FCC PART 15, SUBPART C
TEST METHOD: ANSI C63.4-1992

for

2.44 GHZ RADIOWIRE MODEM

Model: RCC0002

Prepared for

RADIOCONNECT CORPORATION
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TORRANCE, CALIFORNIA 90505

Prepared by: _____

KYLE FUJIMOTO

Approved by: _____

SCOTT McCUTCHAN

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DATE: MARCH 20, 1999

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full with the written permission of Compatible Electronics.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:	2.44 GHz Radiowire Modem Model: RCC0002 S/N: N/A
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	RadioConnect Corporation 3521 West Lomita Blvd., Suite #201 Torrance, California 90505
Test Dates:	March 15 and 16, 1999
File # For Canada	IC2154-D
Test Specifications:	EMI requirements FCC Title 47, Part 15 Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247
Test Procedure:	ANSI C63.4: 1992
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 450 kHz – 30 MHz	Complies with the **Class B** limits of FCC Title 47, Part 15 Subpart B; and Subpart C, section 15.207
2	Spurious Radiated RF Emissions, 10 kHz – 1000 MHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.209(a)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247(c)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.209(a)
5	6 dB Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
6	Maximum Peak Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(1)
7	RF Antenna Conducted	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (c)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)
9	Processing Gain	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the 2.44 GHz Radiowire Modem Model: RCC0002. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. The tests were performed in order to determine whether the electromagnetic emissions from the 2.44 GHz Radiowire Modem, referred to as EUT hereafter, are within the specification limits defined by FCC Title 47, Part 15, Subpart C, sections 15.207, 15.209, and 15.247.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

RadioConnect Corporation

Art Tanaka	Engineer
Vu Do	Engineer
Keith Vensel	Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Scott McCutchan	Lab Manager

2.4 Date Test Sample was Received

The test sample was received on March 15, 1999

2.5 Disposition of the Test Sample

The test sample was returned to RadioConnect Corporation on March 16, 1999.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C.	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators.
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators.

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Specifics of the EUT and Peripherals Tested

The 2.44 GHz RadioWire Modem Model: RCC0002 (EUT) was placed on the wooden table and tested in three orthogonal axis. The low (channel 1), medium (channel 3), and high (channel 5) channels were tested. The EUT was connected to and powered by a Network Interface Module via its power port. The Network Interface Module was placed 50 feet away from the test site in a shielded enclosure for radiated emissions testing, and was placed 10 cm away from the EUT for conducted emissions testing. The EUT was transmitting on a continuous basis and sending information to the Network Interface Module. The radiated and conducted data was taken in this mode of operation. All initial investigations were performed with the EMI receiver in manual mode scanning the frequency range continuously. The cables were bundled and routed as shown in the photographs in Appendix C.

For the fundamental and harmonics, complete data is given for all antennas in Appendix D of this report. For the spurious emissions, the emissions were found to be highest when the 1.0 meter dish antenna was used and final spurious emissions data was taken with this antenna. For the conducted emissions, the emissions were found to be the highest when the Helical antenna was used and final conducted emissions data was taken with this antenna.

4.1.1 Cable Construction and Termination

Cable 1 **(For Radiated Emissions Only)** This is a 150 foot foil shielded cable connecting the EUT to the Network Interface Module. It has a metallic AMP CPC connector at each end. The shield of the cable was grounded to the chassis via the connectors.

Cable 2 **(For Conducted Emissions Only)** This is a 12 foot foil shielded cable connecting the EUT to the Network Interface Module. It has a metallic AMP CPC connector at each end. The cable was bundled to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
2.44 GHZ RADIOWIRE MODEM (EUT)	RADIOCONNECT CORPORATION	RCC0002	N/A	NFX-RCC0002-00
NETWORK INTERFACE MODULE	RADIOCONNECT CORPORATION	007-0002-00	PROTOTYPE	DoC
HELICAL ANTENNA	T-COM	P/N: 250-0001-00, 250-0002-01	N/A	N/A
0.6 METER DISH ANTENNA	T-COM	P/N: 250-0002-00, 250-0002-01	N/A	N/A
1.0 METER DISH ANTENNA	T-COM	P/N: 250-0002-00, 250-0002-01	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Spectrum Analyzer	Hewlett Packard	8566B	3638A08784	Nov. 16, 1998	May 16, 1999
Preamplifier	Com Power	PA-102	1017	Jan. 16, 1999	Jan. 16, 2000
Quasi-Peak Adapter	Hewlett Packard	85650A	3303A01688	June 23, 1998	June 23, 1999
RF Attenuator	Com-Power	412-10	N/A	Nov. 20, 1998	Nov. 20, 1999
LISN	Com Power	LI-200	1764	Jan. 3, 1999	Jan. 3, 2000
LISN	Com Power	LI-200	1771	Jan. 3, 1999	Jan. 3, 2000
LISN	Com Power	LI-200	1775	Jan. 3, 1999	Jan. 3, 2000
LISN	Com Power	LI-200	1780	Jan. 3, 1999	Jan. 3, 2000
Biconical Antenna	Com Power	AB-100	1548	Oct. 15, 1998	Oct. 15, 1999
Log Periodic Antenna	Com Power	AL-100	1117	Oct. 15, 1998	Oct. 15, 1999
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
Printer	Hewlett Packard	C5886A	SG7CM1P090	N/A	N/A
Monitor	Hewlett Packard	D5258A	DK74889705	N/A	N/A
Loop Antenna	Com-Power	AL-130	25309	Feb. 5, 1999	Feb. 5, 2000
Horn Antenna	Antenna Research	DRG-118/A	1053	Dec. 8, 1995	N/A
Microwave Preamplifier	Hewlett Packard	8449B	3008A008766	Jan. 30, 1999	Jan. 30, 2000
Amplifier	Hewlett Packard	11975A	2403A00202	Dec. 14, 1998	Dec. 14, 1999
Harmonic Mixer	Hewlett Packard	11970K	3003A05460	Feb. 25, 1999	Feb. 25, 2000
Power Meter	Hewlett Packard	436A	2236A15362	June 17, 1998	June 17, 1999
Power Sensor	Hewlett Packard	8482H	GG00000006	June 17, 1998	June 17, 1999

5.3 Processing Gain Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Pattern Generator / Error Detector	Hewlett Packard	3780A	2224U02558	N/A	N/A
Signal Generator	Hewlett Packard	8648C	3443U00242	N/A	N/A
Pattern Generator / Error Detector	Hewlett Packard	3780A	1637U00244	N/A	N/A
Coaxial Direct Coupler	Narda	3003-20-01	005	N/A	N/A
Splitter	Mini Circuits	ZFSC-2-2500	N/A	N/A	N/A
Power Meter	Hewlett Packard	437B	3125013310	N/A	N/A
Power Sensor	Hewlett Packard	8481H	3318A16294	N/A	N/A
Spectrum Analyzer	Hewlett Packard	8563E	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 8.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Transmitter Power

Transmit power is herein defined as the power delivered to a 50 Ohm load at the proprietary antenna connector on the RadioWire unit.

Power	Channel Number	Accuracy
24.12 dBm	1	+3/-3 dB
24.44 dBm	3	+3/-3 dB
24.15 dBm	5	+3/-3 dB

7.2 Channel Number and Frequencies

Channel Number	Channel center Frequency (MHz)
1	2415.6
2	2428.4
3	2441.2
4	2454.0
5	2466.8

7.3 Chipping Rate

A 32,768 bit chipping code is used. The chipping code is clocked at a 12.8 MHz rate.

7.4 Spreading Gain

The theoretical spreading gain, is 15 dB.

7.5 Antenna Gain

The antenna gain for the helical antenna is +14 dBi
The antenna gain for the 0.6 meter dish antenna is +20 dBi
The antenna gain for the 1.0 meter dish antenna is +24 dBi

7.6 Description of Transmitter

The transmitter takes the filtered I / Q channel data from the Spread Spectrum Controller board which are modulated into a 2.4 GHz carrier by using a Quadrature Phase Shift Keying (QPSK) modulator (see Block Diagram, Transceiver board, U3). The resulting signal is amplified, amplitude level adjusted, and filtered before going through a Transmit/Receive (T/R) switch that allows the antenna to be shared by the transmitter and receiver. The signal is bandpass filtered prior to reaching the antenna. The transmit level is factory set to a maximum output of +24 dBm.

7.7 Processing Gain

The Processing Gain was measured using the CW jamming margin method. Please see the data sheets and writeups for processing gain for the block diagram. The test consists of stepping a signal generator at 50 kHz increments across the passband of the system (up to 12.8 MHz away from the center frequency). The passband of the system is 25.6 MHz (±12.8 MHz). At each point, the generator level required to produce the recommended Bit Error Rate (BER) (Set at BER=10 to the negative sixth power) is recorded. This level is the jamming level. The output power of the transmitter unit is measured at the same point. The Jammer to Signal (J/S) ratio is then calculated. Discard the worst 20% of the J/S data point. The lowest remaining J/S ratio is used to calculate the processing gain. The maximum implementation loss a system can claim in calculating processing gain is 2 dB. The equation to calculate the processing gain (Gp) is the following:

$Gp=(S/N)o + Mj + Lsys$

Where Lsys = system implementation loss = 2dB
Mj = jamming margin (J/S) in dB,
(S/N)o = signal to noise ratio required for a OQPSK system with BER of 10 to the negative sixth power.

The theoretical Gp is 13.8 dB

8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak detector was used only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the spectrum analyzer input stage, and the spectrum analyzer offset was adjusted accordingly to read the actual data measured. The LISN output was read by the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for the conducted emissions test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4: 1992. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The initial test data was taken in manual mode while scanning the frequency ranges of 0.45 MHz to 1.6 MHz, 1.6 MHz to 5 MHz and 5 MHz to 30 MHz. The conducted emissions from the EUT were maximized for operating mode as well as cable placement. Once a predominant frequency (within 12 dB of the limit) was found, it was more closely examined with the spectrum analyzer span adjusted to 1 MHz.

The final data was collected under program control by the HP 9000/300 in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave.

Conducted Emissions Data Sheets

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Hewlett Packard Microwave Amplifier Model: 8449B was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps. The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets. The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data.

For the 22 GHz – 25 GHz span, the Hewlett Packard 11970K Harmonic Mixer and the Hewlett Packard 11975A Amplifier were used to allow the spectrum analyzer to scan up to 25 GHz.

Radiated Emissions Data Sheets

8.2 6 dB Bandwidth for Direct Sequence Systems

The 6 dB Bandwidth was taken using the spectrum analyzer. The bandwidth was measured using a direct connection from the RF out on the RF board. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (a)(2). The bandwidth is at least 500 kHz. Please see the data sheets located in Appendix D.

6dB Bandwidth Data Sheets

8.3 Peak Output Power

The peak output power was taken using the Hewlett Packard 436A Power Meter and the Hewlett Packard 8482H Power Sensor. The low (channel 1), middle (channel 3), and high (channel 5) were taken.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (b)(1). The maximum peak output power is less than 1 watt.

Peak Output Power Data Sheets

8.4 Spectral Density Output

The spectral density output was using the spectrum analyzer. The spectral density output power was measured using a direct connection from the RF out on the RF board into the input of the analyzer. The spectrum analyzer was offset by 0.1 dB to account for the loss of the short coax cable to the input of the analyzer. The resolution bandwidth was 3 kHz, and the video bandwidth 10 kHz. The highest 4.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (d). The spectral density output does not exceed 8 dBm in any 3 kHz band.

Spectral Density Output Data Sheets

8.5 RF Antenna Conducted Test

The RF antenna conducted test was taken using the spectrum analyzer. The RF antenna conducted test was measured using a direct connection from the RF out on the RF board into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (c). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

RF Antenna Conducted Test Data Sheets

8.6 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (2390 MHz when the EUT was on channel 1 and 2483.5 MHz when the EUT was on channel 5) using the spectrum analyzer. It was also verified that the transmitted signals did not apear in the restricted bands below 2390 MHz and above 2843.5 MHz. The RF band edges were measured at 3 meters for all three antennas for the EUT. The worst case scenario was when the EUT was measured with the 1.0 meter dish antenna in the horizontal polarization. A spectral plot of the band edges are included to prove no emissions were found at these frequencies.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (c). The RF power at the band edges at 2390 MHz and 2483.5 MHz meet the limits of section 15.209.

RF Band Edges Data Sheets

8.7 Processing Gain

The Transmitting EUT was connected to the Network Interface Module. The Network Interface Module was connected to the Hewlett Packard 3780A Pattern Generator/Error Detector. 40 dB of attenuation was placed on the output of the base. The output of the Transmitting EUT was combined with the output of the signal generator through a combiner. The Receiving EUT was connected to the Network Interface Module. The Network Interface Module was connected to the Hewlett Packard 3780A Pattern Generator/Error Detector. The signal generator was stepped in 50 kHz increments across the passband (± 12.8 MHz of the fundamental transmit frequency). The Bit Error Rate used was 0.0001%. When this error rate was achieved (displayed on the Pattern Generator/Error Detector), the reading of the signal generator was taken. This reading was then subtracted from the signal level of the Transmitting EUT (while adding in the combine loss and cable loss) to obtain the J/S ratio. The J/S ratio was then combined with the system loss (2 dB) and signal to noise ratio (13.8 dB) of the unit to obtain the processing gain.

Since only the power was increased from the RF output (**no other changes made to the signal itself)**, this test was not performed again from the previous unit that was granted on August 4, 1998. The data sheets and writeups will contain the old processing gain from the unit with the FCC-ID: NFX-RCC0001-00. The old data was done on channel 3 (2441.20 MHz), which **has not changed frequency** for the current unit.

Processing Gain Data Sheets and Writeups

9. CONCLUSIONS

The 2.44 GHz Radiowire Modem Model: RCC0002 meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

APPENDIX A

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and C specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

Modifications:

No Modifications were made to the EUT during the testing.

APPENDIX B

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	2.44 GHz Radiowire Modem Model: RCC0002 S/N: N/A

There were no additional models covered under this report.

APPENDIX C

DIAGRAMS, CHARTS AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

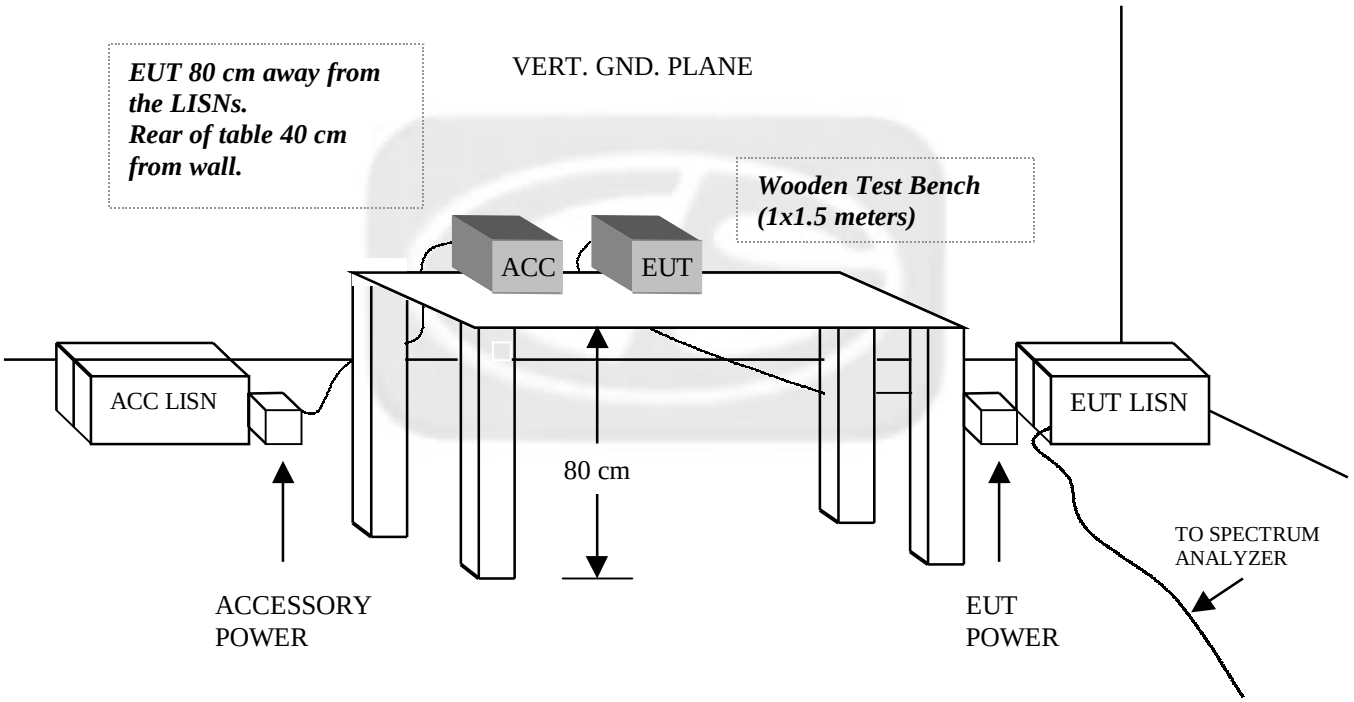
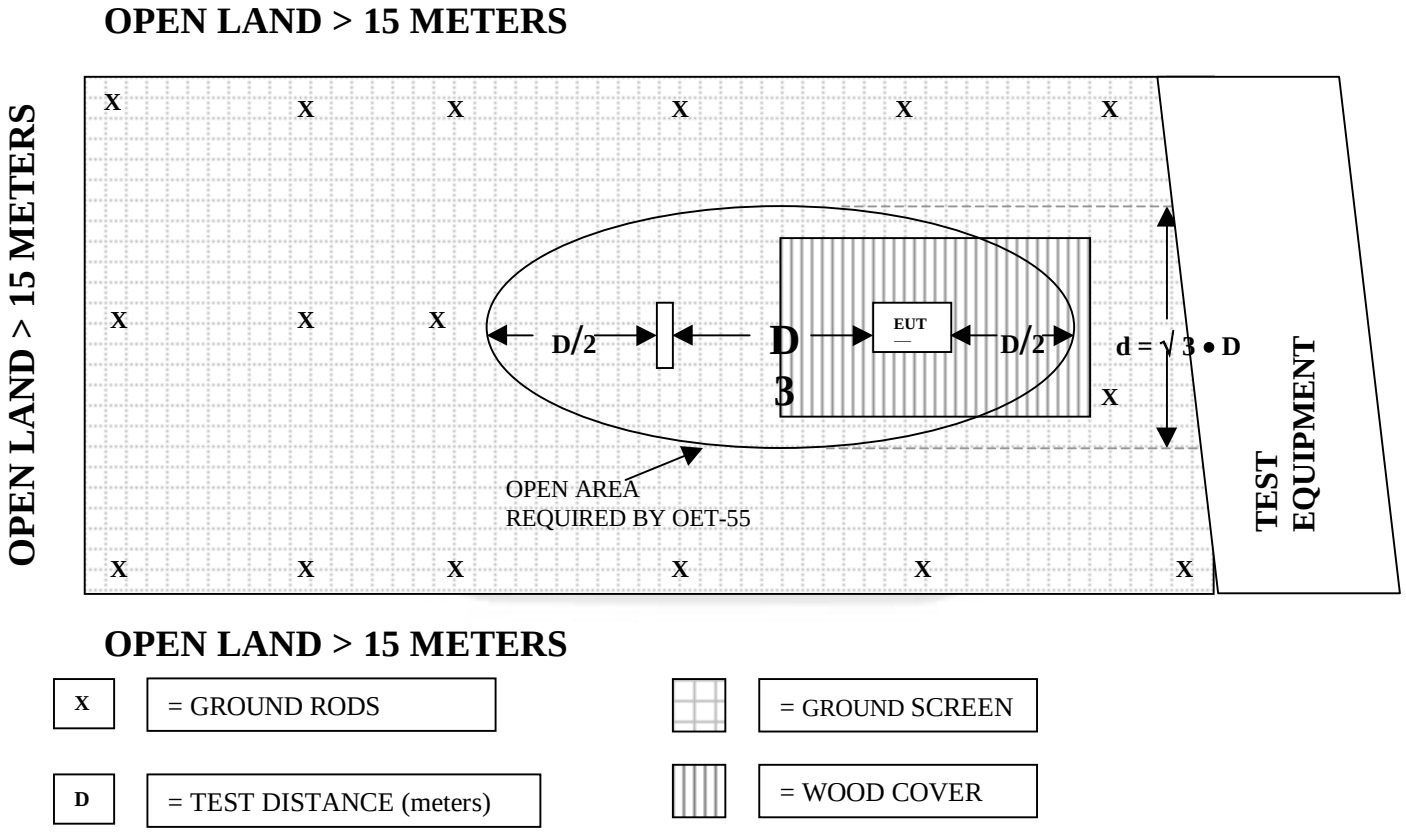


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



FRONT VIEW

RADIOCONNECT CORPORATION
2.44 GHZ RADIOWIRE MODEM
Model: RCC0002
FCC SUBPART B and C - RADIATED EMISSIONS – 3-15-99

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RADIOCONNECT CORPORATION
2.44 GHZ RADIOWIRE MODEM
Model: RCC0002
FCC SUBPART B and C - RADIATED EMISSIONS – 3-15-99

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RADIOCONNECT CORPORATION
2.44 GHZ RADIOWIRE MODEM
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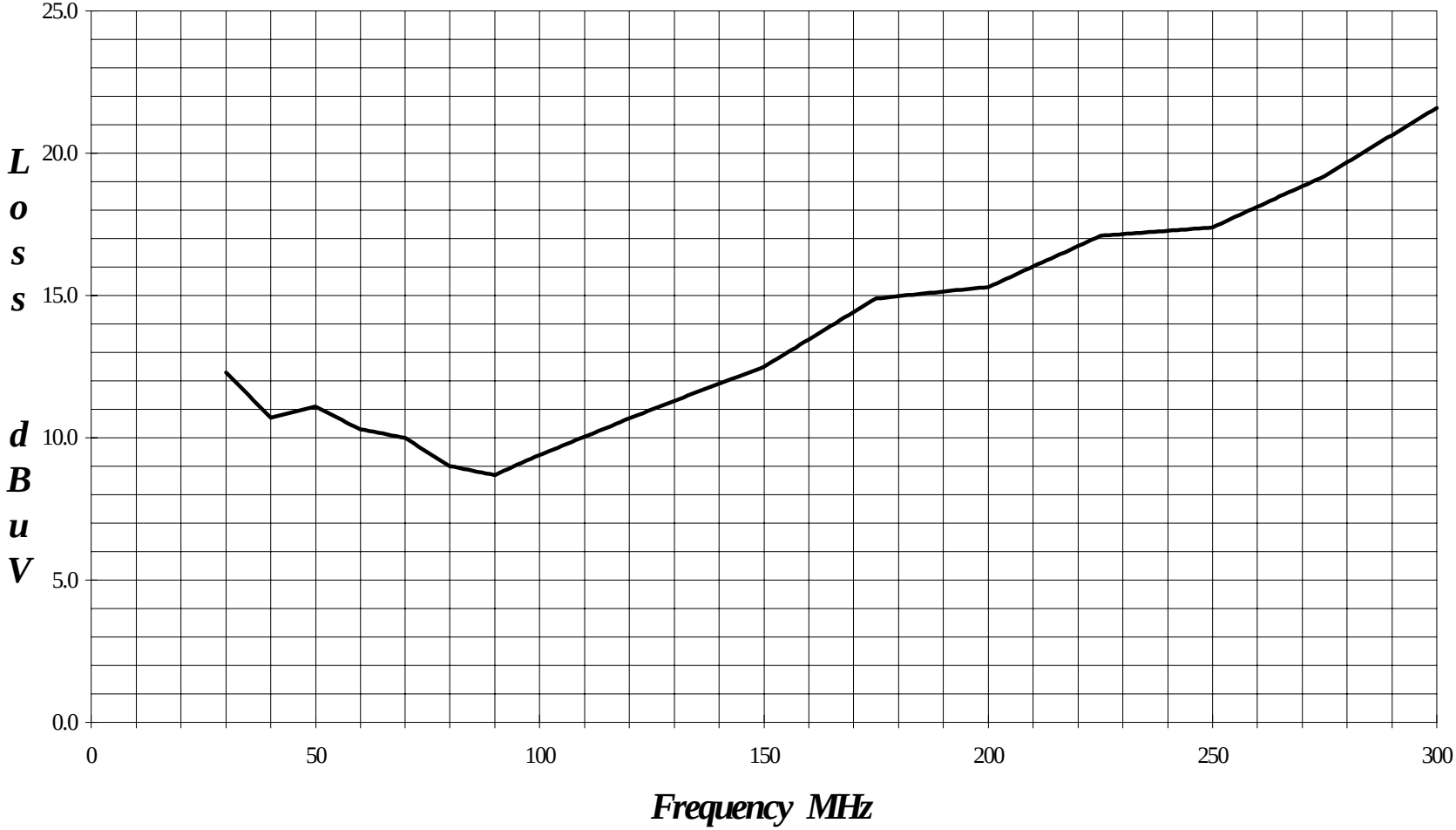
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW
RADIOCONNECT CORPORATION
2.44 GHZ RADIOWIRE MODEM
Model: RCC0002
FCC SUBPART B and C - CONDUCTED EMISSIONS – 3-15-99

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

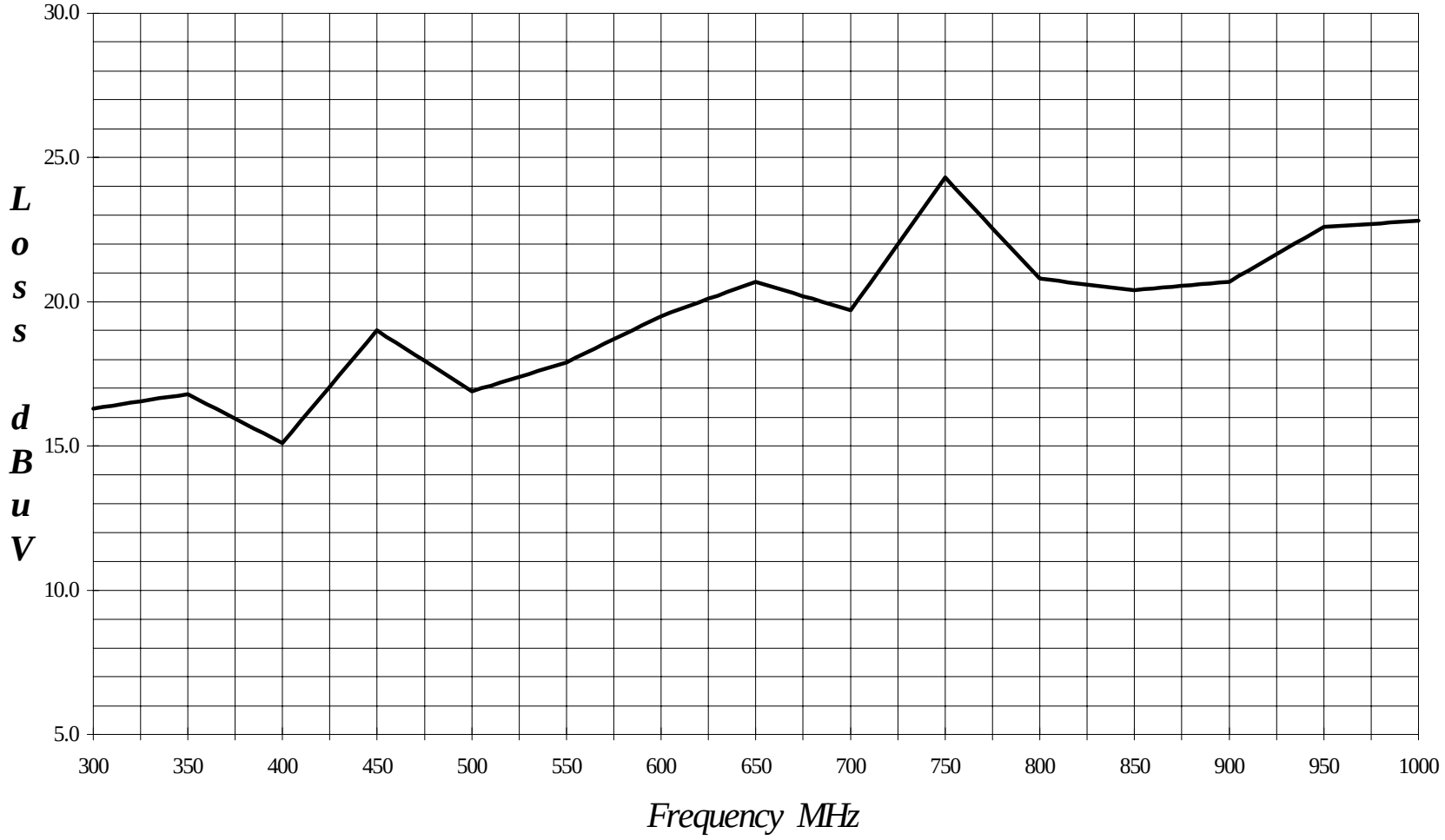
***Cal*: 10/15/98**

LAB "D" BICONICAL ANTENNA AB-100 S/N 01548

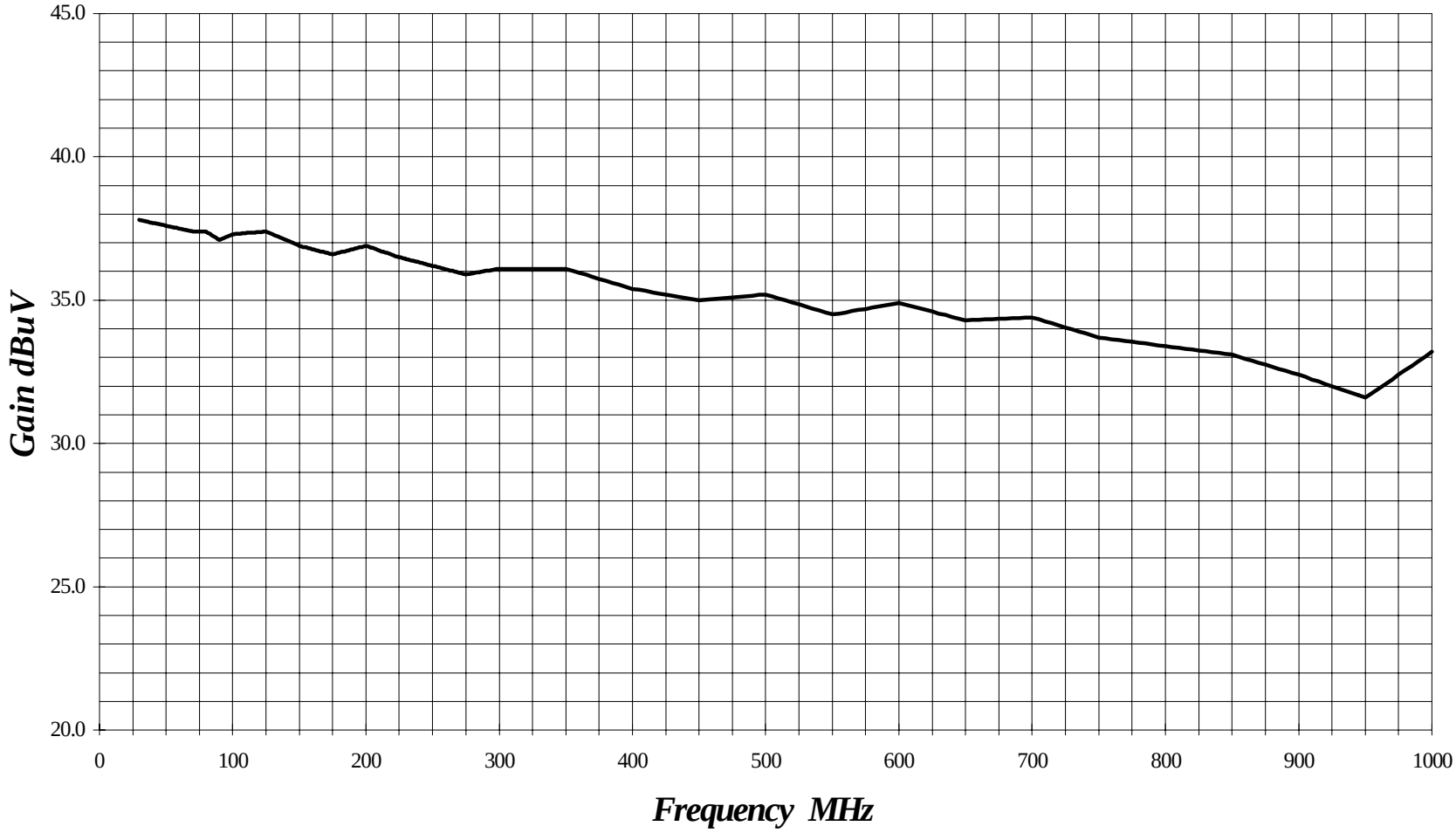


***Cal*: 10/15/98**

LAB "D" LOG PERIODIC ANTENNA AL-100 S/N 01117



PREAMPLIFIER EFFECTIVE GAIN AT 3 METERS PA-102 S/N: 1017



HEWLETT PACKARD 8449B

MICROWAVE PREAMPLIFIER

S/N: 3008A008766

CALIBRATION DATE: JANUARY 30, 1999

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.9	10.5	34.1
1.1	36.3	11.0	33.7
1.2	36.4	11.5	34.0
1.3	36.2	12.0	33.9
1.4	36.3	12.5	34.4
1.5	35.7	13.0	32.9
1.6	35.9	13.5	31.6
1.7	35.7	14.0	31.8
1.8	35.6	14.5	31.9
1.9	35.5	15.0	32.2
2.0	35.4	15.5	32.8
2.5	35.6	16.0	32.4
3.0	35.2	16.5	32.1
3.5	35.2	17.0	32.3
4.0	34.3	17.5	30.3
4.5	34.1	18.0	31.5
5.0	34.3	18.5	31.2
5.5	33.0	19.0	32.2
6.0	34.1	19.5	32.0
6.5	34.5	20.0	32.0
7.0	34.3	20.5	33.2
7.5	33.9	21.0	30.9
8.0	34.5	22.0	32.1
8.5	34.5	23.0	32.8
9.0	34.4	24.0	32.9
9.5	34.3	25.0	32.3
10.0	33.7	26.0	32.6

ANTENNA RESEARCH ASSOCIATES, INC.
11317 Frederick Avenue, Beltsville, MD 20705

E-FIELD ANTENNA FACTOR CALIBRATION

E(dB V/m) = Vo(dB V) + AFE(dB/m)

Model number : DRG-118/A

Frequency GHz	AFE dB/m	Gain dBi
1	22.3	8.0
2	26.7	9.5
3	29.7	10.1
4	29.5	12.8
5	32.3	12.0
6	32.4	13.4
7	36.1	11.0
8	37.4	10.9
9	36.8	12.5
10	39.5	10.7
11	39.6	11.5
12	39.8	12.0
13	39.7	12.8
14	41.8	11.3
15	41.9	11.9
16	38.1	16.3
17	41.0	13.9
18	46.5	8.9

Serial number : 1053
Job number : 96-092
Remarks : 3 meter calibration
Standards : LPD-118/A, TE-1000

Temperature : 72° F
Humidity : 56 %
Traceability : A01887
Date : December 08, 1995

Calibrated By

COM-POWER CORPORATION

LOOP ANTENNA

S/N: 25309

CALIBRATION DATE: FEBRUARY 5, 1999

FREQUENCY (MHz)	ELECTRIC FACTOR (Db/m)	FREQUENCY (MHz)	ELECTRIC FACTOR (Db/m)
0.01	11.0	1	10.4
0.02	9.9	2	10.8
0.03	11.5	3	10.8
0.04	11.2	4	10.6
0.05	9.9	5	11.4
0.06	10.4	6	11.5
0.07	10.2	7	11.2
0.08	9.9	8	11.7
0.09	9.8	9	12.7
0.1	9.7	10	10.7
0.2	7.5	12	10.1
0.3	9.9	14	10.1
0.4	9.8	15	10.6
0.5	9.8	16	10.7
0.6	10.0	18	10.0
0.7	10.0	20	10.0
0.8	9.9	25	10.3
0.9	9.9	30	10.1

APPENDIX D

DATA SHEETS

CONDUCTED EMISSIONS DATA SHEETS

RETURN TO TEST PROCEDURES

COMPATIBLE ELECTRONICS

3/15/1999 16:22:50

RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
FCC C - BLACK LEAD
TEST ENGINEER : Kyle Fujimoto
KYLE FUJIMOTO

---

30 highest peaks above -50.00 dB of CLASS B limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(Mhz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	25.583	45.67	48.00	-2.33
2	12.535	45.48	48.00	-2.52
3	12.691	44.78	48.00	-3.22
4	0.476	43.79	48.00	-4.21
5	13.803	43.52	48.00	-4.48
6	12.430	43.28	48.00	-4.72
7	13.122	42.90	48.00	-5.10
8	12.326	42.48	48.00	-5.52
9	11.525	42.05	48.00	-5.95
10	0.472	41.99	48.00	-6.01
11	13.293	41.90	48.00	-6.10
12	12.169	41.87	48.00	-6.13
13	0.482	41.79	48.00	-6.21
14	11.961	41.77	48.00	-6.23
15	14.581	41.65	48.00	-6.35
16	12.796	41.59	48.00	-6.41
17	11.813	41.46	48.00	-6.54
18	11.237	41.35	48.00	-6.65
19	0.652	41.19	48.00	-6.81
20	29.154	41.14	48.00	-6.86
21	13.576	41.11	48.00	-6.89
22	10.997	41.04	48.00	-6.96
23	12.900	40.99	48.00	-7.01
24	11.711	40.96	48.00	-7.04
25	28.671	40.92	48.00	-7.08
26	13.690	40.91	48.00	-7.09
27	10.685	40.83	48.00	-7.17
28	0.456	40.79	48.00	-7.21
29	11.093	40.74	48.00	-7.26
30	10.861	40.74	48.00	-7.26

SEE QP READINGS ON NEXT PAGE AND ON PLOT

COMPATIBLE ELECTRONICS

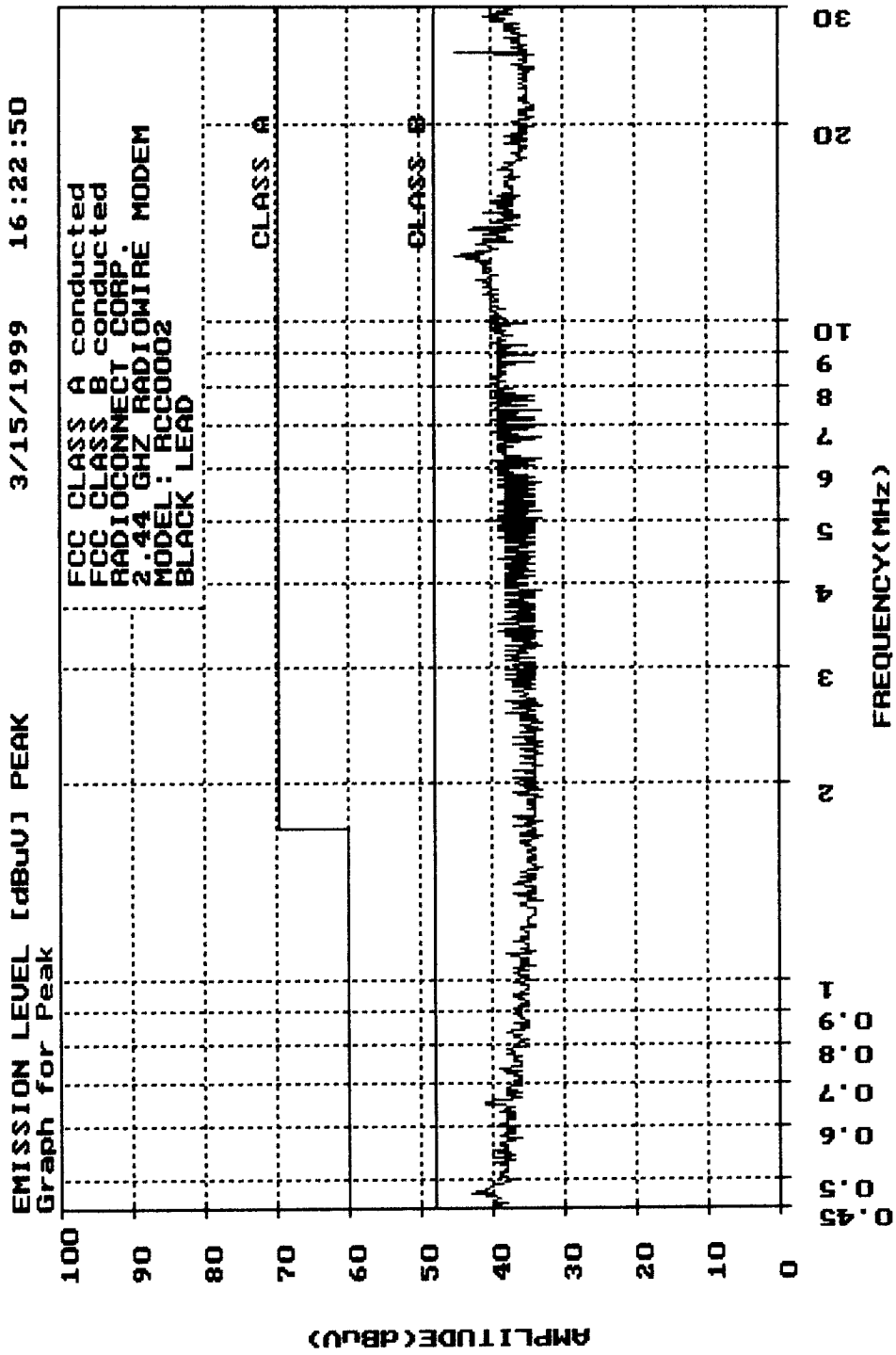
3/15/1999 16:22:50

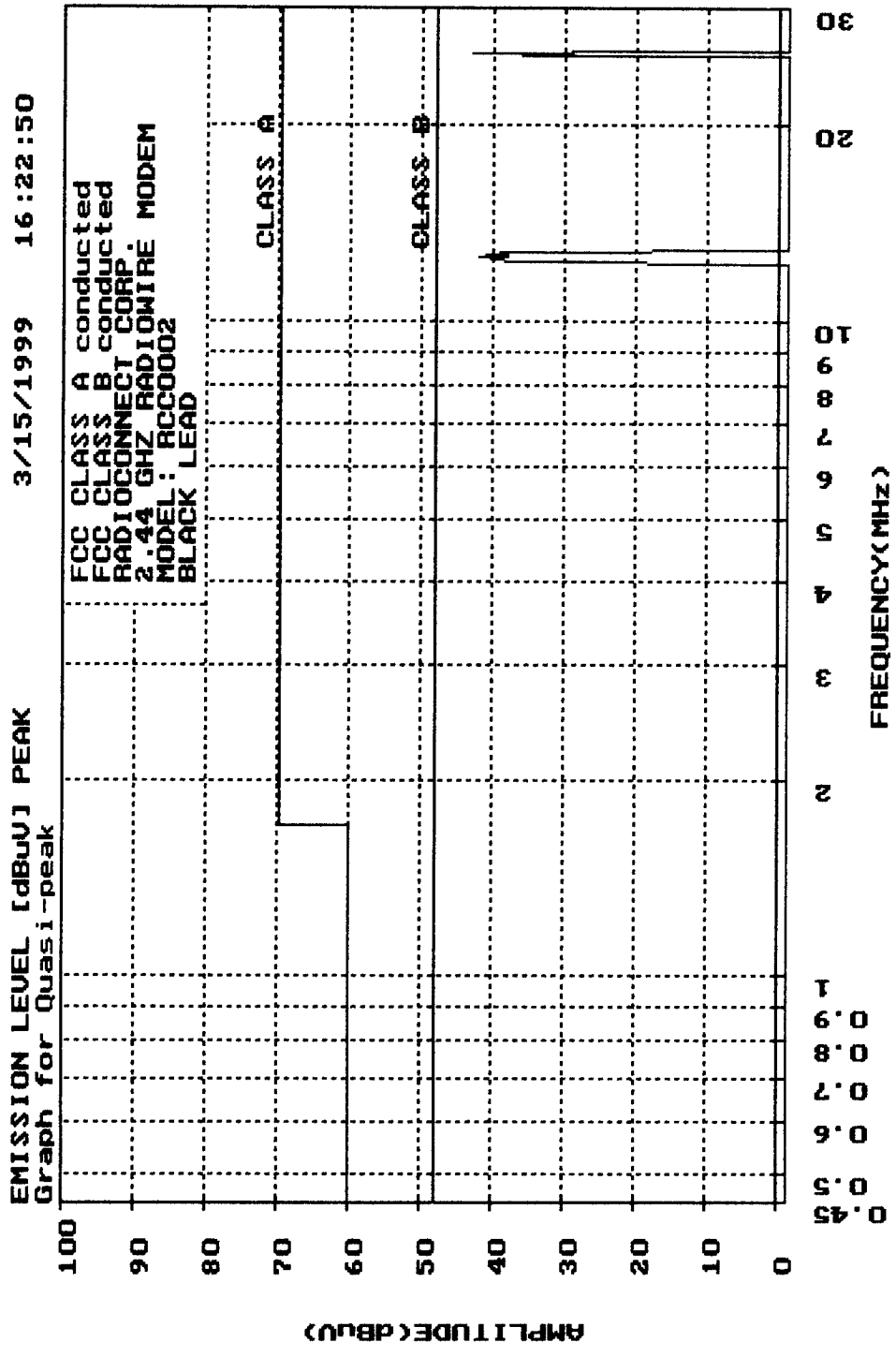
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
FCC C - BLACK LEAD
TEST ENGINEER : Kyle Fujimoto
KYLE FUJIMOTO

---

7 highest peaks above -50.00 dB of CLASS B limit line
Peak criteria : 0.00 dB, Curve : Quasi-peak

Peak#	Freq(Mhz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	25.583	43.56	48.00	-4.44
2	12.535	42.10	48.00	-5.90
3	12.691	41.15	48.00	-6.85
4	12.430	39.33	48.00	-8.67
5	12.326	38.75	48.00	-9.25
6	12.796	37.25	48.00	-10.75
7	25.805	29.41	48.00	-18.59


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
3/15/1999 16:22:50
FCC CLASS A conducted
FCC CLASS B conducted
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
BLACK LEAD
CLASS A
CLASS B
AMPLITUDE(dBuV)
FREQUENCY(MHz)
100
90
80
70
60
50
40
30
20
10
0
0.45
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
6
7
8
9
10
20
30


EMISSION LEVEL [dBuV] PEAK
Graph for Quasi-peak
3/15/1999 16:22:50
FCC CLASS A conducted
FCC CLASS B conducted
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
BLACK LEAD
CLASS A
CLASS B
AMPLITUDE(dBuV)
100
90
80
70
60
50
40
30
20
10
0
FREQUENCY(MHz)
0.45
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
6
7
8
9
10
20
30

COMPATIBLE ELECTRONICS

3/15/1999 16:32:51

RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
FCC C - WHITE LEAD
TEST ENGINEER : Kyle Fujimoto
KYLE FUJIMOTO

---

30 highest peaks above -50.00 dB of CLASS B limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(Mhz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	13.803	46.08	48.00	-1.92
2	25.583	45.54	48.00	-2.46
3	12.535	43.43	48.00	-4.57
4	11.961	42.80	48.00	-5.20
5	15.074	42.63	48.00	-5.37
6	12.743	42.44	48.00	-5.56
7	4.914	42.15	48.00	-5.85
8	3.674	41.94	48.00	-6.06
9	3.378	41.84	48.00	-6.16
10	3.006	41.83	48.00	-6.17
11	2.956	41.83	48.00	-6.17
12	7.352	41.78	48.00	-6.22
13	3.996	41.74	48.00	-6.26
14	3.787	41.74	48.00	-6.26
15	9.107	41.70	48.00	-6.30
16	8.373	41.69	48.00	-6.31
17	3.056	41.63	48.00	-6.37
18	6.615	41.57	48.00	-6.43
19	4.499	41.55	48.00	-6.45
20	8.585	41.50	48.00	-6.50
21	4.101	41.44	48.00	-6.56
22	3.571	41.44	48.00	-6.56
23	12.169	41.41	48.00	-6.59
24	7.699	41.39	48.00	-6.61
25	7.541	41.38	48.00	-6.62
26	11.381	41.38	48.00	-6.62
27	5.788	41.36	48.00	-6.64
28	4.556	41.35	48.00	-6.65
29	4.294	41.35	48.00	-6.65
30	4.189	41.35	48.00	-6.65

} SEE Q.P. READINGS ON NEXT PAGE AND ON PLOT

COMPATIBLE ELECTRONICS

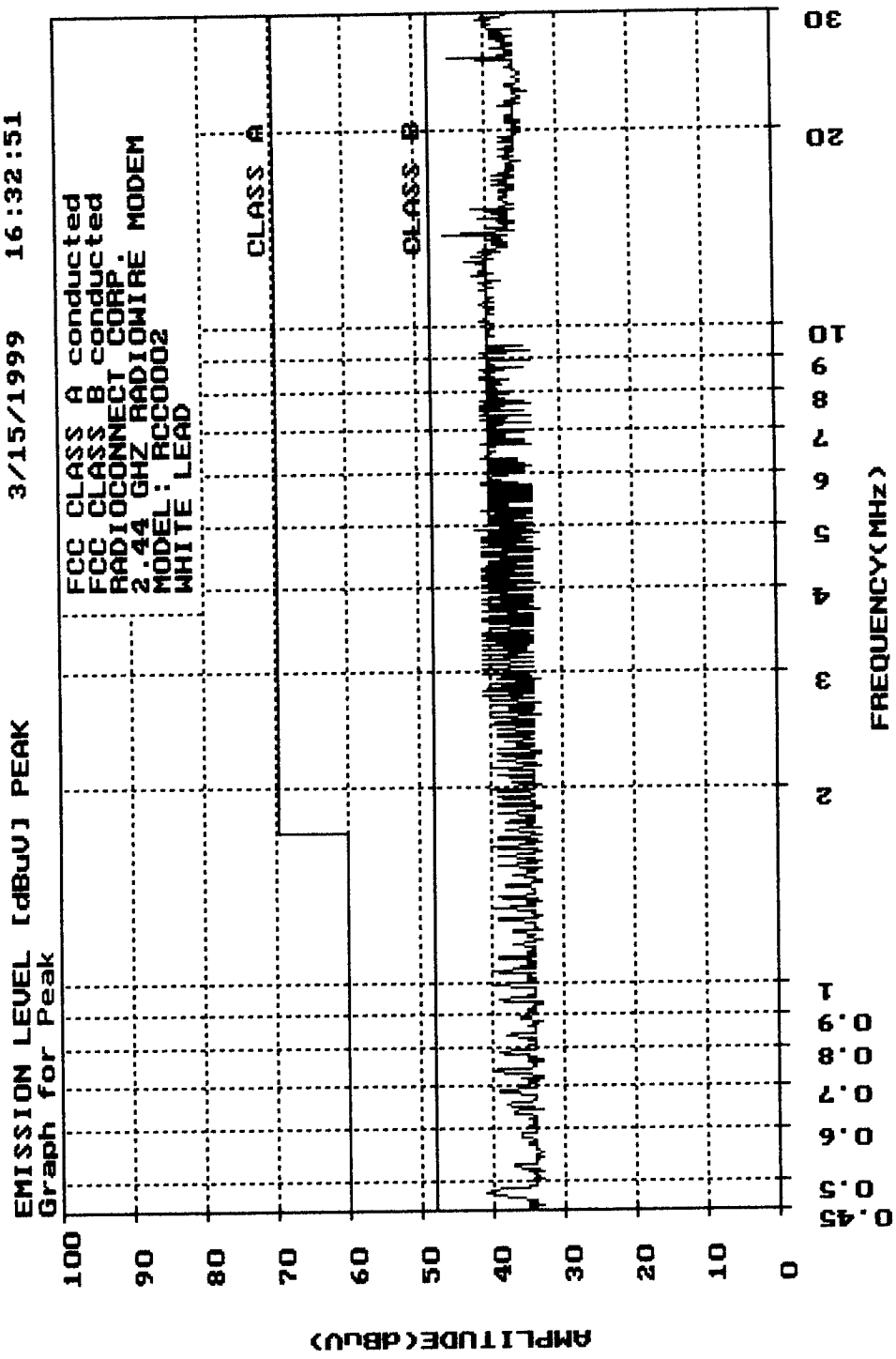
3/15/1999 16:32:51

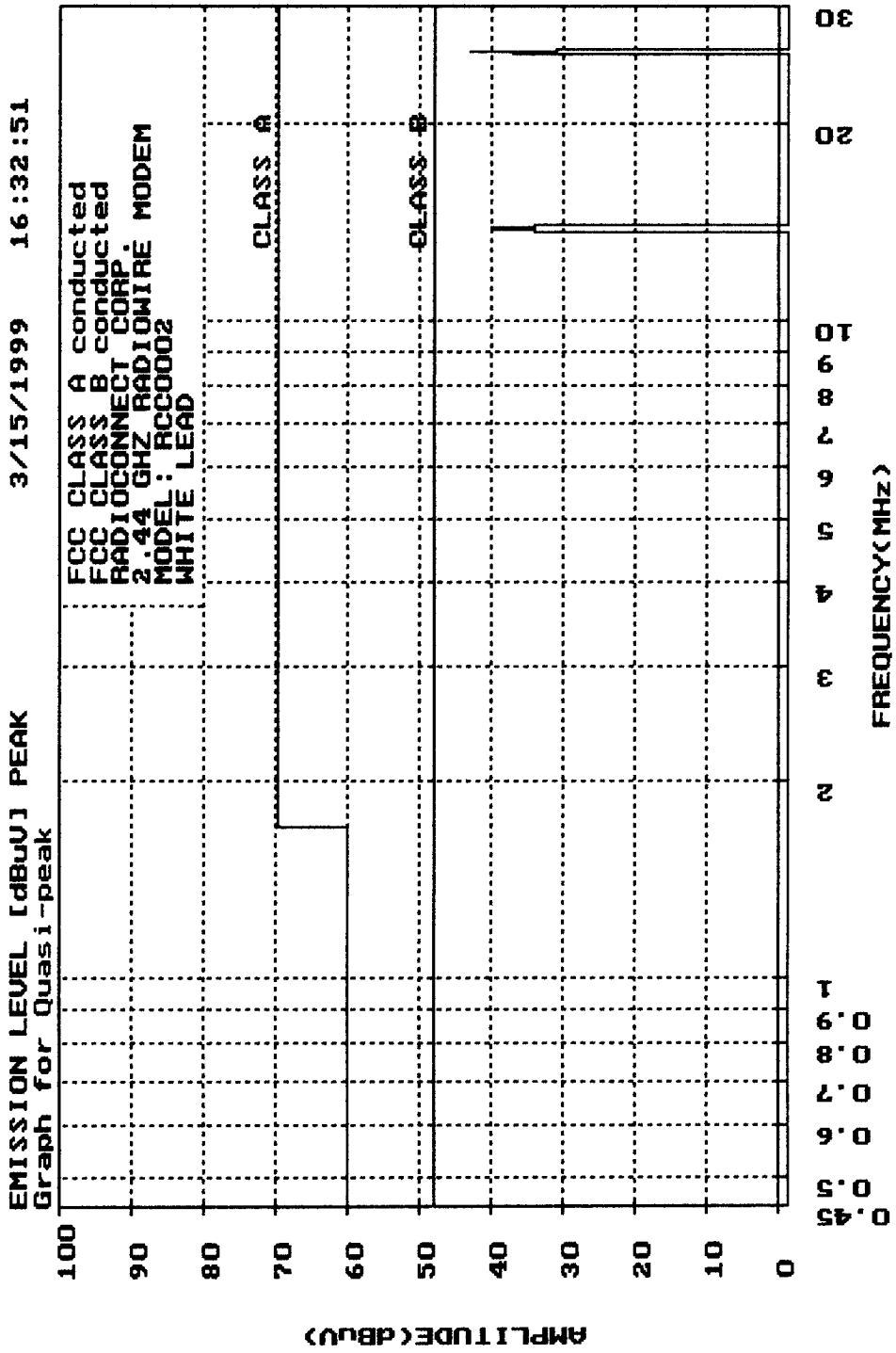
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRL MODEM
MODEL: RCC0002
FCC C - WHITE LEAD
TEST ENGINEER : Kyle Fujimoto
KYLE FUJIMOTO

---

5 highest peaks above -50.00 dB of CLASS B limit line
Peak criteria : 0.00 dB, Curve : Quasi-peak

Peak#	Freq(Mhz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	25.583	43.75	48.00	-4.25
2	13.860	40.08	48.00	-7.92
3	13.973	34.96	48.00	-13.04
4	13.690	34.87	48.00	-13.13
5	25.805	31.73	48.00	-16.27


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
3/15/1999 16:32:51
FCC CLASS A conducted
FCC CLASS B conducted
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
WHITE LEAD
CLASS A
CLASS B
AMPLITUDE(dBuV)
FREQUENCY(MHz)
100
90
80
70
60
50
40
30
20
10
0
0.45
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
6
7
8
9
10
20
30


EMISSION LEVEL [dBuV] PEAK
Graph for Quasi-peak
3/15/1999 16:32:51
FCC CLASS A conducted
FCC CLASS B conducted
RADIOCONNECT CORP.
2.44 GHZ RADIOWIRE MODEM
MODEL: RCC0002
WHITE LEAD
CLASS A
CLASS B
AMPLITUDE(dBuV)
FREQUENCY(MHz)
100
90
80
70
60
50
40
30
20
10
0
0.45
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
6
7
8
9
10
20
30

RADIATED EMISSIONS DATA SHEETS

RETURN TO TEST PROCEDURES

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**1 METER DISH ON EUT - 24 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 1												
2412.20	103.9	96.9	2.0	**0**	0.0	28.2	5.6	0.0	130.7	"--"	"--"	**Vertical Polarization**
4824.40	38.1	31.1	2.0	**0**	0.0	30.9	8.0	34.1	35.9	-18.1	54.0	**Vertical Polarization**
7236.60	40.2	33.2	2.0	**0**	0.0	36.1	10.3	34.3	45.3	-8.7	54.0	**Vertical Polarization**
9648.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12061.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14473.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
16885.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19297.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21709.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24122.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 1												
2412.20	104.7	97.7	2.0	**0**	0.0	28.2	5.6	0.0	131.5	"--"	"--"	**Horizontal Polarization**
4824.40	39.8	32.8	2.0	**0**	0.0	30.9	8.0	34.1	37.6	-16.4	54.0	**Horizontal Polarization**
7236.60	39.5	32.5	2.0	**0**	0.0	36.1	10.3	34.3	44.6	-9.4	54.0	**Horizontal Polarization**
9648.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12061.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14473.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
16885.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19297.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21709.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24122.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

*** BELOW 1 GHz, QUASI-PEAK MEASUREMENT IS EMPLOYEED, ABOVE 1 GHz, AVERAGE MEASUREMENT IS EMPLOYED

NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**1 METER DISH ANTENNA - 24 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 3												
2436.20	104.4	97.4	2.0	**0**	0.0	28.2	5.6	0.0	131.2	"--"	"-"	**Vertical Polarization**
4872.40	31.1	24.1	2.0	**0**	0.0	30.9	8.0	34.1	28.9	-25.1	54.0	**Vertical Polarization**
7308.60	40.1	33.1	2.0	**0**	0.0	36.8	10.8	33.9	46.8	-7.2	54.0	**Vertical Polarization**
9744.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12181.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14617.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
17053.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19489.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21925.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24362.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 3												
2436.20	104.8	97.8	2.0	**0**	0.0	28.2	5.6	0.0	131.6	"--"	"--"	**Horizontal Polarization**
4872.40	40.7	33.7	2.0	**0**	0.0	30.9	8.0	34.1	38.5	-15.5	54.0	**Horizontal Polarization**
7308.60	38.9	31.9	2.0	**0**	0.0	36.1	10.3	34.3	44.0	-10.0	54.0	**Horizontal Polarization**
9744.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12181.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14617.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
17053.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19489.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21925.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24362.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

*** BELOW 1 GHz, QUASI-PEAK MEASUREMENT IS EMPLOYEED, ABOVE 1 GHz, AVERAGE MEASUREMENT IS EMPLOYED

NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**1 METER DISH ANTENNA - 24 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 5												
2460.21	103.3	96.3	2.0	**0**	0.0	28.2	5.6	0.0	130.1	"--"	"--"	**Vertical Polarization**
4920.42	37.2	30.2	2.0	**0**	0.0	30.9	8.0	34.1	35.0	-19.0	54.0	**Vertical Polarization**
7380.63	40.0	33.0	2.0	**0**	0.0	36.8	10.8	33.9	46.7	-7.3	54.0	**Vertical Polarization**
9840.84	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
12301.05	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
14761.26	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
17221.47	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
19681.68	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
22141.89	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
24602.10	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
CHANNEL 5												
2460.21	103.7	96.7	2.0	**0**	0.0	28.2	5.6	0.0	130.5	"--"	"--"	**Horizontal Polarization**
4920.42	40.2	33.2	2.0	**0**	0.0	30.9	8.0	34.1	38.0	-16.0	54.0	**Horizontal Polarization**
7380.63	40.0	33.0	2.0	**0**	0.0	36.8	10.8	33.9	46.7	-7.3	54.0	**Horizontal Polarization**
9840.84	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
12301.05	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
14761.26	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
17221.47	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
19681.68	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
22141.89	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
24602.10	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

*** BELOW 1 GHz, QUASI-PEAK MEASUREMENT IS EMPLOYEED, ABOVE 1 GHz, AVERAGE MEASUREMENT IS EMPLOYED

NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**0.6 METER DISH ANTENNA - 20 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 1												
2412.20	102.1	95.1	1.5	**0**	0.0	28.2	5.6	0.0	128.9	"--"	"--"	**Vertical Polarization**
4824.40	37.9	30.9	1.5	**0**	0.0	30.9	8.0	34.1	35.7	-18.3	54.0	**Vertical Polarization**
7236.60	38.2	31.2	1.5	**0**	0.0	36.1	10.3	34.3	43.3	-10.7	54.0	**Vertical Polarization**
9648.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12061.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14473.20	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
16885.40	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19297.60	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21709.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24122.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 1												
2412.20	101.2	94.2	1.5	**0**	0.0	28.2	5.6	0.0	128.0	"--"	"--"	**Horizontal Polarization**
4824.40	36.6	29.6	1.5	**0**	0.0	30.9	8.0	34.1	34.4	-19.6	54.0	**Horizontal Polarization**
7236.60	40.1	33.1	1.5	**0**	0.0	36.1	10.3	34.3	45.2	-8.8	54.0	**Horizontal Polarization**
9648.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12061.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14473.20	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
16885.40	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19297.60	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21709.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24122.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

*** BELOW 1 GHz, QUASI-PEAK MEASUREMENT IS EMPLOYEED, ABOVE 1 GHz, AVERAGE MEASUREMENT IS EMPLOYED

NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**0.6 METER DISH ANTENNA - 20 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 3												
2436.20	102.7	95.7	1.5	**0**	0.0	28.2	5.6	0.0	129.5	"--"	"-"	**Vertical Polarization**
4872.40	29.9	22.9	1.5	**0**	0.0	30.9	8.0	34.1	27.7	-26.3	54.0	**Vertical Polarization**
7308.60	39.5	32.5	1.5	**0**	0.0	36.8	10.8	33.9	46.2	-7.8	54.0	**Vertical Polarization**
9744.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12181.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14617.20	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
17053.40	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19489.60	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21925.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24362.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 3												
2436.20	101.9	94.9	1.5	**0**	0.0	28.2	5.6	0.0	128.7	"--"	"--"	**Horizontal Polarization**
4872.40	34.6	27.6	1.5	**0**	0.0	30.9	8.0	34.1	32.4	-21.6	54.0	**Horizontal Polarization**
7308.60	40.1	33.1	1.5	**0**	0.0	36.1	10.3	34.3	45.2	-8.8	54.0	**Horizontal Polarization**
9744.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12181.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14617.20	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
17053.40	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19489.60	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21925.80	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24362.00	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

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** DELTA = SPEC LIMIT - CORRECTED READING

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NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**0.6 METER DISH ANTENNA - 20 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 5												
2460.21	101.6	94.6	1.5	**0**	0.0	28.2	5.6	0.0	128.4	"--"	"--"	**Vertical Polarization**
4920.42	35.5	28.5	1.5	**0**	0.0	30.9	8.0	34.1	33.3	-20.7	54.0	**Vertical Polarization**
7380.63	37.2	30.2	1.5	**0**	0.0	36.8	10.8	33.9	43.9	-10.1	54.0	**Vertical Polarization**
9840.84	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
12301.05	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
14761.26	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
17221.47	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
19681.68	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
22141.89	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
24602.10	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
CHANNEL 5												
2460.21	101.4	94.4	1.5	**0**	0.0	28.2	5.6	0.0	128.2	"--"	"--"	**Horizontal Polarization**
4920.42	39.2	32.2	1.5	**0**	0.0	30.9	8.0	34.1	37.0	-17.0	54.0	**Horizontal Polarization**
7380.63	33.2	26.2	1.5	**0**	0.0	36.8	10.8	33.9	39.9	-14.1	54.0	**Horizontal Polarization**
9840.84	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
12301.05	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
14761.26	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
17221.47	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
19681.68	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
22141.89	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
24602.10	"--"	"--"	1.5	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**

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RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**HELICAL ANTENNA - 14 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 1												
2412.20	95.4	88.4	2.0	**0**	0.0	28.2	5.6	0.0	122.2	"--"	"--"	**Vertical Polarization**
4824.40	38.1	31.1	2.0	**0**	0.0	30.9	8.0	34.1	35.9	-18.1	54.0	**Vertical Polarization**
7236.60	40.2	33.2	2.0	**0**	0.0	36.1	10.3	34.3	45.3	-8.7	54.0	**Vertical Polarization**
9648.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12061.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14473.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
16885.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19297.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21709.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24122.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 1												
2412.20	94.6	87.6	2.0	**0**	0.0	28.2	5.6	0.0	121.4	"--"	"--"	**Horizontal Polarization**
4824.40	38.8	31.8	2.0	**0**	0.0	30.9	8.0	34.1	36.6	-17.4	54.0	**Horizontal Polarization**
7236.60	38.5	31.5	2.0	**0**	0.0	36.1	10.3	34.3	43.6	-10.4	54.0	**Horizontal Polarization**
9648.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12061.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14473.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
16885.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19297.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21709.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24122.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
2390.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

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RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**1 METER DISH ANTENNA - 24 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 3												
2436.20	96.4	89.4	2.0	**0**	0.0	28.2	5.6	0.0	123.2	"--"	"-"	**Vertical Polarization**
4872.40	29.9	22.9	2.0	**0**	0.0	30.9	8.0	34.1	27.7	-26.3	54.0	**Vertical Polarization**
7308.60	38.7	31.7	2.0	**0**	0.0	36.8	10.8	33.9	45.4	-8.6	54.0	**Vertical Polarization**
9744.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
12181.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
14617.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
17053.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
19489.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
21925.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
24362.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Vertical Polarization**
CHANNEL 3												
2436.20	94.9	87.9	2.0	**0**	0.0	28.2	5.6	0.0	121.7	"--"	"--"	**Horizontal Polarization**
4872.40	38.5	31.5	2.0	**0**	0.0	30.9	8.0	34.1	36.3	-17.7	54.0	**Horizontal Polarization**
7308.60	37.6	30.6	2.0	**0**	0.0	36.1	10.3	34.3	42.7	-11.3	54.0	**Horizontal Polarization**
9744.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
12181.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
14617.20	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
17053.40	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
19489.60	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
21925.80	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**
24362.00	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--"	"--"	"--"	**Horizontal Polarization**

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RADIATED EMISSIONS

COMPANY	**RADIOCONNECT CORPORATION**	**DATE**	**3/15/99**
EUT	**2.44 GHz RADIOWIRE MODEM**	**ANTENNAS**	**HORN**
MODEL	**RCC0002**	**POLARIZATION**	**SEE BELOW**
S/N	**N/A**	**TEST DISTANCE**	**3 METERS**
EUT MODE	**1 METER DISH ANTENNA - 24 dBi**	**LAB**	**D**

Frequency MHz	Peak Reading (dBuV)	Average or Quasi-Peak (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
CHANNEL 5												
2460.21	95.5	88.5	2.0	**0**	0.0	28.2	5.6	0.0	122.3	"--"	"--"	**Vertical Polarization**
4920.42	36.1	29.1	2.0	**0**	0.0	30.9	8.0	34.1	33.9	-20.1	54.0	**Vertical Polarization**
7380.63	39.8	32.8	2.0	**0**	0.0	36.8	10.8	33.9	46.5	-7.5	54.0	**Vertical Polarization**
9840.84	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
12301.05	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
14761.26	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
17221.47	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
19681.68	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
22141.89	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
24602.10	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
CHANNEL 5												
2460.21	94.9	87.9	2.0	**0**	0.0	28.2	5.6	0.0	121.7	"--"	"--"	**Horizontal Polarization**
4920.42	39.9	32.9	2.0	**0**	0.0	30.9	8.0	34.1	37.7	-16.3	54.0	**Horizontal Polarization**
7380.63	33.2	26.2	2.0	**0**	0.0	36.8	10.8	33.9	39.9	-14.1	54.0	**Horizontal Polarization**
9840.84	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
12301.05	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
14761.26	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
17221.47	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
19681.68	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
22141.89	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
24602.10	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**
BAND EDGE (RESTRICTED BAND)												
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Vertical Polarization**
2483.50	"--"	"--"	2.0	**0**	0.0	"--"	"--"	"--"	"--'	"--'	"--"	**Horizontal Polarization**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

*** BELOW 1 GHz, QUASI-PEAK MEASUREMENT IS EMPLOYEED, ABOVE 1 GHz, AVERAGE MEASUREMENT IS EMPLOYED

NOTE: THE FUNDAMENTAL WAS TAKEN WITHOUT THE AMPLIFIER BECAUSE THE LEVEL OF THIS SIGNAL WAS HIGH ENOUGH TO MEASURE WITHOUT IT.

COMPATIBLE ELECTRONICS

Test location: Compatible Electronics
Customer : RADIOCONNECT CORPORATION
Manufacturer : RADIOCONNECT CORPORATION
EUT name : 2.44 GHz RADIOWIRE MODEM
Specification: Fcc_B Test distance: 3.0 mtrs
Distance correction factor(20*log(test/spec)) : 0.00
Test Mode :
SPURIOUS EMISSIONS
TEMPERATURE 55 DEGREES F.
RELATIVE HUMIDITY 85%
TESTED BY: Kyle Fujimoto
KYLE FUJIMOTO

Date : 3/15/1999
Time : 13.27
Model: RCC0002
Lab: D

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
1V	48.55	47.60	0.99	11.04	38.60	21.03	40.00	-18.97
2V	49.35	48.90	0.99	11.07	38.60	22.37	40.00	-17.63
3V	51.26	51.60	1.01	11.00	38.60	25.01	40.00	-14.99
4V	64.11	55.40	1.14	10.18	38.60	28.12	40.00	-11.88
5V	111.40	47.80	1.35	10.13	38.69	20.58	43.50	-22.92
6V	121.80	50.50	1.39	10.80	38.77	23.91	43.50	-19.59
7V	122.72	48.20	1.39	10.85	38.78	21.66	43.50	-21.84
8V	171.26	43.90	1.77	14.54	38.41	21.80	43.50	-21.70
9V	217.75	46.80	1.83	16.58	38.44	26.76	46.00	-19.24
10V	305.21	45.80	2.41	16.35	38.51	26.05	46.00	-19.95
11V	355.61	38.70	2.53	16.61	38.56	19.29	46.00	-26.71
12V	420.99	46.00	2.80	16.74	38.03	27.51	46.00	-18.49
13V	428.99	35.90	2.80	17.36	37.97	18.09	46.00	-27.91
14V	448.19	42.40	2.80	18.86	37.81	26.24	46.00	-19.76
15V	461.87	43.30	2.87	18.50	37.92	26.75	46.00	-19.25
16V	512.14	40.60	3.17	17.14	38.20	22.71	46.00	-23.29
17V	614.41	35.00	3.56	19.85	38.28	20.12	46.00	-25.88

COMPATIBLE ELECTRONICS

Test location: Compatible Electronics
Customer : RADIOCONNECT CORPORATION
Manufacturer : RADIOCONNECT CORPORATION
EUT name : 2.44 GHz RADIOWIRE MODEM
Specification: Fcc_B Test distance: 3.0 mtrs
Distance correction factor(20*log(test/spec)) : 0.00
Test Mode :
SPURIOUS EMISSIONS
TEMPERATURE 55 DEGREES F.
RELATIVE HUMIDITY 85%
TESTED BY: Kyle Fujimoto
KYLE FUJIMOTO

Date : 3/15/1999
Time : 13.44
Model: RCC0002
Lab: D

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
1H	43.15	41.40	0.93	10.83	38.60	14.56	40.00	-25.44
2H	51.27	42.60	1.01	11.00	38.60	16.01	40.00	-23.99
3H	76.07	42.00	1.20	9.39	38.60	13.99	40.00	-26.01
4H	118.04	42.30	1.37	10.55	38.74	15.48	43.50	-28.02
5H	133.18	39.20	1.47	11.49	38.70	13.45	43.50	-30.05
6H	198.06	40.80	1.89	15.27	38.77	19.19	43.50	-24.31
7H	244.29	38.40	2.11	17.33	38.38	19.46	46.00	-26.54
8H	300.08	50.80	2.40	16.30	38.50	31.00	46.00	-15.00
9H	358.48	40.30	2.55	16.51	38.53	20.83	46.00	-25.17
10H	400.96	48.30	2.80	15.18	38.19	28.08	46.00	-17.92
11H	520.11	38.20	3.22	17.30	38.14	20.58	46.00	-25.42
12H	560.11	44.40	3.42	18.22	38.00	28.04	46.00	-17.96

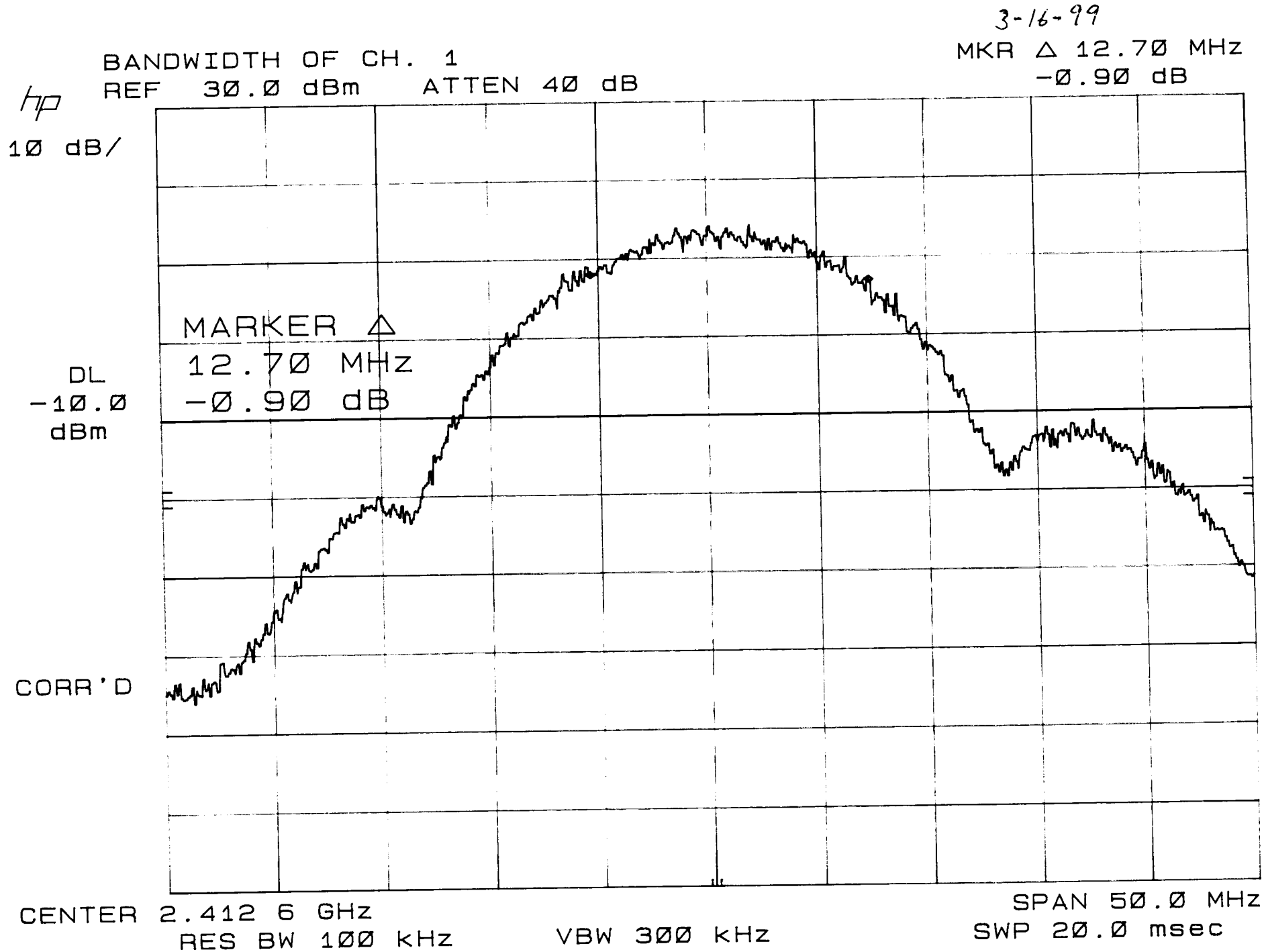
COMPATIBLE ELECTRONICS

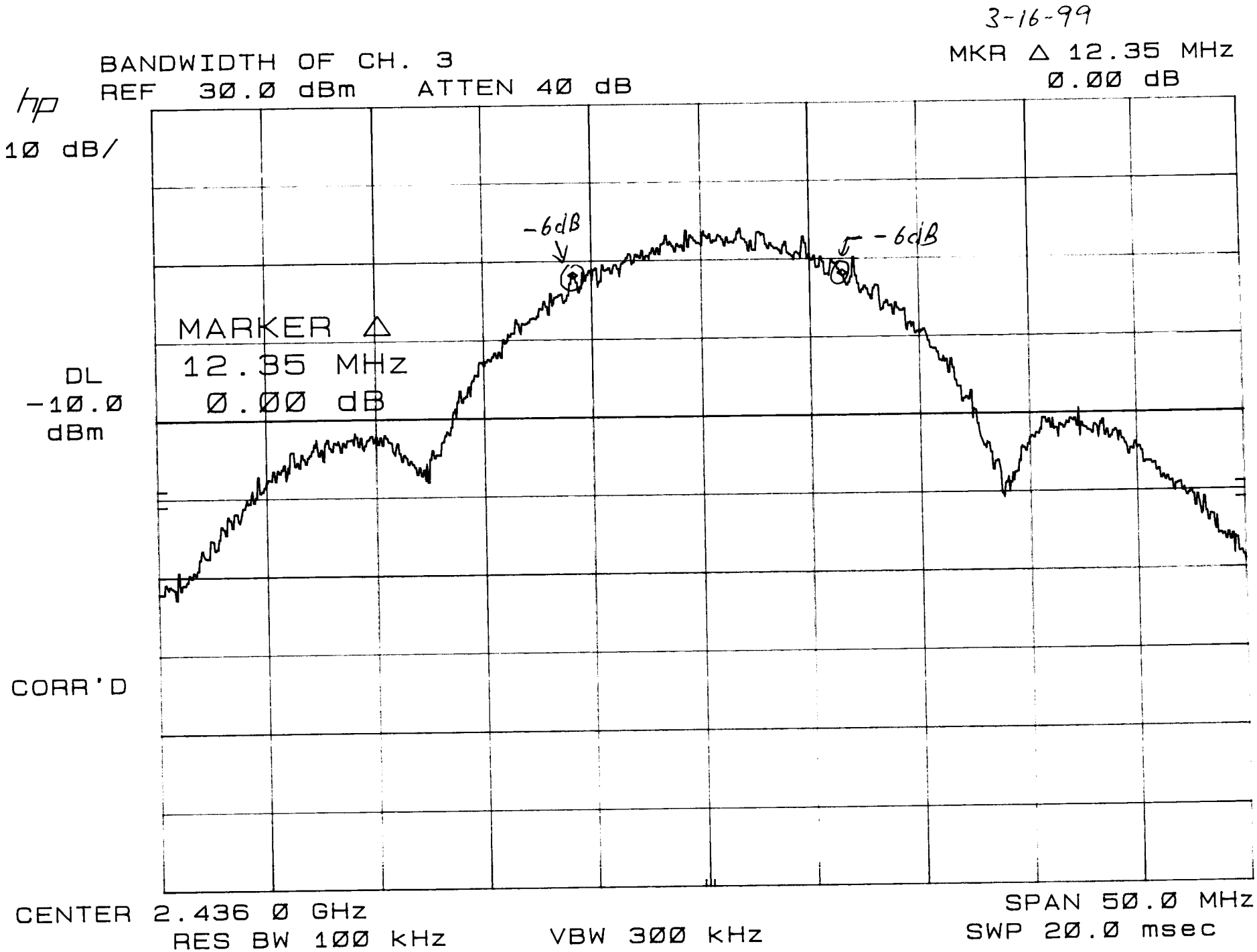
Test location: Compatible Electronics
Customer : RADIOCONNECT CORPORATION Date : 3/15/1999
Manufacturer : RADIOCONNECT CORPORATION Time : 14.05
EUT name : 2.44 GHz RADIOWIRE MODEM Model: RCC0002
Specification: Fcc_B Test distance: 3.0 mtrs Lab: D
Distance correction factor(20*log(test/spec)) : 0.00
Test Mode :
SPURIOUS EMISSIONS
TEMPERATURE 55 DEGREES F.
RELATIVE HUMIDITY 85%
TESTED BY: Kyle Fujimoto
KYLE FUJIMOTO

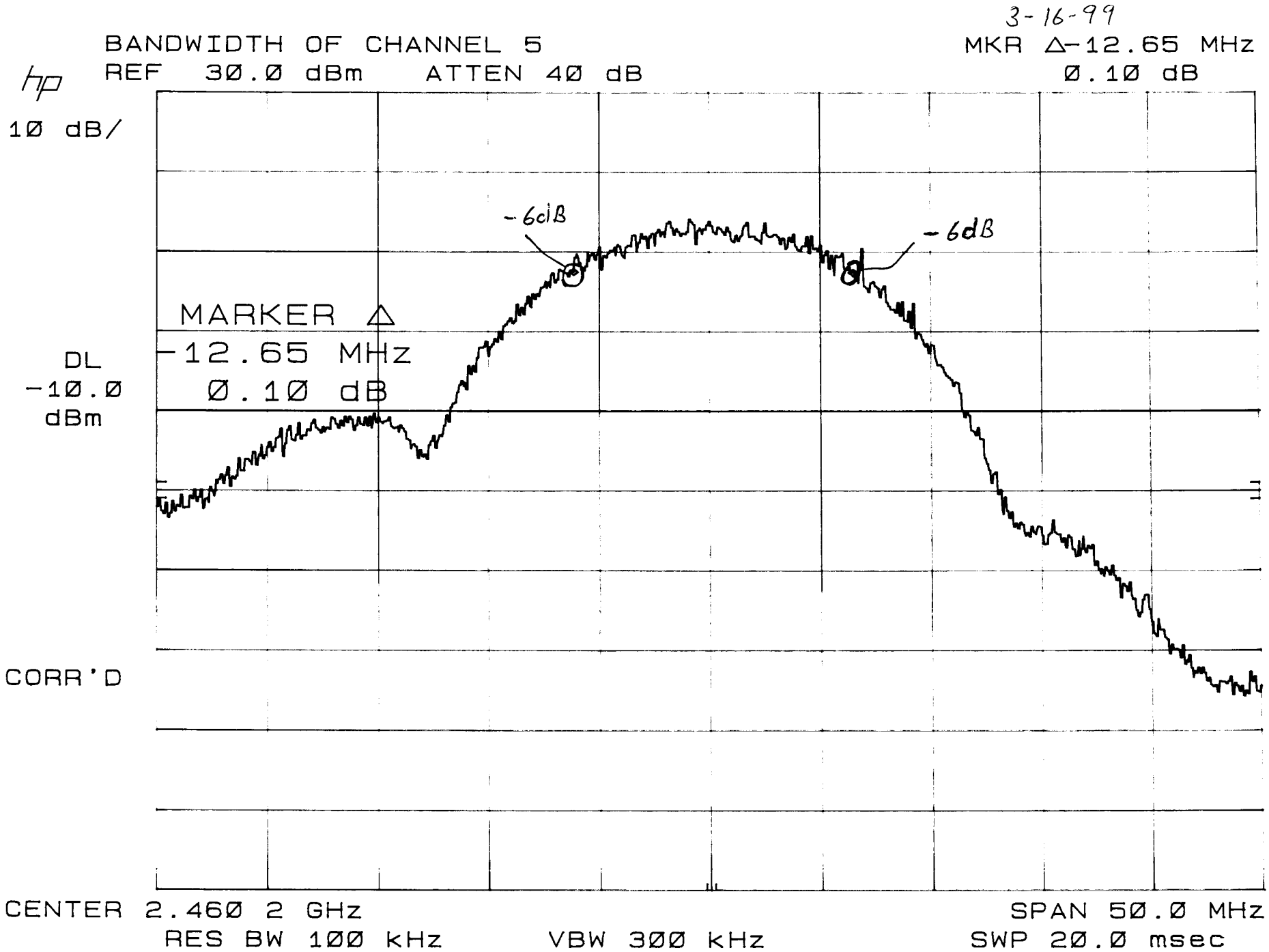
NO EMISSIONS FOUND FROM 10 kHz - 30 MHz IN EITHER POLARIZATION FOR THE EUT.

6 dB BANDWIDTH DATA SHEETS

RETURN TO TEST PROCEDURES


3-16-99
BANDWIDTH OF CH. 1
MKR Δ 12.70 MHz
REF 30.0 dBm ATTEN 40 dB
-0.90 dB
hp
10 dB/
MARKER Δ
12.70 MHz
-0.90 dB
DL
-10.0
dBm
CORR'D
CENTER 2.412 6 GHz
SPAN 50.0 MHz
RES BW 100 kHz
VBW 300 kHz
SWP 20.0 msec


3-16-99
BANDWIDTH OF CH. 3
MKR Δ 12.35 MHz
0.00 dB
REF 30.0 dBm
ATTEN 40 dB
hp
10 dB/
-6dB
-6dB
MARKER Δ
12.35 MHz
0.00 dB
DL
-10.0
dBm
CORR'D
CENTER 2.436 0 GHz
SPAN 50.0 MHz
RES BW 100 kHz
VBW 300 kHz
SWP 20.0 msec


3-16-99
BANDWIDTH OF CHANNEL 5
MKR Δ-12.65 MHz
REF 30.0 dBm ATTEN 40 dB
Ø.1Ø dB
hp
1Ø dB/
-6dB
-6dB
MARKER Δ
-12.65 MHz
Ø.1Ø dB
DL
-1Ø.Ø
dBm
CORR'D
CENTER 2.46Ø 2 GHz
SPAN 5Ø.Ø MHz
RES BW 1ØØ kHz
VBW 3ØØ kHz
SWP 2Ø.Ø msec

PEAK OUTPUT POWER DATA SHEETS

RETURN TO TEST PROCEDURES

PEAK OUTPUT POWER

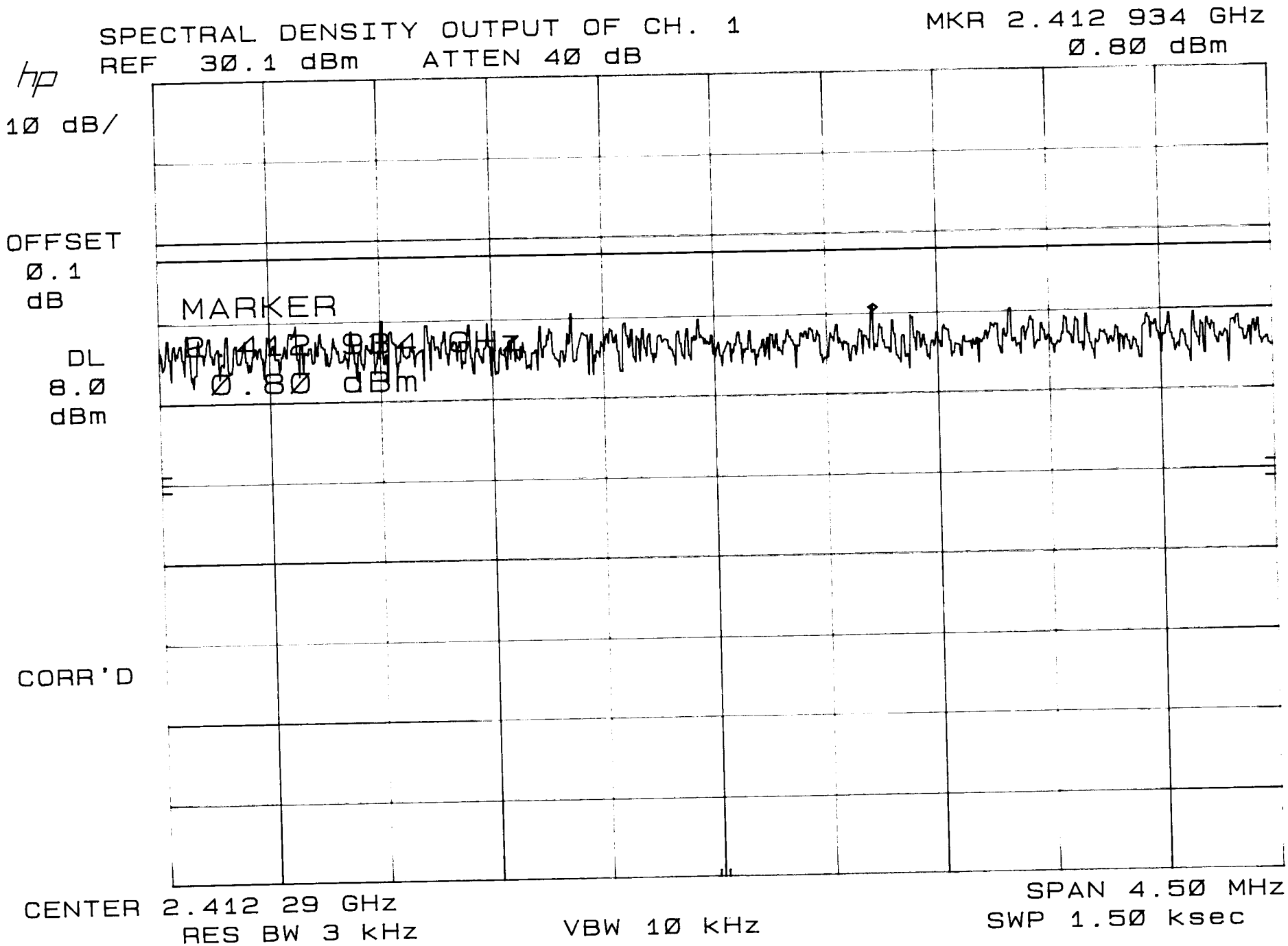
2.44 GHZ RADIOWIRE MODEM

FCC-ID: NFX-RCC0002-00

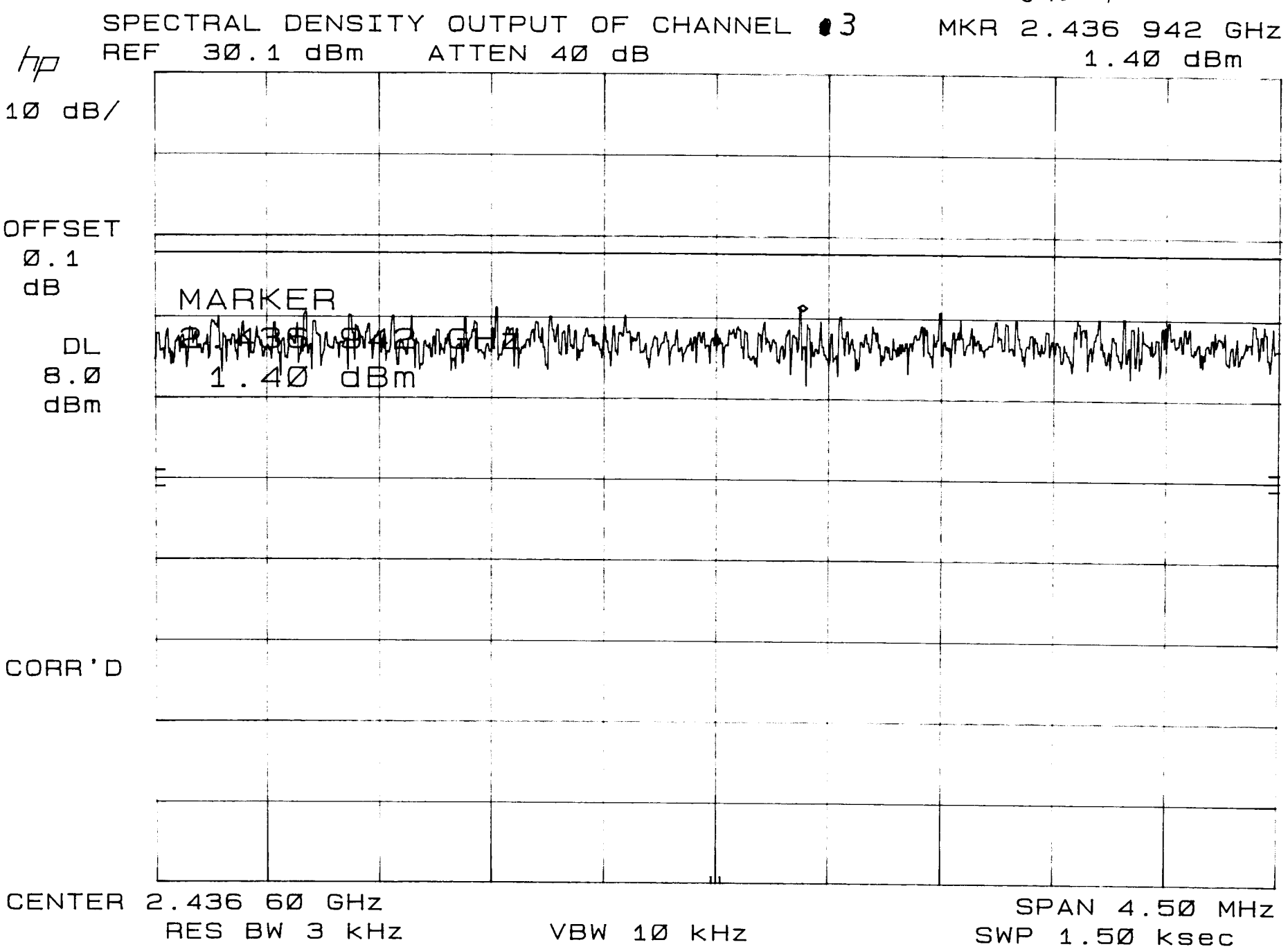
CHANNEL	PEAK POWER OUTPUT (dBm)
1	24.12
3	24.44
5	24.15

SPECTRAL DENSITY OUTPUT DATA SHEETS

RETURN TO TEST PROCEDURES


SPECTRAL DENSITY OUTPUT OF CH. 1
MKR 2.412 934 GHz
Ø.8Ø dBm
REF 3Ø.1 dBm
ATTEN 4Ø dB
hp
1Ø dB/
OFFSET
Ø.1
dB
MARKER
Ø.8Ø dBm
DL
8.Ø
dBm
CORR'D
CENTER 2.412 29 GHz
RES BW 3 kHz
VBW 1Ø kHz
SPAN 4.5Ø MHz
SWP 1.5Ø ksec

3-16-99

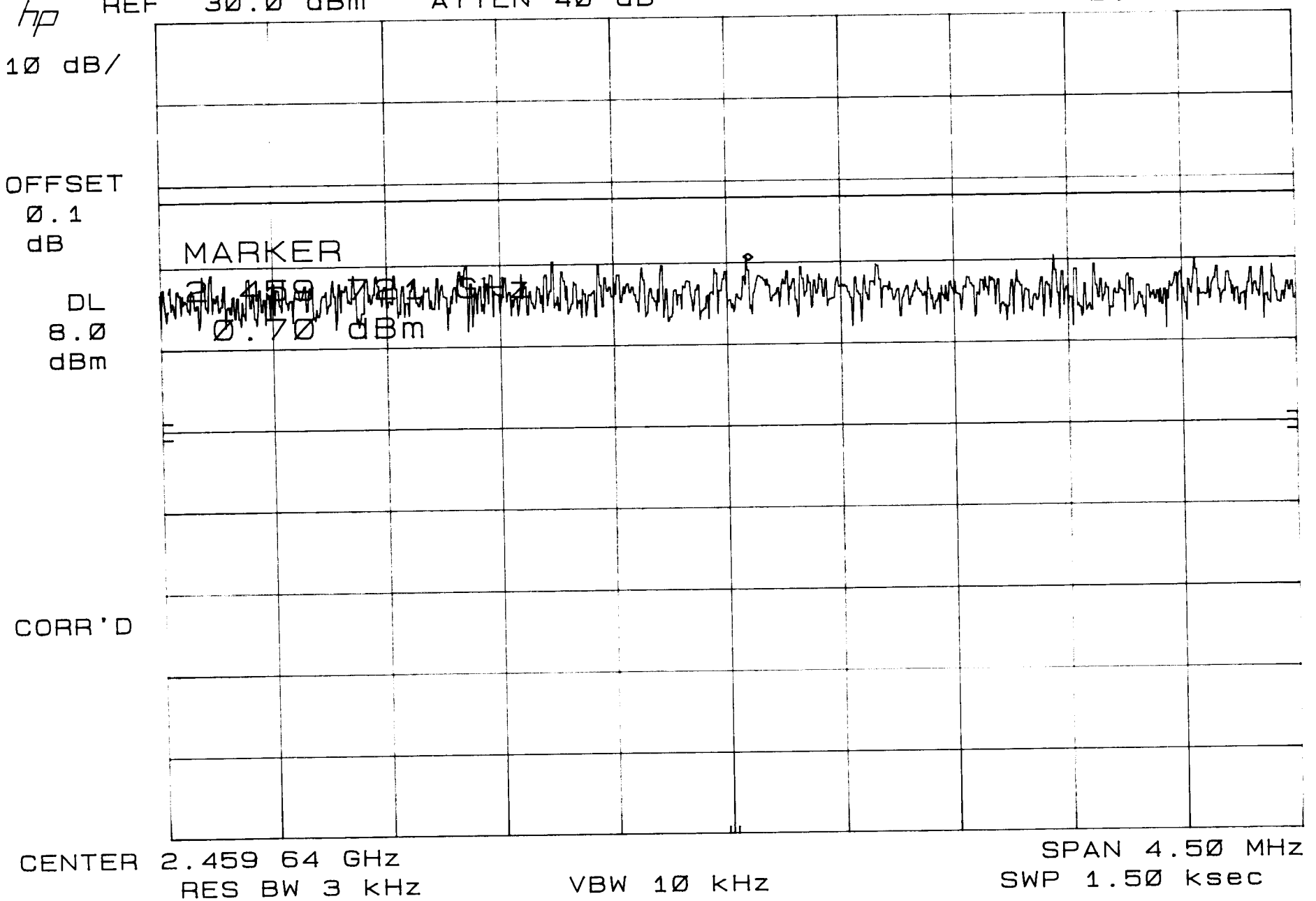

SPECTRAL DENSITY OUTPUT OF CHANNEL #3
MKR 2.436 942 GHz
REF 30.1 dBm
ATTEN 40 dB
1.40 dBm
10 dB/
OFFSET
0.1
dB
MARKER
2.436 942 GHz
DL
8.0
dBm
1.40 dBm
CORR'D
CENTER 2.436 60 GHz
SPAN 4.50 MHz
RES BW 3 kHz
VBW 10 kHz
SWP 1.50 ksec

3-16-99

SPECTRAL DENSITY OUTPUT OF CHANNEL 5

MKR 2.459 721 GHz
Ø.7Ø dBm

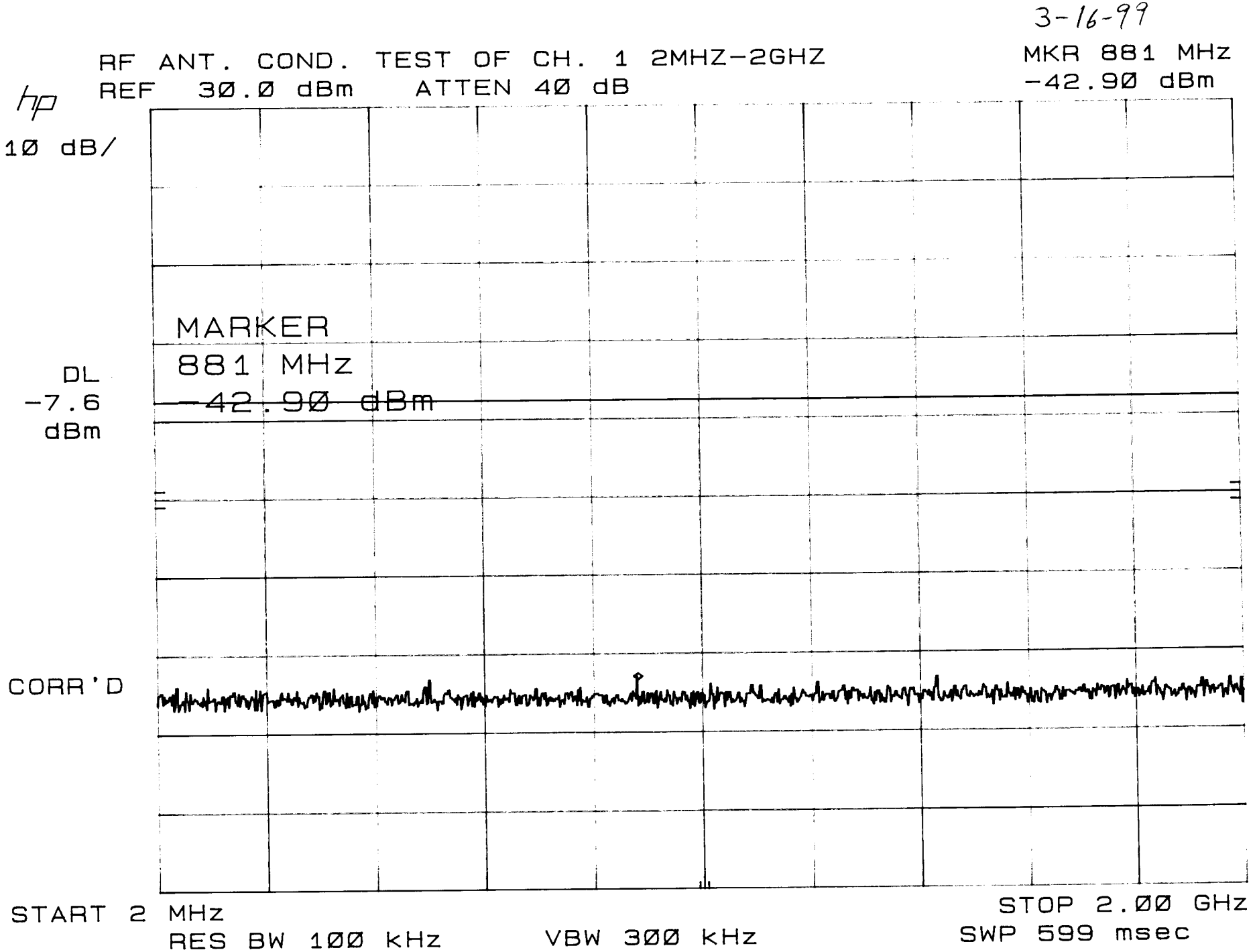
REF 3Ø.Ø dBm ATTEN 4Ø dB



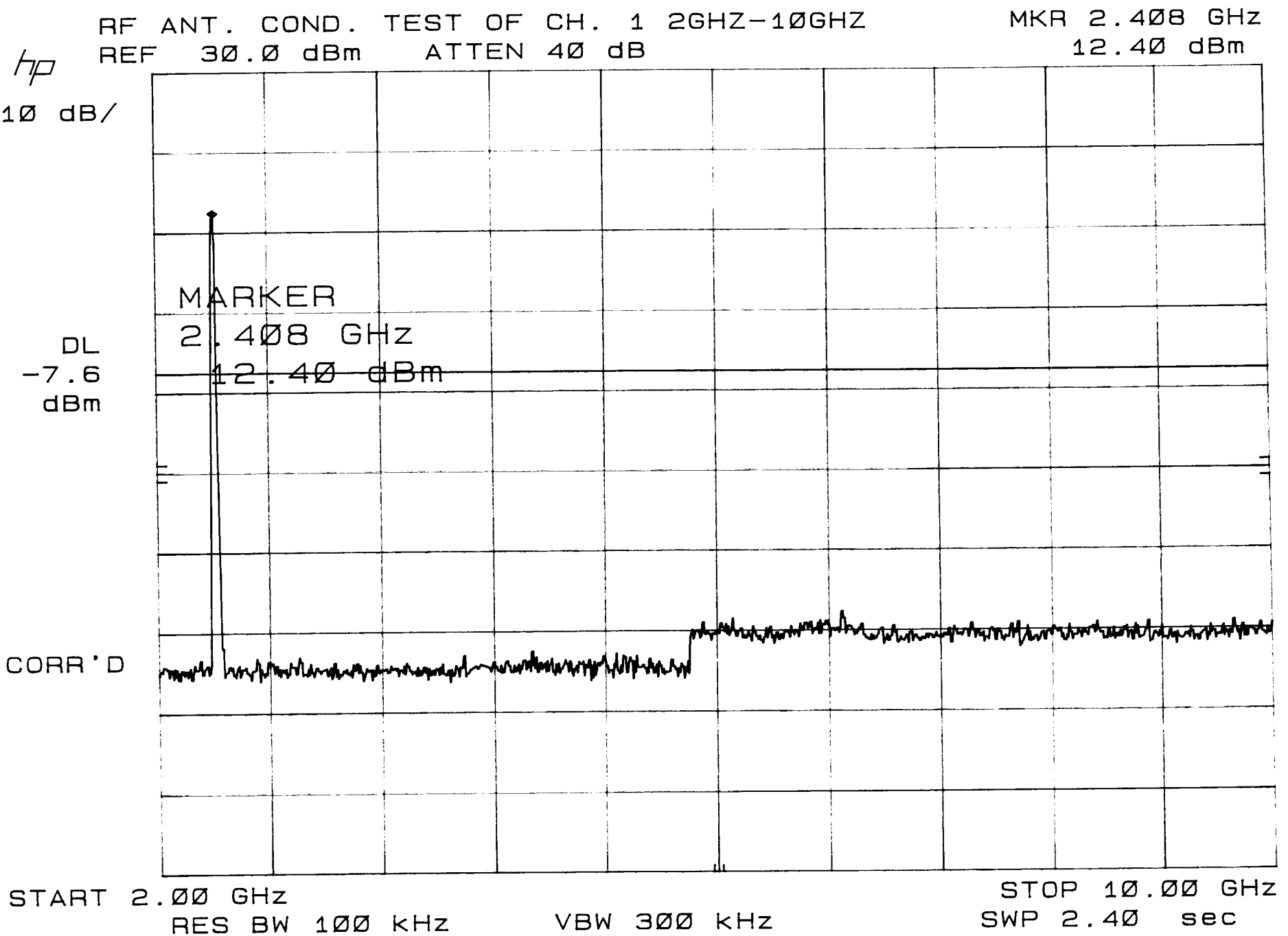
RF ANTENNA CONDUCTED DATA SHEETS

RETURN TO TEST PROCEDURES

3-16-99


RF ANT. COND. TEST OF CH. 1 2MHZ-2GHZ
REF 30.0 dBm ATTEN 40 dB
MKR 881 MHz
-42.90 dBm
10 dB/
MARKER
881 MHz
-42.90 dBm
DL
-7.6
dBm
CORR'D
START 2 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 2.00 GHz
SWP 599 msec

3-16-99


RF ANT. COND. TEST OF CH. 1 2GHZ-10GHZ
MKR 2.408 GHz
REF 30.0 dBm
ATTEN 40 dB
12.40 dBm
hp
10 dB/
MARKER
2.408 GHz
12.40 dBm
DL
-7.6
dBm
CORR'D
START 2.00 GHz
STOP 10.00 GHz
RES BW 100 kHz
VBW 300 kHz
SWP 2.40 sec

3-16-99

RF ANT. COND. TEST OF CH. 1 10GHZ-20GHZ

REF 30.0 dBm ATTEN 40 dB

MKR 18.79 GHz
-30.50 dBm

10 dB/

MARKER
18.79 GHz
-30.50 dBm

DL
-7.6
dBm

CORR'D

START 10.0 GHz

STOP 19.9 GHz

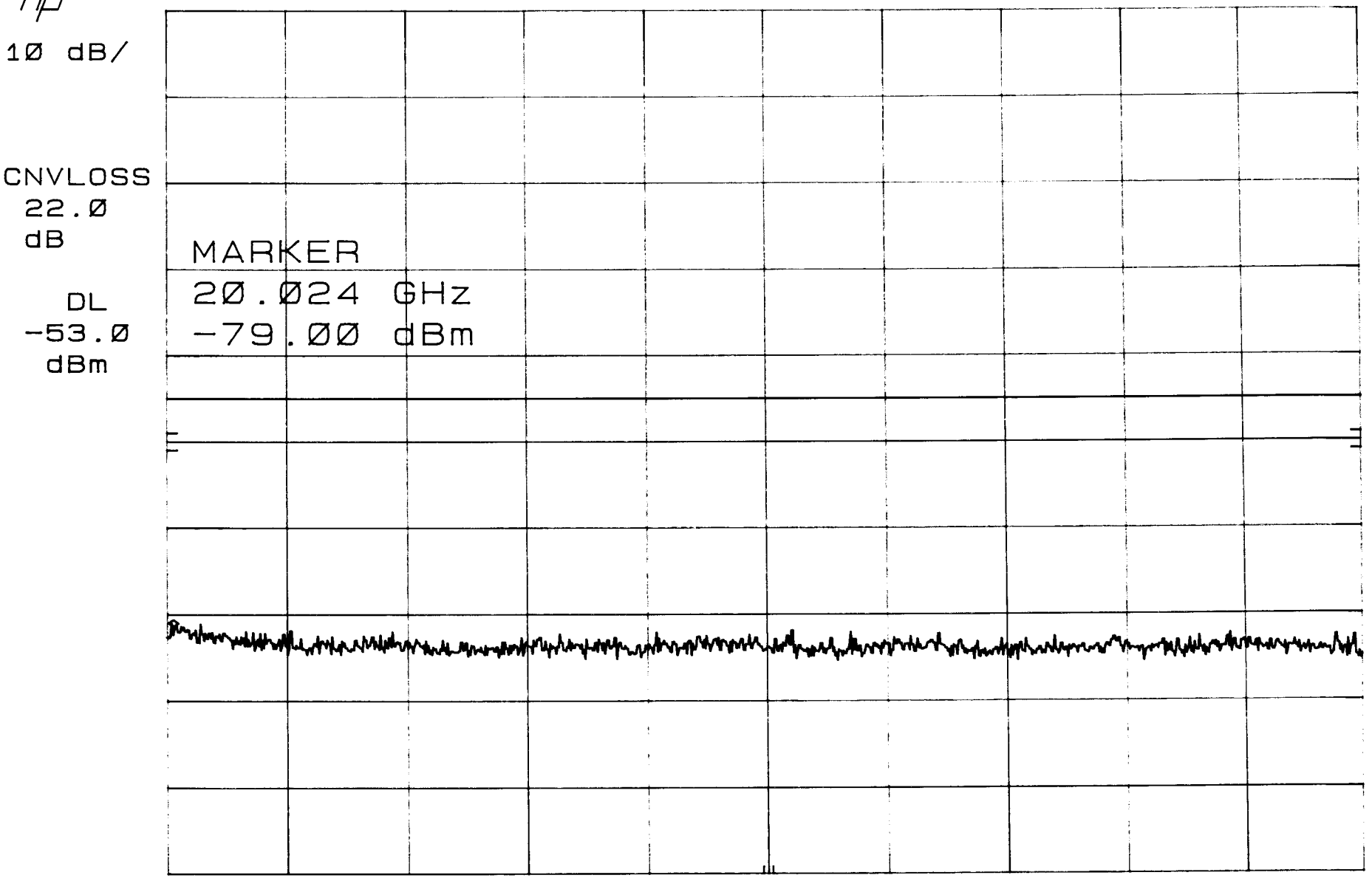
RES BW 100 kHz VBW 300 kHz SWP 2.98 sec

3-16-99

RF ANT. COND. TEST OF CH. 1 20GHZ-26GHZ

REF -8.0 dBm HARMONIC 6L

MKR 20.024 GHz
-79.00 dBm



START 20.00 GHz

STOP 26.00 GHz

RES BW 100 kHz VBW 300 kHz SWP 1.80 sec

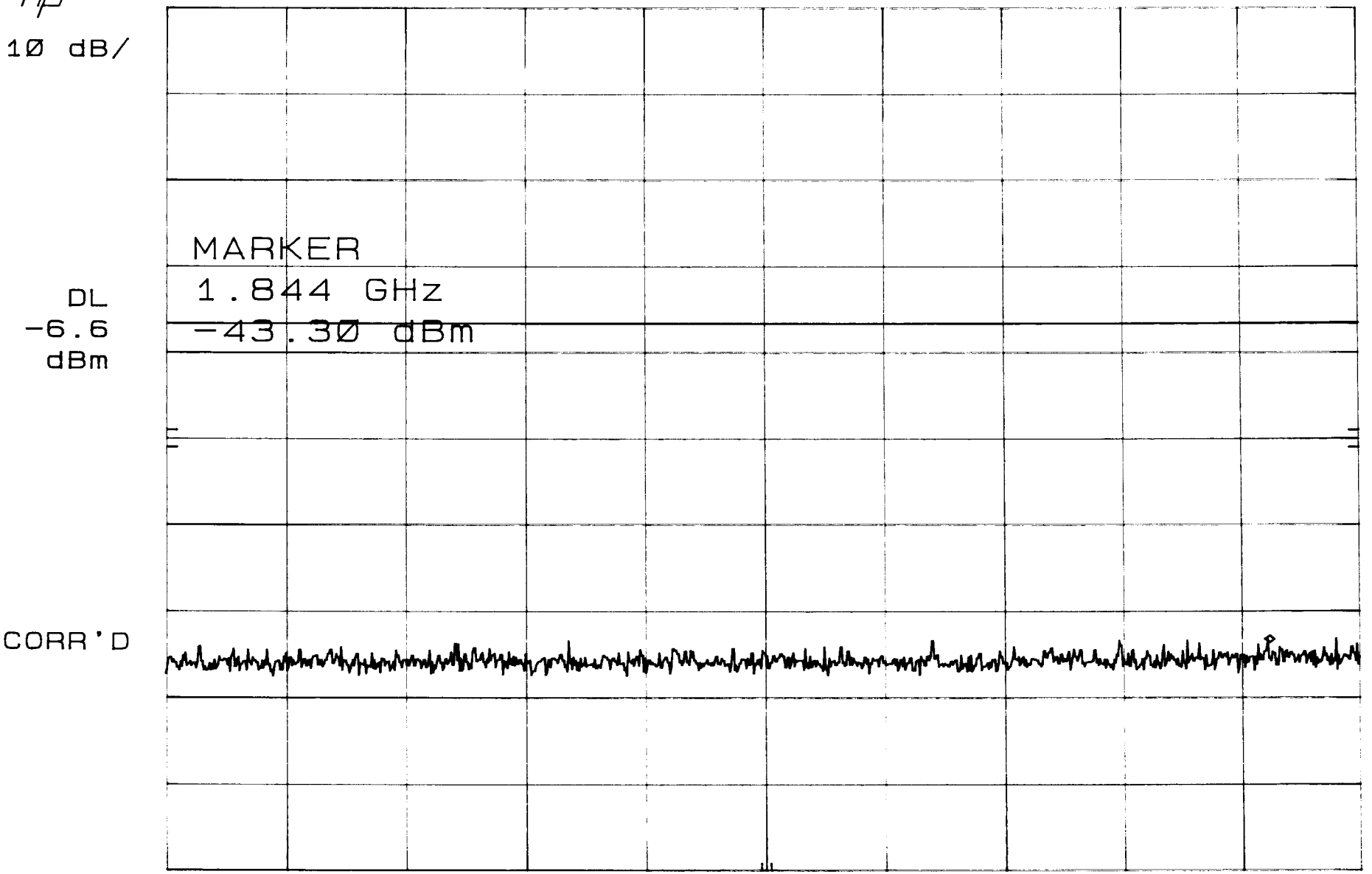
3-16-99

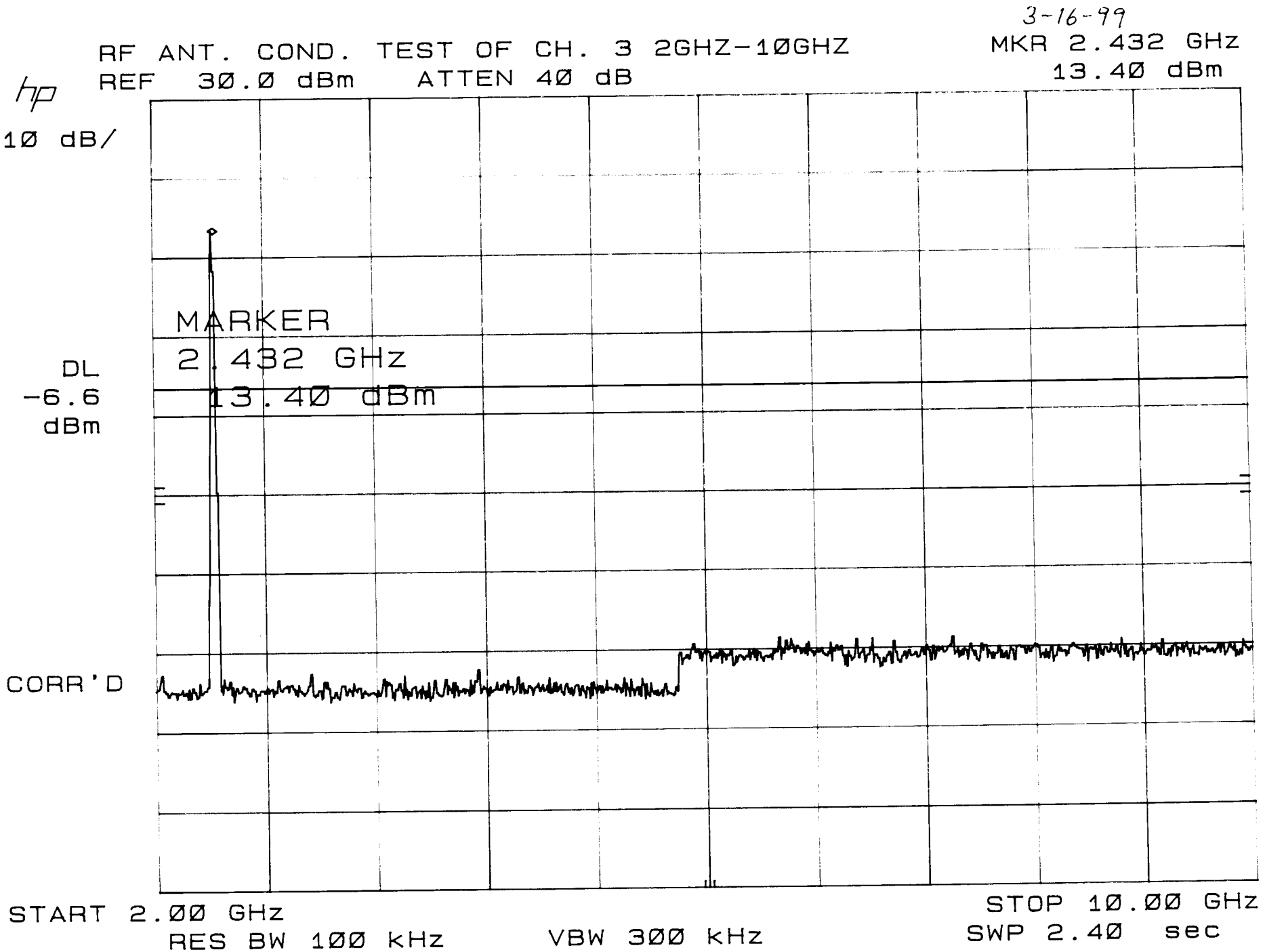
RF ANT. COND. TEST OF CH. 3 2MHZ-2GHZ

MKR 1.844 GHz

REF 30.0 dBm ATTEN 40 dB

-43.30 dBm




3-16-99
RF ANT. COND. TEST OF CH. 3 2GHZ-10GHZ
MKR 2.432 GHz
13.40 dBm
hp
REF 30.0 dBm
ATTEN 40 dB
10 dB/
MARKER
2.432 GHz
13.40 dBm
DL
-6.6
dBm
CORR'D
START 2.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 10.00 GHz
SWP 2.40 sec

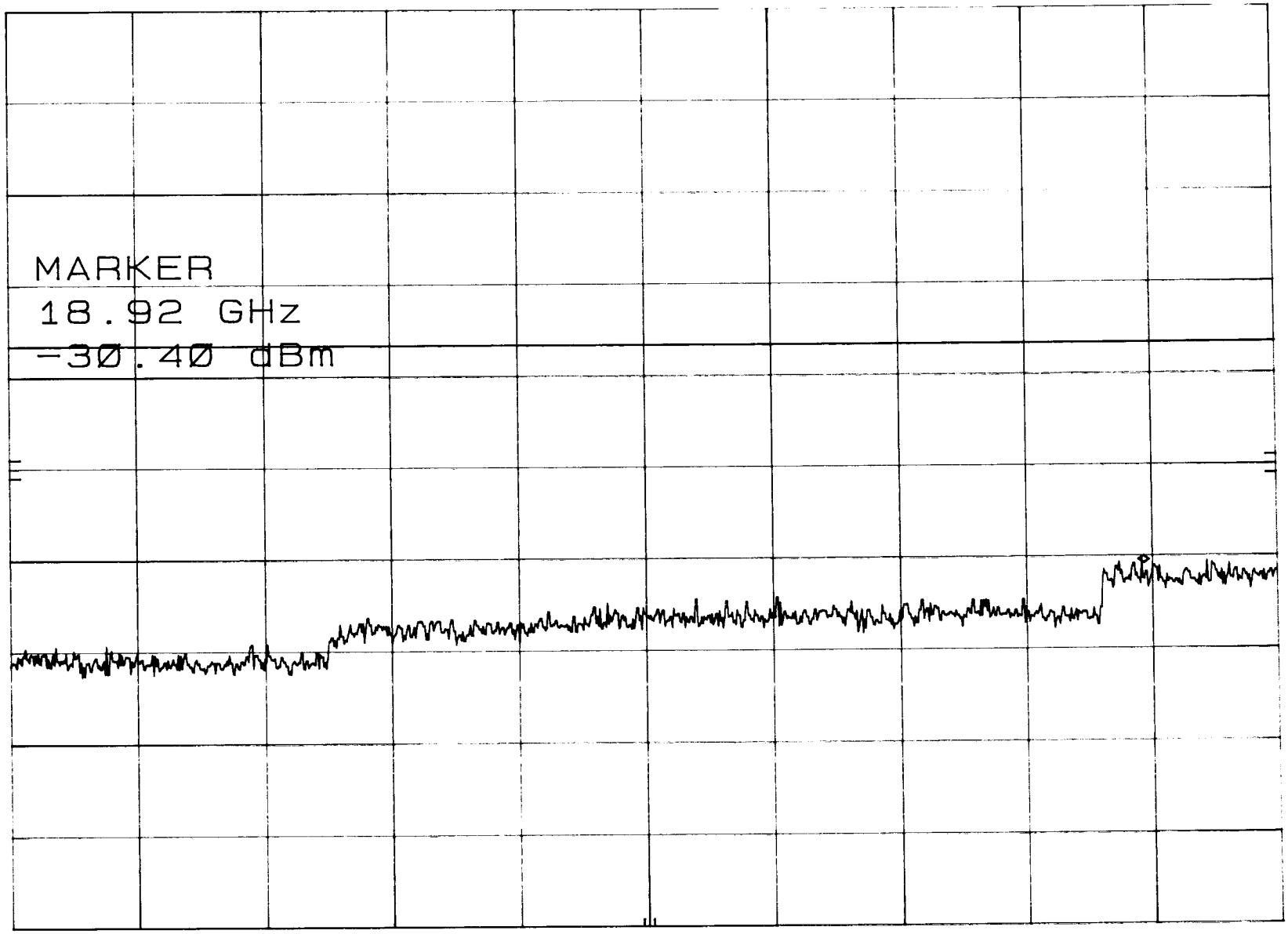
3-16-99

RF ANT. COND. TEST OF CH. 3 10GHZ-20GHZ

MKR 18.92 GHz
-30.40 dBm

REF 30.0 dBm ATTEN 40 dB

10 dB/



DL
-6.6
dBm

CORR'D

START 10.0 GHz

STOP 20.0 GHz

RES BW 100 kHz

VBW 300 kHz

SWP 3.00 sec

3-16-99

RF ANT. COND. TEST OF CH. 3 20GHZ-26GHZ

REF 12.0 dBm HARMONIC 8L

MKR 23.858 GHz
-64.40 dBm

10 dB/

CNVLOSS
22.0
dB

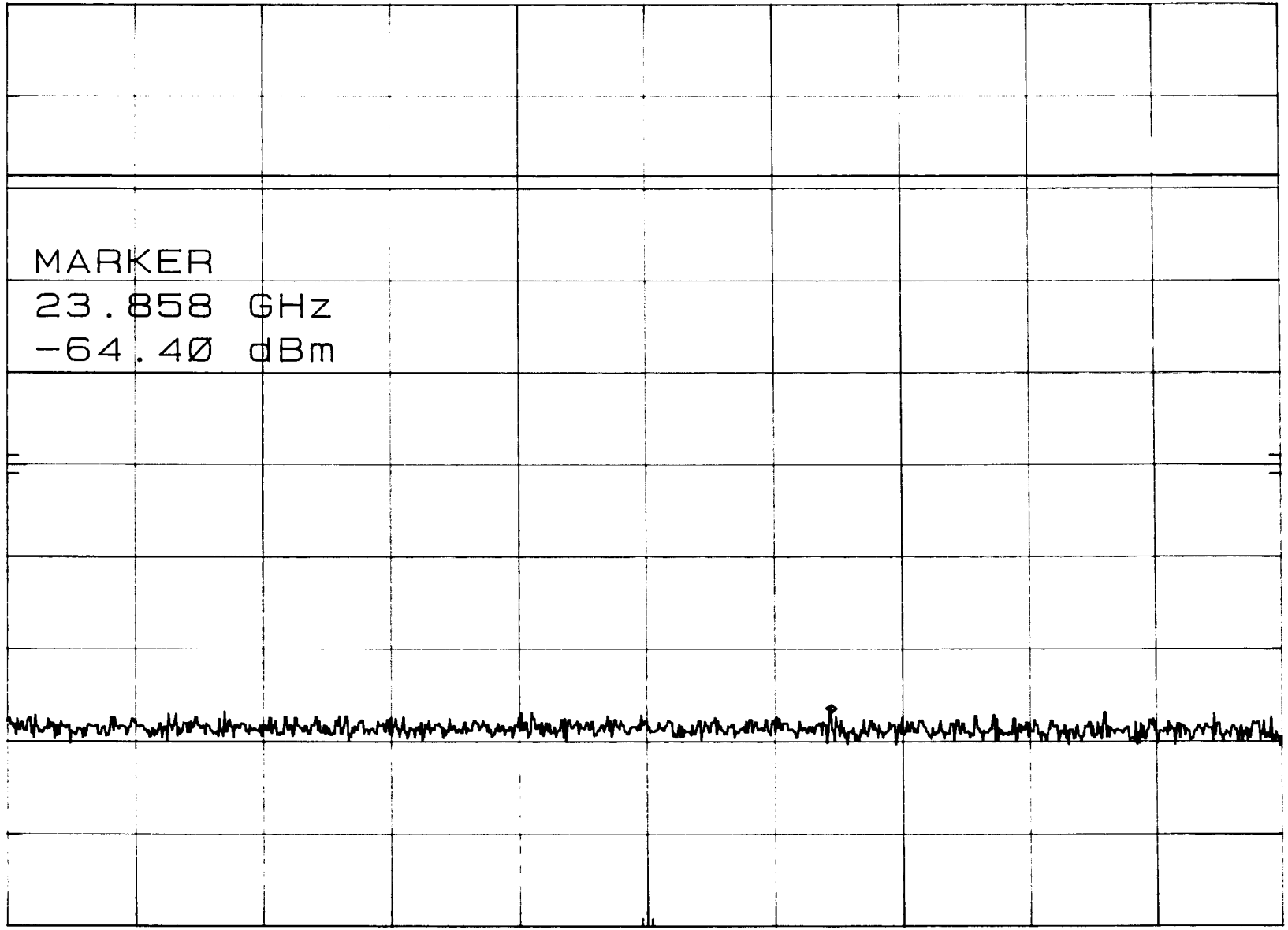
DL
-6.6
dBm

MARKER
23.858 GHz
-64.40 dBm

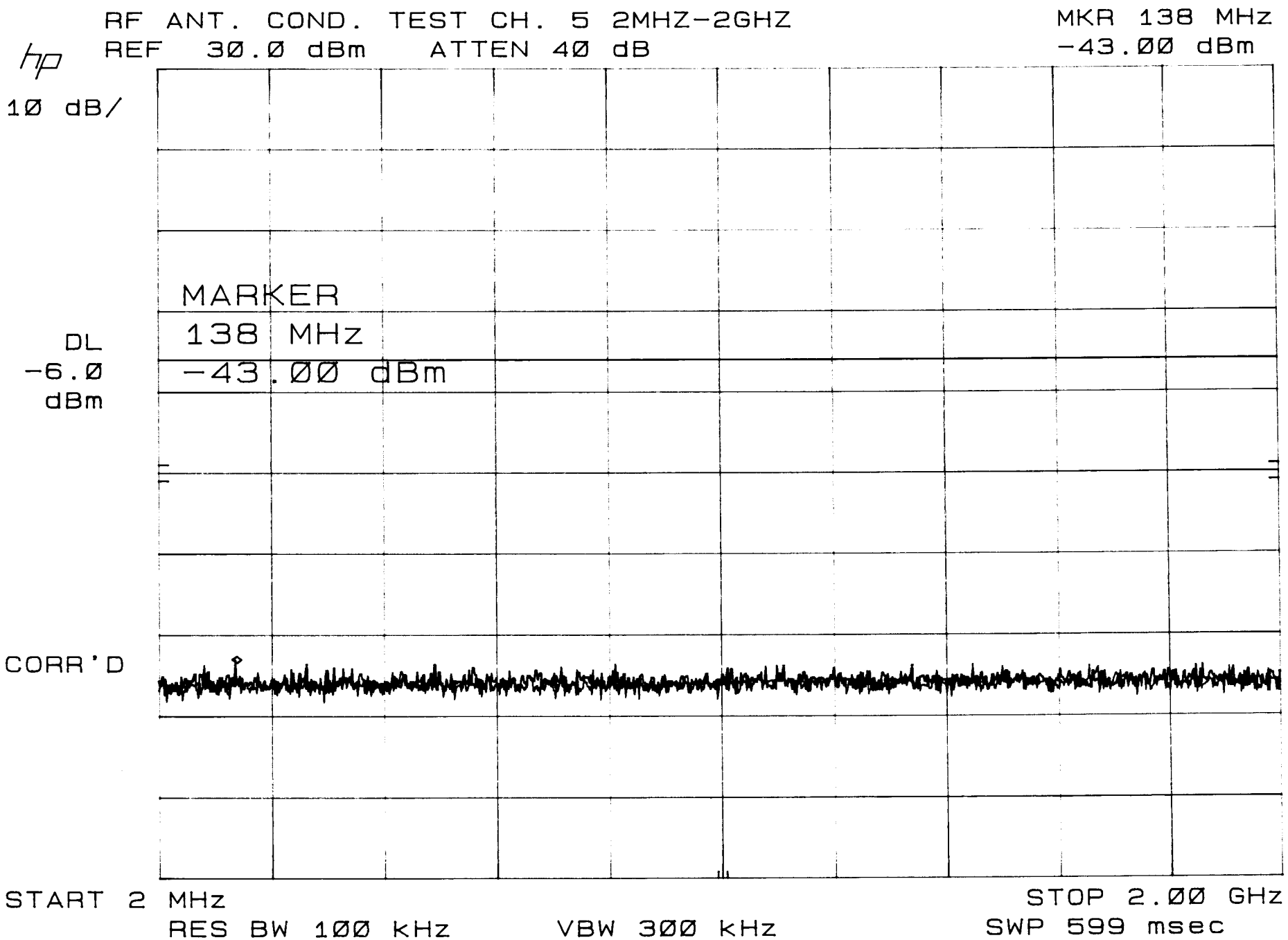
START 20.00 GHz

STOP 26.00 GHz

RES BW 100 kHz VBW 300 kHz SWP 1.80 sec



3-16-99


RF ANT. COND. TEST CH. 5 2MHZ-2GHZ
REF 30.0 dBm ATTEN 40 dB
MKR 138 MHz
-43.00 dBm
hp
10 dB/
MARKER
138 MHz
-43.00 dBm
DL
-6.0
dBm
CORR'D
START 2 MHz
STOP 2.00 GHz
RES BW 100 kHz
VBW 300 kHz
SWP 599 msec

3-16-99

RF ANT. COND. TEST OF CH. 5 2GHZ-10GHZ

MKR 2.456 GHz
14.00 dBm

REF 30.0 dBm ATTEN 40 dB

10 dB/

DISPLAY LINE
-6.0 dBm

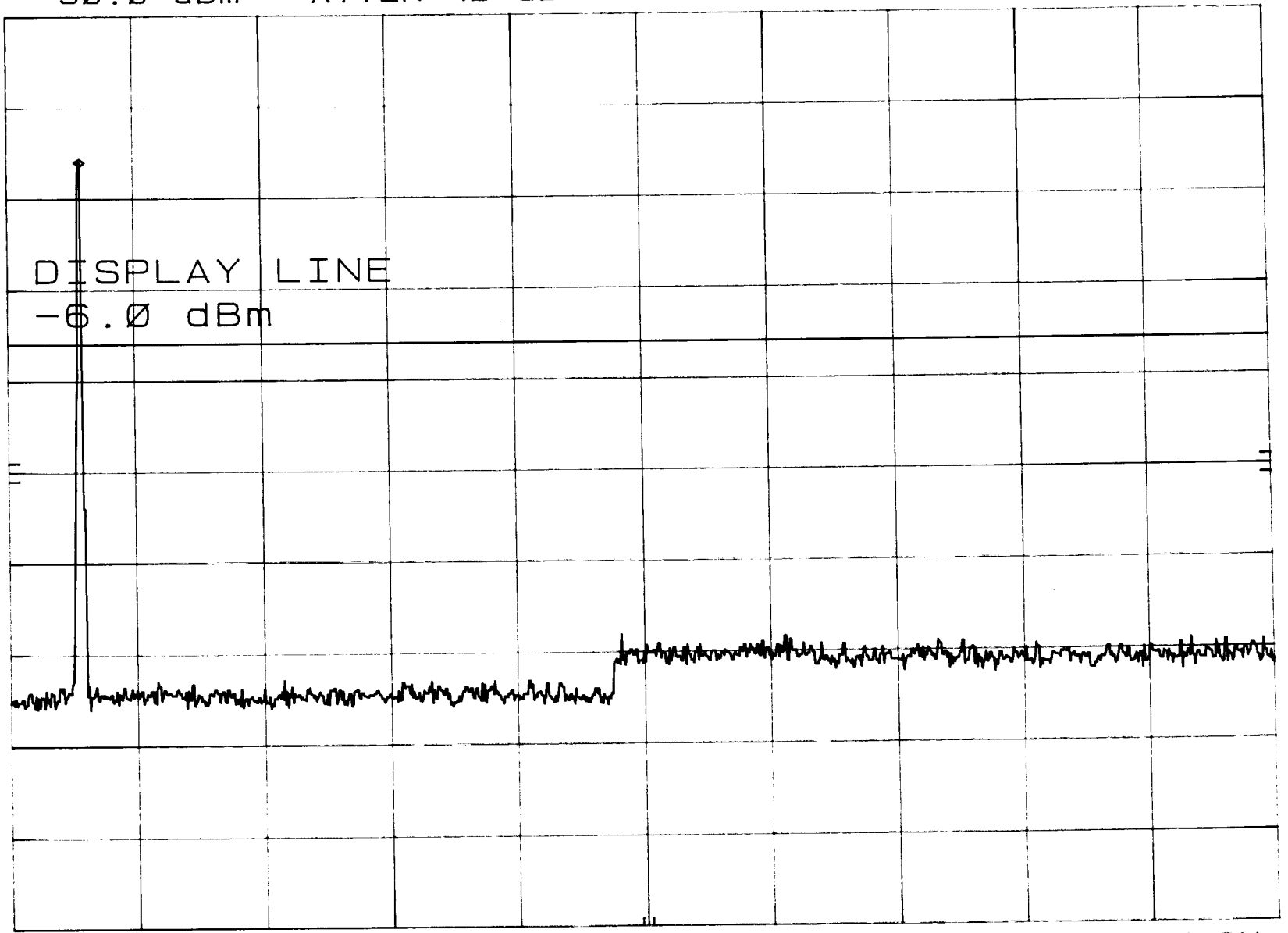
DL
-6.0
dBm

CORR'D

START 2.00 GHz
RES BW 100 kHz

VBW 300 kHz

STOP 10.00 GHz
SWP 2.40 sec



3-16-99

RF ANT. COND. TEST OF CH. 5 10GHZ-20GHZ

MKR 19.05 GHz
-30.50 dBm

hp

REF 30.0 dBm ATTEN 40 dB

10 dB/

MARKER
19.05 GHz
-30.50 dBm

DL
-6.0
dBm

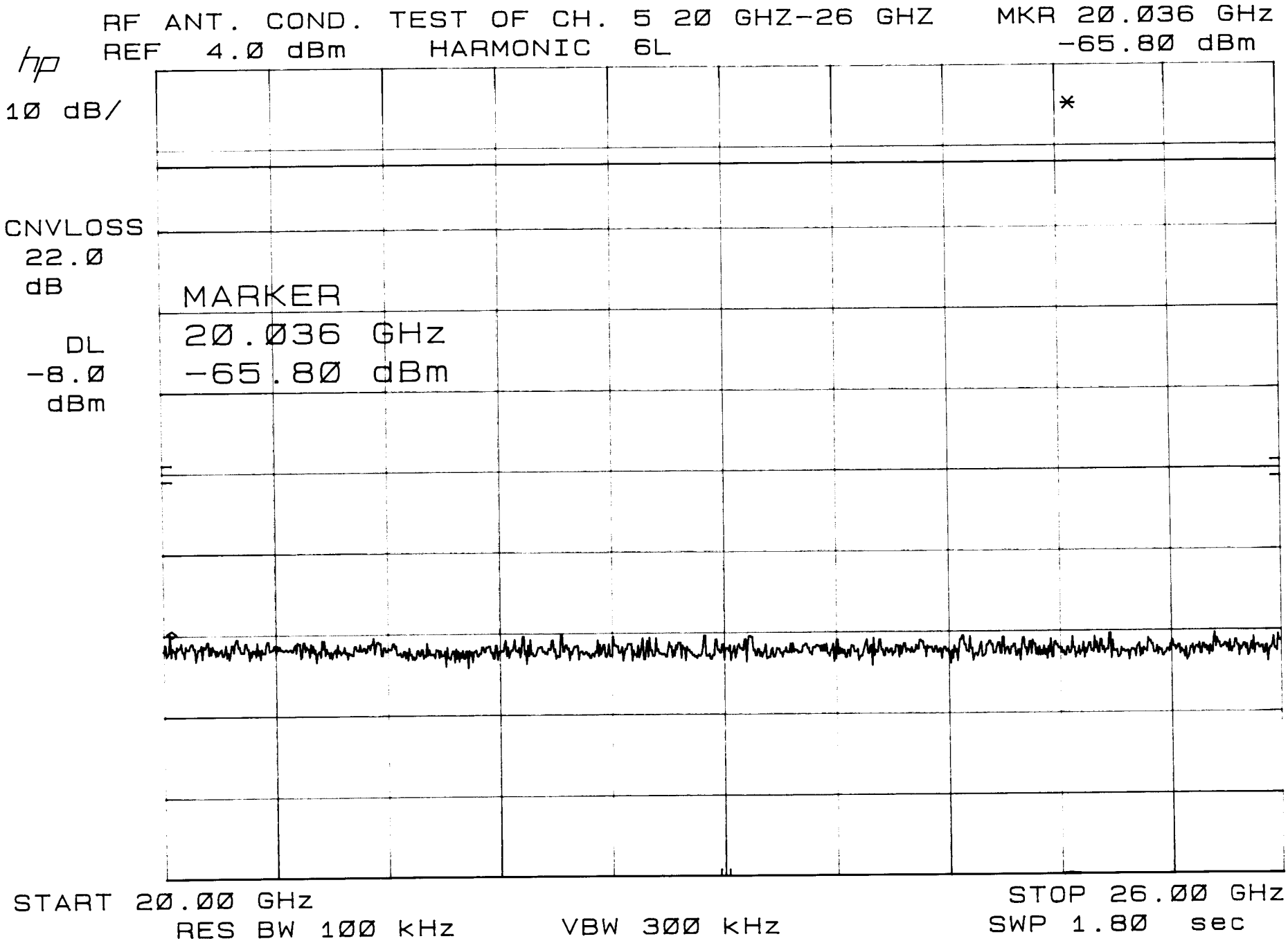
CORR'D

START 10.0 GHz

STOP 20.0 GHz

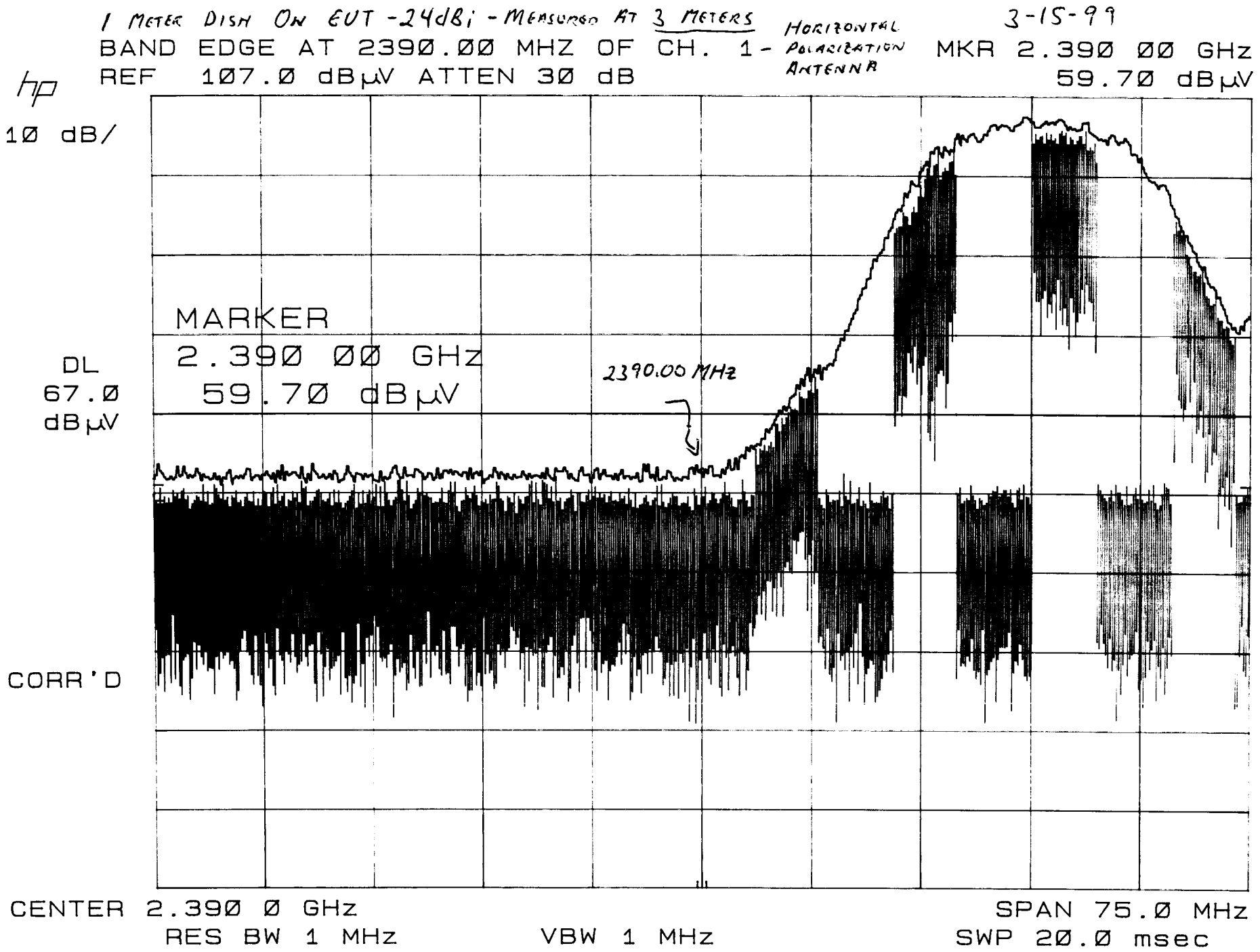
RES BW 100 kHz VBW 300 kHz SWP 3.00 sec

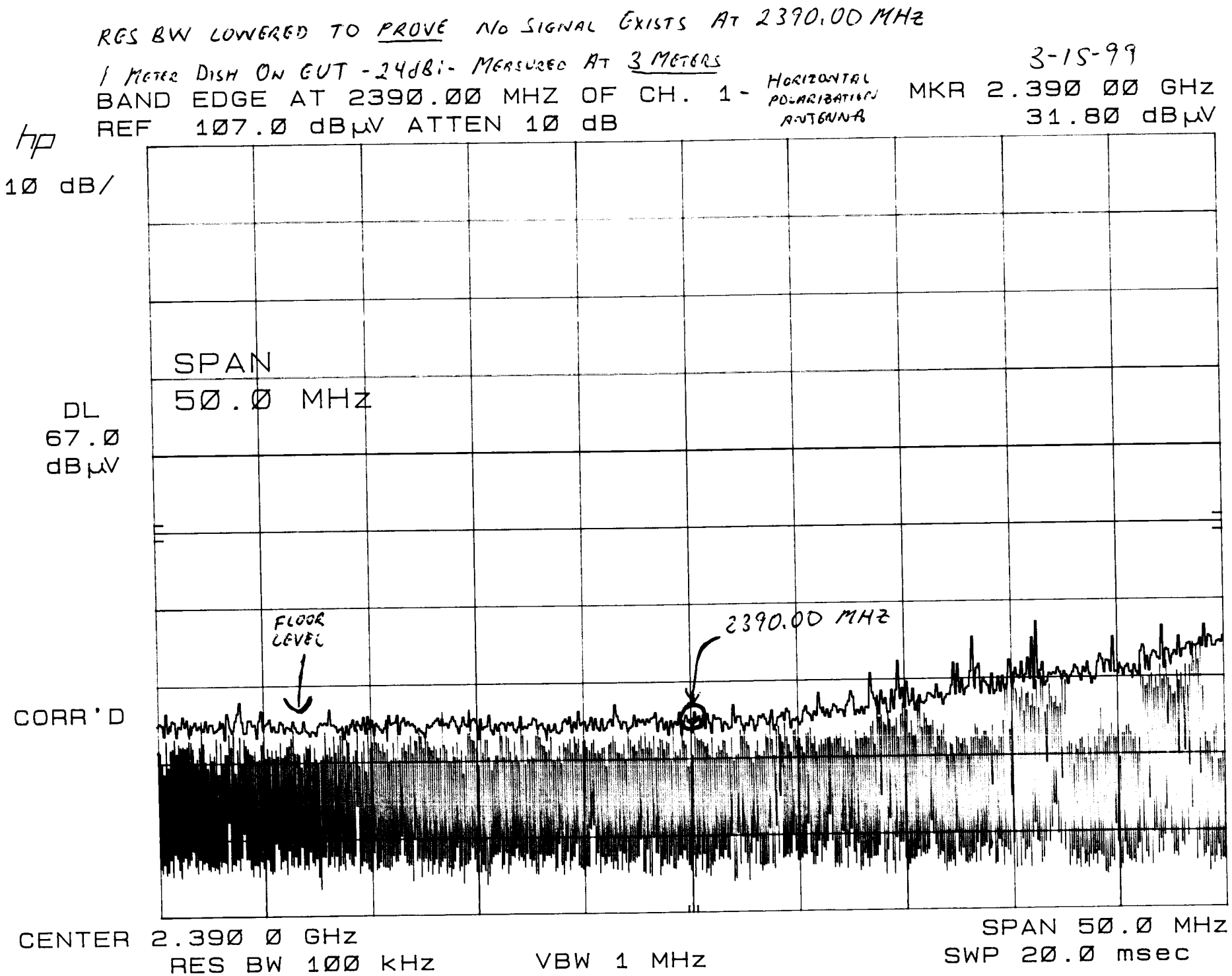
3-16-99

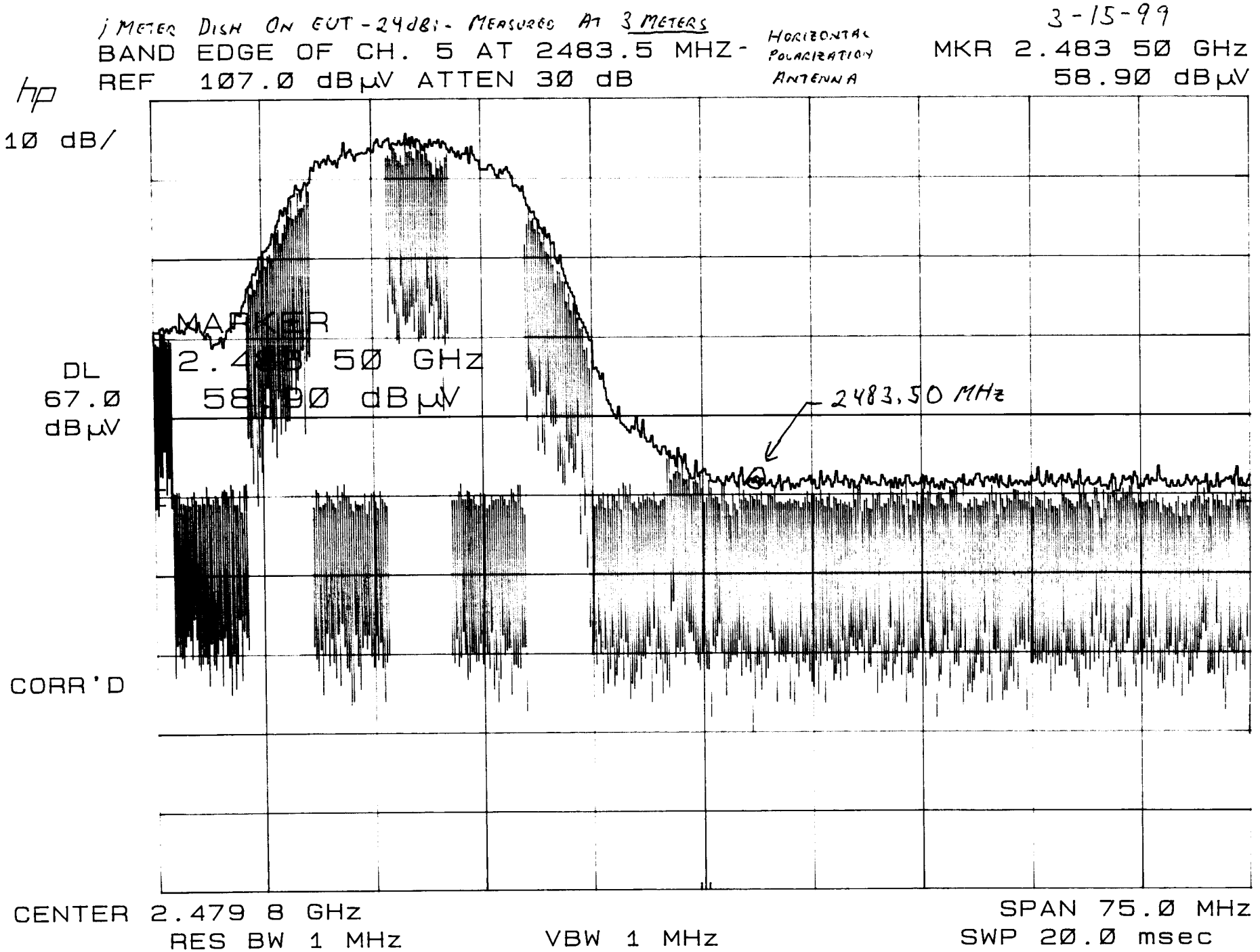

RF ANT. COND. TEST OF CH. 5 20 GHZ-26 GHZ
MKR 20.036 GHz
-65.80 dBm
REF 4.0 dBm
HARMONIC 6L
10 dB/
CNVLOSS
22.0
dB
DL
-8.0
dBm
MARKER
20.036 GHz
-65.80 dBm
START 20.00 GHz
STOP 26.00 GHz
RES BW 100 kHz
VBW 300 kHz
SWP 1.80 sec

RF BAND EDGES DATA SHEETS

RETURN TO TEST PROCEDURES


1 METER DISH ON EUT -24dBi - MEASURED AT 3 METERS
HORIZONTAL POLARIZATION ANTENNA
3-15-99
BAND EDGE AT 2390.00 MHZ OF CH. 1
MKR 2.390 00 GHz
REF 107.0 dBµV ATTEN 30 dB
59.70 dBµV
hp
10 dB/
MARKER
2.390 00 GHz
59.70 dBµV
2390.00 MHz
DL
67.0
dBµV
CORR'D
CENTER 2.390 0 GHz
SPAN 75.0 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 20.0 msec


RES BW LOWERED TO PROVE NO SIGNAL EXISTS AT 2390.00 MHz
1 METER DISH ON EUT -24dBi- MEASURED AT 3 METERS
3-15-99
BAND EDGE AT 2390.00 MHZ OF CH. 1 - HORIZONTAL POLARIZATION ANTENNA
MKR 2.390 00 GHz
REF 107.0 dBµV ATTEN 10 dB
31.80 dBµV
hp
10 dB/
SPAN
50.0 MHz
DL
67.0
dBµV
FLOOR LEVEL
2390.00 MHz
CORR'D
CENTER 2.390 0 GHz
RES BW 100 kHz
VBW 1 MHz
SPAN 50.0 MHz
SWP 20.0 msec


1 METER DISH ON EUT - 24dB - MEASURED AT 3 METERS
BAND EDGE OF CH. 5 AT 2483.5 MHZ - HORIZONTAL POLARIZATION ANTENNA
3-15-99
REF 107.0 dBµV ATTEN 30 dB
MKR 2.483 50 GHz
58.90 dBµV
10 dB/
DL
67.0
dBµV
MARKER
2.483 50 GHz
58.90 dBµV
2483.50 MHz
CORR'D
CENTER 2.479 8 GHz
RES BW 1 MHz
VBW 1 MHz
SPAN 75.0 MHz
SWP 20.0 msec

2483.50

RES BW LOWERED TO PROVE NO SIGNAL EXISTS AT [redacted] MHZ

1 METER DISH ON CUT - 24dBi - MEASURED AT 3 METERS

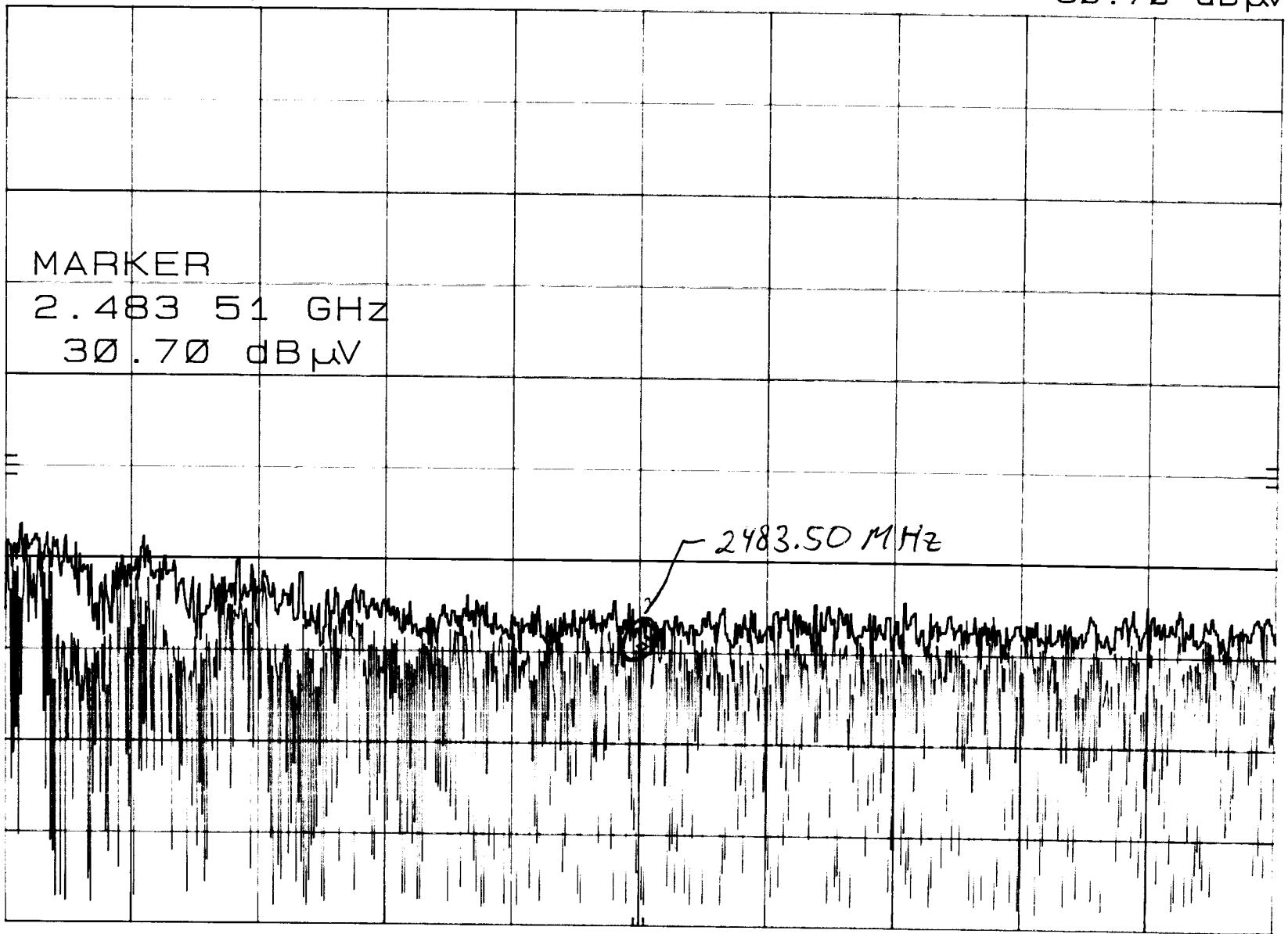
3-15-99

BAND EDGE OF CH. 5 AT 2483.5 MHZ - HORIZONTAL POLARIZATION ANTENNA

MKR 2.483 51 GHz
30.70 dBµV

REF 100.0 dBµV ATTEN 20 dB

10 dB/



DL
40.0
dBµV

CORR'D

CENTER 2.483 5 GHz
RES BW 30 kHz
VBW 1 MHz
SPAN 10.0 MHz
SWP 30.0 msec

PROCESSING GAIN DATA SHEETS

RETURN TO TEST PROCEDURES

Processing Gain

Included in the following pages is a copy of a table from Electronic Communications Handbook by Andrew F. Inglis, McCgraw Hill copyright 1988 showing QPSK and OQPSK with the same (S/N)o. Also included is a graph showing the (S/N)o for QPSK as 13.8 dB for an error rate of 10 to the negative sixth from Digital Line-Of_Sight Radio Links book by A.A.R. Townsend, Prentice Hall copyright 1988.

Data sheets from the old unit (FCC-ID: NFX-RCC0002-00) follow. The data was taken of channel 3. The new unit (FCC-ID: NFX-RCC0002-00) had only the power output increased with channel 3 staying at the same frequency, NO other changes were made to the power output.

TABLE 11.1 Ideal Performance of Representative Modulation Methods

Modulation method	E_b/N_o, dB*
Amplitude-shift keying	
OOK—coherent detection	11.4
OOK—envelope detection	11.9
Frequency-shift keying	
FSK—noncoherent detection (d = 1)	12.5
CP-FSK—coherent detection (d = 0.7)	7.4†
CP-FSK—noncoherent detection (d = 0.7)	9.2†
MSK (d = 0.5)	8.4
MSK—differential encoding (d = 0.5)	9.4
Phase-shift keying	
BPSK coherent detection	8.4
DE-BPSK	8.9
DPSK	9.3
QPSK	8.4—
DQPSK	10.7
OK-QPSK	8.4—
8-ary PSK coherent detection	11.8
16-aryPSK coherent detection	16.2
QAM	
16-ary QAM	12.4

*Required for a bit error rate of 10^{-4}.
†For a three-bit observation interval.
(Source: Oetting, J.D., "A Comparison of Modulation Techniques for Digital Radio," *IEEE Transactions on Communications*, vol. 23, no. 12, December 1979.)

Because of the severe effects of this degree of fading, a required bit rate of 10^{-2} is assumed in this table. This error rate is high for most digital radio applications, but error-control coding could be used to achieve a satisfactory result. Since the values in Table 11.4 are a weighted average of the ideal performance figures, the relative performance of the various methods does not differ markedly from that indicated in Table 11.1.

Cost and Complexity. The relative costs of the various modulation methods for a specific communication system cannot be evaluated accurately without conducting a full-scale investigation of the tradeoffs involved for the various options. Nevertheless, the modulation methods can be ranked according to their relative complexity, and this provides the basis for an initial estimate of their relative costs. This ranking is shown in Fig. 11.14.

SPREAD-SPECTRUM MODULATION TECHNIQUES

22. Introduction

Spread-spectrum systems are characterized by transmission bandwidths that are much wider than the minimum required to transmit the information. The large

TABLE 11.2 Signal Spe

Modulation method
OOK—coherent detectio
FSK—noncoherent det tion (d = 1)
CP-FSK—noncoherent tection (d = 0.7)
MSK (d = 0.5)
MSK—differential enc ing (d = 0.5)
BPSK—coherent detecti
DE-BPSK
DPSK
QPSK
DQPSK
8-ary PSK—coherent tection
16-ary PSK—coherent tection
16-ary QAM

*Required for a bit error
†Discriminator detection
(Source: Oetting, J.D., "
actions on Communications.

bandwidth redundancy
severe levels of interfe

A second importar
randomness. This mak
to demodulate by recei
against unauthorized re
forms, by sophisticated

Spread-spectrum m

1. Combating or supp
channel, signals fro
2. Hiding the signal by
for unwanted listene
3. Achieving message

23. Spread-Spectrur

Spread-spectrum syste

DIGITAL LINE-OF-SIGHT RADIO LINKS
A.A.R. Townsend Prentice Hall ©1988

FCC ID: NFX-RCC0001-00

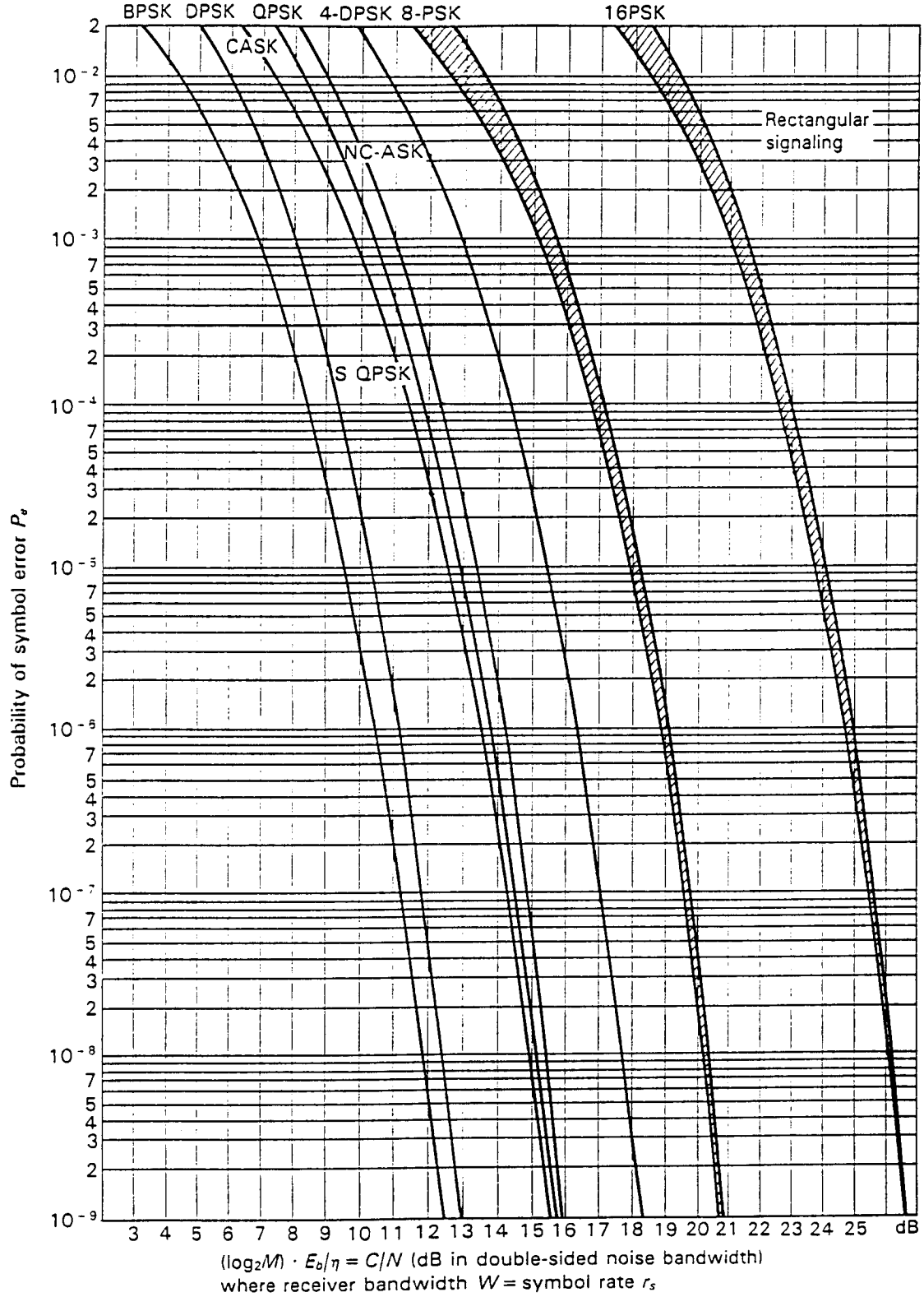


Figure 6.5 P_e **performance of various modulation schemes**

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2441.20	-9.30	-31.30	-32.30	-3.00	12.80
2441.25	-9.30	-31.30	-33.30	-4.00	11.80
2441.30	-9.30	-31.30	-33.30	-4.00	11.80
2441.35	-9.30	-31.30	-33.30	-4.00	11.80
2441.40	-9.30	-31.30	-32.30	-3.00	12.80
2441.45	-9.30	-31.30	-32.30	-3.00	12.80
2441.50	-9.30	-31.30	-32.30	-3.00	12.80
2441.55	-9.30	-31.30	-32.30	-3.00	12.80
2441.60	-9.30	-31.30	-32.30	-3.00	12.80
2441.65	-9.30	-31.30	-32.30	-3.00	12.80
2441.70	-9.30	-31.30	-32.30	-3.00	12.80
2441.75	-9.30	-31.30	-32.30	-3.00	12.80
2441.80	-9.30	-31.30	-32.30	-3.00	12.80
2441.85	-9.30	-31.30	-32.30	-3.00	12.80
2441.90	-9.30	-31.30	-32.30	-3.00	12.80
2441.95	-9.30	-31.30	-31.30	-2.00	13.80
2442.00	-9.30	-31.30	-32.30	-3.00	12.80
2442.05	-9.30	-31.30	-32.30	-3.00	12.80
2442.10	-9.30	-31.30	-32.30	-3.00	12.80
2442.15	-9.30	-31.30	-32.30	-3.00	12.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2442.20	-9.30	-31.30	-32.30	-3.00	12.80
2442.25	-9.30	-31.30	-32.30	-3.00	12.80
2442.30	-9.30	-31.30	-33.30	-4.00	11.80
2442.35	-9.30	-31.30	-32.30	-3.00	12.80
2442.40	-9.30	-31.30	-33.30	-4.00	11.80
2442.45	-9.30	-31.30	-32.30	-3.00	12.80
2442.50	-9.30	-31.30	-33.30	-4.00	11.80
2442.55	-9.30	-31.30	-33.30	-4.00	11.80
2442.60	-9.30	-31.30	-33.30	-4.00	11.80
2442.65	-9.30	-31.30	-32.30	-3.00	12.80
2442.70	-9.30	-31.30	-32.30	-3.00	12.80
2442.75	-9.30	-31.30	-32.30	-3.00	12.80
2442.80	-9.30	-31.30	-32.30	-3.00	12.80
2442.85	-9.30	-31.30	-33.30	-4.00	11.80
2442.90	-9.30	-31.30	-33.80	-4.50	11.30
2442.95	-9.30	-31.30	-33.30	-4.00	11.80
2443.00	-9.30	-31.30	-33.30	-4.00	11.80
2443.05	-9.30	-31.30	-33.30	-4.00	11.80
2443.10	-9.30	-31.30	-33.30	-4.00	11.80
2443.15	-9.30	-31.30	-33.30	-4.00	11.80

PROCESSING GAIN WORKSHEET FCC ID: NFX-RCC0001-00

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2443.20	-9.30	-31.30	-33.30	-4.00	11.80
2443.25	-9.30	-31.30	-33.30	-4.00	11.80
2443.30	-9.30	-31.30	-33.30	-4.00	11.80
2443.35	-9.30	-31.30	-33.30	-4.00	11.80
2443.40	-9.30	-31.30	-34.30	-5.00	10.80
2443.45	-9.30	-31.30	-33.30	-4.00	11.80
2443.50	-9.30	-31.30	-34.30	-5.00	10.80
2443.55	-9.30	-31.30	-33.30	-4.00	11.80
2443.60	-9.30	-31.30	-33.30	-4.00	11.80
2443.65	-9.30	-31.30	-33.30	-4.00	11.80
2443.70	-9.30	-31.30	-33.30	-4.00	11.80
2443.75	-9.30	-31.30	-33.30	-4.00	11.80
2443.80	-9.30	-31.30	-33.30	-4.00	11.80
2443.85	-9.30	-31.30	-34.30	-5.00	10.80
2443.90	-9.30	-31.30	-34.30	-5.00	10.80
2443.95	-9.30	-31.30	-34.30	-5.00	10.80
2444.00	-9.30	-31.30	-34.30	-5.00	10.80
2444.05	-9.30	-31.30	-33.30	-4.00	11.80
2444.10	-9.30	-31.30	-34.30	-5.00	10.80
2444.15	-9.30	-31.30	-34.30	-5.00	10.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2444.20	-9.30	-31.30	-33.30	-4.00	11.80
2444.25	-9.30	-31.30	-33.30	-4.00	11.80
2444.30	-9.30	-31.30	-34.30	-5.00	10.80
2444.35	-9.30	-31.30	-34.30	-5.00	10.80
2444.40	-9.30	-31.30	-34.30	-5.00	10.80
2444.45	-9.30	-31.30	-34.30	-5.00	10.80
2444.50	-9.30	-31.30	-33.30	-4.00	11.80
2444.55	-9.30	-31.30	-32.30	-3.00	12.80
2444.60	-9.30	-31.30	-33.30	-4.00	11.80
2444.65	-9.30	-31.30	-34.30	-5.00	10.80
2444.70	-9.30	-31.30	-34.30	-5.00	10.80
2444.75	-9.30	-31.30	-33.30	-4.00	11.80
2444.80	-9.30	-31.30	-33.30	-4.00	11.80
2444.85	-9.30	-31.30	-34.30	-5.00	10.80
2444.90	-9.30	-31.30	-34.30	-5.00	10.80
2444.95	-9.30	-31.30	-34.30	-5.00	10.80
2445.00	-9.30	-31.30	-34.30	-5.00	10.80
2445.05	-9.30	-31.30	-34.30	-5.00	10.80
2445.10	-9.30	-31.30	-34.30	-5.00	10.80
2445.15	-9.30	-31.30	-34.30	-5.00	10.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2445.20	-9.30	-31.30	-34.30	-5.00	10.80
2445.25	-9.30	-31.30	-34.30	-5.00	10.80
2445.30	-9.30	-31.30	-34.30	-5.00	10.80
2445.35	-9.30	-31.30	-34.30	-5.00	10.80
2445.40	-9.30	-31.30	-33.30	-4.00	11.80
2445.45	-9.30	-31.30	-34.30	-5.00	10.80
2445.50	-9.30	-31.30	-34.30	-5.00	10.80
2445.55	-9.30	-31.30	-33.30	-4.00	11.80
2445.60	-9.30	-31.30	-33.30	-4.00	11.80
2445.65	-9.30	-31.30	-33.30	-4.00	11.80
2445.70	-9.30	-31.30	-33.30	-4.00	11.80
2445.75	-9.30	-31.30	-34.30	-5.00	10.80
2445.80	-9.30	-31.30	-34.30	-5.00	10.80
2445.85	-9.30	-31.30	-34.30	-5.00	10.80
2445.90	-9.30	-31.30	-33.30	-4.00	11.80
2445.95	-9.30	-31.30	-33.30	-4.00	11.80
2446.00	-9.30	-31.30	-34.30	-5.00	10.80
2446.05	-9.30	-31.30	-34.30	-5.00	10.80
2446.10	-9.30	-31.30	-34.30	-5.00	10.80
2446.15	-9.30	-31.30	-34.30	-5.00	10.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2446.20	-9.30	-31.30	-34.30	-5.00	10.80
2446.25	-9.30	-31.30	-33.30	-4.00	11.80
2446.30	-9.30	-31.30	-34.30	-5.00	10.80
2446.35	-9.30	-31.30	-34.30	-5.00	10.80
2446.40	-9.30	-31.30	-34.30	-5.00	10.80
2446.45	-9.30	-31.30	-33.30	-4.00	11.80
2446.50	-9.30	-31.30	-33.30	-4.00	11.80
2446.55	-9.30	-31.30	-33.30	-4.00	11.80
2446.60	-9.30	-31.30	-33.30	-4.00	11.80
2446.65	-9.30	-31.30	-33.30	-4.00	11.80
2446.70	-9.30	-31.30	-34.30	-5.00	10.80
2446.75	-9.30	-31.30	-34.30	-5.00	10.80
2446.80	-9.30	-31.30	-34.30	-5.00	10.80
2446.85	-9.30	-31.30	-33.30	-4.00	11.80
2446.90	-9.30	-31.30	-33.30	-4.00	11.80
2446.95	-9.30	-31.30	-33.30	-4.00	11.80
2447.00	-9.30	-31.30	-33.30	-4.00	11.80
2447.05	-9.30	-31.30	-33.30	-4.00	11.80
2447.10	-9.30	-31.30	-33.30	-4.00	11.80
2447.15	-9.30	-31.30	-33.30	-4.00	11.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2447.20	-9.30	-31.30	-33.30	-4.00	11.80
2447.25	-9.30	-31.30	-32.30	-3.00	12.80
2447.30	-9.30	-31.30	-32.30	-3.00	12.80
2447.35	-9.30	-31.30	-32.30	-3.00	12.80
2447.40	-9.30	-31.30	-32.30	-3.00	12.80
2447.45	-9.30	-31.30	-32.30	-3.00	12.80
2447.50	-9.30	-31.30	-32.30	-3.00	12.80
2447.55	-9.30	-31.30	-33.30	-4.00	11.80
2447.60	-9.30	-31.30	-33.30	-4.00	11.80
2447.65	-9.30	-31.30	-32.30	-3.00	12.80
2447.70	-9.30	-31.30	-32.30	-3.00	12.80
2447.75	-9.30	-31.30	-32.30	-3.00	12.80
2447.80	-9.30	-31.30	-31.30	-2.00	13.80
2447.85	-9.30	-31.30	-31.30	-2.00	13.80
2447.90	-9.30	-31.30	-31.30	-2.00	13.80
2447.95	-9.30	-31.30	-31.30	-2.00	13.80
2448.00	-9.30	-31.30	-31.30	-2.00	13.80
2448.05	-9.30	-31.30	-31.30	-2.00	13.80
2448.10	-9.30	-31.30	-31.30	-2.00	13.80
2448.15	-9.30	-31.30	-31.30	-2.00	13.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2448.20	-9.30	-31.30	-31.30	-2.00	13.80
2448.25	-9.30	-31.30	-31.30	-2.00	13.80
2448.30	-9.30	-31.30	-31.30	-2.00	13.80
2448.35	-9.30	-31.30	-31.30	-2.00	13.80
2448.40	-9.30	-31.30	-30.30	-1.00	14.80
2448.45	-9.30	-31.30	-31.30	-2.00	13.80
2448.50	-9.30	-31.30	-31.30	-2.00	13.80
2448.55	-9.30	-31.30	-30.30	-1.00	14.80
2448.60	-9.30	-31.30	-30.30	-1.00	14.80
2448.65	-9.30	-31.30	-30.30	-1.00	14.80
2448.70	-9.30	-31.30	-30.30	-1.00	14.80
2448.75	-9.30	-31.30	-29.30	0.00	15.80
2448.80	-9.30	-31.30	-30.30	-1.00	14.80
2448.85	-9.30	-31.30	-29.30	0.00	15.80
2448.90	-9.30	-31.30	-29.30	0.00	15.80
2448.95	-9.30	-31.30	-29.30	0.00	15.80
2449.00	-9.30	-31.30	-29.30	0.00	15.80
2449.05	-9.30	-31.30	-29.30	0.00	15.80
2449.10	-9.30	-31.30	-28.30	1.00	16.80
2449.15	-9.30	-31.30	-28.30	1.00	16.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2449.20	-9.30	-31.30	-28.30	1.00	16.80
2449.25	-9.30	-31.30	-28.30	1.00	16.80
2449.30	-9.30	-31.30	-27.30	2.00	17.80
2449.35	-9.30	-31.30	-28.30	1.00	16.80
2449.40	-9.30	-31.30	-28.30	1.00	16.80
2449.45	-9.30	-31.30	-27.30	2.00	17.80
2449.50	-9.30	-31.30	-27.30	2.00	17.80
2449.55	-9.30	-31.30	-27.30	2.00	17.80
2449.60	-9.30	-31.30	-27.30	2.00	17.80
2449.65	-9.30	-31.30	-27.30	2.00	17.80
2449.70	-9.30	-31.30	-27.30	2.00	17.80
2449.75	-9.30	-31.30	-27.30	2.00	17.80
2449.80	-9.30	-31.30	-27.30	2.00	17.80
2449.85	-9.30	-31.30	-27.30	2.00	17.80
2449.90	-9.30	-31.30	-27.30	2.00	17.80
2449.95	-9.30	-31.30	-27.30	2.00	17.80
2450.00	-9.30	-31.30	-26.30	3.00	18.80
2450.05	-9.30	-31.30	-25.30	4.00	19.80
2450.10	-9.30	-31.30	-26.30	3.00	18.80
2450.15	-9.30	-31.30	-26.30	3.00	18.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2450.20	-9.30	-31.30	-26.30	3.00	18.80
2450.25	-9.30	-31.30	-26.30	3.00	18.80
2450.30	-9.30	-31.30	-26.30	3.00	18.80
2450.35	-9.30	-31.30	-26.30	3.00	18.80
2450.40	-9.30	-31.30	-26.30	3.00	18.80
2450.45	-9.30	-31.30	-25.30	4.00	19.80
2450.50	-9.30	-31.30	-24.30	5.00	20.80
2450.55	-9.30	-31.30	-24.30	5.00	20.80
2450.60	-9.30	-31.30	-23.30	6.00	21.80
2450.65	-9.30	-31.30	-24.30	5.00	20.80
2450.70	-9.30	-31.30	-24.30	5.00	20.80
2450.75	-9.30	-31.30	-23.30	6.00	21.80
2450.80	-9.30	-31.30	-23.30	6.00	21.80
2450.85	-9.30	-31.30	-23.30	6.00	21.80
2450.90	-9.30	-31.30	-23.30	6.00	21.80
2450.95	-9.30	-31.30	-22.30	7.00	22.80
2451.00	-9.30	-31.30	-22.30	7.00	22.80
2451.05	-9.30	-31.30	-22.30	7.00	22.80
2451.10	-9.30	-31.30	-22.30	7.00	22.80
2451.15	-9.30	-31.30	-21.30	8.00	23.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2451.20	-9.30	-31.30	-22.30	7.00	22.80
2451.25	-9.30	-31.30	-22.30	7.00	22.80
2451.30	-9.30	-31.30	-22.30	7.00	22.80
2451.35	-9.30	-31.30	-21.30	8.00	23.80
2451.40	-9.30	-31.30	-22.30	7.00	22.80
2451.45	-9.30	-31.30	-21.30	8.00	23.80
2451.50	-9.30	-31.30	-21.30	8.00	23.80
2451.55	-9.30	-31.30	-20.30	9.00	24.80
2451.60	-9.30	-31.30	-20.30	9.00	24.80
2451.65	-9.30	-31.30	-20.30	9.00	24.80
2451.70	-9.30	-31.30	-20.30	9.00	24.80
2451.75	-9.30	-31.30	-20.30	9.00	24.80
2451.80	-9.30	-31.30	-20.30	9.00	24.80
2451.85	-9.30	-31.30	-19.30	10.00	25.80
2451.90	-9.30	-31.30	-19.30	10.00	25.80
2451.95	-9.30	-31.30	-19.30	10.00	25.80
2452.00	-9.30	-31.30	-19.30	10.00	25.80
2452.05	-9.30	-31.30	-18.30	11.00	26.80
2452.10	-9.30	-31.30	-18.30	11.00	26.80
2452.15	-9.30	-31.30	-18.30	11.00	26.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2452.20	-9.30	-31.30	-18.30	11.00	26.80
2452.25	-9.30	-31.30	-18.30	11.00	26.80
2452.30	-9.30	-31.30	-17.30	12.00	27.80
2452.35	-9.30	-31.30	-17.30	12.00	27.80
2452.40	-9.30	-31.30	-16.30	13.00	28.80
2452.45	-9.30	-31.30	-16.30	13.00	28.80
2452.50	-9.30	-31.30	-16.30	13.00	28.80
2452.55	-9.30	-31.30	-15.30	14.00	29.80
2452.60	-9.30	-31.30	-15.30	14.00	29.80
2452.65	-9.30	-31.30	-15.30	14.00	29.80
2452.70	-9.30	-31.30	-15.30	14.00	29.80
2452.75	-9.30	-31.30	-15.30	14.00	29.80
2452.80	-9.30	-31.30	-14.30	15.00	30.80
2452.85	-9.30	-31.30	-14.30	15.00	30.80
2452.90	-9.30	-31.30	-14.30	15.00	30.80
2452.95	-9.30	-31.30	-14.30	15.00	30.80
2453.00	-9.30	-31.30	-13.30	16.00	31.80
2453.05	-9.30	-31.30	-13.30	16.00	31.80
2453.10	-9.30	-31.30	-13.30	16.00	31.80
2453.15	-9.30	-31.30	-13.30	16.00	31.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2453.20	-9.30	-31.30	-12.30	17.00	32.80
2453.25	-9.30	-31.30	-11.30	18.00	33.80
2453.30	-9.30	-31.30	-11.30	18.00	33.80
2453.35	-9.30	-31.30	-11.30	18.00	33.80
2453.40	-9.30	-31.30	-11.30	18.00	33.80
2453.45	-9.30	-31.30	-10.30	19.00	34.80
2453.50	-9.30	-31.30	-10.30	19.00	34.80
2453.55	-9.30	-31.30	-10.30	19.00	34.80
2453.60	-9.30	-31.30	-10.30	19.00	34.80
2453.65	-9.30	-31.30	-9.30	20.00	35.80
2453.70	-9.30	-31.30	-8.30	21.00	36.80

LOSSES

Attenuation	**20**
Combiner Loss	**1**
Cable Loss of EUT	**1**
System Loss	**2**
S/N ratio	**13.8**
Cable Loss of the Signal Generator	**1**

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2428.70	-9.30	-31.30	-21.30	8.00	23.80
2428.75	-9.30	-31.30	-21.30	8.00	23.80
2428.80	-9.30	-31.30	-21.30	8.00	23.80
2428.85	-9.30	-31.30	-21.30	8.00	23.80
2428.90	-9.30	-31.30	-21.30	8.00	23.80
2428.95	-9.30	-31.30	-21.30	8.00	23.80
2429.00	-9.30	-31.30	-22.30	7.00	22.80
2429.05	-9.30	-31.30	-22.30	7.00	22.80
2429.10	-9.30	-31.30	-22.30	7.00	22.80
2429.15	-9.30	-31.30	-22.30	7.00	22.80
2429.20	-9.30	-31.30	-22.30	7.00	22.80
2429.25	-9.30	-31.30	-22.30	7.00	22.80
2429.30	-9.30	-31.30	-22.30	7.00	22.80
2429.35	-9.30	-31.30	-22.30	7.00	22.80
2429.40	-9.30	-31.30	-22.30	7.00	22.80
2429.45	-9.30	-31.30	-22.30	7.00	22.80
2429.50	-9.30	-31.30	-22.30	7.00	22.80
2429.55	-9.30	-31.30	-22.30	7.00	22.80
2429.60	-9.30	-31.30	-22.30	7.00	22.80
2429.65	-9.30	-31.30	-23.30	6.00	21.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2429.70	-9.30	-31.30	-23.30	6.00	21.80
2429.75	-9.30	-31.30	-23.30	6.00	21.80
2429.80	-9.30	-31.30	-23.30	6.00	21.80
2429.85	-9.30	-31.30	-23.30	6.00	21.80
2429.90	-9.30	-31.30	-24.30	5.00	20.80
2429.95	-9.30	-31.30	-25.30	4.00	19.80
2430.00	-9.30	-31.30	-25.30	4.00	19.80
2430.05	-9.30	-31.30	-25.30	4.00	19.80
2430.10	-9.30	-31.30	-25.30	4.00	19.80
2430.15	-9.30	-31.30	-25.30	4.00	19.80
2430.20	-9.30	-31.30	-25.30	4.00	19.80
2430.25	-9.30	-31.30	-25.30	4.00	19.80
2430.30	-9.30	-31.30	-25.30	4.00	19.80
2430.35	-9.30	-31.30	-25.30	4.00	19.80
2430.40	-9.30	-31.30	-26.30	3.00	18.80
2430.45	-9.30	-31.30	-26.30	3.00	18.80
2430.50	-9.30	-31.30	-26.30	3.00	18.80
2430.55	-9.30	-31.30	-25.30	4.00	19.80
2430.60	-9.30	-31.30	-26.30	3.00	18.80
2430.65	-9.30	-31.30	-26.30	3.00	18.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2430.70	-9.30	-31.30	-26.30	3.00	18.80
2430.75	-9.30	-31.30	-26.30	3.00	18.80
2430.80	-9.30	-31.30	-26.30	3.00	18.80
2430.85	-9.30	-31.30	-26.30	3.00	18.80
2430.90	-9.30	-31.30	-26.30	3.00	18.80
2430.95	-9.30	-31.30	-26.30	3.00	18.80
2431.00	-9.30	-31.30	-25.30	4.00	19.80
2431.05	-9.30	-31.30	-25.30	4.00	19.80
2431.10	-9.30	-31.30	-25.30	4.00	19.80
2431.15	-9.30	-31.30	-26.30	3.00	18.80
2431.20	-9.30	-31.30	-26.30	3.00	18.80
2431.25	-9.30	-31.30	-26.30	3.00	18.80
2431.30	-9.30	-31.30	-26.30	3.00	18.80
2431.35	-9.30	-31.30	-26.30	3.00	18.80
2431.40	-9.30	-31.30	-26.30	3.00	18.80
2431.45	-9.30	-31.30	-26.30	3.00	18.80
2431.50	-9.30	-31.30	-26.30	3.00	18.80
2431.55	-9.30	-31.30	-25.30	4.00	19.80
2431.60	-9.30	-31.30	-26.30	3.00	18.80
2431.65	-9.30	-31.30	-26.30	3.00	18.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2431.70	-9.30	-31.30	-27.30	2.00	17.80
2431.75	-9.30	-31.30	-27.30	2.00	17.80
2431.80	-9.30	-31.30	-28.30	1.00	16.80
2431.85	-9.30	-31.30	-28.30	1.00	16.80
2431.90	-9.30	-31.30	-28.30	1.00	16.80
2431.95	-9.30	-31.30	-29.30	0.00	15.80
2432.00	-9.30	-31.30	-29.30	0.00	15.80
2432.05	-9.30	-31.30	-29.30	0.00	15.80
2432.10	-9.30	-31.30	-29.30	0.00	15.80
2432.15	-9.30	-31.30	-29.30	0.00	15.80
2432.20	-9.30	-31.30	-29.30	0.00	15.80
2432.25	-9.30	-31.30	-29.30	0.00	15.80
2432.30	-9.30	-31.30	-29.30	0.00	15.80
2432.35	-9.30	-31.30	-28.30	1.00	16.80
2432.40	-9.30	-31.30	-28.30	1.00	16.80
2432.45	-9.30	-31.30	-28.30	1.00	16.80
2432.50	-9.30	-31.30	-29.30	0.00	15.80
2432.55	-9.30	-31.30	-29.30	0.00	15.80
2432.60	-9.30	-31.30	-29.30	0.00	15.80
2432.65	-9.30	-31.30	-29.30	0.00	15.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2432.70	-9.30	-31.30	-28.30	1.00	16.80
2432.75	-9.30	-31.30	-29.30	0.00	15.80
2432.80	-9.30	-31.30	-29.30	0.00	15.80
2432.85	-9.30	-31.30	-29.30	0.00	15.80
2432.90	-9.30	-31.30	-29.30	0.00	15.80
2432.95	-9.30	-31.30	-30.30	-1.00	14.80
2433.00	-9.30	-31.30	-30.30	-1.00	14.80
2433.05	-9.30	-31.30	-30.30	-1.00	14.80
2433.10	-9.30	-31.30	-30.30	-1.00	14.80
2433.15	-9.30	-31.30	-29.30	0.00	15.80
2433.20	-9.30	-31.30	-30.30	-1.00	14.80
2433.25	-9.30	-31.30	-30.30	-1.00	14.80
2433.30	-9.30	-31.30	-30.30	-1.00	14.80
2433.35	-9.30	-31.30	-30.30	-1.00	14.80
2433.40	-9.30	-31.30	-30.30	-1.00	14.80
2433.45	-9.30	-31.30	-30.30	-1.00	14.80
2433.50	-9.30	-31.30	-31.30	-2.00	13.80
2433.55	-9.30	-31.30	-31.30	-2.00	13.80
2433.60	-9.30	-31.30	-31.30	-2.00	13.80
2433.65	-9.30	-31.30	-31.30	-2.00	13.80

LOSSES

Attenuation	**20**
Combiner Loss	**1**
Cable Loss of EUT	**1**
System Loss	**2**
S/N ratio	**13.8**
Cable Loss of the Signal Generator	**1**

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2433.70	-9.30	-31.30	-31.30	-2.00	13.80
2433.75	-9.30	-31.30	-31.30	-2.00	13.80
2433.80	-9.30	-31.30	-31.30	-2.00	13.80
2433.85	-9.30	-31.30	-31.30	-2.00	13.80
2433.90	-9.30	-31.30	-31.30	-2.00	13.80
2433.95	-9.30	-31.30	-31.30	-2.00	13.80
2434.00	-9.30	-31.30	-31.30	-2.00	13.80
2434.05	-9.30	-31.30	-31.30	-2.00	13.80
2434.10	-9.30	-31.30	-31.30	-2.00	13.80
2434.15	-9.30	-31.30	-31.30	-2.00	13.80
2434.20	-9.30	-31.30	-31.30	-2.00	13.80
2434.25	-9.30	-31.30	-32.30	-3.00	12.80
2434.30	-9.30	-31.30	-32.30	-3.00	12.80
2434.35	-9.30	-31.30	-32.30	-3.00	12.80
2434.40	-9.30	-31.30	-32.30	-3.00	12.80
2434.45	-9.30	-31.30	-32.30	-3.00	12.80
2434.50	-9.30	-31.30	-33.30	-4.00	11.80
2434.55	-9.30	-31.30	-33.30	-4.00	11.80
2434.60	-9.30	-31.30	-33.30	-4.00	11.80
2434.65	-9.30	-31.30	-33.30	-4.00	11.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2434.70	-9.30	-31.30	-33.30	-4.00	11.80
2434.75	-9.30	-31.30	-32.30	-3.00	12.80
2434.80	-9.30	-31.30	-32.30	-3.00	12.80
2434.85	-9.30	-31.30	-32.30	-3.00	12.80
2434.90	-9.30	-31.30	-33.30	-4.00	11.80
2434.95	-9.30	-31.30	-33.30	-4.00	11.80
2435.00	-9.30	-31.30	-32.30	-3.00	12.80
2435.05	-9.30	-31.30	-32.30	-3.00	12.80
2435.10	-9.30	-31.30	-32.30	-3.00	12.80
2435.15	-9.30	-31.30	-32.30	-3.00	12.80
2435.20	-9.30	-31.30	-32.30	-3.00	12.80
2435.25	-9.30	-31.30	-32.30	-3.00	12.80
2435.30	-9.30	-31.30	-32.30	-3.00	12.80
2435.35	-9.30	-31.30	-32.30	-3.00	12.80
2435.40	-9.30	-31.30	-33.30	-4.00	11.80
2435.45	-9.30	-31.30	-33.30	-4.00	11.80
2435.50	-9.30	-31.30	-33.30	-4.00	11.80
2435.55	-9.30	-31.30	-33.30	-4.00	11.80
2435.60	-9.30	-31.30	-33.30	-4.00	11.80
2435.65	-9.30	-31.30	-32.30	-3.00	12.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2435.70	-9.30	-31.30	-32.30	-3.00	12.80
2435.75	-9.30	-31.30	-32.30	-3.00	12.80
2435.80	-9.30	-31.30	-33.30	-4.00	11.80
2435.85	-9.30	-31.30	-33.30	-4.00	11.80
2435.90	-9.30	-31.30	-33.30	-4.00	11.80
2435.95	-9.30	-31.30	-33.30	-4.00	11.80
2436.00	-9.30	-31.30	-33.30	-4.00	11.80
2436.05	-9.30	-31.30	-33.30	-4.00	11.80
2436.10	-9.30	-31.30	-33.30	-4.00	11.80
2436.15	-9.30	-31.30	-33.30	-4.00	11.80
2436.20	-9.30	-31.30	-33.30	-4.00	11.80
2436.25	-9.30	-31.30	-33.30	-4.00	11.80
2436.30	-9.30	-31.30	-33.30	-4.00	11.80
2436.35	-9.30	-31.30	-33.30	-4.00	11.80
2436.40	-9.30	-31.30	-33.30	-4.00	11.80
2436.45	-9.30	-31.30	-34.30	-5.00	10.80
2436.50	-9.30	-31.30	-34.30	-5.00	10.80
2436.55	-9.30	-31.30	-34.30	-5.00	10.80
2436.60	-9.30	-31.30	-34.30	-5.00	10.80
2436.65	-9.30	-31.30	-34.30	-5.00	10.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2436.70	-9.30	-31.30	-34.30	-5.00	10.80
2436.75	-9.30	-31.30	-34.30	-5.00	10.80
2436.80	-9.30	-31.30	-34.30	-5.00	10.80
2436.85	-9.30	-31.30	-34.30	-5.00	10.80
2436.90	-9.30	-31.30	-34.30	-5.00	10.80
2436.95	-9.30	-31.30	-34.30	-5.00	10.80
2437.00	-9.30	-31.30	-34.30	-5.00	10.80
2437.05	-9.30	-31.30	-34.30	-5.00	10.80
2437.10	-9.30	-31.30	-34.30	-5.00	10.80
2437.15	-9.30	-31.30	-34.30	-5.00	10.80
2437.20	-9.30	-31.30	-34.30	-5.00	10.80
2437.25	-9.30	-31.30	-34.30	-5.00	10.80
2437.30	-9.30	-31.30	-34.30	-5.00	10.80
2437.35	-9.30	-31.30	-34.30	-5.00	10.80
2437.40	-9.30	-31.30	-34.30	-5.00	10.80
2437.45	-9.30	-31.30	-34.30	-5.00	10.80
2437.50	-9.30	-31.30	-34.30	-5.00	10.80
2437.55	-9.30	-31.30	-34.30	-5.00	10.80
2437.60	-9.30	-31.30	-34.30	-5.00	10.80
2437.65	-9.30	-31.30	-34.30	-5.00	10.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2437.70	-9.30	-31.30	-34.30	-5.00	10.80
2437.75	-9.30	-31.30	-34.30	-5.00	10.80
2437.80	-9.30	-31.30	-34.30	-5.00	10.80
2437.85	-9.30	-31.30	-34.30	-5.00	10.80
2437.90	-9.30	-31.30	-34.30	-5.00	10.80
2437.95	-9.30	-31.30	-34.30	-5.00	10.80
2438.00	-9.30	-31.30	-34.30	-5.00	10.80
2438.05	-9.30	-31.30	-34.30	-5.00	10.80
2438.10	-9.30	-31.30	-34.30	-5.00	10.80
2438.15	-9.30	-31.30	-34.30	-5.00	10.80
2438.20	-9.30	-31.30	-34.30	-5.00	10.80
2438.25	-9.30	-31.30	-34.30	-5.00	10.80
2438.30	-9.30	-31.30	-34.30	-5.00	10.80
2438.35	-9.30	-31.30	-35.30	-6.00	9.80
2438.40	-9.30	-31.30	-35.30	-6.00	9.80
2438.45	-9.30	-31.30	-35.30	-6.00	9.80
2438.50	-9.30	-31.30	-34.30	-5.00	10.80
2438.55	-9.30	-31.30	-34.30	-5.00	10.80
2438.60	-9.30	-31.30	-34.30	-5.00	10.80
2438.65	-9.30	-31.30	-34.30	-5.00	10.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2438.70	-9.30	-31.30	-34.30	-5.00	10.80
2438.75	-9.30	-31.30	-34.30	-5.00	10.80
2438.80	-9.30	-31.30	-34.30	-5.00	10.80
2438.85	-9.30	-31.30	-34.30	-5.00	10.80
2438.90	-9.30	-31.30	-34.30	-5.00	10.80
2438.95	-9.30	-31.30	-34.30	-5.00	10.80
2439.00	-9.30	-31.30	-34.30	-5.00	10.80
2439.05	-9.30	-31.30	-34.30	-5.00	10.80
2439.10	-9.30	-31.30	-35.30	-6.00	9.80
2439.15	-9.30	-31.30	-35.30	-6.00	9.80
2439.20	-9.30	-31.30	-35.30	-6.00	9.80
2439.25	-9.30	-31.30	-35.30	-6.00	9.80
2439.30	-9.30	-31.30	-35.30	-6.00	9.80
2439.35	-9.30	-31.30	-35.30	-6.00	9.80
2439.40	-9.30	-31.30	-35.30	-6.00	9.80
2439.45	-9.30	-31.30	-34.30	-5.00	10.80
2439.50	-9.30	-31.30	-35.30	-6.00	9.80
2439.55	-9.30	-31.30	-35.30	-6.00	9.80
2439.60	-9.30	-31.30	-35.30	-6.00	9.80
2439.65	-9.30	-31.30	-35.30	-6.00	9.80

LOSSES

Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2439.70	-9.30	-31.30	-35.30	-6.00	9.80
2439.75	-9.30	-31.30	-34.30	-5.00	10.80
2439.80	-9.30	-31.30	-34.30	-5.00	10.80
2439.85	-9.30	-31.30	-34.30	-5.00	10.80
2439.90	-9.30	-31.30	-34.30	-5.00	10.80
2439.95	-9.30	-31.30	-34.30	-5.00	10.80
2440.00	-9.30	-31.30	-34.30	-5.00	10.80
2440.05	-9.30	-31.30	-34.30	-5.00	10.80
2440.10	-9.30	-31.30	-34.30	-5.00	10.80
2440.15	-9.30	-31.30	-34.30	-5.00	10.80
2440.20	-9.30	-31.30	-34.30	-5.00	10.80
2440.25	-9.30	-31.30	-33.30	-4.00	11.80
2440.30	-9.30	-31.30	-33.30	-4.00	11.80
2440.35	-9.30	-31.30	-33.30	-4.00	11.80
2440.40	-9.30	-31.30	-34.30	-5.00	10.80
2440.45	-9.30	-31.30	-34.30	-5.00	10.80
2440.50	-9.30	-31.30	-33.30	-4.00	11.80
2440.55	-9.30	-31.30	-33.30	-4.00	11.80
2440.60	-9.30	-31.30	-33.30	-4.00	11.80
2440.65	-9.30	-31.30	-33.30	-4.00	11.80

PROCESSING GAIN TEST

CHANNEL 3 (2441.20 MHz)

Jammer Freq. (MHz)	Transmitter Output (dBm)	Signal Level (dBm)	CW Noise (dBm)	Mj J/S ratio (dB)	Processing Gain (dBm)
2440.70	-9.30	-31.30	-33.30	-4.00	11.80
2440.75	-9.30	-31.30	-33.30	-4.00	11.80
2440.80	-9.30	-31.30	-33.30	-4.00	11.80
2440.85	-9.30	-31.30	-34.30	-5.00	10.80
2440.90	-9.30	-31.30	-33.30	-4.00	11.80
2440.95	-9.30	-31.30	-34.30	-5.00	10.80
2441.00	-9.30	-31.30	-33.30	-4.00	11.80
2441.05	-9.30	-31.30	-33.30	-4.00	11.80
2441.10	-9.30	-31.30	-33.30	-4.00	11.80
2441.15	-9.30	-31.30	-33.30	-4.00	11.80

LOSSES	
Attenuation	20
Combiner Loss	1
Cable Loss of EUT	1
System Loss	2
S/N ratio	13.8
Cable Loss of the Signal Generator	1

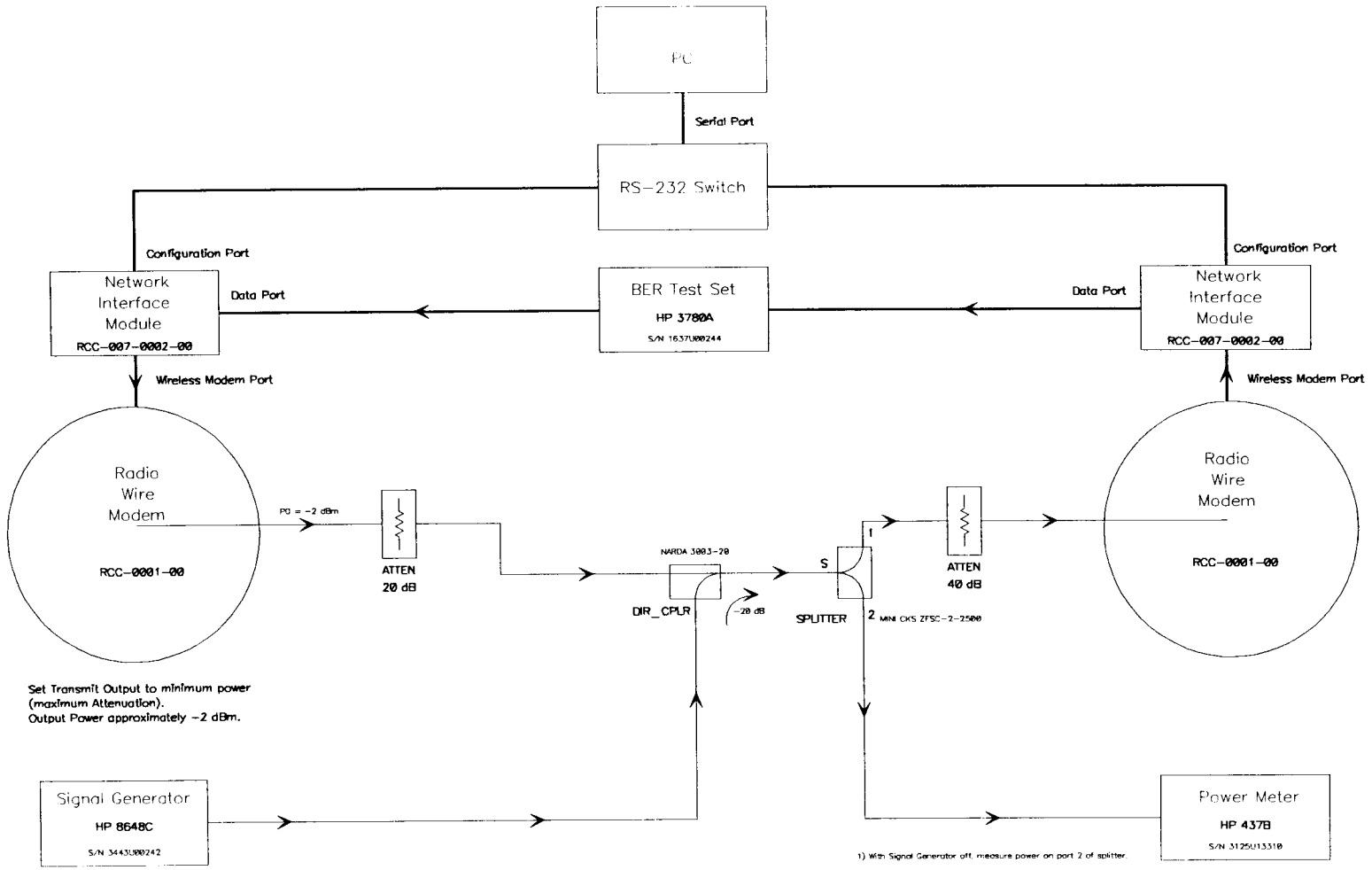
Signal Level = TX Ouput - Attenuation - Combiner Loss - Cable Loss of the EUT

Mj J/S radio = CW Noise - Sig. Level - Combiner Loss - Cable Loss of the Signal Generator.

Processing Gain = Mj J/S ratio + System Loss + S/N ratio.

FCC ID: NFX-RCC0002-00

Process Gain Test Setup



RadioConnect Corporation		
6041 Bristol Parkway, Culver City, CA 90230		(310) 338-3388
Title: Block Diagram, Process Gain Test Fixture		
Size: C	Number:	Rev: 2.0
Date: 3/24/99		Drawn by: AJT
Filename: GAINTST2.SCH		Sheet: 1 of 1