximum response at each spurious frequency, the turntable was rotated. Also, the Search Antennas were raised and lowered vertically, and all cables were oriented. Excess power lead was coiled above the system.

## 3. Measurement Results:

Spurious emission bandwidth settings per 22.907 (j)(1) & (2) as applicable.

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NVLAP LAB CODE 100396-0

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• [www.criteriontech.com](http://www.criteriontech.com) •

## EMC QUALIFICATION TEST REPORT

### ERICSSON RADIO BASE STATION, RBS 3206 -48VDC 800MHZ 40W

TESTED TO CONFORM WITH:

☒ **Emissions Standards**

for

INFORMATION TECHNOLOGY EQUIPMENT (ITE)

TEST REPORT NUMBER: 050930-963R1DATE OF ISSUE: OCTOBER 18, 2005DATE OF TEST COMPLETION: OCTOBER 1, 2005MANUFACTURER'S ADDRESS: 6210 SPINE ROAD  
BOULDER, CO 80301PHONE: (303) 473-6839

Approved by:



Laboratory Director



Prepared (also subject responsible if other) <b>EWUTHFU</b>		No. <b>2/0360-FCP 101 3765 Uen</b>		
Approved <b>EWU/PR/HD [Keith Goshia]</b>	Checked	Date <b>2005-11-29</b>	Rev <b>B</b>	Reference <b>TA8AKRC11822-1</b>

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The client is aware that Criterion Technology has performed testing in accordance with the applicable standard(s). Test data is accurate within ANSI parameters for Emissions testing, unless a specific level of accuracy has been defined in writing prior to testing, by Criterion Technology and the client.

Criterion Technology reports apply only to the specific Equipment Under Test (EUT) sample(s) tested under the test conditions described in this report. If the manufacturer intends to use this report as a document demonstrating compliance of this model, additional models of this product must have electrical and mechanical characteristics identical to the device tested for this report. Criterion Technology shall have no liability for any deductions, inferences, or generalizations drawn by the client or others from Criterion Technology issued reports.

Total liability is limited to the amount invoiced for the testing of this EUT and the contents of this report are not warranted.

Compliance with the appropriate governmental standards is the responsibility of the manufacturer.

Any questions regarding this report should be directed to:

Laboratory Director  
Criterion Technology Corp.  
P.O. Box 489  
1350 Tolland Road  
Rollinsville, Colorado 80474  
Phone: (303) 258-0100  
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mailto:laboratory\_director@criteriontech.com

**NVLAP Note:** Criterion Technology is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the specific scope of accreditation under Lab Code 100398-0. Test methods included in Lab Code 100398-0 are:

12/CIS22 - IEC/CISPR22 (1997) and En 55022 (1998)  
12/CIS22a - IEC/CISPR22 (1993), Amendment 1:1995 & Amendment 2: 1996  
12/CIS22b - CNS13438 (1997)  
12/EM02a - IEC 61000-3-2, Edition 2.1 (2001-10) and EN 61000-3-2 (2000)  
12/EM03 - EN 61000-3-3 (1995) and IEC 61000-3-3 (1995)  
12/F01 - ANSI C63.4 (2001) - cited in FCC Method - 47 CFR Part 15 - Digital Devices  
12/F01a - Conducted Emissions, Power Lines, 150 kHz to 30 MHz  
12/F01b - Radiated Emissions  
12/T51 - AS/NZS 3548  
12/I01 - IEC 61000-4-2 (1995) and Amendment 1 (1998)  
12/I02 - IEC 61000-4-3 (1995) and Amendment 1 (1998)  
12/I03 - IEC 61000-4-4 (1995)  
12/I04 - IEC 61000-4-5 (1995)  
12/I05 - IEC 61000-4-6 (1996)  
12/I06 - IEC 61000-4-8 (1993)  
12/I07 - IEC 61000-4-11 (1994)

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**ALL CRITERION TECHNOLOGY INSTRUMENTATION AND ACCESSORIES USED TO TEST PRODUCTS FOR COMPLIANCE TO THE INDICATED STANDARDS ARE CALIBRATED REGULARLY IN ACCORDANCE WITH ISO 9001, ISO GUIDE 25, ANSI/NCSL Z540-1:1994 AND ARE TRACEABLE TO NATIONAL STANDARDS.**

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## EMC QUALIFICATION TEST REPORT

### RADIO BASE STATION, RBS 3206 -48VDC 800MHZ 40WATT

#### 1.0 EXECUTIVE SUMMARY

##### 1.1 PURPOSE

The purpose of this report is to present EMC test data and demonstrate conformity to the requirements of the prescribed standards for Emissions and/or Immunity.

##### 1.2 CONFORMITY

The test article was tested to the standards listed in Table I with the indicated conformity status. All test methods were performed in accordance to with the standards listed.

TABLE I. EMISSIONS CONFORMITY SUMMARY

TEST TYPE	COMPLIANCE STANDARD	TESTING TECHNIQUE	TEST DESCRIPTION	PRODUCT CLASSIFICATION	CONFORMITY STATUS
EMISSIONS	<u>FCC Part 22</u>	<input checked="" type="checkbox"/> FCC TITLE 47 PART 22	Intentional Radiated Emissions	Class B	PASSED

##### 1.3 EQUIPMENT UNDER TEST (EUT)

EUT NAME: RADIO BASE STATION  
EUT MODEL/PART NUMBER(S): RBS 3206 -48VDC 800MHZ 40WATT  
EUT SERIAL NUMBER(S): A594670497

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**2.0 EMISSIONS TEST STANDARDS**

FCC Part 22

Class B

**2.1 ☒ INTENTIONAL RADIATOR**

Measurements for *Intentional Radiated Emissions* were performed over the frequency range of 1GHz to 10 GHz in the horizontal and vertical antenna polarities to the requirements of:

FCC Part 22

Class B

Testing Conditions

Date of Test: October 1, 2005  
 Temperature: 21°C  
 Relative Humidity: 35%  
 Test Voltage: -48VDC  
 Test Operator: lws

Test LocationCriterion Technology Open Area Test SiteTest DistanceAntenna Distance: 3 meter(s) Final Measurement(s)Test Equipment

- ☒ Hewlett-Packard Spectrum Analyzer, HP 8566B      ☒ Hewlett-Packard Quasi-Peak Adapter, HP 85650A  
☐ Hewlett-Packard Tracking Generator, HP 85645A  
☐ Rohde and Schwarz Receiver, ESHS-30      ☐ Rohde and Schwarz Receiver, ESVS-30  
☐ Mini Circuits Pre-Amp #2      ☒ Veratech Pre-Amp #3  
☐ Chase BiLog Antenna, Model 1121      ☒ Antenna Research, Horn Antenna, Model DRG118/A  
☐ EMCO BiConical Antenna, Model 3108      ☐ EMCO Log Periodic Antenna, Model 3146  
☒ EMCO Active Loop, 6502

Test Accessories: See Appendix C for support equipment detailsTest Results of Radiated EmissionsTest Status: PASSED      Frequency Range: 1 GHz to 10 GHzMinimum Margin to Limit: -37.1 dB at 2644.8 MHzRemarks

See: APPENDIX A for EUT Photographs      APPENDIX B for Data Sheets  
 APPENDIX D for Test Equipment Calibration Status

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### 3.0 APPENDIX A: EUT PHOTOGRAPHS

#### 3.1 INTENTIONAL RADIATOR



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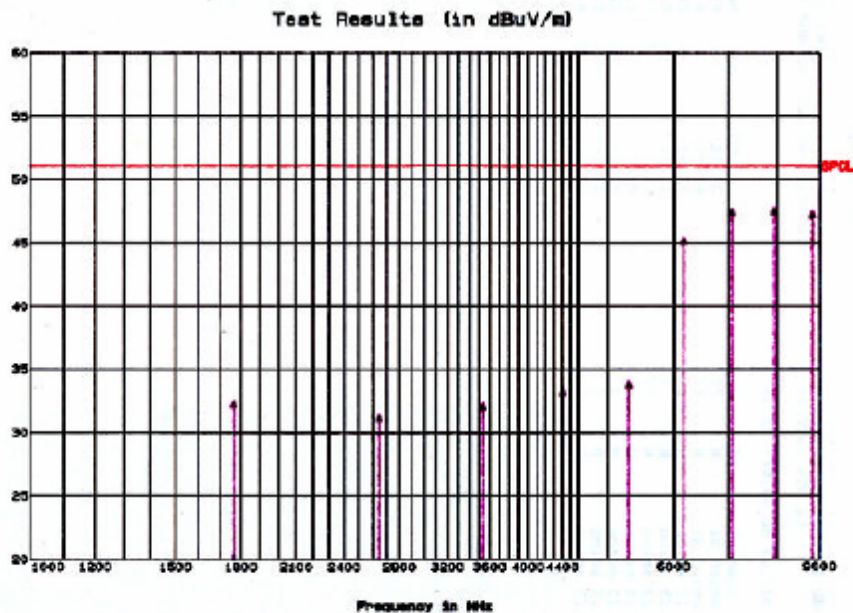
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## 4.0 APPENDIX B: DATA SHEETS

### 4.1 INTENTIONAL RADIATOR EMISSIONS PLOT – 1 GHZ TO 10 GHZ

Criterion Technology  
EUT: Radio Base Station, RBS 3206 –48VDC 800MHz 40Watt  
Manufacturer: Ericsson  
Tester: lws  
EUT Information: Unit on turntable, antenna terminated  
Test Information: channel builder software,  
Test Cond: Temp: 21°C

Date: October 1, 2005  
S/N: A594670497  
SpiD: 050930-963  
3m, -48VDC. FCC Part 22  
Humidity: 35%



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## 4.2 INTENTIONAL RADIATOR EMISSIONS TABLE – 1 GHZ TO 10 GHZ

### Notes:

The third column below contains alpha characters which pertain to the type of measurements made. The following are the definitions for those characters: q = Quasi Peak, m = Maximized (cable, rotation and antenna height), s = scanned but no data taken, and a = average. For the first character in column four, a '-' indicates that value is below the limit while an '\*' indicates that value is above the limit

If the list is sorted using "I-sort", then quasi-peak and average levels are weighted higher than peak levels and are moved to the front of the scan list.

The following keys help to better understand the data:

TT: Turntable position in degrees

Hght: Height of antenna in centimeters

Az: Azimuth, V = Vertical, H= Horizontal

Minimum Margin to Limit: -37.1 dB at 2644.8 MHz

Criterion Technology

Sat Oct 01 12:48:23 2005

EUT: Radio Base Station, RBS 3206 –48VDC 800MHz 40 Watt, S/N: A594670497

Manufacturer: Ericsson

Tester: lws

Special ID: 050930-963

EUT Information: Unit on turntable, antenna terminated

Test information: Channel Builder software, 3m, -48VDC, FCC Part 22

**Table 1: Scan List, sorted by margin to limit FCC-B, -50.0dB filter**

Freq. MHz	Value	Sts	FCC-B	TT	Hght	Az	dbm	Comment
2644.8000	56.90	a	2.92	309	151	V	-50.1	.
1762.4800	53.42	a	-0.56	5	159	V	-53.58	bb
3524.4799	40.14	a	-13.84	29	126	V	-66.86	.
1474.5342	36.51	a	-17.47	43	187	H	-70.49	.
1244.1619	36.30	a	-17.68	213	151	V	-70.7	.

NOTE: Limit for harmonics and spurious is -13dbm.

All harmonics and spurious are 37.1 db or more

below the limit, so ERP measurements don't have to be done

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**Table 2: Scan List for FCC-B, sorted by Frequency, -50.0dB filter**

<u>Freq. MHz</u>	<u>Value</u>	<u>Sts</u>	<u>FCC-B</u>	<u>TT</u>	<u>Hght</u>	<u>Az</u>	<u>Comment</u>
1244.1619	36.30	a	-17.68	213	151	V	.
1474.5342	36.51	a	-17.47	43	187	H	.
1762.4800	53.42	a	-0.56	5	159	V	bb
2644.8000	56.90	a	2.92	309	151	V	.
3524.4799	40.14	a	-13.84	29	126	V	.



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Table 3: Complete Scan List Sorted by Frequency

Freq, MHz	I-val	Final	Sts	TT	Hght	Az	Time	Comment
1244.1619	42.00	36.30	a	213	151	V	Tue Sep 13 11:25:20 2005	-
1474.5342	41.01	36.51	a	43	187	H	Tue Sep 13 11:47:10 2005	-
1762.4800	55.58	53.42	a	5	159	V	Tue Sep 13 13:25:14 2005	bb
2644.8000	58.04	56.90	a	309	151	V	Tue Sep 13 14:01:45 2005	-
3524.4799	37.38	40.14	a	29	126	V	Tue Sep 13 14:11:53 2005	-

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**5.0 APPENDIX C: PRODUCT INFORMATION FORM****CRITERION TECHNOLOGY PRODUCT INFORMATION FORM**General InformationDate 9-27-2005Company Name: Ericsson Wireless, Inc.  
Company Address: 6210 Spine Road  
Boulder, CO 80301

## Contacts:

Compliance Engineer: Keith Goshia Phone: 303-473-6956 Email: keith.goshia@ericsson.comTest DescriptionDe-Bug \_\_\_\_\_ Formal (Initial) X \_\_\_\_\_ Formal (Re-Verification) \_\_\_\_\_Market Information (Check all that Apply)USA \_\_\_\_\_ Canada \_\_\_\_\_ Euro. Union \_\_\_\_\_ Taiwan \_\_\_\_\_ Japan \_\_\_\_\_ New Zealand \_\_\_\_\_ Australia \_\_\_\_\_  
Other \_\_\_\_\_Product InformationName Radio Base Station Model Number RBS 3206 -48VDC 800MHz 40Watt Serial Number A594670497

Product Dimensions: \_\_\_\_\_ Weight: \_\_\_\_\_

Product Power Source:BatteryType \_\_\_\_\_ Voltage -48 VDCAC Supply

Input Voltage Range(s) \_\_\_\_\_

Phases \_\_\_\_\_ Delta \_\_\_\_\_ Wye \_\_\_\_\_

Current \_\_\_\_\_

Frequency \_\_\_\_\_

Manufacturer \_\_\_\_\_

Model Number \_\_\_\_\_

Topology

Linear \_\_\_\_\_ Switching Mode \_\_\_\_\_ Switching Frequency \_\_\_\_\_

Support Equipment (if used):CPU:Manufacturer SunModel No. Ultra 10Serial No. TW00910322Monitor:Manufacturer SunModel No. LSA800Serial No. 0120409-0012ky0121Keyboard:Manufacturer SunModel No. Type 6Serial No. 0039147-9853001010Mouse:Manufacturer SunModel No. compac-1-1Serial No. LTC54507625

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I/O Cables – Manufacturer, P/N, Length :

 Serial Port length as needed

Parallel Port \_\_\_\_\_

SCSI Port \_\_\_\_\_

 Other T1 length as needed

Operation Software:

 Name Channel builder

 Version Number N/A

Operating Modes: (Please Include Cycle Time)

RBS radiating at full power on 6 sectors Pseudo noise on all channels

 Time necessary for EUT to be exercised and able to fully respond: ≤1 seconds.

Operation Pass/Fail Criteria:

Test Type – Emissions (Please check all that apply):

Information Technology Equipment

Class A \_\_\_\_\_

 Class B X

 Oscillator/Clock Frequencies (MHz) Frequency List Attachment

Industrial, Scientific, Medical Equipment

Class A \_\_\_\_\_

Class B \_\_\_\_\_

Oscillator/Clock Frequencies (MHz) \_\_\_\_\_

Unintentional Radiator

Class A \_\_\_\_\_

Class B \_\_\_\_\_

Oscillator/Clock Frequencies (MHz) \_\_\_\_\_

Receiver

Type (Regen., Superhet., Direct Conv., Homodyne) \_\_\_\_\_

Local Oscillator Frequencies \_\_\_\_\_

Frequency Range \_\_\_\_\_

Intentional Radiator

 Fundamental Frequency Range 881.4MHz

 Local Oscillator Frequencies Frequency List Attachment

 Power Output (to antenna) 40W

 Integral Antenna (Yes/No) No

 Modulation Type (AM, CM, Pulse, Spread Spectrum) WCDMA

 Oscillator/Clock Frequencies (MHz) Frequency List Attachment

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### Frequency List Attachment

		Clocks									
ROJ 119 2209/1	CBU1;733-900MHz 512MB/512MB 2&	0.008 MHz	10.000 MHz	16.384 MHz	19.440 MHz	25.000 MHz	30.720 MHz				
ROJ 119 2214/1	ET-M3;34&45Mb/s 4prt ATM Coax	0.008 MHz	19.440 MHz	24.300 MHz	34.000 MHz	45.000 MHz					
ROJ 119 2102/22	ET-M4;155Mb/s 2prt ATM MU	0.008 MHz	155.520 MHz	19.440 MHz	48.600 MHz						
ROJ 119 2163/1	Exchange Terminal for E1,T1,J1	0.008 MHz	19.440 MHz	48.600 MHz	2.048 MHz	6.176 MHz	8.192 MHz	24.300 MHz	1.544 MHz		
BGM 138 1002/1	FCU; Fan Control Unit	0.008 MHz	19.440 MHz								
KRC 118 21/1	FU12; Filter Unit 08	14.400 MHz	87.040 MHz	LO: 869-1031							
KRC 118 20/1	RU12; Filter Unit 19	14.400 MHz	87.040 MHz	LO:1881-2086							
BMR 910 403/2	PSU; Power Supply Unit	19.440 MHz	10.000 MHz	24.300 MHz	48.600 MHz						
ROJ 119 2187/12	RAX;Random Access & RX Board	19.440 MHz	50.000 MHz								
ROJ 119 2187/11	RAX;Random Access & RX Board	19.440 MHz	50.000 MHz								
ROJ 119 2187/5	RAX;Random Access & RX Board	19.440 MHz	50.000 MHz								
ROJ 119 2187/6	RAX;Random Access & RX Board	19.440 MHz	50.000 MHz								
ROJ 119 2187/10	RAX;Random Access & RX Board	19.440 MHz	50.000 MHz								
KRC 118 22/1	RU22; Radio Unit 850MHz	19.440 MHz	10.000 MHz	30.720 MHz	122.880 MHz	491.520 MHz	61.440 MHz	161.920 MHz	LO:103 2-1057	LO:869 - 894	LO:1022.6- 1047.6
KRC 118 19/1	RU22; Radio Unit 1900MHz	19.440 MHz	10.000 MHz	30.720 MHz	122.880 MHz	491.520 MHz	61.440 MHz	161.920 MHz	LO:208 3.6- 2143.6	LO:1930- 1990	LO:1644.5- 1699.5
ROJ 119 2245/2	RU1F; Radio Unit Interface	19.440 MHz	30.720 MHz	40.000 MHz							
ROJ 119 2240/1	TX; Transmitter Board	19.440 MHz	30.000 MHz								
ROJ 119 2254/3	TX8HS-03; Transmitter board	19.440 MHz	70.833 MHz	100.000 MHz							

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## 6.0 APPENDIX D: TEST EQUIPMENT AND CALIBRATION STATUS

Manufacturer	Name/Description	Model Number	Serial Number	Cal. Due Date
Haefely Trench	EFT Tester	PEFT Junior	583-333-51	10/12/2005
Hewlett Packard	Tracking Generator	HP85645A	3210A00124	11/9/2005
Heise	Barometer	710A	S7-15256	2/6/2006
Hewlett Packard	Pulse Generator	HP 8116A	2901G09493	2/13/2006
Amplifier Research	E-Field Probe	FP2000	19682	4/12/2006
Antenna Research	1-18 GHz Horn	DRG118/A	1057	4/13/2006
EMCO	Active Loop	6502	2626	4/14/2006
Amplifier Research	E-Field Probe	FP2080	20236	4/16/2006
Rohde/ Schwarz	VHF/UHF Receiver	ESVS-30	8634221014	4/19/2006
Hewlett Packard	Spectrum Analyzer Display	HP 85662A	2403A07322	5/12/2006
Hewlett Packard	Spectrum Analyzer	HP 8566B	2421A00527	5/12/2006
Veratech	Preamplifier (AMP2)		N/A	5/16/2006
Rohde/ Schwarz	HF Receiver	ESHS-30	826003/011	6/15/2006
Rohde/ Schwarz	LISN	ESH2-Z5	828739-001	6/15/2006
Chase	Bilog 30 - 1000 MHz	CB6111	1121	7/1/2006
FCC	CDN	FCC-801-M3-25	9714	8/2/2006
FCC	EM Clamp	F2031	309	8/3/2006
Amplifier Research	Power Amplifier	150A100A	20183	8/4/2006
Tegam	Current Probe	925236-1	12588	8/4/2006
Amplifier Research	Directional Coupler	DC2600	302981	8/4/2006
Hewlett Packard	Signal Generator	HP 8648D	3642000145	8/9/2006
Dickson	Temperature/ RH Recorder	THDX	5300245	8/11/2006
Amplifier Research	Power Amplifier	100W1000M1	20214	8/24/2006
California Instruments	AC Power Source Pacs-1	5001ix-CTS-411	55637/ 72242	2/11/2007
EMCO	Horn	3160-08	1147	5/9/2007
Microwave Technologies	Standard Gain Horn	12A-18	19527	8/1/2007
Solar Electronics	LISN	8012-50-R-24-BNC	892310	8/9/2007

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## 7.0 APPENDIX E: TEST DIRECTIVES, STANDARDS AND METHODS

### 7.1 EUROPEAN DIRECTIVES, STANDARDS AND METHODS

89/336/EEC: Council Directive of 03 May 1989 on the Approximation of the Laws of the Member States Relating to Electromagnetic Compatibility, OJEC No. L 139/19-26, Aug 1993.

EN 50081-1 (CENELEC): EMC - Generic Emission Standard, Part 1: Residential, Commercial and Light Industry, Revised 2001.

EN61000-6-4 (CENELEC): EMC - Generic Emission Standard, Part 6-4: Industrial Environment, 23 October 2001.

BS DD ENV 50204 (CENELEC): Testing and Measurement Techniques: Radiated Electromagnetic Field from Digital Radio Telephones - Immunity Test, 1996.

EN 55011 (CENELEC): ISM Radio-Frequency Equipment Radio Disturbance Characteristics - Limits and Methods of Measurement, with Amendments 1 & 2, 2003.

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EN 61000-4-5 (CENELEC): EMC - Part 4. Testing and Measurement Techniques: Section 5. Surge Immunity Test, with Amendments 1 & 2, 2001.

EN 61000-4-6 (CENELEC): EMC - Part 4. Testing and Measurement Techniques: Section 6. Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields, 2005.

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EN 61000-4-11 (CENELEC): EMC - Part 4. Testing and Measurement Techniques: Section 11. Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests, 1999

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EMC QUALIFICATION TEST REPORT  
050930-963R1 FOR Ericsson

CRITERION TECHNOLOGY

IEC 61000-6-1: EMC – Part 6-1. Generic standards – Immunity for residential, commercial and light-industrial environments, 9 March 2005.

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7.2 47 CFR FCC PART 15 RADIO FREQUENCY DEVICES: OCT 2004

Subpart A General.

Subpart B Unintentional Radiators.

Subpart C Intentional Radiators.

Subpart D Unlicensed Personal Communications Service Devices.

7.3 47 CFR FCC PART 22 PUBLIC MOBILE SERVICES: OCT 2004

7.4 47 CFR FCC PART 24 PERSONAL COMMUNICATIONS SERVICES: OCT 2004

7.5 JAPAN

VCCI V-3

7.6 CANADA

ICES-001: Interference-Causing Equipment Standard - ISM RF Generators, 1998.

ICES-003: Interference-Causing Equipment Standard - Digital Apparatus, 2004.

7.7 AUSTRALIA/NEW ZEALAND

SAA AS/NZ 3548: Limits and Methods of Measurement of Radio Disturbance Characteristics of ITE, 1997.

AS/NZS CISPR22

7.8 CHINA

CNS13438, 1997.

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Name of Test: Frequency Stability – Temperature and Voltage Variation

Paragraph: 47 CFR 2.1055

Guide: EIA Standard RS 152B, Paragraph 10

Test Condition: Standard

1. Measurement Results: Data provided in additional Exhibit as part of the submittal. Additionally, the WCDMA Radio Base Station operates using a frequency reference from the backhaul or a GPS receiver. If the frequency reference is lost the RBS signal will wilt. With this architecture, the RF portion of the system operates within 50 ppb of absolute in compliance with the 3GPP TS 25.141 technical standard for frequency accuracy.



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Name of Test: Necessary Bandwidth and Emission Bandwidth

Paragraph: 47 CFR 2.202 (g)

Modulation = WCDMA (F9W)

Emission Bandwidth Calculation:  
Necessary Bandwidth, kHz = 4,170.00

Justification for WCDMA bandwidth of 4.17 MHz.

Reference: 3GPP TS 25.141.

Chip rate is 3.840MHz per the 3GPP standard. At the 3dB down point, the bandwidth is 4.2MHz. Channel spacing is normally set to 5.0MHz from center frequency to center frequency.

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Testimonial and Statement of Certification
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This is to certify:

1. That the application was prepared either by, or under the direct supervision of, the undersigned.
2. That the technical data supplies with the application were taken under my direction and supervision.
3. That the data was obtained on representative units, randomly selected.
4. That, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data is true and correct.

Certifying Engineer:

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### Radio Frequency Radiation Exposure Limits

The device is installed in a permanent location. It is not operator accessible, and is contained in a secured environment that is accessible by field service engineers or installation engineers only. The ERP of the device is less than 1000 Watts. The Antenna's used on this device are a typical 18dB gain antenna, with this configuration and the maximum RF output of the device set to 40 Watts the exposure limit is less than 1000 Watts.