FCC ID: NUWØA1MINI19

Prepared for:

CI WIRELESS INC.
1211 Ira E. Woods Avenue
Grapevine, Texas 76051

By:

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Submitted to:

Federal Communications Commission
Equipment Approval Services
P.O. Box 358315
Pittsburgh, Pennsylvania 15251-3315

December 1999

FCC Application for Certification of an Intentional Radiator

CI WIRELESS INC.
Mini-EkoCell 1900 MHz PCS Band Repeater
(Transmitter Portion)

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Certificate of Compliance

Applicant:	CI Wireless Inc.
Applicant's Address:	1211 Ira E. Woods Avenue Grapevine, Texas 76051
Model:	Mini-EkoCell 1900 MHz PCS Band Repeater
Serial Number:	N/A
Project Number:	99-359
Test Dates:	November 8 through 15, 1999

I, Jeffreyrey A. Lenk, for Professional Testing (EMI), Inc., being familiar with the FCC rules and test procedures have reviewed the test setup, measurement data and this report. I believe them to be true and accurate. The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was tested and found to be in compliance with FCC Part 24 for Intentional Radiators.

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Jeffreyrey A. Lenk
President

1.0 Equipment Under Test (EUT) Description

The EUT is a 20 dBm 1900 MHz PCS Band Repeater System. This system is a U.S. PCS band repeater system which enhances the coverage of a 1900 MHz PCS system by improving signal coverage in traditional poor signal areas (i.e. subways, shopping malls, convention centers). The system is intended for professional installation only as part of a licenced radio service. The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** supports GSM, CDMA, and TDMA communications in the 1900 PCS band (A, B, C).

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** system is comprised of two components: the main Mini-Eko unit and a commercially available AC to DC Adapter. The EUT is installed at the desired location and powered. Base band signals are received, downconverted to 150 MHz and filtered, then upconverted to 1900 MHz. The conditioned signal is then boosted to a maximim level of 20 dBm and re-transmitted. The same process occurs for Mobile band signals. The net result of this process is that the ERP for weak mobile and base signals are increased for the immediate area serviced by the Repeater.

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is intended for professional installation only in the type of environments described above. This device is intended for operation under the requirements of Part 24 (Subpart E). Specific test requirements include the following:

47 CFR 2.989	Occupied Bandwidth
47 CFR 24.232	Effective Radiated Power (ERP)
47 CFR 24.238	Out of Band Emissions - Radiated
47 CFR CFR 24.238	Out of Band Emissions - Conducted
47 CFR 1.1310	Radiofrequency Radiation Exposure Limits
47 CFR 2.995 & 47 CFR 24.235	Frequency Stability

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was tested in the transmit mode of operation for GSM, TDMA and CDMA modes of operation. Since the EUT is not sold with antennas, the following test was not performed:

47 CFR 24.236	Field Strength Limits*

* Data to aid in compliance with this specification is included with the data regarding RF Radiation Exposure limits.

The EUT dynamically switches between internal filters to cover these bands based on the frequency of the received signal. Since the RF path is different for each of these bands, testing was performed for all three bands for both mobile and base frequency assignments. The test matrix used during this process was approved by Mr. Greg Czumak of the FCC prior to testing

The system tested consisted of the following:

Manufacturer & Model	**Serial #**	**FCC ID #**	**Description**

CI Wireless, Inc., EkoMini-19-15	N/A	NUWØA1MINI19	1900 MHz Mini-Eko Repeater
CI Wireless, Inc., EkoMini-19-05	N/A	NUWØA1MINI19	1900 MHz Mini-Eko Repeater
Ault Inc. PW102 Power Supply	N/A	N/A	AC to DC 110V Power Module
System Peripherals:			
Cellwave Model AOB1903	M227657012	N/A	Vertical Rod Antenna

Cables and Cords:
Unshielded Power Cord (6 Ft.) (2 ea.)
RG-223 Coaxial Cable (1 M) (2 ea.)

The specific model tested for the system tested were:

EkoMini-19-15 and EkoMini-19-05

The particular models used for this test were loaded with all active circuit options available, providing a worst case configuration for emissions testing.

The EUT dynamically switches between internal filters to cover these bands based on the frequency of the received signal. Since the RF path is different for each of these bands, testing was performed for all three bands for both mobile and base frequency assignments. The test matrix used during this process was approved by Mr. Greg Czumak of the FCC prior to testing

To cover the entire 1900 MHz PCS Band (Broadband and Narrowband), two major models of the **CI Wireless 1900 MHz PCS Band Eko-Mini Repeater** are available. One (EkoMini-19-15) has a 15 MHz IF filter for use with Broadband service (Bands A, B and C) while the second (EkoMini-19-15) has a 5 MHz IF filter for Narrowband service (D, E and F). These filters are passive in design. Each has associated down/up conversion circuitry. to cover the full PCS band based on the frequency of the signals detected by the EUT. The frequency response plot of each filter are shown in Appendix A.

The equipment within this report was tested to verify its compliance with FCC Rule Parts 2, and 24, for Intentional Radiators. A separate verification report pursuant to Part 15, Subpart B has been prepared for the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** as a Digital Device/receiver.

2.0 Occupied Bandwidth Measurements

Measurements were made on the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** to determine the occupied bandwidth in accordance with Part 2.989.

2.1 Test Procedure

All measurements were performed in a controlled laboratory environment. The occupied bandwidth of the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was measured using a Hewlett Packard HP 8596E Spectrum Analyzer with a test signal provided to the EUT from a Rhode-Schwartz signal generator. Occupied bandiwdth plots were made for the test generator by itself to use as a comparison for possible spectral regrowth.

Occupied bandwidth was plotted for each of the data types (GSM, CDMA and TDMA). The shape of the occupied bandwidth was checked for each of the three channels for each modulation type. No change was detected versus channel for each modulation type. The occupied bandwidth was measured based on the emission width 26 dB below the peak emission level.

2.2 Test Criteria

Section 2.989 requires that the occupied bandwidth for Type Accepted units be measured and reported as part of the device filing.

2.3 Test Results

Data for occupied bandwidth testing is located in Appendix B of this report. Data for the occupied bandwidth of the generator by itself is also contained in this appendix. The widest bandwidths for each of the modulation types used by the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** are listed below.

Service Type	Reference Frequency	Occupied Bandwidth
GSM	Band D, 1945.5 MHz	333 kHz
TDMA	Band E, 1967.5 MHz	34.3 KHz
CDMA	Band C, 1866.25 MHz	1.45 MHz

No significant variation was seen between the emission bandwidth of the EUT and the generator. In addition, no difference was seen in the occupied bandwidths between the bands. The data shown in Appendix B represents the worst case occupied bandwidths seen for each emission type.

3.0 Equivalent Isotropically Radiated Power (EIRP) Measurements

Measurements were made on the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** to verify compliance with the maximum equivalent isotropically radiated power (EIRP) requirements of §24.232.

EIRP measurements were made at the Professional Testing's Round Rock, Texas Laboratory. All measurements were made in a semi-anechoic shielded room. Prior to each measurement, the romm was sealed to prevent ambient emissions from affecting the measurements.

3.1 Test Procedure

The EUT was placed on a non-conductive table 0.8 meters above the ground plane. The table was centered on a turntable which allows 360 degree rotation. A measurement antenna was positioned at a distance of 3 meters as measured from the closest point of the EUT. The radiated emissions were maximized by configuring the EUT, by rotating the EUT, and by raising and lowering the antenna from 1 to 4 meters.

A Spectrum Analyzer with peak detection was used to find the maximums of the radiated emissions during the variability testing. All final measurements were made in peak mode with the bandwidth set to 3 MHz/3 MHz.

ERP testing of the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was performed at 3 channel settings for each band for all of the transmission modes.

3.2 Test Criteria

Section 24.232 requires that the effective radiated power of repeaters shall be no greater than 100 watts. Since the EUT does not include an antenna, a typical antenna (a vertical rod type antenna) was attached to the EUT and used for the EIRP measurements. This process was also used for the spurious emission measurements. EIRP testing was performed by measuring the maximum electric field from the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** and translating this level to EIRP using the following formula:

EIRP = {(E*r)^2}/(30)

Where:

E = Electric Field in v/m

r = distance from the measurement antenna to the EUT in meters

This formula was obtained from the Industry Canada document, 'Guidelines for Measurement of Radio Frequency Fields at Frequencies from 10 kHz to 300 GHz, Document Reference NIR-E, dated January 1994'.

3.3 Test Results

Measurements were performed utilizing a spectrum analyzer IF/video bandwidth of 3 kHz/10 kHz. For final measurements, the frequency span was set for 10 MHz and was centered on the peak of the output signal.

Data for EIRP testing is located in Appendix C of this report **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** met the §24.232 ERP requirements.

4.0 Out of Band Emissions - Radiated

Radiated emissions measurements were made to determine out of band radiated noise produced by the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** in accordance with Section 24.238.

ERP measurements were made at the Professional Testing's Round Rock, Texas Laboratory. All measurements were made in a semi-anechoic shielded room. Prior to each measurement, the romm was sealed to prevent ambient emissions from affecting the measurements.

4.1 Test Procedure

The EUT was placed on a non-conductive table 0.8 meters above the ground plane. The table was centered on a turntable which allows 360 degree rotation. A measurement antenna was positioned at a distance of 3 meters as measured from the closest point of the EUT. For measurements above 1 GHz, the antenna distance was decreased to 1 meter. The radiated emissions were maximized by configuring the EUT, by rotating the EUT, and by raising and lowering the antenna from 1 to 4 meters.

The Spectrum Analyzer was used to find the maximums of the conducted emissions during the testing. All final measurements were made using a peak measurement method. The final measurements provided were determined by using the following formula:

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

Measurement of the fundimental signal was performed with a sample antenna attached to the EUT. Measurement of spurious radiated emissions was performed with a shielded load attached to the device (no antenna). The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** does not include an antenna as part of the EUT, so the interest regarding spurious for this device is case radiation. A test signal was provided to the EUT from a Rhode-Schwartz signal generator.

4.2 Test Criteria

For this EUT, the data obtained for the occupied bandwidth tests indicated that the out of band emissions from the the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** were due to the generator, not the EUT (no spectral regrowth observed). Section 24.238 states that the out of band emissions shall be reduced by the following amount (relative to the power of the fundimental) for emissions outside the licensee's frequency block:

43 + 10 log(P)

Based on the figures obtained from the occupied bandwidth tests, the peak power of this unit is 0.1 watts, which translates the 43 +10 log(P) term to a minimum attenuation of -33 dB.

4.3 Test Results

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was tested for radiated spurious emissions at three channel settings for GSM, CDMA & TDMA transmission modes for each of the three bands. The test frequencies used for each modulation type are listed below. The primary difference between upper and lower frequencies for the modulation types involves the guard bands typically used for each type of traffic.

Service Type	Band	Test Channel	Test Frequency (MHz)
GSM	A, Uplink	Lower	1850.5
GSM	B, Uplink	Middle	1877.5
GSM	C, Uplink	Upper	1909.5
GSM	D, Uplink	Lower	1865.5
GSM	E, Uplink	Middle	1887.5
GSM	F, Uplink	Upper	1894.5
GSM	A, Downlink	Lower	1930.5
GSM	B, Downlink	Middle	1957.5
GSM	C, Downlink	Upper	1989.5
GSM	D, Downlink	Lower	1945.5
GSM	E, Downlink	Middle	1967.5
GSM	F, Downlink	Upper	1974.5
CDMA	A, Uplink	Lower	1851.25
CDMA	B, Uplink	Middle	1877.5
CDMA	C, Uplink	Upper	1908.75
CDMA	D, Uplink	Lower	1866.25
CDMA	E, Uplink	Middle	1887.5
CDMA	F, Uplink	Upper	1893.75
CDMA	A, Downlink	Lower	1931.25
CDMA	B, Downlink	Middle	1957.5
CDMA	C, Downlink	Upper	1988.75
CDMA	D, Downlink	Lower	1946.25
CDMA	E, Downlink	Middle	1967.5
CDMA	F, Downlink	Upper	1973.75
TDMA	A, Uplink	Lower	1850.5
TDMA	B, Uplink	Middle	1877.5
TDMA	C, Uplink	Upper	1909.5
TDMA	D, Uplink	Lower	1865.5
TDMA	E, Uplink	Middle	1887.5
TDMA	F, Uplink	Upper	1894.5
TDMA	A, Downlink	Lower	1930.5
TDMA	B, Downlink	Middle	1957.5
TDMA	C, Downlink	Upper	1989.5
TDMA	D, Downlink	Lower	1945.5
TDMA	E, Downlink	Middle	1967.5
TDMA	F, Downlink	Upper	1974.5

Radiated emission data sheets are contained in Appendix D of this report. The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** met the §24.238 radiated emission requirements.

5.0 Out of Band Emissions - Conducted

Conducted emissions measurements were made to determine out of band conducted antenna noise produced by the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** transmitter in accordance with Section 24.238).

Conducted emissions measurements were made at the Professional Testing's Round Rock, Texas laboratory. All measurements were made in an environmentally controlled setting.

5.1 Test Procedure

The conducted spurious emissions of the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was measured using a Hewlett Packard HP 8566 Spectrum Analyzer with a test signal provided to the EUT from a Rhode-Schwartz signal generator.

The Spectrum Analyzer was used to find the maximums of the conducted emissions during the testing. All final measurements were made using a peak measurement method. The final measurements provided were determined by using the following formula:

Corrected Level = Recorded Level - Pre-Amp Gain + Antenna Factor + Cable Loss

5.2 Test Criteria

For this EUT, the data obtained for the occupied bandwidth tests indicated that the out of band emissions from the the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** were due to the generator, not the EUT (no spectral regrowth observed). Section 24.238 states that the out of band emissions shall be reduced by the following amount (relative to the power of the fundimental) for emissions outside the licensee's frequency block:

43 + 10 log(P)

Based on the figures obtained from the occupied bandwidth tests, the peak power of this unit is 0.1 watts, which translates the 43 +10 log(P) term to a minimum attenuation of -33 dB.

5.3 Test Results

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** was tested for conducted spurious emissions at three channel settings for GSM, CDMA & TDMA transmission modes for each of the three bands. The test frequencies used for each modulation type are the same as those used for the radiated spurious emission tests. The primary difference between upper and lower frequencies for the modulation types involves the guard bands typically used for each type of traffic.

Conducted emission data sheets are contained in Appendix E of this report. The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** met the §24.238 conducted emission requirements.

6.0 Radiofrequency Radiation Exposure Evaluation

An evaluation was performed to provide data regarding the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** with respect to the Radiofrequency Radiation Exposure requirements of 47 CFR 1.1310.

6.1 Evaluation Procedure

The primary method of controlling radiofrequency radiation exposure from the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** will be the responsibility of the installer of the equipment. The device is to be professionally installed by personnel trained and familiar with installation and configuration of wireless systems. The installer is responsible for antenna selection, site selection and final site configuration. Final compliance with Commission RF exposure regulations for this type of site is the responsibility of the installer and is addressed under separate OET documents.

This device is not marketed outside the wireless communications community. In order to install this system properly, the maximum output power versus the frequency range should be reported in the User's Manual for the device such that this issue can be addressed when the installation site of this device is designed.

6.2 Evaluation Results

The output power level for the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is reported in the User's Manual as being 0.1 watts. In addition, the frequency range for this device is reported as being 1850.0 to 1990.0 MHz. Based on this information, the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** meets the necessary requirements regarding RF exposure.

This data may also be used by the installation designer to design compliance with the Field Strength Requirements of §24.236. This Section of the Rules states that the median field strength of the signals from the EUT shall be no greater than 47 dBμV/m at the perimeter of the service area (unless an agreement on a higher level is set in advance).

7.0 Frequency Stability Test

Frequency stability measurements were required on the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** to verify compliance with the frequency stability requirements of §2.1055(a) and 24.235. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block

According to the block diagram and the schematics. The EUT uses the same VCO to upconvert and downconvert signal. We will prove that the frequency will not shift under this configuration.

If input =A MHz, the repeater will unconvert X MHz then downconvert X MHz, the output will be A MHz +X MHz – X MHz = A MHz.

If VCO shift (Y MHz) because of the temperature or voltage change, the repeater will unconvert (X+Y) MHz then downconvert (X+Y) MHz, the output will be A MHz + (X+Y) MHz – (X+Y) MHz = A MHz.

The conclusion is the output frequency will not change with the temperature or voltage change, **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** meets the frequency stability requirements for frequency stability versus temperature variation based on the criteria listed above.

8.0 Three Signal Intermodulation Test

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is intended to handle multiple channels, then three signal intermodulation tests are required for each emission kind. This test is a single test using three emission types of the same kind (i.e. three CDMA signals on three separate CDMA channels). The intent of this test is to determine if intermodulation products generated by multiple carriers will generate products which are over the conducted spurious emission limits. While this test is not documented in the Rules, it is a requirement for multiple channel equipment. The test configuration of this test should be:

(1) Configure 3 signal sources using the same modulation type to provide a multiple channel signal to the device. The recommended channel settings are:

(a) One channel at the lowest allowed frequency in the band
(b) One channel at the highest allowed frequency in the band
(c) One channel at either the 3rd lowest or 3rd highest channel setting. This will provide a 1 channel guard band from the end channel.

The total power for combined output signal should be maximized to the power rating of the EUT. All input channel settings should be equal.

(2) Measure (or plot) all intermodulation products inside and outside the allowed channel band. All intermodulation products must meet the 43 + 10 log (P) requirement for spurious emissions. This figure should come out to a maximum intermod (or spur) level of -13 dBm. Most measurements of the intermod levels are made using a peak method, however, fully accurate measurements of the intermod levels should be made using the following detection methods:

Modulation Type	Detector/Measurement Method
AMPS	Average
TDMA (NADC)	Average
CDMA	Average

Repeat this test for all modulation types which the EUT will be licensed/authorized for.

ALTERNATE METHOD:

Due to the difficulty in providing three identical fully modulated signals, a method using two intermodulation sources (rather than 3) is allowed. The test was configured in the following manner:

(1) Set one carrier to either the highest or lowest allowed channel in the band.
(2) Set the second carrier two channels away from the first channel (this will either be the 3rd highest or lowest in the band, again providing a one channel guard band).
(3) Configure the output power for the signals such that the total output power is at the maximum rating of the EUT. Also, verify that the input levels for all signals are equal.
(4) Measure (or plot) all intermodulation products inside and outside the allowed channel band. All intermodulation products must meet the 43 + 10 log (P) requirement for spurious emissions. This figure came out to a maximum intermod (or spur) level of -13 dBm. Most measurements of the intermod levels are made using a peak method, however, fully accurate measurements of the intermod levels were made using the following detection methods:

Modulation Type	Detector/Measurement Method
AMPS	Average
TDMA (NADC)	Average
CDMA	Average

(5) Repeat this test for all modulation types which the EUT will be licensed/authorized for.

The two channel method was used for this test. Plots of the data for this test are shown in the Appendix F.

9.0 Form 731 Information

The following information is provided for inclusion in the FCC Form 731 for the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater.**

9.1 Emission Designator

Bandwidth:

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** does not possess any circuitry which remodulates or changes the bandwidth of the signal that it receives and repeats. The only potential issue that can arise in this type of product regarding bandwidth is spectral regrowth immediately around the primary emission. This is due to the design and power handling capability of the amplifier.

The data contained in the occupied bandwidth test data does not indicate any spectral regrowth. Based on this information, the bandwidth of emissions from the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** would be that of the signal received by the repeater. Since the EUT does not

contribute or modify the emission bandwidth, a bandwidth designator will not be included in the overall emission designators for the product. This procedure follows that used during Type Acceptance of the initial CI Wireless Repeater (FCC ID: NUW刎3EKO19).

Emission Designator::

As with the emission bandwidth, the emission type emitted by the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** are depended on the service that it operates with. Due to the intended installation of the system, the RF output signals of the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** are complaint with the GSM, TDMA and CDMA protocol requirements. This output emission designators (based on Part 2.201) for these services are:

Service Type	**Emission Description**	**Emission Designator**
CDMA	(1) Modulation Type: Frequency Modulation (2) Nature of Modulating Signal: Composite Signal with one or more channels containing digital data & one or more channels containing analog data (3) Type of data being transmitted can be a combination of digital, voice, telegraphy, television, or facsimile	F9W
GSM	(1) Modulation Type: Phase Modulation (2) Nature of Modulating Signal: Case not covered (combination may not match that addressed in the available selections) (3) Type of data being transmitted can be a combination of digital, voice, telegraphy, television, or facsimile	GXW
TDMA	(1) Modulation Type: Main carrier is angle modulated in a simultaneous or preset sequence. (2) Nature of Modulating Signal: Case not covered (combination may not match that addressed in the available selections) (3) Type of data being transmitted can be a combination of digital, voice, telegraphy, television, or facsimile	DXW

Based on the bandwidth and emission type discussions, the emission designators used for the FCC Form 731 are:

GSM Mode

GXW - All data modes and types

CDMA Mode

F9W - All data modes and types

TDMA Mode

DXW - All data modes and types

9.2 Output Power

In the conducted power tests, the highest power attained for each of the power settings was 20.0 dBm (0.1 watts). This level was achieved at each of the 12 test frequencies for each of the 3 modulation types. Since the system automatically controls the maximum output power, this level should be constant for all single carrier operations.

Due to the operating features of the EUT, this is the maximum composite power available from the device. Therfore, the power rating requested for the grant for the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is:

0.1 watts

9.3 Frequency Band of Operation

The **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is rated to be used through Bands A to F of the 1900 MHz PCS (base station) communication band. Based on this requirement, the transmission range of the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** is:

1850.0 to 1990.0 MHz

9.4 Grant Notes

The only exceptions or notes that would normally be listed for this device are:

(1) The center frequency of the emissions for the CDMA should not be less than 1.25 MHz from the band edge (standard guard band).
(2) The power listed in the grant is the composite power for the device for all carriers.

10.0 Modifications

No Modification was made on the **CI Wireless Inc., Mini-EkoCell 1900 MHz PCS Band Repeater** during the test.

11.0 List of Test Equipment

A list of the test equipment utilized to perform the conducted and radiated emission measurements is given below. The date of calibration is given for each.

Device	**Description**	**Date Last Calibrated**	**Calibration Due**
HP 8566B	Spectrum Analyzer	7/22/99	7/22/00
HP 85650A	Quasi Peak Adapter	11/30/98	11/30/99

EMCO 3115	Double Ridged Horn Antenna	05/10/99	05/10/00
HP 8596E	Spectrum Analyzer	11/2/99	11/2/00
Rohde-Schwartz Model SMI 03E	RF Generator S/N DE23664	2/24/99	2/24/00
Rohde-Schwartz Model SMI 03E	RF Generator S/N DE22176	1/30/99	1/30/00
HP 437B	Power Meter	6/10/99	6/10/00
HP 8482H	Power Meter Head	7/8/99	7/8/00
Mini-Circuits ZAPD-2	RF Splitter	CNR	CNR

Appendix A Data Sheet of Two Filters

15 MHz Unit Filter Data Sheet

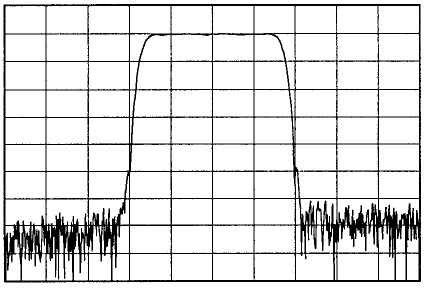
CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

Standard 140 MHz Bandpass Filter
16 MHz Bandwidth

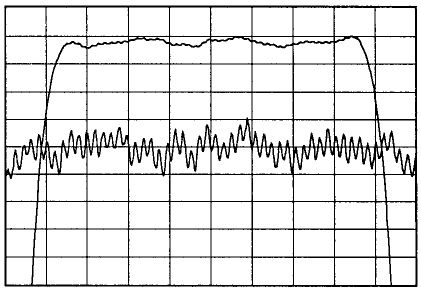
S-Parameter Data Available

Part Number 851927

Typical Performance



Horizontal: 5 MHz/Div
Vertical: 14.5 dB/Div

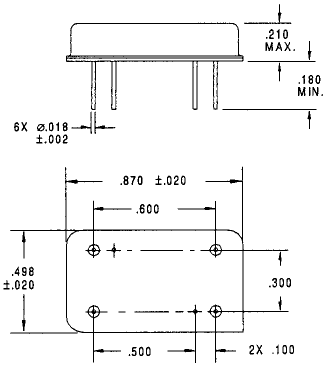


Horizontal: 2 MHz/Div
Vertical: 1 dB/Div
Vertical: 10 nsec/Div

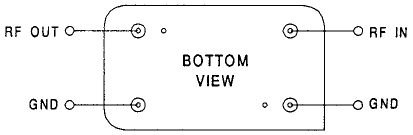
Specifications

Parameter	Unit	Minimum	Typical	Maximum
Center Frequency	MHz	139.8	140	140.2
Insertion Loss	dB	-	22.8	25
1 dB Bandwidth	MHz	15	15.18	-
3 dB Bandwidth	MHz	16	16.19	-
40 dB Bandwidth	MHz	-	19.5	20.2
Passband Variation	dB	-	0.4	0.7
Phase Linearity	degrees	-	2.8	6
Group Delay Variation	nsec	-	20	60
Absolute Delay	µsec	-	1.586	-
Ultimate Rejection	dB	50	63	-
Substrate Material	-	-	YZ $LiNbO_3$	-
Ambient Temperature	℃	-	25	-

Package Outline



Matching Configuration



No Matching Required
Source/Load Impedance = 50 Ω
Package Style = I

9/11/97

5 MHz Unit Filter Data Sheet

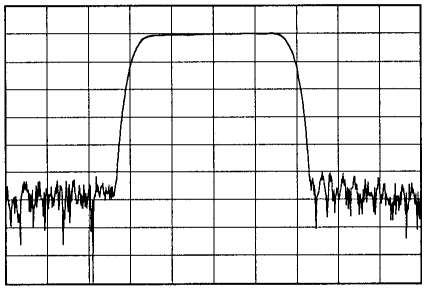
CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

Standard 140 MHz Bandpass Filter
5 MHz Bandwidth

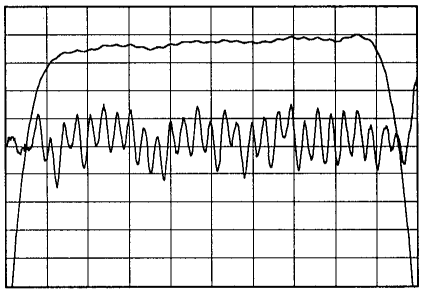
S-Parameter Data Available

Part Number 851911

Typical Performance



Horizontal: 2 MHz/Div
Vertical: 10 dB/Div

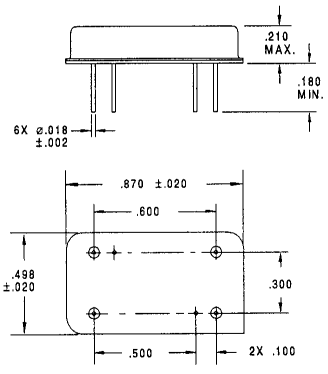


Horizontal: 600 kHz/Div
Vertical: 1 dB/Div
Vertical: 30 nsec/Div

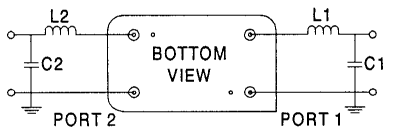
Specifications

Parameter	Unit	Minimum	Typical	Maximum
Center Frequency	MHz	139.8	140	140.2
Insertion Loss at F_o	dB	-	22.5	25
1 dB Bandwidth	MHz	4.7	4.88	-
3 dB Bandwidth	MHz	5	5.3	-
40 dB Bandwidth	MHz	-	6.77	7
Passband Variation	dB	-	0.43	0.7
Phase Linearity	degrees	-	2	4
Group Delay Variation	nsec	-	70	180
Absolute Delay	µsec	-	2.59	-
Ultimate Rejection	dB	50	60	-
Substrate Material	-	-	Quartz	-
Ambient Temperature	℃	-	25	-

Package Outline



Matching Configuration



L1 = 133nH, L2 = 95nH
C1 = 52pF, C2 = 80pF
Source/Load Impedance = 50 Ω
Package Style = I 1/9/97

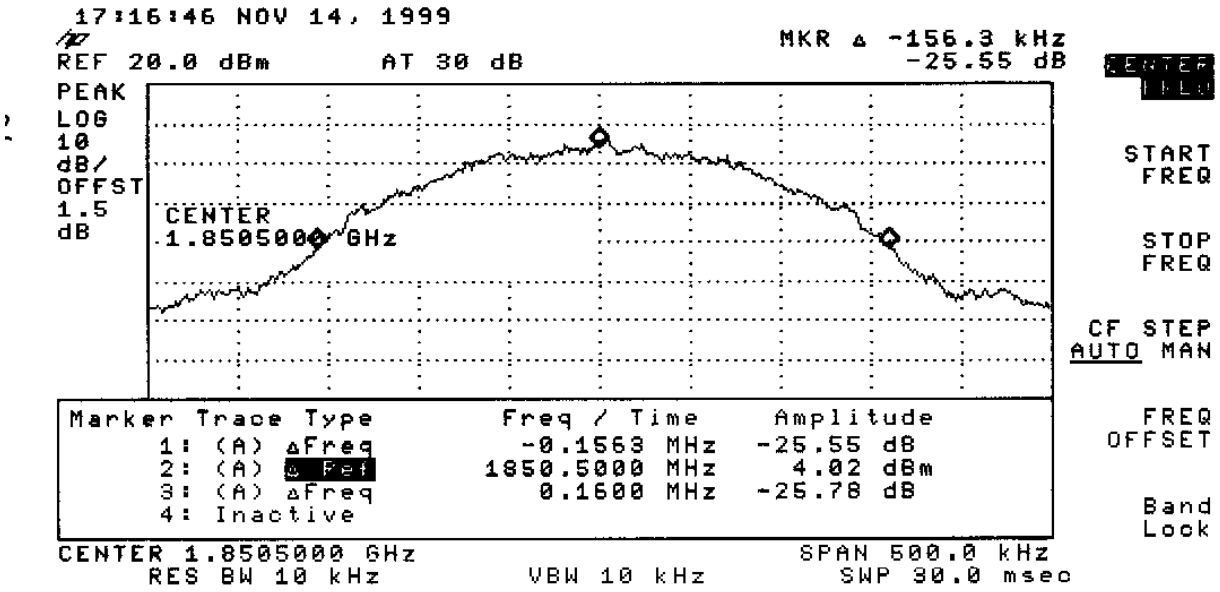
9/11/97

Appendix B Occupied Bandwidth Data Sheet

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: EUT,



COMMENT #1: Occupied Bandwidth = 316 kHz.

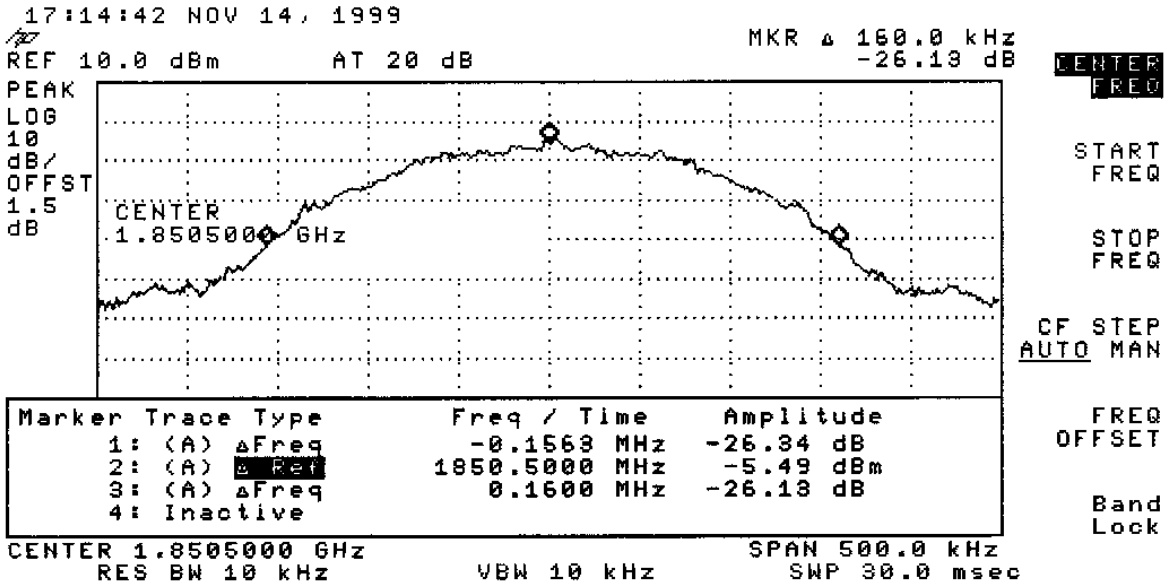
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 316 kHz.

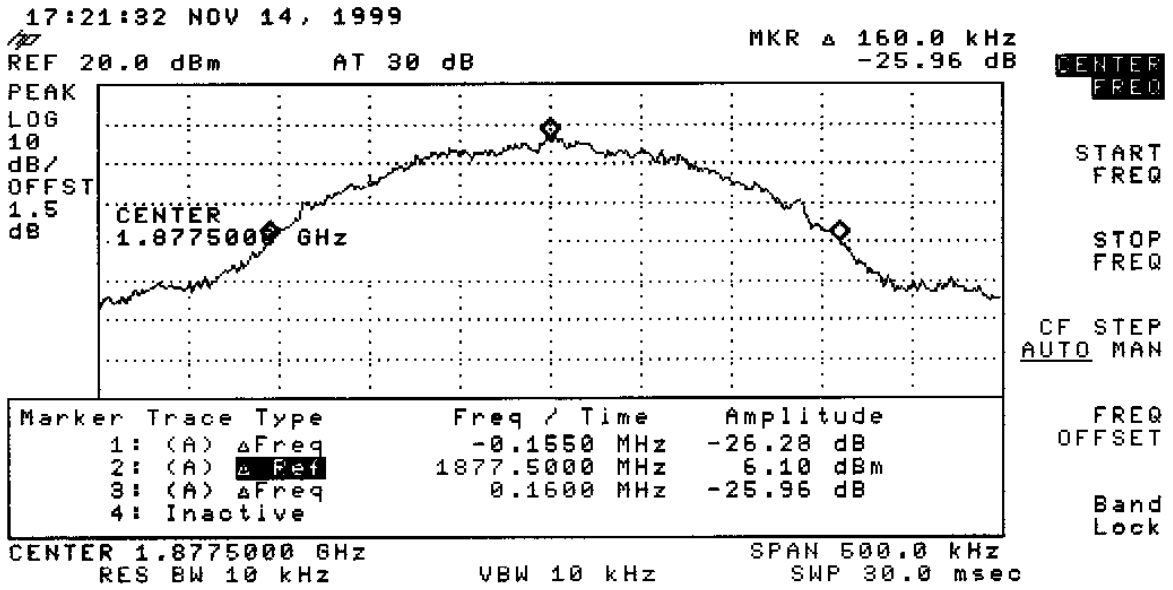
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 315 kHz.

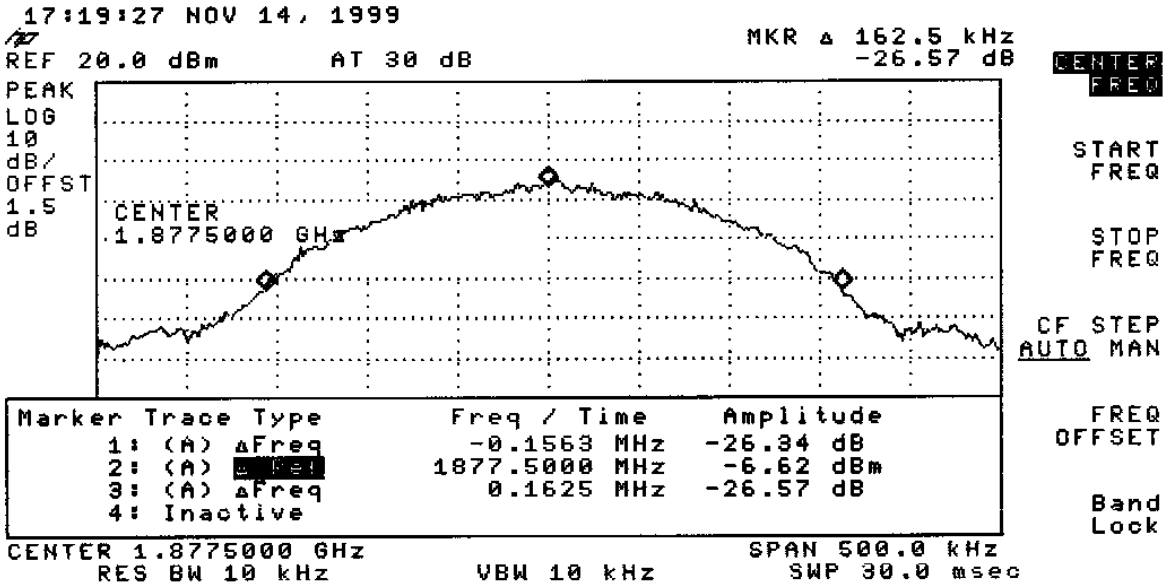
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 319 kHz.

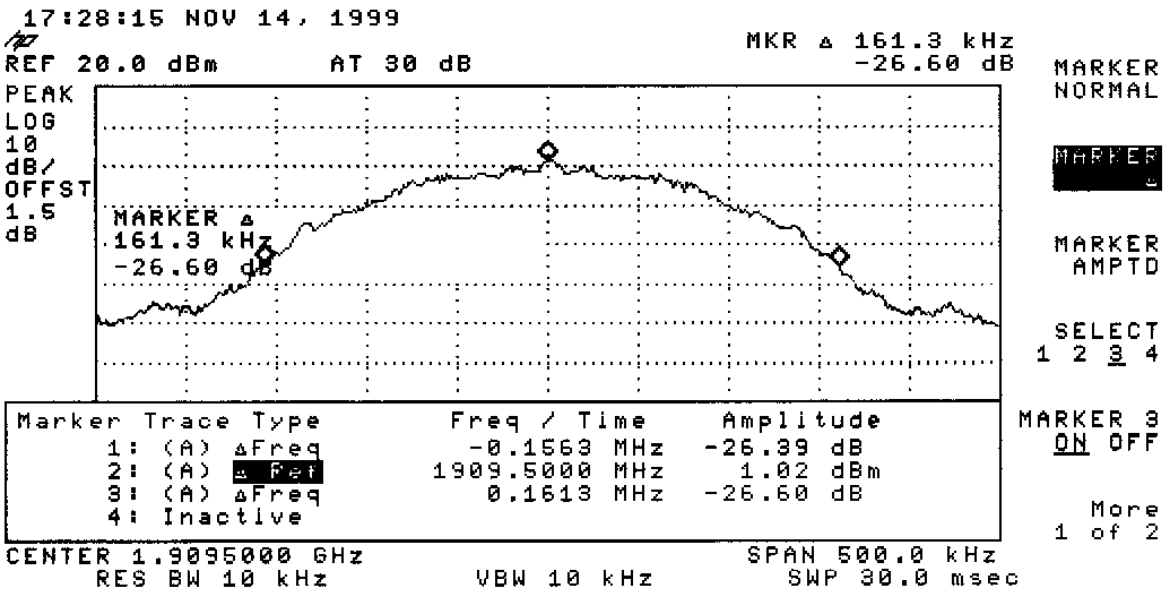
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 318 kHz.

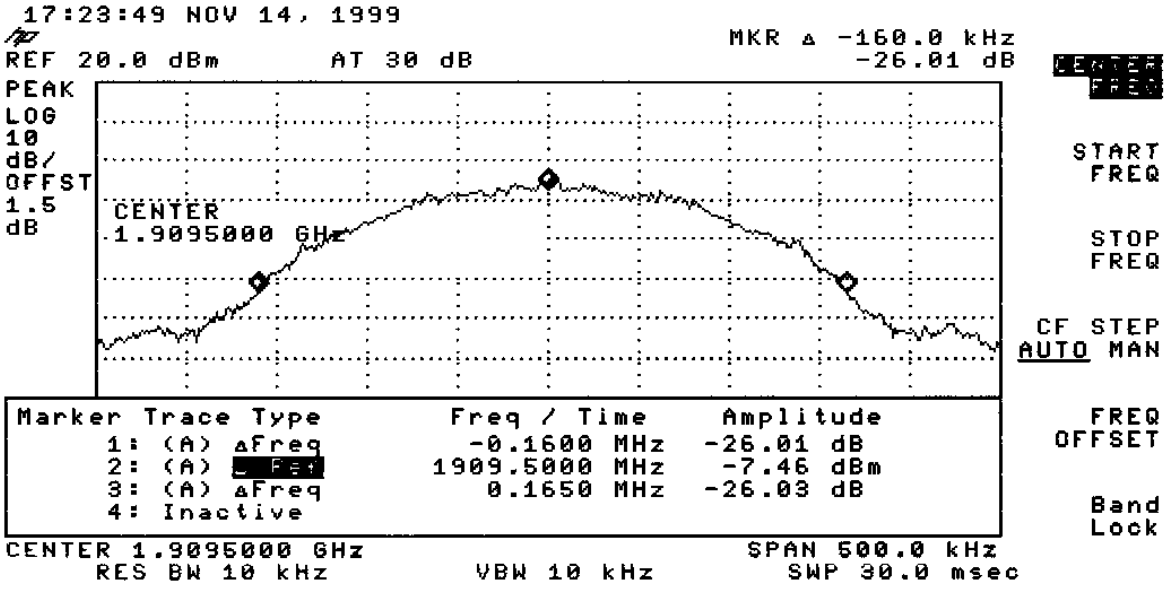
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 325 kHz.

COMMENT #2: Channel Setting: C Band, Highest.

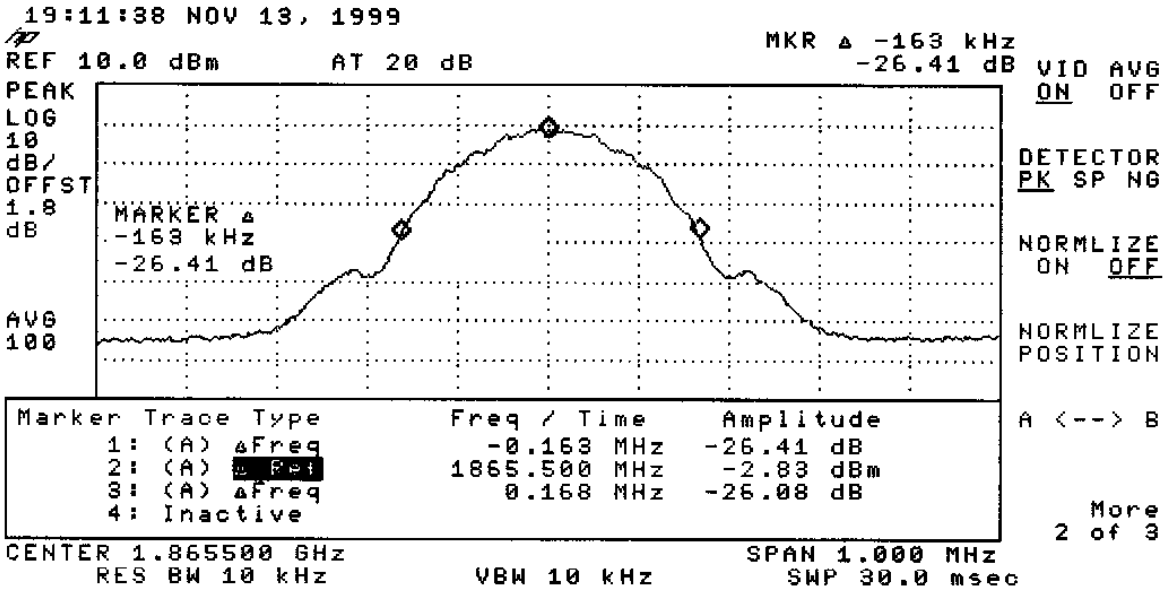
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: GSM, Uplink



COMMENT #1: Occupied Bandwidth = 331 kHz.

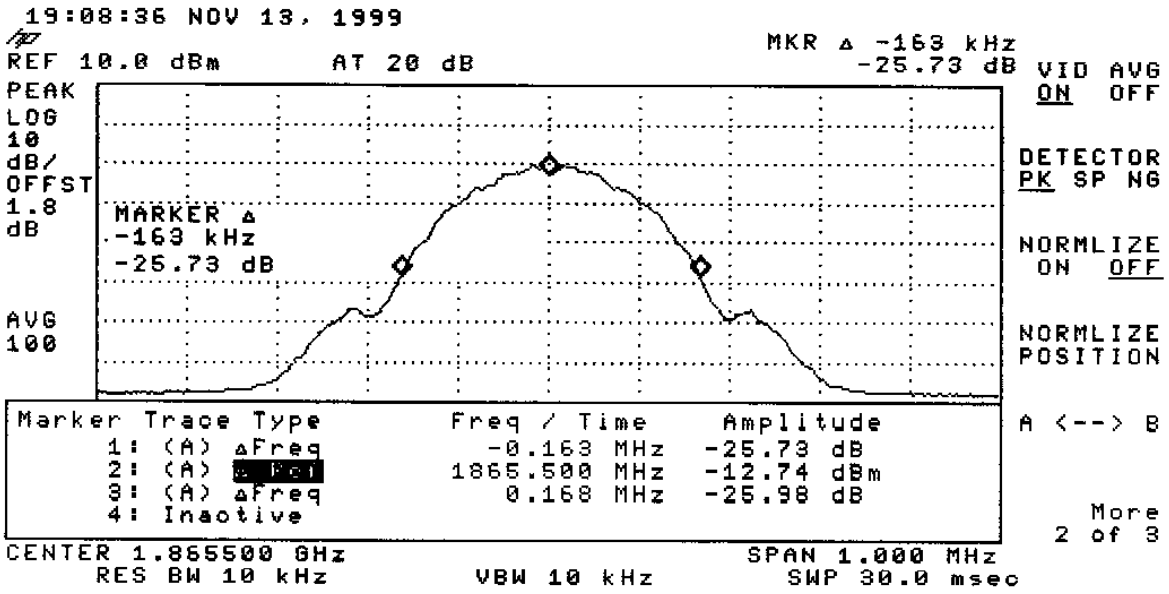
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 331 kHz.

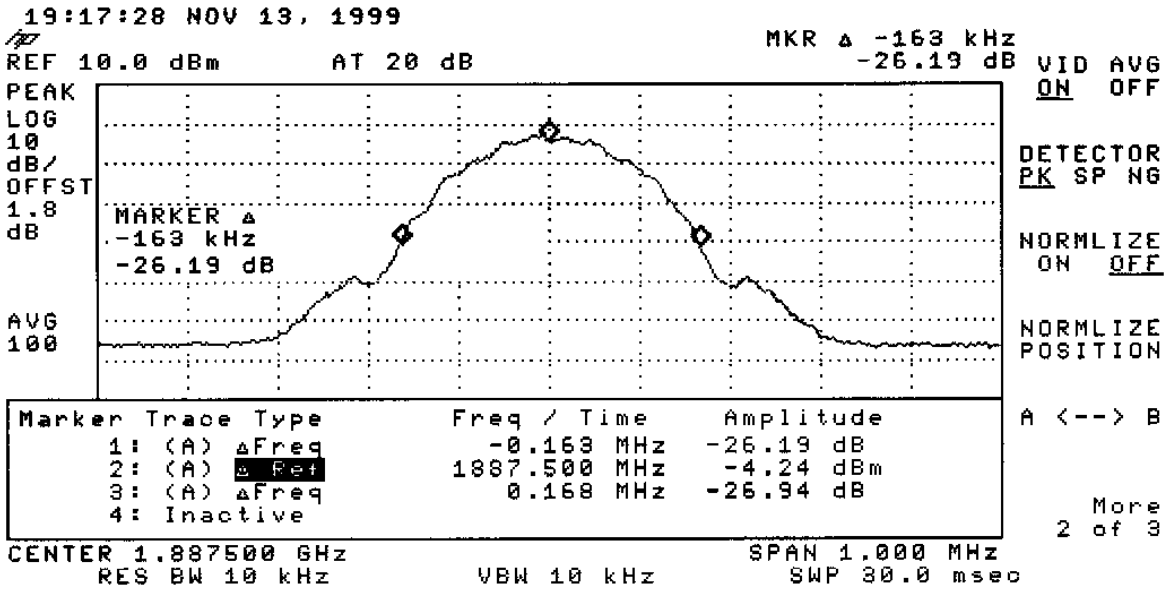
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 331 kHz.

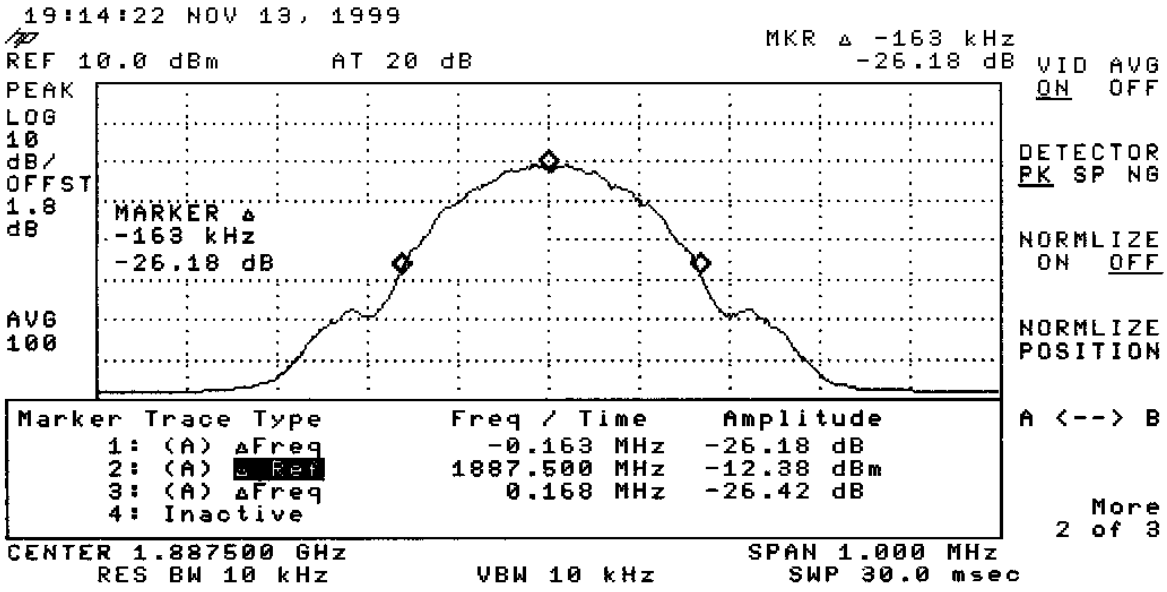
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 331 kHz.

COMMENT #2: Channel Setting: E Band, Middle.

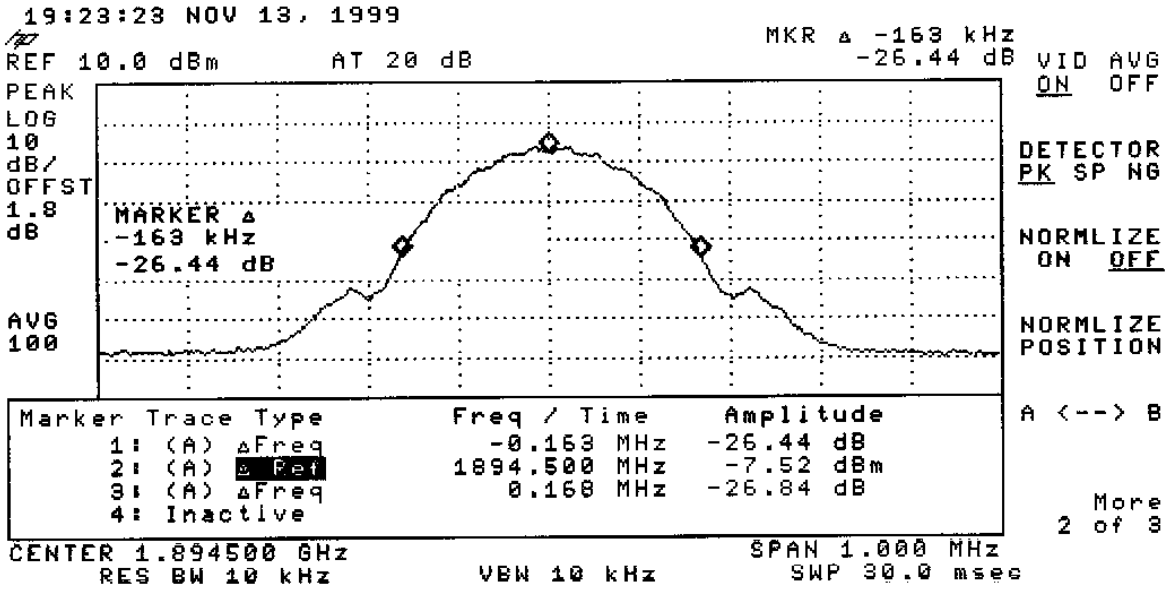
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink

CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 331 kHz.

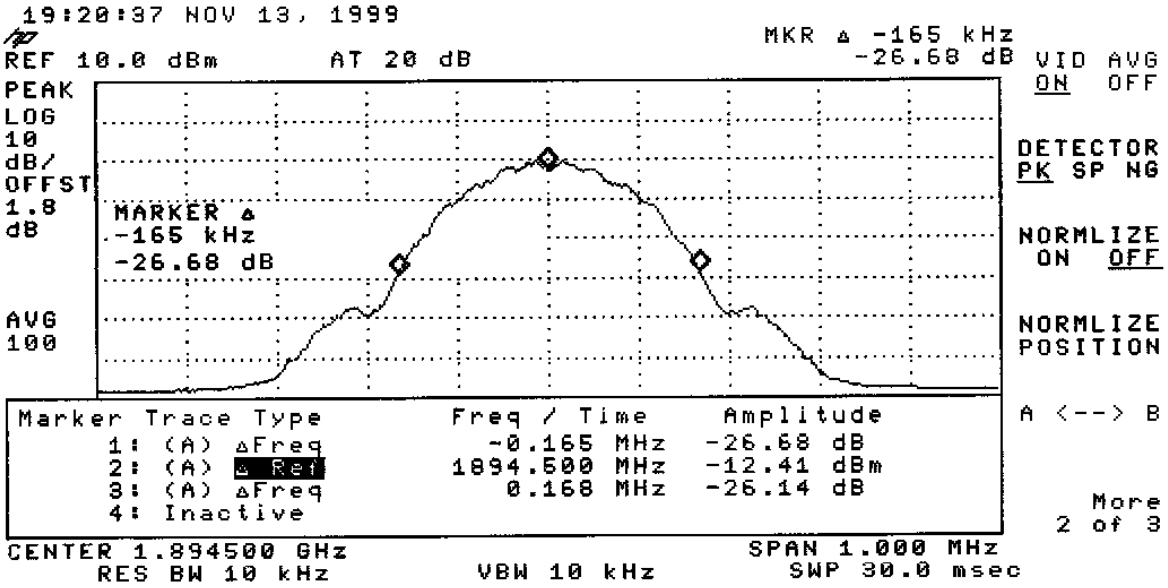
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 333 kHz.

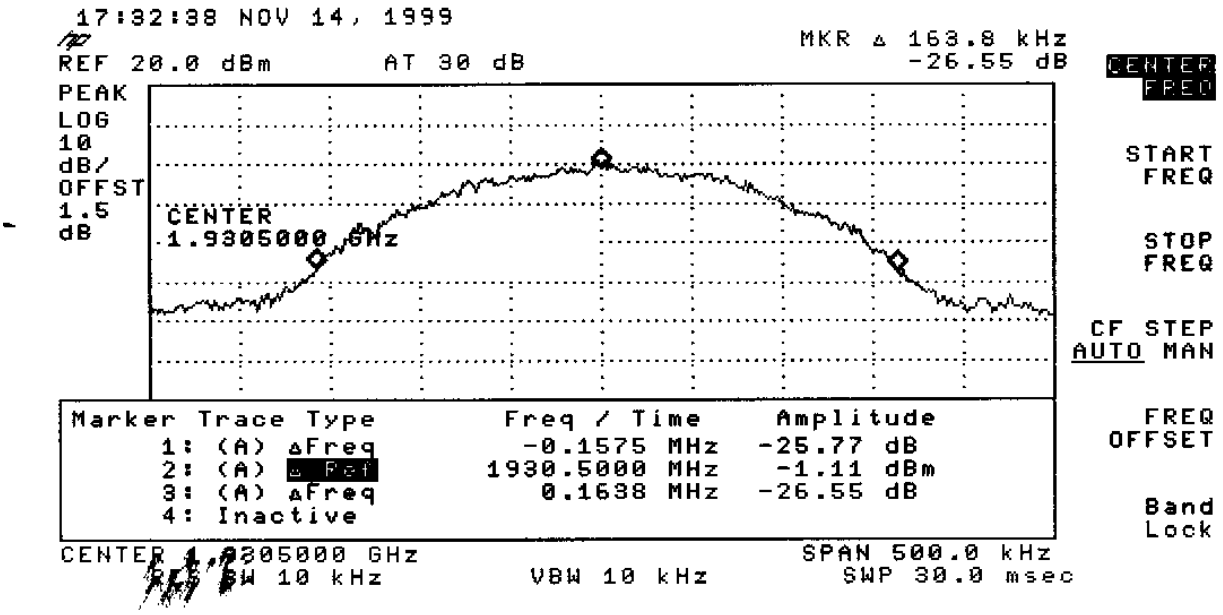
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 321 kHz.

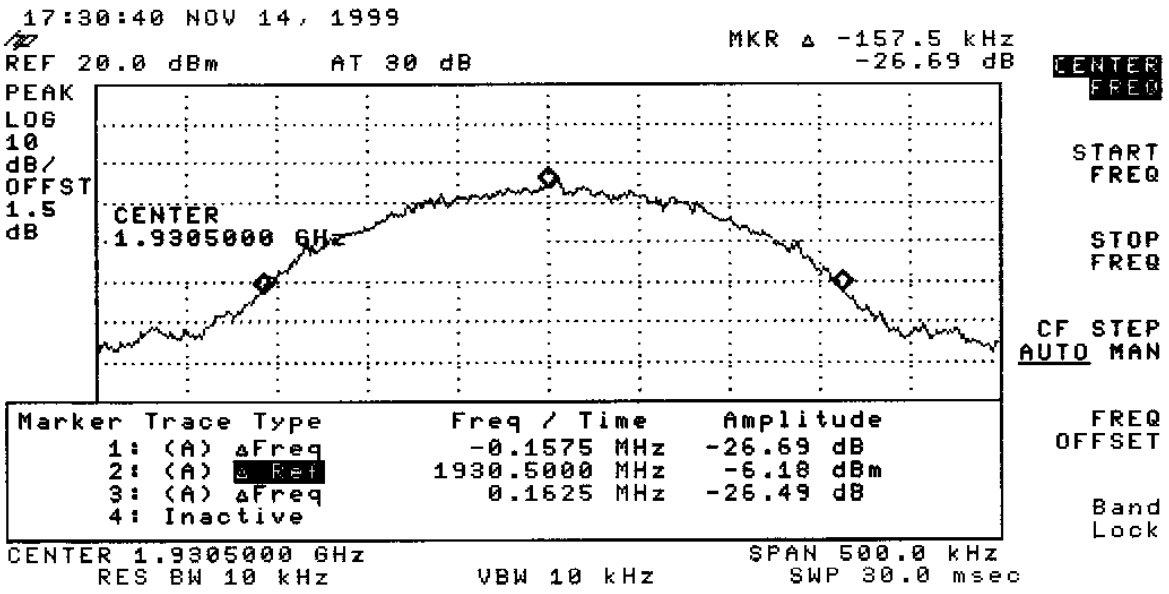
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 320 kHz.

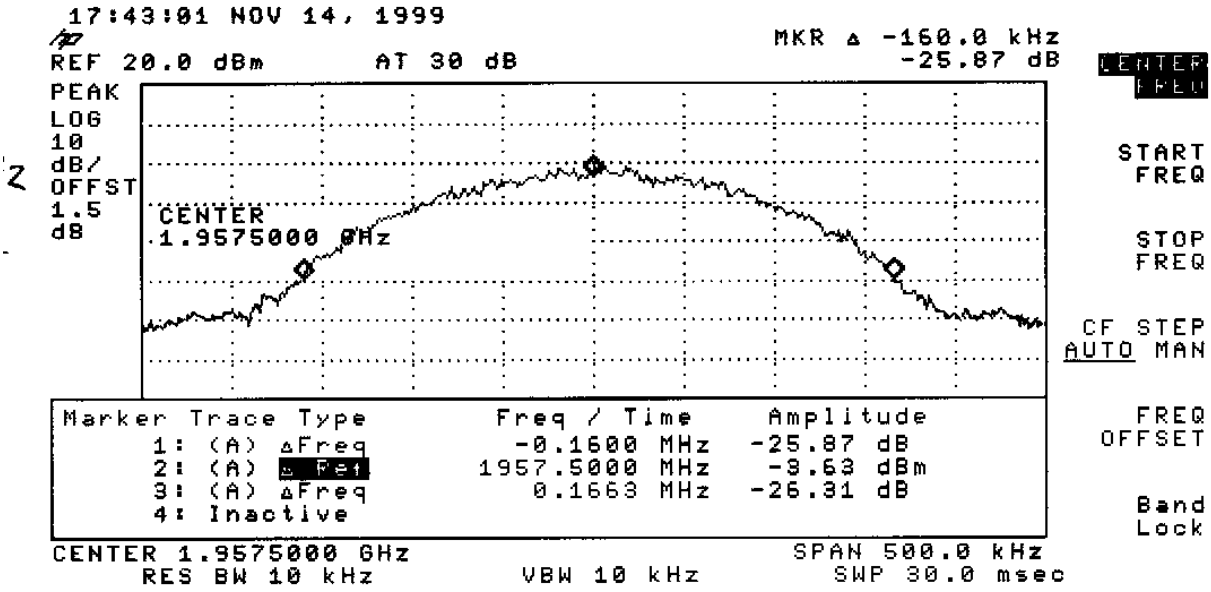
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 326 kHz.

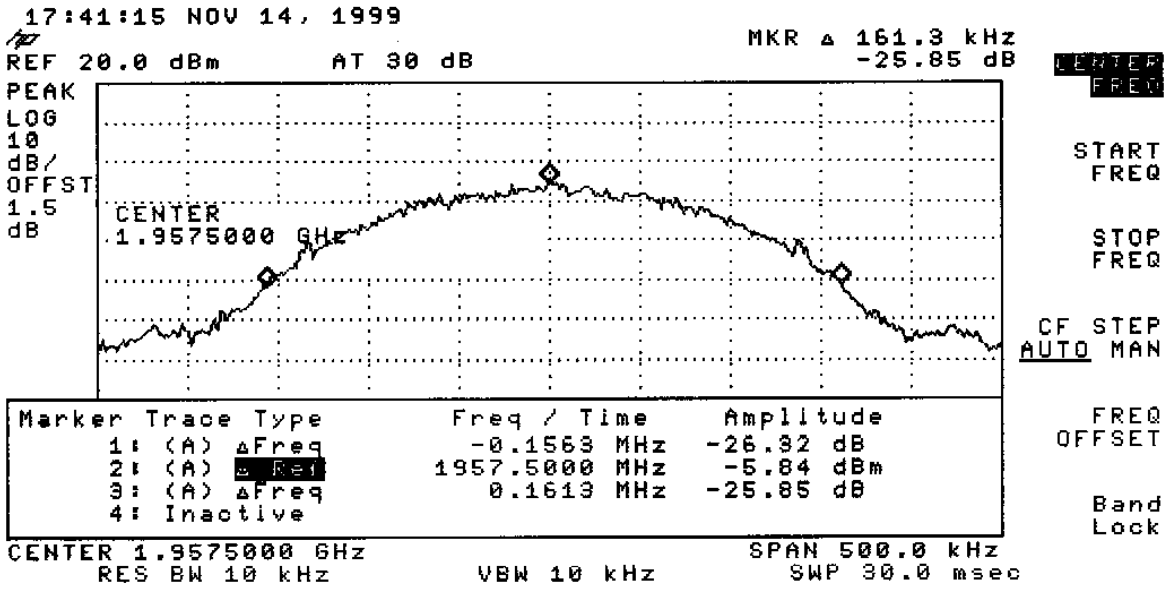
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 318 kHz.

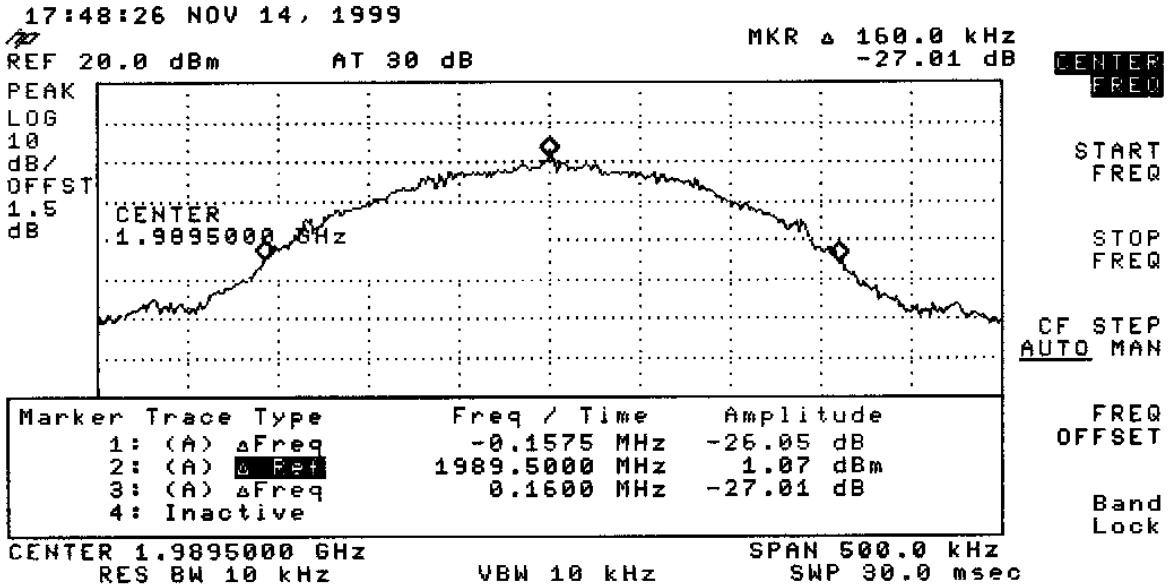
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 318 kHz.

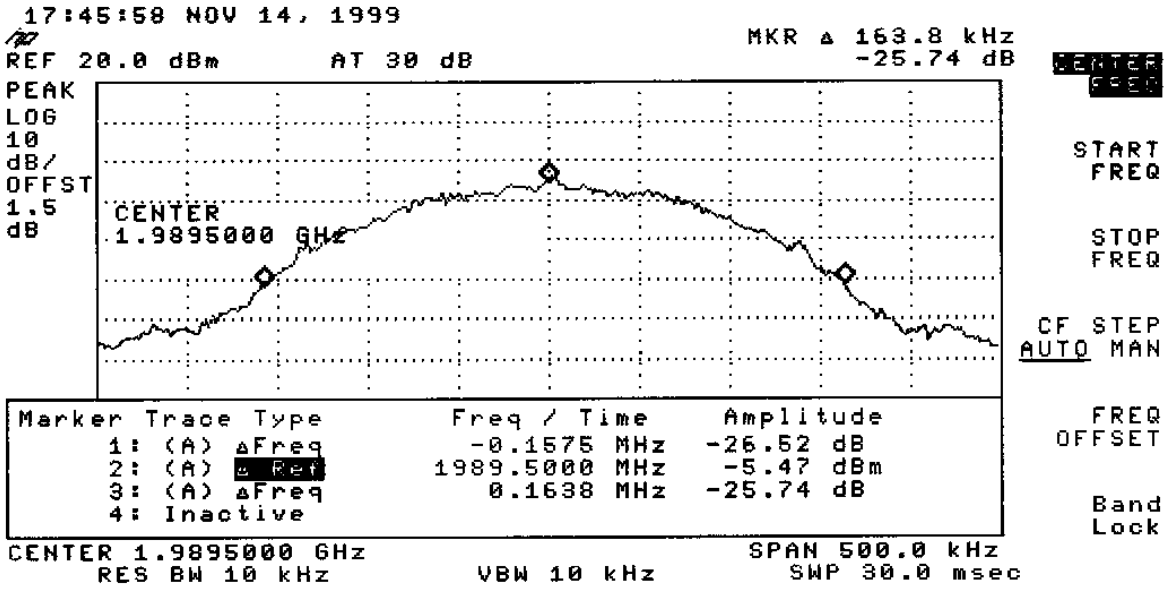
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 321 kHz.

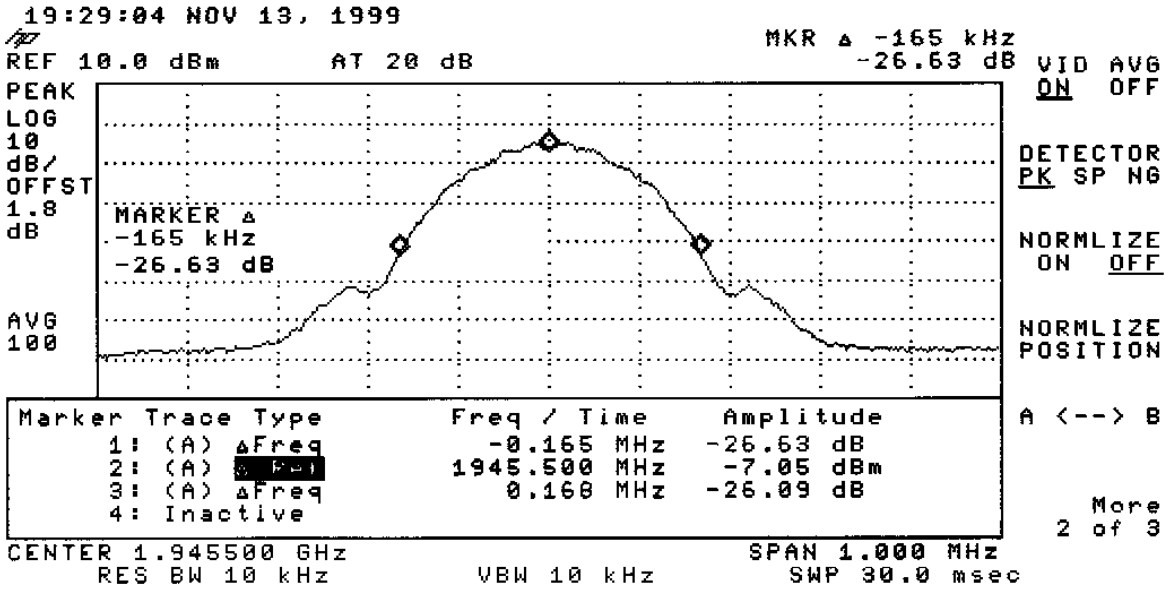
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 333 kHz.

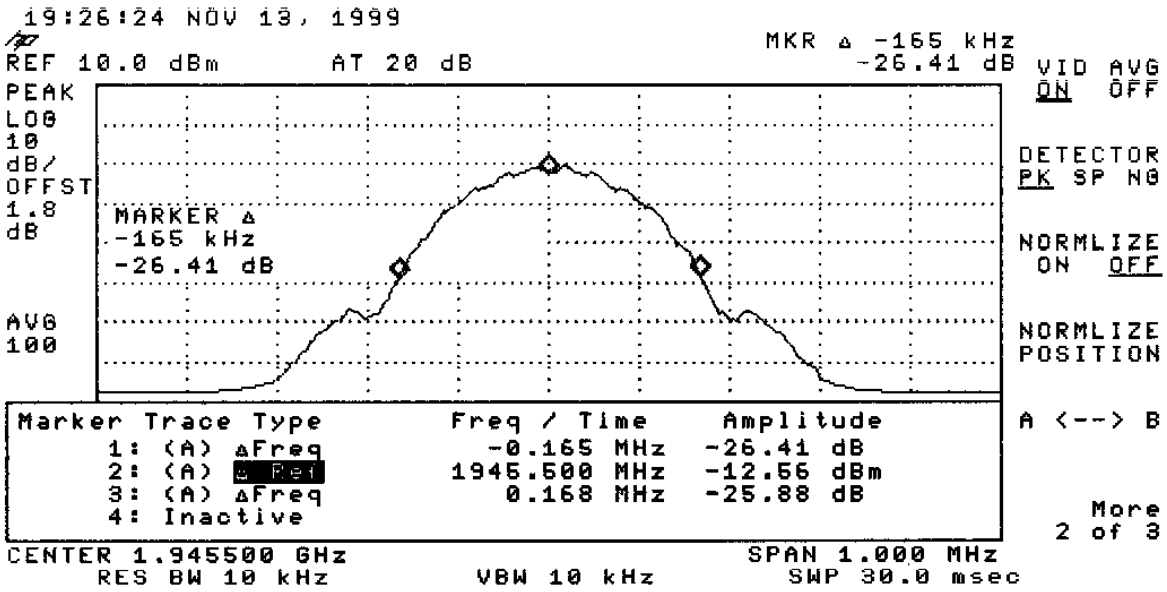
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 333 kHz.

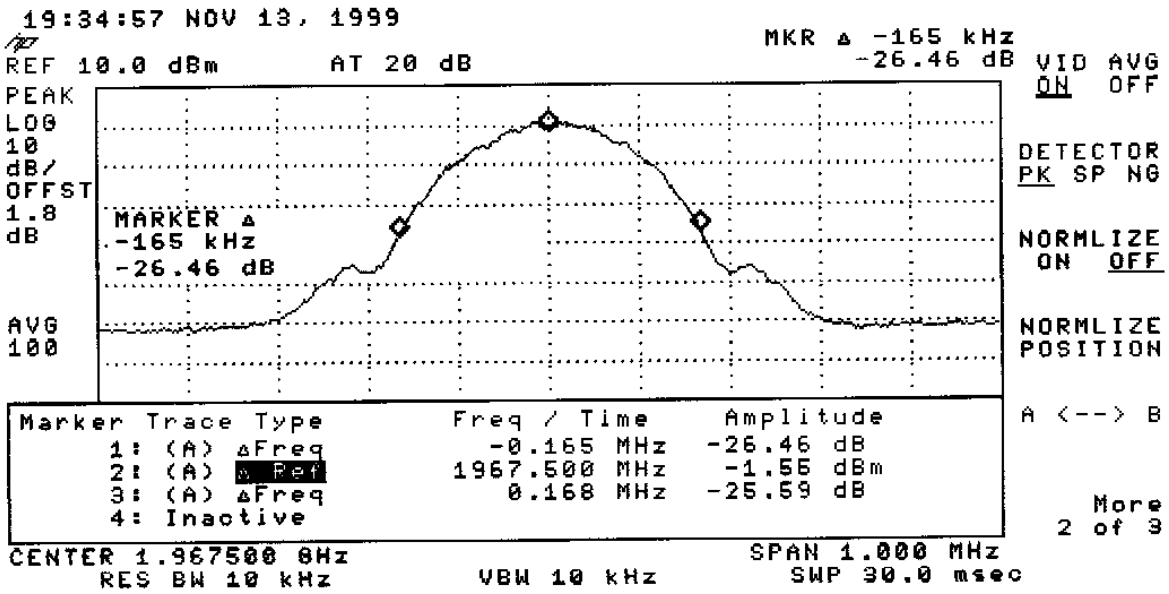
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 333 kHz.

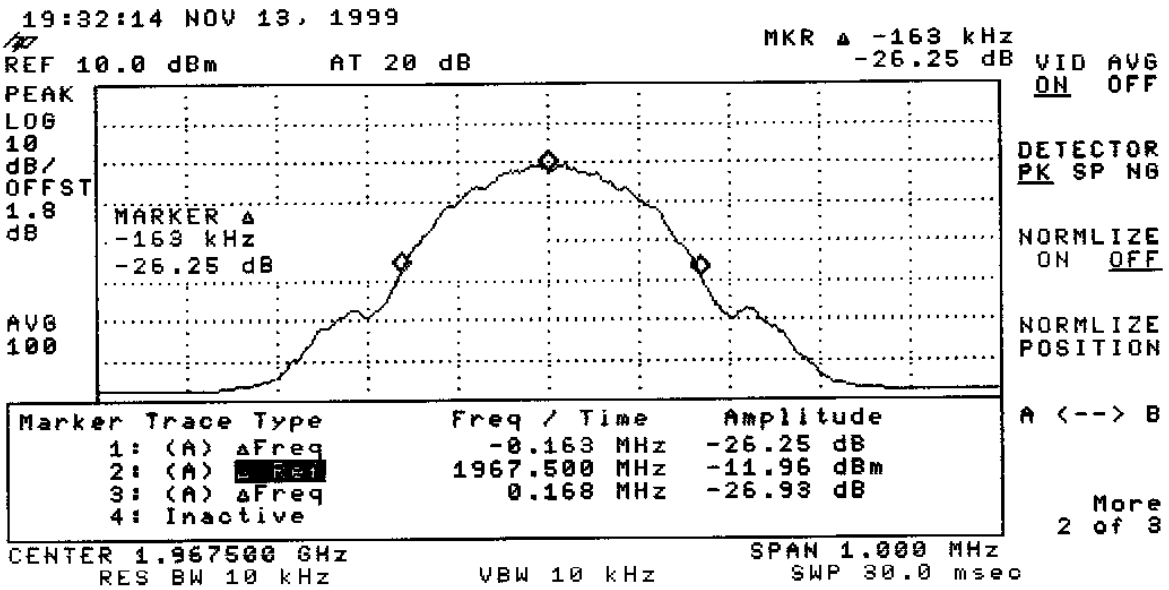
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 331 kHz.

COMMENT #2: Channel Setting: E Band, Middle.

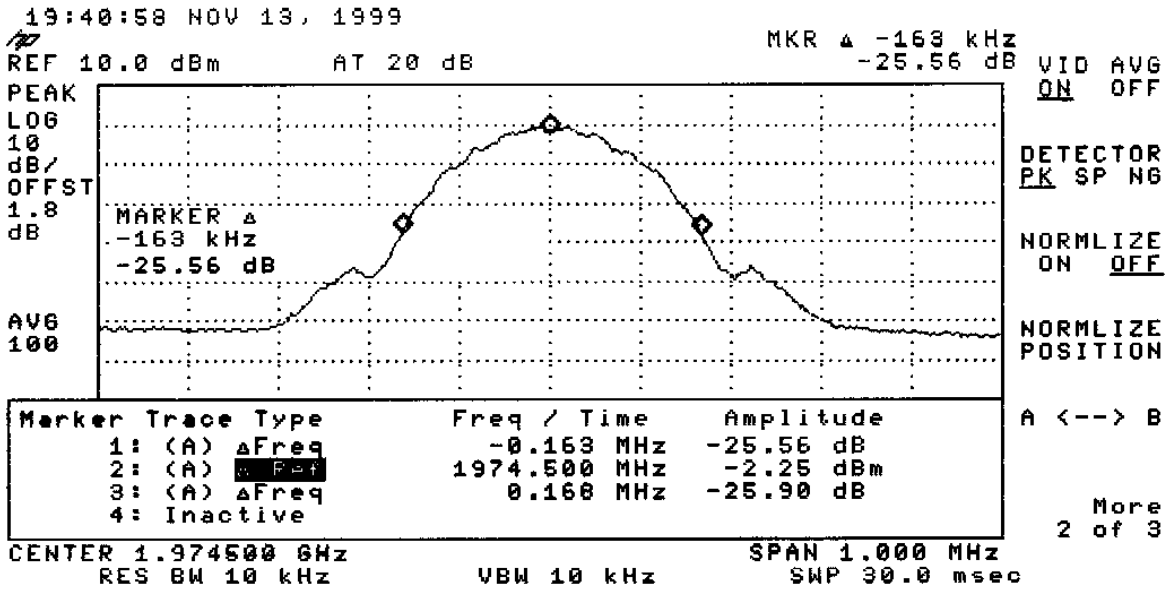
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: GSM, Downlink



COMMENT #1: Occupied Bandwidth = 331 kHz.

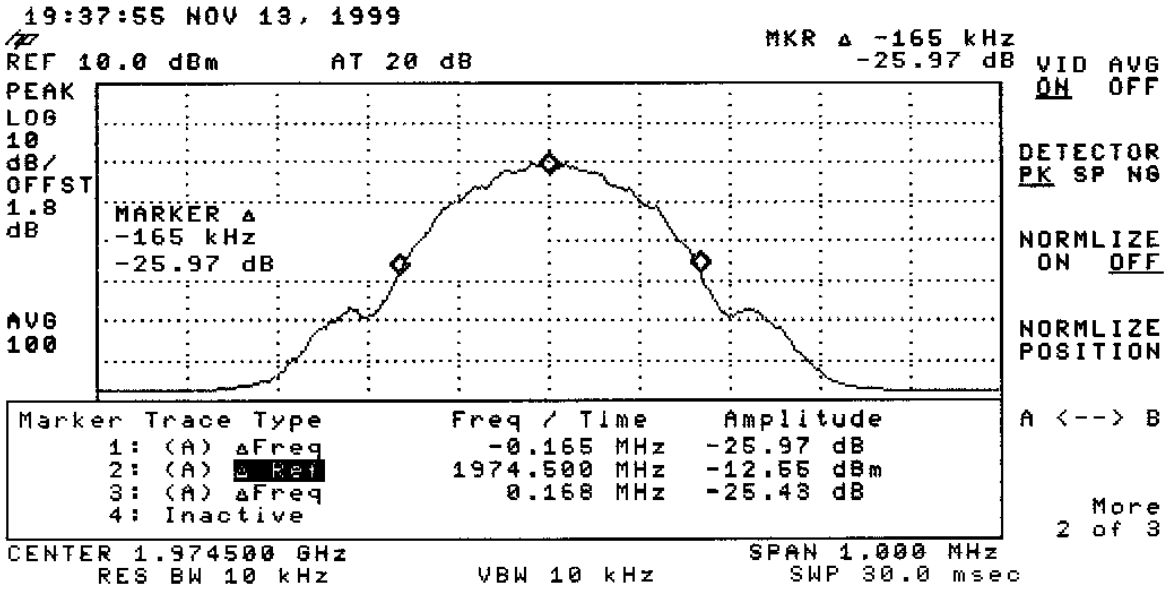
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 333 kHz.

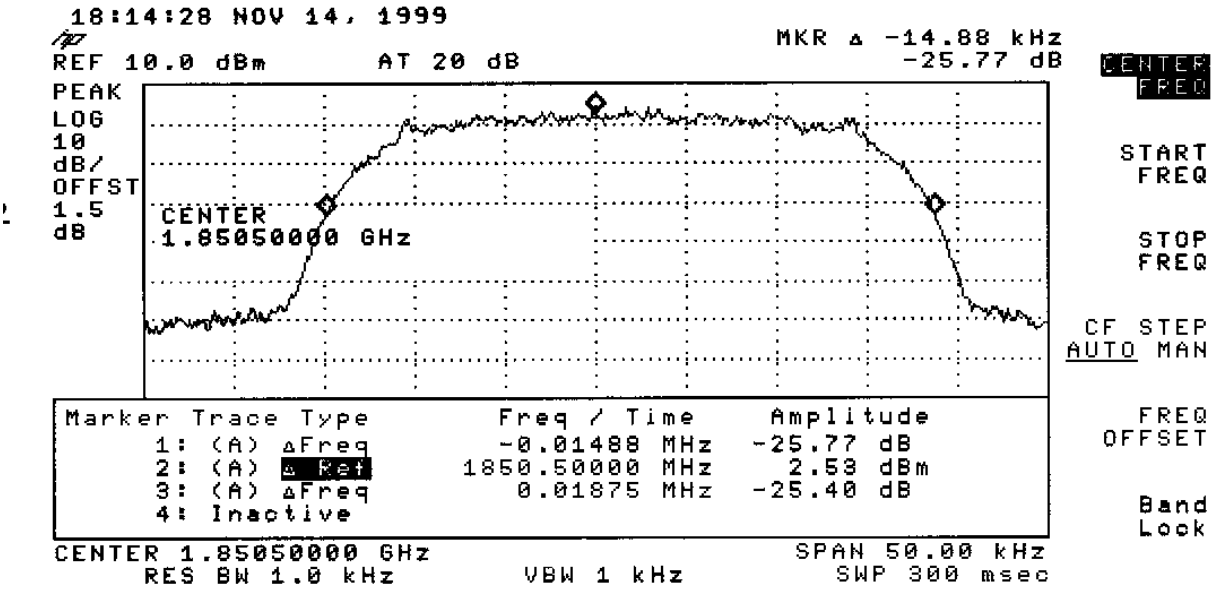
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 33.6 kHz.

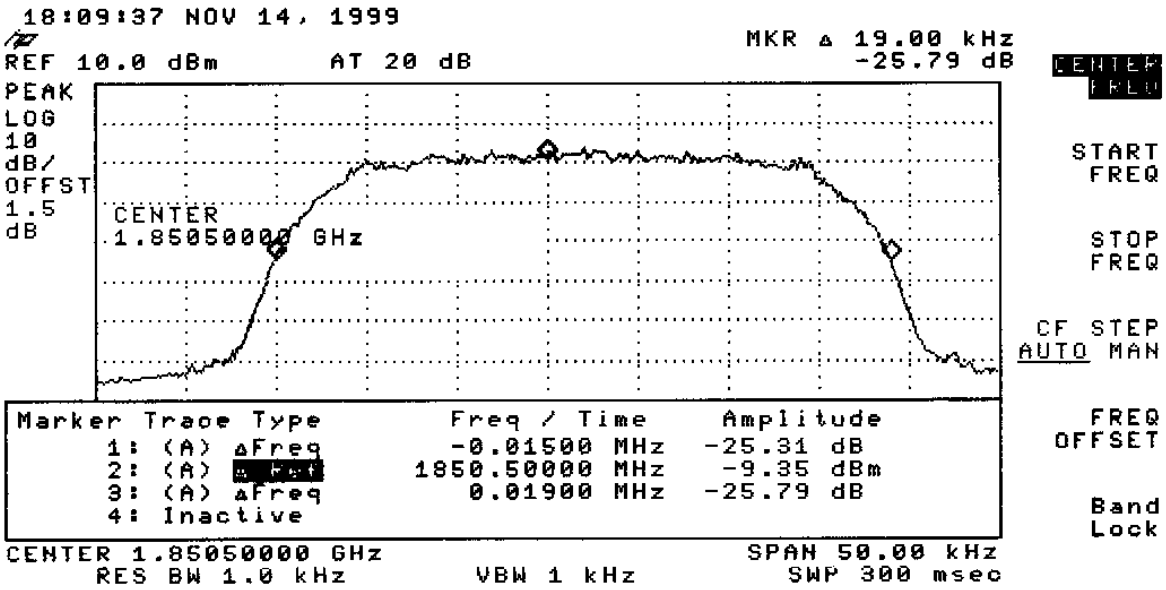
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

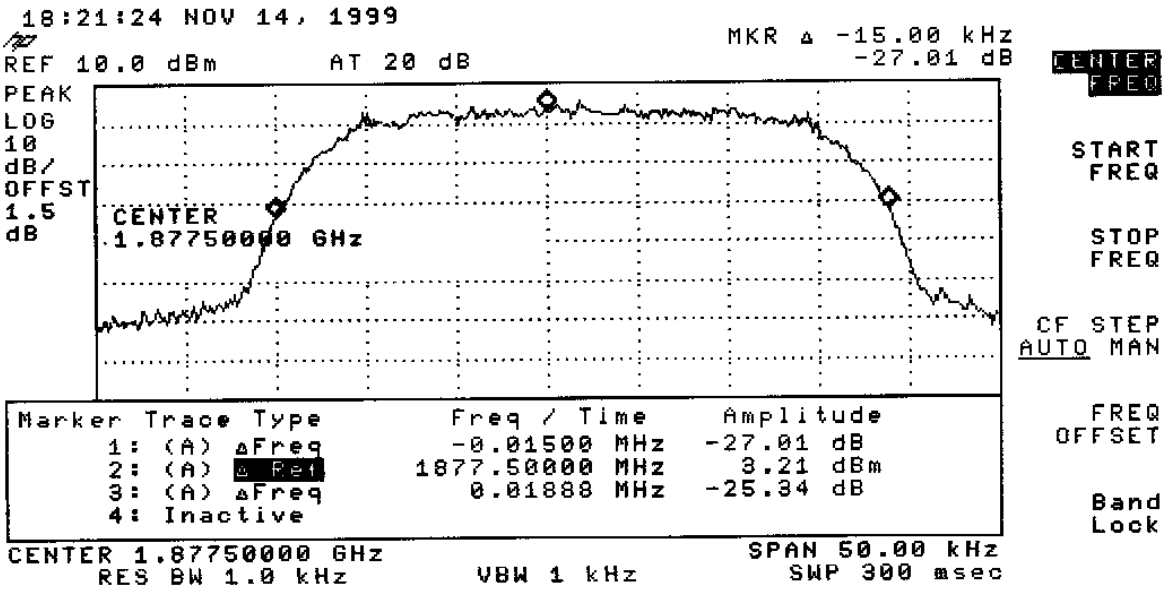
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 33.9 kHz.

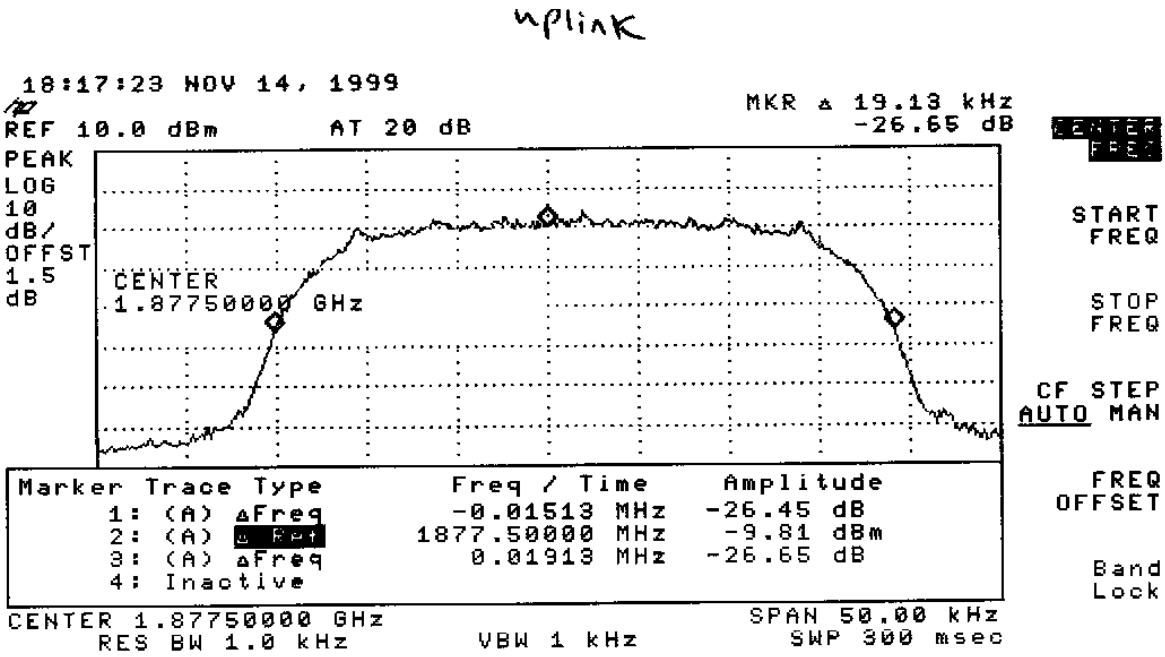
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.3 kHz.

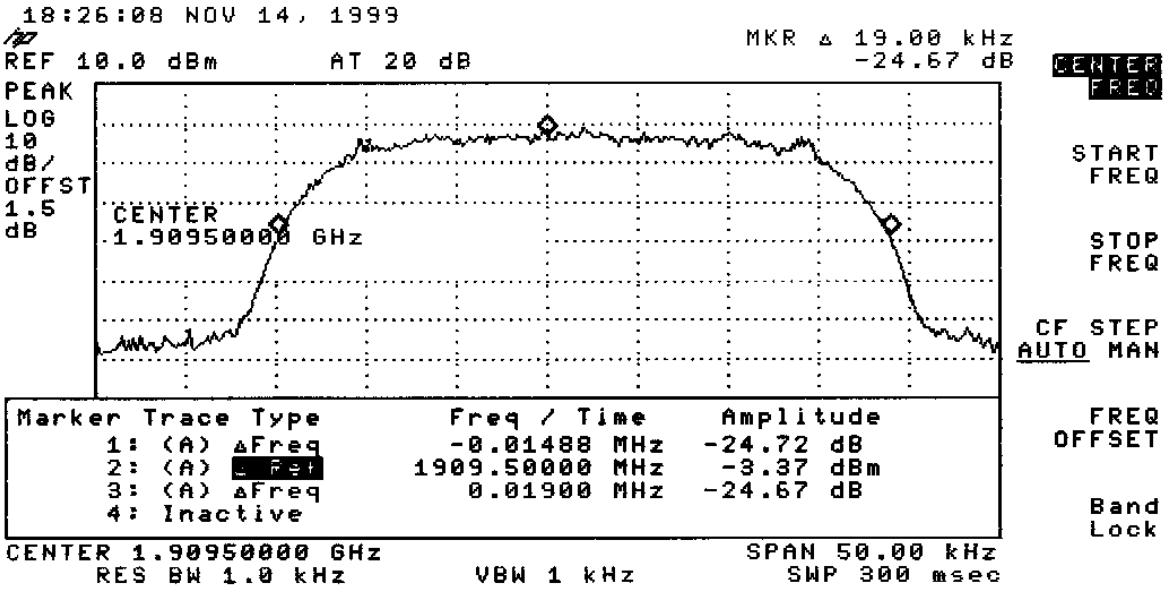
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 33.9 kHz.

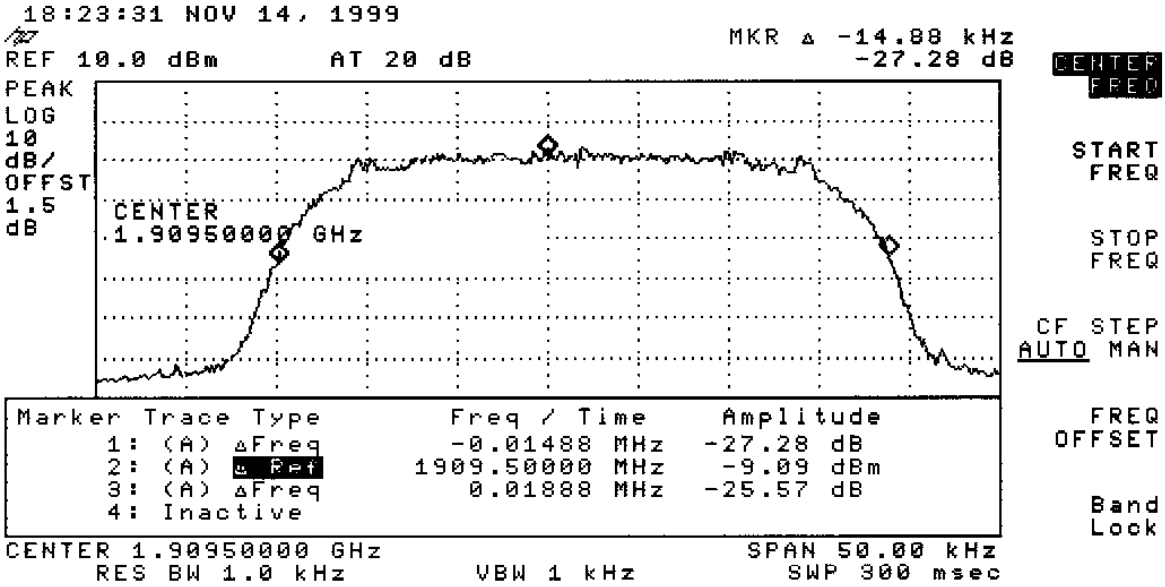
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 33.8 kHz.

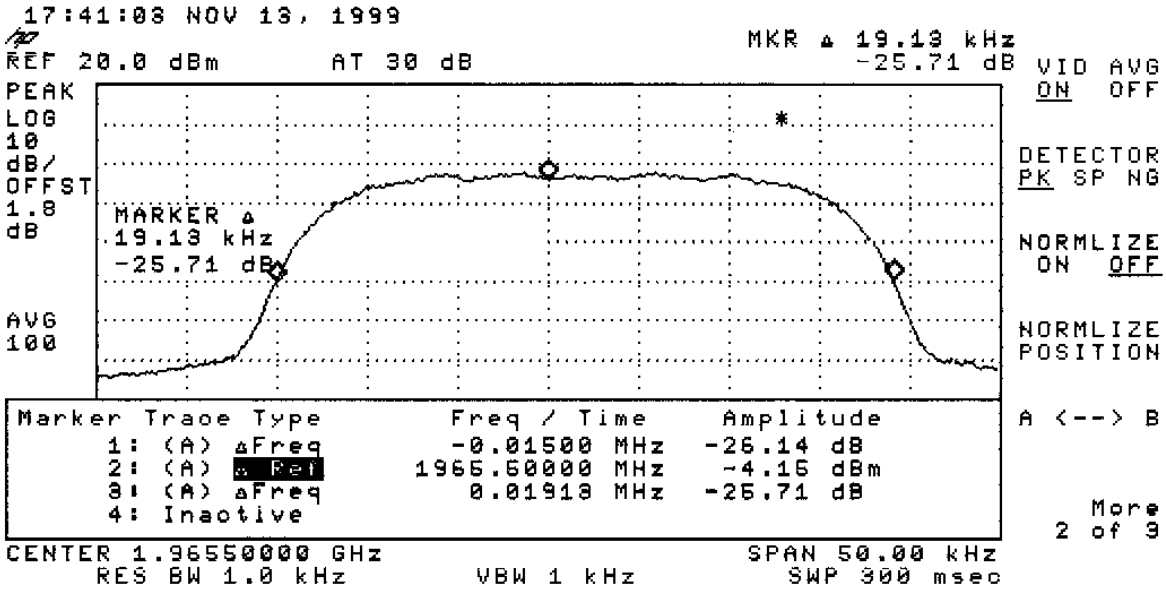
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 34.2 kHz.

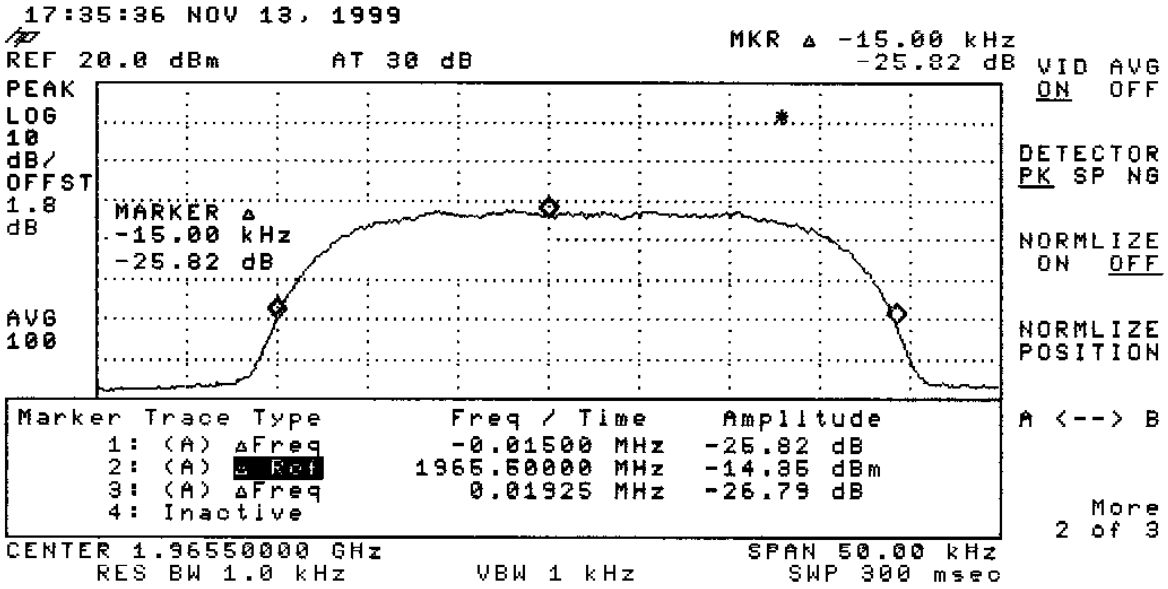
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.3 kHz.

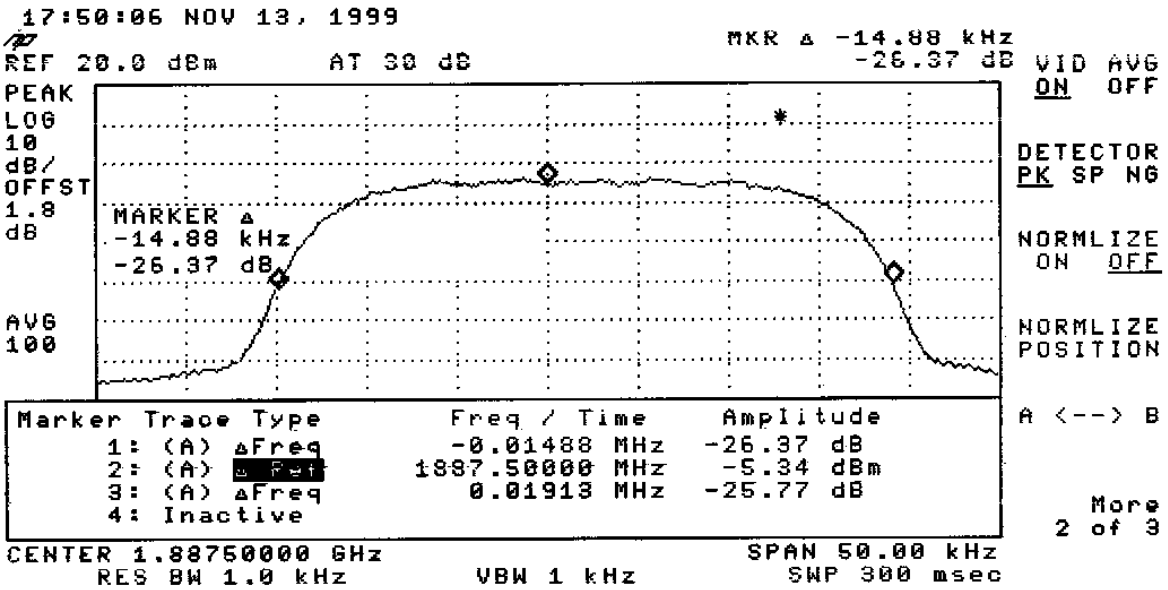
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

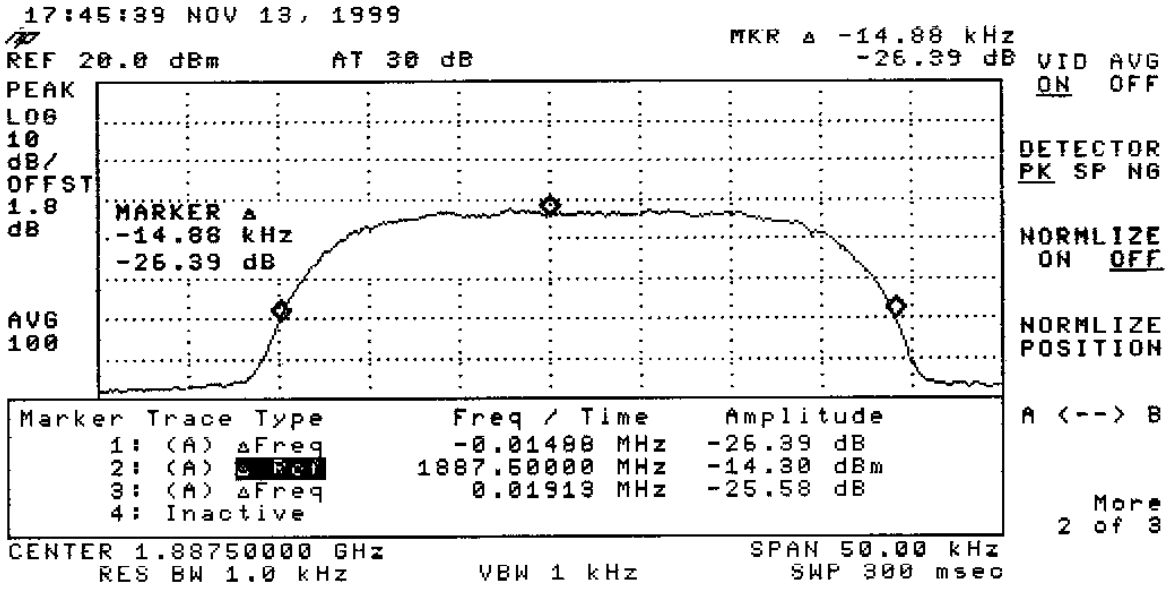
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

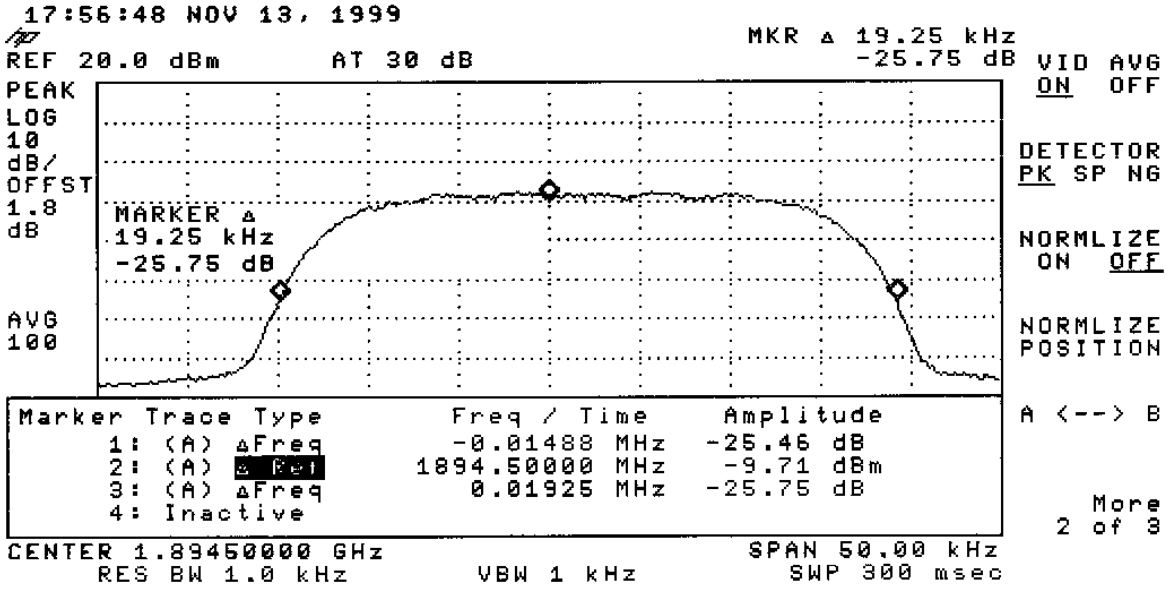
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 34.2 kHz.

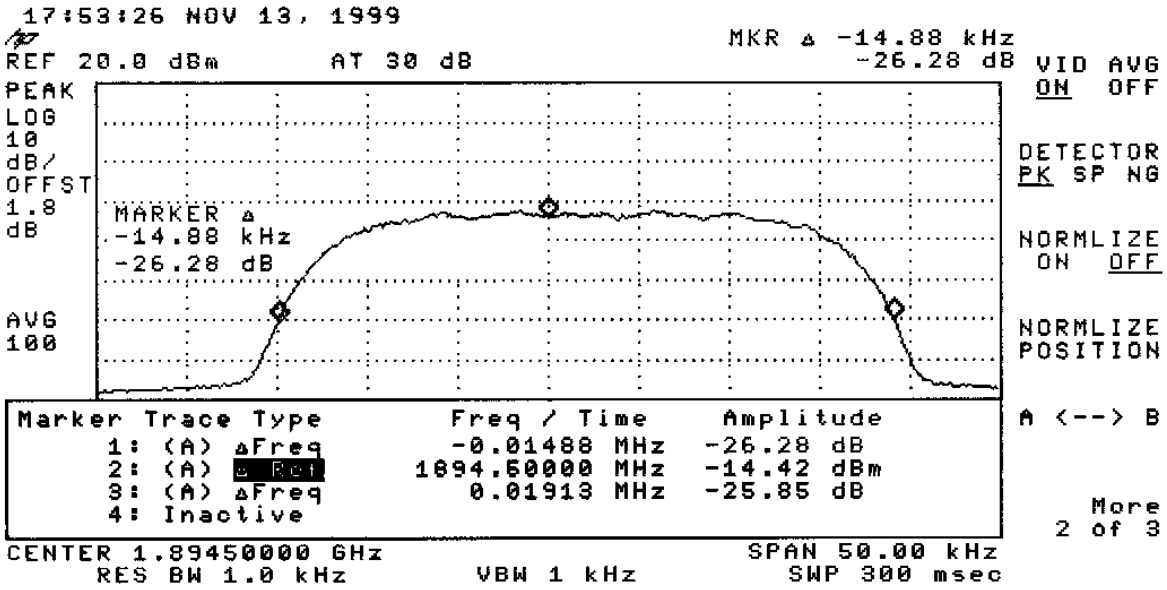
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

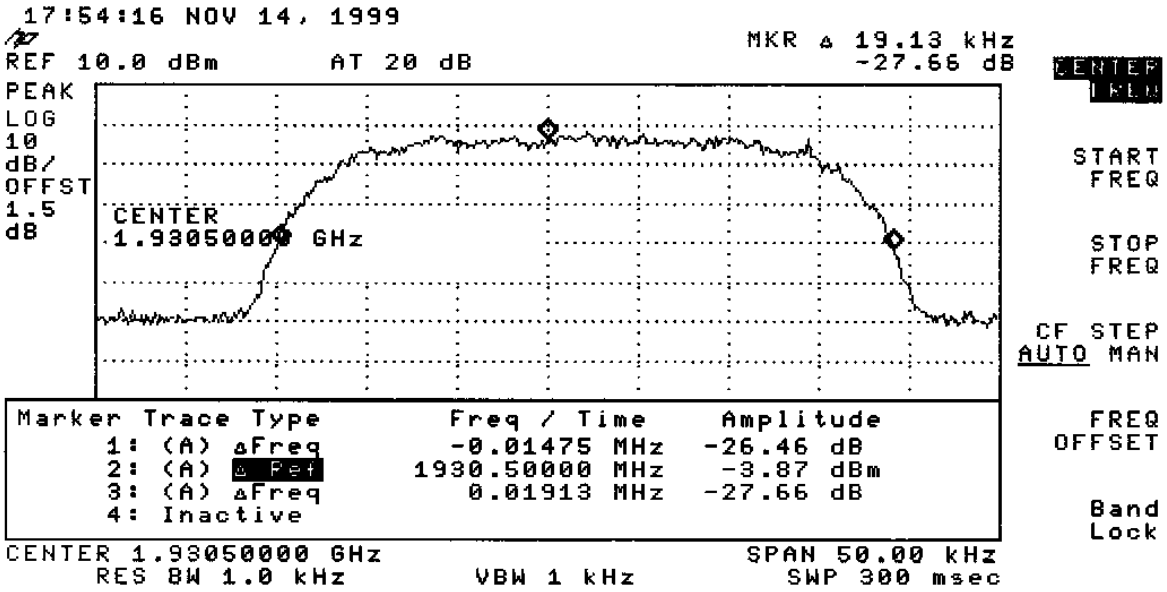
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 33.9 kHz.

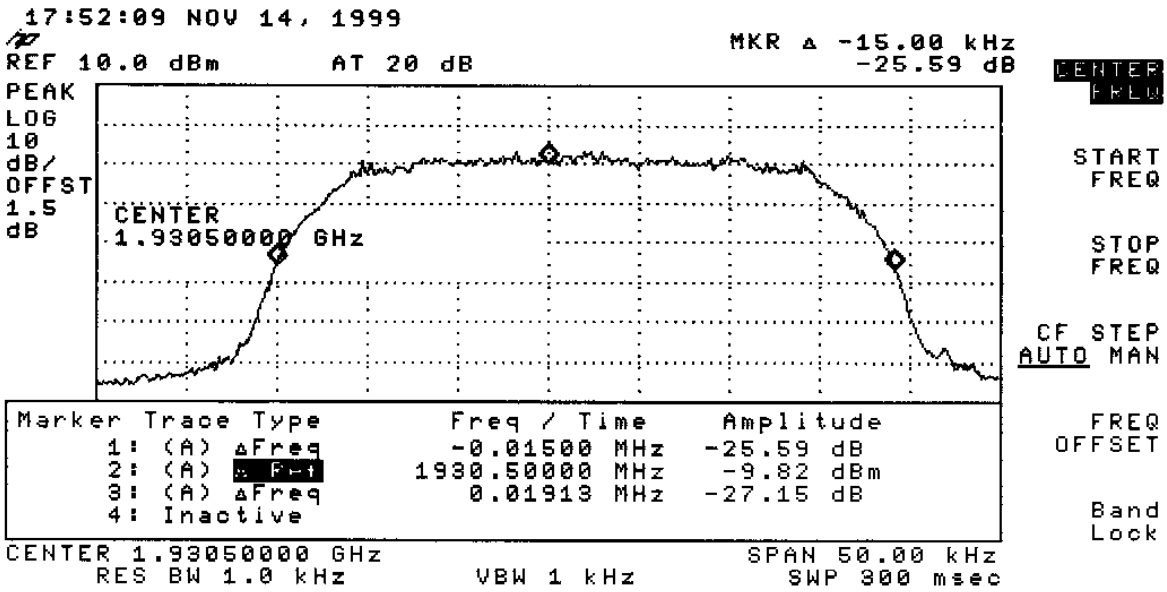
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.2 kHz.

COMMENT #2: Channel Setting: A Band, Lowest.

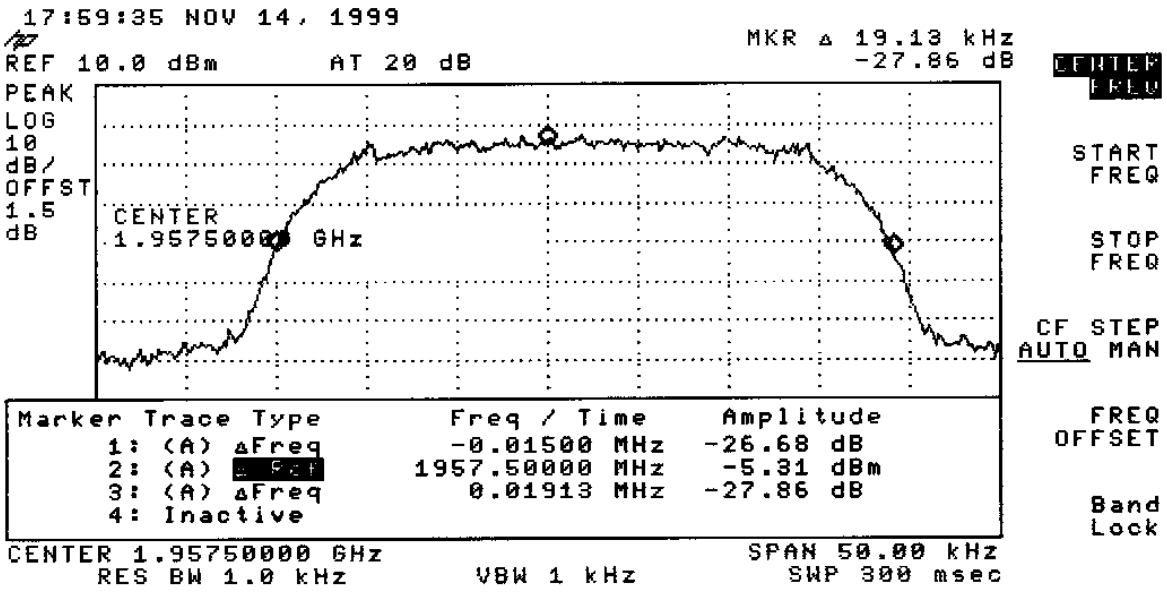
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: TDMA, Downlink



COMMENT #1: Occupied Bandwidth = 34.2 kHz.

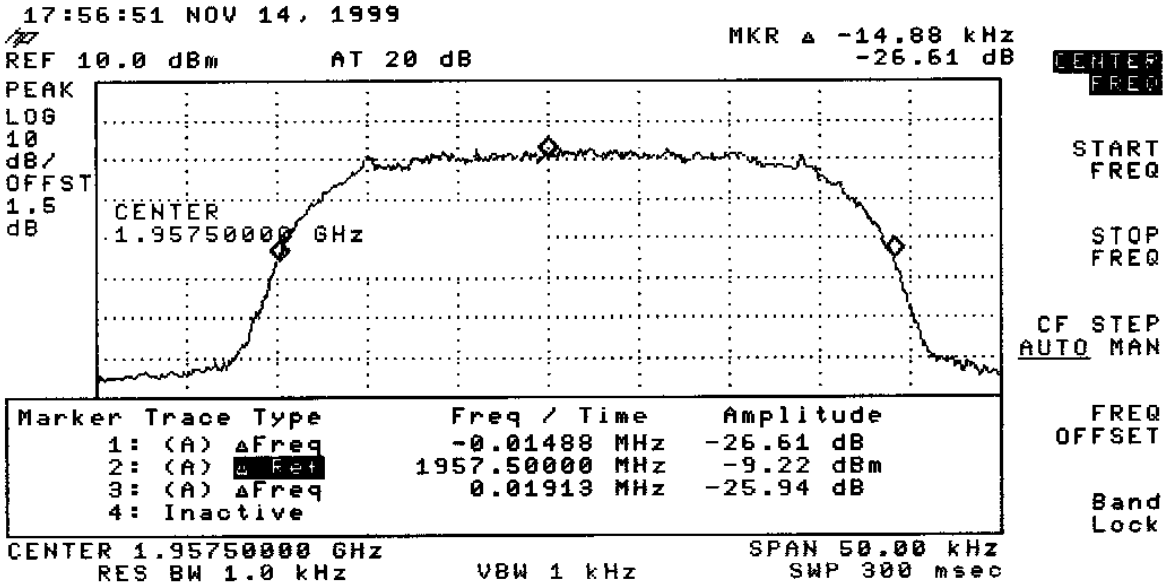
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 33.9 kHz.

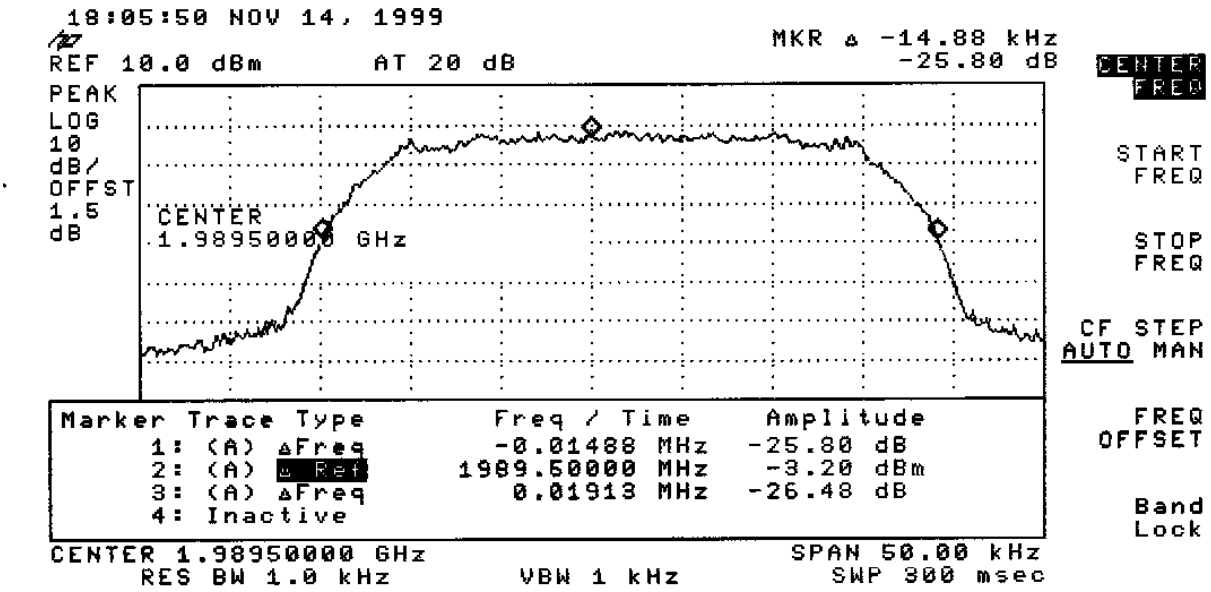
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

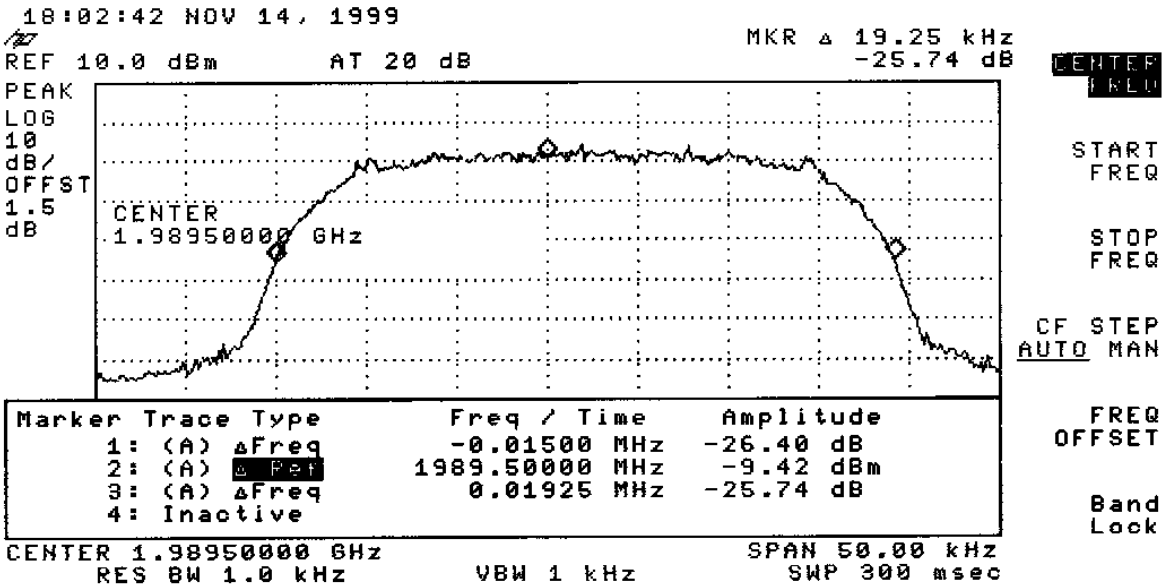
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.3 kHz.

COMMENT #2: Channel Setting: C Band, Highest.

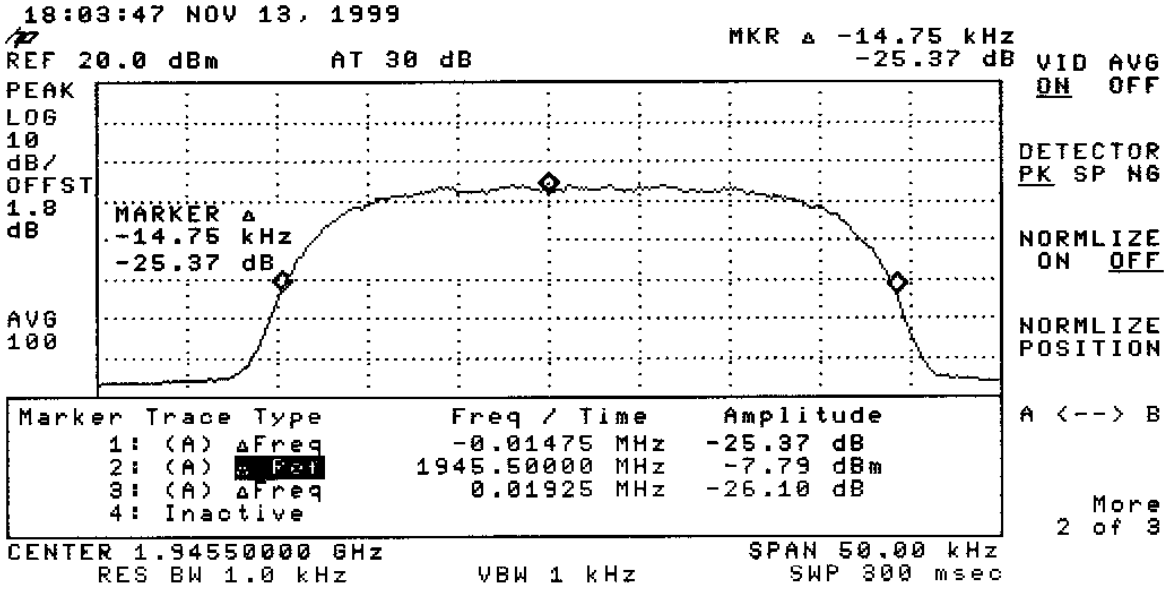
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: TDMA, Downlink



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

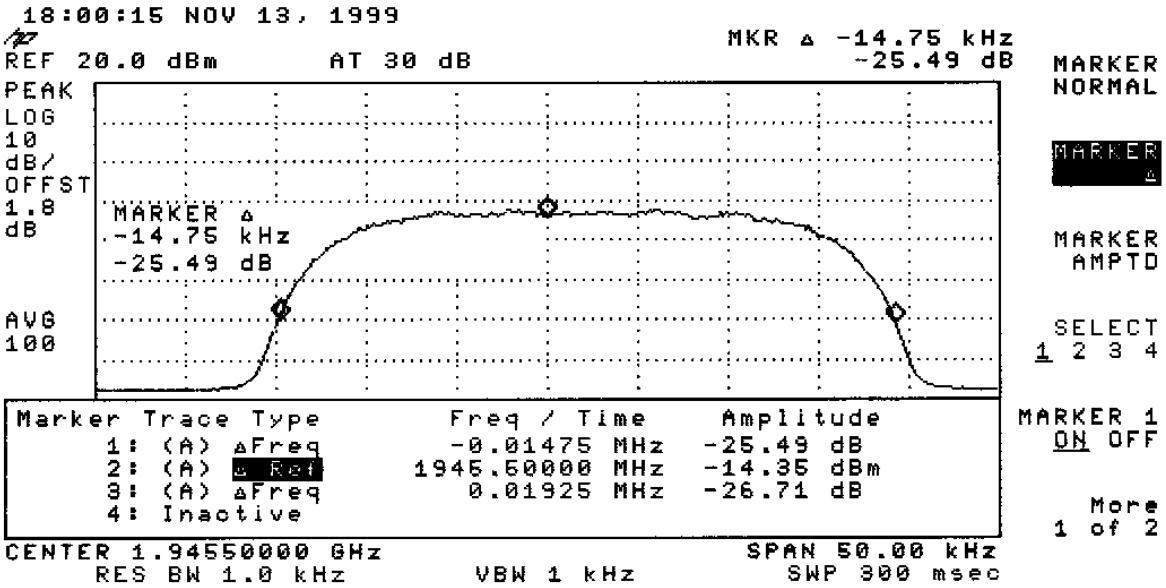
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

COMMENT #2: Channel Setting: D Band, Lowest.

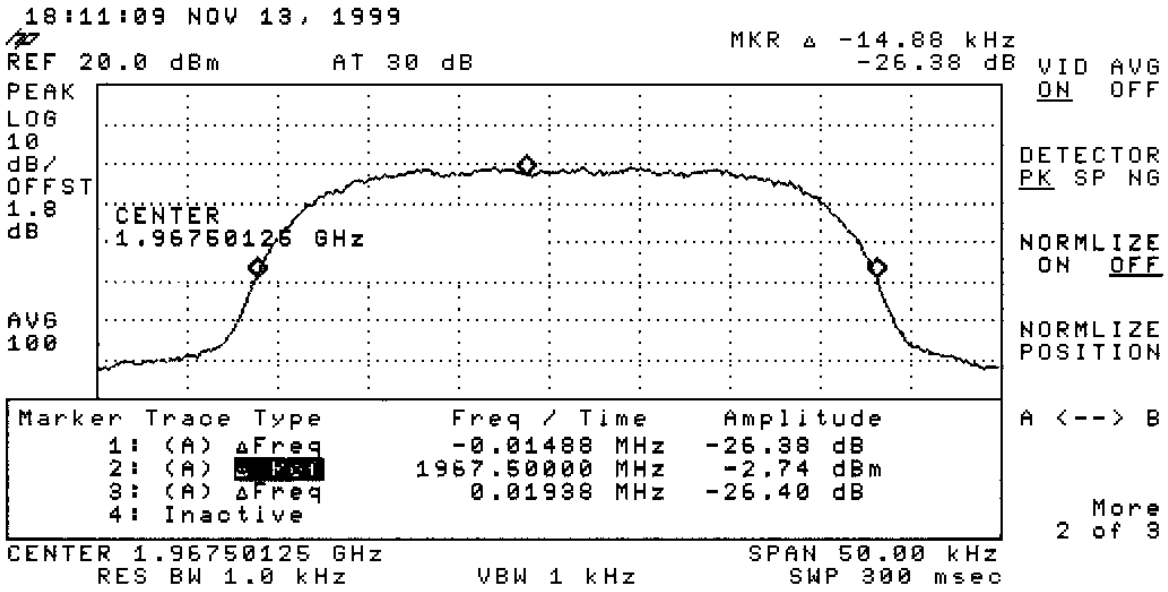
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: TDMA, Downlink



COMMENT #1: Occupied Bandwidth = 34.3 kHz.

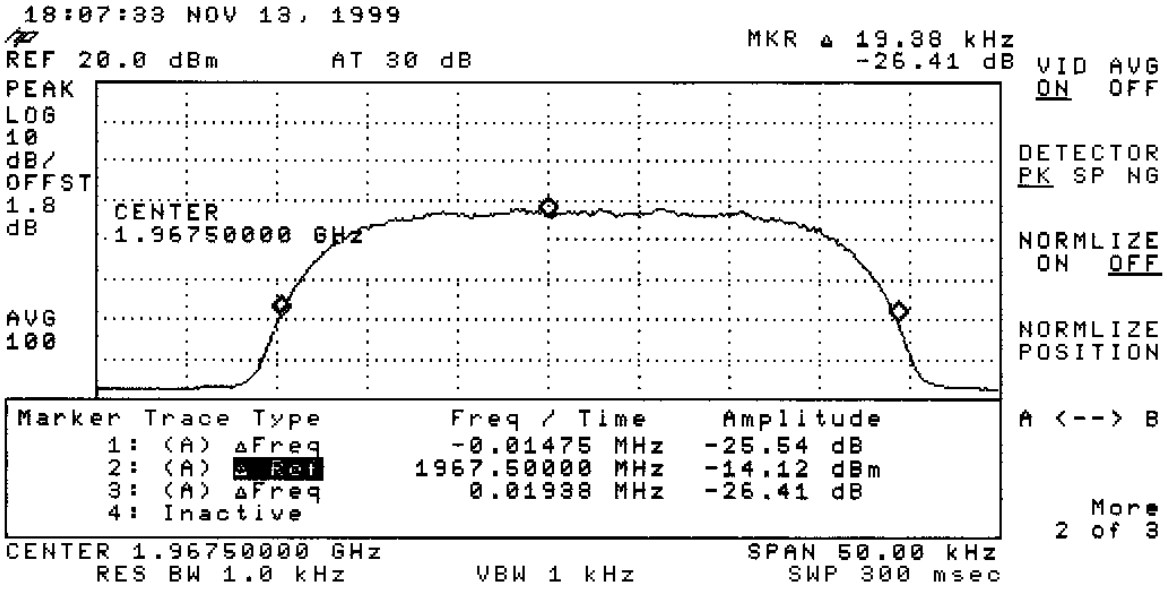
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.1 kHz.

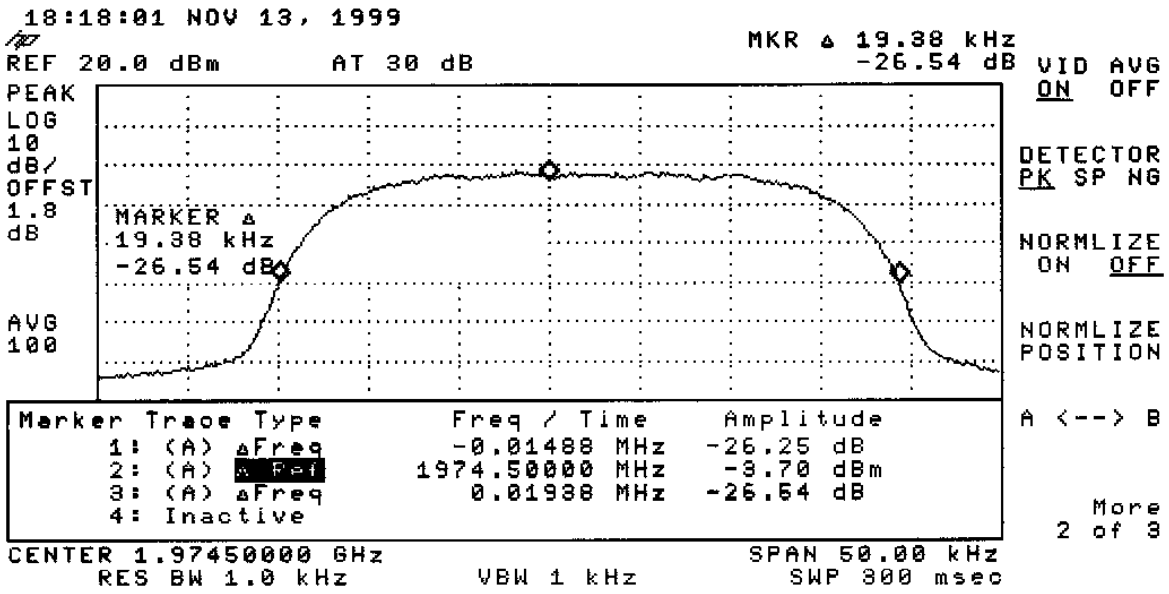
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 34.3 kHz.

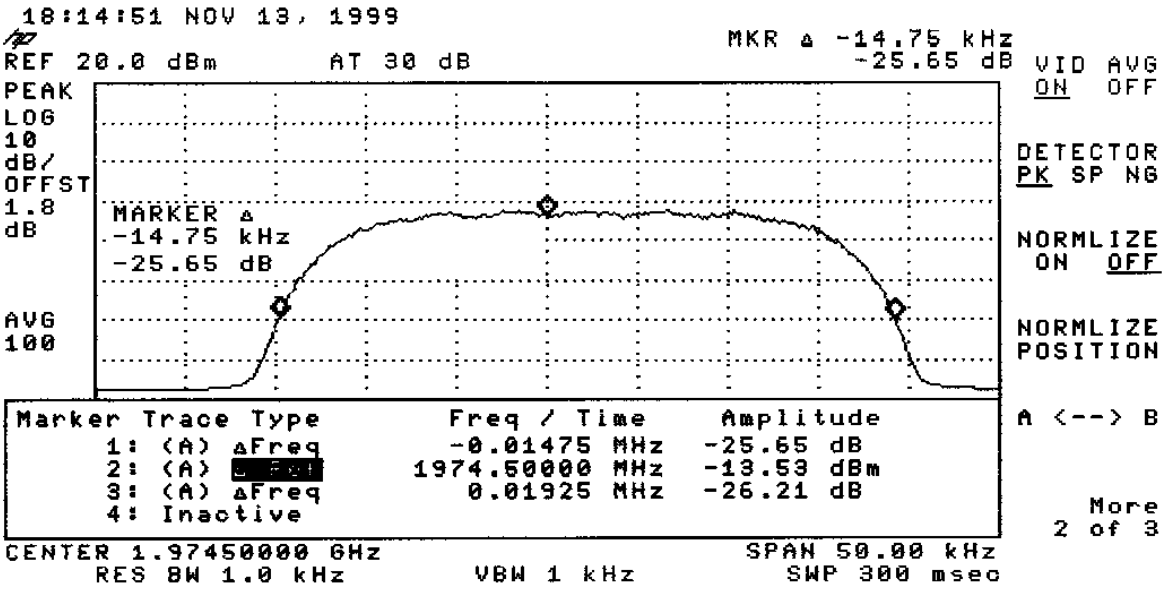
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 34.0 kHz.

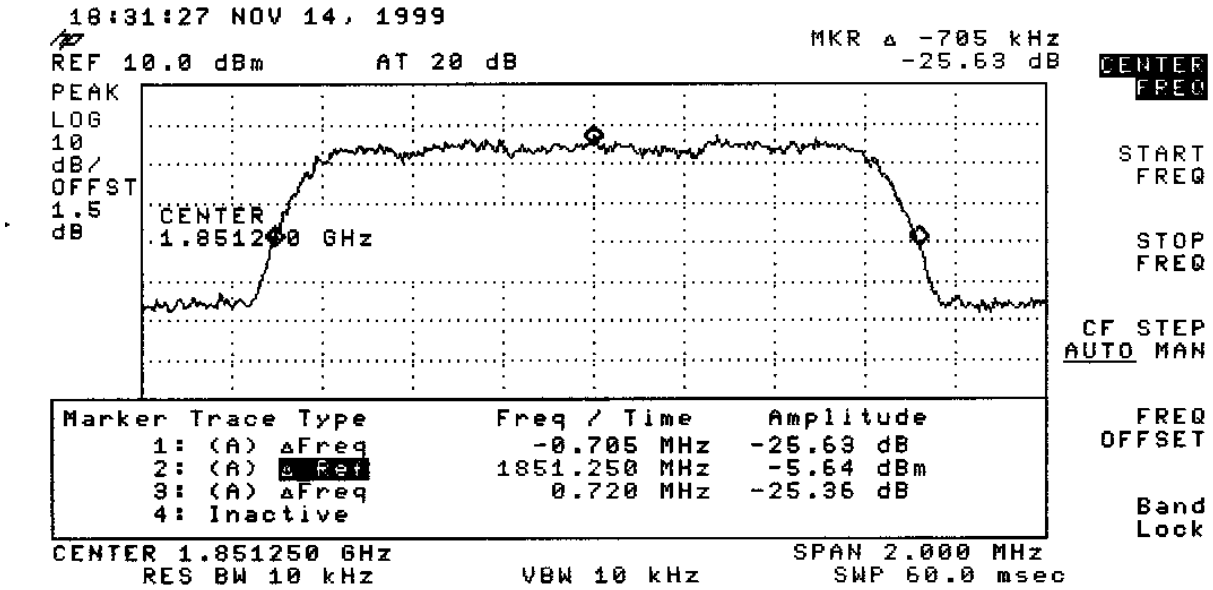
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.43 MHz.

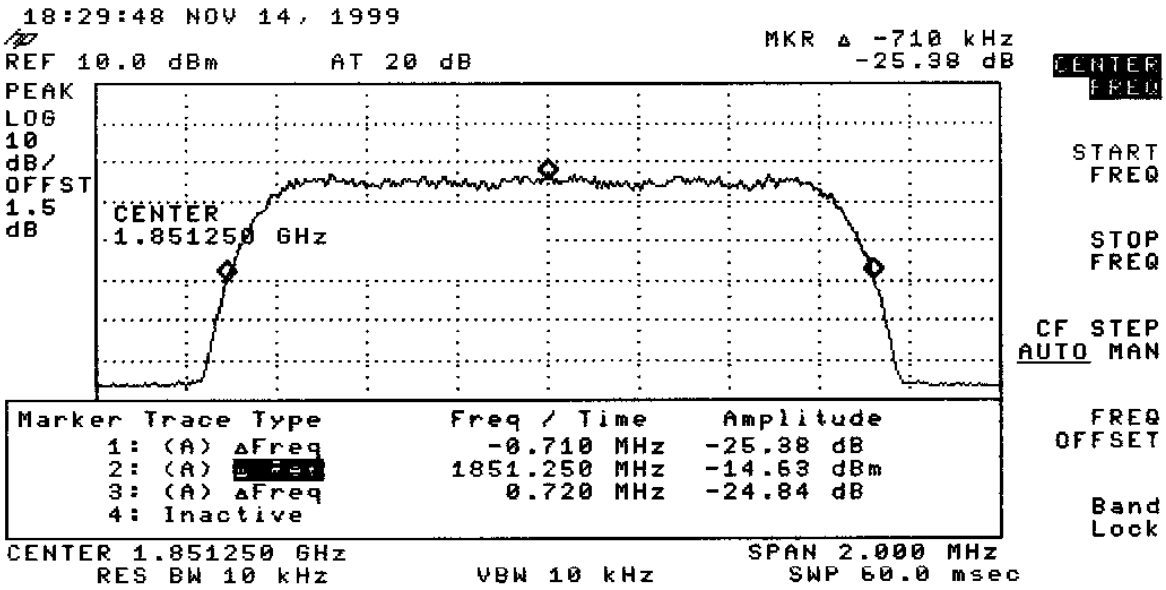
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.43 MHz.

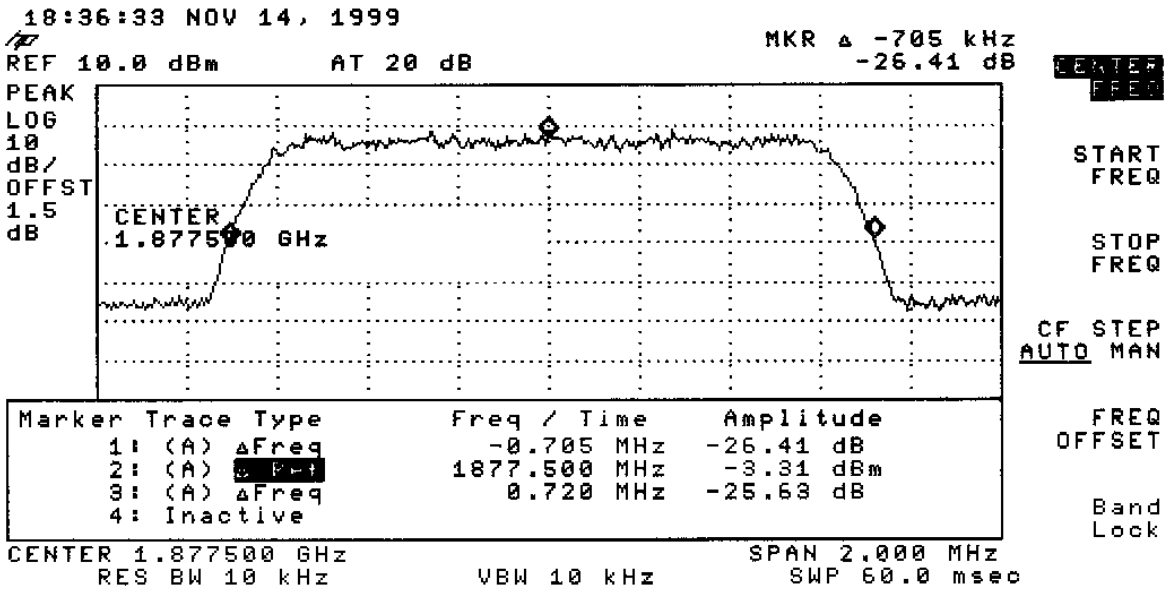
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.43 MHz.

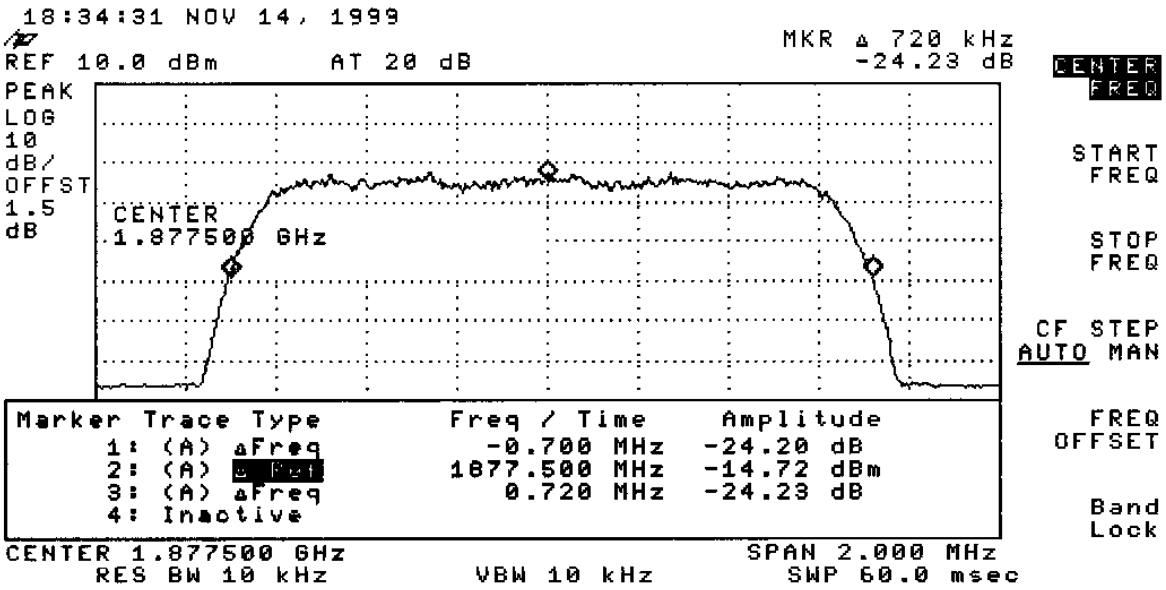
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.42 MHz.

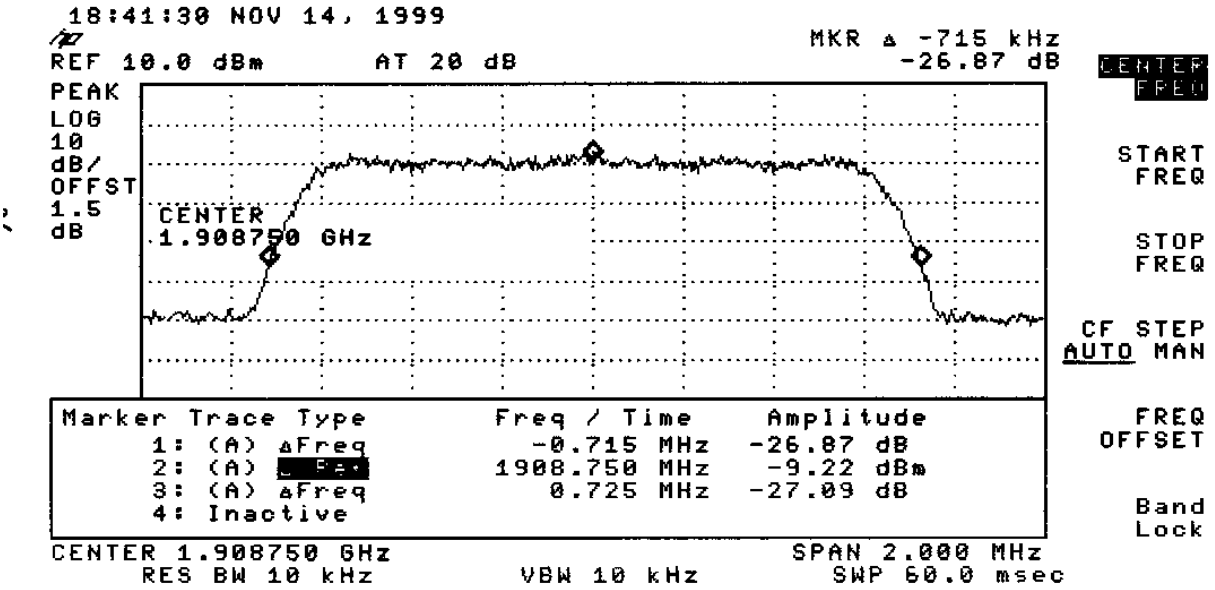
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.44 MHz.

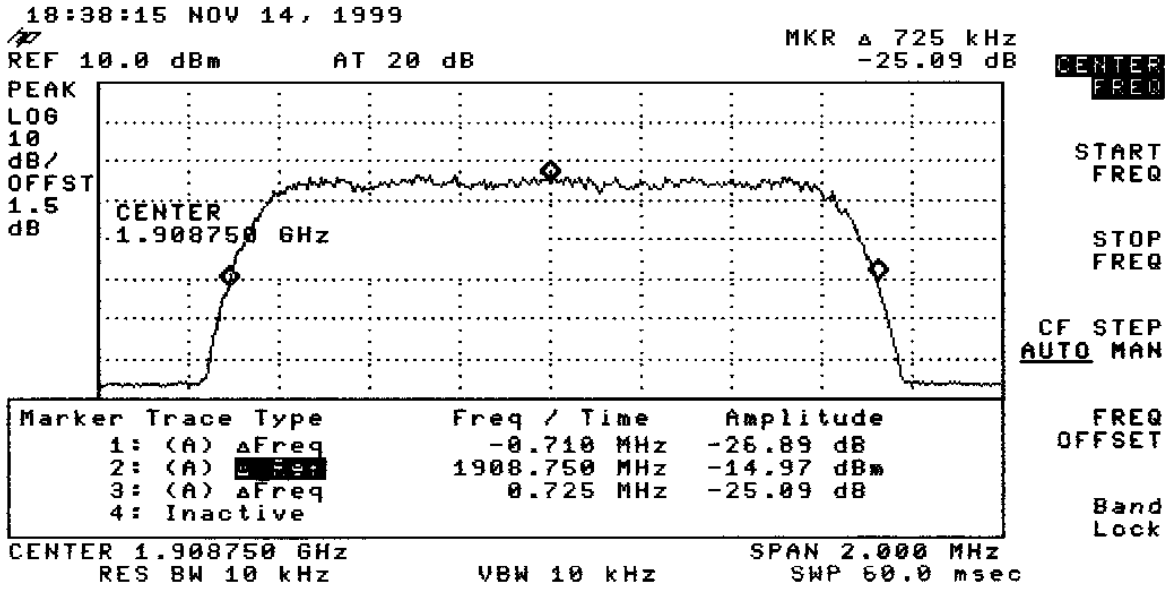
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.44 MHz.

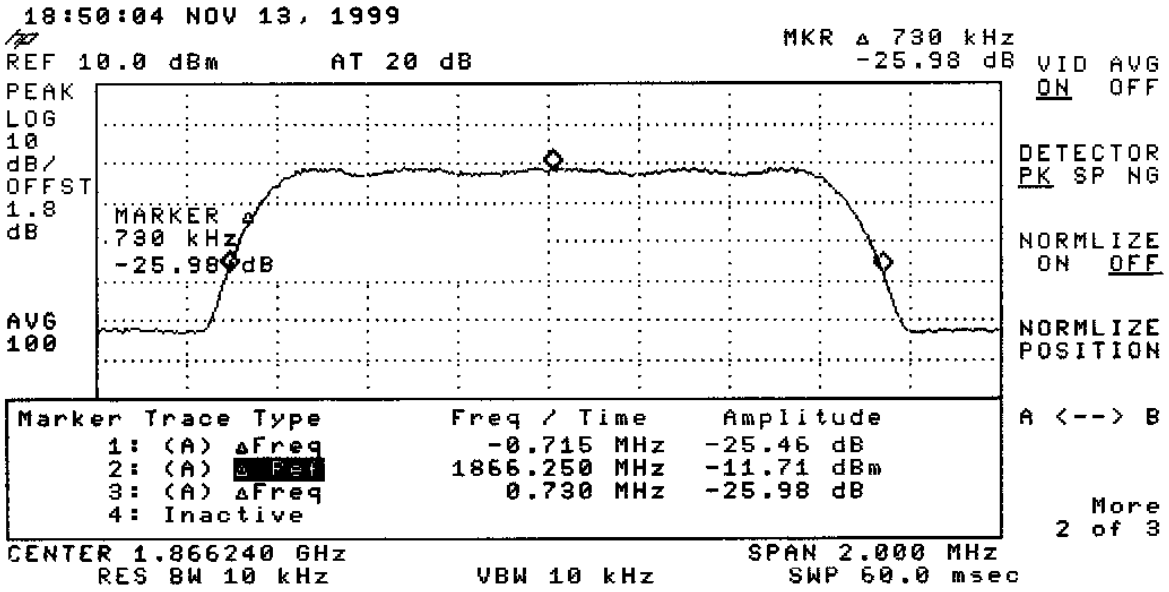
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

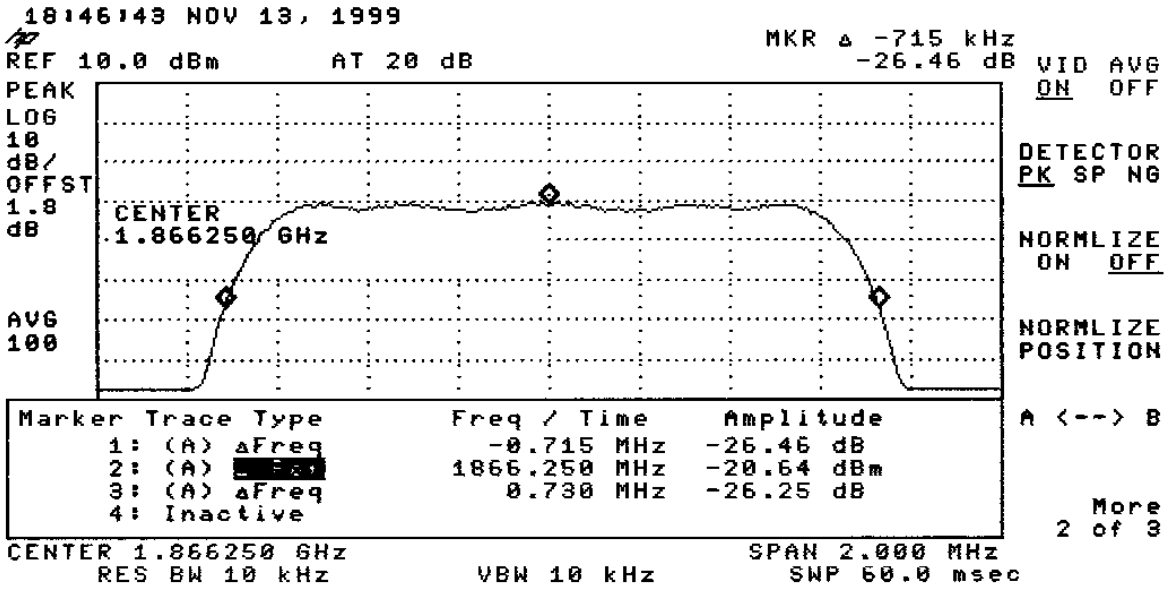
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

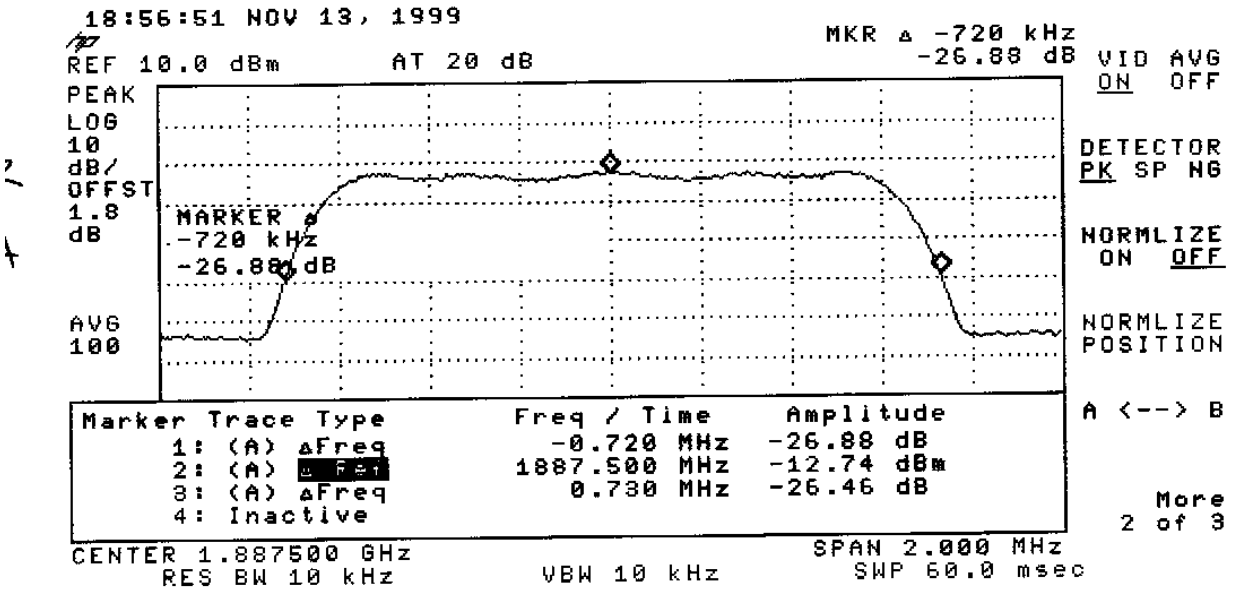
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

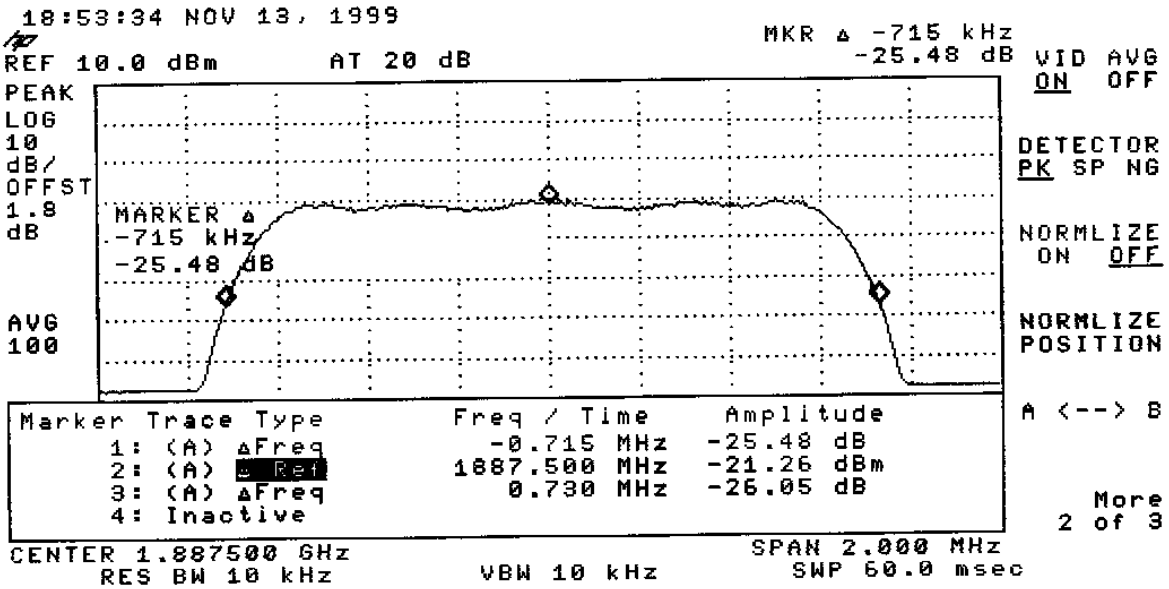
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

COMMENT #2: Channel Setting: E Band, Middle.

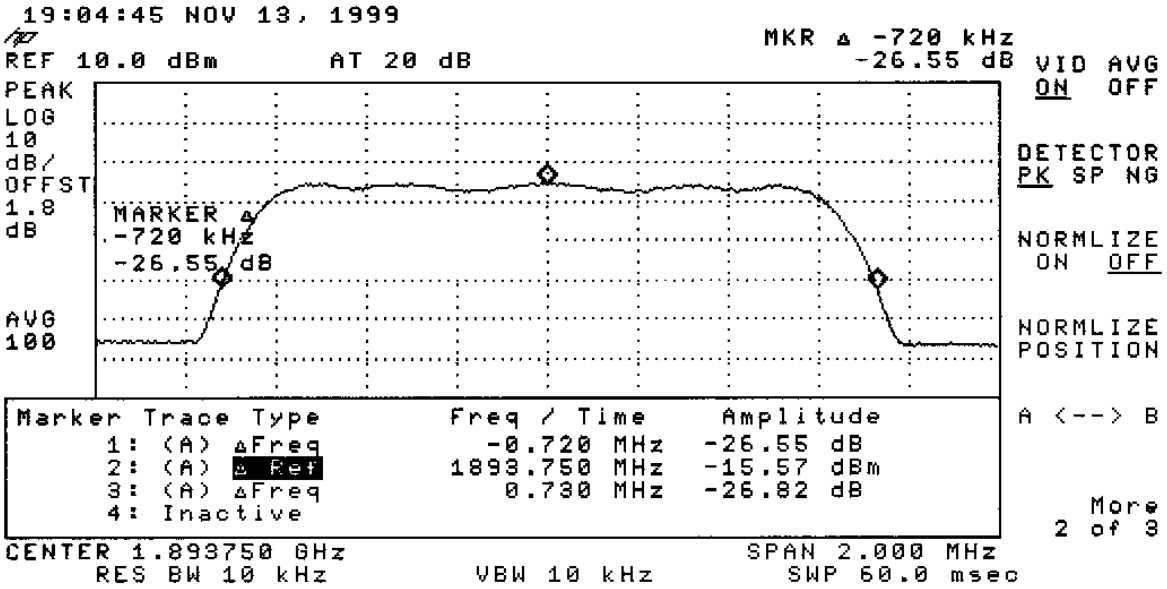
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: CDMA, Uplink



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

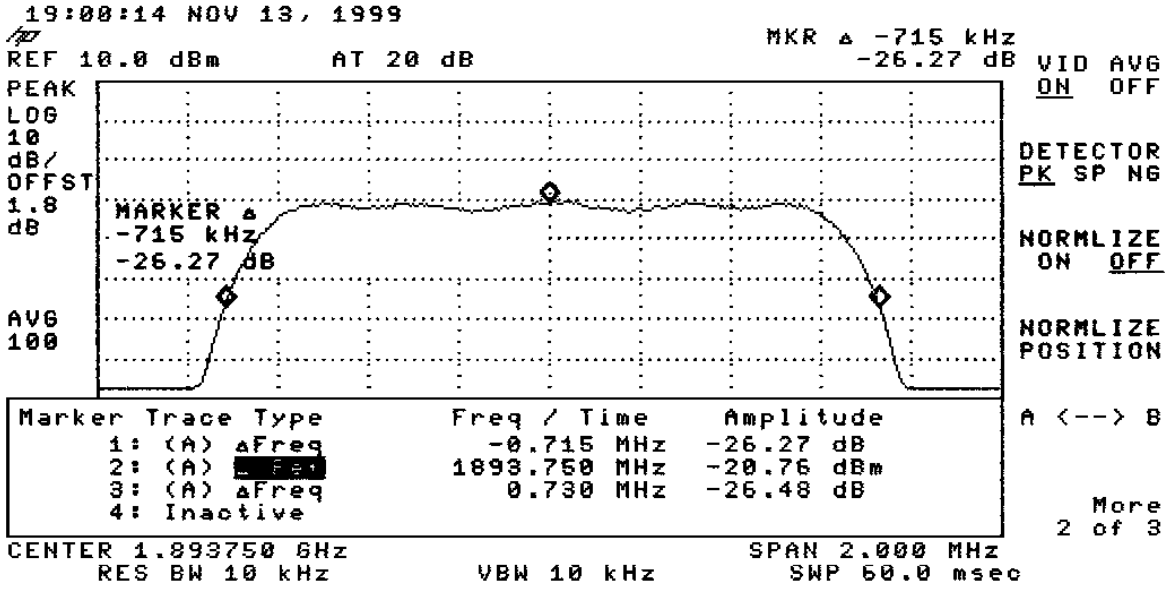
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

COMMENT #2: Channel Setting: F Band, Highest.

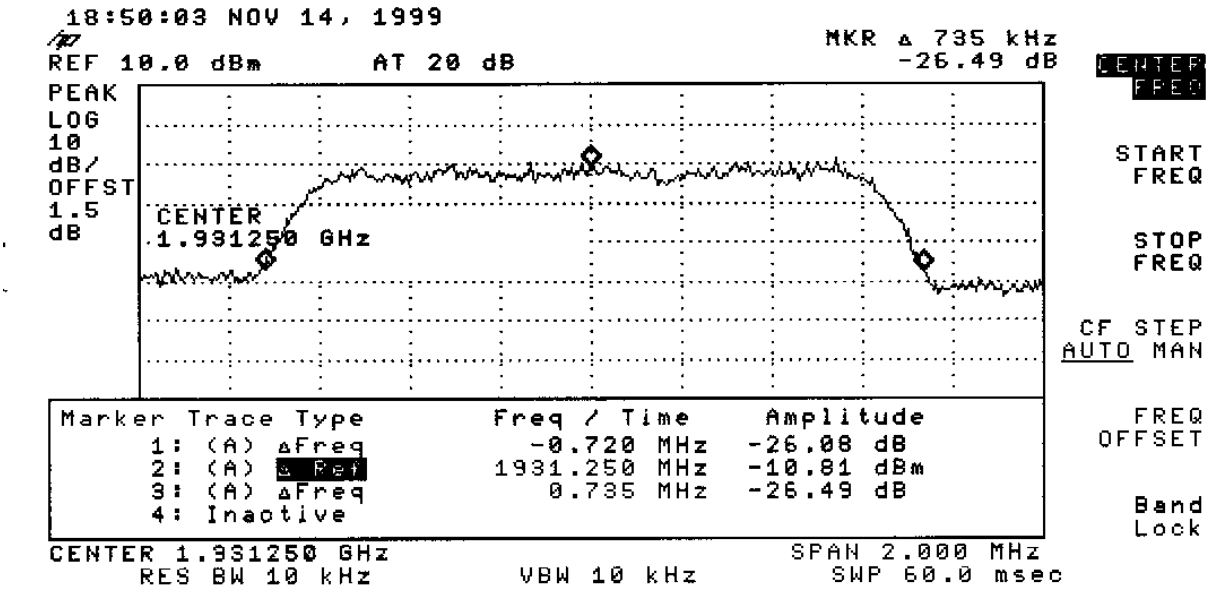
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
CONFIGURATION: EUT

PROJECT #: 99-359
MODE: CDMA, Downlink



COMMENT #1: Occupied Bandwidth = 1.46 MHz.

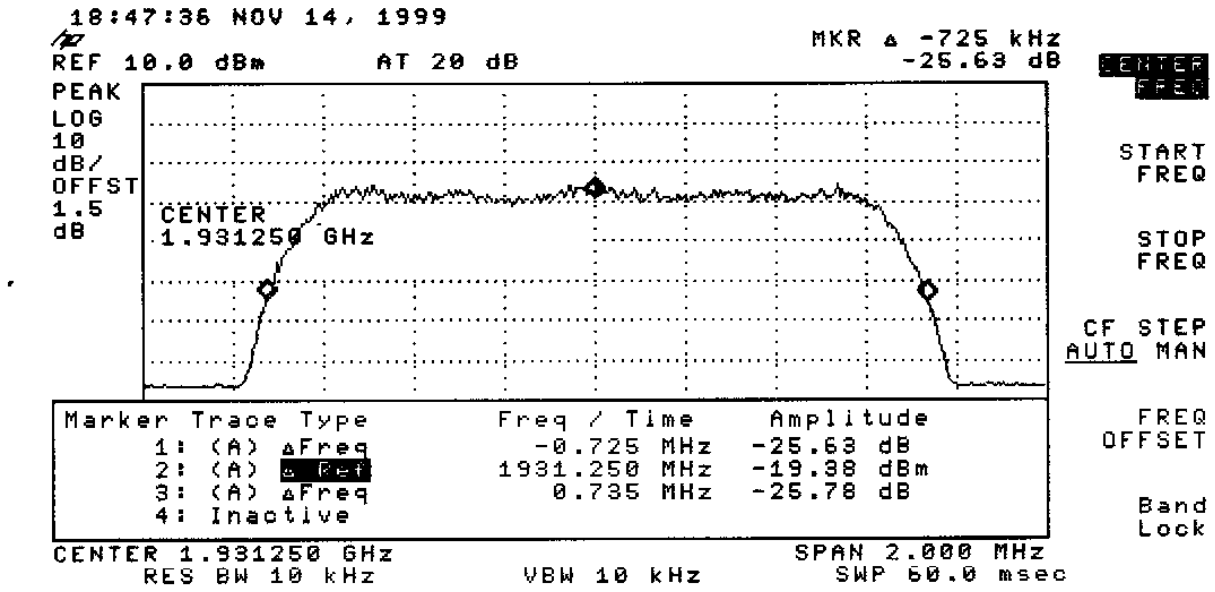
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.46 MHz.

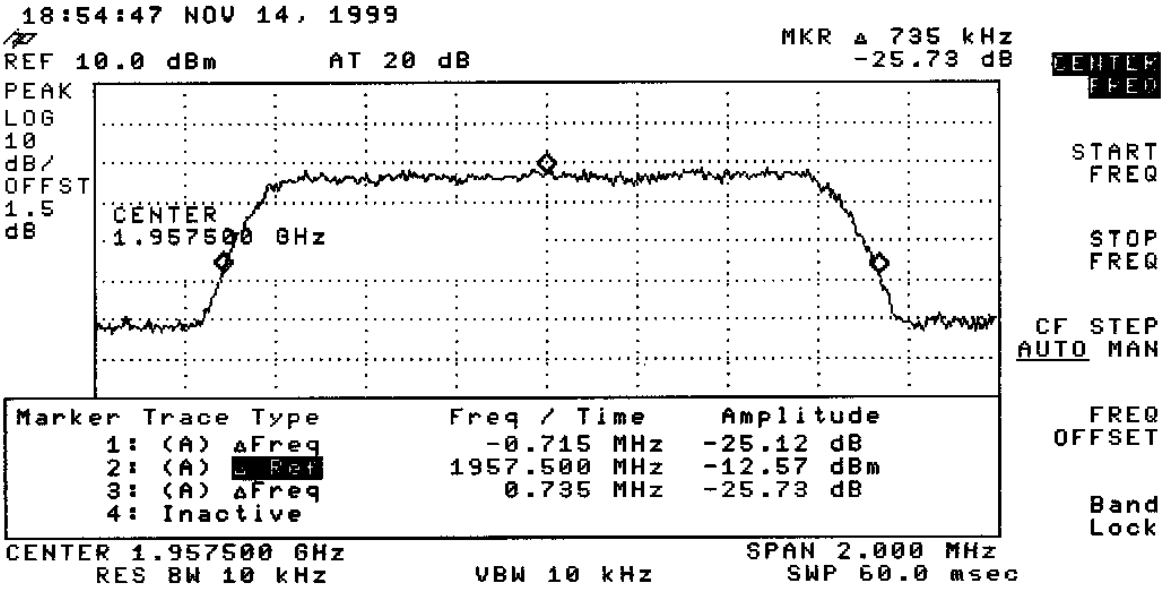
COMMENT #2: Channel Setting: A Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

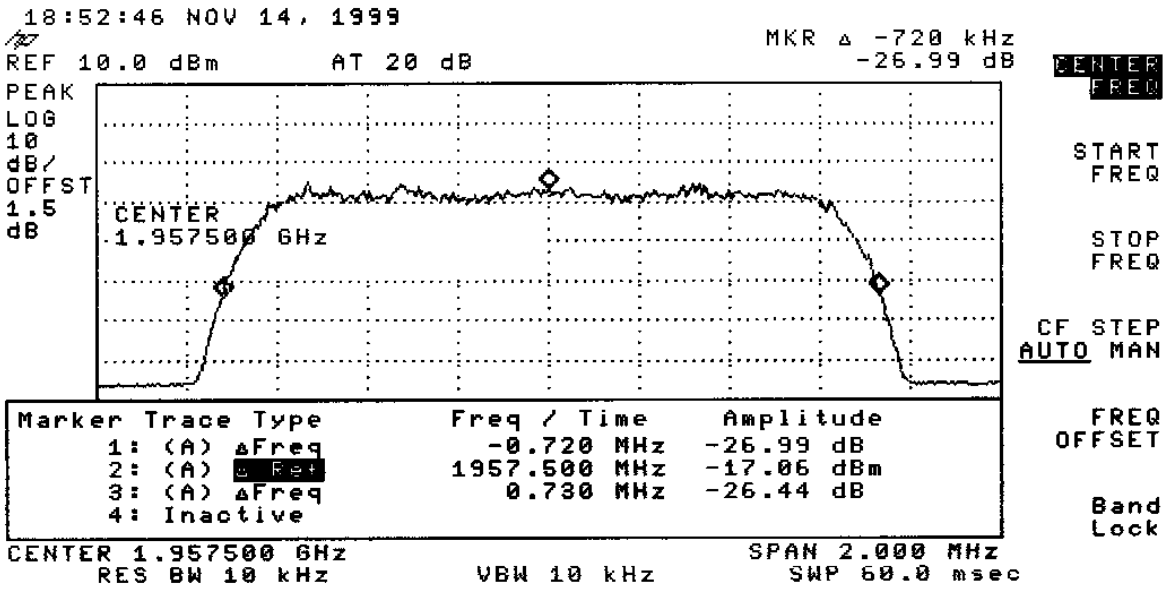
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

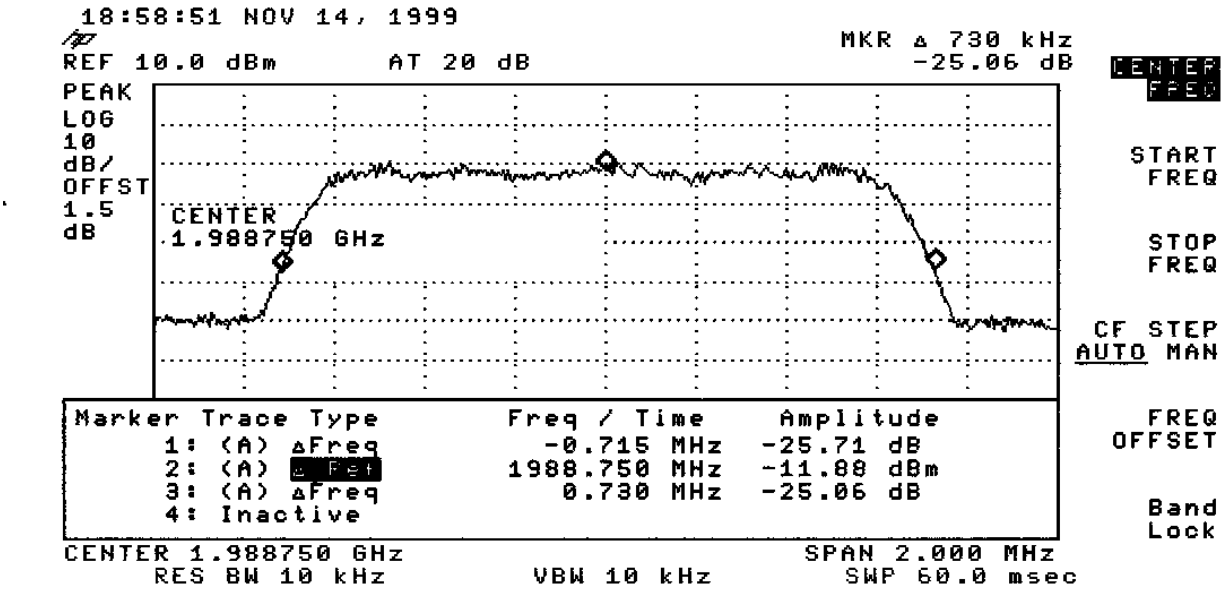
COMMENT #2: Channel Setting: B Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

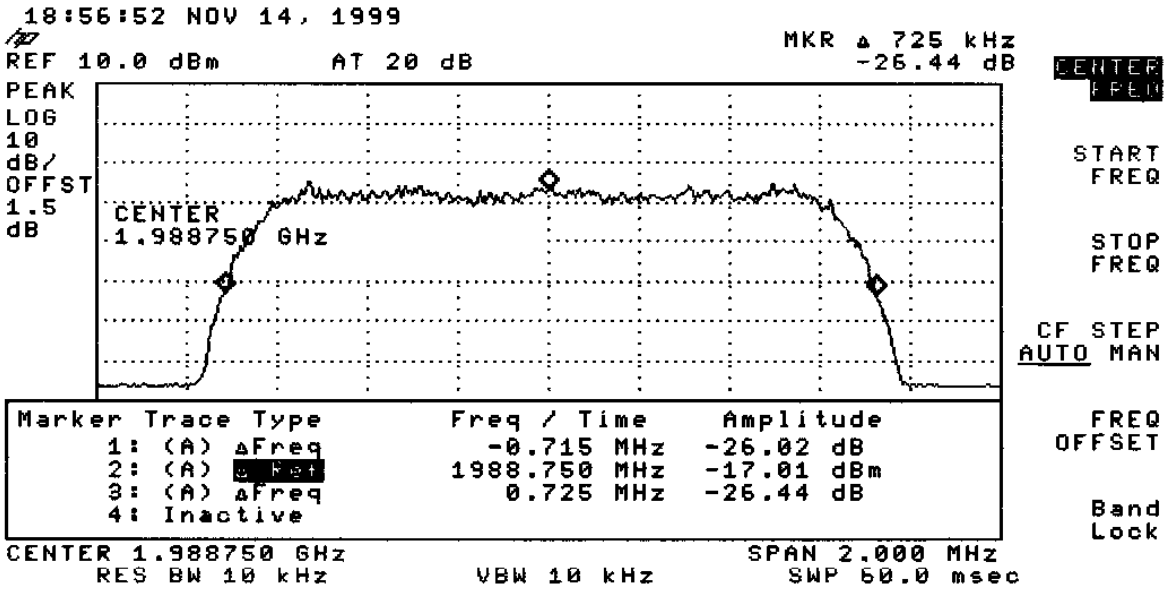
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.44 MHz.

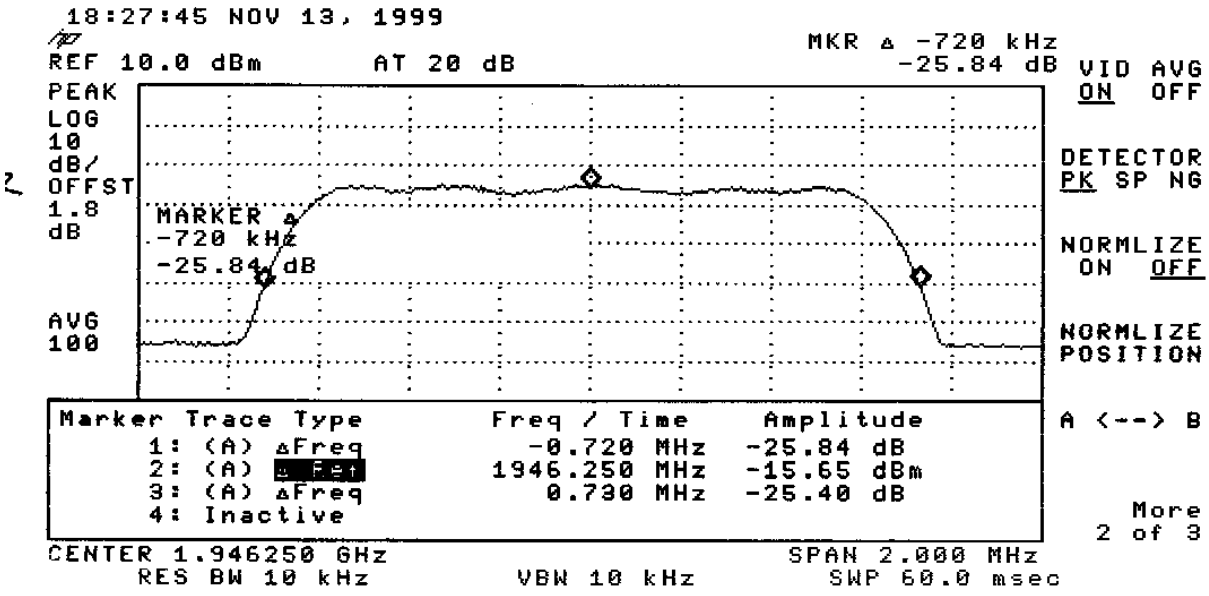
COMMENT #2: Channel Setting: C Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

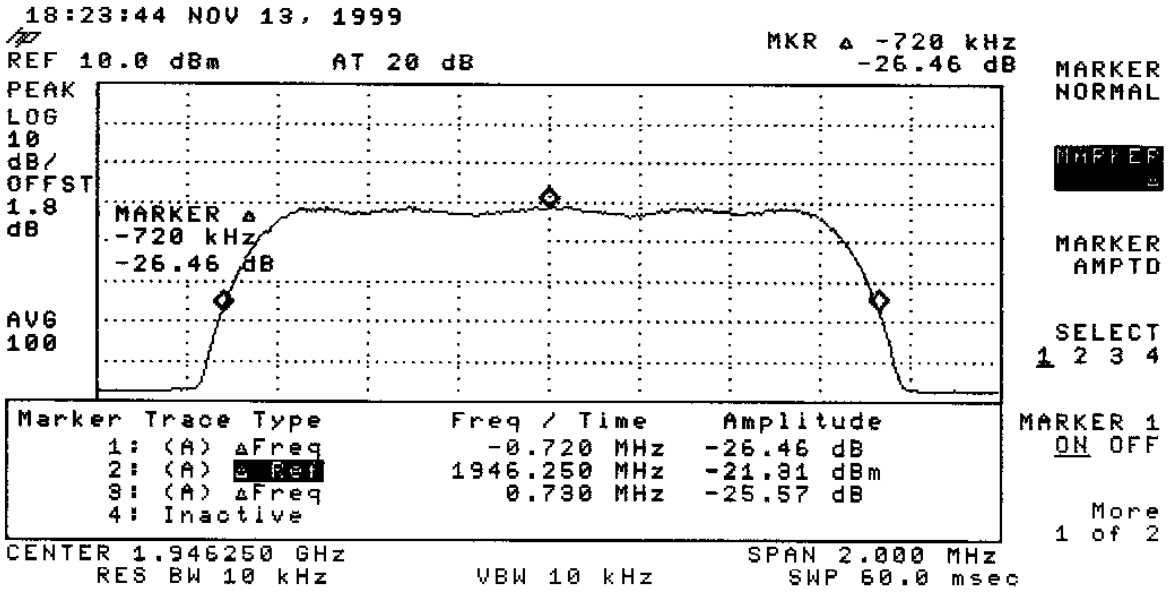
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

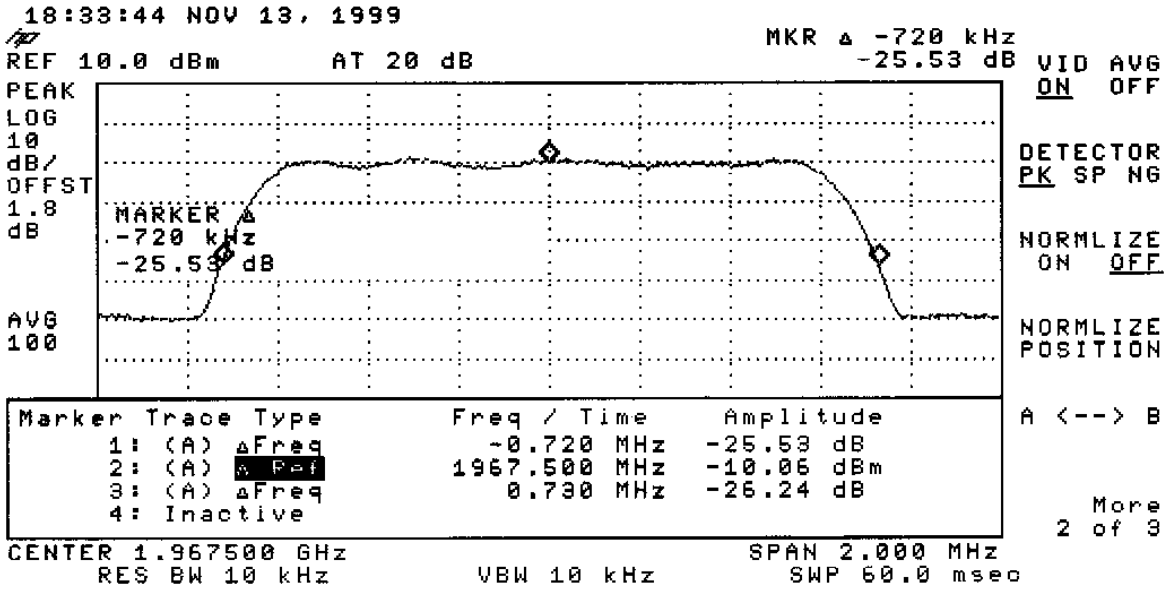
COMMENT #2: Channel Setting: D Band, Lowest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

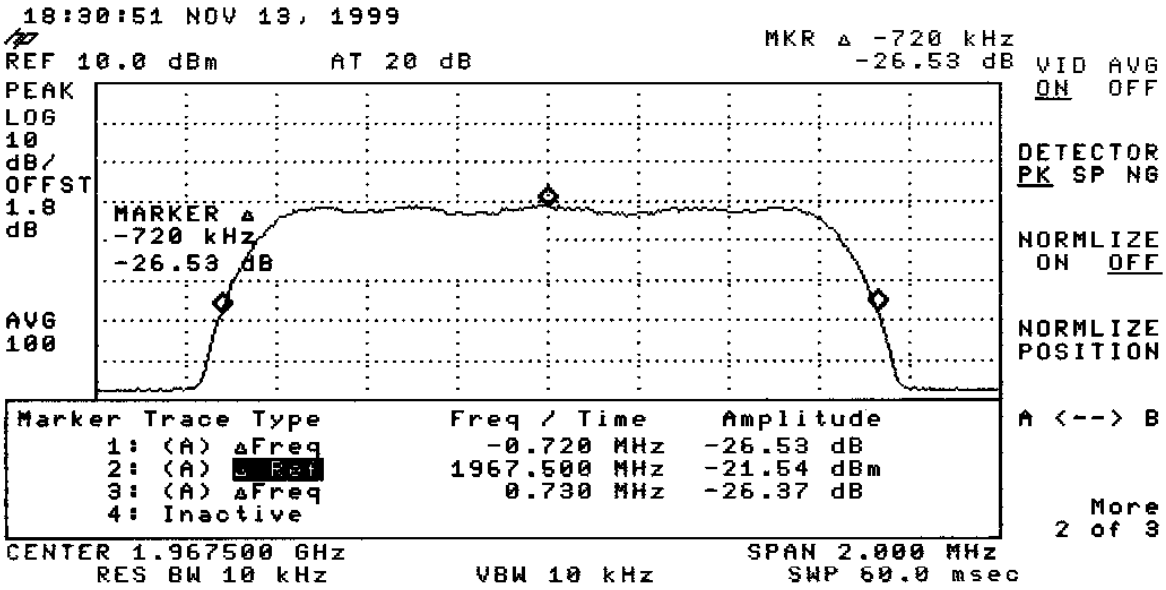
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

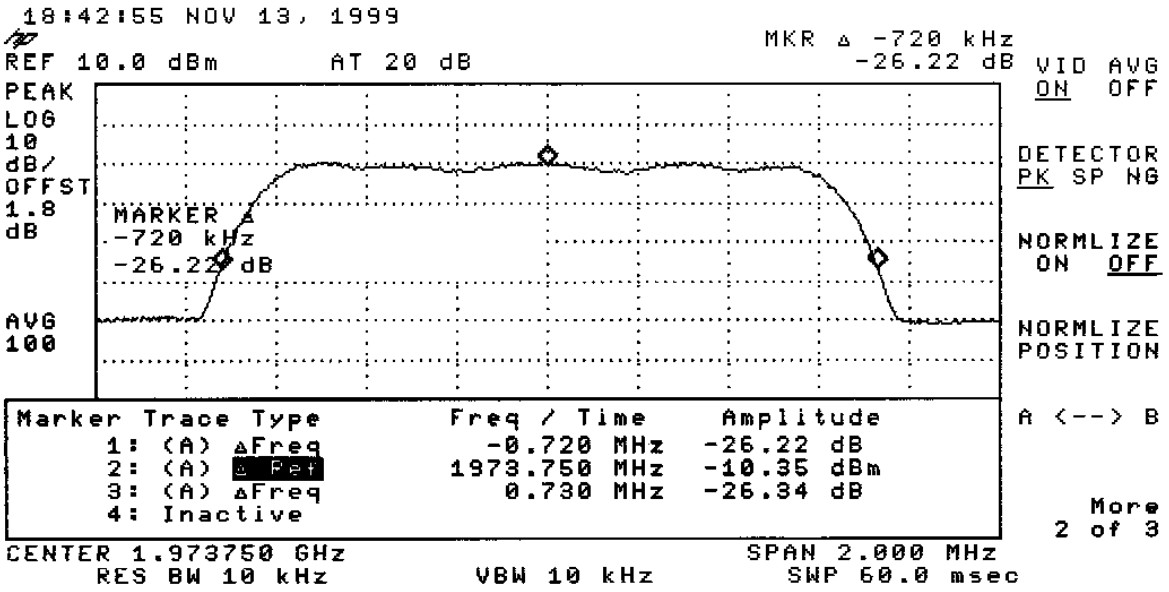
COMMENT #2: Channel Setting: E Band, Middle.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: EUT



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

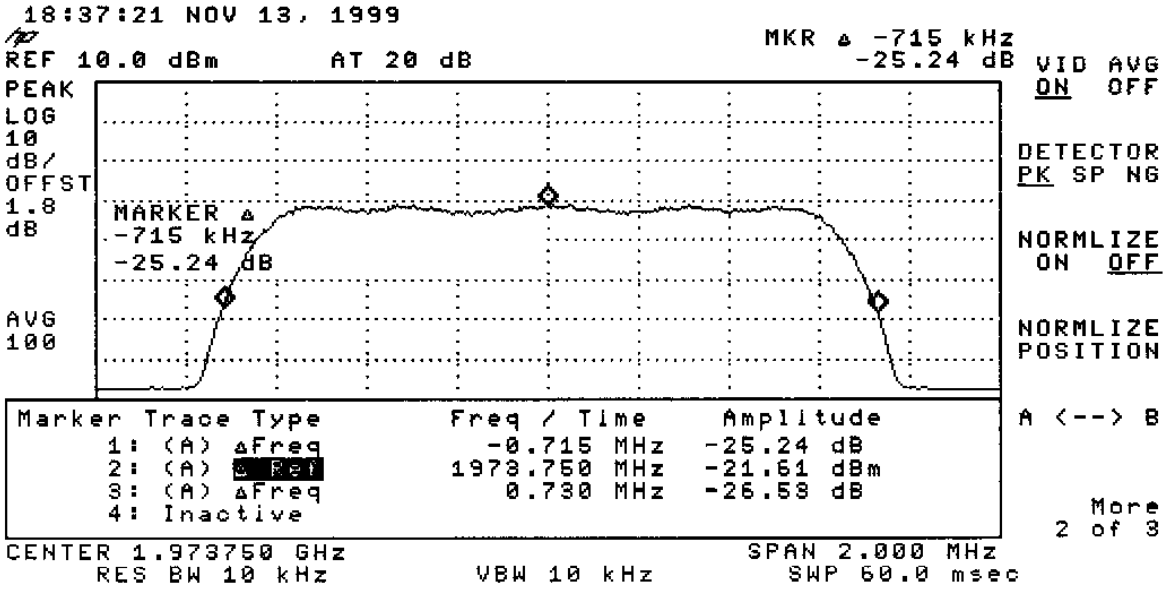
COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Occupied Bandwidth Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
CONFIGURATION: Generator Only



COMMENT #1: Occupied Bandwidth = 1.45 MHz.

COMMENT #2: Channel Setting: F Band, Highest.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Appendix C

Equivalent Isotropically Radiated Power Test Data

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Horizontal

GSM Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1850.50	55.80	28.30	4.20	86.16	0.0001	100.00	-99.9999
B	1877.50	50.90	28.30	4.20	81.26	0.0000	100.00	-100.0000
C	1909.50	52.50	28.30	4.20	82.86	0.0001	100.00	-99.9999
D	1865.50	64.20	28.30	4.20	94.56	0.0009	100.00	-99.9991
E	1887.50	59.60	28.30	4.20	89.96	0.0003	100.00	-99.9997
F	1894.50	56.10	28.30	4.20	86.46	0.0001	100.00	-99.9999

GSM Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1930.50	55.80	28.30	4.20	86.16	0.0001	100.00	-99.9999
B	1957.50	58.90	28.30	4.20	89.26	0.0003	100.00	-99.9997
C	1989.50	62.80	28.30	4.20	93.16	0.0006	100.00	-99.9994
D	1945.50	50.60	28.30	4.20	80.96	0.0000	100.00	-100.0000
E	1967.50	61.30	28.30	4.20	91.66	0.0004	100.00	-99.9996
F	1974.50	61.10	28.30	4.20	91.46	0.0004	100.00	-99.9996

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 22 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Vertical

GSM Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1850.50	85.50	28.30	4.20	115.86	0.1156	100.00	-99.8844
B	1877.50	85.00	28.30	4.20	115.36	0.1031	100.00	-99.8969
C	1909.50	84.60	28.30	4.20	114.96	0.0940	100.00	-99.9060
D	1865.50	85.00	28.30	4.20	115.36	0.1031	100.00	-99.8969
E	1887.50	85.70	28.30	4.20	116.06	0.1211	100.00	-99.8789
F	1894.50	84.90	28.30	4.20	115.26	0.1007	100.00	-99.8993

GSM Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1930.50	85.50	28.30	4.20	115.86	0.1156	100.00	-99.8844
B	1957.50	86.10	28.30	4.20	116.46	0.1328	100.00	-99.8672
C	1989.50	84.50	28.30	4.20	114.86	0.0919	100.00	-99.9081
D	1945.50	85.70	28.30	4.20	116.06	0.1211	100.00	-99.8789
E	1967.50	85.70	28.30	4.20	116.06	0.1211	100.00	-99.8789
F	1974.50	84.50	28.30	4.20	114.86	0.0919	100.00	-99.9081

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 57 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Horizontal

TDMA Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1850.50	60.40	28.30	4.20	90.76	0.0004	100.00	-99.9996
B	1877.50	61.20	28.30	4.20	91.56	0.0004	100.00	-99.9996
C	1909.50	60.10	28.30	4.20	90.46	0.0003	100.00	-99.9997
D	1865.50	57.90	28.30	4.20	88.26	0.0002	100.00	-99.9998
E	1887.50	47.80	28.30	4.20	78.16	0.0000	100.00	-100.0000
F	1894.50	51.50	28.30	4.20	81.86	0.0000	100.00	-100.0000

TDMA Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1930.50	57.20	28.30	4.20	87.56	0.0002	100.00	-99.9998
B	1957.50	56.80	28.30	4.20	87.16	0.0002	100.00	-99.9998
C	1989.50	56.00	28.30	4.20	86.36	0.0001	100.00	-99.9999
D	1945.50	59.80	28.30	4.20	90.16	0.0003	100.00	-99.9997
E	1967.50	62.80	28.30	4.20	93.16	0.0006	100.00	-99.9994
F	1974.50	64.50	28.30	4.20	94.86	0.0009	100.00	-99.9991

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 22 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Vertical

TDMA Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1850.50	87.60	28.30	4.20	117.96	0.1876	100.00	-99.8124
B	1877.50	87.10	28.30	4.20	117.46	0.1672	100.00	-99.8328
C	1909.50	86.50	28.30	4.20	116.86	0.1456	100.00	-99.8544
D	1865.50	87.90	28.30	4.20	118.26	0.2010	100.00	-99.7990
E	1887.50	88.10	28.30	4.20	118.46	0.2104	100.00	-99.7896
F	1894.50	87.60	28.30	4.20	117.96	0.1876	100.00	-99.8124

TDMA Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1930.50	87.70	28.30	4.20	118.06	0.1919	100.00	-99.8081
B	1957.50	87.30	28.30	4.20	117.66	0.1750	100.00	-99.8250
C	1989.50	86.30	28.30	4.20	116.66	0.1390	100.00	-99.8610
D	1945.50	87.60	28.30	4.20	117.96	0.1876	100.00	-99.8124
E	1967.50	87.40	28.30	4.20	117.76	0.1791	100.00	-99.8209
F	1974.50	87.20	28.30	4.20	117.56	0.1710	100.00	-99.8290

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 57 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Horizontal

CDMA Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1851.25	56.80	28.30	4.20	87.16	0.0002	100.00	-99.9998
B	1877.50	52.60	28.30	4.20	82.96	0.0001	100.00	-99.9999
C	1908.75	52.90	28.30	4.20	83.26	0.0001	100.00	-99.9999
D	1866.25	51.70	28.30	4.20	82.06	0.0000	100.00	-100.0000
E	1887.50	45.20	28.30	4.20	75.56	0.0000	100.00	-100.0000
F	1893.75	42.30	28.30	4.20	72.66	0.0000	100.00	-100.0000

CDMA Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1931.25	55.20	28.30	4.20	85.56	0.0001	100.00	-99.9999
B	1957.50	55.90	28.30	4.20	86.26	0.0001	100.00	-99.9999
C	1988.75	57.30	28.30	4.20	87.66	0.0002	100.00	-99.9998
D	1946.25	49.50	28.30	4.20	79.86	0.0000	100.00	-100.0000
E	1967.50	57.10	28.30	4.20	87.46	0.0002	100.00	-99.9998
F	1973.75	57.00	28.30	4.20	87.36	0.0002	100.00	-99.9998

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 22 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Equivalent Isotropically Power Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999 Antenna Polarization: Vertical

CDMA Mode, Uplink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1851.25	81.70	28.30	4.20	112.06	0.0482	100.00	-99.9518
B	1877.50	82.30	28.30	4.20	112.66	0.0554	100.00	-99.9446
C	1908.75	81.00	28.30	4.20	111.36	0.0410	100.00	-99.9590
D	1866.25	82.00	28.30	4.20	112.36	0.0517	100.00	-99.9483
E	1887.50	82.90	28.30	4.20	113.26	0.0636	100.00	-99.9364
F	1893.75	81.80	28.30	4.20	112.16	0.0493	100.00	-99.9507

CDMA Mode: Downlink

Band	Freq. (MHz)	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Level EIRP (watts)	Limit (watts)	Margin (watts)
A	1931.25	83.00	28.30	4.20	113.36	0.0650	100.00	-99.9350
B	1957.50	82.00	28.30	4.20	112.36	0.0517	100.00	-99.9483
C	1988.75	81.70	28.30	4.20	112.06	0.0482	100.00	-99.9518
D	1946.25	81.20	28.30	4.20	111.56	0.0430	100.00	-99.9570
E	1967.50	81.10	28.30	4.20	111.46	0.0420	100.00	-99.9580
F	1973.75	80.80	28.30	4.20	111.16	0.0392	100.00	-99.9608

COMMENT #1: Worst Case Height (All modulations): 1.5 meter

COMMENT #2: Worst case emission direction for all measurements was 57 degrees.

COMMENT #3: Corrected Level = Recorded Level + Antenna Factor + Cable Loss – 2.14 (gain of ideal dipole antenna)

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey Lenk

Appendix D

Out of Band Emissions (Radiated) Test Data

Out of Band Emission - Radiated Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 8, 1999

Freq. (MHz)	EUT Direction (Deg)	Recorded Level (dBuV)	Cable Loss (dB)	Antenna Factor (dBuV/m)	Corrected Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Fundamental	-	-	-	-	-	115.2	Ref
1st Harmonic	180.0	19.70	6.4	32.0	58.1	82.2	-24.1
2nd Harmonic	180.0	17.30	7.8	36.1	61.2	82.2	-21.0
3rd Harmonic	180.0	17.30	9.4	37.0	63.7	82.2	-18.5
4th Harmonic	180.0	20.90	10.6	37.1	68.6	82.2	-13.6
5th Harmonic	180.0	20.40	11.4	38.5	70.3	82.2	-11.9
6th Harmonic	180.0	22.80	12.1	38.4	73.3	82.2	-8.9
7th Harmonic	180.0	25.40	12.8	37.1	75.3	82.2	-6.9
8th Harmonic	180.0	23.80	13.6	38.9	76.3	82.2	-5.9
9th Harmonic	180.0	24.50	14.4	39.2	78.1	82.2	-4.1

COMMENT #1: The Data above are all the ambient noise level for all bands, all modulation types, and all antenna configurations. No out of band signal was detected at the three-meter site.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Appendix E

Out of Band Emissions (Conducted) Test Data

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
BAND: A

PROJECT #: 99-359
MODE: GSM, Uplink
Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1850.5	-	-	-	20.0	Ref
3701.0	-68.1	3.1	-65.0	-13.0	-52.0
5551.5	-91.8	3.7	-88.1	-13.0	-75.1
7402.0	-88.7	4.6	-84.1	-13.0	-71.1
9252.5	-89.1	5.2	-83.9	-13.0	-70.9
11103.0	-90.4	5.6	-84.8	-13.0	-71.8
12953.5	-87.7	5.9	-81.8	-13.0	-68.8
14804.0	-86.8	6.1	-80.7	-13.0	-67.7
16654.5	-87.0	6.6	-80.4	-13.0	-67.4
18505.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1850.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
BAND: B

PROJECT #: 99-359
MODE: GSM, Uplink
Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1877.5	-	-	-	20.0	Ref
3755.0	-66.3	3.1	-63.2	-13.0	-50.2
5632.5	-84.0	3.7	-80.3	-13.0	-67.3
7510.0	-88.7	4.6	-84.1	-13.0	-71.1
9387.5	-89.1	5.2	-83.9	-13.0	-70.9
11265.0	-90.4	5.6	-84.8	-13.0	-71.8
13142.5	-87.7	5.9	-81.8	-13.0	-68.8
15020.0	-86.8	6.1	-80.7	-13.0	-67.7
16897.5	-87.0	6.6	-80.4	-13.0	-67.4
18775.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1877.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
BAND: C

PROJECT #: 99-359
MODE: GSM, Uplink
Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1909.5	-	-	-	20.0	Ref
3819.0	-70.0	3.1	-66.9	-13.0	-53.9
5728.5	-74.1	3.7	-70.4	-13.0	-57.4
7638.0	-88.7	4.6	-84.1	-13.0	-71.1
9547.5	-89.1	5.2	-83.9	-13.0	-70.9
11457.0	-90.4	5.6	-84.8	-13.0	-71.8
13366.5	-87.7	5.9	-81.8	-13.0	-68.8
15276.0	-86.8	6.1	-80.7	-13.0	-67.7
17185.5	-87.0	6.6	-80.4	-13.0	-67.4
19095.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1909.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.

Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1865.5	-	-	-	20.0	Ref
3731.0	-70.4	3.1	-67.3	-13.0	-54.3
5596.5	-81.7	3.7	-78.0	-13.0	-65.0
7462.0	-88.7	4.6	-84.1	-13.0	-71.1
9327.5	-89.1	5.2	-83.9	-13.0	-70.9
11193.0	-90.4	5.6	-84.8	-13.0	-71.8
13058.5	-87.7	5.9	-81.8	-13.0	-68.8
14924.0	-86.8	6.1	-80.7	-13.0	-67.7
16789.5	-87.0	6.6	-80.4	-13.0	-67.4
18655.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1865.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A
DATE: November 15, 1999
BAND: E

PROJECT #: 99-359
MODE: GSM, Uplink
Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1887.5	-	-	-	20.0	Ref
3775.0	-62.9	3.1	-59.8	-13.0	-46.8
5662.5	-79.2	3.7	-75.5	-13.0	-62.5
7550.0	-88.7	4.6	-84.1	-13.0	-71.1
9437.5	-89.1	5.2	-83.9	-13.0	-70.9
11325.0	-90.4	5.6	-84.8	-13.0	-71.8
13212.5	-87.7	5.9	-81.8	-13.0	-68.8
15100.0	-86.8	6.1	-80.7	-13.0	-67.7
16987.5	-87.0	6.6	-80.4	-13.0	-67.4
18875.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1887.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Uplink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1894.5	-	-	-	20.0	Ref
3789.0	-60.7	3.1	-57.6	-13.0	-44.6
5683.5	-78.5	3.7	-74.8	-13.0	-61.8
7578.0	-88.7	4.6	-84.1	-13.0	-71.1
9472.5	-89.1	5.2	-83.9	-13.0	-70.9
11367.0	-90.4	5.6	-84.8	-13.0	-71.8
13261.5	-87.7	5.9	-81.8	-13.0	-68.8
15156.0	-86.8	6.1	-80.7	-13.0	-67.7
17050.5	-87.0	6.6	-80.4	-13.0	-67.4
18945.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1894.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359

DATE: November 15, 1999 MODE: GSM, Downlink
BAND: A Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1930.5	-	-	-	20.0	Ref
3861.0	-68.8	3.1	-65.7	-13.0	-52.7
5791.5	-67.9	3.7	-64.2	-13.0	-51.2
7722.0	-88.1	4.6	-83.5	-13.0	-70.5
9652.5	-84.5	5.2	-79.3	-13.0	-66.3
11583.0	-62.5	5.6	-56.9	-13.0	-43.9
13513.5	-87.7	5.9	-81.8	-13.0	-68.8
15444.0	-86.8	6.1	-80.7	-13.0	-67.7
17374.5	-87.0	6.6	-80.4	-13.0	-67.4
19305.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1930.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink

BAND: B Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1957.5	-	-	-	20.0	Ref
3915.0	-63.4	3.1	-60.3	-13.0	-47.3
5872.5	-80.6	3.7	-76.9	-13.0	-63.9
7830.0	-88.7	4.6	-84.1	-13.0	-71.1
9787.5	-87.7	5.2	-82.5	-13.0	-69.5
11745.0	-75.4	5.6	-69.8	-13.0	-56.8
13702.5	-87.7	5.9	-81.8	-13.0	-68.8
15660.0	-86.8	6.1	-80.7	-13.0	-67.7
17617.5	-87.0	6.6	-80.4	-13.0	-67.4
19575.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1957.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
BAND: C Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1989.5	-	-	-	20.0	Ref
3979.0	-65.7	3.1	-62.6	-13.0	-49.6
5968.5	-74.1	3.7	-70.4	-13.0	-57.4
7958.0	-88.7	4.6	-84.1	-13.0	-71.1
9947.5	-89.1	5.2	-83.9	-13.0	-70.9
11937.0	-86.1	5.6	-80.5	-13.0	-67.5
13926.5	-87.7	5.9	-81.8	-13.0	-68.8
15916.0	-86.8	6.1	-80.7	-13.0	-67.7
17905.5	-87.0	6.6	-80.4	-13.0	-67.4
19895.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1989.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1945.5	-	-	-	20.0	Ref
3891.0	-63.1	3.1	-60.0	-13.0	-47.0
5836.5	-87.1	3.7	-83.4	-13.0	-70.4
7782.0	-88.7	4.6	-84.1	-13.0	-71.1
9727.5	-83.5	5.2	-78.3	-13.0	-65.3
11673.0	-78.0	5.6	-72.4	-13.0	-59.4
13618.5	-87.7	5.9	-81.8	-13.0	-68.8
15564.0	-86.8	6.1	-80.7	-13.0	-67.7
17509.5	-87.0	6.6	-80.4	-13.0	-67.4
19455.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1945.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
BAND: E Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1967.5	-	-	-	20.0	Ref
3935.0	-62.4	3.1	-59.3	-13.0	-46.3
5902.5	-89.1	3.7	-85.4	-13.0	-72.4
7870.0	-88.7	4.6	-84.1	-13.0	-71.1
9837.5	-81.9	5.2	-76.7	-13.0	-63.7
11805.0	-89.1	5.6	-83.5	-13.0	-70.5
13772.5	-87.7	5.9	-81.8	-13.0	-68.8
15740.0	-86.8	6.1	-80.7	-13.0	-67.7
17707.5	-87.0	6.6	-80.4	-13.0	-67.4
19675.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1967.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: GSM, Downlink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1974.5	-	-	-	20.0	Ref
3949.0	-63.2	3.1	-60.1	-13.0	-47.1
5923.5	-89.1	3.7	-85.4	-13.0	-72.4
7898.0	-88.7	4.6	-84.1	-13.0	-71.1
9872.5	-83.2	5.2	-78.0	-13.0	-65.0
11847.0	-90.4	5.6	-84.8	-13.0	-71.8
13821.5	-87.7	5.9	-81.8	-13.0	-68.8
15796.0	-86.8	6.1	-80.7	-13.0	-67.7
17770.5	-87.0	6.6	-80.4	-13.0	-67.4
19745.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1974.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: A Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1850.5	-	-	-	20.0	Ref
3701.0	-56.2	3.1	-53.1	-13.0	-40.1
5551.5	-93.5	3.7	-89.8	-13.0	-76.8
7402.0	-88.7	4.6	-84.1	-13.0	-71.1
9252.5	-89.1	5.2	-83.9	-13.0	-70.9
11103.0	-90.4	5.6	-84.8	-13.0	-71.8
12953.5	-87.7	5.9	-81.8	-13.0	-68.8
14804.0	-86.8	6.1	-80.7	-13.0	-67.7
16654.5	-87.0	6.6	-80.4	-13.0	-67.4
18505.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1850.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: B Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1877.5	-	-	-	20.0	Ref
3755.0	-64.0	3.1	-60.9	-13.0	-47.9
5632.5	-77.7	3.7	-74.0	-13.0	-61.0
7510.0	-88.7	4.6	-84.1	-13.0	-71.1
9387.5	-85.4	5.2	-80.2	-13.0	-67.2
11265.0	-90.4	5.6	-84.8	-13.0	-71.8
13142.5	-87.7	5.9	-81.8	-13.0	-68.8
15020.0	-86.8	6.1	-80.7	-13.0	-67.7
16897.5	-87.0	6.6	-80.4	-13.0	-67.4
18775.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1877.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: C Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1909.5	-	-	-	20.0	Ref
3819.0	68.0	3.1	71.1	-13.0	84.1
5728.5	-68.1	3.7	-64.4	-13.0	-51.4
7638.0	-88.7	4.6	-84.1	-13.0	-71.1
9547.5	-88.4	5.2	-83.2	-13.0	-70.2
11457.0	-87.1	5.6	-81.5	-13.0	-68.5
13366.5	-87.7	5.9	-81.8	-13.0	-68.8
15276.0	-86.8	6.1	-80.7	-13.0	-67.7
17185.5	-87.0	6.6	-80.4	-13.0	-67.4
19095.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1909.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1865.5	-	-	-	20.0	Ref
3731.0	67.5	3.1	70.6	-13.0	83.6
5596.5	-81.7	3.7	-78.0	-13.0	-65.0
7462.0	-88.7	4.6	-84.1	-13.0	-71.1
9327.5	-89.1	5.2	-83.9	-13.0	-70.9
11193.0	-90.4	5.6	-84.8	-13.0	-71.8
13058.5	-87.7	5.9	-81.8	-13.0	-68.8
14924.0	-86.8	6.1	-80.7	-13.0	-67.7
16789.5	-87.0	6.6	-80.4	-13.0	-67.4
18655.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1865.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: E Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1887.5	-	-	-	20.0	Ref
3775.0	-56.5	3.1	-53.4	-13.0	-40.4
5662.5	-73.8	3.7	-70.1	-13.0	-57.1
7550.0	-88.7	4.6	-84.1	-13.0	-71.1
9437.5	-89.1	5.2	-83.9	-13.0	-70.9
11325.0	-90.4	5.6	-84.8	-13.0	-71.8
13212.5	-87.7	5.9	-81.8	-13.0	-68.8
15100.0	-86.8	6.1	-80.7	-13.0	-67.7
16987.5	-87.0	6.6	-80.4	-13.0	-67.4
18875.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1887.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Uplink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1894.5	-	-	-	20.0	Ref
3789.0	58.9	3.1	62.0	-13.0	75.0
5683.5	-73.5	3.7	-69.8	-13.0	-56.8
7578.0	-88.7	4.6	-84.1	-13.0	-71.1
9472.5	-89.1	5.2	-83.9	-13.0	-70.9
11367.0	-90.4	5.6	-84.8	-13.0	-71.8
13261.5	-87.7	5.9	-81.8	-13.0	-68.8
15156.0	-86.8	6.1	-80.7	-13.0	-67.7
17050.5	-87.0	6.6	-80.4	-13.0	-67.4
18945.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1894.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: A Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1894.5	-	-	-	20.0	Ref
3789.0	58.9	3.1	62.0	-13.0	75.0
5683.5	-73.5	3.7	-69.8	-13.0	-56.8
7578.0	-88.7	4.6	-84.1	-13.0	-71.1
9472.5	-89.1	5.2	-83.9	-13.0	-70.9
11367.0	-90.4	5.6	-84.8	-13.0	-71.8
13261.5	-87.7	5.9	-81.8	-13.0	-68.8
15156.0	-86.8	6.1	-80.7	-13.0	-67.7
17050.5	-87.0	6.6	-80.4	-13.0	-67.4
18945.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1930.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: B Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1957.5	-	-	-	20.0	Ref
3915.0	-60.1	3.1	-57.0	-13.0	-44.0
5872.5	-76.9	3.7	-73.2	-13.0	-60.2
7830.0	-88.7	4.6	-84.1	-13.0	-71.1
9787.5	-82.0	5.2	-76.8	-13.0	-63.8
11745.0	-73.3	5.6	-67.7	-13.0	-54.7
13702.5	-84.0	5.9	-78.1	-13.0	-65.1
15660.0	-86.8	6.1	-80.7	-13.0	-67.7
17617.5	-87.0	6.6	-80.4	-13.0	-67.4
19575.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1957.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: C Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1989.5	-	-	-	20.0	Ref
3979.0	-55.9	3.1	-52.8	-13.0	-39.8
5968.5	-78.3	3.7	-74.6	-13.0	-61.6
7958.0	-88.7	4.6	-84.1	-13.0	-71.1
9947.5	-82.8	5.2	-77.6	-13.0	-64.6
11937.0	-83.8	5.6	-78.2	-13.0	-65.2
13926.5	-87.7	5.9	-81.8	-13.0	-68.8
15916.0	-82.4	6.1	-76.3	-13.0	-63.3
17905.5	-87.0	6.6	-80.4	-13.0	-67.4
19895.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1989.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1945.5	-	-	-	20.0	Ref
3891.0	-70.4	3.1	-67.3	-13.0	-54.3
5836.5	-82.5	3.7	-78.8	-13.0	-65.8
7782.0	-88.7	4.6	-84.1	-13.0	-71.1
9727.5	-78.0	5.2	-72.8	-13.0	-59.8
11673.0	-73.8	5.6	-68.2	-13.0	-55.2
13618.5	-80.7	5.9	-74.8	-13.0	-61.8
15564.0	-86.8	6.1	-80.7	-13.0	-67.7
17509.5	-87.0	6.6	-80.4	-13.0	-67.4
19455.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1945.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: E Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1967.5	-	-	-	20.0	Ref
3935.0	-59.7	3.1	-56.6	-13.0	-43.6
5902.5	-83.6	3.7	-79.9	-13.0	-66.9
7870.0	-88.7	4.6	-84.1	-13.0	-71.1
9837.5	-73.4	5.2	-68.2	-13.0	-55.2
11805.0	-84.9	5.6	-79.3	-13.0	-66.3
13772.5	-80.8	5.9	-74.9	-13.0	-61.9
15740.0	-86.8	6.1	-80.7	-13.0	-67.7
17707.5	-87.0	6.6	-80.4	-13.0	-67.4
19675.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1967.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: TDMA, Downlink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1974.5	-	-	-	20.0	Ref
3949.0	-62.7	3.1	-59.6	-13.0	-46.6
5923.5	-84.4	3.7	-80.7	-13.0	-67.7
7898.0	-88.7	4.6	-84.1	-13.0	-71.1
9872.5	-73.5	5.2	-68.3	-13.0	-55.3
11847.0	-88.0	5.6	-82.4	-13.0	-69.4
13821.5	-87.7	5.9	-81.8	-13.0	-68.8
15796.0	-86.8	6.1	-80.7	-13.0	-67.7
17770.5	-87.0	6.6	-80.4	-13.0	-67.4
19745.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1974.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: A Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1851.25	-	-	-	20.0	Ref
3702.50	-63.0	3.1	-59.9	-13.0	-46.9
5553.75	-93.5	3.7	-89.8	-13.0	-76.8
7405.00	-88.7	4.6	-84.1	-13.0	-71.1
9256.25	-89.1	5.2	-83.9	-13.0	-70.9
11107.50	-90.4	5.6	-84.8	-13.0	-71.8
12958.75	-87.7	5.9	-81.8	-13.0	-68.8
14810.00	-86.8	6.1	-80.7	-13.0	-67.7
16661.25	-87.0	6.6	-80.4	-13.0	-67.4
18512.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1851.25 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: B Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1877.5	-	-	-	20.0	Ref
3755.0	-68.9	3.1	-65.8	-13.0	-52.8
5632.5	-91.1	3.7	-87.4	-13.0	-74.4
7510.0	-88.7	4.6	-84.1	-13.0	-71.1
9387.5	-85.4	5.2	-80.2	-13.0	-67.2
11265.0	-90.4	5.6	-84.8	-13.0	-71.8
13142.5	-87.7	5.9	-81.8	-13.0	-68.8
15020.0	-86.8	6.1	-80.7	-13.0	-67.7
16897.5	-87.0	6.6	-80.4	-13.0	-67.4
18775.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1877.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: C Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1908.75	-	-	-	20.0	Ref
3817.50	-66.2	3.1	-63.1	-13.0	-50.1
5726.25	-83.0	3.7	-79.3	-13.0	-66.3
7635.00	-88.7	4.6	-84.1	-13.0	-71.1
9543.75	-88.4	5.2	-83.2	-13.0	-70.2
11452.50	-87.1	5.6	-81.5	-13.0	-68.5
13361.25	-87.7	5.9	-81.8	-13.0	-68.8
15270.00	-86.8	6.1	-80.7	-13.0	-67.7
17178.75	-87.0	6.6	-80.4	-13.0	-67.4
19087.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1908.75 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1866.25	-	-	-	20.0	Ref
3732.50	-71.9	3.1	-68.8	-13.0	-55.8
5598.75	-91.1	3.7	-87.4	-13.0	-74.4
7465.00	-88.7	4.6	-84.1	-13.0	-71.1
9331.25	-89.1	5.2	-83.9	-13.0	-70.9
11197.50	-90.4	5.6	-84.8	-13.0	-71.8
13063.75	-87.7	5.9	-81.8	-13.0	-68.8
14930.00	-86.8	6.1	-80.7	-13.0	-67.7
16796.25	-87.0	6.6	-80.4	-13.0	-67.4
18662.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1866.25 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: E Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1887.5	-	-	-	20.0	Ref
3775.0	-63.6	3.1	-60.5	-13.0	-47.5
5662.5	87.5	3.7	91.2	-13.0	104.2
7550.0	-88.7	4.6	-84.1	-13.0	-71.1
9437.5	-89.1	5.2	-83.9	-13.0	-70.9
11325.0	-90.4	5.6	-84.8	-13.0	-71.8
13212.5	-87.7	5.9	-81.8	-13.0	-68.8
15100.0	-86.8	6.1	-80.7	-13.0	-67.7
16987.5	-87.0	6.6	-80.4	-13.0	-67.4
18875.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1887.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Uplink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1893.75	-	-	-	20.0	Ref
3787.50	-63.0	3.1	-59.9	-13.0	-46.9
5681.25	-88.0	3.7	-84.3	-13.0	-71.3
7575.00	-88.7	4.6	-84.1	-13.0	-71.1
9468.75	-89.1	5.2	-83.9	-13.0	-70.9
11362.50	-90.4	5.6	-84.8	-13.0	-71.8
13256.25	-87.7	5.9	-81.8	-13.0	-68.8
15150.00	-86.8	6.1	-80.7	-13.0	-67.7
17043.75	-87.0	6.6	-80.4	-13.0	-67.4
18937.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1893.75 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: A Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1931.25	-	-	-	20.0	Ref
3862.50	-66.8	3.1	-63.7	-13.0	-50.7
5793.75	-76.7	3.7	-73.0	-13.0	-60.0
7725.00	-88.1	4.6	-83.5	-13.0	-70.5
9656.25	-87.9	5.2	-82.7	-13.0	-69.7
11587.50	-63.7	5.6	-58.1	-13.0	-45.1
13518.75	-85.2	5.9	-79.3	-13.0	-66.3
15450.00	-86.8	6.1	-80.7	-13.0	-67.7
17381.25	-87.0	6.6	-80.4	-13.0	-67.4
19312.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1931.25 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: B Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1957.5	-	-	-	20.0	Ref
3915.0	-63.9	3.1	-60.8	-13.0	-47.8
5872.5	-86.1	3.7	-82.4	-13.0	-69.4
7830.0	-88.7	4.6	-84.1	-13.0	-71.1
9787.5	-85.7	5.2	-80.5	-13.0	-67.5
11745.0	-75.3	5.6	-69.7	-13.0	-56.7
13702.5	-84.0	5.9	-78.1	-13.0	-65.1
15660.0	-86.8	6.1	-80.7	-13.0	-67.7
17617.5	-87.0	6.6	-80.4	-13.0	-67.4
19575.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1957.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: C Unit: #1

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1988.75	-	-	-	20.0	Ref
3977.50	-60.9	3.1	-57.8	-13.0	-44.8
5966.25	-86.2	3.7	-82.5	-13.0	-69.5
7955.00	-89.2	4.6	-84.6	-13.0	-71.6
9943.75	-88.7	5.2	-83.5	-13.0	-70.5
11932.50	-83.0	5.6	-77.4	-13.0	-64.4
13921.25	-87.7	5.9	-81.8	-13.0	-68.8
15910.00	-87.0	6.1	-80.9	-13.0	-67.9
17898.75	-87.0	6.6	-80.4	-13.0	-67.4
19887.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1989.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: D Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1946.25	-	-	-	20.0	Ref
3892.50	-70.5	3.1	-67.4	-13.0	-54.4
5838.75	-82.5	3.7	-78.8	-13.0	-65.8
7785.00	-88.7	4.6	-84.1	-13.0	-71.1
9731.25	-88.1	5.2	-82.9	-13.0	-69.9
11677.50	-80.6	5.6	-75.0	-13.0	-62.0
13623.75	-87.0	5.9	-81.1	-13.0	-68.1
15570.00	-86.8	6.1	-80.7	-13.0	-67.7
17516.25	-87.0	6.6	-80.4	-13.0	-67.4
19462.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Lowest Setting, 1946.25 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: E Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1967.5	-	-	-	20.0	Ref
3935.0	-61.9	3.1	-58.8	-13.0	-45.8
5902.5	-83.6	3.7	-79.9	-13.0	-66.9
7870.0	-88.7	4.6	-84.1	-13.0	-71.1
9837.5	-81.3	5.2	-76.1	-13.0	-63.1
11805.0	-84.5	5.6	-78.9	-13.0	-65.9
13772.5	-87.0	5.9	-81.1	-13.0	-68.1
15740.0	-86.8	6.1	-80.7	-13.0	-67.7
17707.5	-87.0	6.6	-80.4	-13.0	-67.4
19675.0	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Middle Setting, 1967.5 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____

Larry Zhou **Jeffrey Lenk**

Out of Band Emission - Conducted Data Sheet

CI Wireless Inc.
Mini-EkoCell 1900 MHz PCS Band Repeater

SERIAL #: N/A PROJECT #: 99-359
DATE: November 15, 1999 MODE: CDMA, Downlink
BAND: F Unit: #2

Freq. (MHz)	Recorded Level (dBm)	Cable Loss (dB)	Corrected Level (dBm)	Limit (dBm)	Margin (dB)
1973.75	-	-	-	20.0	Ref
3947.50	-62.4	3.1	-59.3	-13.0	-46.3
5921.25	-84.4	3.7	-80.7	-13.0	-67.7
7895.00	-88.7	4.6	-84.1	-13.0	-71.1
9868.75	-81.9	5.2	-76.7	-13.0	-63.7
11842.50	-86.8	5.6	-81.2	-13.0	-68.2
13816.25	-87.7	5.9	-81.8	-13.0	-68.8
15790.00	-86.8	6.1	-80.7	-13.0	-67.7
17763.75	-87.0	6.6	-80.4	-13.0	-67.4
19737.50	-86.2	6.9	-79.3	-13.0	-66.3

COMMENT #1: Channel = Highest Setting, 1973.75 MHz

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey Lenk**

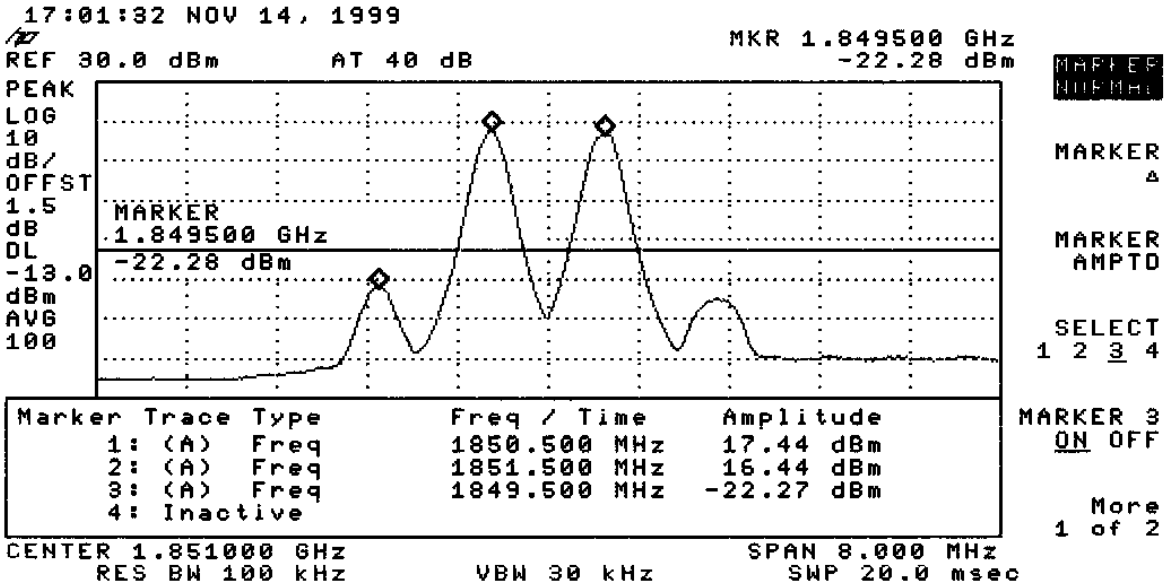
Appendix F Intermodulation Product Data Sheets

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

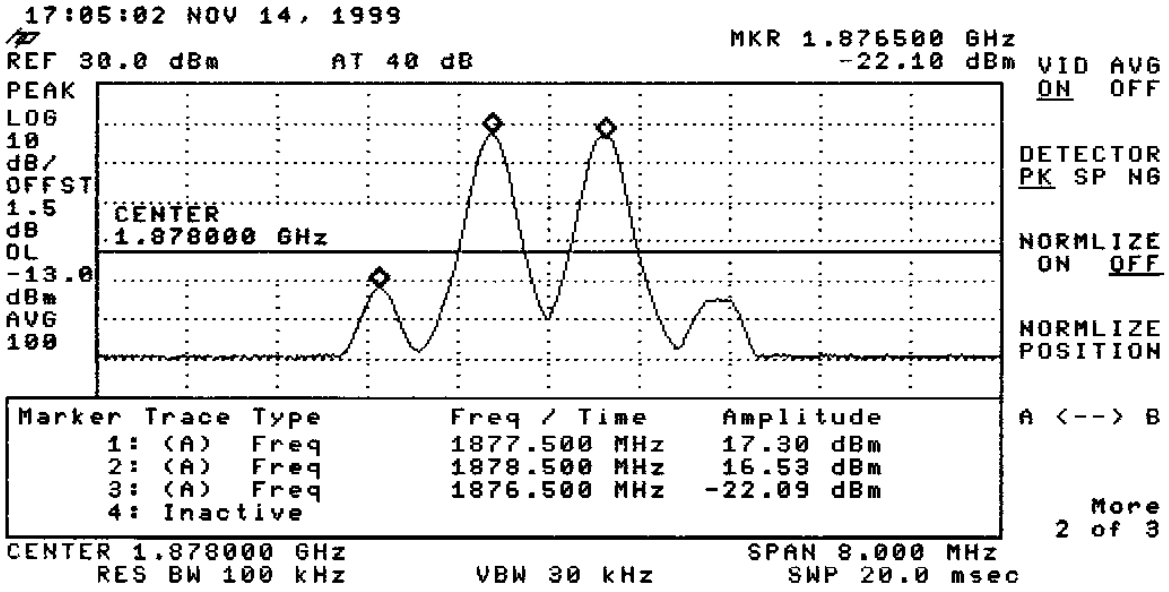
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: B Band.

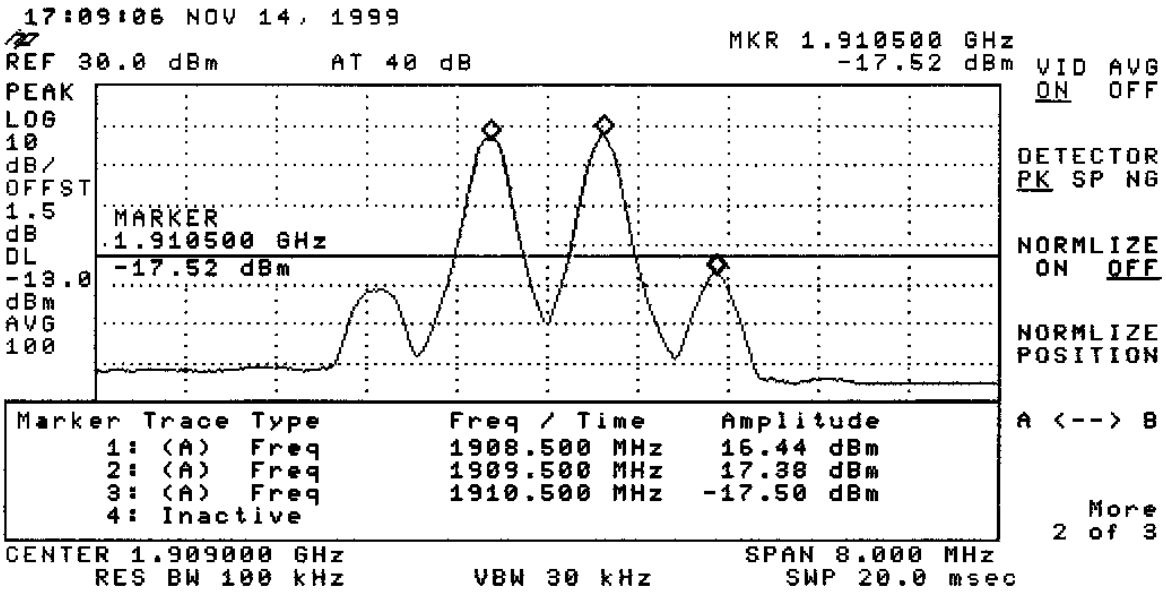
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: C Band.

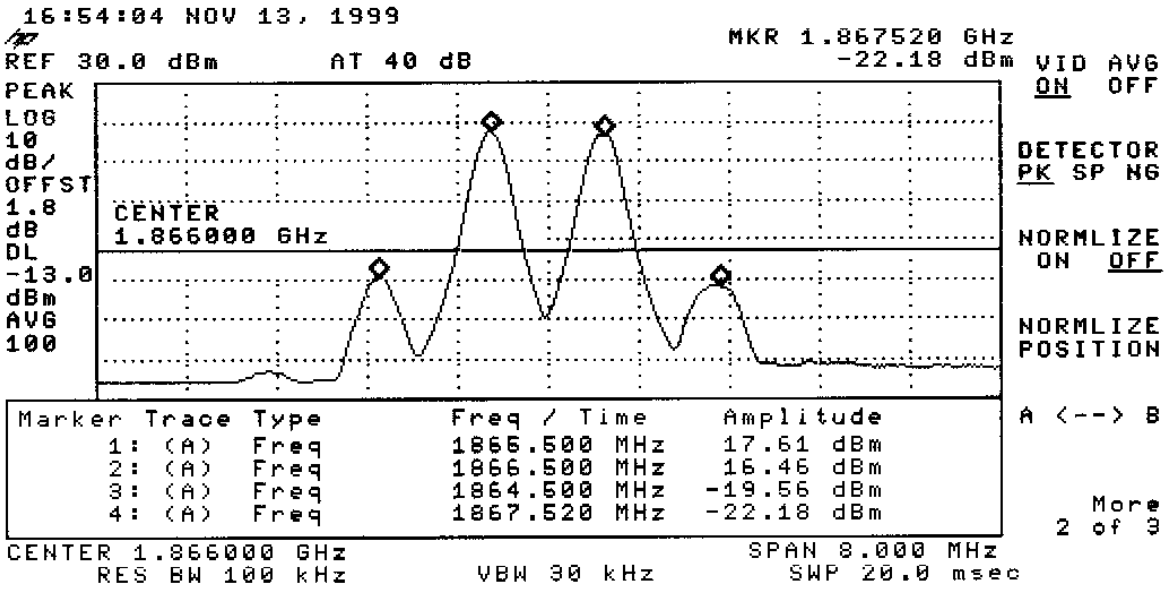
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

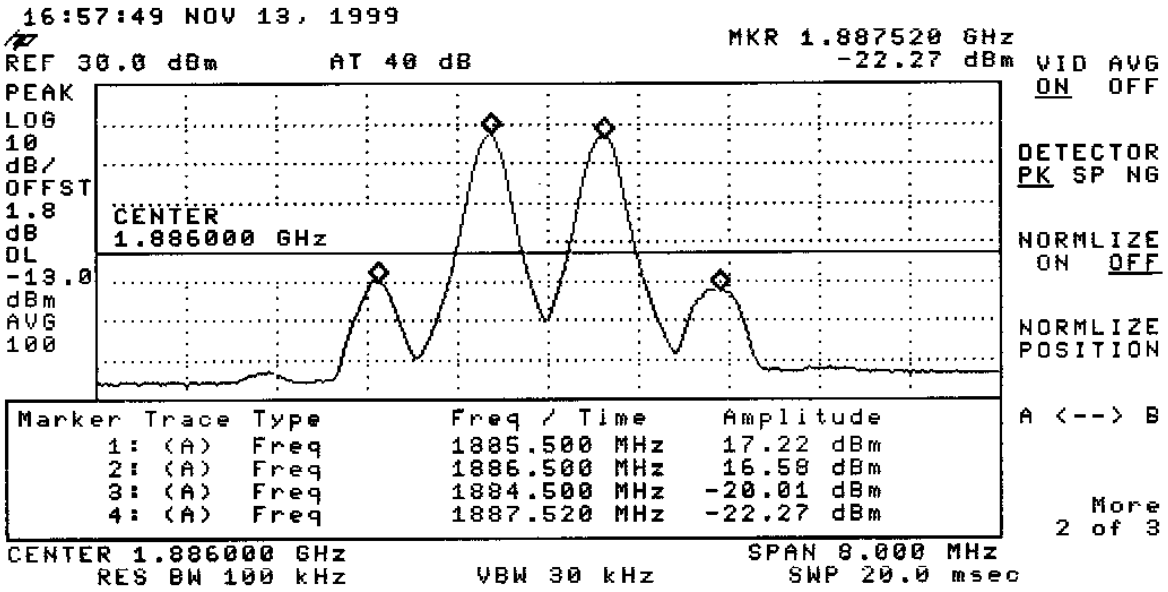
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: E Band.

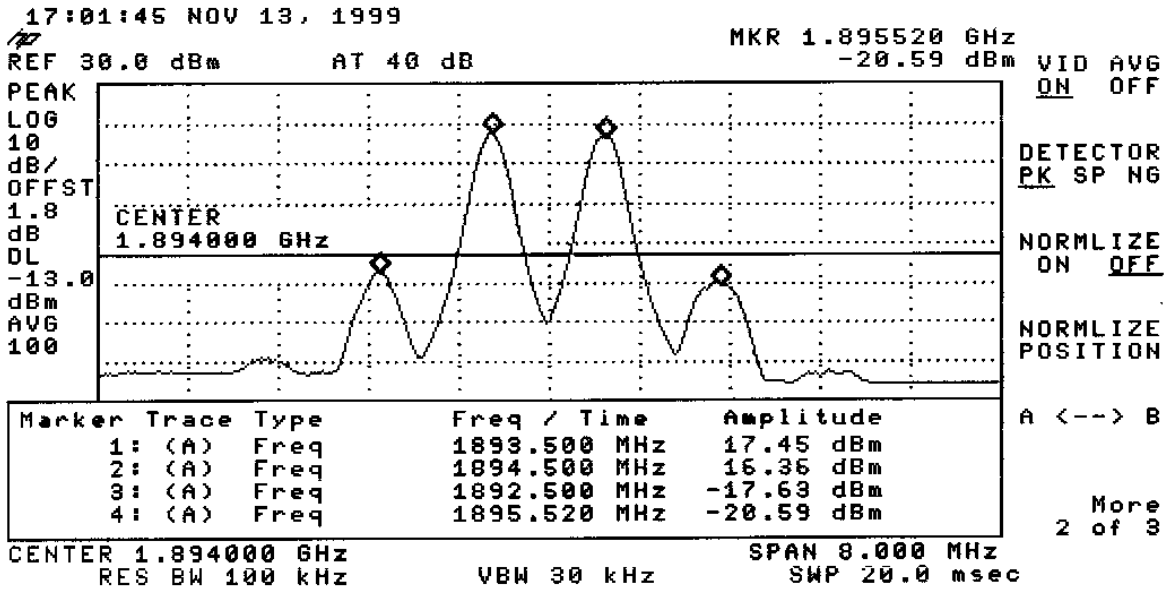
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: F Band.

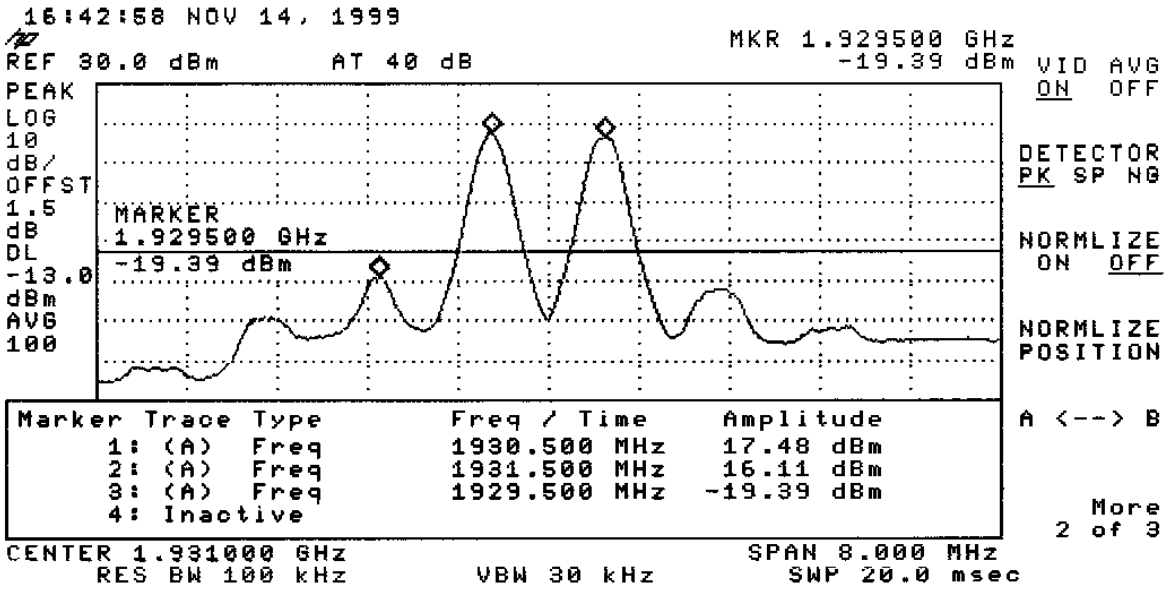
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

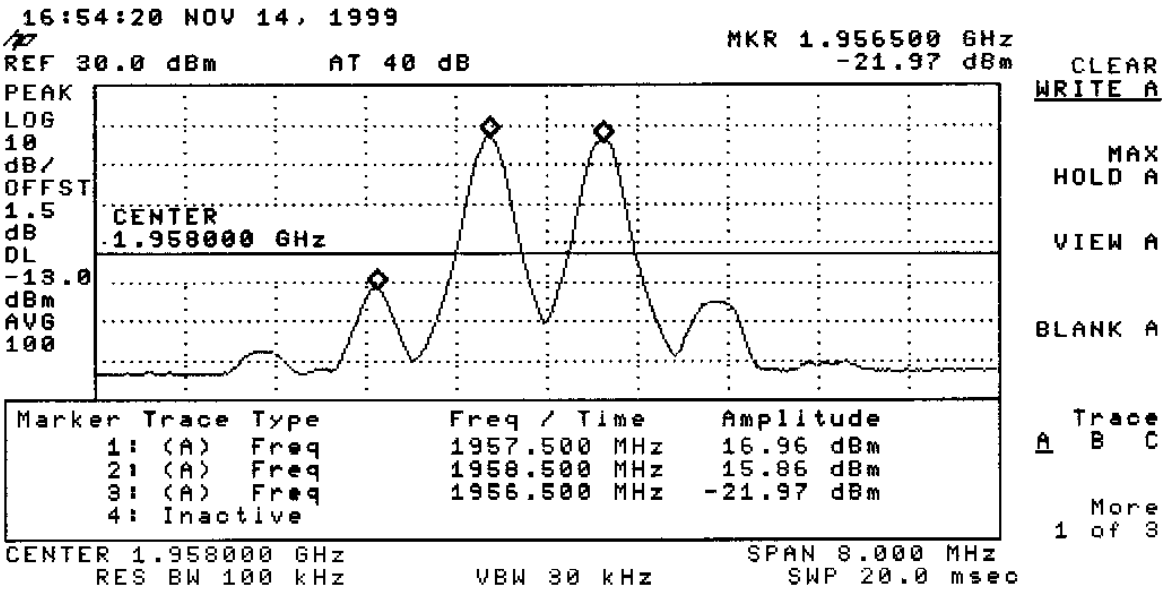
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: B Band.

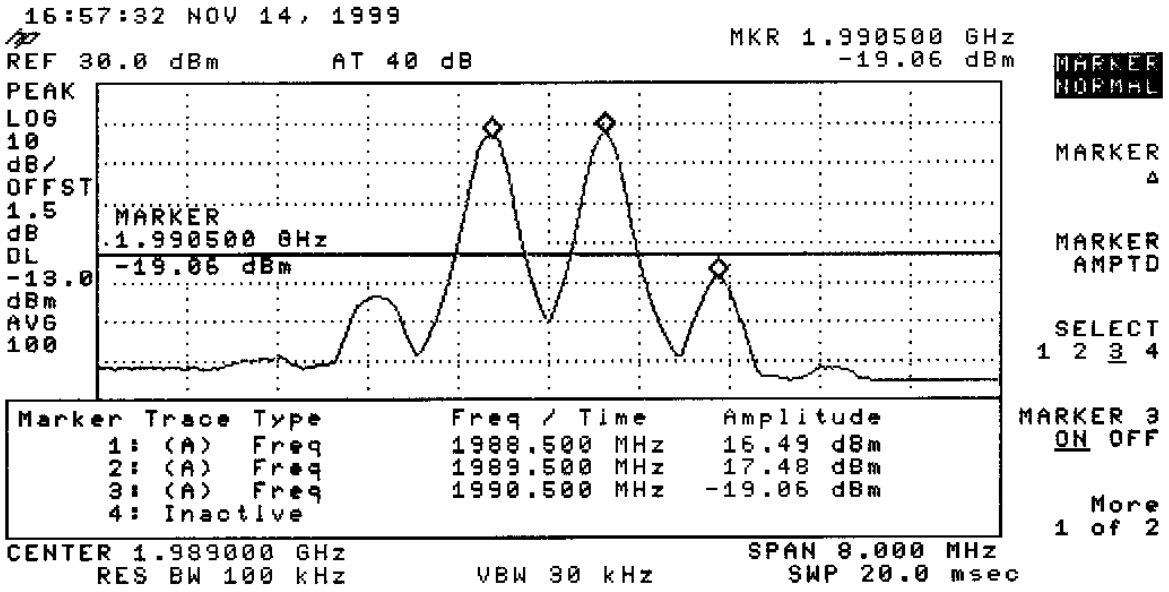
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: C Band.

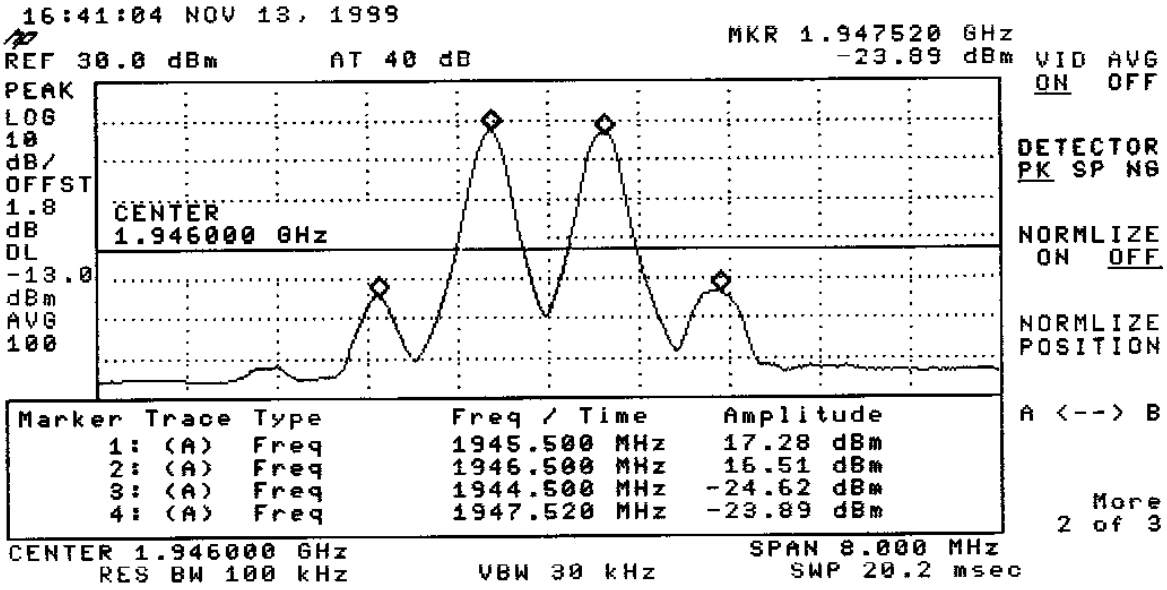
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

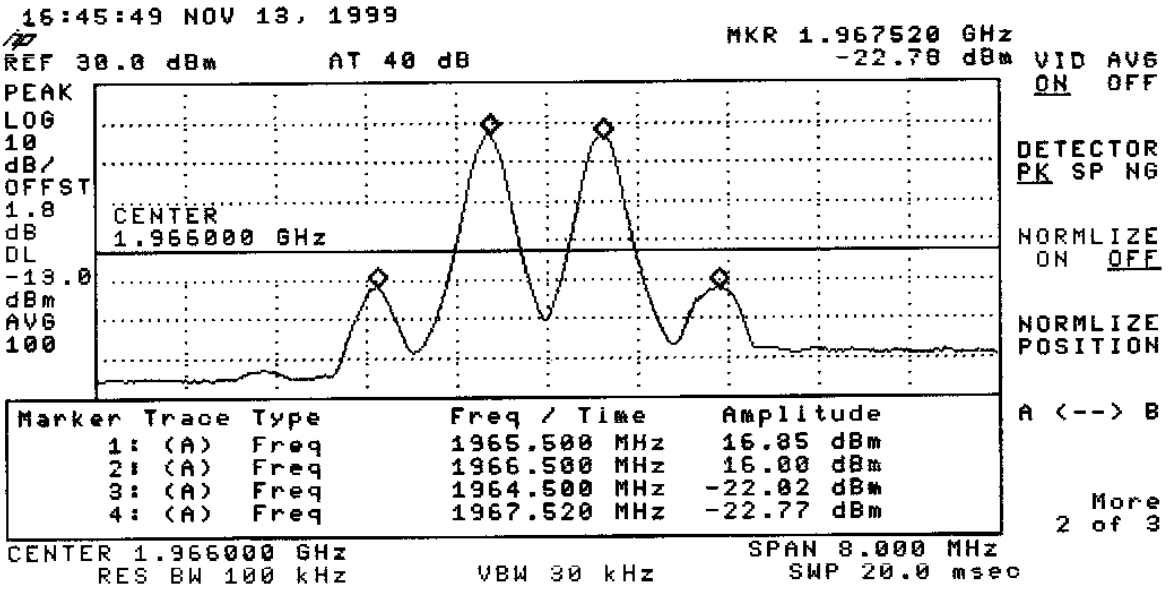
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: E Band.

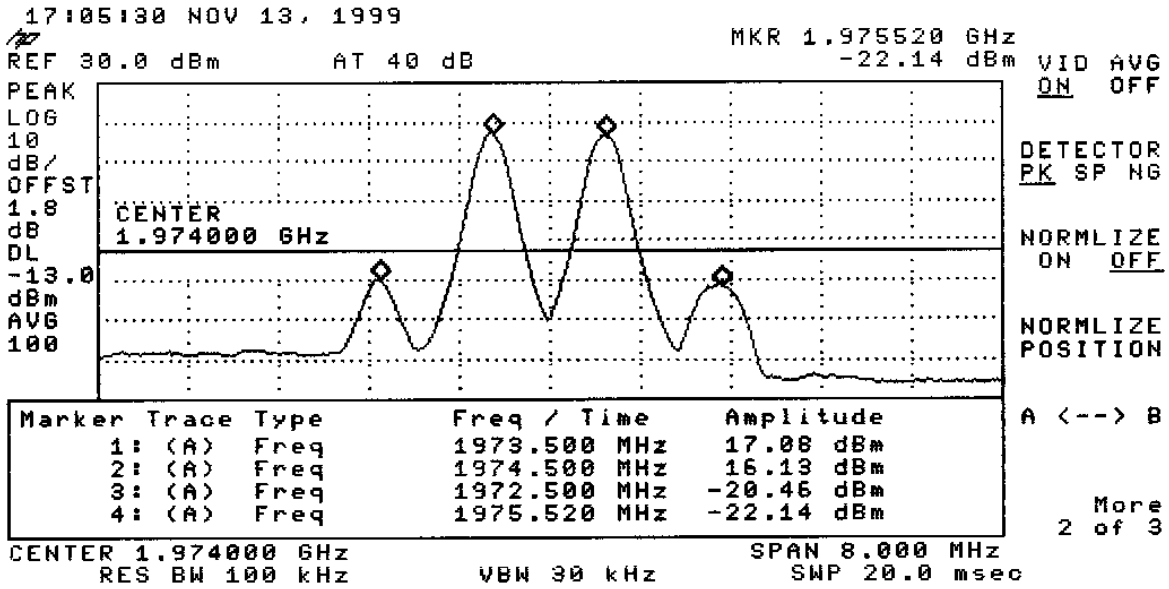
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: GSM, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: F Band.

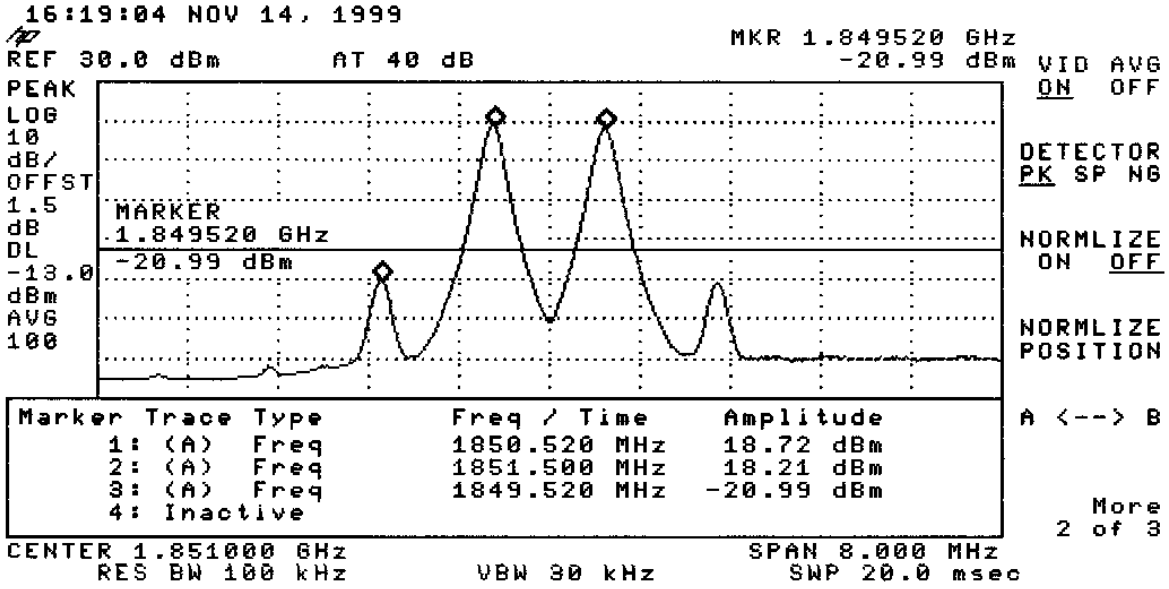
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

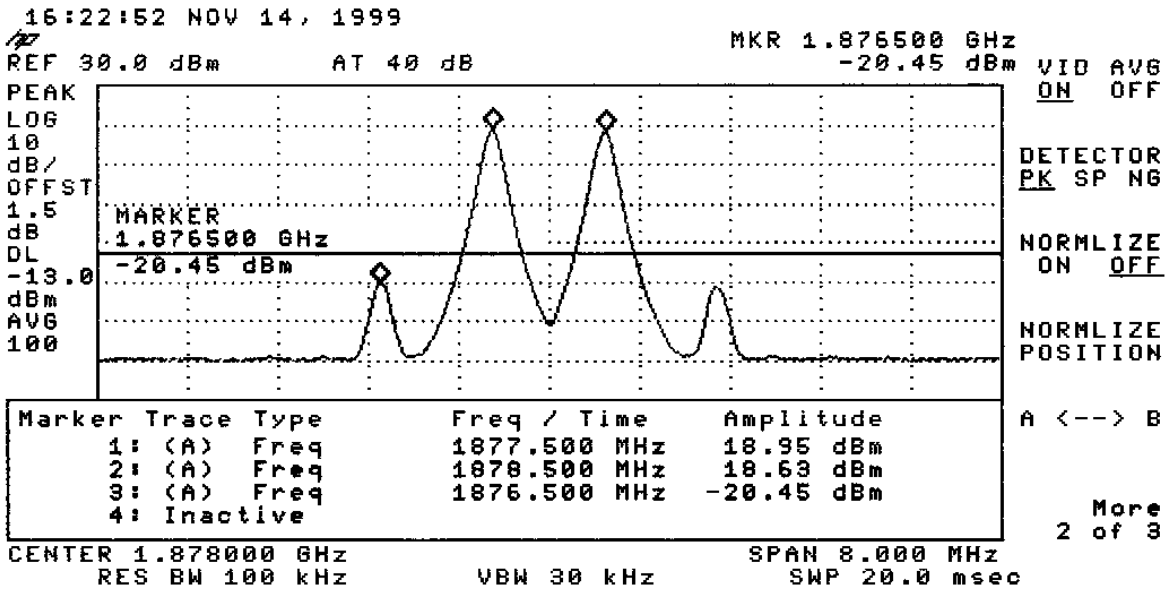
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: B Band.

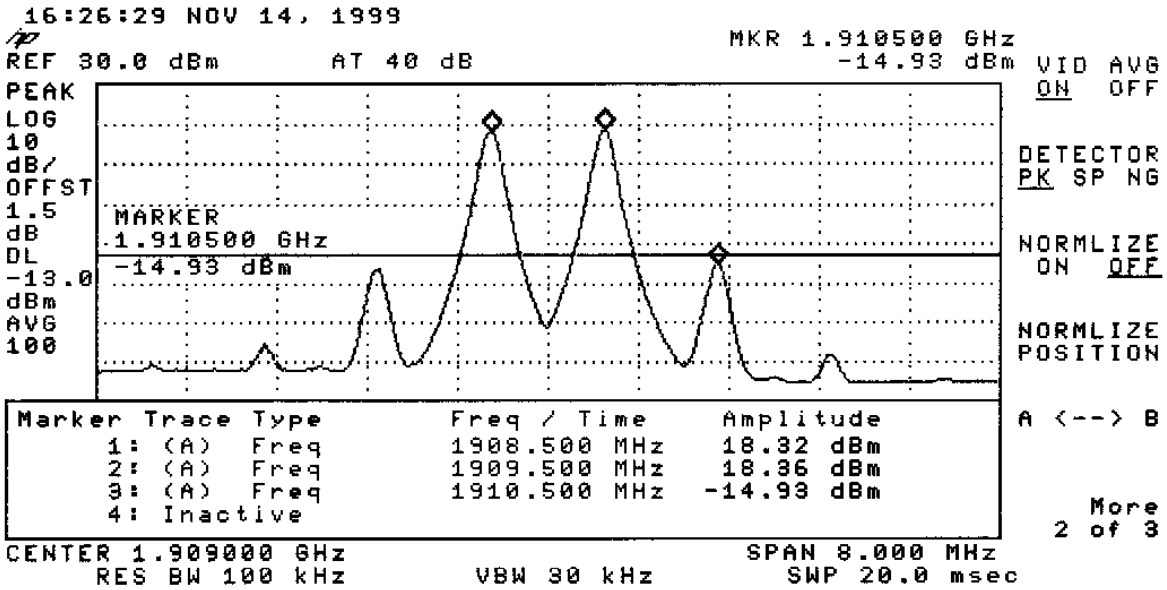
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: C Band.

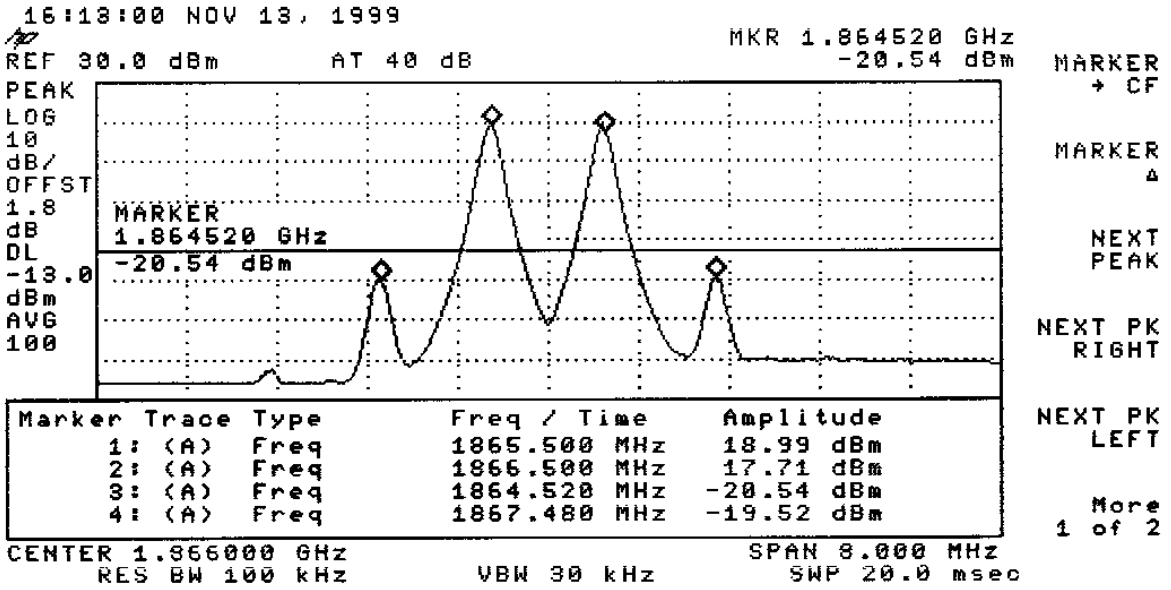
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

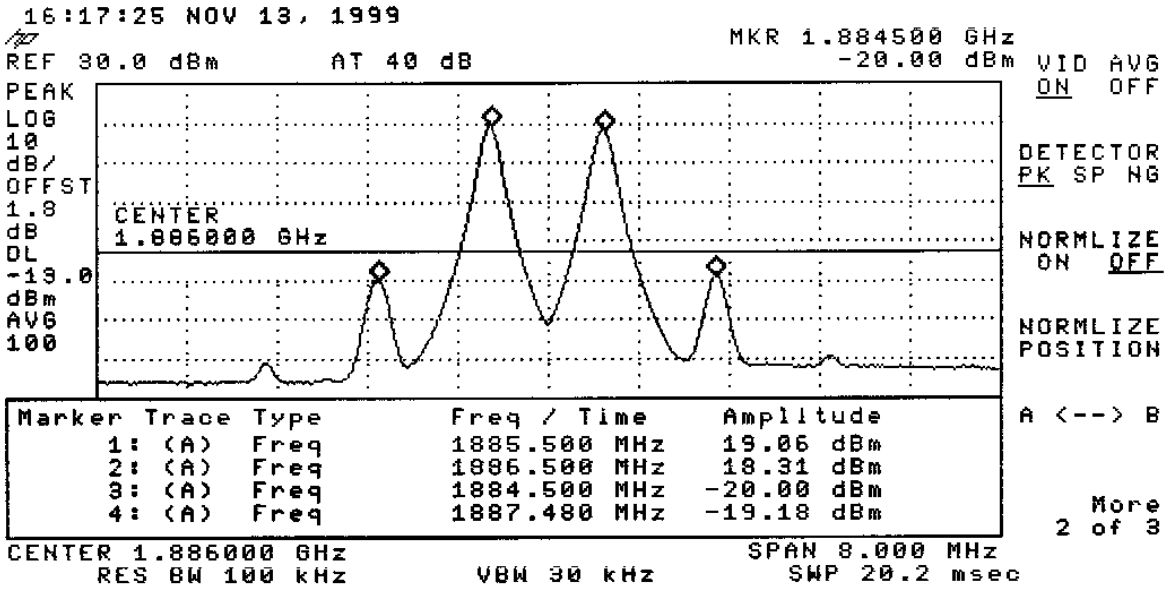
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: E Band.

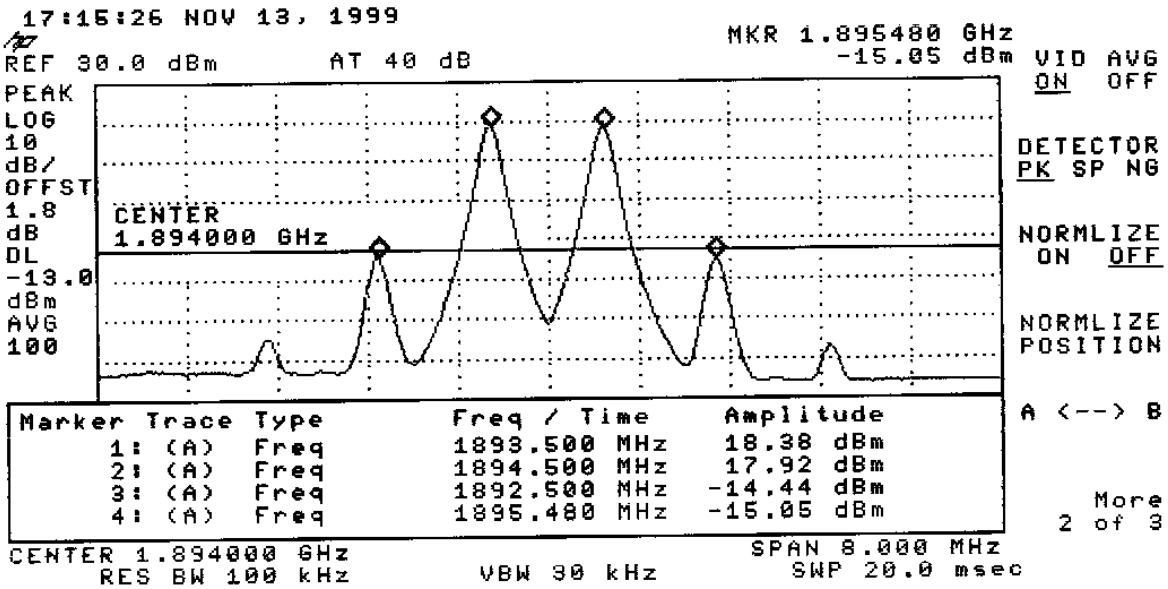
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: F Band.

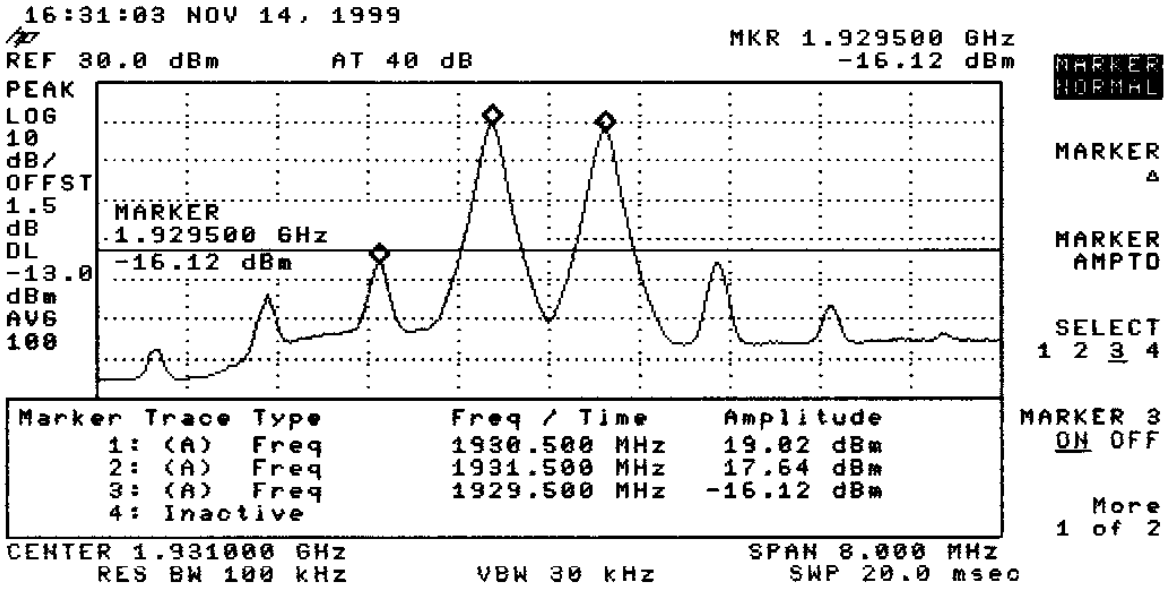
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

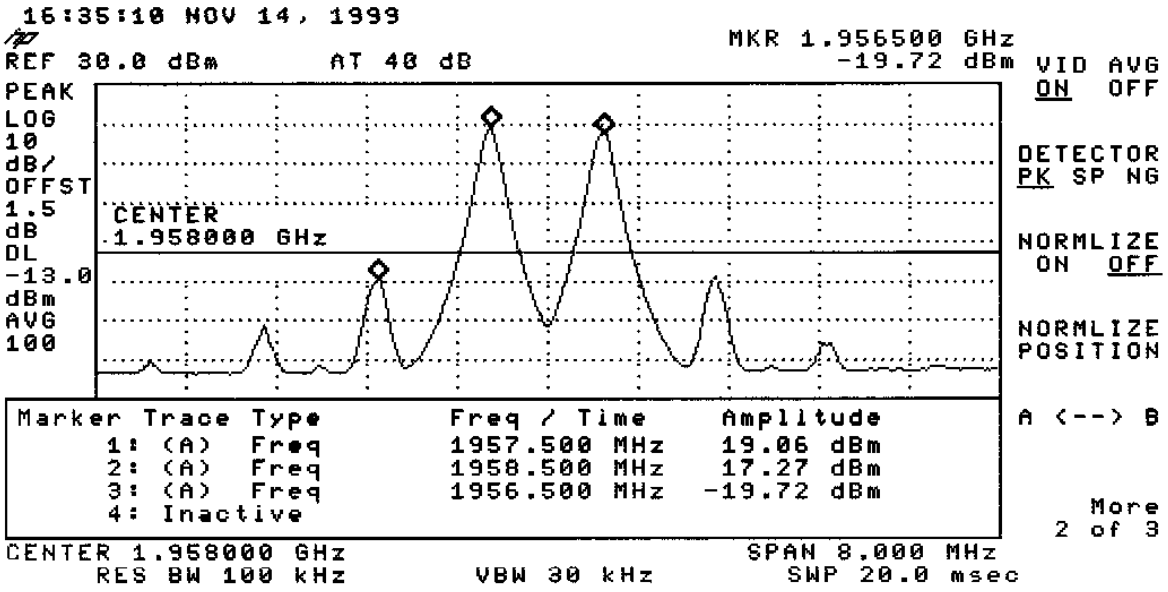
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: B Band.

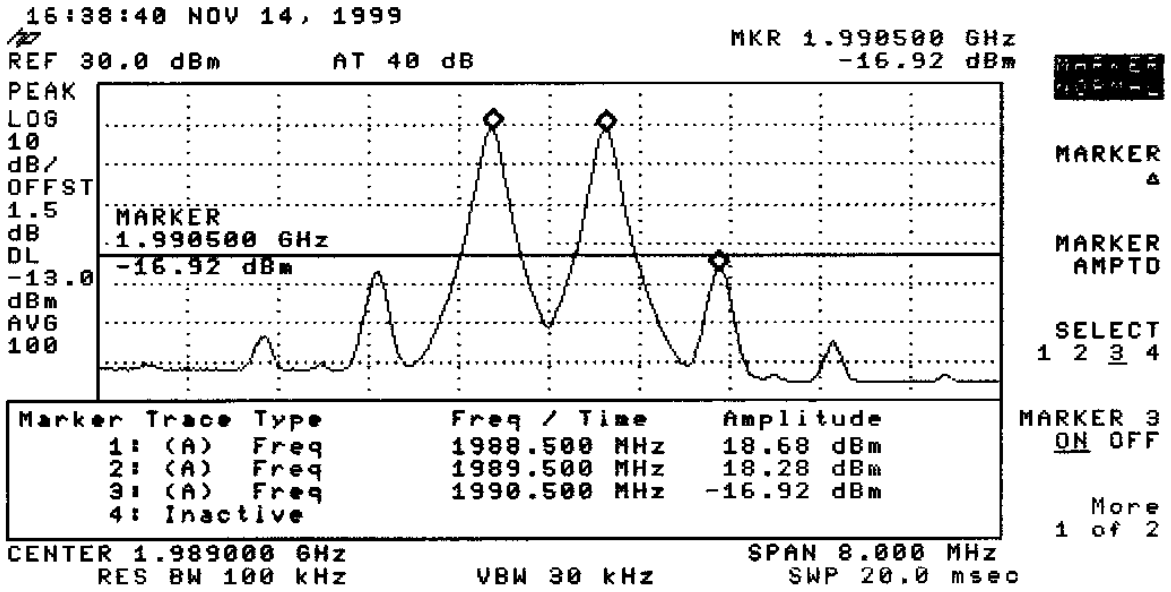
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: C Band.

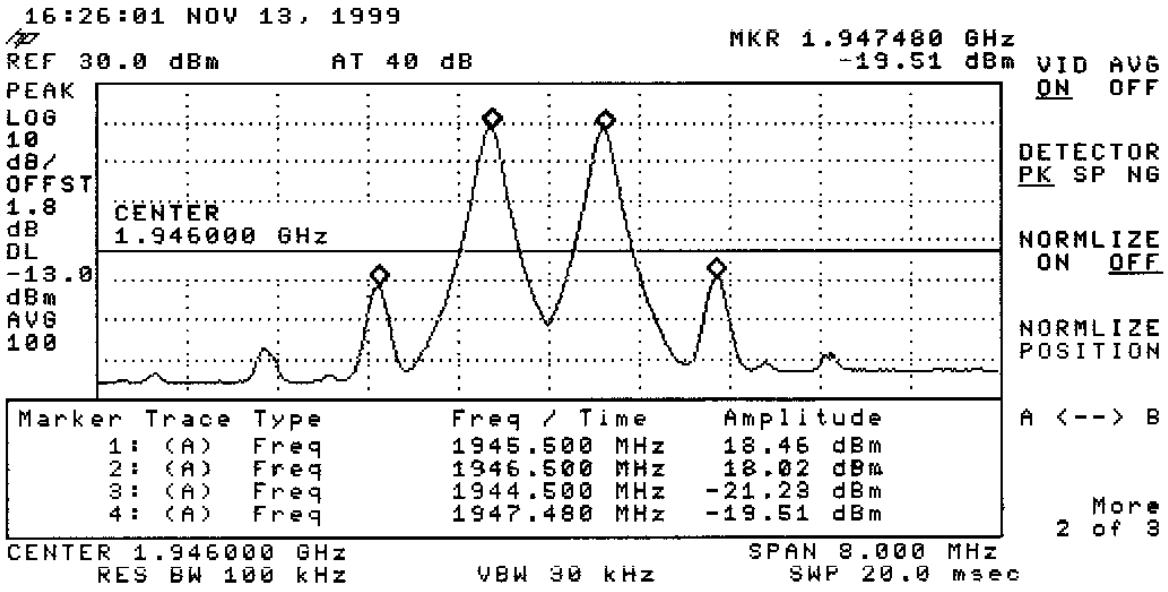
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

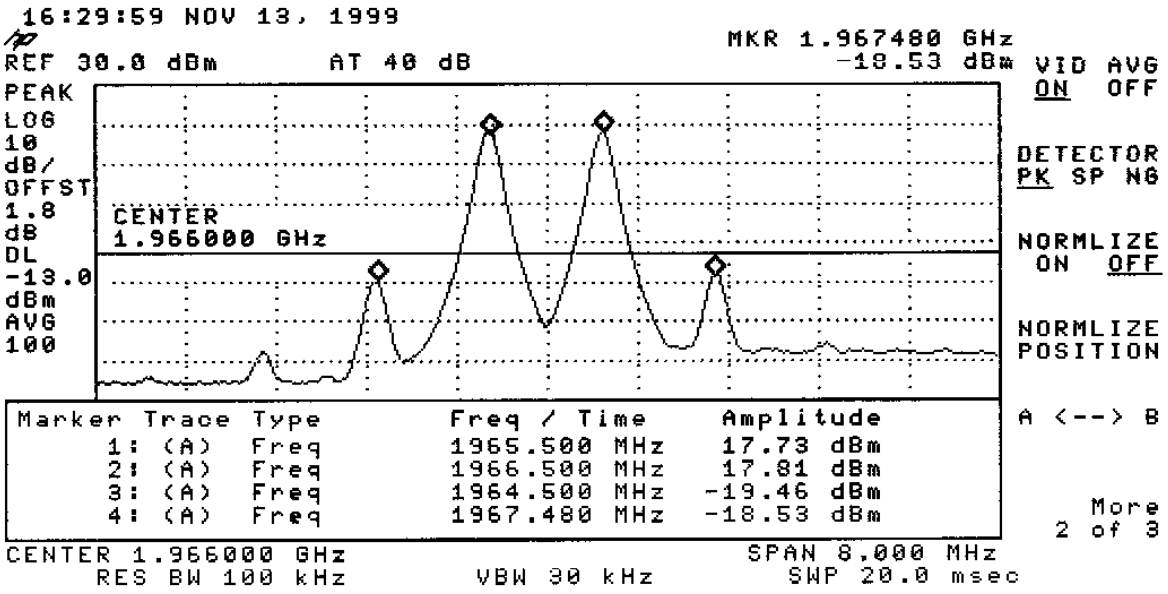
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: E Band.

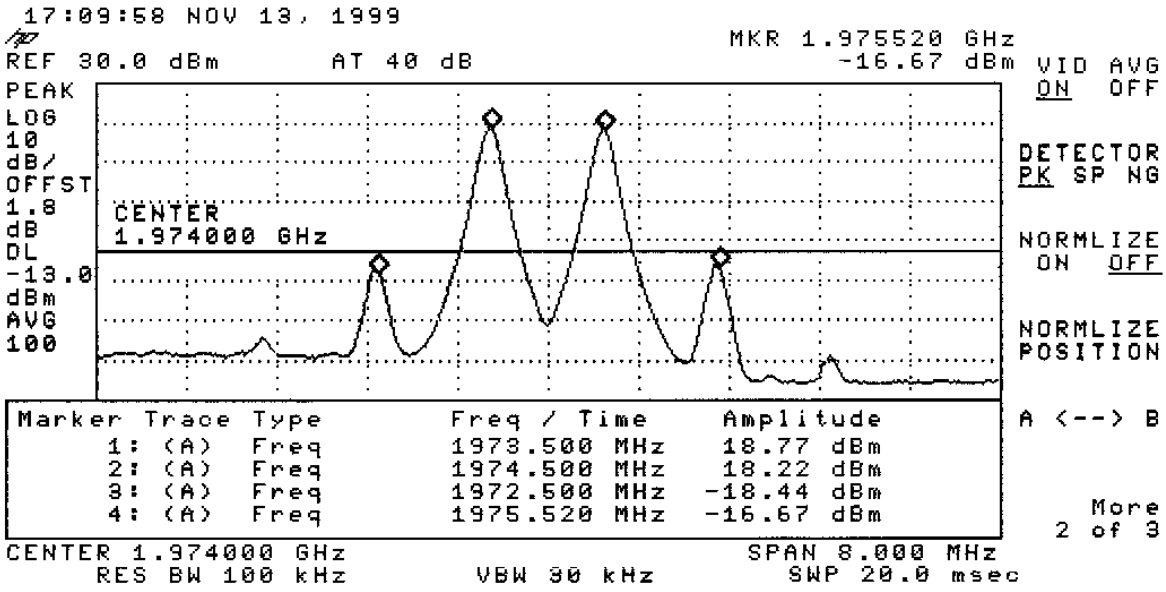
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: TDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: F Band.

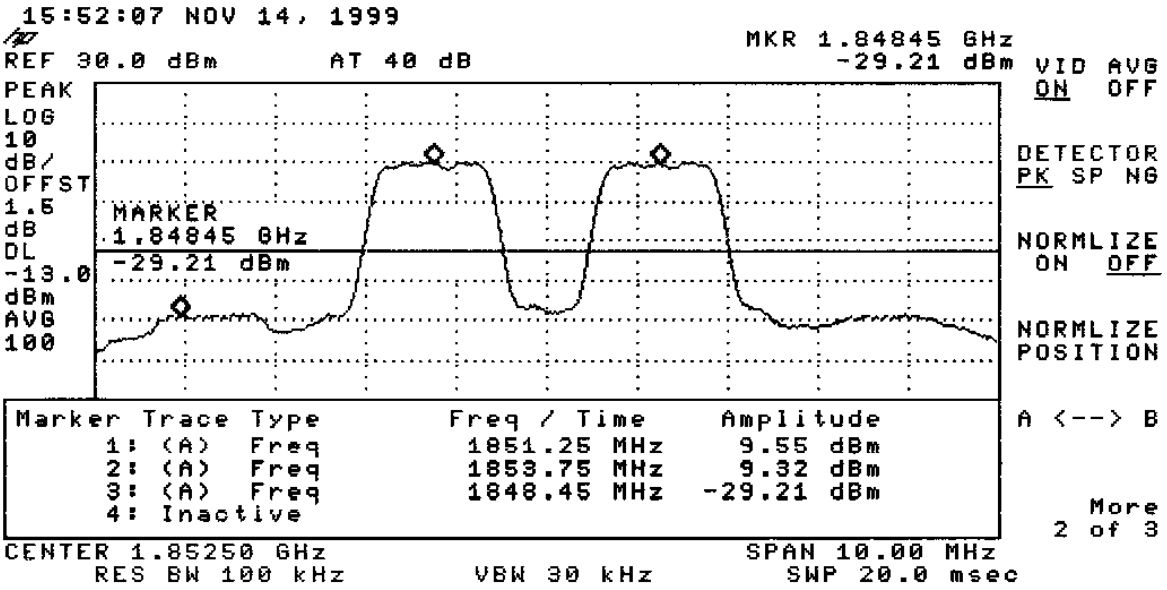
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

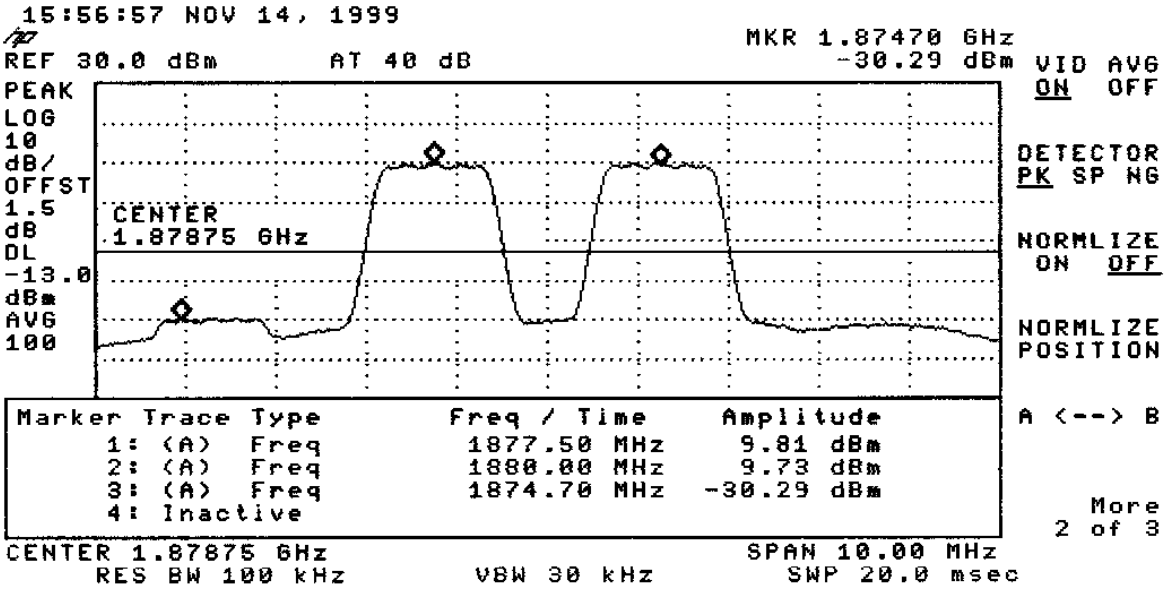
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: B Band.

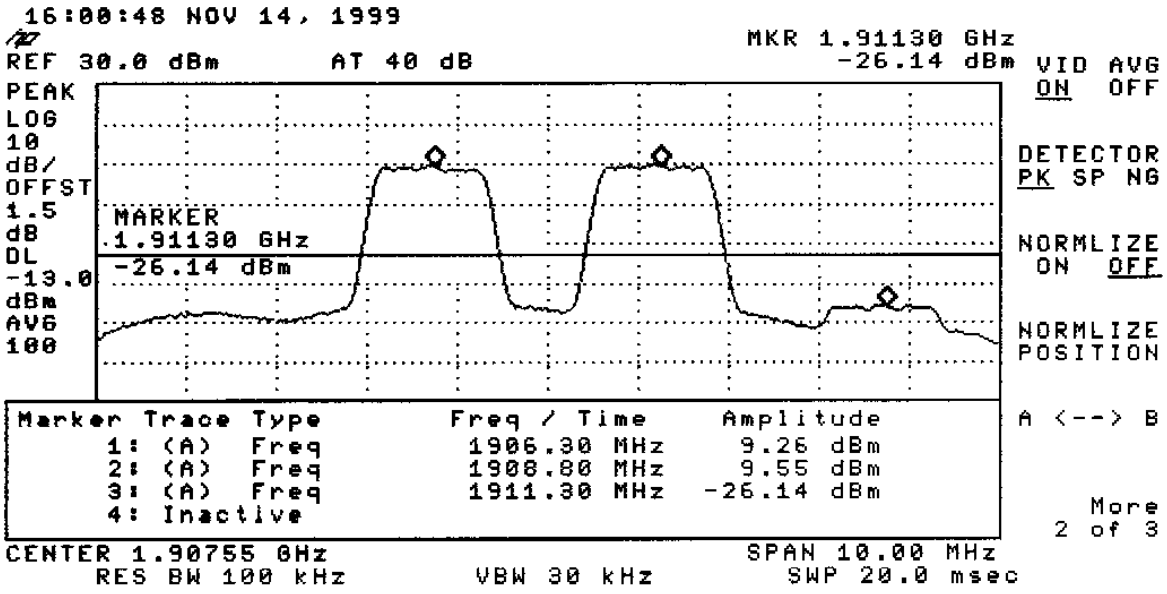
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: C Band.

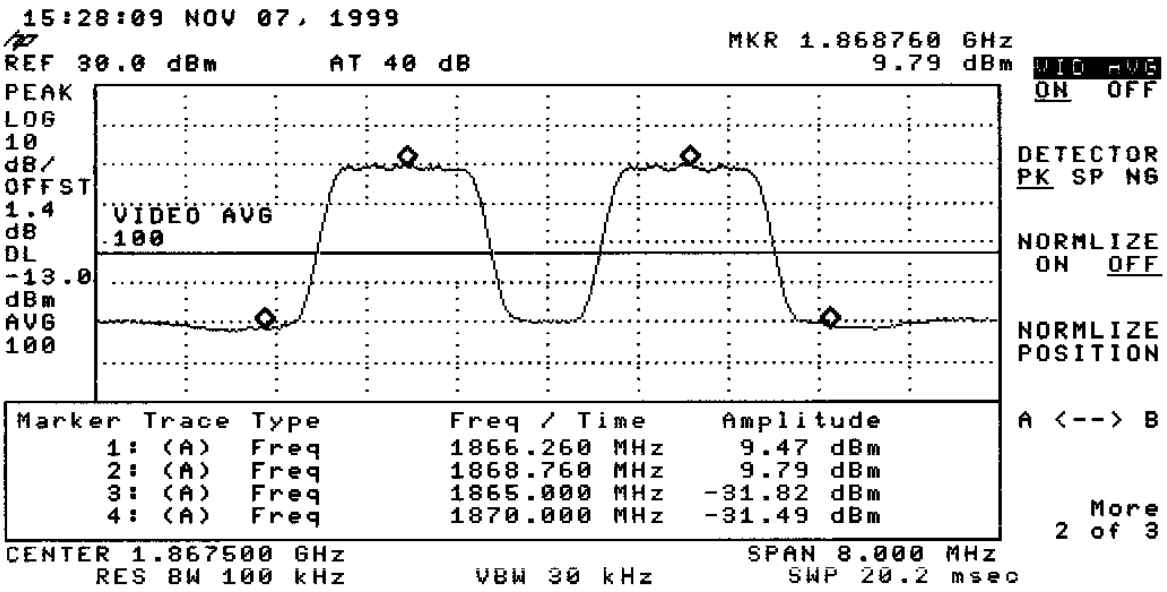
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

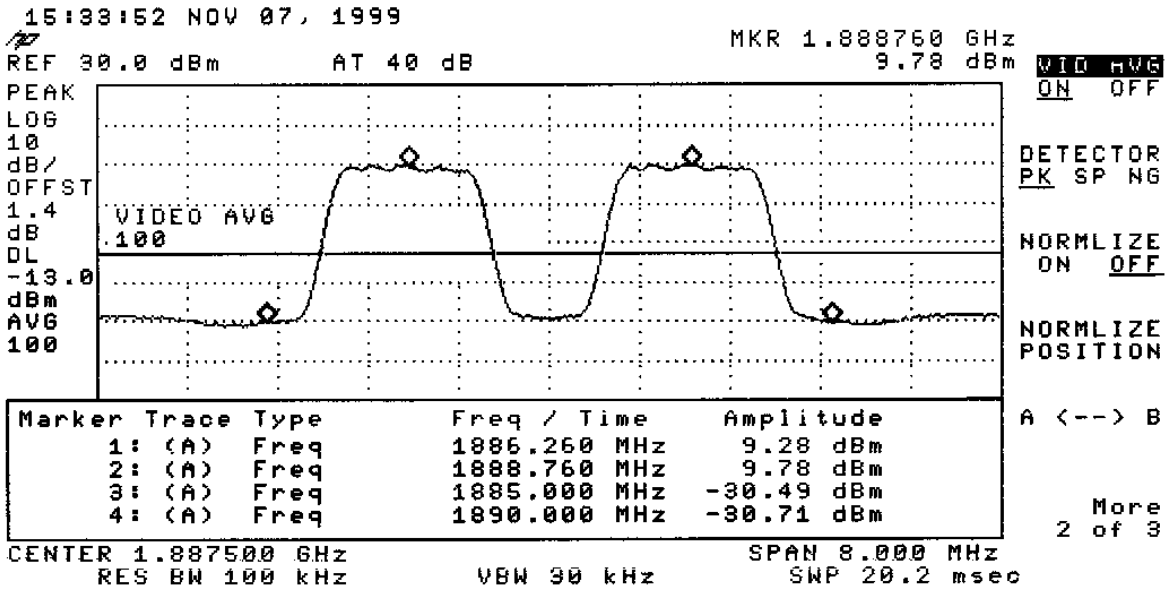
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: E Band.

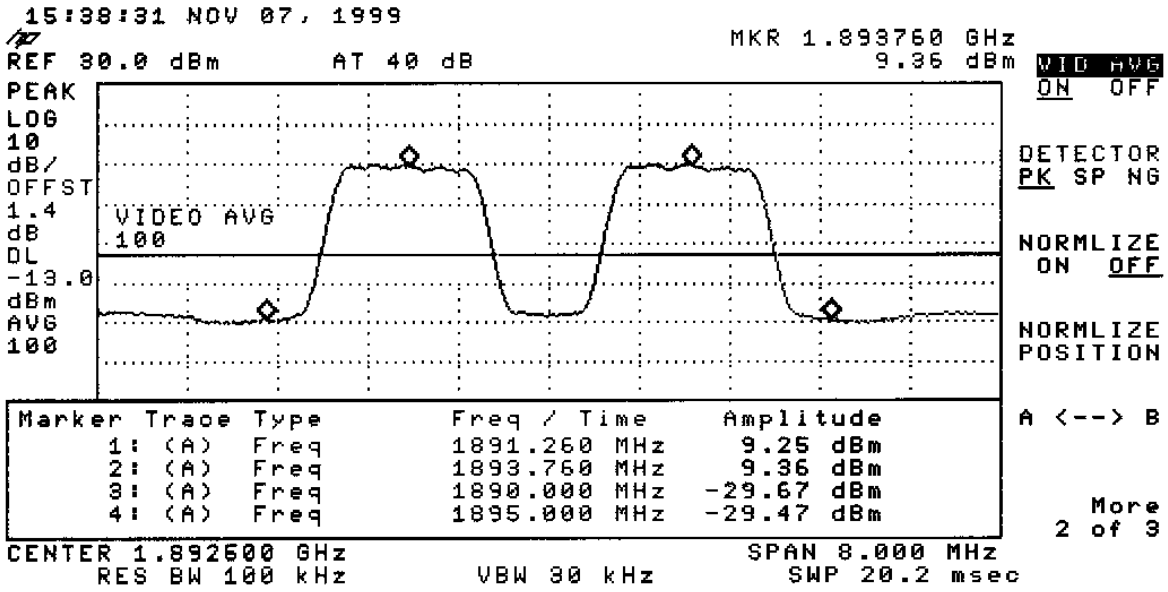
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Uplink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: F Band.

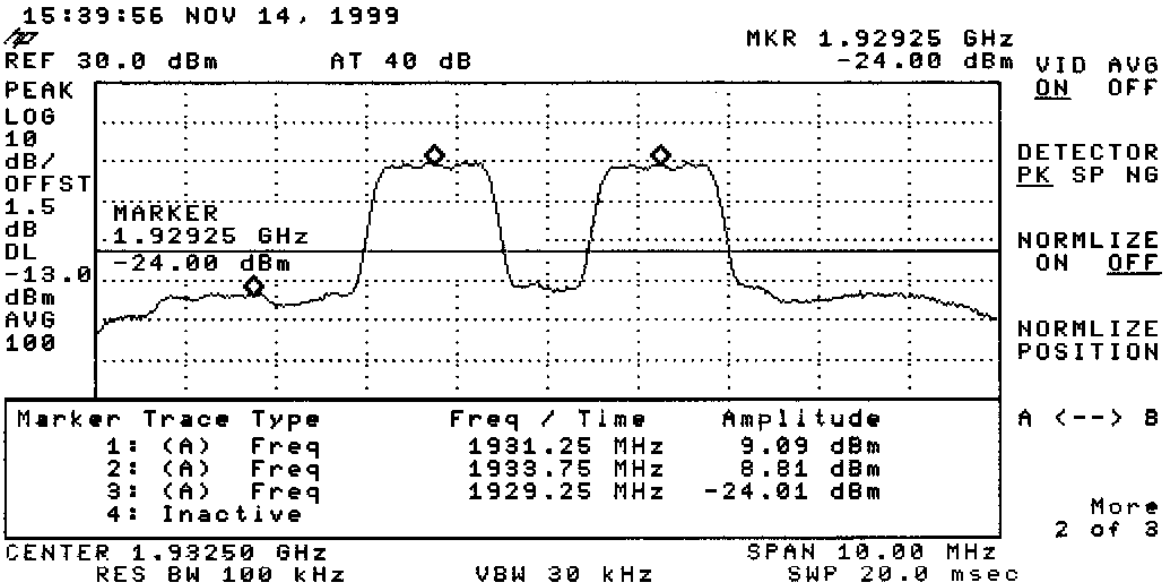
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: A Band.

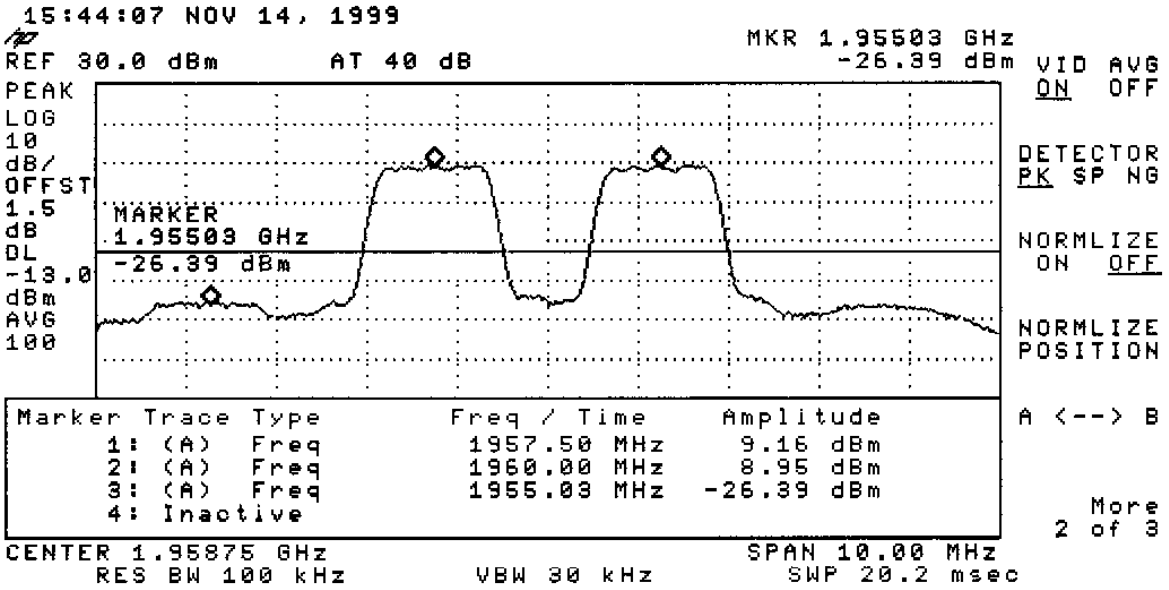
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13 dBm.

COMMENT #2: B Band.

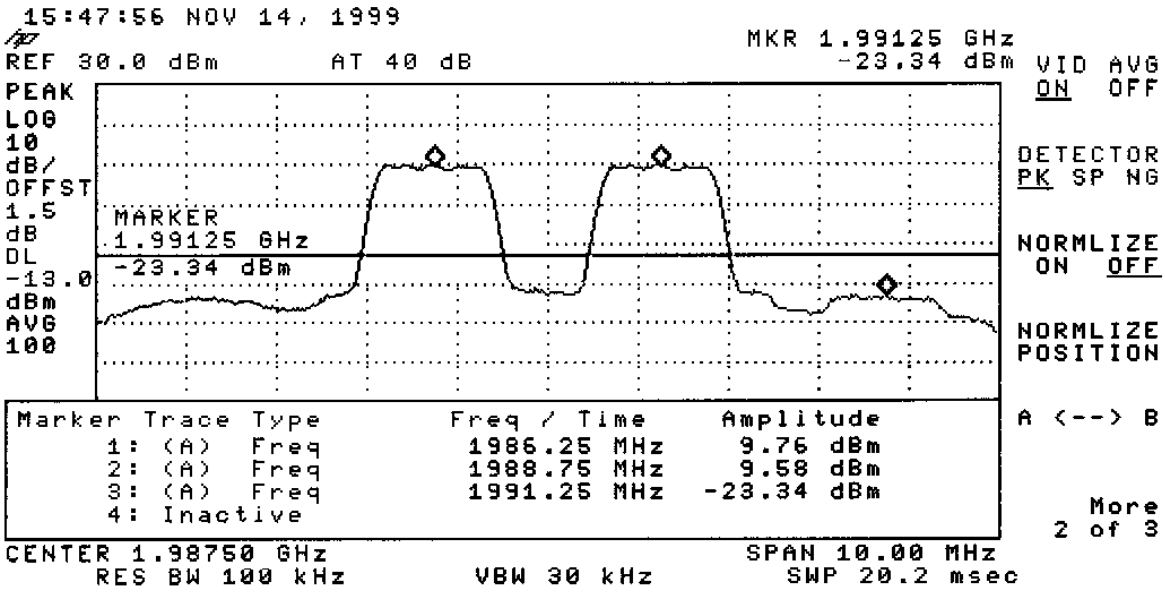
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: C Band.

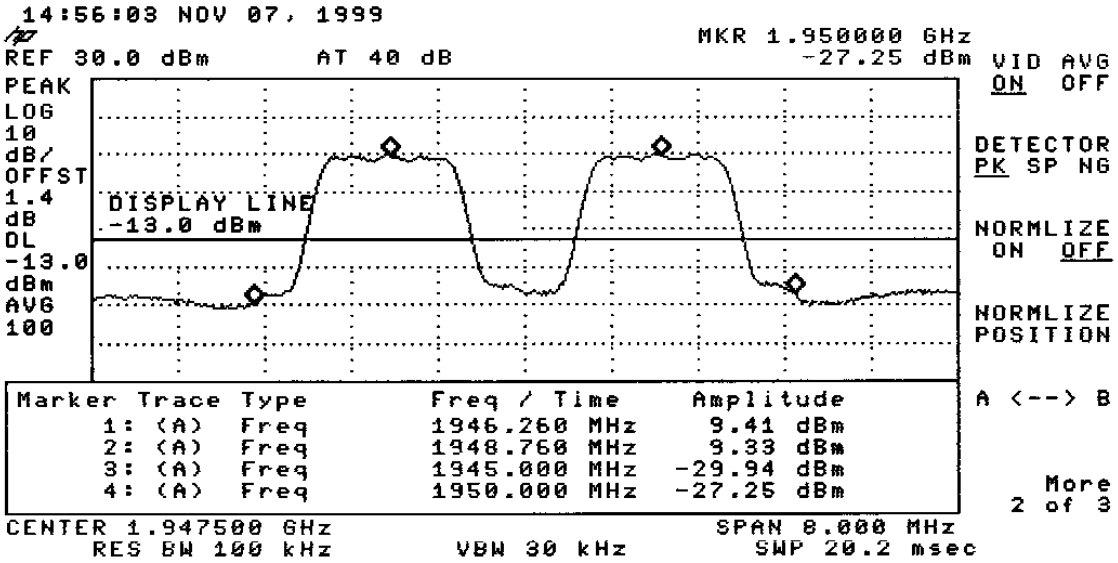
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: D Band.

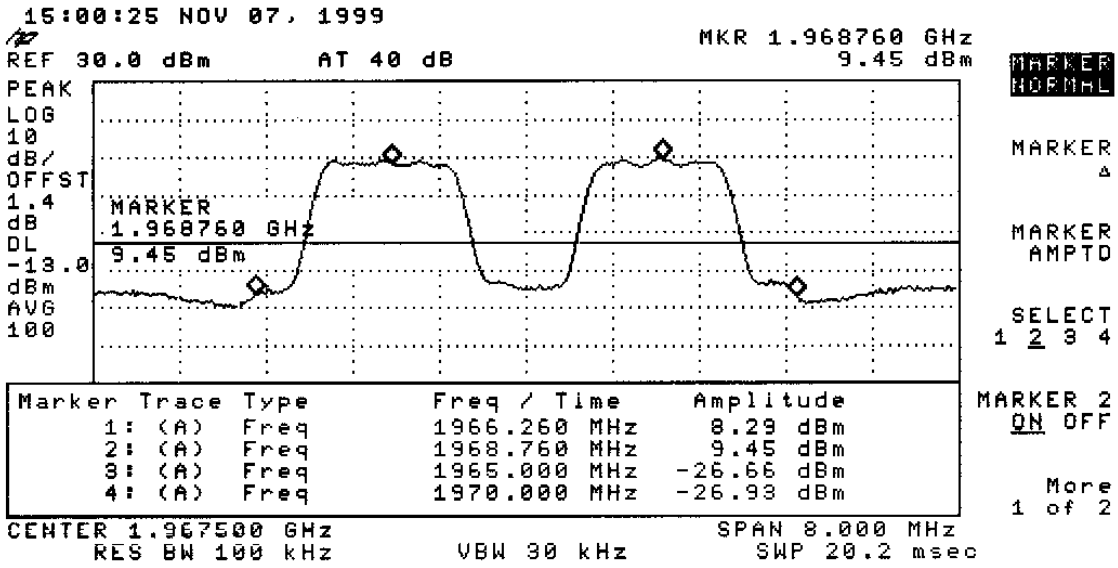
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of –13dBm.

COMMENT #2: E Band.

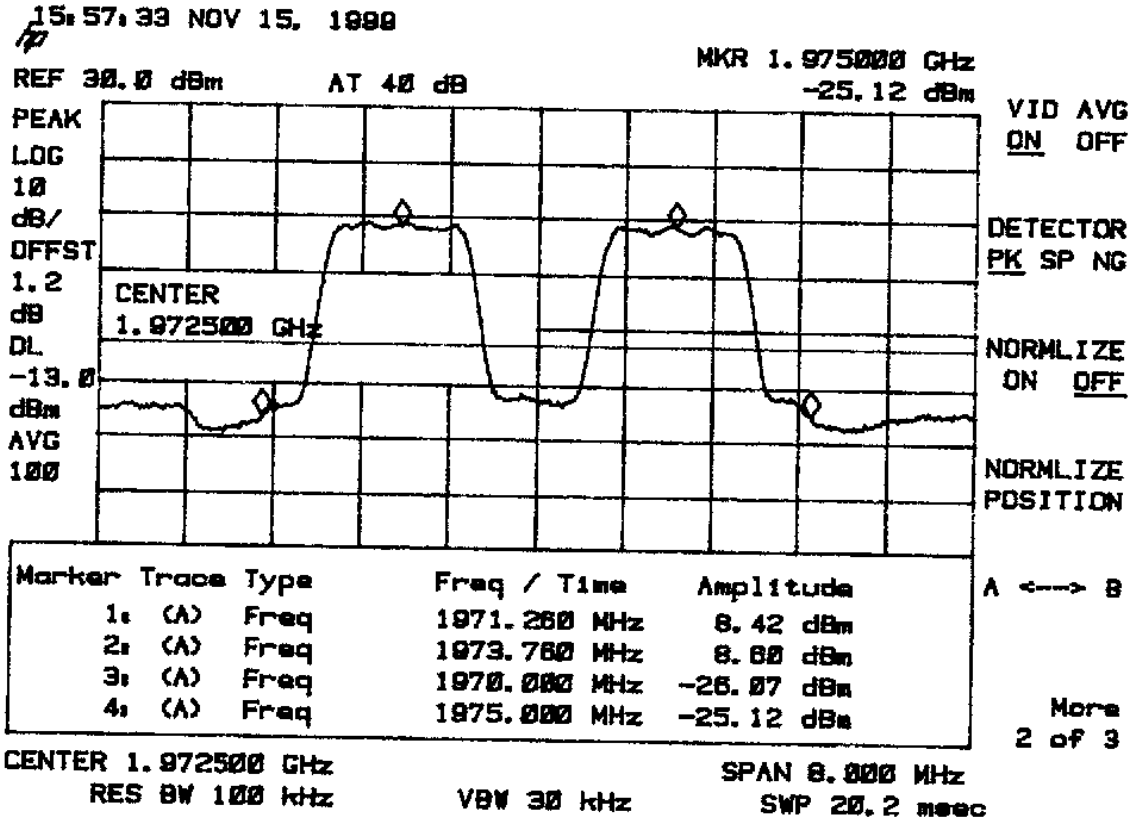
TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou **Jeffrey A. Lenk**

Intermodulation Product Data Sheet

CI Wireless Inc.
800 MHz Cellular Band 50 Watt Repeater

SERIAL #: N/A
DATE: November 15, 1999
DETECTOR FUNCTION: Average

MODE: CDMA, Downlink
LINE MEASURED: Antenna
PROJECT #: 99-359



COMMENT #1: Display Line Set to Limit of −13dBm.

COMMENT #2: F Band.

TEST ENGINEER:_____ **APPROVED BY**: _____
Larry Zhou Jeffrey A. Lenk