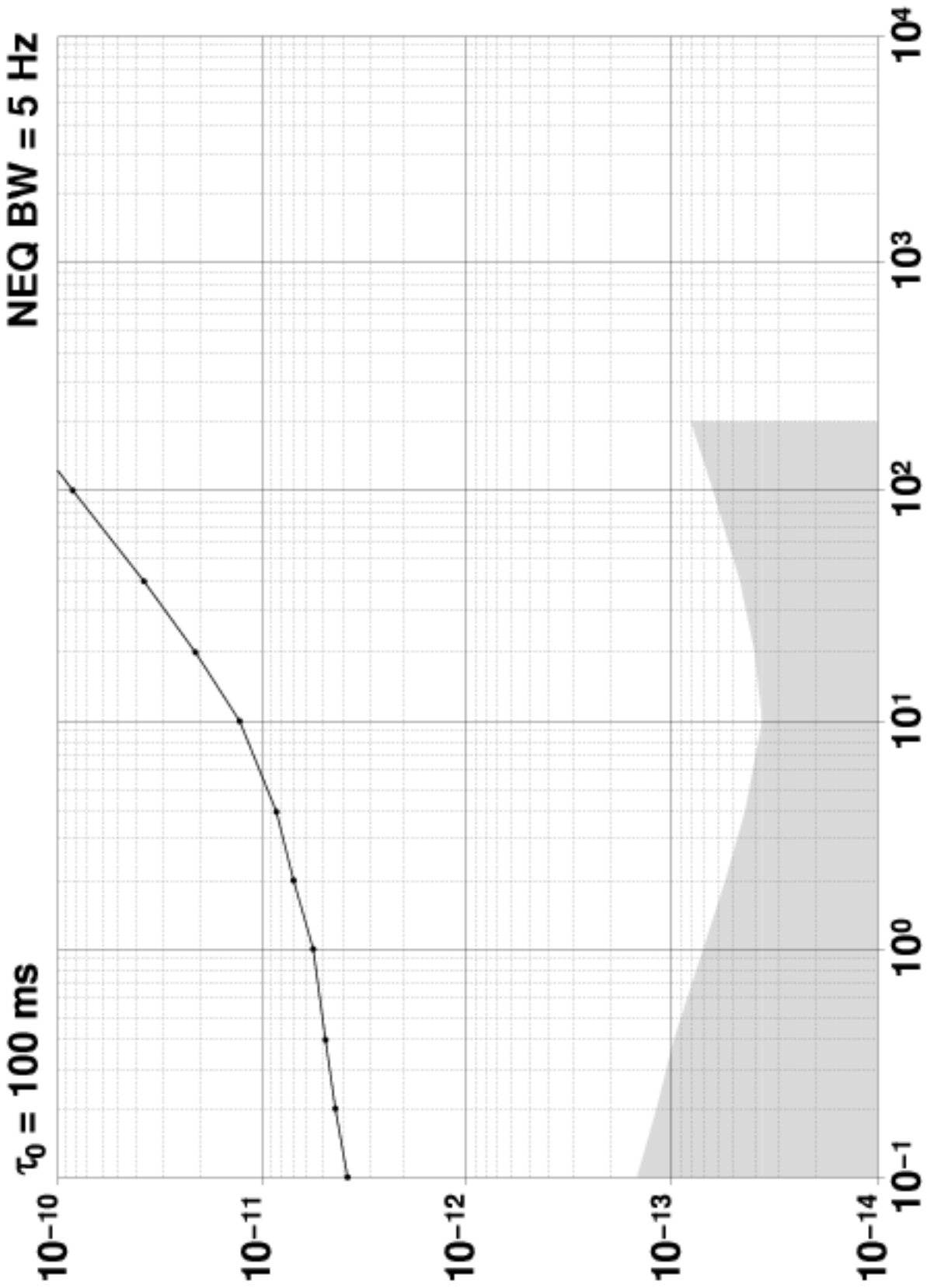


# Allan Deviation $\sigma_y(\tau)$



Averaging Time  $\tau$ , seconds

Input 20.0 MHz 14 dBm

Reference 5.0 MHz 14 dBm

# Allan Deviation $\sigma_y(\tau)$

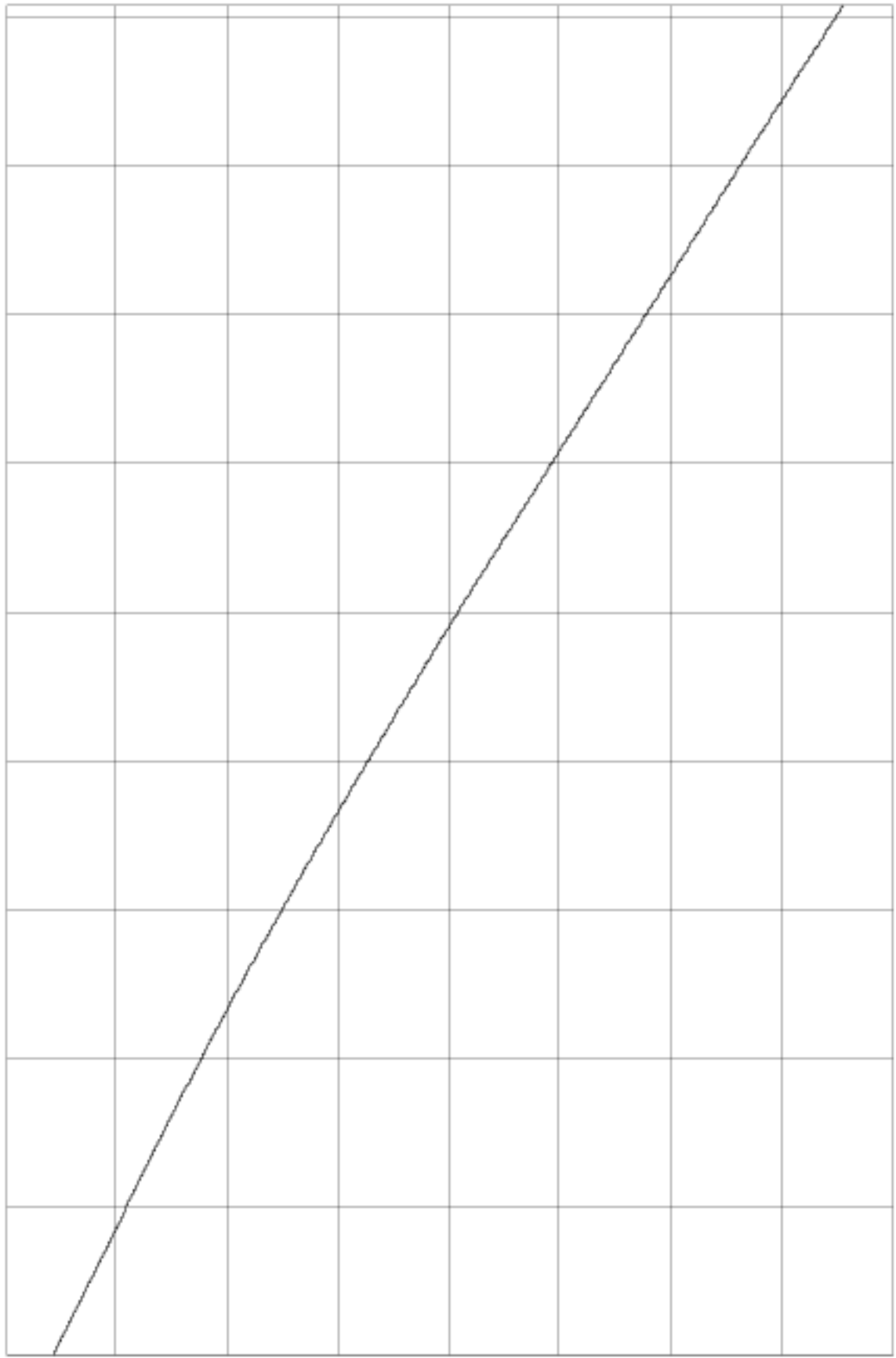
Avg. Time (s)	Allan Deviation $\sigma_y(\tau)$	Noise Floor
0.1	$3.784 \times 10^{-12}$	$1.46122 \times 10^{-13}$
0.2	$4.363 \times 10^{-12}$	$1.19738 \times 10^{-13}$
0.4	$4.834 \times 10^{-12}$	$9.84424 \times 10^{-14}$
1	$5.60 \times 10^{-12}$	$7.03910 \times 10^{-14}$
2	$6.88 \times 10^{-12}$	$5.50517 \times 10^{-14}$
4	$8.31 \times 10^{-12}$	$4.44726 \times 10^{-14}$
10	$1.27 \times 10^{-11}$	$3.61910 \times 10^{-14}$
20	$2.07 \times 10^{-11}$	$3.93094 \times 10^{-14}$
40	$3.73 \times 10^{-11}$	$4.66604 \times 10^{-14}$
100	$8.4 \times 10^{-11}$	$6.37622 \times 10^{-14}$
200	$1.50 \times 10^{-10}$	$8.08732 \times 10^{-14}$
400	$2.3 \times 10^{-10}$	
1000	$3.6 \times 10^{-10}$	
2000	$7.0 \times 10^{-10}$	

$\tau_0 = 100 \text{ ms}$       NEQ BW = 5 Hz

# Phase Difference

2.0x10<sup>-07</sup> s/div

Center: -5.675x10<sup>-06</sup> s



60s/div

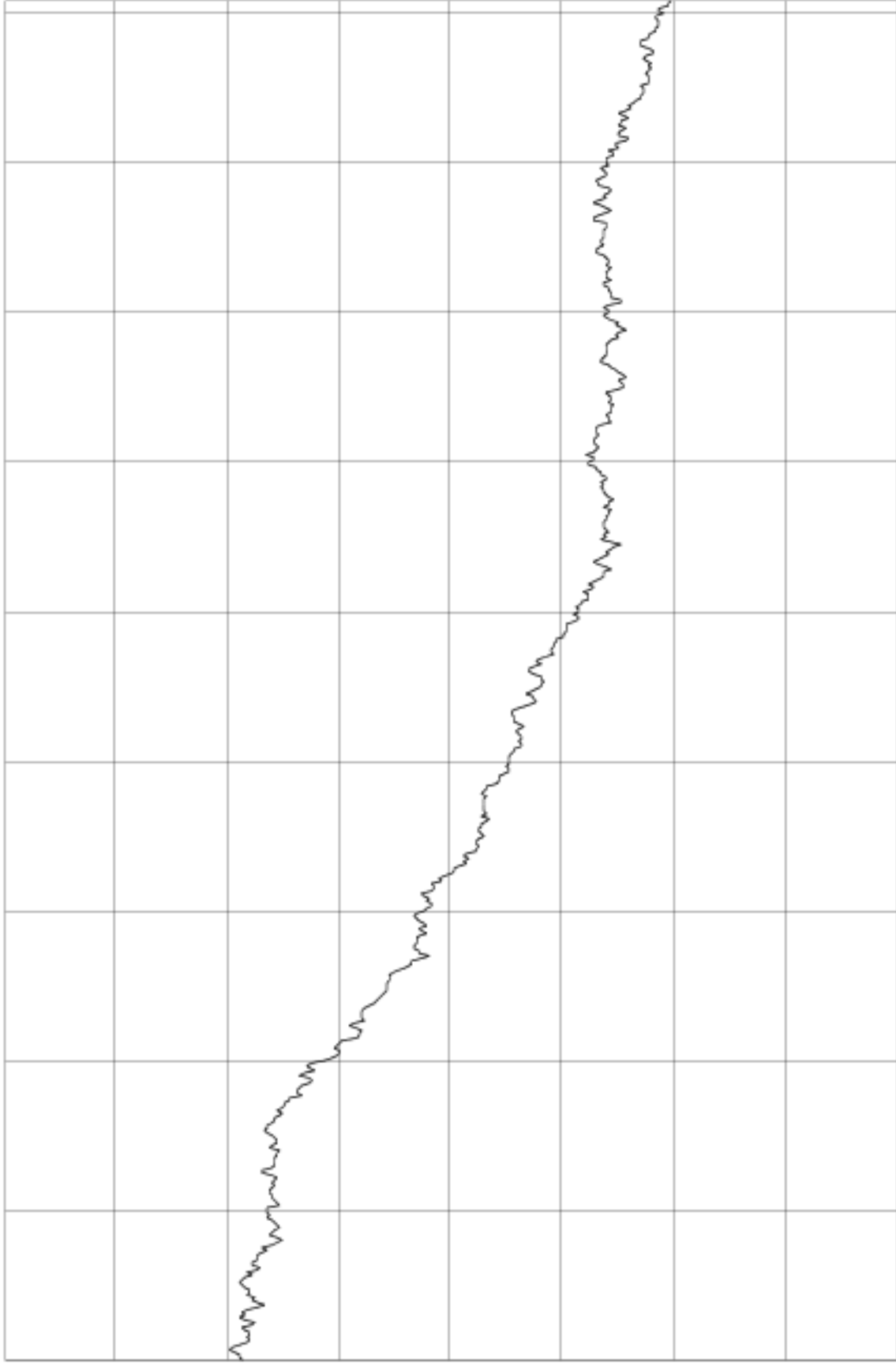
Input 20.0 MHz 14 dBm

Reference 5.0 MHz 14 dBm

# Frequency Difference

$2.0 \times 10^{-10}$  /div

Center:  $-2.542 \times 10^{-09}$



60s/div

Input 20.0 MHz 14 dBm

Reference 5.0 MHz 14 dBm

# Frequency Counter

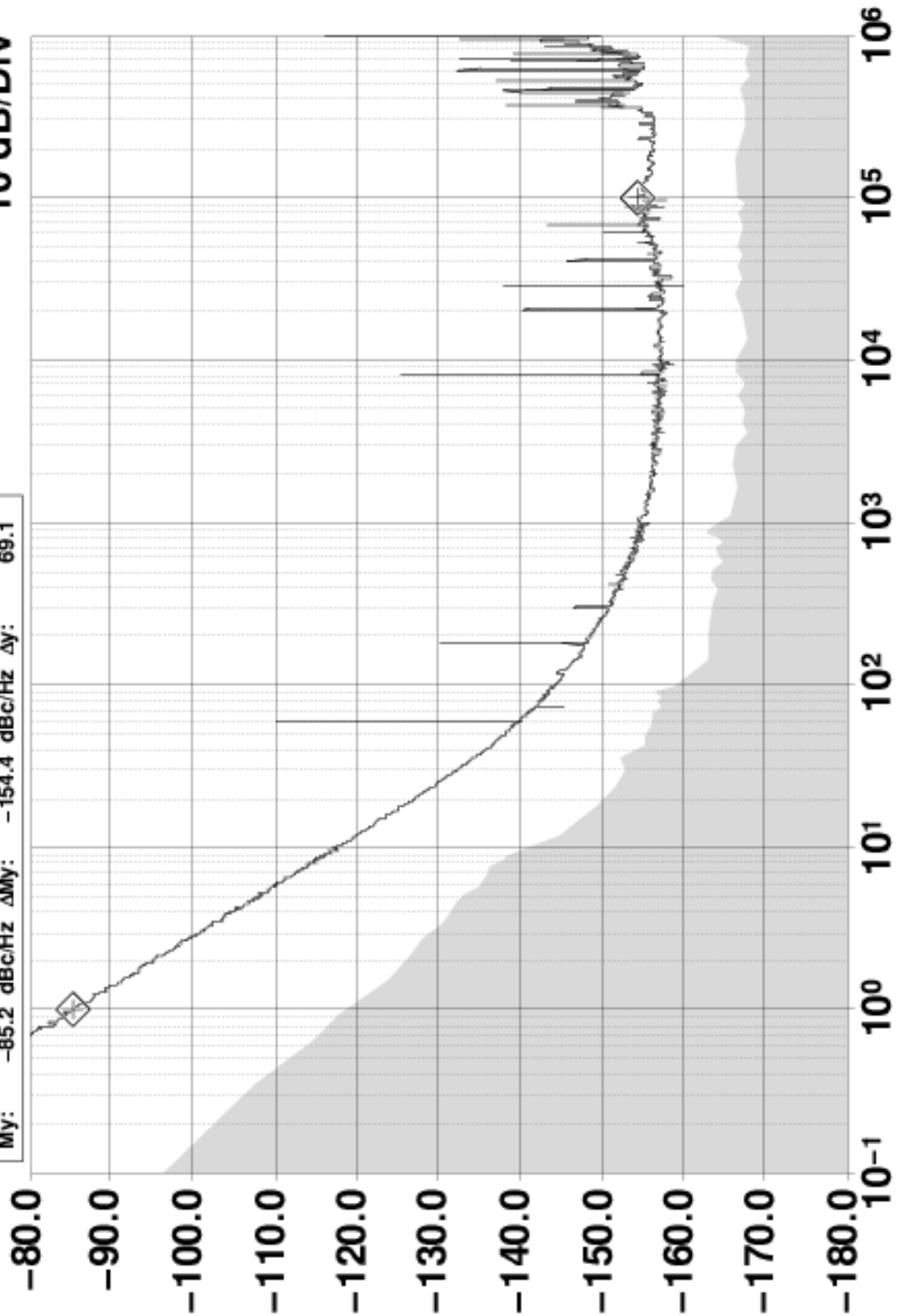
<u>Sample Time (s)</u>	<u>Frequency (MHz)</u>
1	19.9999992850947
10	19.99999928466922
100	19.999999283407762
1000	19.999999273626143

Reference Frequency: 5.0 MHz (auto)

# $\mathcal{L}(f)$ Phase Noise at 20.0 MHz (dBc/Hz)

Mx: 1.000977 Hz  $\Delta$ Mx: 99975.59 Hz  $\Delta$ x: -99974.6  
My: -85.2 dBc/Hz  $\Delta$ My: -154.4 dBc/Hz  $\Delta$ y: 69.1

10 dB/Div



Offset Frequency (Hz)

Time Constant:  $\infty$

Input 20.0 MHz 14 dBm

Reference 5.0 MHz 14 dBm