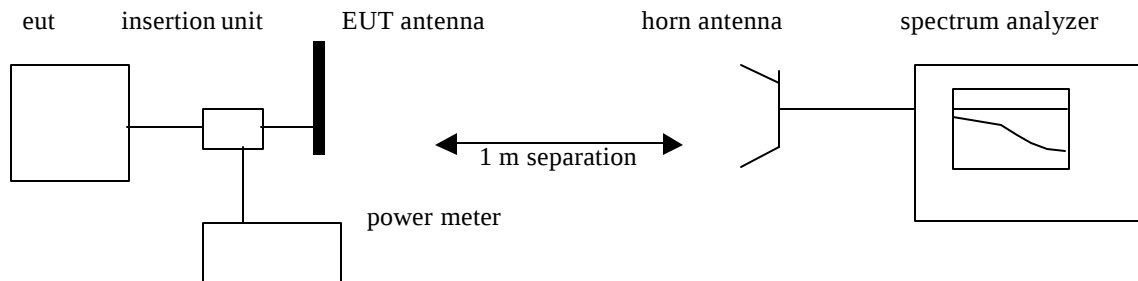


Bandedge Radiated Emissions Test

The restricted bands 2310 -2390 MHz and 2483.5 - 2500 MHz were investigated for radiated emissions coming from the EUT when used with each of the three antennas. The pre-amplifier was not used. For each EUT test configuration, the EUT was rotated and the search antenna raised and lowered to find the orientation for which maximum emissions occurred. EUT output power and operating channel were adjusted until emissions in the restricted bands were within limits for each antenna. Test results are summarized below:

Channel	P max for meeting 2310-2390 MHz limit			P max for meeting 2483.5-2500 MHz limit		
	G= 9 dBi	G = 18 dBi	G = 24 dBi	G = 9 dBi	G = 17 dBi	G = 24 dBi
35				19.6 dBm	16.7 dBm	15.0 dBm
34				19.8 dBm	16.8 dBm	16.4 dBm
33				20.5 dBm	17.7 dBm	16.9 dBm
32				23 dBm	20.0 dBm	19.3 dBm
31				23 dBm	22.4 dBm	22.2 dBm
30				23.dBm	23dBm	23 dBm
5	23 dBm	22.5 dBm	21.0 dBm			
6	23 dBm	23 dBm	22.3 dBm			
7	23 dBm	23 dBm	22.4 dBm			
8	23 dBm	23 dBm	22.4 dBm			
9	23 dBm	23 dBm	22.8 dBm			
10	23 dBm	23 dBm	23 dBm			
all others	23 dBm	23 dBm	23 dBm	23 dBm	23 dBm	23 dBm

TEST SET-UP



Rohde&Schwarz URV5-Z2 Insertion unit/directional coupler (<0.2 dB insertion loss)

Rohde&Schwarz NRVS Power meter

HP 8593 Spectrum Analyzer

EMCO 3115 horn antenna

Spectrum analyzer plots are provided in a separate attachment. Each plot shows an amplitude REF LVL OFFSET, calculated as shown below.

PEAK Measurements

RES BW= 1 MHz

VID BW = 1 MHz

Antenna factor: 29 dB

Cable loss: 3 dB

Distance Corr: $10\log(1/3) = -9.54$ dB

REF LEVEL OFFSET 22.5 dB

AVERAGE Measurements

RES BW= 1 MHz

VID BW = 10 Hz

Antenna factor: 29 dB

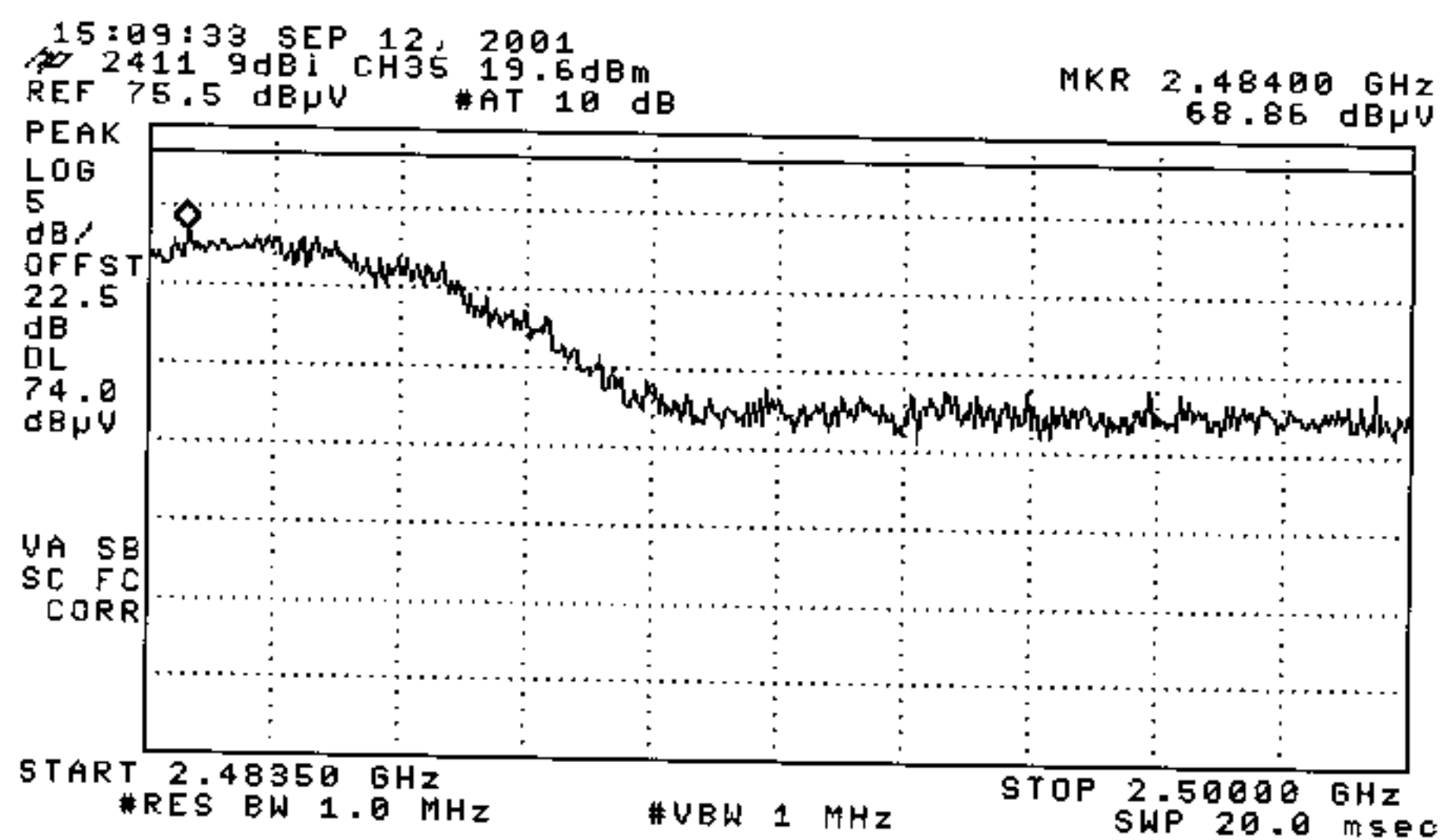
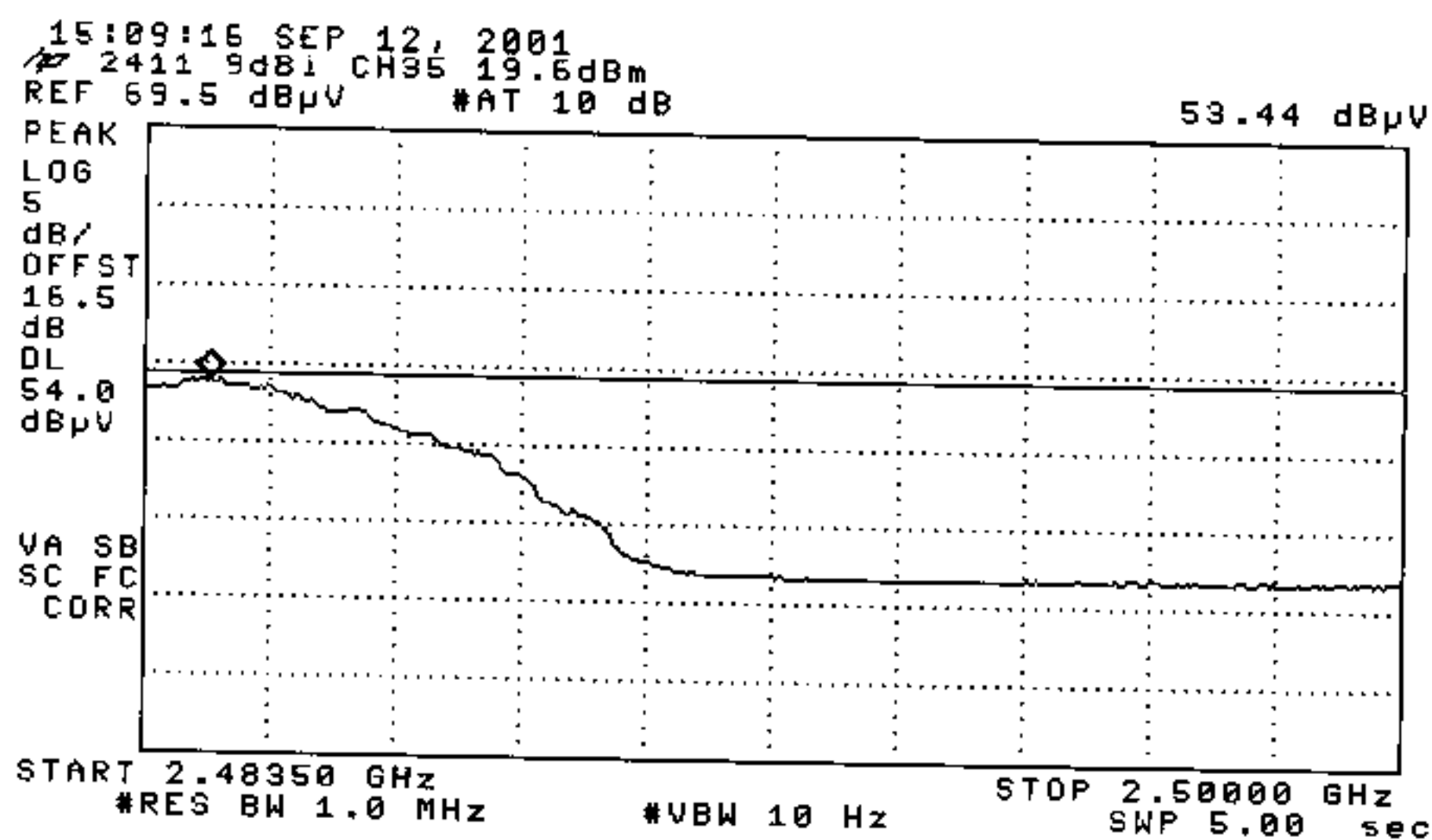
Cable loss: 3 dB

Duty Cycle (TDD) - 6 dB

Distance Corr: $10\log(1/3) = -9.54$ dB

REF LEVEL OFFSET 16.5 dB

For most measurements two plots were sufficient to show compliance. Three plots were required for some measurements because it was determined that due to the limited number of data display points, the analyzer display was not able to accurately resolve restricted band data at the larger frequency span.

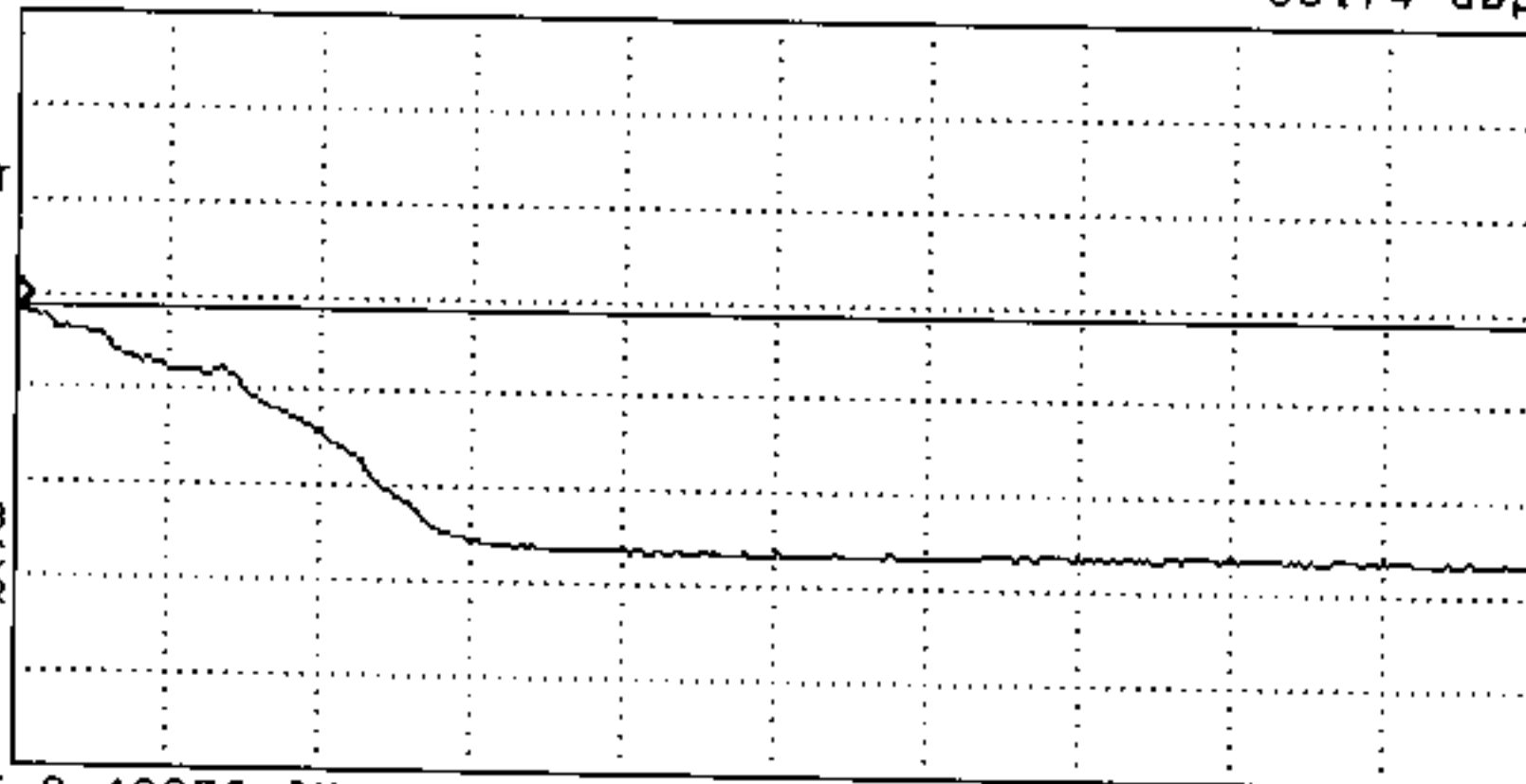


15:10:34 SEP 12, 2001
2411 9dBi CH34 19.8dBm
REF 69.5 dBμV #AT 10 dB

MKR 2.48350 GHz
53.74 dBμV

PEAK
LOG
S
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

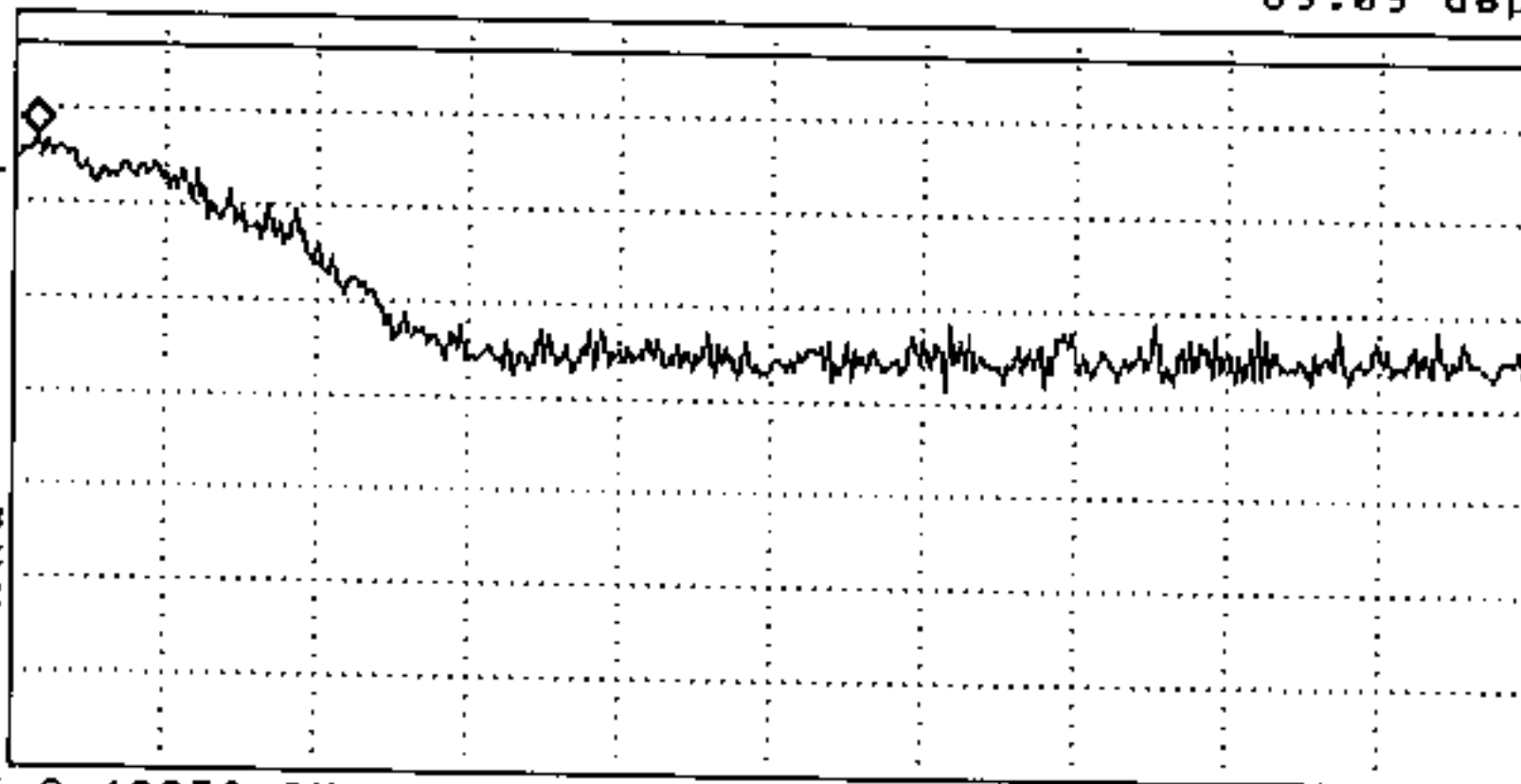
STOP 2.50000 GHz
SWP 5.00 sec

15:10:46 SEP 12, 2001
2411 9dBi CH34 19.8dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.48375 GHz
69.09 dBμV

PEAK
LOG
S
dB/
OFFST
22.5
dB
DL
74.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

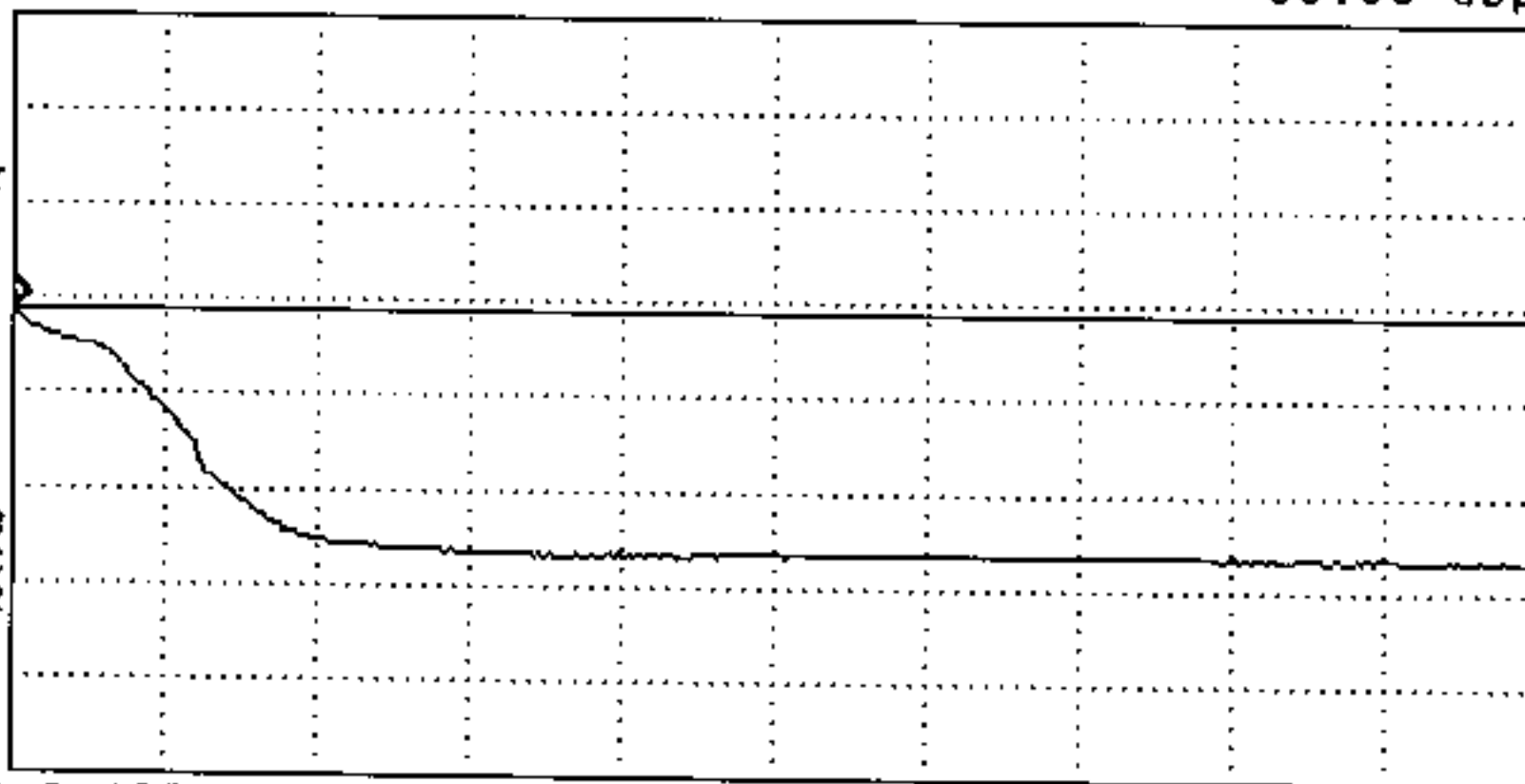
STOP 2.50000 GHz
SWP 20.0 msec

15:11:52 SEP 12, 2001
2411 9dBi CH33 20.5dBm
REF 69.5 dBμV #AT 10 dB

53.83 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
OL
54.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

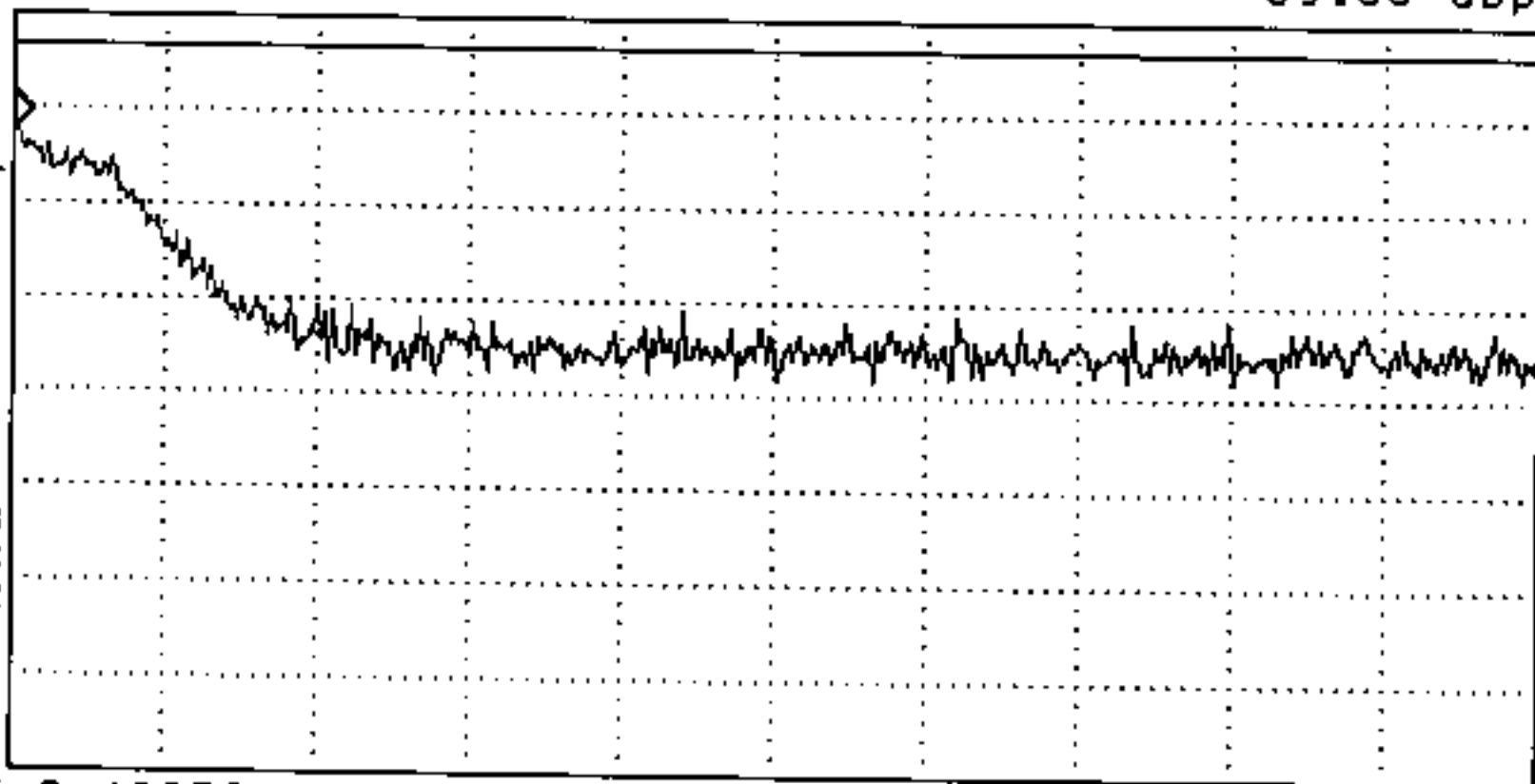
STOP 2.50000 GHz
SWP 5.00 sec

15:12:05 SEP 12, 2001
2411 9dBi CH33 20.5dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.48354 GHz
69.58 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
OL
74.0
dBμV

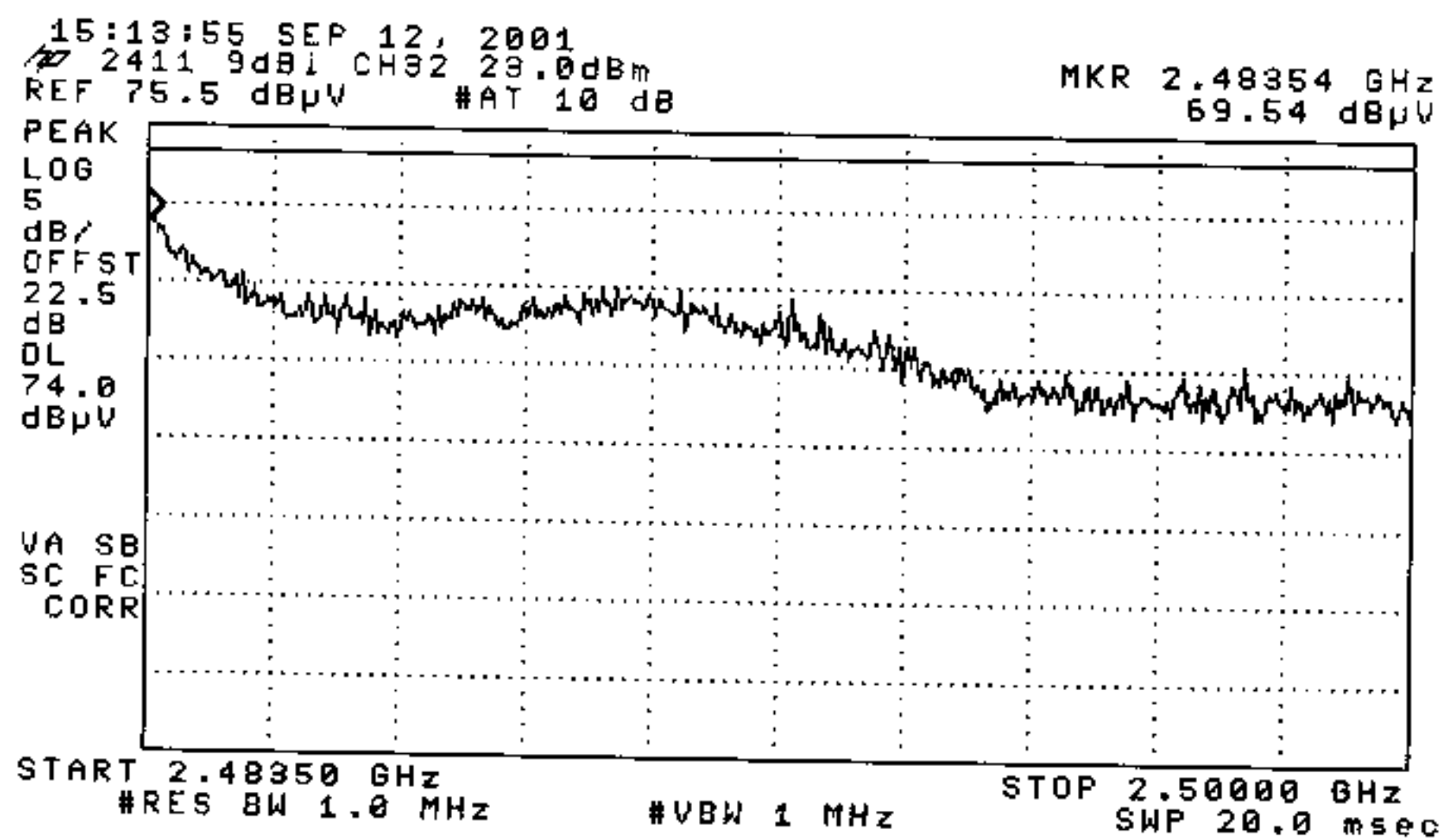
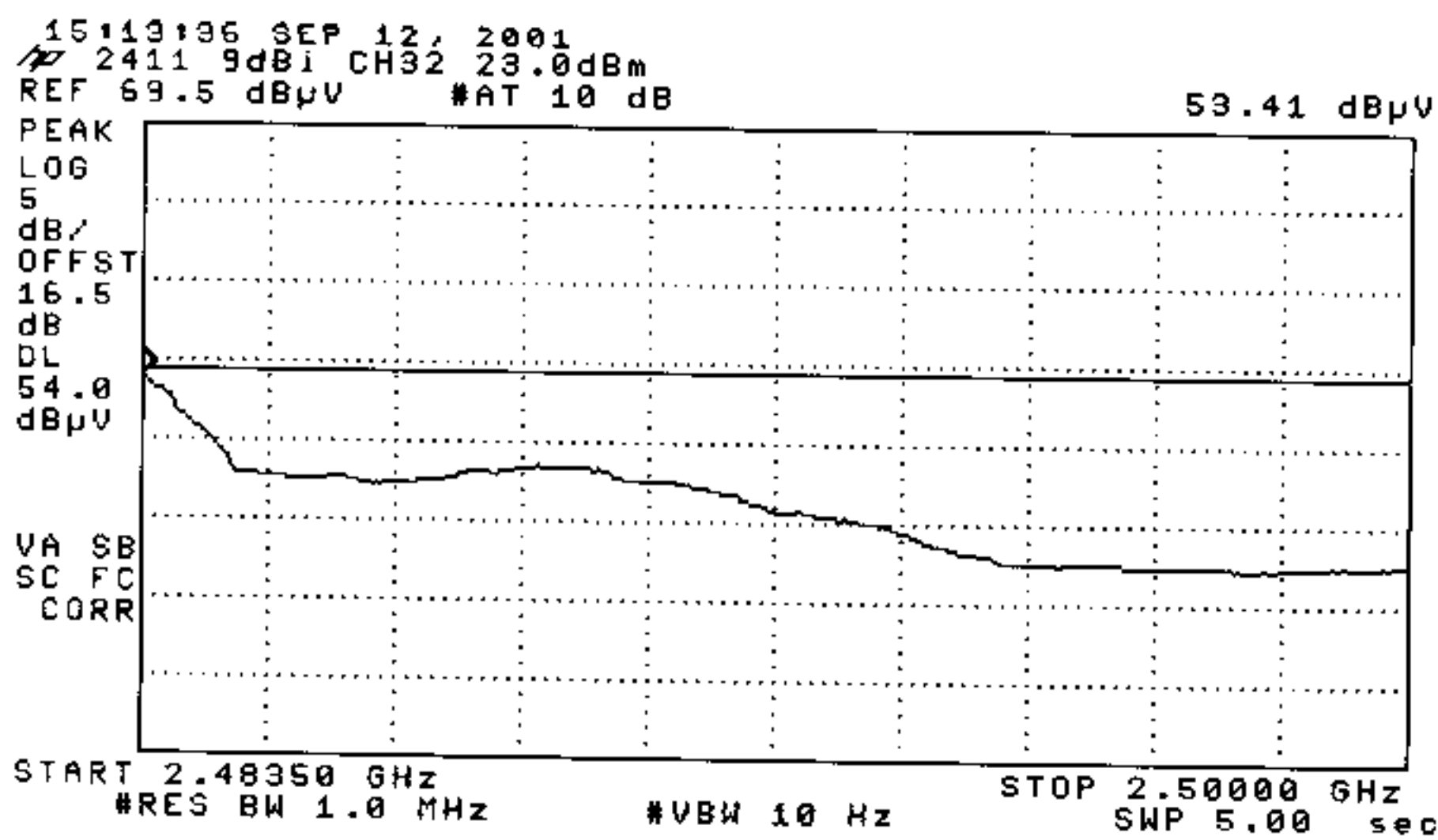
VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

STOP 2.50000 GHz
SWP 20.0 msec

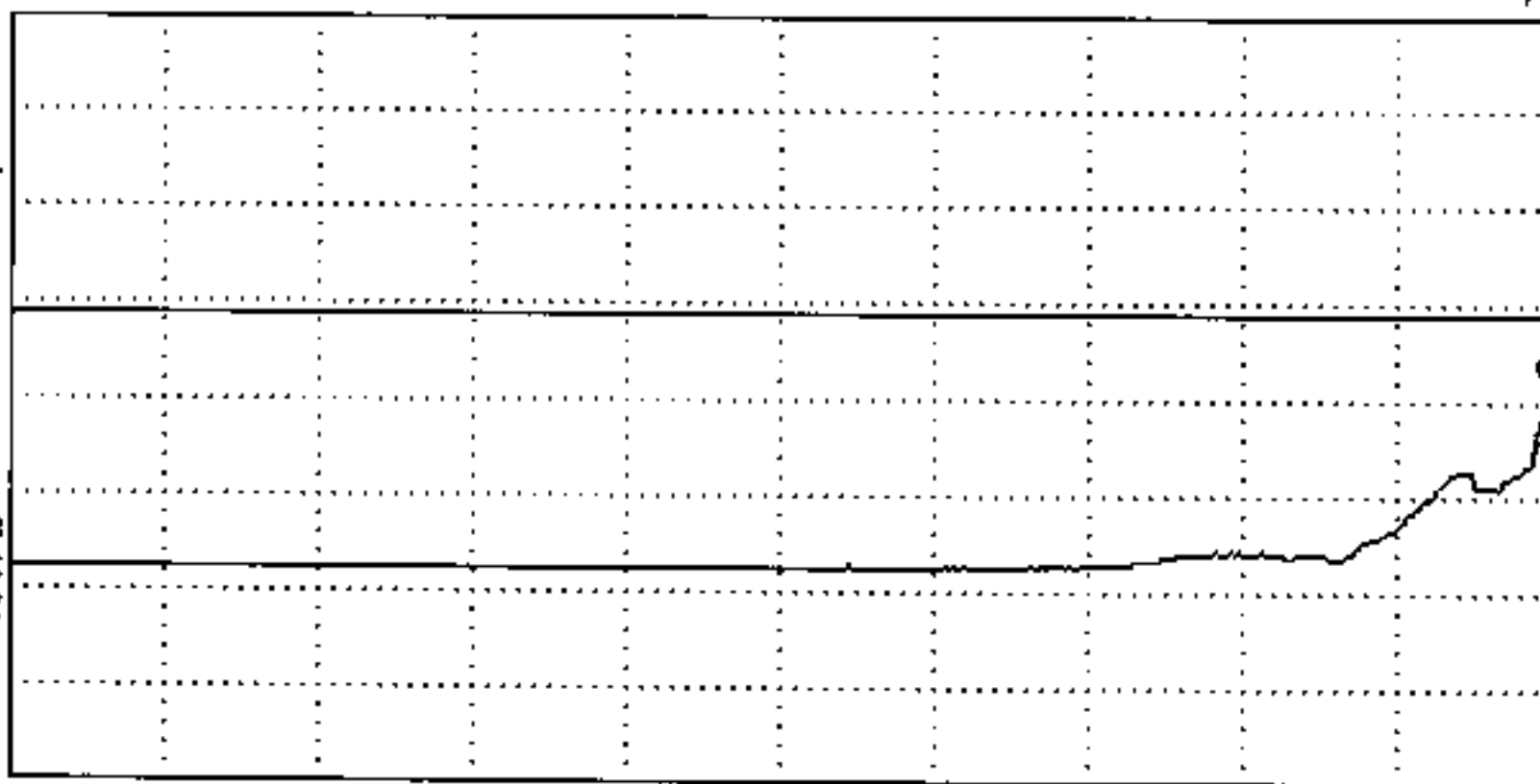


15:17:24 SEP 12, 2001
2411 9dBi CH5 23.0dBm
REF 59.5 dBμV #AT 10 dB

MKR 2.39000 GHz
50.49 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.31000 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

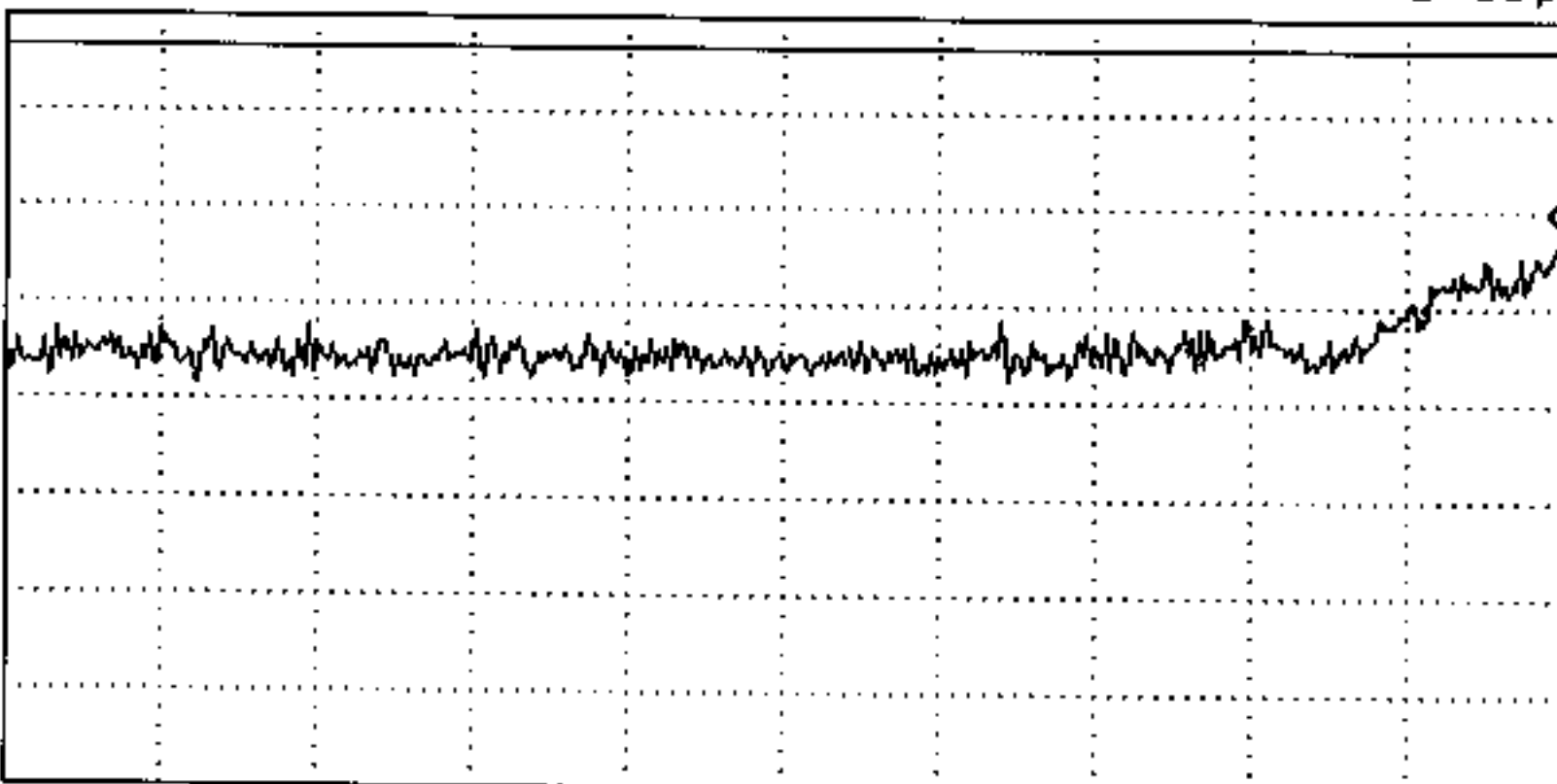
STOP 2.39000 GHz
SWP 24.0 sec

15:17:43 SEP 12, 2001
2411 9dBi CH5 23.0dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.39000 GHz
64.51 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

VA SB
SC FC
CORR



START 2.31000 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

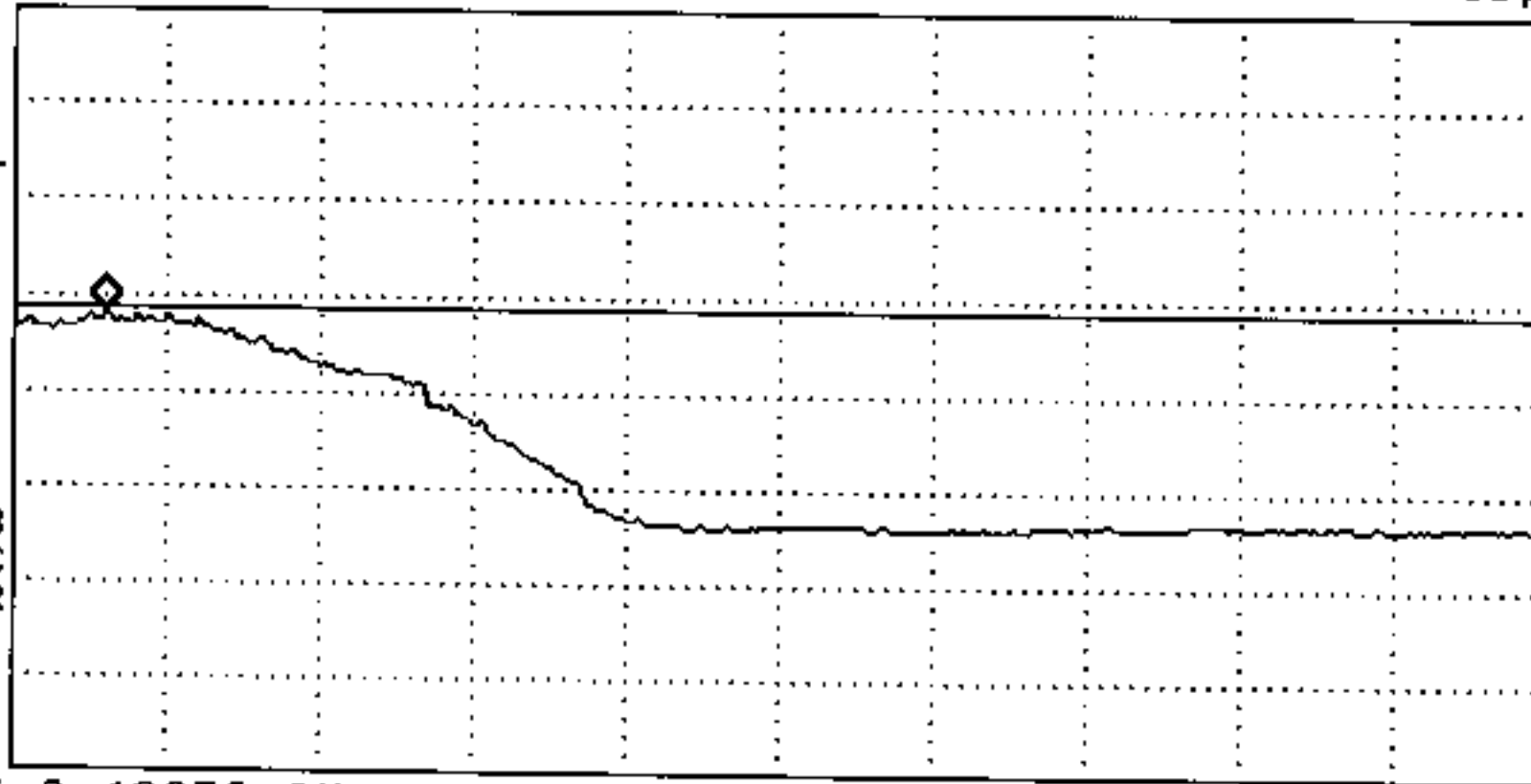
STOP 2.39000 GHz
SWP 20.0 msec

14:56:38 SEP 12, 2001
2411 17dB CH35 16.7dBm
REF 69.5 dBμV #AT 10 dB

53.69 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

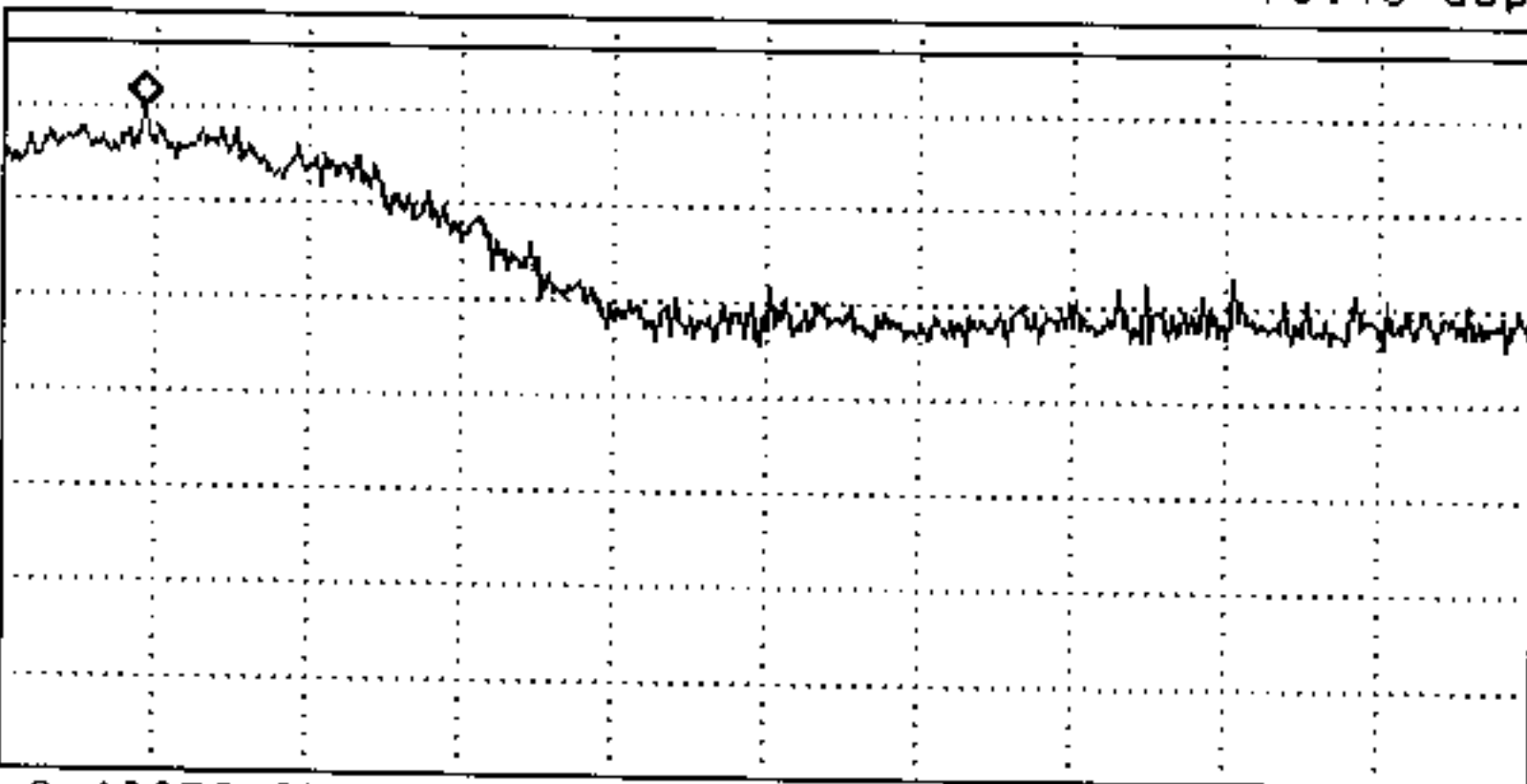
STOP 2.50000 GHz
SWP 5.00 sec

14:56:51 SEP 12, 2001
2411 17dB CH35 16.7dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.48503 GHz
70.46 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

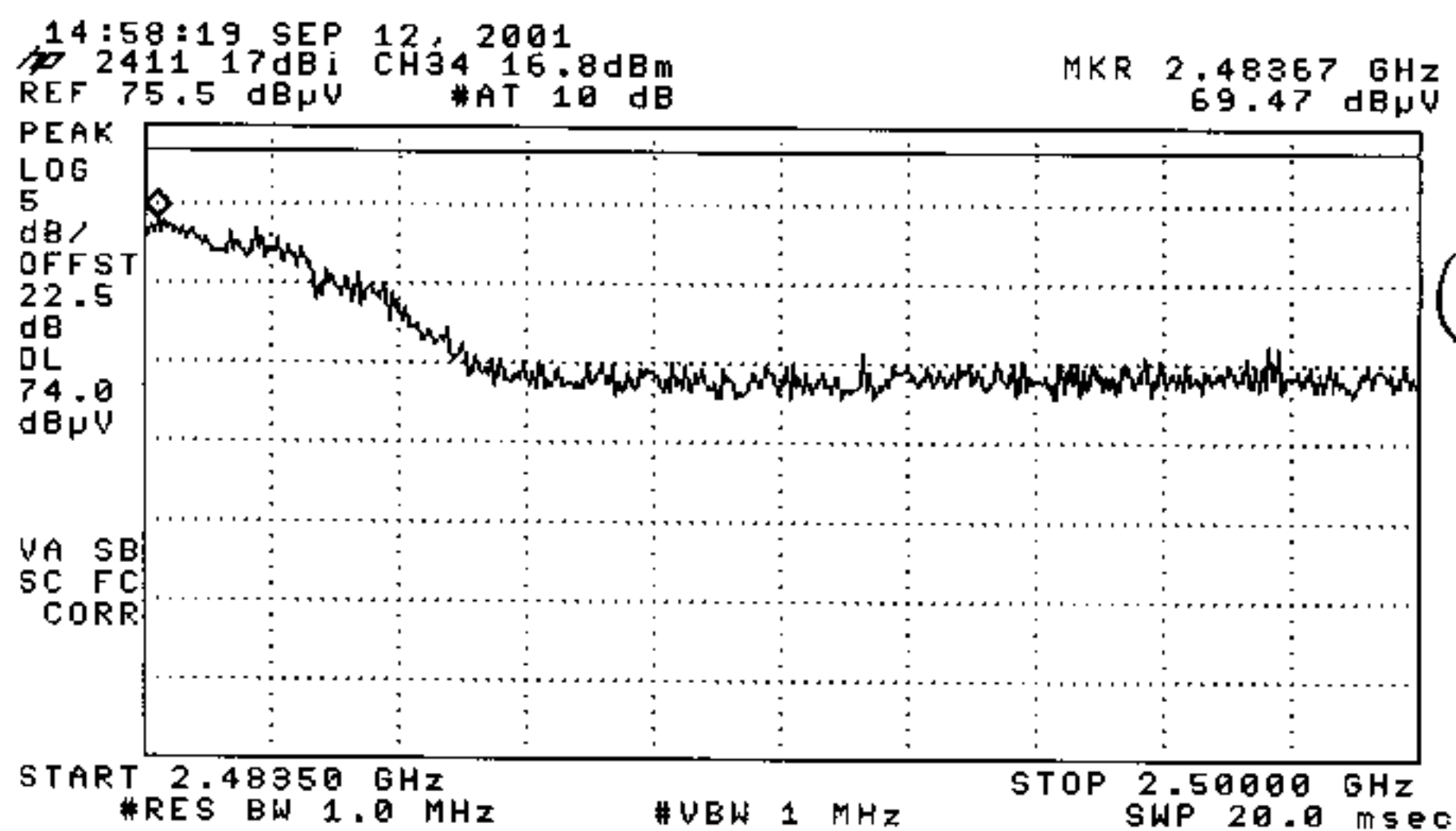
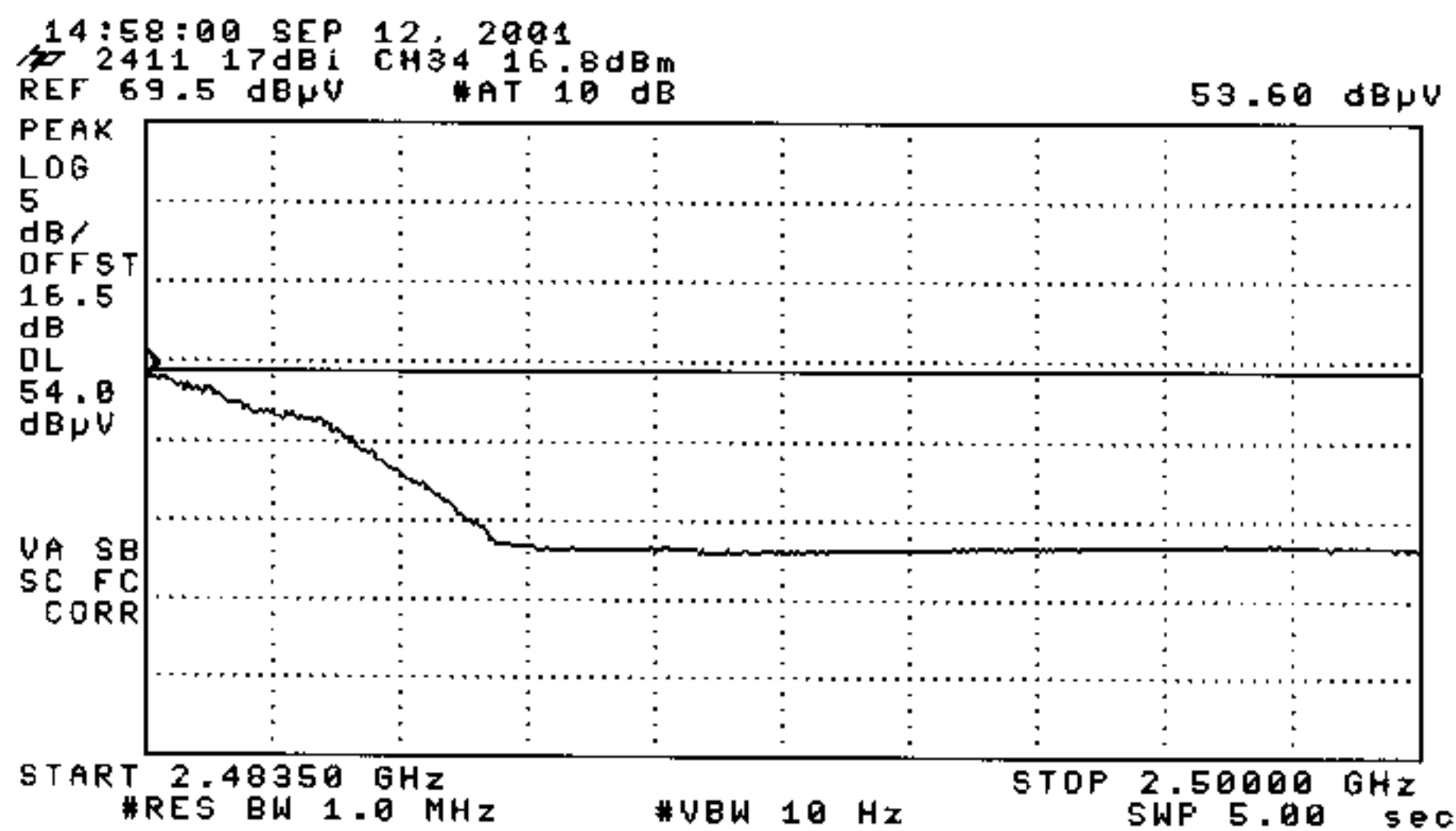
VA SB
SC FC
CORR

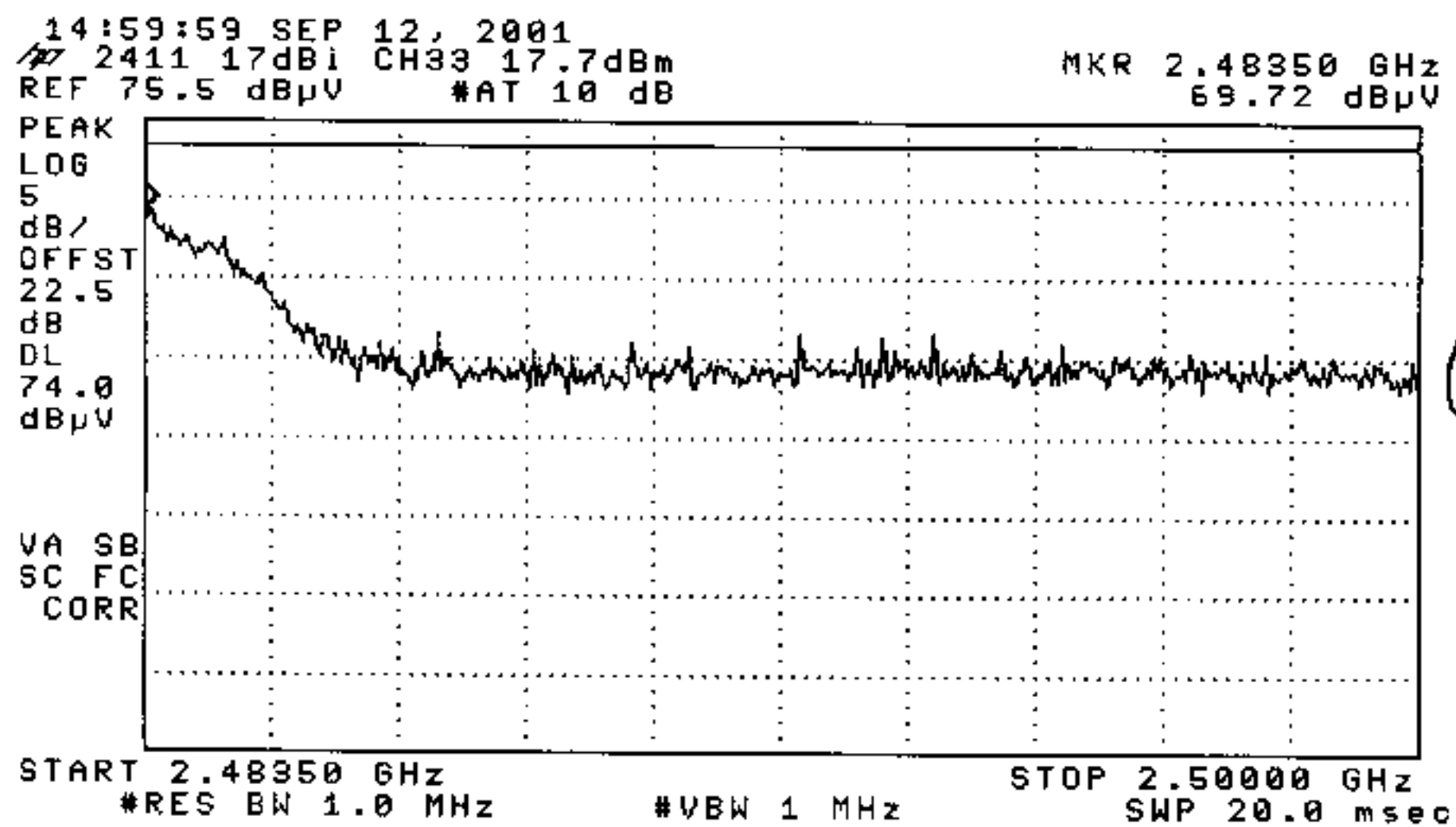
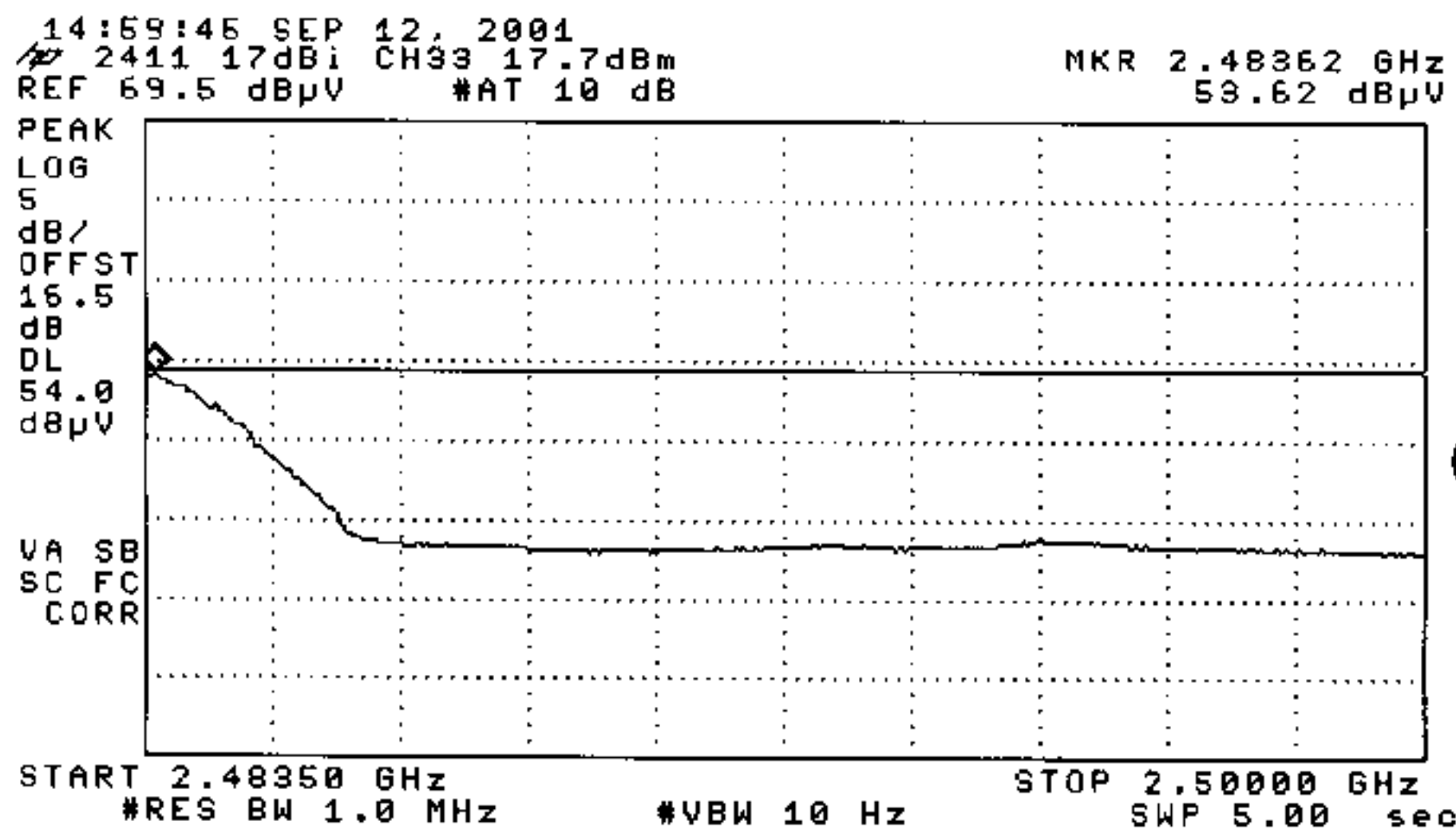


START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

STOP 2.50000 GHz
SWP 20.0 msec



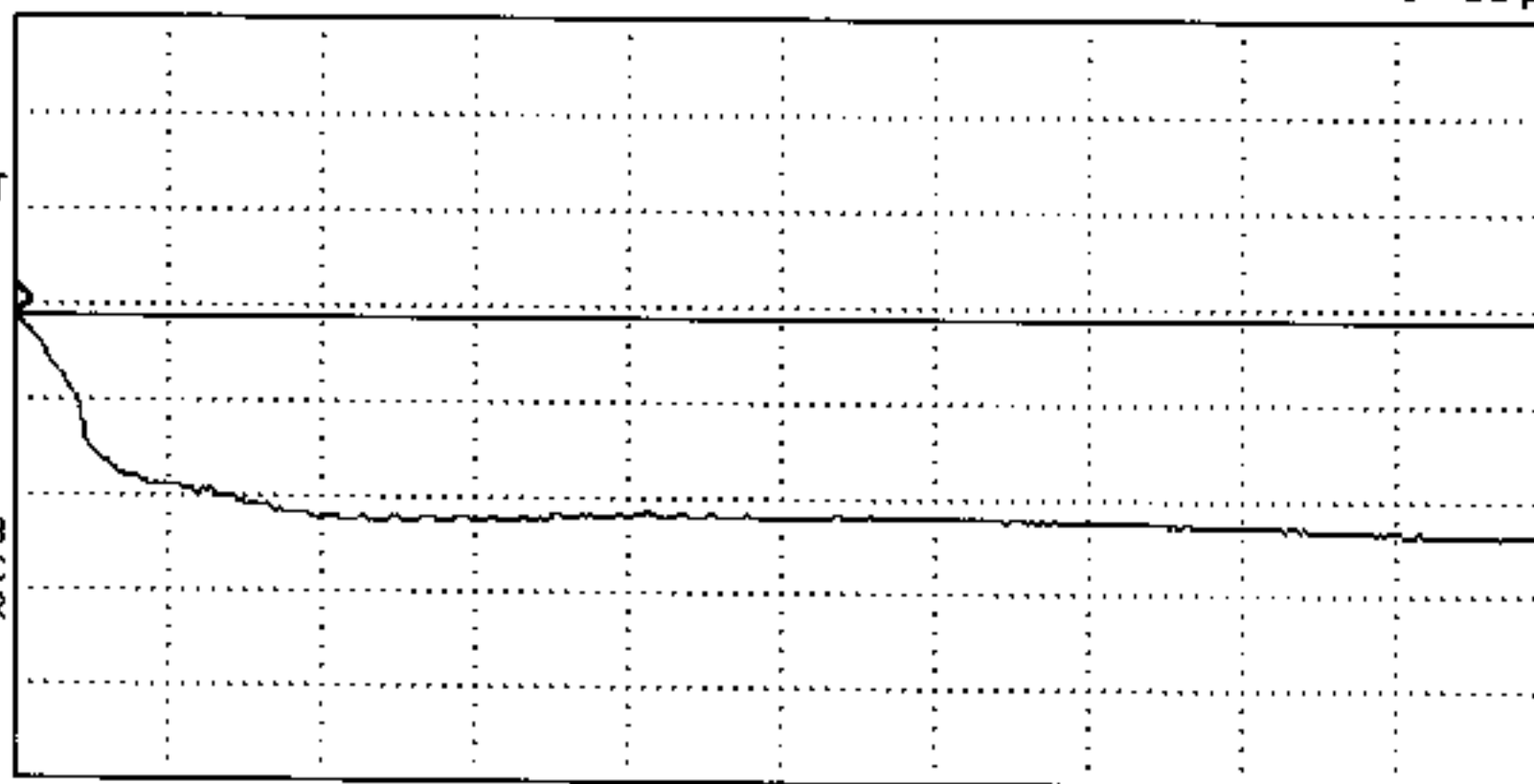


15:01:17 SEP 12, 2001
2411 17dBi CH32 20.0dBm
REF 69.5 dBμV #AT 10 dB

53.90 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



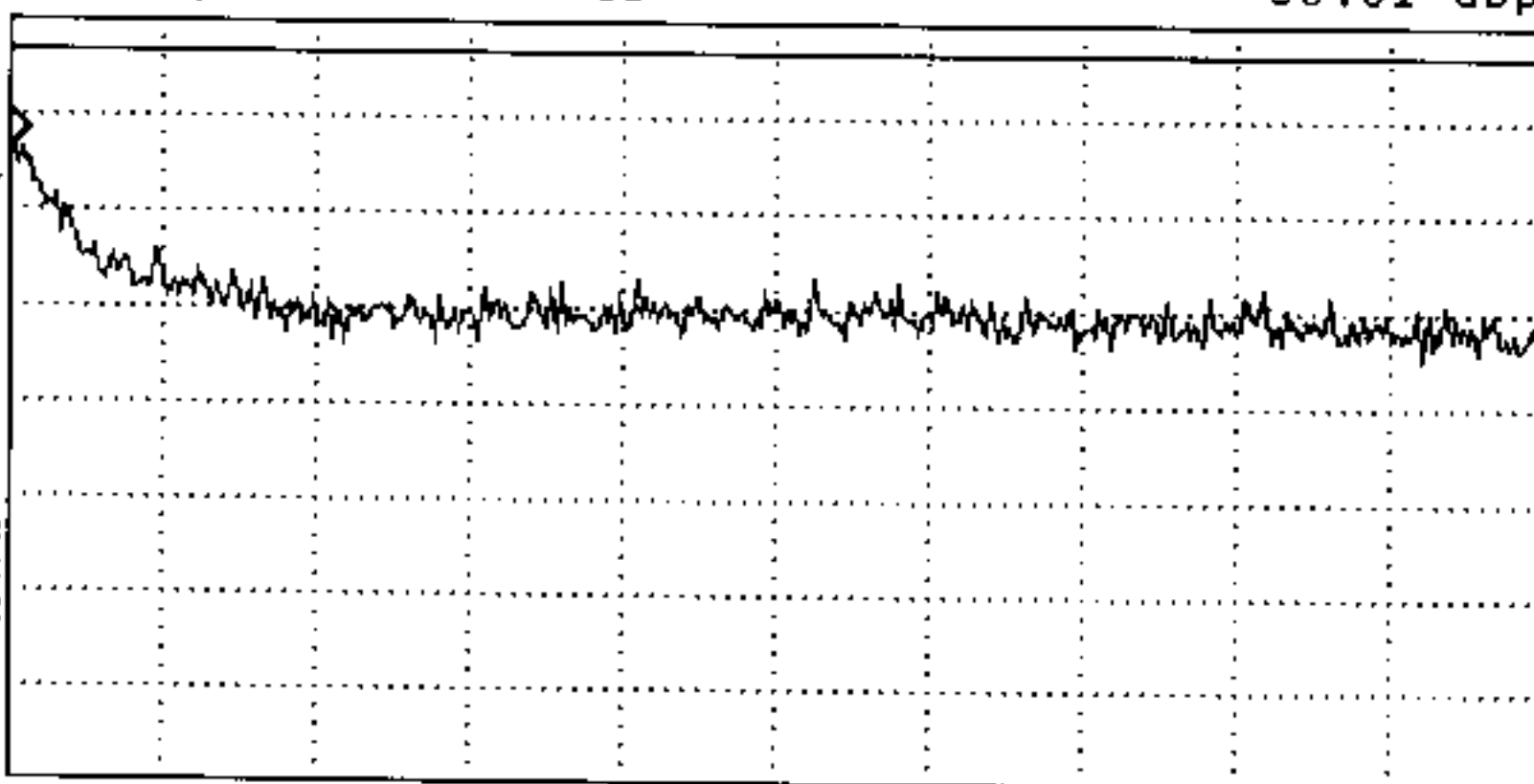
START 2.48350 GHz STOP 2.50000 GHz
#RES BW 1.0 MHz #VBW 10 Hz SWP 5.00 sec

15:01:30 SEP 12, 2001
2411 17dBi CH32 20.0dBm
REF 75.5 dBμV #AT 10 dB

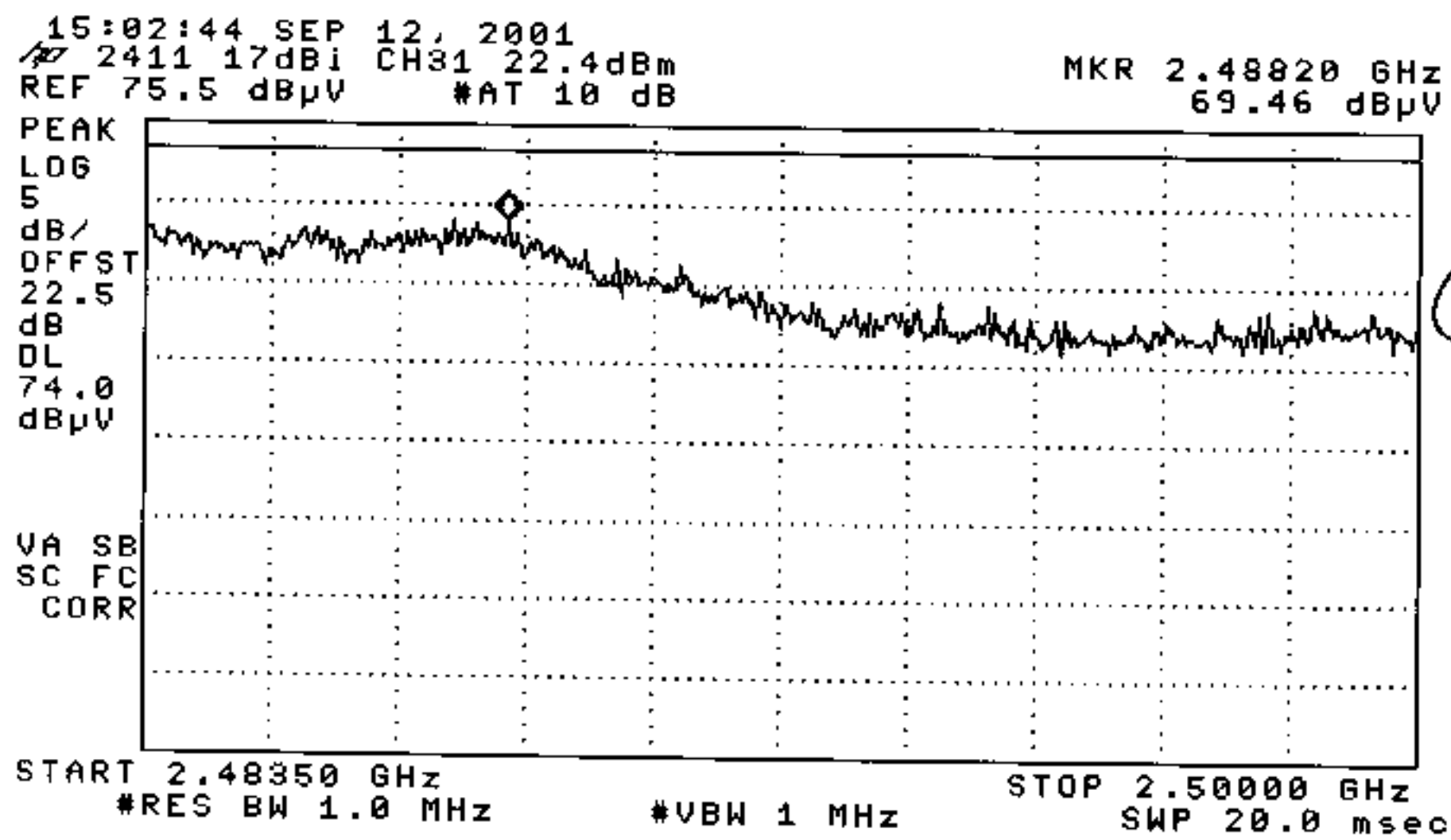
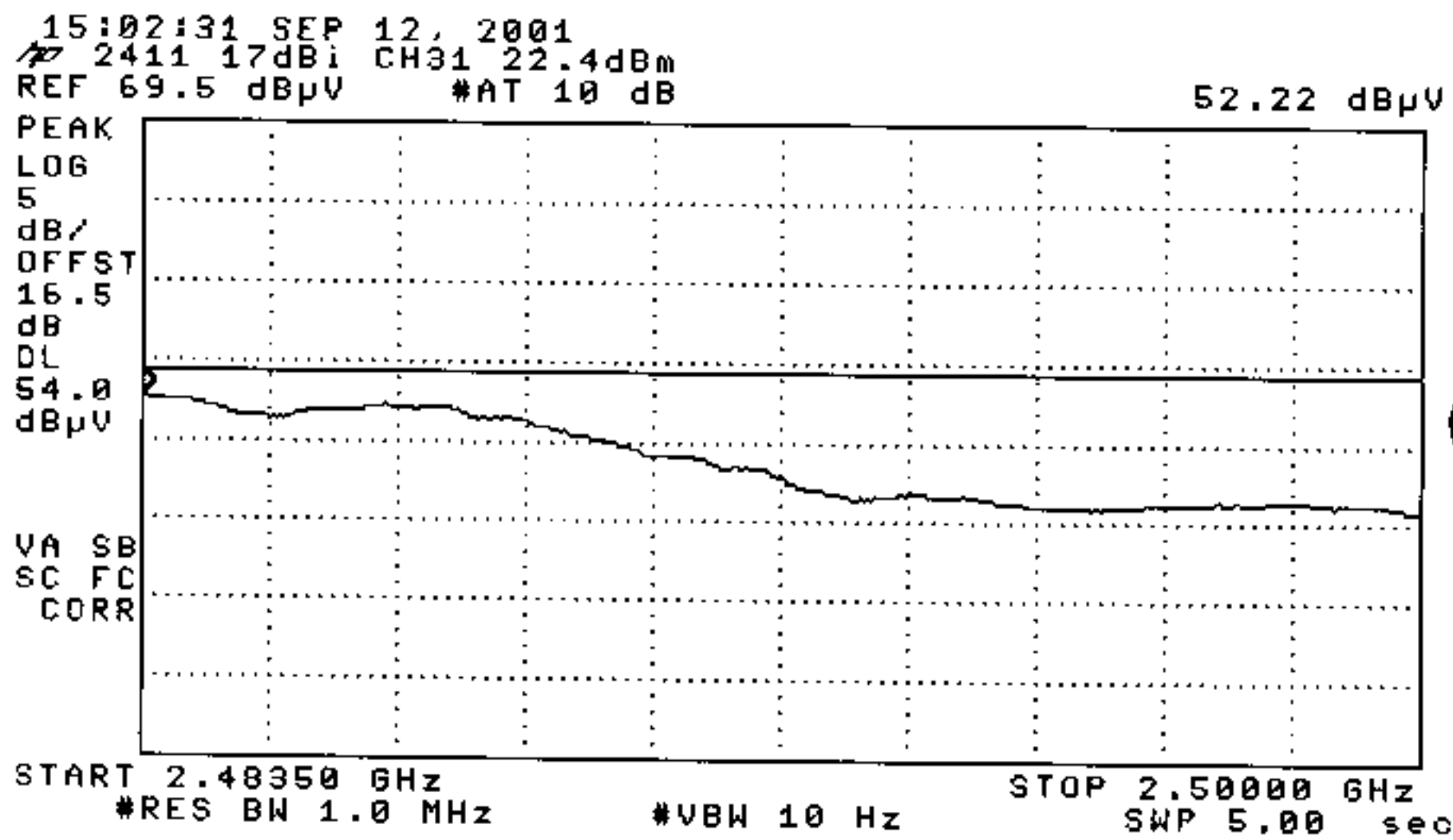
MKR 2.48354 GHz
68.81 dBμV

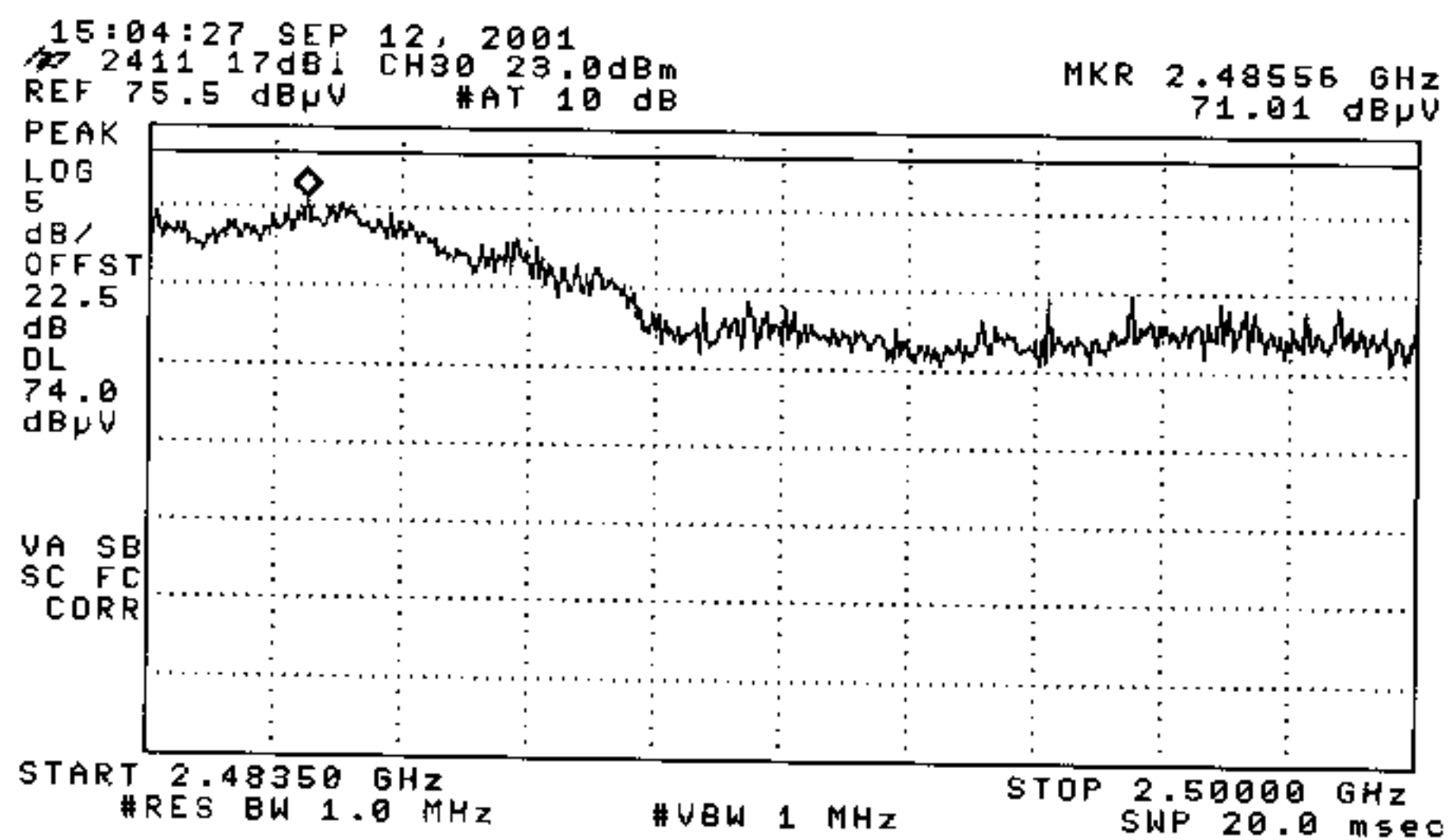
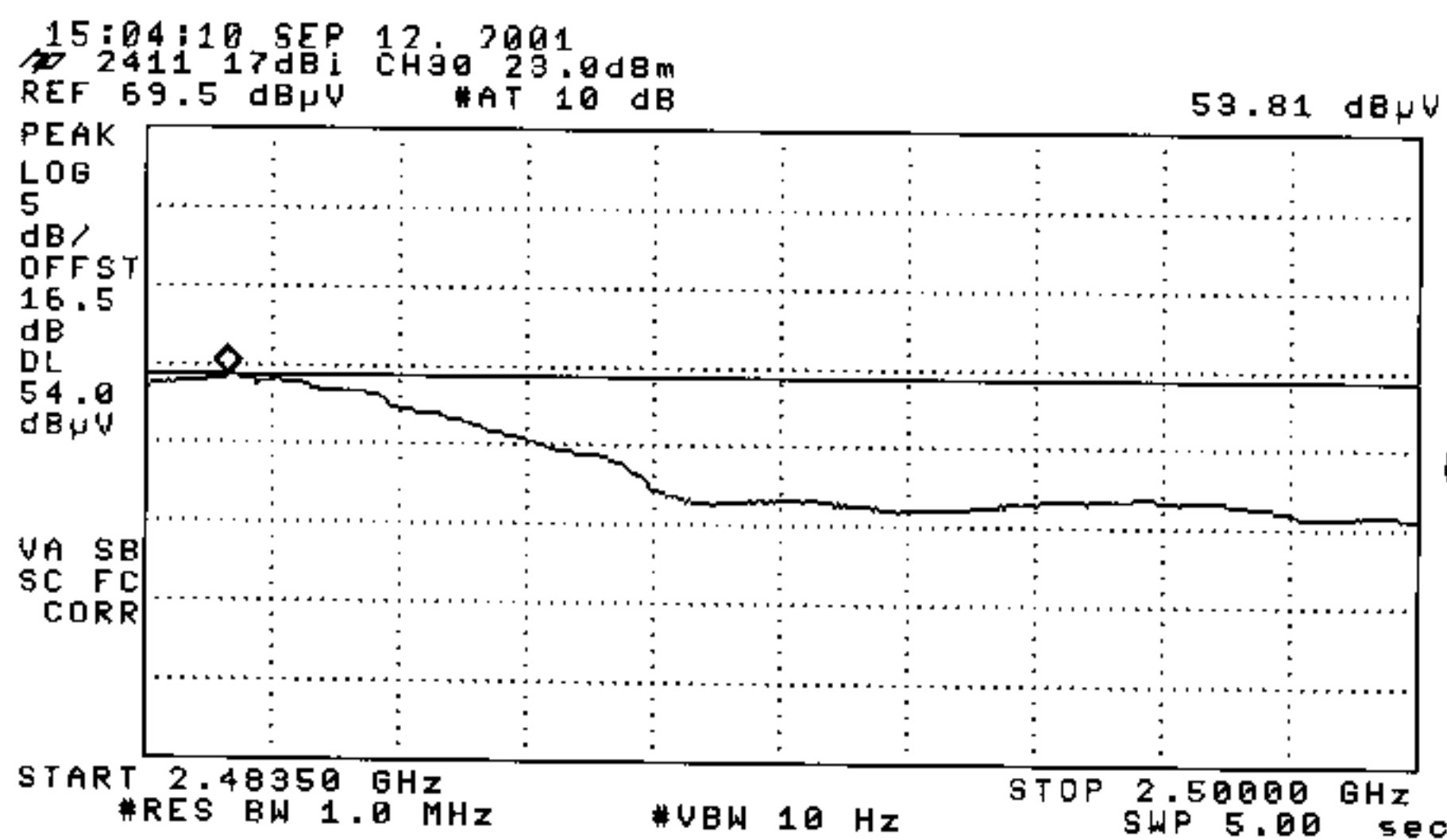
PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz STOP 2.50000 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 20.0 msec



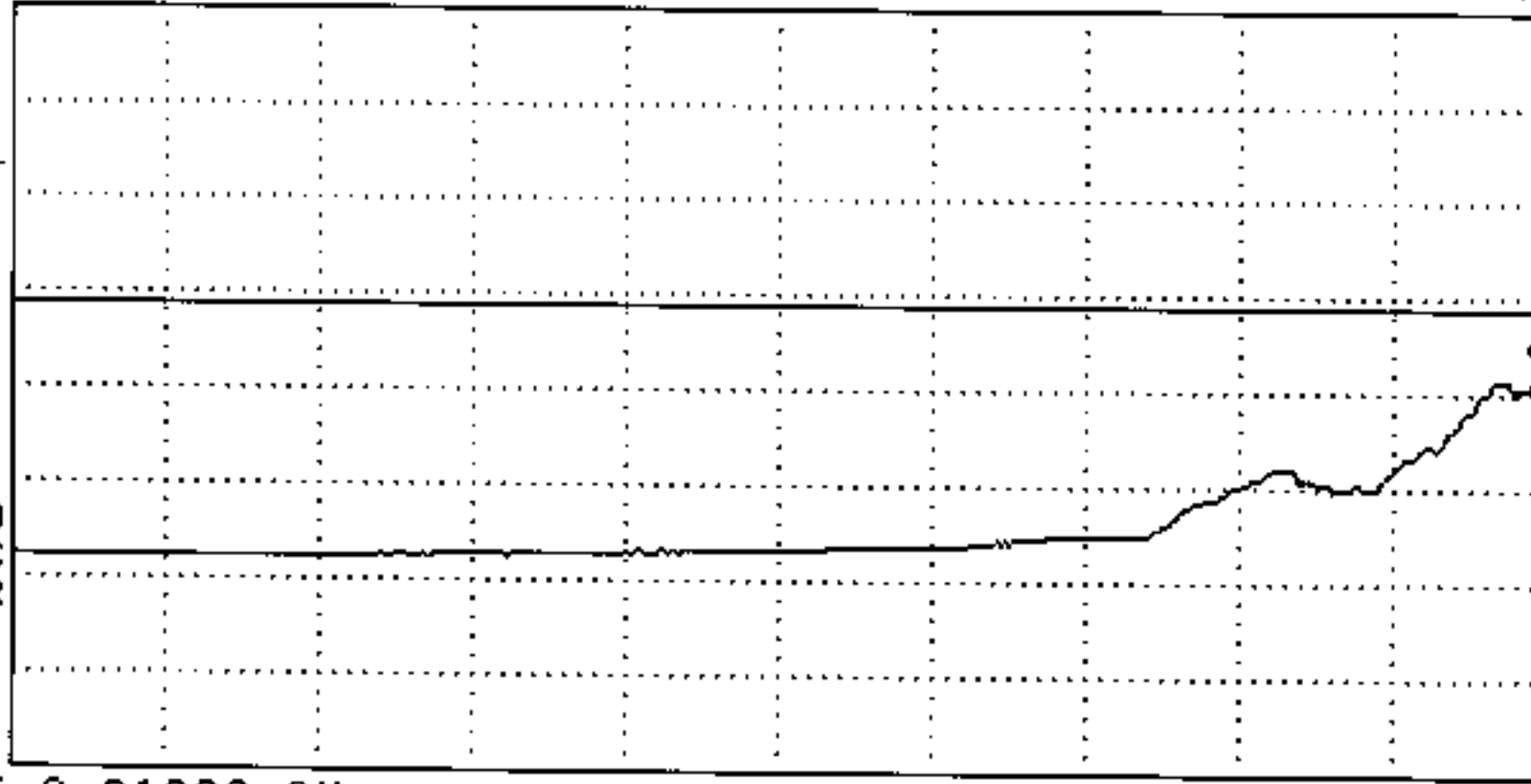


14:54:08 SEP 12, 2001
2411 17dBm CH6 23dBm
REF 69.5 dBμV #AT 10 dB

MKR 2.38980 GHz
51.06 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.31000 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

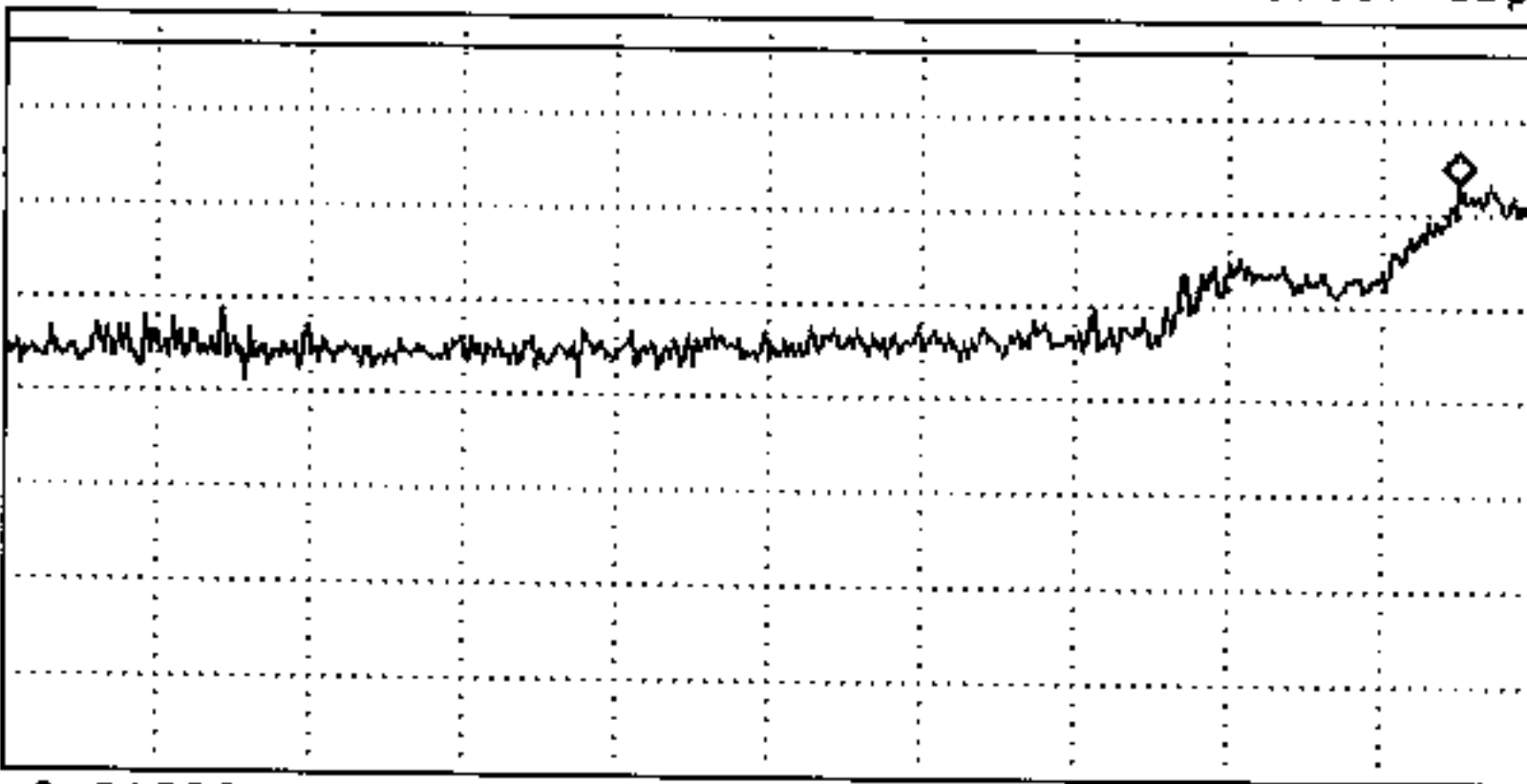
STOP 2.39000 GHz
SWP 24.0 sec

14:54:28 SEP 12, 2001
2411 17dBm CH6 23dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.38600 GHz
67.07 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

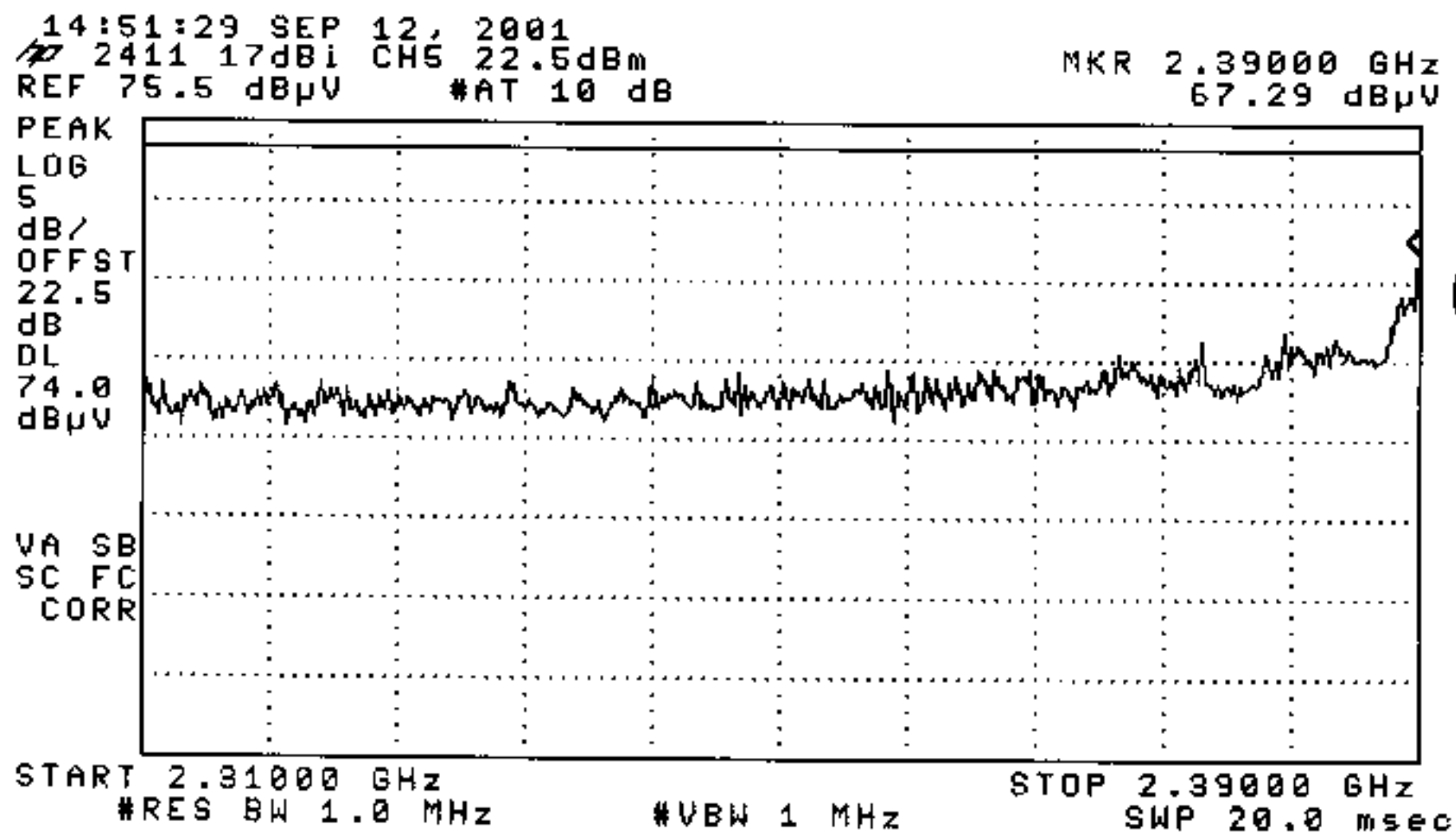
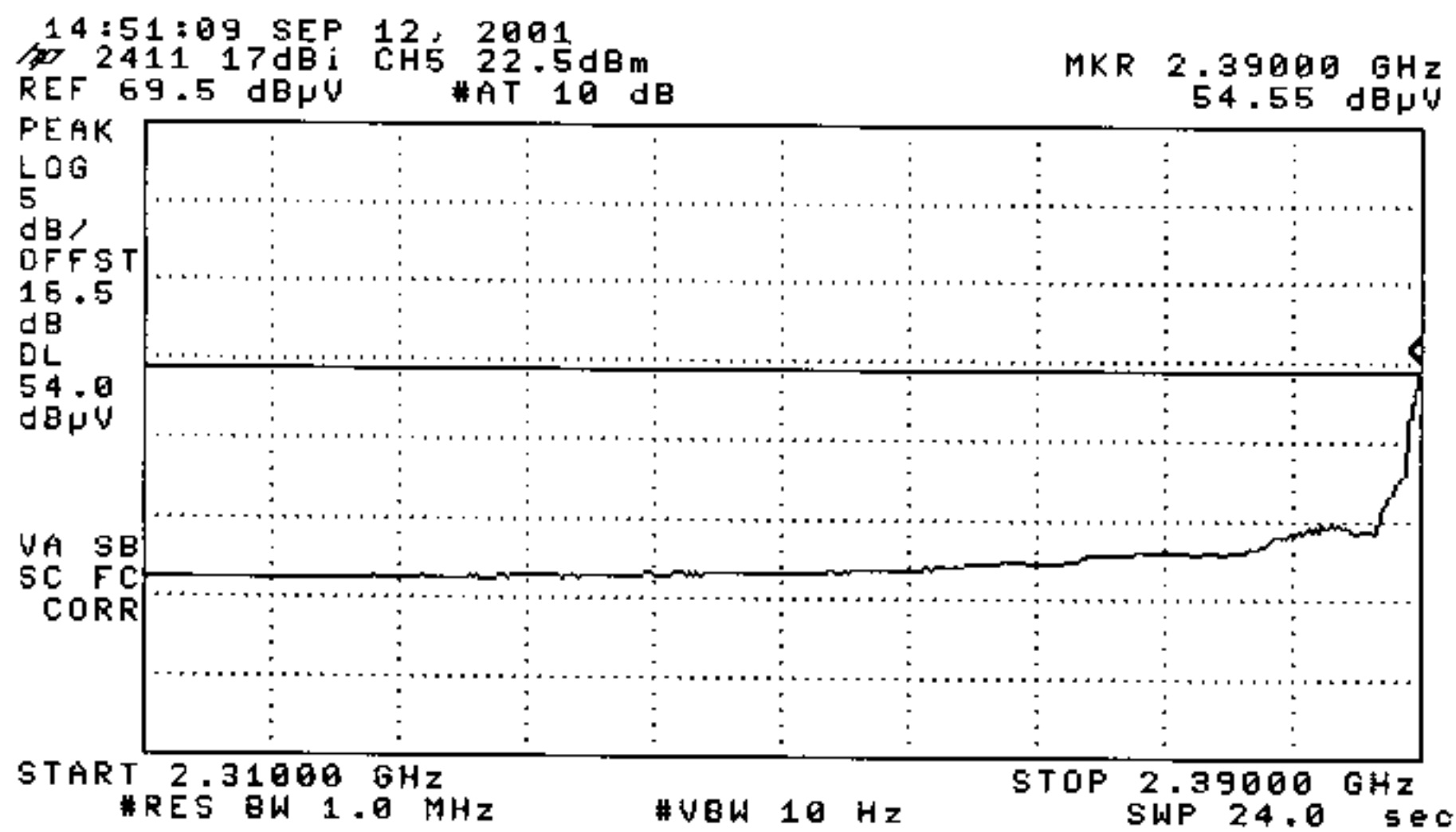
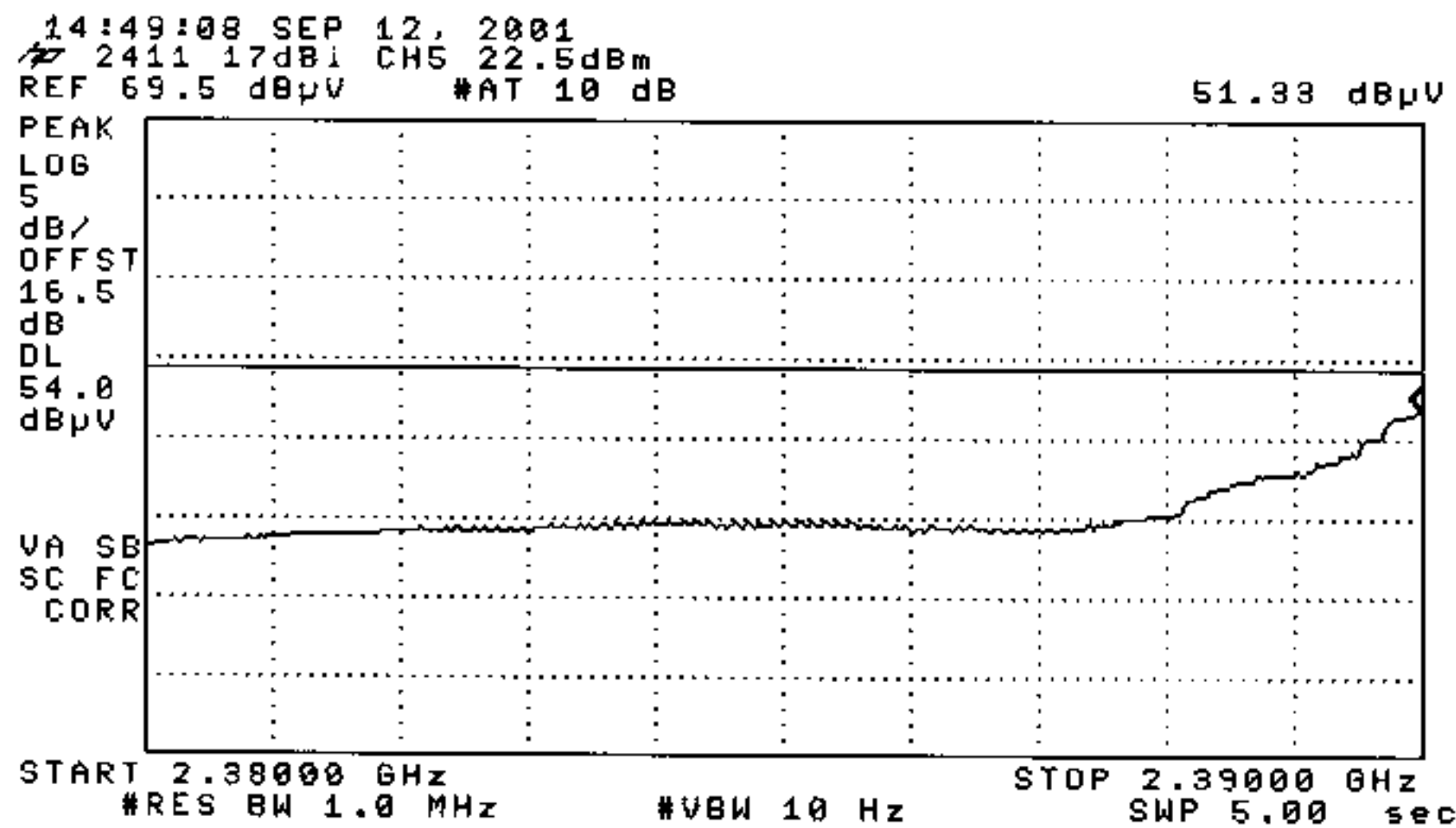
VA SB
SC FC
CORR

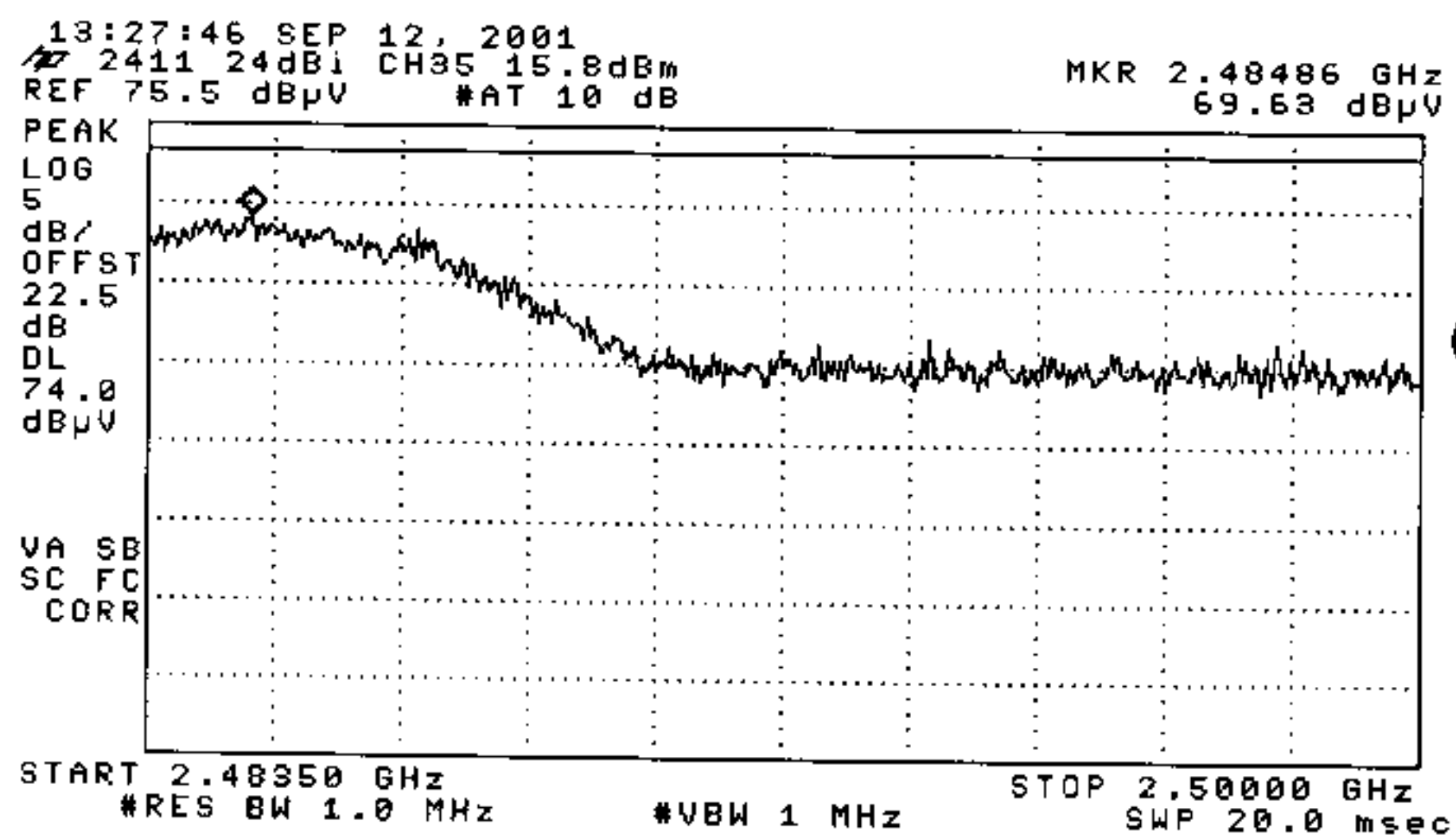
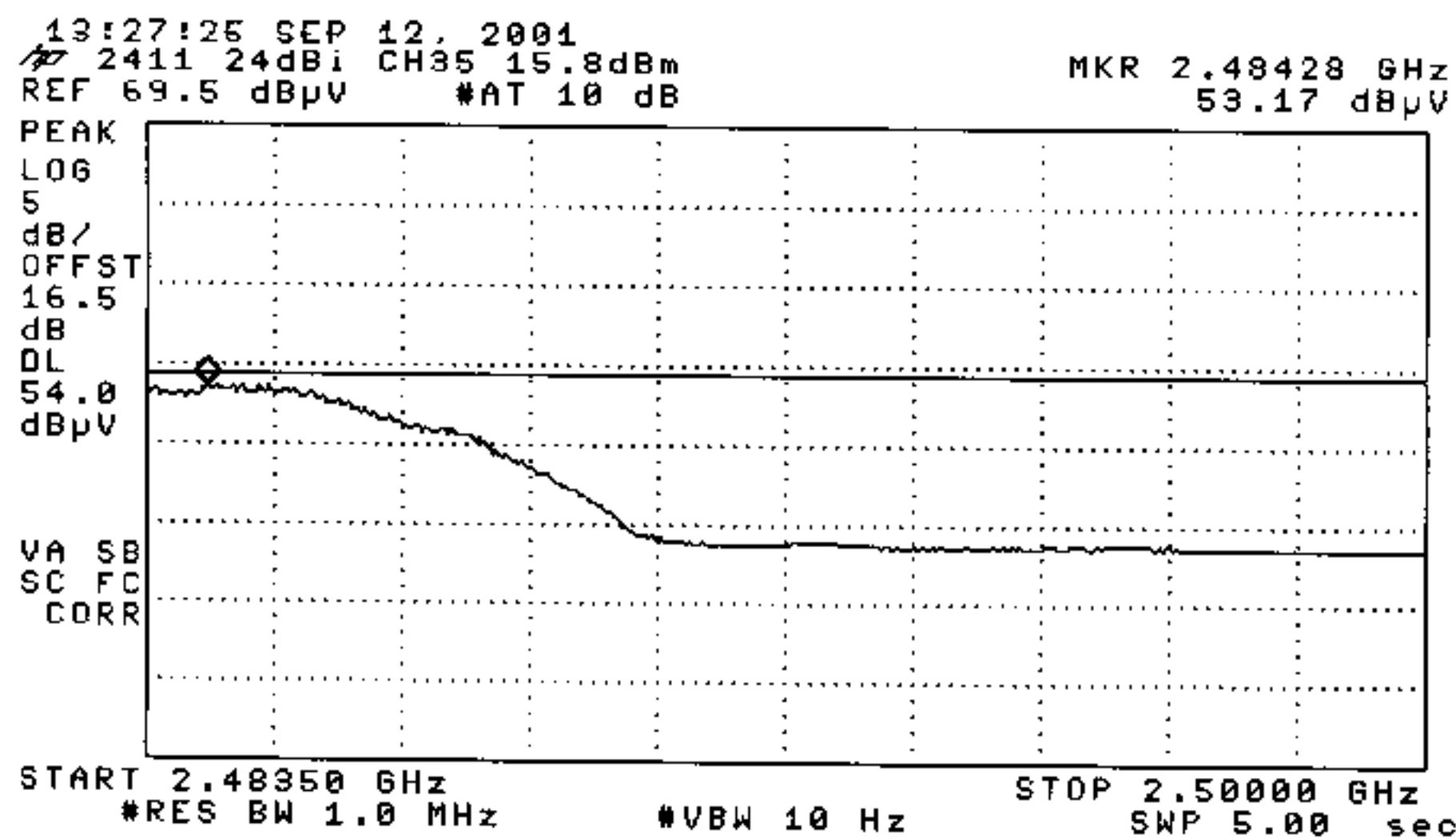


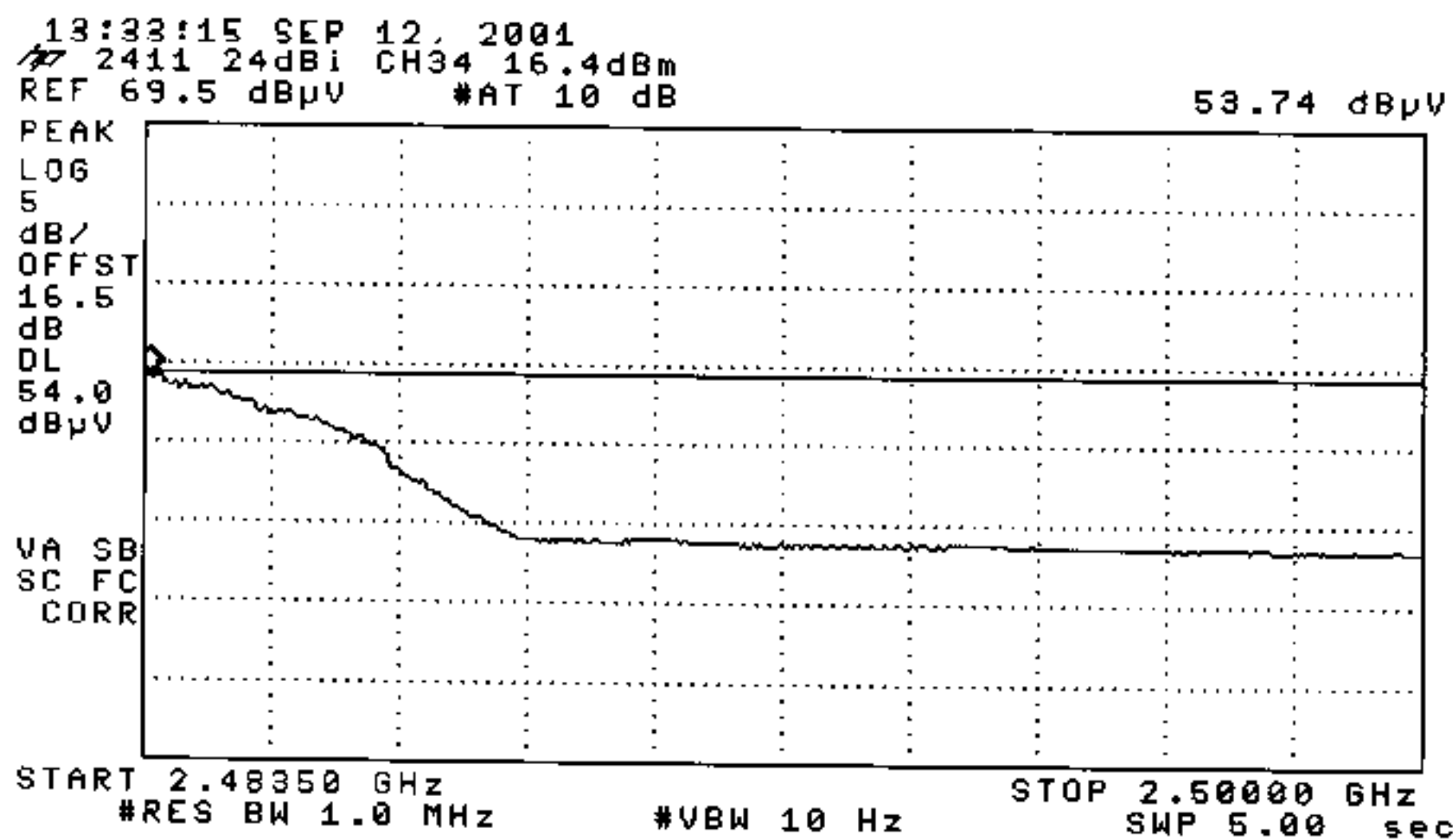
START 2.31000 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

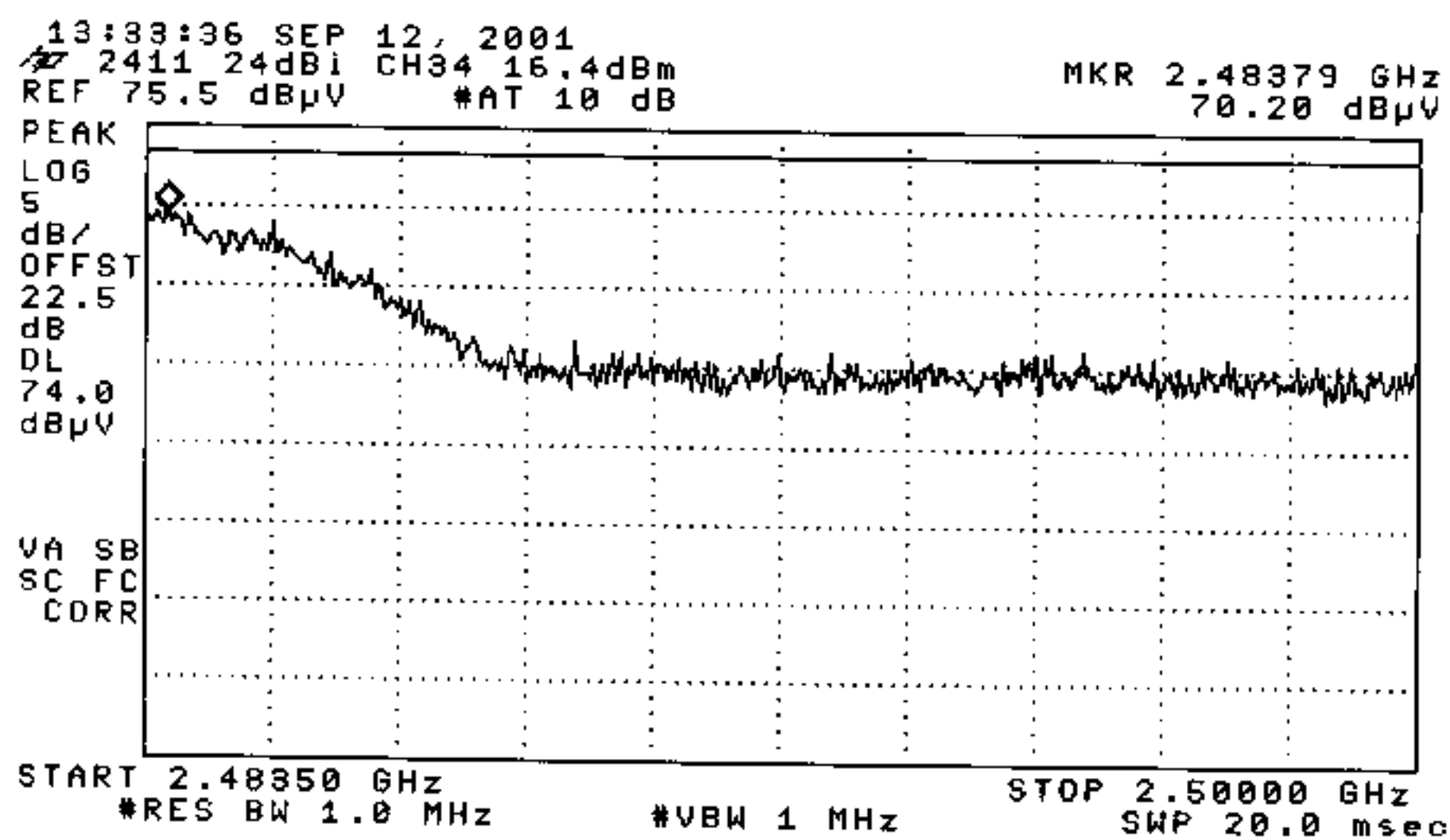
STOP 2.39000 GHz
SWP 20.0 msec







30



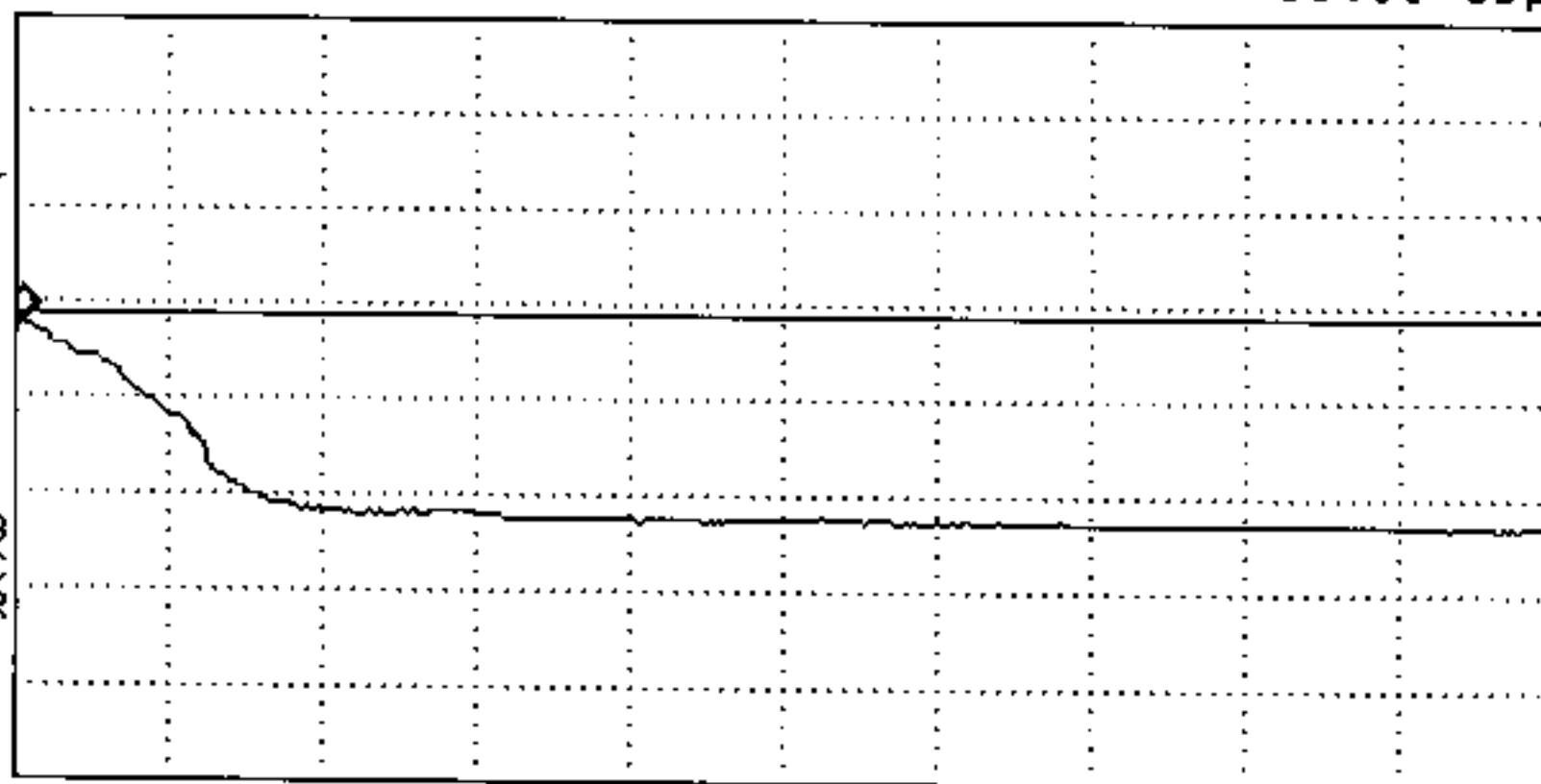
31

13:29:41 SEP 12, 2001
2411 24dBm CH33 16.9dBm
REF 69.5 dBμV #AT 10 dB

MKR 2.48350 GHz
53.53 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



32

START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

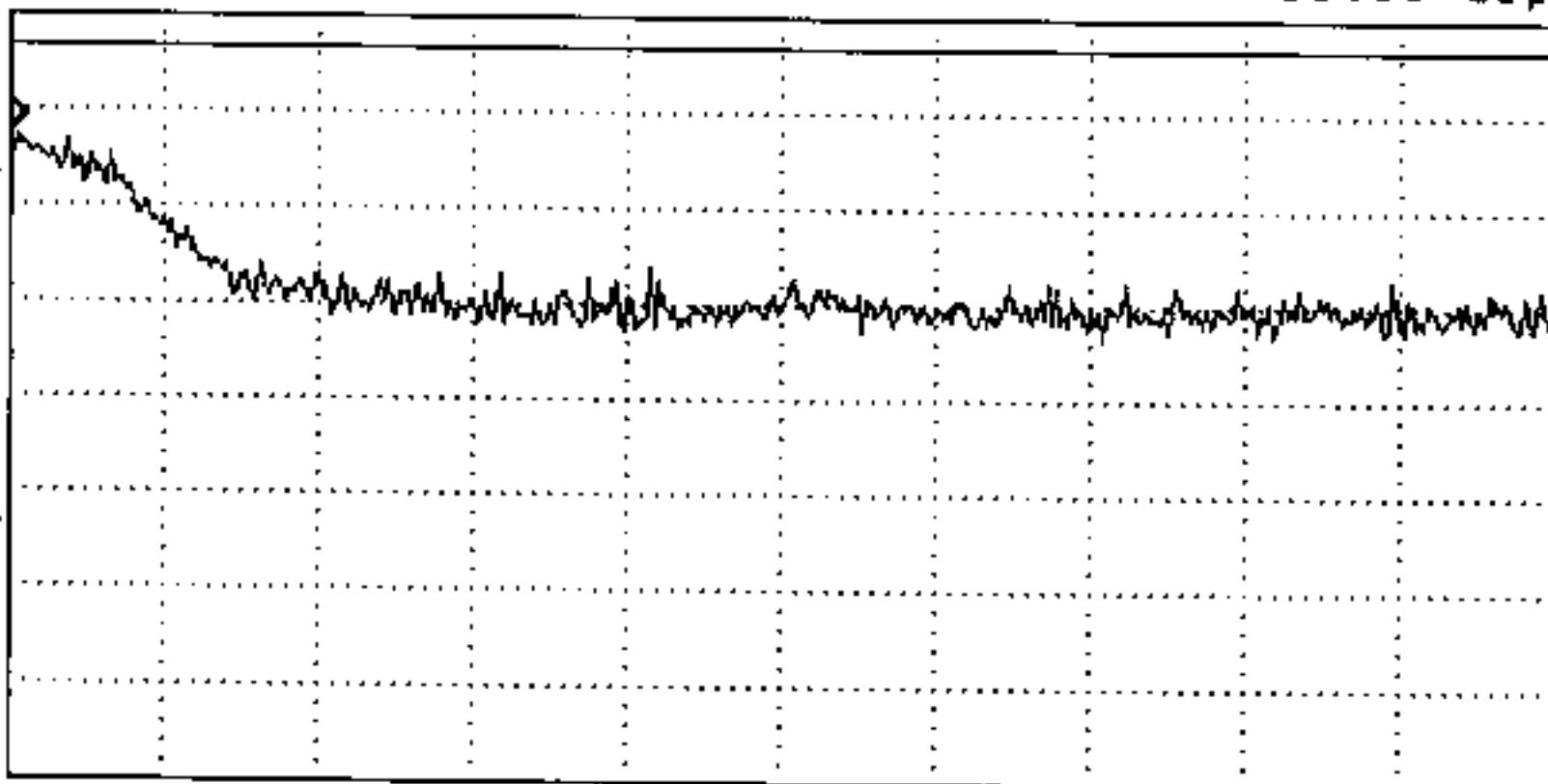
STOP 2.50000 GHz
SWP 5.00 sec

13:30:40 SEP 12, 2001
2411 24dBm CH33 16.9dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.48350 GHz
69.35 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

VA SB
SC FC
CORR



33

START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 1 MHz

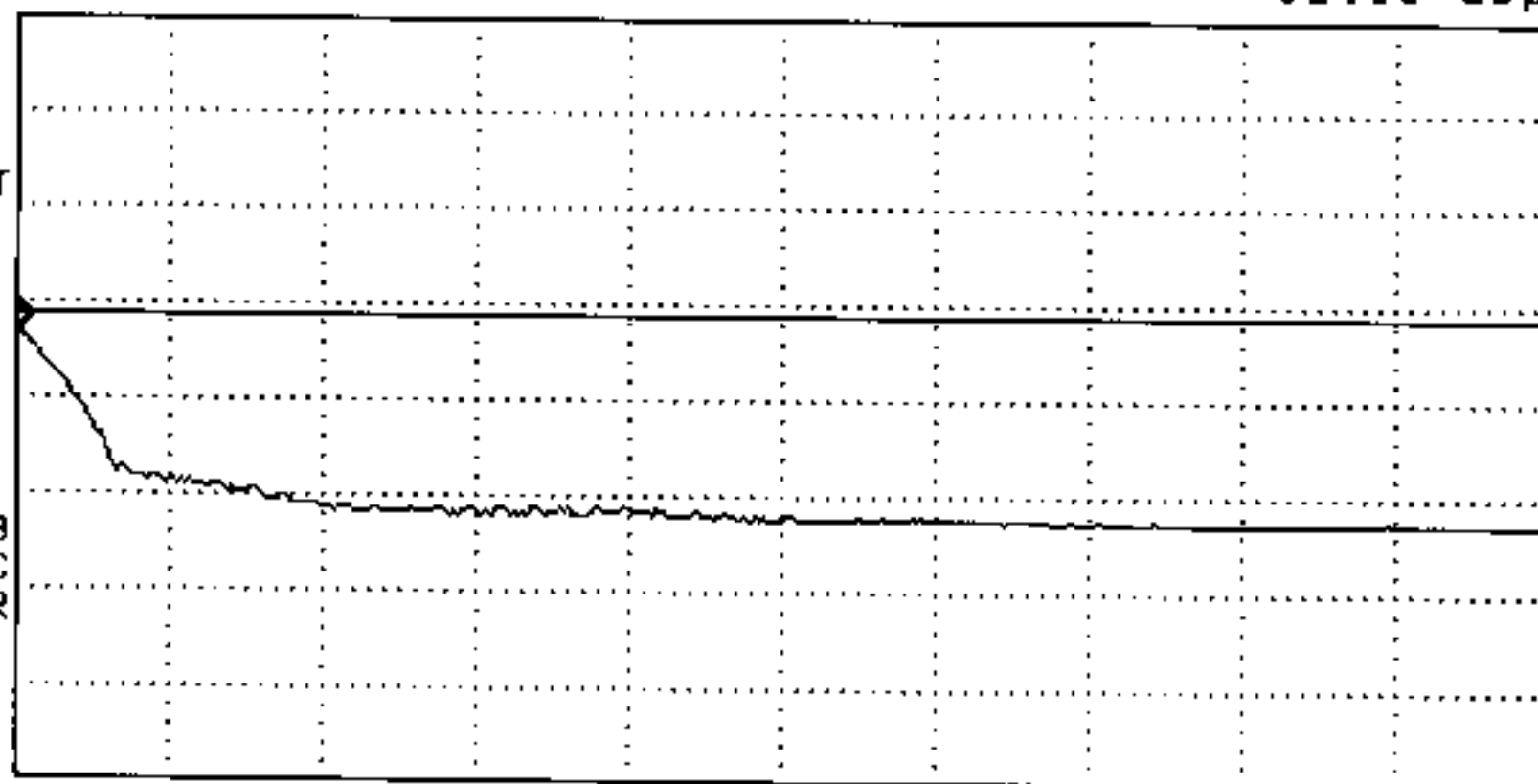
STOP 2.50000 GHz
SWP 20.0 msec

13:36:37 SEP 12, 2001
2411 24dB1 CH32 19.3dBm
REF 69.5 dBμV #AT 10 dB

52.98 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.48350 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

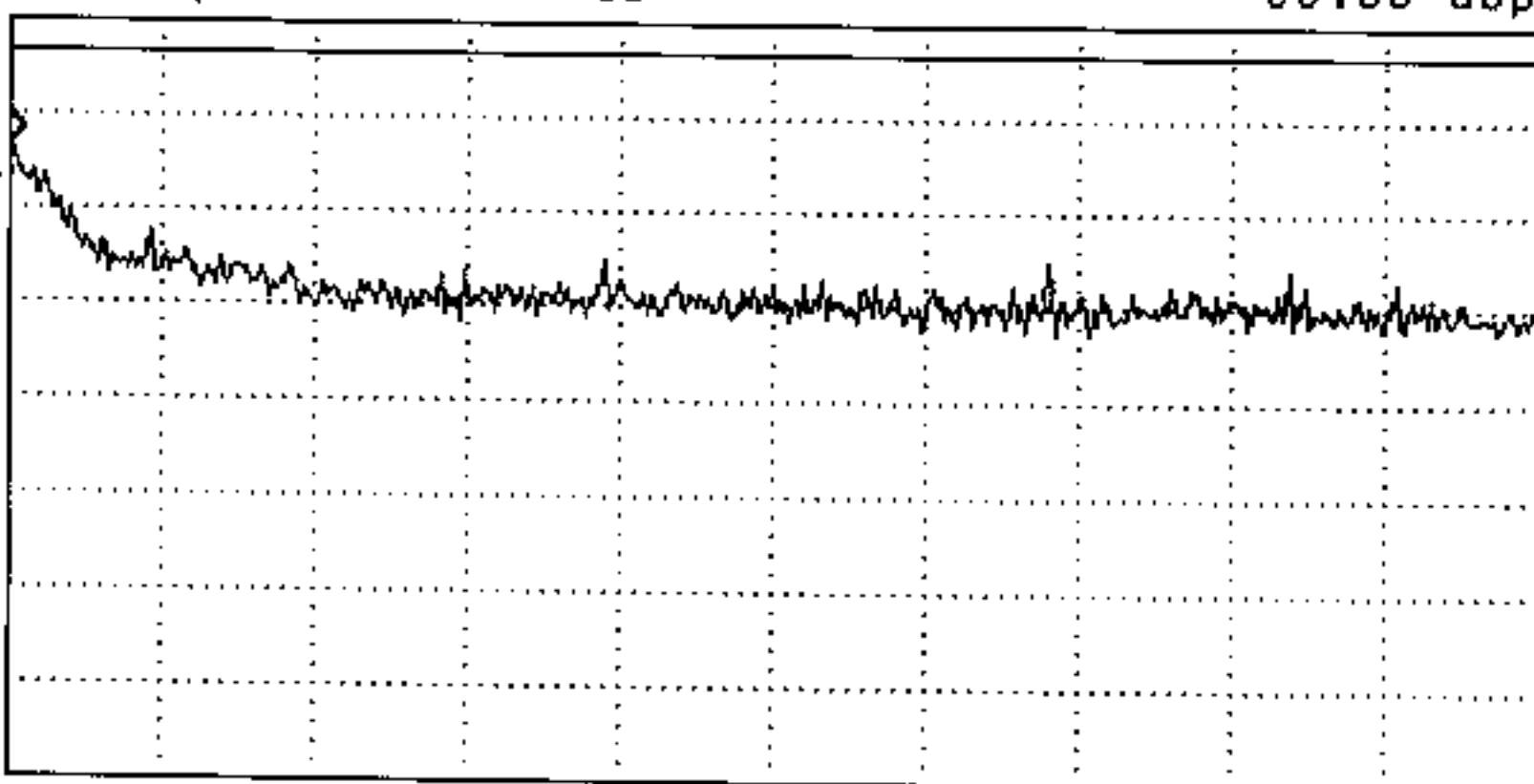
STOP 2.50000 GHz
SWP 5.00 sec

13:36:58 SEP 12, 2001
2411 24dB1 CH32 19.3dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.48350 GHz
68.88 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

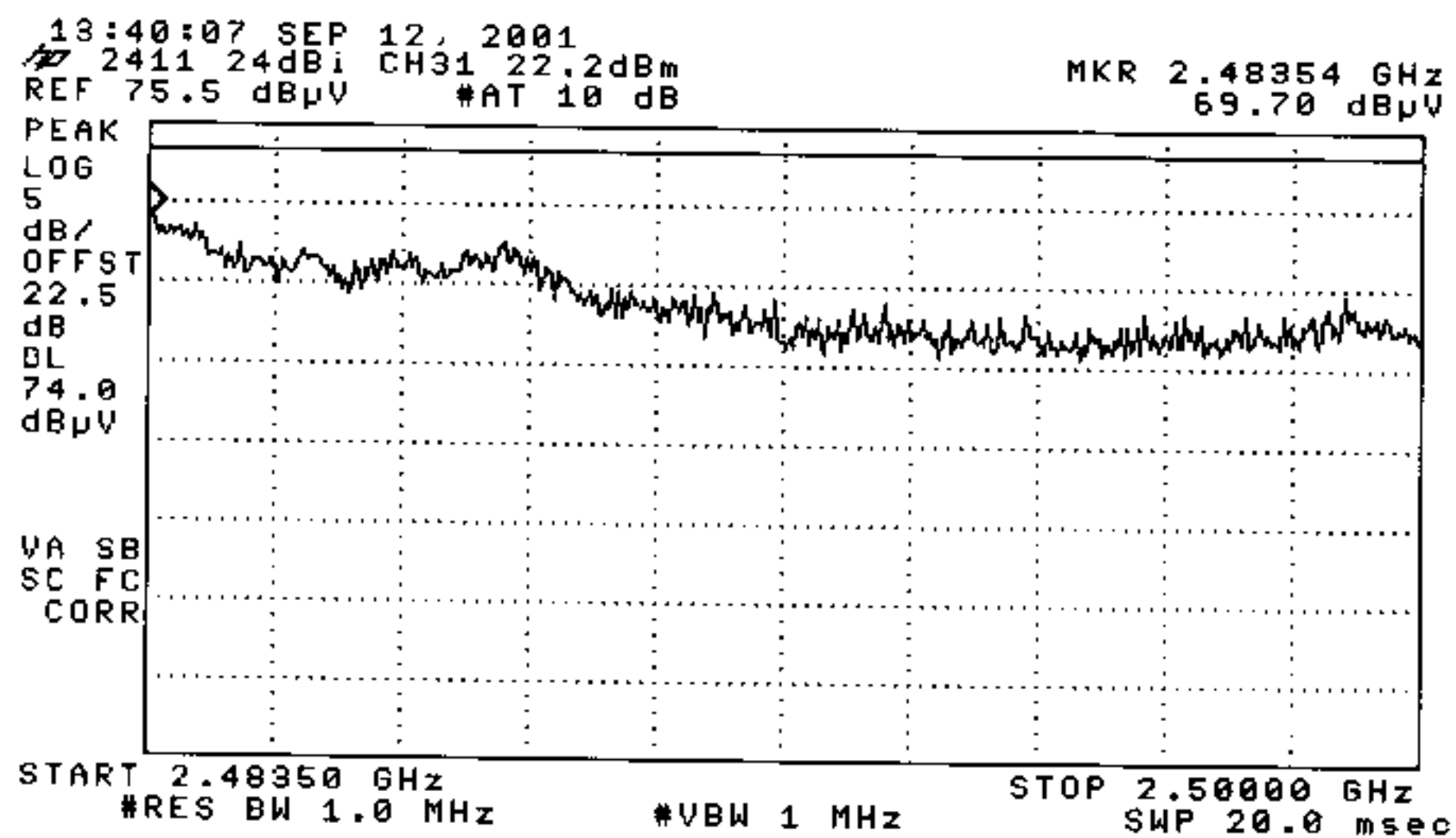
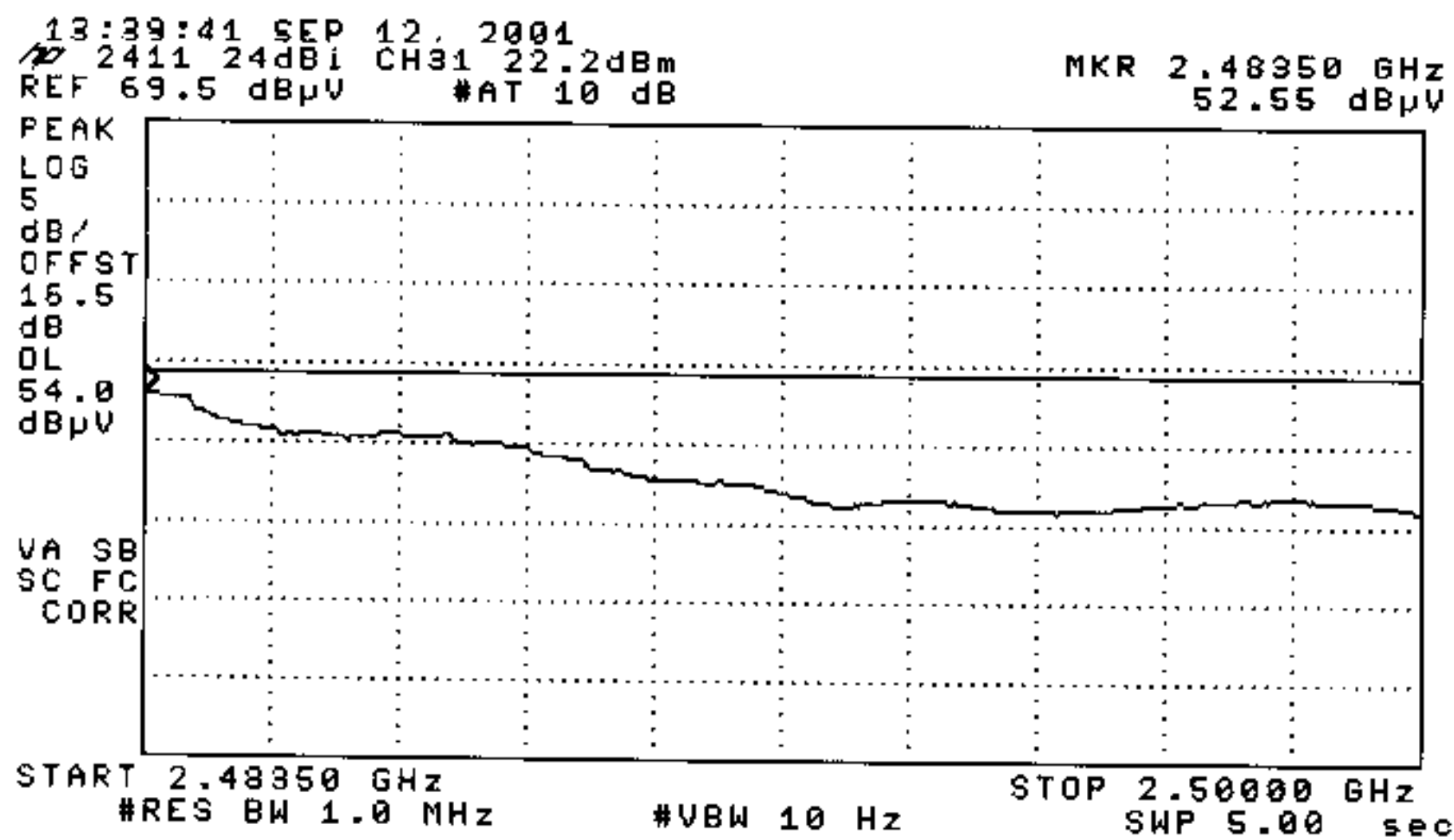
VA SB
SC FC
CORR

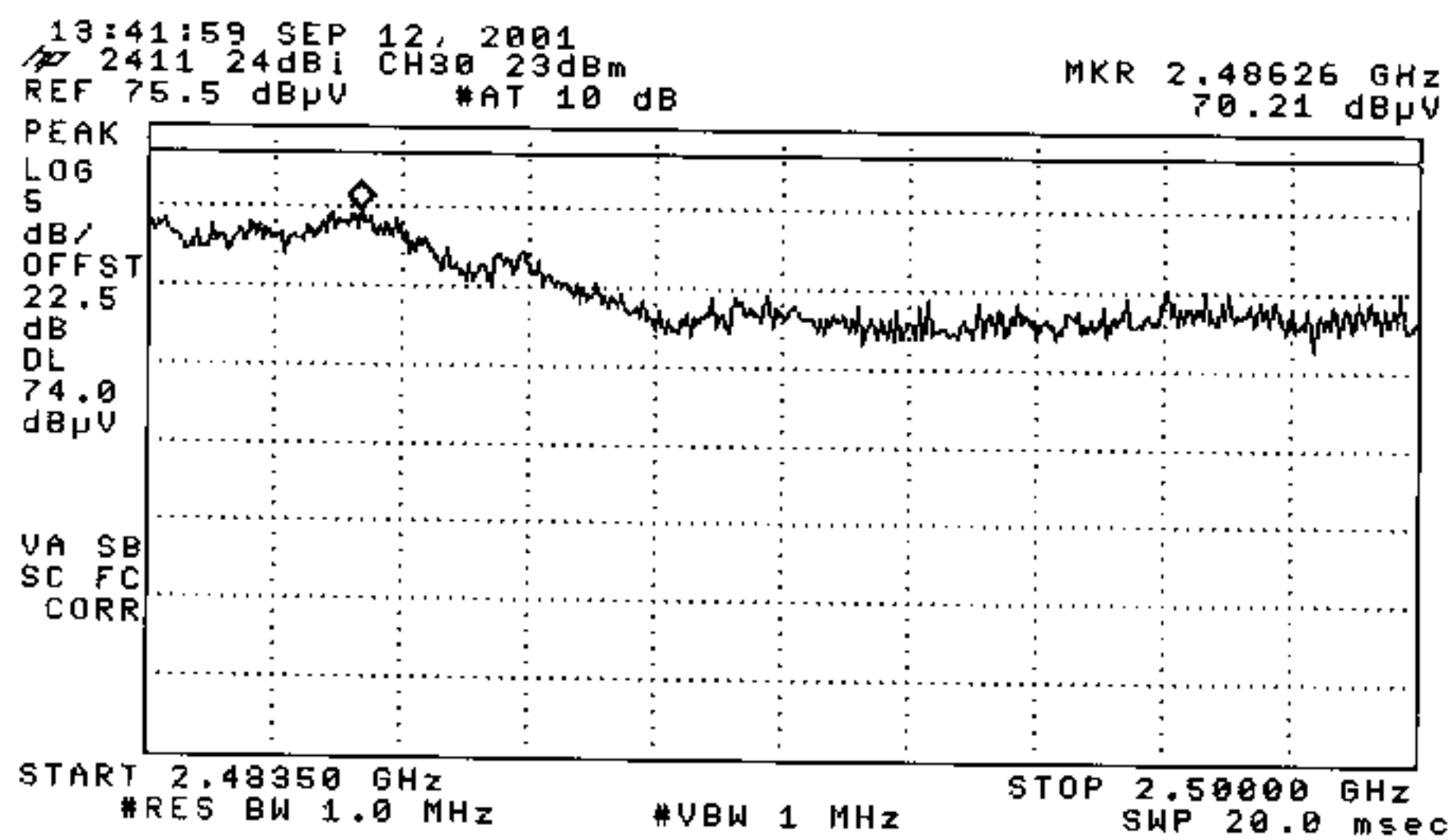
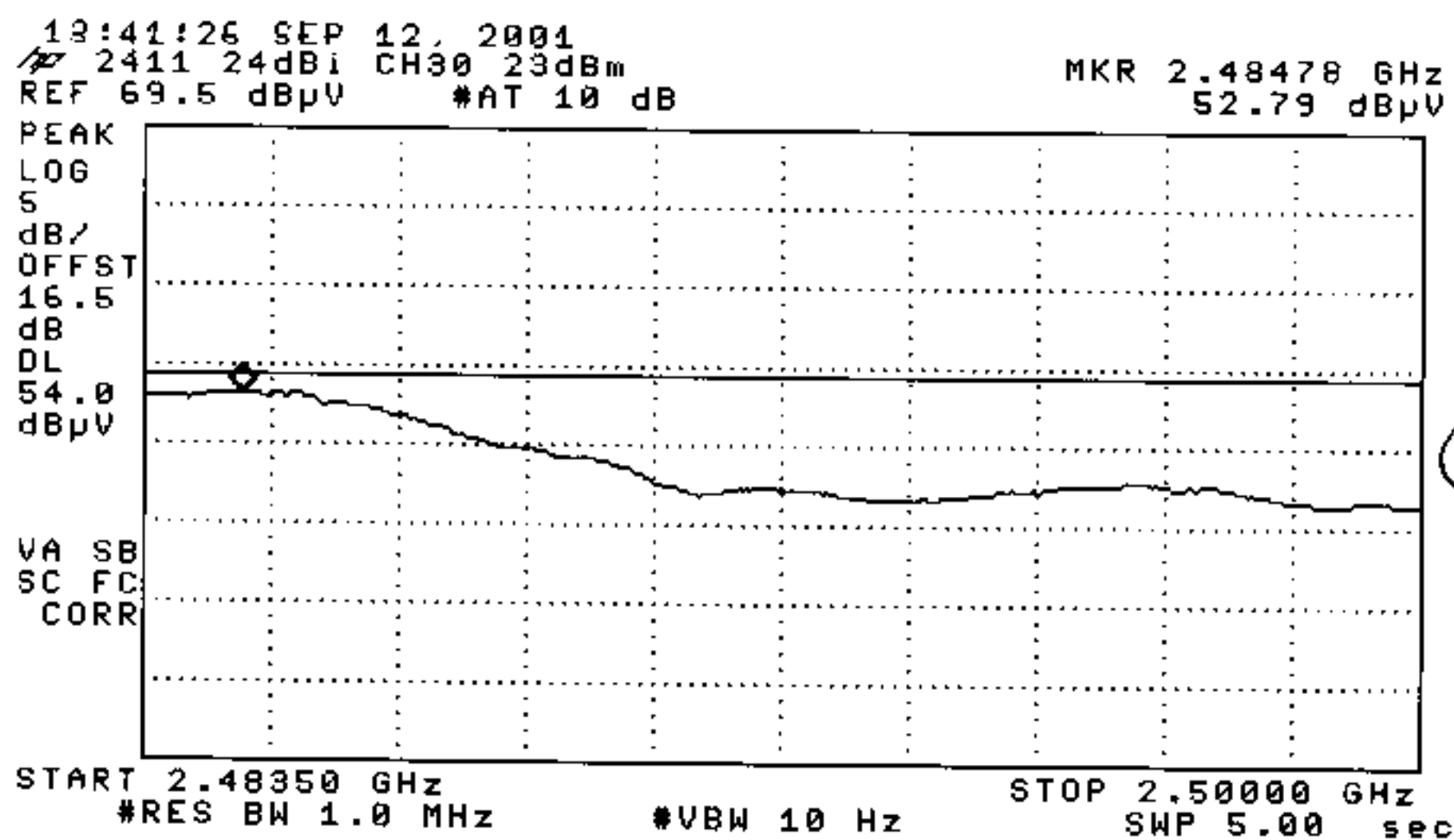


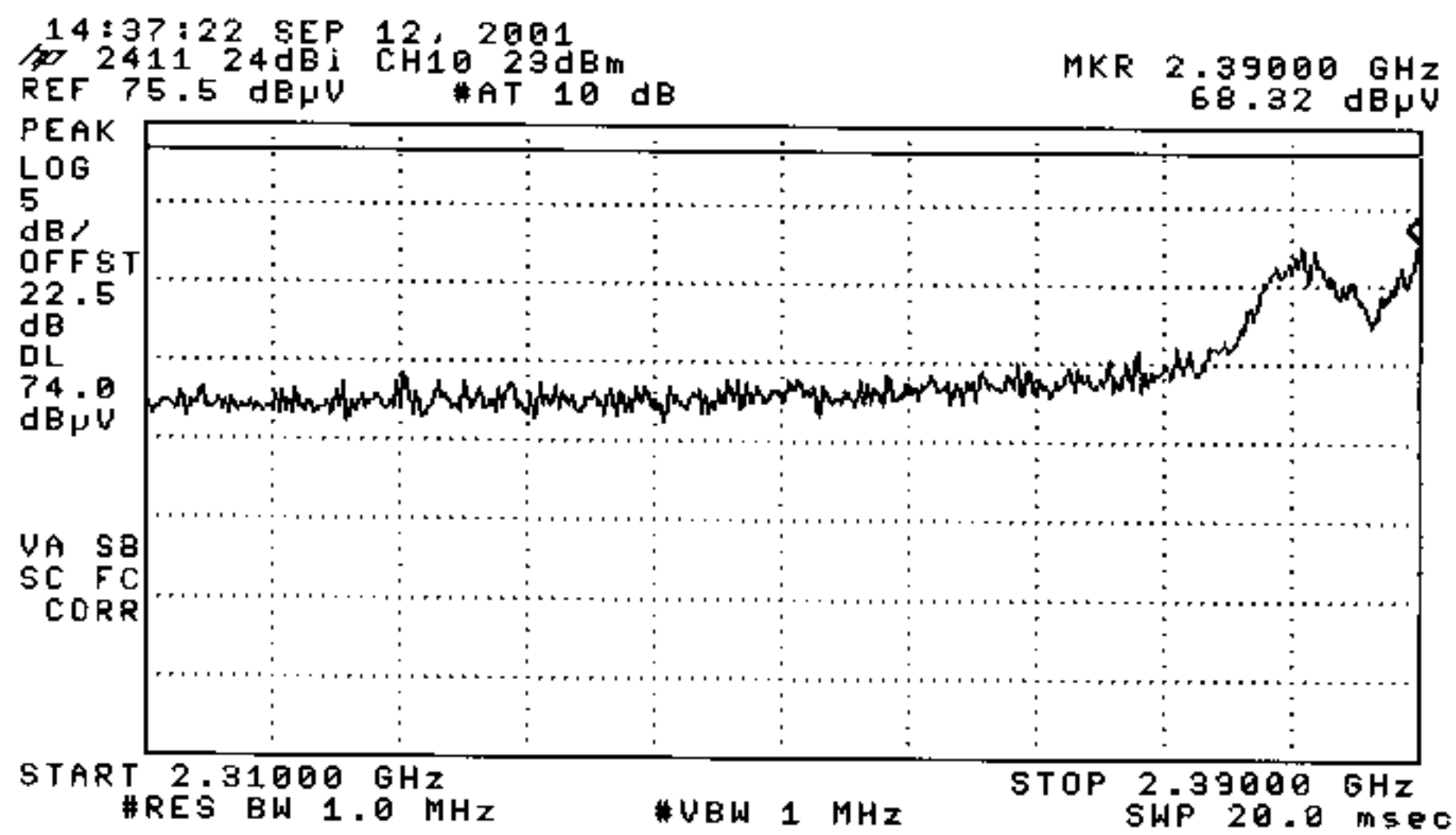
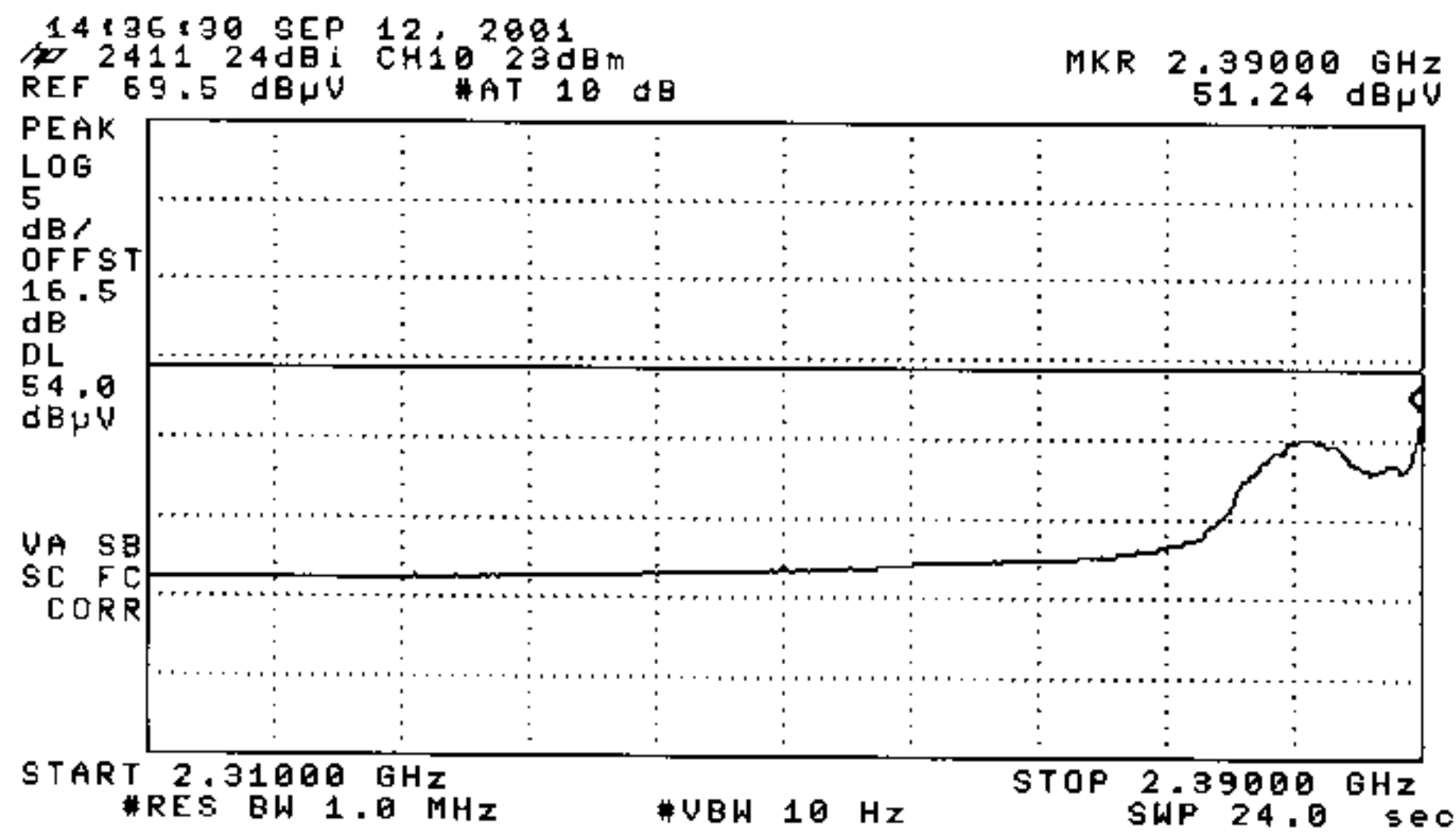
START 2.48350 GHz
#RES BW 1.0 MHz

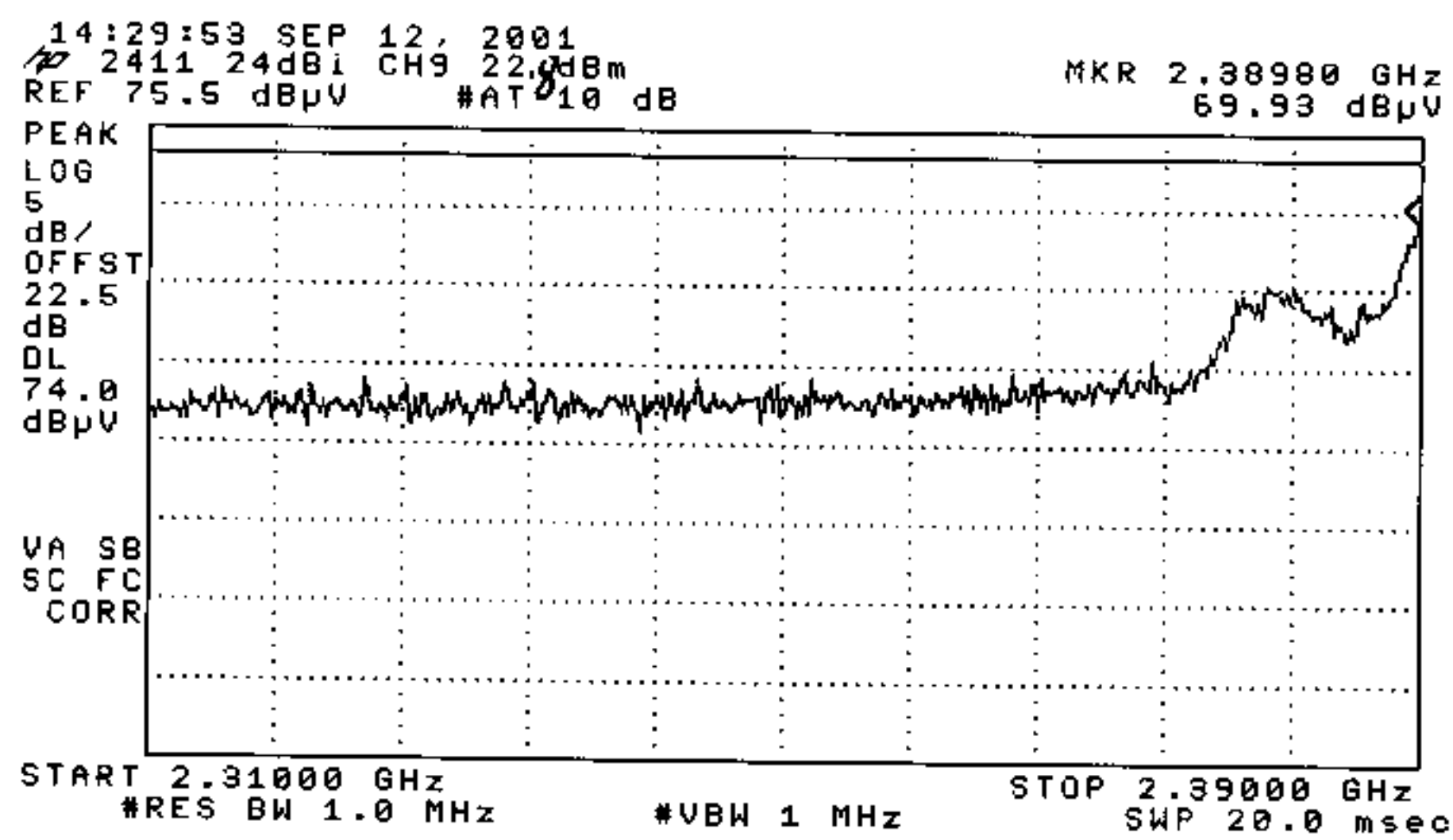
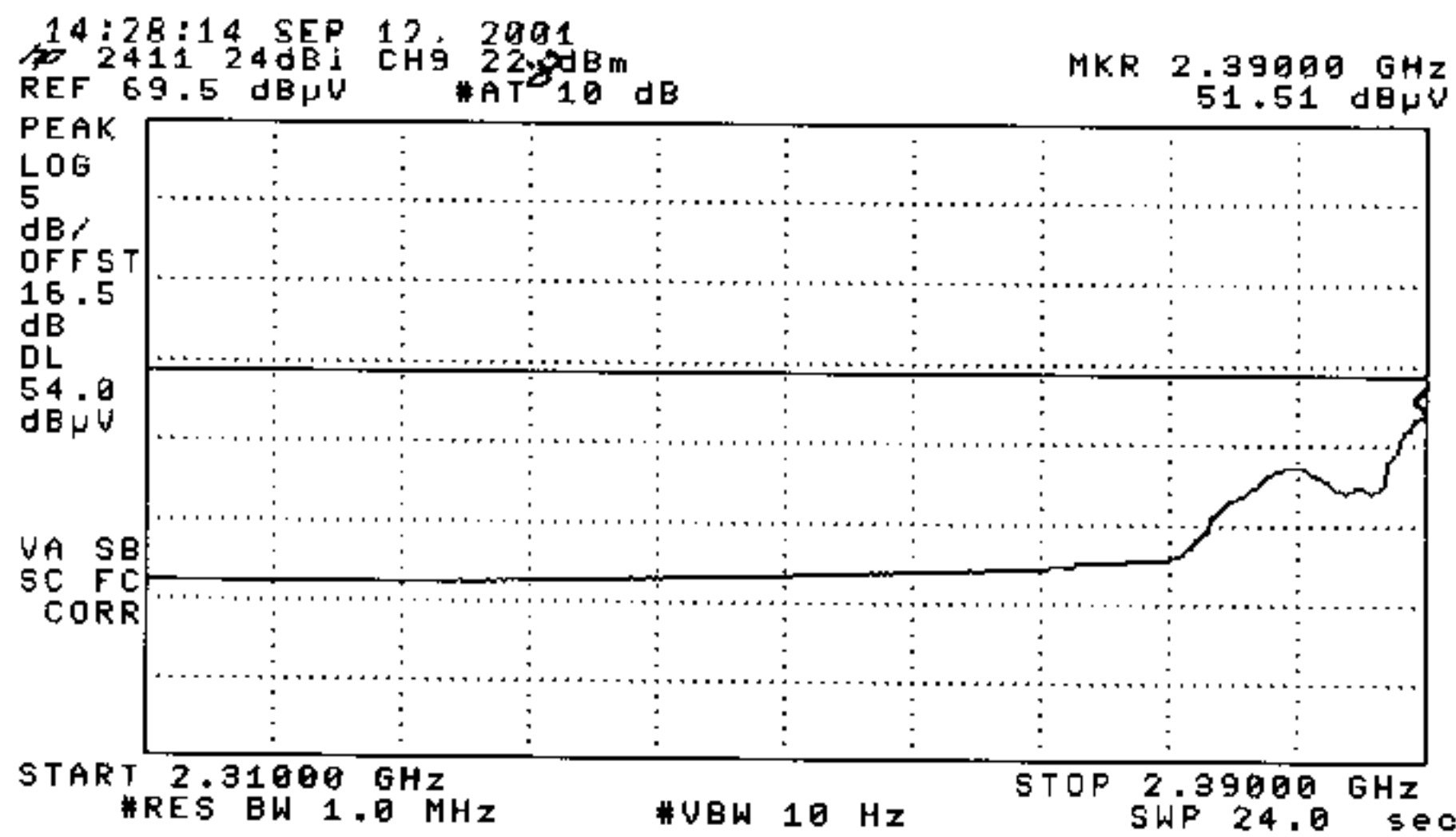
#VBW 1 MHz

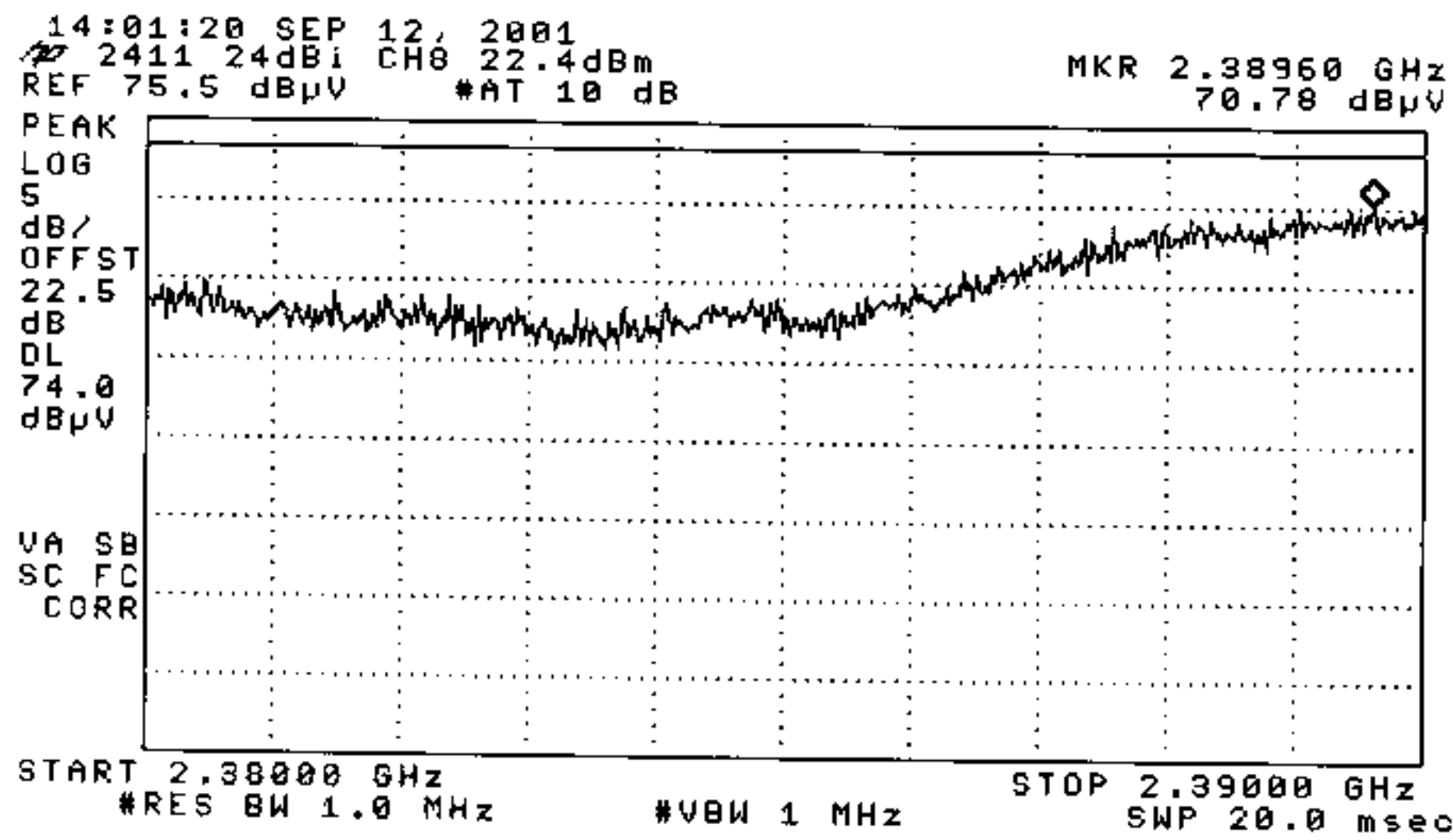
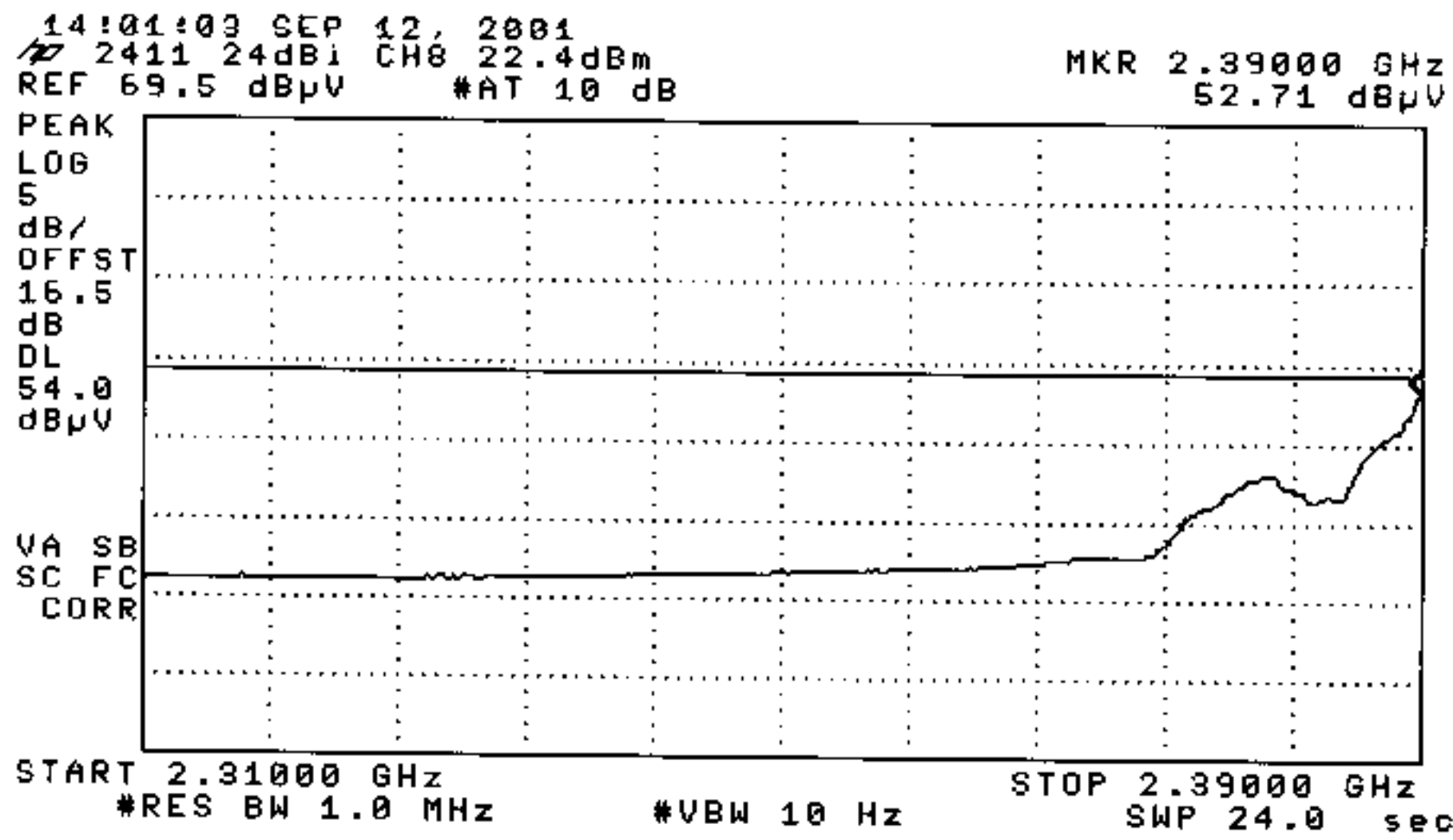
STOP 2.50000 GHz
SWP 20.0 msec









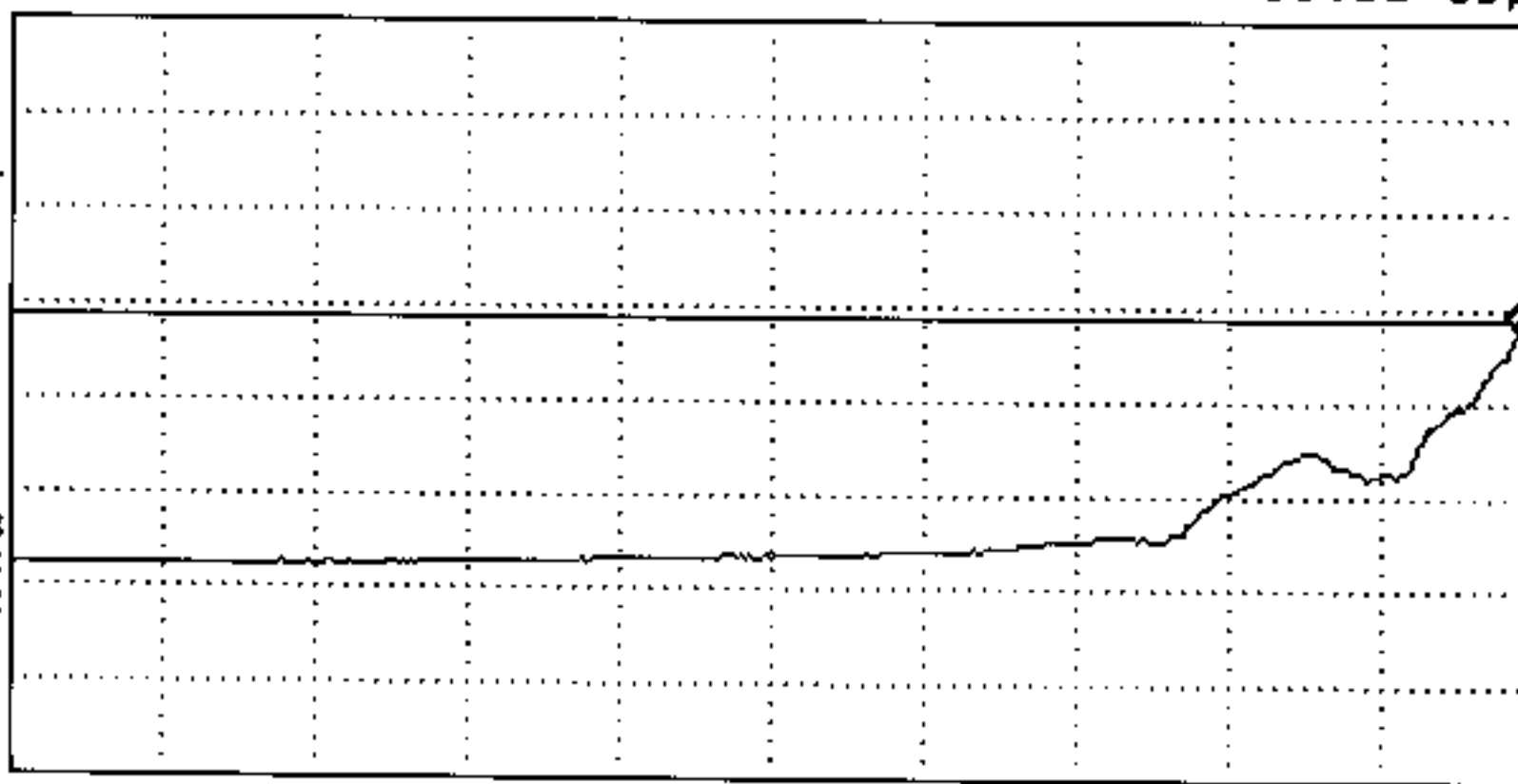


13:58:35 SEP 12, 2001
2411 24dBi CH7 22.4dBm
REF 69.5 dBμV #AT 10 dB

MKR 2.38920 GHz
53.21 dBμV

PEAK
LOG
5
dB/
OFFST
16.5
dB
DL
54.0
dBμV

VA SB
SC FC
CORR



START 2.31000 GHz
#RES BW 1.0 MHz

#VBW 10 Hz

STOP 2.39000 GHz
SWP 24.0 sec

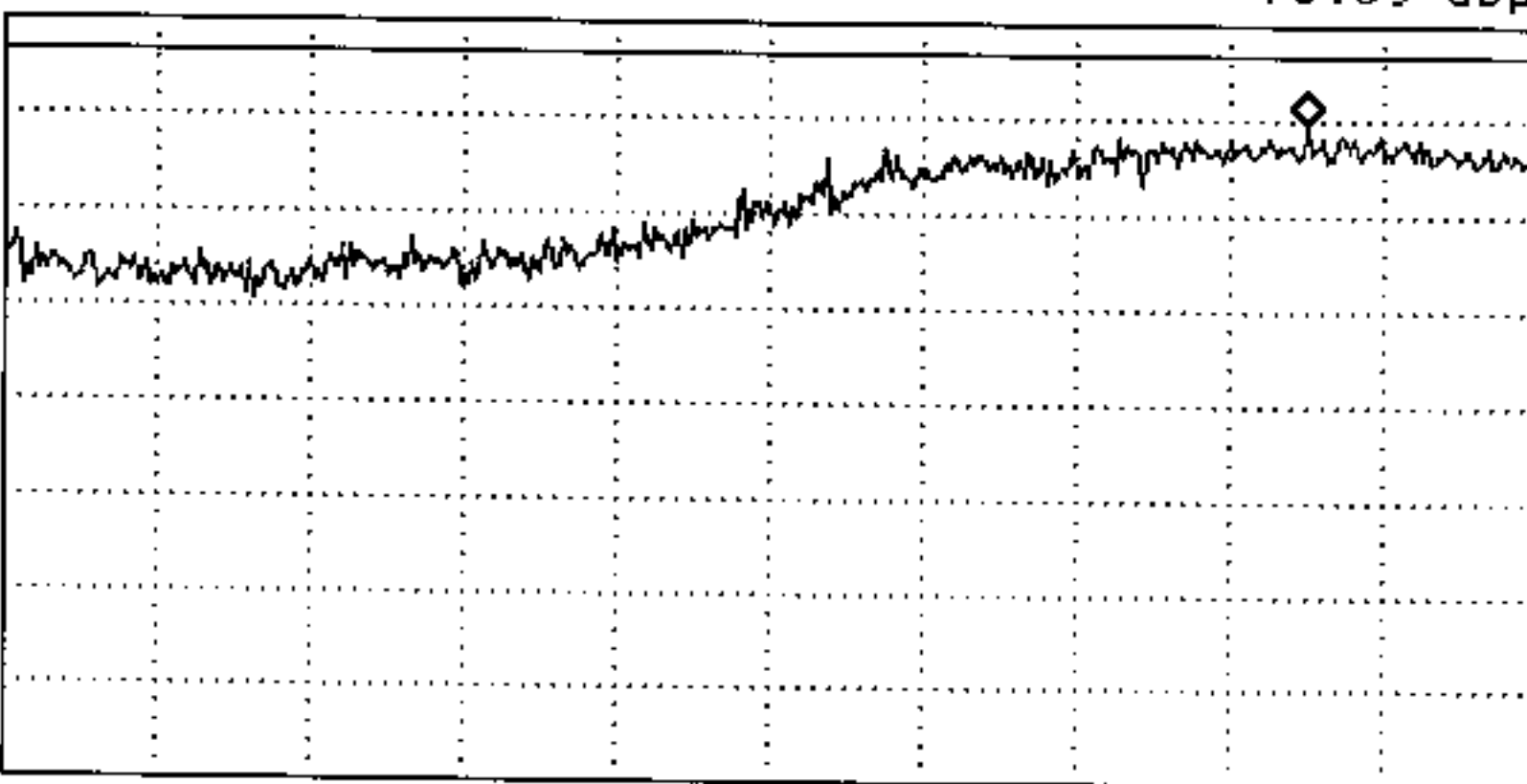
(46)

13:58:57 SEP 12, 2001
2411 24dBi CH7 22.4dBm
REF 75.5 dBμV #AT 10 dB

MKR 2.38850 GHz
70.39 dBμV

PEAK
LOG
5
dB/
OFFST
22.5
dB
DL
74.0
dBμV

VA SB
SC FC
CORR

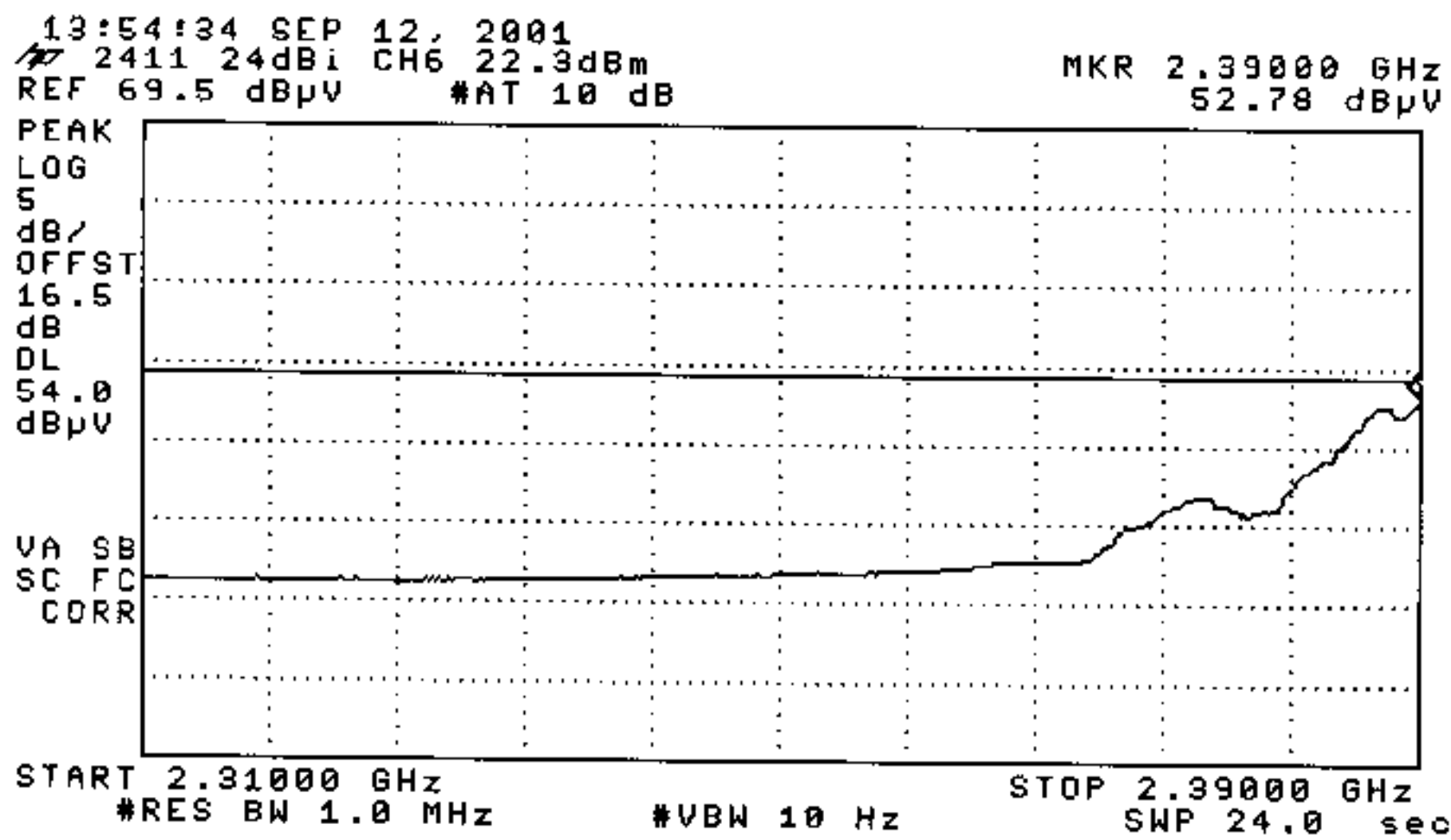


START 2.38000 GHz
#RES BW 1.0 MHz

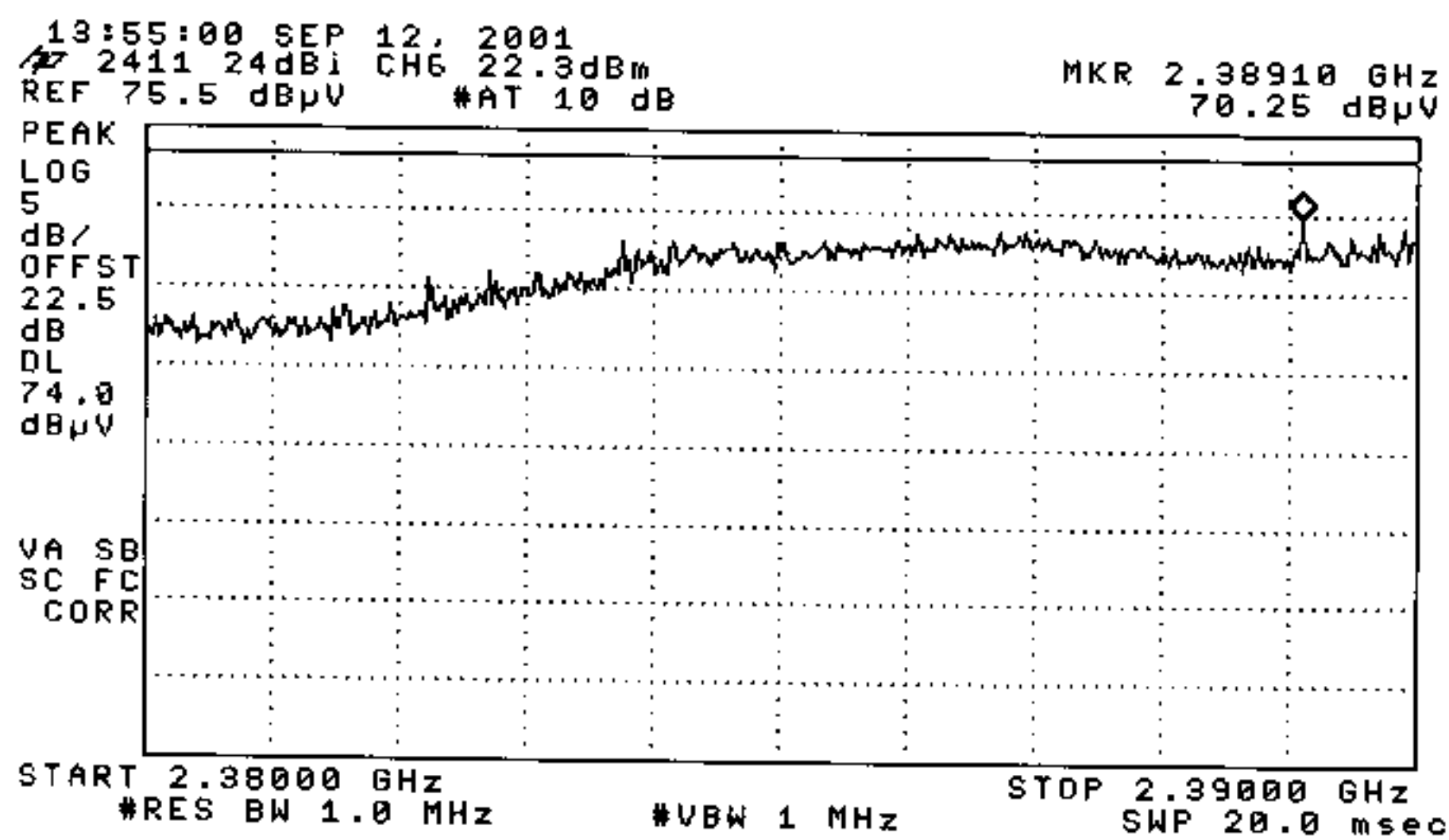
#VBW 1 MHz

STOP 2.39000 GHz
SWP 20.0 msec

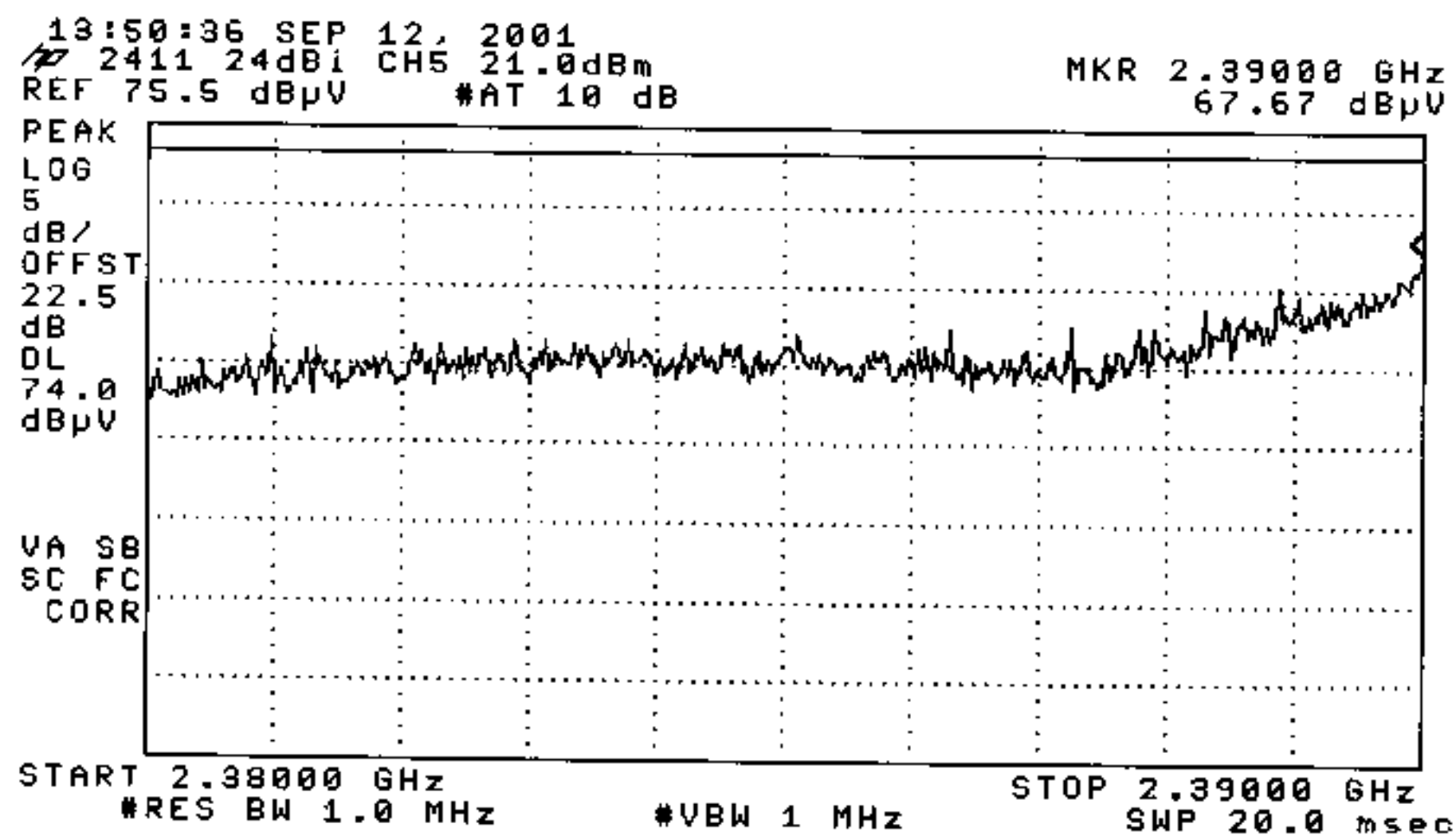
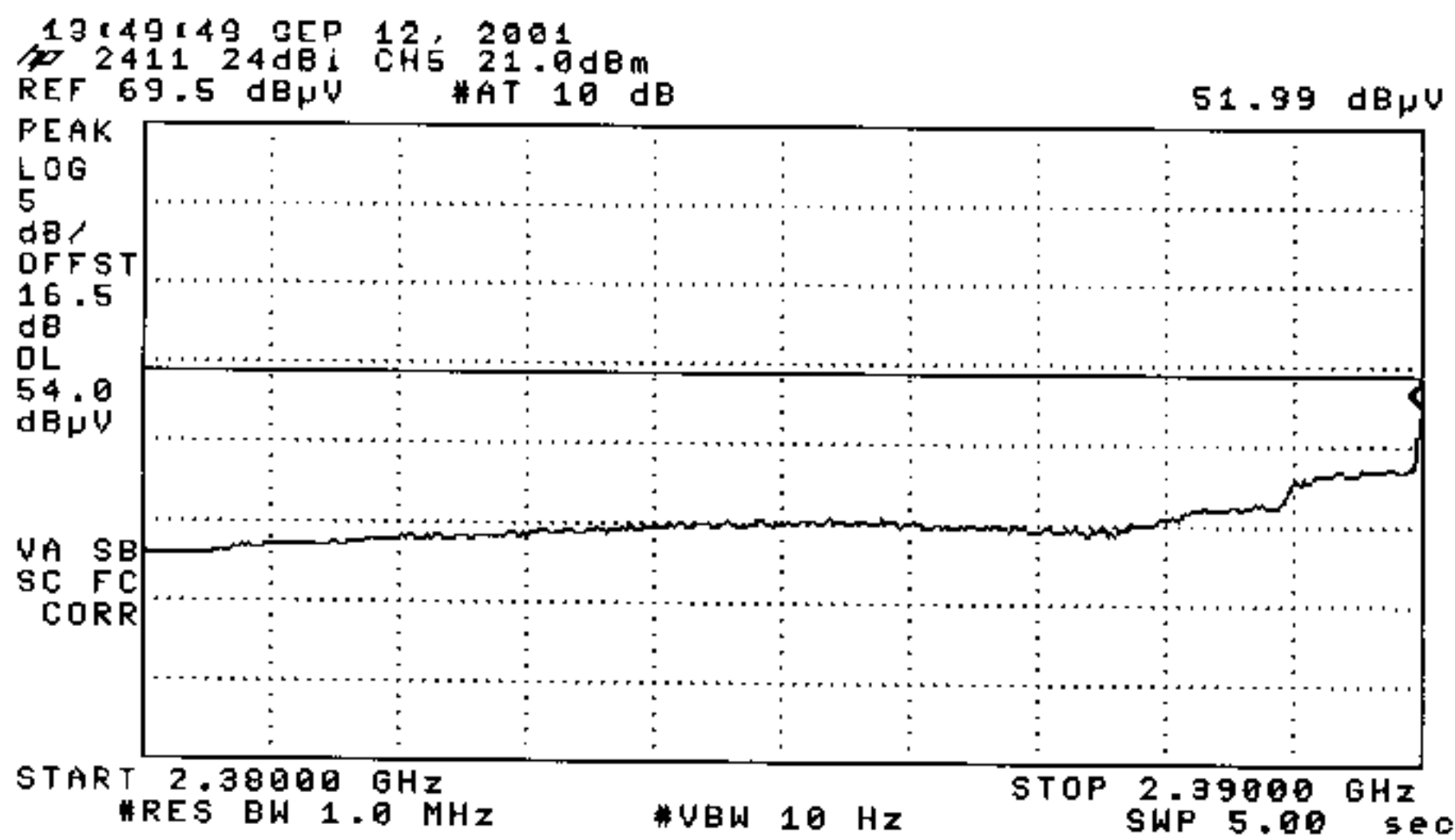
(47)



48



49



Test Set-up Band edge 24 dBi Antenna



Test Set-up Band edge 17 dBi Antenna



Test Set-up Band edge 9 dBi Antenna

