TEST REPORT

Report Number: 30463252
Project Number: 3046325
Report Date: August 4, 2003

Testing performed on the
Sonata iCell CDMA 1X BSS Shelf, 800 MHz
FCC ID: RCEICELL800-1

to
FCC Part 22

for
TELOS Technology

Test Performed by:
Intertek Testing Services
1365 Adams Court
Menlo Park, CA 94025

Test Authorized by:
TELOS Technology
4600 Jacombs Road
Richmond, BC, V6V3B1

Prepared by: David Chernomordik — **Date:** 08/14/2003
David Chernomordik, EMC Technical Manager

Reviewed by: — **Date:** 08/14/2003
Ollie Moyrong, EMC Manager

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1.0 Job Description

1.1 Applicant information

Applicant name & address	TELOS Technology 4600 Jacombs Road Richmond, BC, V6V3B1, Canada
Contact info	Mr. Richard LaLau
Telephone:	604-303-2353
Fax:	604=880-0957
Email	rlalau@telostech.com

1.2 Test Summary

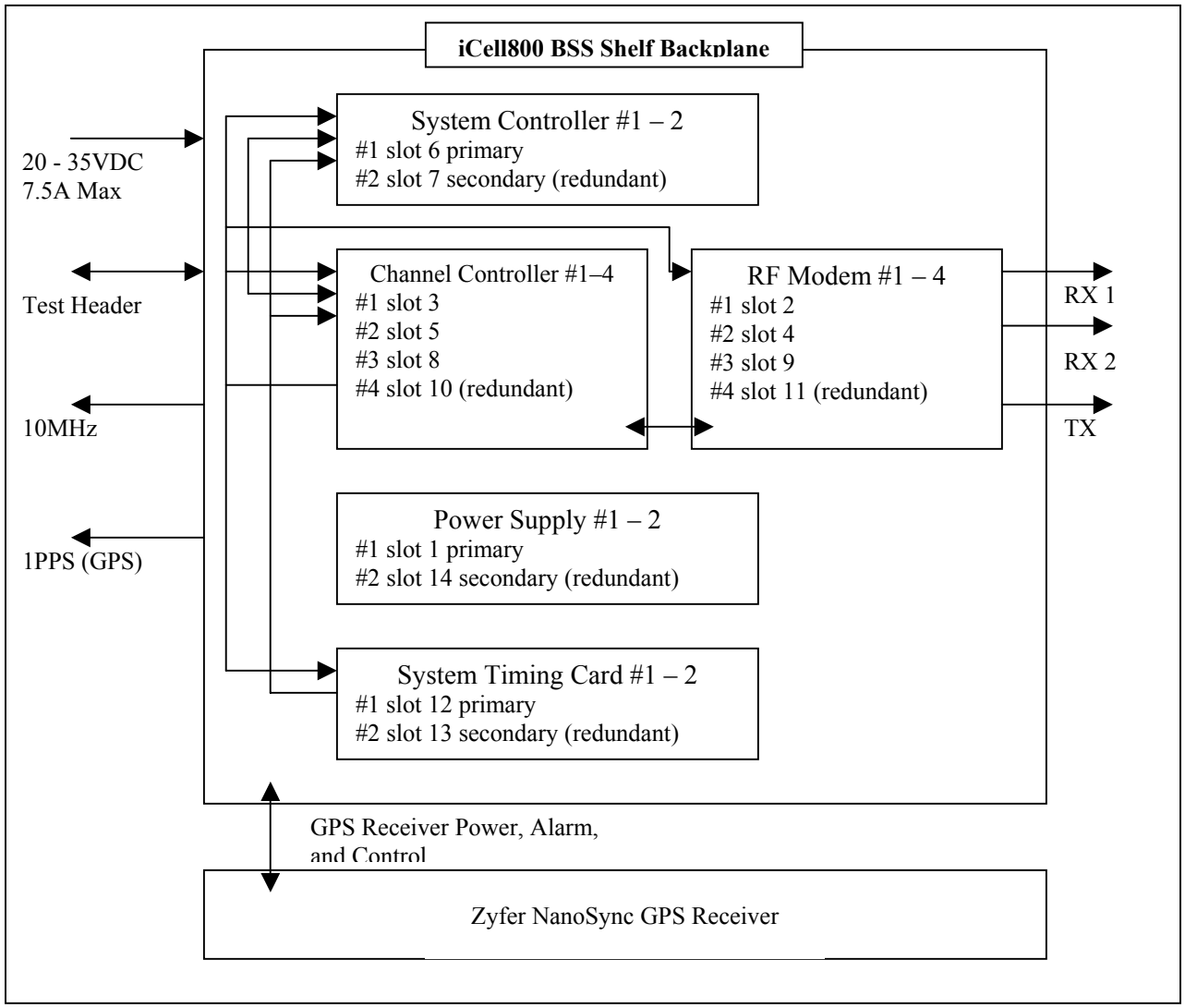
FCC Rule	Description of Test	Result	Page
2.1046	RF Power Output	Complies 0 dBm - average	7
22.913	ERP	Complies	11
2.1047	Modulation Requirements	Not Applicable	-
2.1049	Occupied Bandwidth, Emission Designator	1M25F9W	12
2.1051, 22.901(d) 22.917(f)	Out of Band Emissions at Antenna Terminals	Complies	16
2.1053	Field Strength of Spurious Radiation	Complies	43
2.1055	Frequency Stability vs. Temperature	Complies	45
2.1055	Frequency Stability vs. Voltage	Complies	47
2.1091	RF Exposure	Not Applicable, EUT does not have an antenna	-

The test results in this report pertain only to the item tested.

1.3 Product Description

The iCell800 system consists of a System Controller, 3-pairs of Channel Controllers and RF Modems, a Timing Card, and Power Supply. While the system was originally planned to support redundant operation, this feature has not been implemented or tested and is therefore not part of RCEiCELL800-1 submission.

A Zyfer NanoSync (Model 380-210) Global Positioning System (GPS) receiver is permanently attached to the iCell800 backplane and provides 10MHz reference frequency to the Timing Card.

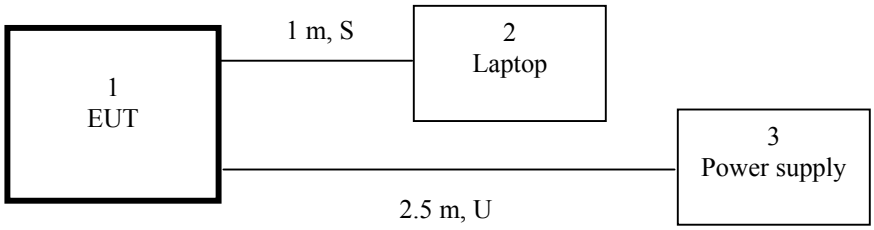


For more information, please refer to the attached product description.

Use of Product	Base Station
Cellular Phone standards	CDMA
Type(s) of Emission	1M25F9W
Rated RF Output Power	0 dBm (average)
Frequency Range	869-894 MHz
Antenna(e) & Gain	No antenna is directly connected to the EUT. The EUT is intended to be connected to a power amplifier
DC voltage and current into the final RF stage	6 V, 300 mA
External input	Digital Data

EUT receive date:	July 28, 2003
EUT receive condition:	The EUT was received in good condition with no apparent damage.
Test start date:	July 28, 2003
Test completion date:	July 31, 2003

1.3 Test Configuration



The EUT was setup in a 19' rack

Item #	Description	Make	Model No.	Serial No.
1	EUT	TELOS Technology	iCell	Not labeled
2	Laptop	Compaq	Armada 1750	6333/T/6400/D/M/1
3	Power supply	EXTECH	EP-3003	D30030012

1.4 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). During testing, all cables were manipulated to produce worst case emissions.

For radiated emission measurements, the EUT is placed on the wooden turntable. If the EUT attaches to peripherals, they are connected and operational (as typical as possible).

The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. All readings are extrapolated back to the equivalent three-meter reading using inverse scaling with distance.

1.5 Mode of Operation

The EUT was setup to transmit continuously a CDMA signal on selected channels.

1.6 Related Submittal(s) Grants

None

1.7 Test Facility

The test site and conducted measurement facility used to collect the radiated data is site 1 (10 m semi-anechoic chamber). This test facility and site measurement data have been fully placed on file with the FCC and A2LA accredited.

2.0 RF Power Output
FCC 2.1046

2.1 Test Procedure

The transmitter output was connected to a spectrum analyzer. The resolution and video bandwidths of the spectrum analyzer were set up to 30 kHz and 300 Hz accordingly, and the spectrum analyzer reading was recorded. The average value of the output power was calculated by adding a bandwidth correction factor equal 10Log(1250/30) = 16.2 dB to the spectrum analyzer reading.

Tests were performed at three frequencies (low, middle, and high channels) in Cellular band.

2.2 Test Equipment

HP8565E Spectrum Analyzer

2.3 Test Results

Frequency MHz	Average Power dBm	Average Power mW	Plot Number
869.70	1.03	1.3	2.1
889.32	0.70	1.2	2.2
893.31	0.37	1.1	2.3

For more details refer to the attached plots.


Plot 2.1
ATTEN 30dB
RL 20.0dBm
10dB/
MKR -15.17dBm
870.025MHz
iCell Shelf
CENTER 869.700MHz
*RBW 30kHz
*VBW 300Hz
SPAN 5.000MHz
SWP 1.40sec


Plot 2.2
ATTEN 30dB
RL 20.0dBm
10dB/
MKR -15.50dBm
889.303MHz
iCell Shelf
CENTER 889.320MHz
*RBW 30KHz
*VBW 300Hz
SPAN 5.000MHz
SWP 1.40sec


Plot 2.3
ATTEN 30dB
RL 20.0dBm
10dB/
MKR -15.83dBm
893.285MHz
iCell Shelf
CENTER 893.310MHz
*RBW 2.0MHz
*VBW 3.0MHz
SPAN 5.000MHz
SWP 50.0ms

3.0 Radiated Power

FCC 22.913

The Effective Radiated Power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts.

The ERP may be calculated by adding the antenna gain (in dBd) to the output power in dBm. In normal operation the iCELL will be connected to the power amplifier which is connected to an antenna. Since the output power is about 0 dBm, the effective antenna gain (e. g. antenna gain itself plus cable loss plus amplifier gain), must not exceed 57 dBd.

4.0 Occupied Bandwidth

FCC 2.1049

4.1 Test Procedure

The transmitter output was connected to a spectrum analyzer. The Occupied Bandwidth (defined as the 99% Power Bandwidth) was measured with the HP8565E Spectrum Analyzer.

4.2 Test Equipment

Hewlett Packard HP8565E Spectrum Analyzer

4.3 Test Results

See attached plots 4.1 - 4.3. The test result shows that the bandwidth is 1.243 MHz, which is 0.5% less than the theoretical bandwidth for CDMA - 1.25 MHz. The Emission Designator was determined as 1M25F9W


Plot 4-1
ATTEN 10dB
RL -10.00dBm
10dB/
ΔMKR .33dB
1.237MHz
iCell Shelf
OCCUPIED BW
FREQ RANGE 1.277MHz
%OCC 99.00
BW 1.243MHz
S
CENTER 869.700MHz
*RBW 30KHz
*VBW 300Hz
SPAN 2.000MHz
SWP 560ms


Plot 4-2
ATTEN 10dB
RL -10.0dBm
10dB/
ΔMKR -.17dB
1.240MHz
iCell Shelf
OCCUPIED BW
FREQ RANGE 1.277MHz
%OCC 99.00
BW 1.243MHz
S
CENTER 889.320MHz
*RBW 30KHz
SPAN 2.000MHz
*VBW 300Hz
SWP 560ms


Plot 4-3
ATTEN 10dB
RL -10.0dBm
10dB/
ΔMKR 0dB
1.240MHz
OCCUPIED BW
FREQ RANGE 1.277MHz
%OCC 99.00
BW 1.243MHz
CENTER 893.310MHz
*RBW 30KHz
*VBW 300Hz
SPAN 2.000MHz
SWP 560ms

5.0 Out of Band Emissions at Antenna Terminals

FCC 22.901(d), 22.901(d)

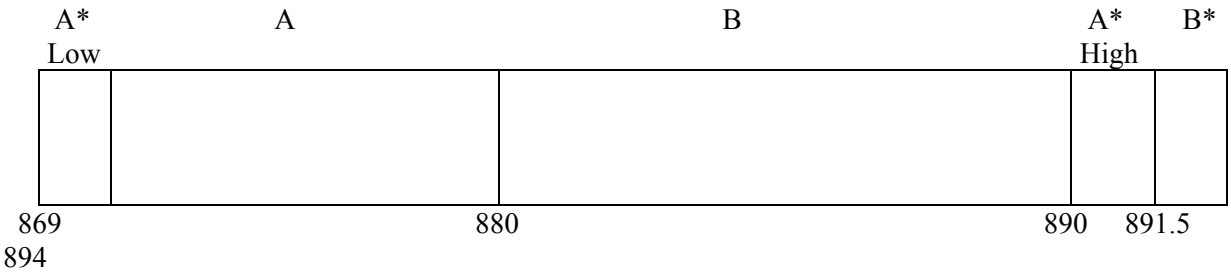
Out of Band Emissions:

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least (43 + 10 log P) dB.

5.1 Test Procedure

According to FCC requirements, the following four frequency Blocks must be considered to show compliance with requirements of out-of-band emissions including emissions on the band-edge frequencies:

BLOCK 1: 869 – 880 MHz (A* Low + A)
BLOCK 2: 880 – 890 MHz (B)
BLOCK 3: 890 – 891.5 MHz (A8 High)
BLOCK 4: 891.5 – 894 MHz (B* High)



The following channels/frequencies were selected for out-of-band emission tests:

Channel	Frequency, MHz
1013	869.70
311	879.33
356	880.68
644	889.32
689	890.67
694	890.82
739	892.17
777	893.31

The RF output of the transmitter was connected to a spectrum analyzer. For the channels 1013, 356, 777 scans were taken to show the out-of-band emissions from 30 MHz to 9 GHz, for the other channels scans were taken to show compliance on the band-edge frequencies for each selected blocks.

5.2 Test Equipment

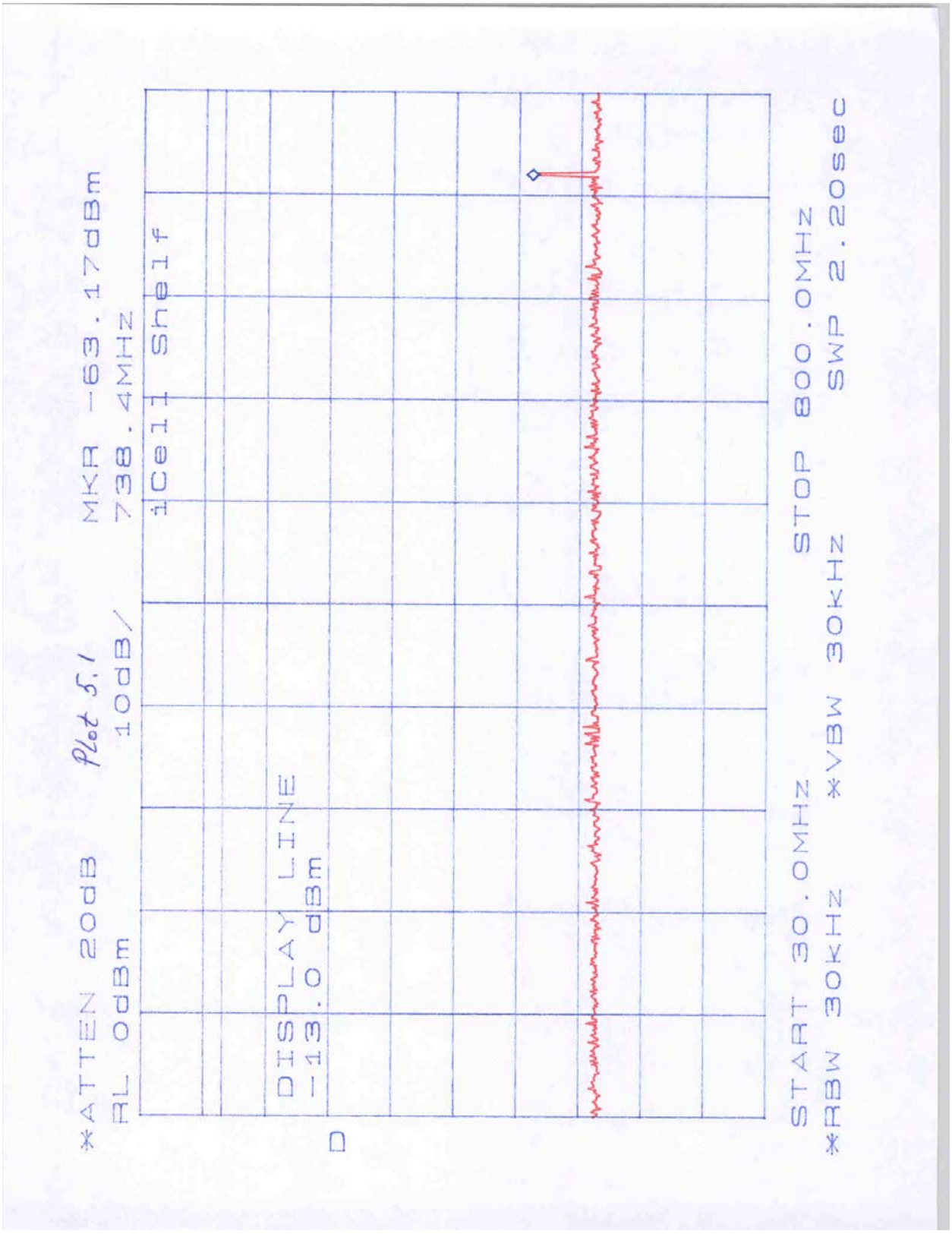
HP8565E Spectrum Analyzer

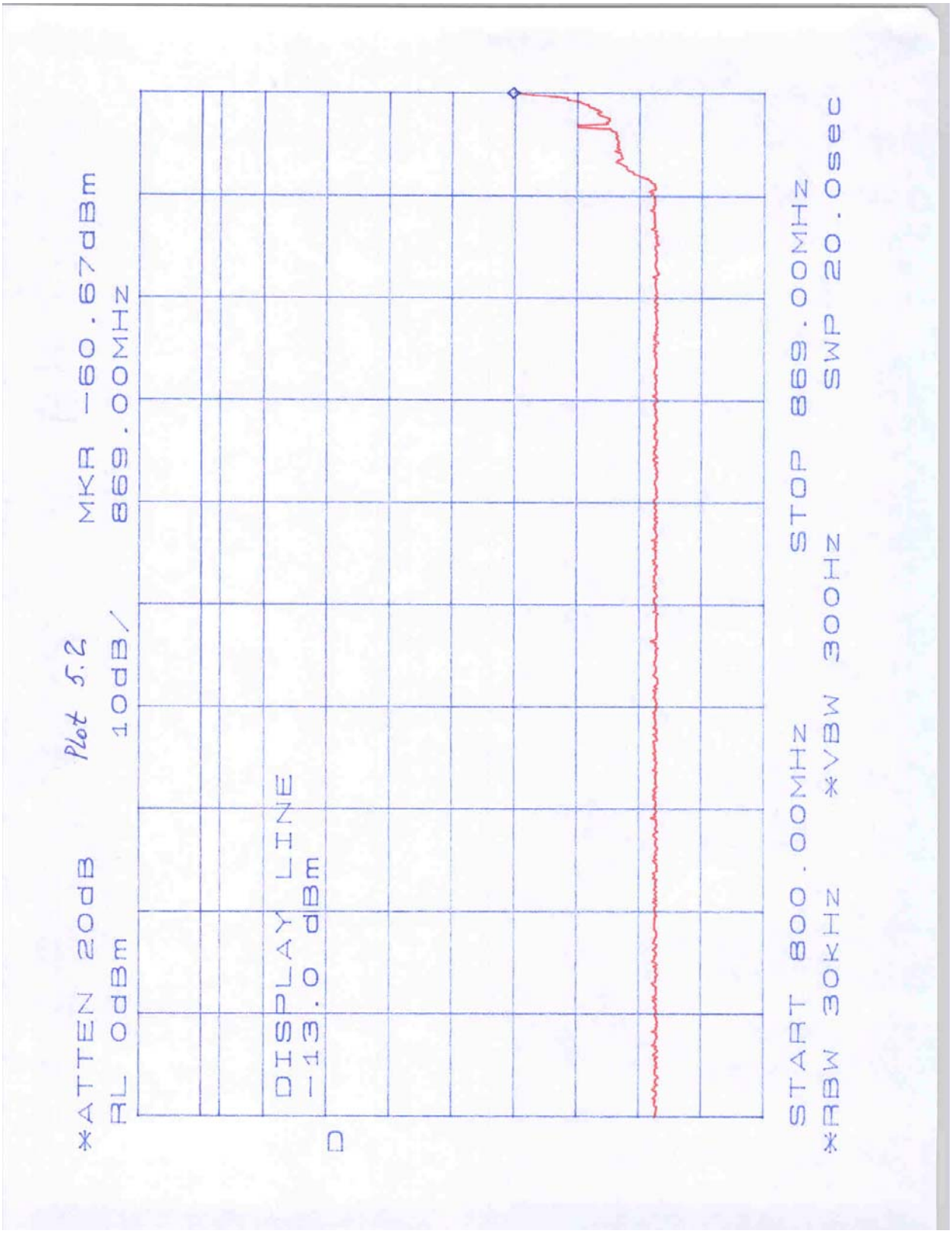
5.3 Test Results

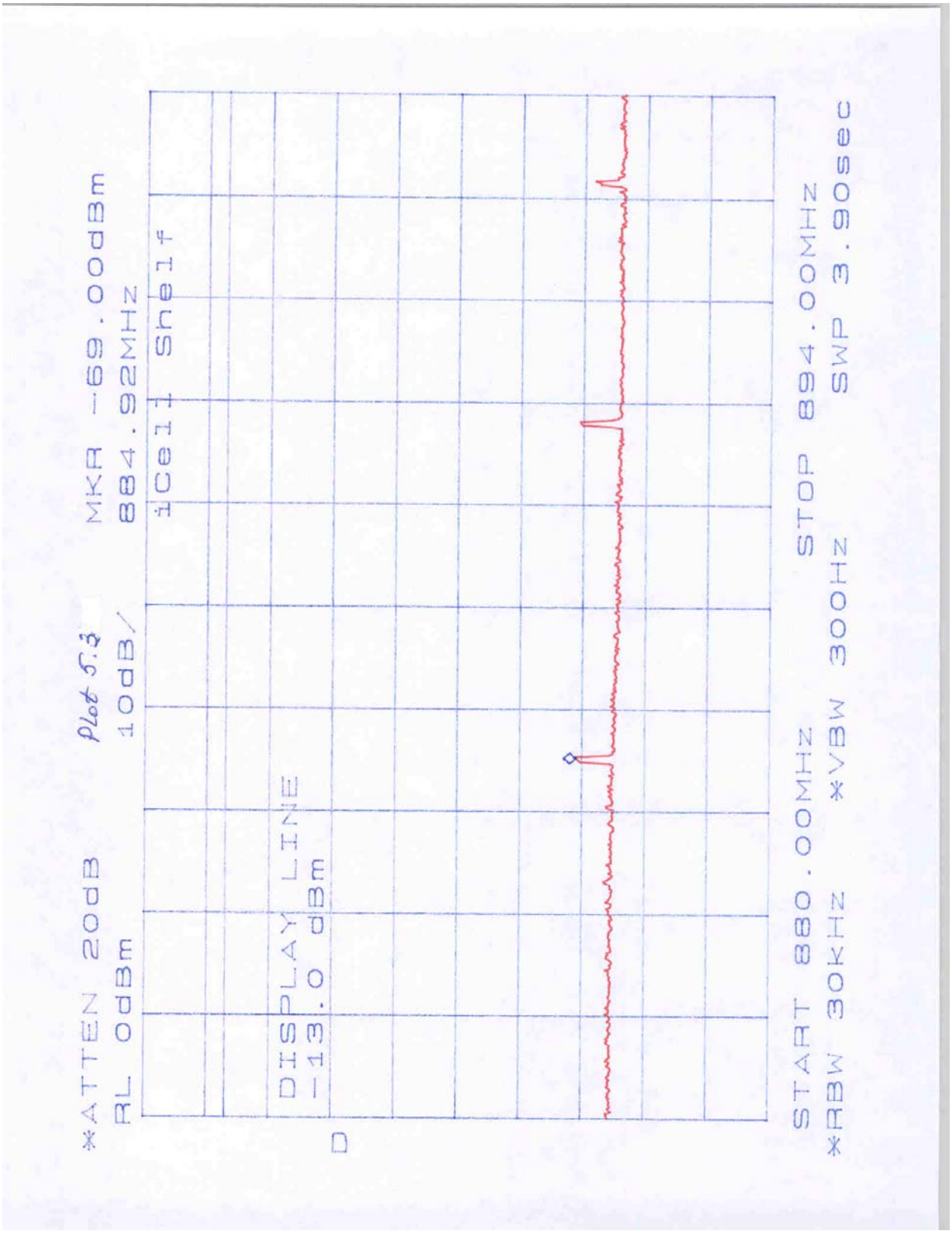
Refer to the following plots

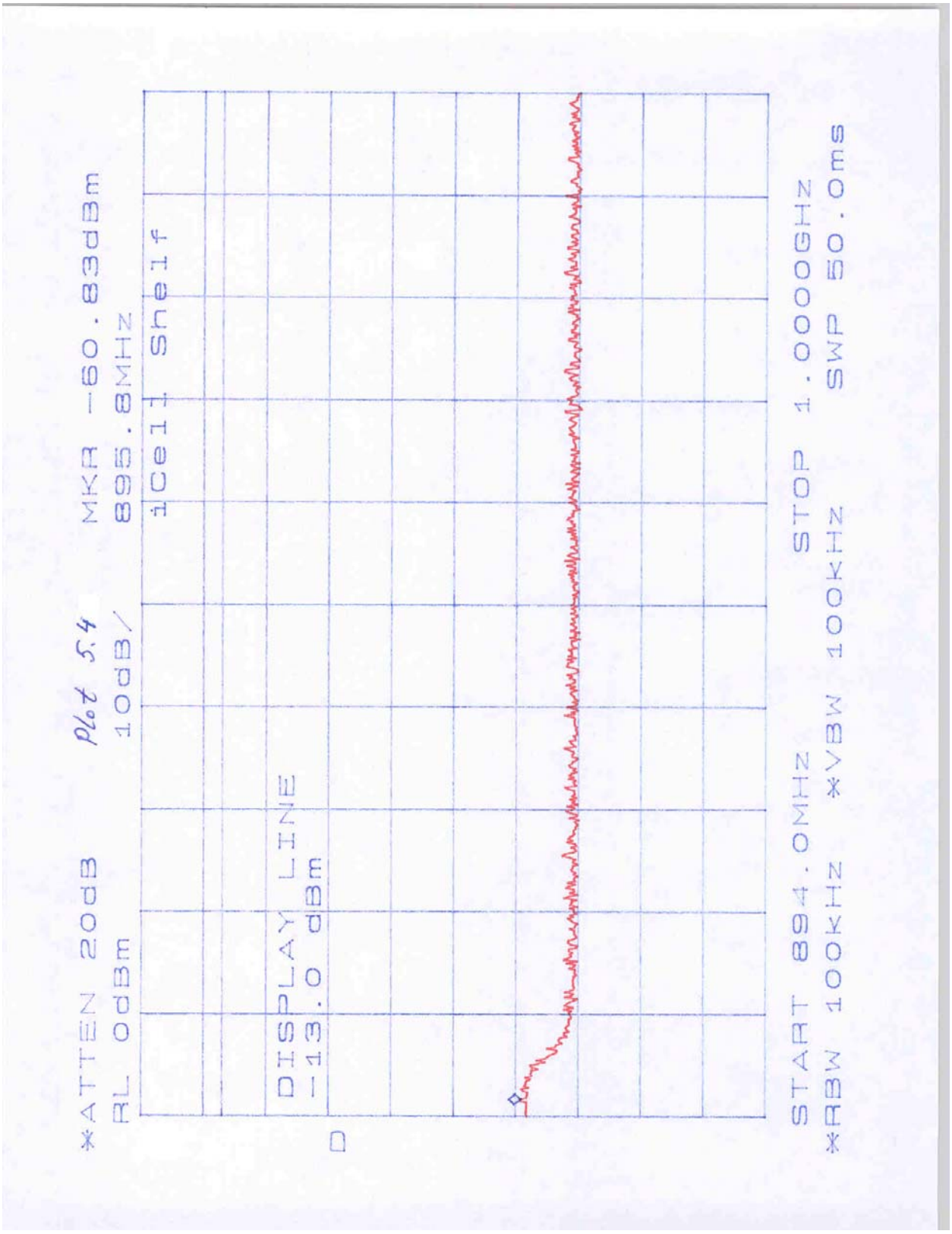
Channel	Frequency, MHz	Description	Plot number
1013	869.7	Scan 30 – 800 MHz	5.1
		Scan 800 – 869 MHz	5.2
		Scan 880 – 894 MHz	5.3
		Scan 894 – 1000 MHz	5.4
		Scan 1000 – 9000 MHz	5.5
311	879.33	Scan 30 – 869 MHz	5.6
		Scan 880 – 894 MHz	5.7
356	880.68	Scan 30 – 869 MHz	5.8
		Scan 869 – 880 MHz	5.9
		Scan 890 – 894 MHz	5.10
		Scan 894 – 1000 MHz	5.11
		Scan 1000 – 9000 MHz	5.12
644	889.32	Scan 869 – 880 MHz	5.13
		Scan 890 – 894 MHz	5.14
689	890.67	Scan 869 – 890 MHz	5.15
		Scan 891.5 – 894 MHz	5.16
694	890.82	Scan 869 – 890 MHz	5.17
		Scan 891.5 – 894 MHz	5.18
739	892.17	Scan 869 – 891.5 MHz	5.19
		Scan 894 – 897 MHz	5.20
777	893.31	Scan 30 – 869 MHz	5.21
		Scan 869 – 891.5 MHz	5.22
		Scan 894 – 897 MHz	5.23
		Scan 897 – 1000 MHz	5.24
		Scan 1000 – 9000 MHz	5.25

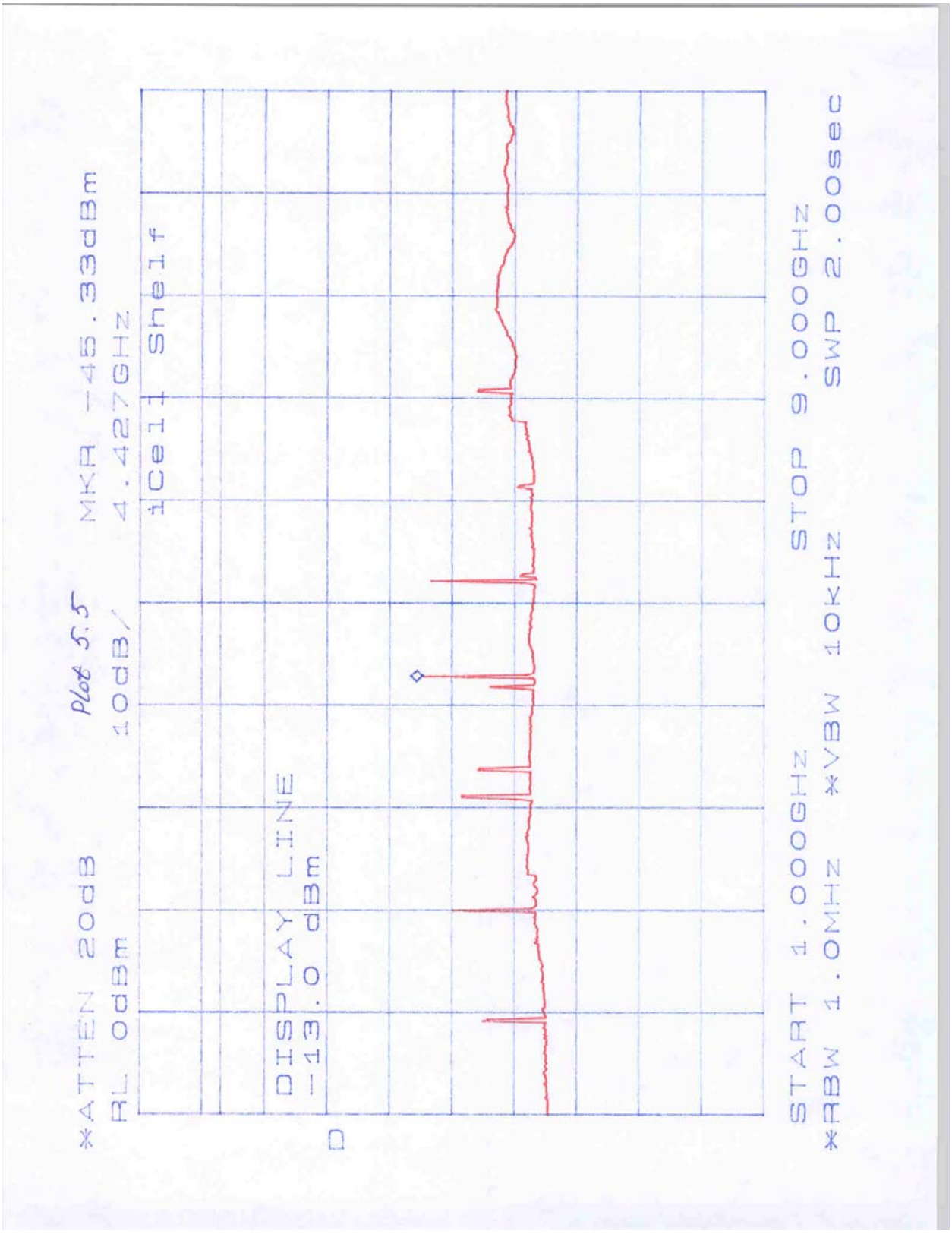
Complies	Passed by 11 dB

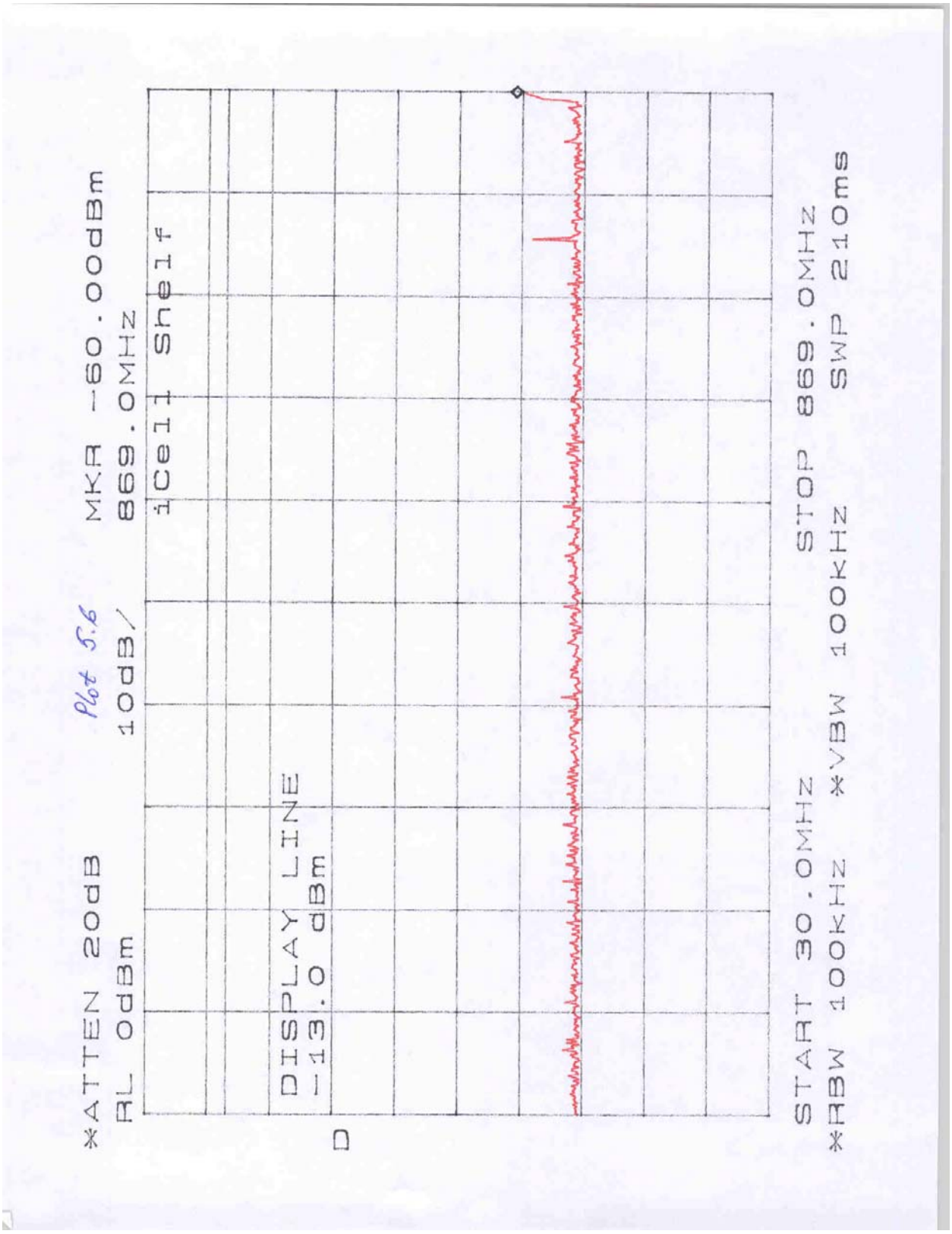

Plot 5.1
*ATTEN 20dB
RL 0dBm
10dB/
MKR -63.17dBm
738.4MHz
iCell Shelf
DISPLAY LINE
-113.0 dBm
START 30.0MHz
*RBW 30KHz
*VBW 30KHz
STOP 800.0MHz
SWP 2.20sec

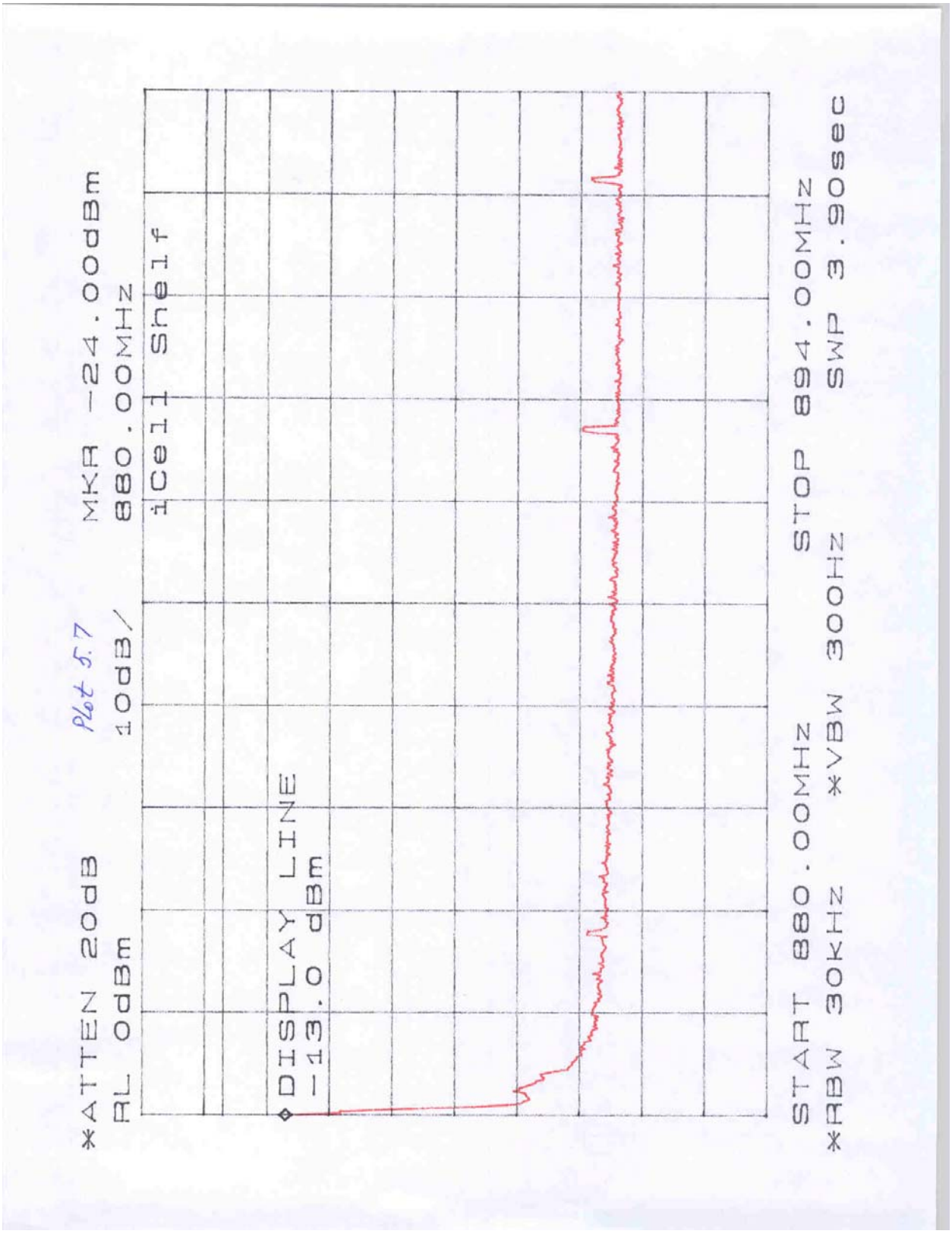

Plot 5.2
*ATTEN 20dB
RL 0dBm
10dB/
MKR -60.67dBm
869.00MHz
DISPLAY LINE
-113.0 dBm
START 800.00MHz
*RBW 30KHz
STOP 869.00MHz
*VBW 300Hz
SWP 20.0sec

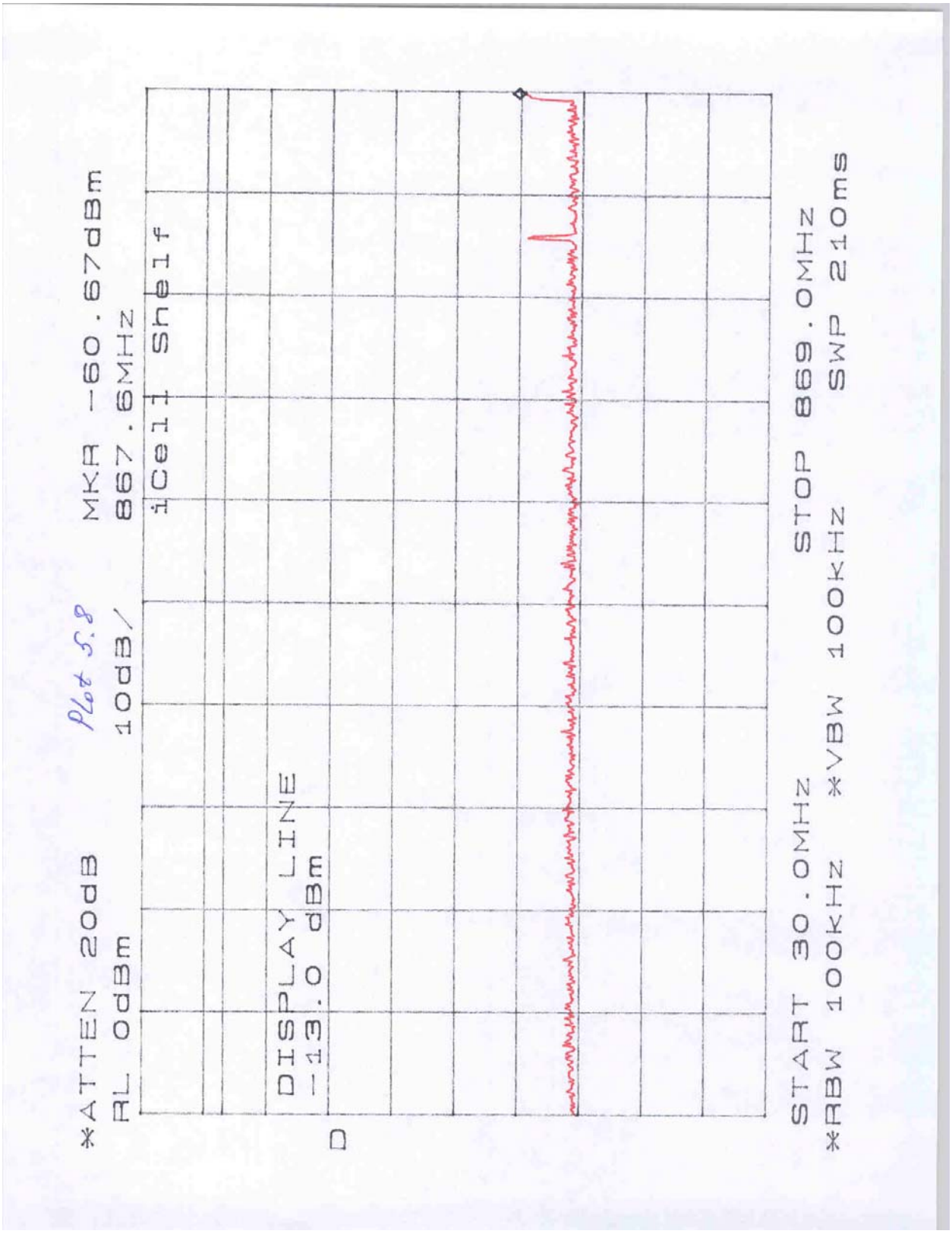

Plot 5.3
*ATTEN 20dB
RL 0dBm
10dB/
MKR -69.00dBm
884.92MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 880.00MHz
*RBW 30KHz
STOP 894.00MHz
*VBW 300Hz
SWP 3.90sec

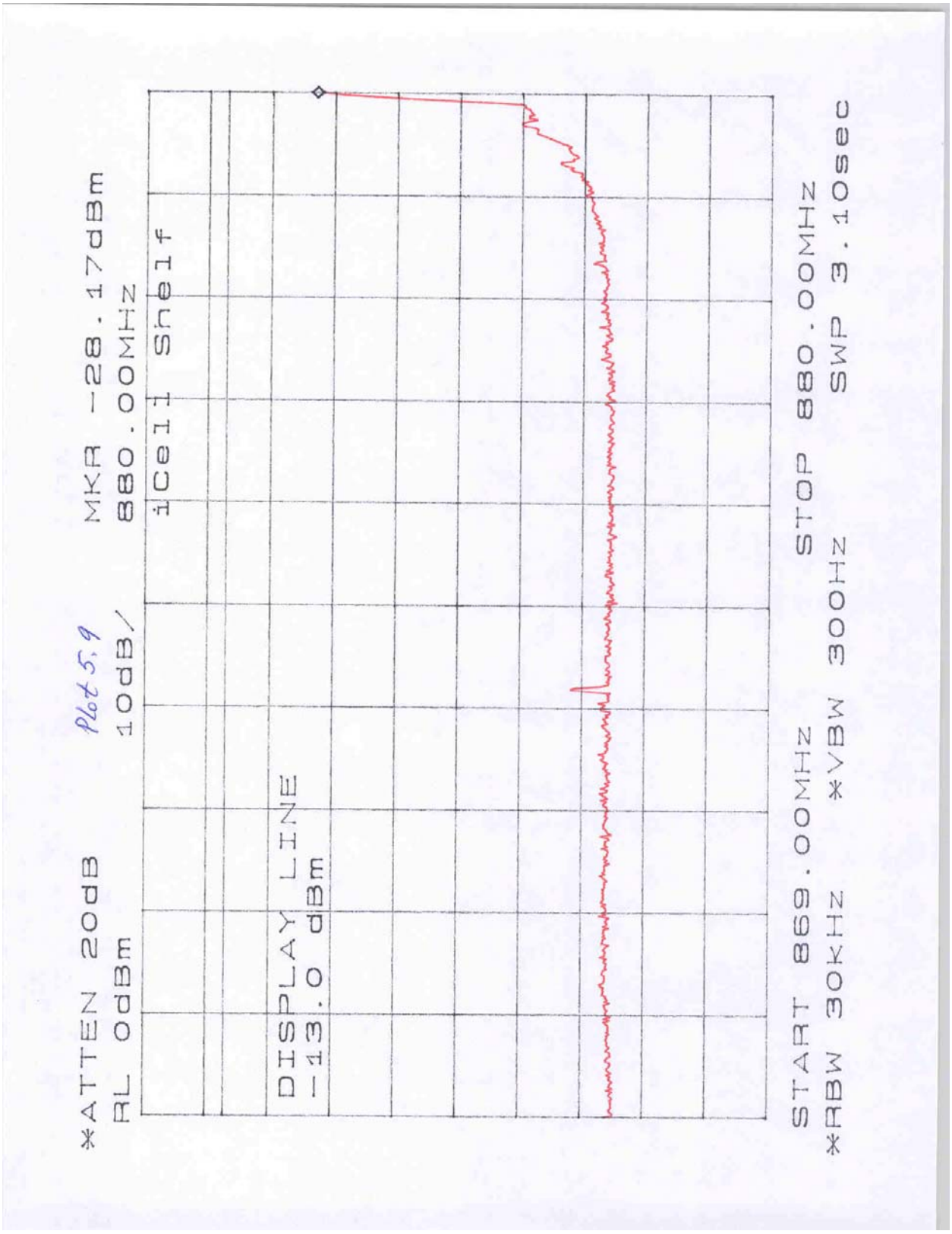

Plot 5.4
*ATTEN 20dB
RL 0dBm
10dB/
MKR -60.83dBm
895.8MHz
iCell Shelf
DISPLAY LINE
-113.0 dBm
START 894.0MHz
*RBW 100KHz
*VBW 100KHz
STOP 1.0000GHz
SWP 50.0ms

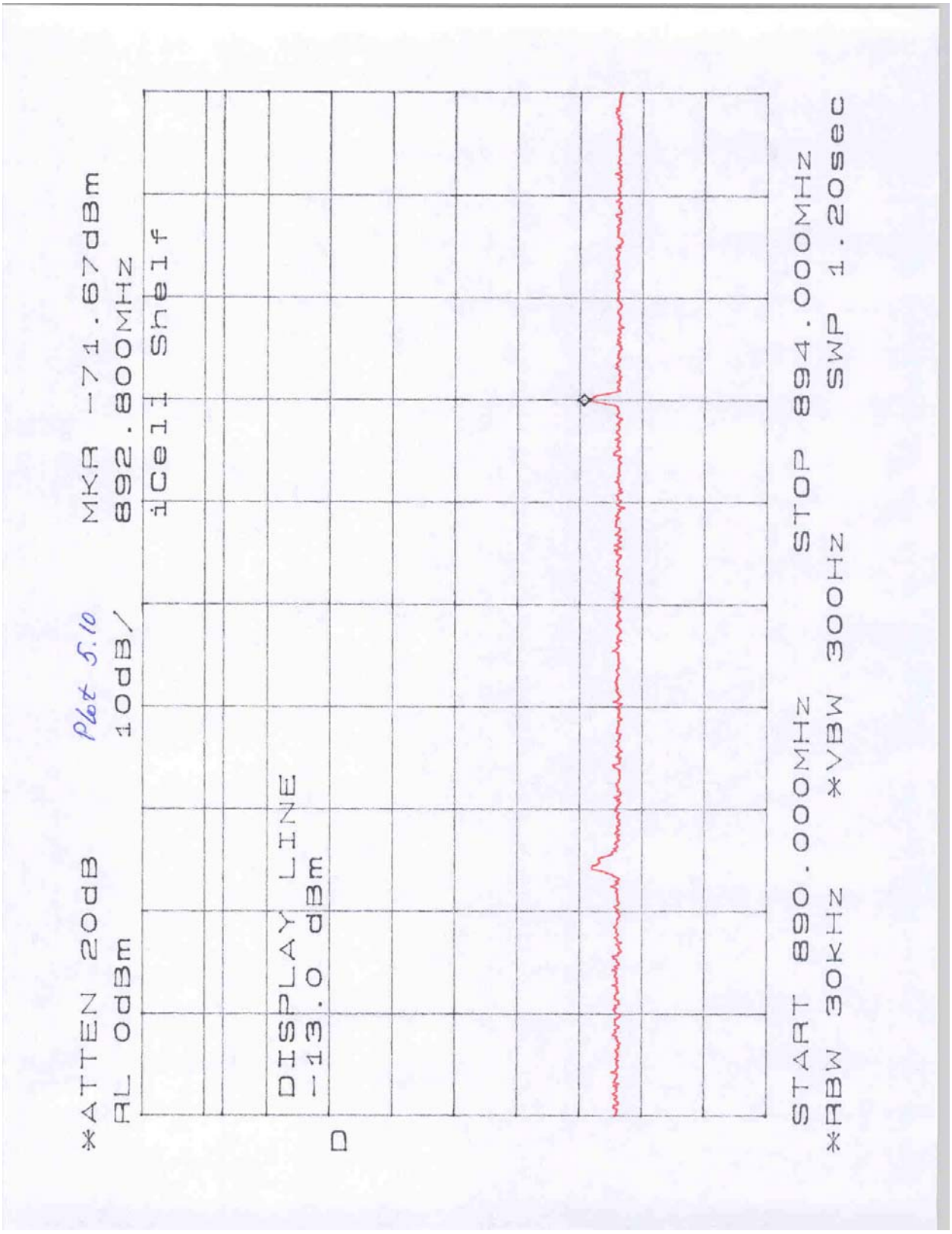

Plot 5.5
*ATTEN 20dB
RL 0dBm
10dB/
MKR -45.33dBm
4.4276GHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 1.000GHz
*RBW 1.0MHz
STOP 9.000GHz
*VBW 10KHz
SWP 2.00sec

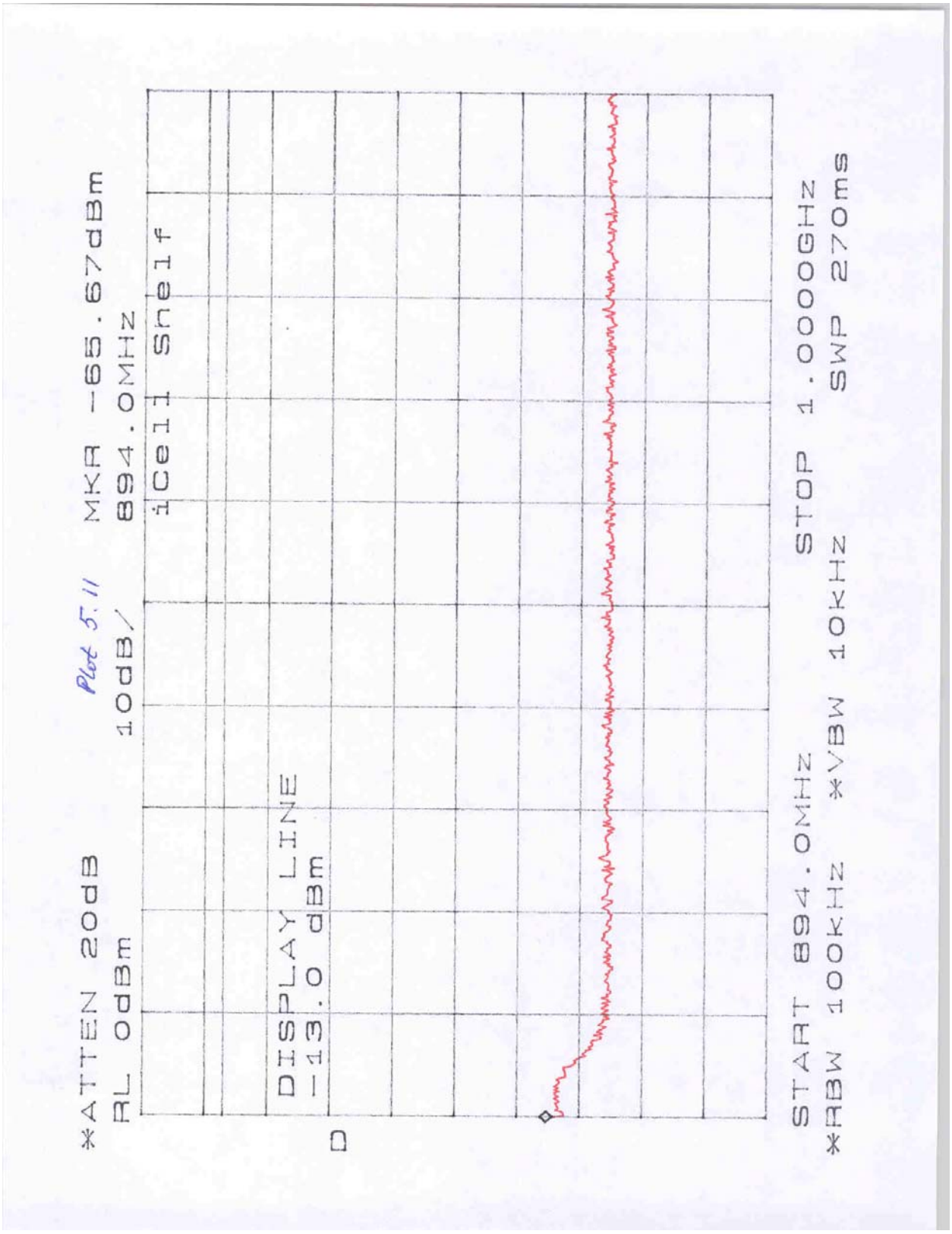

Plot 5.6
*ATTEN 20dB
RL 0dBm
10dB/
MKR -60.00dBm
869.0MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 30.0MHz
*RBW 100KHz
*VBW 100KHz
STOP 869.0MHz
SWP 210ms

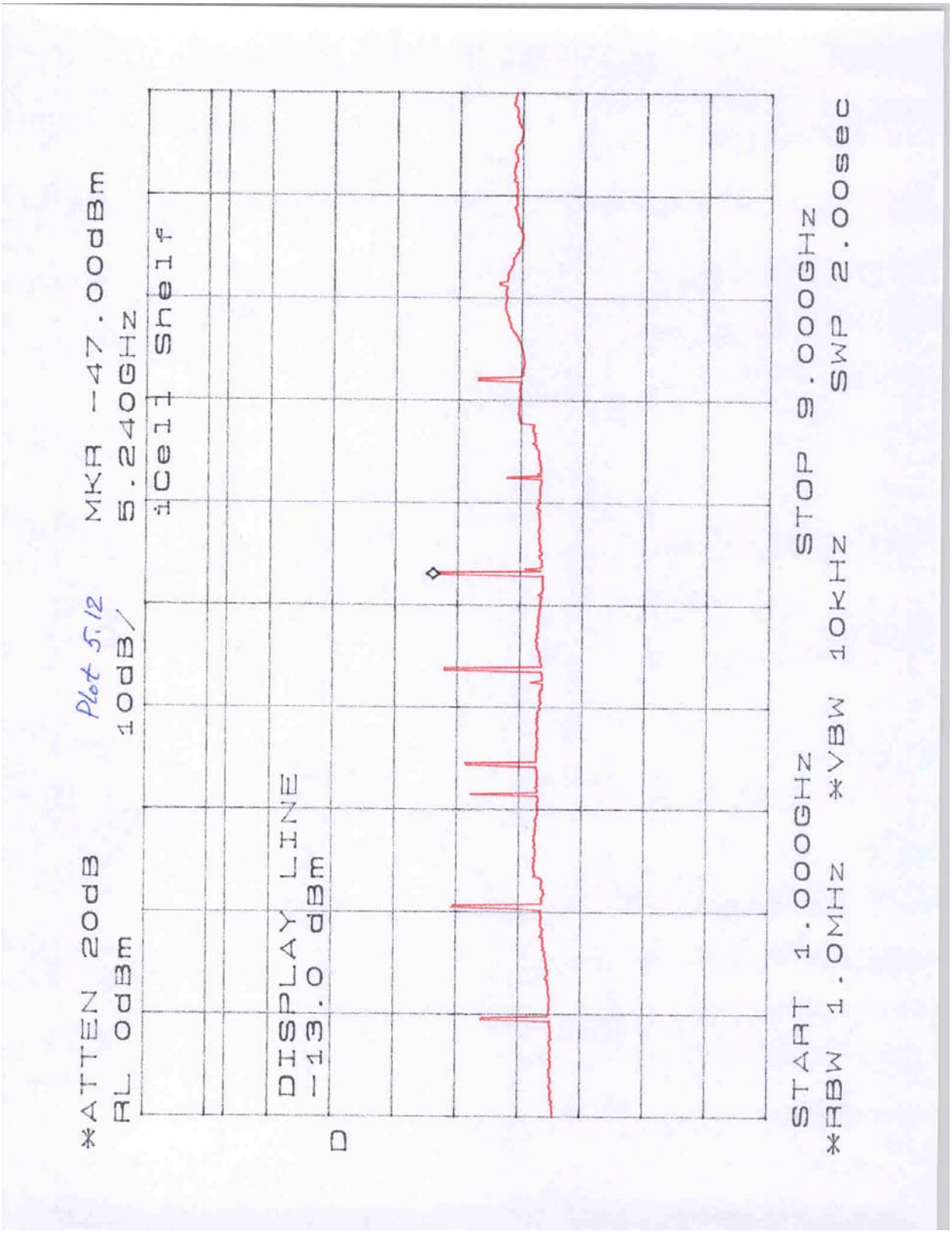

Plot 5.7
*ATTEN 20dB
RL 0dBm
10dB/
MKR -24.00dBm
880.00MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 880.00MHz
*RBW 30KHz
STOP 894.00MHz
*VBW 300Hz
SWP 3.90sec

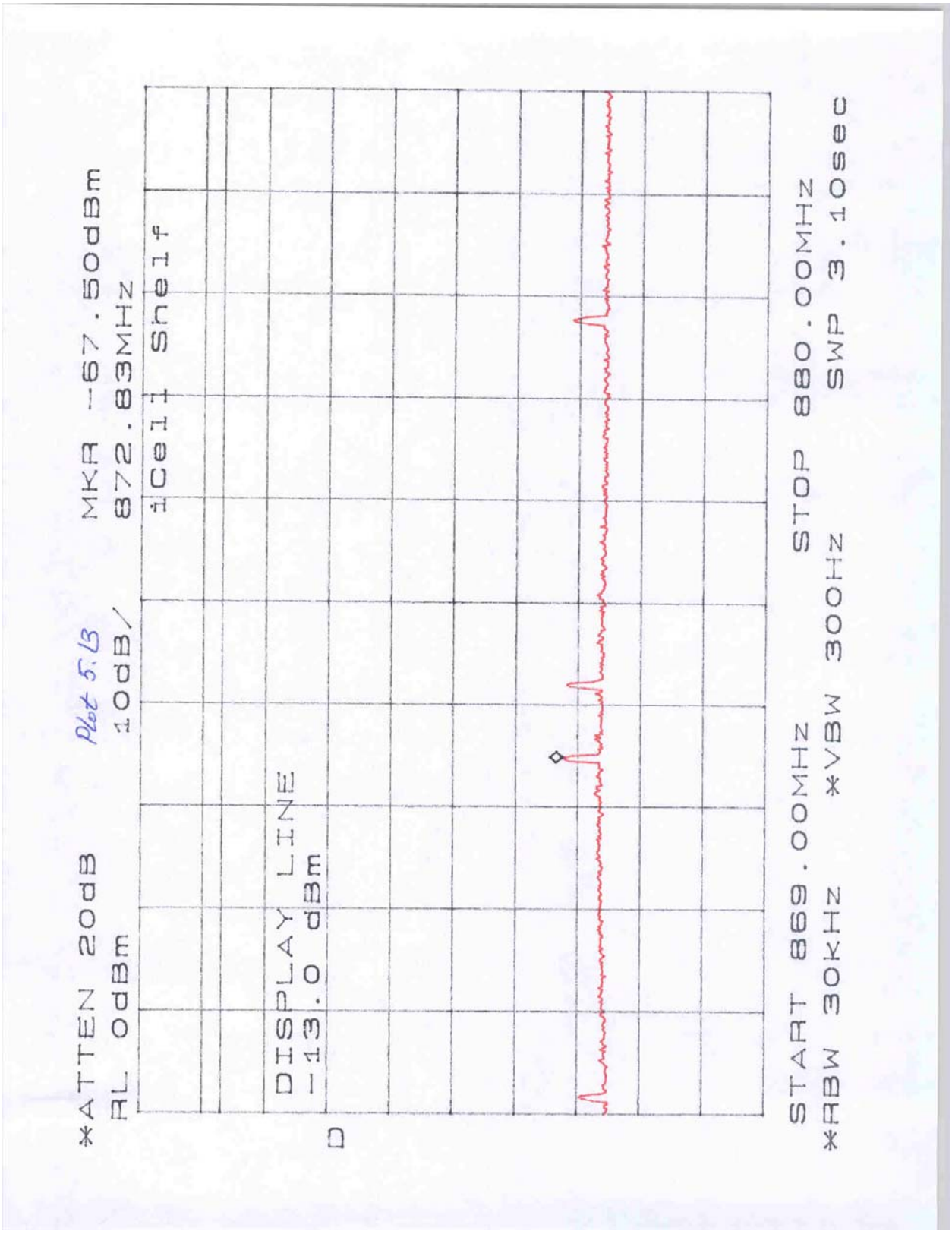

Plot 5.8
*ATTEN 20dB
RL 0dBm
10dB/
MKR -60.67dBm
867.6MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
D
START 30.0MHz
*RBW 100KHz
STOP 869.0MHz
*VBW 100KHz
SWP 210ms

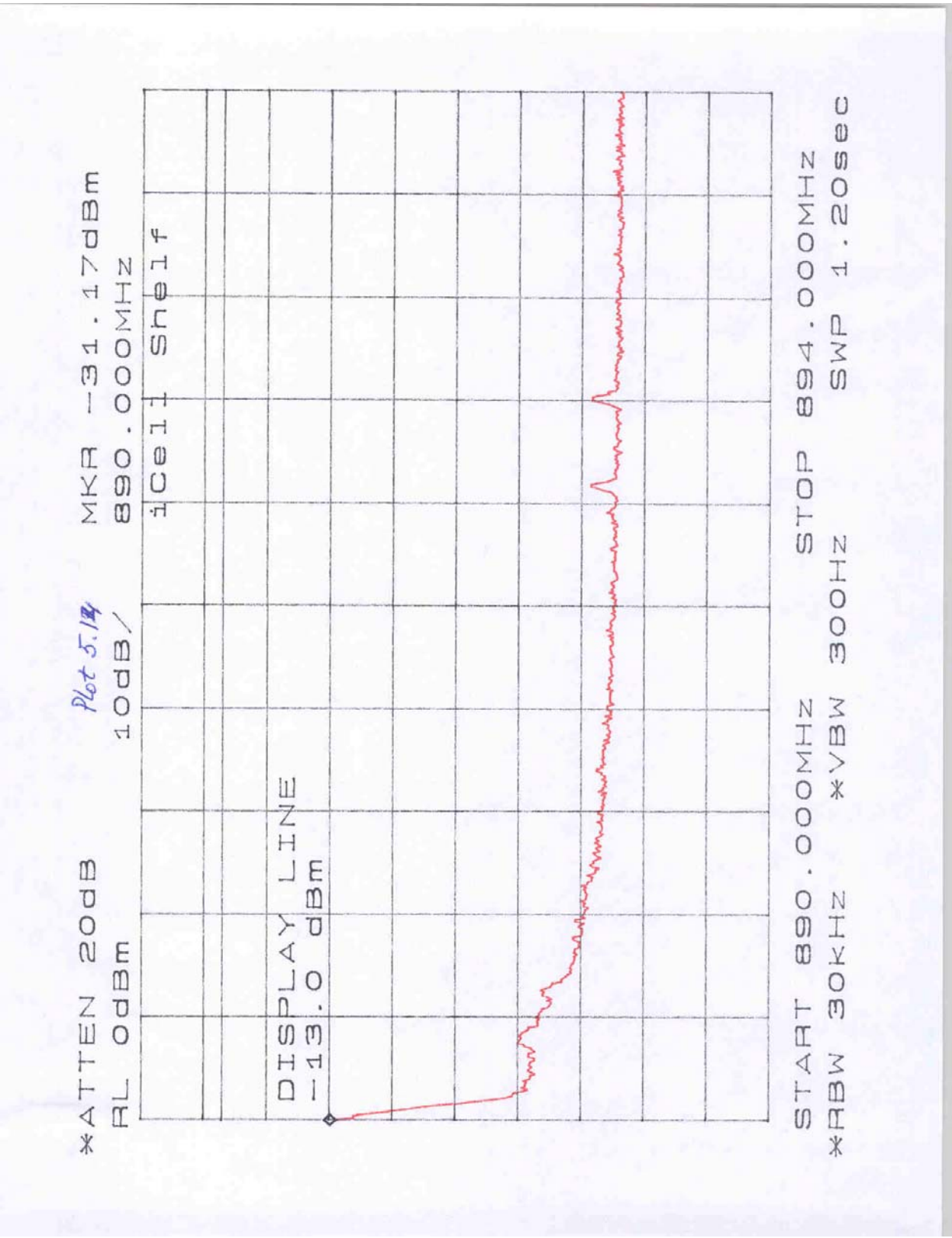

Plot 5.9
*ATTEN 20dB
RL 0dBm
10dB/
MKR -28.17dBm
880.00MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 869.00MHz
*RBW 30KHz
STOP 880.00MHz
*VBW 300Hz
SWP 3.10sec

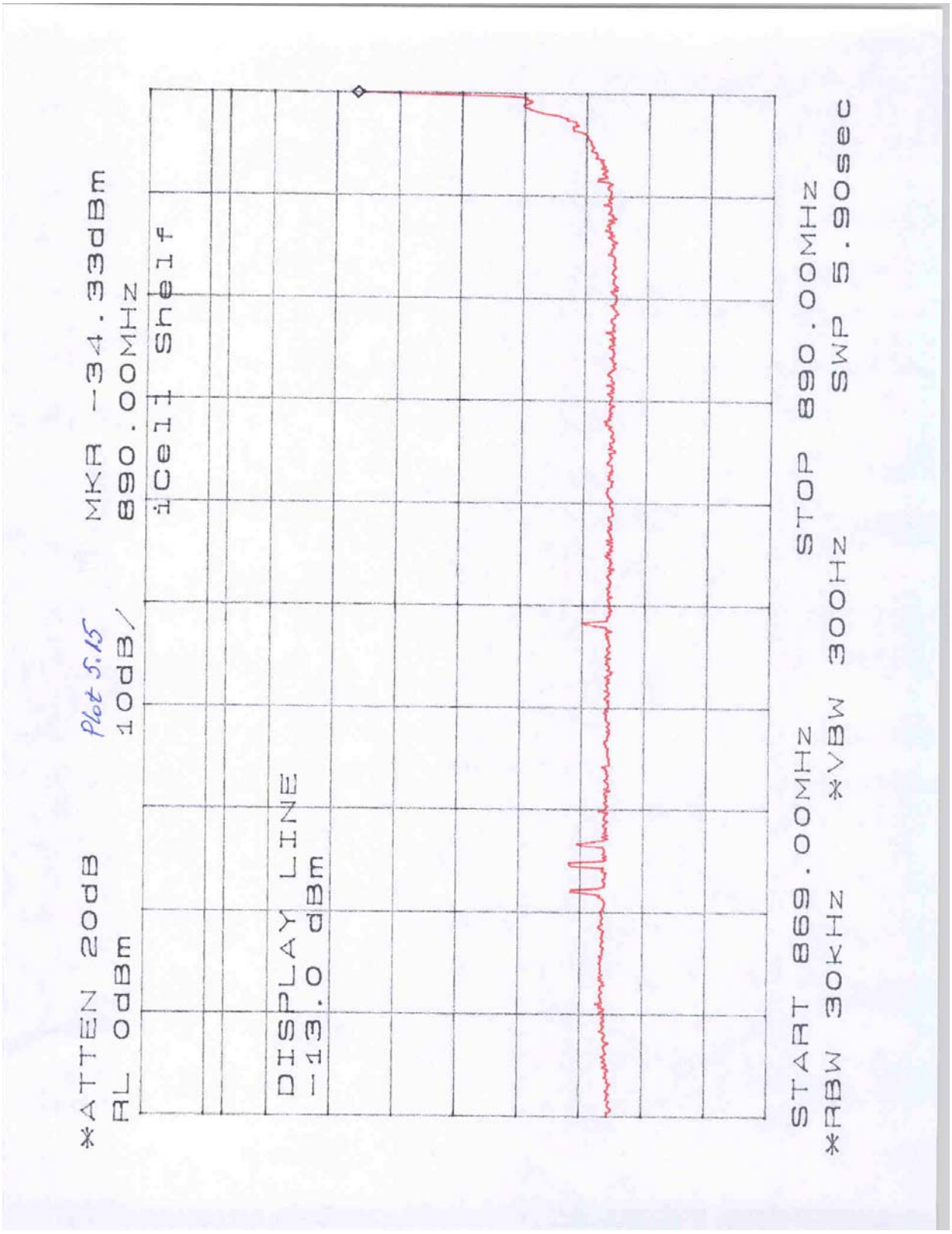

Plot 5.10
*ATTEN 20dB
RL 0dBm
10dB/
MKR -71.67dBm
892.800MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
D
START 890.000MHz
*RBW 30KHz
*VBW 300Hz
STOP 894.000MHz
SWP 1.20sec


Plot 5.11
*ATTEN 20dB
RL 0dBm
10dB/
MKR -65.67dBm
894.0MHz
#Cell Shelf
DISPLAY LINE
-13.0 dBm
D
START 894.0MHz
*RBW 100KHz
*VBW 10KHz
STOP 1.0000GHz
SWP 270ms

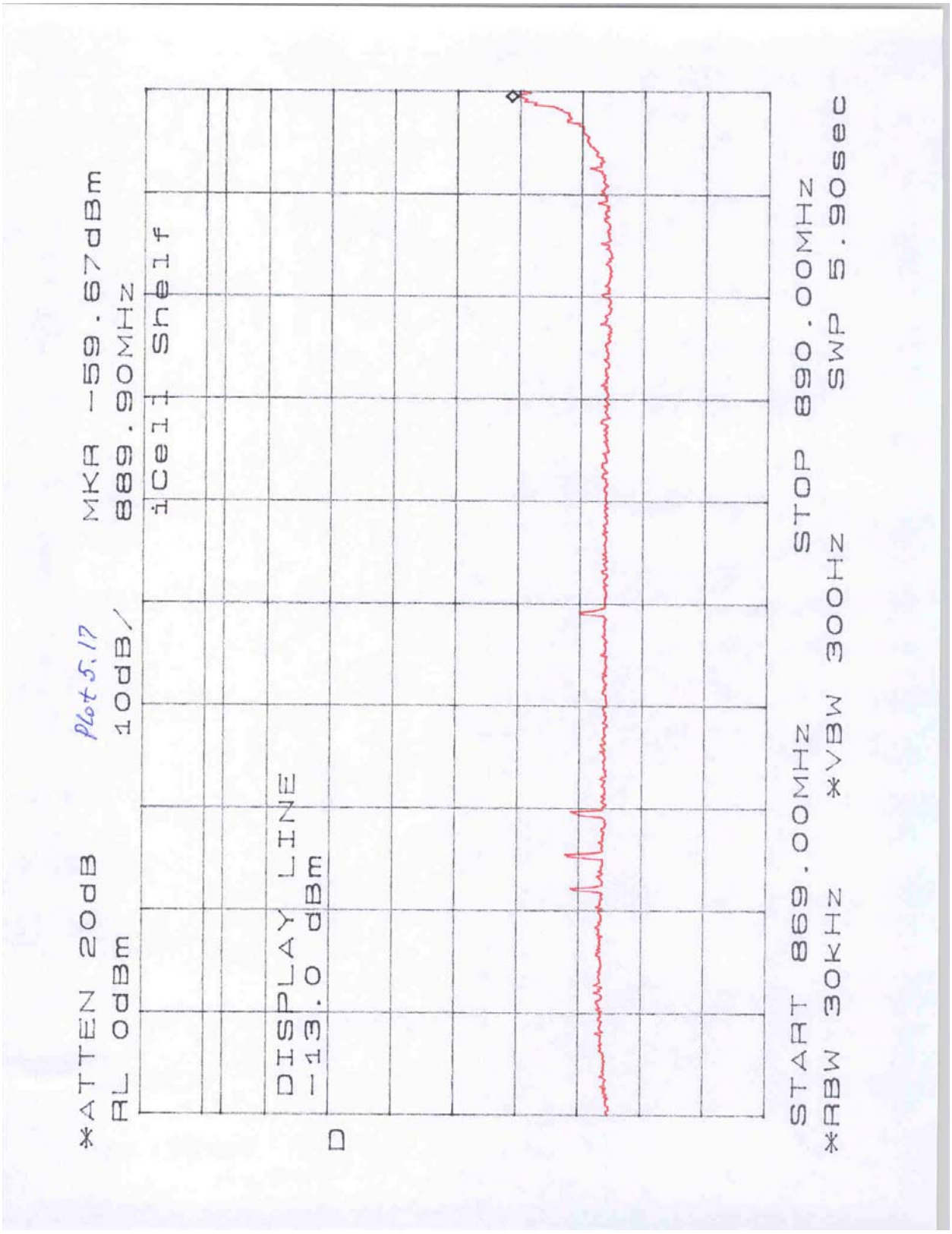

Plot 5.12
*ATTEN 20dB
RL 0dBm
10dB/
MKR -47.00dBm
5.240GHz
#Cell Shelf
DISPLAY LINE
-13.0 dBm
START 1.000GHz
*RBW 1.0MHz
*VBW 10KHz
STOP 9.000GHz
SWP 2.00sec

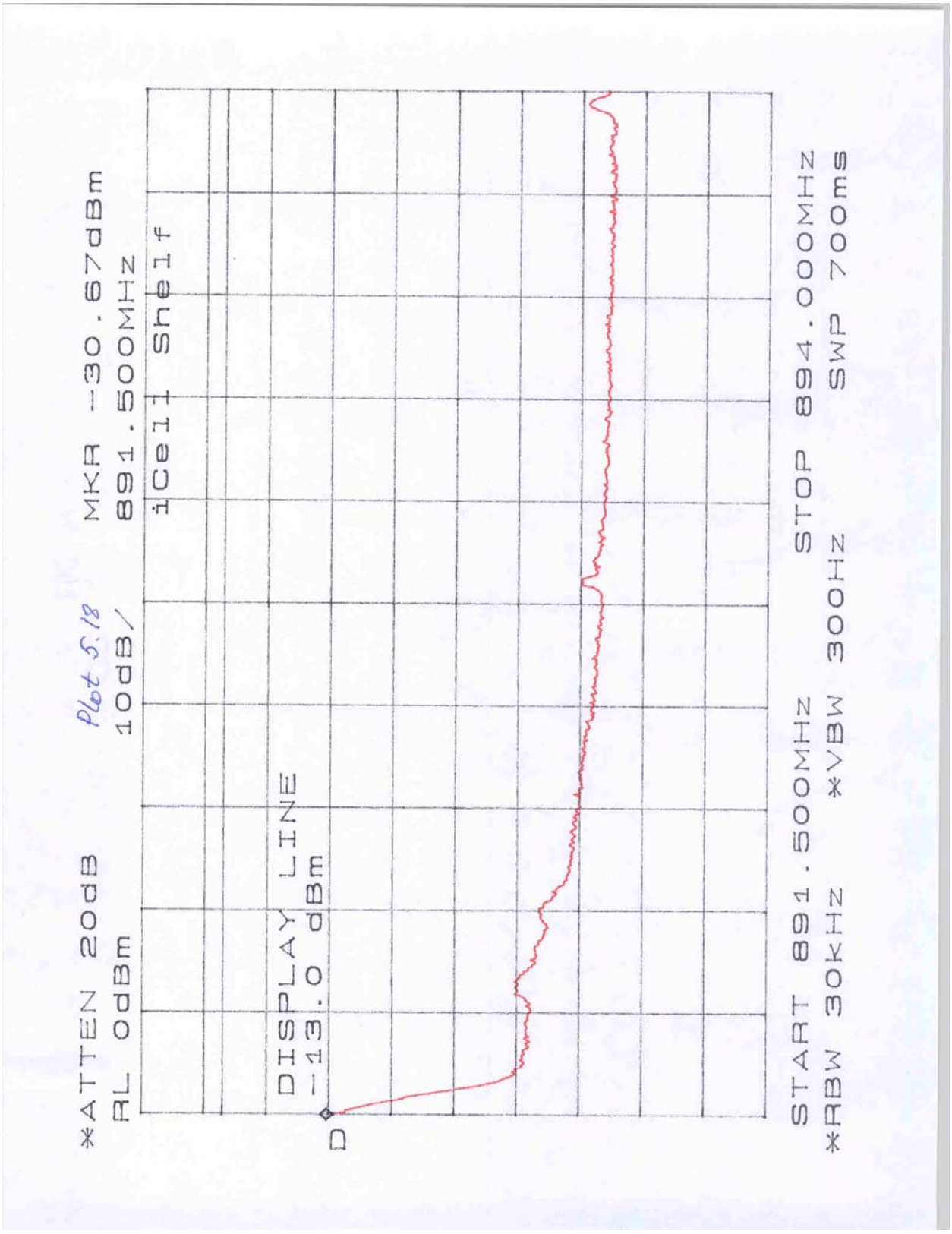

Plot 5.13
*ATTEN 20dB
RL 0dBm
10dB/
MKR -67.50dBm
872.83MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 869.00MHz
*RBW 30KHz
*VBW 300Hz
STOP 880.00MHz
SWP 3.10sec

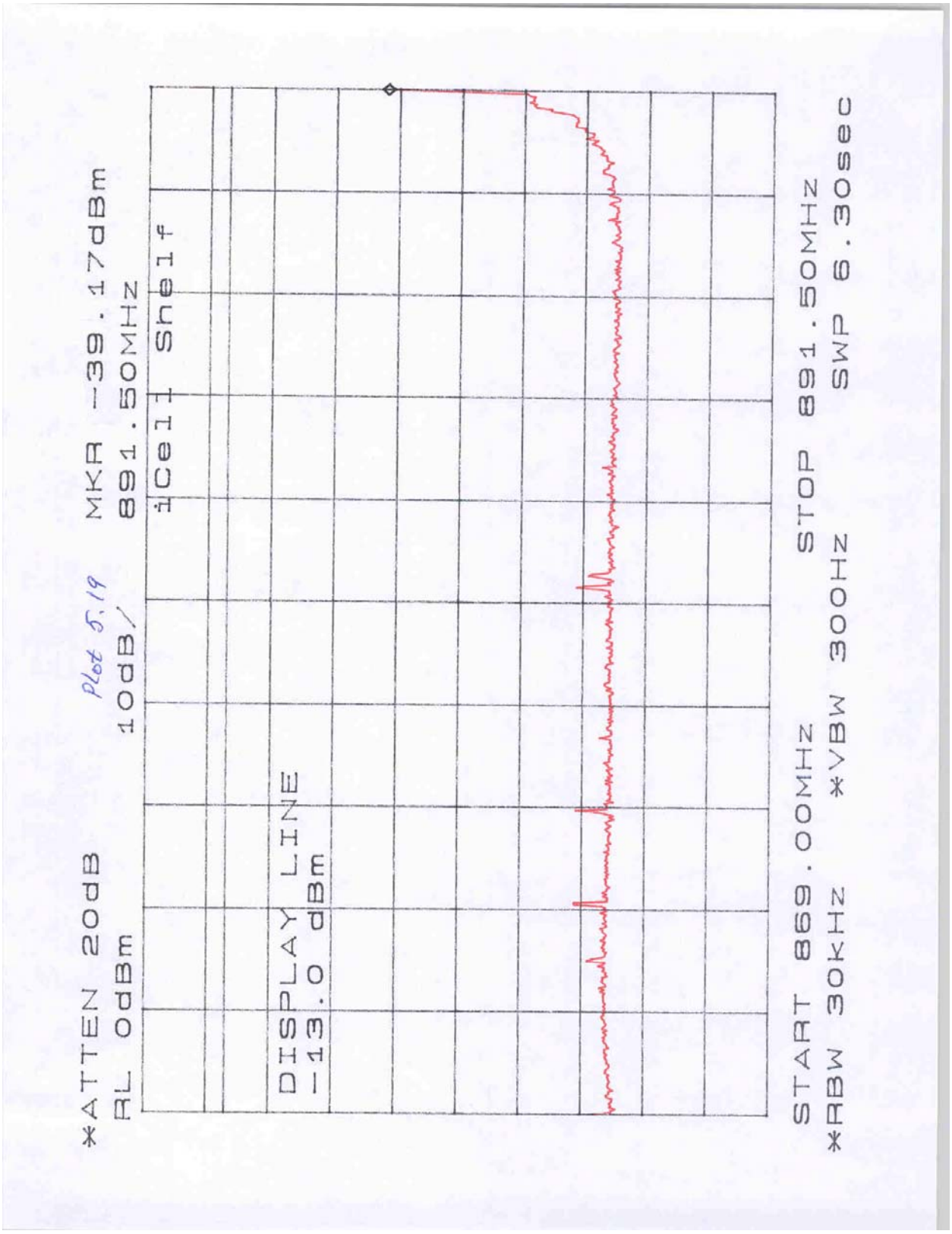

*ATTEN 20dB
RL 0dBm
10dB/
Plot 5.14
MKR -31.17dBm
890.000MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 890.000MHz
*RBW 30KHz
STOP 894.000MHz
*VBW 300Hz
SWP 1.20sec


Plot 5.15
*ATTEN 20dB
RL 0dBM
10dB/
MKR -34.33dBm
890.00MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 869.00MHz
*RBW 30KHz
*VBW 300Hz
STOP 890.00MHz
SWP 5.90sec

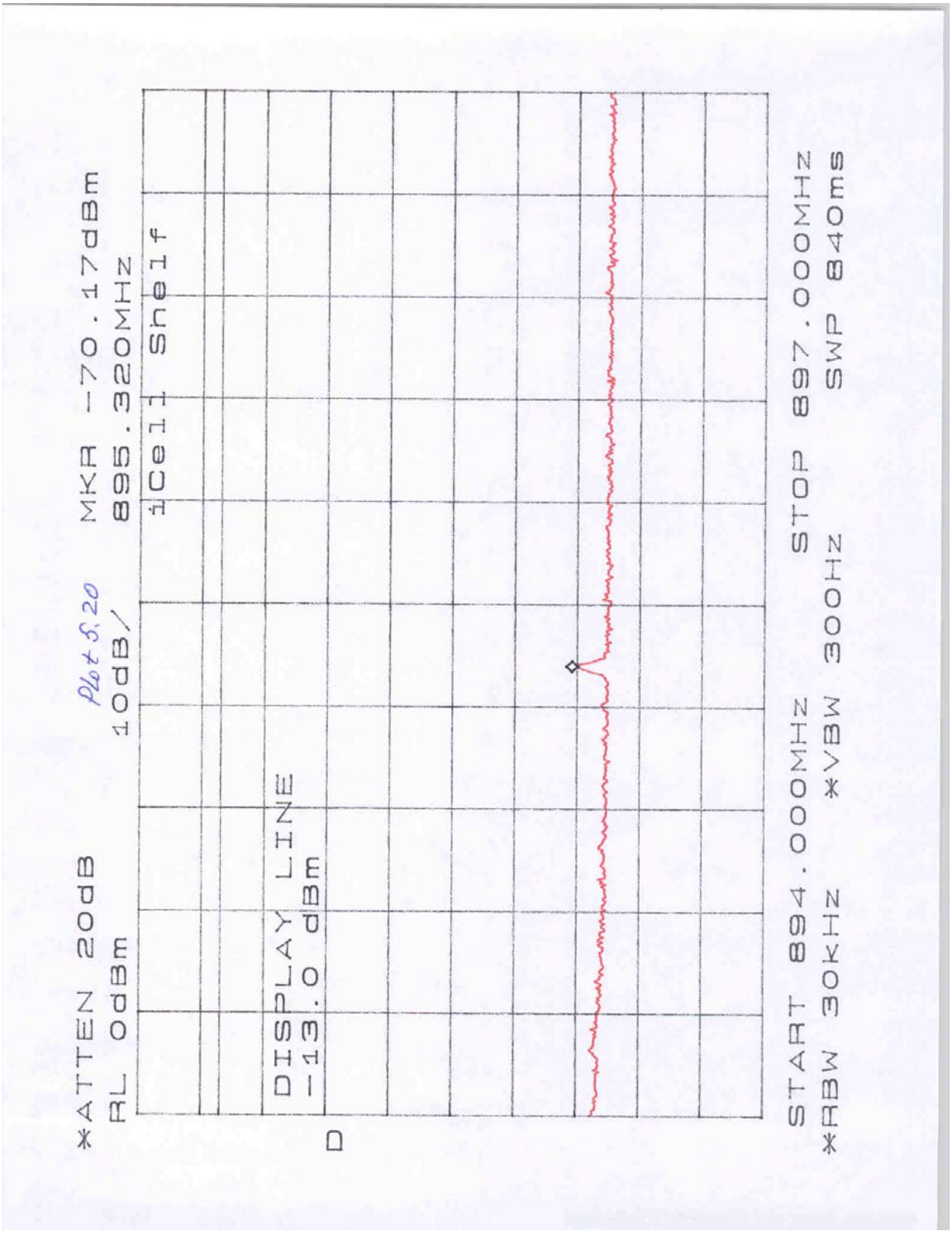

Plot 5.16
*ATTEN 20dB
RL 0dBm
10dB/
MKR -59.33dBm
891.663MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 891.500MHz
*RBW 30KHz
STOP 894.000MHz
*VBW 300Hz
SWP 700ms

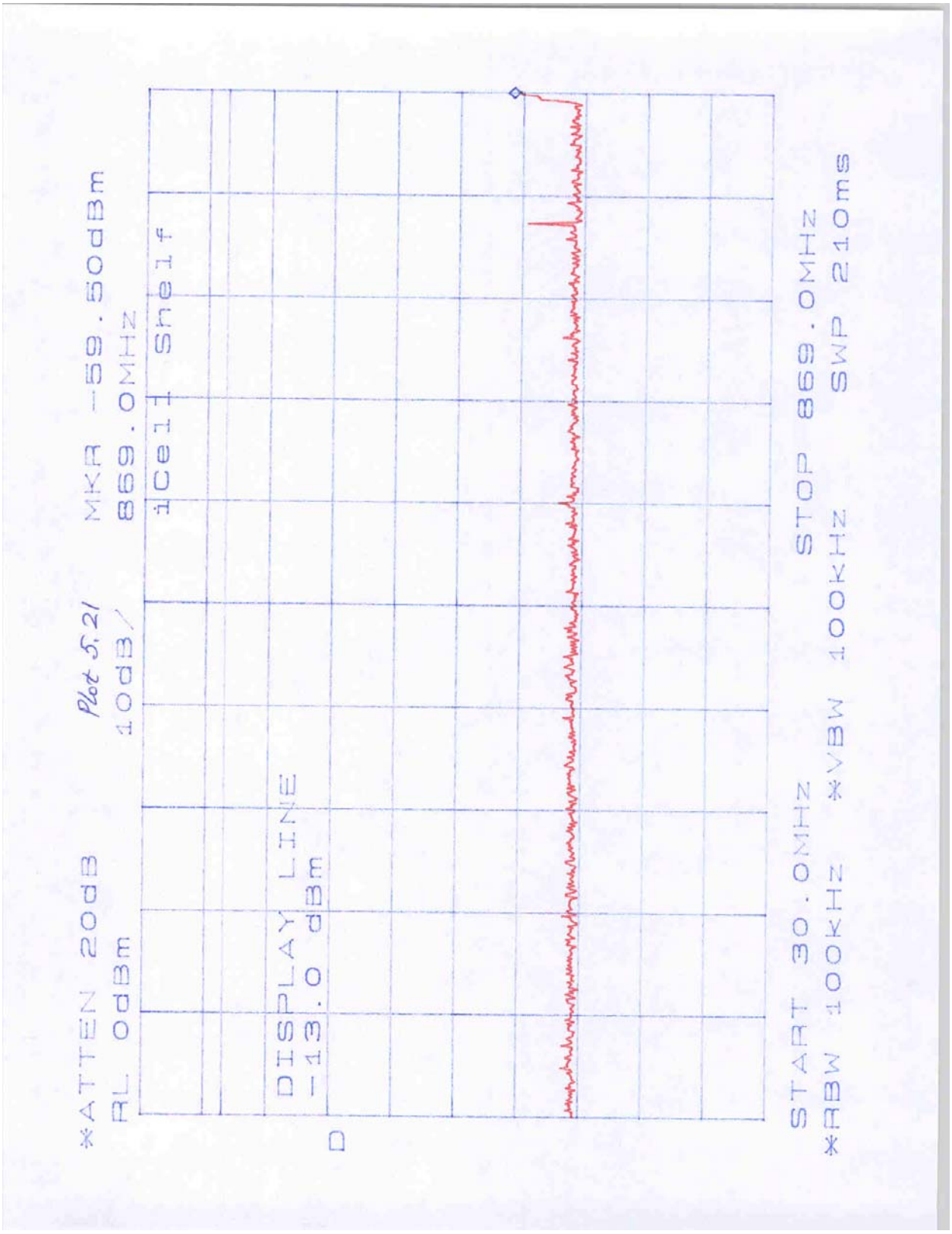

Plot 5.17
*ATTEN 20dB
RL 0dBM
10dB/
MKR -59.67dBm
889.90MHz
iCell Shelf
DISPLAY LINE
-113.0 dBm
D
START 869.00MHz
*RBW 30KHz
*VBW 300Hz
STOP 890.00MHz
SWP 5.90sec

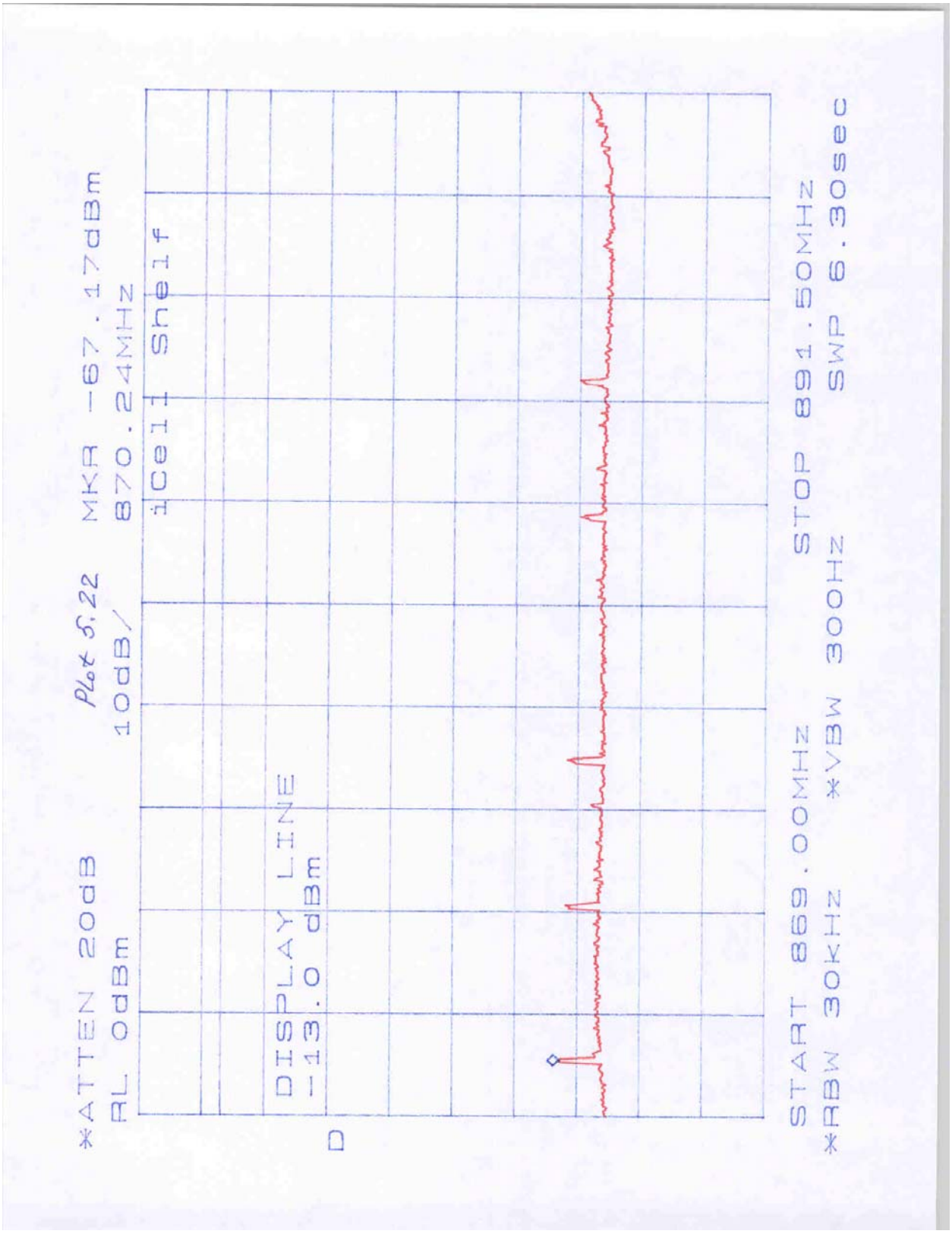

Plot 5.18
*ATTEN 20dB
RL 0dBm
10dB/
MKR -30.67dBm
891.500MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
D
START 891.500MHz
*RBW 30KHz
STOP 894.000MHz
*VBW 300Hz
SWP 700ms

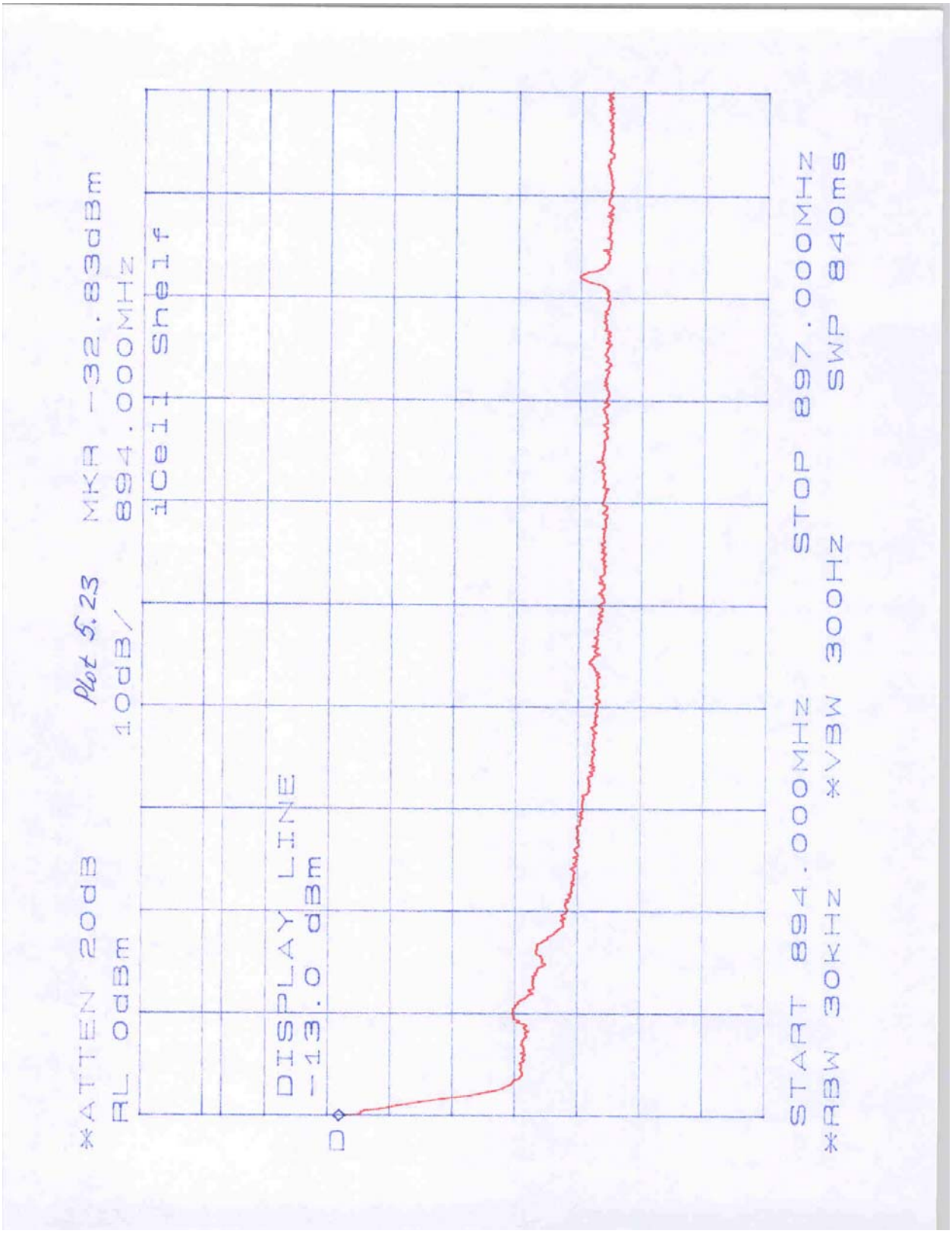

*ATTEN 20dB
RL 0dBm
10dB/
MKR -39.17dBm
891.50MHz
1Cell Shelf
DISPLAY LINE
-13.0 dBm
START 869.00MHz
*RBW 30KHz
STOP 891.50MHz
*VBW 300Hz
SWP 6.30sec

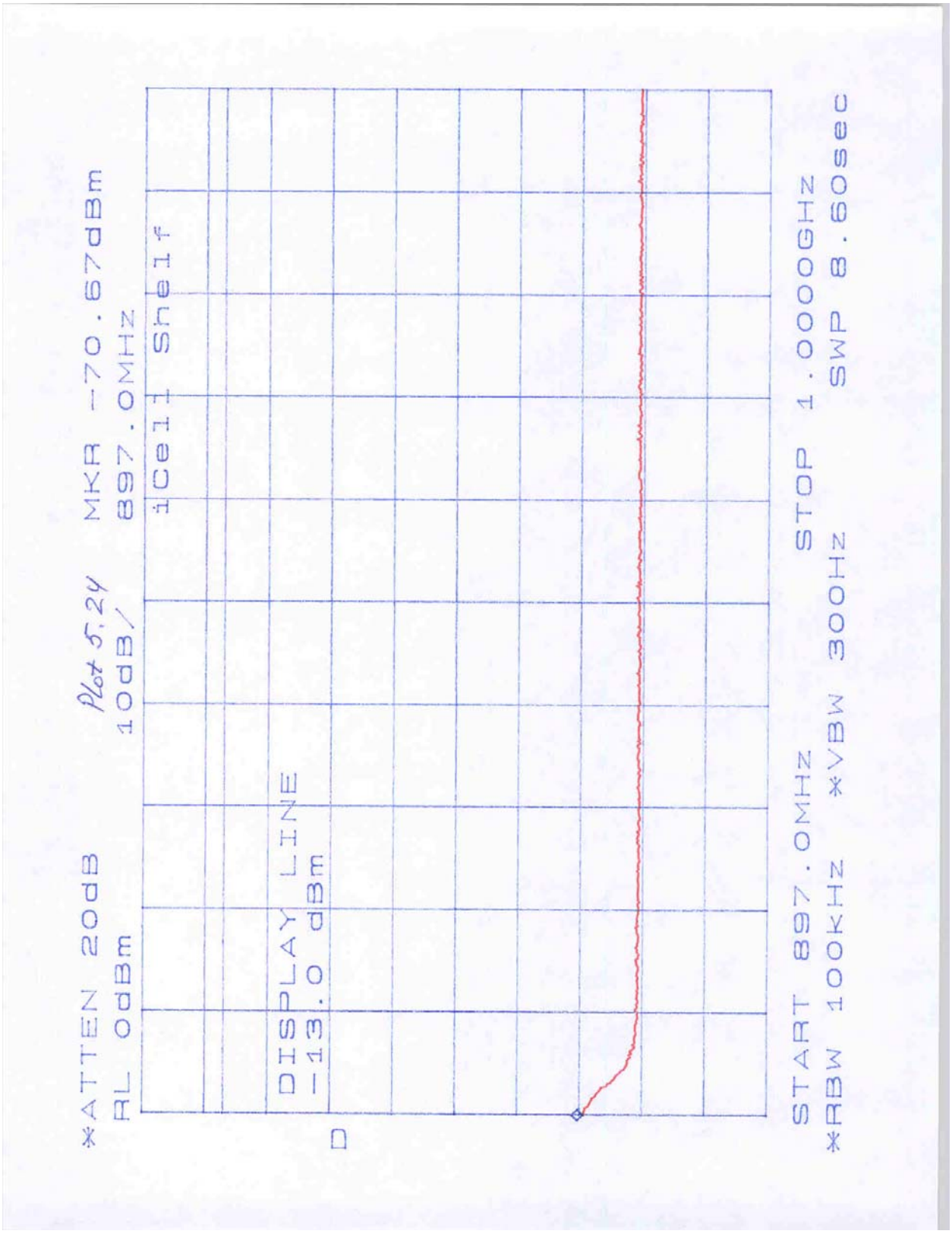
Plot 5.19

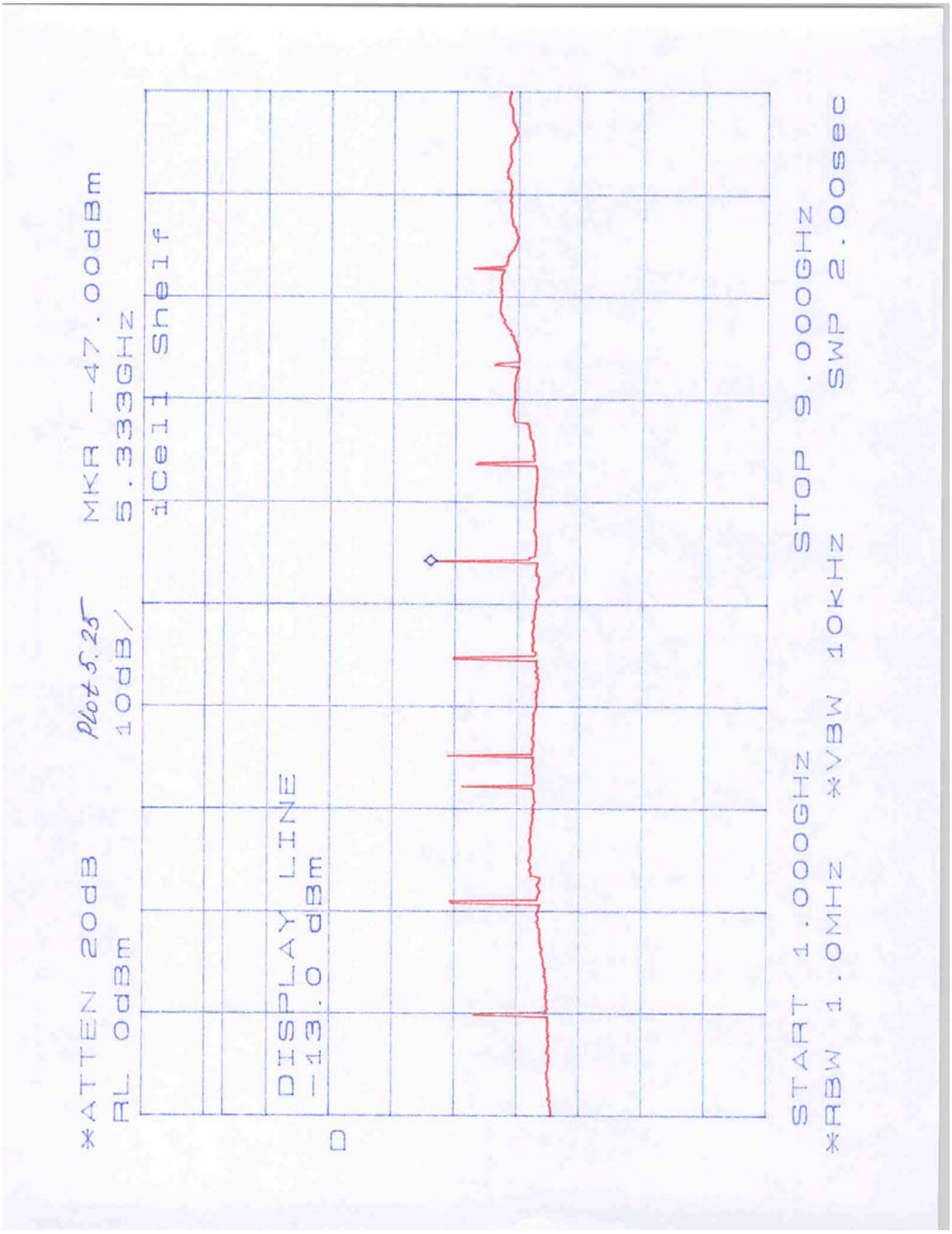

*ATTEN 20dB
RL 0dBm
10dB/
Plot 5.20
MKR -70.17dBm
895.320MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
D
START 894.000MHz
*RBW 30KHz
*VBW 300Hz
STOP 897.000MHz
SWP 840ms


Plot 5.21
*ATTEN 20dB
RL 0dBm
10dB/
MKR -59.50dBm
869.0MHz
#Cell Shelf
DISPLAY LINE
-113.0 dBm
START 30.0MHz
*RBW 100kHz
*VBW 100kHz
STOP 869.0MHz
SWP 210ms


Plot 5.22
*ATTEN 20dB
RL 0dBm
10dB/
MKR -67.17dBm
870.24MHz
iCell Shelf
DISPLAY LINE
-113.0 dBm
START 869.00MHz
*RBW 30KHz
STOP 891.50MHz
*VBW 300Hz
SWP 6.30sec


Plot 5.23
*ATTEN 20dB
RL 0dBm
10dB/
MKR -32.83dBm
894.000MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 894.000MHz
*RBW 30KHz
*VBW 300Hz
STOP 897.000MHz
SWP 840ms


Plot 5.24
*ATTEN 20dB
RL 0dBm
10dB/
MKR -70.67dBm
897.0MHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 897.0MHz
*RBW 100KHz
*VBW 300Hz
STOP 1.0000GHz
SWP 8.60sec


Plot 5.25
*ATTEN 20dB
RL 0dBm
10dB/
MKR -47.00dBm
5.333GHz
iCell Shelf
DISPLAY LINE
-13.0 dBm
START 1.000GHz
*RBW 1.0MHz
*VBW 10KHz
STOP 9.000GHz
SWP 2.00sec

6.0 Field Strength of Spurious Radiation

FCC 2.1053, 22.901(d)

6.1 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.

For spurious emissions attenuation, the substitution method was used. On each frequency the EUT was substituted by a reference antenna (half-wave dipole - below 1 GHz, or Horn antenna - above 1GHz), connected to a signal generator.

The signal generator output was adjusted to obtain the same reading as from EUT. The ERP at the spurious emissions frequency was calculated by adding the substitution antenna gain to the recorded signal generator level. The spurious emissions attenuation was calculated as the difference between ERP at the fundamental frequency and at the spurious emissions frequency.

6.2 Test Equipment

EMCO 3115 Horn Antennas
HP 8566B Spectrum Analyzer
High Pass Filter
Preamplifiers

6.3 Test Results

Effective Radiated Power
(Measured by Substitution Method)

Frequency	Antenna Polariz.	SA Reading (EUT)	Signal Generator Output required to have the same SA Reading as from EUT	ERP *	ERP Limit
MHz		dB(µV)	V_gdBm	dBm	dBm
Channel 1013 @869.70 MHz					
1739.4	H	27.5	-87.2	-80.4	-13.0
2609.1	V	18.4**	-83.8	-75.6	-13.0
3478.8	V	18.9**	-86.2	-77.5	-13.0
4348.5	V	18.9**	-87.5	-78.0	-13.0
5218.2	V	18.3**	-84.0	-74.8	-13.0
6087.9	V	23.5**	-79.6	-69.6	-13.0
6957.6	V	23.7**	-76.2	-66.9	-13.0
7827.3	V	23.2**	-76.7	-67.6	-13.0
8697.0	V	23.5**	-73.0	-63.0	-13.0
Channel 356 @880.68 MHz					
1761.4	H	28.2	-86.4	-79.6	-13.0
2642.0	V	18.4**	-90.1	-81.8	-13.0
3522.7	V	18.9**	-86.1	-77.4	-13.0
4403.4	V	18.9**	-84.6	-75.1	-13.0
5284.1	V	18.3**	-85.0	-75.8	-13.0
6164.8	V	23.5**	-79.7	-69.7	-13.0
7045.4	V	23.7**	-75.7	-66.4	-13.0
7926.1	V	23.2**	-72.4	-63.7	-13.0
8806.8	V	23.5**	-73.1	-62.8	-13.0
Channel 777 @893.31 MHz					
1786.6	H	28.0	-85.8	-78.9	-13.0
2679.9	V	18.4**	-89.9	-81.6	-13.0
3573.2	V	18.9**	-84.7	-76.0	-13.0
4466.6	V	18.9**	-85.5	-75.9	-13.0
5359.9	V	18.3**	-84.6	-75.4	-13.0
6253.2	V	23.5**	-79.7	-69.6	-13.0
7146.5	V	23.7**	-75.7	-66.3	-13.0
8039.8	V	23.2**	-71.3	-62.5	-13.0
8933.1	V	23.5**	-74.5	-64.1	-13.0

* ERP is calculated as: $ERP_{(dBm)} = V_{g(dBm)} + G_{(dBd)}$
** denotes ground floor measurement.

Complies	Passed by more than 40 dB

7.0 Frequency Stability vs Temperature

FCC 2.1055

7.1 Test Procedure

Thermotron S-4C S/N: 30678

- unit was set to appropriate temperature manually via the control interface
- temperature was verified to be within 2 degrees of set point temperature as verified by the oven's internal thermocouples as well as 2 spatially diverse dry bulb thermometers
- after reaching appropriate temperature the device was allowed to soak for 20-30 minutes as required

Rohde&Schwarz FSQ26

- personality option K82 was installed in order to make frequency measurements on a complete CDMA waveform
- attenuation (45dB) and reference level settings (–2dBm) were adjusted so that the code domain channels could clearly be viewed
- 25 power control groups were captured for each result provided by the instrument
- several (more than 10) results were observed and the worst case frequency offset (greatest error) was recorded

(EUT) Telos Technology iCell Base Station. S/N: 1027369

- the EUT was set to the center channel (384) which has a transmit frequency of 881.520 MHz
- the frequency determining device is controlled by an OCXO
- the EUT is not able to transmit until the OCXO has stabilized and is within specification

The following steps were made:

1) with the EUT off, the oven was set to the appropriate temperature and sufficient time was allowed for the temperature of the DUT to stabilize (20 to 30 minutes)
2) the EUT was turned on, configured and a frequency measurement was recorded immediately and then again 1 minute after power-up
3) Steps 1 and 2 were repeated for each set point shown in the table below

7.3 Results

Temperature (degrees C)	Transient Frequency Error (Hz)	Transient Frequency Error (ppm)	Frequency Error 1 minute after turn on (Hz)	Frequency Error 1 minute after turn on (ppm)	Frequency Error Limit (ppm)
-30	-1802	-2.04	-123.50	-0.14	+/- 2.5
-20	-1720	-1.95	-85.66	-0.10	+/- 2.5
-10	-1460	-1.66	60.66	0.07	+/- 2.5
0	-302.67	-0.34	-87.50	-0.10	+/- 2.5
10	255	0.29	103.45	0.12	+/- 2.5
20	1170	1.33	304.50	0.35	+/- 2.5
25	983.33	1.12	102.30	0.12	+/- 2.5
30	972.17	1.10	54.55	0.06	+/- 2.5
40	-254.98	-0.29	-254.98	-0.29	+/- 2.5
50	-241.67	-0.27	-241.67	-0.27	+/- 2.5

8.0 Frequency Stability vs Voltage

8.1 Test Procedure

The equipment was configured as described in the section 7.1

The following steps were made:

1) power supply was set to nominal voltage of 26.5V at room temperature and a reference error frequency was recorded
2) power supply was adjusted to +/- 15% and error frequencies were recorded again

8.2 Results

Temperature (degrees C)	Recorded Frequency (Hz)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error Limit (ppm)
22.5	881519959.7	-40.3	-0.05	+/- 2.5
26.5	**881519975.8**	**-24.2**	**-0.03**	**+/- 2.5**
30.5	881520021.3	21.3	0.02	+/- 2.5

9.0 List of test Equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Equipment	Manufacturer	Model/Type	Serial #	Cal Int	Cal Due
BI-Log Antenna	EMCO	3143	9509-1160	12	9/19/03
Horn Antenna	EMCO	3115	9170-3712	12	6/17/04
Horn Antenna	EMCO	3115	8812-3049	12	4/08/04
Pre-Amplifier	Miteq	AMF-4D-001180-24-10P	799159	12	9/06/03
Pre-Amplifier	Avantek	AFT-18855	8723H705	12	10/5/03
Spectrum Analyzer w/85650 QP Adapter	Hewlett Packard	8566B	2416A00317 2043A00251	12	10/29/03
Spectrum Analyzer Display w/85650 QP Adapter	Hewlett Packard	85662B	2403A06796	12	10/29/03
Spectrum Analyzer	Hewlett Packard	8565E	AE9674	12	5/27/04
Spectrum Analyzer	Rohde&Schwarz	FSQ26	S/N:1027369	12	4/25/04
Signal Generator	Hewlett Packard	83732A	3222A00119	12	3/04/04

10.0 Document History

Revision/ Job Number	Writer Initials	Date	Change
1.0 / 30463252	KK	August 4, 2003	Original document