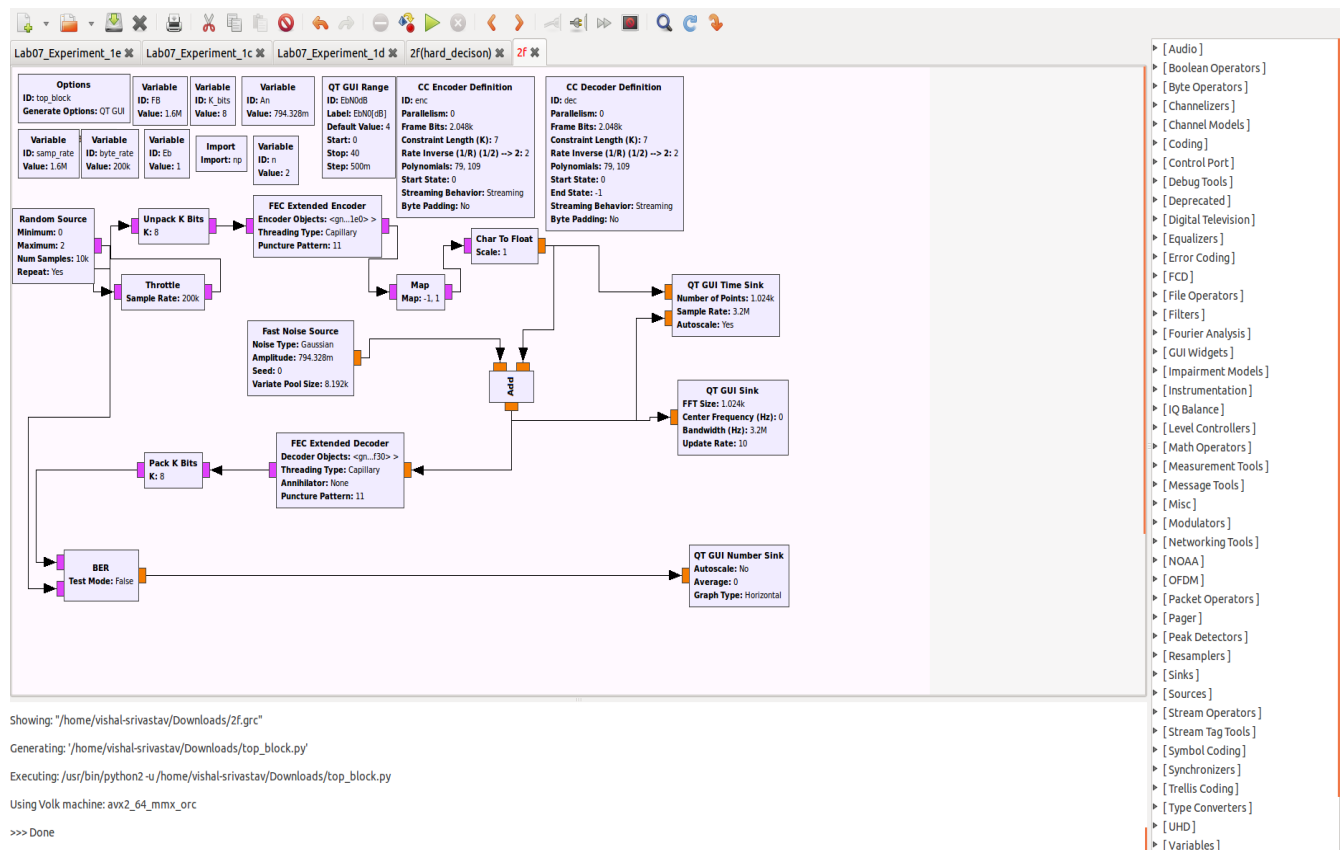


Lab 07, Experiment 2(f)

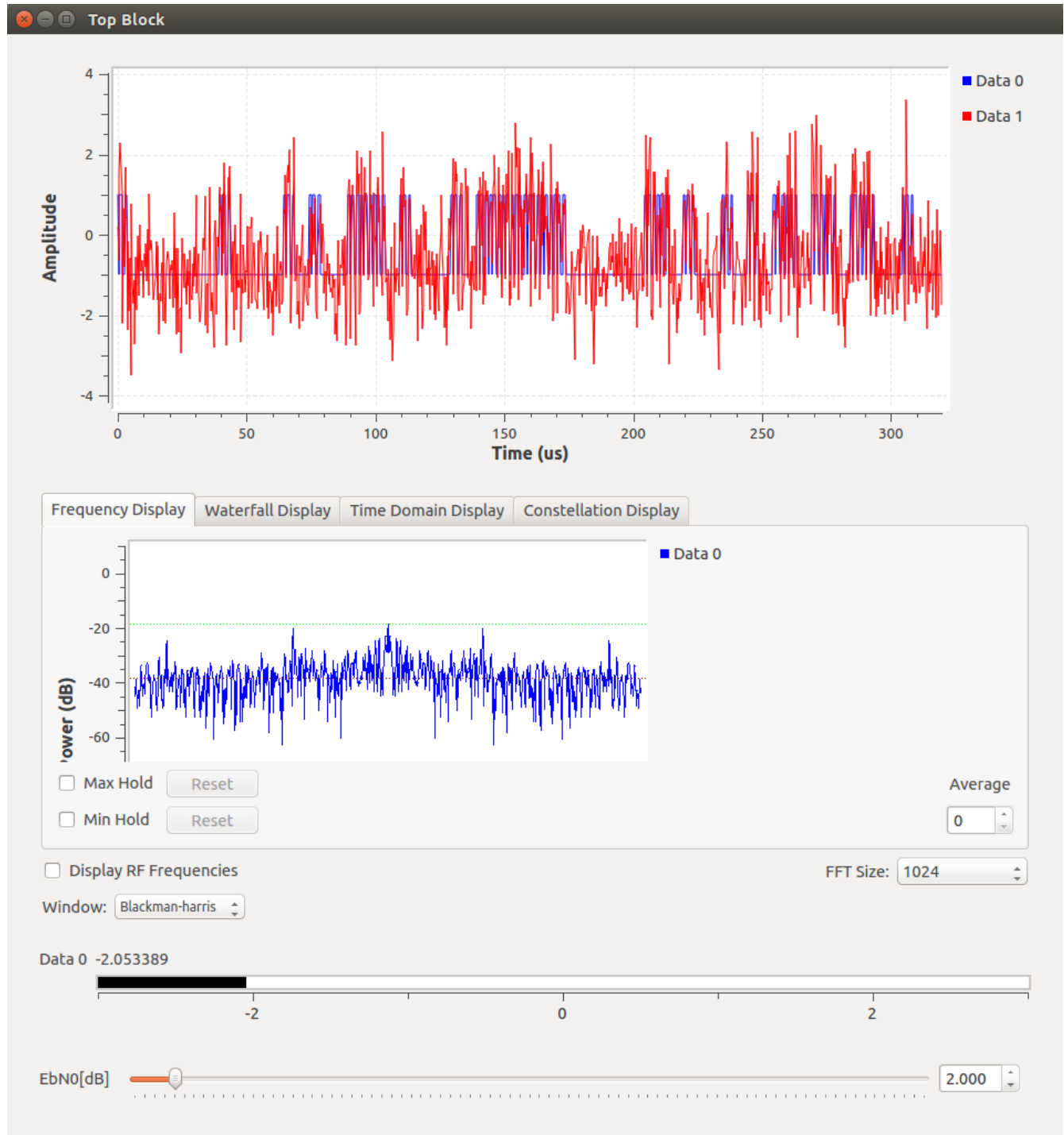
Convolutional Encoding and Decoding in GNU Radio

Determine $P_s(E)$ versus E_b/N_0 for SNRs of 2,3,4,5 dB for both soft-decision and hard-decision decoding.

Soft Decoding Flow-Graph:

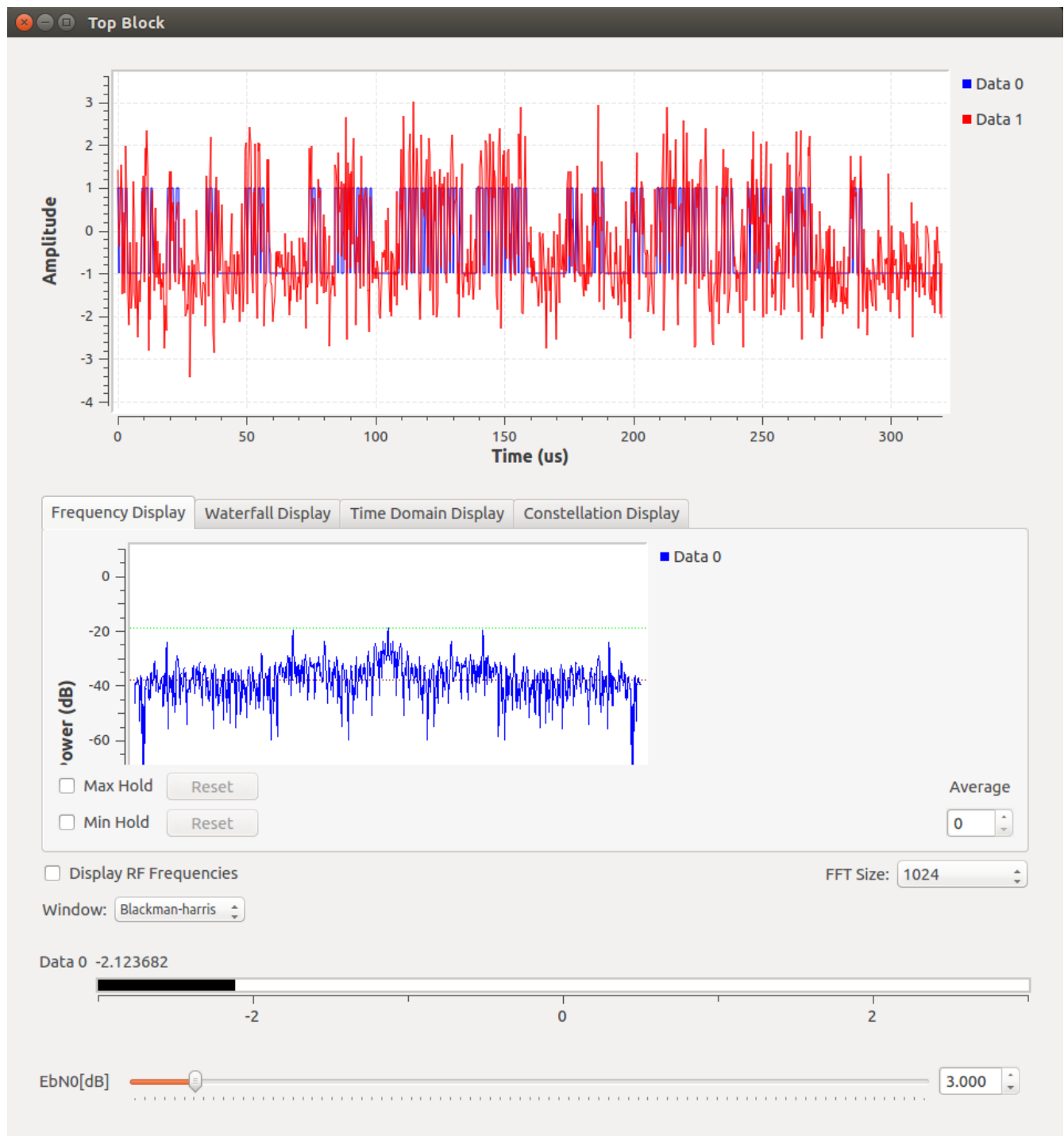


SNR = 2 dB



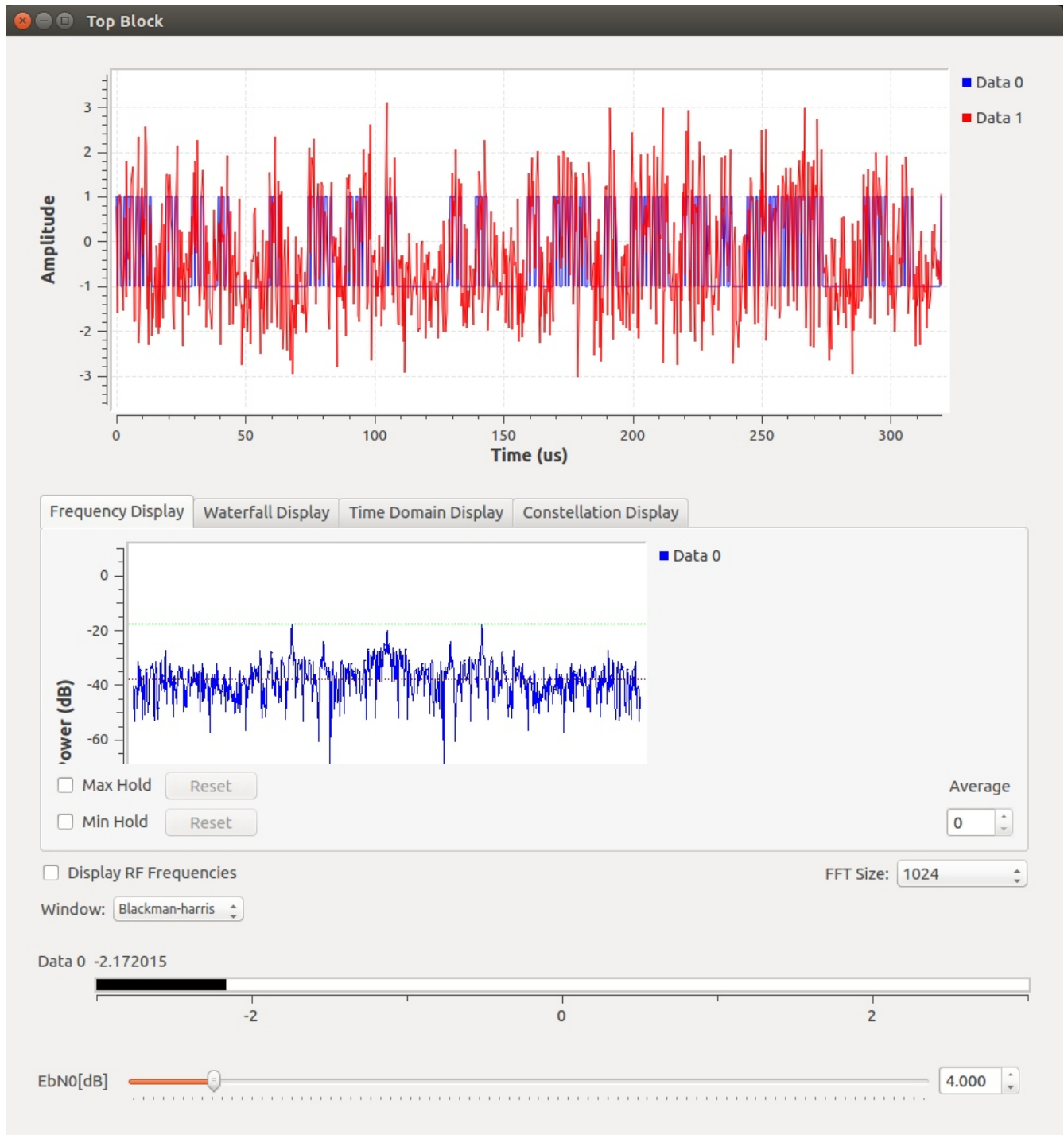
The BER in Soft Decision Decoding for SNR = 2 dB is $(10^{-2.0534}) = 0.008843008$

SNR = 3 dB



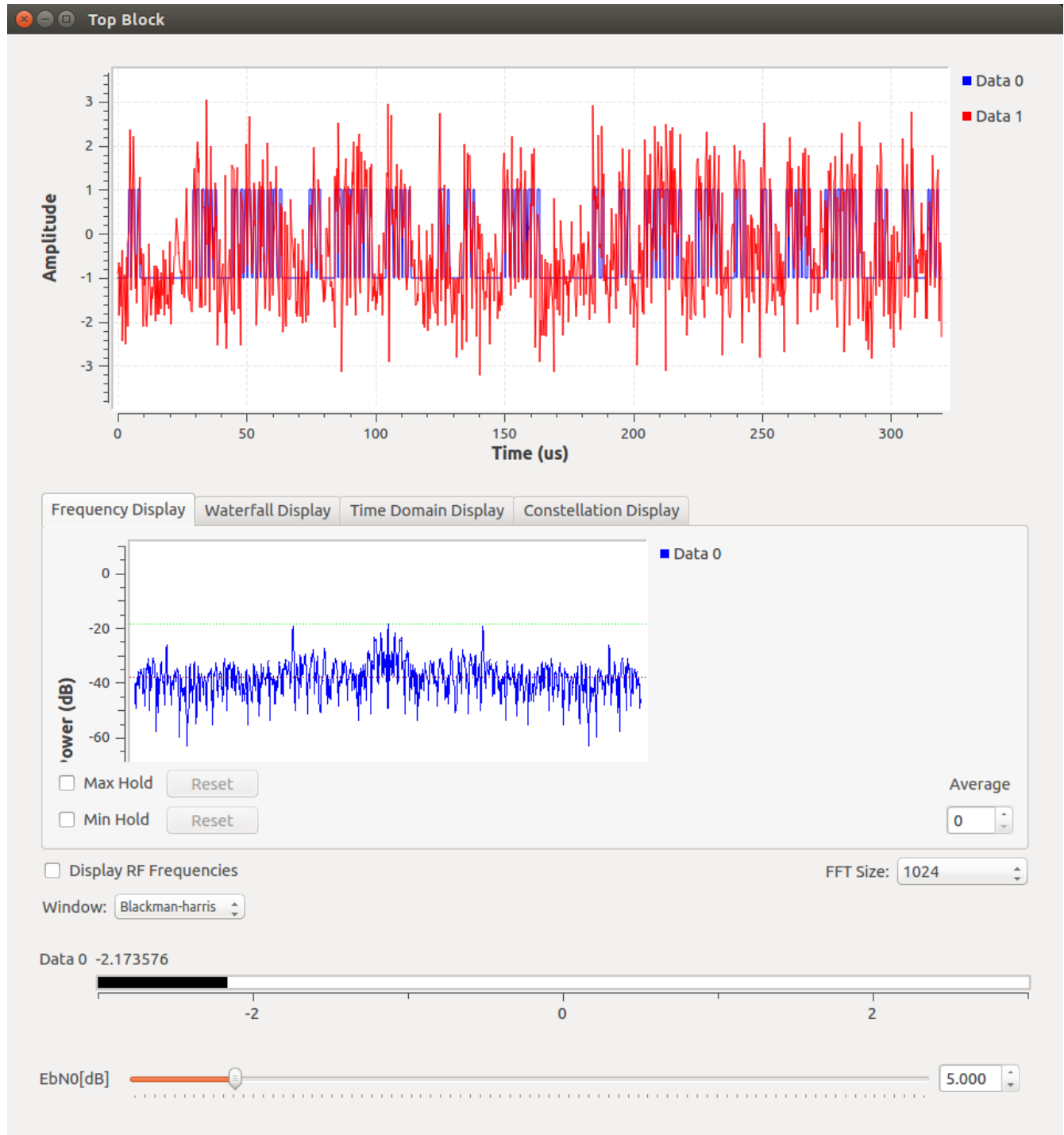
The BER in Soft Decision Decoding for SNR = 3 dB is $(10^{-2.123682}) = 0.007521735$

SNR = 4 dB



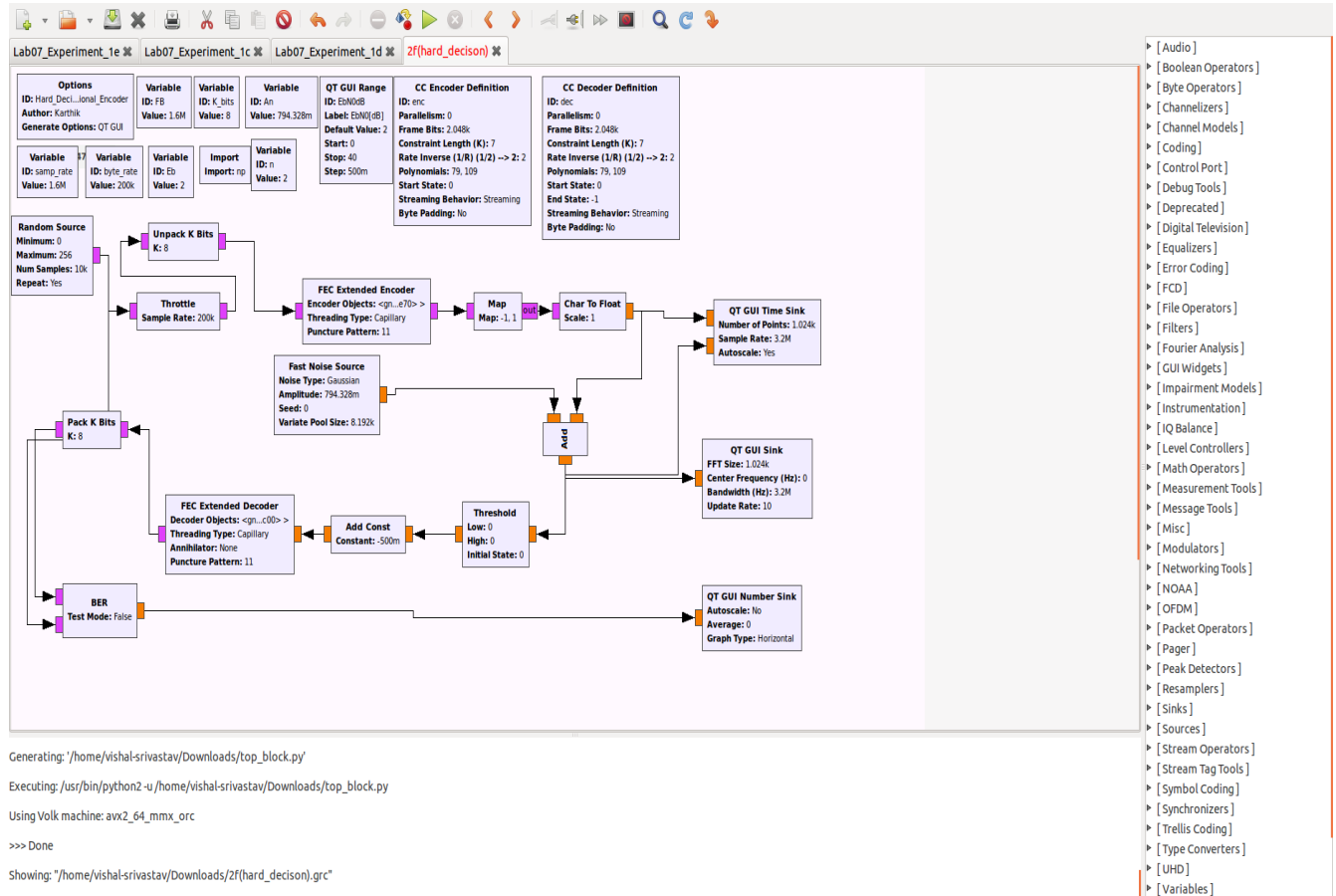
The BER in Soft Decision Decoding for SNR = 4 dB is $(10^{-2.172015}) = 0.006729534$

SNR = 5 dB

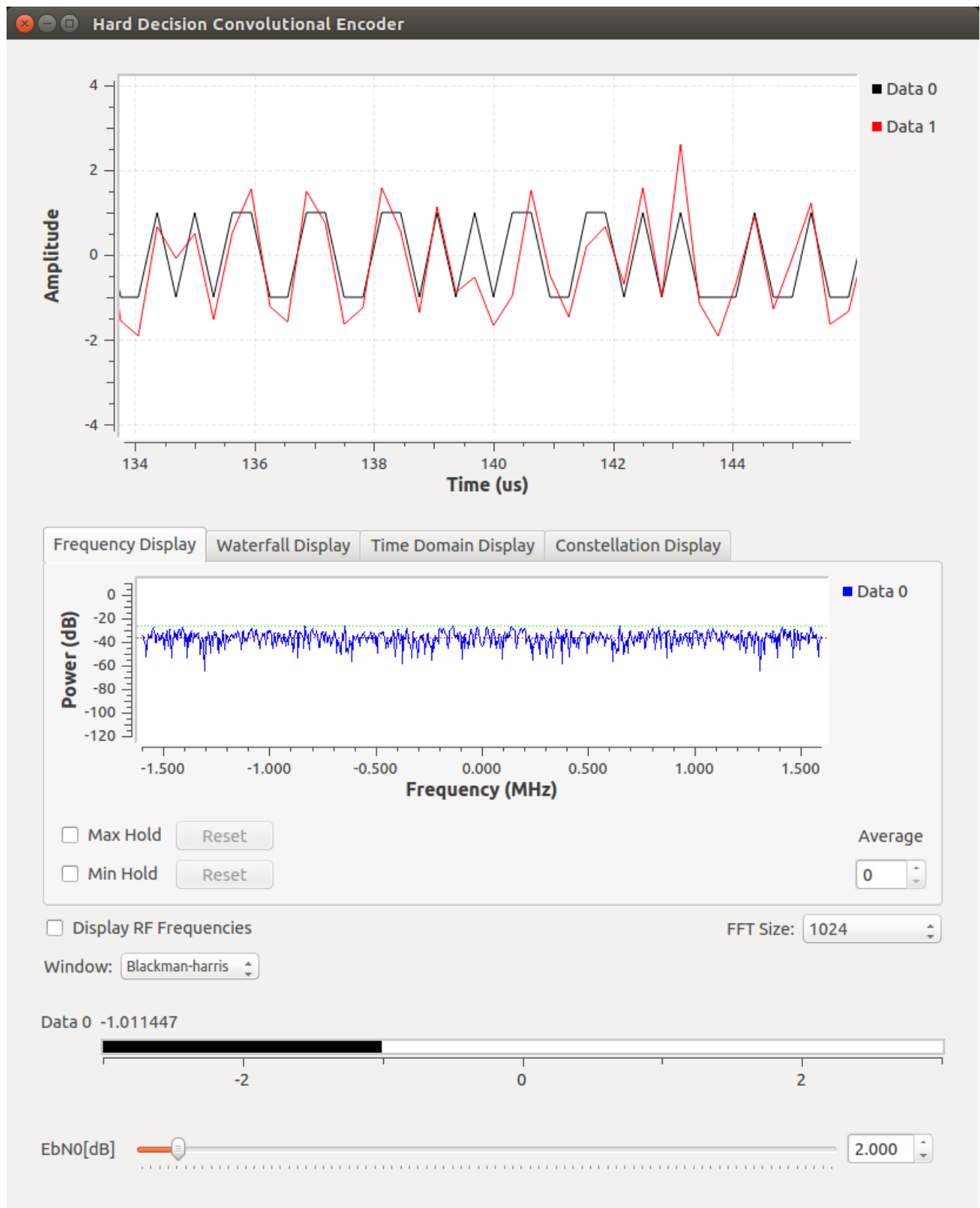


The BER in Soft Decision Decoding for SNR = 5 dB is $(10^{-2.173576}) = 0.006705389$

Hard Decision Decoder Flow-Graph

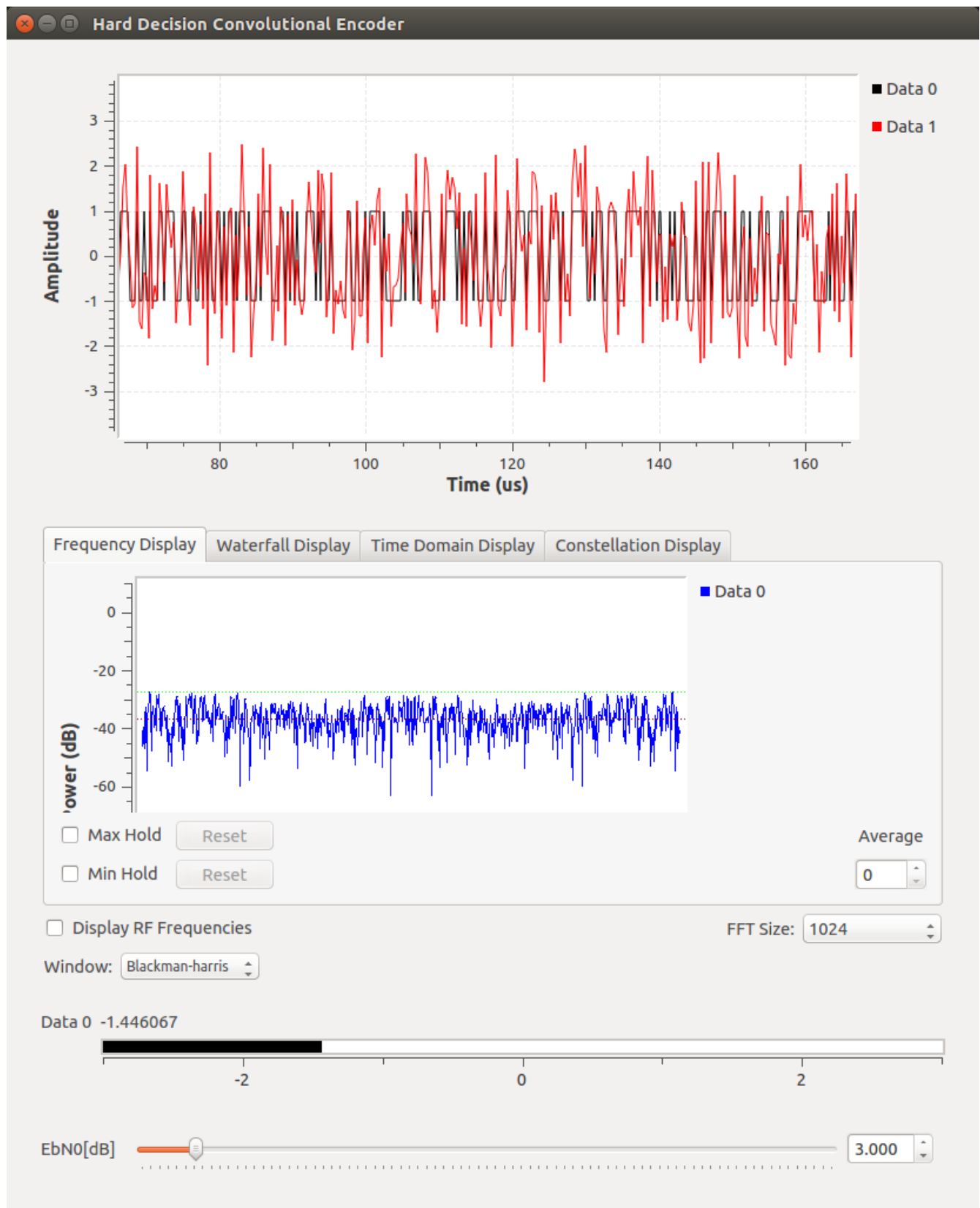


SNR = 2 dB



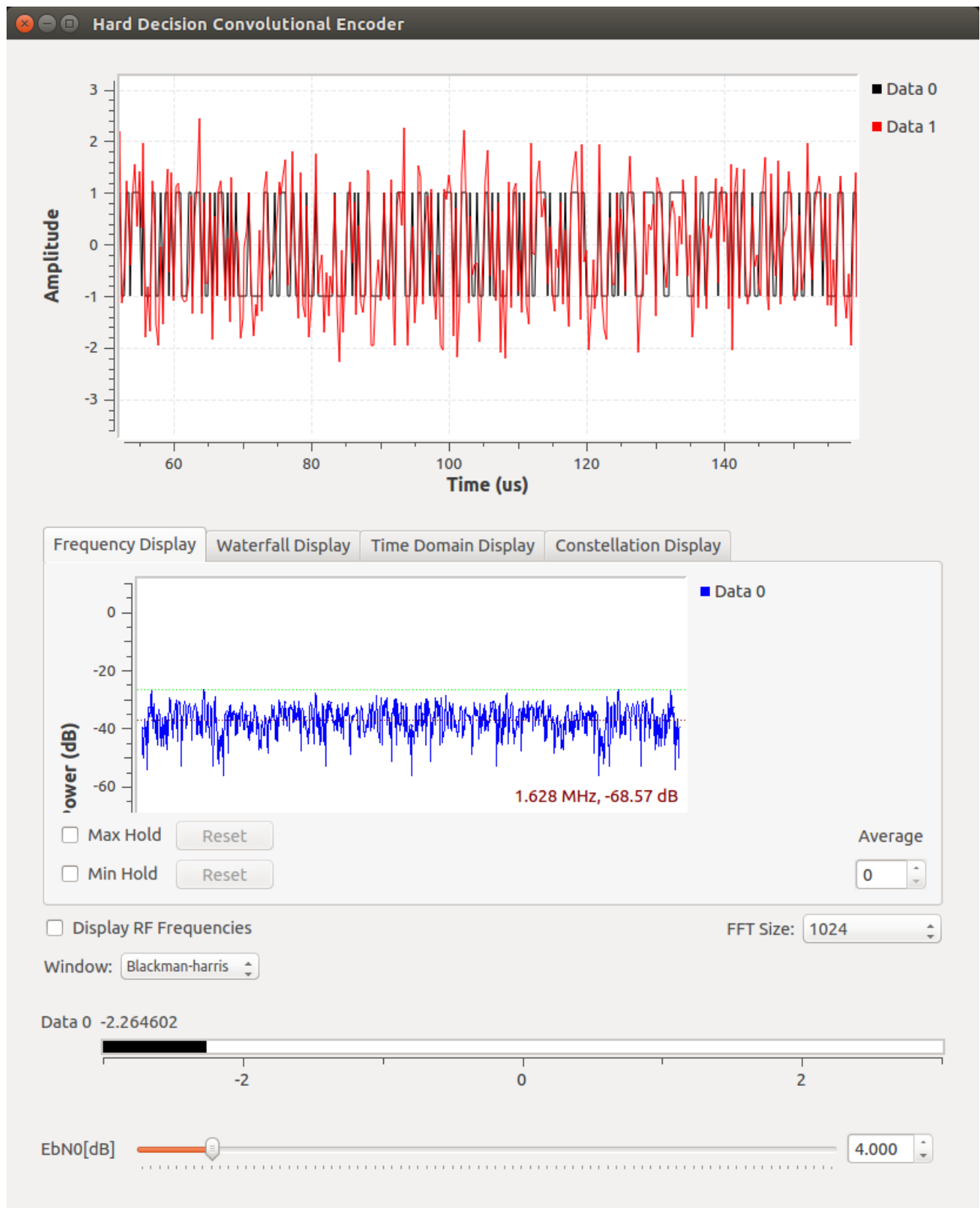
The BER in Hard Decision Decoding for SNR = 2 dB is $(10^{-1.011447}) = 0.097398664$

SNR = 3 dB



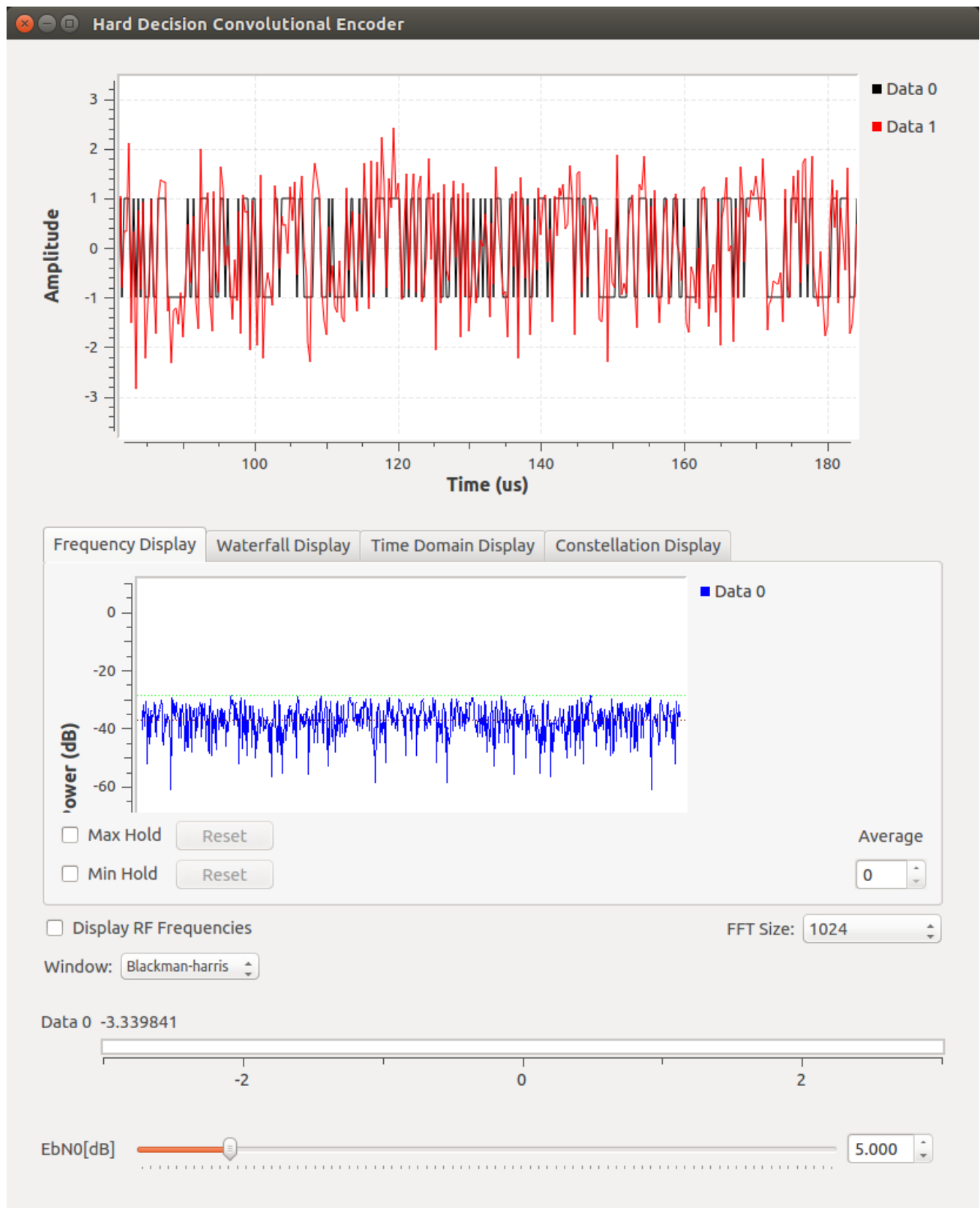
The BER in Hard Decision Decoding for SNR = 3 dB is $(10^{-1.446067}) = 0.03580412$

SNR = 4 dB



The BER in Hard Decision Decoding for SNR = 4 dB is $(10^{-2.264602}) = 0.005437484$.

SNR = 5 dB



The BER in Hard Decision Decoding for SNR = 5 dB is $(10^{-3.339841}) = 0.000457256$.