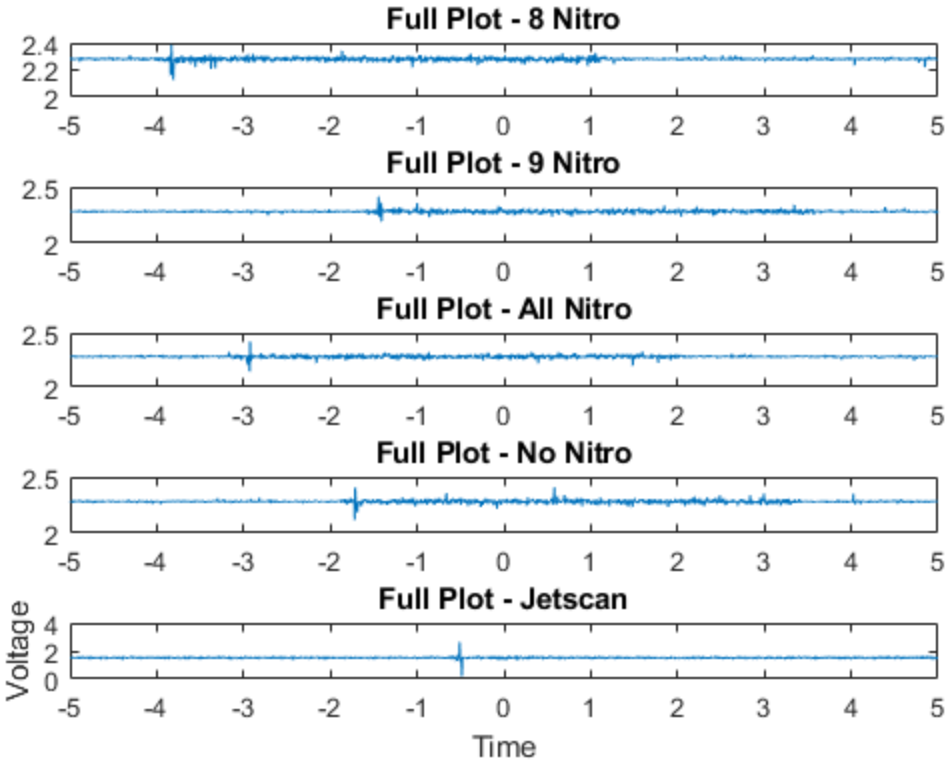
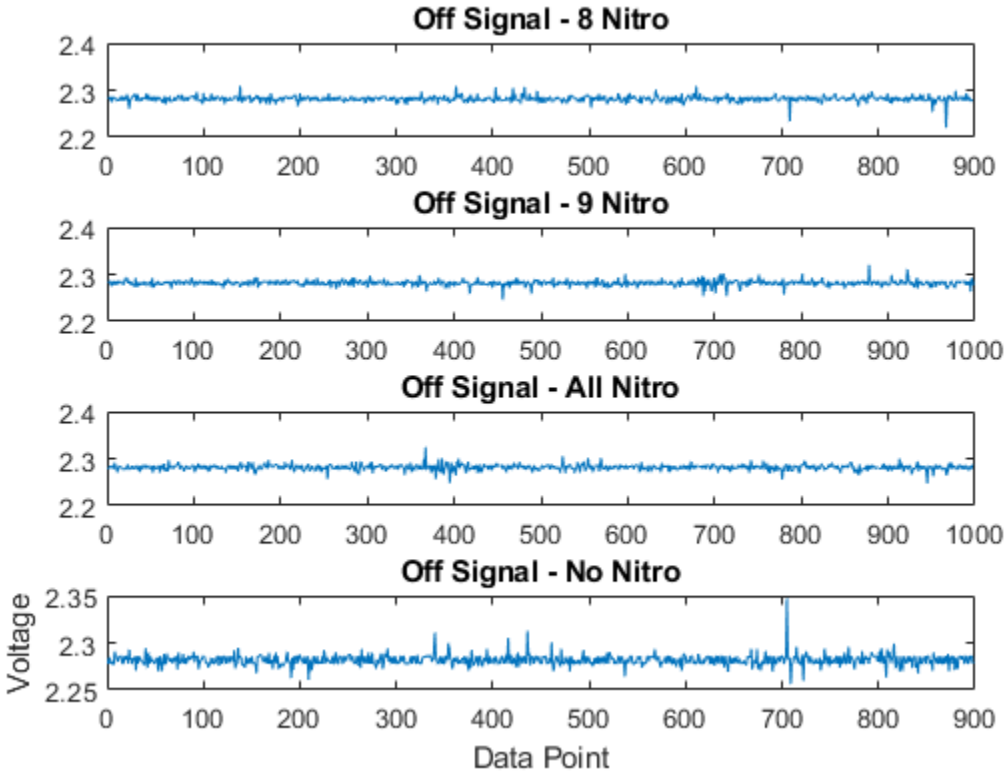
```
clear all

%load note type
noteType='\usd 1.csv';
nitro8Dir='E:\MATLAB\8 nitro';
nitro9Dir='E:\MATLAB\9 nitro';
noNitroDir='E:\MATLAB\no nitro';
allNitroDir='E:\MATLAB\all nitro';
jetscanDir='E:\MATLAB\jetscan';

%gather file directory
nitro8File=strcat(nitro8Dir, noteType);
nitro9File=strcat(nitro9Dir, noteType);
noNitroFile=strcat(noNitroDir, noteType);
allNitroFile=strcat(allNitroDir, noteType);
jetscanFile=strcat(jetscanDir, noteType);

%read .csv files
nitro8Csv=csvread(nitro8File, 3, 0);
nitro9Csv=csvread(nitro9File, 3, 0);
noNitroCsv=csvread(noNitroFile, 3, 0);
allNitroCsv=csvread(allNitroFile, 3, 0);
jetscanCsv=csvread(jetscanFile, 3, 0);

%figure to look at full plots
figure(1);
subplot(5,1,1);
plot(nitro8Csv(:,1), nitro8Csv(:,2));
title('Full Plot - 8 Nitro');
subplot(5,1,2);
plot(nitro9Csv(:,1), nitro9Csv(:,2));
title('Full Plot - 9 Nitro');
subplot(5,1,3);
plot(allNitroCsv(:,1), allNitroCsv(:,2));
title('Full Plot - All Nitro');
subplot(5,1,4);
plot(noNitroCsv(:,1), noNitroCsv(:,2));
title('Full Plot - No Nitro');
subplot(5,1,5)
plot(jetscanCsv(:,1), jetscanCsv(:,2));
title('Full Plot - Jetscan');
xlabel('Time');
ylabel('Voltage');

%setup blank matrixes with dynamic sizes
nitro8OffSignal=[];
nitro8OnSignal=[];
nitro9OffSignal=[];
nitro9OnSignal=[];
noNitroOffSignal=[];
noNitroOnSignal=[];
allNitroOffSignal=[];
```

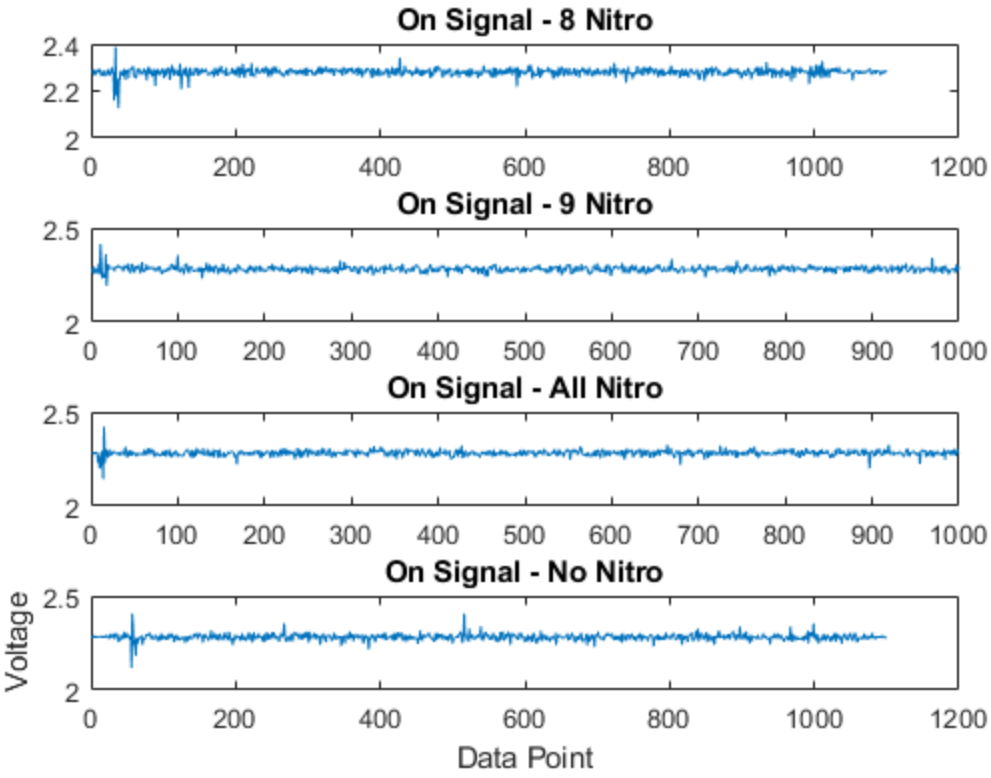
```
allNitroOnSignal=[];
jetscanOffSignal=[];
jetscanOnSignal=[];
nitro8StdDev=[];
nitro9StdDev=[];
noNitroStdDev=[];
allNitroStdDev=[];
jetscanStdDev=[];

%loop that looks at every 100 data points and determines if the
 measurement
%contains part of the signal or if the measurment is just noise and
 sorts
%it accordingly
for i=1:100:length(jetscanCsv)
    tempNitro8DataSet=[];
    tempNitro9DataSet=[];
    tempNoNitroDataSet=[];
    tempAllNitroDataSet=[];
    tempJetscanDataSet=[];
    for j=0:99
       tempIndex=i+j;
       if(tempIndex<length(jetscanCsv))
            tempNitro8DataSet=[tempNitro8DataSet, nitro8Csv(tempIndex,
 2)];
            tempNitro9DataSet=[tempNitro9DataSet, nitro9Csv(tempIndex,
 2)];
            tempNoNitroDataSet=[tempNoNitroDataSet,
 noNitroCsv(tempIndex, 2)];
            tempAllNitroDataSet=[tempAllNitroDataSet,
 allNitroCsv(tempIndex, 2)];
            tempJetscanDataSet=[tempJetscanDataSet,
 jetscanCsv(tempIndex, 2)];
       end
    end
    if (std(tempNitro8DataSet)<0.0095)
        nitro8OffSignal=[nitro8OffSignal, tempNitro8DataSet];
    else
        nitro8OnSignal=[nitro8OnSignal, tempNitro8DataSet];
    end
    if (std(tempNitro9DataSet)<0.0095)
        nitro9OffSignal=[nitro9OffSignal, tempNitro9DataSet];
    else
        nitro9OnSignal=[nitro9OnSignal, tempNitro9DataSet];
    end
    if (std(tempNoNitroDataSet)<0.0095)
        noNitroOffSignal=[noNitroOffSignal, tempNoNitroDataSet];
    else
        noNitroOnSignal=[noNitroOnSignal, tempNoNitroDataSet];
    end
    if (std(tempAllNitroDataSet)<0.0095)
        allNitroOffSignal=[allNitroOffSignal, tempAllNitroDataSet];
    else
        allNitroOnSignal=[allNitroOnSignal, tempAllNitroDataSet];
```

```
    end
    if (std(tempJetscanDataSet)<0.054)
        jetscanOffSignal=[jetscanOffSignal, tempJetscanDataSet];
    else
        jetscanOnSignal=[jetscanOnSignal, tempJetscanDataSet];
    end
    nitro8StdDev=[nitro8StdDev, std(tempNitro8DataSet)];
    nitro9StdDev=[nitro9StdDev, std(tempNitro9DataSet)];
    noNitroStdDev=[noNitroStdDev, std(tempNoNitroDataSet)];
    allNitroStdDev=[allNitroStdDev, std(tempAllNitroDataSet)];
    jetscanStdDev=[jetscanStdDev, std(tempJetscanDataSet)];
end

%figure of just the noise of the tests
figure(2);
subplot(4,1,1);
plot(nitro8OffSignal);
title('Off Signal - 8 Nitro');
subplot(4,1,2);
plot(nitro9OffSignal);
title('Off Signal - 9 Nitro');
subplot(4,1,3);
plot(allNitroOffSignal);
title('Off Signal - All Nitro');
subplot(4,1,4);
plot(noNitroOffSignal);
title('Off Signal - No Nitro');
xlabel('Data Point');
ylabel('Voltage');

%figure of just the signals from the tests
figure(3);
subplot(4,1,1);
plot(nitro8OnSignal);
title('On Signal - 8 Nitro');
subplot(4,1,2);
plot(nitro9OnSignal);
title('On Signal - 9 Nitro');
subplot(4,1,3);
plot(allNitroOnSignal);
title('On Signal - All Nitro');
subplot(4,1,4);
plot(noNitroOnSignal);
title('On Signal - No Nitro');
xlabel('Data Point');
ylabel('Voltage');

%nitro 8 calcs
nitro8OffMaxP2P=peak2peak(nitro8OffSignal);
nitro8OffStdDev=std(nitro8OffSignal);
nitro8OnSignal(nitro8OnSignal==max(nitro8OnSignal))=[];
nitro8OnSignal(nitro8OnSignal==min(nitro8OnSignal))=[];
nitro8OnMaxP2P=peak2peak(nitro8OnSignal);
nitro8OnStdDev=std(nitro8OnSignal);
```

```
%nitro 9 calcs
nitro9OffMaxP2P=peak2peak(nitro9OffSignal);
nitro9OffStdDev=std(nitro9OffSignal);
nitro9OnSignal(nitro9OnSignal==max(nitro9OnSignal))=[];
nitro9OnSignal(nitro9OnSignal==min(nitro9OnSignal))=[];
nitro9OnMaxP2P=peak2peak(nitro9OnSignal);
nitro9OnStdDev=std(nitro9OnSignal);

%no nitro calcs
noNitroOffMaxP2P=peak2peak(noNitroOffSignal);
noNitroOffStdDev=std(noNitroOffSignal);
noNitroOnSignal(noNitroOnSignal==max(noNitroOnSignal))=[];
noNitroOnSignal(noNitroOnSignal==min(noNitroOnSignal))=[];
noNitroOnMaxP2P=peak2peak(noNitroOnSignal);
noNitroOnStdDev=std(noNitroOnSignal);

%all nitro calcs
allNitroOffMaxP2P=peak2peak(allNitroOffSignal);
allNitroOffStdDev=std(allNitroOffSignal);
allNitroOnSignal(allNitroOnSignal==max(allNitroOnSignal))=[];
allNitroOnSignal(allNitroOnSignal==min(allNitroOnSignal))=[];
allNitroOnMaxP2P=peak2peak(allNitroOnSignal);
allNitroOnStdDev=std(allNitroOnSignal);

%jetscan calcs
jetscanData=jetscanCsv(:,2);
jetscanData(jetscanData==max(jetscanData))=[];
jetscanData(jetscanData==min(jetscanData))=[];
jetscanMaxP2P=peak2peak(jetscanData);
jetscanStdDev=std(jetscanData);

outputTable=[nitro8OffMaxP2P, nitro8OffStdDev, nitro8OnMaxP2P,
 nitro8OnStdDev, nitro9OffMaxP2P, nitro9OffStdDev, nitro9OnMaxP2P,
 nitro9OffStdDev, allNitroOffMaxP2P, allNitroOffStdDev,
 allNitroOnMaxP2P, allNitroOnStdDev, noNitroOffMaxP2P,
 noNitroOffStdDev, noNitroOnMaxP2P, noNitroOnStdDev, jetscanMaxP2P,
 jetscanStdDev];
```


Full Plot - 8 Nitro
Full Plot - 9 Nitro
Full Plot - All Nitro
Full Plot - No Nitro
Full Plot - Jetscan
Voltage
Time


Off Signal - 8 Nitro
Off Signal - 9 Nitro
Off Signal - All Nitro
Off Signal - No Nitro
Voltage
Data Point



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