

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

**7.0 Out of Band Emissions at Antenna Terminals , FCC § 22.917(e), 22.917(f),  
24.238(a)**

**Out of Band Emissions:**

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least  $43 + 10 \log P$  dB.

**Mobile Emissions in Base Frequency Range:**

The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not to exceed -80 dBm at the transmit antenna connector.

**7.1 Test Procedure**

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 30 kHz. The audio modulating signal was adjusted like it is described in Section 6.1 of this report. Sufficient scans were taken to show the outband emissions if any up to 10th harmonic.

**7.2 Test Equipment**

HP 8566B Spectrum Analyzer  
Leader LFG-1300S Function Generator  
Leader LMV-182 AC Millivoltmeter

**7.3 Test Results**

Passed, refer to the attached plots.

PLOT #7.3.1.a

MKR  $\Delta$  28.0 MHz

REF 26.0 dBm

ATTEN 30 dB

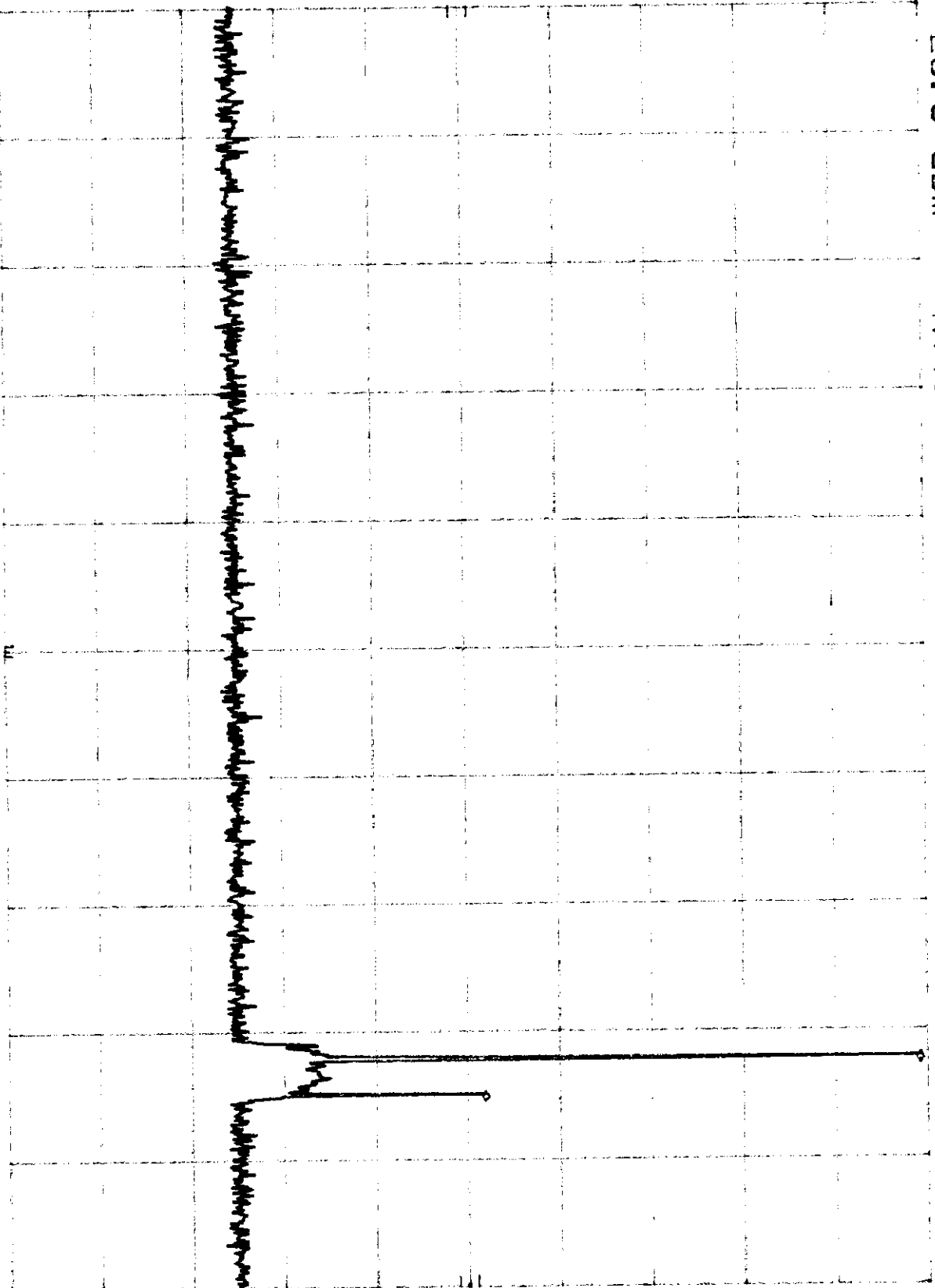
--47.30 dB

10 dB/

OFFSET

10.7

dB



START 1.0 MHz

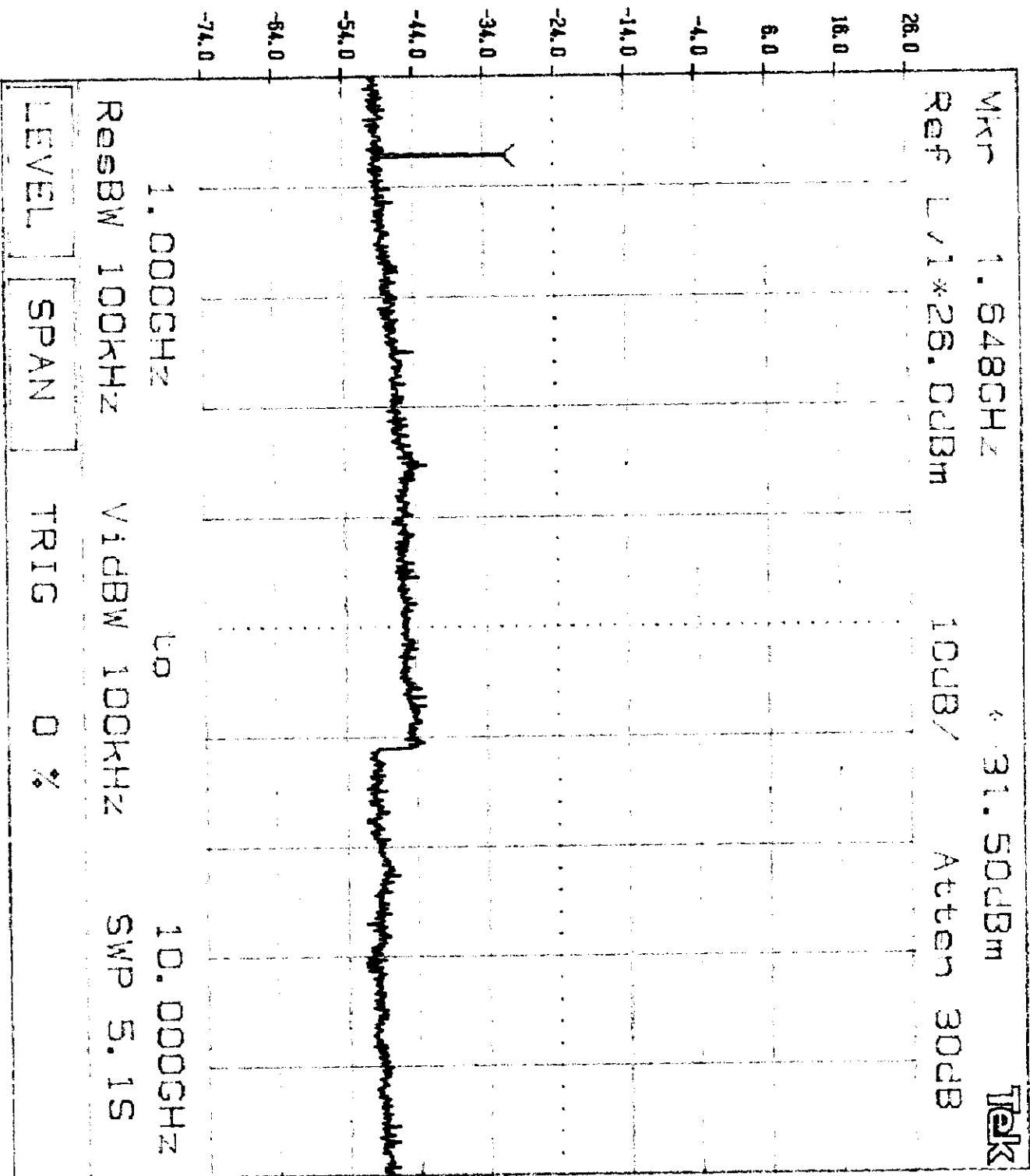
RES BW 100 kHz

VBW 100 kHz

STOP 100.0 MHz

SWP 200 msec

# PLOT # 7.3.1.b



KNOB 2      KNOB 1      KEYPAD      Tektronix      2784

PLOT #7.3.2.a

h<sub>p</sub>

REF 26.0 dbm

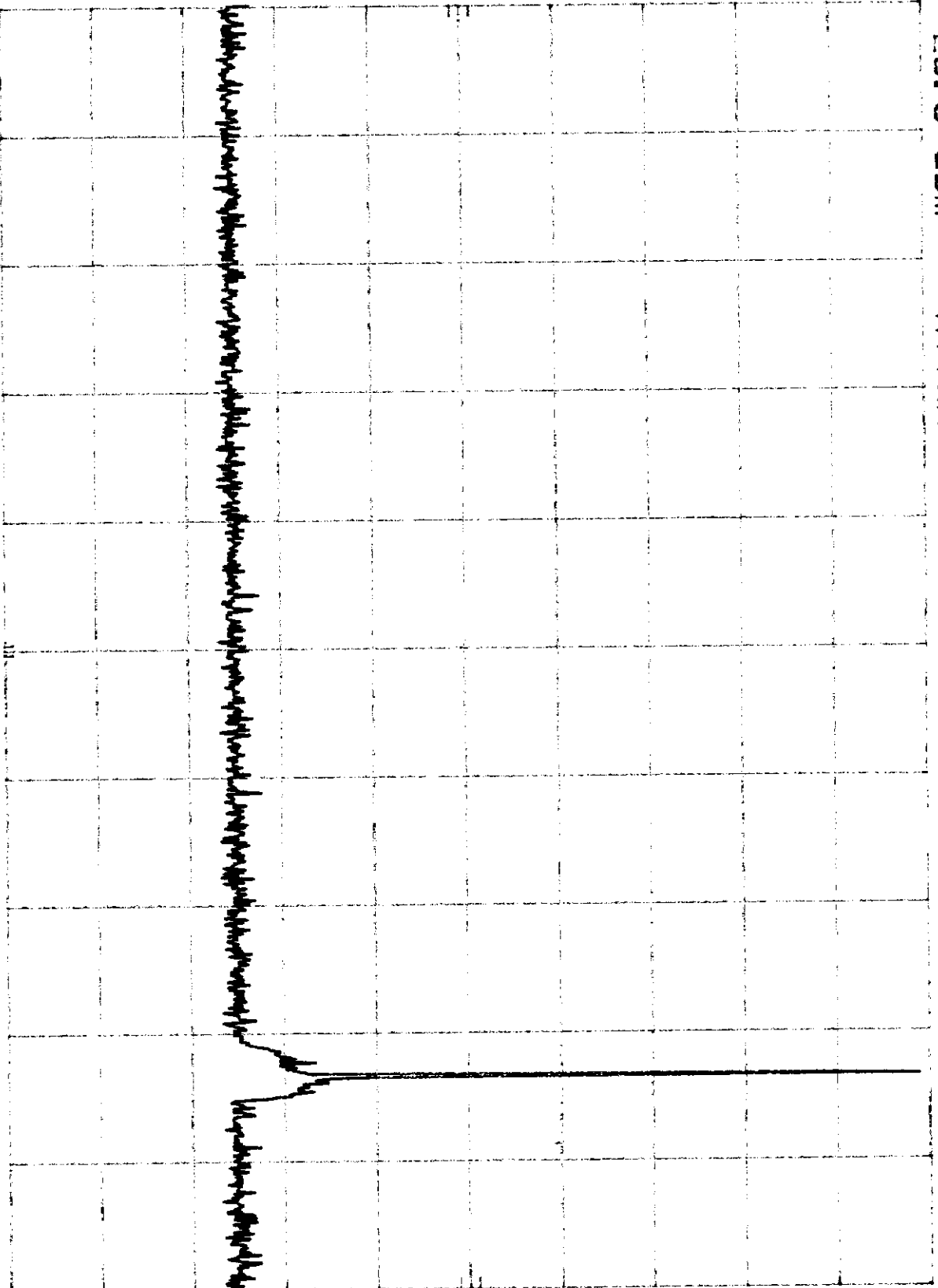
ATTEN 30 dB

10 dB/

OFFSET

10.7

dB



START 1.0 MHz

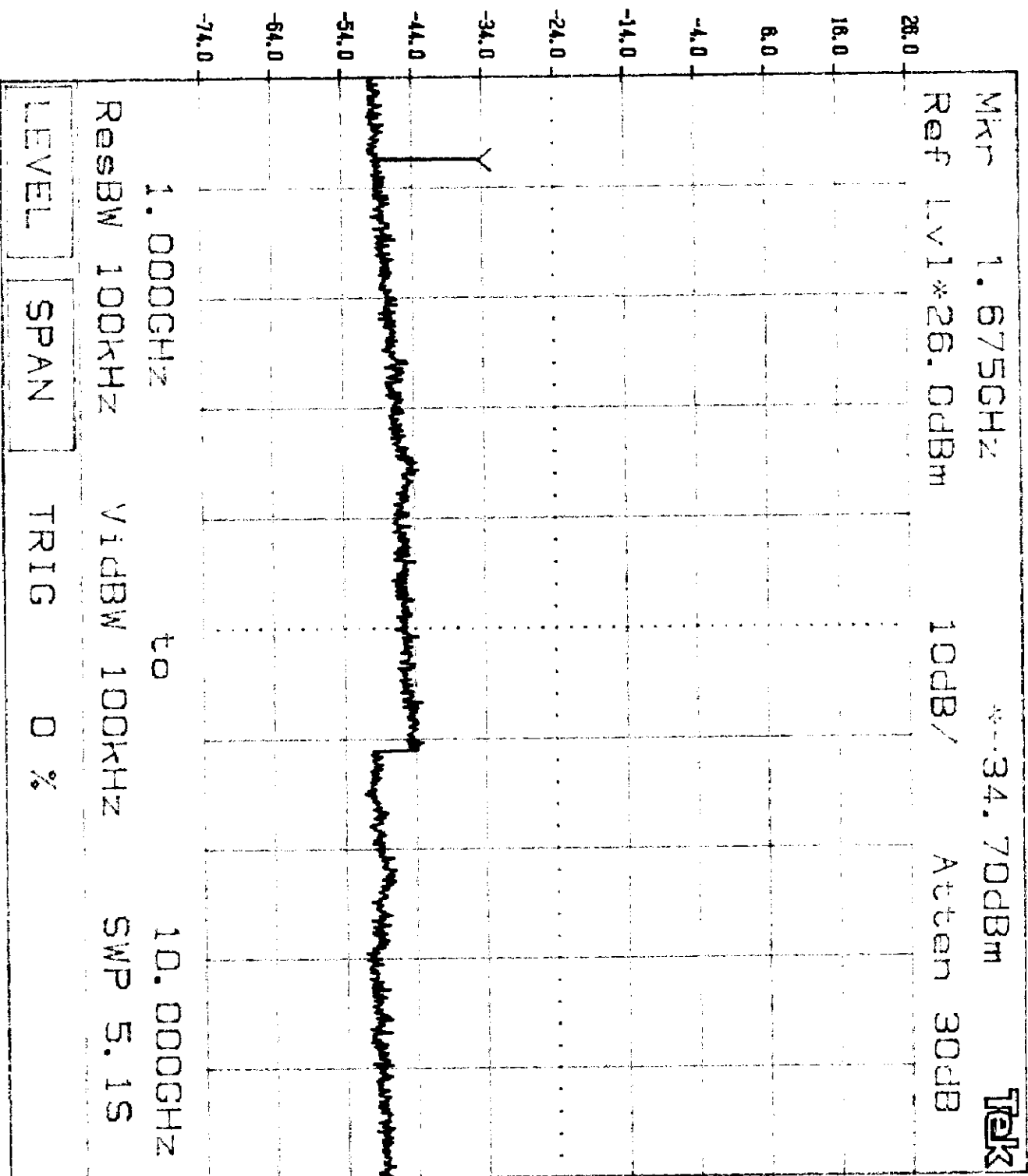
RES BW 100 kHz

VBW 100 kHz

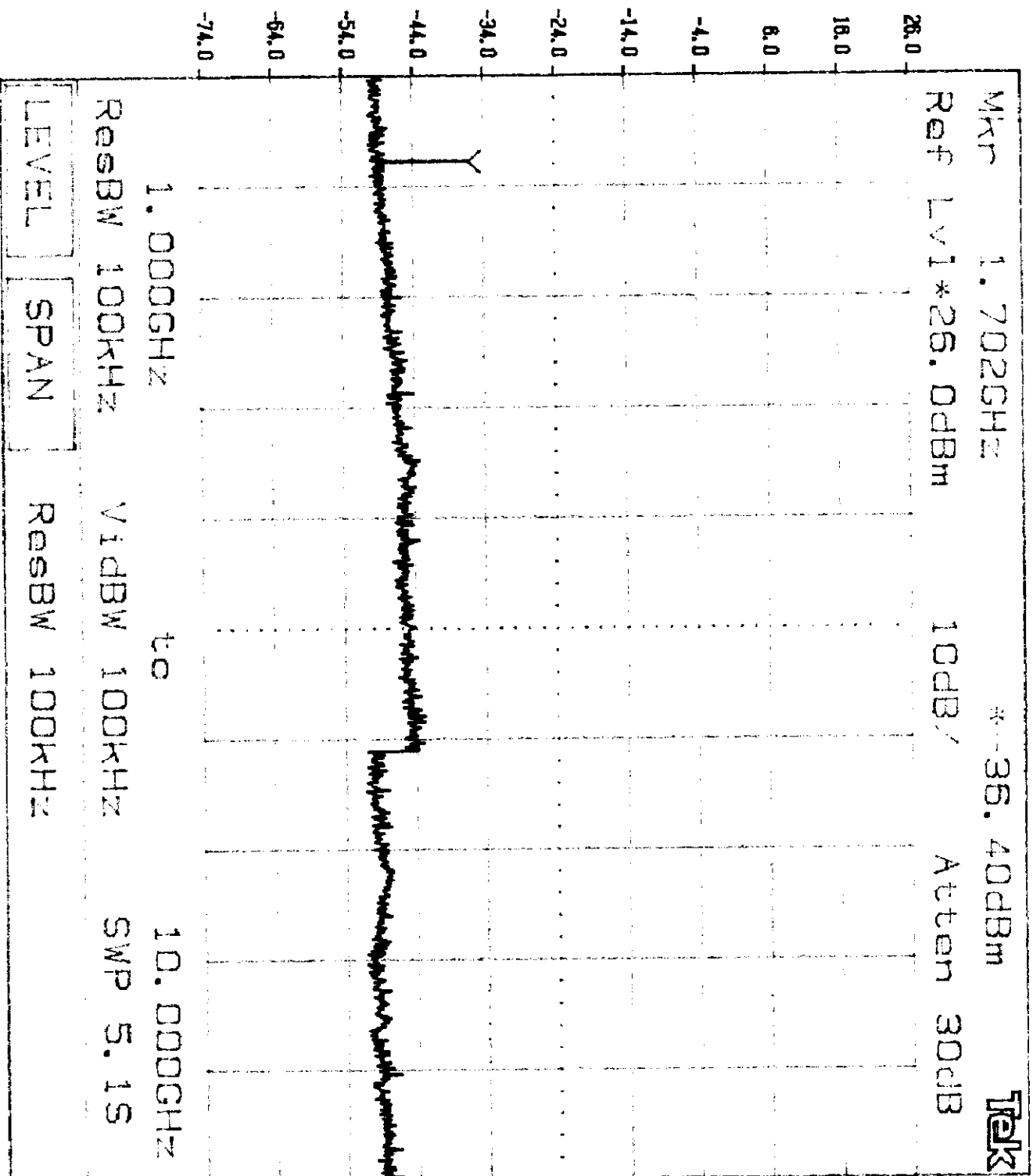
STOP 100.0 MHz

SWP 200 msec

# PLOT # 7.3.2b



# PLOT #7.3.3.a



KNOB 2 KNOB 1 KEYPAD Tektronix 2784

PLOT #7.3.3.b

REF 26.0 dBm

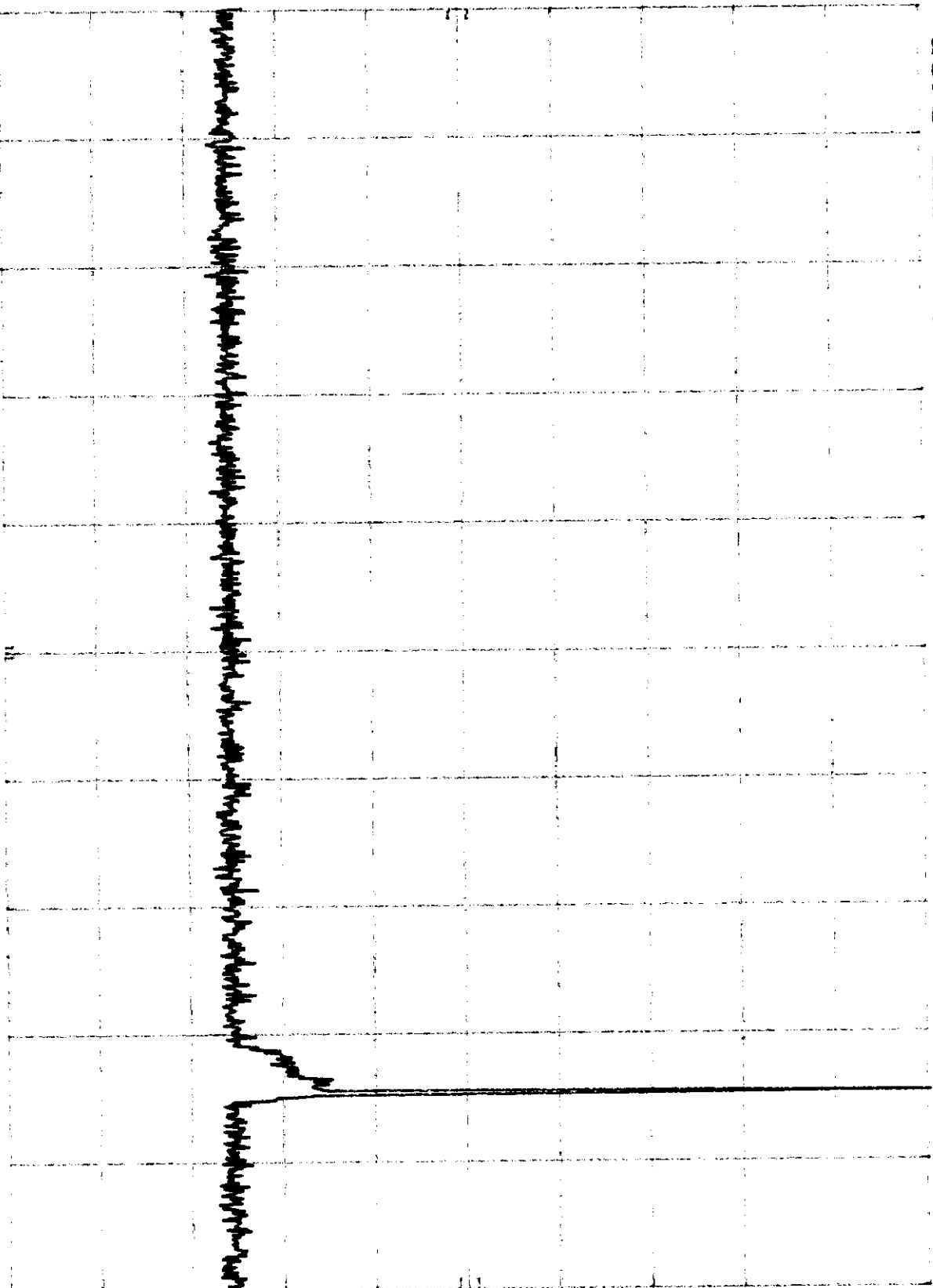
ATTEN 30 dB

MKR 495.5 MHz

-50.20 dBm

10 dB/

OFFSET  
10.7  
dB



START 1.0 MHz

RES BW 100 kHz

VBW 100 kHz

STOP 100.0 MHz  
SWP 200 msec

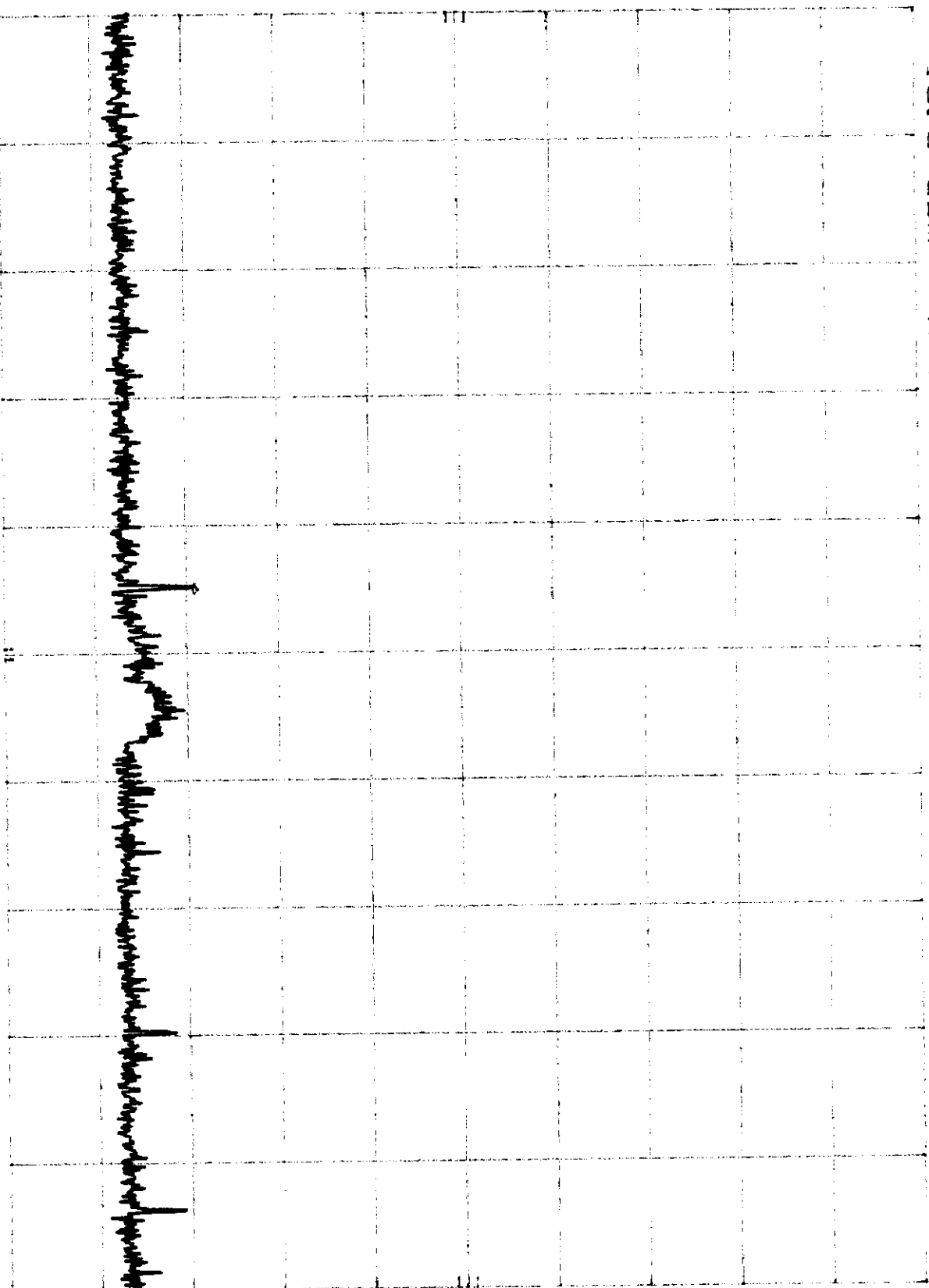
PLOT #7.3.4.a

REF -10.0 dBm

ATTEN 0 dB

MR 880.22 MHz  
-89.10 dBm

HP  
10 dB/



START 859.00 MHz

RES BW 30 KHz

VBW 30 KHz

STOP 894.00 MHz  
SWP 75 msec

PLOT #7.3.4.b

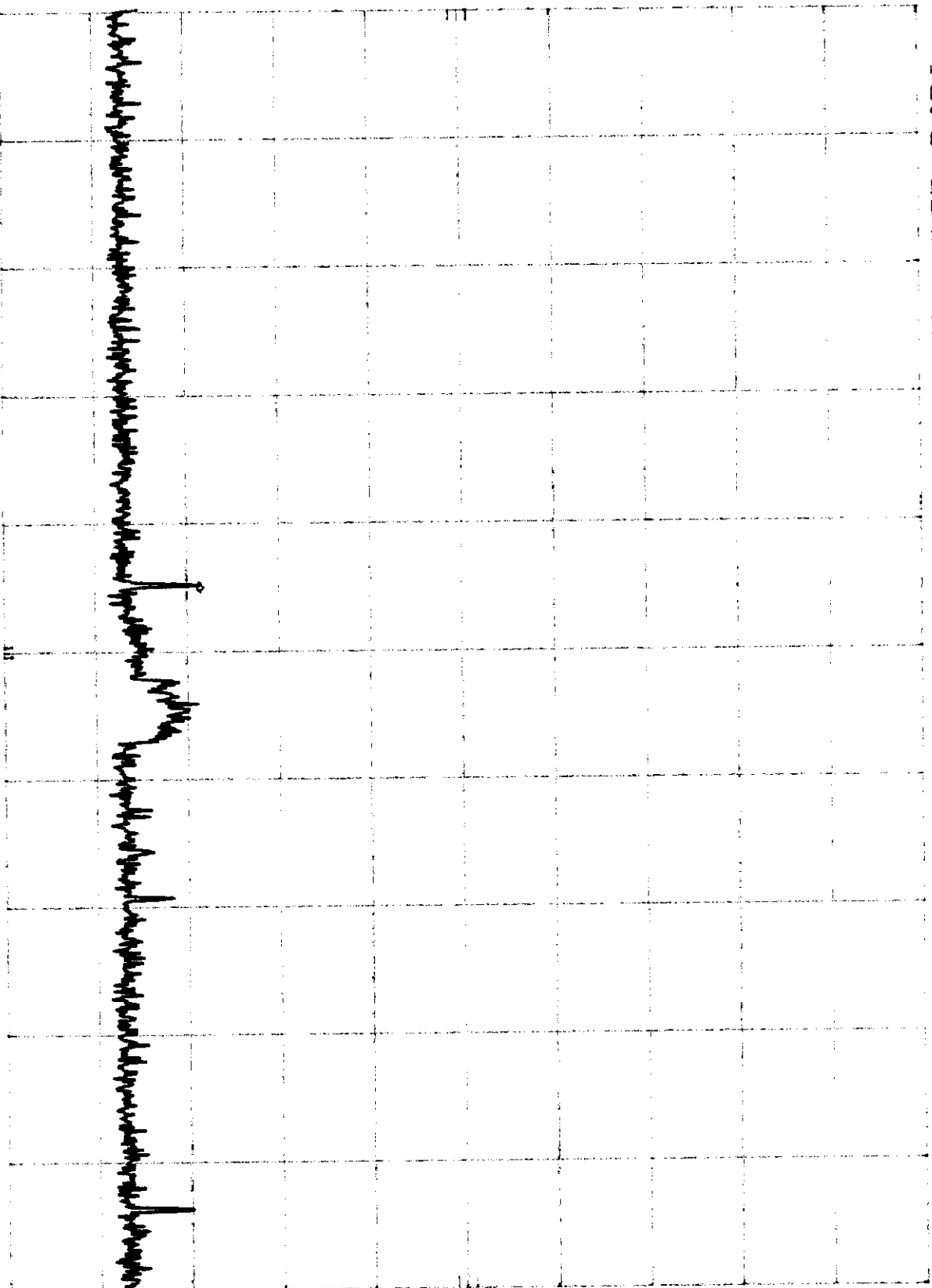
MR 880.22 MHz

REF -10.0 dBm

ATTEN 0 dB

88.50 dBm

10 dB/



START 869.00 MHz

STOP 894.00 MHz

RES BW 30 kHz

VBW 30 kHz

SWP 75 msec

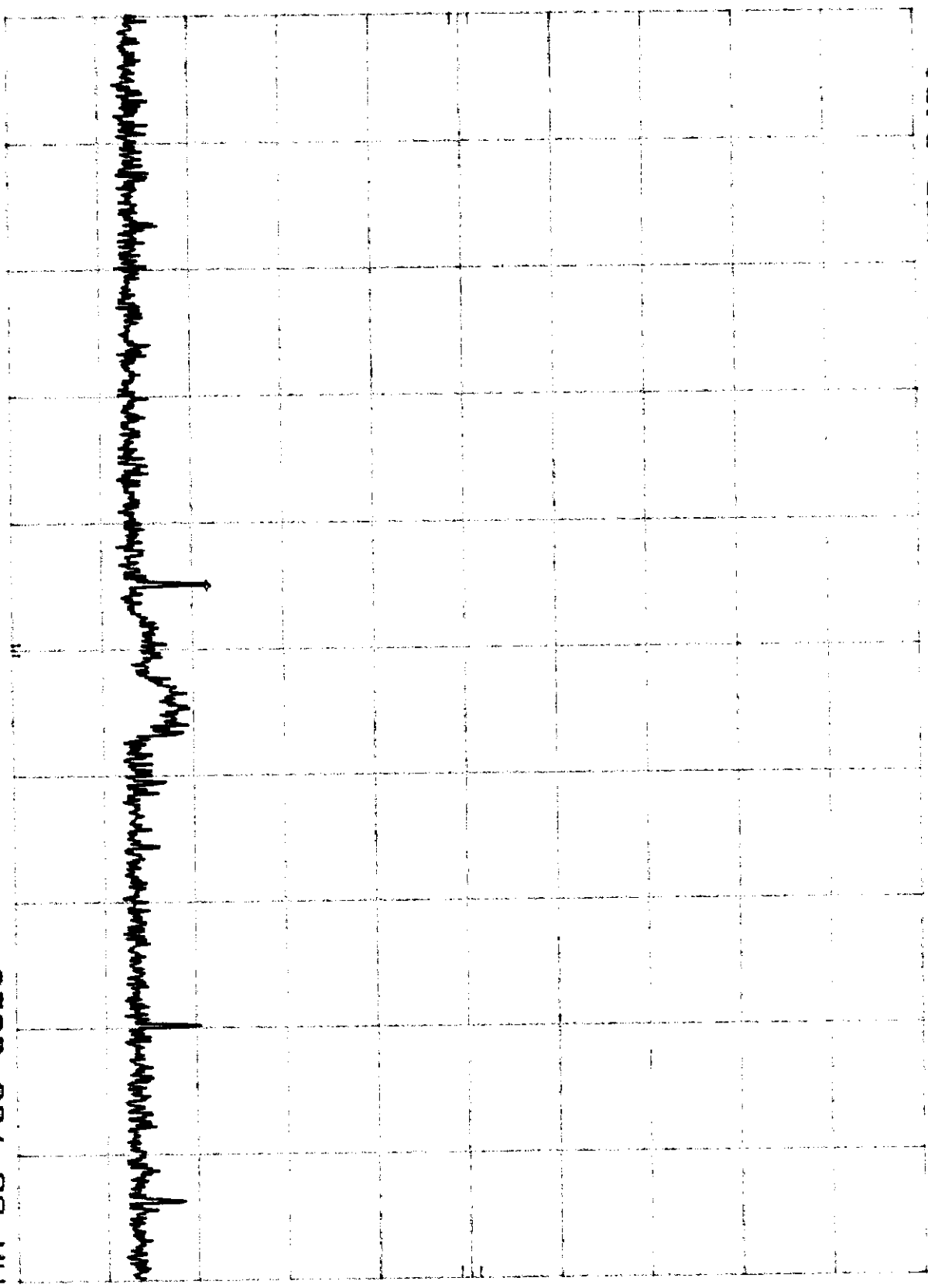
PLOT #7.3.4.c

REF -10.0 dBm

ATTEN 2 dB

MKR 880.22 MHz  
-88.40 dBm

10 dB/



START 859.00 MHz

RES BW 30 kHz

VBW 30 kHz

STOP 894.00 MHz  
SWP 75 msec

PLOT #7.3.5.a

HP

REF 28.4 dBm

ATTEN 30 dB

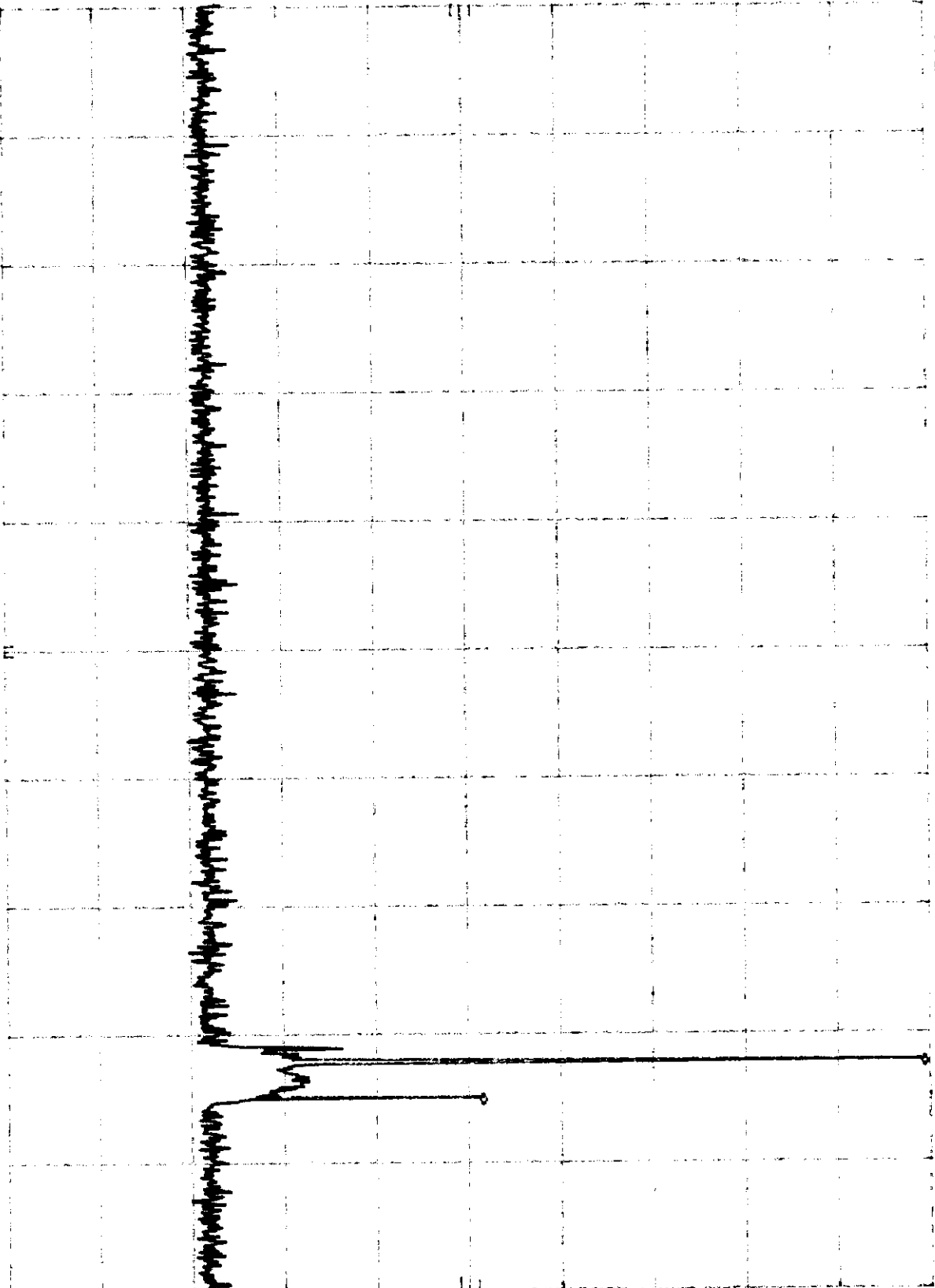
MKR  $\Delta$  28.0 MHz  
47.80 dB

10 dB/

OFFSET

10.7

dB



CENTER 500.5 MHz

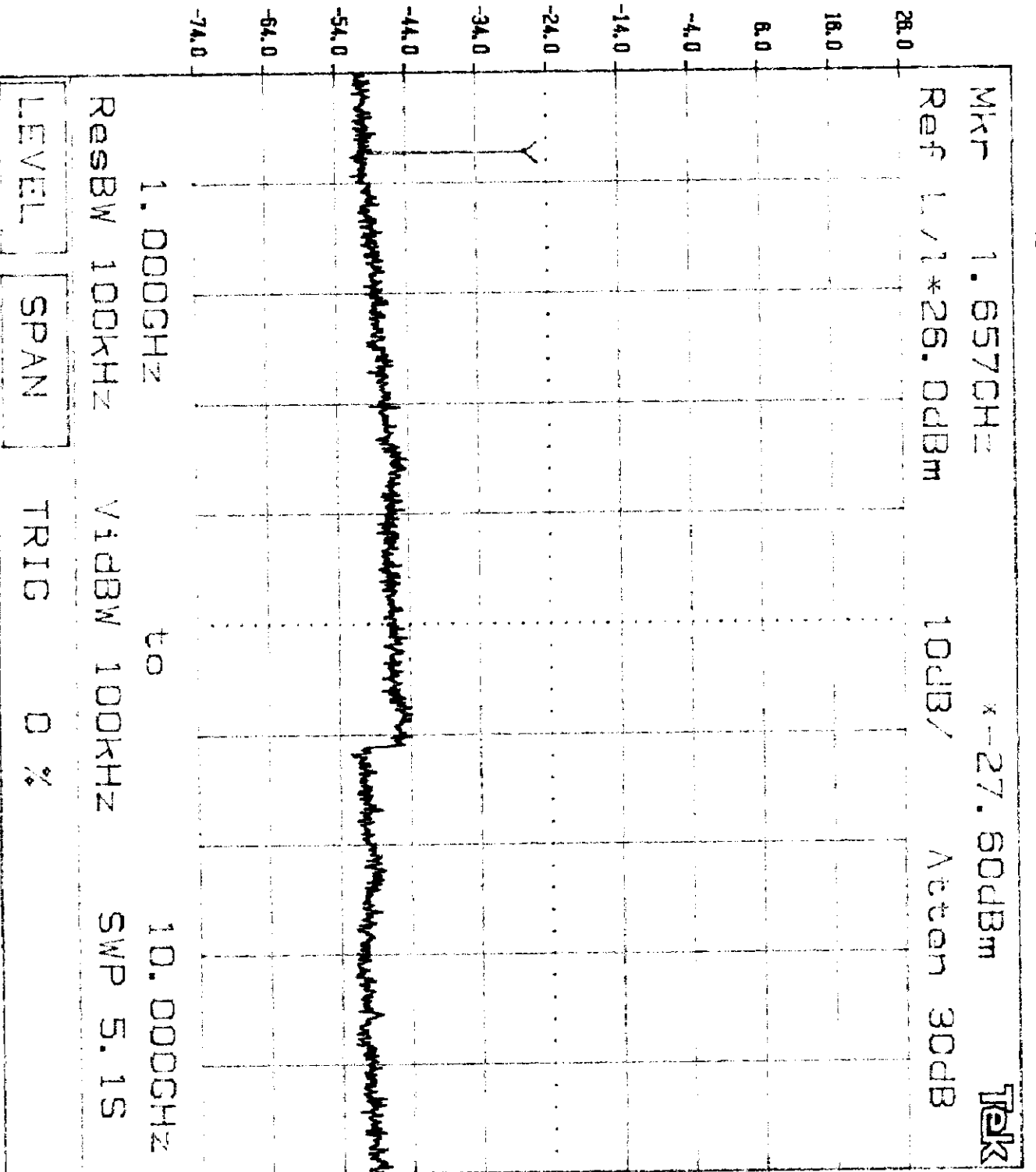
RES BW 100 kHz

VBW 100 kHz

SPAN 999.0 MHz

SWP 200 msec

# PLOT # 7.3.5.b



KN0B 2

KN0B 1

KEYPAD

Tektronix

2784

PLOT #7.3.6.a

MKR 835.2 MHz

REF 28.4 dBm

ATTEN 30 dB

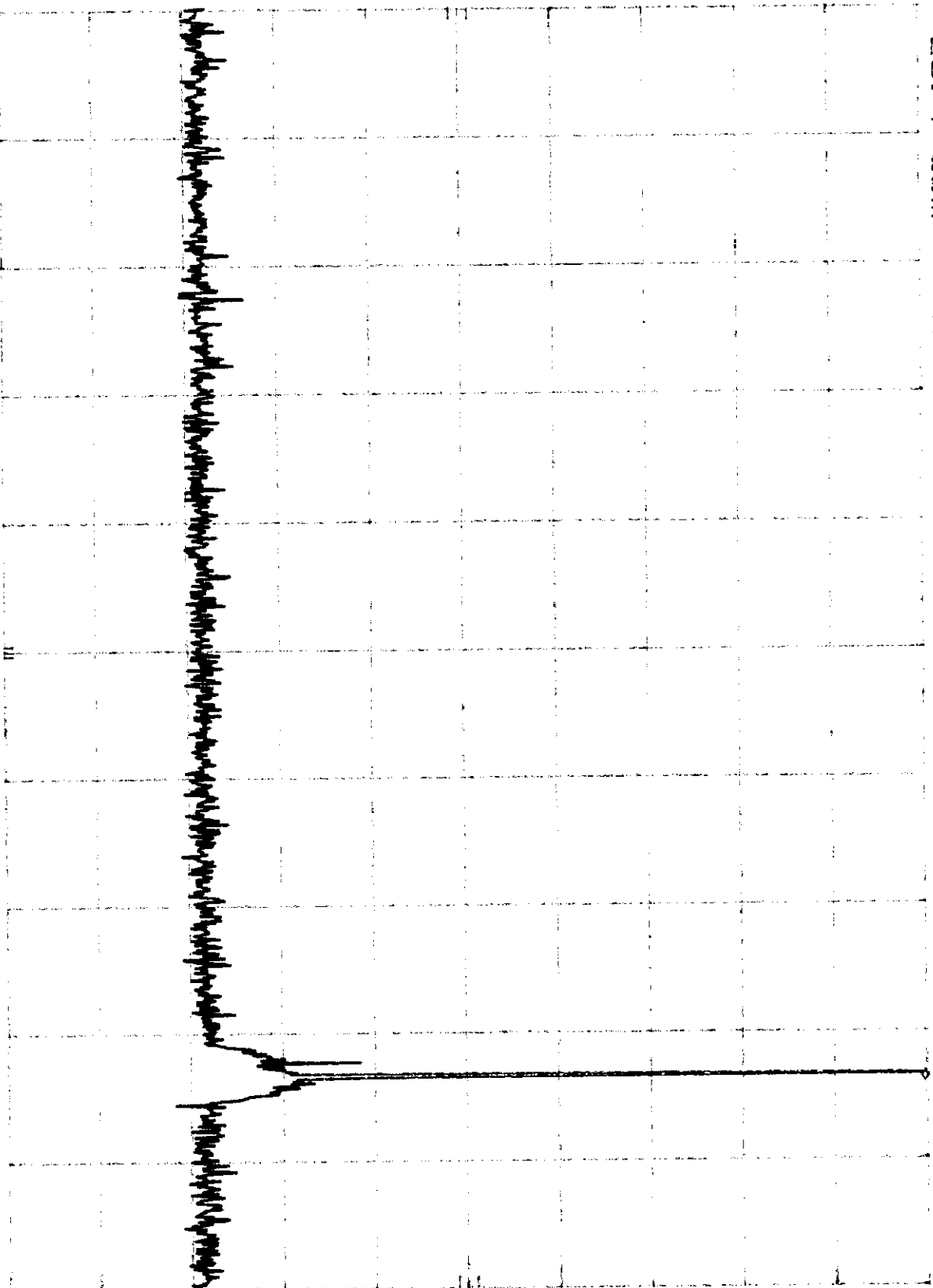
28.20 dBm

10 dB/

OFFSET

10.7

dB



CENTER 500.5 MHz

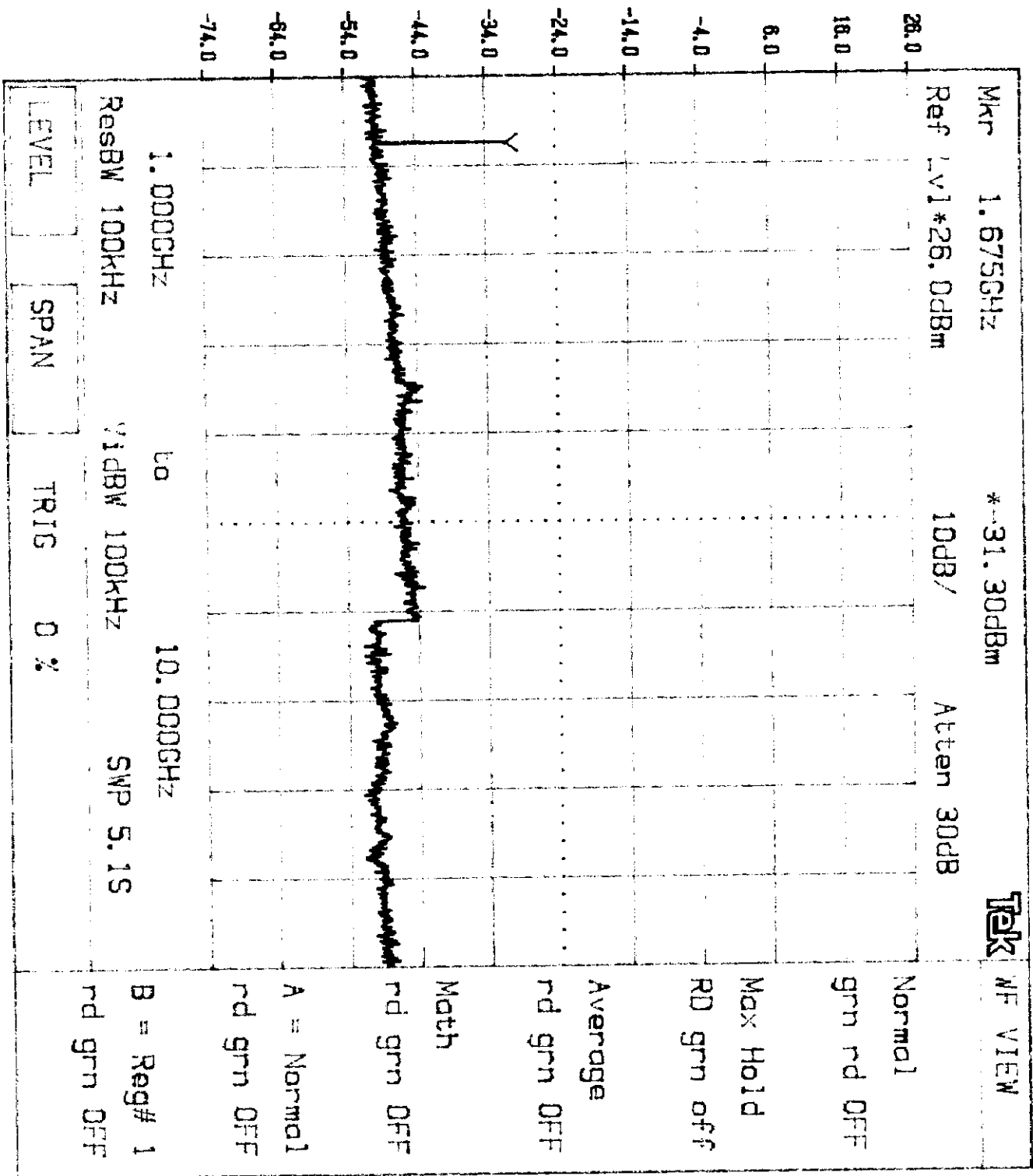
RES BW 100 KHz

VBW 100 KHz

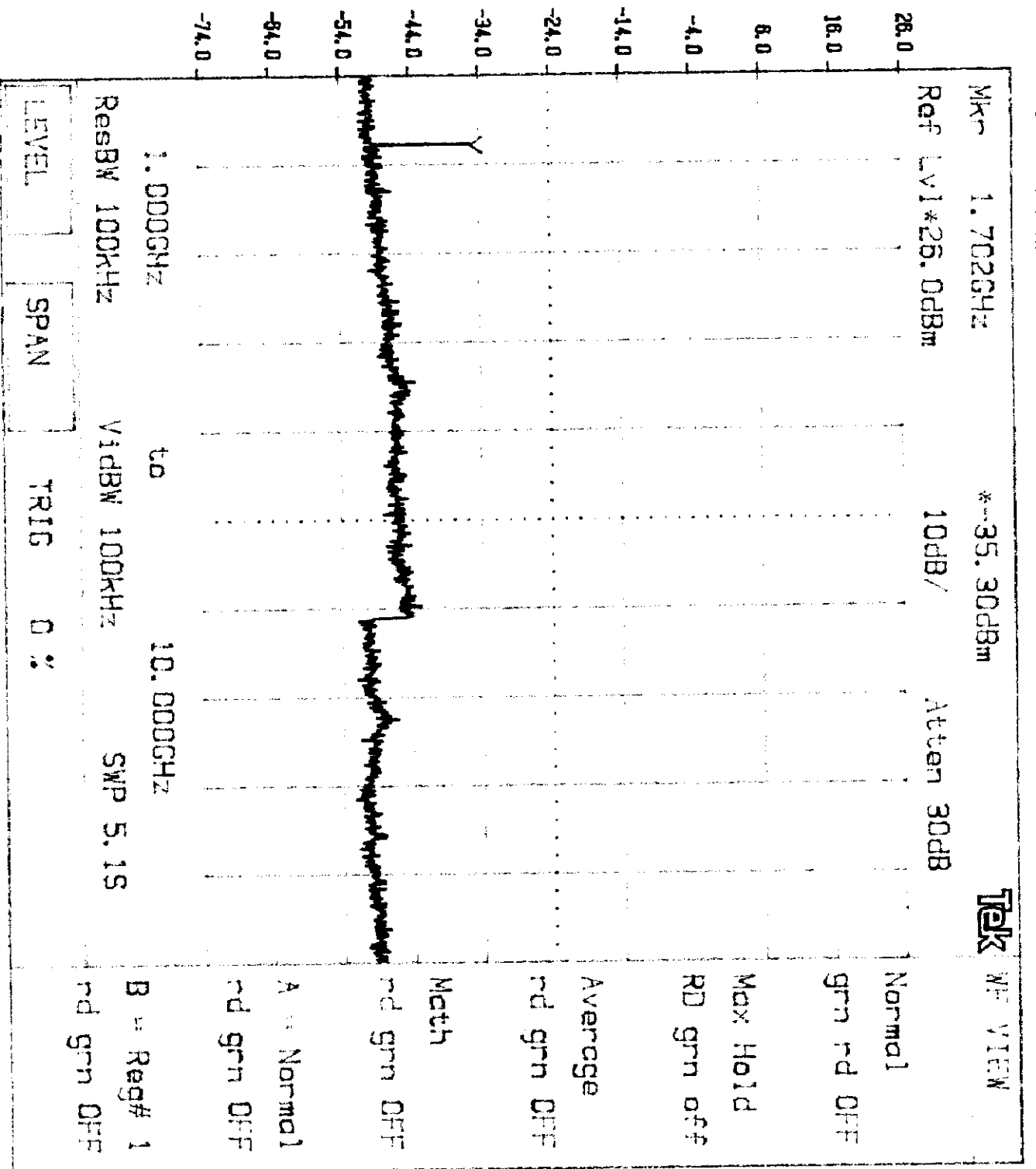
SWP 200 msec

SPAN 999.0 MHz

# PLOT # 7.3.6.b



# PLOT #7.3.7.a



PLOT # 7.3.7.b

MKR 837.2 MHz

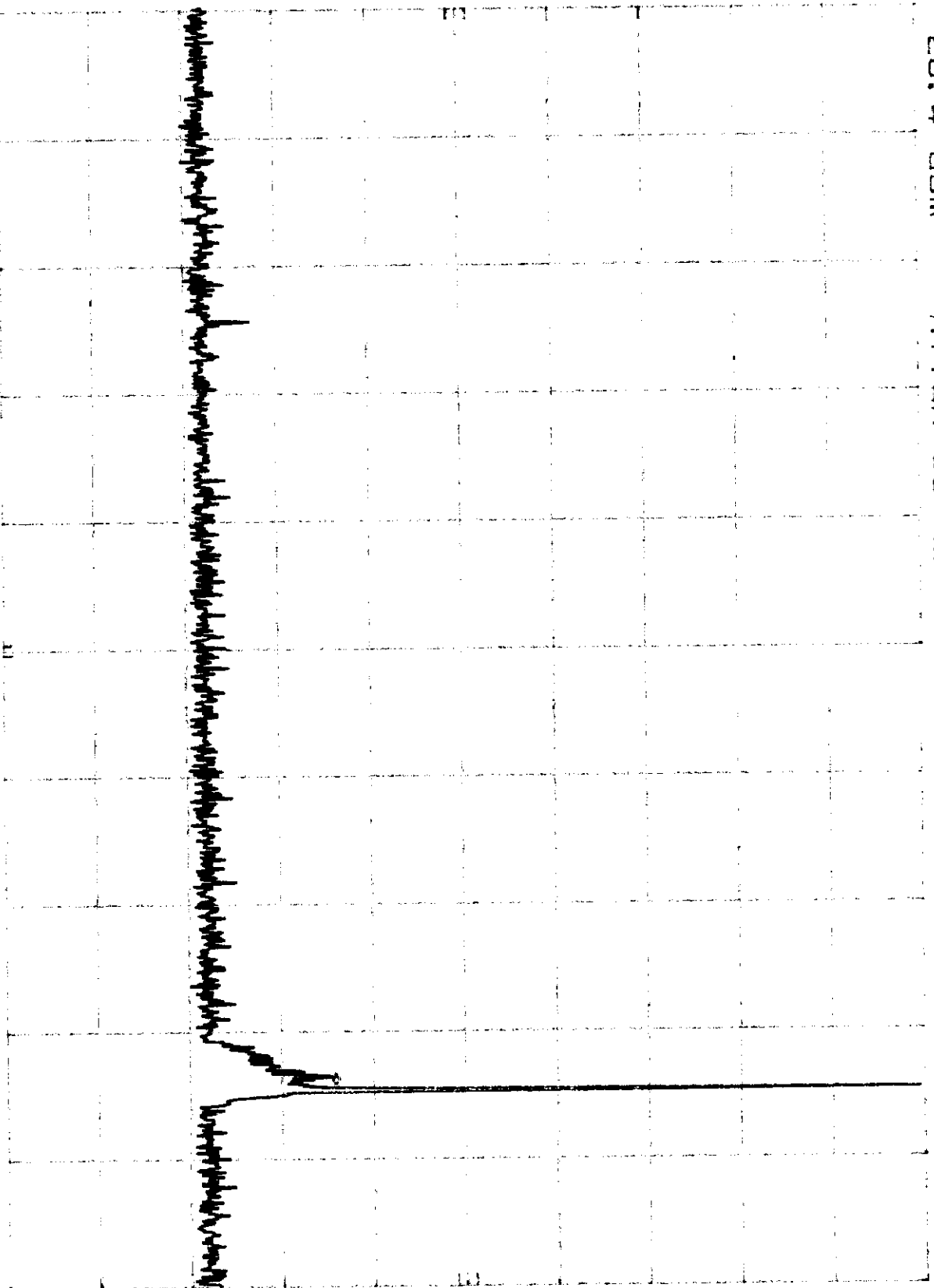
REF 28.4 dBm

ATTEN 30 dB

35.80 dBm

10 dB

OFFSET  
10.7  
dB



CENTER 500.5 MHz

RES BW 100 KHz

VBW 100 KHz

SPAN 999.2 MHz  
SWP 200 msec

PLOT #7.3.8.a

MNR 870.3 MHz

REF 30.7 dBm

ATTEN 30 dB

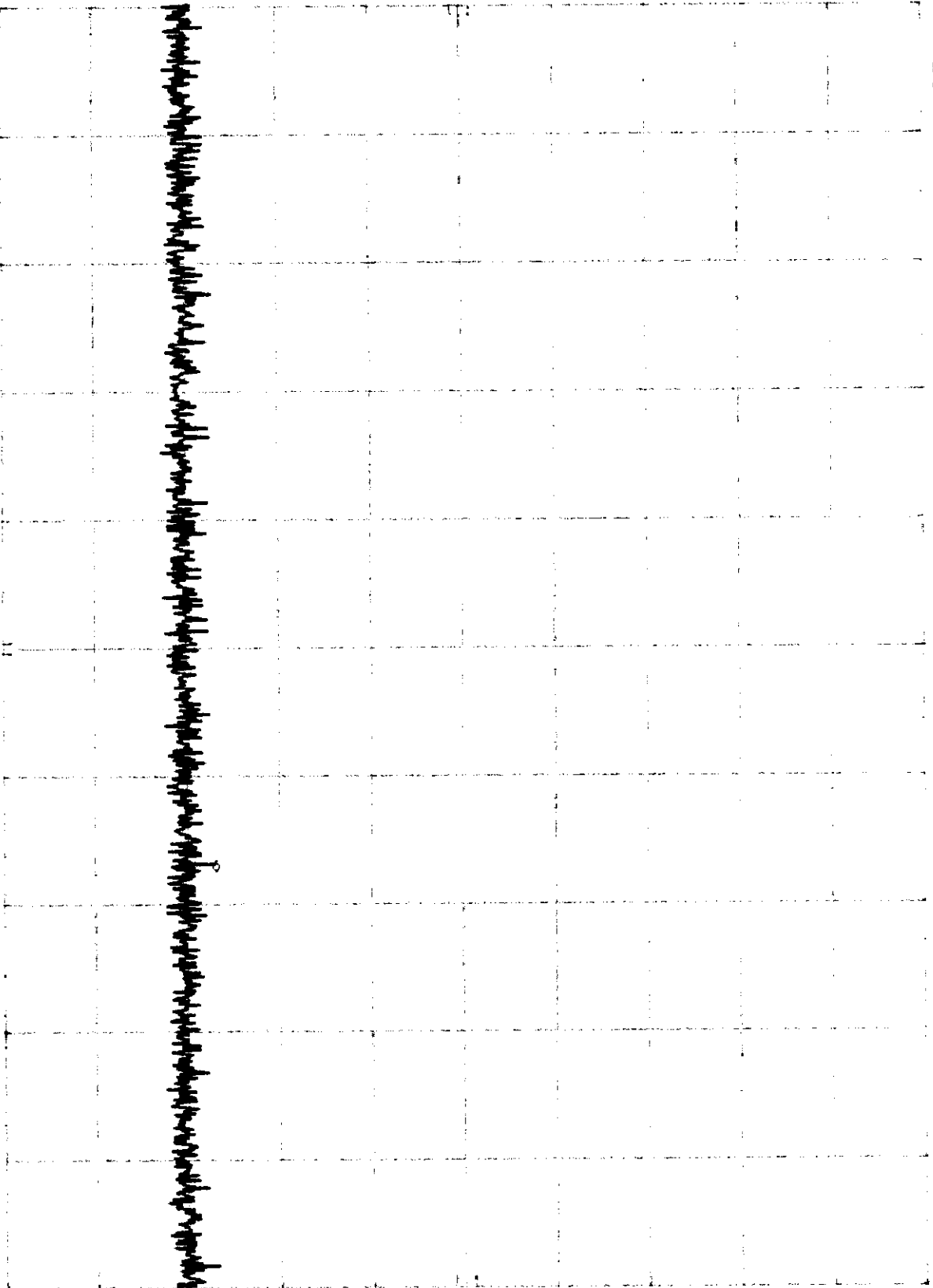
46.20 dBm

10 dBm

OFFSET

10.7

dB



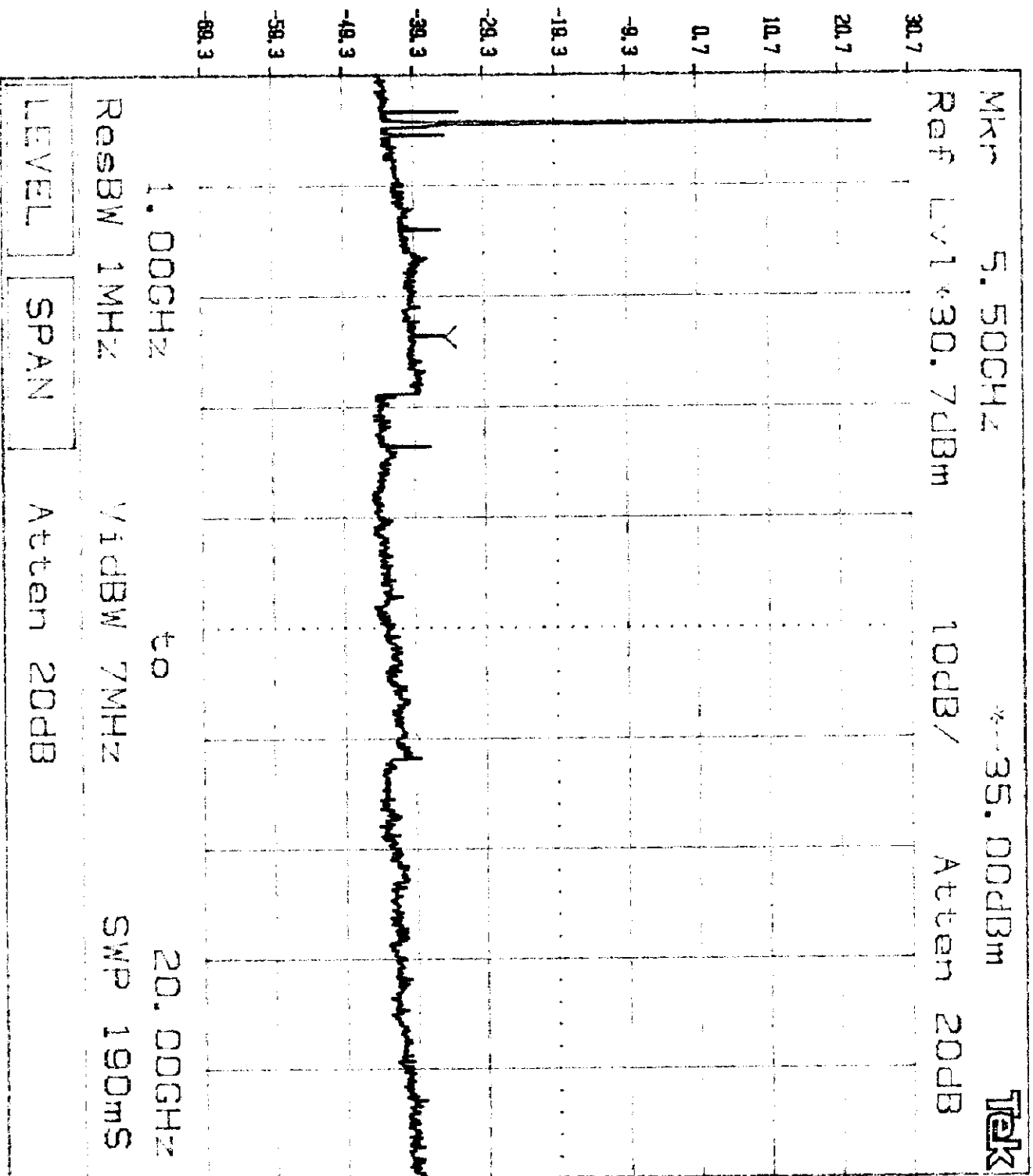
START 1.0 MHz

RES BW 100 kHz

VBW 100 kHz

STOP 1000.0 MHz  
SWP 200 msec

PLOT #7.3.8.b



PLOT #7.3.9.a

MAR 504.5 MHz

REF 30.7 dBm

ATTEN 30 dB

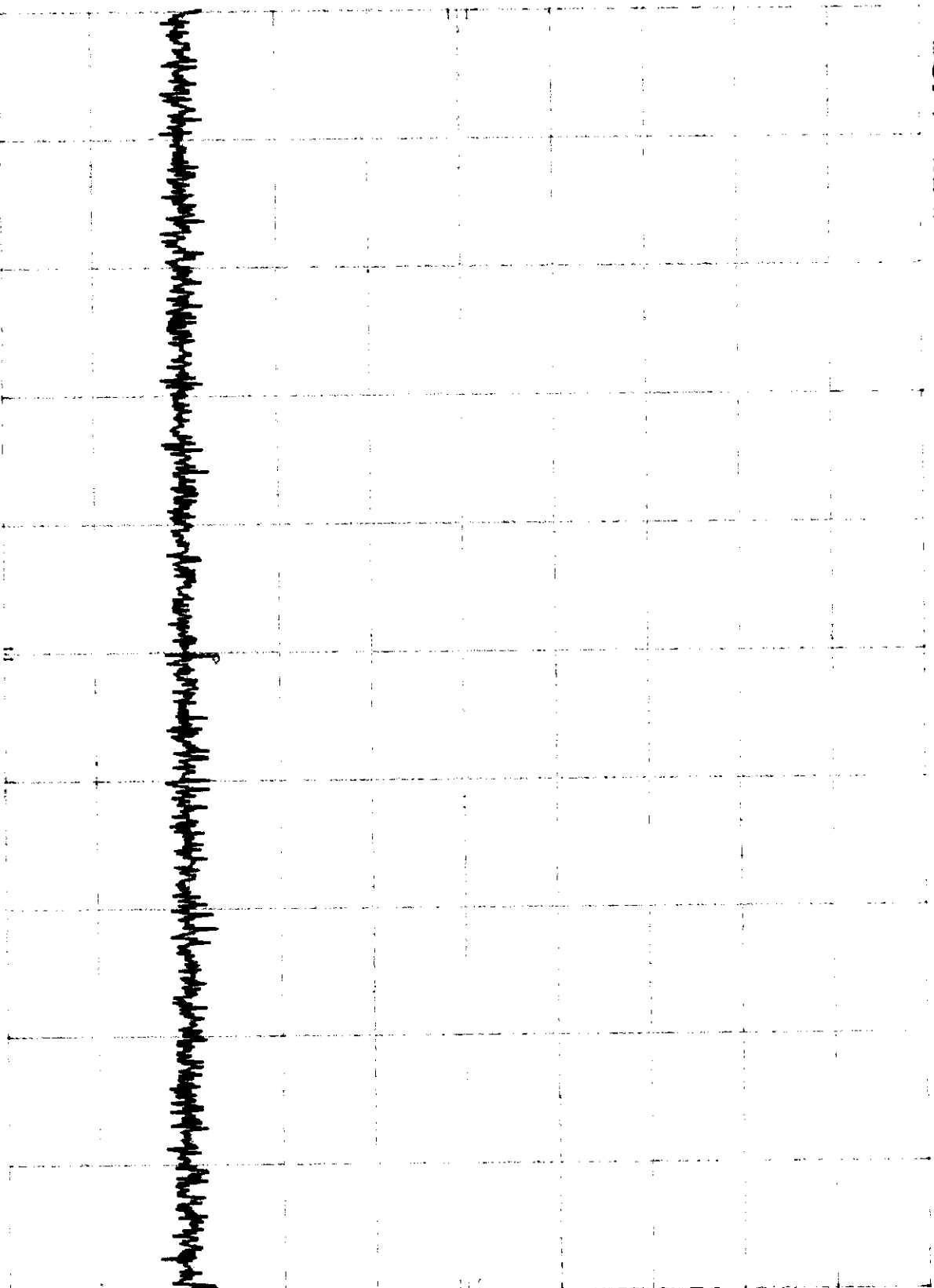
-46.23 dBm

10 dBm

OFFSET

10.7

dB



START 1.0 MHz

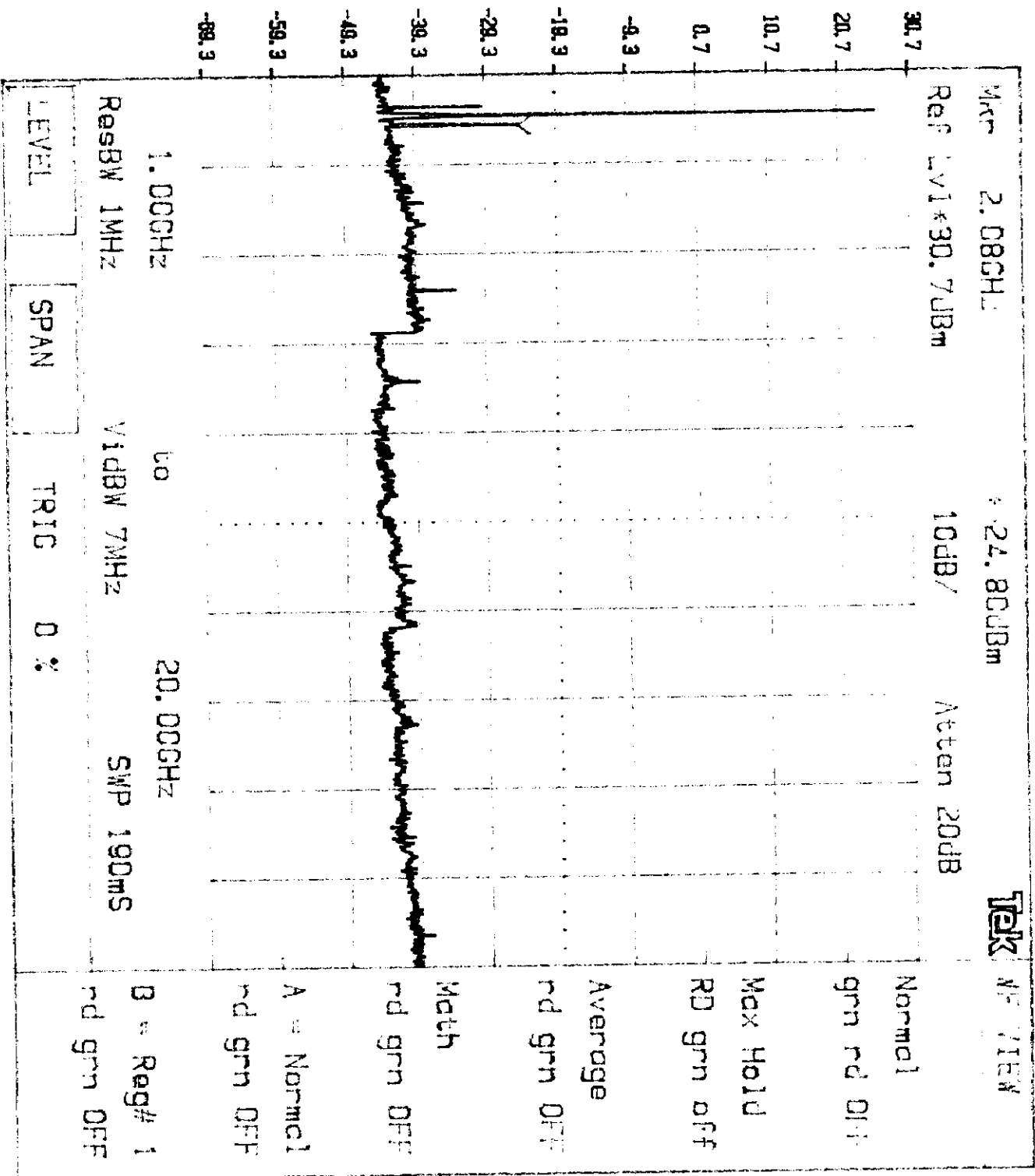
STOP 1000.0 MHz

RES BW 100 kHz

VBW 100 kHz

SWP 200 msec

# PLOT #7.3.9.b



PLOT #7.3.10.a

MNR 337.7 MHz

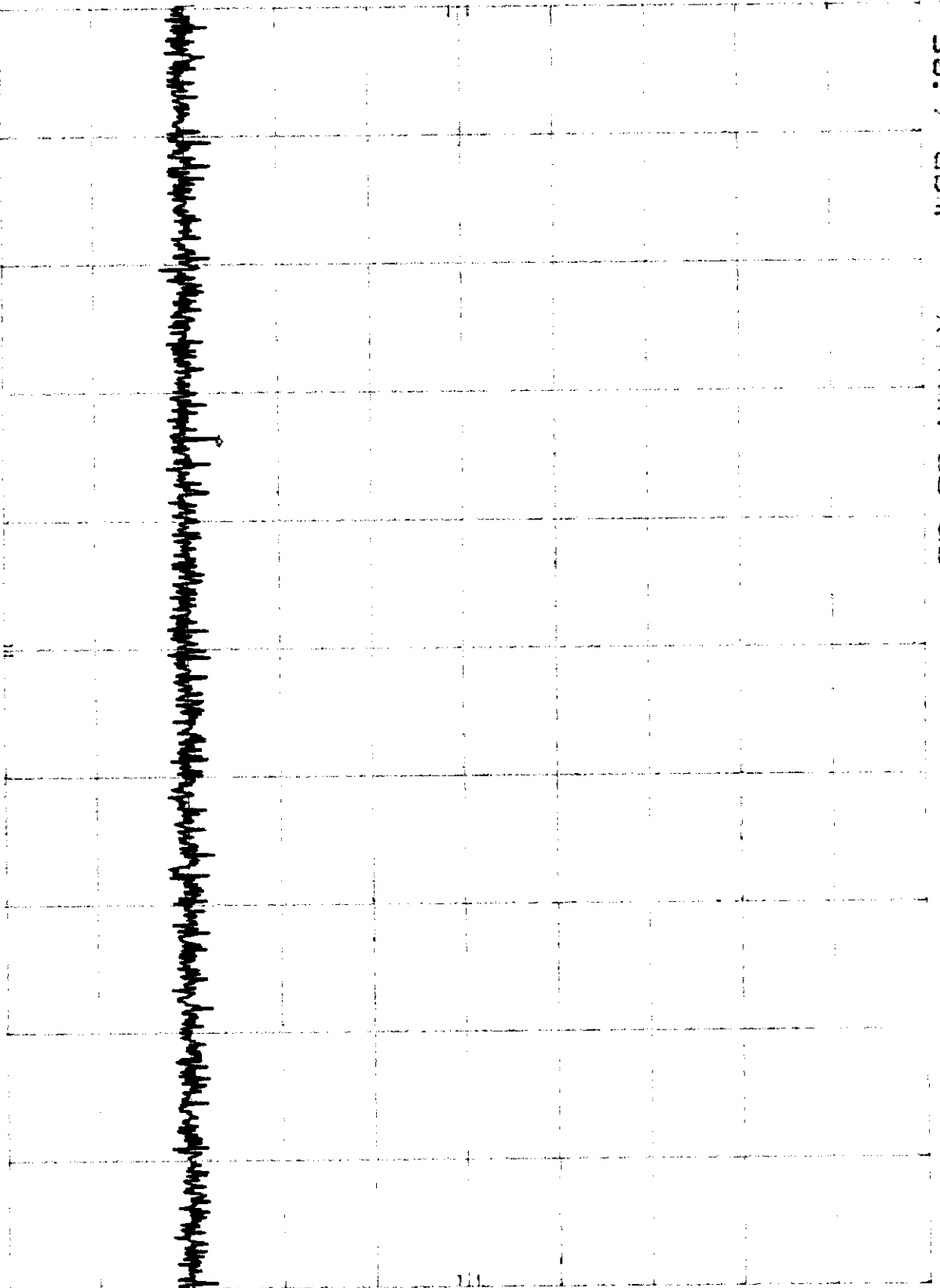
REF 30.7 dBm

ATTEN 30 dB

-45.70 dBm

10 dB/

OFFSET  
10.7  
dB



START 1.0 MHz

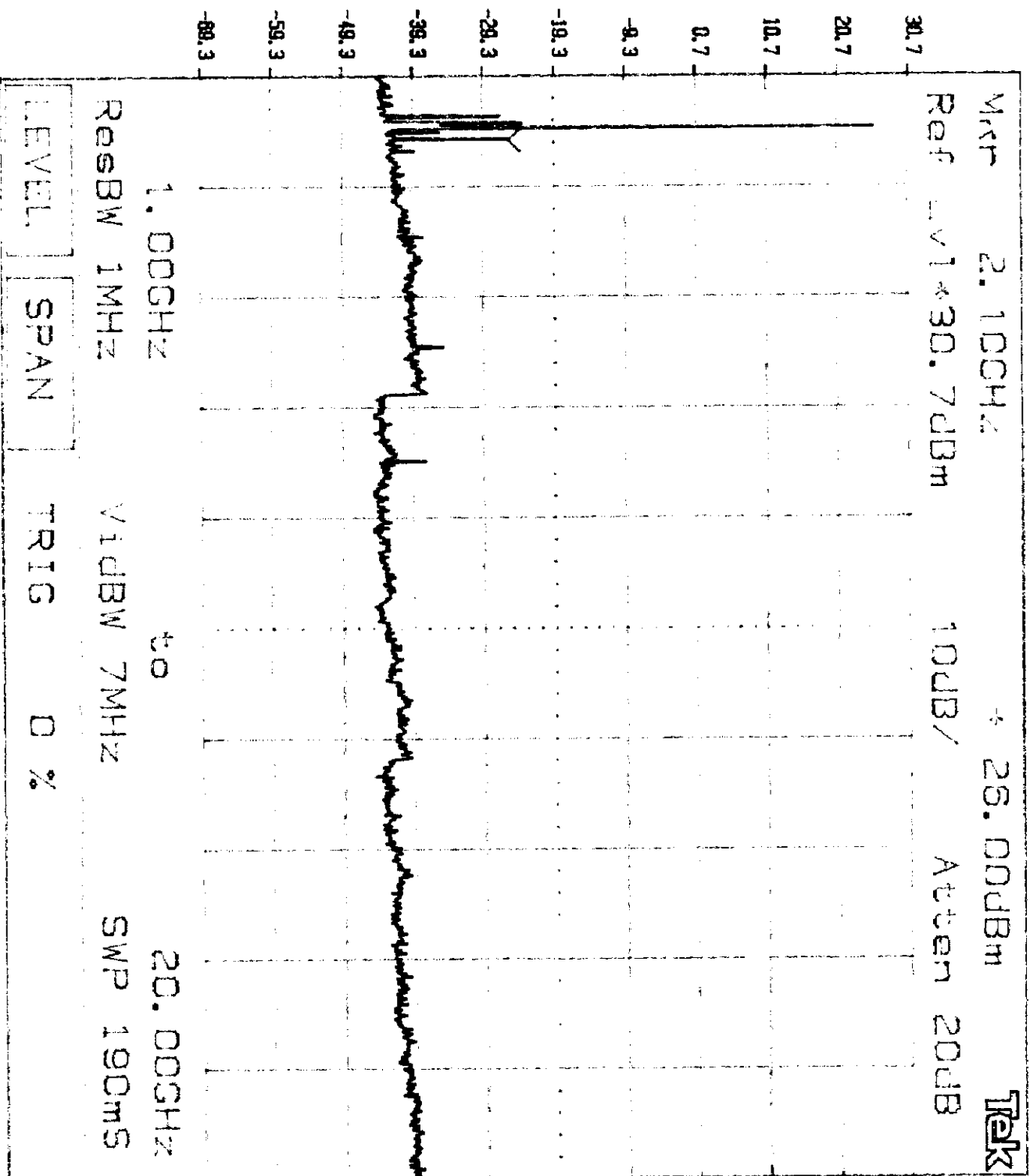
RES BW 100 kHz

VBW 100 kHz

SWP 200 ms

STOP 1000.0 MHz

# PLOT # 7.3.10.b



PLOT #7.3.11.a

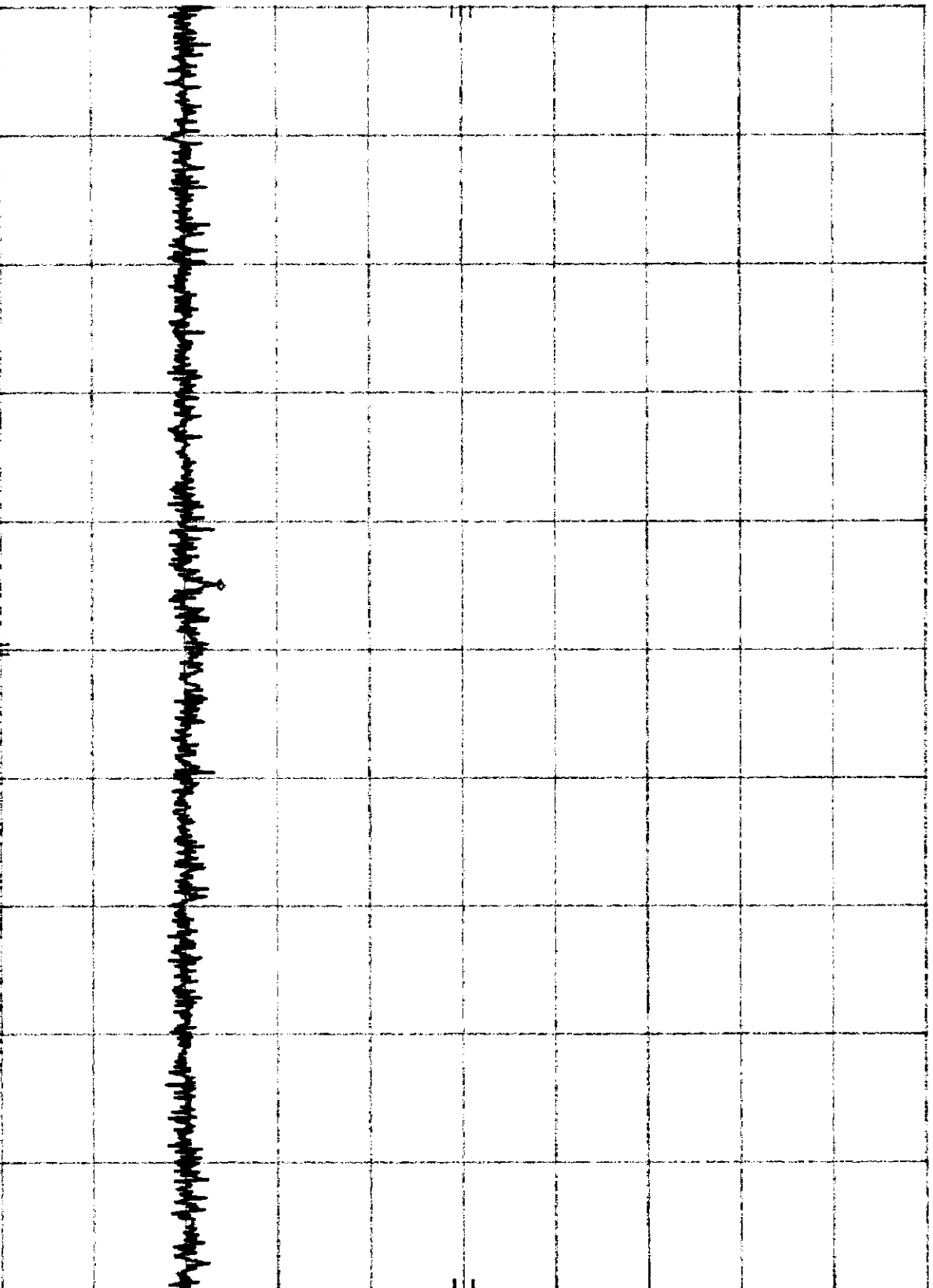
REF -10.0 dBm

ATTEN 0 dB

MKR 880.22 MHz  
-86.10 dBm

h<sub>2</sub>

10 dB/



START 869.00 MHz

RES BW 100 KHz

VBW 100 KHz

STOP 894.00 MHz  
SWP 20 msec

PLOT#7.3.11.b

REF -10.0 dBm

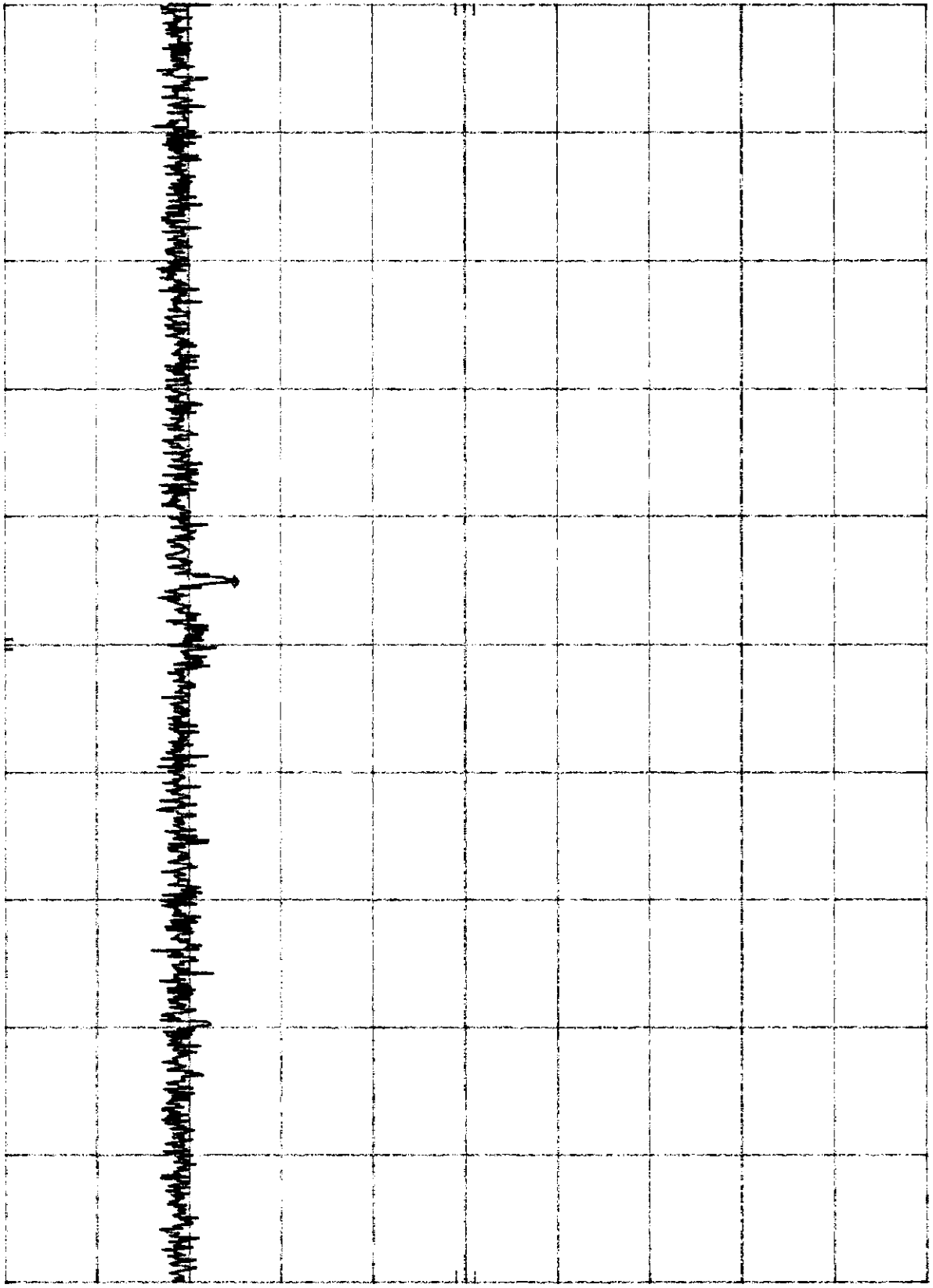
ATTEN 0 dB

MKR 880.25 MHz

-85.00 dBm

h<sub>0</sub>

10 dB/



START 869.00 MHz

RES BW 100 kHz

VBW 100 kHz

STOP 894.00 MHz

SWP 20 msec

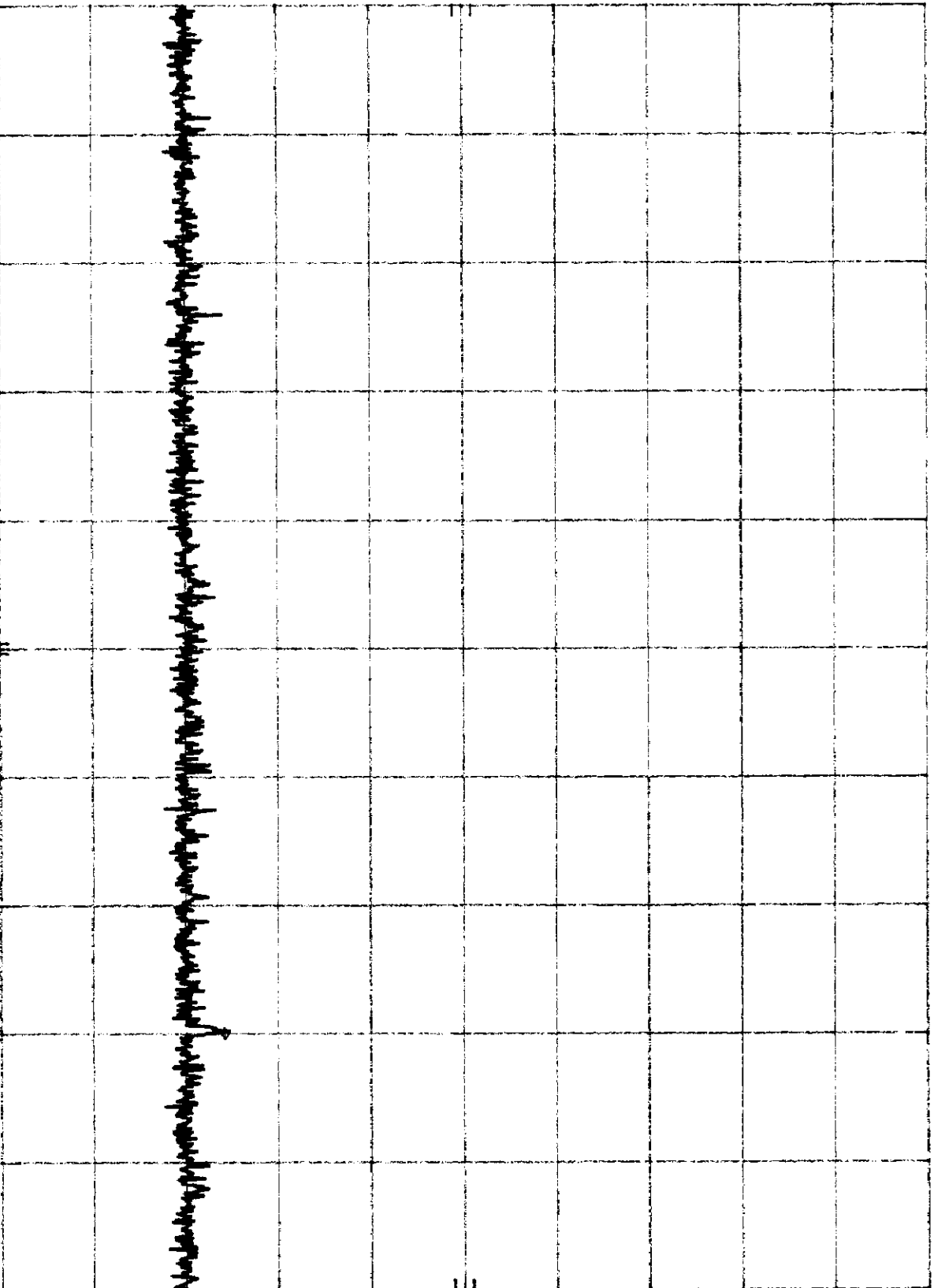
PLOT #7.3.11.c

HP REF -10.0 dBm

ATTEN 0 dB

MKR 888.97 MHz  
-85.80 dBm

10 dB/



START 869.00 MHz

RES BW 100 KHz

VBW 100 KHz

STOP 894.00 MHz  
SWP 20 msec

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

## 8.0 Field Strength of Spurious Radiation, FCC § 2.1053

### 8.1 Test Procedure

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.

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

The spurious emissions attenuation was calculated as the difference between Field strength in dBuV/m at the fundamental frequency (See Section 3) and at the spurious emissions frequency.

### 8.2 Test Equipment

EMCO 3115 Horn Antenna  
HP 8566B Spectrum Analyzer  
Tektronix 2782 Spectrum Analyzer  
Low Pass Filter  
Preamplifier

### 8.3 Test Results

Passed, refer to the attached test data.



### Radiated Emissions Test Data

|            |              |               |              |            |           |
|------------|--------------|---------------|--------------|------------|-----------|
| Company:   | Mitsubishi   | Model #:      | T300         | Req.       | FCC 2 993 |
| EUT:       |              | S/N or FCC #: |              | Test Dist. | 3 meters  |
| Project #: | J20012925    | Test Date:    | May 11, 2000 | TP         | 0.34 Watt |
| Test Mode: | Tx @ 824 MHz | Engineer:     | Xi Ming Y.   | Min. Attn. | 38.31 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |           |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|-----------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8         | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM_LPA-25    | 3160-9 | EMCO 3115 | None         | CDI_P1000 | AFT16855 | None       | None | Gm_M+L | None            |

[illegible]

- 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

### **Radiated Emissions Test Data**

|            |                 |               |              |            |           |
|------------|-----------------|---------------|--------------|------------|-----------|
| Company:   | Mitsubishi      | Model #:      | T300         | Req.       | FCC 2.993 |
| EUT:       |                 | S/N or FCC #: |              | Test Dist. | 3 meters  |
| Project #: | J20012925       | Test Date:    | May 11, 2000 | TP         | 0.34 Watt |
| Test Mode: | Tx @ 836.52 MHz | Engineer:     | Xi Ming Y.   | Min. Attn: | 36.31 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |           |          | Cable Used |      |         | Transducer Used |
|---------|--------------|--------|-----------|--------------|-----------|----------|------------|------|---------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8         | 10       | 0          | 0    | 12      | 0               |
| Model:  | EM_LPA-25    | 3160-9 | EMCO 3115 | None         | CDL_P1000 | AFT16855 | None       | None | Grr_M+L | None            |

[illegible]

- 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.

### Radiated Emissions Test Data

|                   |                |                      |              |                   |       |        |
|-------------------|----------------|----------------------|--------------|-------------------|-------|--------|
| <b>Company:</b>   | Mitsubishi     | <b>Model #:</b>      | T300         | <b>Req.</b>       | FCC 2 | 993    |
| <b>EUT:</b>       |                | <b>S/N or FCC #:</b> |              | <b>Test Dist.</b> | 3     | meters |
| <b>Project #:</b> | J20012925      | <b>Test Date:</b>    | May 11, 2000 | <b>TP</b>         | 0.34  | Watt   |
| <b>Test Mode:</b> | Tx @ 849.02MHz | <b>Engineer:</b>     | Xi Ming Y.   | <b>Min. Attn</b>  | 38.31 | dBc    |

|         | Antenna Used |        |           | Pre-Amp Used |          |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|----------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8        | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM_LPA-25    | 3160-9 | EMCO 3115 | None         | CDLP1000 | AFT18855 | None       | None | Gm_M+L | None            |

[illegible]

**Notes:**

- a) G.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.

### **Radiated Emissions Test Data**

|            |                  |               |              |           |           |
|------------|------------------|---------------|--------------|-----------|-----------|
| Company:   | Mitsubishi       | Model #:      | T300         | Reg.      | FCC 2.993 |
| EUT:       |                  | S/N or FCC #: |              | Test Dist | 3 meters  |
| Project #: | J20012925        | Test Date:    | May 11, 2000 | TP        | 0.53 Watt |
| Test Mode: | Tx @ 824MHz TDMA | Engineer:     | Xi Ming Y.   | Min. Attn | 38.31 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |           |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|-----------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8         | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM_LPA-25    | 3160-9 | EMCO 3115 | None         | CDI_P1000 | AFT16855 | None       | None | Gm_M+L | None            |

[illegible]

**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.

### **Radiated Emissions Test Data**

|                   |                     |                      |              |                  |           |
|-------------------|---------------------|----------------------|--------------|------------------|-----------|
| <b>Company:</b>   | Mitsubishi          | <b>Model #:</b>      | T300         | <b>Reg</b>       | FCC 2 993 |
| <b>EUT:</b>       |                     | <b>S/N or FCC #:</b> |              | <b>Test Dist</b> | 3 meters  |
| <b>Project #:</b> | J20012925           | <b>Test Date:</b>    | May 11, 2000 | <b>TP</b>        | 0.53 Watt |
| <b>Test Mode:</b> | Tx @ 836.52MHz TDMA | <b>Engineer:</b>     | Xi Ming Y.   | <b>Min. Attn</b> | 40.24 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |          |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|----------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8        | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM_LPA-25    | 3160-9 | EMCO 3115 | None         | CDLP1000 | AFT13B55 | None       | None | Gm_M-L | None            |

[illegible]

**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.

### **Radiated Emissions Test Data**

|            |                  |               |              |            |           |
|------------|------------------|---------------|--------------|------------|-----------|
| Company:   | Mitsubishi       | Model #:      | T300         | Req.       | FCC 2.993 |
| EUT:       |                  | S/N or FCC #: |              | Test Dist. | 3 meter   |
| Project #: | J20012925        | Test Date:    | May 11, 2000 | TP         | 0.53 Watt |
| Test Mode: | Tx @ 849MHz TDMA | Engineer:     | Xi Ming Y.   | Min. Attn. | 40.24 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |           |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|-----------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 8         | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM-LPA-25    | 3160-9 | EMCO 3115 | None         | CDI_P1000 | AFT18855 | None       | None | Gm_M+L | None            |

[illegible]

### 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.

**Radiated Emissions Test Data**

|            |                   |               |              |            |           |
|------------|-------------------|---------------|--------------|------------|-----------|
| Company:   | Mitsubishi        | Model #:      | T300         | Reg:       | FCC 2.993 |
| EUT:       |                   | S/N or FCC #: |              | Test Dist: | 3 meter   |
| Project #: | J20012925         | Test Date:    | May 12, 2000 | TP:        | 0.47 Watt |
| Test Mode: | Tx @ 1850MHz TDMA | Engineer:     | Xi Ming Y.   | Min Attn:  | 38.72 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |         |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|---------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 13      | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM LPA-25    | 3160-9 | EMCO 3115 | None         | ACO/400 | AFT18855 | None       | None | Gm_M+L | None            |

| Frequency<br>MHz | Reading<br>dB(μV) | Detector<br>P/A/G | Ant.<br># | Amp<br># | Ant. Pol.<br>H/V | Ant.<br>Factor<br>dB(1/m) | Pre-Amp<br>dB | Insert.<br>Loss<br>dB | Net<br>dB(μV/m) | ERP<br>mW | Attn.<br>dBc | Margin<br>dB |
|------------------|-------------------|-------------------|-----------|----------|------------------|---------------------------|---------------|-----------------------|-----------------|-----------|--------------|--------------|
| 1850.00          | 92.7              | Peak              | 8         | 0        | V                | 27.2                      | 0.0           | 2.1                   | 122.0           | 2.90E+02  | 0.0          | N/A          |
| 3700.00          | 35.0              | Peak              | 8         | 0        | V                | 33.1                      | 0.0           | 2.7                   | 70.8            | 2.17E-03  | 51.3         | -11.5        |
| 5550.00          | 56.2              | Peak              | 8         | 8        | H                | 37.7                      | 28.3          | 3.7                   | 69.3            | 1.56E-03  | 52.7         | -13.0        |
| 7400.00          | 53.0              | Peak              | 8         | 8        | H                | 36.8                      | 28.0          | 4.3                   | 66.1            | 7.49E-04  | 55.9         | -16.2        |
| 9250.11          | 39.0              | Peak              | 8         | 8        | H                | 40.5                      | 27.0          | 4.7                   | 57.2            | 9.67E-05  | 64.8         | -25.0        |
| 11100.30         | 43.5              | Peak              | 8         | 10       | V                | 40.6                      | 39.9          | 5.6                   | 49.8            | 1.74E-05  | 72.2         | -32.5        |
| 12950.34         | 42.0              | Peak              | 8         | 10       | V                | 41.6                      | 39.1          | 6.1                   | 50.6            | 2.08E-05  | 71.5         | -31.7        |
| 14800.34         | 38.6              | Peak              | 8         | 10       | V                | 42.1                      | 37.4          | 6.8                   | 50.1            | 1.85E-05  | 72.0         | -32.2        |
| 16650.34         | 38.0              | Peak              | 8         | 10       | V                | 41.5                      | 39.4          | 7.2                   | 47.3            | 9.71E-06  | 74.8         | -35.0        |
| 18500.34         | 34.0              | Peak              | 21        | 13       | V                | 40.2                      | 23.3          | 7.6                   | 58.5            | 1.30E-04  | 63.5         | -23.8        |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |
|                  |                   |                   |           |          |                  |                           |               |                       |                 |           |              | ---          |

- 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

### Radiated Emissions Test Data

|            |                   |               |              |            |       |        |
|------------|-------------------|---------------|--------------|------------|-------|--------|
| Company:   | Mitsubishi        | Model #:      | T300         | Req.       | FCC 2 | 993    |
| EUT:       |                   | S/N or FCC #: |              | Test Dist. | 3     | meters |
| Project #: | J20012925         | Test Date:    | May 12, 2000 | TP         | 0.47  | Watt   |
| Test Mode: | Tx @ 1880MHz TDMA | Engineer:     | Xi Ming Y    | Min. Attn. | 39.72 | dBc    |

|         | Antenna Used |        |           | Pre-Amp Used |         |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|---------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 13      | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM LPA-25    | 3160-9 | EMCO 3115 | None         | ACO/400 | AFT16855 | None       | None | Gm_M+L | None            |

[illegible]

**Notes:**

- 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.

**Radiated Emissions Test  
Data**

|            |                      |               |              |           |           |
|------------|----------------------|---------------|--------------|-----------|-----------|
| Company:   | Mitsubishi           | Model #:      | T300         | Req.      | FCC 2.993 |
| EUT:       |                      | S/N or FCC #: |              | Test Dist | 3 meter   |
| Project #: | J200129<br>25        | Test Date:    | May 12, 2000 | TP        | 0.47 Watt |
| Test Mode: | Tx @ 1910MHz<br>TDMA | Engineer:     | Xi Ming Y.   | Min. Attn | 39.72 dBc |

|         | Antenna Used |        |           | Pre-Amp Used |         |          | Cable Used |      |        | Transducer Used |
|---------|--------------|--------|-----------|--------------|---------|----------|------------|------|--------|-----------------|
| Number: | 7            | 21     | 8         | 0            | 13      | 10       | 0          | 0    | 12     | 0               |
| Model:  | EM LPA-25    | 3150-9 | EMCO 3115 | None         | ACO/400 | AFT18855 | None       | None | Gm M-L | None            |

| Frequency<br>MHz | Reading<br>dB(μV) | Detector<br>P/A/Q | Ant.<br># | Amp<br># | Ant. Pol.<br>H/V | Ant.<br>Factor<br>dB(1m) | Pre-Amp<br>dB | Insert.<br>Loss<br>dB | Net<br>dB(μV/m) | ERP<br>mW | Attn.<br>dBc | Margin<br>dB |
|------------------|-------------------|-------------------|-----------|----------|------------------|--------------------------|---------------|-----------------------|-----------------|-----------|--------------|--------------|
| 1909.93          | 92.7              | Ave.              | 8         | 0        | V                | 27.2                     | 0.0           | 2.1                   | 122.0           | 2.90E+02  | 0.0          | N/A          |
| 3820.00          | 39.0              | Peak              | 8         | 0        | V                | 33.1                     | 0.0           | 2.7                   | 74.8            | 5.46E-03  | 47.3         | -7.5         |
| 5729.84          | 51.0              | Peak              | 8         | 8        | H                | 37.7                     | 28.3          | 3.7                   | 64.1            | 4.72E-04  | 57.9         | -18.2        |
| 7639.84          | 53.0              | Peak              | 8         | 8        | H                | 38.0                     | 27.8          | 4.6                   | 67.8            | 1.09E-03  | 54.3         | -14.5        |
| 9549.84          | 38.0              | Peak              | 8         | 8        | H                | 39.8                     | 27.3          | 5.0                   | 55.5            | 6.49E-05  | 66.5         | -26.8        |
| 11459.84         | 41.0              | Peak              | 8         | 10       | V                | 40.6                     | 39.9          | 5.6                   | 47.3            | 9.82E-06  | 74.7         | -35.0        |
| 13369.29         | 40.0              | Peak              | 8         | 10       | V                | 41.0                     | 39.2          | 6.1                   | 47.9            | 1.13E-05  | 74.1         | -34.4        |
| 15279.67         | 37.0              | Peak              | 8         | 10       | V                | 42.3                     | 38.3          | 6.6                   | 47.6            | 1.06E-05  | 74.4         | -34.7        |
| 17189.67         | 35.6              | Peak              | 8         | 10       | V                | 43.8                     | 38.8          | 7.5                   | 48.1            | 1.18E-05  | 73.9         | -34.2        |
| 19099.67         | 34.5              | Peak              | 21        | 13       | V                | 40.2                     | 23.3          | 7.7                   | 59.1            | 1.49E-04  | 62.9         | -23.2        |

- 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.

## Radiated Emissions Test Data

|            |            |            |              |                 |           |
|------------|------------|------------|--------------|-----------------|-----------|
| Company:   | Mitsubishi | Model #:   | T300         | Standard        | FCC § 15B |
| EUT:       |            | S/N #:     |              | Limits          | 2         |
| Project #: | J20012925  | Test Date: | May 12, 2000 | Test Distance   | 3 meters  |
| Test Mode: | Rx         | Engineer:  | Xi-Ming Y.   | Duty Relaxation | 0 dB      |

|         | Antenna Used |        |           | Pre-Amp Used |           |         | Cable Used |      |           | Transducer Used |
|---------|--------------|--------|-----------|--------------|-----------|---------|------------|------|-----------|-----------------|
| Number: | 12           | 21     | 7         | 1            | 8         | 13      | 0          | 0    | 2         | 0               |
| Model:  | EMCO 3104    | 3160-9 | EM LPA-25 | HP 8447D     | CDL P1000 | ACO/400 | None       | None | Site 2 3m | 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/G    | #   | #    | H/V       | dB(1m)      | dB      | dB           | dB       | dB(μV/m) | dB(μV/m)  | dB     |
| 38.88     | 42.0    | Peak     | 12  | 1    | V         | 10.7        | 25.8    | 0.7          | 0.0      | 27.6     | 40.0      | -12.4  |
| 58.32     | 43.0    | Peak     | 12  | 1    | V         | 10.2        | 26.1    | 1.0          | 0.0      | 28.1     | 40.0      | -11.9  |
| 155.60    | 32.0    | Peak     | 12  | 1    | H         | 15.1        | 26.0    | 1.5          | 0.0      | 22.6     | 43.5      | -20.9  |
| 213.90    | 42.0    | Peak     | 7   | 1    | H         | 12.0        | 24.7    | 1.8          | 0.0      | 31.1     | 43.5      | -12.4  |
| 291.66    | 32.0    | Peak     | 7   | 1    | H         | 14.2        | 25.8    | 2.0          | 0.0      | 22.4     | 46.0      | -23.6  |
| 488.60    | 40.0    | Peak     | 7   | 1    | H         | 17.5        | 25.7    | 2.6          | 0.0      | 34.4     | 46.0      | -11.6  |
| 1023.13   | 35.0    | Peak     | 8   | 8    | V         | 24.7        | 30.3    | 3.4          | 0.0      | 32.8     | 54.0      | -21.2  |
| 1035.60   | 36.0    | Peak     | 8   | 8    | V         | 24.7        | 30.3    | 3.4          | 0.0      | 33.8     | 54.0      | -20.2  |
| 1048.05   | 36.8    | Peak     | 8   | 8    | H         | 24.9        | 30.3    | 3.4          | 0.0      | 34.8     | 54.0      | -19.2  |
| 2046.26   | 44.7    | Peak     | 8   | 8    | V         | 29.6        | 29.1    | 5.1          | 0.0      | 50.3     | 54.0      | -3.7   |
| 2071.26   | 43.3    | Peak     | 8   | 8    | V         | 29.6        | 29.1    | 5.1          | 0.0      | 48.9     | 54.0      | -5.1   |
| 2096.13   | 44.3    | Peak     | 8   | 8    | H         | 29.8        | 29.1    | 5.1          | 0.0      | 50.1     | 54.0      | -3.9   |
| 3069.40   | 37.5    | Peak     | 8   | 8    | H         | 31.7        | 28.0    | 6.1          | 0.0      | 47.3     | 54.0      | -6.7   |
| 3106.89   | 34.9    | Peak     | 8   | 8    | H         | 31.7        | 28.0    | 6.1          | 0.0      | 44.7     | 54.0      | -9.3   |
| 3144.18   | 37.0    | Peak     | 8   | 8    | H         | 31.7        | 28.0    | 6.1          | 0.0      | 46.8     | 54.0      | -7.2   |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |
|           |         |          |     |      |           |             |         |              |          |          |           | ---    |

|        |                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------|
| 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       |

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

## 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 (Topward Electric Instrument, Model No.: TPS 4000), that was connected to the AC line through the LISNs.

Both HOT and NEUTRAL leads were tested.

### 9.2 Test Results - Line Conducted Emissions

Not applicable.

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

## 10.0 Frequency Stability vs Temperature, FCC § 2.1055, § 22.355

Frequency Tolerance:  $\pm 2.5$  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  
Goldstar DC Power Supply, GR303  
Rohde & Schwarz ESVP Test Receiver

### 10.3 Test Results

Passed, refer to the attached test data.

# Test: CELL-AMPS-Frequency Stability vrs Temp

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 16/May/2000

IS-137 Section: FCC2.995(a)

TEMP: -30 to +60

COMMENT: CH 384 Tx=836.52 MHz

| Time          | Temp  | Freq(Hz)  | Difference(Hz) | Output Power(dBm) |
|---------------|-------|-----------|----------------|-------------------|
| 5/16/00 16:36 | -30.0 | 836520054 | 54             | 25.00             |
| 5/16/00 16:58 | -20.0 | 836520037 | 37             | 25.28             |
| 5/16/00 17:20 | -10.0 | 836519946 | -54            | 24.81             |
| 5/16/00 17:42 | 0.0   | 836519976 | -24            | 24.94             |
| 5/16/00 18:04 | 10.0  | 836520016 | 16             | 24.93             |
| 5/16/00 18:27 | 20.0  | 836520041 | 41             | 24.92             |
| 5/16/00 18:50 | 30.0  | 836519870 | -130           | 25.59             |
| 5/16/00 19:14 | 40.0  | 836519823 | -177           | 24.80             |
| 5/16/00 19:37 | 50.0  | 836520097 | 97             | 25.29             |
| 5/16/00 19:59 | 60.0  | 836520027 | 27             | 25.06             |

**Test: CELL-TDMA-Frequency Stability vrs Temp**

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 18/May/2000

IS-137 Section: FCC2.995(a)

TEMP: -30C to +60C

COMMENT: Ch 384 Tx=836.52MHz

| Time          | Temp  | Freq(Hz)  | Difference(Hz) | OutputPower(dBm) |
|---------------|-------|-----------|----------------|------------------|
| 5/18/00 16:56 | -30.0 | 836520000 | 69.48          | 27.46            |
| 5/18/00 17:18 | -20.0 | 836520000 | -64.23         | 27.52            |
| 5/18/00 17:40 | -10.0 | 836520000 | -40.18         | 27.36            |
| 5/18/00 18:03 | 0.0   | 836520000 | -73.82         | 27.49            |
| 5/18/00 18:25 | 10.0  | 836520000 | -23.39         | 27.60            |
| 5/18/00 18:48 | 20.0  | 836520000 | -74.31         | 27.62            |
| 5/18/00 19:11 | 30.0  | 836520000 | -65.38         | 27.54            |
| 5/18/00 19:35 | 40.0  | 836520000 | 62.17          | 27.58            |
| 5/18/00 19:59 | 50.0  | 836520000 | 45.08          | 27.54            |
| 5/18/00 20:21 | 60.0  | 836520000 | 74.96          | 27.44            |

**Test: PCS-TDMA-Frequency Stability vrs Temp**

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 18/May/2000

IS-137 Section: FCC2.995(a)

TEMP: -30C to +60C

COMMENT: Ch 999 Tx=1879.99MHz

| Time          | Temp  | Freq(Hz)   | Difference(Hz) | OutputPower(dBm) |
|---------------|-------|------------|----------------|------------------|
| 5/18/00 21:34 | -30.0 | 1879990000 | -18.89         | 26.69            |
| 5/18/00 21:55 | -20.0 | 1879990000 | -105.03        | 26.87            |
| 5/18/00 22:18 | -10.0 | 1879990000 | -63.02         | 26.82            |
| 5/18/00 22:40 | 0.0   | 1879990000 | -137.27        | 26.83            |
| 5/18/00 23:02 | 10.0  | 1879990000 | -57.30         | 26.90            |
| 5/18/00 23:25 | 20.0  | 1879990000 | -131.16        | 26.96            |
| 5/18/00 23:48 | 30.0  | 1879990000 | -45.00         | 26.78            |
| 5/19/00 0:11  | 40.0  | 1879990000 | 4.19           | 26.89            |
| 5/19/00 0:35  | 50.0  | 1879990000 | 46.91          | 26.98            |
| 5/19/00 0:57  | 60.0  | 1879990000 | 28.42          | 27.12            |

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

**11.0 Frequency Stability vs Voltage, FCC § 2.1055, § 22.355**  
Frequency Tolerance:  $\pm 2.5$  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.**

Passed, refer to the attached test data.

**Test: CELL-AMPS-Frequency Stability vrs Voltage**

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 18/May/2000

IS-137 Section: FCC2.995(a)

TEMP: Room

COMMENT: Ch 384 Tx=836.52MHz

| Time          | DC_Volts | Freq(Hz)  | Difference(Hz) | OutputPower(dBm) |
|---------------|----------|-----------|----------------|------------------|
| 5/18/00 15:35 | 4.80     | 836519896 | -104           | 23.35            |
| 5/18/00 15:35 | 4.75     | 836519843 | -157           | 23.92            |
| 5/18/00 15:35 | 4.70     | 836519992 | -8             | 24.50            |
| 5/18/00 15:35 | 4.65     | 836519743 | -257           | 24.74            |
| 5/18/00 15:35 | 4.60     | 836519693 | -307           | 24.92            |
| 5/18/00 15:35 | 4.55     | 836519915 | -85            | 24.99            |
| 5/18/00 15:35 | 4.50     | 836519949 | -51            | 25.02            |
| 5/18/00 15:35 | 4.45     | 836519867 | -133           | 25.06            |
| 5/18/00 15:35 | 4.40     | 836519951 | -49            | 25.05            |
| 5/18/00 15:35 | 4.35     | 836519756 | -244           | 25.09            |
| 5/18/00 15:35 | 4.30     | 836519755 | -245           | 25.12            |
| 5/18/00 15:35 | 4.25     | 836519860 | -140           | 25.09            |
| 5/18/00 15:35 | 4.20     | 836519699 | -301           | 25.09            |
| 5/18/00 15:35 | 4.15     | 836519805 | -195           | 25.08            |
| 5/18/00 15:36 | 4.10     | 836519911 | -89            | 25.00            |
| 5/18/00 15:36 | 4.05     | 836519897 | -103           | 24.97            |
| 5/18/00 15:36 | 4.00     | 836519915 | -85            | 24.93            |
| 5/18/00 15:36 | 3.95     | 836519902 | -98            | 24.89            |
| 5/18/00 15:36 | 3.90     | 836519877 | -123           | 24.89            |
| 5/18/00 15:36 | 3.85     | 836519649 | -351           | 24.87            |
| 5/18/00 15:36 | 3.80     | 836519908 | -92            | 24.85            |
| 5/18/00 15:36 | 3.75     | 836519910 | -90            | 24.90            |
| 5/18/00 15:36 | 3.70     | 836519912 | -88            | 24.88            |
| 5/18/00 15:36 | 3.65     | 836519914 | -86            | 24.87            |
| 5/18/00 15:36 | 3.60     | 836519900 | -100           | 24.86            |
| 5/18/00 15:36 | 3.55     | 836519933 | -67            | 24.87            |
| 5/18/00 15:36 | 3.50     | 836519812 | -188           | 25.05            |
| 5/18/00 15:36 | 3.45     | 836519685 | -315           | 25.16            |
| 5/18/00 15:36 | 3.40     | 836519749 | -251           | 25.19            |
| 5/18/00 15:36 | 3.35     | 836519703 | -297           | 25.20            |
| 5/18/00 15:36 | 3.30     | 836519770 | -230           | 25.24            |
| 5/18/00 15:36 | 3.25     | 836519951 | -49            | 25.23            |
| 5/18/00 15:37 | 3.20     | 836519974 | -26            | 25.21            |

**Test: CELL-TDMA-Frequency Stability vrs Voltage**

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 18/May/2000

IS-137 Section: FCC2.995(a)

TEMP: Room

COMMENT: Ch 384 Tx=836.52MHz

| Time          | DC_Volts | Freq(Hz)  | Difference(Hz) | OutputPower(dBm) |
|---------------|----------|-----------|----------------|------------------|
| 5/18/00 15:46 | 4.80     | 836520000 | 13             | 27.50            |
| 5/18/00 15:46 | 4.75     | 836520000 | 13             | 27.47            |
| 5/18/00 15:46 | 4.70     | 836520000 | 13             | 27.50            |
| 5/18/00 15:46 | 4.65     | 836520000 | 14             | 27.65            |
| 5/18/00 15:46 | 4.60     | 836520000 | 15             | 27.62            |
| 5/18/00 15:46 | 4.55     | 836520000 | 15             | 27.65            |
| 5/18/00 15:46 | 4.50     | 836520000 | 16             | 27.67            |
| 5/18/00 15:46 | 4.45     | 836520000 | 16             | 27.62            |
| 5/18/00 15:46 | 4.40     | 836520000 | 17             | 27.58            |
| 5/18/00 15:46 | 4.35     | 836520000 | 18             | 27.57            |
| 5/18/00 15:47 | 4.30     | 836520000 | 18             | 27.57            |
| 5/18/00 15:47 | 4.25     | 836520000 | 19             | 27.52            |
| 5/18/00 15:47 | 4.20     | 836520000 | 20             | 27.49            |
| 5/18/00 15:47 | 4.15     | 836520000 | 20             | 27.45            |
| 5/18/00 15:47 | 4.10     | 836520000 | 20             | 27.45            |
| 5/18/00 15:47 | 4.05     | 836520000 | 21             | 27.49            |
| 5/18/00 15:47 | 4.00     | 836520000 | 21             | 27.49            |
| 5/18/00 15:47 | 3.95     | 836520000 | 21             | 27.41            |
| 5/18/00 15:47 | 3.90     | 836520000 | 21             | 27.40            |
| 5/18/00 15:47 | 3.85     | 836520000 | 22             | 27.35            |
| 5/18/00 15:47 | 3.80     | 836520000 | 22             | 27.34            |
| 5/18/00 15:48 | 3.75     | 836520000 | 22             | 27.32            |
| 5/18/00 15:48 | 3.70     | 836520000 | 22             | 27.35            |
| 5/18/00 15:48 | 3.65     | 836520000 | 22             | 27.44            |
| 5/18/00 15:48 | 3.60     | 836520000 | 22             | 27.51            |
| 5/18/00 15:48 | 3.55     | 836520000 | 21             | 27.50            |
| 5/18/00 15:48 | 3.50     | 836520000 | 22             | 27.57            |
| 5/18/00 15:48 | 3.45     | 836520000 | 21             | 27.58            |
| 5/18/00 15:48 | 3.40     | 836520000 | 21             | 27.57            |
| 5/18/00 15:48 | 3.35     | 836520000 | 21             | 27.53            |
| 5/18/00 15:48 | 3.30     | 836520000 | 20             | 27.43            |
| 5/18/00 15:48 | 3.25     | 836520000 | 22             | 27.48            |
| 5/18/00 15:49 | 3.20     | 836520000 | 24             | 27.54            |

# Test: PCS-TDMA-Frequency Stability vrs Voltage

S/W: 4.1.C debug5

Phone Model: T300, Rev D

ESN: 109

Date: 18/May/2000

IS-137 Section: FCC2.995(a)

TEMP: Room

COMMENT: Ch 999 Tx=1879.99MHz

| Time          | DC_Volts | Freq(Hz)   | Difference(Hz) | OutputPower(dBm) |
|---------------|----------|------------|----------------|------------------|
| 5/18/00 15:07 | 4.80     | 1879990000 | -43.05         | 26.91            |
| 5/18/00 15:07 | 4.75     | 1879990000 | -45.96         | 26.88            |
| 5/18/00 15:07 | 4.70     | 1879990000 | -46.99         | 26.87            |
| 5/18/00 15:07 | 4.65     | 1879990000 | -48.46         | 26.98            |
| 5/18/00 15:08 | 4.60     | 1879990000 | -48.33         | 26.93            |
| 5/18/00 15:08 | 4.55     | 1879990000 | -49.08         | 26.94            |
| 5/18/00 15:08 | 4.50     | 1879990000 | -47.56         | 26.96            |
| 5/18/00 15:08 | 4.45     | 1879990000 | -47.41         | 26.91            |
| 5/18/00 15:08 | 4.40     | 1879990000 | -46.60         | 26.90            |
| 5/18/00 15:08 | 4.35     | 1879990000 | -45.96         | 26.94            |
| 5/18/00 15:08 | 4.30     | 1879990000 | -44.77         | 26.98            |
| 5/18/00 15:08 | 4.25     | 1879990000 | -43.49         | 26.92            |
| 5/18/00 15:08 | 4.20     | 1879990000 | -43.01         | 26.91            |
| 5/18/00 15:08 | 4.15     | 1879990000 | -41.66         | 26.88            |
| 5/18/00 15:08 | 4.10     | 1879990000 | -40.90         | 26.89            |
| 5/18/00 15:09 | 4.05     | 1879990000 | -39.43         | 26.91            |
| 5/18/00 15:09 | 4.00     | 1879990000 | -38.37         | 26.85            |
| 5/18/00 15:09 | 3.95     | 1879990000 | -37.19         | 26.87            |
| 5/18/00 15:09 | 3.90     | 1879990000 | -36.91         | 26.86            |
| 5/18/00 15:09 | 3.85     | 1879990000 | -36.68         | 26.87            |
| 5/18/00 15:09 | 3.80     | 1879990000 | -35.59         | 26.85            |
| 5/18/00 15:09 | 3.75     | 1879990000 | -34.51         | 26.83            |
| 5/18/00 15:09 | 3.70     | 1879990000 | -34.76         | 26.82            |
| 5/18/00 15:09 | 3.65     | 1879990000 | -33.64         | 26.81            |
| 5/18/00 15:09 | 3.60     | 1879990000 | -32.79         | 26.80            |
| 5/18/00 15:09 | 3.55     | 1879990000 | -31.79         | 26.77            |
| 5/18/00 15:10 | 3.50     | 1879990000 | -31.97         | 26.75            |
| 5/18/00 15:10 | 3.45     | 1879990000 | -31.56         | 26.71            |
| 5/18/00 15:10 | 3.40     | 1879990000 | -30.62         | 26.60            |
| 5/18/00 15:10 | 3.35     | 1879990000 | -29.46         | 26.87            |
| 5/18/00 15:10 | 3.30     | 1879990000 | -29.02         | 26.85            |
| 5/18/00 15:10 | 3.25     | 1879990000 | -28.76         | 26.81            |
| 5/18/00 15:10 | 3.20     | 1879990000 | 28.42          | 26.69            |

Mitsubishi Wireless (MCTC), TDMA/AMPS Cellular Phone  
FCC ID: BGBMT345XFOR6A

Date of Test: May 9-10, 2000

## 12.0 Miscellaneous Comments

None.