DECLARATION OF COMPLIANCE
FCC PART 24(E) EMC MEASUREMENTS

Test Lab

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Applicant Information

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Rule Part(s):	**FCC 47 CFR §24(E), §2; IC RSS-133 Issue 2**
Test Procedure(s):	**FCC 47 CFR §24(E), §2; ANSI TIA/EIA-603-A-2001**
FCC Device Classification:	**PCS Licensed Transmitter (PCB)**
IC Device Classification:	**2GHz Personal Communication Services**
Device Type:	**Rugged Laptop PC with Sierra Wireless AirCard 750 PCS GSM/GPRS Modem (Co-located with Cisco Systems MPI-350 Mini-PCI DSSS WLAN Card & Mitsumi WML-C11 Bluetooth Transmitter)**
FCC ID:	**KBCIX260A750MPIBT**
Model(s):	**IX260**
Tx Frequency Range:	**1850.2 - 1909.8 MHz**
Max. RF Output Power:	**0.857 Watts EIRP (29.33 dBm)**
Conducted Power Tested:	**28.12 dBm (1850.2 MHz)** **28.08 dBm (1880.0 MHz)** **28.00 dBm (1909.8 MHz)**
Modulation:	**GMSK**
Emission Designator:	**271KGXW**
Frequency Tolerance:	**0.1 PPM**
Antenna Type(s):	**External Dipole (GSM/GPRS)** **Internal - Upper Right Edge of LCD Display (WLAN)** **Internal - Upper Left Edge of LCD Display (Bluetooth)**
Battery Type:	**11.1V Lithium-Ion, 6.0Ah (Model: A2121-2)**

This device has shown 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), §2, Industry Canada RSS-133 Issue 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 PART 24(E) 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.

2.1 GENERAL INFORMATION - §2.1033(a)

FCC ID	KBCIX260A750MPIBT
Model(s)	IX260
Serial No.	Pre-production
EUT Type	Rugged Laptop PC with Sierra Wireless AirCard 750 PCS GSM/GPRS PCMCIA Modem Card (Co-located with Cisco MPI-350 Mini-PCI DSSS WLAN & Mitsumi WML-C11 Bluetooth Transmitter)
Rule Part(s)	FCC 47 CFR §24(E), §2; IC RSS-133 Issue 2
FCC Classification	PCS Licensed Transmitter (PCB)
IC Classification	2GHz Personal Communication Services
Test Procedure(s)	FCC 47 CFR §24(E), §2; ANSI TIA/EIA-603-A-2001
Tx Frequency Range	1850.2 - 1909.8 MHz
Modulation	GMSK
Max. RF Output Power	0.857 Watts EIRP (29.33 dBm)
RF Conducted Output Power Tested	28.12 dBm Peak (1850.2 MHz) 28.08 dBm Peak (1880.0 MHz) 28.00 dBm Peak (1909.8 MHz)
Emission Designator	271KGXW
Frequency Tolerance	0.1 PPM
Battery Type(s)	11.1V Lithium-Ion, 6.0Ah (Model: A2121-2)
Antenna Type(s)	External Dipole - GSM/GPRS (Length: 4.3 inches) Internal - upper right edge of LCD display (WLAN) Internal - upper left edge of LCD display (Bluetooth)

3.1 RF OUTPUT POWER MEASUREMENT - §2.1046

The conducted power was measured with a Gigatronics 8650A Universal Power Meter in burst 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.

Frequency (MHz)	Conducted Power (dBm)
1850.2	28.12
1880.0	28.08
1909.8	28.0

4.1 SPURIOUS EMISSIONS AT ANTENNA TERMINAL - §2.1051

The EUT was tested in GPRS mode via internal software at a full rated power with the EUT transmitting continuously on 4 time slots in GPRS mode via internal software. 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 1MHz. The spectrum was scanned from 10MHz to 20GHz at the low, medium, 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. The test plots are shown in Appendix A.

5.1 RADIATED MEASUREMENT TEST SETUP

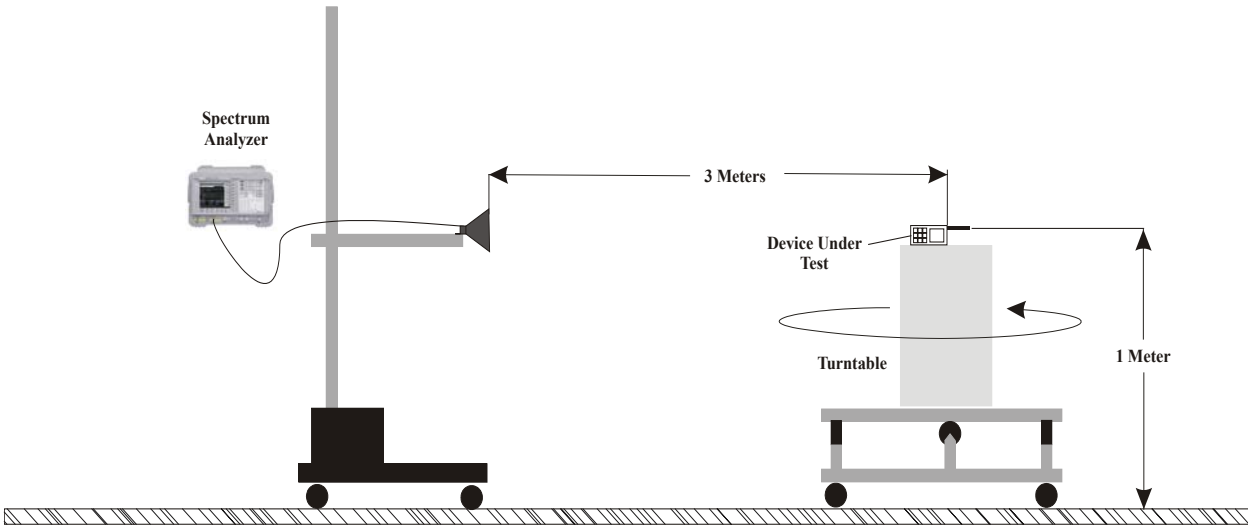


Figure 1. Radiated Measurement Test Setup Diagram

6.1 OCCUPIED BANDWIDTH - §2.1049, §24.238

The EUT was placed into test mode via internal software at a full rated power with the EUT transmitting continuously on 4 time slots in GPRS mode via internal software. The EUT was connected to the input of a 50Ω spectrum analyzer through a matched 30dB attenuator. For PCS and GPRS mode the resolution bandwidth and video bandwidth were set to 3kHz. The EUT was operating at maximum output power. Data were taken for low, mid and high frequencies. The table below lists the –26dBc occupied bandwidths. Spectrum analyzer plots for 99% power and -26 dBc occupied bandwidths are shown in Appendix A.

Frequency	-26 dBc Bandwidth
1850.2 MHz	299
1880.0 MHz	301
1909.8 MHz	300

Specified Limits:

§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.

7.1 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 tested with the EUT transmitting continuously on 4 time slots in GPRS mode via internal software at a full rated power. 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 and modes. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler 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.

Modem Transmit Configuration	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
AirCard 750	1850.2	28.12	- 8.81	H	6.55	22.55	29.10	0.813
AirCard 750	1880.0	28.08	- 9.07	H	6.58	22.75	29.33	0.857
AirCard 750	1909.8	27.99	- 10.20	H	6.61	21.47	28.08	0.643

Notes:

1. EIRP measurements were performed for both horizontal and vertical antenna polarizations and the worst-case is reported.

8.1 FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053

Radiated and harmonic emissions were measured on a 3-meter open area test site using the Signal Substitution Method in accordance with ANSI TIA/EIA-603-A-2001. The EUT was tested in continuous transmit mode on 4 time slots in GPRS mode via internal software at a full rated power.

For the simultaneous transmit tests with the co-located WLAN, the WLAN was set to the maximum conducted power level (21.2 dBm) at the low channel (2412 MHz) in continuous transmit mode with a modulated signal. For the simultaneous transmit tests with the co-located Bluetooth transmitter, the Bluetooth transmitter was set to the maximum conducted power level (14.5 dBm) at the mid channel (2441 MHz) in continuous transmit mode with a modulated signal and the frequency hopping disabled.

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. A standard gain horn antenna was substituted in place of the EUT. A modulated 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 antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The antenna feed point was then connected to a calibrated power meter and the power was adjusted to read the same power at the coupler port previously recorded, to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was then recorded. The forward conducted power for the horn antenna was determined by measuring the power at the horn antenna feed point and reproducing the coupler power previously measured. The EIRP level was determined by adding the horn forward conducted power and the horn antenna gain. All spurious emissions from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier were investigated.

Operating Frequency (MHz): 1850.2
Channel: 512 (Low)
EUT Conducted Pwr. (dBm): 28.12
Measured EIRP (dBm): 29.10
Modulation: GMSK (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.10 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3700.40	-74.95	-42.06	6.6	H	-35.46	-37.60	66.70
5550.60	-76.37	-38.57	7.8	H	-30.77	-32.91	62.01
7400.80	-73.52	-36.94	7.8	H	-29.14	-31.28	60.38
9251.00	-73.44	-35.42	7.6	H	-27.82	-29.96	59.06
11101.20	-74.24	-37.88	8.5	H	-29.38	-31.52	60.62
12951.40	-73.41	-35.53	8.8	H	-26.73	-28.87	57.97
14801.60	-70.49	-32.61	9.6	H	-23.01	-25.15	54.25
16651.80	-70.90	-33.07	9.0	H	-24.07	-26.21	55.31
18502.00	-71.92	-35.71	9.3	H	-26.41	-28.55	57.65

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053 (Cont.)

Operating Frequency (MHz): 1880.0
Channel: 661 (Mid)
EUT Conducted Pwr. (dBm): 28.08
Measured EIRP (dBm): 29.33
Modulation: GMSK (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.33 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3760.00	-75.92	-43.03	6.6	H	-36.43	-38.57	67.90
5640.00	-76.39	-38.59	7.8	H	-30.79	-32.93	62.26
7520.00	-73.82	-37.24	7.8	H	-29.44	-31.58	60.91
9400.00	-74.23	-36.21	7.6	H	-28.61	-30.75	60.08
11280.00	-74.63	-38.27	8.5	H	-29.77	-31.91	61.24
13160.00	-74.27	-36.39	8.8	H	-27.59	-29.73	59.06
15040.00	-70.40	-32.52	9.6	H	-22.92	-25.06	54.39
16920.00	-71.24	-33.41	9.0	H	-24.41	-26.55	55.88
18800.00	-71.49	-35.28	9.3	H	-25.98	-28.12	57.45

Operating Frequency (MHz): 1909.8
Channel: 810 (High)
EUT Conducted Pwr. (dBm): 27.99
Measured EIRP (dBm): 28.08
Modulation: GMSK (Single Transmit)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 41.08 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3819.60	-75.35	-42.46	6.6	H	-35.86	-38.00	66.08
5729.40	-76.19	-38.39	7.8	H	-30.59	-32.73	60.81
7639.20	-74.29	-37.71	7.8	H	-29.91	-32.05	60.13
9549.00	-73.86	-35.84	7.6	H	-28.24	-30.38	58.46
11458.80	-74.41	-38.05	8.5	H	-29.55	-31.69	59.77
13368.60	-73.39	-35.51	8.8	H	-26.71	-28.85	56.93
15278.40	-70.96	-33.08	9.6	H	-23.48	-25.62	53.70
17188.20	-71.11	-33.28	9.0	H	-24.28	-26.42	54.50
19098.00	-72.11	-35.90	9.3	H	-26.60	-28.74	56.82

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053 (Cont.)

Operating Frequency (MHz): 1850.2
Channel: 512 (Low)
EUT Conducted Pwr. (dBm): 28.12
Measured EIRP (dBm): 29.10
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.10 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3700.40	-75.89	-43.00	6.6	H	-36.40	-38.54	67.64
5550.60	-76.43	-38.63	7.8	H	-30.83	-32.97	62.07
7400.80	-73.80	-37.22	7.8	H	-29.42	-31.56	60.66
9251.00	-74.50	-36.48	7.6	H	-28.88	-31.02	60.12
11101.20	-73.15	-36.79	8.5	H	-28.29	-30.43	59.53
12951.40	-73.81	-35.93	8.8	H	-27.13	-29.27	58.37
14801.60	-70.97	-33.09	9.6	H	-23.49	-25.63	54.73
16651.80	-71.36	-33.53	9.0	H	-24.53	-26.67	55.77
18502.00	-71.44	-35.23	9.3	H	-25.93	-28.07	57.17

Operating Frequency (MHz): 1880.0
Channel: 661 (Mid)
EUT Conducted Pwr. (dBm): 28.08
Measured EIRP (dBm): 29.33
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.33 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3760.00	-75.51	-42.62	6.6	H	-36.02	-38.16	67.49
5640.00	-75.52	-37.72	7.8	H	-29.92	-32.06	61.39
7520.00	-73.84	-37.26	7.8	H	-29.46	-31.60	60.93
9400.00	-74.89	-36.87	7.6	H	-29.27	-31.41	60.74
11280.00	-74.24	-37.88	8.5	H	-29.38	-31.52	60.85
13160.00	-73.37	-35.49	8.8	H	-26.69	-28.83	58.16
15040.00	-68.70	-30.82	9.6	H	-21.22	-23.36	52.69
16920.00	-69.62	-31.79	9.0	H	-22.79	-24.93	54.26
18800.00	-70.82	-34.61	9.3	H	-25.31	-27.45	56.78

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053 (Cont.)

Operating Frequency (MHz): 1909.8
Channel: 810 (High)
EUT Conducted Pwr. (dBm): 27.99
Measured EIRP (dBm): 28.08
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN Card)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 41.08 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3819.60	-76.07	-43.18	6.6	H	-36.58	-38.72	66.80
5729.40	-74.87	-37.07	7.8	H	-29.27	-31.41	59.49
7639.20	-74.20	-37.62	7.8	H	-29.82	-31.96	60.04
9549.00	-73.37	-35.35	7.6	H	-27.75	-29.89	57.97
11458.80	-73.54	-37.18	8.5	H	-28.68	-30.82	58.90
13368.60	-70.28	-32.40	8.8	H	-23.60	-25.74	53.82
15278.40	-71.40	-33.52	9.6	H	-23.92	-26.06	54.14
17188.20	-72.11	-34.28	9.0	H	-25.28	-27.42	55.50
19098.00	-72.04	-35.83	9.3	H	-26.53	-28.67	56.75

Operating Frequency (MHz): 1850.2
Channel: 512 (Low)
EUT Conducted Pwr. (dBm): 28.12
Measured EIRP (dBm): 29.10
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN and Bluetooth)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.10 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3700.40	-76.56	-43.67	6.6	H	-37.07	-39.21	68.31
5550.60	-75.89	-38.09	7.8	H	-30.29	-32.43	61.53
7400.80	-73.90	-37.32	7.8	H	-29.52	-31.66	60.76
9251.00	-74.44	-36.42	7.6	H	-28.82	-30.96	60.06
11101.20	-73.65	-37.29	8.5	H	-28.79	-30.93	60.03
12951.40	-73.80	-35.92	8.8	H	-27.12	-29.26	58.36
14801.60	-71.40	-33.52	9.6	H	-23.92	-26.06	55.16
16651.80	-72.16	-34.33	9.0	H	-25.33	-27.47	56.57
18502.00	-71.46	-35.25	9.3	H	-25.95	-28.09	57.19

FIELD STRENGTH OF SPURIOUS RADIATION - §2.1053 (Cont.)

Operating Frequency (MHz): 1880.0
Channel: 661 (Mid)
EUT Conducted Pwr. (dBm): 28.08
Measured EIRP (dBm): 29.33
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN and Bluetooth)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 42.33 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3760.00	-76.95	-44.06	6.6	H	-37.46	-39.60	68.93
5640.00	-74.88	-37.08	7.8	H	-29.28	-31.42	60.75
7520.00	-74.03	-37.45	7.8	H	-29.65	-31.79	61.12
9400.00	-74.93	-36.91	7.6	H	-29.31	-31.45	60.78
11280.00	-74.83	-38.47	8.5	H	-29.97	-32.11	61.44
13160.00	-74.04	-36.16	8.8	H	-27.36	-29.50	58.83
15040.00	-71.10	-33.22	9.6	H	-23.62	-25.76	55.09
16920.00	-71.38	-33.55	9.0	H	-24.55	-26.69	56.02
18800.00	-70.48	-34.27	9.3	H	-24.97	-27.11	56.44

Operating Frequency (MHz): 1909.8
Channel: 810 (High)
EUT Conducted Pwr. (dBm): 27.99
Measured EIRP (dBm): 28.08
Modulation: GMSK (Simultaneous Transmit with co-located DSSS WLAN and Bluetooth)
Distance: 3 Meters
Limit: 43 + 10 log (W) = 41.08 dBc

Frequency	Field Strength of Spurious Radiation	Horn Forward Cond. Pwr.	Standard Gain Horn Antenna Gain	POL	EIRP	ERP	dBc
MHz	dBm	dBm	dBi	H/V	dBm	dBm	
3819.60	-76.28	-43.39	6.6	H	-36.79	-38.93	67.01
5729.40	-75.11	-37.31	7.8	H	-29.51	-31.65	59.73
7639.20	-73.70	-37.12	7.8	H	-29.32	-31.46	59.54
9549.00	-74.93	-36.91	7.6	H	-29.31	-31.45	59.53
11458.80	-74.59	-38.23	8.5	H	-29.73	-31.87	59.95
13368.60	-69.20	-31.32	8.8	H	-22.52	-24.66	52.74
15278.40	-72.06	-34.18	9.6	H	-24.58	-26.72	54.80
17188.20	-71.80	-33.97	9.0	H	-24.97	-27.11	55.19
19098.00	-71.24	-35.03	9.3	H	-25.73	-27.87	55.95

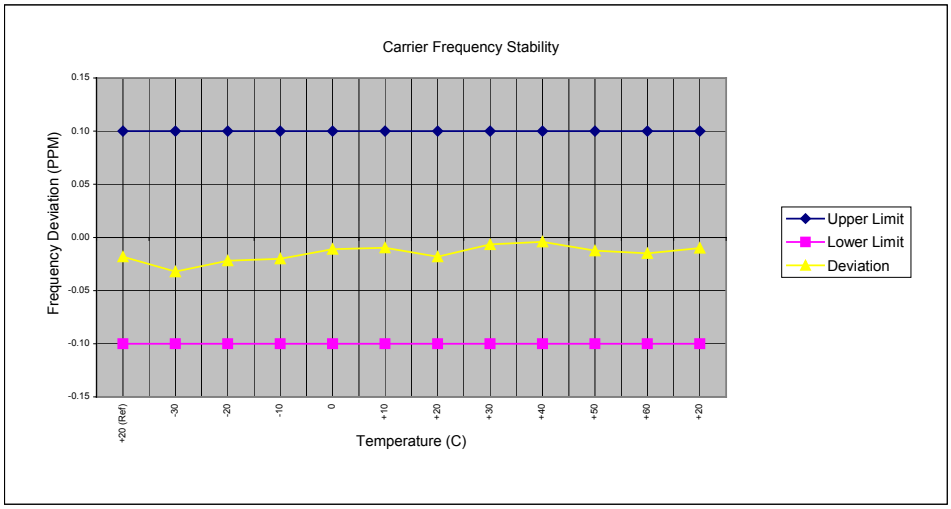
9.1 FREQUENCY STABILITY / TEMPERATURE VARIATION - §2.1055, §24.235

The minimum frequency stability shall be ±150Hz 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 tested inside the temperature chamber.

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.

Carrier Frequency (GHz): 1.88
Channel: 661
Mode: GPRS
Deviation Limit (PPM): 0.1

Temperature	Voltage	Power	Carrier Frequency Deviation		Specification	
(C)	(%)	(VDC)	(Hz)	(PPM)	Lower Limit (PPM)	Upper Limit (PPM)
+20 (Ref)	100	5.5	-33.98	-0.018	0.1	-0.1
-30	100	5.5	-60.67	-0.032	0.1	-0.1
-20	100	5.5	-41.13	-0.022	0.1	-0.1
-10	100	5.5	-37.65	-0.020	0.1	-0.1
0	100	5.5	-20.88	-0.011	0.1	-0.1
+10	100	5.5	-18.19	-0.010	0.1	-0.1
+20	100	5.5	-33.98	-0.018	0.1	-0.1
+30	100	5.5	-12.26	-0.007	0.1	-0.1
+40	100	5.5	-7.71	-0.004	0.1	-0.1
+50	100	5.5	-23.54	-0.013	0.1	-0.1
+60	100	5.5	-28.12	-0.015	0.1	-0.1
+20	Endpoint	3.1	-18.83	-0.010	0.1	-0.1



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.

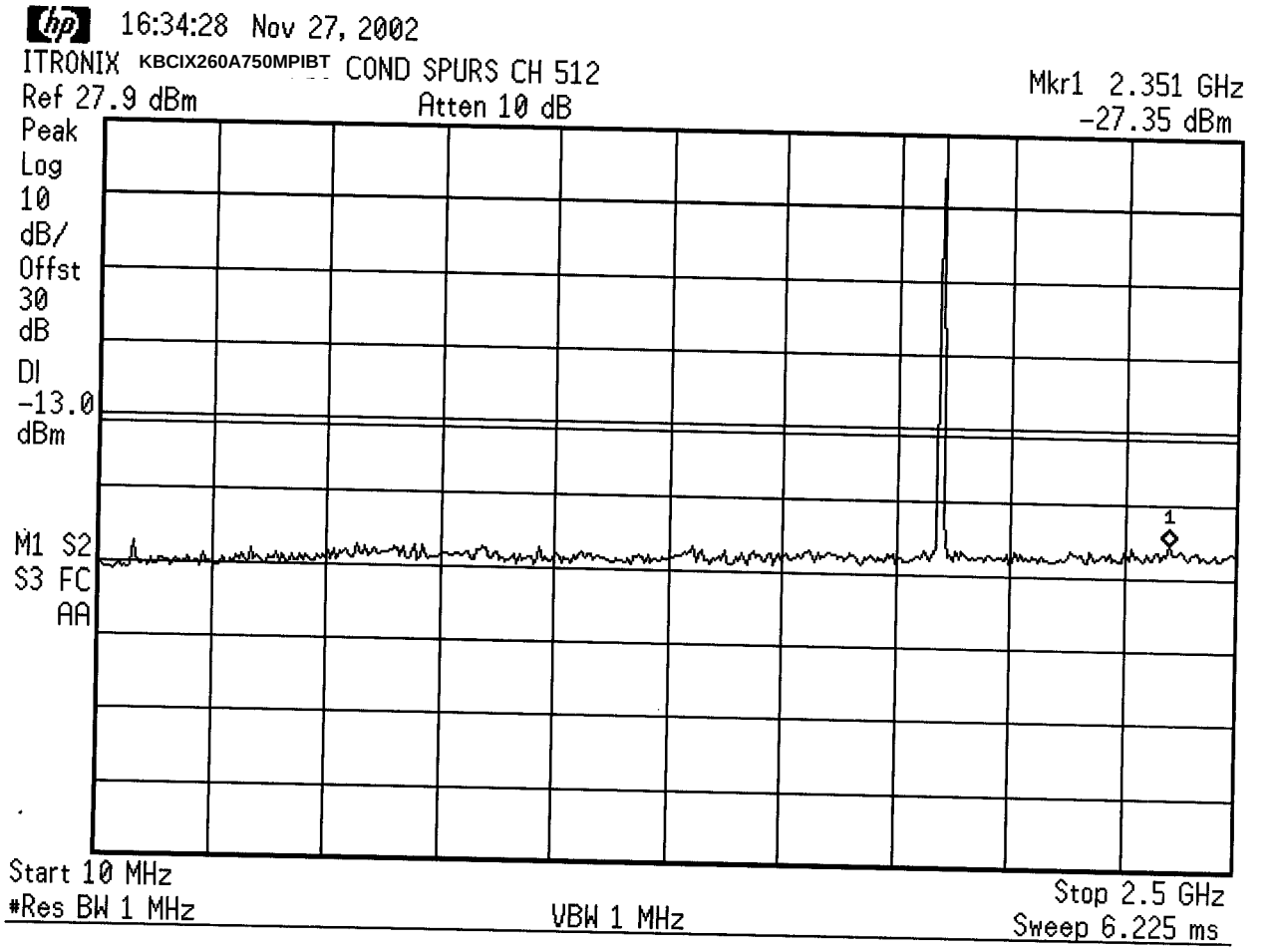
10.1 TEST EQUIPMENT LIST

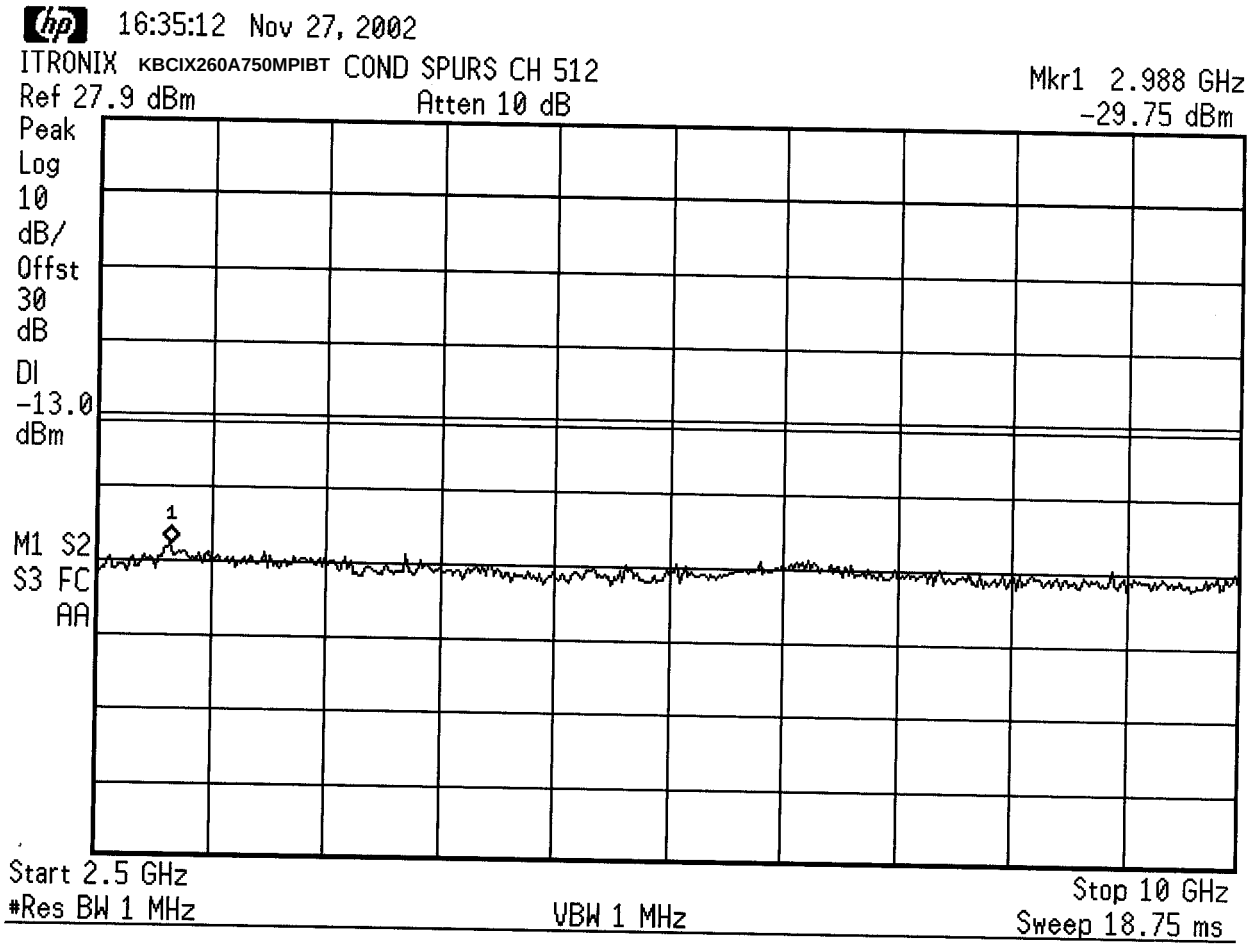
Equipment Type	Model	Serial No.	Calibration Due Date
HP Signal Generator	8648D (9kHz-4.0GHz)	3847A00611	Feb 2004
Rohde & Schwarz Signal Generator	SMR40 (10MHz-40GHz)	835537/022	Nov 2003
Gigatronics Power Meter	8652A	1835272	Feb 2004
Gigatronics Power Sensor	80701A (0.05-18GHz)	1833535	Feb 2004
Gigatronics 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
Frequency Counter	HP 53181A (3GHz)	3736A05175	May 2004
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 2004
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

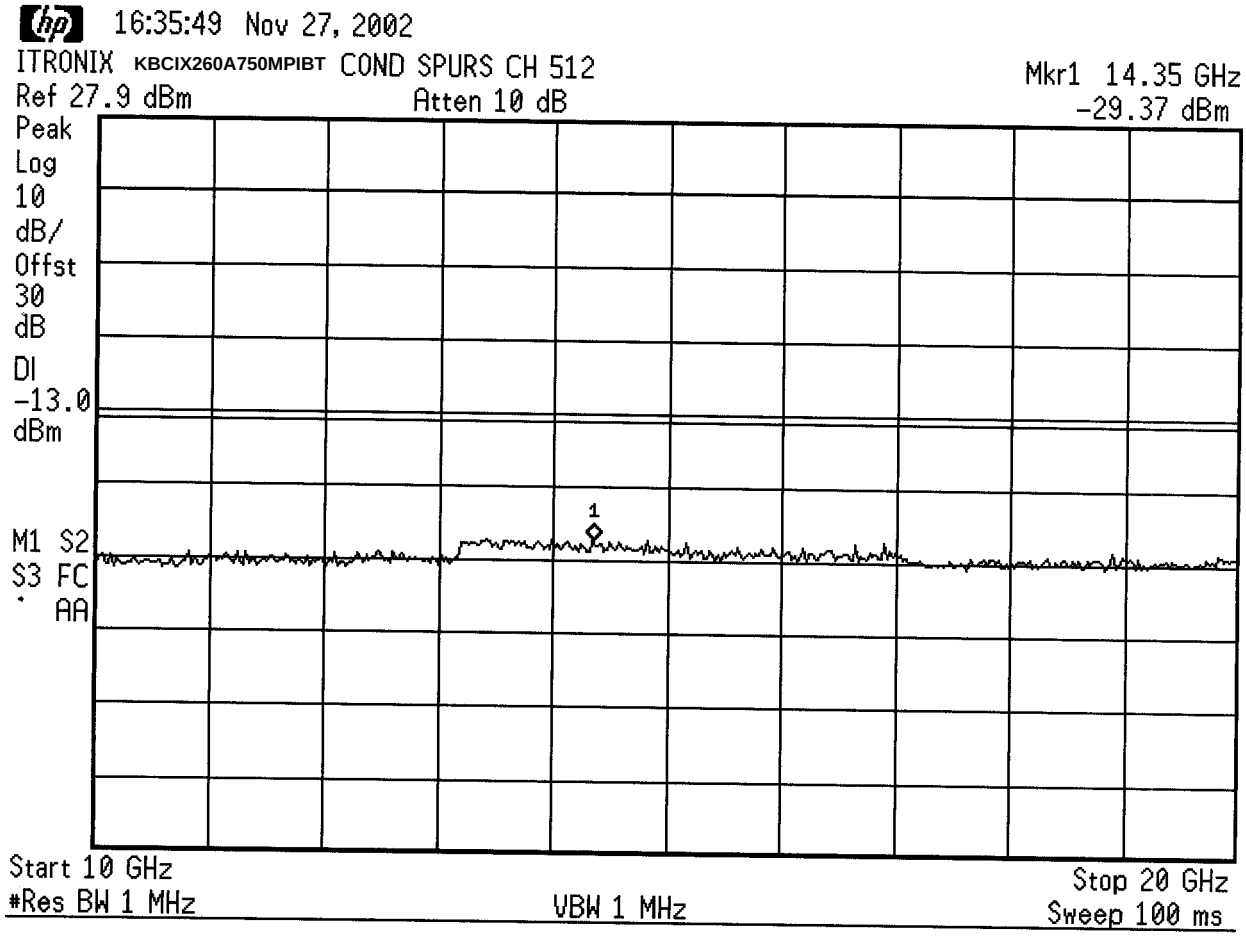
11.1 CONCLUSION

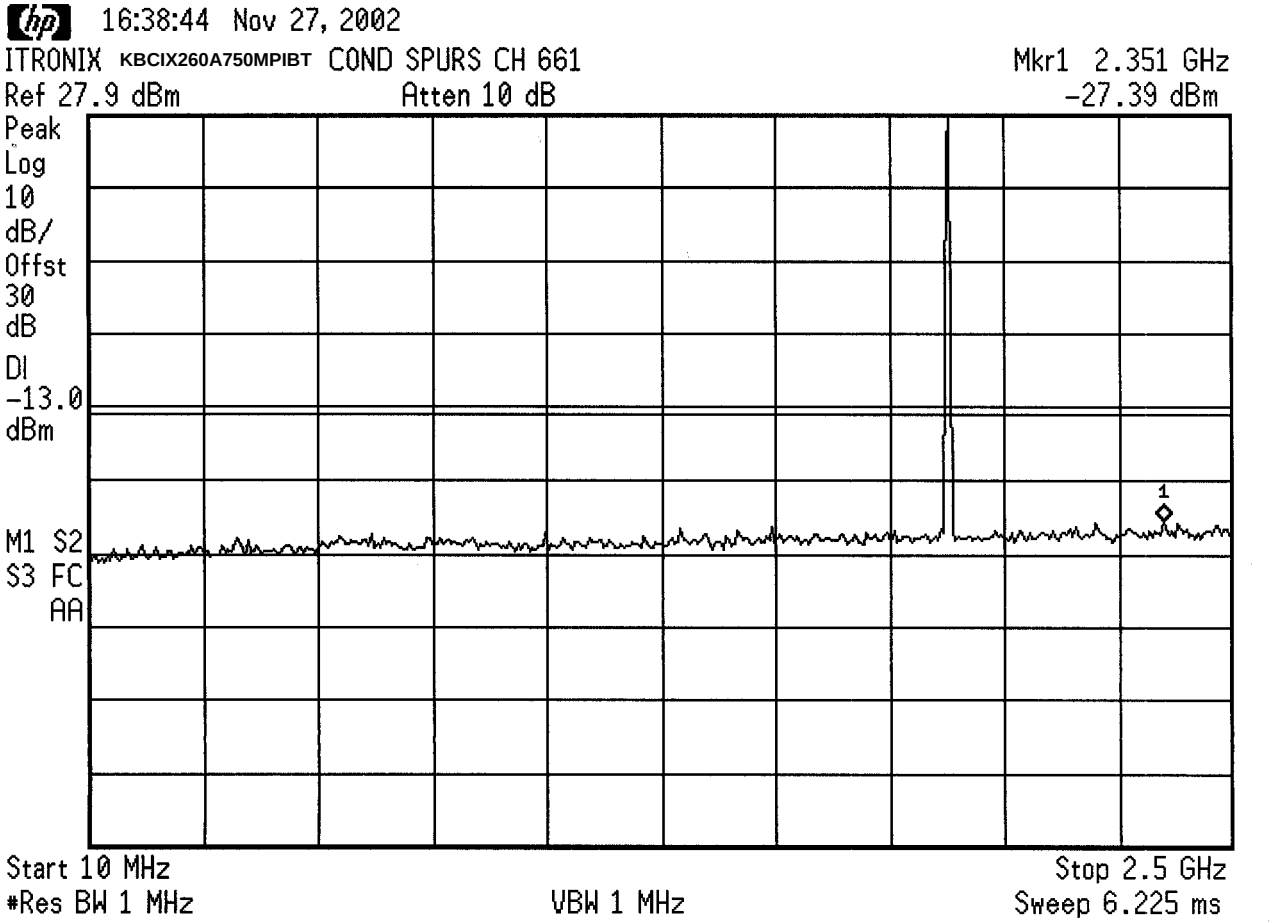
The data in this measurement report demonstrates that the ITRONIX CORPORATION Model: IX260 FCC ID: KBCIX260A750MPIBT Rugged Laptop PC with Sierra Wireless AirCard 750 PCS GSM/GPRS PCMCIA Modem Card (Co-located with Cisco Systems MPI-350 Mini-PCI DSSS WLAN & Mitsumi WML-C11 Bluetooth Transmitter) complies with the requirements of FCC Rule Parts §24(E) and §2.

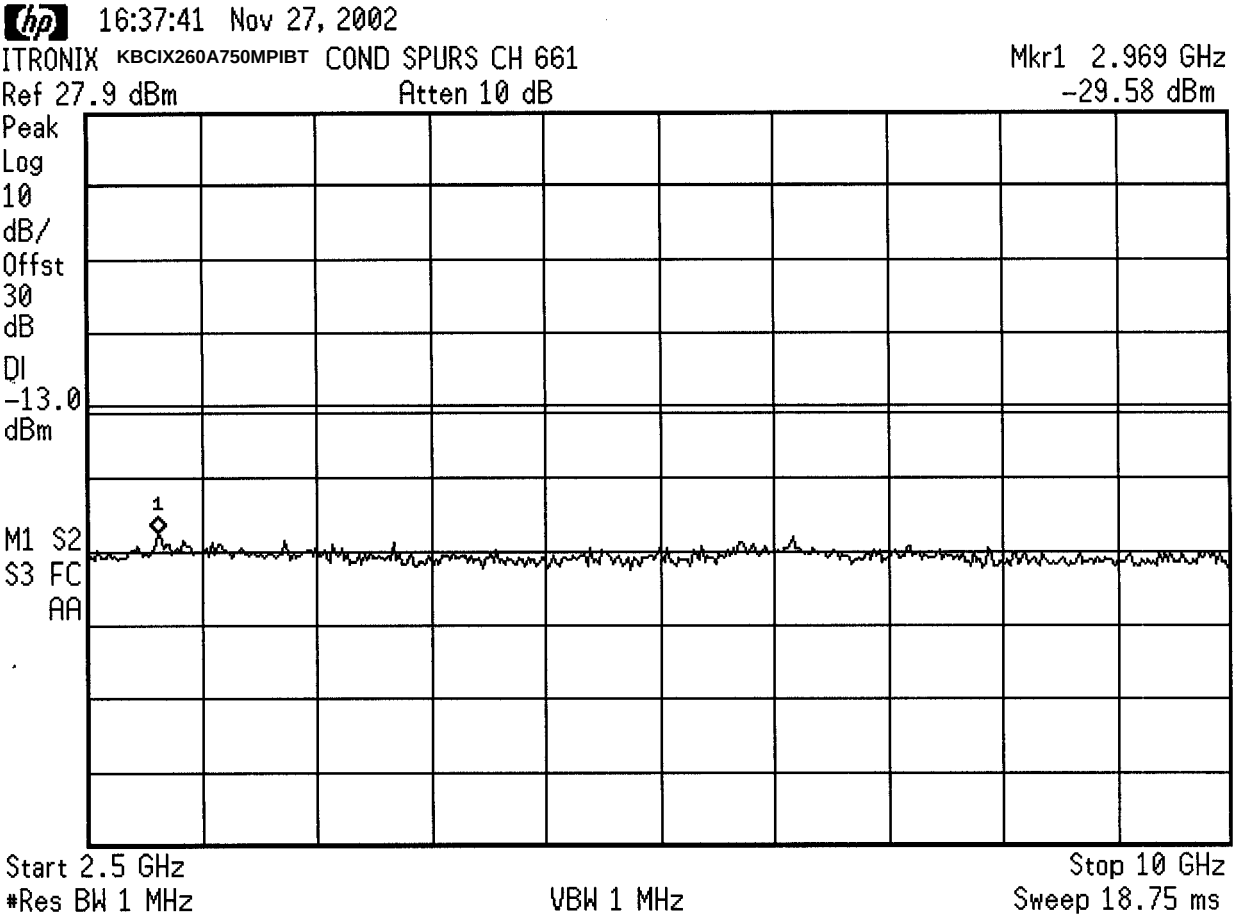
APPENDIX A - TEST PLOTS

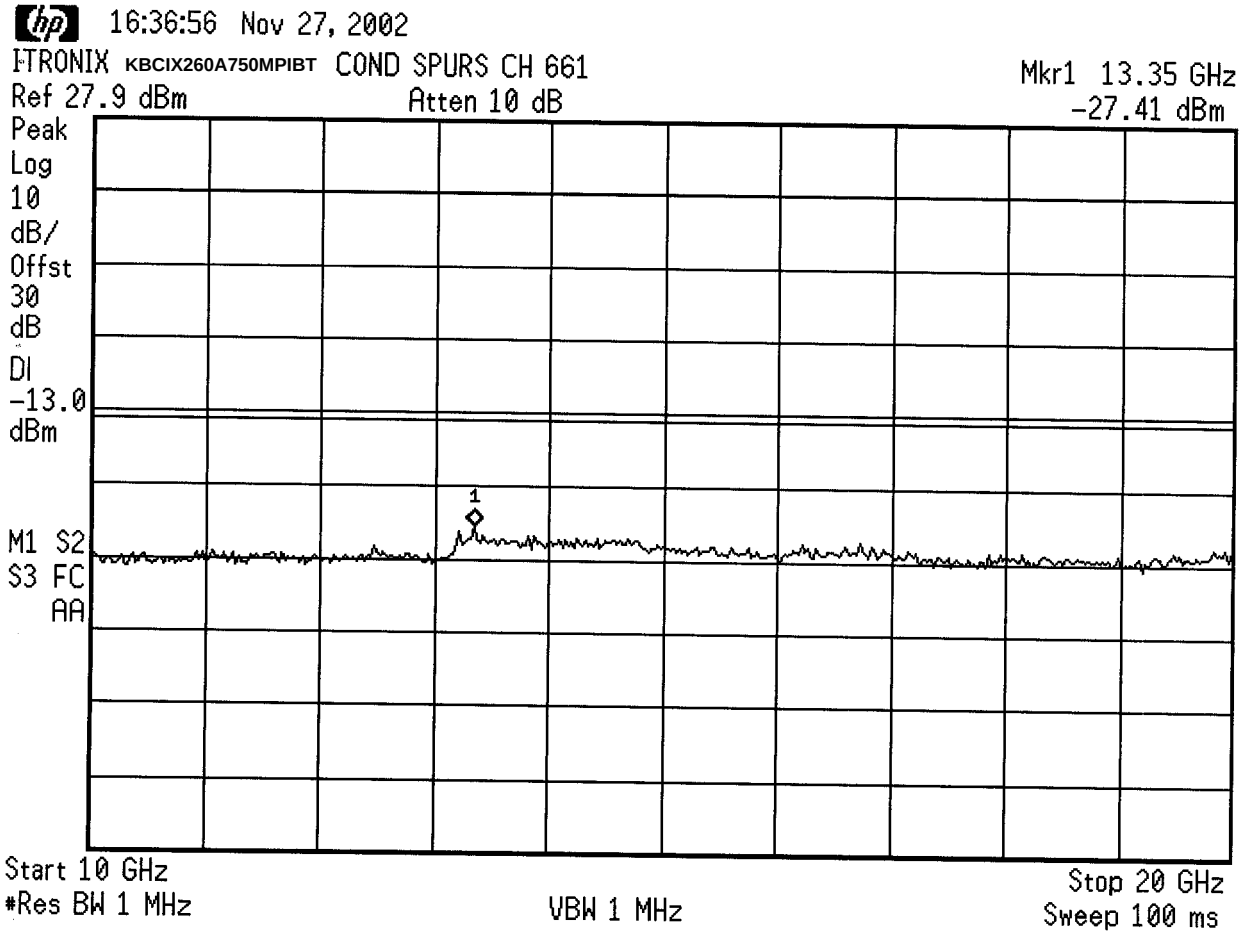

16:34:28 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 512
Ref 27.9 dBm
Atten 10 dB
Mkr1 2.351 GHz
-27.35 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 MHz
#Res BW 1 MHz
VBW 1 MHz
Stop 2.5 GHz
Sweep 6.225 ms

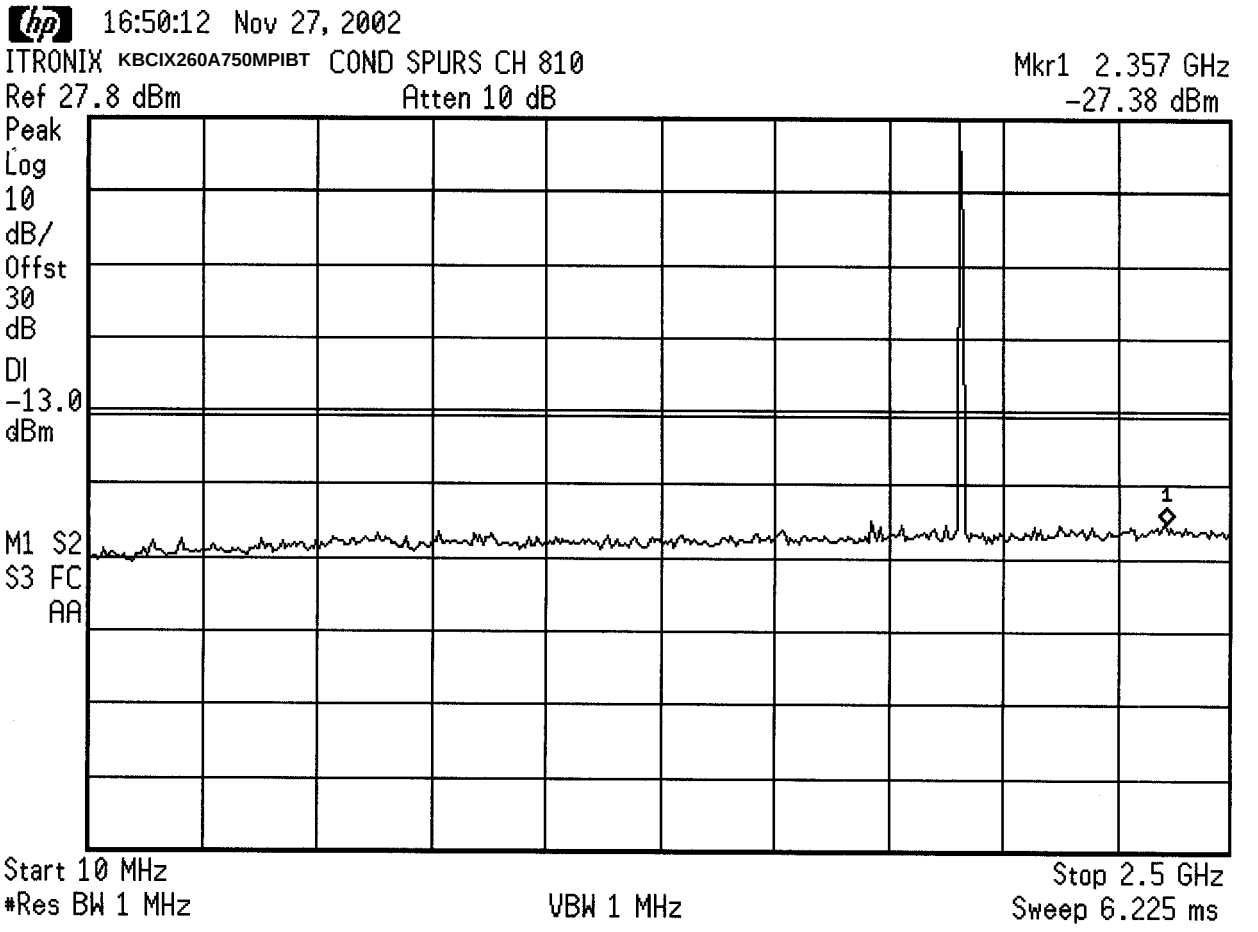

16:35:12 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 512
Ref 27.9 dBm
Atten 10 dB
Mkr1 2.988 GHz
-29.75 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 2.5 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 10 GHz
Sweep 18.75 ms

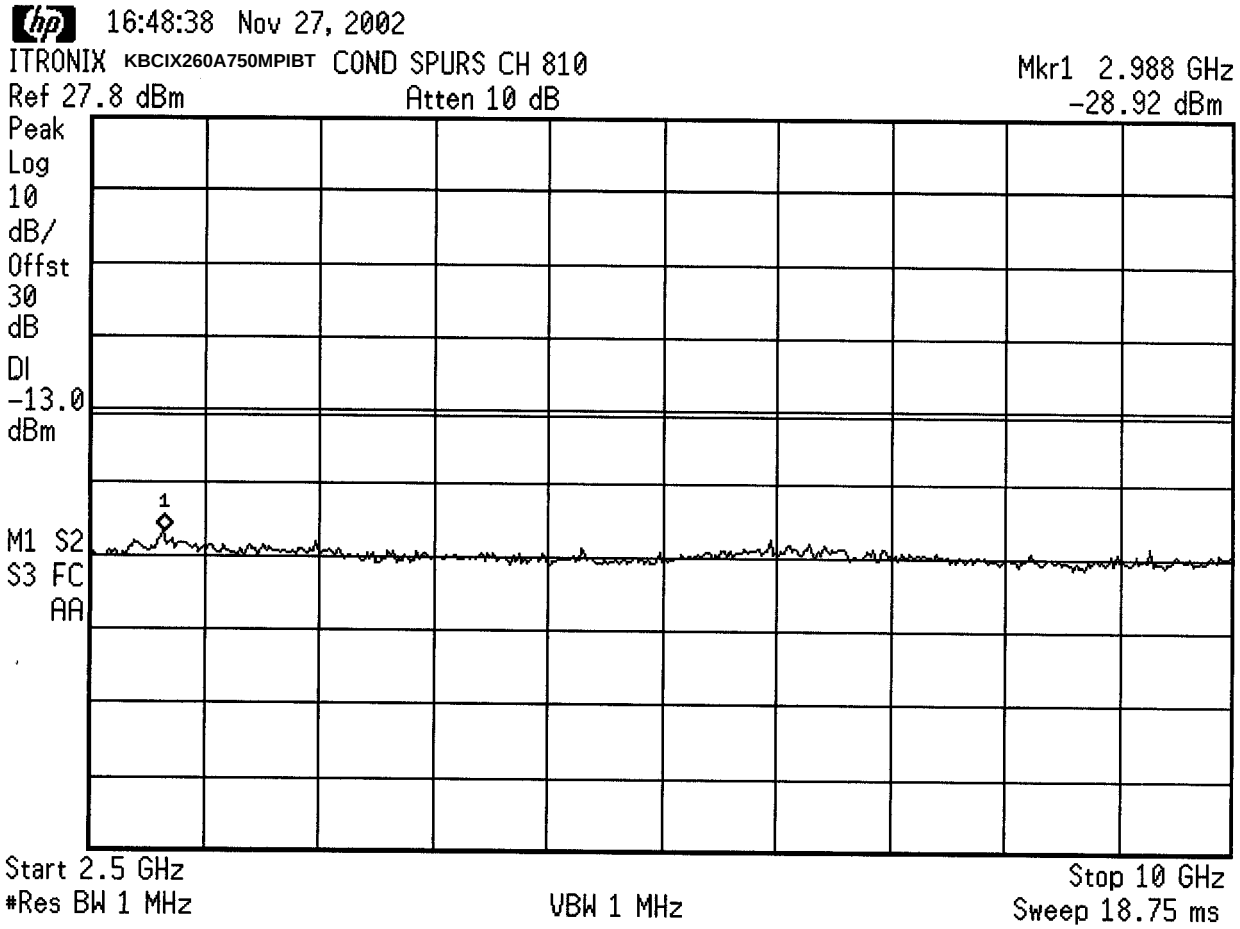

16:35:49 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 512
Ref 27.9 dBm
Atten 10 dB
Mkr1 14.35 GHz
-29.37 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 20 GHz
Sweep 100 ms

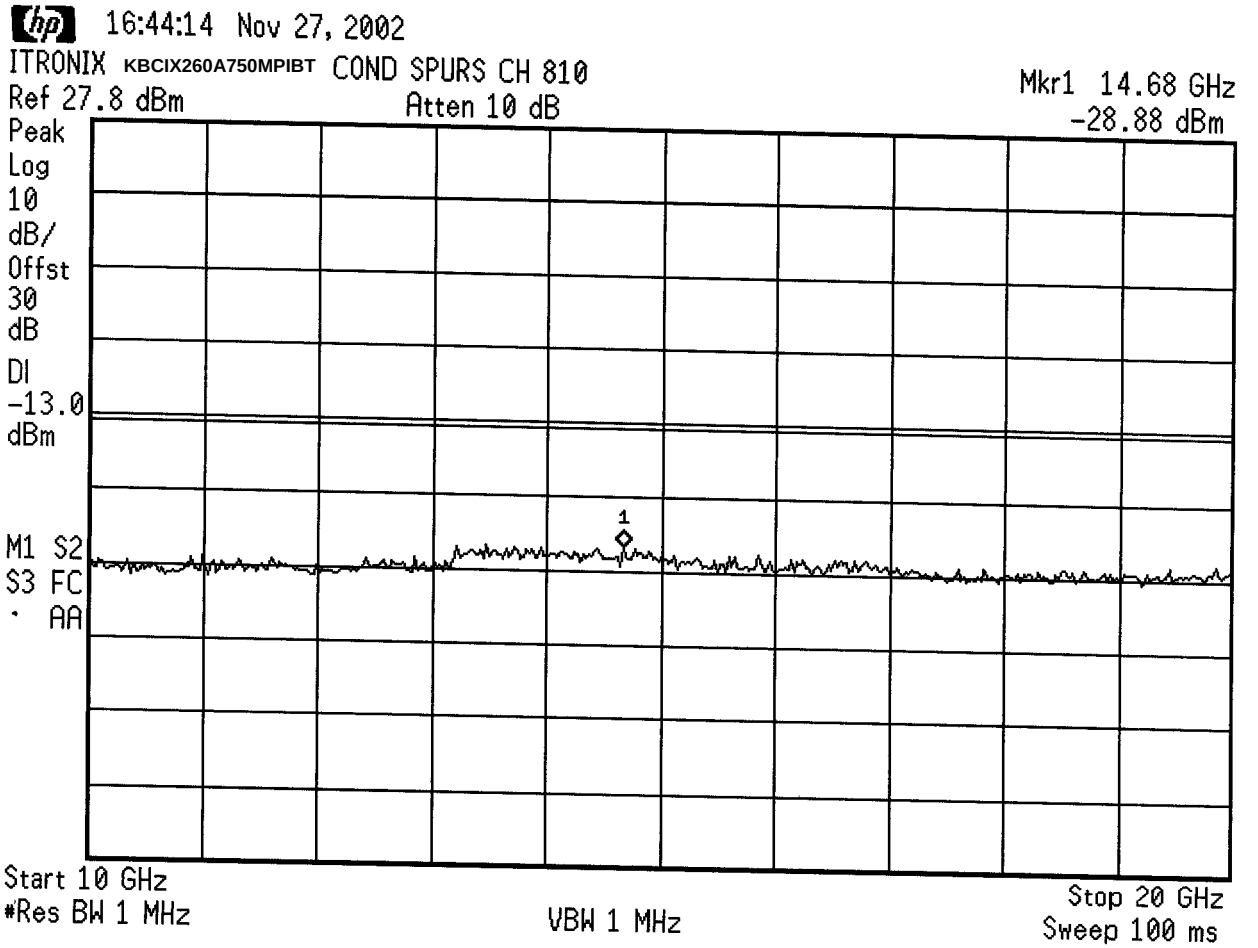

16:38:44 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 661
Mkr1 2.351 GHz
Ref 27.9 dBm
Atten 10 dB
-27.39 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 MHz
Stop 2.5 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 6.225 ms

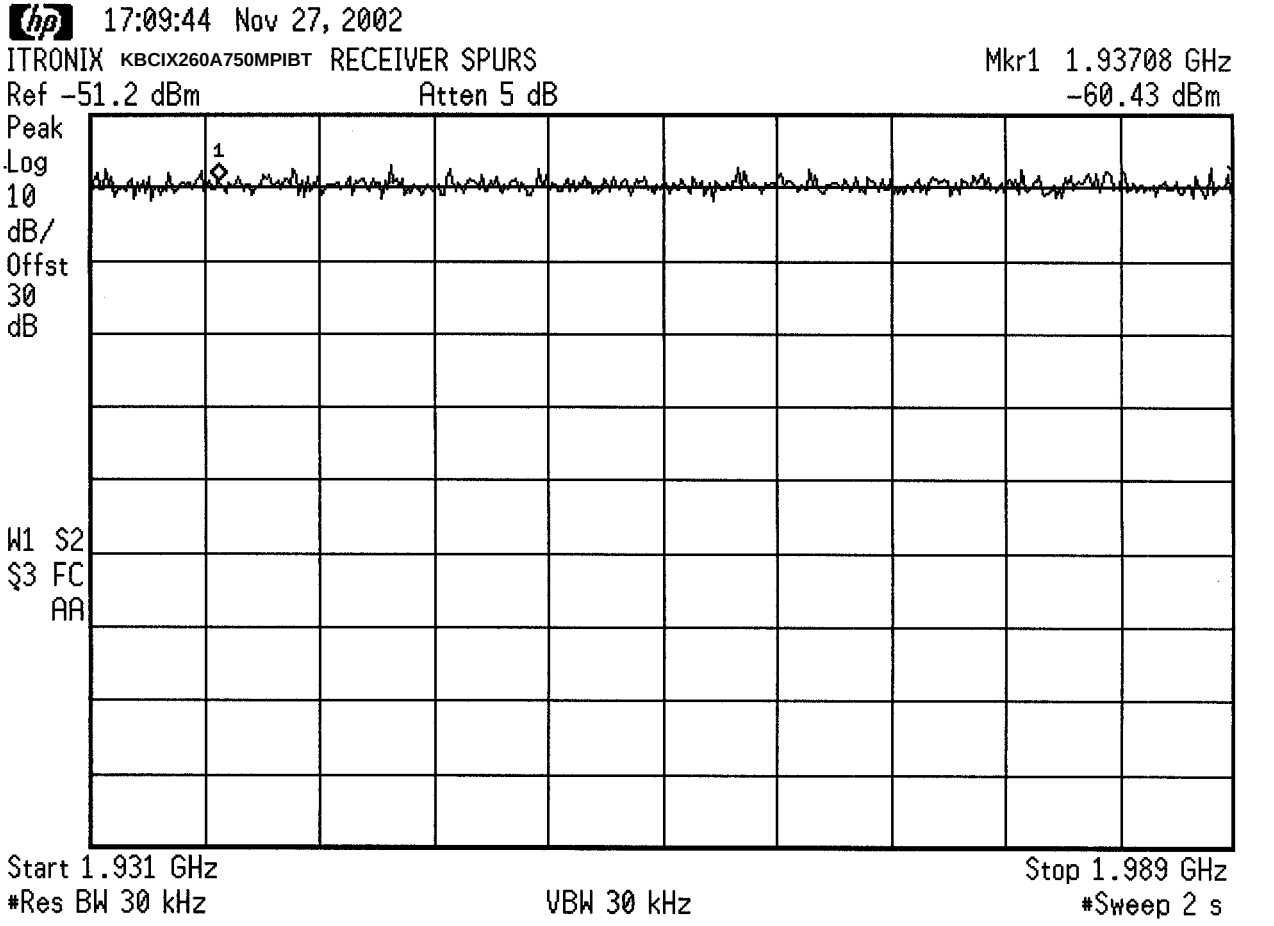

16:37:41 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 661
Mkr1 2.969 GHz
Ref 27.9 dBm
Atten 10 dB
-29.58 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
1
M1 S2
S3 FC
AA
Start 2.5 GHz
Stop 10 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 18.75 ms

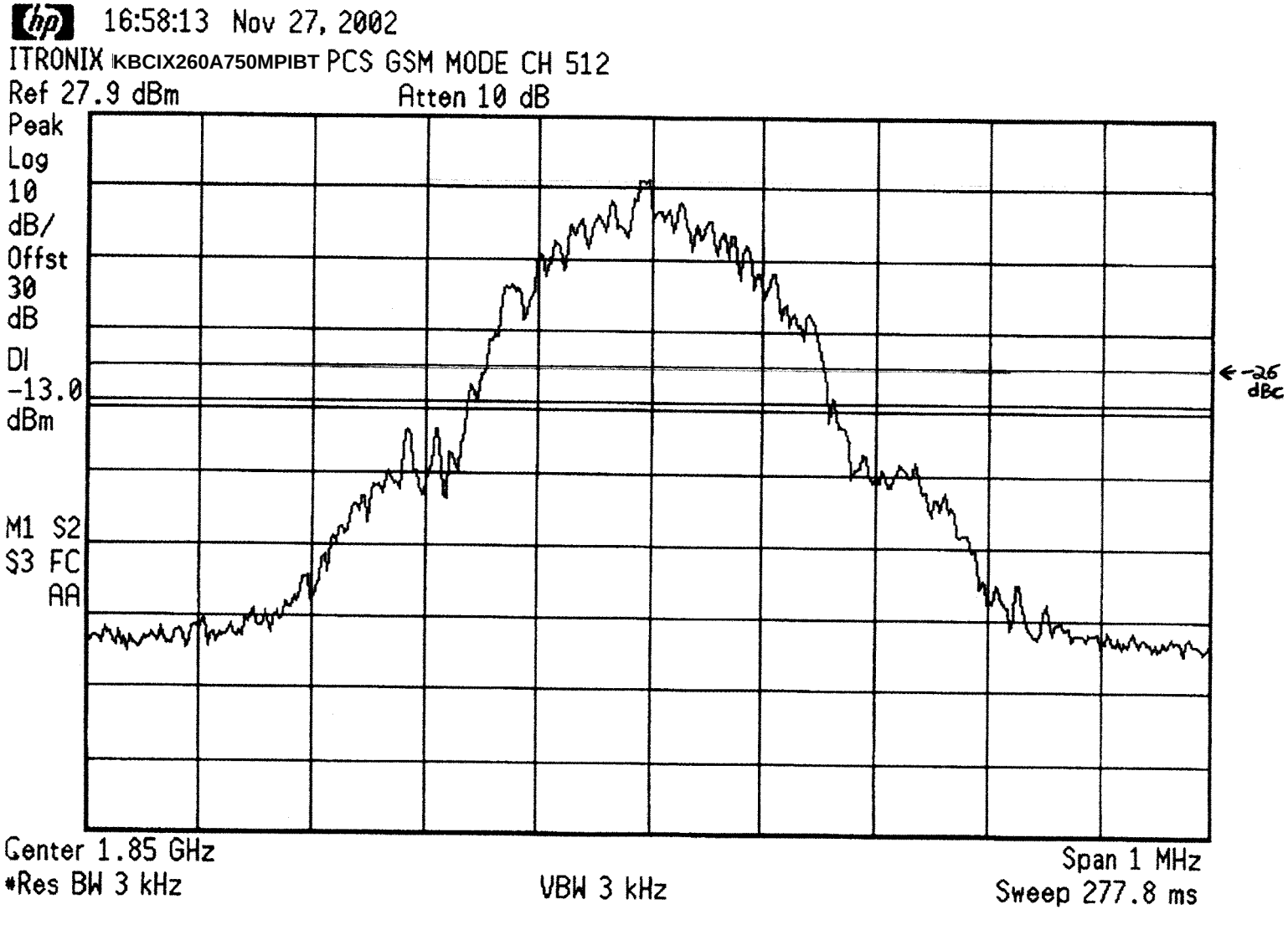

16:36:56 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 661
Ref 27.9 dBm
Atten 10 dB
Mkr1 13.35 GHz
-27.41 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 20 GHz
Sweep 100 ms

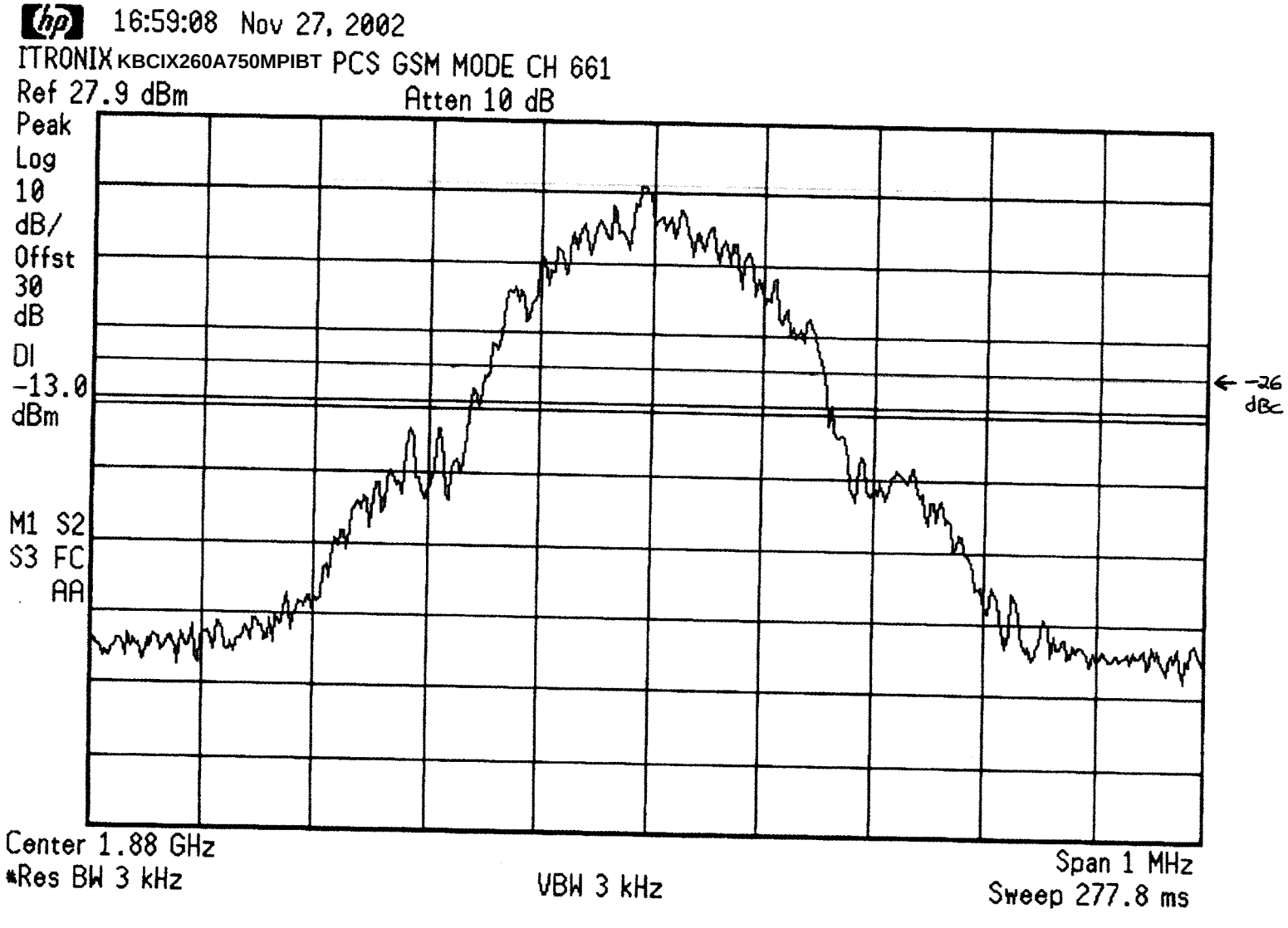

16:50:12 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 810
Ref 27.8 dBm
Atten 10 dB
Mkr1 2.357 GHz
-27.38 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 MHz
#Res BW 1 MHz
VBW 1 MHz
Stop 2.5 GHz
Sweep 6.225 ms

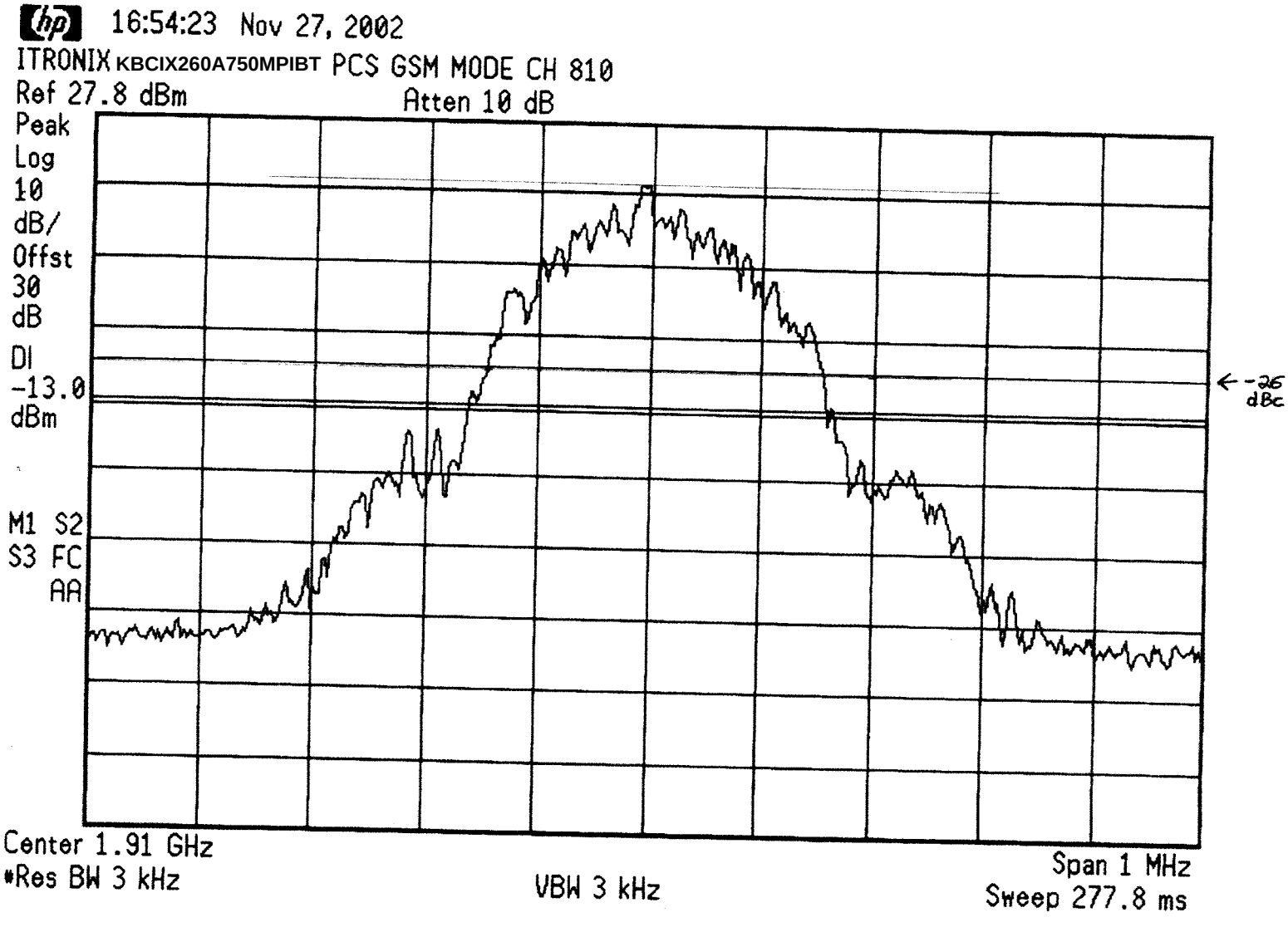

16:48:38 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 810
Ref 27.8 dBm
Atten 10 dB
Mkr1 2.988 GHz
-28.92 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 2.5 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 10 GHz
Sweep 18.75 ms

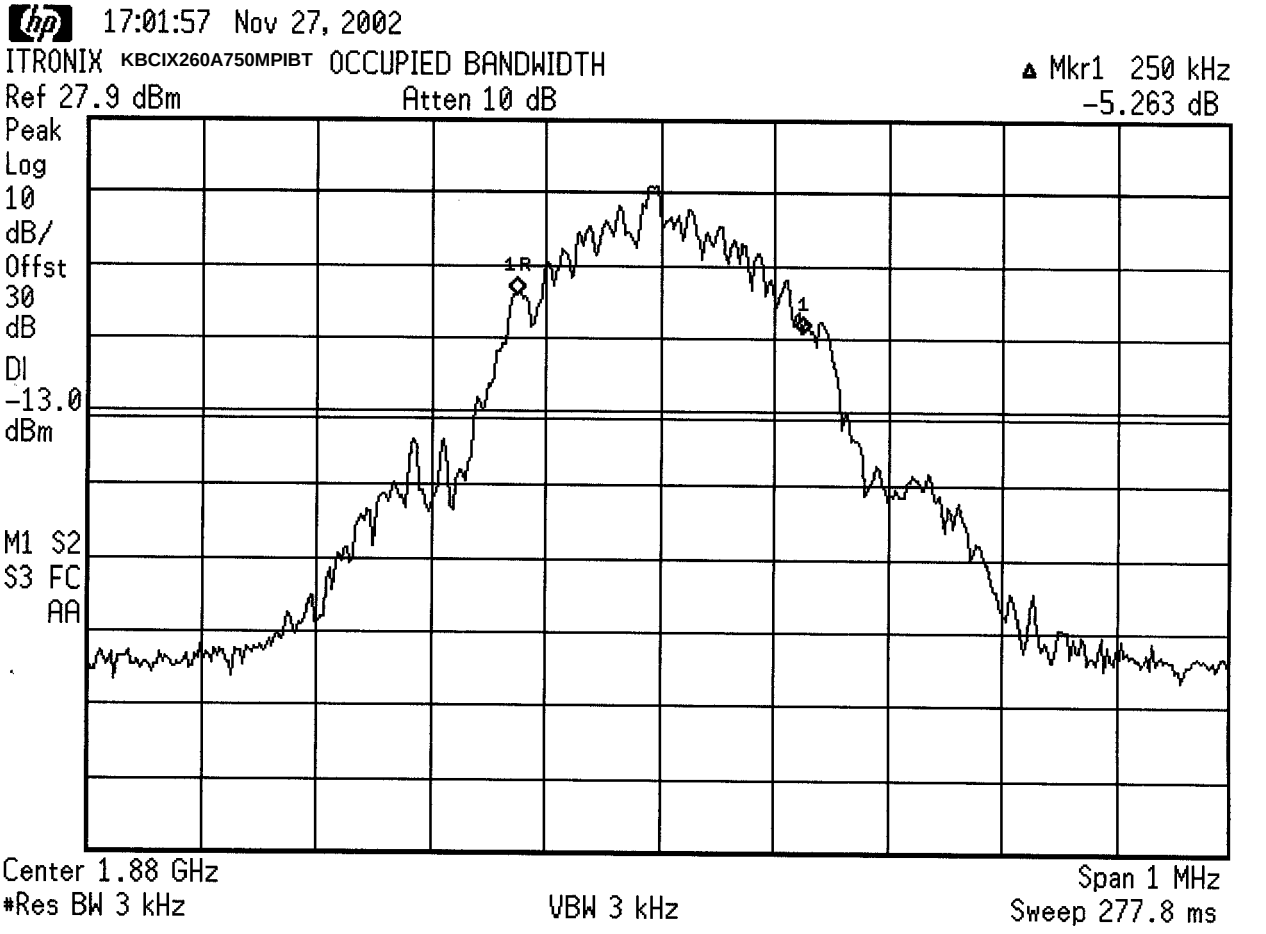

16:44:14 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT COND SPURS CH 810
Ref 27.8 dBm
Atten 10 dB
Mkr1 14.68 GHz
-28.88 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1
Start 10 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 20 GHz
Sweep 100 ms

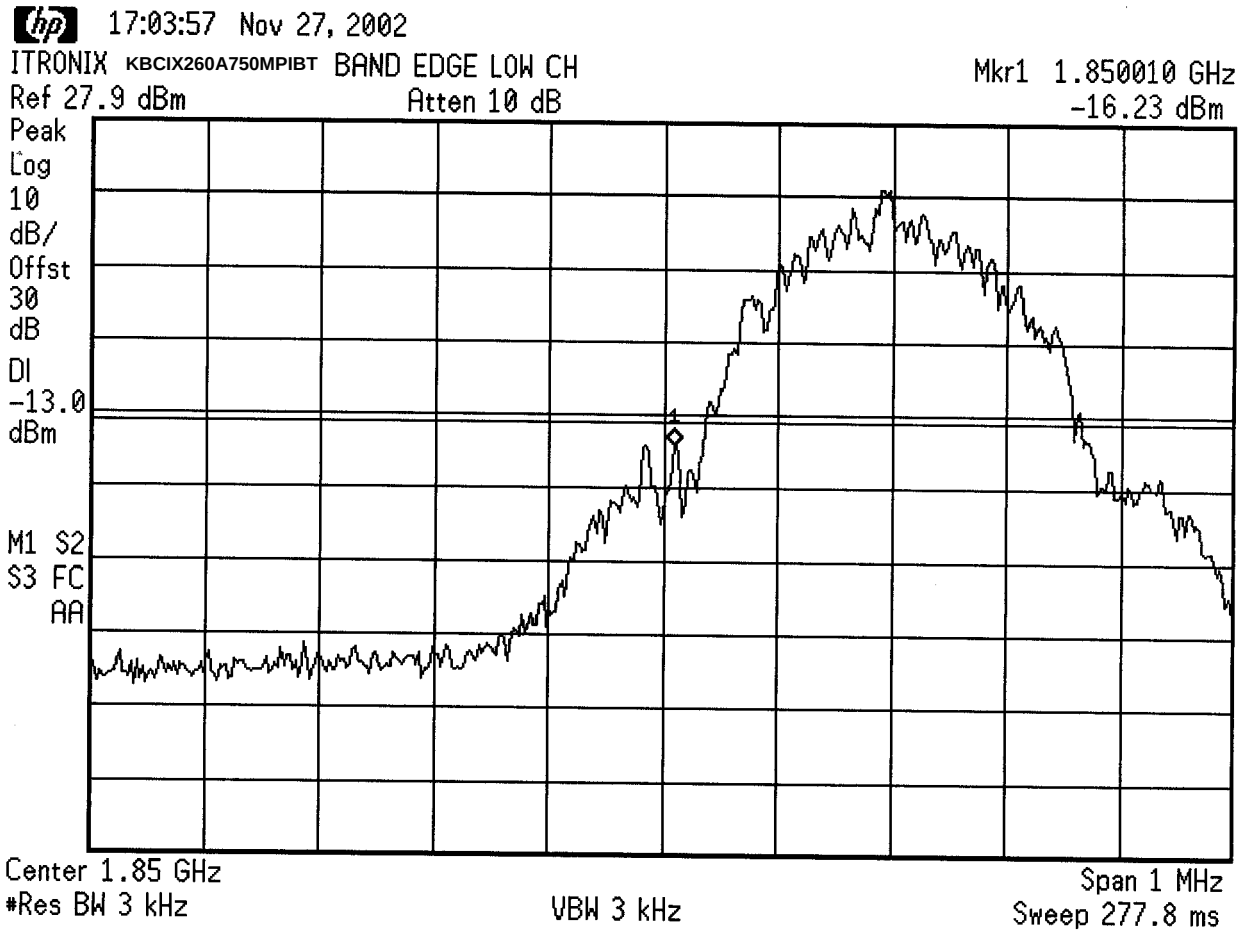

17:09:44 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT RECEIVER SPURS
Mkr1 1.93708 GHz
Ref -51.2 dBm
Atten 5 dB
-60.43 dBm
Peak
Log
10
dB/
Offst
30
dB
1
W1 S2
$3 FC
AA
Start 1.931 GHz
Stop 1.989 GHz
#Res BW 30 kHz
VBW 30 kHz
#Sweep 2 s

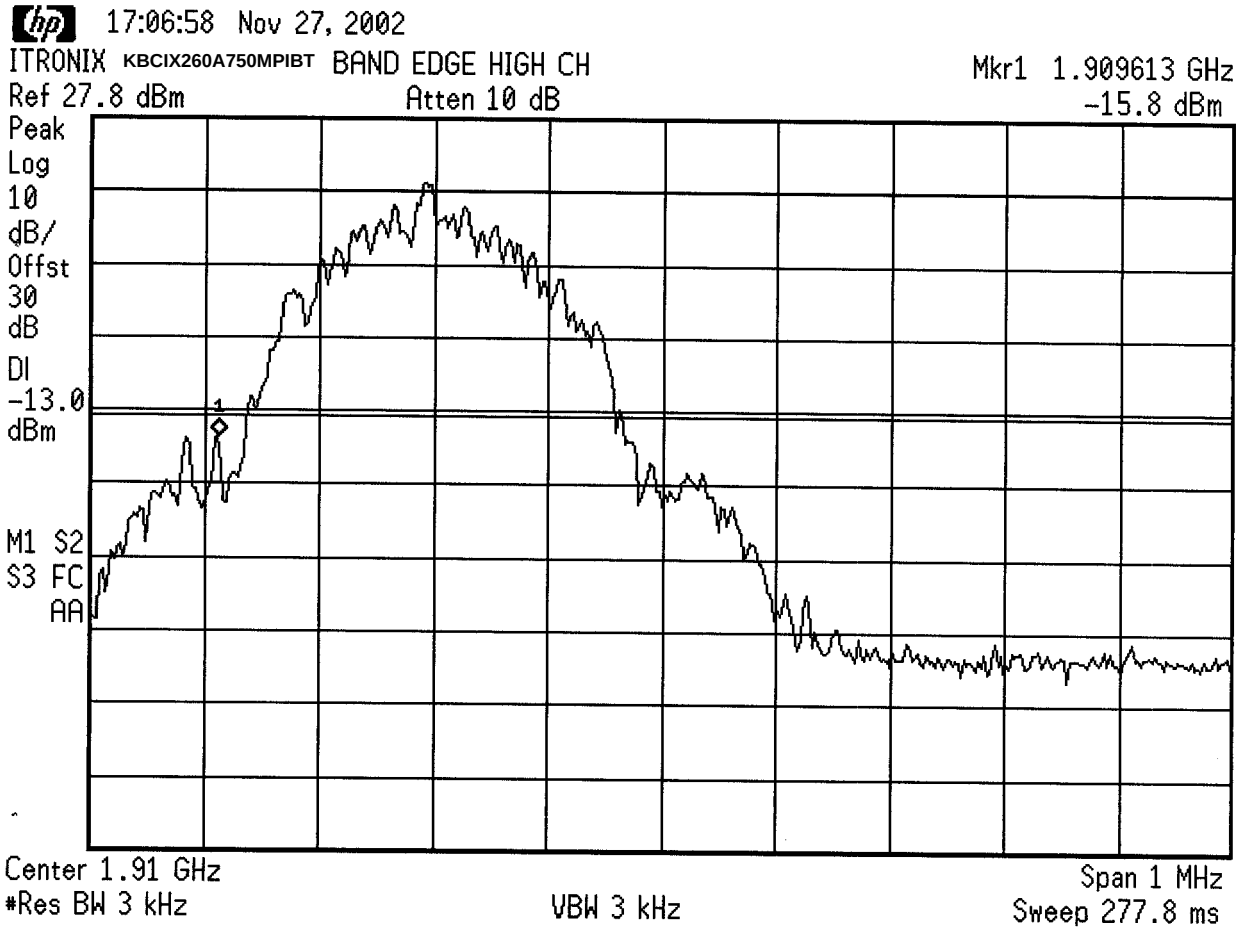

16:58:13 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT PCS GSM MODE CH 512
Ref 27.9 dBm
Atten 10 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
-26
dBc
Center 1.85 GHz
*Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms


16:59:08 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT PCS GSM MODE CH 661
Ref 27.9 dBm
Atten 10 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
-26
dBc
Center 1.88 GHz
*Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms


16:54:23 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT PCS GSM MODE CH 810
Ref 27.8 dBm
Atten 10 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
-26 dBc
Center 1.91 GHz
*Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms


17:01:57 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT OCCUPIED BANDWIDTH
Ref 27.9 dBm
Atten 10 dB
Mkr1 250 kHz
-5.263 dB
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
1R
1
Center 1.88 GHz
#Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms


17:03:57 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT BAND EDGE LOW CH
Ref 27.9 dBm
Atten 10 dB
Mkr1 1.850010 GHz
-16.23 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
Center 1.85 GHz
#Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms


17:06:58 Nov 27, 2002
ITRONIX KBCIX260A750MPIBT BAND EDGE HIGH CH
Ref 27.8 dBm
Atten 10 dB
Mkr1 1.909613 GHz
-15.8 dBm
Peak
Log
10
dB/
Offst
30
dB
Dl
-13.0
dBm
M1 S2
S3 FC
AA
Center 1.91 GHz
#Res BW 3 kHz
VBW 3 kHz
Span 1 MHz
Sweep 277.8 ms