CRITERION TECHNOLOGY

NVLAP Accredited Since 1993

NVLAP LAB CODE 100396-0

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EMC QUALIFICATION
TEST REPORT

ERICSSON
RADIO BASE STATION, RBS 1130 MTX 1900 MHZ

TESTED TO CONFORM WITH:

☒ **LICENSED RADIO TRANSMITTERS**

FOR

INFORMATION TECHNOLOGY EQUIPMENT (ITE)

Test Report Number: **030925-721**

Date of Issue: **OCTOBER 31, 2003**

Date of Test Completion: **OCTOBER 4, 2003**

Manufacturer's Address: **6210 SPINE ROAD**
BOULDER, CO 80301

Phone: **(303) 473-6956**

Reviewed by:

Compliance Engineer

Approved by:

Laboratory Director

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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:

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NVLAP Note: Criterion Technology is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the specific scope of accreditation under Lab Code 100396-0. Test methods included in Lab Code 100396-0 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-I-1994 AND ARE TRACEABLE TO NATIONAL STANDARDS.

TABLE OF CONTENTS

EMC QUALIFICATION TEST REPORT
RADIO BASE STATION

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	FCC Part 15	☒ IEC/EN 55022	Radiated Emissions	Class A	**PASS**
	GR-1089-CORE	☒ C63.4-2001			**PASS**
	FCC Part 24	☒ TIA/EIA 603	FCC 47 CFR	Licensed Radio Transmitter	**PASS**

1.3 EQUIPMENT UNDER TEST (EUT)

EUT NAME: **RADIO BASE STATION**

EUT MODEL/PART NUMBER(S): **RBS 1130 MTX 1900 MHZ**

EUT SERIAL NUMBER(S): **CB41304399**

2.0 EMISSIONS TEST STANDARDS

FCC Part 15, Subpart B **Class A**

FCC Part 24

2.1 ☒ RADIATED EMISSIONS AND SPURIOUS RADIATED EMISSIONS – 30 MHZ TO 1000 MHZ

Measurements for *Radiated Emissions* were performed over the frequency range of 30 MHz to 1000 MHz in the horizontal and vertical antenna polarities to the requirements of:

EN 55022 for IT Equipment **Class A**

Testing Conditions

Date of Test:	**October 1, 2003**
Temperature:	**21°C**
Relative Humidity:	**31%**
Test Voltage:	**-48 VDC**
Test Operator:	**WS**

Test Location

Criterion Technology Open Area Test Site

Test Distance

Antenna Distance: **10 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 BiConnical Antenna, Model 3108 ☐ EMCO Log Periodic Antenna, Model 3146

Test Accessories:

Test Results of Radiated Emissions

Test Status: **PASSED** Frequency Range: 30 MHz to 1000 MHz

Minimum Margin to Limit: **-3.15** dB at **218.0635** MHz

Remarks

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

2.2 ☒ RADIATED EMISSIONS AND SPURIOUS EMISSIONS ABOVE 1GHZ

Measurements for *Radiated Emissions* were performed over the frequency range of 1 GHz to 10 GHz in the horizontal and vertical antenna polarities to the requirements of **FCC Part 15 Subpart B Class A.**

Testing Conditions

Date of Test: **September 30, 2003**
Temperature: **21°C**
Relative Humidity: **31%**
Test Voltage: **-48 VDC**
Test Operator: **WS**

Test Location

Criterion Technology Open Area Test Site

Test Distance

Antenna 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 BiConnical Antenna, Model 3108 ☐ EMCO Log Periodic Antenna, Model 3146

Test Accessories:

Test Results of Radiated Emissions

Test Status: **PASSED** Frequency Range: 1 GHz to 10 GHz

Minimum Margin to Limit: **-4.22** dB at **8961.2468** MHz

Remarks

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

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

2.3 ☒ INTENTIONAL RADIATOR AND SPURIOUS EMISSIONS

Measurements for *Intentional Radiated Emissions* were performed over the frequency range of 1 GHz to 10 GHz in the horizontal and vertical antenna polarities to the requirements of **FCC Part 24 Class A.**
The substitution method was used in accordance with 47 CFR Part 2 and 22.

Testing Conditions

Date of Test:	**September 30, 2003**
Temperature:	**21°C**
Relative Humidity:	**31%**
Test Voltage:	**-48 VDC**
Test Operator:	**LWS**

Test Location

Criterion Technology Open Area Test Site

Test Distance

Antenna Distance: 3 meters **Final Measurements**

Test Equipment

Hewlett-Packard Spectrum Analyzer, HP 8566B
Hewlett-Packard Quasi-Peak Adapter, HP 85650A
Antenna Research, Horn Antenna, Model DRG 118/A

Test Accessories: Host Computer

Test Results of Conducted Emissions

Test Status: **PASSED** Frequency Range: 1 GHz to 10 GHz

Minimum Margin to Limit: **-4.74** dB at **3863.10** MHz

Remarks

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

2.4 ☒ GR-1089 RADIATED EMISSIONS - E-FIELD

Measurements for *GR-1090 Radiated E Field Emissions* were performed over the frequency range of 10 kHz to 30 MHz in the vertical antenna polarity to the requirements of:

GR-1089-CORE

Testing Conditions

Date of Test:	**October 1, 2003**
Temperature:	**21°C**
Relative Humidity:	**31%**
Test Voltage:	**-48 VDC**
Test Operator:	**WS**

Test Location

Criterion Technology Open Area Test Site

Test Distance

Antenna Distance: 10 Meters

Test Equipment

Rohde and Schwarz Receiver, ESHS-30
EMCO 6502 Loop Antenna

Test Accessories: Host Computer

Test Results of Conducted Emissions

Test Status: **PASSED** Frequency Range: 10 kHz to 30 MHz

Minimum Margin to Limit: **-25.2** DB (Qp) at **13.815** MHz

Remarks

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

2.5 ☒ GR-1089 RADIATED EMISSIONS – H -FIELD

Measurements for *GR-1090 Radiated H Field Emissions* were performed over the frequency range of 10 kHz to 30 MHz in the vertical antenna polarity to the requirements of:

GR-1089-CORE

Testing Conditions

Date of Test:	**October 1, 2003**
Temperature:	**20°C**
Relative Humidity:	**30%**
Test Voltage:	**-48 VDC**
Test Operator:	**WS**

Test Location

Criterion Technology Open Area Test Site

Test Distance

Antenna Distance: 3 Meters

Test Equipment

Rohde and Schwarz Receiver, ESHS-30
EMCO 6502 Loop Antenna

Test Accessories: Host Computer

Test Results of Conducted Emissions

Test Status: **PASSED** Frequency Range: 10 kHz to 30 MHz

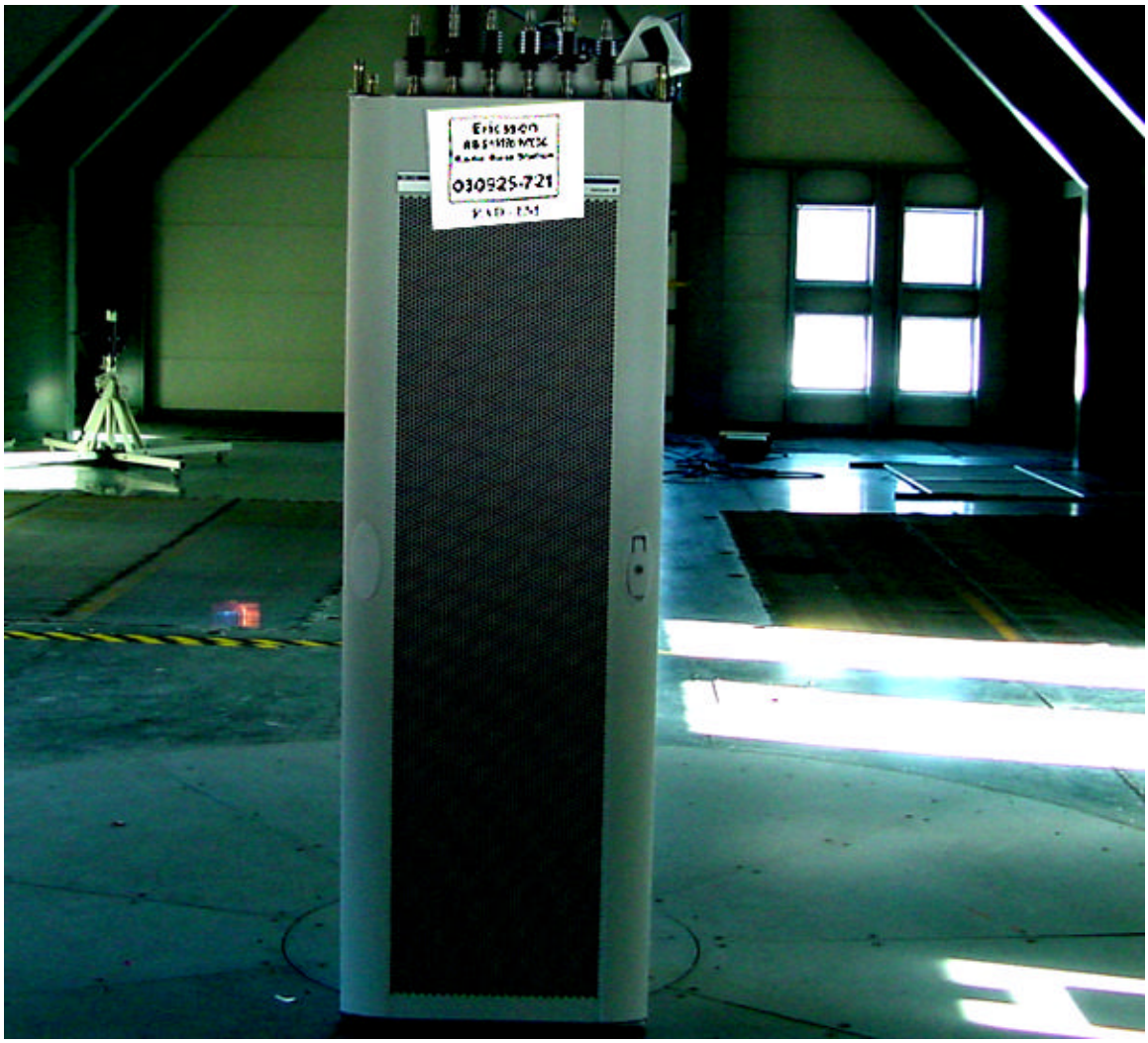
Minimum Margin to Limit: **-2.9** dB at **17.705** MHz

Remarks

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

3.0 APPENDIX A: EUT PHOTOGRAPHS

3.1 RADIATED EMISSIONS – FRONT VIEW



3.2 RADIATED EMISSIONS – SIDE VIEW

3.3 GR 1089 – RADIATED H FIELD

3.4 GR 1089 – RADIATED E FIELD

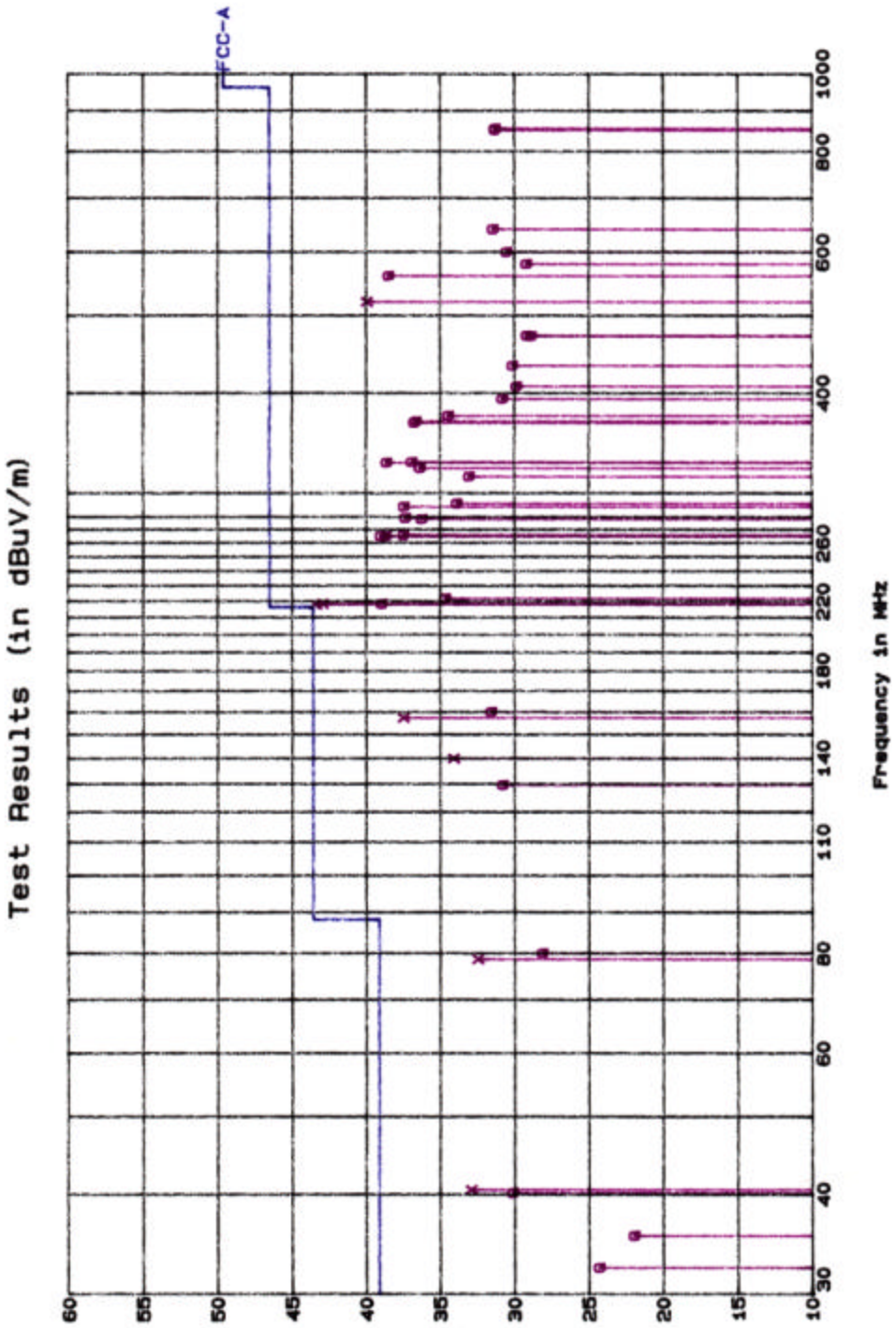
4.0 APPENDIX B: DATA SHEETS

4.1 RADIATED EMISSIONS PLOT – 30 MHZ TO 1 GHZ

Criterion Technology

Date: Wed Oct 01 13:17:54 2003

EUT: Radio Base Station , RBS1130 MTX 1900 MHz S/N: CB41304399
Manufacturer: Ericsson
Tester: WS SPID: 030925-721
EUT Level: 128, 64, 32 element channel cards
EUT Information: floor standing rack -48 VDC, FCC Part 15, Class A
Test Information:



4.2 RADIATED EMISSIONS TABLE – 30 MHZ TO 1 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

Criterion Technology Wed Oct 01 13:16:16 2003
EUT: RBS1130 MTX, 1900MHz, s/n CB41304399
Manufacturer: Ericsson
Tester: ws Special ID: 030925-721
EUT Level: 128, 64, 32 element channel cards
EUT Information: floor standing rack, -48VDC host below ground plane
Test information: Markov call simulations, 10m, -48VDC, FCC Part 15, Class A

Table 1: Scan List, sorted by margin to limit FCC-A, -18.0dB filter

Freq, MHz	Value	Sts	FCC-A	TT	Hght	Az	Comment
218.0635	43.29	m	-3.15	342	278	V	bb
218.4742	42.85	m	-3.59	8	110	V	bb
157.2747	37.38	m	-6.14	217	100	V	bb
40.5249	32.85	m	-6.23	157	100	V	bb
520.0027	39.84	m	-6.60	210	115	H	nb+bb
78.6347	32.38	m	-6.70	203	125	V	bb
264.9318	38.97	q	-7.47	90	100	H	bb
218.2679	38.89	q	-7.55	0	162	V	bb
265.0219	38.63	q	-7.81	180	100	H	bb
327.1531	38.56	q	-7.88	90	100	H	bb
559.9977	38.41	q	-8.03	210	115	H	nb
40.1417	30.07	q	-9.01	180	162	V	bb
265.8177	37.40	q	-9.04	180	100	H	bb
288.4465	37.38	q	-9.06	0	100	V	bb
279.3177	37.29	q	-9.15	90	400	H	bb
140.0027	34.00	m	-9.52	226	100	V	nb
327.7668	36.84	q	-9.60	342	278	V	bb
367.2027	36.68	q	-9.76	8	110	V	bb
368.7059	36.58	q	-9.86	8	110	V	bb
322.2027	36.31	q	-10.13	270	100	H	bb
278.4317	36.19	q	-10.25	90	400	H	bb
80.0037	28.08	q	-11.00	203	125	V	nb+bb
221.7617	34.61	q	-11.83	8	110	V	bb
159.9997	31.52	q	-12.00	226	100	V	nb
374.5828	34.39	q	-12.05	0	162	V	bb
291.2217	33.83	q	-12.61	0	400	H	bb
129.5997	30.73	q	-12.79	180	100	V	nb
314.4917	32.99	q	-13.45	270	400	H	bb
32.3647	24.28	q	-14.80	157	100	V	nb
640.0005	31.38	q	-15.06	180	400	V	nb
851.0447	31.24	q	-15.20	180	100	V	nb
855.3817	31.23	q	-15.21	180	162	V	nb
393.2205	30.76	q	-15.68	0	162	V	bb

Freq, MHz	Value	Sts	FCC-A	TT	Hght	Az	Comment
600.0077	30.47	q	-15.97	180	100	H	nb
432.7127	30.06	q	-16.38	270	400	V	bb
407.7839	29.81	q	-16.63	0	162	V	bb
35.4947	21.91	q	-17.17	226	100	V	pulsing nb
580.0027	29.13	q	-17.31	180	400	V	nb
471.8727	29.11	q	-17.33	90	100	H	bb
471.2737	28.83	q	-17.61	210	115	H	nb

Table 2: Scan List for FCC-A, sorted by Frequency, -18.0dB filter

Freq, MHz	Value	Sts	FCC-A	TT	Hght	Az	Comment
32.3647	24.28	q	-14.80	157	100	V	nb
35.4947	21.91	q	-17.17	226	100	V	pulsing nb
40.1417	30.07	q	-9.01	180	162	V	bb
40.5249	32.85	m	-6.23	157	100	V	bb
78.6347	32.38	m	-6.70	203	125	V	bb
80.0037	28.08	q	-11.00	203	125	V	nb+bb
129.5997	30.73	q	-12.79	180	100	V	nb
140.0027	34.00	m	-9.52	226	100	V	nb
157.2747	37.38	m	-6.14	217	100	V	bb
159.9997	31.52	q	-12.00	226	100	V	nb
218.0635	43.29	m	-3.15	342	278	V	bb
218.2679	38.89	q	-7.55	0	162	V	bb
218.4742	42.85	m	-3.59	8	110	V	bb
221.7617	34.61	q	-11.83	8	110	V	bb
264.9318	38.97	q	-7.47	90	100	H	bb
265.0219	38.63	q	-7.81	180	100	H	bb
265.8177	37.40	q	-9.04	180	100	H	bb
278.4317	36.19	q	-10.25	90	400	H	bb
279.3177	37.29	q	-9.15	90	400	H	bb
288.4465	37.38	q	-9.06	0	100	V	bb
291.2217	33.83	q	-12.61	0	400	H	bb
314.4917	32.99	q	-13.45	270	400	H	bb
322.2027	36.31	q	-10.13	270	100	H	bb
327.1531	38.56	q	-7.88	90	100	H	bb
327.7668	36.84	q	-9.60	342	278	V	bb
367.2027	36.68	q	-9.76	8	110	V	bb
368.7059	36.58	q	-9.86	8	110	V	bb
374.5828	34.39	q	-12.05	0	162	V	bb
393.2205	30.76	q	-15.68	0	162	V	bb
407.7839	29.81	q	-16.63	0	162	V	bb
432.7127	30.06	q	-16.38	270	400	V	bb
471.2737	28.83	q	-17.61	210	115	H	nb
471.8727	29.11	q	-17.33	90	100	H	bb
520.0027	39.84	m	-6.60	210	115	H	nb+bb
559.9977	38.41	q	-8.03	210	115	H	nb
580.0027	29.13	q	-17.31	180	400	V	nb
600.0077	30.47	q	-15.97	180	100	H	nb
640.0005	31.38	q	-15.06	180	400	V	nb
851.0447	31.24	q	-15.20	180	100	V	nb
855.3817	31.23	q	-15.21	180	162	V	nb

Table 3: Complete Scan List Sorted by Frequency

Freq, MHz	I-val	Final	Sts	TT	Hght	Az	Time	Comment
32.3647	30.12	24.28	q	157	100	V	Wed Oct 01 11:41:10 2003	nb
32.9417	27.00	20.85	q	0	100	V	Wed Oct 01 09:18:09 2003	nb+bb
35.4947	29.37	21.91	q	226	100	V	Wed Oct 01 13:02:16 2003	pulsing nb
40.1417	39.58	30.07	q	180	162	V	Wed Oct 01 10:35:43 2003	bb
40.5249	42.58	32.85	m	157	100	V	Wed Oct 01 11:40:58 2003	bb
58.9807	32.65	15.98	q	203	125	V	Wed Oct 01 11:57:53 2003	nb+bb
78.6347	47.73	32.38	m	203	125	V	Wed Oct 01 11:57:08 2003	bb
80.0037	43.29	28.08	q	203	125	V	Wed Oct 01 11:57:57 2003	nb+bb
81.6331	33.31	18.32	q	0	400	H	Wed Oct 01 11:33:49 2003	bb
82.4607	34.50	19.65	q	0	400	H	Wed Oct 01 11:33:51 2003	bb
82.5327	34.88	20.04	q	0	400	H	Wed Oct 01 11:33:53 2003	bb
114.2047	29.38	18.42	q	0	400	H	Wed Oct 01 11:33:56 2003	pulsing nb
129.5997	40.89	30.73	q	180	100	V	Wed Oct 01 10:17:12 2003	nb
137.1987	34.43	24.12	q	203	125	V	Wed Oct 01 11:58:26 2003	nb
140.0027	44.50	34.00	m	226	100	V	Wed Oct 01 13:01:59 2003	nb
142.4607	31.24	20.67	q	0	100	V	Wed Oct 01 09:21:00 2003	bb
145.7948	35.90	25.27	q	270	100	V	Wed Oct 01 10:28:13 2003	nb
149.9957	33.93	23.09	q	226	100	V	Wed Oct 01 13:03:11 2003	nb
157.2747	48.71	37.38	m	217	100	V	Wed Oct 01 13:09:42 2003	bb
159.9997	43.03	31.52	q	226	100	V	Wed Oct 01 13:03:15 2003	nb
170.0985	30.49	18.38	q	0	100	V	Wed Oct 01 09:23:16 2003	nb
177.5457	31.03	18.38	q	90	400	H	Wed Oct 01 11:31:13 2003	bb
179.1855	35.67	23.02	q	0	100	V	Wed Oct 01 09:23:34 2003	bb
180.9617	31.48	18.87	q	90	400	H	Wed Oct 01 11:31:18 2003	bb
191.0091	28.90	16.11	q	270	100	H	Wed Oct 01 10:24:56 2003	bb
192.5757	31.75	19.00	q	0	100	H	Wed Oct 01 09:35:23 2003	bb
194.6234	31.45	18.76	q	0	100	V	Wed Oct 01 09:23:57 2003	bb
196.6089	37.16	24.61	q	0	100	V	Wed Oct 01 09:24:12 2003	nb+bb
218.0635	54.83	43.29	m	342	278	V	Wed Oct 01 11:19:11 2003	bb
218.2679	50.42	38.89	q	0	162	V	Wed Oct 01 10:44:05 2003	bb
218.4742	54.37	42.85	m	8	110	V	Wed Oct 01 11:48:37 2003	bb
221.7617	45.80	34.61	q	8	110	V	Wed Oct 01 11:50:16 2003	bb
264.9318	47.82	38.97	q	90	100	H	Wed Oct 01 09:53:44 2003	bb
265.0219	47.48	38.63	q	180	100	H	Wed Oct 01 10:21:54 2003	bb
265.8177	46.27	37.40	q	180	100	H	Wed Oct 01 10:21:56 2003	bb
278.4317	44.56	36.19	q	90	400	H	Wed Oct 01 11:31:47 2003	bb
279.3177	45.61	37.29	q	90	400	H	Wed Oct 01 11:31:49 2003	bb
288.4465	45.58	37.38	q	0	100	V	Wed Oct 01 09:25:03 2003	bb
291.2217	41.92	33.83	q	0	400	H	Wed Oct 01 11:35:05 2003	bb
314.4917	40.90	32.99	q	270	400	H	Wed Oct 01 11:24:50 2003	bb
322.2027	43.74	36.31	q	270	100	H	Wed Oct 01 10:25:38 2003	bb
327.1531	45.97	38.56	q	90	100	H	Wed Oct 01 09:54:38 2003	bb
327.7668	44.28	36.84	q	342	278	V	Wed Oct 01 11:21:34 2003	bb
354.1904	32.43	26.79	q	0	162	V	Wed Oct 01 10:44:46 2003	bb
367.2027	42.48	36.68	q	8	110	V	Wed Oct 01 11:50:50 2003	bb
368.7059	42.43	36.58	q	8	110	V	Wed Oct 01 11:50:52 2003	bb
374.5828	40.28	34.39	q	0	162	V	Wed Oct 01 10:44:52 2003	bb
393.2205	35.77	30.76	q	0	162	V	Wed Oct 01 10:44:55 2003	bb
407.7839	34.07	29.81	q	0	162	V	Wed Oct 01 10:44:57 2003	bb
432.7127	34.40	30.06	q	270	400	V	Wed Oct 01 11:11:05 2003	bb
471.2737	32.05	28.83	q	210	115	H	Wed Oct 01 12:52:43 2003	nb
471.8727	32.32	29.11	q	90	100	H	Wed Oct 01 09:55:41 2003	bb

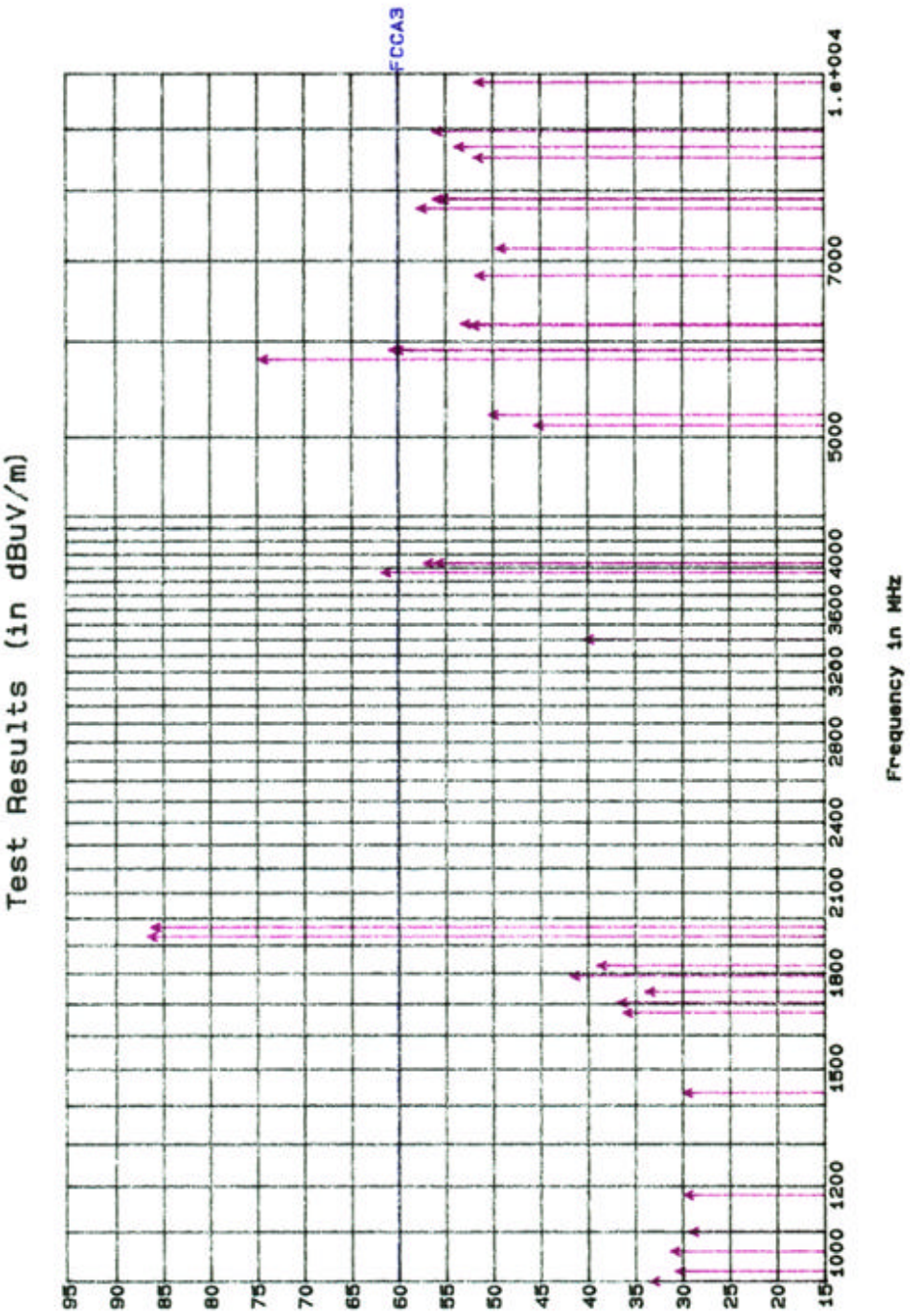
Freq, MHz	I-val	Final	Sts	TT	Hght	Az	Time	Comment
480.0027	31.27	28.33	q	90	100	H	Wed Oct 01 09:55:54 2003	nb
486.0027	30.67	28.00	q	180	162	V	Wed Oct 01 10:38:17 2003	nb
499.9977	28.14	26.24	q	210	115	H	Wed Oct 01 12:52:52 2003	nb
520.0027	42.01	39.84	m	210	115	H	Wed Oct 01 12:50:14 2003	nb+bb
534.6077	25.45	23.44	q	210	115	H	Wed Oct 01 12:52:57 2003	nb
559.9977	39.72	38.41	q	210	115	H	Wed Oct 01 12:52:59 2003	nb
580.0027	29.92	29.13	q	180	400	V	Wed Oct 01 11:07:15 2003	nb
583.2077	28.99	28.18	q	180	400	V	Wed Oct 01 11:07:18 2003	nb
600.0077	31.37	30.47	q	180	100	H	Wed Oct 01 10:23:04 2003	nb
620.0007	26.98	26.95	q	180	400	V	Wed Oct 01 11:07:24 2003	nb
640.0005	31.09	31.38	q	180	400	V	Wed Oct 01 11:07:26 2003	nb
719.9975	26.28	27.30	q	180	162	V	Wed Oct 01 10:38:40 2003	nb
851.0447	28.33	31.24	q	180	100	V	Wed Oct 01 10:17:09 2003	nb
855.3817	28.46	31.23	q	180	162	V	Wed Oct 01 10:38:45 2003	nb
855.8382	24.44	27.20	q	180	162	V	Wed Oct 01 10:38:48 2003	pulsing nb
861.4375	24.82	27.41	q	180	100	V	Wed Oct 01 10:19:32 2003	nb

4.3 RADIATED EMISSIONS PLOT – ABOVE 1 GHZ

Criterion Technology

Date: Wed Oct 01 13:17:54 2003

EUT: Radio Base Station , RBS1130 MTX 1900 MHz S/N: CB41304399
Manufacturer: Ericsson
Tester: WS SPID: 030925-721
EUT Level: 128, 64, 32 element channel cards
EUT Information: floor standing rack -48 VDC, FCC Part 15, Class A
Test Information: local Markov calls, 3m, -48 VDC, FCC Part 15 Class A



4.4 RADIATED EMISSIONS TABLE – ABOVE 1 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

Criterion Technology Tue Sep 30 16:14:21 2003
EUT: RBS1130 MTX, 1900 MHz, 20W, s/n CB41304399
Manufacturer: Ericsson
Tester: ws Special ID: 030925-721
EUT Level: 128, 64, 32, element channel cards
EUT Information: floor standing rack, power supply below ground plane
Test information: local Markov calls, 3m, -48VDC, FCC Part 15 Class A

Table 1: Scan List, sorted by margin to limit FCCA3, -50.0dB filter

Freq, MHz	Value	Sts	FCCA3	TT	Hght	Az	Comment
1932.5000	86.03	a	26.04	21	127	H	F0
1967.3250	85.67	a	25.68	1	101	V	F1
5798.0799	74.20	a	14.21	357	125	H	xmit harmonic
3864.9280	61.26	a	1.27	23	117	V	.
5901.9750	60.39	a	0.40	343	116	V	xmit harmonic
5901.1599	59.89	a	-0.10	299	149	H	xmit harmonic
7729.2000	57.45	a	-2.54	355	124	H	.
3933.3881	56.75	a	-3.24	29	120	V	xmit harmonic
8961.2468	55.77	a	-4.22	9	132	V	.
7869.3000	55.74	a	-4.25	33	101	V	xmit harmonic
3934.6539	55.64	a	-4.35	20	129	H	xmit harmonic
7870.2000	55.10	a	-4.89	357	140	V	.
8693.7468	53.44	a	-6.55	360	122	V	.
6206.9161	52.78	a	-7.21	24	123	H	.
6187.2399	51.84	a	-8.15	23	108	H	.
8512.5078	51.42	a	-8.57	3	121	V	.
9836.6250	51.32	a	-8.67	357	100	V	xmit harmonic
6805.0160	51.27	a	-8.72	59	108	H	.
5216.2538	49.85	a	-10.14	18	98	V	.
7168.9999	49.05	a	-10.94	329	124	H	.
5111.2537	45.07	a	-14.92	22	149	V	.
1792.2518	41.40	a	-18.59	353	121	H	.
3402.4980	39.85	a	-20.14	339	116	H	.
1827.2508	38.55	a	-21.44	6	122	H	.
1703.7500	36.39	a	-23.60	24	131	H	.
1671.1201	35.80	a	-24.19	217	132	V	.
1738.7554	33.47	a	-26.52	355	154	H	.
1000.0200	32.99	a	-27.00	276	130	V	.
1060.0020	30.83	a	-29.16	275	152	V	.
1020.0000	30.32	a	-29.67	302	185	V	.
1433.6941	29.52	a	-30.47	292	128	H	.
1179.6489	29.40	a	-30.59	326	148	H	.

Freq, MHz	Value	Sts	FCCA3	TT	Hght	Az	Comment
1099.9960	28.88	a	-31.11	196	152	V	.

Table 2: Scan List for FCCA3, sorted by Frequency, -50.0dB filter

Freq, MHz	Value	Sts	FCCA3	TT	Hght	Az	Comment
1000.0200	32.99	a	-27.00	276	130	V	.
1020.0000	30.32	a	-29.67	302	185	V	.
1060.0020	30.83	a	-29.16	275	152	V	.
1099.9960	28.88	a	-31.11	196	152	V	.
1179.6489	29.40	a	-30.59	326	148	H	.
1433.6941	29.52	a	-30.47	292	128	H	.
1671.1201	35.80	a	-24.19	217	132	V	.
1703.7500	36.39	a	-23.60	24	131	H	.
1738.7554	33.47	a	-26.52	355	154	H	.
1792.2518	41.40	a	-18.59	353	121	H	.
1827.2508	38.55	a	-21.44	6	122	H	.
1932.5000	86.03	a	26.04	21	127	H	F0
1967.3250	85.67	a	25.68	1	101	V	F1
3402.4980	39.85	a	-20.14	339	116	H	.
3864.9280	61.26	a	1.27	23	117	V	.
3933.3881	56.75	a	-3.24	29	120	V	xmit harmonic
3934.6539	55.64	a	-4.35	20	129	H	xmit harmonic
5111.2537	45.07	a	-14.92	22	149	V	.
5216.2538	49.85	a	-10.14	18	98	V	.
5798.0799	74.20	a	14.21	357	125	H	xmit harmonic
5901.1599	59.89	a	-0.10	299	149	H	xmit harmonic
5901.9750	60.39	a	0.40	343	116	V	xmit harmonic
6187.2399	51.84	a	-8.15	23	108	H	.
6206.9161	52.78	a	-7.21	24	123	H	.
6805.0160	51.27	a	-8.72	59	108	H	.
7168.9999	49.05	a	-10.94	329	124	H	.
7729.2000	57.45	a	-2.54	355	124	H	.
7869.3000	55.74	a	-4.25	33	101	V	xmit harmonic
7870.2000	55.10	a	-4.89	357	140	V	.
8512.5078	51.42	a	-8.57	3	121	V	.
8693.7468	53.44	a	-6.55	360	122	V	.
8961.2468	55.77	a	-4.22	9	132	V	.
9836.6250	51.32	a	-8.67	357	100	V	xmit harmonic

Table 3: Complete Scan List Sorted by Frequency

Freq, MHz	I-val	Final	Sts	TT	Hght	Az	Time	Comment
1000.0200	48.88	32.99	a	276	130	V	Tue Sep 30 12:51:39 2003	.
1020.0000	45.65	30.32	a	302	185	V	Tue Sep 30 13:11:16 2003	.
1060.0020	45.39	30.83	a	275	152	V	Tue Sep 30 13:03:49 2003	.
1099.9960	43.15	28.88	a	196	152	V	Tue Sep 30 13:00:23 2003	.
1179.6489	43.17	29.40	a	326	148	H	Tue Sep 30 13:07:46 2003	.
1433.6941	41.08	29.52	a	292	128	H	Tue Sep 30 12:56:25 2003	.
1671.1201	45.50	35.80	a	217	132	V	Tue Sep 30 13:37:10 2003	.
1703.7500	45.81	36.39	a	24	131	H	Tue Sep 30 13:33:36 2003	.
1738.7554	42.60	33.47	a	355	154	H	Tue Sep 30 13:30:39 2003	.
1792.2518	50.12	41.40	a	353	121	H	Tue Sep 30 13:26:37 2003	.
1827.2508	47.01	38.55	a	6	122	H	Tue Sep 30 13:22:45 2003	.
1932.5000	93.70	86.03	a	21	127	H	Tue Sep 30 11:38:12 2003	F0
1967.3250	93.07	85.67	a	1	101	V	Tue Sep 30 15:52:01 2003	F1
3402.4980	43.30	39.85	a	339	116	H	Tue Sep 30 14:06:39 2003	.
3864.9280	62.82	61.26	a	23	117	V	Tue Sep 30 14:09:09 2003	.
3933.3881	58.07	56.75	a	29	120	V	Tue Sep 30 14:12:35 2003	xmit harmonic
3934.6539	56.96	55.64	a	20	129	H	Tue Sep 30 11:49:34 2003	xmit harmonic
5111.2537	42.18	45.07	a	22	149	V	Tue Sep 30 14:42:52 2003	.
5216.2538	46.59	49.85	a	18	98	V	Tue Sep 30 14:39:12 2003	.
5798.0799	68.59	74.20	a	357	125	H	Tue Sep 30 14:34:57 2003	xmit harmonic
5901.1599	53.99	59.89	a	299	149	H	Tue Sep 30 14:31:01 2003	xmit harmonic
5901.9750	54.49	60.39	a	343	116	V	Tue Sep 30 15:56:47 2003	xmit harmonic
6187.2399	45.03	51.84	a	23	108	H	Tue Sep 30 15:05:51 2003	.
6206.9161	45.94	52.78	a	24	123	H	Tue Sep 30 14:52:34 2003	.
6805.0160	42.29	51.27	a	59	108	H	Tue Sep 30 15:02:05 2003	.
7168.9999	39.62	49.05	a	329	124	H	Tue Sep 30 15:13:39 2003	.
7729.2000	48.12	57.45	a	355	124	H	Tue Sep 30 15:17:18 2003	.
7869.3000	46.62	55.74	a	33	101	V	Tue Sep 30 15:59:23 2003	xmit harmonic
7870.2000	45.98	55.10	a	357	140	V	Tue Sep 30 15:20:44 2003	.
8512.5078	40.29	51.42	a	3	121	V	Tue Sep 30 15:29:56 2003	.
8693.7468	41.37	53.44	a	360	122	V	Tue Sep 30 15:32:40 2003	.
8961.2468	42.56	55.77	a	9	132	V	Tue Sep 30 15:35:32 2003	.
9836.6250	38.23	51.32	a	357	100	V	Tue Sep 30 16:01:34 2003	xmit harmonic

4.5 LICENSED TRANSMITTER

ERICSSON 030925-721 25-SEP-2003

F_0 – FUNDAMENTAL CARRIER FREQUENCY 1931.55MHZ

FO FREQ MHZ	PWR LEVEL TO ANTENNA USING SIG GENERATOR SUBSTITUTION METHOD	XMTR ATTENUATOR PADS 30.66 3.12	POUT DBM	POUT WATTS	TRN DB DBUV/M	FO REF (I VALUE) 91.25 -8	FO REF (F VALUE) DBUV/M	FCC 24 LIM 56 DB DOWN
1931.55 PO Freq MHz	9.23 dBm	dB = 33.78 dB	43.01 dBm	19.998 watts	-7.68 db	111.25	103.57 dBuv/m	47.57 dBuv/m

HP 8566B Settings:	3 Mhz RBW	10 Mhz Span	Video Average On	Horn Gain 8db

FREQ MHZ	COMMENTS	TRANSDUCER FACTOR	HORN GAIN dB	REVISED I VALUE	ACTUAL F VALUE dBuv/m	ACTUAL LIMIT dBuv/m	MARGIN TO LIMIT (dB)	
3864	2 Fo	-1.37	9.5	53.7	42.83	47.57	-4.74	
5796	3 Fo	2.71	10.7	41.85	33.86	47.57	-13.71	
7728	4 Fo	9.17	10.3	35.4	34.27	47.57	-13.3	
9660	5 Fo	13.43	11.3	34.05	36.18	47.57	-11.39	Noise Floor
11592	6 Fo	23.67	11.9	32.35	44.12	47.57	-3.45	Noise Floor
13524	7 Fo							Beow Noise Floor
15456	8 Fo							Below Noise Floor
17388	9 Fo							Below Noise Floor
19315	10 Fo							Below Noise Floor

4.6 GR 1089 CORE - E FIELD PLOT

Criterion Technology Inc.

01. Oct 03 15:11

E Field GR1089 CORE

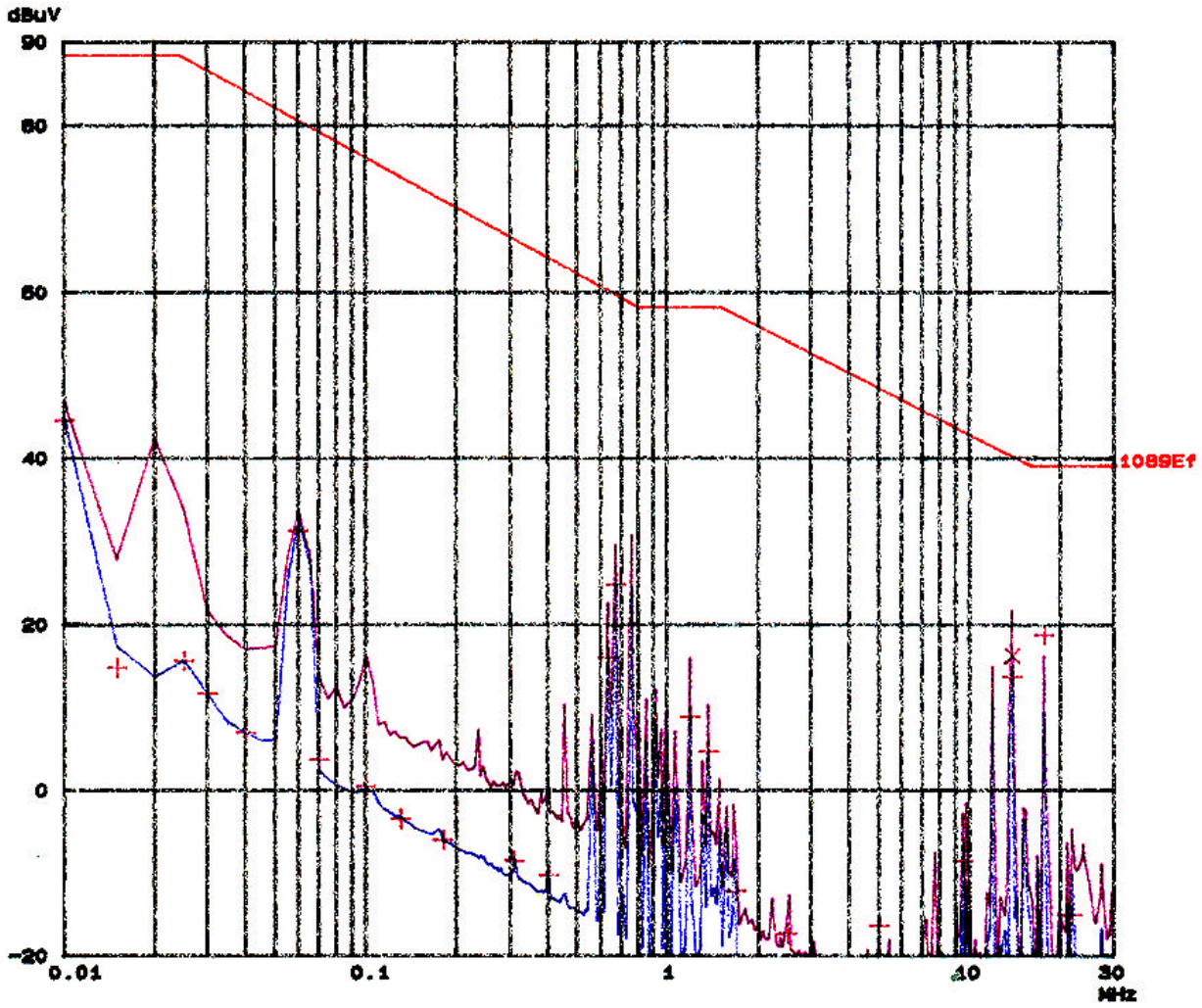
EUT: RBS1130 MTX 1900 MHz
Manuf: Ericsson
Op Cond: Markov Call Simulations
Operator: WS 030925-721
Test Spec: GR1089 Core
Comment: -48 VDC, door open

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	If BW	Detector	M-Time	Atten	Preamp	OpRge
10k	30M	5k	10k	PK+AV	100MS	AUTO LN	OFF	60db

Final Measurement: x QP / + AV
Meas Time: 1s
Subranges: 25
Acc Margin: 20dB

Transducer	No.	Start	Stop	Name
3	2	9k	30M	OAw3dB
	22	10k	30M	1089efld



4.7 GR 1089 CORE - E FIELD TABLE

Criterion Technology Inc.

01. Oct 03 15:11

E Field GR1089 CORE

EUT: RBS1130 MTX 1900 MHz
Manuf: Ericsson
Op Cond: Markov Call Simulations
Operator: WS 030925-721
Test Spec: GR1089 Core
Comment: -48 VDC, door open

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	If BW	Detector	M-Time	Atten	Preamp	OpRge
10k	30M	5k	10k	PK+AV	100MS	AUTO LN	OFF	60db

Frequency MHz	AV Level dB	AV Limit dB
0.0100000	44.4	
0.0150000	14.6	
0.0250000	15.4	
0.0300000	11.6	
0.0400000	6.8	
0.06000	31.2	
0.07000	3.6	
0.10000	0.3	
0.13000	-3.4	
0.18000	-5.9	
0.31000	-8.5	
0.40000	-10.3	
0.63000	15.9	
0.67000	24.7	
1.19000	8.7	
1.36000	4.5	
1.69000	-12.0	
2.50000	-17.3	
3.21500	-32.5	
5.00000	-16.2	
7.21500	-26.0	
9.47500	-8.5	
13.81500	13.6	
17.70500	18.7	
21.74000	-15.0	

limit exceeded

4.8 GR 1089 CORE - H FIELD PLOT

Criterion Technology Inc. 01. Oct 03 14:13
H Field GR1089 CORE

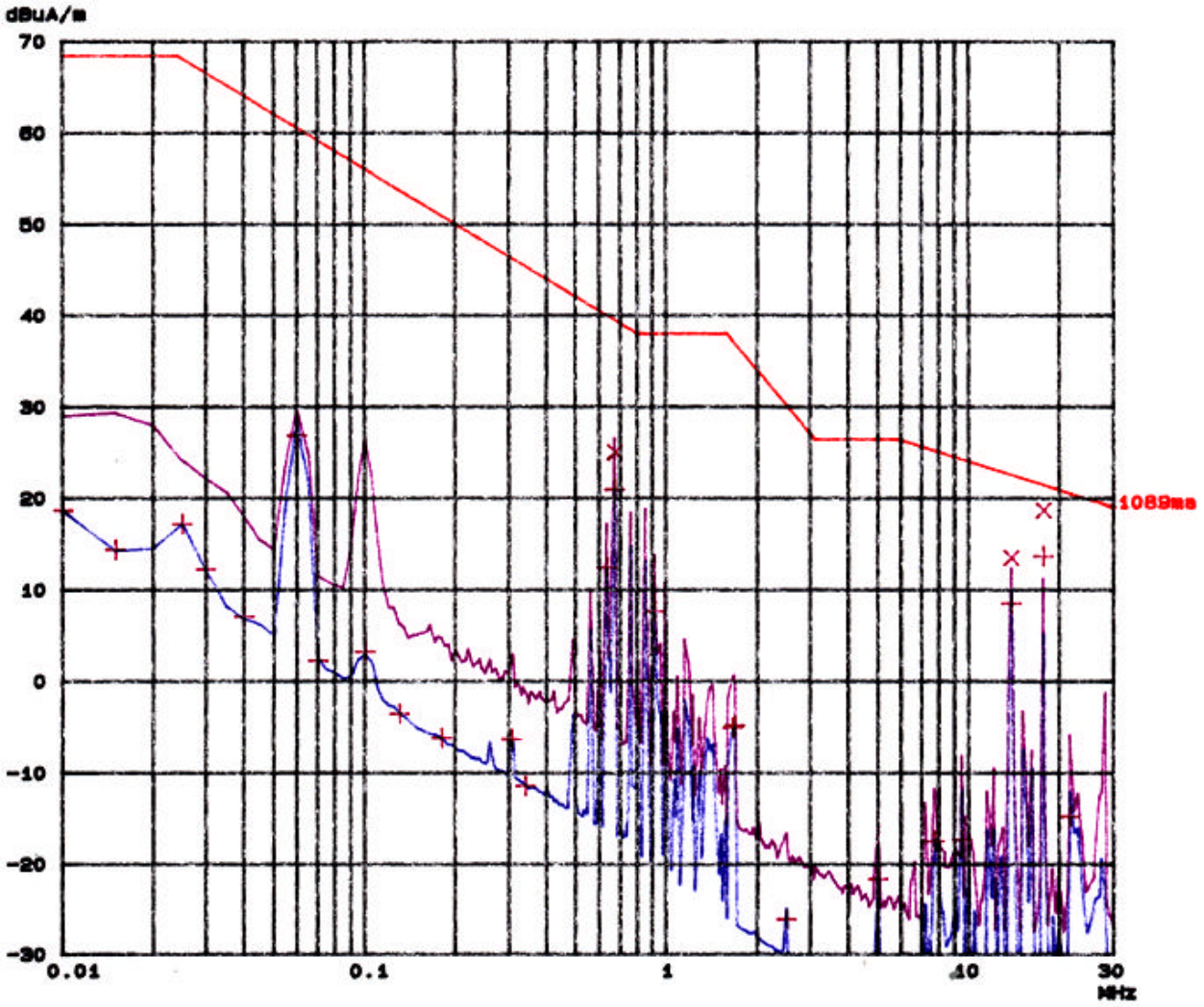
EUT: RBS1130 MtX 1900 MHz
Manuf: Ericsson
Op Cond: Markov Call Simulations
Operator: WS 030925-721
Test Spec: GR1089 Core
Comment: -48 VDC, door open

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	If BW	Detector	M-Time	Atten	Preamp	OpRge
10k	30M	5k	10k	PK+AV	100MS	AUTO LN	OFF	60db

Final Measurement: x QP / + AV

Meas Time:	1s	5	2	9k	30M	Oaw3dB
Subranges:	25		21	10k	30M	6502_msg
Acc Margin:	20dB					



4.9 GR 1089 – H FIELD TABLE

Criterion Technology Inc.
H Field GR1089 CORE

EUT: RBS1130 MtX 1900 MHz
Manuf: Ericsson
Op Cond: Markov Call Simulations
Operator: WS 030925-721
Test Spec: GR1089 Core
Comment: -48 VDC, door open

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	If BW	Detector	M-Time	Atten	Preamp	OpRge
10k	30M	5k	10k	PK+AV	100MS	AUTO LN	OFF	60db

Frequency MHz	AV Level dBuA/m	AV Limit dBuA/m
0.0100000	18.6	
0.0150000	14.2	
0.0250000	17.0	
0.0300000	12.1	
0.0400000	6.8	
0.05000	26.9	
0.07000	2.1	
0.10000	3.0	
0.13000	-3.6	
0.18000	-6.3	
0.30500	-6.5	
0.34000	-11.5	
0.63000	12.3	
0.67000	20.8	
0.91000	7.5	
1.65000	-5.2	
1.69000	-5.0	
2.50000	-26.1	
3.19500	-32.3	
5.00000	-21.7	
7.71000	-17.5	
9.49500	-17.4	
13.81500	6.4	
17.70500	13.6	
21.59000	-14.8	

\# limit exceeded

5.0 APPENDIX C: CRITERION TECHNOLOGY PRODUCT INFORMATION FORM

General Information **Date: 01 Oct 2003**

Company Name: Ericsson Wireless Communications
Company Address: 6210 Spine Road
Boulder, Colorado 80301-3317

Contacts:
Compliance Engineer: Keith Goshia Phone: 303 474-6956 Email: keith.goshia@ericsson.com
Design Engineer: Tom Funk Phone: 303 473-6731 Email: tom.funk@ericsson.com

Test Description:

De-Bug: Formal (Initial): Ö Formal (Re-Verification):

Market Information (Check all that Apply)

USA Ö Canada Ö Euro. Un. Taiwan Japan New Zealand Ö Australia Ö
Other: China, Brazil

Product Information

Name: Radio Base Station Model Number: RBS1130 MTX, 1900 MHz Serial Number CB41304399
Product Dimensions: Weight:

Product Power Source:

Battery
Type: User Supplied Voltage: -48

AC 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: Toshiba
Description: Laptop
Model Number: Satellite 1735
Serial Number; 2151579CU-1

Monitor:
Manufacturer:
Description:
Model Number:
Serial Number;

Power Supply:
Manufacturer: HP
Description: 0-60VDC, 110 Amps
Model Number: 6692
Serial Number; US41290106

Mouse:
Manufacturer: Compaq
Description:
Model Number: M-S34
Serial Number; BO4ABOH5BFIOVVK

I/O Cables – Manufacturer, P/N, Length:
Serial Port: 9 pin D-Sub, length as needed

Parallel Port:
SCSI Port:
Other: Ether- length as needed

Operation Software:

Name: P2 software Version Number:

Operating Modes: (Please Include Cycle Time)

Radiated Emissions- 3x6 with 6 forward-only Markov calls per carrier
Radiated Immunity- 3x6 with 6 forward-only Markov calls per carrier except sector 1 which will have 5 forward-only and 1 over-the-air Markov.

Operation Pass/Fail Criteria:

Calls stay up and error rates as indicated on the phone stay below 4%

Information Technology Equipment

Class (A or B): A
Radiated: A Conducted: A
Oscillator/Clock Frequencies (MHz): See tetraclocks.xls

Industrial, Scientific, Medical Equipment

Class (A or B):
Radiated: Conducted:
Oscillator/Clock Frequencies (MHz):

Unintentional Radiator

Fundamental Frequencies:
Class (A or B):
Oscillator/Clock Frequencies (MHz):

Receiver

Type (Regen., Superhet., Direct Conv., Homodyne)
Local Oscillator Frequencies See tetraclocks.xls
Frequency Range

Intentional Radiator

Fundamental Frequency Range 1930-1970MHz
Local Oscillator Frequencies
Power Output (to antenna) 40 Watts (split between 3 carriers during rad. emiss.)
Integral Antenna (Yes/No) No
Modulation Type (AM, CM, Pulse, Spread Spectrum) CDMA
Control Circuits (Microprocessor/Micro-controller) Varied, multiple
Oscillator/Clock Frequencies (MHz) See tetraclocks.xls

Optional: Are there any long interfacing cables to be tested?
If so, how many?
Note: Cables must be tested at a length of 20 meters.

6.0 APPENDIX D: TEST EQUIPMENT AND CALIBRATION STATUS

LAB CALIBRATION FILE AS OF JULY 28, 2003

Manufacturer	Name/Description	Model Number	Serial Number	Cal. Due Date
Hewlett Packard	Pulse Generator	HP 8116A	2901G09493	12/27/03
FCC	CDN	FCC-801-M3-25	9714	3/5/04
FCC	EM Clamp	F2031	309	3/5/04
Rohde/Schwarz	VHF/UHF Receiver	ESVS-30	8634221014	3/27/04
Antenna Research Associates	1-18 GHz Horn	DRG118/A	1057	3/18/04
Rohde/Schwarz	LISN	ESH2-Z5	828739-001	5/30/04
Rohde/Schwarz	HF Receiver	ESHS-30	82600/011	5/29/04
Veratech	Preamp (AMP2)		N/A	6/4/04
Amplifier Research	Power Amplifier	10S1G4	20155	5/2/04
Amplifier Research	Power Amplifier	100W1000M1	20214	5/2/04
Amplifier Research	Directional Coupler	DC2600	302981	5/23/04
Hewlett Packard	Spectrum Analyzer	HP 8566B	2637A00991	8/7/2004
Hewlett Packard	Spectrum Analyzer	HP 85662A	2237A04240	8/7/2004
Hewlett Packard	Tracking Generator	HP85645A	3210A00124	8/30/04
Haefely Trench	ESD Gun	PESD 1600	H605100	11/09/03
Haefely Trench	Coupling Network	IP6.2	083 957-02	11/17/03
Haefely Trench	De-coupling Network	DEC1A	080057-09	11/17/03
Haefely Trench	EFT Coupling Clamp	IP4A	080-011-06	11/17/03
Haefely Trench	Impulse Module	PHV 30.2	083991-06	11/17/03
Haefely Trench	Surge Generator	PSURGE 6.1	083 906-07	11/17/03
Haefely Trench	Surge Network	FP-SURGE 32.1	083925-05	11/17/03
Haefely Trench	Dip Generator	PLINE1610	083 970-07	11/17/03
Haefely Trench	Power Supply	PHF555	080-419-05	11/17/03
Amplifier Research	E-Field Probe	FP2000	19682	3/18/04
Amplifier Research	E-Field Probe	FP2080	20236	3/20/04
Antenna Research Associates	1-18 GHz Horn	DRG118/A	1056	4/9/04
Dickson	Temperature/ RH Recorder	THDX	5300245	4/21/04
Amplifier Research	Power Amplifier	150A100A	20183	4/22/04
Hewlett Packard	Signal Generator	HP 8648D	3642000145	4/23/04
Heise	Barometer	710A	S7-15256	4/24/04
Chase	Bilog 30 - 1000 MHz	CB6111	1121	5/6/04
Haefely Trench	EFT Tester	PEFT Junior	583-333-51	3/3/05
Tegam	Current Probe	925236-1	12588	3/05/04
Fluke	Digital Multimeter	87	68630334	4/21/04
EMCO	Horn	3115	4003	4/22/04
Le Croy	Digital Storage Oscilloscope	9450	2141	4/22/04
Hewlett Packard	Signal Generator	3335A	1640A01094	4/23/04
Solar Electronics Co	LISN	8610-50-TS-100-N	967622	4/24/04
Solar Electronics Co.	LISN	8610-50-TS-100-N	967622	4/24/04
EMCO	BiConnical 30-200 MHz	3108	2343	5/5/04
EMCO	E-Field Generator	3107	2484	5/5/04
EMCO	BiConnical 30-200 MHz	3108	2441	5/6/04
EMCO	Log Periodic 200 - 1000 MHz	3146	2763	5/6/04
EMCO	Log Periodic 200 - 1000 MHz	3146	3096	5/6/04
Andrews Heliax Cable	F2-50 Low Loss Coax	F2-50	N/A	6/25/04
Hewlett Packard	Power Splitter	11667A	13688	4/18/04
Hewlett Packard	Directional Coupler	HP 779D	1144-C4725	5/29/04
Mini Circuits (in HP case)	Preamp (AMP5)	unknown	ZFL-1000LN	7/9/04
Tektronix	Oscilloscope	2467B	B051203	4/21/04
Hewlett Packard	Spectrum Analyzer	HP 8591A	2919A00220	4/22/04
Tektronix	Oscilloscope	2465A	B021016	4/25/04
Fluke	Digital Multimeter	87	66320753	4/21/04

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, 23 May 1989.

EN 50081-1 (CENELEC): EMC - Generic Emission Standard, Part 1: Residential, Commercial and Light Industry, 1992.

EN 50081-2 (CENELEC): EMC - Generic Emission Standard, Part 2: Industrial Environment, 1993.

EN 50082-1 (CENELEC): Electromagnetic Compatibility - Generic Immunity Standard, Part 1: Residential, Commercial and Light Industry, 1998.

EN 50082-2 (CENELEC): Electromagnetic Compatibility - Generic Immunity Standard, Part 2: Industrial Environment, 1995.

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, 1999.

EN 55014-1 (CENELEC): Part 1. Electromagnetic Compatibility Requirements for Household Appliances, Electric Tools and Similar Apparatus - Part 1. Emission - Product Family Standard, 2001.

EN 55022 (CENELEC): ITE - Radio-Frequency Equipment Radio Disturbance Characteristics - Limits and Methods of Measurement, 1998.

EN 55024 (CENELEC): ITE - Immunity Characteristics - Limits and Methods of Measurement, 1998.

EN 60601-1-2 (CENELEC): Medical Electrical Equipment. Part 1. General Requirements for Safety - Section 1.2. Collateral Standard: Electromagnetic Compatibility - Requirements and Tests, 1993.

EN 61000-3-2 (CENELEC): EMC - Part 2. Limits for Harmonic Current Emissions (Equipment Input Current ≤16 A per phase), 2000.

EN 61000-3-3 (CENELEC): EMC - Part 3. Limitation of Voltage Fluctuation and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current ≤16 A, 1998.

EN 61000-4-2 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 2. Electrostatic Discharge Immunity Test, 1995.

EN 61000-4-3 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 3. Radiated, Radio-Frequency, Electromagnetic Field Immunity, 1996.

EN 61000-4-4 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 4. Electrical Fast Transient/Burst Immunity Test, 1999.

EN 61000-4-5 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 5. Surge Immunity Test, 1996.

EN 61000-4-6 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 6. Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields, 1997.

EN 61000-4-8 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 8. Power Frequency Magnetic Field Immunity Test, 1993.

EN 61000-4-11 (CENELEC): EMC - Part 4. Testing and Measurement Techniques; Section 11. Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests, 1994

EN 61326 (CENELEC): Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements, 1998.

7.2 FCC PART 15

Subpart A.

Subpart B.

Subpart C.

Subpart D.

7.3 FCC PART 22

7.4 FCC PART 24

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, 1997.

7.7 AUSTRALIA/NEW ZEALAND

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

7.8 CHINA

CNS13438, 1997.