```matlab
clc;
clear all;
close all;

Eb_No_dB = 0:0.5:35;
M = 4;
BER_4 = berawgn (Eb_No_dB,"qam", M, "nondiff");
M_16=16;
BER_16 = berawgn (Eb_No_dB,'qam', M_16, 'nondiff');
M_64 = 64;
BER_64 = berawgn (Eb_No_dB,'qam', M_64, 'nondiff');
figure(1);
semilogy(Eb_No_dB, BER_4, 'g');
hold on;
semilogy(Eb_No_dB, BER_16, 'k');
hold on;
semilogy(Eb_No_dB, BER_64, 'm');
grid on
axis([0 35 1e-5 1]);
legend( '4QAM AWGN channel', '16QAM AWGN channel', '64QAM AWGN channel');
xlabel('Eb/No');
ylabel('BER');
title('M-QAM Modulation over Gaussian noise');
```
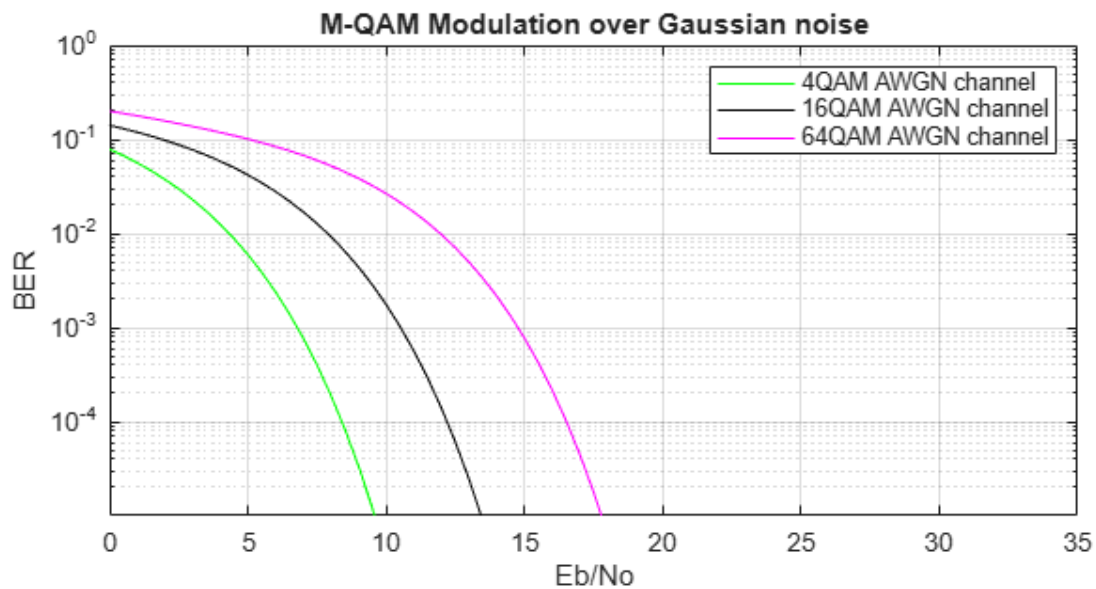

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