

ECE-486 Spring 2008, March 21 Quiz

Name : _____

A distorted (and noisy) sinusoidal signal with frequency 1.9 MHz is sampled using a sampling frequency of 4.096 Msp/s to obtain a buffer of samples $x(n)$ for $n = 0, 1, \dots, 1023$. A 1024-point DFT has been calculated to obtain the plot shown below.

1. Circle and label the component of the output spectrum which is associated with the sinusoidal test signal. Give the exact DFT/FFT index associated with this term.
2. Repeat the above for the 9th harmonic of the test signal.

