Sub-part 2.1033 (c):

Equipment Identification

FCC ID: OJYKAG11

Date of Report

Thursday, February 06, 2003

Supervised By: Thomas J. Funk
RD:kg

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.

Table of Contents

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:	OJYKAG11
2.924	Model No	RBS11130
	Technical Description:	
2.1033(c)(4):	Type of Emission:	1M25F9W
2.1033(c)(5)	Frequency Range, MHz:	870 MHz 880 MHz
2.1033(c)(6)	Power Rating, Watts:	1, 20
	Switchable _____ Adjustable x N/A	_____
2.1033(c)(7)	Maximum Power Rating, Watts:	20
2.1033(c)(8)	Voltages & Currents in all Elements in Final R.F. Stage, Including Final Transistor or Solid State Device: Collector Current, A = per manual Collector Voltage, Vdc = per manual Supply Voltage, Vac = N/A	

Exhibits

2.1033 Block Diagram:
Please see Attached Exhibit 1

2.1033 Circuit Diagram:
Please see Attached Exhibit 2

2.1033 Parts List:
Please see Attached Exhibit 3

2.1033 Manual:
Please see Attached Exhibit 4

2.1033 Photographs:
Please see Attached Exhibits 5

2.1033 Tune-Up Procedure/Alignment Procedure:
Please see Attached Exhibit 6

2.1033 Label Information:
Please see Attached Exhibit 7

2.1033(c)(14) **Test Report:**

Test Report Follows

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:

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

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)	64-Ary Orthogonal CDMA	X
(h)	Pi/4 DQPSK	____
(i)	NAMPS Voice	____
(j)	NAMPS DSAT	____
(k)	NAMPS ST	____

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%
D.C. Supply Voltage, Vdc	= - 48VDC

Prior to testing, the E.U.T. 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.

Name of Test: R.F. 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

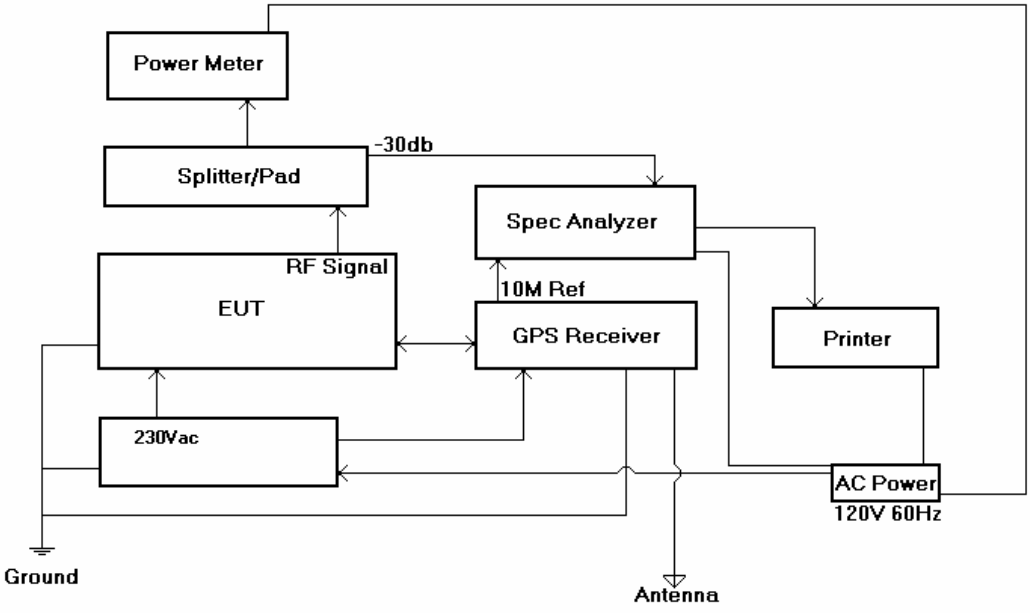
Measurement Procedures

1. The E.U.T. 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 R.F. power meter.

2. Measurement accuracy is ±3%.

Measurement Results

Nominal, MHz	Channel	Band	R.F. Power Output, Watts	
			Low Power	High Power
871.1	37		1.0	20.0
878.49	283		1.0	20.0



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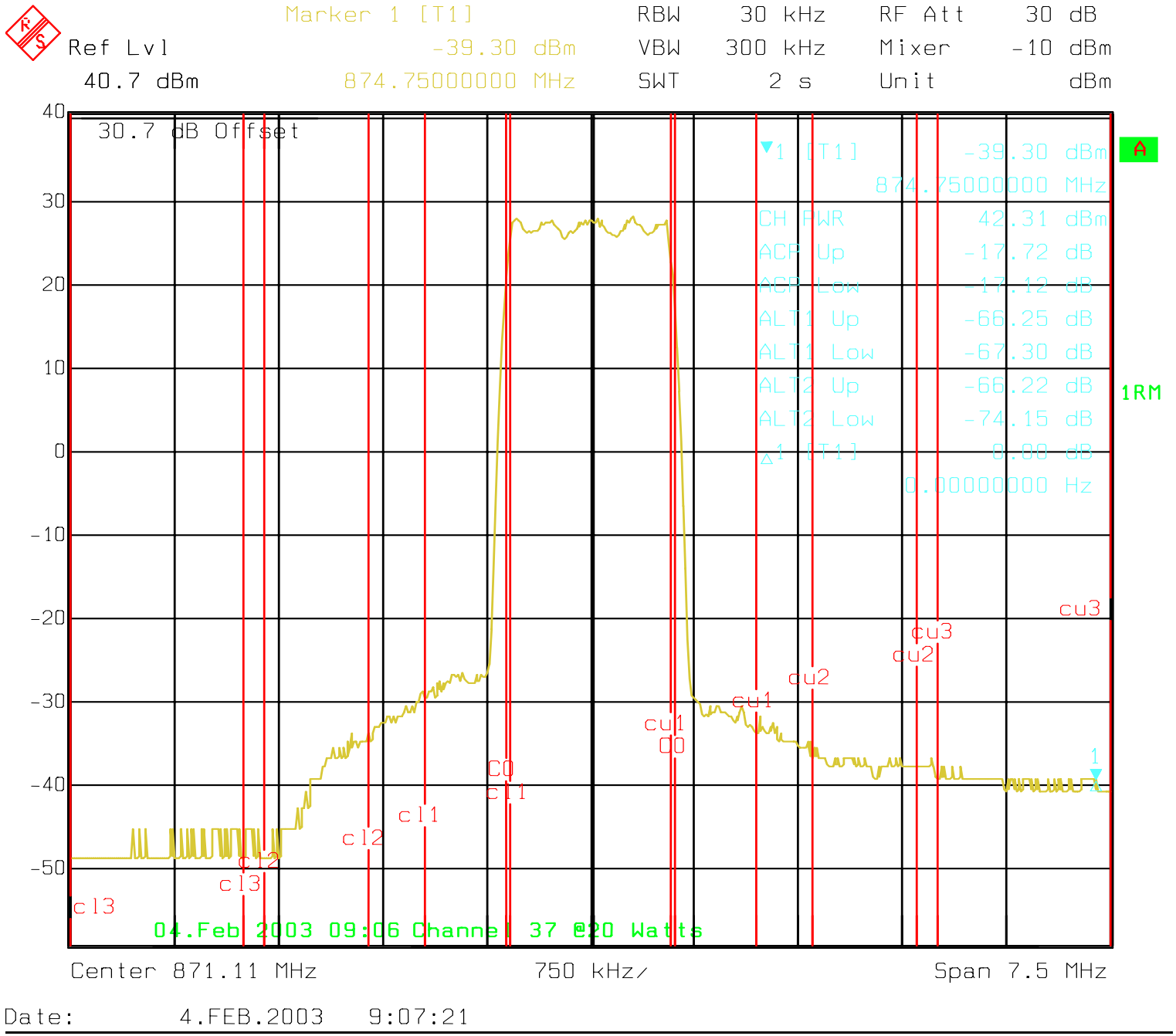

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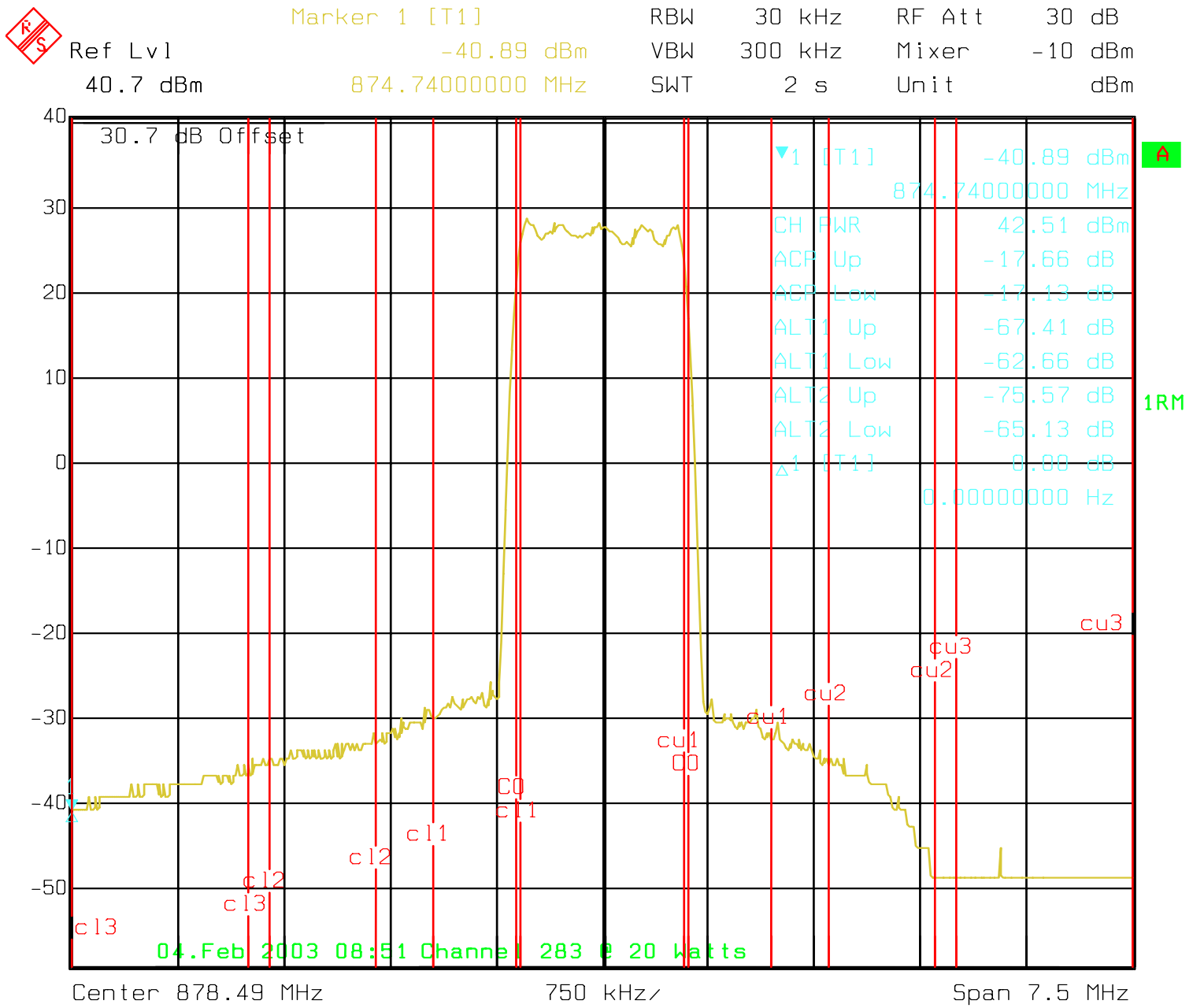

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Date: 4.FEB.2003 8:52:59

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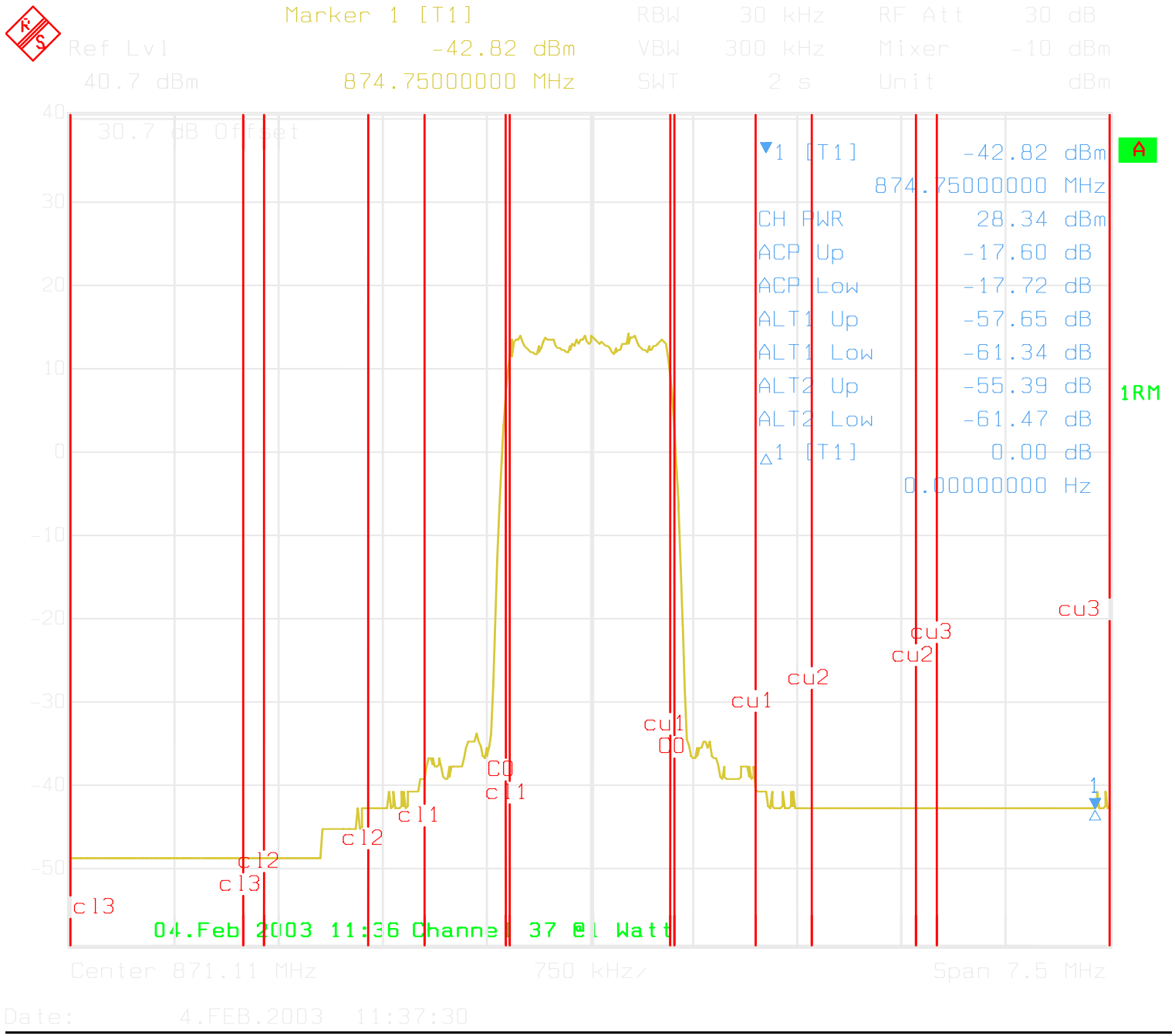
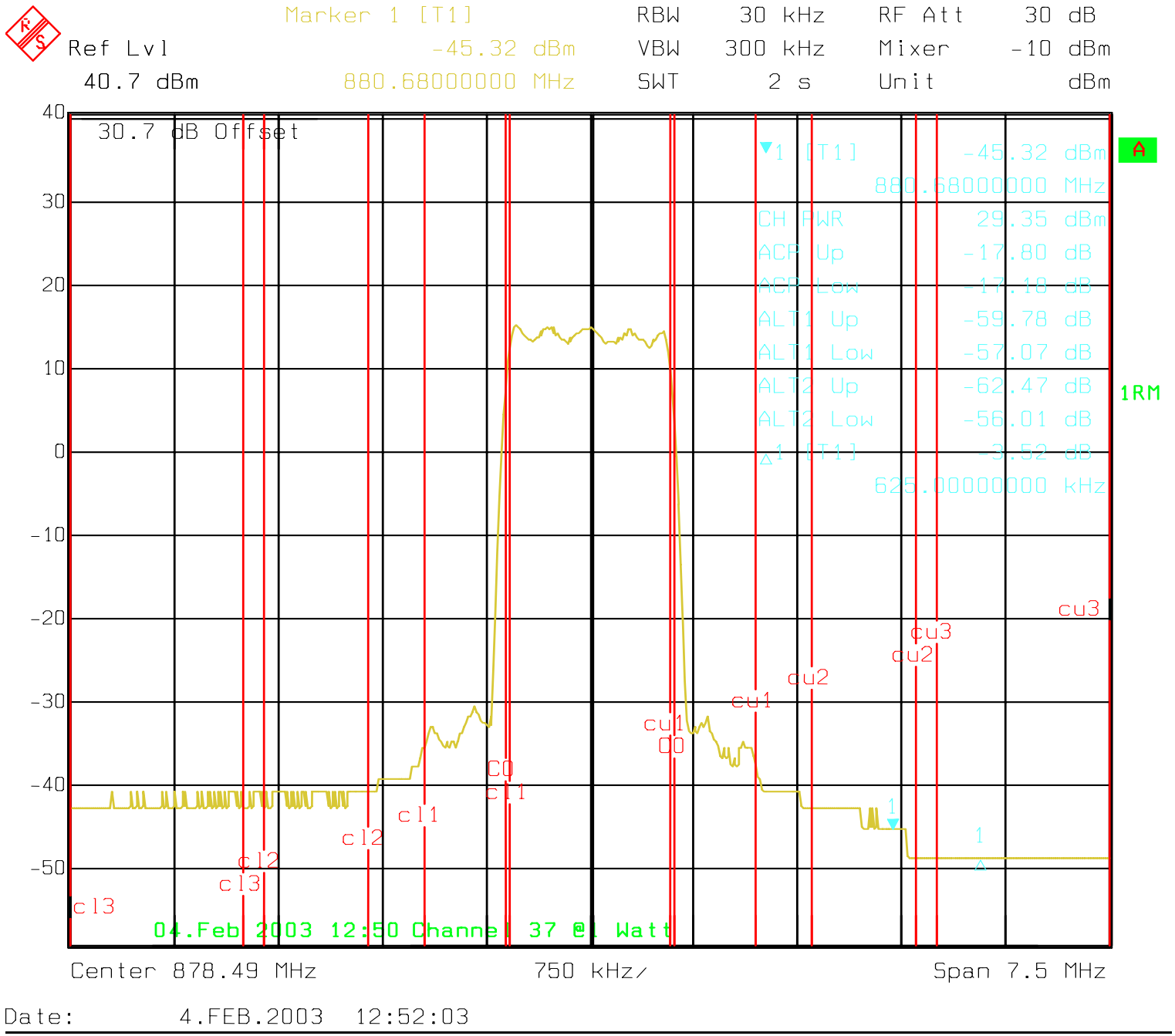

Marker 1 [T1]
RBW 30 kHz
RF Att 30 dB
Ref Lvl
-42.82 dBm
VBW 300 kHz
Mixer -10 dBm
40.7 dBm
874.75000000 MHz
SWT 2 s
Unit dBm
30.7 dB Offset
1 [T1] -42.82 dBm
874.75000000 MHz
CH PWR 28.34 dBm
ACP Up -17.60 dB
ACP Low -17.72 dB
ALT1 Up -57.65 dB
ALT1 Low -61.34 dB
ALT2 Up -55.39 dB
ALT2 Low -61.47 dB
Δ1 [T1] 0.00 dB
0.00000000 Hz
A
1RM
40
30
20
10
0
-10
-20
-30
-40
-50
cl3
cl2
cl3
cl2
cl1
C0
cl1
cu1
C0
cu1
cu2
cu3
cu2
cu3
04.Feb 2003 11:36 Channel 37 @1 Watt
Center 871.11 MHz
750 kHz/
Span 7.5 MHz
Date: 4.FEB.2003 11:37:30

OJYKAG11



Date: 4.FEB.2003 12:52:03

Name of Test: Spurious Emissions at Antenna Terminals

Paragraph: 47 CFR 2.1051, 22.917(e)

Guide: EIA Standard RS 152B, Paragraph 17

Test Condition: Standard Temperature & Humidity

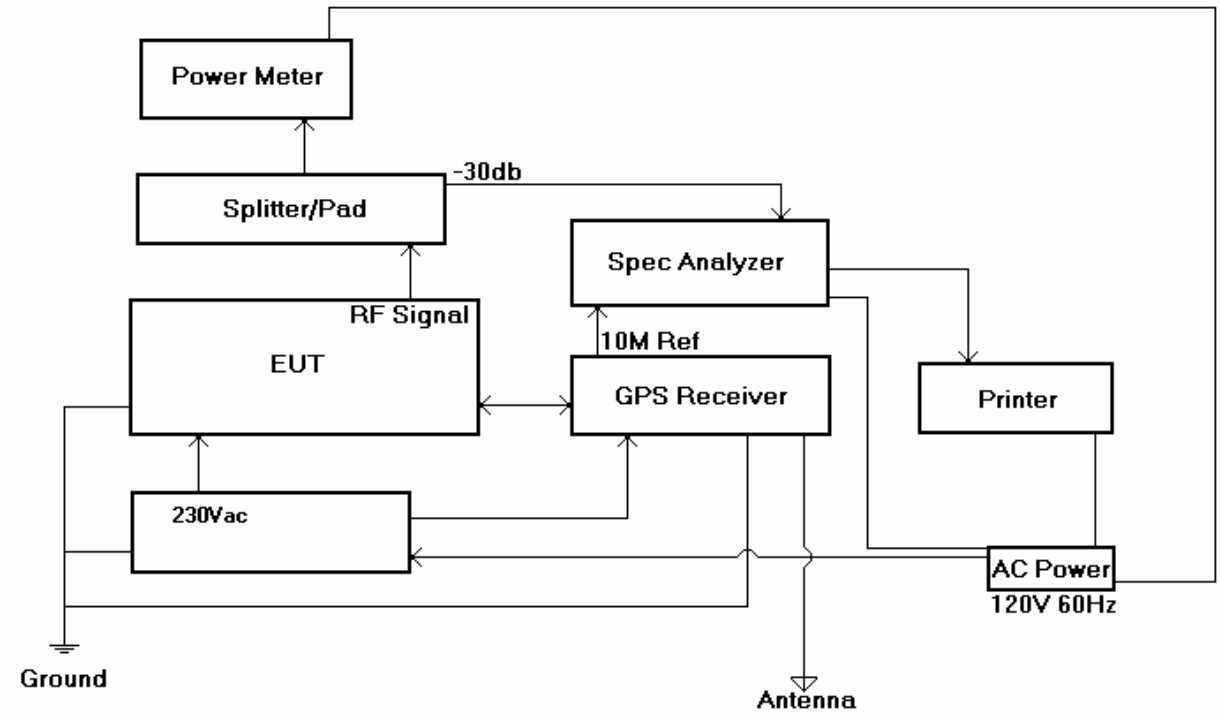
Test Equipment: As per Attached Appendix J

Measurement Procedures

1. The E.U.T. 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 12 Ghz for the worst case modulation at the highest R.F. 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*.**

Spurious Emissions at Antenna Terminals

Test 1: Spurious Emissions at Antenna Terminals



Name of Test: Field Strength of Spurious Radiation

Paragraph: 47 CFR 2.1053

Guide: See Measurement Procedure Below

Test Condition: Standard Temperature & Humidity

Test Equipment: As per Attached Appendix J

Measurement Procedures

1. A description of the measurement facilities was filed with the F.C.C. and was found to be in compliance with the requirements of Section 15.38, by letter from the F.C.C. 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 R.F. 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:

Frequency	**dBµV/M Reading**	**Signal down from carrier**	**Convet dBµV/M to dBm**	**Total O/P Power**	**dBm down from Carrier**
875.930 MHz	***149.36 dBµV/m***	***00.00 µV/m***	***42.36 dBm***	***42.75 dBm***	***00.00 dB***
683.490 MHz	31.71 dBµV/m	-117.65 µV/m	-75.29 dBm	*42.75 dBm*	117.65 dB
983.040 MHz	24.85 dBµV/m	-124.51 µV/m	-82.15 dBm	*42.75 dBm*	124.51 dB
1742.280 MHz	51.14 dBµV/m	-98.22 µV/m	-55.86 dBm	*42.75 dBm*	98.22 dB
2028.320 MHz	39.93 dBµV/m	-109.43 µV/m	-67.07 dBm	*42.75 dBm*	109.43 dB
2635.760 MHz	42.75 dBµV/m	-106.61 µV/m	-64.25 dBm	*42.75 dBm*	106.61 dB
2913.960 MHz	55.91 dBµV/m	-93.45 µV/m	-51.09 dBm	*42.75 dBm*	93.45 dB
3380.550 MHz	48.38 dBµV/m	-100.98 µV/m	-58.62 dBm	*42.75 dBm*	100.98 dB
3642.450 MHz	49.74 dBµV/m	-99.62 µV/m	-57.26 dBm	*42.75 dBm*	99.62 dB
4056.650 MHz	46.09 dBµV/m	-103.27 µV/m	-60.91 dBm	*42.75 dBm*	103.27 dB
4355.800 MHz	38.54 dBµV/m	-110.82 µV/m	-68.46 dBm	*42.75 dBm*	110.82 dB
4732.770 MHz	39.14 dBµV/m	-110.22 µV/m	-67.86 dBm	*42.75 dBm*	110.22 dB
5226.960 MHz	40.92 dBµV/m	-108.44 µV/m	-66.08 dBm	*42.75 dBm*	108.44 dB
5256.000 MHz	41.09 dBµV/m	-108.27 µV/m	-65.91 dBm	*42.75 dBm*	108.27 dB
5467.910 MHz	58.90 dBµV/m	-90.46 µV/m	-48.10 dBm	*42.75 dBm*	90.46 dB
6201.300 MHz	52.80 dBµV/m	-96.56 µV/m	-54.20 dBm	*42.75 dBm*	96.56 dB

1. The field strength of spurious radiation over the above noted range measured 20 dB or more below the limit, except where noted.

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

Name of Test: Frequency Stability – Temperature and Voltage Variation

Paragraph: 47 CFR 2.1055

Guide: EIA Standard RS 152B, Paragraph 10

Test Condition: Standard

Test Equipment: Fluke PM6681R

1. Measurement Results:

Temperature Stability:
Channel 37= 5Hz
Channel 283 = 3Hz

	CHANNEL # 37			CHANNEL # 283			
	FREQUENCY @			FREQUENCY @			
TEMPERATURE	871.1000000MHz			878.4900000MHz			
-10ºC	871.9999997			878.4899997			
-0ºC	871.9999998			878.4899997			
10ºC	871.9999998			878.4899998			
20ºC	871.9999998			878.4899998			
30ºC	871.9999997			878.4899997			
40ºC	871.9999995			878.4899998			

Name of Test: Necessary Bandwidth and Emission Bandwidth

Paragraph: 47 CFR 2.202 (g)

Modulation = CDMA (F9W)

Emission Bandwidth Calculation:

Necessary Bandwidth, kHz = 1250.00

Justification for CDMA bandwidth of 1.25 Mhz

Reference: TIA/EIA/IS-95

Chip rate is 1.228 Mhz (see page 6-10 of IS-95 {attached}). When we look 3 dB down from the signal we find 1.25 Mhz. Channel spacing is normally set at this 1.25 Mhz. Also, one can reference baseband filtering requirements for filtering frequency response limits.

Testimonial and Statement of Certification

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 was 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 are true and correct.

Certifying Engineer:

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 16dB gain antenna, with this configuration and the maximum RF output of the device set to 20 Watts the exposure limit is less than 1000 Watts.