DECLARATION OF COMPLIANCE
FCC PARTS 24(E) & 22.901(d) EMC MEASUREMENTS

Test Lab

CELLTECH LABS INC.
Testing and Engineering Services
1955 Moss Court
Kelowna, B.C.
Canada V1Y 9L3
Phone: 250-448-7047
Fax: 250-448-7046
e-mail: info@celltechlabs.com
web site: www.celltechlabs.com

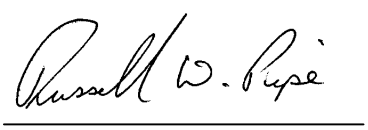
Applicant Information

ITRONIX CORPORATION
801 South Stevens Street
Spokane, WA 99204

FCC Rule Part(s):	**47 CFR §24(E), §22.901(d), §2**
IC Rule Part(s):	**RSS-133 Issue 2, RSS-129 Issue 2**
Test Procedure(s):	**FCC 47 CFR §24(E), §22.901(d), §2; ANSI TIA/EIA-603-A-2001**
FCC Device Classification:	**Licensed Base Station for Part 24 (PCB)**
IC Device Classification:	**2GHz Personal Communication Services (RSS-133 Issue 2)** **800MHz CDMA Cellular Transmitter (RSS-129 Issue 2)**
Device Type:	**Rugged Laptop PC with Sierra Wireless AirCard 555/550** **Dual-Band PCS/Cellular CDMA PCMCIA Modem Card** **(Co-located with Cisco MPI-350 Mini-PCI DSSS WLAN Card)**
FCC ID:	**KBCIX260AC555-MPI**
Model(s):	**IX260**
Tx Frequency Range:	**1851.25 - 1908.75 MHz (PCS CDMA)** **824.70 - 848.31 MHz (Cellular CDMA)**
Max. RF Output Power:	**0.213 Watts EIRP (PCS CDMA)** **0.514 Watts ERP (Cellular CDMA)**
Conducted Power Tested:	**23.0 dBm (PCS CDMA)** **23.0 dBm (Cellular CDMA)**
Emission Designator(s):	**1M25F9W**
Frequency Tolerance(s):	**150 Hz (PCS CDMA)** **300 Hz (Cellular CDMA)**
Antenna Type(s):	**External Dipole (Dual-Band CDMA Modem)** **Dual Internal (Co-located DSSS WLAN Card)**
Battery Type:	**11.1V Lithium-Ion, 6.0Ah (Model: A2121-2)**

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC 47 CFR §24(E), §22.901(d), §2, and ANSI TIA/EIA-603-A-2001.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



Russell Pipe
Senior Compliance Technologist
Celltech Labs Inc.

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FCC PARTS 24(E) & 22.901(d) EMC MEASUREMENT REPORT

1.1 SCOPE

Measurement and determination of electromagnetic emissions (EME) from radio frequency devices for compliance with the technical rules and regulations of the Federal Communications Commission and Industry Canada.

1.2 GENERAL INFORMATION - §2.1033(a)

APPLICANT

ITRONIX CORPORATION
801 South Stevens Street
Spokane, WA 99204

FCC ID	KBCIX260AC555-MPI
Model(s)	IX260
Serial No.	Pre-production
EUT Type	Rugged Laptop PC with Sierra Wireless AirCard 555/550 Dual-Band PCS/Cellular CDMA PCMCIA Modem Card (Co-located with Cisco MPI-350 Mini-PCI DSSS WLAN Card)
Rule Part(s)	FCC 47 CFR §24(E), §22.901(d), §2 IC RSS-133 Issue 2, RSS-129 Issue 2
FCC Classification	Licensed Base Station for Part 24 (PCB)
IC Classification	2GHz Personal Communication Services (RSS-133 Issue 2) 800MHz CDMA Cellular Transmitter (RSS-129 Issue 2)
Tx Frequency Range	1851.25 - 1908.75 MHz (PCS CDMA) 824.70 - 848.31 MHz (Cellular CDMA)
Max. RF Output Power	0.209 Watts EIRP (PCS CDMA) 0.506 Watts ERP (Cellular CDMA)
RF Conducted Output Power Tested	23.0 dBm (PCS CDMA) 23.0 dBm (Cellular CDMA)
Emission Designator	1M25F9W
Frequency Tolerance	150 Hz (PCS CDMA) 300 Hz (Cellular CDMA)
Battery Type(s)	11.1V Lithium-Ion, 6.0Ah (Model: A2121-2)
Antenna Type(s)	External Dipole (Length: 4.3 inches) Dual Internal (Co-located DSSS WLAN Card)

2.1 MEASUREMENT PROCEDURES

2.2 RF OUTPUT POWER MEASUREMENT - §2.1046

The average and peak conducted power levels were measured with a Gigatronics 8650A Universal Power Meter using modulated average power mode. An offset was entered into the power meter to correct for the losses of the attenuator and cable installed before the sensor input. The transmitter terminal was coupled to the power meter and the EUT was placed into test mode via internal software. All subsequent tests were performed using the same tune-up procedures.

Conducted Power Measurement		
Frequency (MHz	**Average Power (dBm)**	**Peak Power (dBm)**
824.70	23.0	24.65
835.89	23.0	24.36
848.31	23.0	24.47
1851.25	23.0	24.42
1880.00	23.0	24.42
1908.75	23.0	24.35

2.3 SPURIOUS EMISSIONS AT ANTENNA TERMINAL - §2.1051

The EUT was placed in test mode via internal software at a full rated power. The conducted power was measured with a Gigatronics 8650A Universal Power Meter in modulated average power mode. An offset was entered into the power meter to correct for all losses of the attenuator and cable installed before the sensor input. The EUT was placed into test mode via internal software. The level of the carrier and the various conducted spurious frequencies were measured by means of a calibrated spectrum analyzer. The resolution bandwidth and video bandwidth were set to 3MHz. The spectrum was scanned from 10MHz to 20GHz at the low, mid, and high channels. The radio transmitter was operating at maximum output power. The antenna output terminal of the EUT was connected to the input of a 50Ω spectrum analyzer through a matched 30dB attenuator and coaxial cable. The reported emissions were below the specified limit of -13dBm.

2.4 FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Radiated and harmonic emissions were measured on a 3-meter open area test site. The EUT was placed into test mode via internal software at a full rated power. The EUT was placed on the turntable with the transmitter transmitting into a non-radiating load. A receiving antenna located 3 meters from the turntable received any signal radiated from the transmitter and its operating accessories. The receiving antenna was varied in height from 1 to 4 meters and the polarization was varied (horizontal and vertical) to determine the worst-case emission level. All spurious emissions made from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier were investigated.

2.5 EMISSION DESIGNATOR - §2.202

CDMA BW = 1.25 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination Audio/Data Transmission

2.6 OCCUPIED BANDWIDTH - §2.1049, §22.917, §24.238

The EUT was placed in test mode via internal software at a full rated power. The EUT was connected to the input of a 50Ω spectrum analyzer through a matched 30dB attenuator. For both PCS and cellular CDMA modes the resolution bandwidth and video bandwidth were set to 30kHz. The EUT was operating at maximum output power.

Specified Limits (as of February 18, 2003):

§22.917

(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
(c) Alternative out of band emission limit. Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.
(d) Interference caused by out of band emissions. If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section.

§24.238

(a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB.
(b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
(c) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
(d) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.
(e) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

2.7 EFFECTIVE ISOTROPIC RADIATED POWER OUTPUT - §24.232(b)

EIRP measurements were performed using the Signal Substitution Method in accordance with ANSI TIA/EIA-603-A-2001 on a 3-meter open area test site. The EUT was placed on a turntable 3-meters from the receive antenna and placed into test mode via internal software at a full rated power. The field of maximum intensity was found by rotating the EUT 360 degrees and changing the height of the receive antenna from 1 to 4 meters. Once a peak was found the spectrum analyzer was set to peak hold and the value of the emission was extracted. The field strength was recorded for each channel being tested, and for both EUT antenna polarizations. A standard gain horn antenna was substituted in place of the EUT. A CDMA signal was fed through a directional coupler to the antenna and the power at the coupler port was monitored. A signal generator and power amplifier controlled the signal to the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward conducted power for the horn antenna was then determined and the EIRP level was determined by adding the horn forward conducted power and the antenna gain in dB.

2.8 EFFECTIVE RADIATED POWER OUTPUT - §22.913

ERP measurements were performed using the Signal Substitution Method in accordance with ANSI TIA/EIA-603-A-2001 on a 3-meter open area test site. The EUT was placed on a turntable 3-meters from the receive antenna and placed into test mode via internal software at a full rated power. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. Once a peak was found the spectrum analyzer was set to peak hold and the value of the emission was extracted. The field strength was recorded for each channel being tested, and for both EUT antenna polarizations. A half-wave dipole antenna was substituted in place of the EUT. A CDMA signal was fed through a directional coupler to the dipole antenna and the power at the coupler port was monitored. A signal generator and power amplifier controlled the signal to the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded. This was to account for any mismatch in impedance, which may occur at the dipole antenna. The conducted power at the antenna feed point was recorded. The forward conducted power for the dipole antenna was then determined and the ERP level was determined by adding the dipole forward conducted power and the antenna gain in dB.

2.9 RADIATED MEASUREMENT TEST SETUP

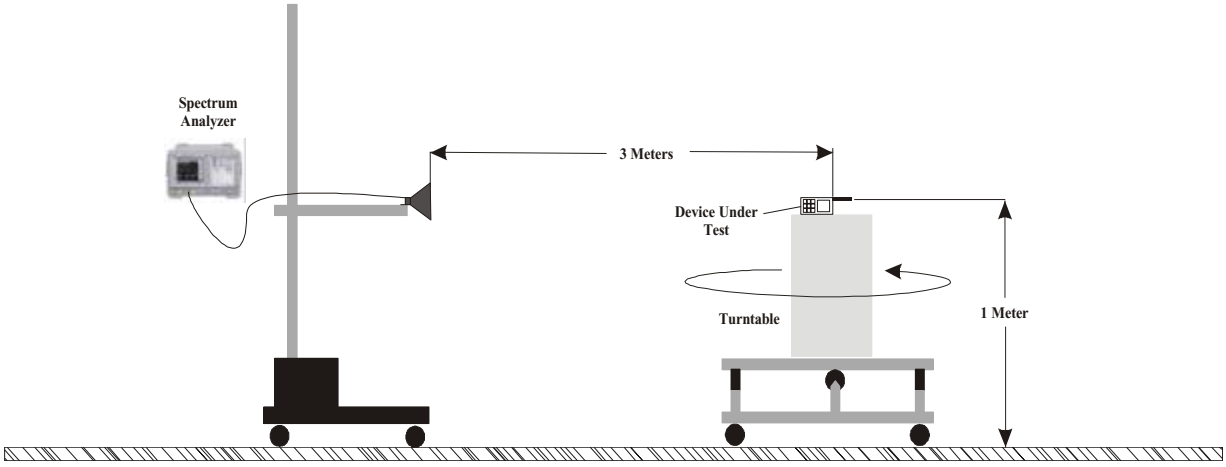


Figure 1. Radiated Measurement Test Setup Diagram - Horn Antenna

3.0 FREQUENCY STABILITY / TEMPERATURE VARIATION - §2.1055, §24.235

The minimum frequency stability shall be ±300Hz (Cellular CDMA) and ±150Hz (PCS CDMA) referenced to a received carrier frequency. This meets the requirement for operational accuracy of 0.00005% for digital mode. An HP 53181A Frequency Counter was used to measure the error in the fundamental frequency. The transmitter was set to maximum power at the center frequency of the band. The EUT was placed inside the temperature chamber.

Measurement Method:

The frequency stability of the transmitter was measured by:

1. Temperature:

   The temperature was varied from -30°C to +60°C at intervals no more than 10°C throughout the temperature range using an environmental chamber. A period of time sufficient to stabilize all of the components in the equipment was allowed prior to each frequency measurement.

2. Primary Supply Voltage:

   The primary supply voltage was set at the specified nominal rating and reduced to the battery operating endpoint specified by the manufacturer. The voltage was measured at the terminals of the power supply or at the input to the cable normally provided with the equipment.

Time Period and Procedure:

1. The carrier frequency of the transmitter was measured at room temperature (25°C to 27°C to provide a reference).
2. The equipment was subjected to an overnight “soak” at -30°C without any power applied.
3. After the overnight “soak” at -30°C, the measurement of the carrier frequency of the transmitter was made within a three-minute interval after applying power to the transmitter.
4. Frequency measurements were made at 10°C intervals up to +60°C, then back to room temperature. A minimum period of one hour was provided to allow stabilization of the equipment at each temperature level.

3.1 TEST DATA

3.2 EFFECTIVE ISOTROPIC RADIATED POWER OUTPUT - §24.232(b)

PCS CDMA Mode - Single Transmit							
Freq. Tuned	EUT Conducted Power	Maximum Field Strength of EUT	Antenna Polariz.	Horn Gain	Horn Forward Conducted Power	EIRP of EUT Horn Gain + Horn Forward Conducted Power	
MHz	dBm	dBm	H/V	dBi	dBm	dBm	Watts
1851.25	23.0	- 15.20	H	6.55	16.74	23.29	0.213
1880.00	23.0	- 17.04	H	6.58	15.63	22.21	0.166
1908.75	23.0	- 17.65	H	6.61	14.70	21.31	0.135

PCS CDMA Mode - Simultaneous Transmit with Co-located DSSS WLAN Card							
Freq. Tuned	EUT Conducted Power	Maximum Field Strength of EUT	Antenna Polariz.	Horn Gain	Horn Forward Conducted Power	EIRP of EUT Horn Gain + Horn Forward Conducted Power	
MHz	dBm	dBm	H/V	dBi	dBm	dBm	Watts
1851.25	23.0	- 14.61	H	6.55	16.18	22.73	0.187
1880.00	23.0	- 16.94	H	6.58	15.37	21.95	0.157
1908.75	23.0	- 17.02	H	6.61	15.04	21.65	0.146

Notes:

1. EIRP measurements were performed in both horizontal and vertical antenna polarizations and the worst-case configuration is reported.
2. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum EIRP measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the EIRP measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

3.3 EFFECTIVE RADIATED POWER OUTPUT - §22.913

Cellular CDMA Mode - Single Transmit							
Freq. Tuned	EUT Conducted Power	Maximum Field Strength of EUT	Antenna Polariz.	Dipole Gain	Dipole Forward Conducted Power	ERP of EUT Dipole Gain + Dipole Forward Conducted Power	
MHz	dBm	dBm	H/V	dBd	dBm	dBm	Watts
824.70	23.0	- 10.30	H	- 1.44	26.28	24.84	0.305
835.89	23.0	- 8.36	H	- 1.34	28.45	27.11	0.514
848.31	23.0	- 9.94	H	- 1.24	28.08	26.84	0.483

Cellular CDMA Mode - Simultaneous Transmit with Co-located DSSS WLAN Card							
Freq. Tuned	EUT Conducted Power	Maximum Field Strength of EUT	Antenna Polariz.	Dipole Gain	Dipole Forward Conducted Power	ERP of EUT Dipole Gain + Dipole Forward Conducted Power	
MHz	dBm	dBm	H/V	dBd	dBm	dBm	Watts
824.70	23.0	- 10.09	H	- 1.44	25.86	24.42	0.277
835.89	23.0	- 8.22	H	- 1.34	28.10	26.76	0.474
848.31	23.0	- 9.83	H	- 1.24	27.60	26.36	0.433

Notes:

1. ERP measurements were performed in both horizontal and vertical antenna polarizations and the worst-case configuration is reported.
2. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum EIRP measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the EIRP measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

3.4 FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1851.25
Channel: 25 (Low)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 23.29
Mode: PCS CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 36.28 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3702.50	-80.68	-47.79	6.6	H	-41.19	-43.33	66.62
5553.75	-81.47	-43.67	7.8	H	-35.87	-38.01	61.30
7405.00	-79.32	-42.74	7.8	H	-34.94	-37.08	60.37
9256.25	-80.12	-42.10	7.6	H	-34.50	-36.64	59.93
11107.50	-79.56	-43.20	8.5	H	-34.70	-36.84	60.13
12958.75	-78.88	-41.00	8.8	H	-32.20	-34.34	57.63
14810.00	-78.20	-40.32	9.6	H	-30.72	-32.86	56.15
16661.25	-79.03	-41.20	9.0	H	-32.20	-34.34	57.63
18512.50	-78.44	-42.23	9.3	H	-32.93	-35.07	58.36

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1851.25
Channel: 25 (Low)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 22.73
Mode: PCS CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 35.72 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3702.50	-80.97	-48.08	6.6	H	-41.48	-43.62	66.35
5553.75	-81.36	-43.56	7.8	H	-35.76	-37.90	60.63
7405.00	-80.65	-44.07	7.8	H	-36.27	-38.41	61.14
9256.25	-81.22	-43.20	7.6	H	-35.60	-37.74	60.47
11107.50	-80.10	-43.74	8.5	H	-35.24	-37.38	60.11
12958.75	-79.86	-41.98	8.8	H	-33.18	-35.32	58.05
14810.00	-79.34	-41.46	9.6	H	-31.86	-34.00	56.73
16661.25	-78.97	-41.14	9.0	H	-32.14	-34.28	57.01
18512.50	-78.58	-42.37	9.3	H	-33.07	-35.21	57.94

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1880.00
Channel: 600 (Mid)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 22.21
Mode: PCS CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 35.20 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3760.00	-81.20	-48.31	6.6	H	-41.71	-43.85	66.06
5640.00	-80.83	-43.03	7.8	H	-35.23	-37.37	59.58
7520.00	-80.31	-43.73	7.8	H	-35.93	-38.07	60.28
9400.00	-79.67	-41.65	7.6	H	-34.05	-36.19	58.40
11280.00	-79.12	-42.76	8.5	H	-34.26	-36.40	58.61
13160.00	-78.76	-40.88	8.8	H	-32.08	-34.22	56.43
15040.00	-78.08	-40.20	9.6	H	-30.60	-32.74	54.95
16920.00	-77.58	-39.75	9.0	H	-30.75	-32.89	55.10
18800.00	-77.05	-40.84	9.3	H	-31.54	-33.68	55.89

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1880.00
Channel: 600 (Mid)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 21.95
Mode: PCS CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 34.96 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3760.00	-81.44	-48.55	6.6	H	-41.95	-44.09	66.04
5640.00	-81.13	-43.33	7.8	H	-35.53	-37.67	59.62
7520.00	-80.77	-44.19	7.8	H	-36.39	-38.53	60.48
9400.00	-80.23	-42.21	7.6	H	-34.61	-36.75	58.70
11280.00	-79.68	-43.32	8.5	H	-34.82	-36.96	58.91
13160.00	-79.14	-41.26	8.8	H	-32.46	-34.60	56.55
15040.00	-78.55	-40.67	9.6	H	-31.07	-33.21	55.16
16920.00	-78.02	-40.19	9.0	H	-31.19	-33.33	55.28
18800.00	-77.70	-41.49	9.3	H	-32.19	-34.33	56.28

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1908.75
Channel: 1175 (High)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 21.31
Mode: PCS CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 34.30 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3817.50	-81.85	-48.96	6.6	H	-42.36	-44.50	65.81
5726.25	-80.78	-42.98	7.8	H	-35.18	-37.32	58.63
7635.00	-79.67	-43.09	7.8	H	-35.29	-37.43	58.74
9543.75	-80.23	-42.21	7.6	H	-34.61	-36.75	58.06
11452.50	-79.59	-43.23	8.5	H	-34.73	-36.87	58.18
13361.25	-78.95	-41.07	8.8	H	-32.27	-34.41	55.72
15270.00	-78.16	-40.28	9.6	H	-30.68	-32.82	54.13
17178.75	-77.64	-39.81	9.0	H	-30.81	-32.95	54.26
19087.50	-78.07	-41.86	9.3	H	-32.56	-34.70	56.01

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 1908.75
Channel: 1175 (High)
EUT Conducted Pwr. (dBm): 23.0
Measured EIRP (dBm): 21.65
Mode: PCS CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 34.64 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3817.50	-82.10	-49.21	6.6	H	-42.61	-44.75	66.40
5726.25	-81.62	-43.82	7.8	H	-36.02	-38.16	59.81
7635.00	-80.87	-44.29	7.8	H	-36.49	-38.63	60.28
9543.75	-79.51	-41.49	7.6	H	-33.89	-36.03	57.68
11452.50	-79.06	-42.70	8.5	H	-34.20	-36.34	57.99
13361.25	-78.65	-40.77	8.8	H	-31.97	-34.11	55.76
15270.00	-78.33	-40.45	9.6	H	-30.85	-32.99	54.64
17178.75	-77.54	-39.71	9.0	H	-30.71	-32.85	54.50
19087.50	-77.01	-40.80	9.3	H	-31.50	-33.64	55.29

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 824.70
Channel: 1013 (Low)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 24.84
Mode: Cellular CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 37.84 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1649.40	-77.14	-44.25	6.6	H	-37.65	-39.79	64.63
2474.10	-77.71	-39.91	7.8	H	-32.11	-34.25	59.09
3298.80	-78.46	-41.88	7.8	H	-34.08	-36.22	61.06
4123.50	-78.90	-40.88	7.6	H	-33.28	-35.42	60.26
4948.20	-79.38	-43.02	8.5	H	-34.52	-36.66	61.50
5772.90	-79.67	-41.79	8.8	H	-32.99	-35.13	59.97
6597.60	-78.83	-40.95	9.6	H	-31.35	-33.49	58.33
7422.30	-77.53	-39.70	9.0	H	-30.70	-32.84	57.68
8247.00	-77.06	-40.85	9.3	H	-31.55	-33.69	58.53

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 824.70
Channel: 1013 (Low)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 24.42
Mode: Cellular CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 37.42 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1649.40	-77.92	-45.03	6.6	H	-38.43	-40.57	64.99
2474.10	-78.40	-40.60	7.8	H	-32.80	-34.94	59.36
3298.80	-78.86	-42.28	7.8	H	-34.48	-36.62	61.04
4123.50	-79.36	-41.34	7.6	H	-33.74	-35.88	60.30
4948.20	-79.38	-43.02	8.5	H	-34.52	-36.66	61.08
5772.90	-79.67	-41.79	8.8	H	-32.99	-35.13	59.55
6597.60	-78.83	-40.95	9.6	H	-31.35	-33.49	57.91
7422.30	-77.53	-39.70	9.0	H	-30.70	-32.84	57.26
8247.00	-77.06	-40.85	9.3	H	-31.55	-33.69	58.11

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 835.89
Channel: 363 (Mid)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 27.11
Mode: Cellular CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 40.11 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1671.78	-74.28	-41.39	6.6	H	-34.79	-36.93	64.04
2507.67	-75.11	-37.31	7.8	H	-29.51	-31.65	58.76
3343.56	-75.86	-39.28	7.8	H	-31.48	-33.62	60.73
4179.45	-76.35	-38.33	7.6	H	-30.73	-32.87	59.98
5015.34	-76.70	-40.34	8.5	H	-31.84	-33.98	61.09
5851.23	-76.24	-38.36	8.8	H	-29.56	-31.70	58.81
6687.12	-77.03	-39.15	9.6	H	-29.55	-31.69	58.80
7523.01	-77.49	-39.66	9.0	H	-30.66	-32.80	59.91
8358.90	-77.76	-41.55	9.3	H	-32.25	-34.39	61.50

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 835.89
Channel: 363 (Mid)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 26.76
Mode: Cellular CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 39.76 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1671.78	-75.43	-42.54	6.6	H	-35.94	-38.08	64.84
2507.67	-75.89	-38.09	7.8	H	-30.29	-32.43	59.19
3343.56	-76.31	-39.73	7.8	H	-31.93	-34.07	60.83
4179.45	-76.87	-38.85	7.6	H	-31.25	-33.39	60.15
5015.34	-77.28	-40.92	8.5	H	-32.42	-34.56	61.32
5851.23	-77.73	-39.85	8.8	H	-31.05	-33.19	59.95
6687.12	-78.17	-40.29	9.6	H	-30.69	-32.83	59.59
7523.01	-78.60	-40.77	9.0	H	-31.77	-33.91	60.67
8358.90	-78.91	-42.70	9.3	H	-33.40	-35.54	62.30

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 848.31
Channel: 777 (High)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 26.84
Mode: Cellular CDMA (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 39.84 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1696.62	-76.27	-43.38	6.6	H	-36.78	-38.92	65.76
2544.93	-76.81	-39.01	7.8	H	-31.21	-33.35	60.19
3393.24	-76.55	-39.97	7.8	H	-32.17	-34.31	61.15
4241.55	-76.73	-38.71	7.6	H	-31.11	-33.25	60.09
5089.86	-76.97	-40.61	8.5	H	-32.11	-34.25	61.09
5938.17	-77.29	-39.41	8.8	H	-30.61	-32.75	59.59
6786.48	-76.66	-38.78	9.6	H	-29.18	-31.32	58.16
7634.79	-77.14	-39.31	9.0	H	-30.31	-32.45	59.29
8483.10	-77.53	-41.32	9.3	H	-32.02	-34.16	61.00

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Operating Frequency (MHz): 848.31
Channel: 777 (High)
EUT Conducted Pwr. (dBm): 23.0
Measured ERP (dBm): 26.36
Mode: Cellular CDMA (Simultaneous Transmit with Co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 39.36 dBc

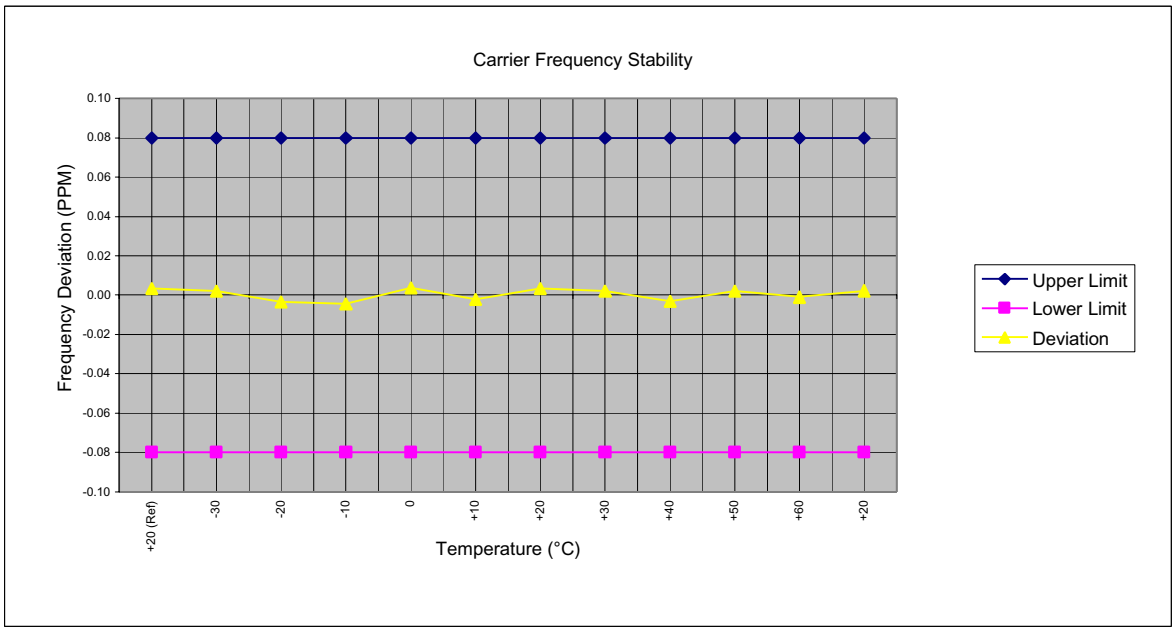
Frequency	Field Strength of Spurious Radiation	Horn Forward Conducted Power	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
1696.62	-76.82	-43.93	6.6	H	-37.33	-39.47	65.83
2544.93	-76.66	-38.86	7.8	H	-31.06	-33.20	59.56
3393.24	-76.98	-40.40	7.8	H	-32.60	-34.74	61.10
4241.55	-77.26	-39.24	7.6	H	-31.64	-33.78	60.14
5089.86	-77.61	-41.25	8.5	H	-32.75	-34.89	61.25
5938.17	-77.86	-39.98	8.8	H	-31.18	-33.32	59.68
6786.48	-78.13	-40.25	9.6	H	-30.65	-32.79	59.15
7634.79	-78.45	-40.62	9.0	H	-31.62	-33.76	60.12
8483.10	-78.77	-42.56	9.3	H	-33.26	-35.40	61.76

Notes:
1. Radiated spurious measurements were performed using the Signal Substitution Method per ANSI/TIA/EIA-603-A-2001.
2. All other spurious emissions generated from the lowest frequency of the EUT to the tenth harmonic were investigated and found to be below the magnitude of each harmonic level.\
3. Spurious emissions more than 20 dB below the limit are reported, though not required per §2.1051.
4. The co-located Cisco MPI-350 DSSS WLAN Card was set to the maximum conducted power level (21.1 dBm) at the high channel (2462MHz) with a modulated DSSS signal for the simultaneous transmit tests, based on the maximum radiated spurious emission measured for the DSSS WLAN Card recorded at the high channel (right side internal antenna). Please refer to the radiated spurious emissions measurement data in the Part 15.247 test report for the Cisco MPI-350 Mini-PCI DSSS WLAN Card submitted simultaneously with this application.

3.5 FREQUENCY STABILITY - §24.235 (PCS CDMA)

Carrier Frequency (GHz): 1.88
Channel: 600
Mode: PCS CDMA
Deviation Limit (PPM): 0.08

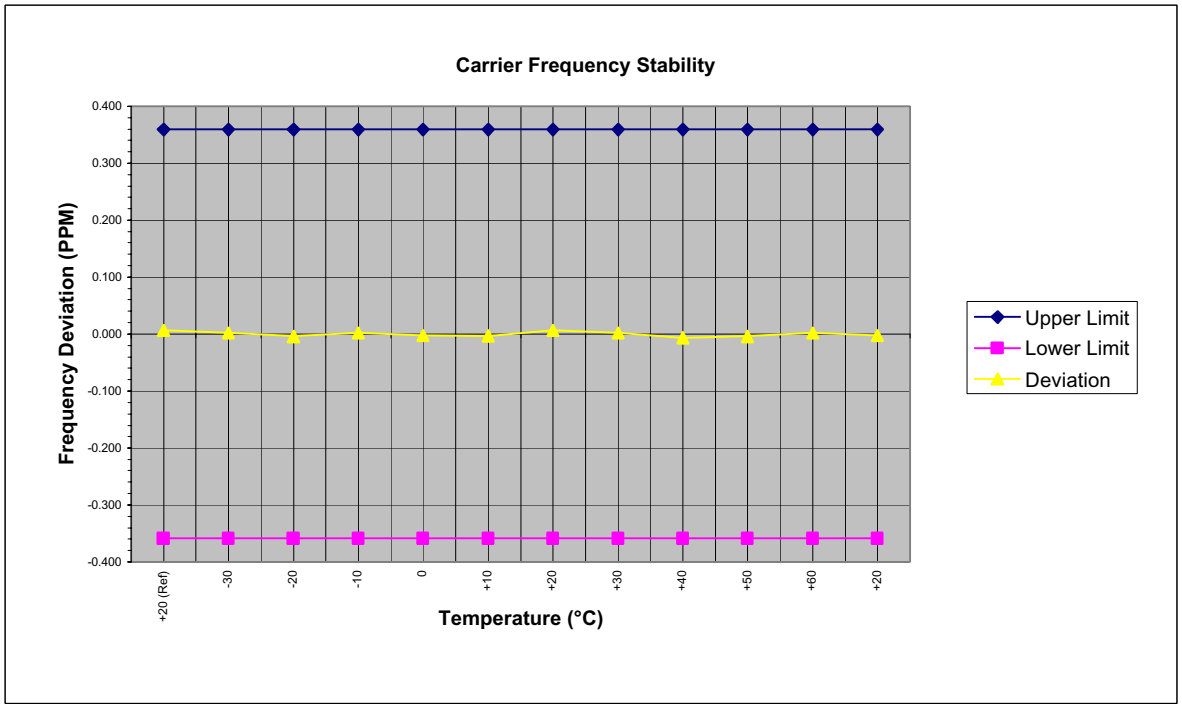
Temperature	Voltage	Power	Carrier Frequency Deviation		Specification	
(°C)	(%)	(VDC)	(Hz)	(PPM)	Lower Limit (PPM)	Upper Limit (PPM)
+20 (Ref)	100	6.0	6.47	0.003	0.08	-0.08
-30	100	6.0	3.58	0.002	0.08	-0.08
-20	100	6.0	-6.71	-0.004	0.08	-0.08
-10	100	6.0	-8.36	-0.004	0.08	-0.08
0	100	6.0	7.11	0.004	0.08	-0.08
+10	100	6.0	-3.85	-0.002	0.08	-0.08
+20	100	6.0	6.47	0.003	0.08	-0.08
+30	100	6.0	4.02	0.002	0.08	-0.08
+40	100	6.0	-5.90	-0.003	0.08	-0.08
+50	100	6.0	3.63	0.002	0.08	-0.08
+60	100	6.0	-1.78	-0.001	0.08	-0.08
+20	Battery Endpoint	4.0	4.21	0.002	0.08	-0.08



3.6 FREQUENCY STABILITY - §2.1055 (800MHz CDMA)

Carrier Frequency (MHz): 835.89
Channel: 363
Mode: Cellular CDMA
Deviation Limit (PPM): 0.359

Temperature	Voltage	Power	Carrier Frequency Deviation		Specification	
(°C)	(%)	(VDC)	(Hz)	(PPM)	Lower Limit (PPM)	Upper Limit (PPM)
+20 (Ref)	100	6.0	5.64	0.007	0.359	-0.359
-30	100	6.0	1.44	0.002	0.359	-0.359
-20	100	6.0	-3.17	-0.004	0.359	-0.359
-10	100	6.0	2.02	0.002	0.359	-0.359
0	100	6.0	-1.95	-0.002	0.359	-0.359
+10	100	6.0	-2.32	-0.003	0.359	-0.359
+20	100	6.0	5.64	0.007	0.359	-0.359
+30	100	6.0	1.93	0.002	0.359	-0.359
+40	100	6.0	-5.41	-0.006	0.359	-0.359
+50	100	6.0	-3.37	-0.004	0.359	-0.359
+60	100	6.0	2.11	0.003	0.359	-0.359
+20	Battery Endpoint	4.0	-1.46	-0.002	0.359	-0.359



4.1 TEST EQUIPMENT LIST

TEST EQUIPMENT LIST			
Equipment Type	**Model**	**Serial No.**	**Calibration Due Date**
HP Signal Generator	8648D (9kHz-4.0GHz)	3847A00611	Feb 2004
Rohde & Schwarz Signal Generator	SMR40 (10MHz-40GHz)	835537/022	Nov 2003
Gigatronics Power Meter	8652A	1835272	Feb 2004
Gigatronics Power Sensor	80701A (0.05-18GHz)	1833535	Feb 2004
Gigatronics Power Sensor	80701A (0.05-18GHz)	1833542	Feb 2004
Amplifier Research Power Amp.	5S1G4 (5W, 800MHz-4.2GHz)	26235	N/A
Microwave System Amplifier	HP 83017A (0.5-26.5GHz)	3123A00587	N/A
Network Analyzer	HP 8753E (30kHz-3GHz)	US38433013	Feb 2004
Audio Analyzer	HP 8903B	3729A18691	Nov 2003
Modulation Analyzer	HP 8901A	3749A07154	July 2003
Frequency Counter	HP 53181A (3GHz)	3736A05175	May 2003
DC Power Supply	HP E3611A	KR83015294	N/A
Multi-Device Controller	EMCO 2090	9912-1484	N/A
Mini Mast	EMCO 2075	0001-2277	N/A
Turntable	EMCO 2080-1.2/1.5	0002-1002	N/A
Double Ridged Horn Antenna	ETS 3115 (1-18GHz)	6267	Oct. 2003
Double Ridged Horn Antenna	ETS 3115 (1-18GHz)	6276	Oct. 2003
Horn Antenna	Chase BBHA 9120-A (0.7-4.8GHz)	9120A-239	Sept 2003
Horn Antenna	Chase BBHA 9120-A (0.7-4.8GHz)	9120A-240	Sept 2003
Roberts Dipoles	Compliance Design (2 sets) 3121C		June 2003
Spectrum Analyzer	HP 8594E	3543A02721	Feb 2004
Spectrum Analyzer	HP E4408B	US39240170	Nov 2003
Shielded Screen Room	Lindgren R.F. 18W-2/2-0	16297	N/A
Environmental Chamber	ESPEC ECT-2 (Temperature/Humidity)	0510154-B	Feb 2004

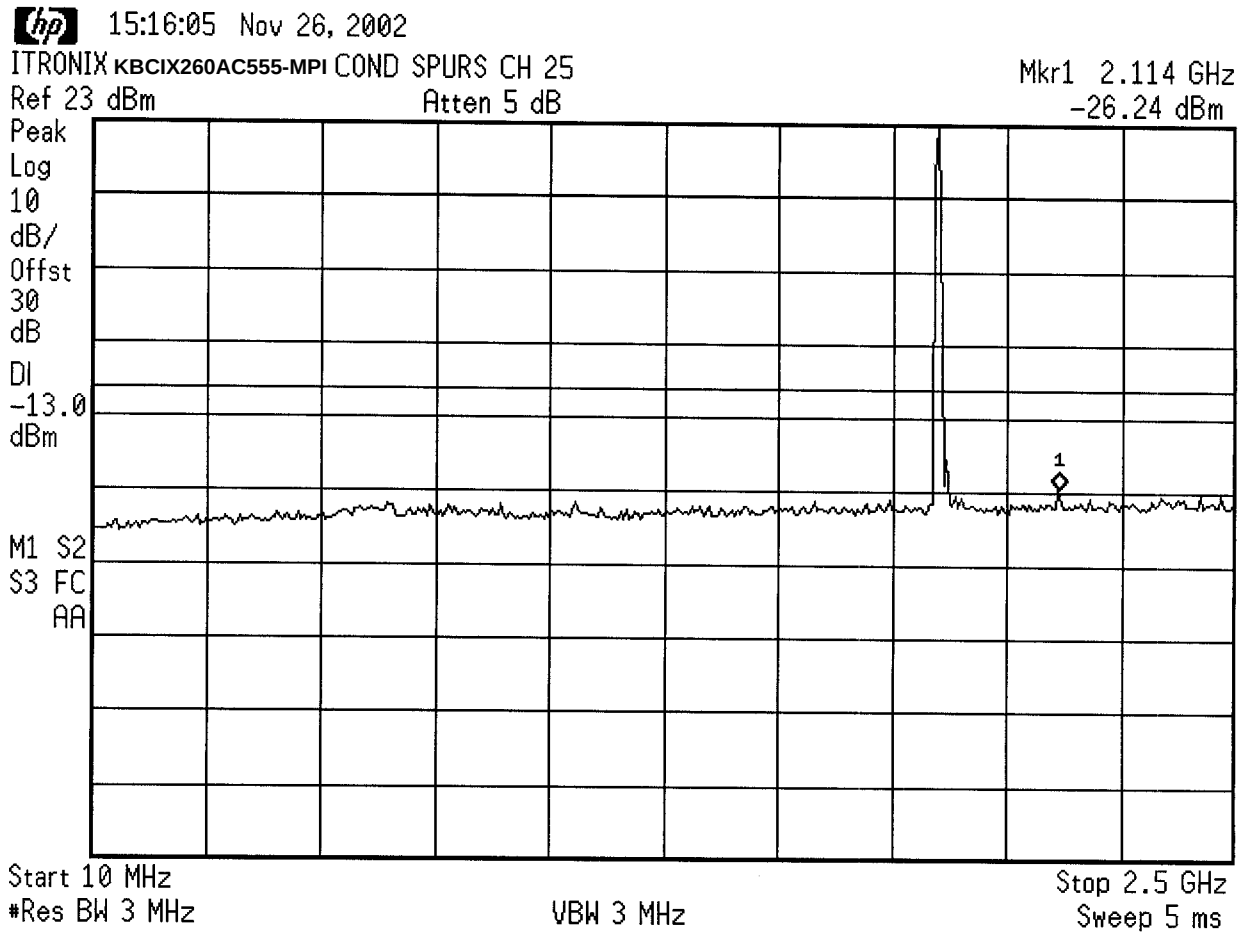
5.1 CONCLUSION

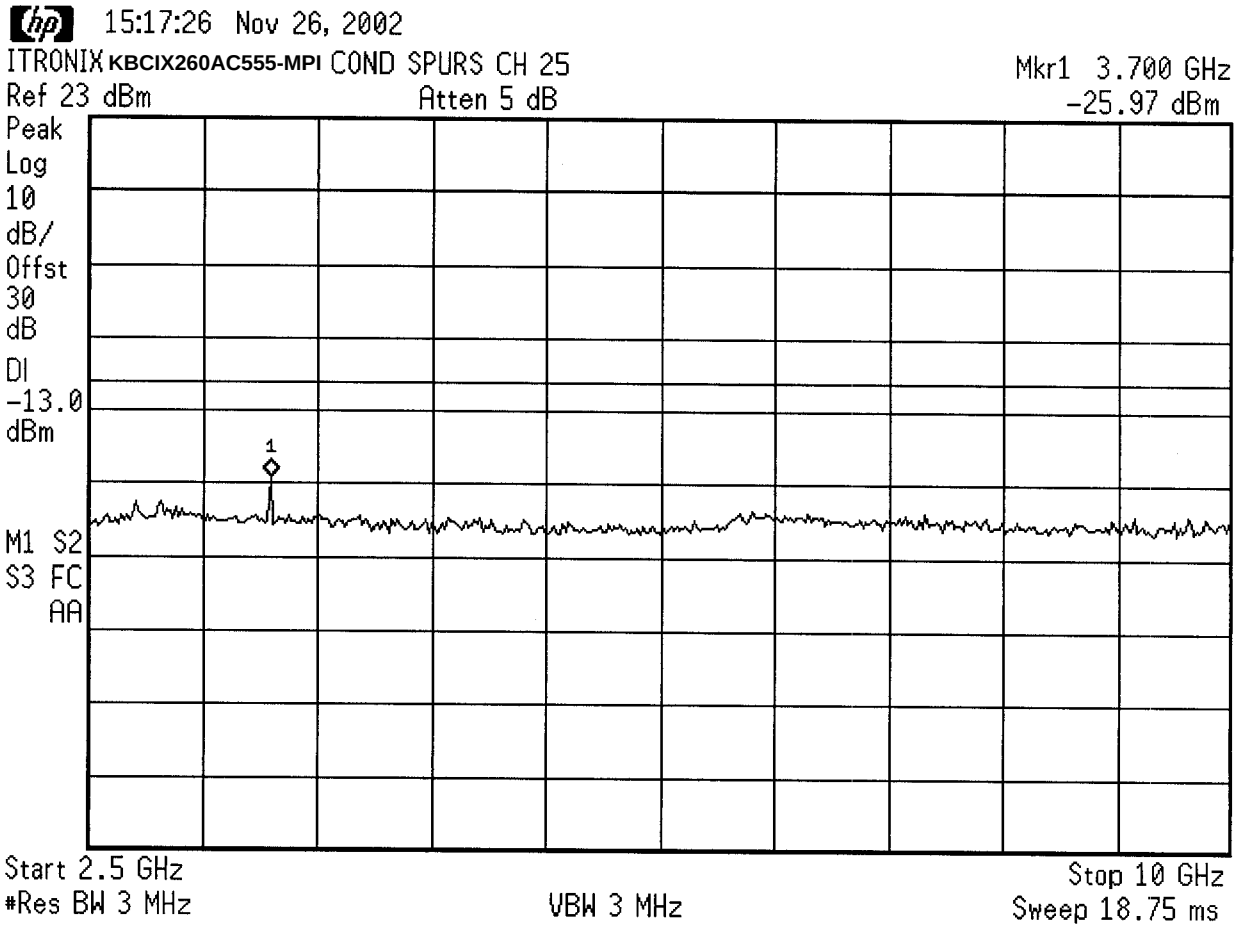
The data in this measurement report shows that the ITRONIX CORPORATION Model: IX260 FCC ID: KBCIX260AC555-MPI Rugged Laptop PC with Sierra Wireless AirCard 555/550 Dual-Band PCS/Cellular CDMA PCMCIA Modem Card co-located with Cisco MPI-350 Mini-PCI DSSS WLAN Card complies with the requirements of FCC Rule Parts §24(E), §22.901(d), and §2.

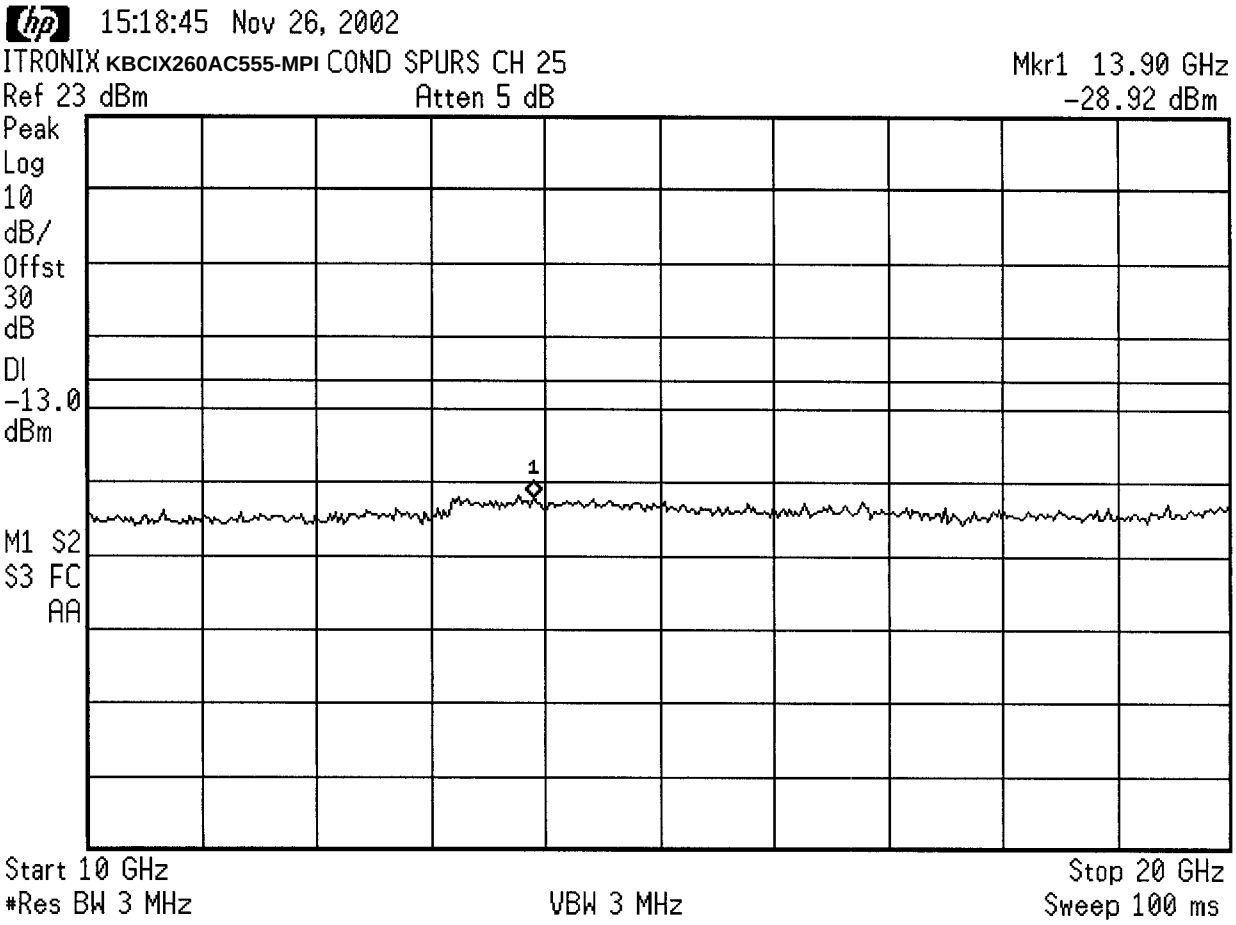
APPENDIX A - TEST PLOTS

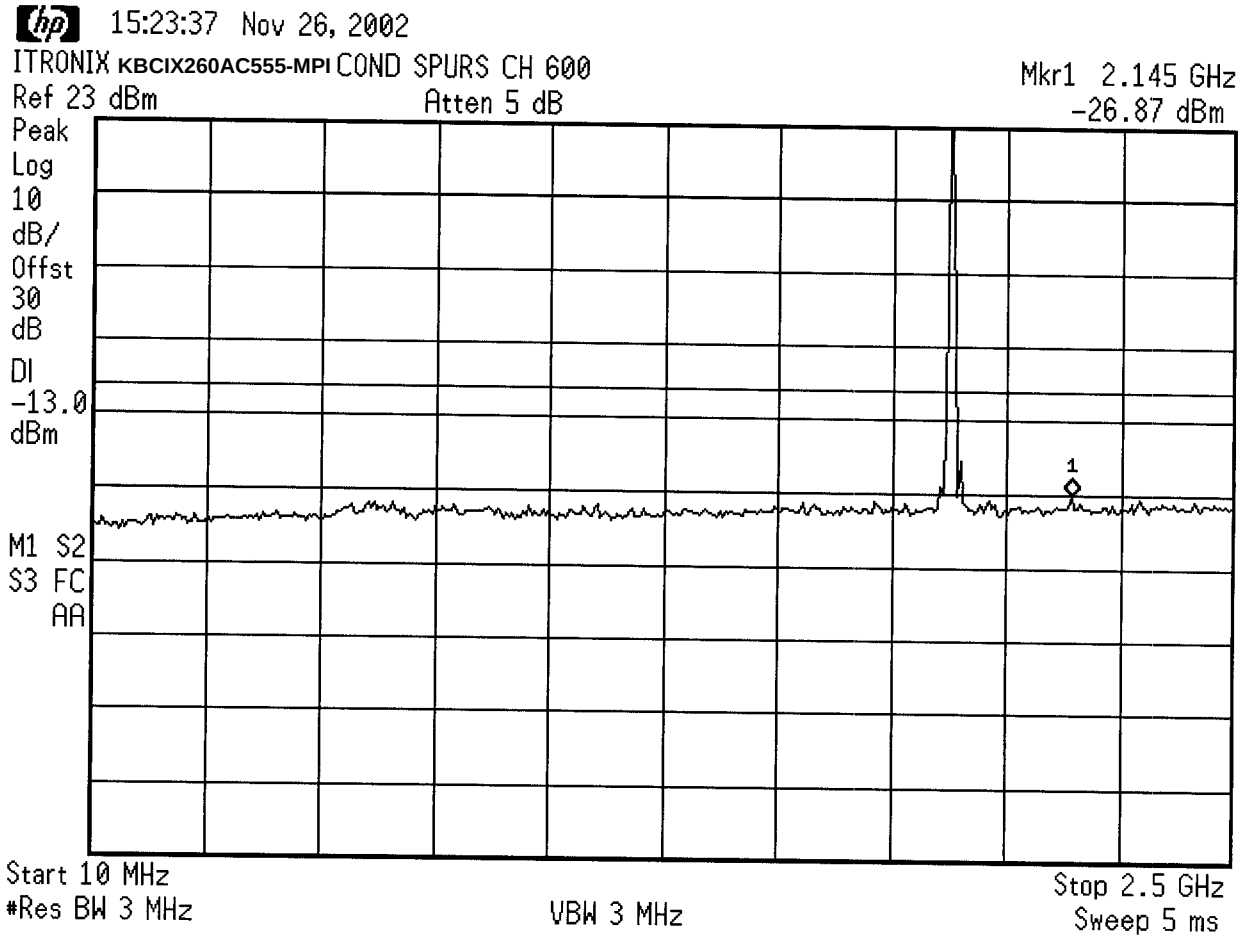
EMC TEST PLOTS - PCS CDMA Mode

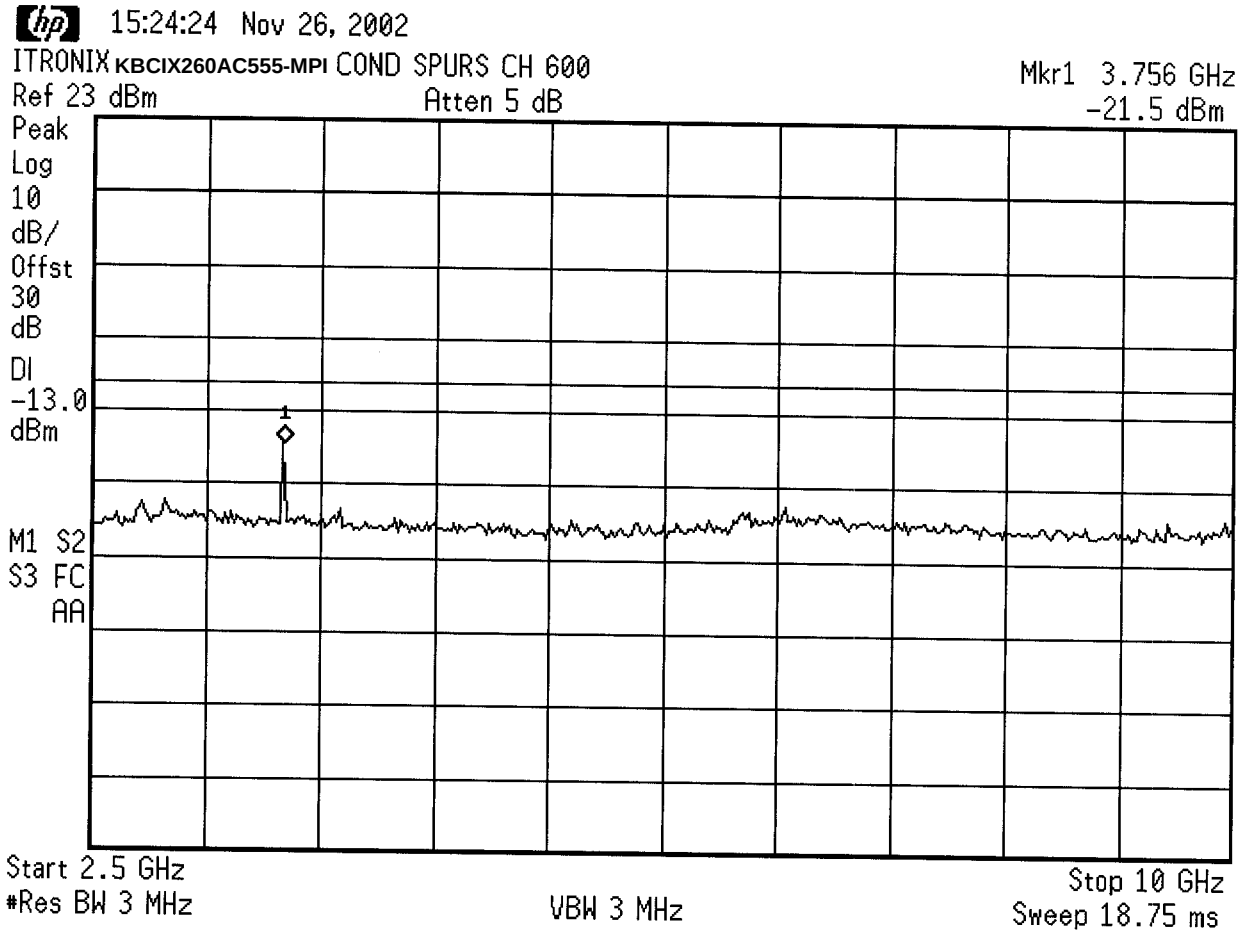
1. Conducted Spurious Emissions
2. Receiver Spurious Emissions
3. Occupied Bandwidth
4. Band Edge
5. Block Edge

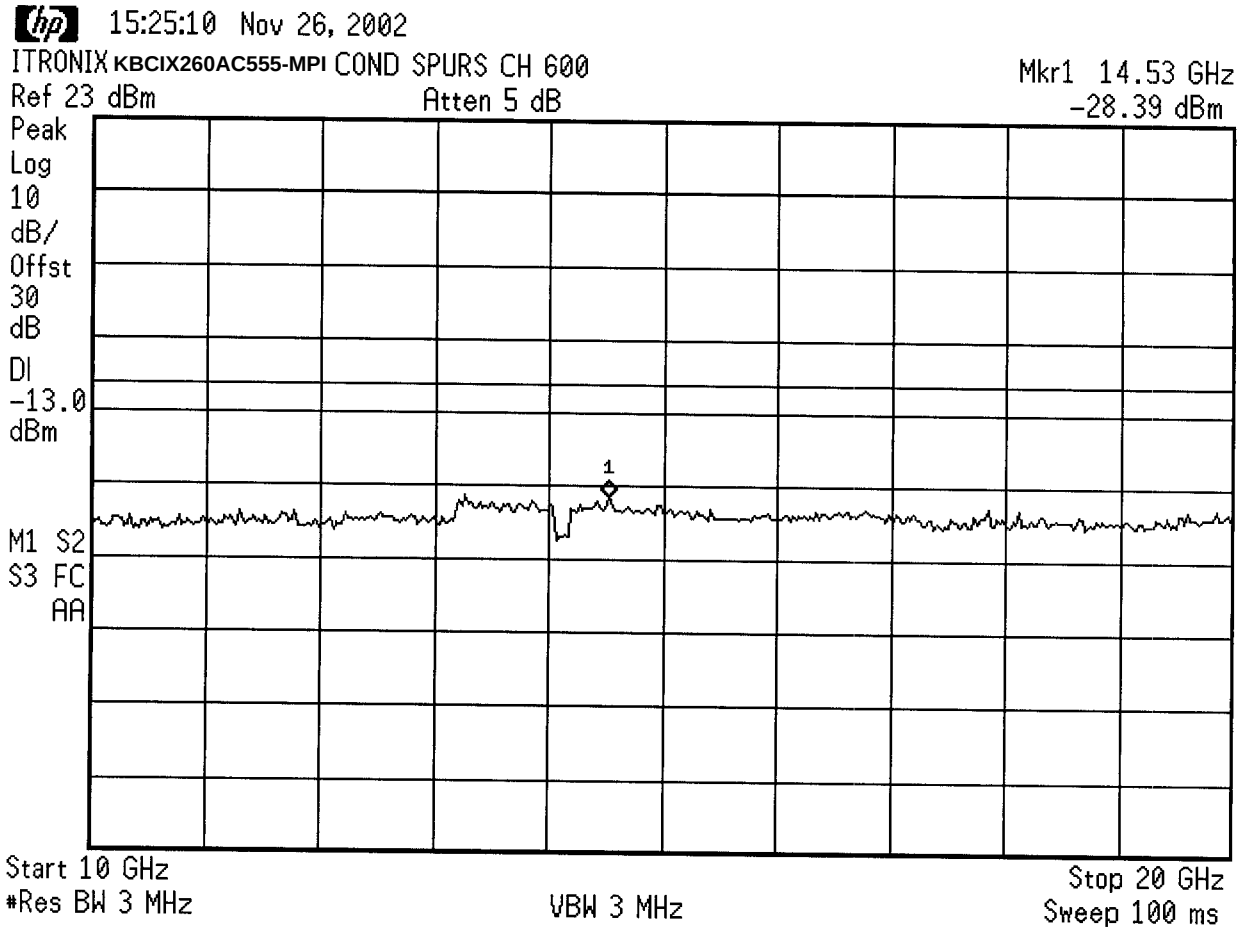

15:16:05 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 25
Ref 23 dBm
Atten 5 dB
Mkr1 2.114 GHz
-26.24 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 MHz
#Res BW 3 MHz
VBW 3 MHz
Stop 2.5 GHz
Sweep 5 ms

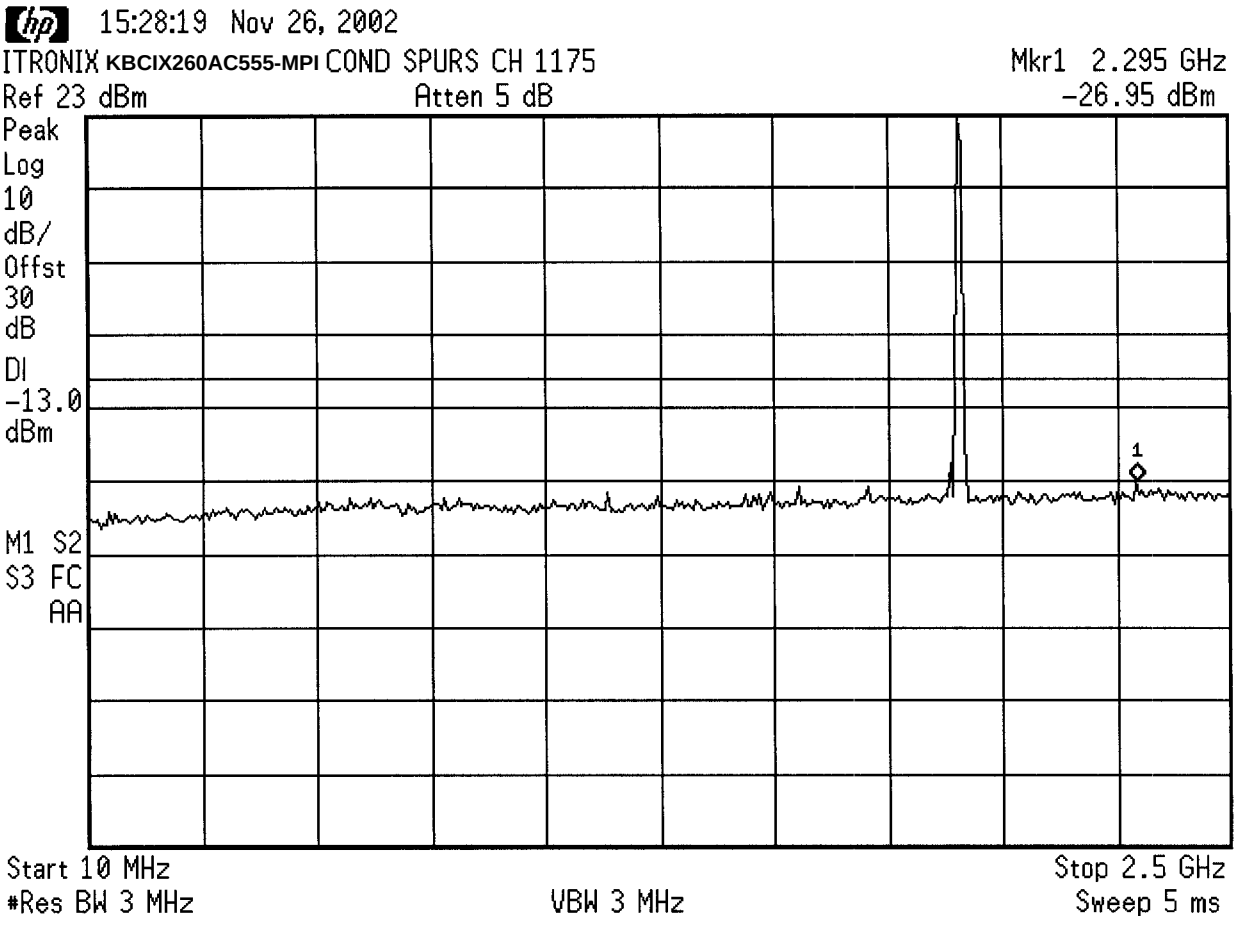

15:17:26 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 25
Ref 23 dBm
Atten 5 dB
Mkr1 3.700 GHz
-25.97 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
#Res BW 3 MHz
VBW 3 MHz
Stop 10 GHz
Sweep 18.75 ms

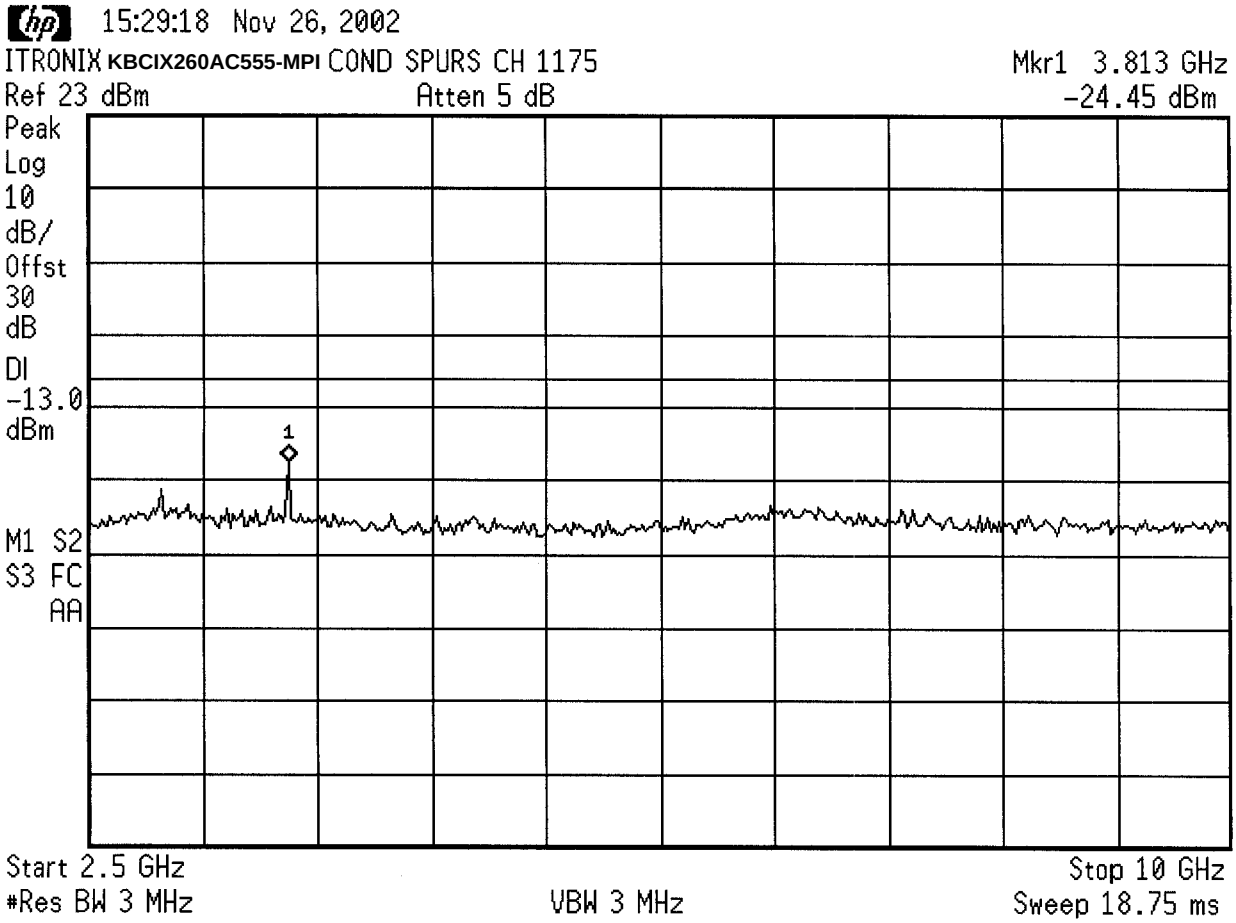

15:18:45 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 25
Mkr1 13.90 GHz
-28.92 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 GHz
#Res BW 3 MHz
VBW 3 MHz
Stop 20 GHz
Sweep 100 ms

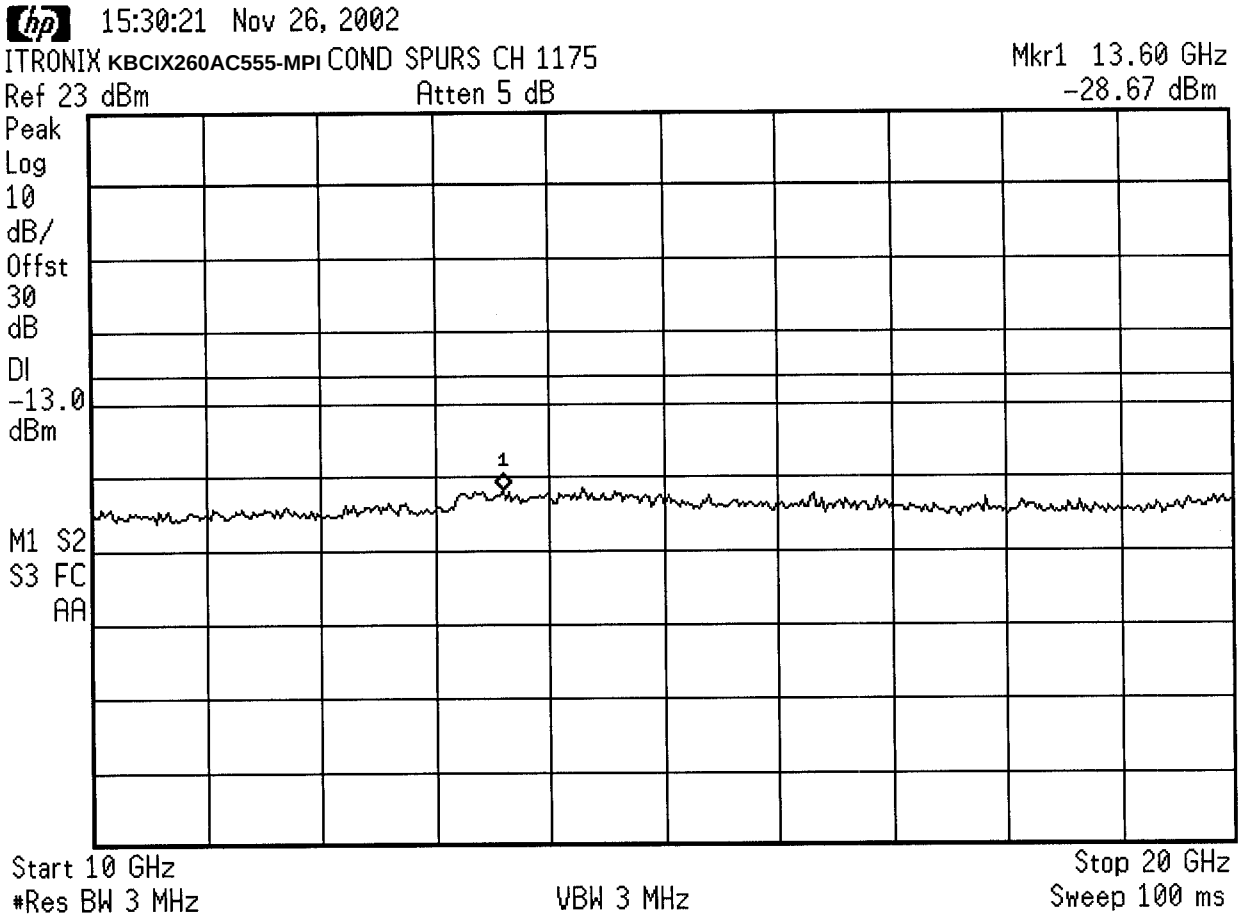

15:23:37 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 600
Ref 23 dBm
Atten 5 dB
Mkr1 2.145 GHz
-26.87 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 MHz
#Res BW 3 MHz
VBW 3 MHz
Stop 2.5 GHz
Sweep 5 ms

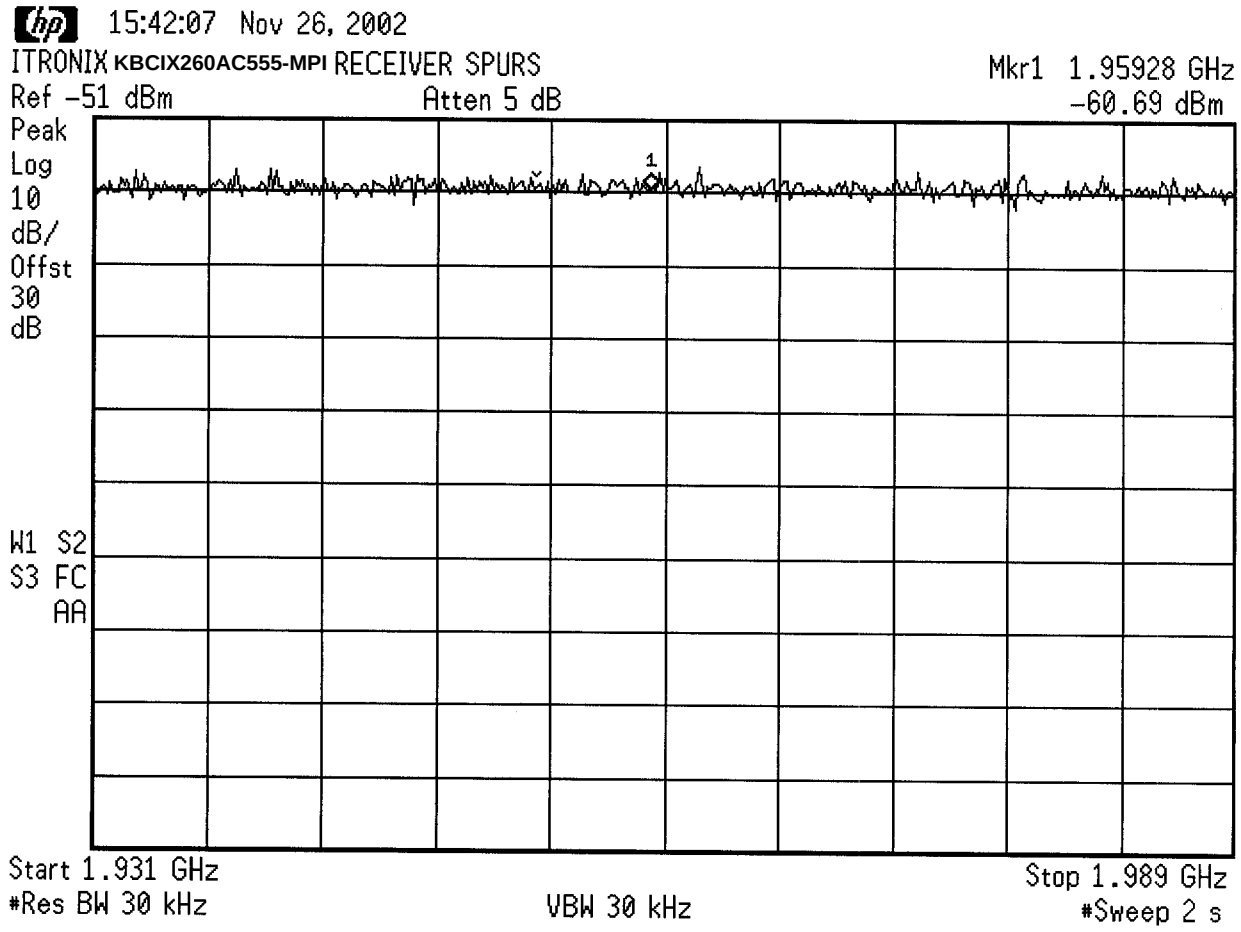

15:24:24 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 600
Ref 23 dBm
Atten 5 dB
Mkr1 3.756 GHz
-21.5 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
Start 2.5 GHz
#Res BW 3 MHz
VBW 3 MHz
Stop 10 GHz
Sweep 18.75 ms

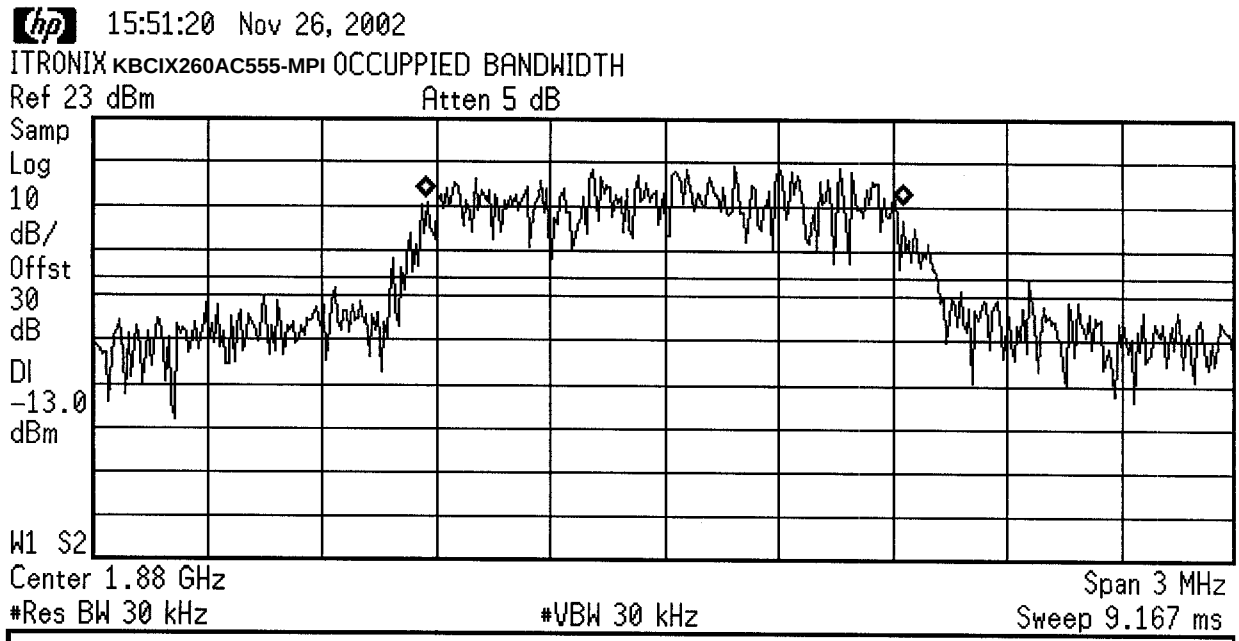

15:25:10 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 600
Ref 23 dBm
Atten 5 dB
Mkr1 14.53 GHz
-28.39 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 GHz
#Res BW 3 MHz
VBW 3 MHz
Stop 20 GHz
Sweep 100 ms


15:28:19 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1175
Mkr1 2.295 GHz
Ref 23 dBm
Atten 5 dB
-26.95 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 MHz
Stop 2.5 GHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 5 ms


15:29:18 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1175
Mkr1 3.813 GHz
Ref 23 dBm
Atten 5 dB
-24.45 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
Stop 10 GHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 18.75 ms


15:30:21 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1175
Mkr1 13.60 GHz
-28.67 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 GHz
#Res BW 3 MHz
VBW 3 MHz
Stop 20 GHz
Sweep 100 ms


15:42:07 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI RECEIVER SPURS
Mkr1 1.95928 GHz
-60.69 dBm
Ref -51 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
1
W1 S2
S3 FC
AA
Start 1.931 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.989 GHz
#Sweep 2 s



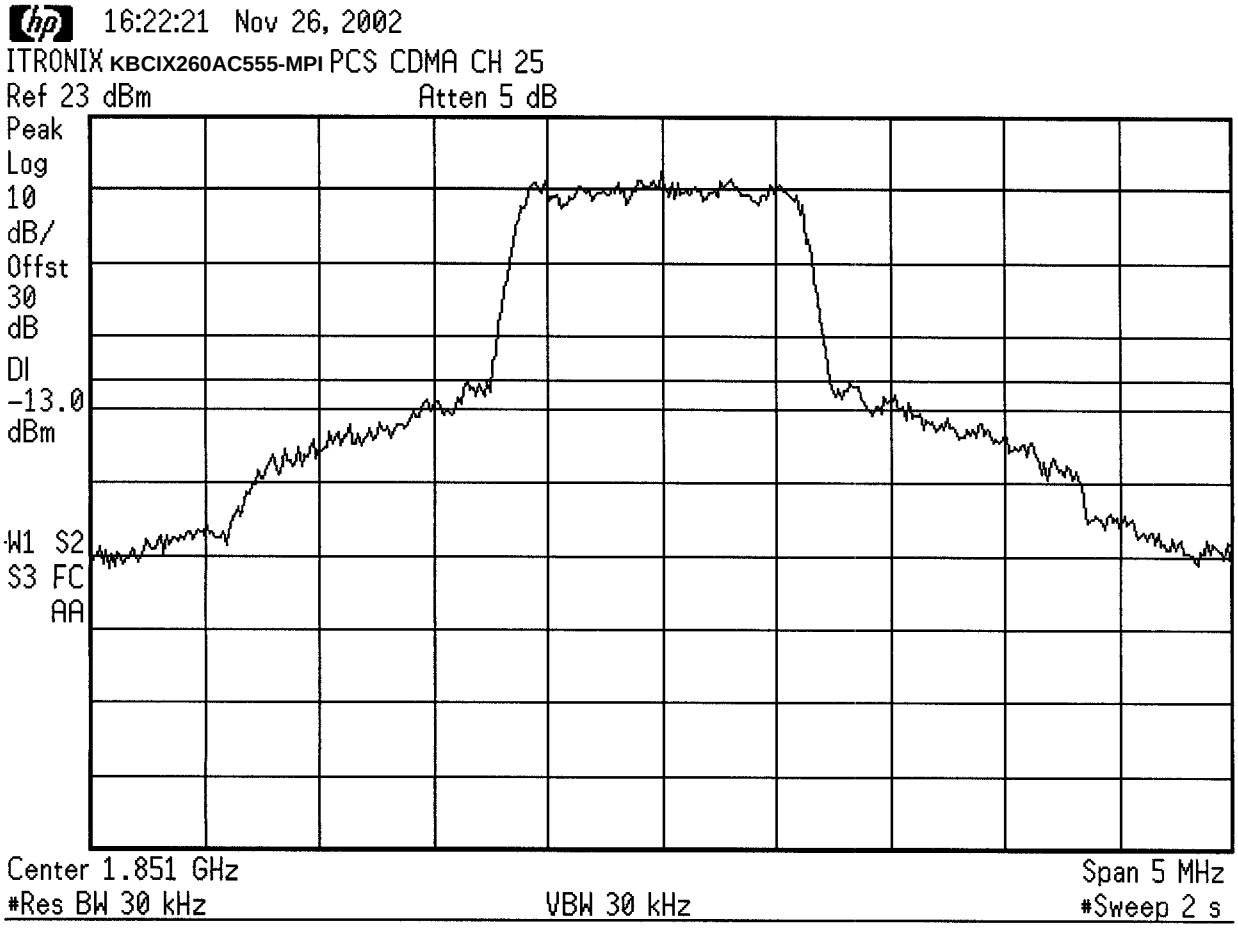
Occupied Bandwidth Results (measuring..)

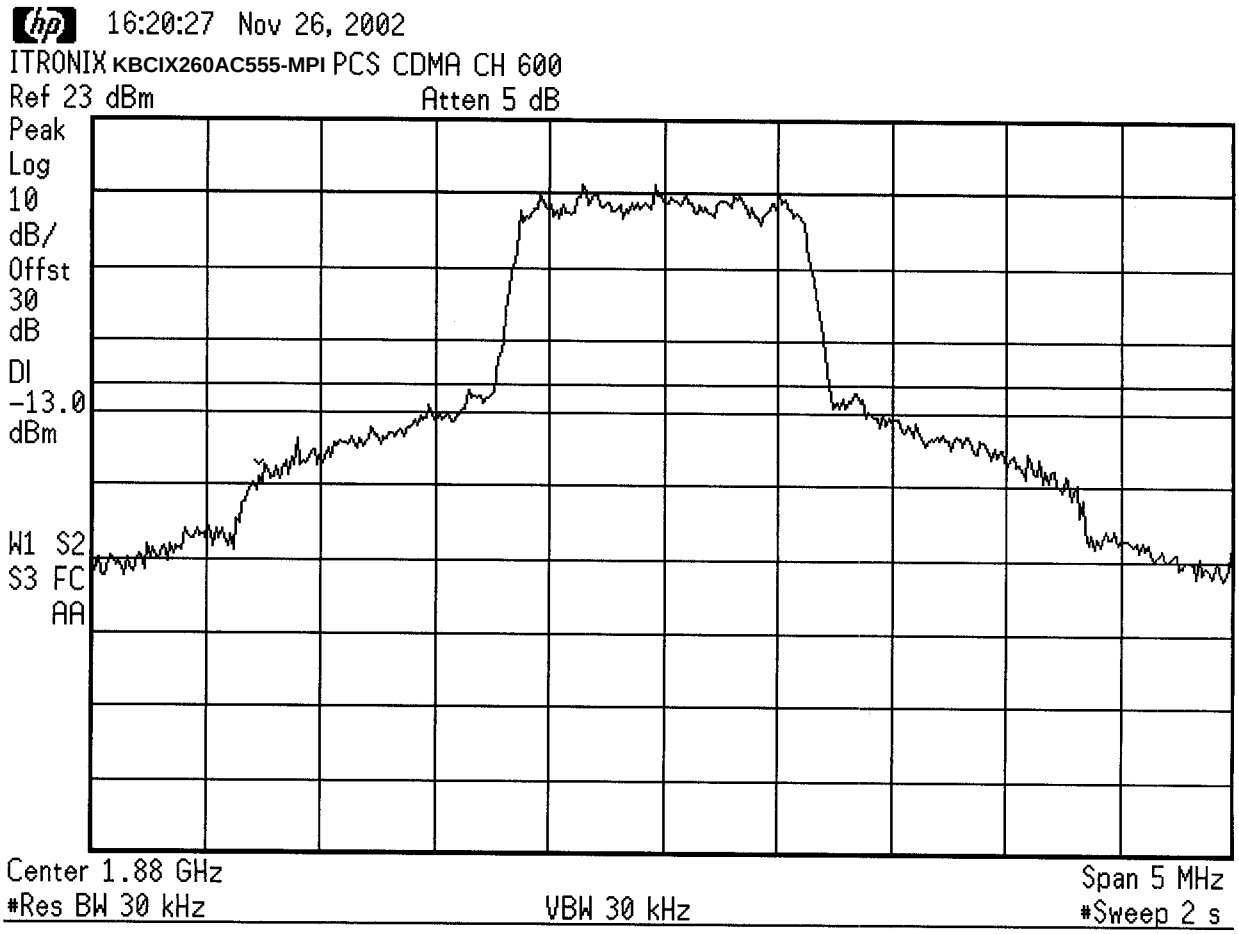
Occupied Bandwidth

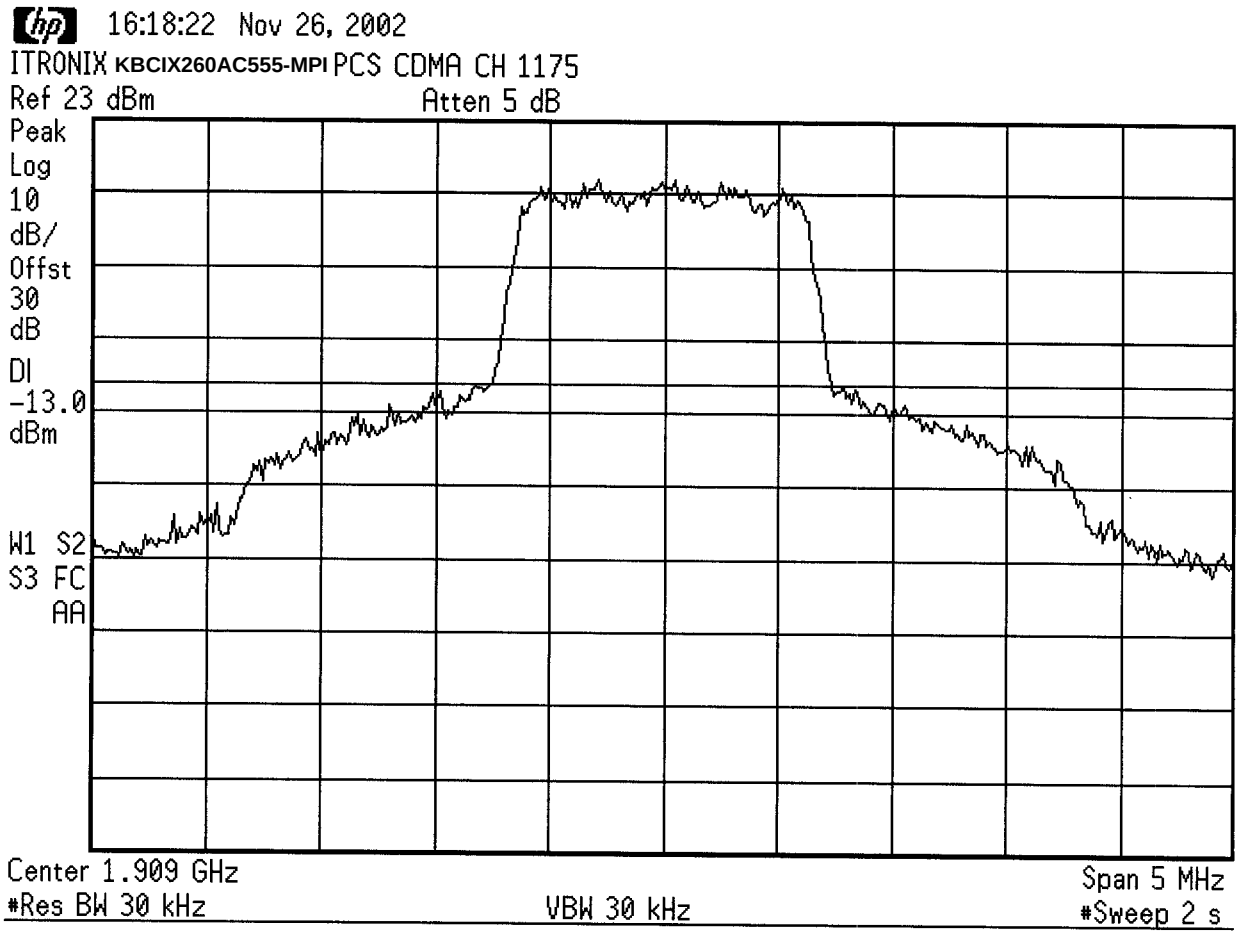
1.261 MHz

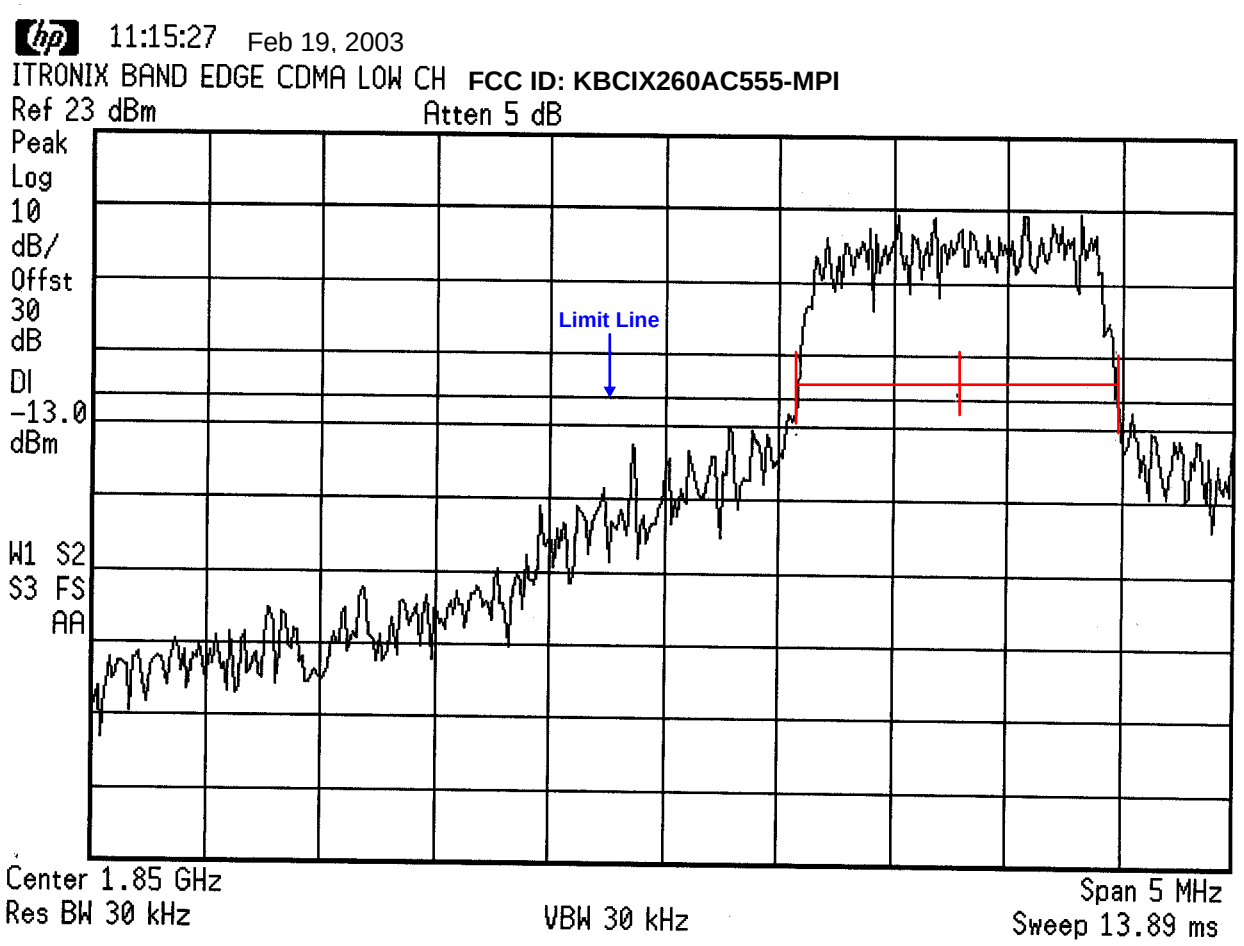
Occ BW % Pwr 99.00 %

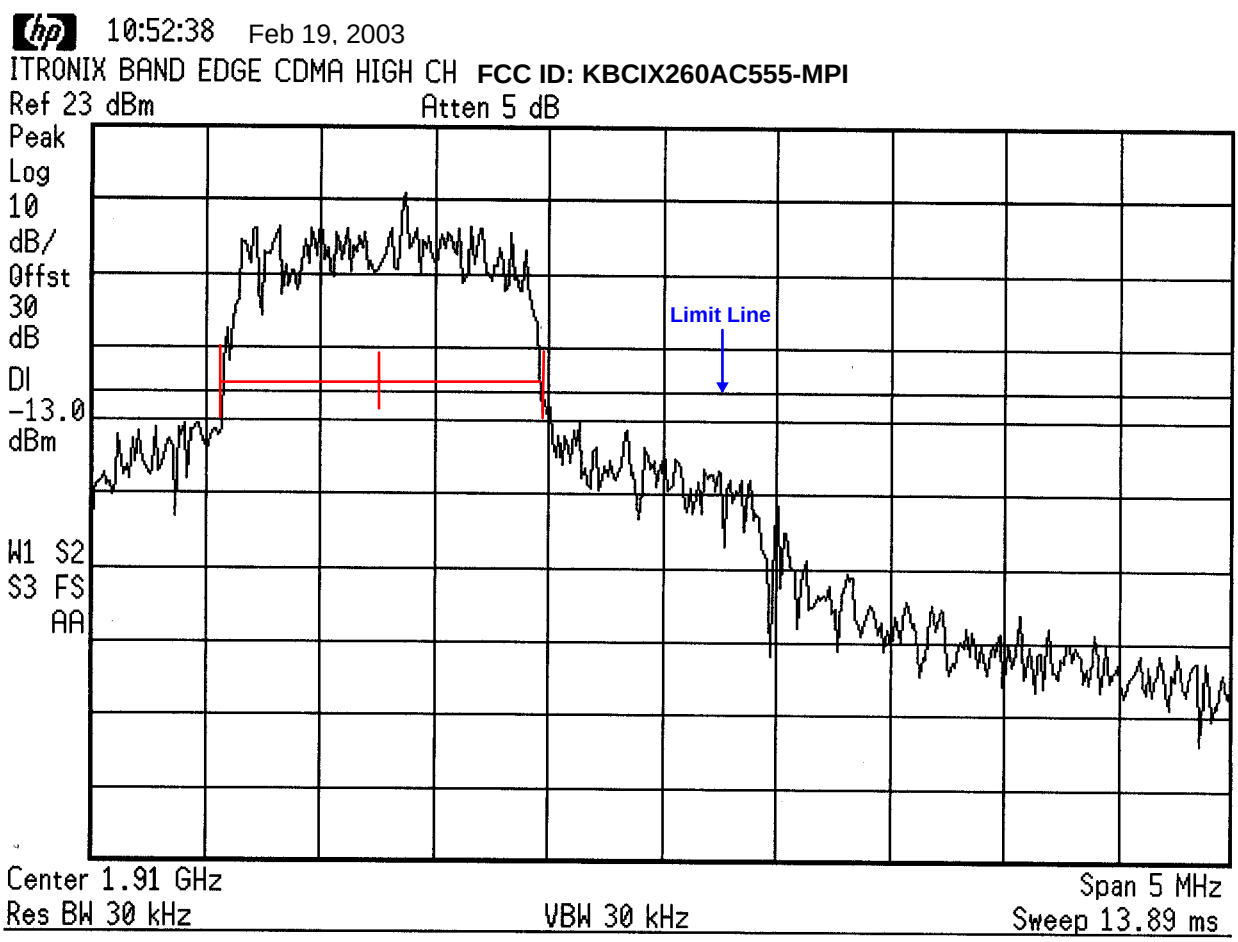
Transmit Freq Error 1.735 Hz

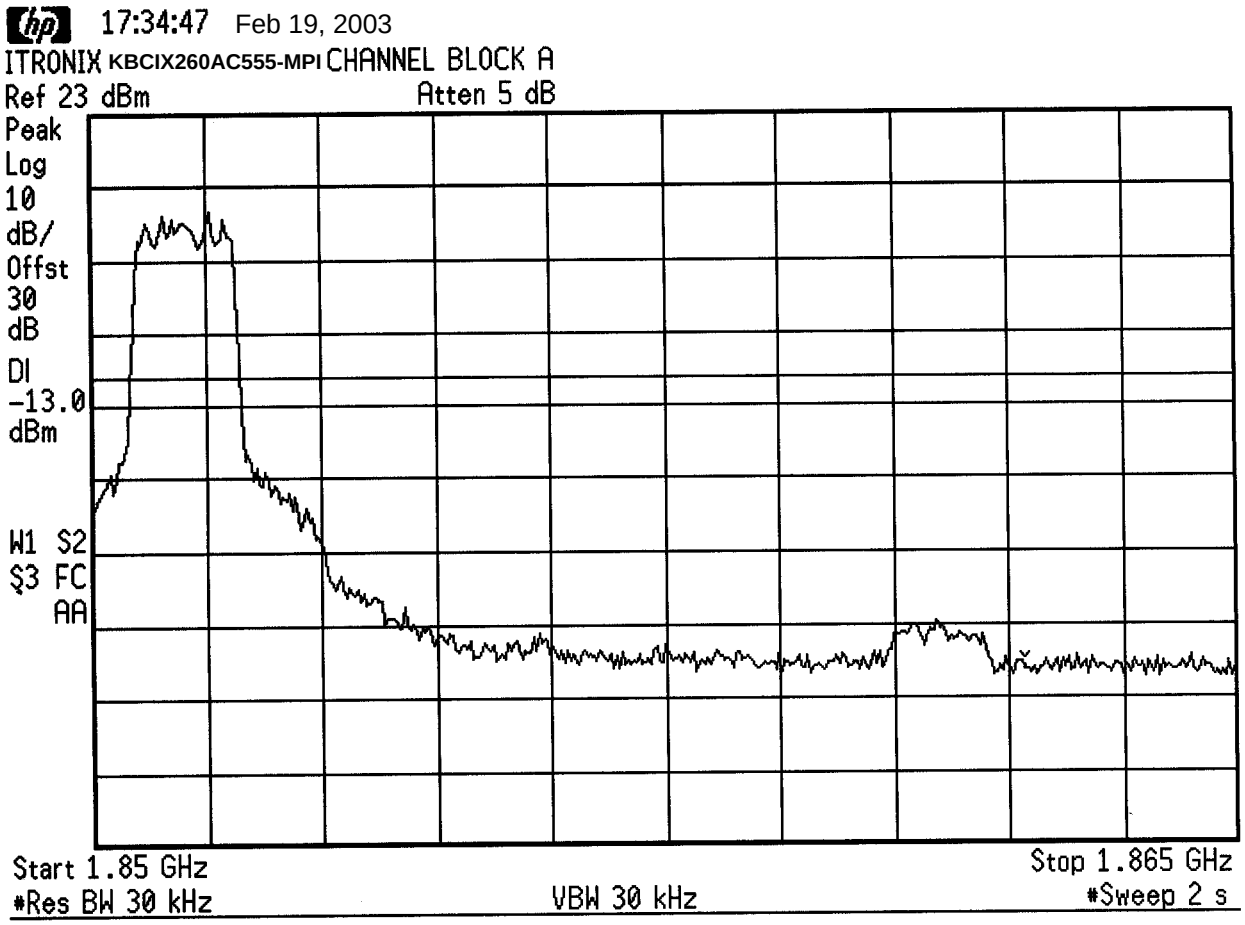

16:22:21 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI PCS CDMA CH 25
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Center 1.851 GHz
#Res BW 30 kHz
VBW 30 kHz
Span 5 MHz
#Sweep 2 s

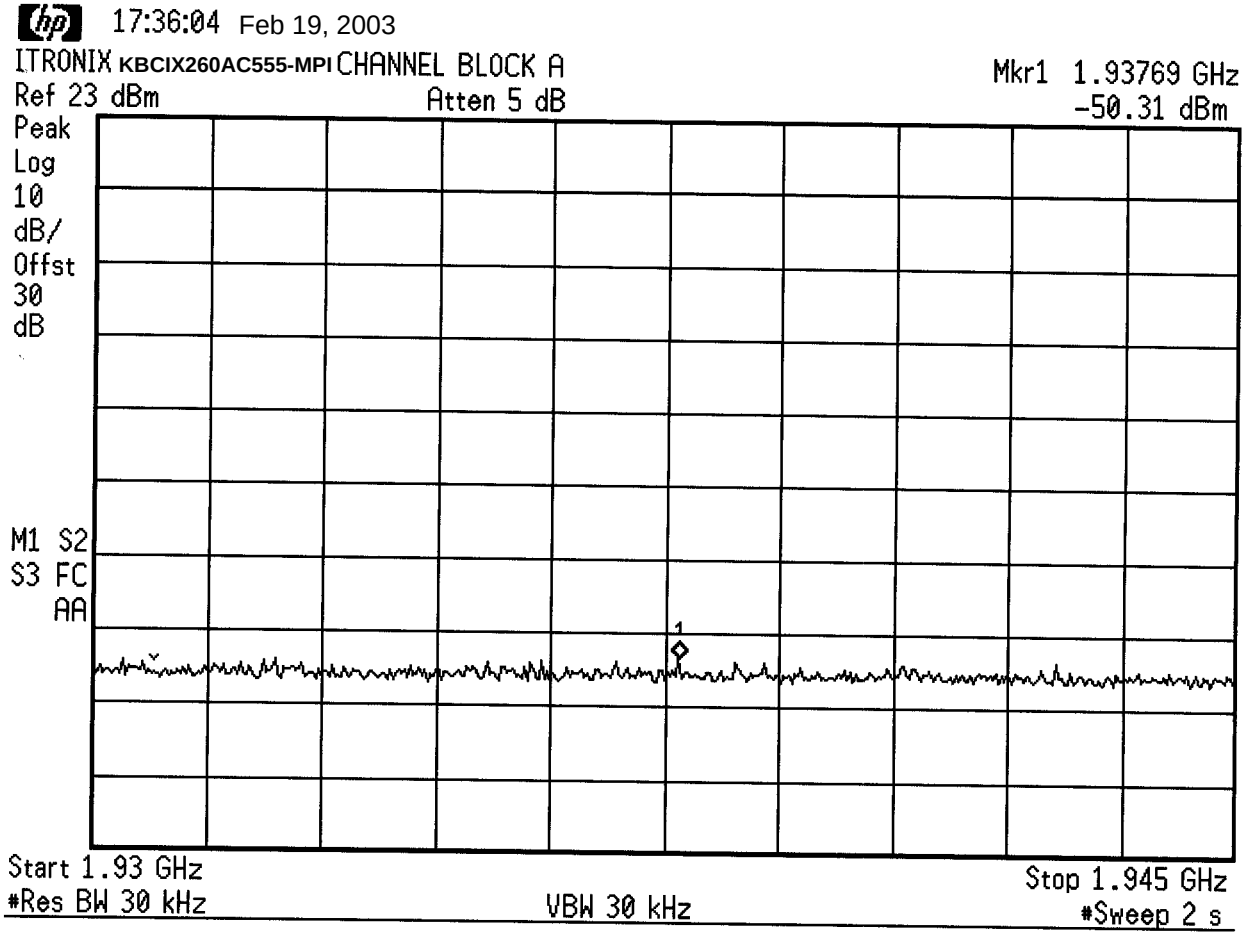

16:20:27 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI PCS CDMA CH 600
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Center 1.88 GHz
#Res BW 30 kHz
VBW 30 kHz
Span 5 MHz
#Sweep 2 s

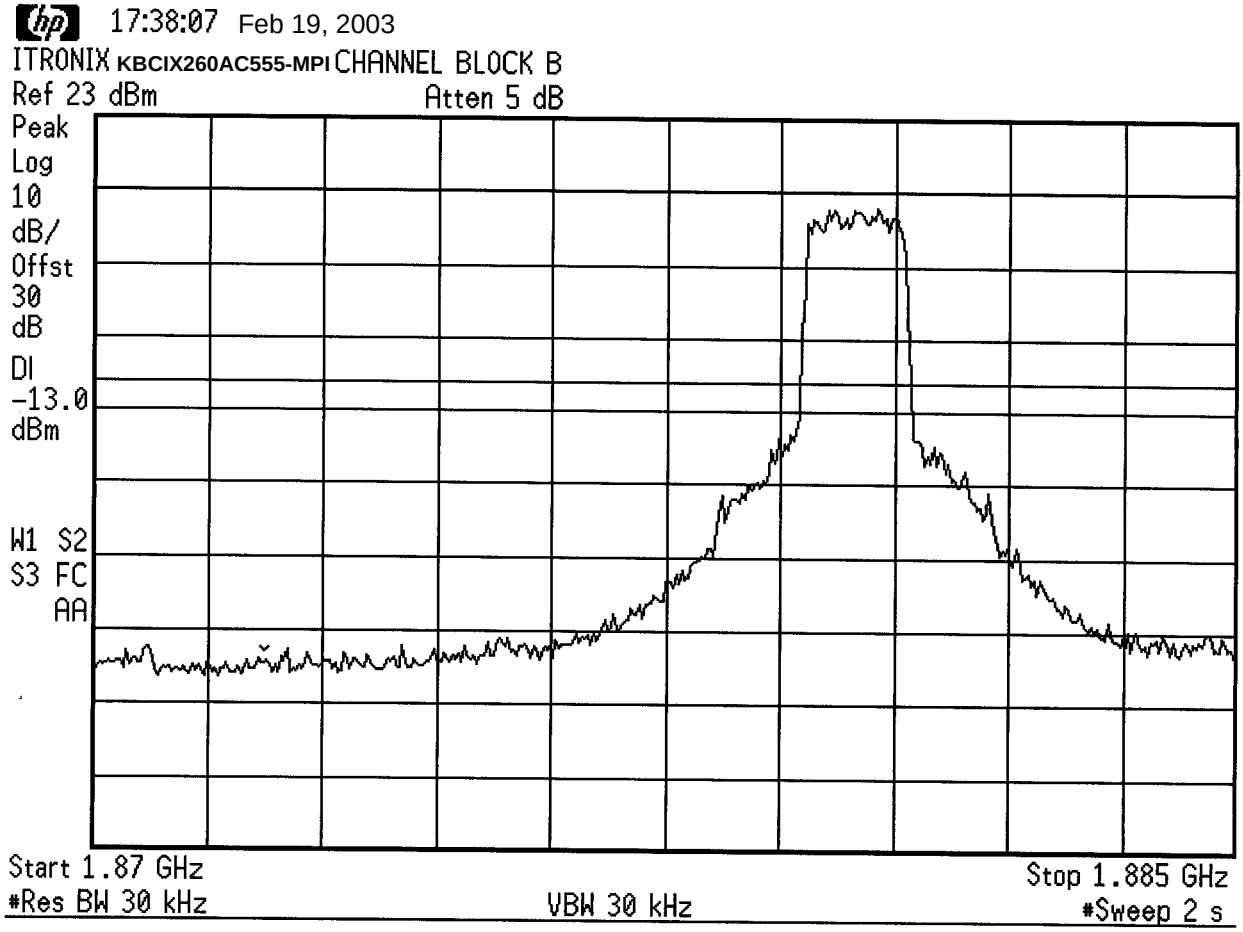

16:18:22 Nov 26, 2002
ITRONIX KBCIX260AC555-MPI PCS CDMA CH 1175
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Center 1.909 GHz
#Res BW 30 kHz
VBW 30 kHz
Span 5 MHz
#Sweep 2 s

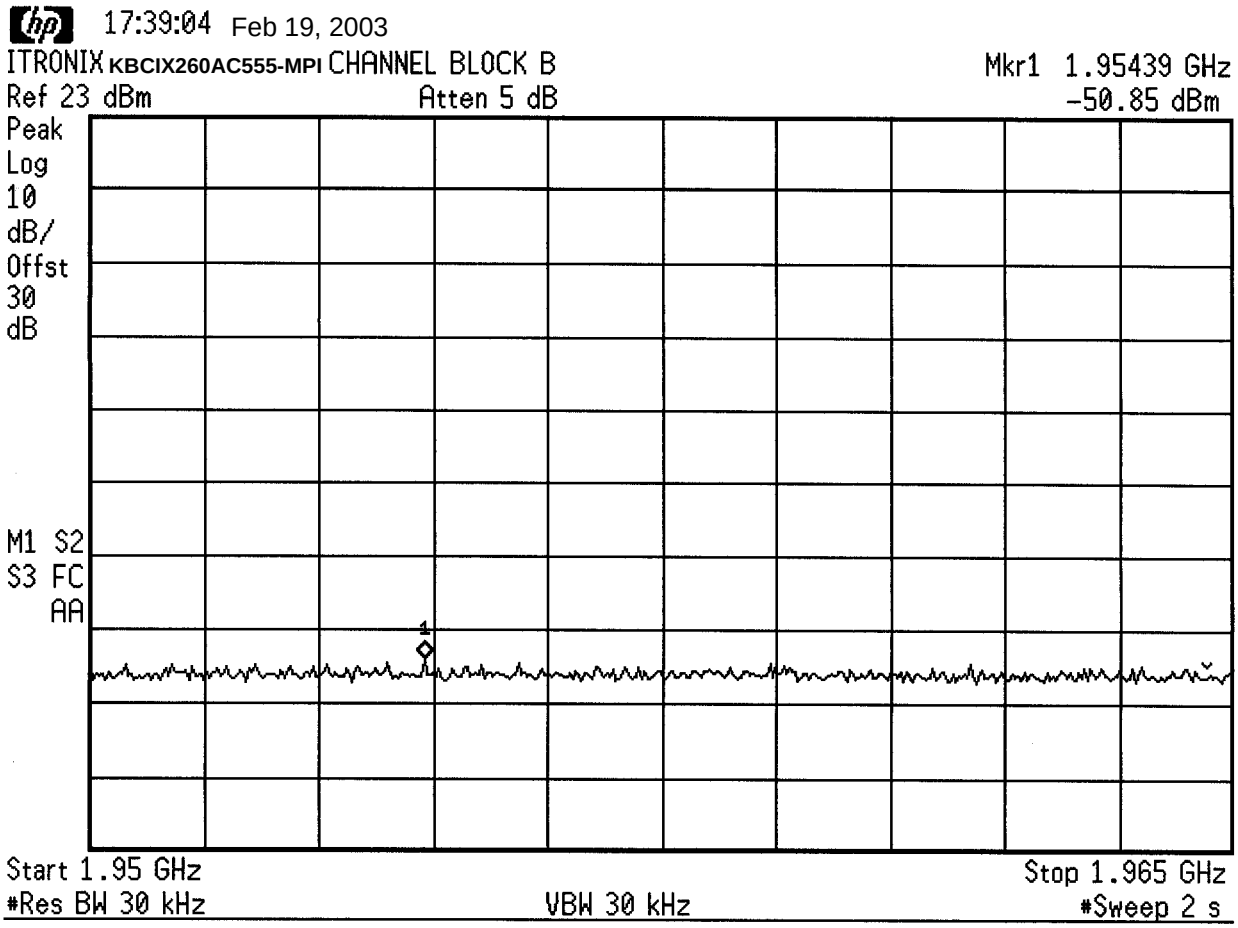

11:15:27 Feb 19, 2003
ITRONIX BAND EDGE CDMA LOW CH
FCC ID: KBCIX260AC555-MPI
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 1.85 GHz
Res BW 30 kHz
VBW 30 kHz
Span 5 MHz
Sweep 13.89 ms

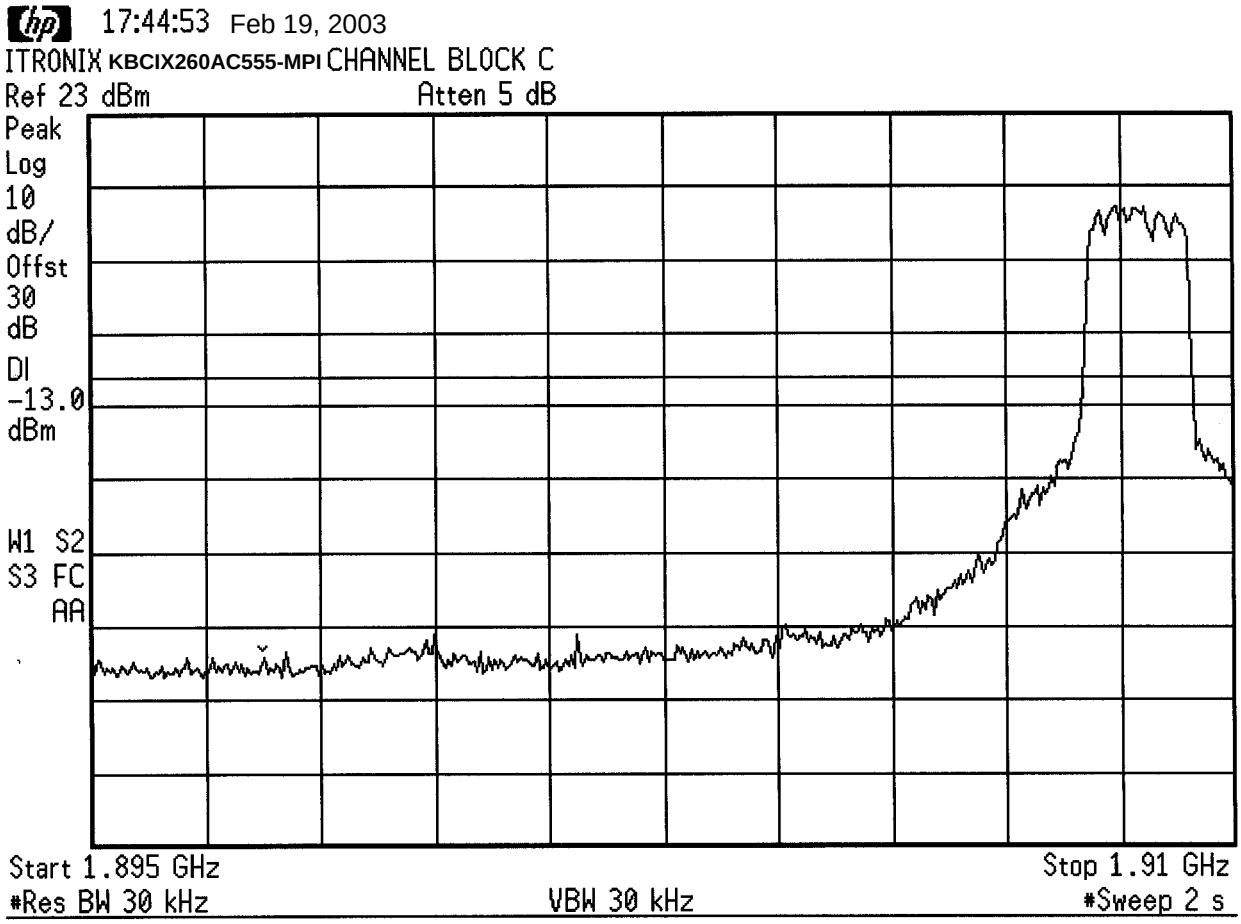

10:52:38 Feb 19, 2003
ITRONIX BAND EDGE CDMA HIGH CH FCC ID: KBCIX260AC555-MPI
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 1.91 GHz
Span 5 MHz
Res BW 30 kHz
VBW 30 kHz
Sweep 13.89 ms

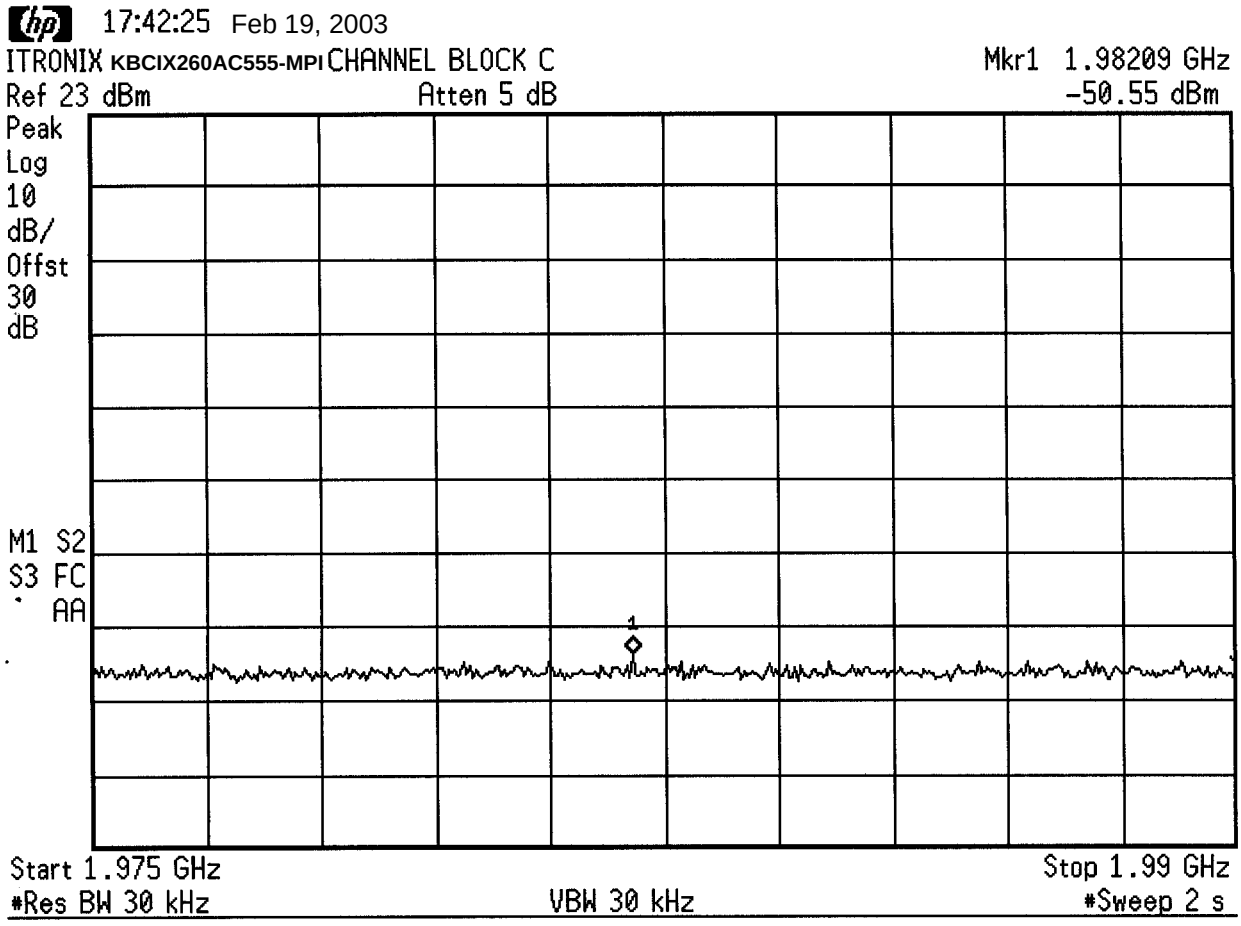

17:34:47 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
$3 FC
AA
Start 1.85 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.865 GHz
#Sweep 2 s

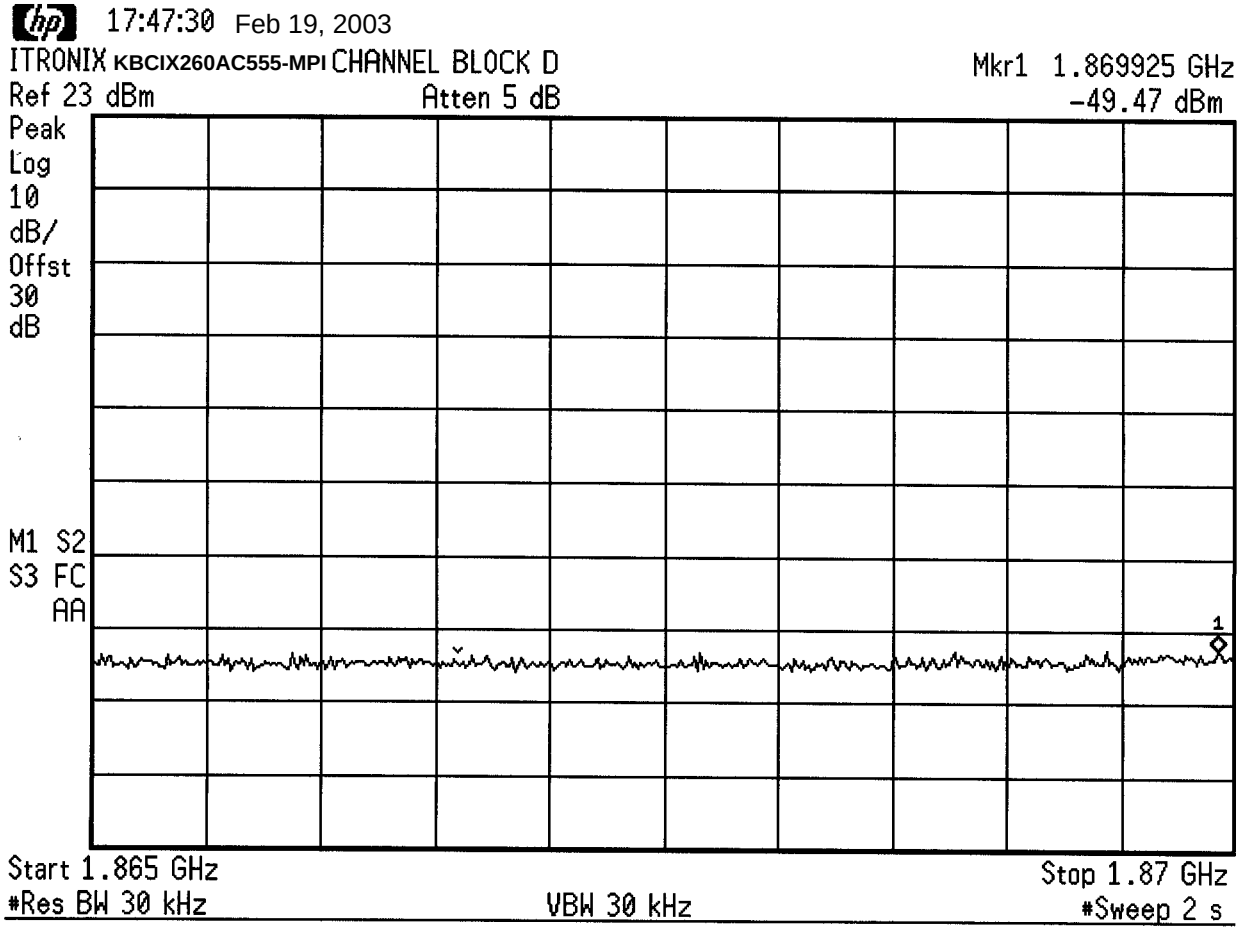

17:36:04 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Ref 23 dBm
Atten 5 dB
Mkr1 1.93769 GHz
-50.31 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 1.93 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.945 GHz
#Sweep 2 s

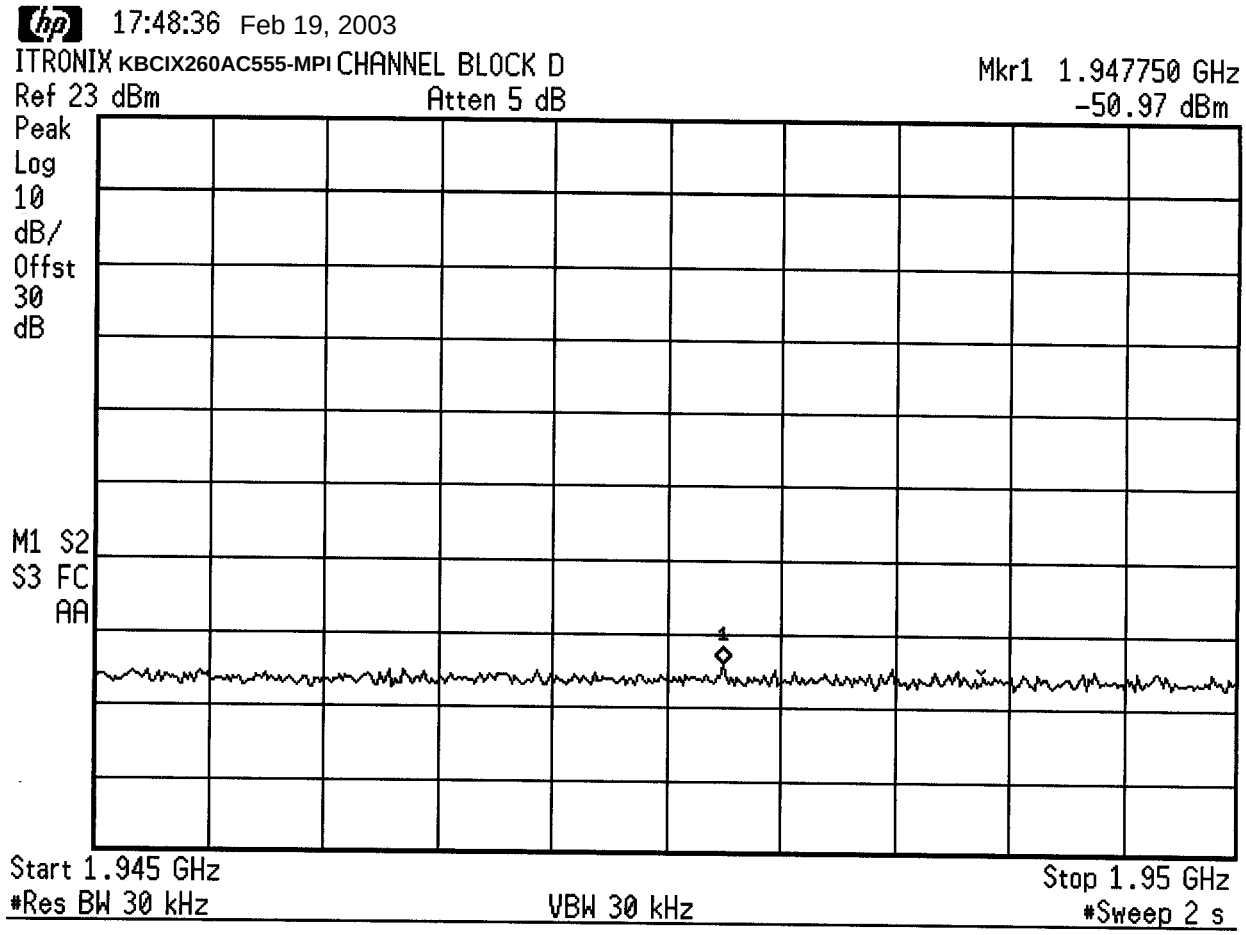

17:38:07 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 1.87 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.885 GHz
#Sweep 2 s

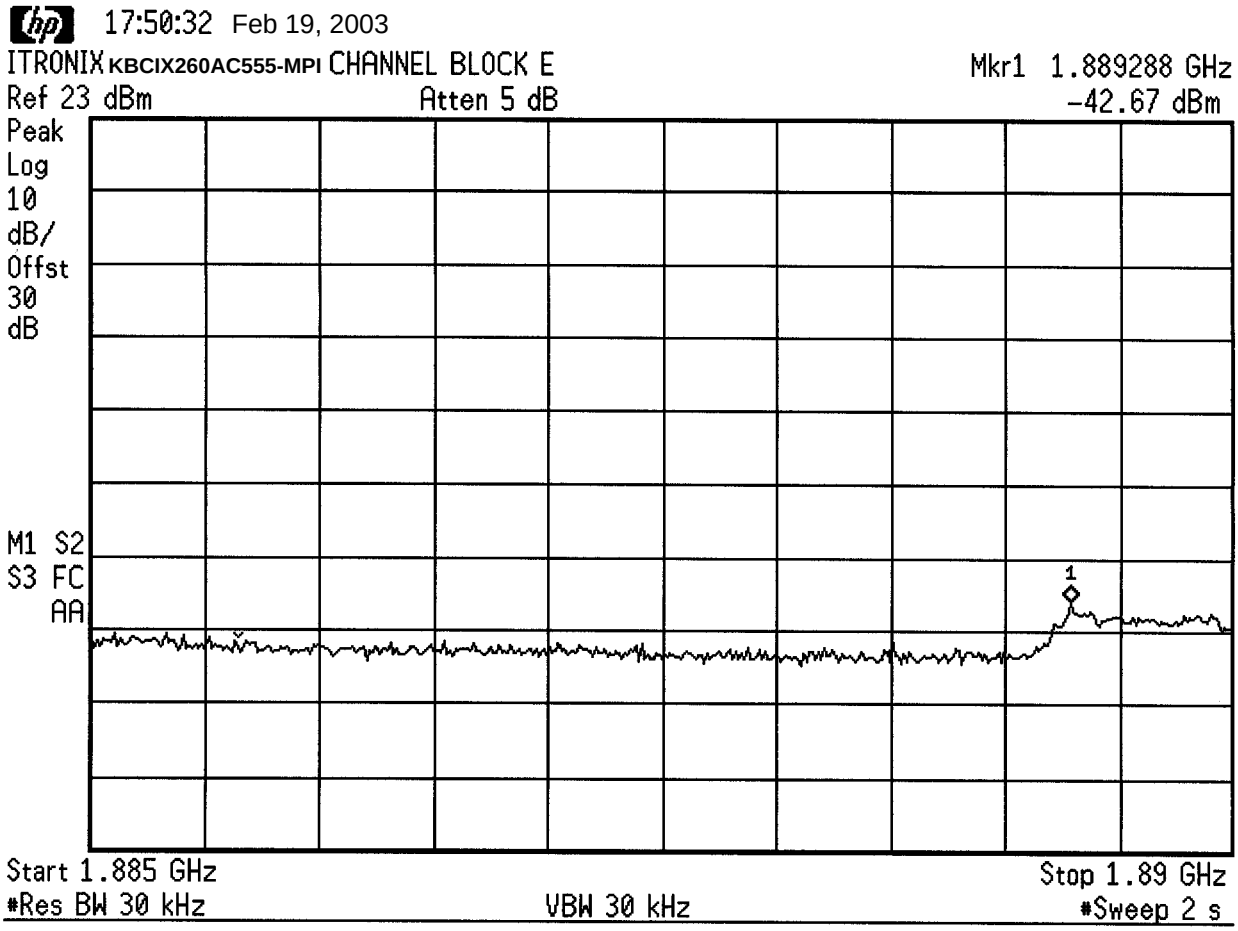

17:39:04 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Mkr1 1.95439 GHz
-50.85 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 1.95 GHz
Stop 1.965 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

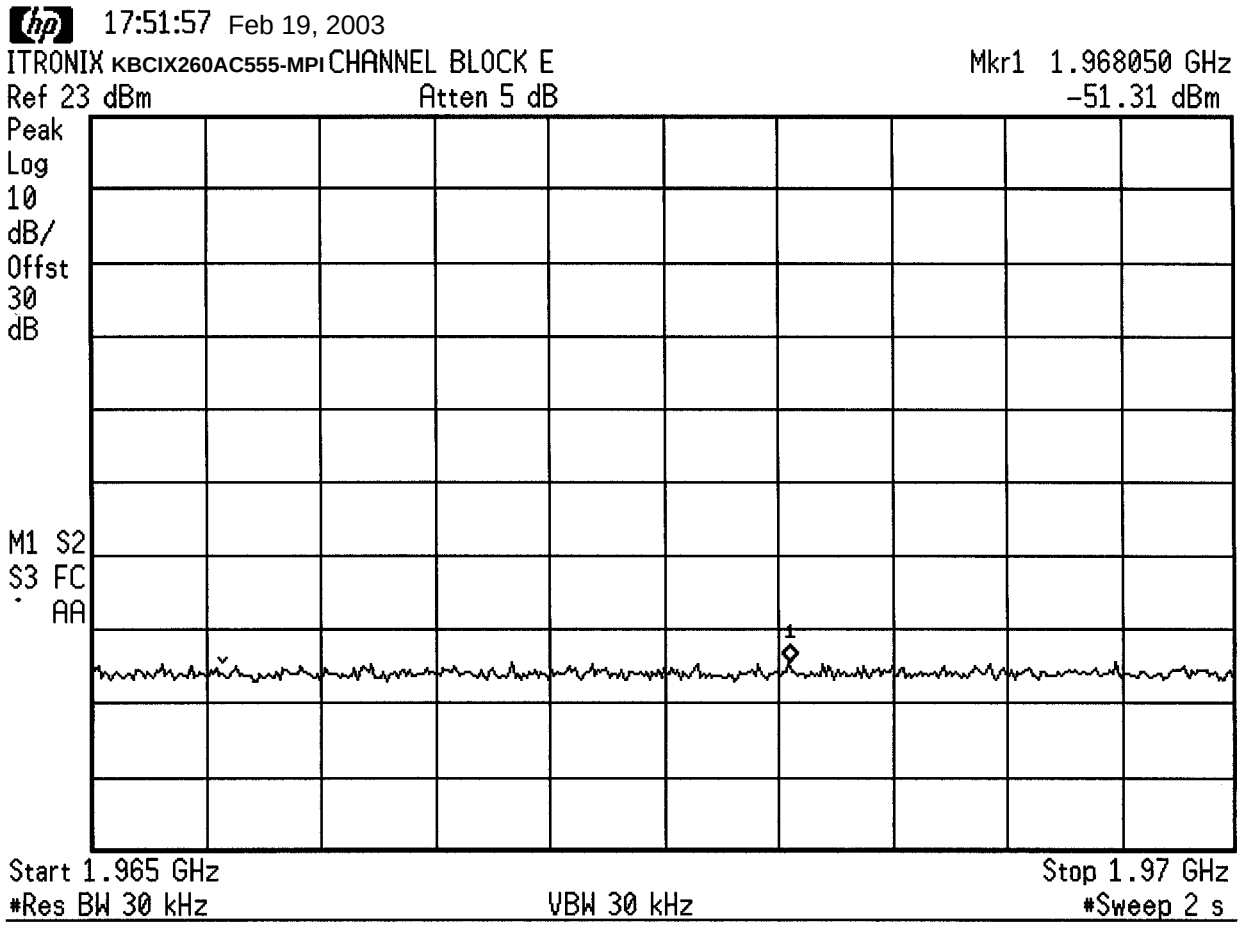

17:44:53 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK C
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 1.895 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.91 GHz
#Sweep 2 s

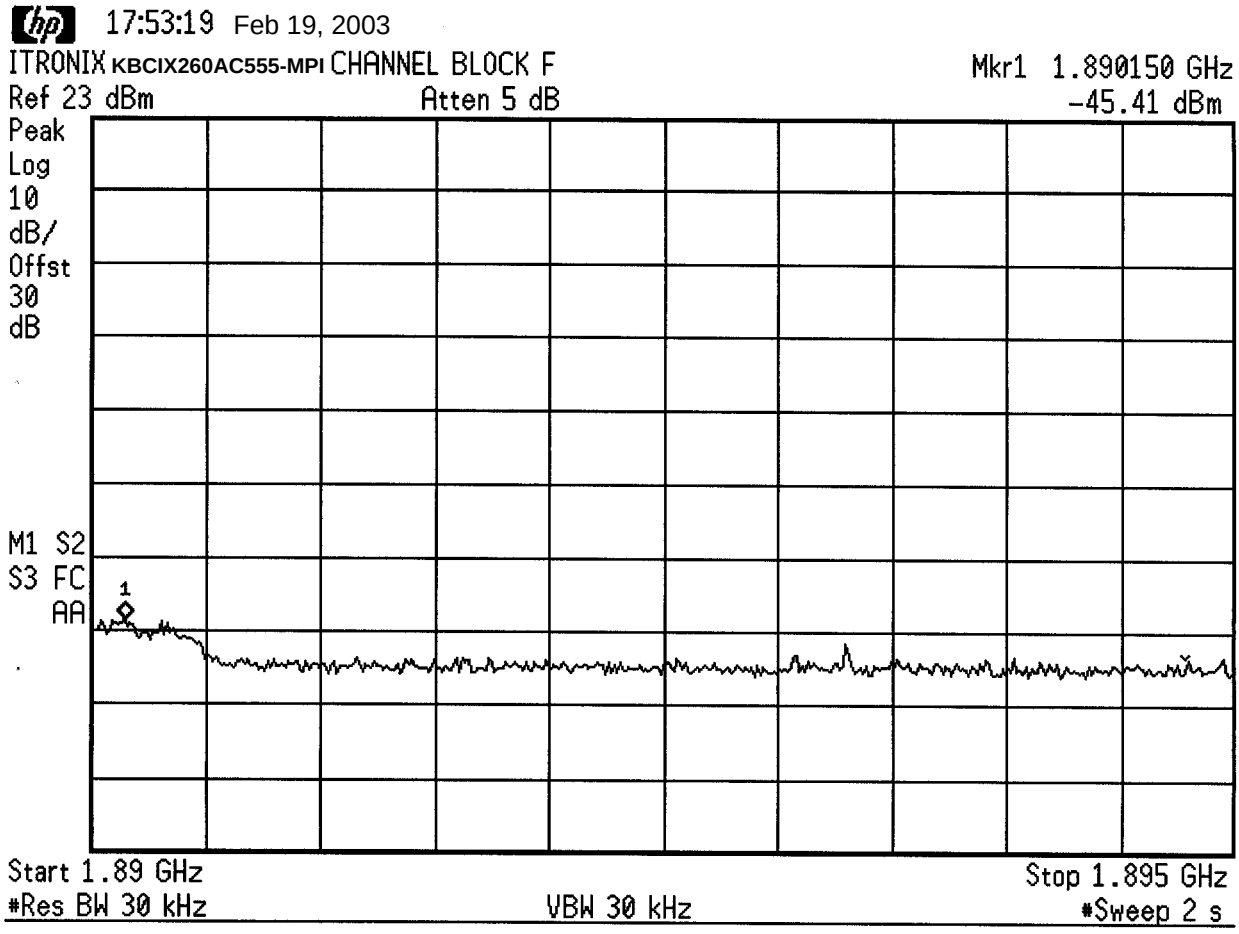

17:42:25 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK C
Mkr1 1.98209 GHz
Ref 23 dBm
Atten 5 dB
-50.55 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 1.975 GHz
Stop 1.99 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

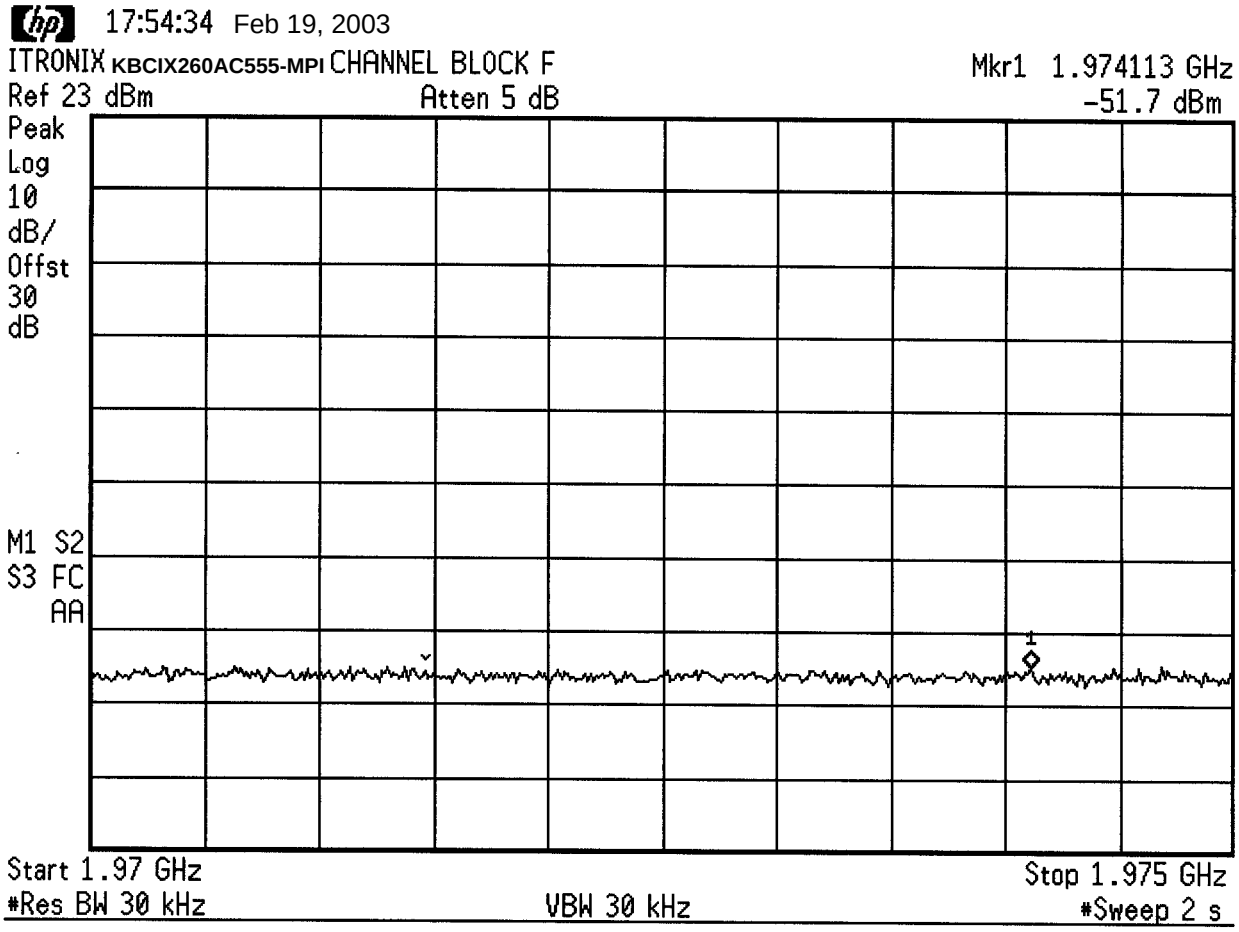

17:47:30 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK D
Mkr1 1.869925 GHz
Ref 23 dBm
Atten 5 dB
-49.47 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 1.865 GHz
Stop 1.87 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s


17:48:36 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK D
Mkr1 1.947750 GHz
-50.97 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 1.945 GHz
#Res BW 30 kHz
VBW 30 kHz
Stop 1.95 GHz
#Sweep 2 s


17:50:32 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK E
Mkr1 1.889288 GHz
-42.67 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 1.885 GHz
Stop 1.89 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

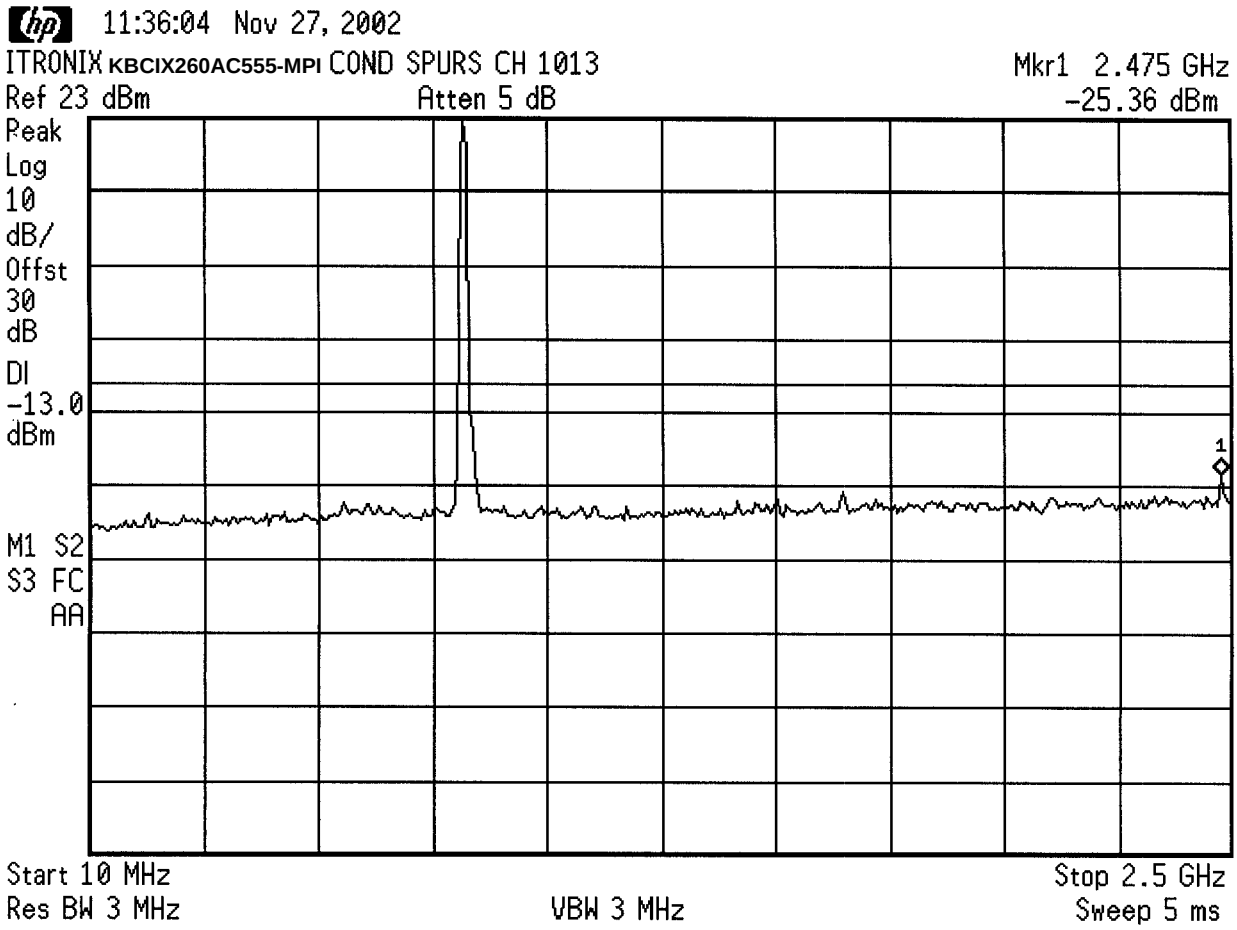

17:51:57 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK E
Mkr1 1.968050 GHz
Ref 23 dBm
Atten 5 dB
-51.31 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 1.965 GHz
Stop 1.97 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

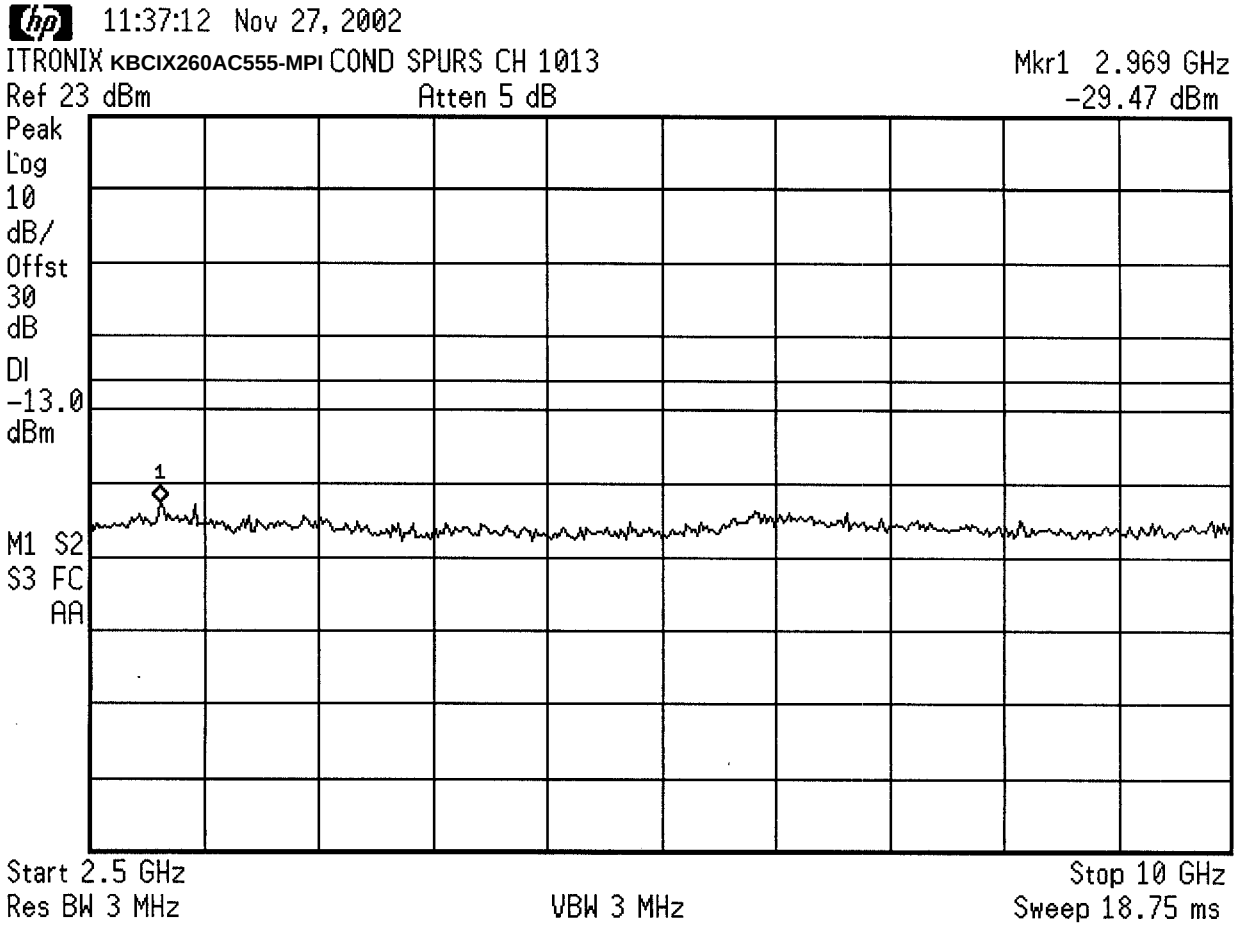

17:53:19 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK F
Mkr1 1.890150 GHz
Ref 23 dBm
Atten 5 dB
-45.41 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 1.89 GHz
Stop 1.895 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

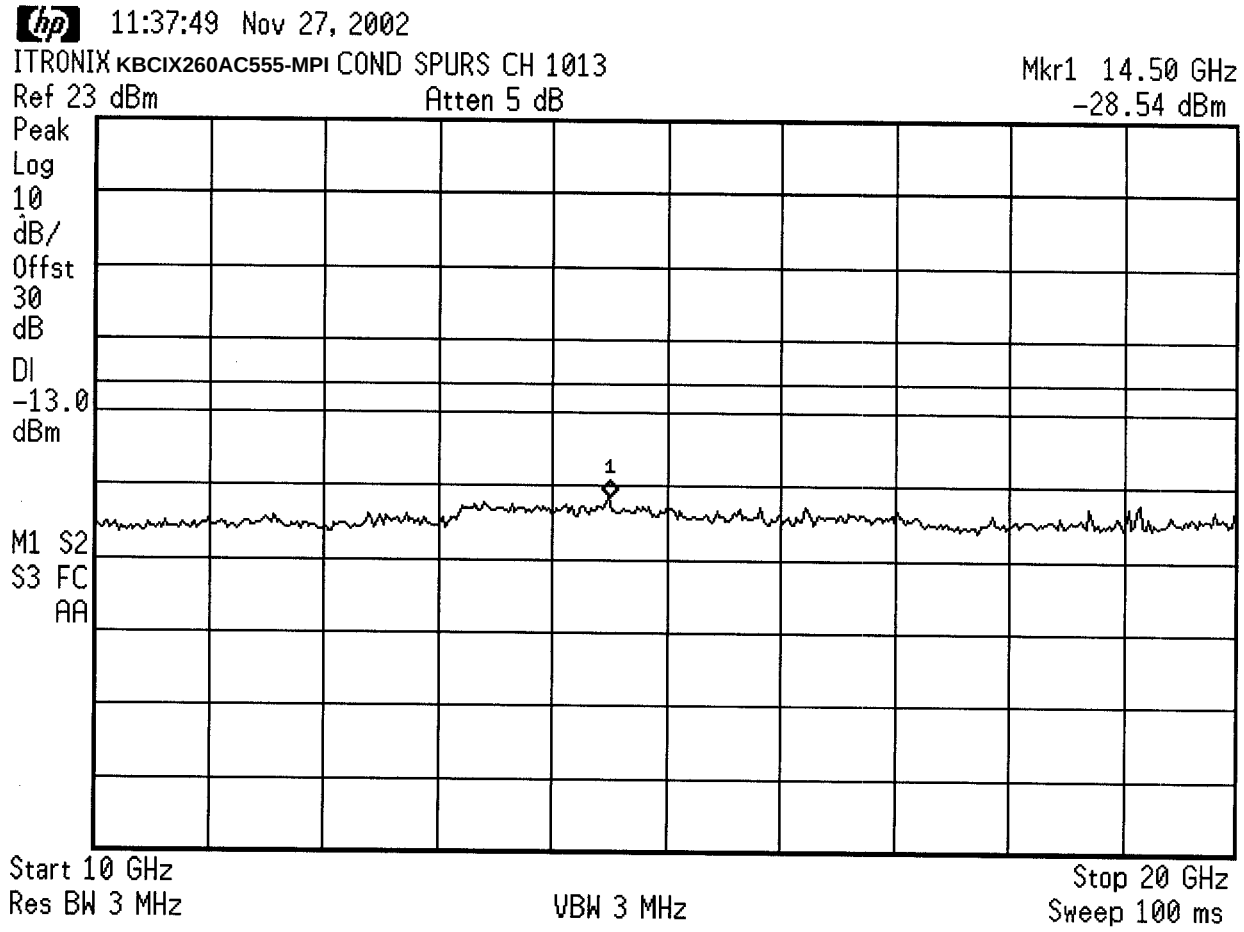

17:54:34 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK F
Mkr1 1.974113 GHz
Ref 23 dBm
Atten 5 dB
-51.7 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 1.97 GHz
Stop 1.975 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

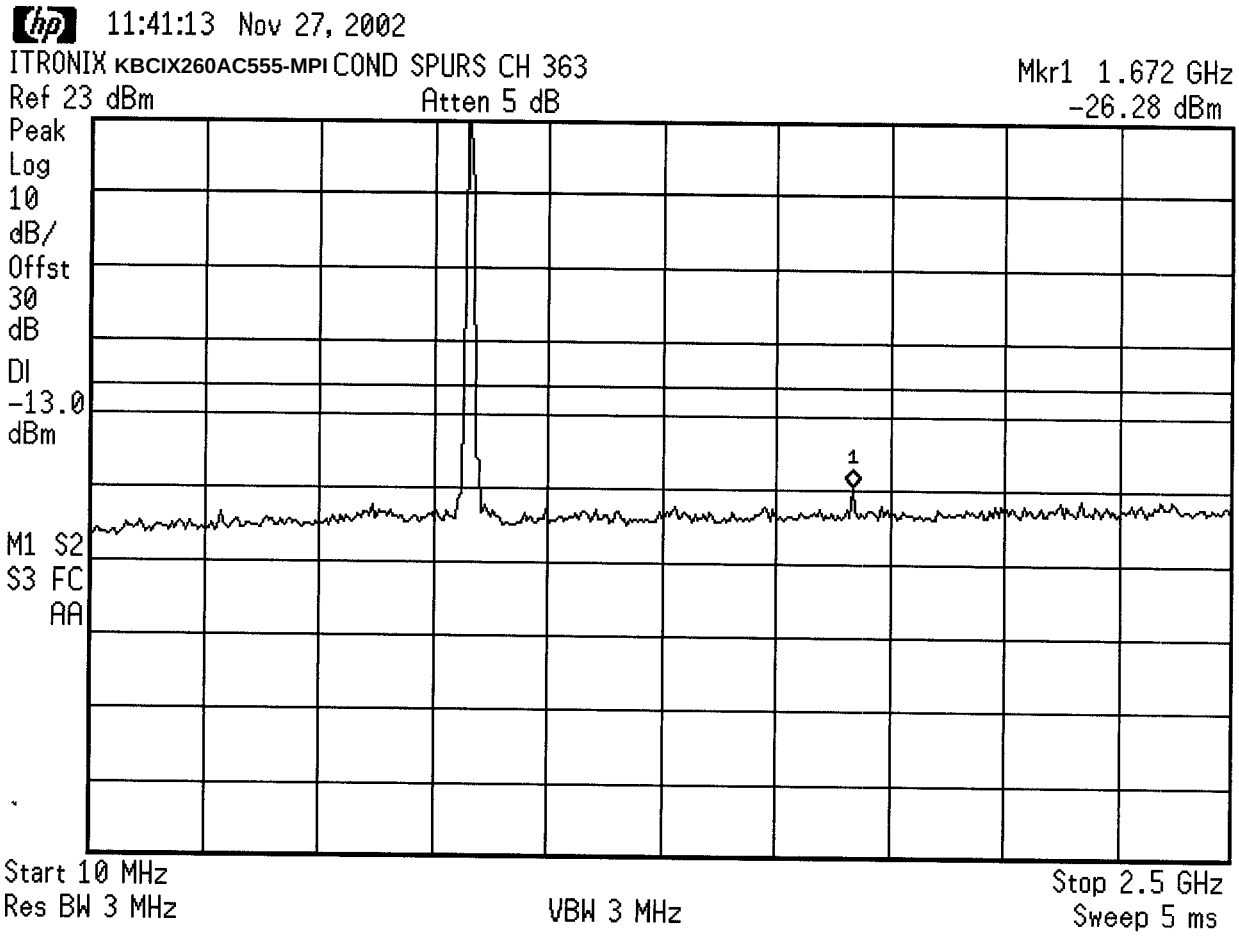
EMC TEST PLOTS - Cellular CDMA Mode

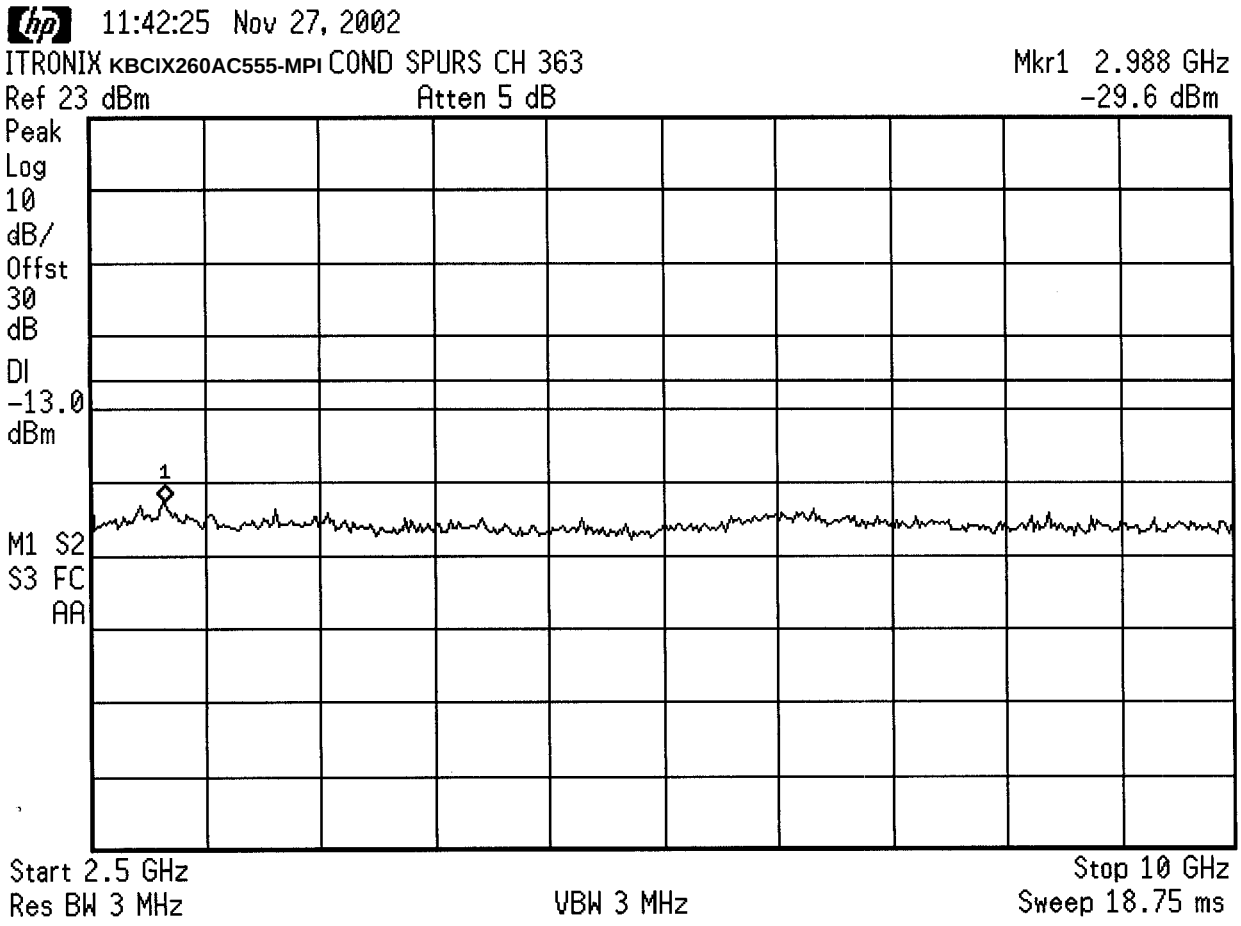
1. Conducted Spurious Emissions
2. Receiver Spurious Emissions
3. Occupied Bandwidth
4. Band Edge
5. Block Edge

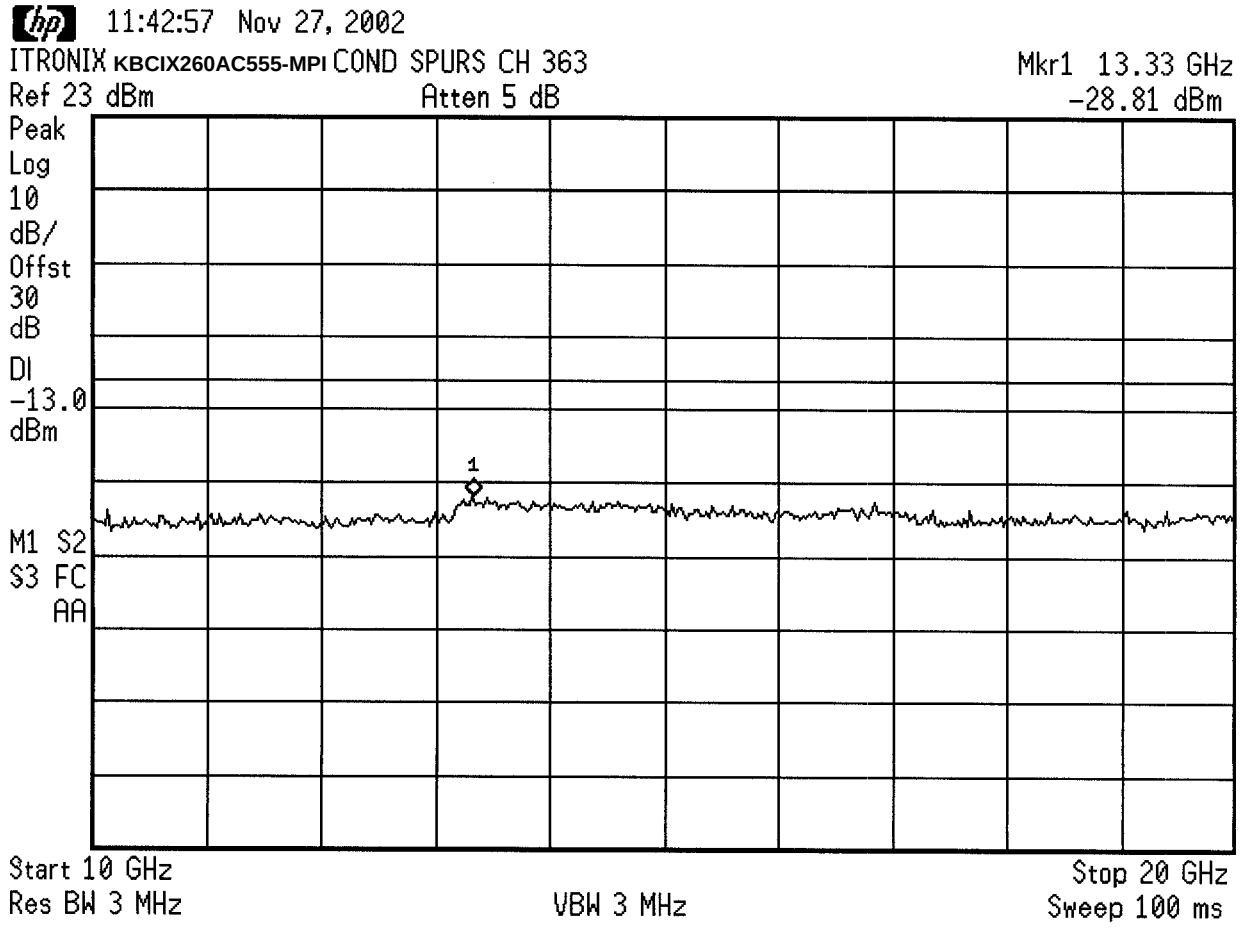

11:36:04 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1013
Mkr1 2.475 GHz
-25.36 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 MHz
Res BW 3 MHz
VBW 3 MHz
Stop 2.5 GHz
Sweep 5 ms

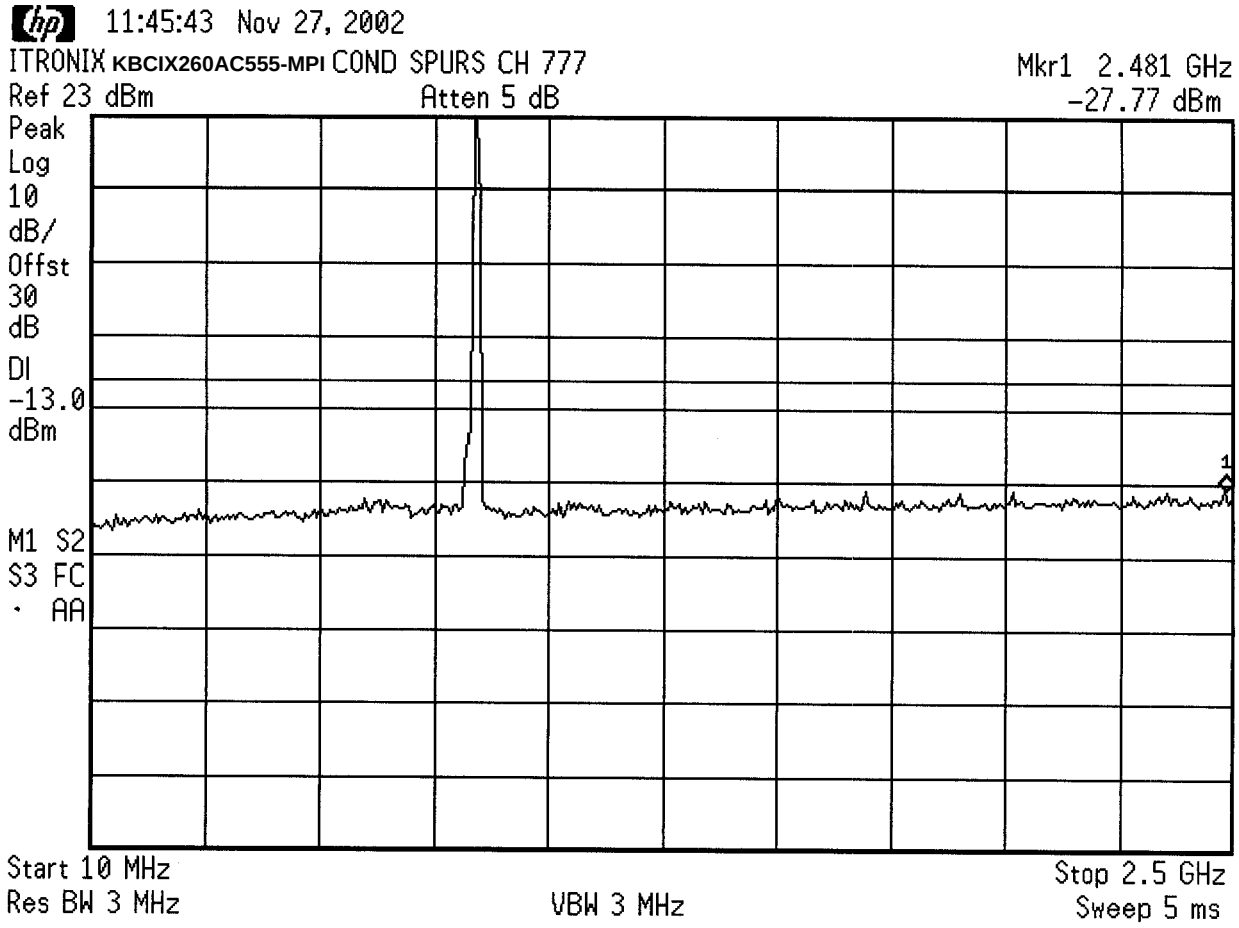

11:37:12 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1013
Mkr1 2.969 GHz
Ref 23 dBm
Atten 5 dB
-29.47 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
Stop 10 GHz
Res BW 3 MHz
VBW 3 MHz
Sweep 18.75 ms

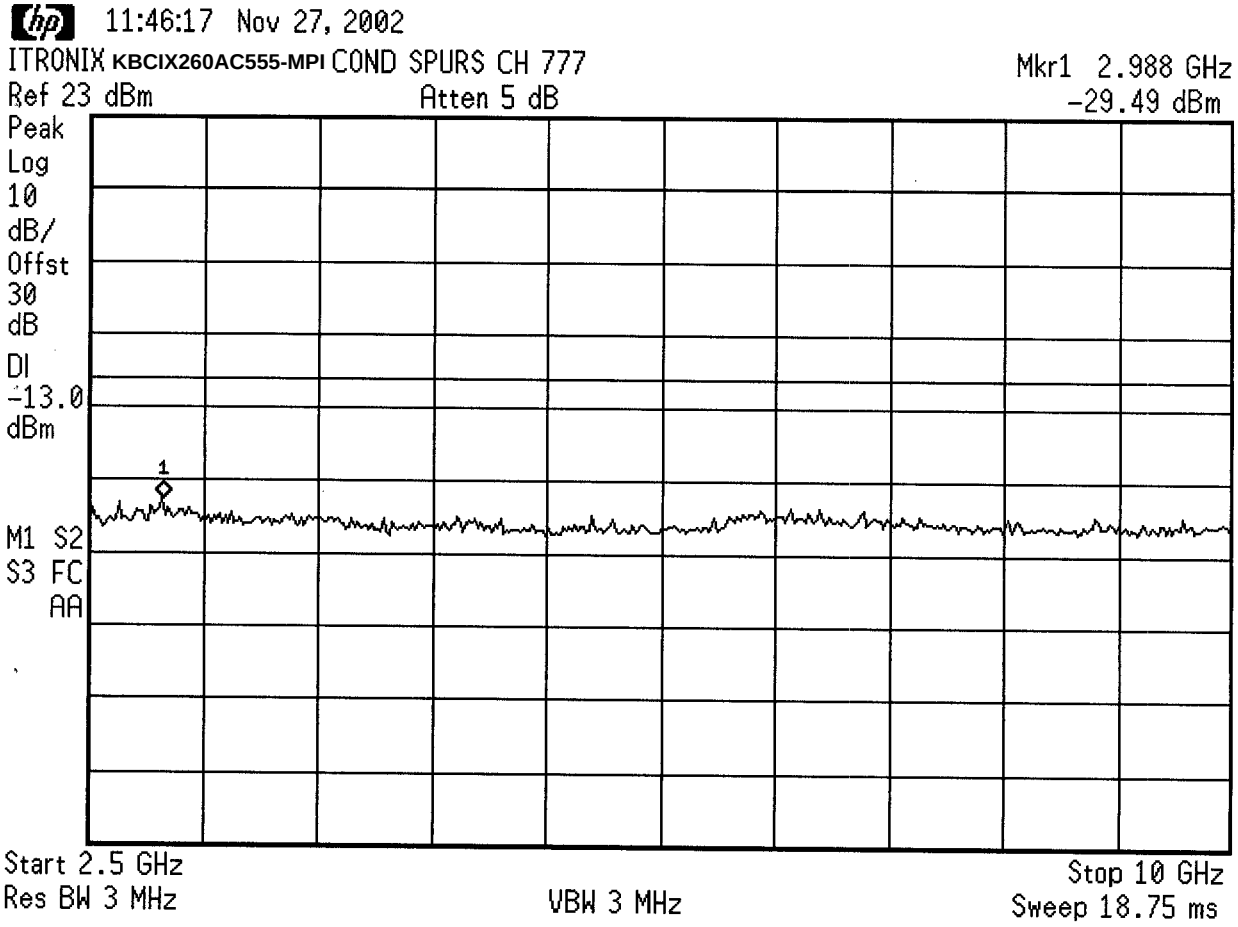

11:37:49 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 1013
Ref 23 dBm
Atten 5 dB
Mkr1 14.50 GHz
-28.54 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 GHz
Res BW 3 MHz
VBW 3 MHz
Stop 20 GHz
Sweep 100 ms

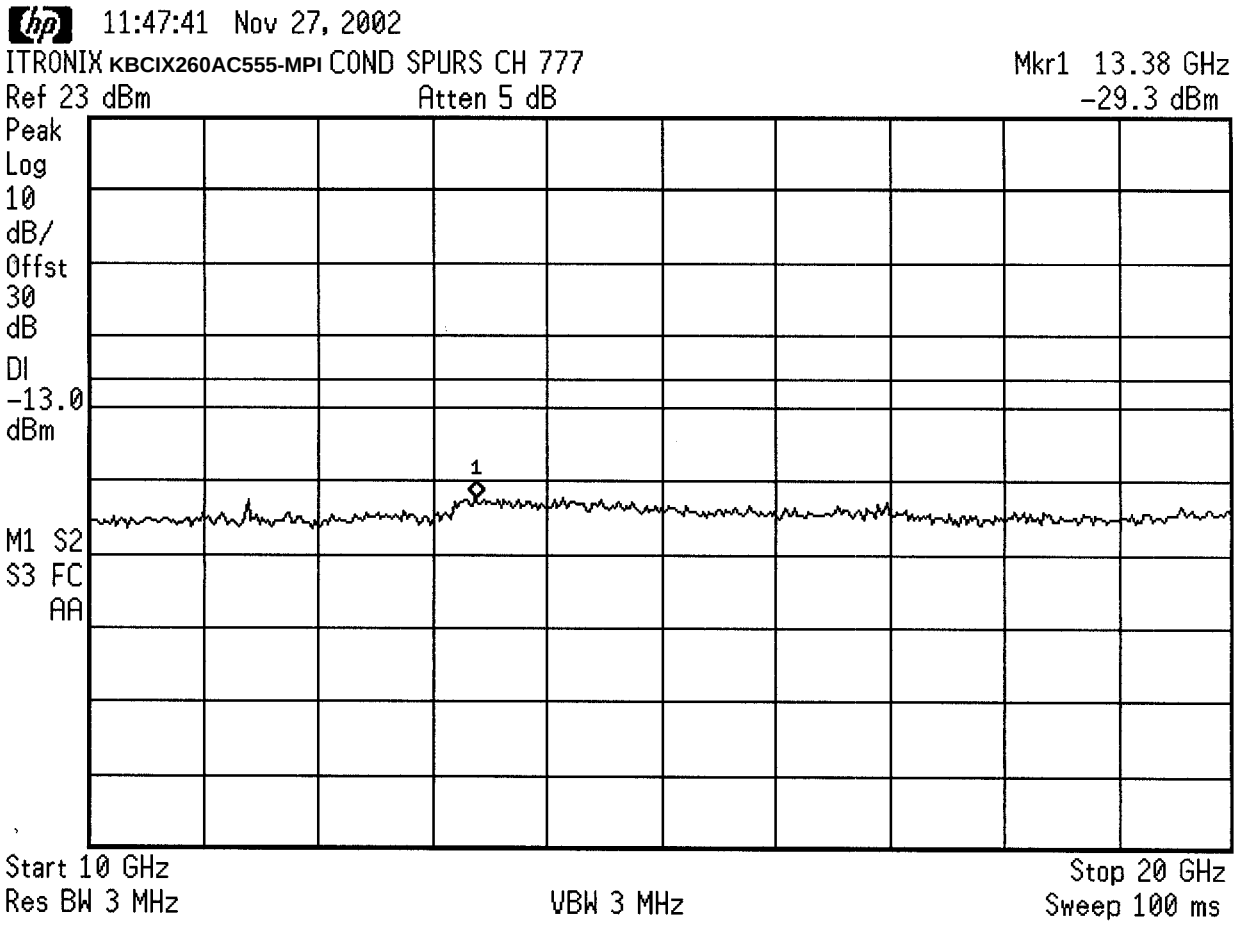

11:41:13 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 363
Ref 23 dBm
Atten 5 dB
Mkr1 1.672 GHz
-26.28 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 MHz
Res BW 3 MHz
VBW 3 MHz
Stop 2.5 GHz
Sweep 5 ms

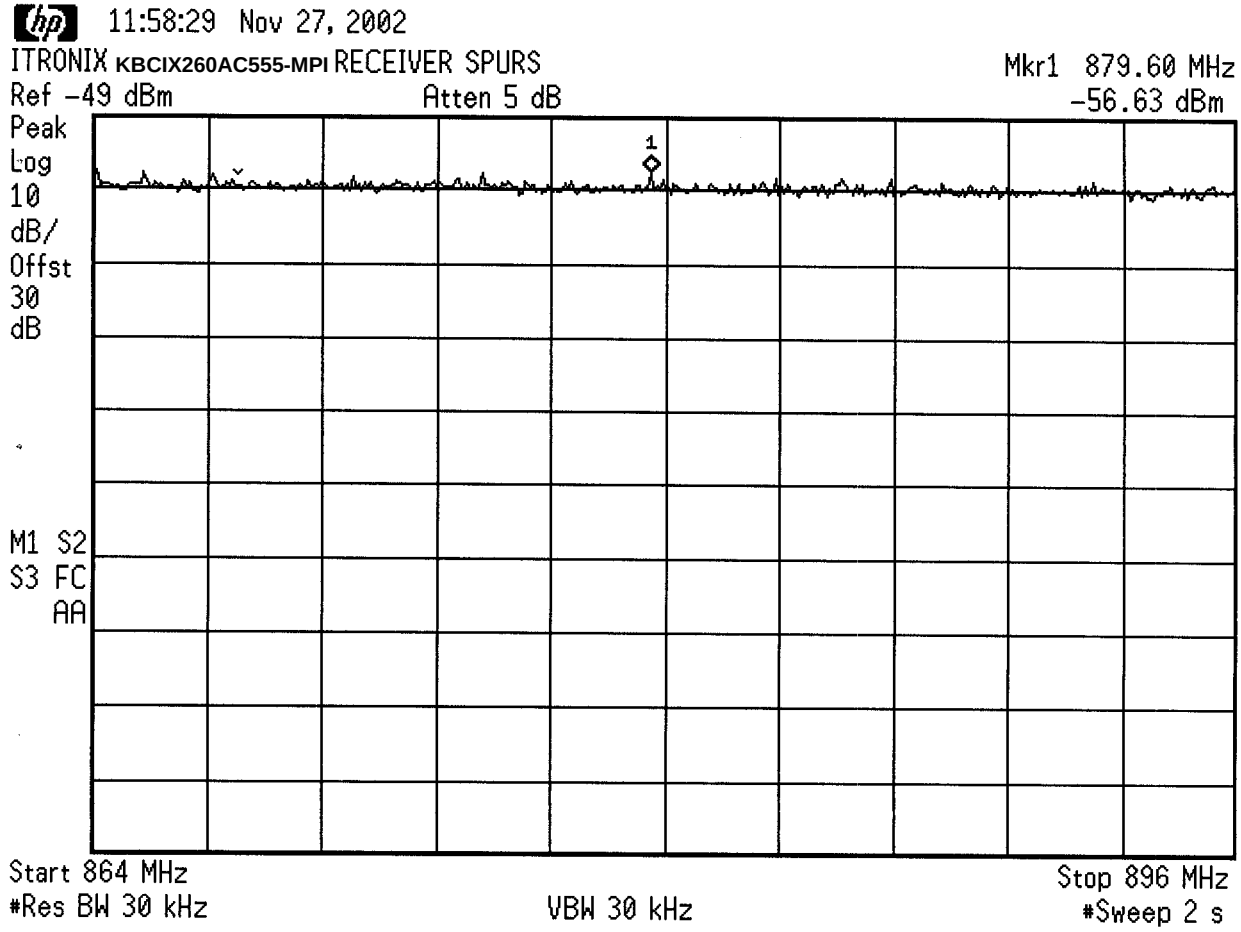

11:42:25 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 363
Mkr1 2.988 GHz
Ref 23 dBm
Atten 5 dB
-29.6 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
Stop 10 GHz
Res BW 3 MHz
VBW 3 MHz
Sweep 18.75 ms

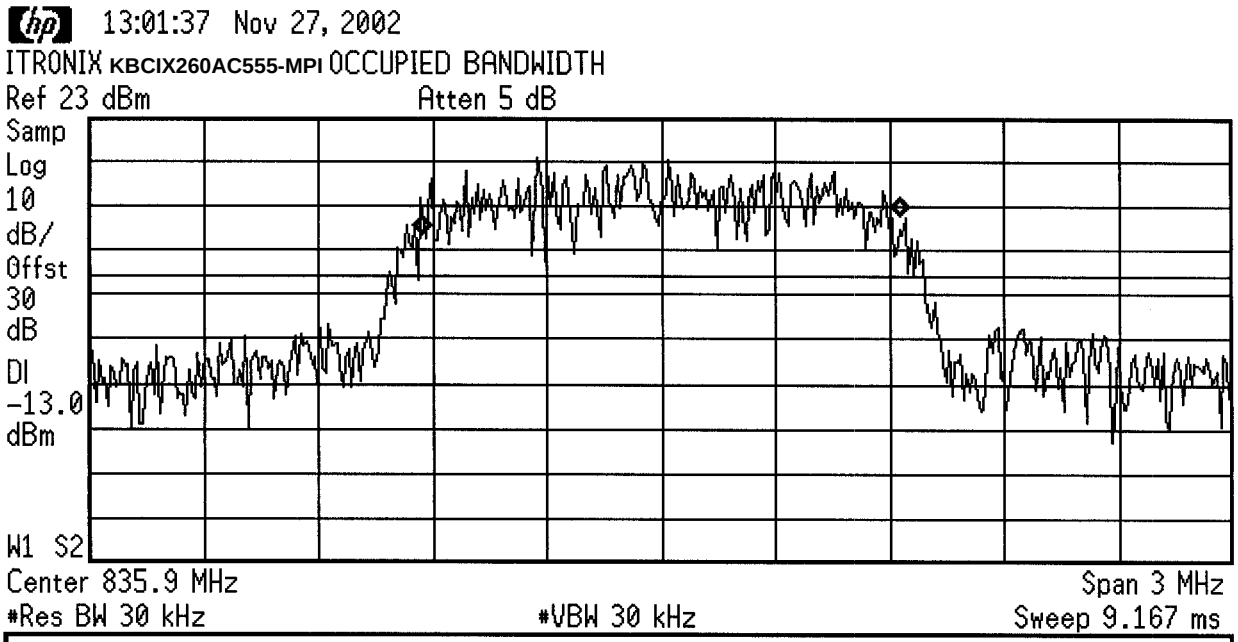

11:42:57 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 363
Mkr1 13.33 GHz
-28.81 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 GHz
Res BW 3 MHz
VBW 3 MHz
Stop 20 GHz
Sweep 100 ms


11:45:43 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 777
Mkr1 2.481 GHz
-27.77 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
Start 10 MHz
Res BW 3 MHz
VBW 3 MHz
Stop 2.5 GHz
Sweep 5 ms


11:46:17 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 777
Ref 23 dBm
Atten 5 dB
Mkr1 2.988 GHz
-29.49 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
Res BW 3 MHz
VBW 3 MHz
Stop 10 GHz
Sweep 18.75 ms


11:47:41 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI COND SPURS CH 777
Mkr1 13.38 GHz
Ref 23 dBm
Atten 5 dB
-29.3 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 10 GHz
Stop 20 GHz
Res BW 3 MHz
VBW 3 MHz
Sweep 100 ms


11:58:29 Nov 27, 2002
ITRONIX KBCIX260AC555-MPI RECEIVER SPURS
Mkr1 879.60 MHz
Ref -49 dBm
Atten 5 dB
-56.63 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
Start 864 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 896 MHz
#Sweep 2 s



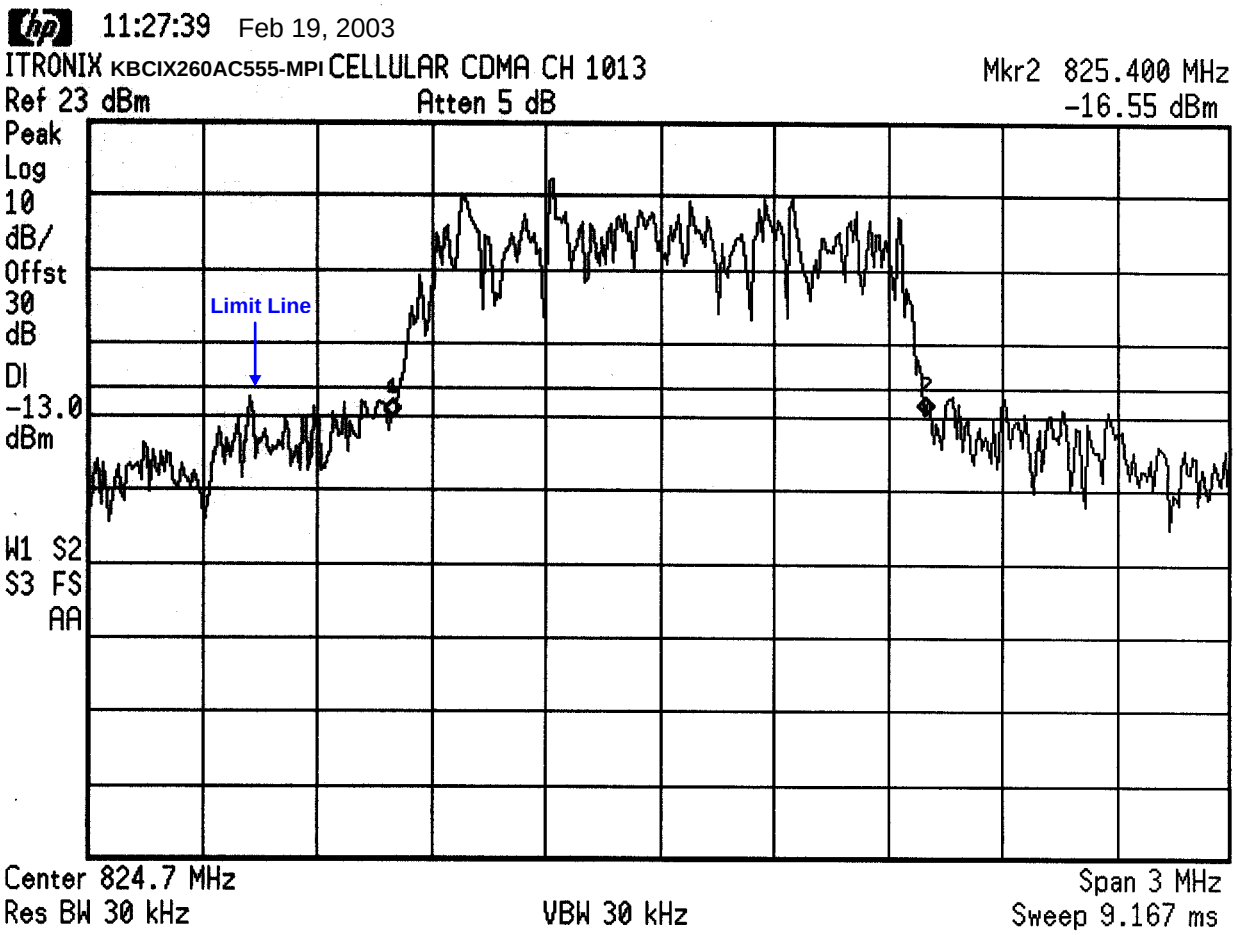
Occupied Bandwidth Results (measuring..)

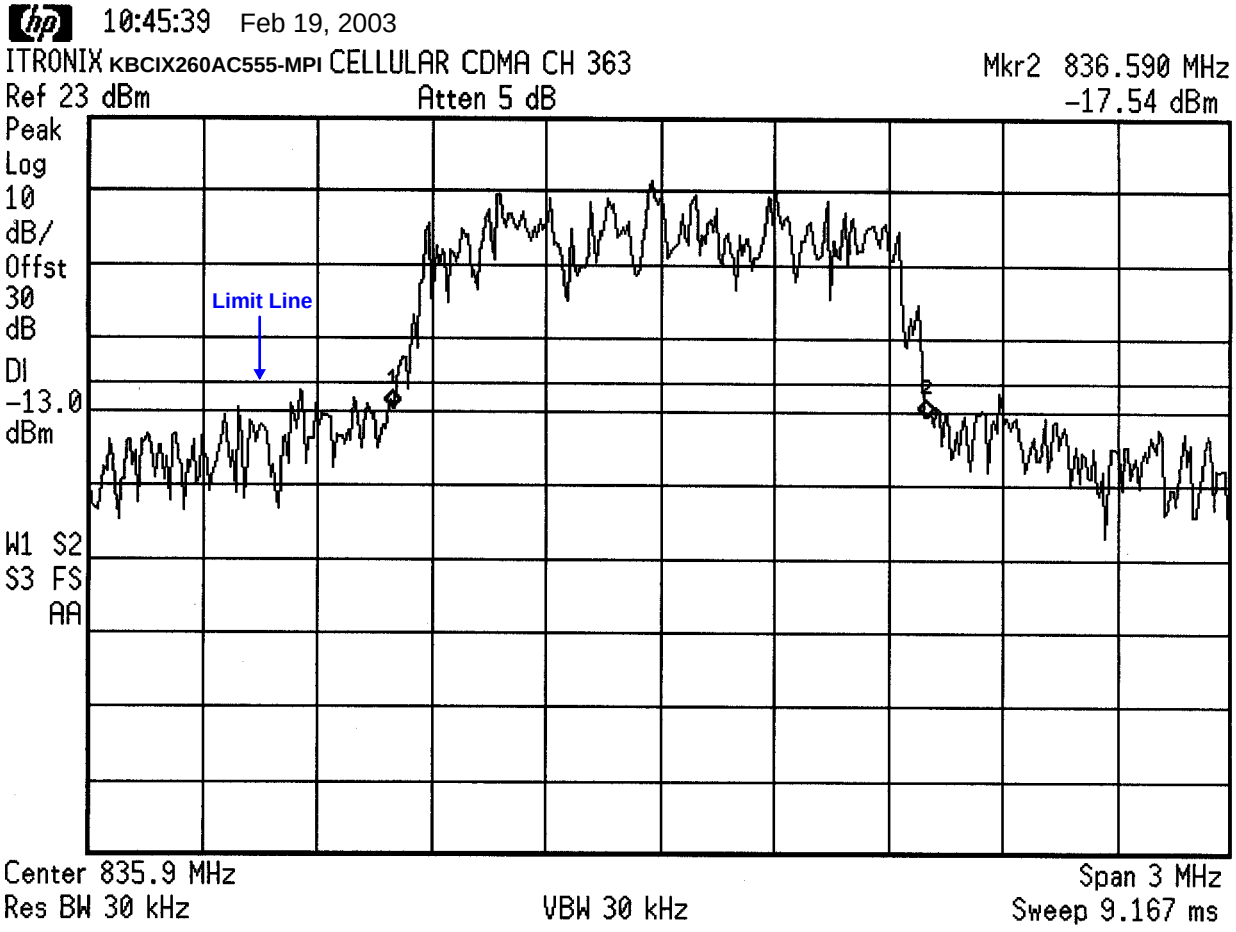
Occupied Bandwidth

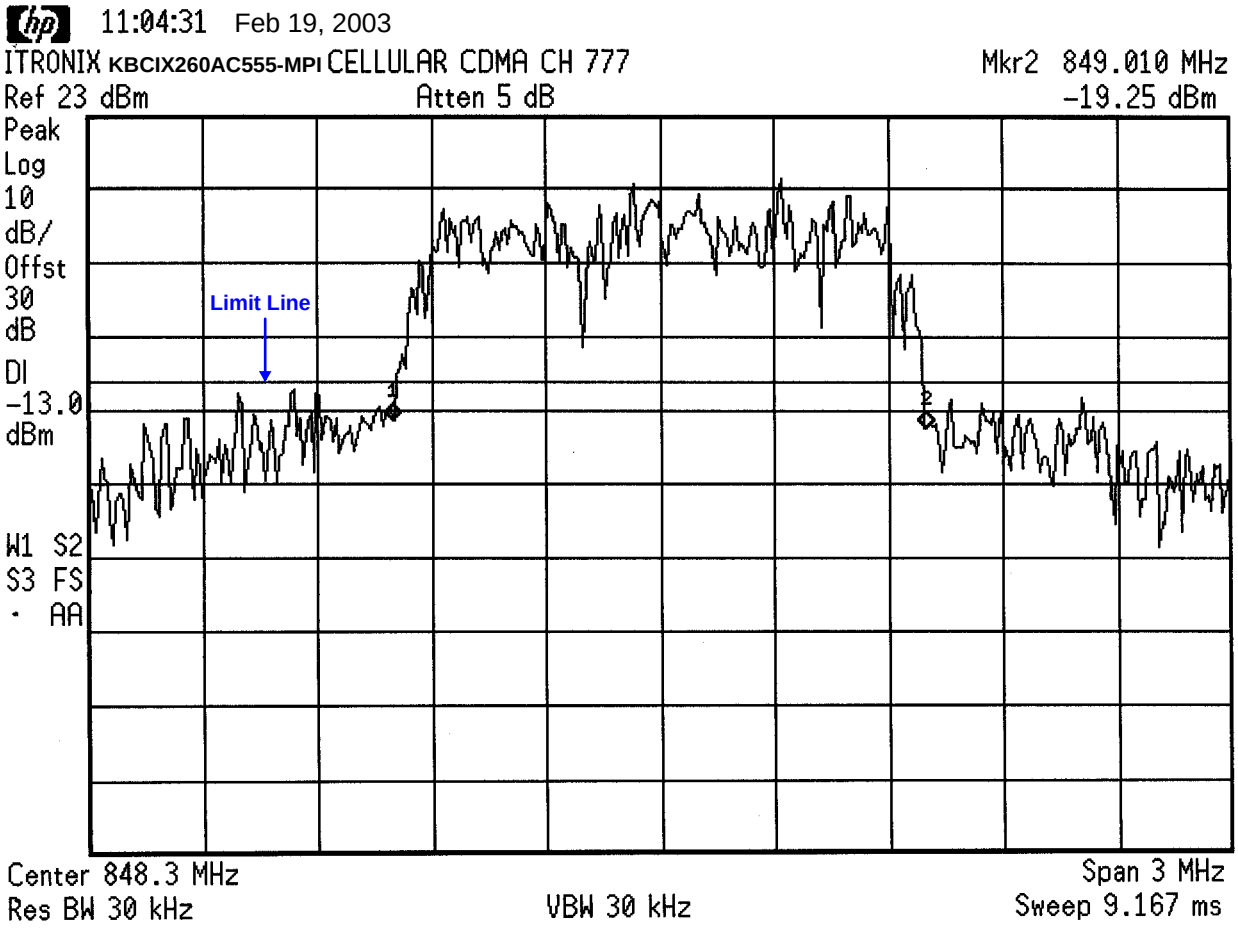
1.261 MHz

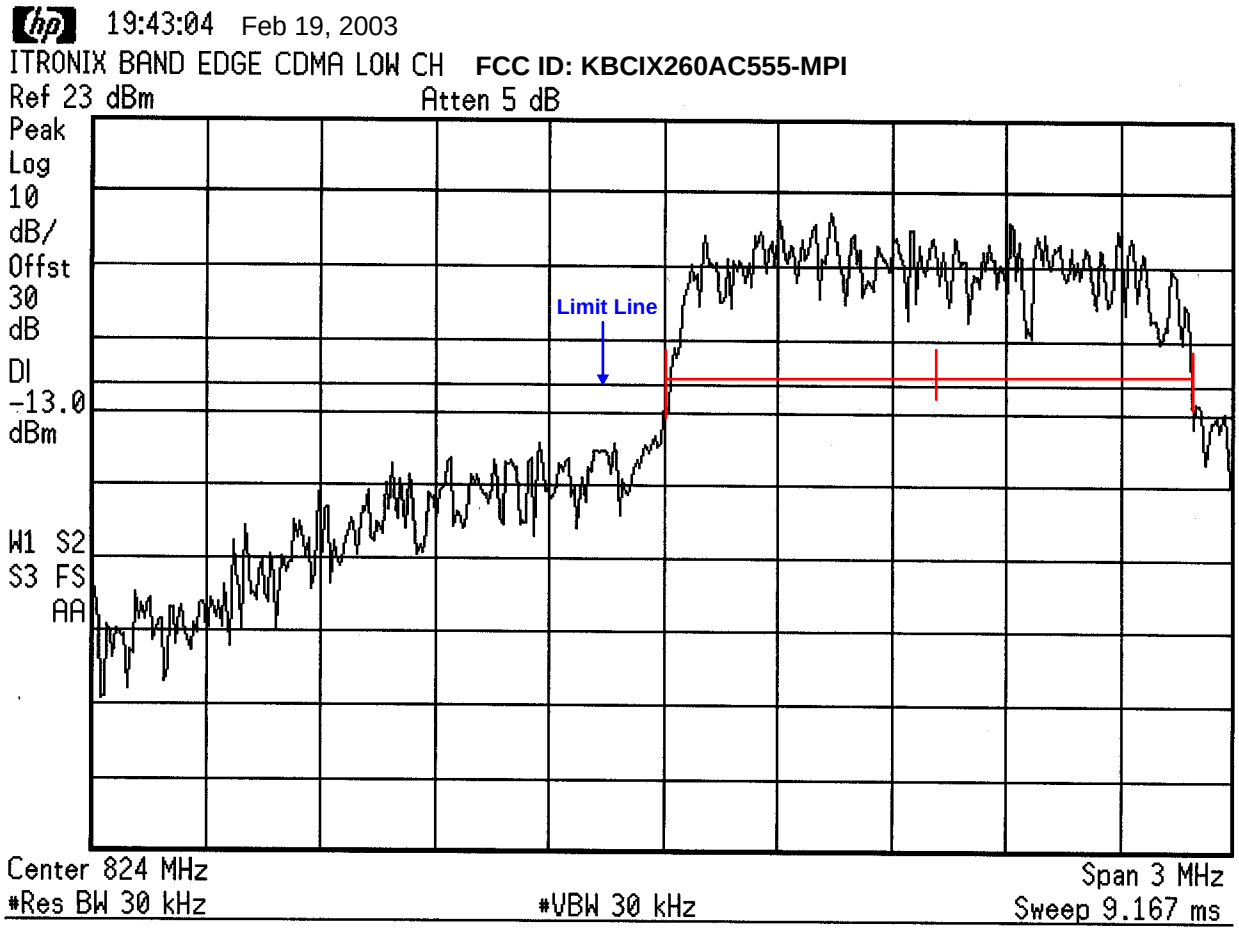
Occ BW % Pwr 99.00 %

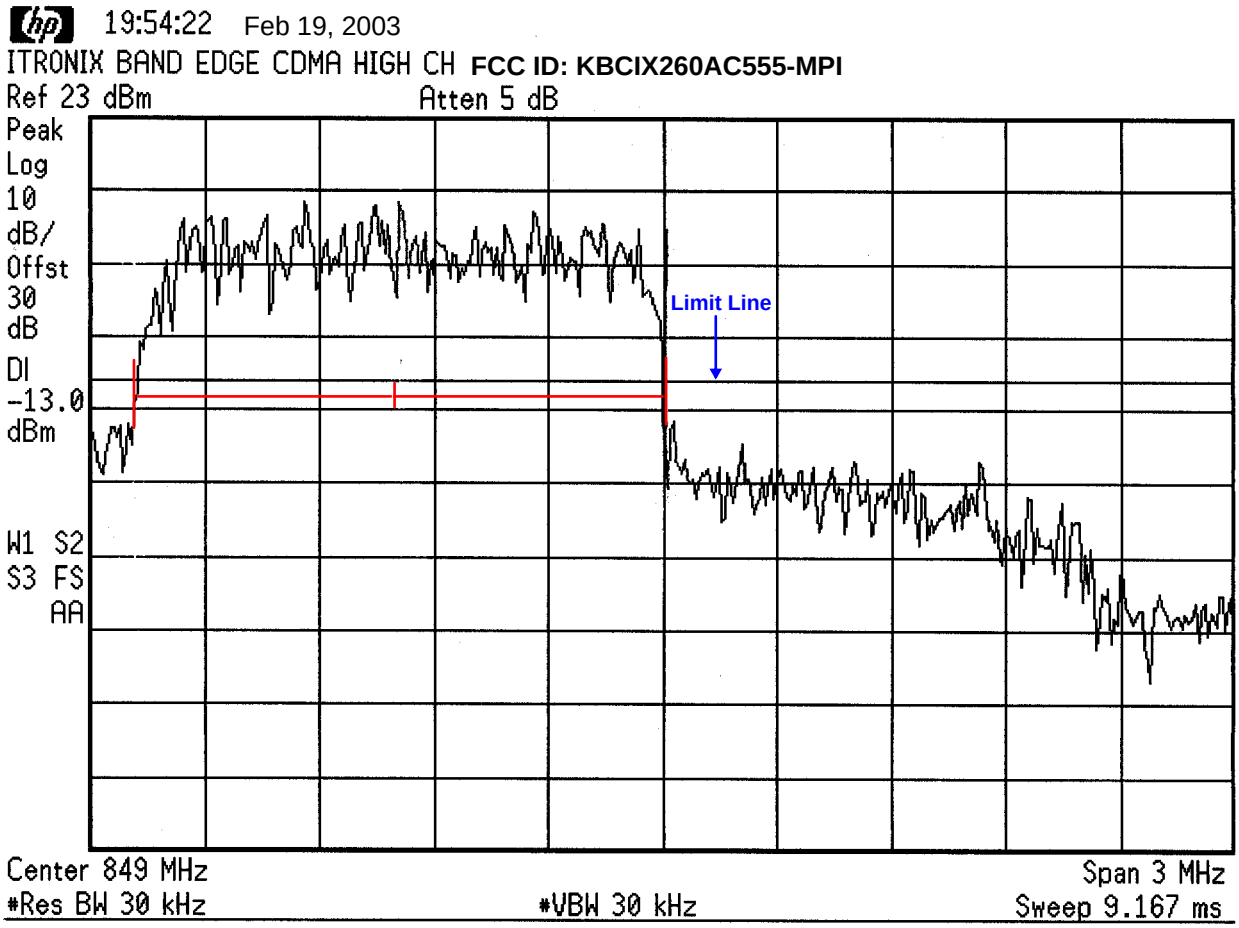
Transmit Freq Error -280.8 Hz

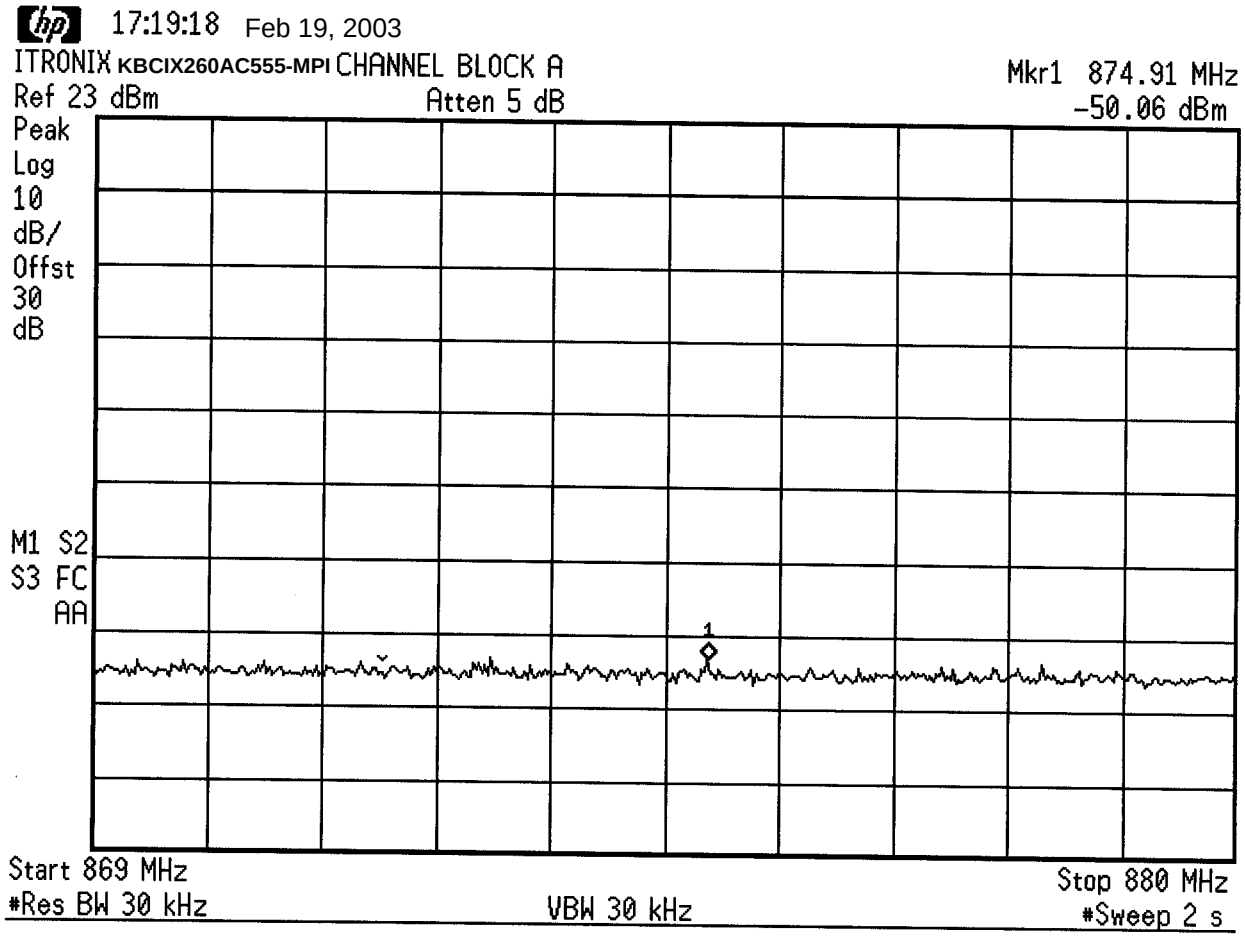

11:27:39 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CELLULAR CDMA CH 1013
Mkr2 825.400 MHz
-16.55 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 824.7 MHz
Res BW 30 kHz
VBW 30 kHz
Span 3 MHz
Sweep 9.167 ms

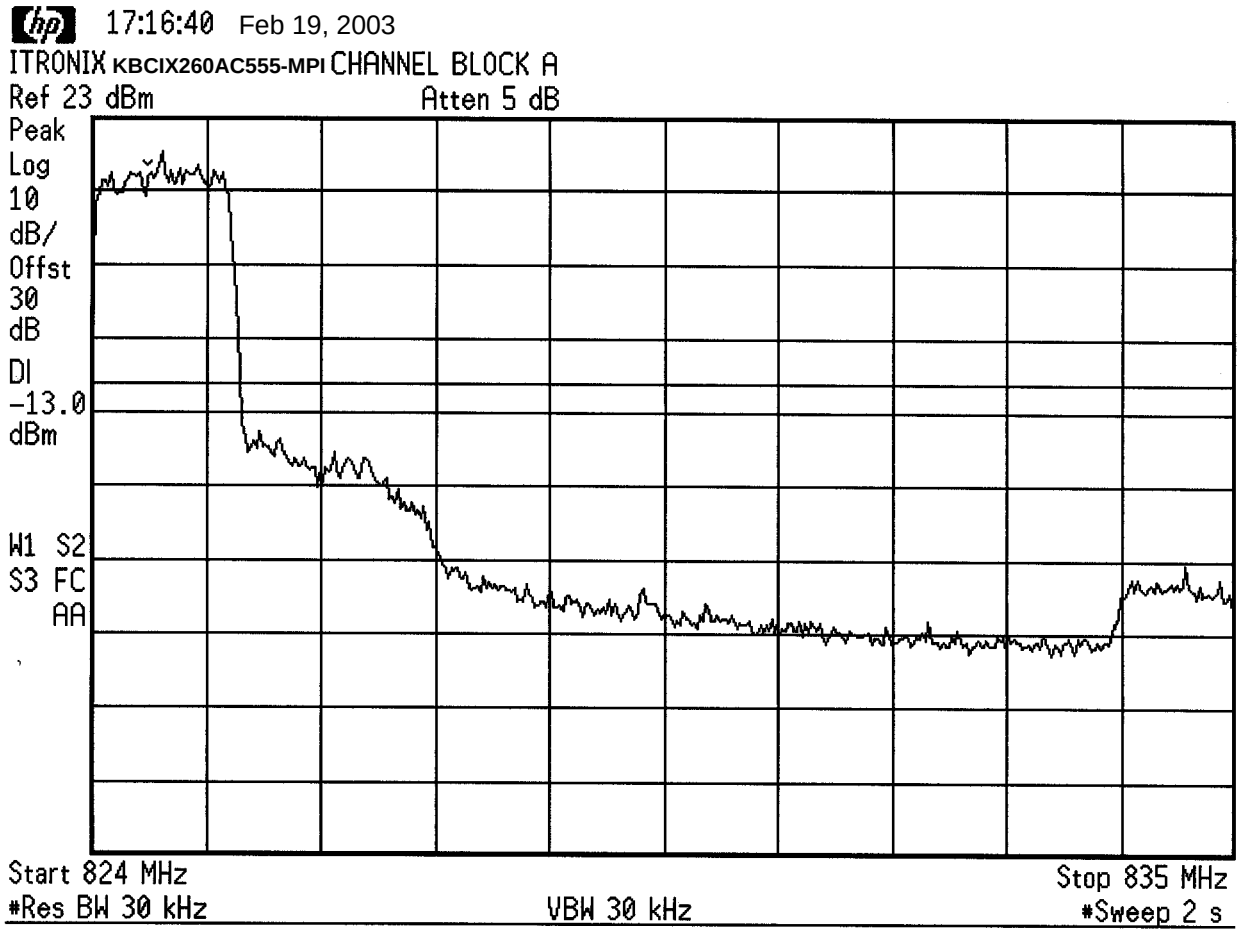

10:45:39 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CELLULAR CDMA CH 363
Mkr2 836.590 MHz
Ref 23 dBm
Atten 5 dB
-17.54 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 835.9 MHz
Span 3 MHz
Res BW 30 kHz
VBW 30 kHz
Sweep 9.167 ms

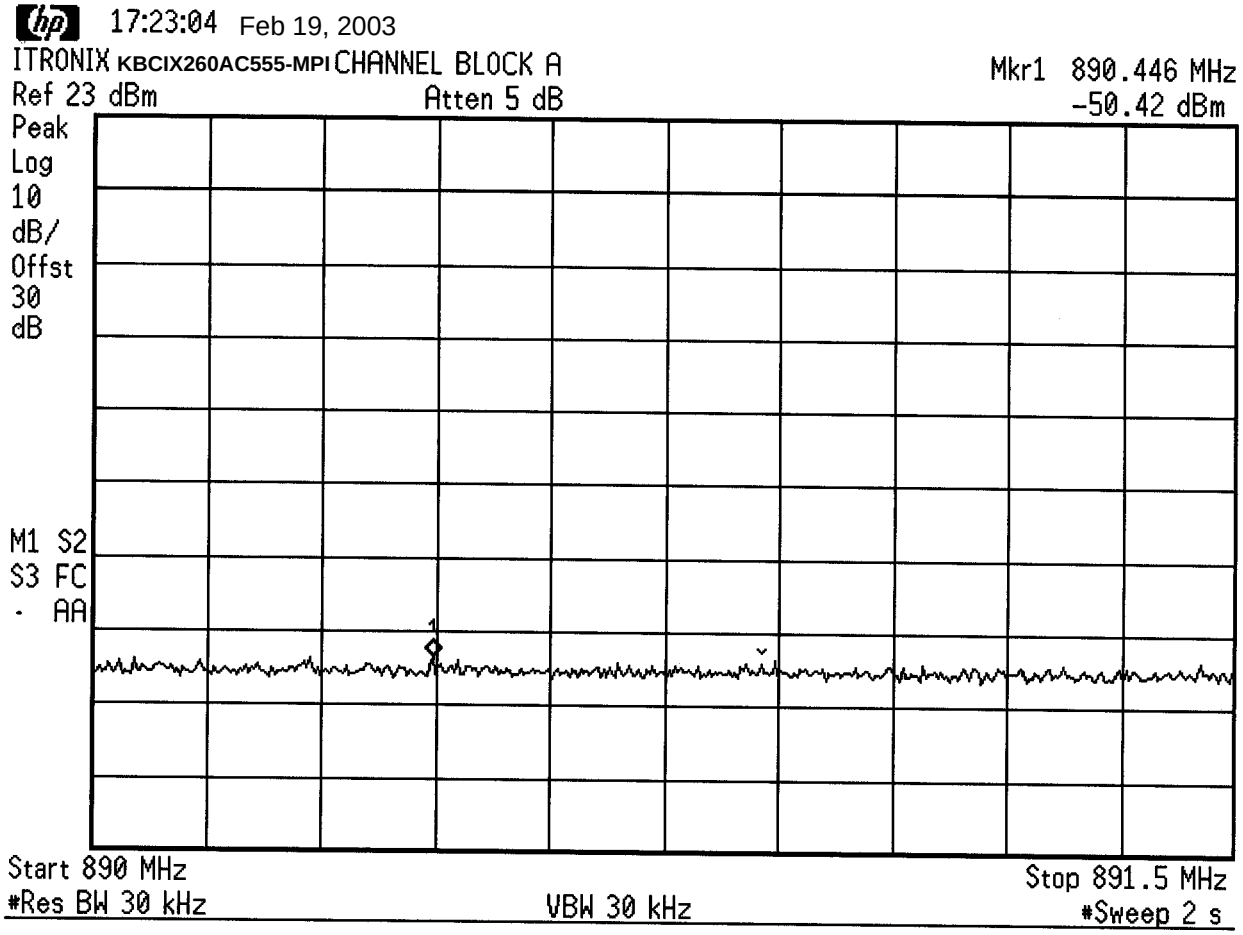

11:04:31 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CELLULAR CDMA CH 777
Mkr2 849.010 MHz
Ref 23 dBm
Atten 5 dB
-19.25 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
· AA
Center 848.3 MHz
Span 3 MHz
Res BW 30 kHz
VBW 30 kHz
Sweep 9.167 ms

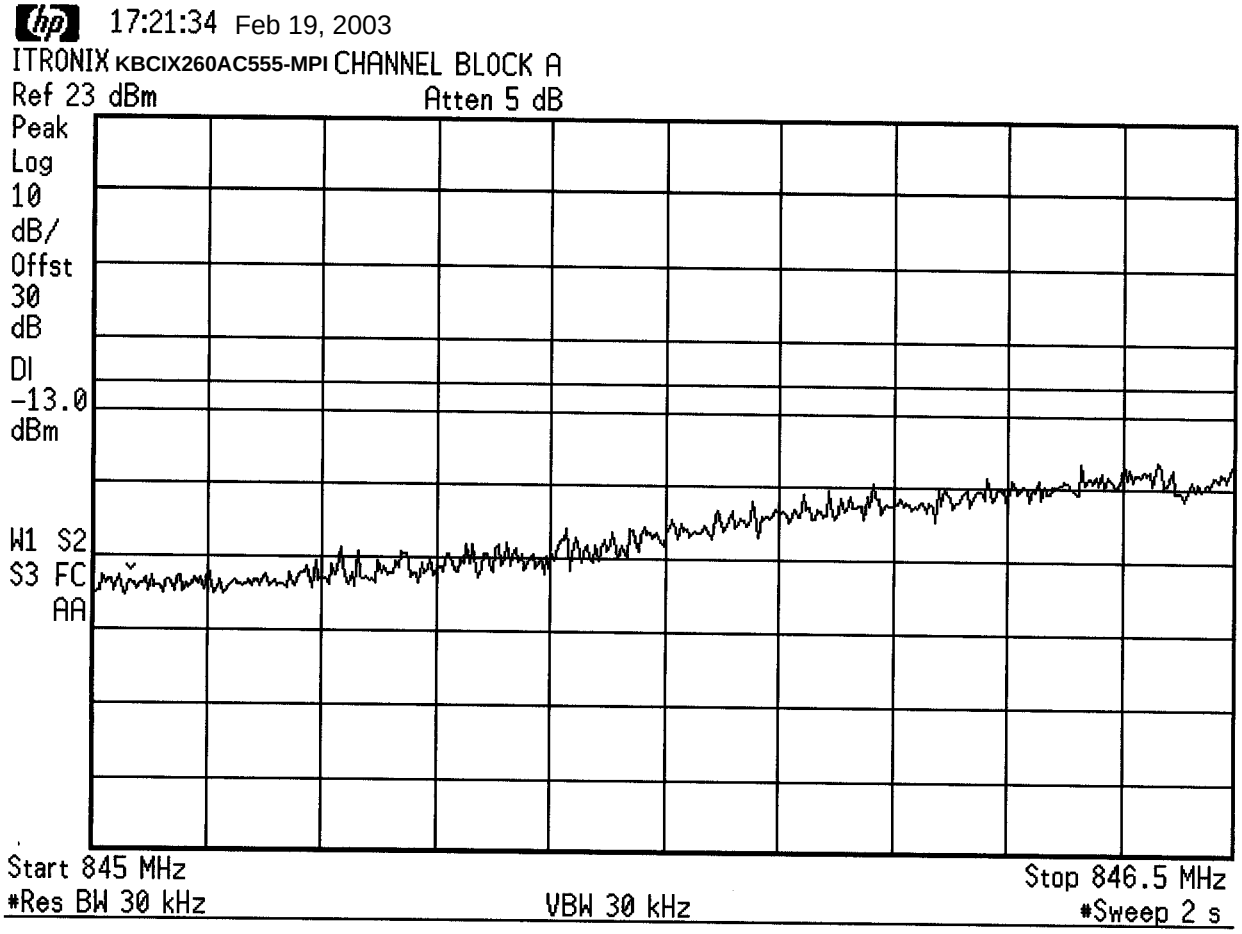

19:43:04 Feb 19, 2003
ITRONIX BAND EDGE CDMA LOW CH
FCC ID: KBCIX260AC555-MPI
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 824 MHz
#Res BW 30 kHz
#VBW 30 kHz
Span 3 MHz
Sweep 9.167 ms

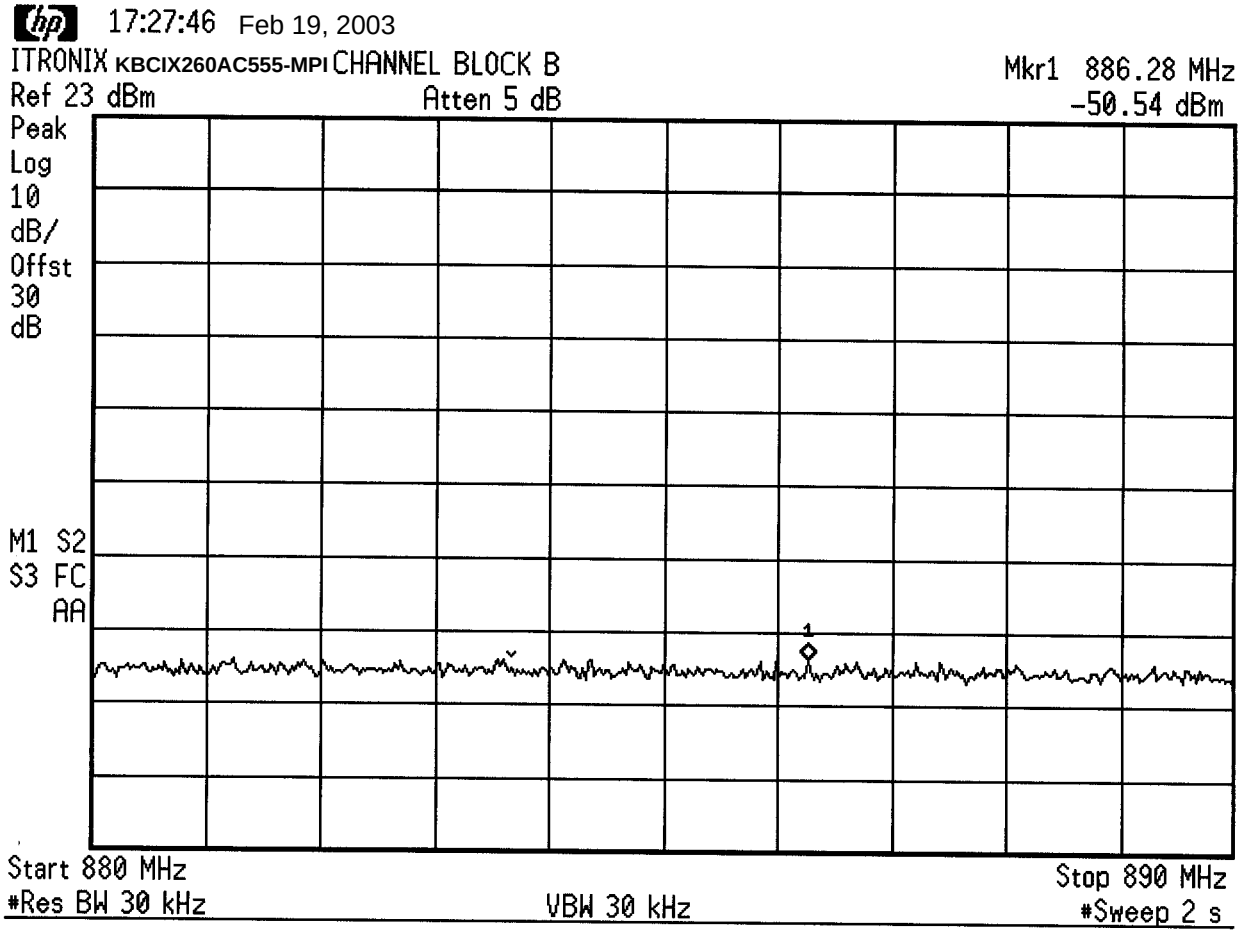

19:54:22 Feb 19, 2003
ITRONIX BAND EDGE CDMA HIGH CH FCC ID: KBCIX260AC555-MPI
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
Limit Line
W1 S2
S3 FS
AA
Center 849 MHz
#Res BW 30 kHz
#VBW 30 kHz
Span 3 MHz
Sweep 9.167 ms

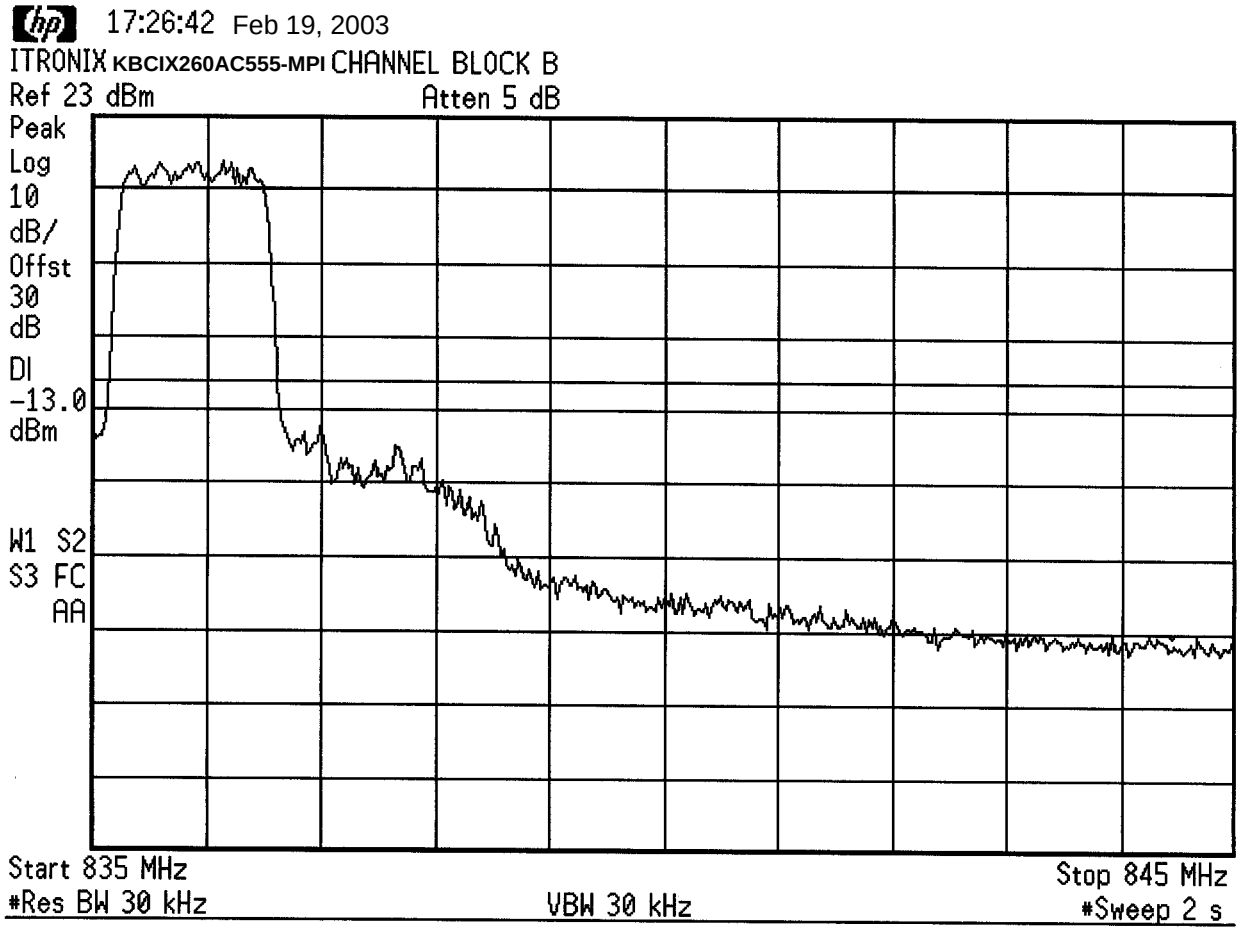

17:19:18 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Ref 23 dBm
Atten 5 dB
Mkr1 874.91 MHz
-50.06 dBm
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 869 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 880 MHz
#Sweep 2 s

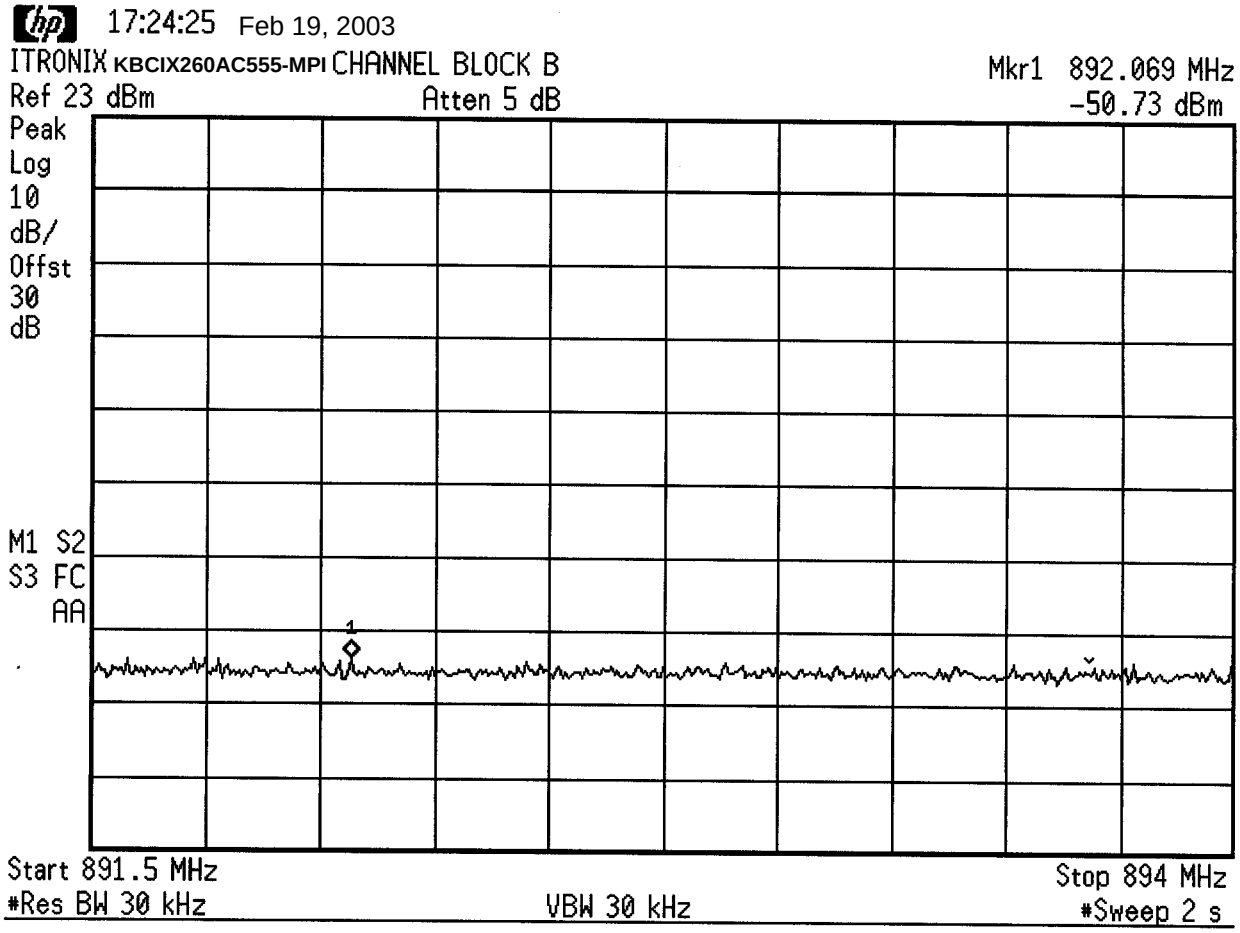

17:16:40 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 824 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 835 MHz
#Sweep 2 s

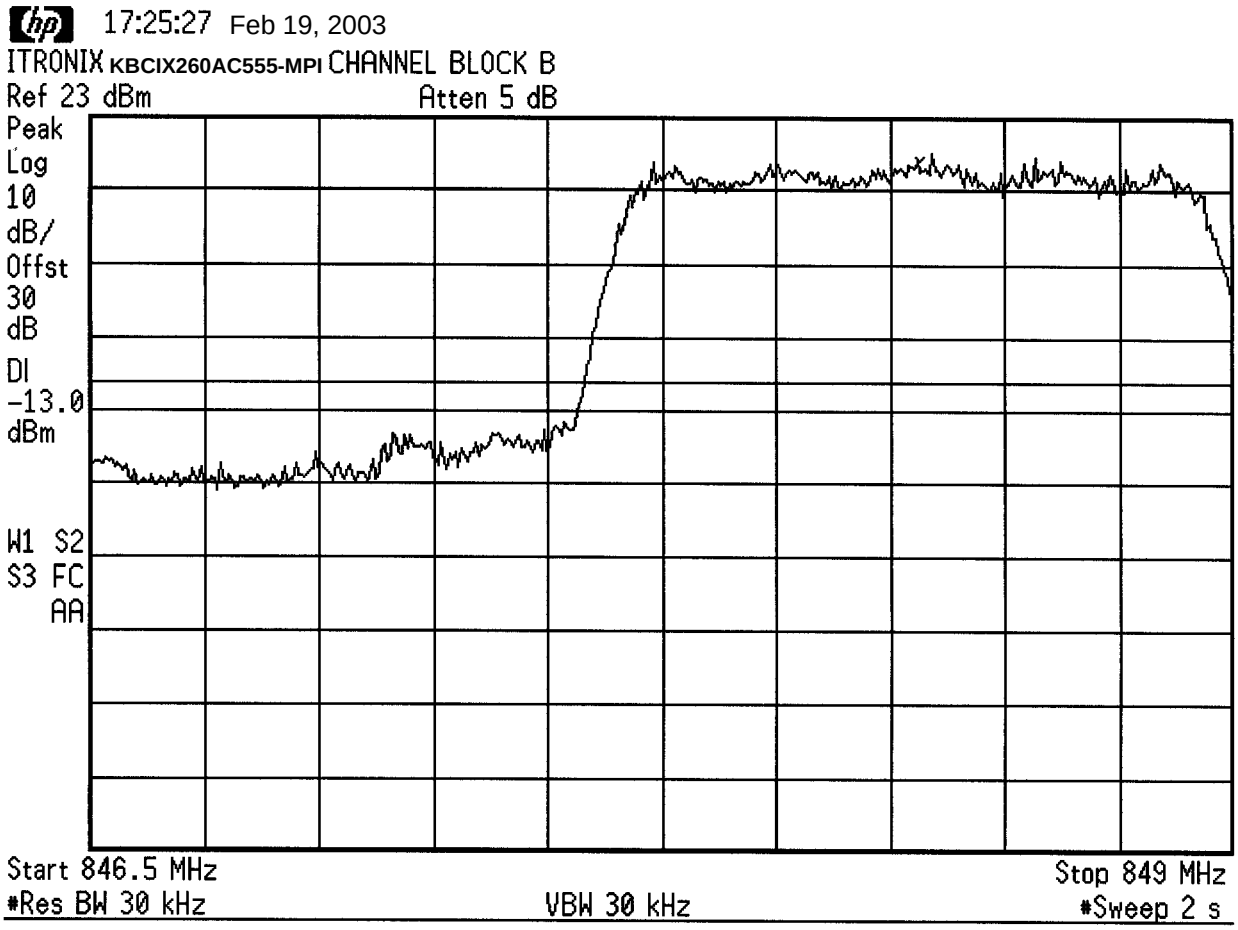

17:23:04 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Mkr1 890.446 MHz
-50.42 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
· AA
Start 890 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 891.5 MHz
#Sweep 2 s


17:21:34 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK A
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 845 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 846.5 MHz
#Sweep 2 s


17:27:46 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Mkr1 886.28 MHz
-50.54 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 880 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 890 MHz
#Sweep 2 s


17:26:42 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 835 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 845 MHz
#Sweep 2 s


17:24:25 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Mkr1 892.069 MHz
-50.73 dBm
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
M1 S2
S3 FC
AA
1
Start 891.5 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 894 MHz
#Sweep 2 s


17:25:27 Feb 19, 2003
ITRONIX KBCIX260AC555-MPI CHANNEL BLOCK B
Ref 23 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
W1 S2
S3 FC
AA
Start 846.5 MHz
#Res BW 30 kHz
VBW 30 kHz
Stop 849 MHz
#Sweep 2 s