clear
99 j * o;
for ji = 1:1:5
    if ji<10
        jj = sprintf('k7404v0%d.wav', ji);
    else
        jj = sprintf('k7404v%d.wav', ji);
    end
    jj = jj+1;
    vol = ji/10
    switch ji
    case 1 , rtx = 'm'
    case 2 , rtx = 'c'
    case 3 , rtx = 'r'
    case 4 , rtx = 'g'
    case 5 , rtx = 'b'
    case 6 , rtx = 'y'
    otherwise
        rtx = 'k'
    end
    fid4 = fopen(jj,'r');
    jilz1 = fread(fid4);
    fclose(fid4);
    lenr = length(jilz1)
    volfer = jilz1(201:5000);
    s = volfer;
    t = 1:1:length(s);
    Fs = 22050;
    figure(1)
    plot(t,s,rtx);
    hold on
    xlabel('SAMPLES at 22050/second')
    ylabel('8 BIT PULSE CODE AMPLITUDE')
    fr = 11025;
    11 = [10 10000];
    ul = [20 9990];
    rp = 2;
    rs = 10;
lr = ll./fr;
ur = ul./fr;
disp('ellipord')
[n,wn] = ellipord(ur,lr,rp,rs);
[b,a ] = ellip(n,rp,rs,wn);
mmm = wn*fr;
sf=filter(b,a,s);
SF=fft(sf);
amp = SF(1);
SF(1) = [];
SF=abs(SF).^2;
n = length(SF);
nyquist = 1/2;
freq1 = (1:n/2)/(n/2)*nyquist;
freq = freq1.*22050;
kk = length(freq);
figure(5)
psf = SF(1:kk);
gg = find(psf <1);
psf(gg) = [];
freq(gg) = [];
psf = psf;
psfl = cumsum(psf);
bbb = 1:1:length(psfl);
psfl = psfl./bbb';
loglog(freq,psf,rtx);
xlabel('FREQUENCY');
YLABEL('MAGNITUDE OF FAST FOURIER TRANSFORM');
hold on
figure(7)

loglog(bbb,psfl,rtx)
xlabel('FREQUENCY');
YLABEL('AVERAGED MAGNITUDE OF FAST FOURIER TRANSFORM');
hold on
end
clear
ABSTRACT

Commercially available MOSFET devices have been investigated for 1/f Noise under linear operating conditions. 1/f noise studies are essential to critically evaluate the electronic devices. The MOSFETs are in wide consumer use in several power applications. The percentage failure of these devices due to excess noise is unknown. In the present study, widely used MOSFETs have been systematically investigated for 1/f noise. These studies would help the user to identify his requirements for critical applications.

The main problem involved with the 1/f noise studies is that noise free power sources and noise free amplifiers are to be designed. The noise after necessary amplification is to be recorded and analyzed. Our preliminary studies indicated that usage of A/D converters introduce extra noise of the analog devices probably used in the construction of these devices. The 1/f noise resulting in MOSFETs has been directly recorded using sound recording device of the multi-media kit available in a PC.

The noise so recorded has been analyzed using MATLAB (Ver 5) and FILTER, FFT and other functions of the package. 1/f noise is predominates in a low frequency region below 2 kHz. Most of the noise generated above 2 kHz is likely to be due to other phenomena such as burst, telegraphic and other noise. Huge power spectral pulses are present in the 2-10 kHz region which are under investigation.

Studies are in progress to delineate the nature of 1/f noise and other noise present in the MOSFETs. The exact mechanisms of the noise in MOSFETs through power spectral density measurement are likely to throw light on the variations in the conduction mechanisms of the channel.

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Commercially available MOSFET devices have been investigated for 1/f Noise under linear operating conditions. 1/f noise studies are essential to critically evaluate the electronic devices. The MOSFETs are in wide consumer use in several power applications. The percentage failure of these devices due to excess noise is unknown. In the present study, widely used MOSFETs have been systematically investigated for 1/f noise. These studies would help the user to identify his requirements for critical applications. The main problem involved with the 1/f noise studies is that noise free power sources and noise free amplifiers are to be designed. The noise after necessary amplification is to be recorded and analyzed. Our preliminary studies indicated that usage of A/D converters introduce extra noise of the analog devices probably used in the construction of these devices. The 1/f noise resulting in MOSFETs has been directly recorded using sound recording device of the multi-media kit available in a PC. The noise so recorded has been analyzed using MATLAB (Ver 5) and FILTER, FFT and other functions of the package. 1/f noise is predominant in a low frequency region below 2 kHz. Most of the noise generated above 2 kHz is likely to be due to other phenomena such as burst telegraphic and other noise. Huge power spectral pulses are present in the 2-10 kHz region which are under investigation. Studies are in progress to delineate the nature of 1/f noise and other noise present in the MOSFETs. The exact mechanisms of the noise in MOSFETs through power spectral density measurement are likely to throw light on the variations in the conduction mechanisms of the channel.