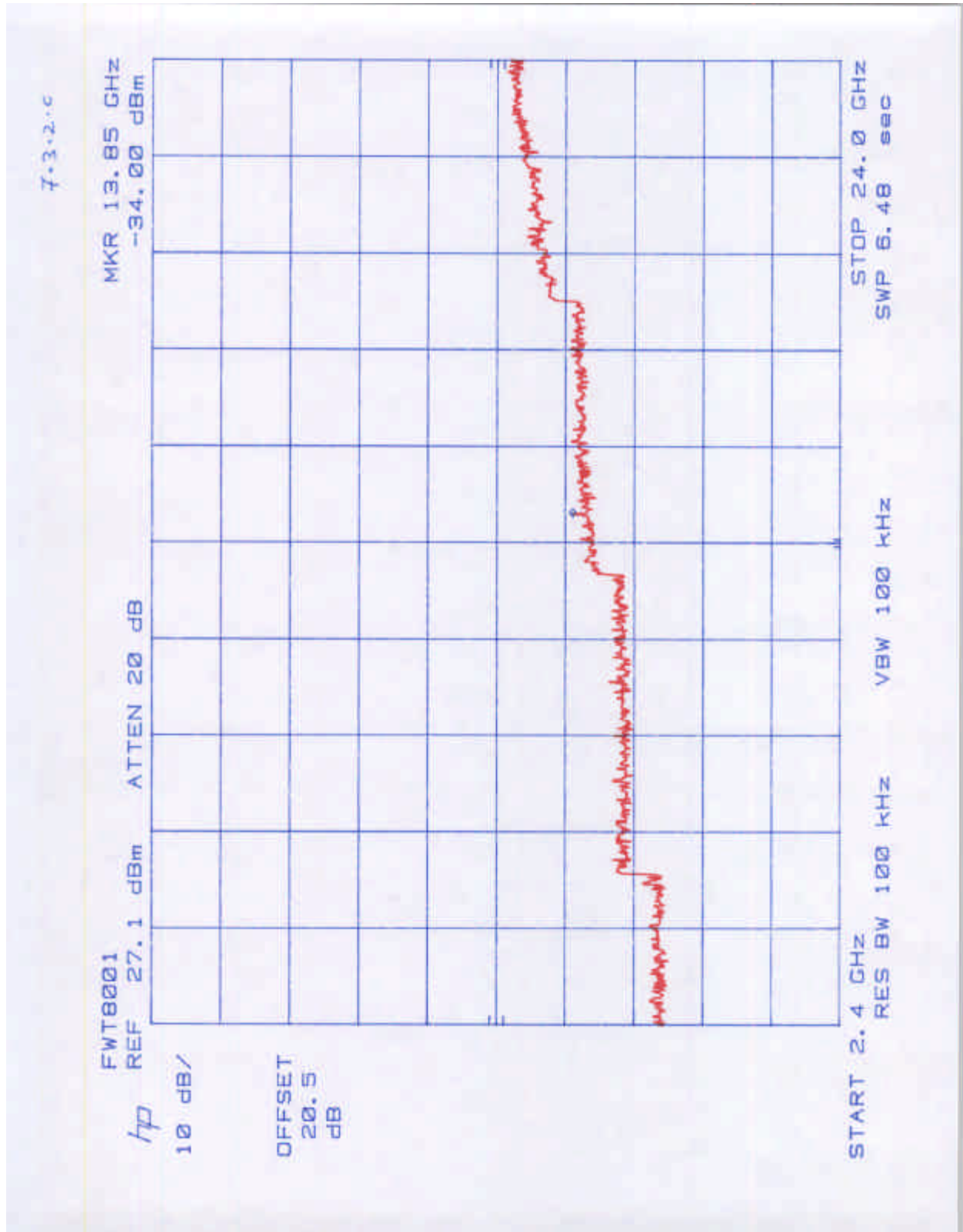
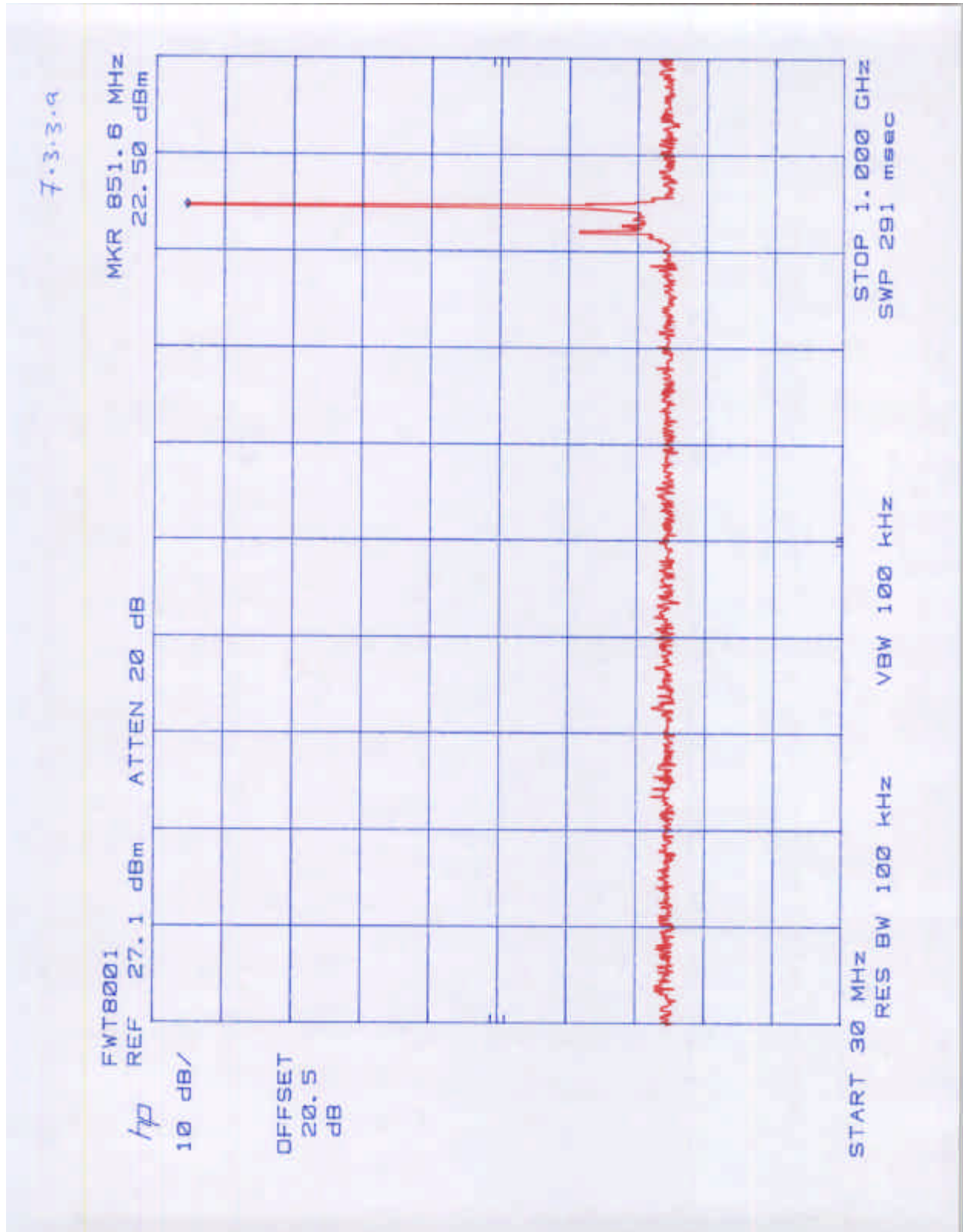
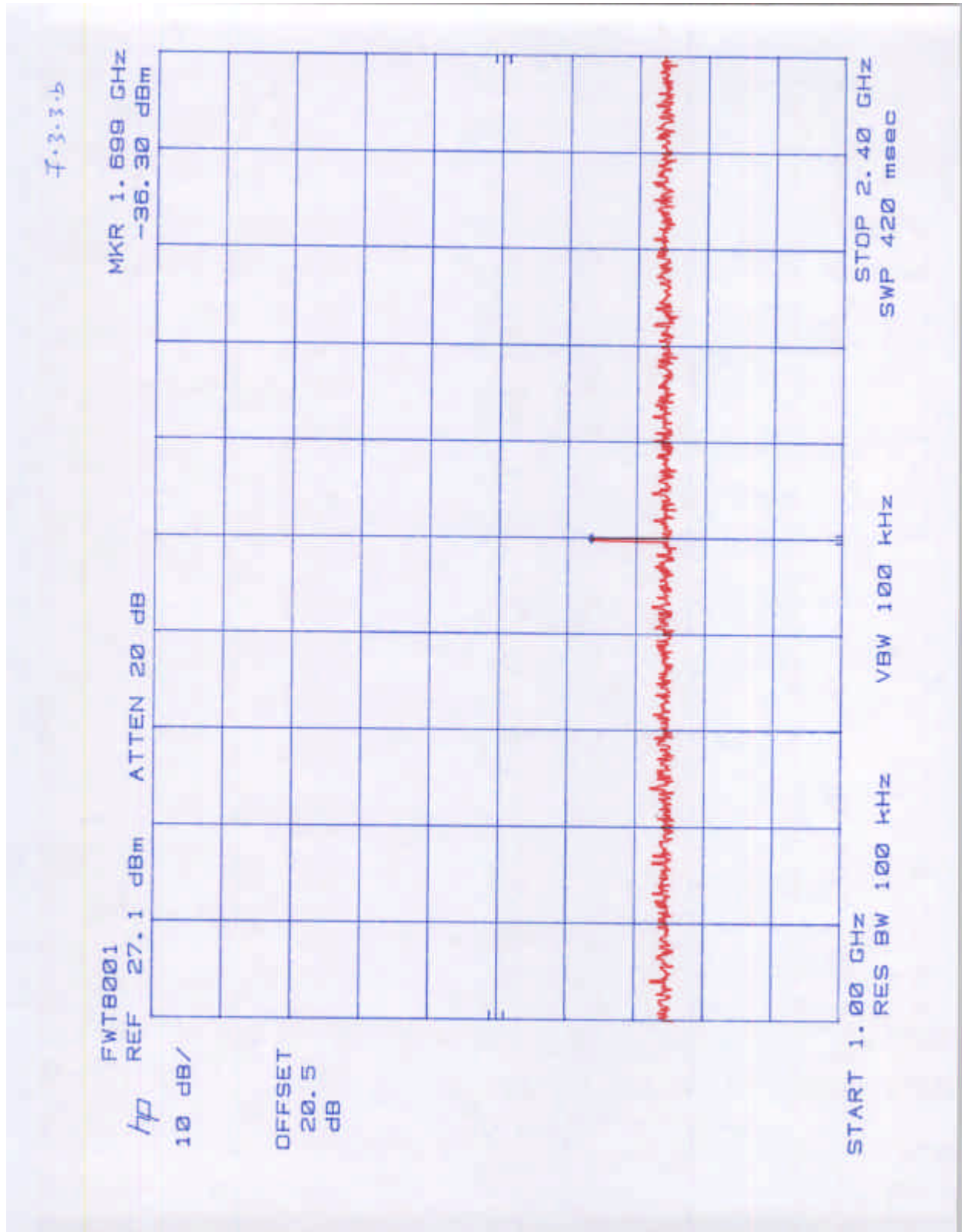
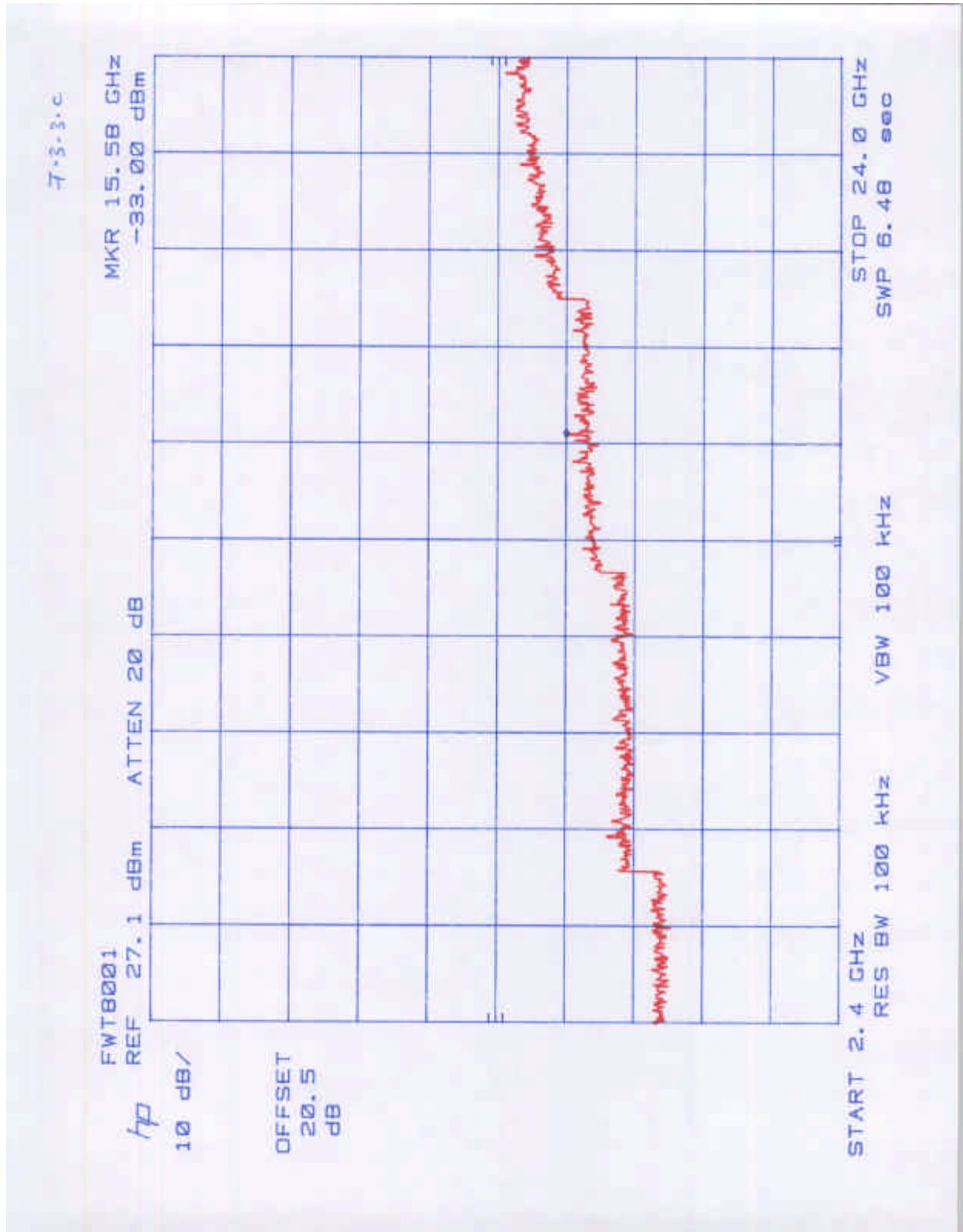
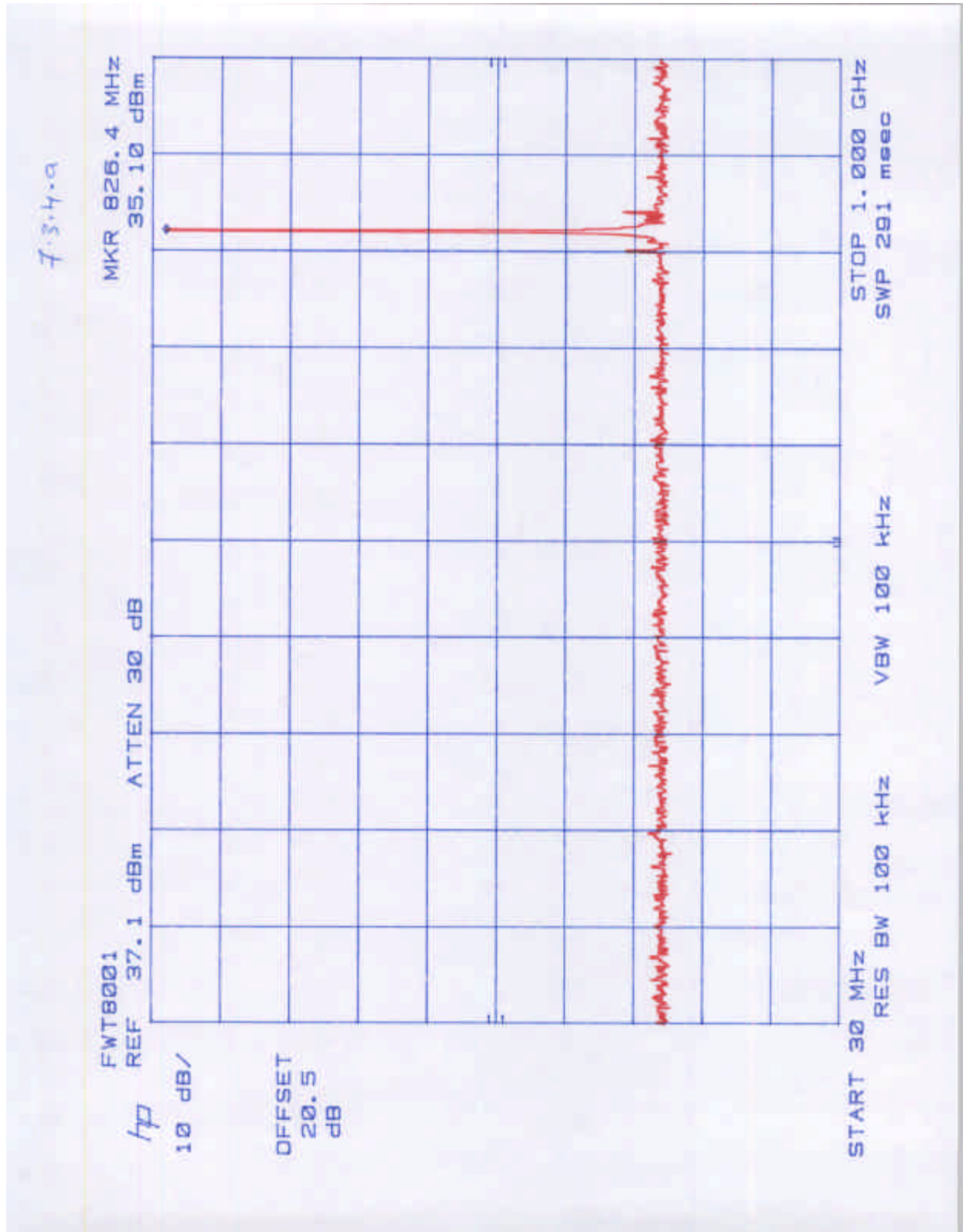


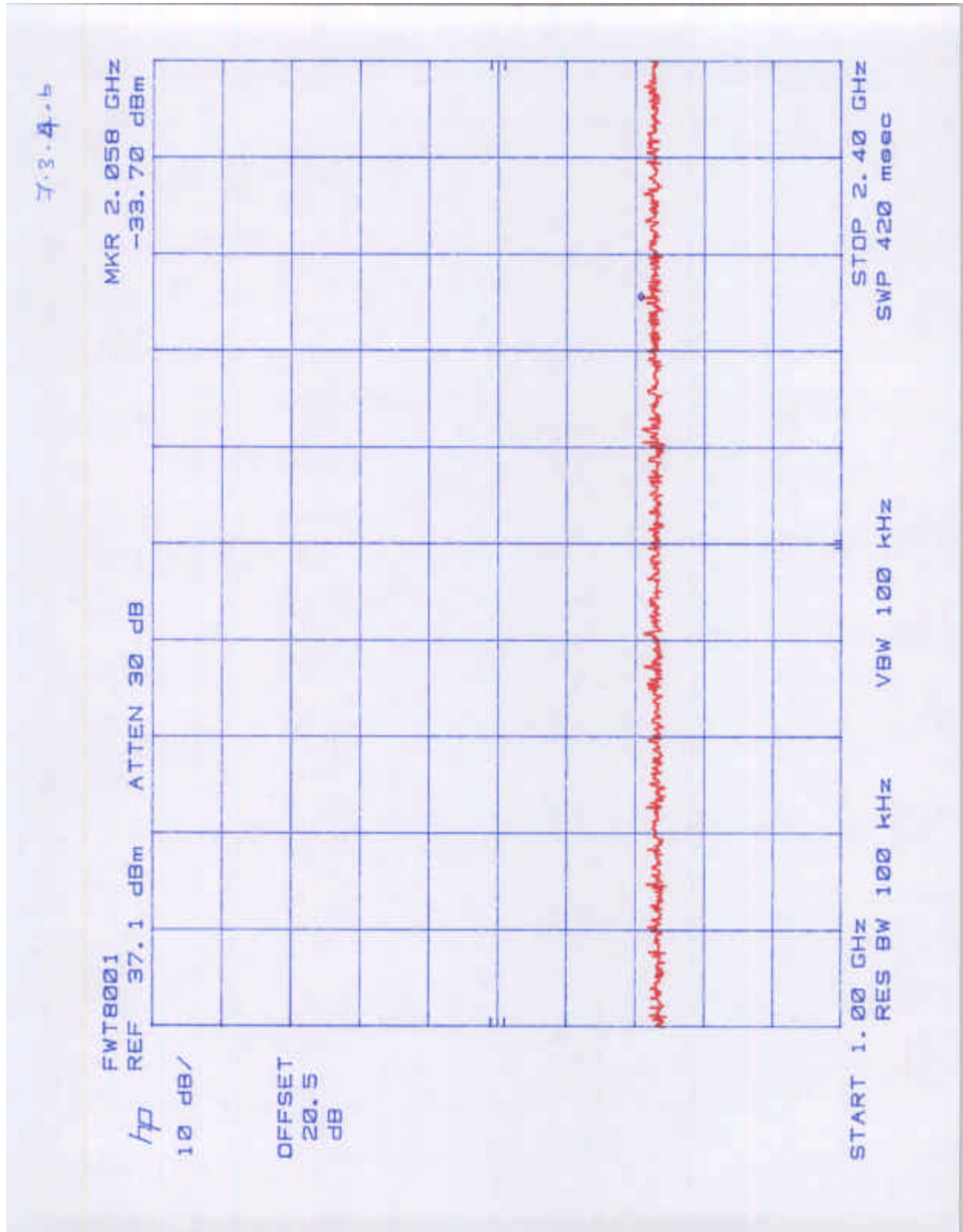


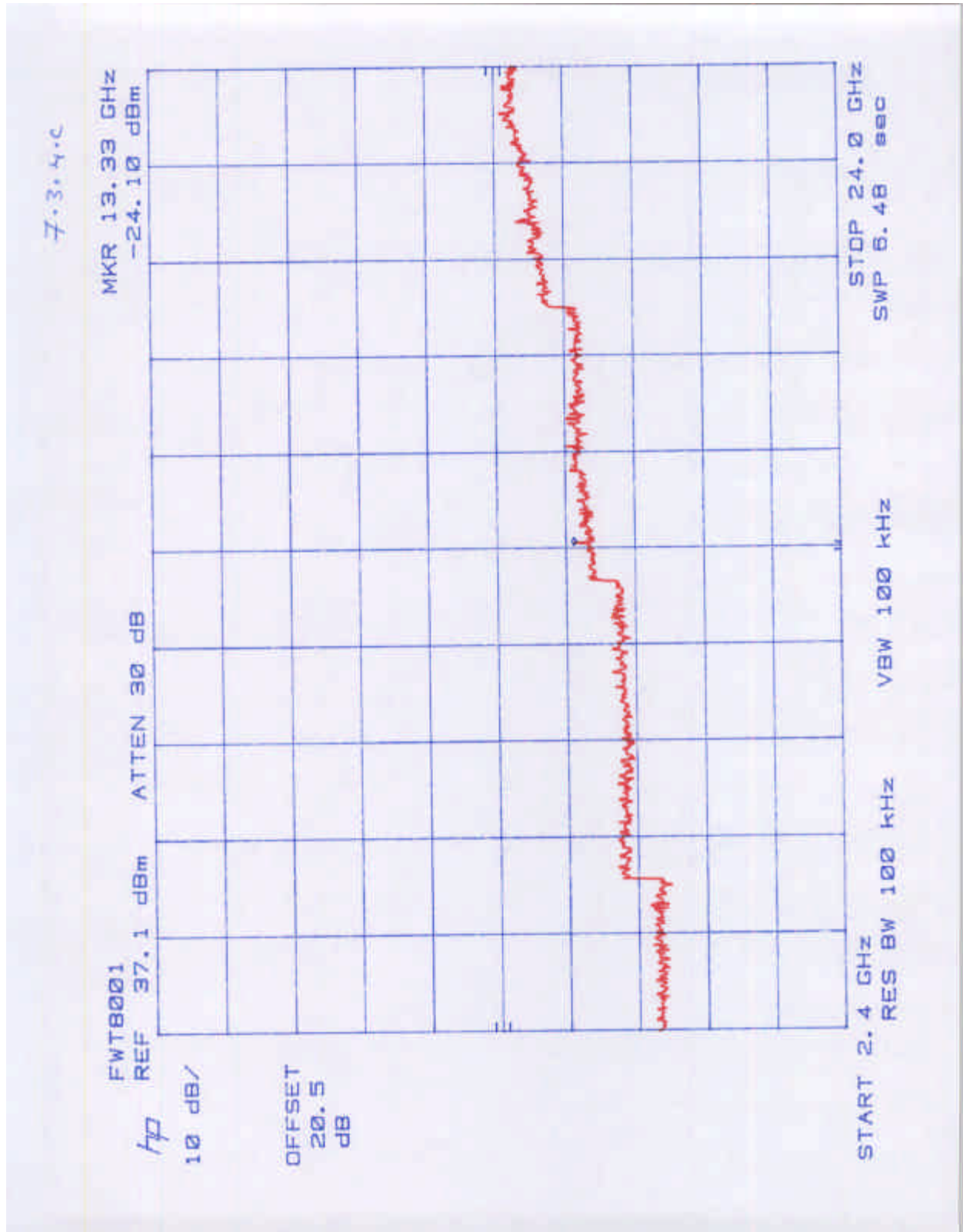


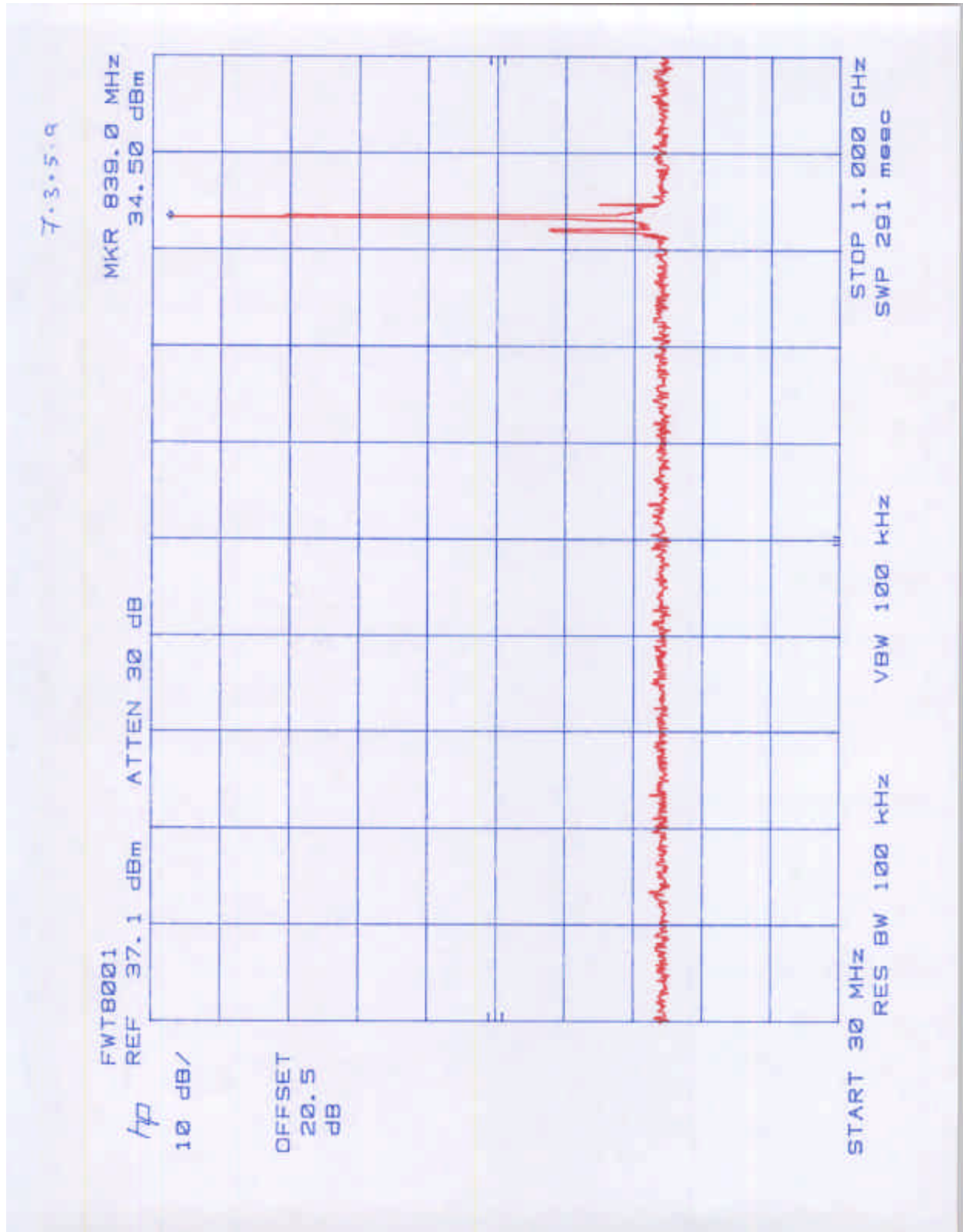


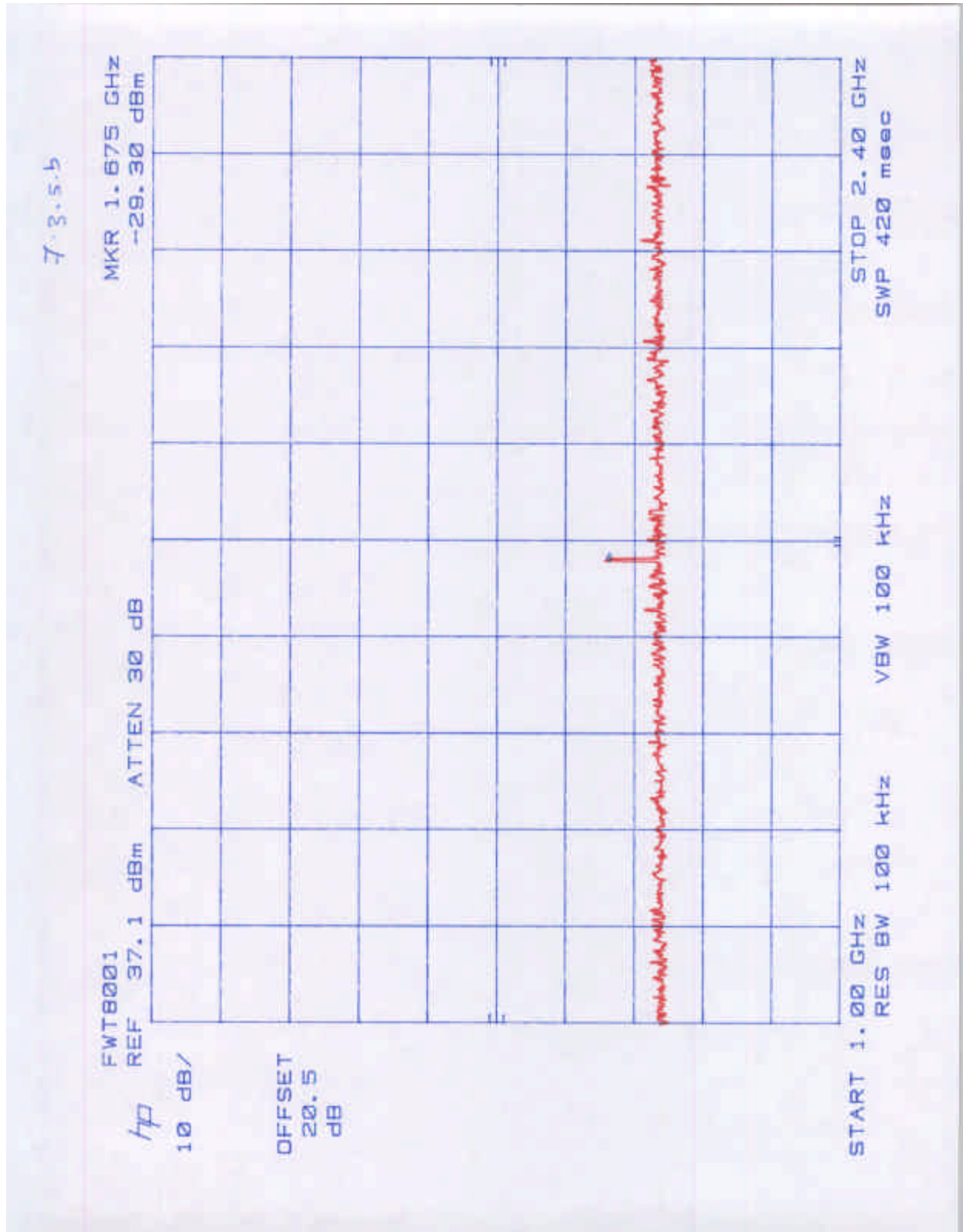


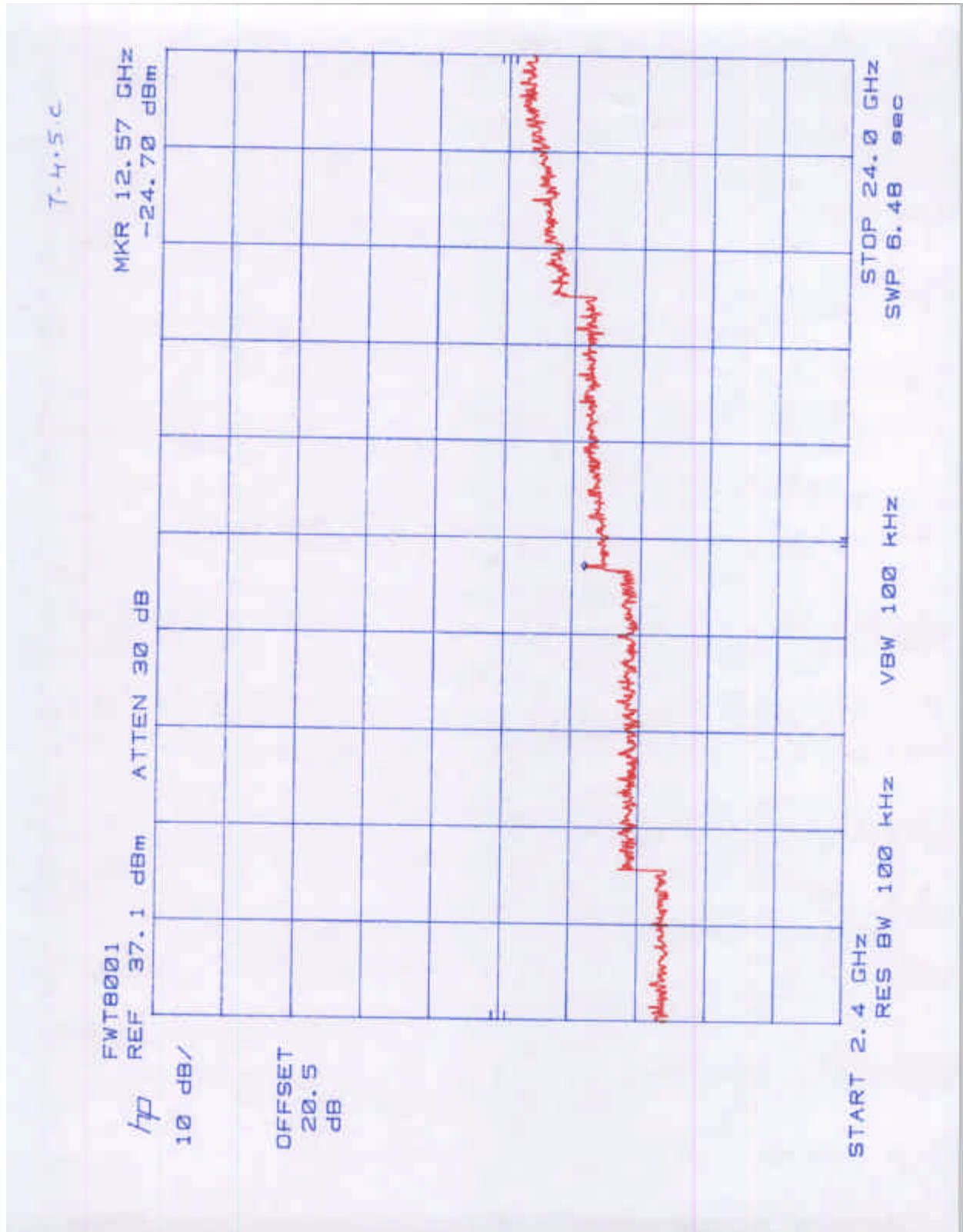


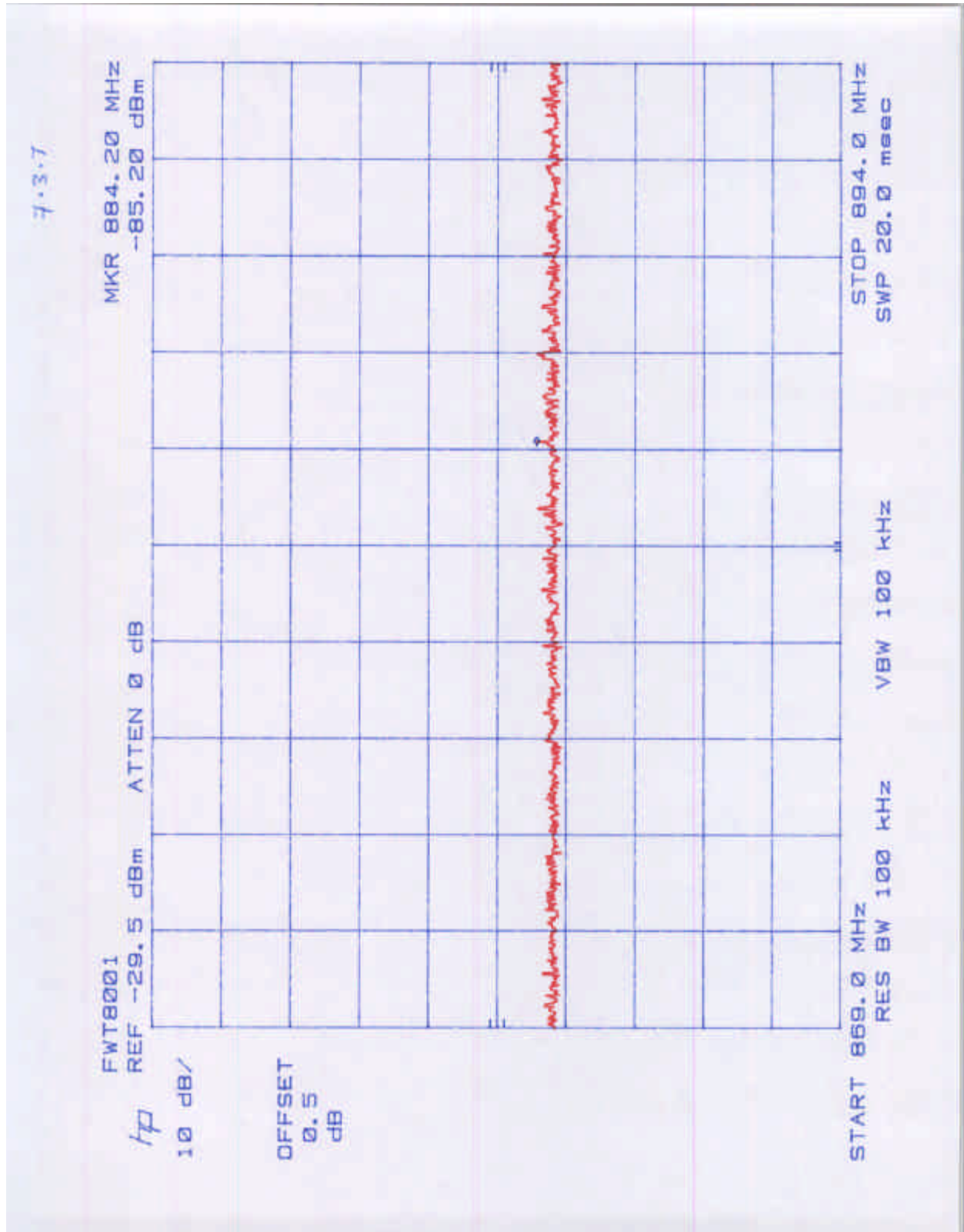


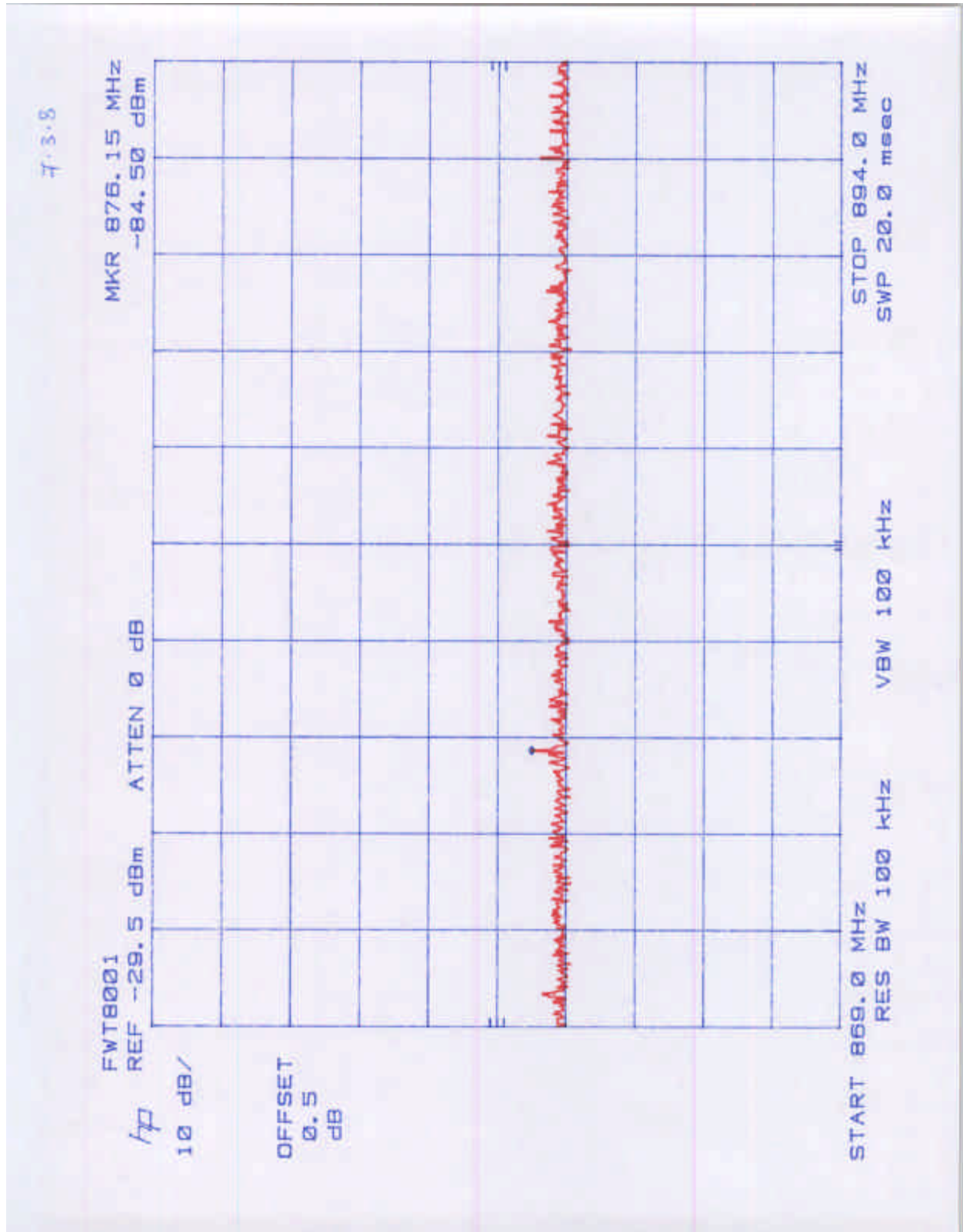


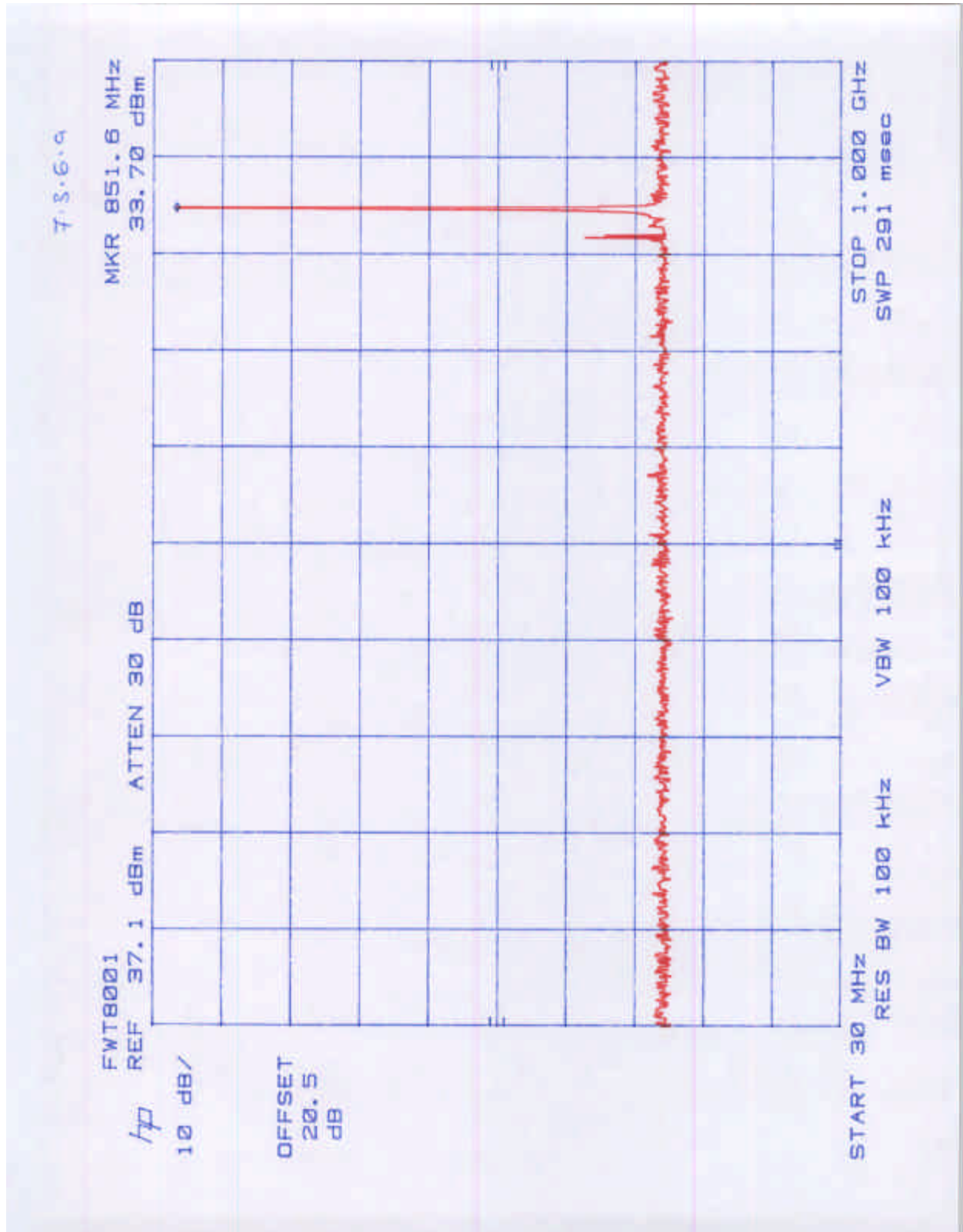


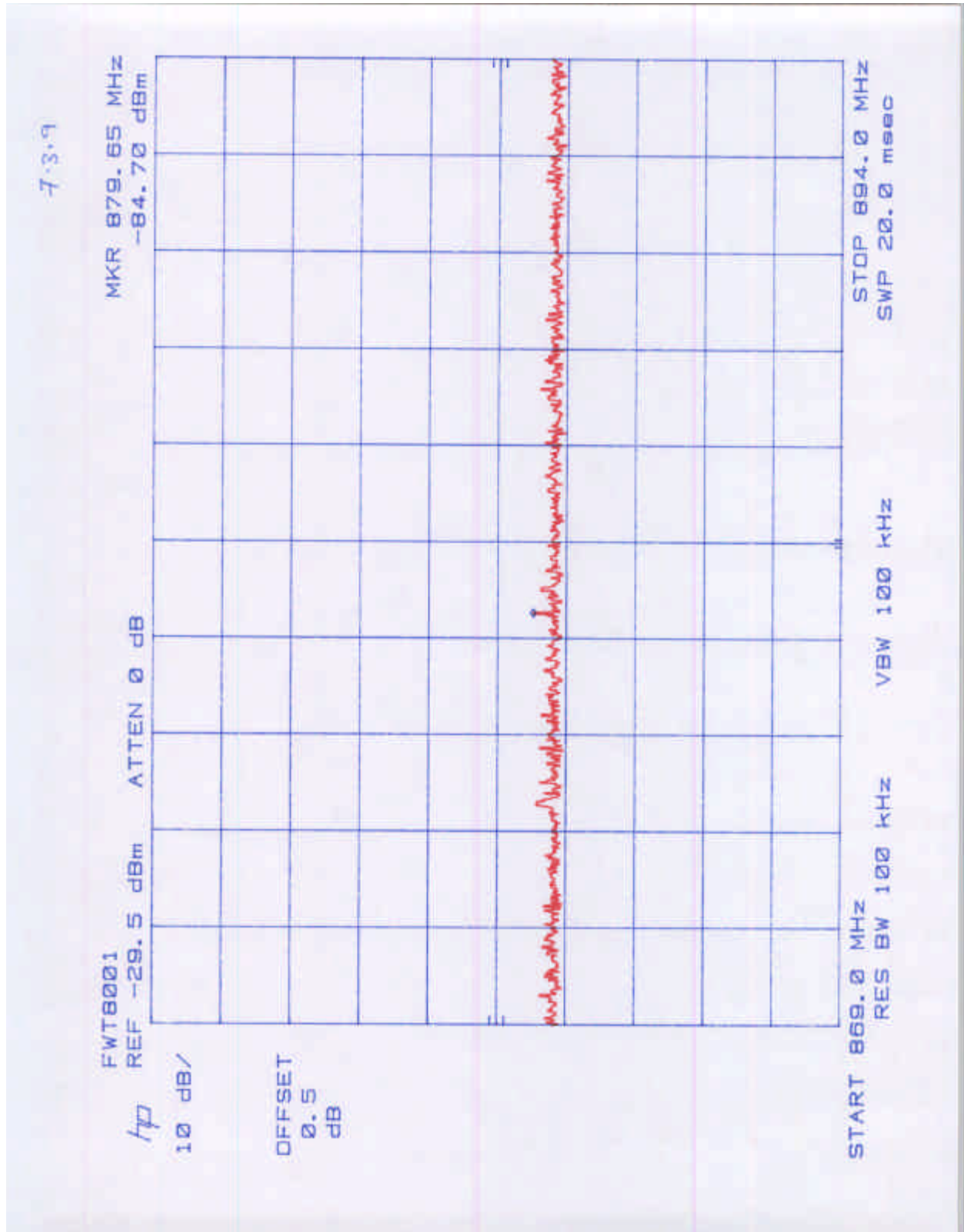


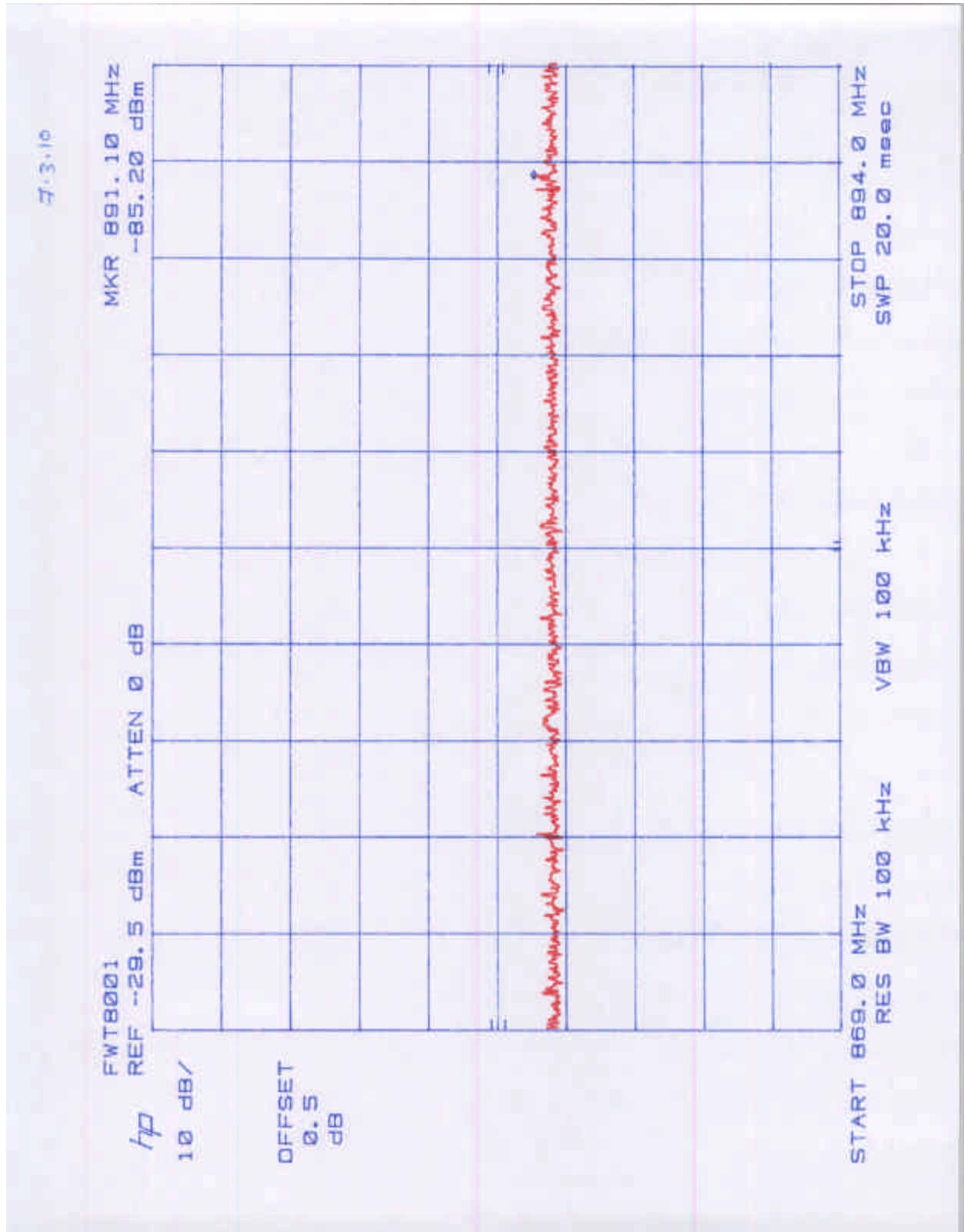


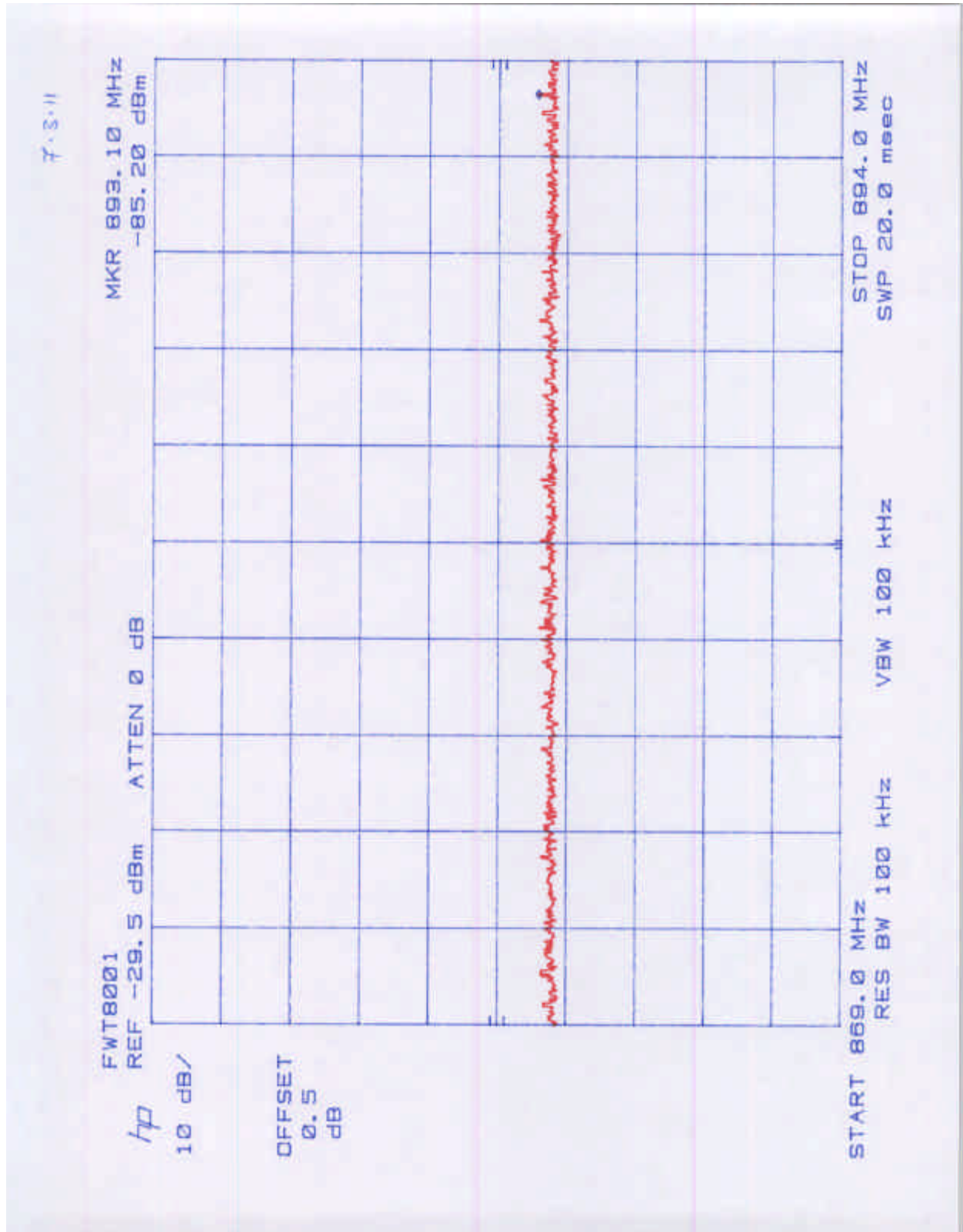


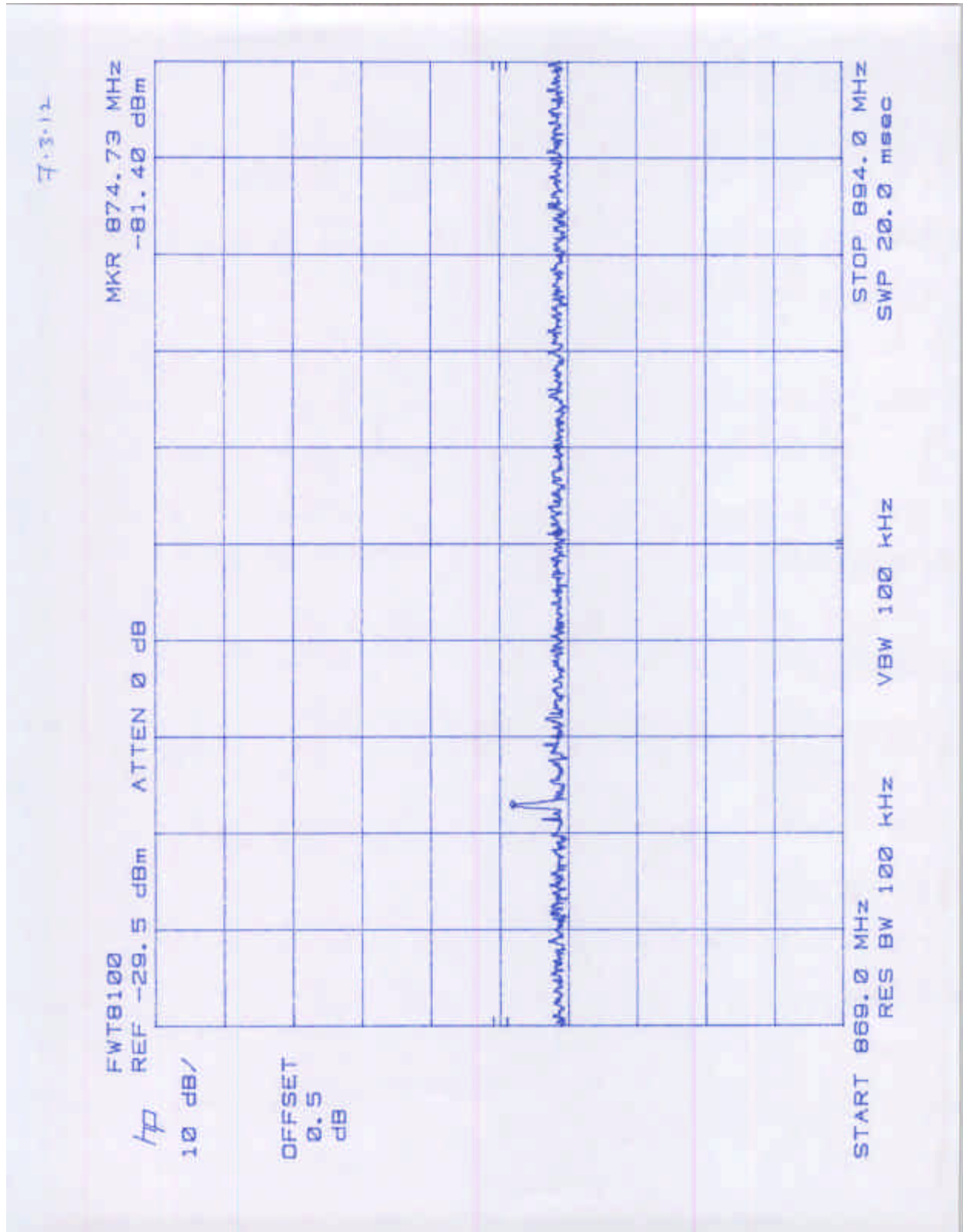












8.0 Field Strength of Spurious Radiation
FCC 2.1053**8.1 Test Procedure**

The frequency range up to tenth harmonic of each of the three fundamental frequencies (low, middle, and high channels) was investigated.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT.

At each spurious emission frequency the ERP was measured by the substitution method using a generator and horn antenna. The spurious emissions attenuation was calculated as the difference between ERP in dBm at the fundamental frequency (See Section 3) and at the spurious emissions frequency.

The radiated emissions from digital parts and receiver local oscillator were measured as well.

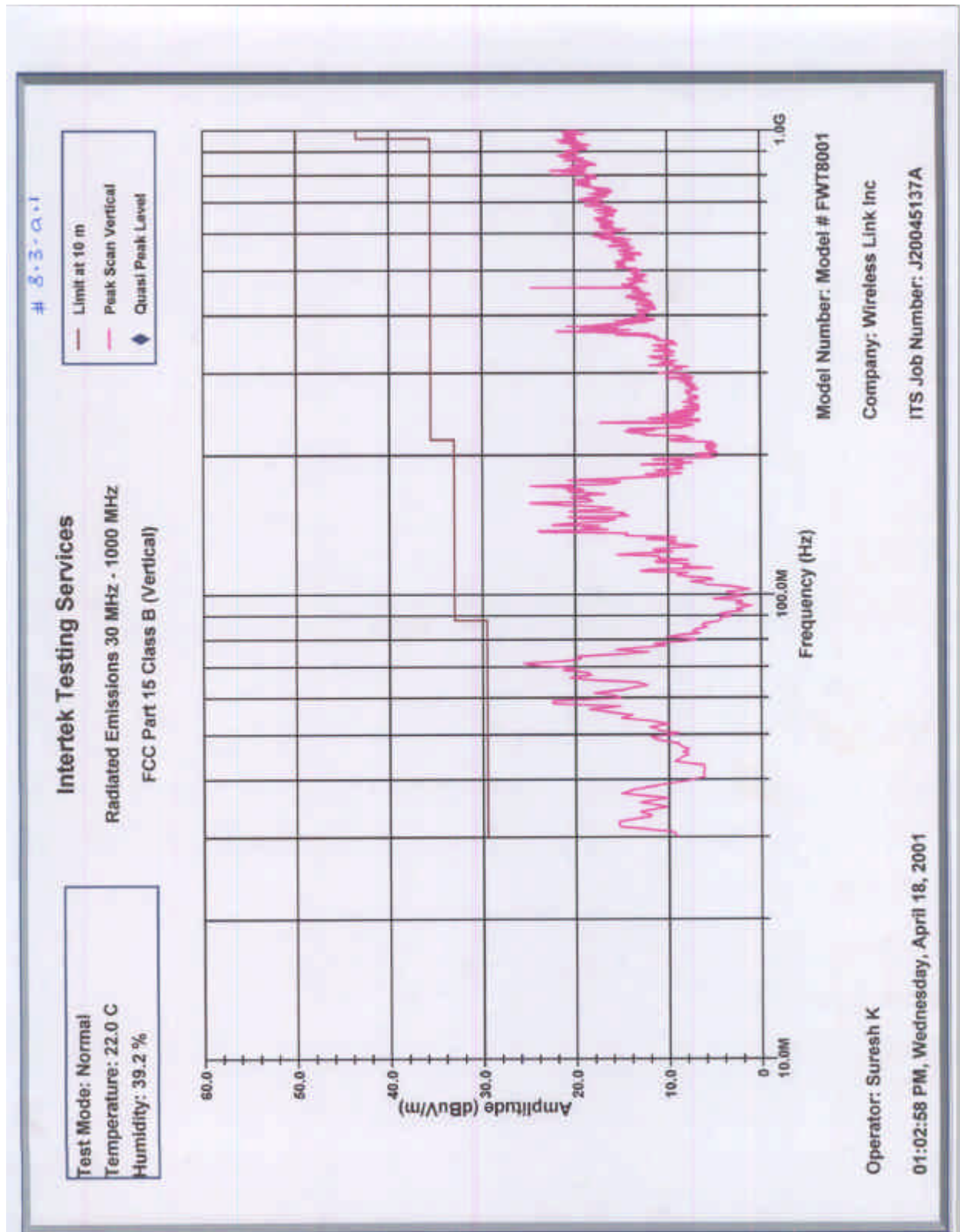
8.2 Test Equipment

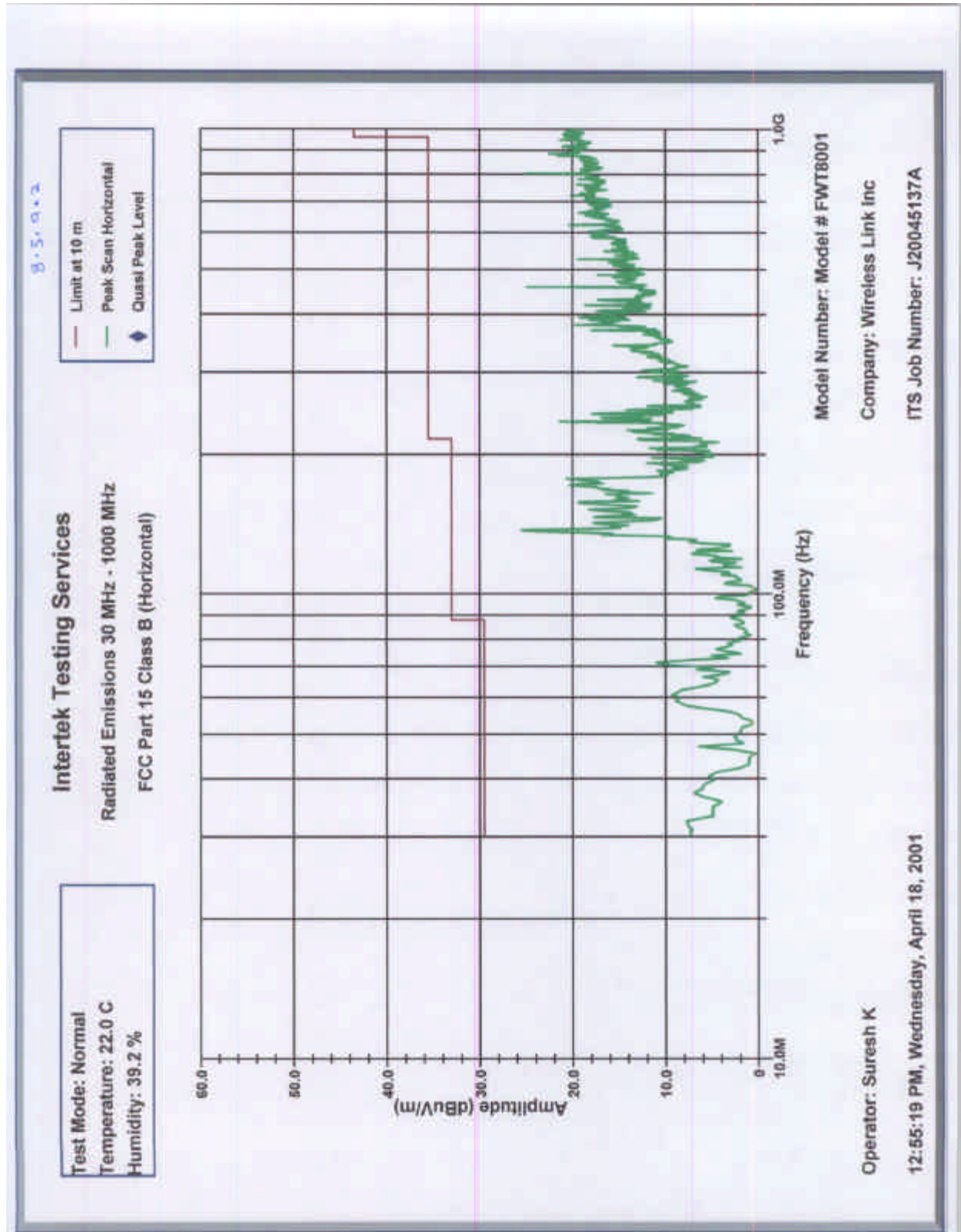
EMCO 3143 Bilog Antenna
EMCO 3115 Horn Antenna
HP 8566B Spectrum Analyzer
Tektronix 2782 Spectrum Analyzer
Low Pass Filter
Preamplifiers

8.3 Test Results

Test Result:	Passed, refer to the attached data sheets.
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Data Sheet No	Description
8.3.a	Radiated Emissions FCC 15B
8.3.b	Radiated Emissions, Receiver LO & Harmonics
8.3.c	Radiated Emissions Harmonics, AMPS Low Channel
8.3.d	Radiated Emissions Harmonics, AMPS Mid Channel
8.3.e	Radiated Emissions Harmonics, AMPS High Channel
8.3.f	Radiated Emissions Harmonics, TDMA Low Channel
8.3.g	Radiated Emissions Harmonics, TDMA Mid Channel
8.3.h	Radiated Emissions Harmonics, TDMA High Channel
8.3.i	Radiated Emissions by substitution method, Low Channel AMPS
8.3.j	Radiated Emissions by substitution method, Mid Channel AMPS
8.3.k	Radiated Emissions by substitution method, High Channel AMPS
8.3.i	Radiated Emissions by substitution method, Low Channel TDMA
8.3.j	Radiated Emissions by substitution method, Mid Channel TDMA
8.3.k	Radiated Emissions by substitution method, High Channel TDMA





8.3.4.3

Model Number: Model # FW2H001
ITS Job Number: J20045137A
Company: Wireless Link Inc

Intertek Testing Services
Radiated Emissions 30 MHz- 1000 MHz
FCC Part 15 Class B (Pk-Vertical)

Operator: Suresh K

01:03:01 PM, Wednesday, April 18, 2001

Frequency (MHz)	1 Peak Level (dBuV/m)	2 Limit@10m (dBuV/m)	3 Margin (dB)	4 Reading (dBuV)	5 CF (dB)
32.425 MHz	15.4	29.5	-14.1	34.7	-19.3
59.1 MHz	22.5	29.5	-7.0	48.0	-25.6
71.225 MHz	25.5	29.5	-4.0	47.0	-21.4
88.0 MHz	20.4	29.5	-9.1	25.3	-20.9
112.45 MHz	13.0	33.0	-20.0	37.0	-24.1
122.15 MHz	15.4	33.0	-17.6	36.4	-20.9
137.5083 MHz	24.0	33.0	-9.0	43.7	-19.7
157.7167 MHz	24.8	33.0	-8.2	43.4	-18.6
171.4583 MHz	24.8	33.0	-8.2	43.8	-19.0
216.0 MHz	16.3	33.0	-16.7	26.8	-17.3
224.8083 MHz	14.6	35.5	-20.9	31.9	-17.2
234.5083 MHz	17.4	35.5	-18.1	34.6	-17.1
369.5 MHz	21.9	35.5	-13.6	34.0	-12.1
379.2 MHz	20.8	35.5	-14.7	32.5	-11.7
458.4167 MHz	24.7	35.5	-10.8	34.2	-9.5
818.9333 MHz	22.6	35.5	-12.9	25.8	-3.2

Reading: Receiver Reading

CP: Correction Factor (includes Antenna Factor, Cable Loss, Preamp Gain, and Attenuator)

Page 1

[illegible]

8.3.b

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT 8100	Standard_	FCC § 15B
EUT:	Fixed Wireless Phone	S/N #:		Limits	2
Project #:	J20045167	Test Date:	April 19, 2001	Test Distance_	3 meters
Test Mode:	Receiver I.O Harmonics	Engineer:	Suresh K	Duty Relaxation	0 dB

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	14	2	5	8	0	21	0	0	0
Model:	0	EMCO 3115	EMCO 3143	CDI P9 50	CDI P1000	None	Gm M+L	None	None	None

Frequency	Reading	Detector	Ant.	Amp.	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	D. C. F.	Net	Limit @3m	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB	dB(μV/m)	dB(μV/m)	dB
988.68E+0	16.7	Peak	18	5	V	23.8	9.4	2.3	0.0	33.4	54.0	-20.6
1977.28E+0	22.7	Peak	14	8	V	26.6	29.2	2.2	0.0	22.3	54.0	-31.7
1001.19E+0	31.4	Peak	14	8	V	26.2	30.3	2.3	0.0	29.6	54.0	-24.4
2002.38E+0	24.0	Peak	14	8	V	30.1	29.1	2.3	0.0	27.3	54.0	-26.7
1013.61E+0	26.4	Peak	14	8	V	26.2	30.3	2.3	0.0	24.6	54.0	-29.4
2027.20E+0	25.0	Peak	14	8	V	30.1	29.1	2.3	0.0	28.3	54.0	-25.7

Notes:	a) D.C.F.:Distance Correction Factor
	b) Insert. Loss (dB) = Cable A + Cable B + Cable C .
	c) Net (dB) = Reading + Antenna Factor – Pre-amp + Insert. Loss. - Transducer Loss - Duty Relaxation (transmitter only).
	d) Negative signs (-) in Margin column signify levels below the limits.
	e) All other emissions not reported are below the equipment noise floor, which is at least 20 dB below the limits.

8.3.c

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT 8001	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:		Test Date:	April 18, 2001	TP	0.60 Watt
Test Mode:	Tx @824.04 AMPS	Engineer:	Suresh K	Min. Attn.	40.78 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	14	12	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3104	CDI P 1000	MC 15542	ACO/400	Grn M+L	None	None	None

2

Frequency	Reading	Detector	Ant.	Amp.	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	DB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
824.04	98.8	Peak	18	0	V	23.0	0.0	2.0	123.8	4.39E+02	0.0	N/A
1648.08	39.0	Peak	14	0	V	26.6	0.0	3.0	68.6	1.32E-03	55.2	-14.4
1648.08	37.3	Ave.	14	0	V	26.6	0.0	3.0	66.9	8.94E-04	56.9	-16.1
2472.12	47.2	Peak	14	8	V	30.1	28.5	2.3	51.1	2.35E-05	72.7	-31.9
2472.12	41.7	Ave.	14	8	V	30.1	28.5	2.3	45.6	6.63E-06	78.2	-37.4
3296.16	39.0	Peak	14	8	V	31.3	27.9	2.5	44.9	5.64E-06	78.9	-38.1
3296.16	32.0	Ave.	14	8	V	31.3	27.9	2.5	37.9	1.13E-06	85.9	-45.1
4120.20	35.1	Peak	14	8	V	34.2	27.9	2.9	44.3	4.91E-06	79.5	-38.7
4120.20	27.6	Ave.	14	8	V	34.2	27.9	2.9	36.8	8.74E-07	87.0	-46.2
4944.24	34.1	Peak	14	8	V	33.9	28.1	3.2	43.1	3.73E-06	80.7	-39.9
4944.24	22.3	Ave.	14	8	V	33.9	28.1	3.2	31.3	2.46E-07	92.5	-51.7
5768.28	36.0	Peak	14	8	V	36.1	28.3	3.7	47.5	1.03E-05	76.6	-35.8
5768.28	24.4	Ave.	14	8	V	36.1	28.3	3.7	35.9	7.13E-07	88.2	-47.4
6592.32	33.4	Peak	14	8	V	36.4	28.0	4.2	46.0	7.30E-06	78.1	-37.3
6592.32	21.6	Ave.	14	8	V	36.4	28.0	4.2	34.2	4.83E-07	89.9	-49.1
7416.36	33.3	Peak	14	8	V	38.0	28.0	4.3	47.7	1.08E-05	76.4	-35.6
7416.36	21.3	Ave.	14	8	V	38.0	28.0	4.3	35.7	6.81E-07	88.4	-47.6
8240.04	32.1	Peak	14	8	V	37.9	27.2	4.8	47.6	1.06E-05	76.5	-35.7
8240.04	20.5	Ave.	14	8	V	37.9	27.2	4.8	36.0	7.30E-07	88.1	-47.3

Notes:

- a) O.C.F.: Other Correction Factor
- b) Insert. Loss = Cable A + Cable B + Cable C + Transducer.
- c) Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
- d) Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
- e) Negative signs (-) in Margin column signify levels below the limits.

8.3.d

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT-8100	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:	J20045137	Test Date:	April 18, 2001	TP	0.60 Watt
Test Mode:	Tx @836.55 AMPS Mode	Engineer:	Suresh K	Min. Attn.	40.78 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	8	14	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3115	CDI P100 0	MC 15542	ACO/400	Gm M+L	None	None	None

2

Frequency	Reading	Detector	Ant #	Amp. #	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
836.55	98.8	Peak	18	0	V	23.3	0.0	2.0	124.1	4.70E+02	0.0	N/A
1673.10	35.2	Peak	14	0	V	26.6	0.0	3.0	64.8	5.54E-04	59.3	-18.5
1673.10	30.7	Ave.	14	0	V	26.6	0.0	3.0	60.3	1.96E-04	63.8	-23.0
2509.65	39.9	Peak	14	8	V	30.4	28.5	2.3	44.1	4.70E-06	80.0	-39.2
2509.65	34.8	Ave.	14	8	V	30.4	28.5	2.3	39.0	1.46E-06	85.1	-44.3
3346.20	38.6	Peak	14	8	V	31.3	27.9	2.5	44.5	5.17E-06	79.6	-38.8
3346.20	30.1	Ave.	14	8	V	31.3	27.9	2.5	36.0	7.30E-07	88.1	-47.3
4182.75	37.4	Peak	14	8	V	34.2	27.9	2.9	46.6	8.38E-06	77.5	-36.7
4182.75	29.3	Ave.	14	8	V	34.2	27.9	2.9	38.5	1.30E-06	85.6	-44.8
5019.30	35.3	Peak	14	8	V	35.4	28.3	3.5	45.9	7.13E-06	78.2	-37.4
5019.30	24.0	Ave.	14	8	V	35.4	28.3	3.5	34.6	5.29E-07	89.5	-48.7
5855.85	36.0	Peak	14	8	V	36.1	28.3	3.7	47.5	1.03E-05	76.6	-35.8
5855.85	24.4	Ave.	14	8	V	36.1	28.3	3.7	35.9	7.13E-07	88.2	-47.4
6692.40	33.4	Peak	14	8	V	36.4	28.0	4.2	46.0	7.30E-06	78.1	-37.3
6692.40	21.6	Ave.	14	8	V	36.4	28.0	4.2	34.2	4.83E-07	89.9	-49.1
7528.95	33.3	Peak	14	8	V	37.8	28.0	4.6	47.7	1.08E-05	76.4	-35.6
7528.95	21.3	Ave.	14	8	V	37.8	28.0	4.6	35.7	6.81E-07	88.4	-47.6
8365.50	32.1	Peak	14	8	V	37.9	27.2	4.8	47.6	1.06E-05	76.5	-35.7
8365.50	20.5	Ave.	14	8	V	37.9	27.2	4.8	36.0	7.30E-07	88.1	-47.3

Notes:

- O.C.F.: Other Correction Factor
- Insert. Loss = Cable A + Cable B + Cable C + Transducer.
- Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
- Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
- Negative signs (-) in Margin column signify levels below the limits.

8.3.e

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT-8100	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:		Test Date:	April 18, 2001	TP	0.60 Watt
Test Mode:	Tx @ 848.97MHz AMPS	Engineer:	Suresh K	Min. Attn.	40.78 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	14	12	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3104	CDI P100 0	MC 15542	ACO/400	Gm M+L	None	None	None

2

Frequency	Reading	Detector	Ant #	Amp. #	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
848.97	96.7	Peak	18	0	V	23.3	0.0	2.0	122.0	2.90E+02	0.0	N/A
1697.94	39.3	Peak	14	0	V	26.6	0.0	3.0	68.9	1.42E-03	53.1	-12.3
1697.94	37.3	Ave.	14	0	V	26.6	0.0	3.0	66.9	8.94E-04	55.1	-14.3
2546.91	46.0	Peak	14	8	V	30.4	28.5	2.3	50.2	1.91E-05	71.8	-31.0
2546.91	44.3	Ave.	14	8	V	30.4	28.5	2.3	48.5	1.29E-05	73.5	-32.7
3395.88	37.4	Peak	14	8	V	31.3	27.9	2.5	43.3	3.90E-06	78.7	-37.9
3395.88	29.4	Ave.	14	8	V	31.3	27.9	2.5	35.3	6.18E-07	86.7	-45.9
4244.85	37.6	Peak	14	8	V	34.2	27.9	2.9	46.8	8.74E-06	75.2	-34.4
4244.85	31.1	Ave.	14	8	V	34.2	27.9	2.9	40.3	1.96E-06	81.7	-40.9
5093.82	34.5	Peak	14	8	V	35.4	28.3	3.5	45.1	5.91E-06	76.9	-36.1
5093.82	23.7	Ave.	14	8	V	35.4	28.3	3.5	34.3	4.91E-07	87.7	-46.9
5942.79	36.0	Peak	14	8	V	36.1	28.3	3.7	47.5	1.03E-05	76.6	-35.8
5942.79	24.4	Ave.	14	8	V	36.1	28.3	3.7	35.9	7.13E-07	88.2	-47.4
6791.76	33.4	Peak	14	8	V	36.4	28.0	4.2	46.0	7.30E-06	78.1	-37.3
6791.76	21.6	Ave.	14	8	V	36.4	28.0	4.2	34.2	4.83E-07	89.9	-49.1
7640.73	33.3	Peak	14	8	V	37.8	28.0	4.6	47.7	1.08E-05	76.4	-35.6
7640.73	21.3	Ave.	14	8	V	37.8	28.0	4.6	35.7	6.81E-07	88.4	-47.6
8489.70	32.1	Peak	14	8	V	37.9	27.2	4.8	47.6	1.06E-05	76.5	-35.7
8489.70	20.5	Ave.	14	8	V	37.9	27.2	4.8	36.0	7.30E-07	88.1	-47.3

Notes:

- a) O.C.F.: Other Correction Factor
- b) Insert. Loss = Cable A + Cable B + Cable C + Transducer.
- c) Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
- d) Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
- e) Negative signs (-) in Margin column signify levels below the limits.

8.3.f

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT-8100	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:	J20045167	Test Date:	April 19, 2001	TP	3.00 Watt
Test Mode:	Tx @824.04 TDMA Mode	Engineer:	Suresh K	Min. Attn.	47.77 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	8	14	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3115	CDI P100 0	MC 15542	ACO/400	Grn M+L	None	None	None

2

Frequency	Reading	Detector	Ant	Amp.	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
824.04	111.5	Peak	18	0	V	23.0	0.0	2.0	136.5	8.17E+03	0.0	N/A
1648.08	48.6	Peak	14	0	V	26.6	0.0	3.0	78.2	1.21E-02	58.3	-10.5
1648.08	46.9	Ave.	14	0	V	26.6	0.0	3.0	76.5	8.17E-03	60.0	-12.2
2472.12	55.0	Peak	14	8	V	30.1	28.5	2.3	58.9	1.42E-04	77.6	-29.8
2472.12	51.9	Ave.	14	8	V	30.1	28.5	2.3	55.8	6.94E-05	80.7	-32.9
3296.16	52.1	Peak	14	8	V	31.3	27.9	2.5	58.0	1.15E-04	78.5	-30.7
3296.16	48.9	Ave.	14	8	V	31.3	27.9	2.5	54.8	5.51E-05	81.7	-33.9
4120.20	53.2	Peak	14	8	V	34.2	27.9	2.9	62.4	3.17E-04	74.1	-26.3
4120.20	45.4	Ave.	14	8	V	34.2	27.9	2.9	54.6	5.26E-05	81.9	-34.1
4944.24	49.2	Peak	14	8	V	33.9	28.1	3.2	58.2	1.21E-04	78.3	-30.5
4944.24	44.6	Ave.	14	8	V	33.9	28.1	3.2	53.6	4.18E-05	82.9	-35.1
5768.28	49.9	Peak	14	8	V	36.1	28.3	3.7	61.4	2.52E-04	75.1	-27.3
5768.28	44.4	Ave.	14	8	V	36.1	28.3	3.7	55.9	7.10E-05	80.6	-32.8
6592.32	58.2	Peak	14	8	V	36.4	28.0	4.2	70.8	2.19E-03	65.7	-17.9
6592.32	55.8	Ave.	14	8	V	36.4	28.0	4.2	68.4	1.26E-03	68.1	-20.3
7416.36	37.2	Peak	14	8	V	38.0	28.0	4.3	51.5	2.58E-05	85.0	-37.2
7416.36	27.6	Ave.	14	8	V	38.0	28.0	4.3	41.9	2.83E-06	94.6	-46.8
8240.40	38.5	Peak	14	8	V	37.9	27.2	4.8	54.0	4.58E-05	82.5	-34.7
8240.40	29.3	Ave.	14	8	V	37.9	27.2	4.8	44.8	5.52E-06	91.7	-43.9

Notes:	a) O.C.F.: Other Correction Factor
	b) Insert. Loss = Cable A + Cable B + Cable C + Transducer.
	c) Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
	d) Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
	e) Negative signs (-) in Margin column signify levels below the limits.

8.3.g

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT-8100	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:	J20045167	Test Date:	April 19, 2001	TP	3.00 Watt
Test Mode:	Tx @836.55 TDMA Mode	Engineer:	Suresh K	Min. Attn.	47.77 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	8	14	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3115	CDI P100 0	MC 15542	ACO/400	Gm M+L	None	None	None

2

Frequency	Reading	Detector	Ant	Amp.	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
836.55	110.6	Peak	18	0	V	23.3	0.0	2.0	135.9	7.12E+03	0.0	N/A
1673.10	51.7	Peak	14	0	V	26.6	0.0	3.0	81.3	2.46E-02	54.6	-6.8
1673.10	37.9	Ave.	14	0	V	26.6	0.0	3.0	67.5	1.03E-03	68.4	-20.6
2509.65	54.1	Peak	14	8	V	30.4	28.5	2.3	58.3	1.23E-04	77.6	-29.8
2509.65	50.8	Ave.	14	8	V	30.4	28.5	2.3	55.0	5.77E-05	80.9	-33.1
3346.20	55.0	Peak	14	8	V	31.3	27.9	2.5	60.9	2.25E-04	75.0	-27.2
3346.20	52.3	Ave.	14	8	V	31.3	27.9	2.5	58.2	1.21E-04	77.7	-29.9
4182.75	54.3	Peak	14	8	V	34.2	27.9	2.9	63.5	4.09E-04	72.4	-24.6
4182.75	47.5	Ave.	14	8	V	34.2	27.9	2.9	56.7	8.54E-05	79.2	-31.4
5019.30	52.6	Peak	14	8	V	35.4	28.3	3.5	63.2	3.81E-04	72.7	-24.9
5019.30	48.2	Ave.	14	8	V	35.4	28.3	3.5	58.8	1.38E-04	77.1	-29.3
5855.85	46.6	Peak	14	8	V	36.1	28.3	3.7	58.1	1.18E-04	77.8	-30.0
5855.85	41.4	Ave.	14	8	V	36.1	28.3	3.7	52.9	3.56E-05	83.0	-35.2
6692.40	55.3	Peak	14	8	V	36.4	28.0	4.2	67.9	1.13E-03	68.0	-20.2
6692.40	51.3	Ave.	14	8	V	36.4	28.0	4.2	63.9	4.48E-04	72.0	-24.2
7528.95	40.1	Peak	14	8	V	37.8	28.0	4.6	54.5	5.14E-05	81.4	-33.6
7528.95	35.1	Ave.	14	8	V	37.8	28.0	4.6	49.5	1.63E-05	86.4	-38.6
8365.50	36.6	Peak	14	8	V	37.9	27.2	4.8	52.1	2.96E-05	83.8	-36.0
8365.50	29.3	Ave.	14	8	V	37.9	27.2	4.8	44.8	5.52E-06	91.1	-43.3

Notes:

- O.C.F.: Other Correction Factor
- Insert. Loss = Cable A + Cable B + Cable C + Transducer.
- Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
- Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
- Negative signs (-) in Margin column signify levels below the limits.

8.3.h

Radiated Emissions Test Data

Company:	Wireless Link Inc	Model #:	FWT-8100	Req.	FCC 2.993
EUT:	Fixed Wireless Phone	S/N or FCC #:		Test Dist.	3 meters
Project #:	J20045137	Test Date:	April 19, 2001	TP	3.00 Watt
Test Mode:	Tx @ 848.97MHz TDMA	Engineer:	Suresh K	Min. Attn.	47.77 dBc

	Antenna Used			Pre-Amp Used			Cable Used			Transducer Used
Number:	18	14	12	8	3	13	21	0	0	0
Model:	0	EMCO 3115	EMCO 3104	CDI P100 0	MC 15542	ACO/400	Gm M+L	None	None	None

2

Frequency	Reading	Detector	Ant #	Amp. #	Ant. Pol.	Ant. Factor	Pre-Amp	Insert. Loss	Net	ERP	Attn.	Margin
MHz	dB(μV)	P/A/Q	#	#	H/V	dB(1/m)	dB	dB	dB(μV/m)	mW	dBc	dB
848.97	109.5	Peak	18	0	V	23.3	0.0	2.0	134.8	5.52E+03	0.0	N/A
1697.94	50.3	Peak	14	0	V	26.6	0.0	3.0	79.9	1.78E-02	54.9	-7.1
1697.94	47.1	Ave.	14	0	V	26.6	0.0	3.0	76.7	8.54E-03	58.1	-10.3
2546.91	56.0	Peak	14	8	V	30.4	28.5	2.3	60.2	1.91E-04	74.6	-26.8
2546.91	52.7	Ave.	14	8	V	30.4	28.5	2.3	56.9	8.94E-05	77.9	-30.1
3395.88	50.7	Peak	14	8	V	31.3	27.9	2.5	56.6	8.34E-05	78.2	-30.4
3395.88	44.2	Ave.	14	8	V	31.3	27.9	2.5	50.1	1.87E-05	84.7	-36.9
4244.85	47.8	Peak	14	8	V	34.2	27.9	2.9	57.0	9.15E-05	77.8	-30.0
4244.85	40.7	Ave.	14	8	V	34.2	27.9	2.9	49.9	1.78E-05	84.9	-37.1
5093.82	43.0	Peak	14	8	V	35.4	28.3	3.5	53.6	4.18E-05	81.2	-33.4
5093.82	33.1	Ave.	14	8	V	35.4	28.3	3.5	43.7	4.28E-06	91.1	-43.3
5942.79	47.5	Peak	14	8	V	36.1	28.3	3.7	59.0	1.45E-04	75.8	-28.0
5942.79	41.4	Ave.	14	8	V	36.1	28.3	3.7	52.9	3.56E-05	81.9	-34.1
6791.76	52.3	Peak	14	8	V	36.4	28.0	4.2	64.9	5.64E-04	69.9	-22.1
6791.76	46.0	Ave.	14	8	V	36.4	28.0	4.2	58.6	1.32E-04	76.2	-28.4
7640.73	37.4	Peak	14	8	V	37.8	27.8	4.6	52.0	2.89E-05	82.8	-35.0
7640.73	30.9	Ave.	14	8	V	37.8	27.8	4.6	45.5	6.48E-06	89.3	-41.5
8489.70	33.9	Peak	14	8	V	37.9	27.1	4.8	49.5	1.63E-05	85.3	-37.5
8489.70	28.0	Ave.	14	8	V	37.9	27.1	4.8	43.6	4.18E-06	91.2	-43.4

Notes:

- a) O.C.F.: Other Correction Factor
- b) Insert. Loss = Cable A + Cable B + Cable C + Transducer.
- c) Net = Reading + Antenna Factor - Pre-Amp + Insert. Loss.
- d) Attn. = Field Strength (Fundamental) - Field Strength (Harmonics).
- e) Negative signs (-) in Margin column signify levels below the limits.

8.3.i

Spurious Emissions Attenuation Measured by Substitution Method

Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 AMPS Mode

Frequency MHz	Field from EUT dBuV/m	Signal Generator Level required to generate same field as EUT; dBm	ERP DBm	Attenuation DBm	Limit dB	Margin
821.00	127.8		24.3	-		
1642.00	68.6	-40.70	-35.8	60.1	46.01	-14.1
2463.00	51.1	-56.40	-50.90	75.20	46.01	-29.2
3284.00	44.9	-59.80	-53.80	78.10	46.01	-32.1
4105.00	44.3	-59.50	-53.50	77.80	46.01	-31.8
4926.00	43.1	-62.20	-55.60	79.90	46.01	-33.9
5747.00	47.5	-58.00	-51.40	75.70	46.01	-29.7
6568.00	46.0	-59.80	-51.90	76.20	46.01	-30.2
7389.00	47.7	-57.50	-49.70	74.00	46.01	-28.0
8210.00	47.6	-59.20	-50.30	74.60	46.01	-28.6

8.3.J

Spurious Emissions Attenuation Measured by Substitution Method

Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 AMPS Mode

Frequency MHz	Field from EUT dBuv/m	Signal Generator Level required to generate same field as EUT; dBm	ERP DBm	Attenuation dBm	Limit dB	Margin
836.55	125.8		24.3	-		
1673.10	64.8	-44.59	-39.7	64.0	46.01	-18.0
2509.65	44.1	-64.29	-58.79	83.09	46.01	-37.1
3346.20	44.5	-63.89	-57.89	82.19	46.01	-36.2
4182.75	46.6	-61.29	-55.29	79.59	46.01	-33.6
5019.30	45.9	-61.39	-54.79	79.09	46.01	-33.1
5855.85	47.5	-60.39	-53.79	78.09	46.01	-32.1
6692.40	46.0	-61.49	-53.59	77.89	46.01	-31.9
7528.95	47.7	-60.99	-53.19	77.49	46.01	-31.5
8365.50	47.6	-59.59	-50.69	74.99	46.01	-29.0

8.3.K

Spurious Emissions Attenuation Measured by Substitution Method

Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 AMPS Mode

Frequency	Field from EUT	Signal Generator Level required to generate same field as EUT; dBm	ERP	Attenuation	Limit	Margin
MHz	dBuv/m		DBm	dBm	dB	
848.97	126.0		22.7	-		
1697.94	68.9	-40.29	-35.4	58.1	46.01	-12.1
2546.91	50.2	-58.09	-52.59	75.29	46.01	-29.3
3395.88	43.3	-64.99	-58.99	81.69	46.01	-35.7
4244.85	46.8	-60.79	-54.79	77.49	46.01	-31.5
5093.82	45.1	-62.29	-55.69	78.39	46.01	-32.4
5942.79	47.5	-60.09	-53.49	76.19	46.01	-30.2
6791.76	46.0	-61.09	-53.19	75.89	46.01	-29.9
7640.73	47.7	-59.09	-51.29	73.99	46.01	-28.0
8489.70	47.6	-59.19	-50.29	72.99	46.01	-27.0

8.3.L

Spurious Emissions Attenuation Measured by Substitution Method

Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 TDMA Mode

Frequency	Field from EUT	Signal Generator Level required to generate same field as EUT; dBm	ERP	Attenuation	Limit	Margin
MHz	dBuV/m		DBm	dBm	dB	
824.04	136.6		33.0	-		
1648.08	78.2	-31.49	-26.6	59.6	46.01	-13.6
2472.12	58.9	-49.59	-44.09	77.09	46.01	-31.1
3296.16	58.0	-50.49	-44.49	77.49	46.01	-31.5
4120.20	62.4	-45.29	-39.29	72.29	46.01	-26.3
4944.24	58.2	-49.09	-42.49	75.49	46.01	-29.5
5768.28	61.4	-46.39	-39.79	72.79	46.01	-26.8
6592.32	70.8	-36.59	-28.69	61.69	46.01	-15.7
7416.36	51.5	-55.19	-47.39	80.39	46.01	-34.4
8240.40	54.0	-53.19	-44.29	77.29	46.01	-31.3

8.3.m

Spurious Emissions Attenuation Measured by Substitution Method

Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 TDMA Mode

Frequency	Field from EUT	Signal Generator Level required to generate same field as EUT; dBm	ERP	Attenuation	Limit	Margin
MHz	dBuv/m		DBm	dBm	dB	
836.55	135.9		32.5	-		
1673.10	81.3	-28.09	-23.2	55.7	46.01	-9.7
2509.65	58.3	-50.09	-44.59	77.09	46.01	-31.1
3346.20	60.9	-47.49	-41.49	73.99	46.01	-28.0
4182.75	63.5	-44.39	-38.39	70.89	46.01	-24.9
5019.30	63.2	-44.09	-37.49	69.99	46.01	-24.0
5855.85	58.8	-49.09	-42.49	74.99	46.01	-29.0
6692.40	67.9	-39.59	-31.69	64.19	46.01	-18.2
7528.95	54.5	-54.19	-46.39	78.89	46.01	-32.9
8365.50	52.1	-55.09	-46.19	78.69	46.01	-32.7

8.3.n

Spurious Emissions Attenuation Measured by Substitution Method

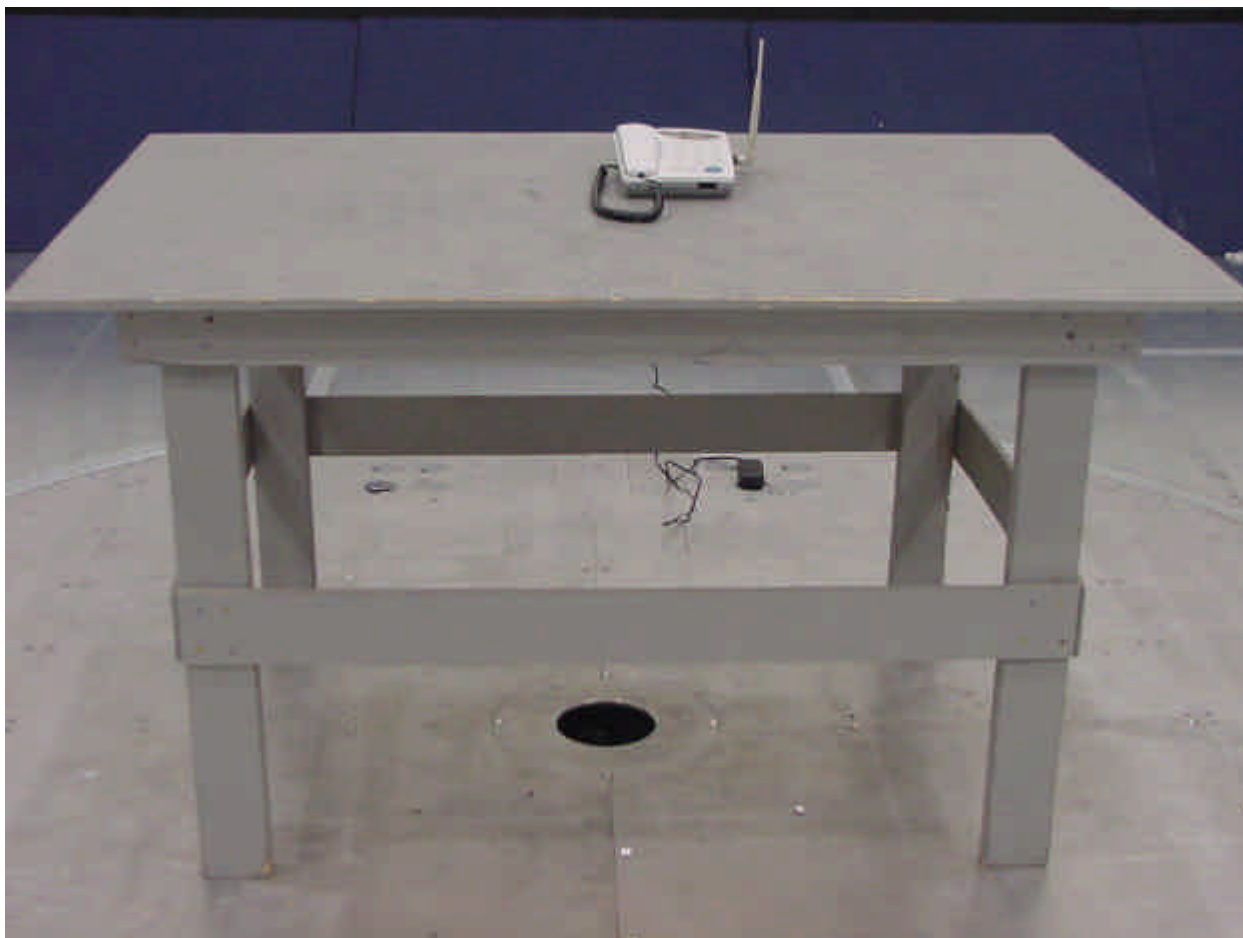
Company: Wireless Link EUT: Fixed wireless Phone

Model: FWT-8100 TDMA Mode

Frequency MHz	Field from EUT dBuV/m	Signal Generator Level required to generate same field as EUT; dBm	ERP DBm	Attenuation dBm	Limit dB	Margin
848.97	135.0		31.7	-		
1697.94	79.9	-29.29	-24.4	56.1	46.01	-10.1
2546.91	60.2	-48.09	-42.59	74.29	46.01	-28.3
3395.88	56.6	-51.69	-45.69	77.39	46.01	-31.4
4244.85	57.0	-50.59	-44.59	76.29	46.01	-30.3
5093.82	53.6	-53.79	-47.19	78.89	46.01	-32.9
5942.79	59.0	-48.59	-41.99	73.69	46.01	-27.7
6791.76	64.9	-42.19	-34.29	65.99	46.01	-20.0
7640.73	52.0	-54.79	-46.99	78.69	46.01	-32.7
8489.70	49.5	-57.29	-48.39	80.09	46.01	-34.1

8.4 Radiated Emission Photographs

Radiated Emission Test Setup



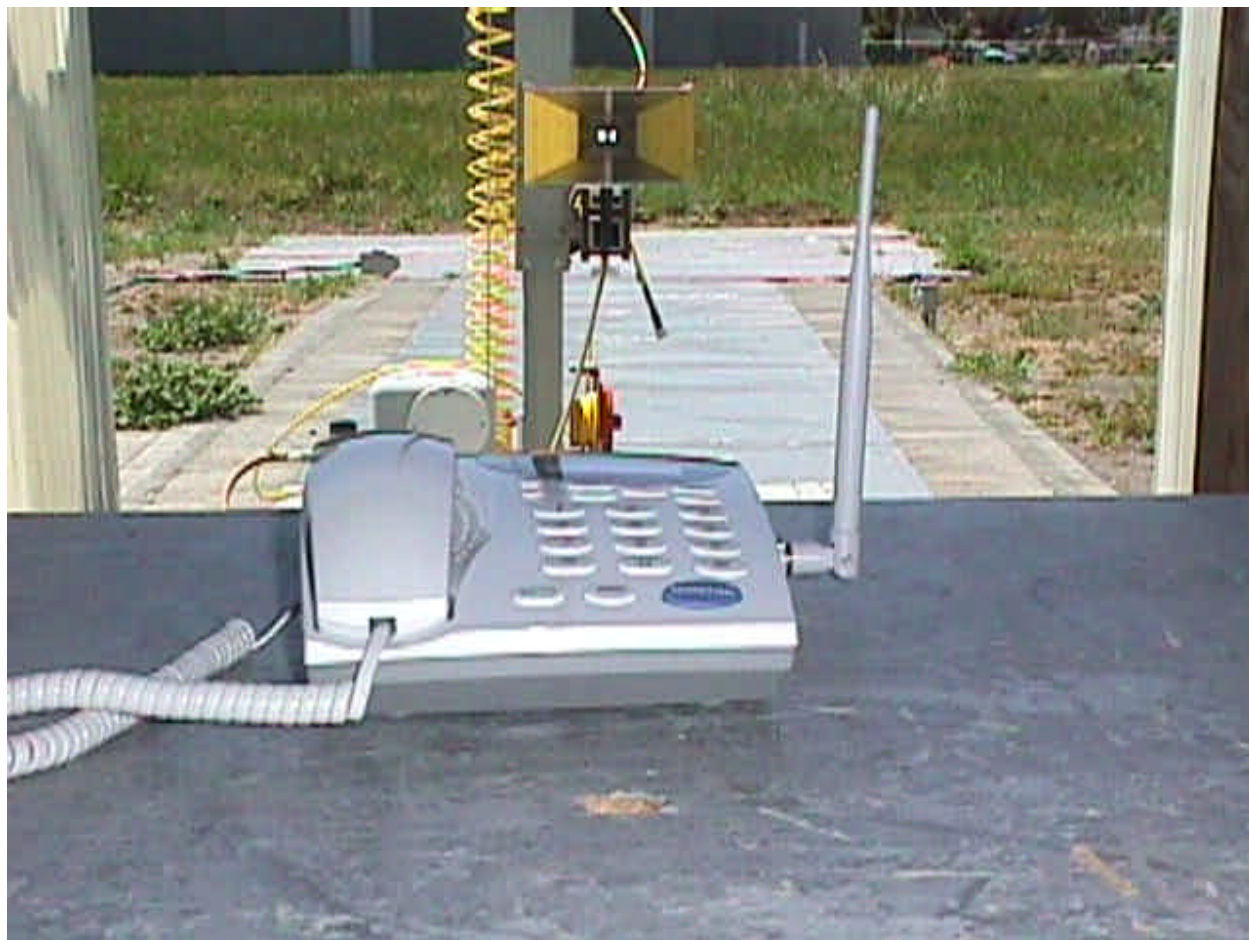
8.4 Radiated Emission Photographs (Continued)

Radiated Emission Test Setup



8.4 Radiated Emission Photographs (Continued)

Radiated Emission Test Setup



9.0 Line Conducted Emissions
FCC 15.107

9.1 Test Procedure

Test procedure described in the ANSI C63.4 Standard was employed.

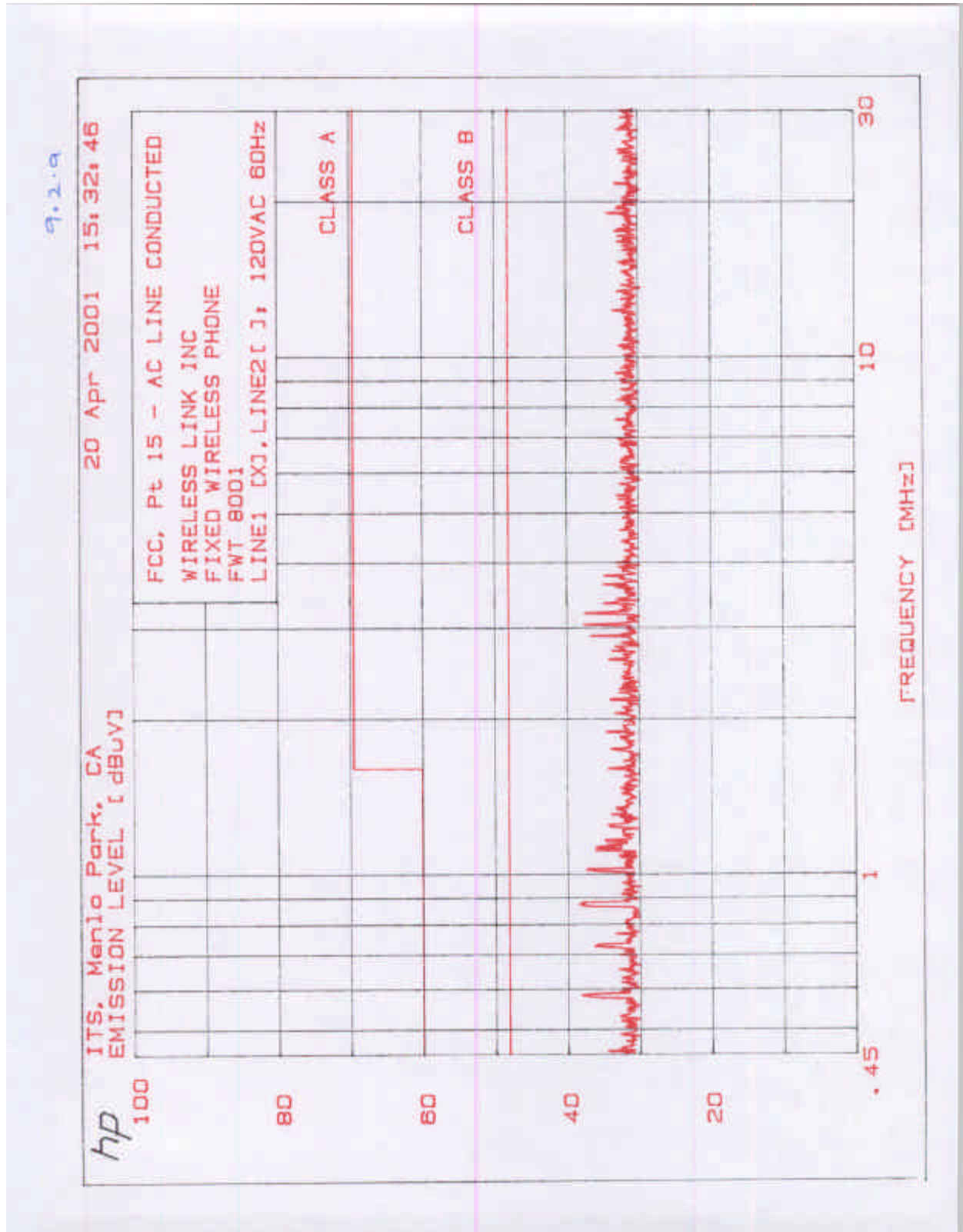
The EUT was connected to the DC power supply, that was connected to the AC line through the LISNs.

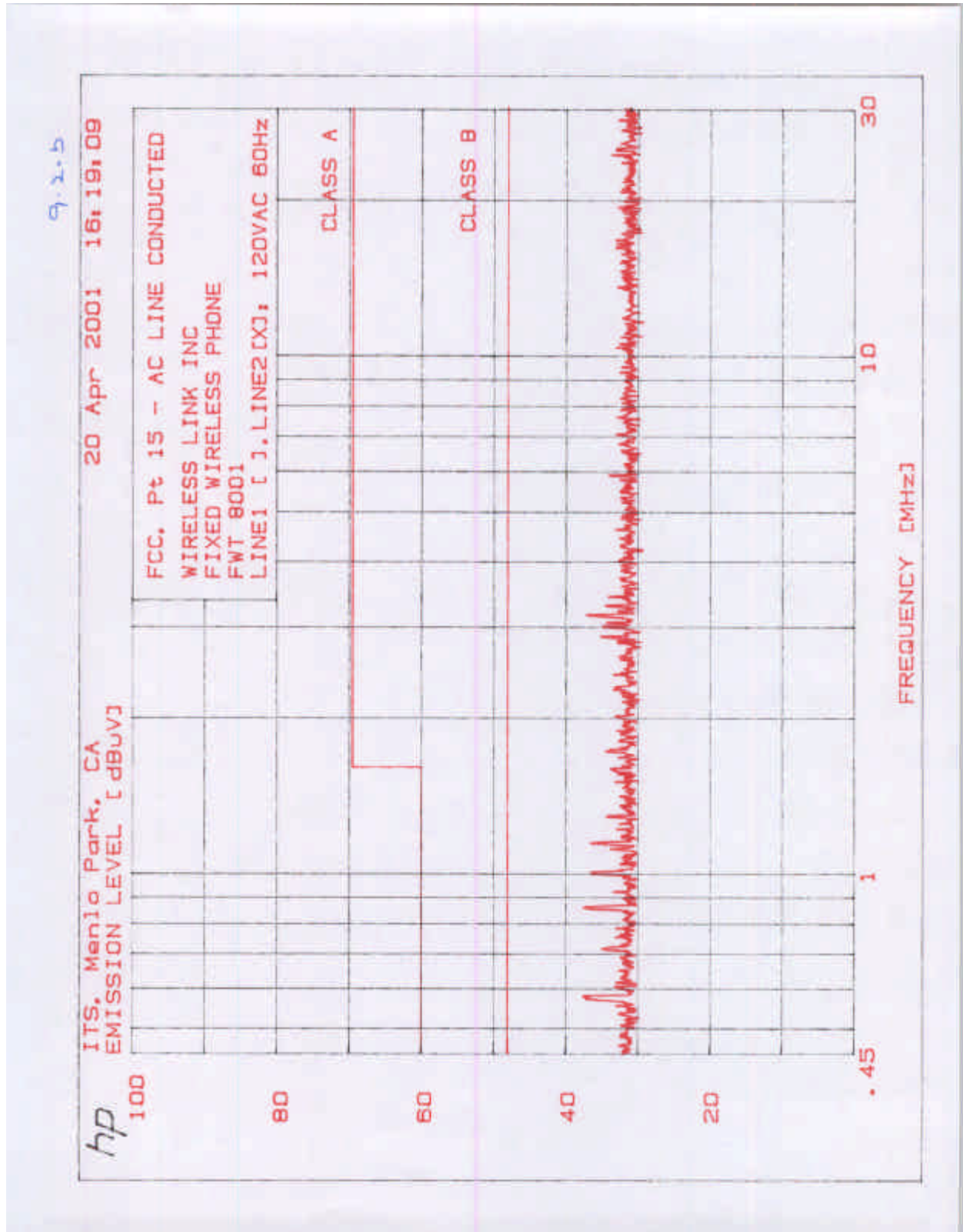
Both HOT and NEUTRAL leads were tested.

9.2 Test Results

Refer to the attached test data.

Graph #	Description
9.2.a	Line conducted emission, Line 1
9.2.b	Line conducted emission, Line 2





9.3 Line Conducted Emission Photograph

Line Conducted Emission Test Set up



10.0 Frequency Stability vs Temperature

FCC 2.1055, 22.355

Frequency Tolerance: 2.5 ppm

10.1 Test Procedure

The equipment under test was connected to an external DC power supply and the RF output was connected to a frequency counter via feedthrough attenuators. The EUT was placed inside the temperature chamber. The DC leads, RF output cable, and external PTT cable exited the chamber through an opening made for that purpose.

After the temperature stabilized for approximately 20 minutes, the external PTT switch was activated, and the frequency output was recorded from the counter.

10.2 Test Equipment

Temperature Chamber, -50C to +100C
Hewlett Packard 5383A Frequency Counter
Rohde & Schwarz ESVP Test Receiver

10.3 Test Results

Test Result:	Passed
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Frequency: 836.52 MHz			
Temperature, C	Frequency (MHz)	Difference (Hz)	Output Power, (dBm)
60	836.519013	-987	26.8
50	836.519588	-412	26.8
40	836.519838	-162	26.8
30	836.519763	-237	26.9
20	836.519700	-300	26.7
10	836.519813	-187	26.7
0	836.519688	-312	26.5
-10	836.519775	-225	26.5
-20	836.519900	-100	26.4
-30	836.519625	-375	26.4

11.0 Frequency Stability vs Voltage
FCC 2.1055, 22.355

Frequency Tolerance: 2.5 ppm

11.1 Test Procedure

An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminates; i.e., the battery end point. The output frequency was recorded for each battery voltage.

11.2 Test Equipment

Hewlett Packard 5383A Frequency Counter
DC Power Supply
Rohde & Schwarz ESVP Test Receiver

11.3 Test Results.

Test Result:	Passed
--------------	--------

Transmitting Frequency: 836.01 MHz
Tolerance: +/- 2091 Hz

Supply Battery (Volts)	Frequency (MHz)	Difference (Hz)	Output Power (dBm)
3.4	836.010084	84	25.86
3.6	836.010128	128	26.03
3.9	836.010177	177	26.23
4.5	836.010199	199	26.31

12.0 List of Test Equipment

Equipment	Manufacturer	Model	Serial #	Cal. Int.	Cal. Due	Used
Bi-log Antenna	EMCO	3143	9509-1160	12	6/08/01	X
Log Periodic Antenna	EMCO	3148	9904-1062	12	2/26/02	X
Double-ridged Horn Antenna	EMCO	3115	8812-3049	12	3/08/02	X
Double-ridged Horn Antenna	EMCO	3115	9107-3712	12	3/17/02	X
Half-wave dipole	Roberts	2	332	12	07/03/01	X
Pre-amplifier	CDI	P1000	N/A	12	10/06/01	X
Pre-amplifier	Avantek	AFT18855	8723H705	12	11/14/01	X
Spectrum Analyzer	Hewlett Packard	HP 3588A	N/A	12	07/03/01	X
Spectrum Analyzer	Tektronix	2784	B3020108	12	8/4/01	X
Peak Power Meter	Hewlett Packard	8900D	3607U00673	12	7/31/01	X
Peak Power Sensor	Hewlett Packard	84811A	3318A05091	12	8/01/01	X
Signal generator	Hewlett Packard	8663	2537A00214	12	6/13/01	X
Radio Communication test set	Marconi	2955A	N/A	12	09/15/01	X
AC Millivoltmeter	Leader	LMV-182	7718	12	10/24/01	X
Function generator	HP	8116	2334A1077	12	10/13/01	X

13.0 Document History

Revision/ Job Number	Writer Initials	Date	Change
1.0 / J20036933	SS	February 28, 2001	Original document