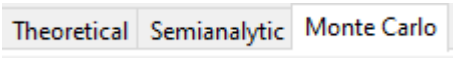
To reproduce any figure please do the following:

1-Run matlab from your pc.

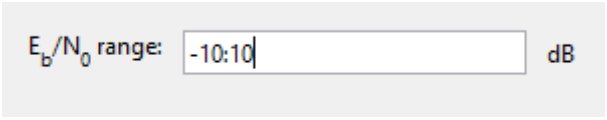
2-In the command window, please write → bertool.

3-Press Enter.

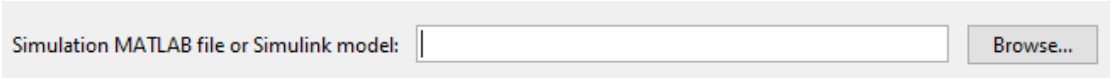
4-Choose monte carlo from the poping up window.



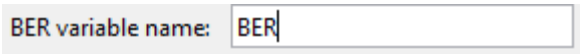
5-Replace the range by → -10:10



6-Click "Browse" and choose the .slx file that you want to simulate.



7-Write "BER" in the BER variable Name.



8-Click Run.

9-You may need to run several times to get a reasonable results ,for me, I cliched on it for 4 times.

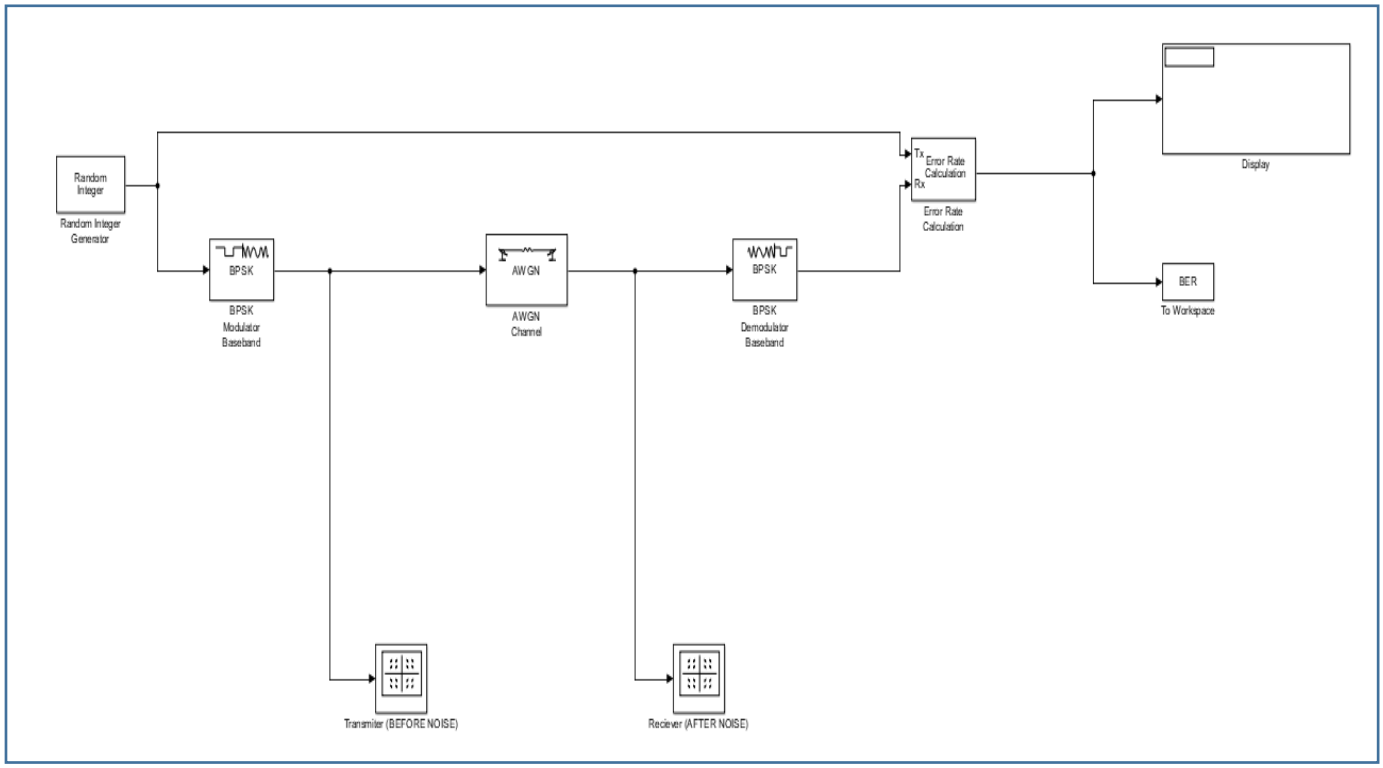
1-BPSK:

Short for : Binary Phase Shift Keying Modulation.

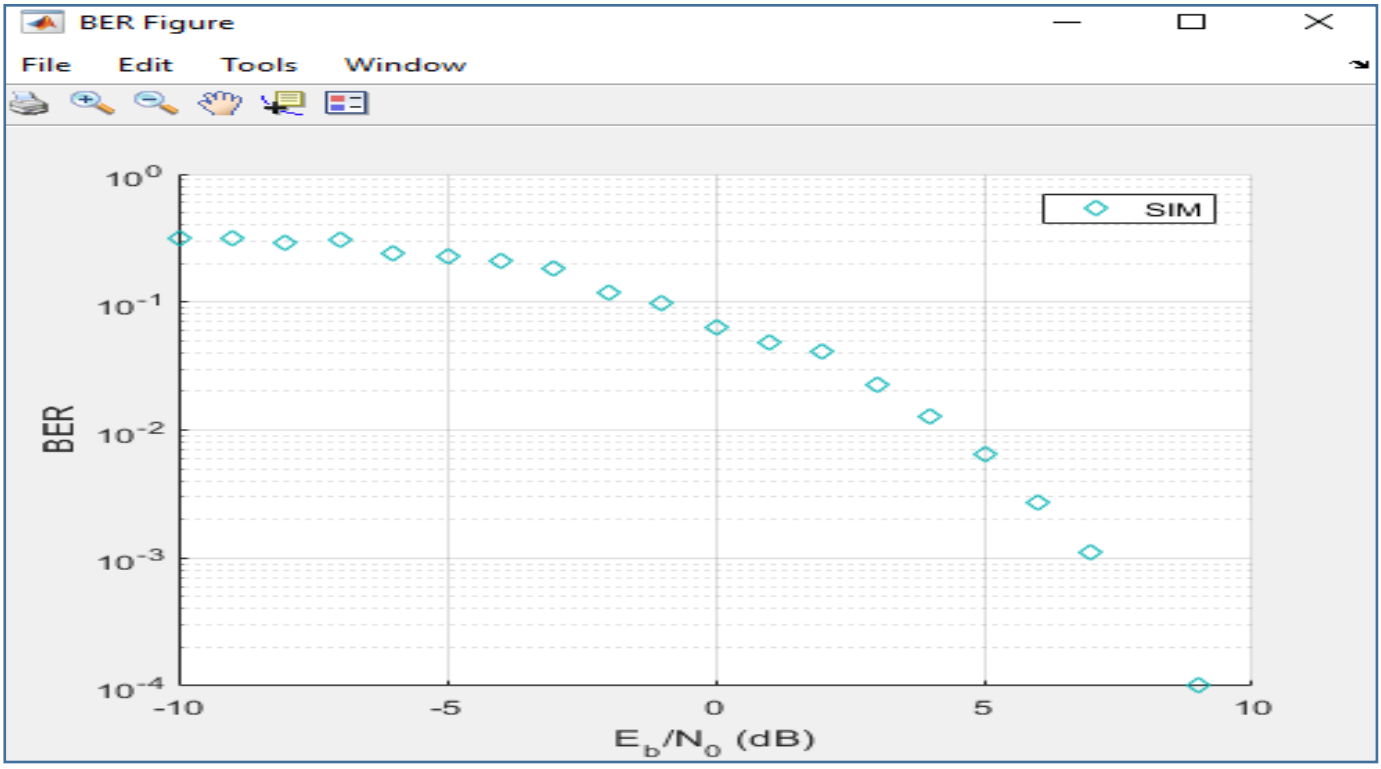
Definition :

The simplest form of phase shift keying. It uses two phases separated by 180°. It is only able to modulate at 1 bit/symbol. It is not suitable for high data-rate applications.

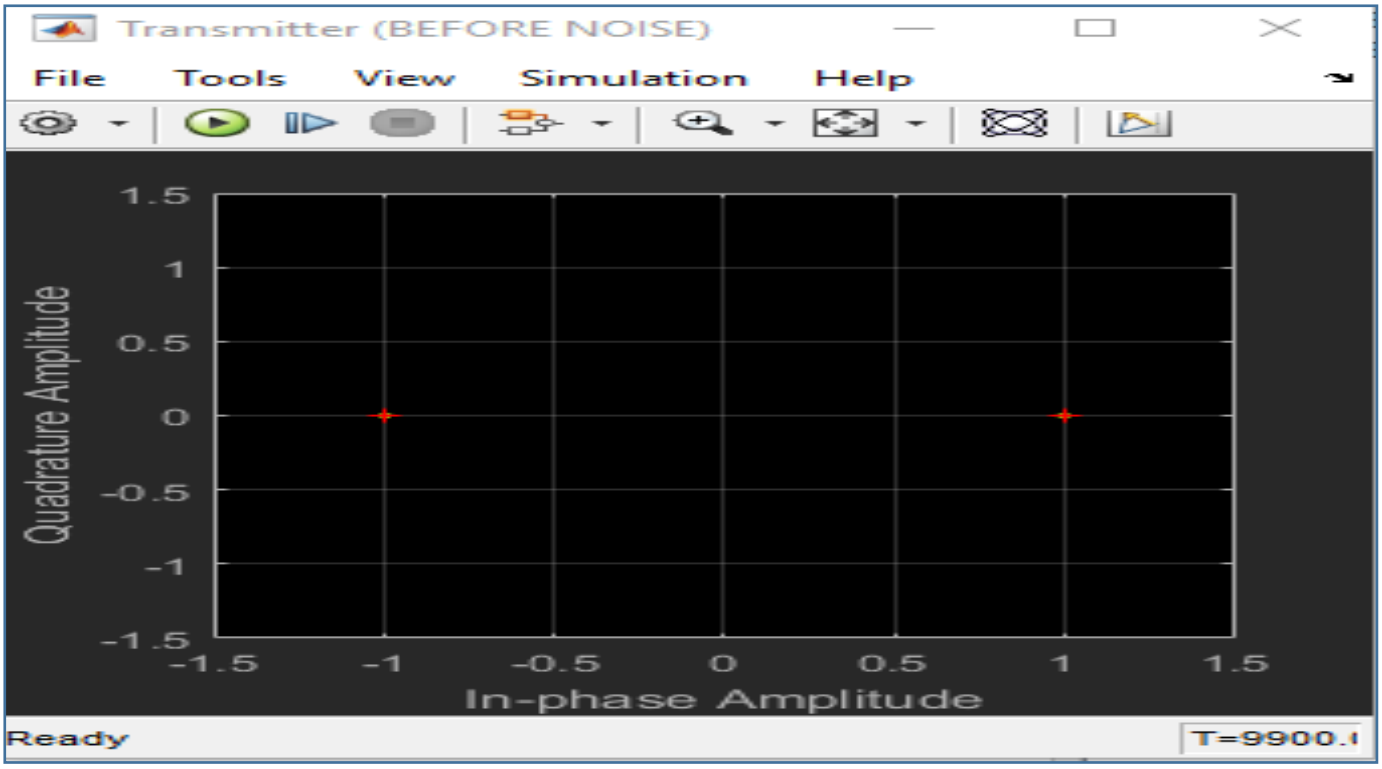
Design :



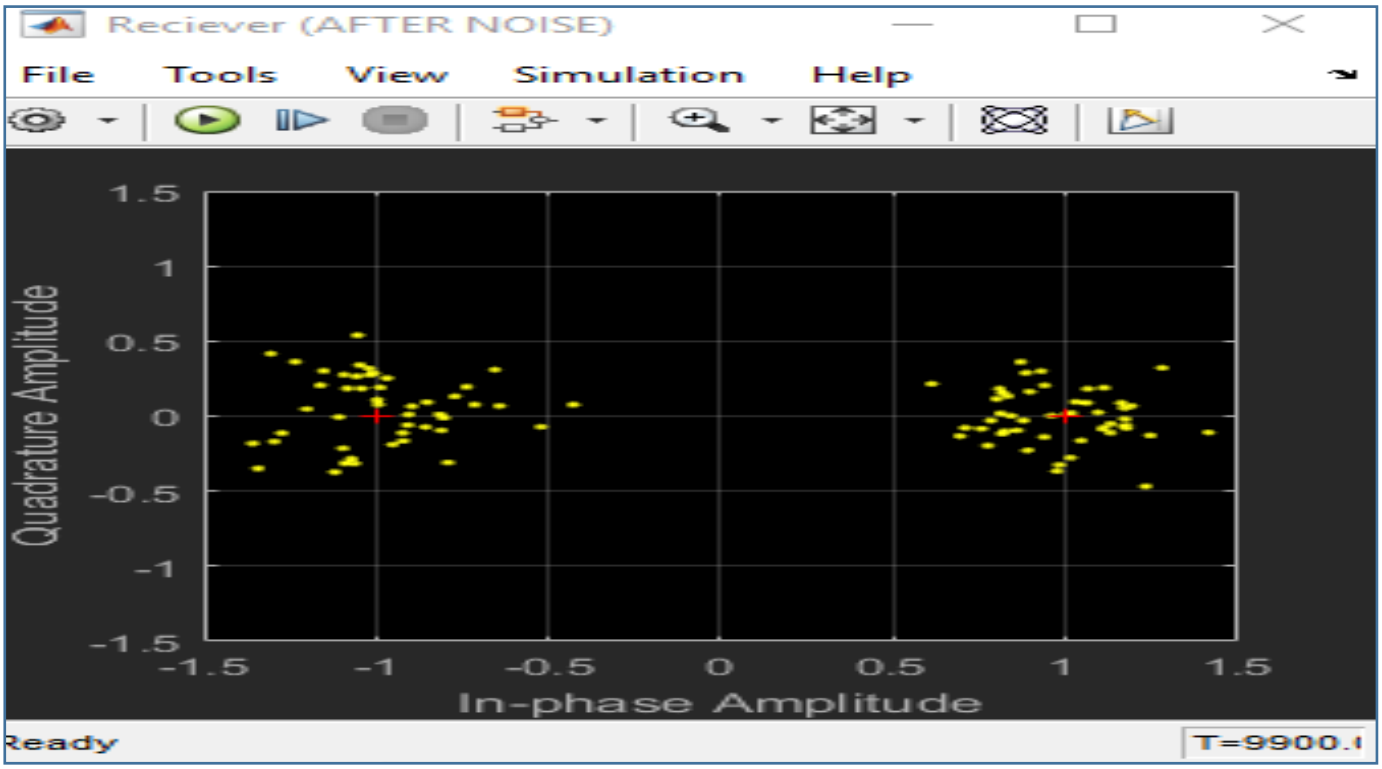
BER:



Transmitter :

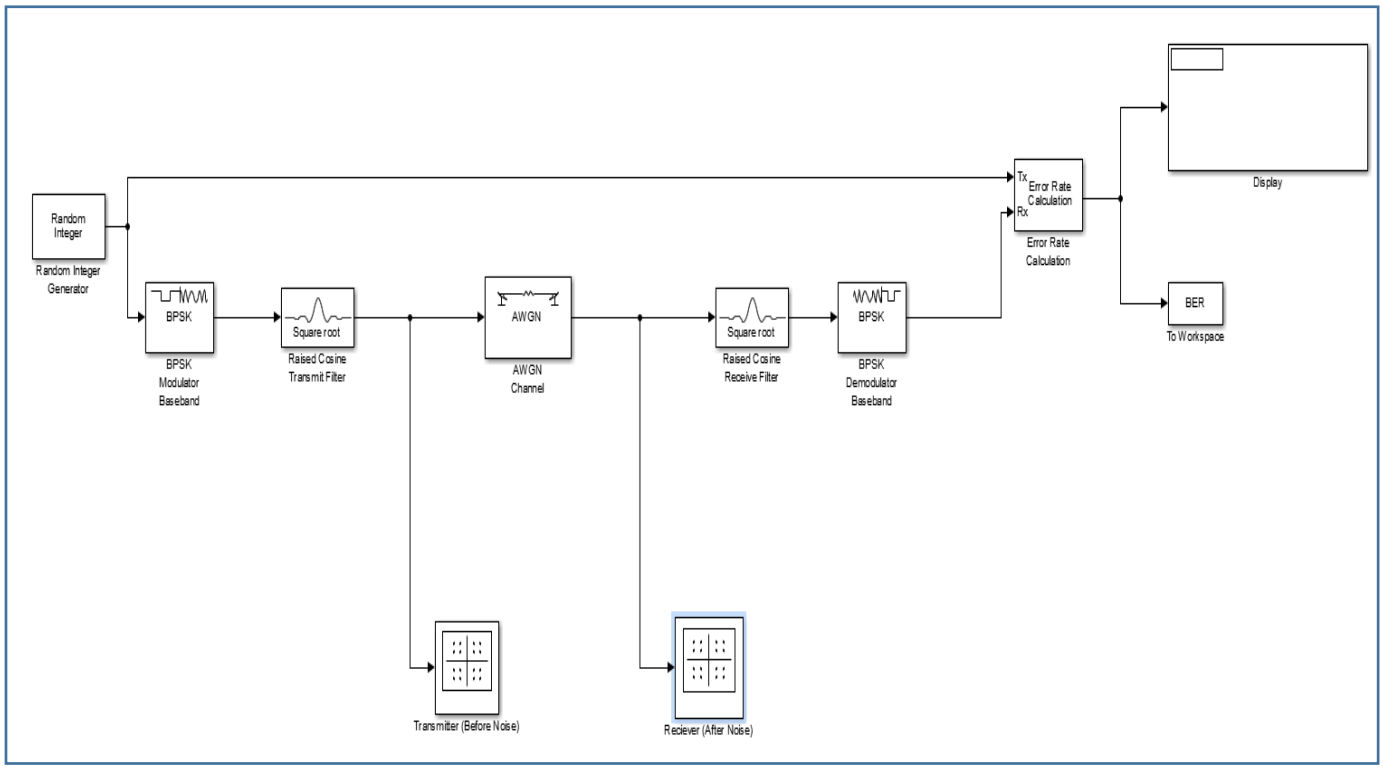


Reciever :

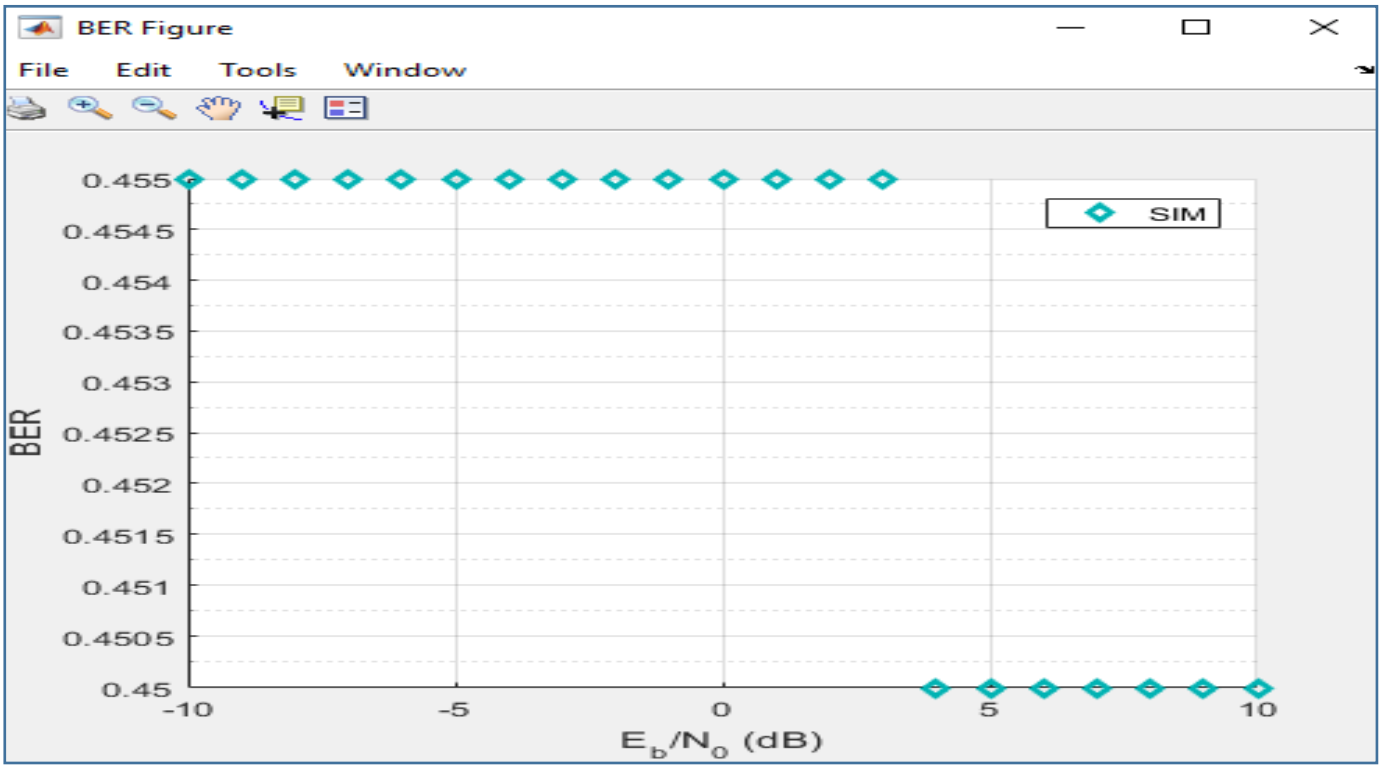


On Adding Raised-Cosine:

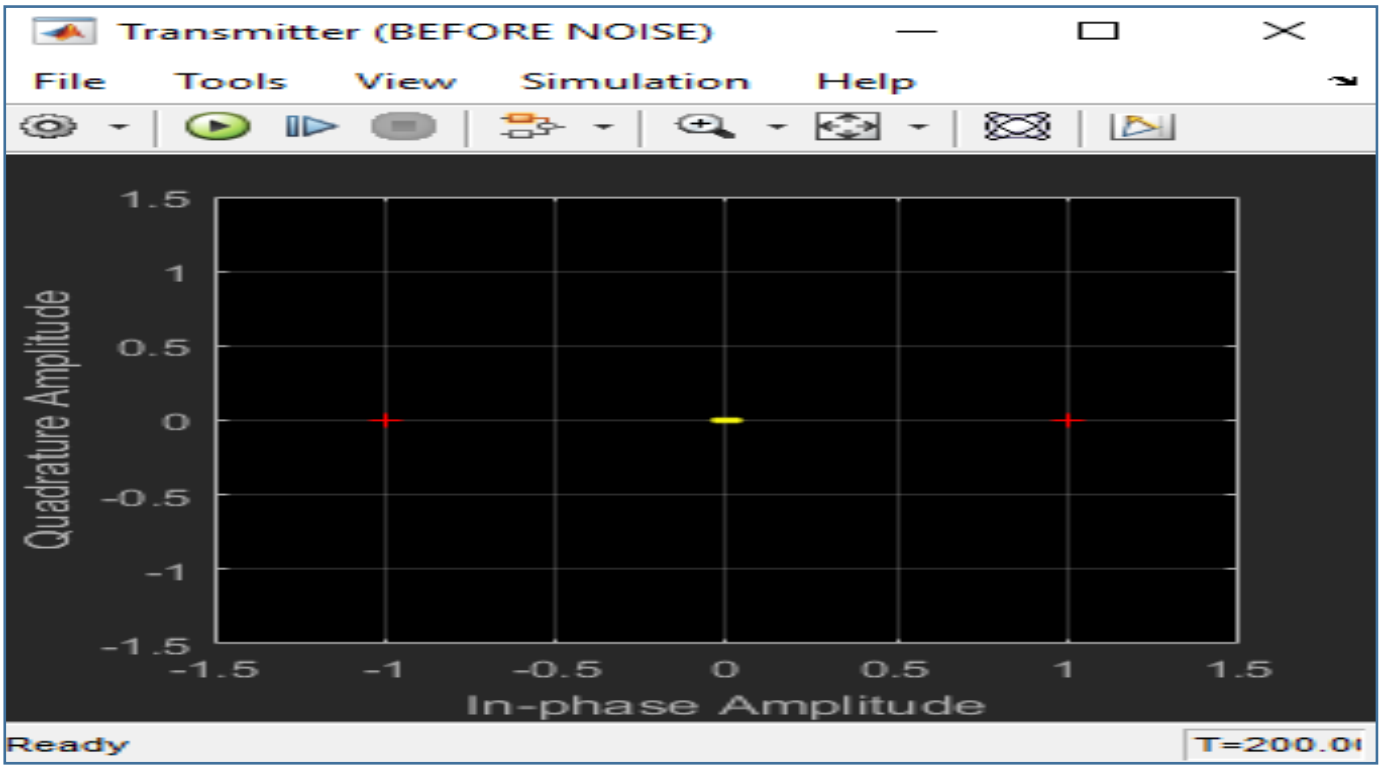
Design :



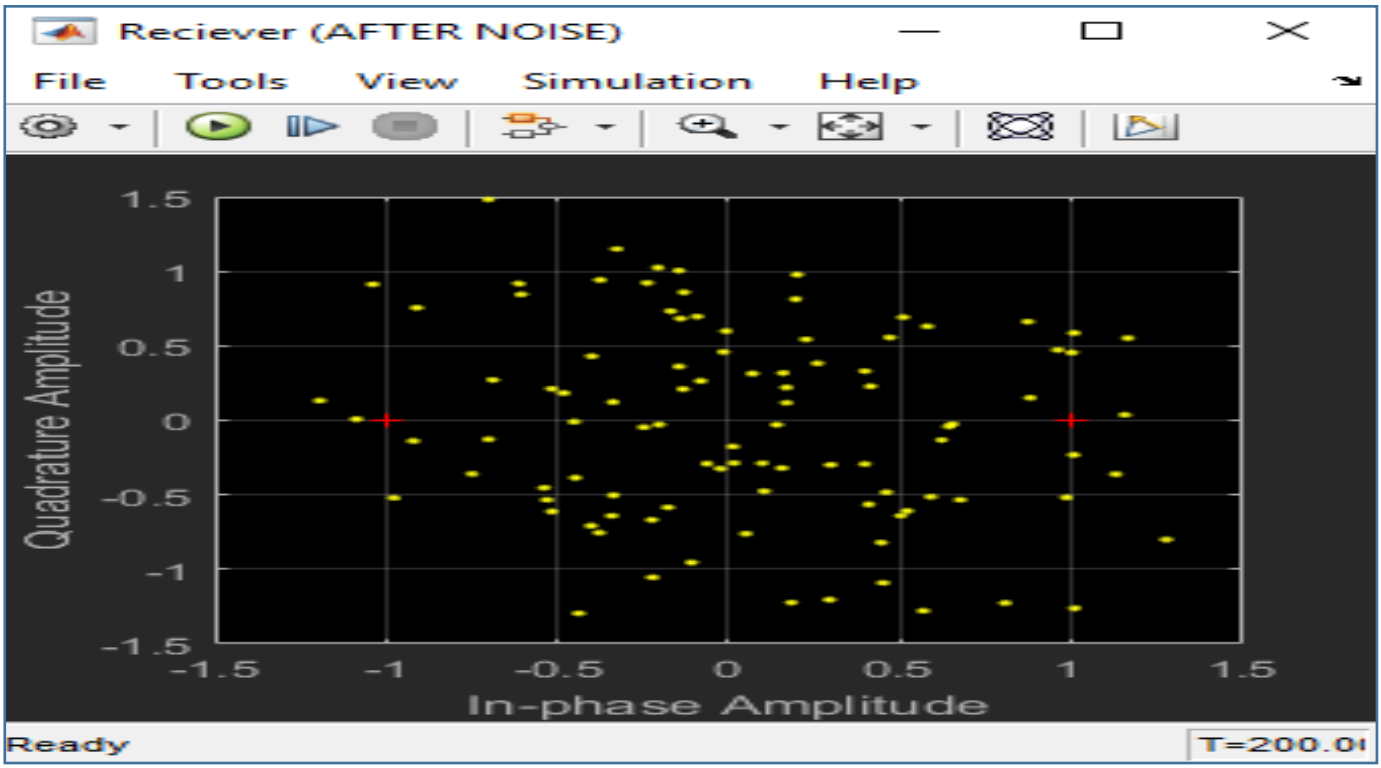
BER:



Transmitter :



Reciever :



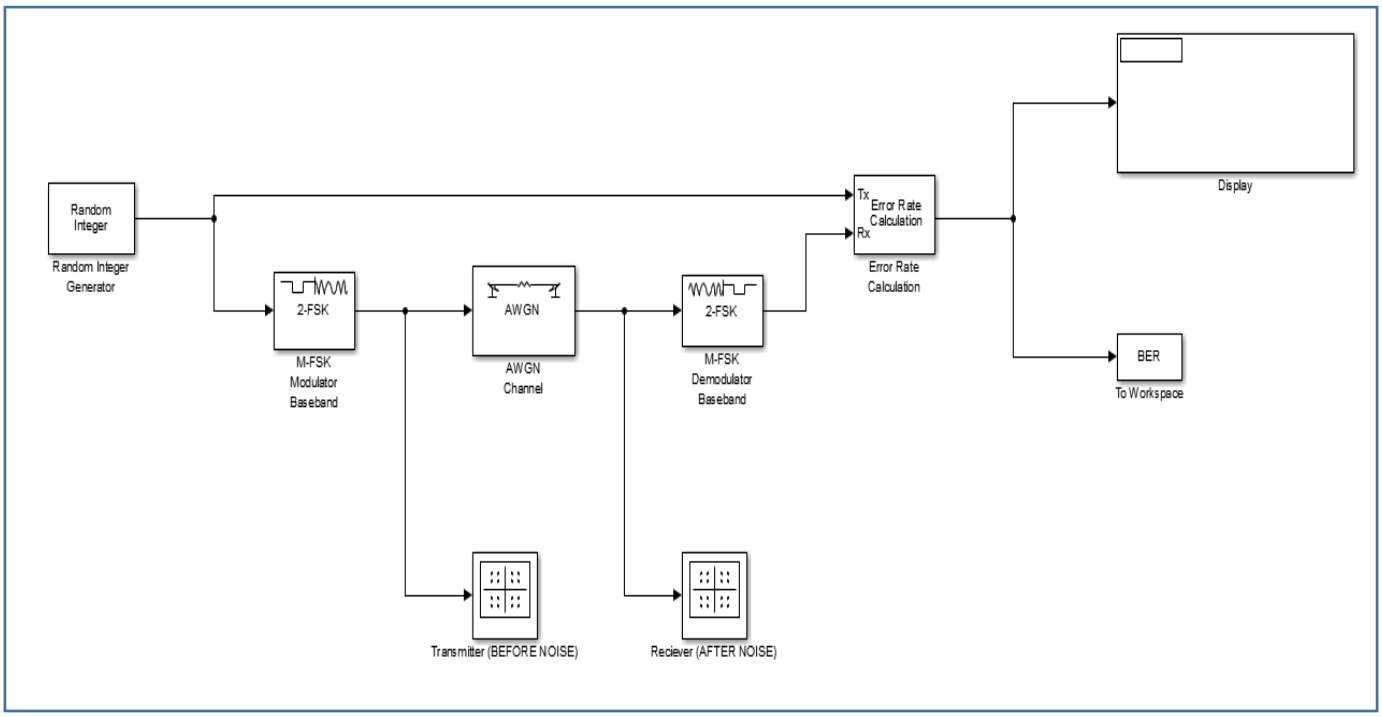
2-FSK:

Short for : Frequency Shift Modulation.

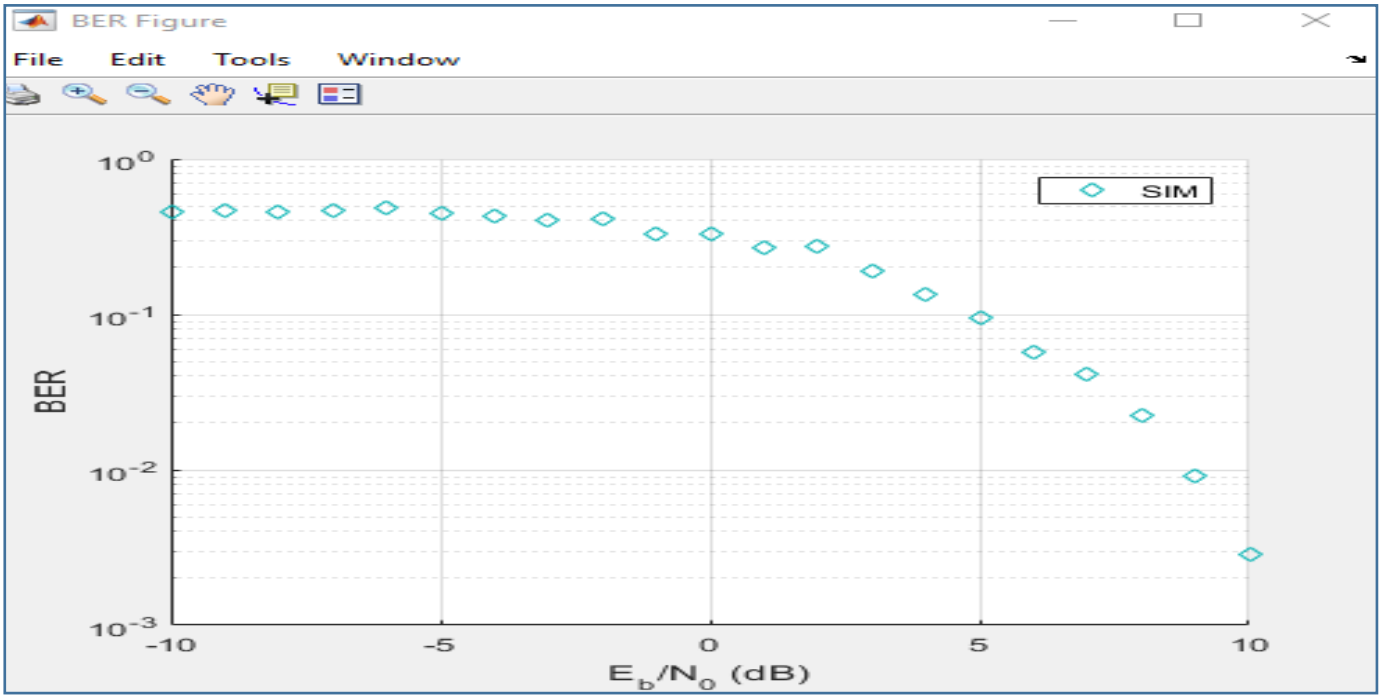
Definition :

Digital information is transmitted through the discrete frequency change of a carrier wave. Used in amateur radio, caller ID, and urgent situation broadcasts. The simplest FSK is binary FSK which transmits discrete binary (0s and 1s) information. With this scheme, the "1" is called the mark frequency and the "0" is called the space frequency. –I have applied BFSK-

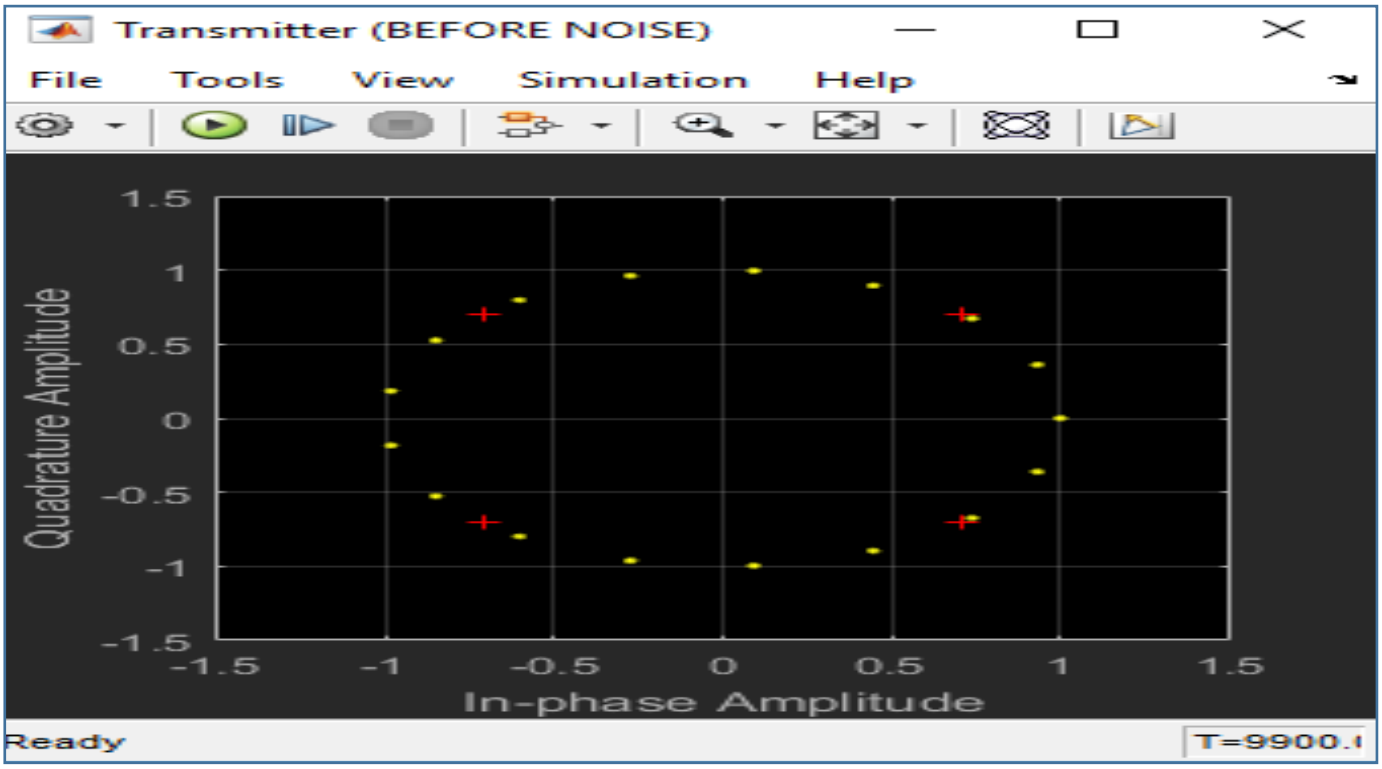
Design :



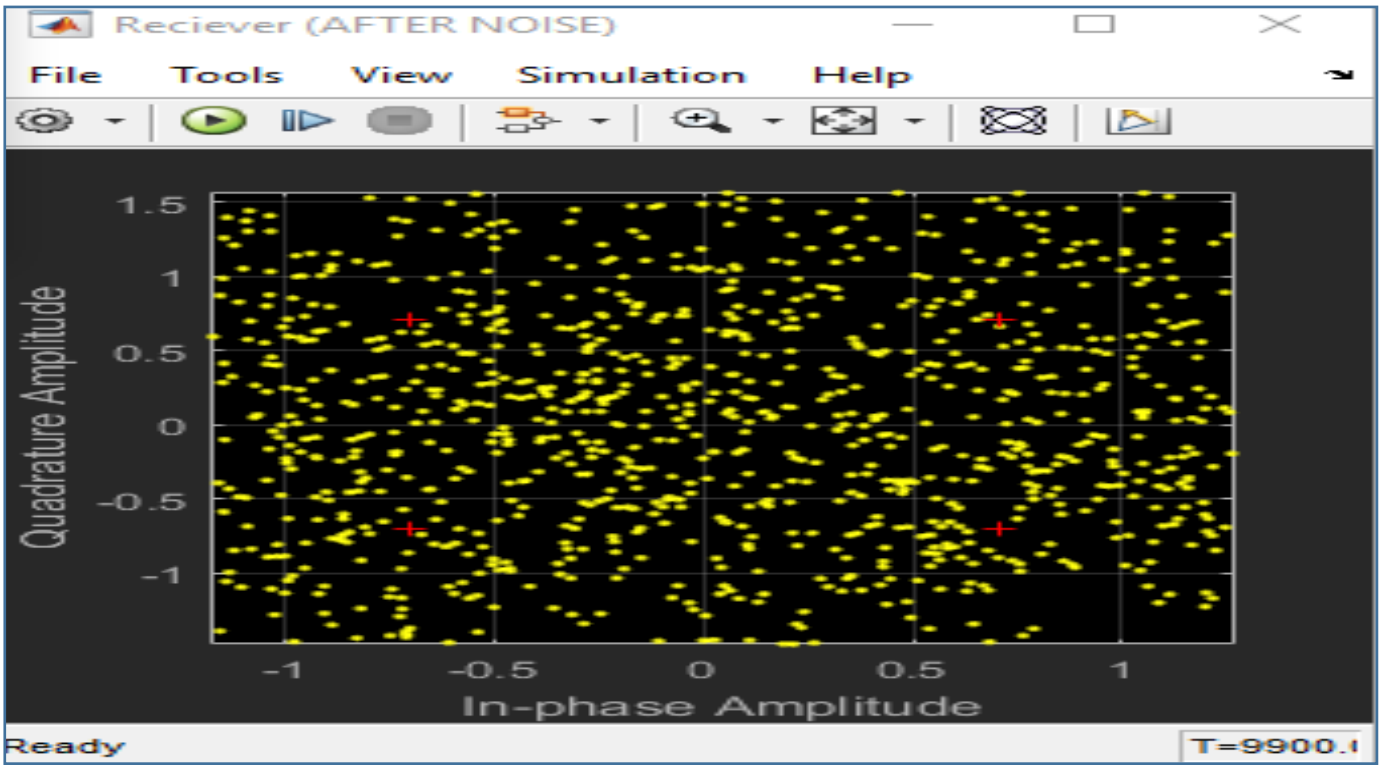
BER:



Transmitter :

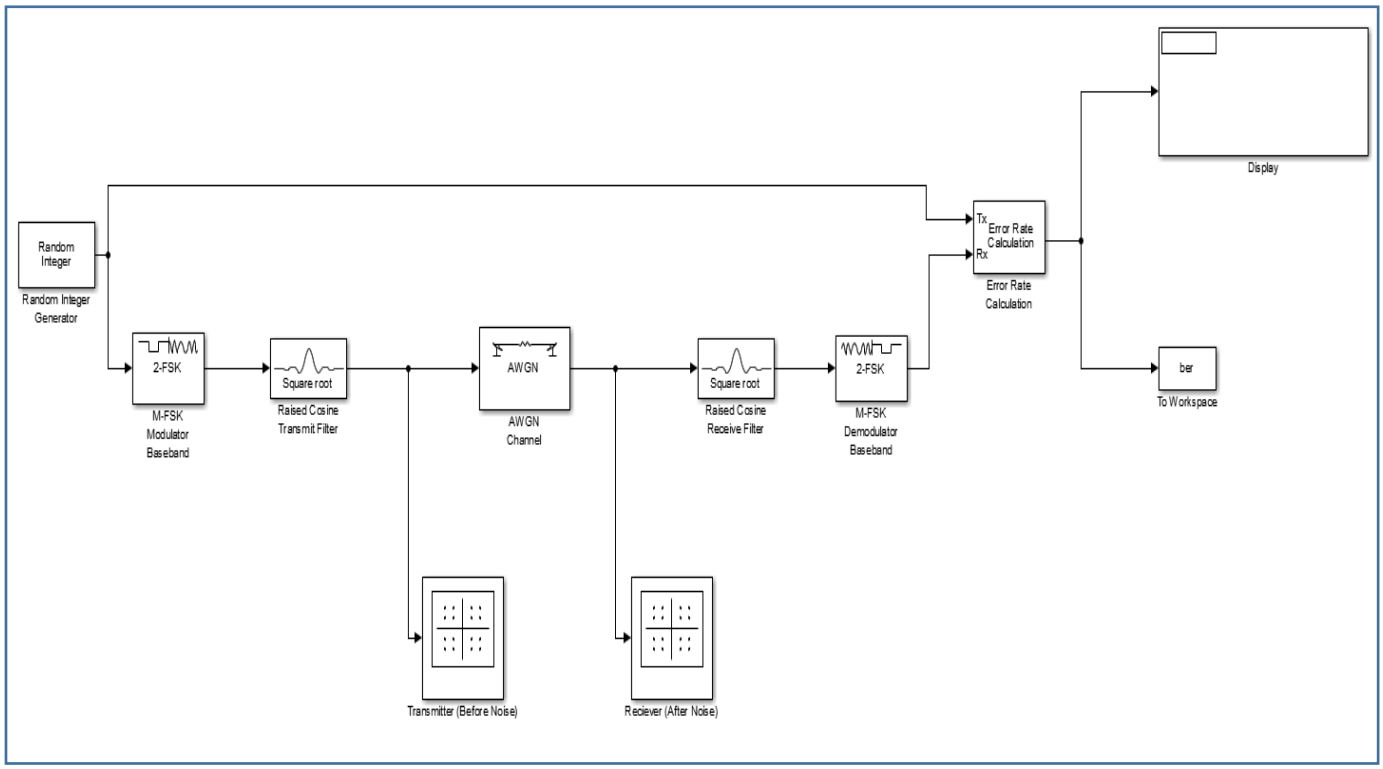


Reciever :

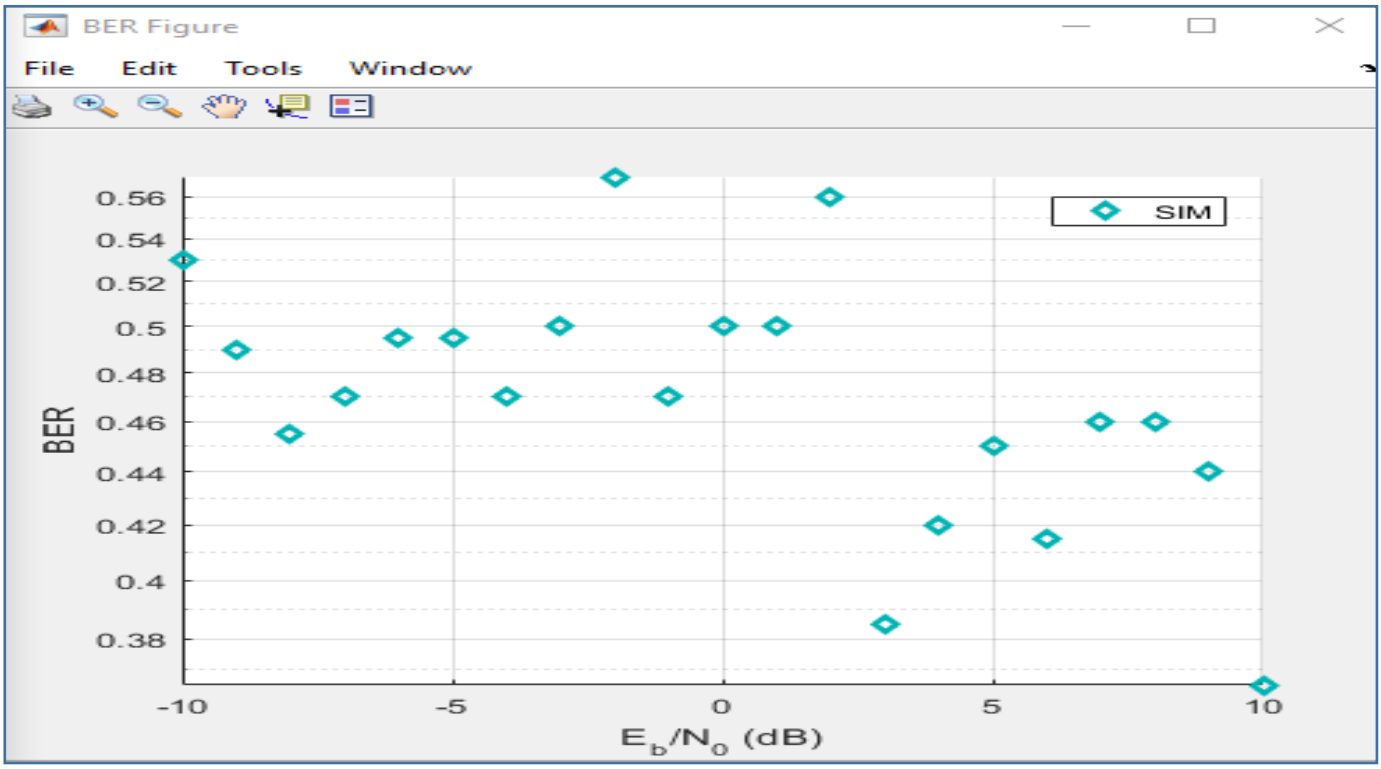


On Adding Raised-Cosine:

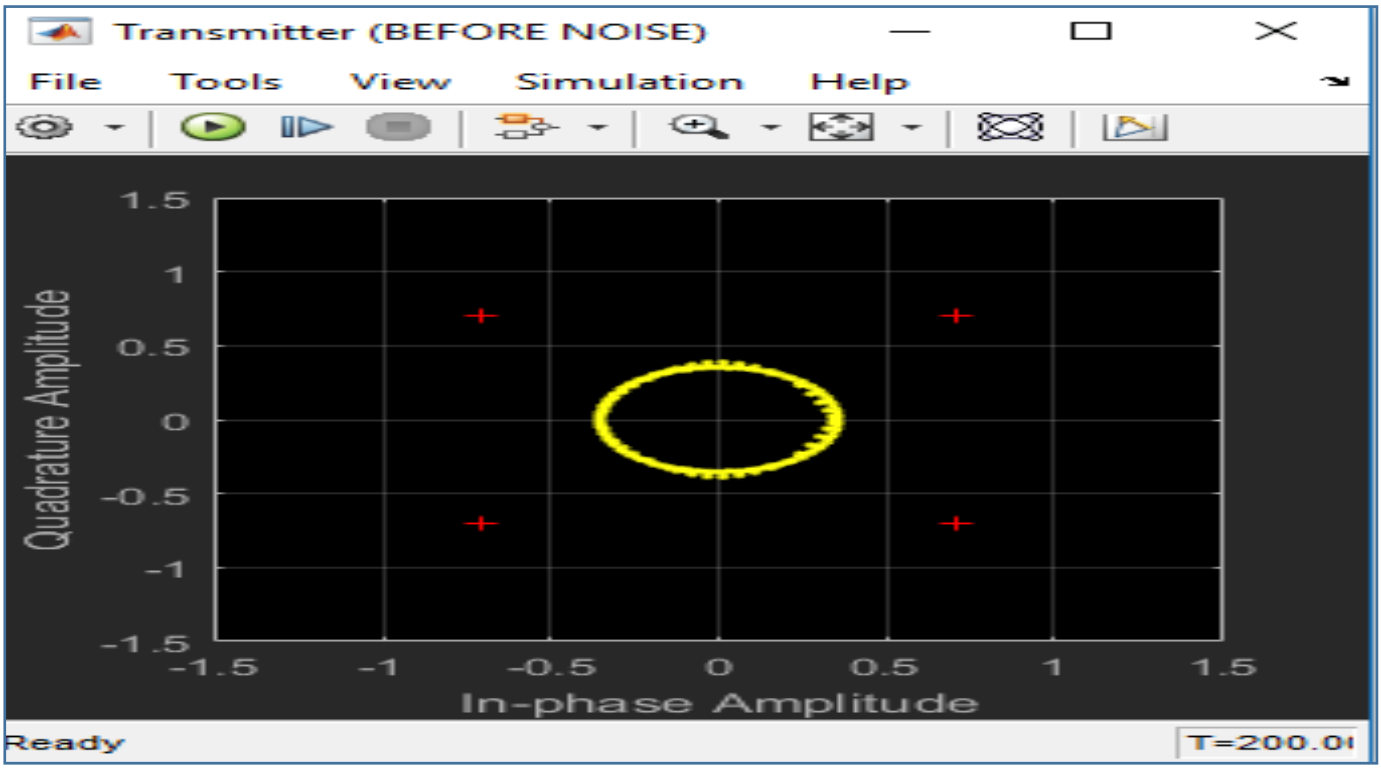
Design :



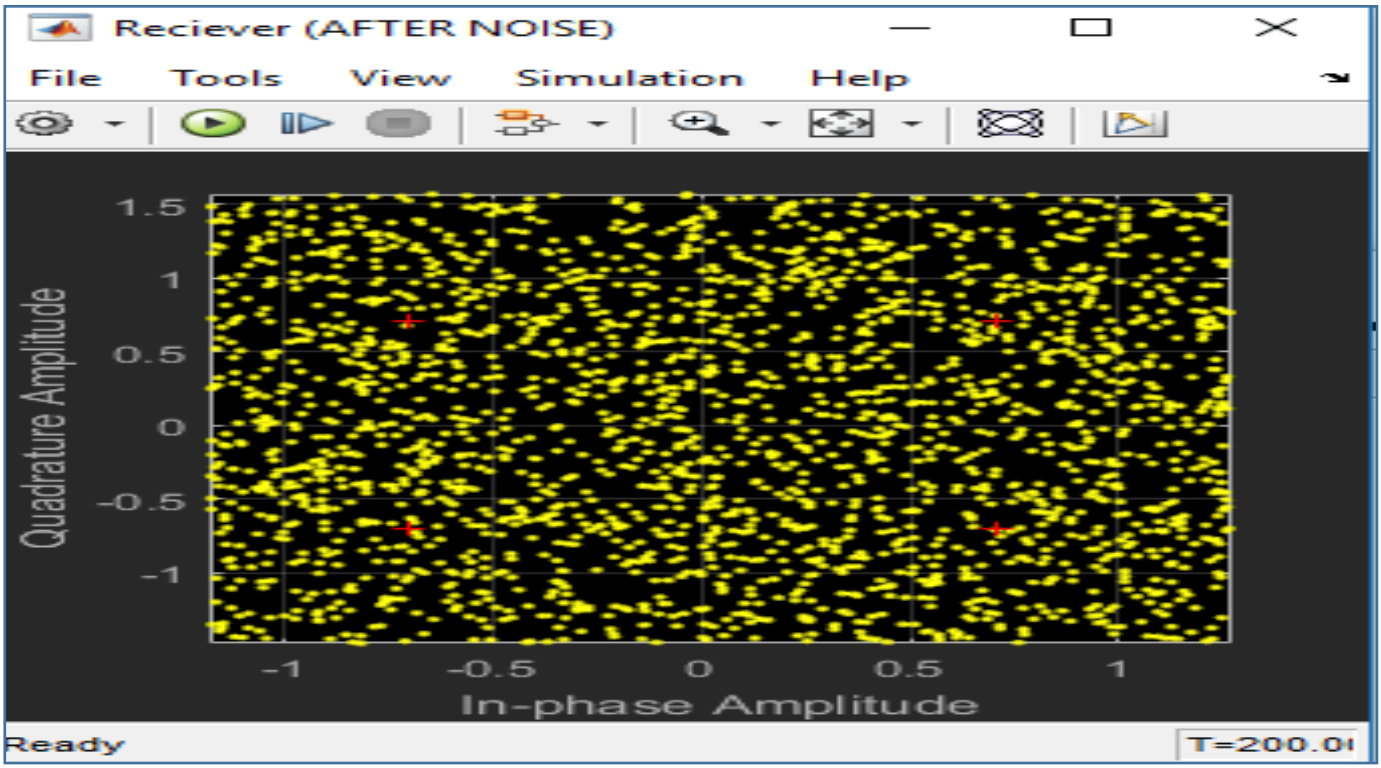
BER:



Transmitter :



Reciever :



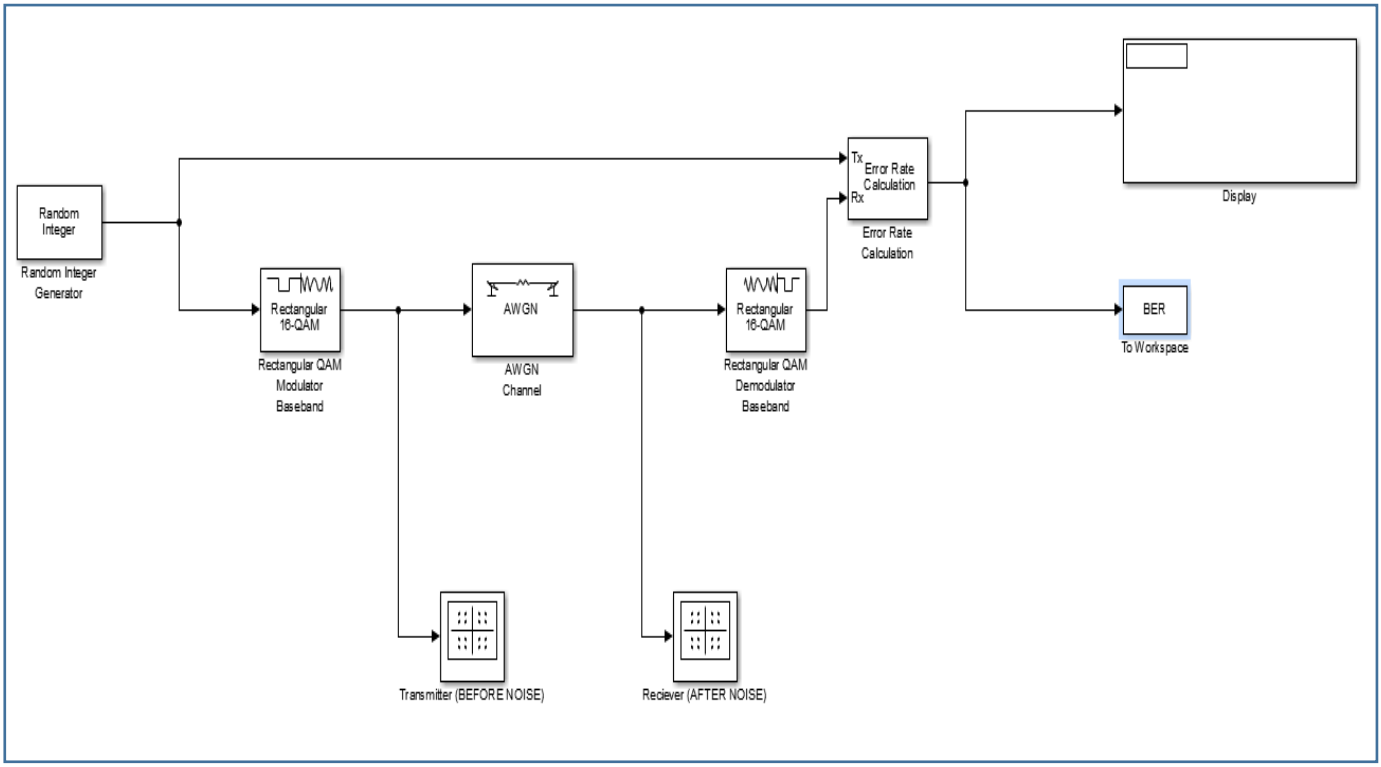
3-QAM_16:

Short for : Quadrature Amplitude Modulation 16.

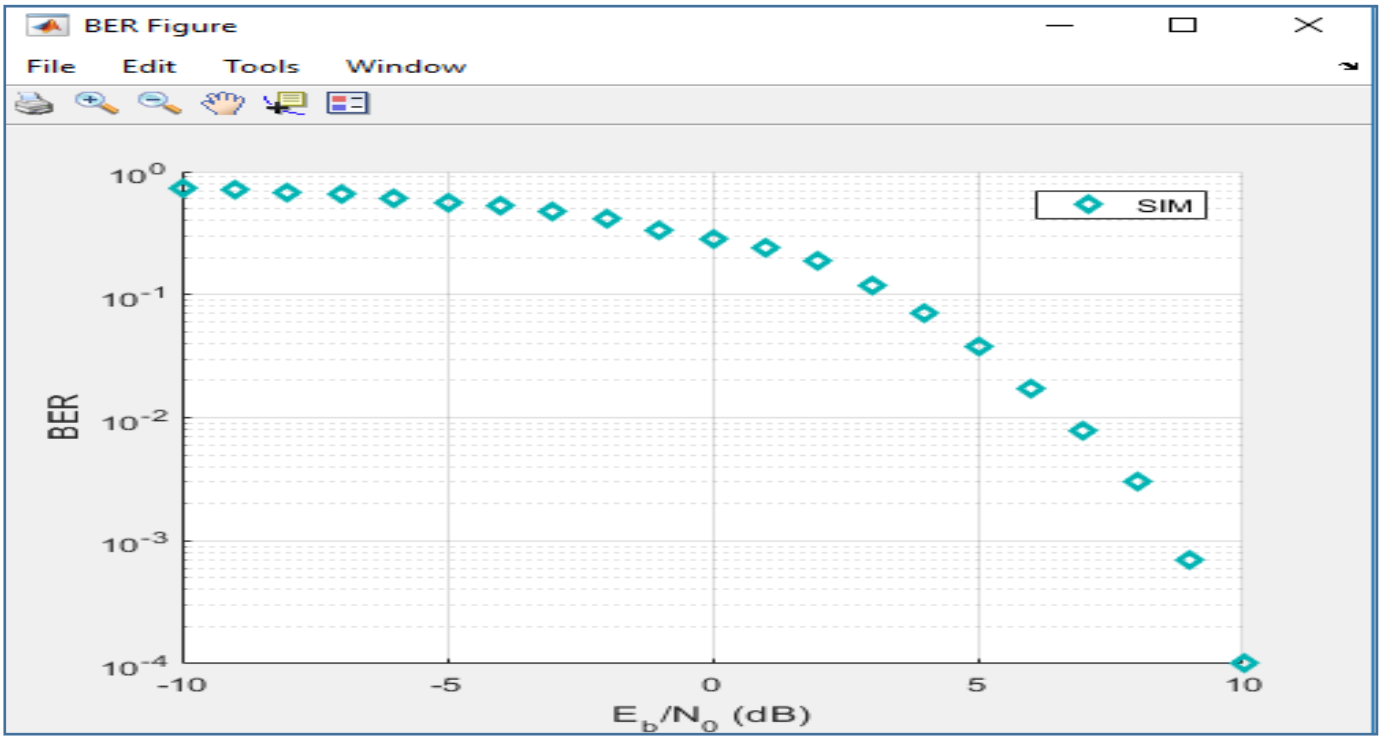
Definition :

It shifts both of the amplitude and phase of the output signal by a single channel. It uses the full bandwidth. The number "16" means –using four phases and four amplitudes-.

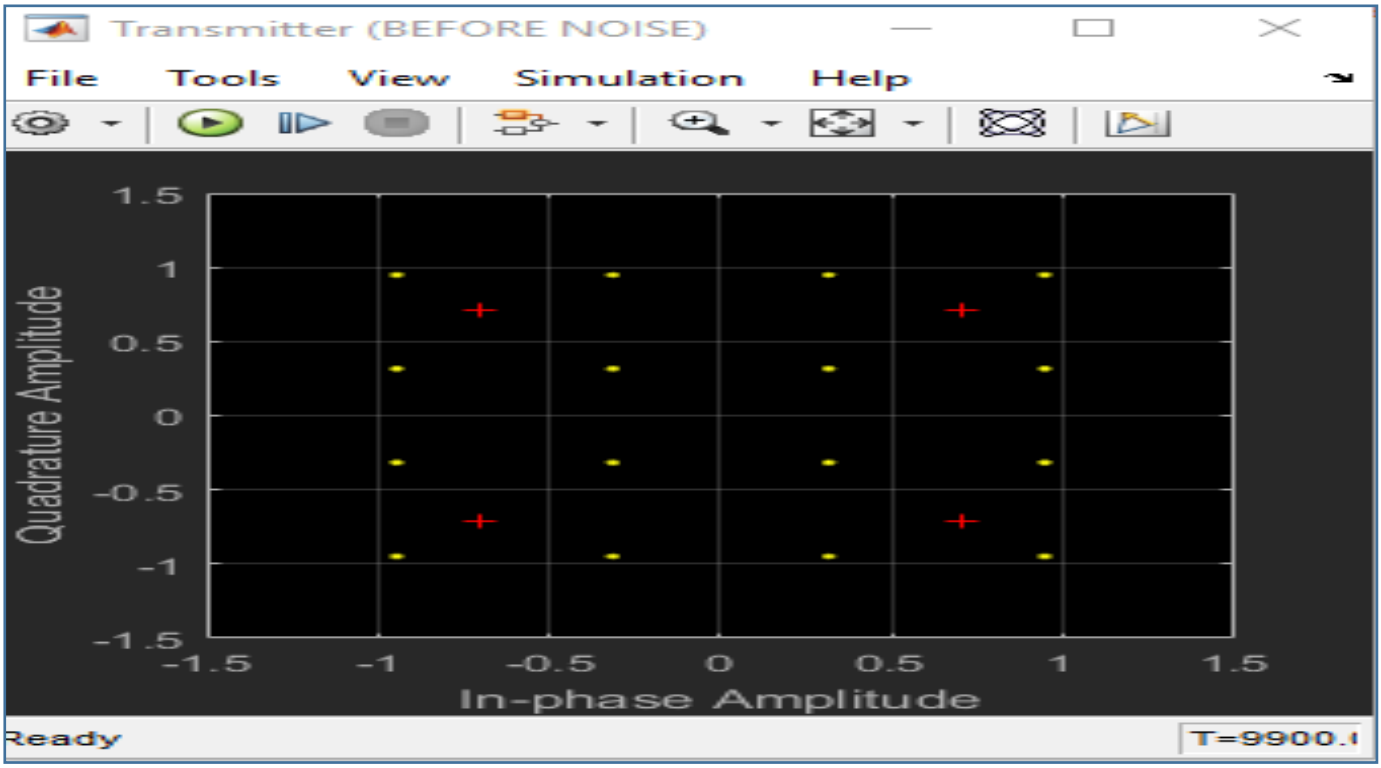
Design :



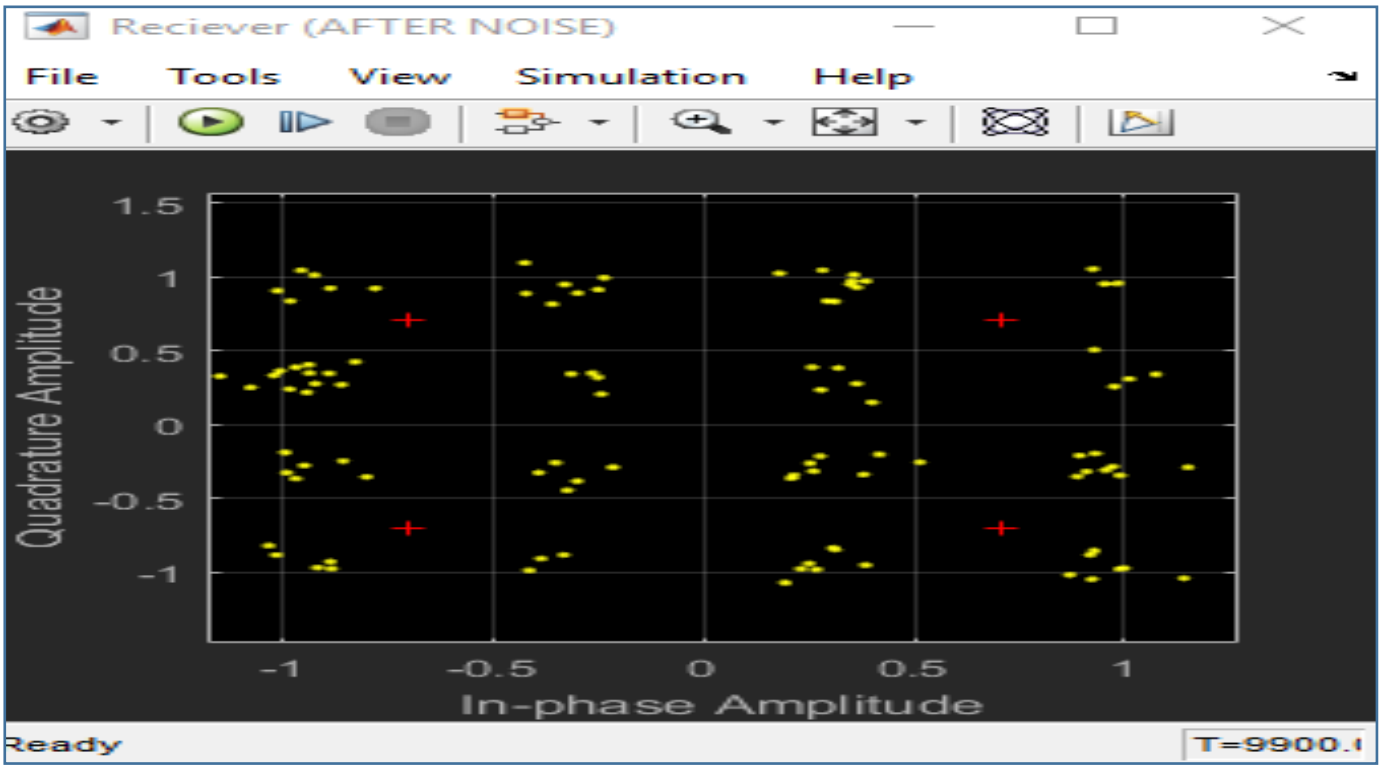
BER:



Transmitter :

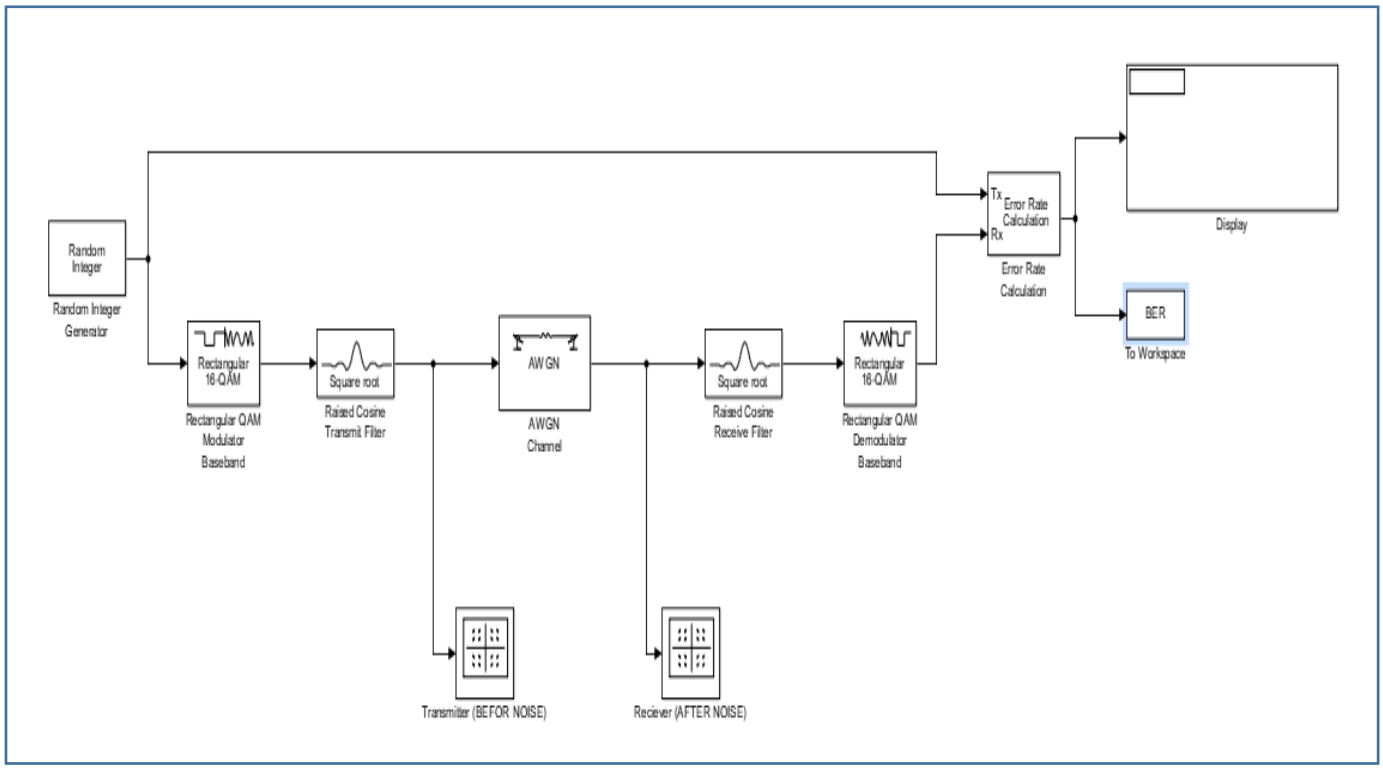


Reciever :

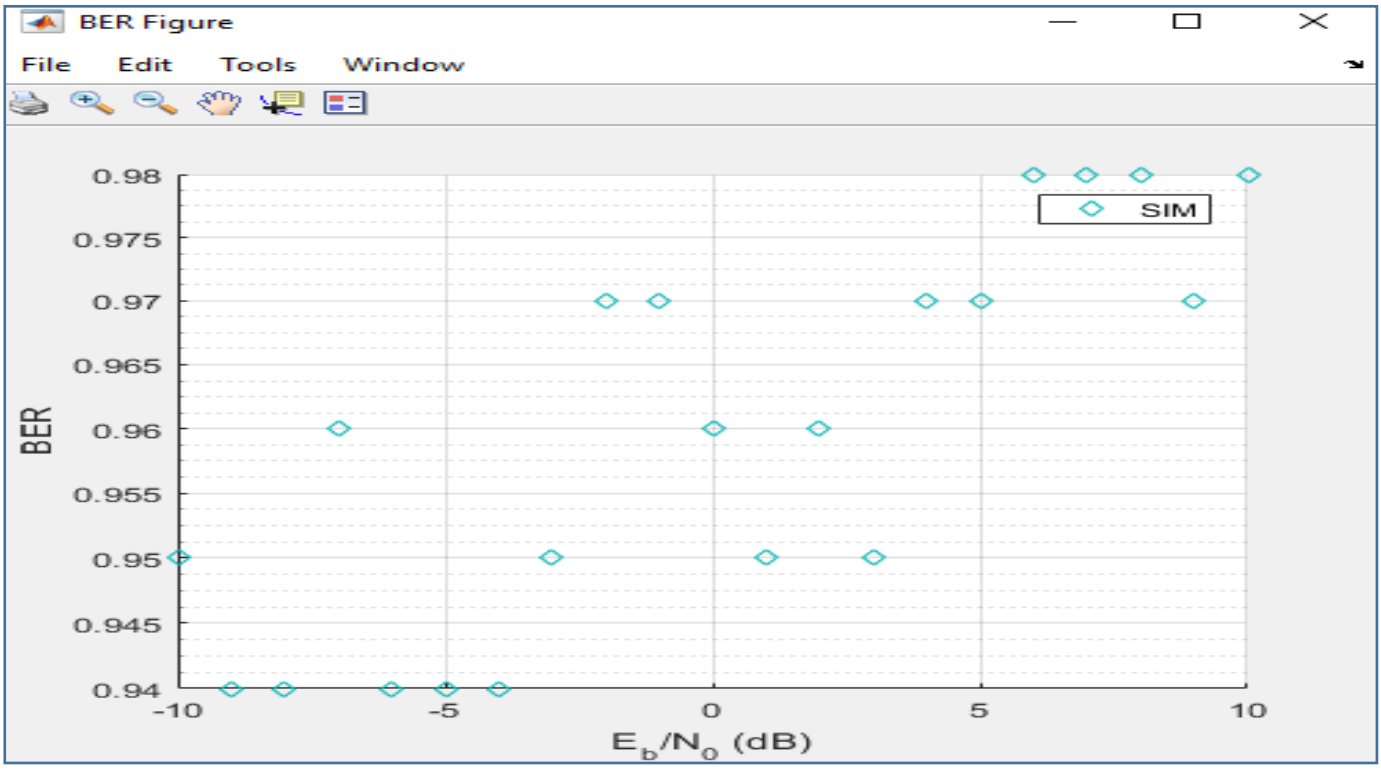


On Adding Raised-Cosine:

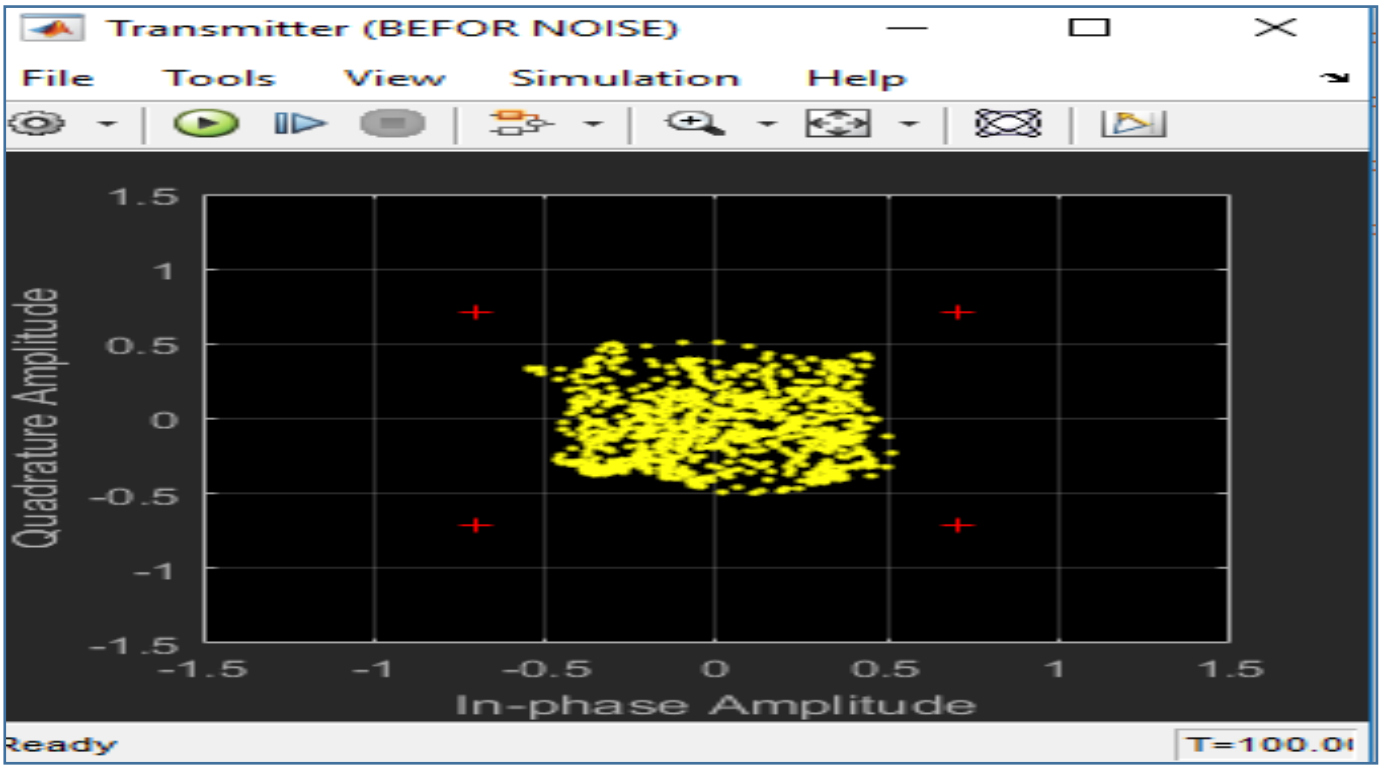
Design :



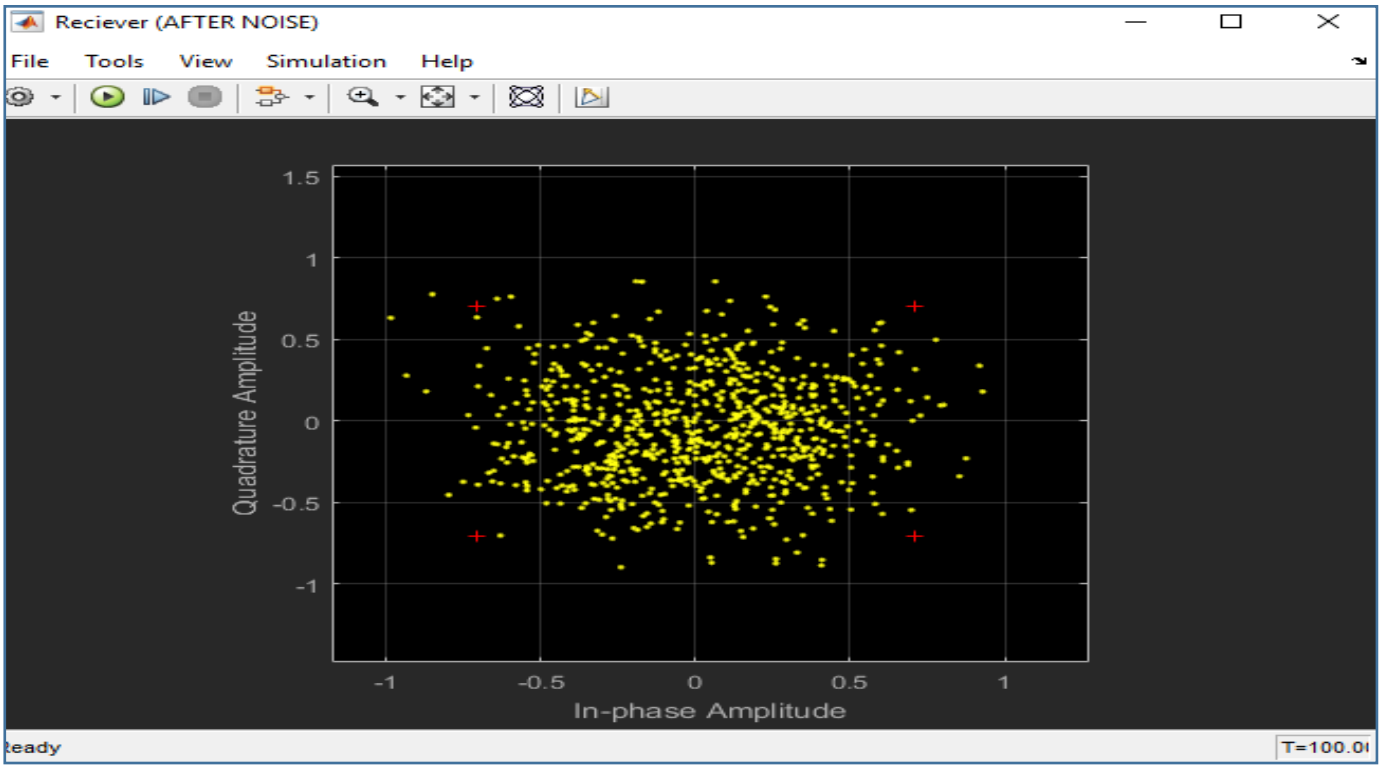
BER:



Transmitter :



Reciever :



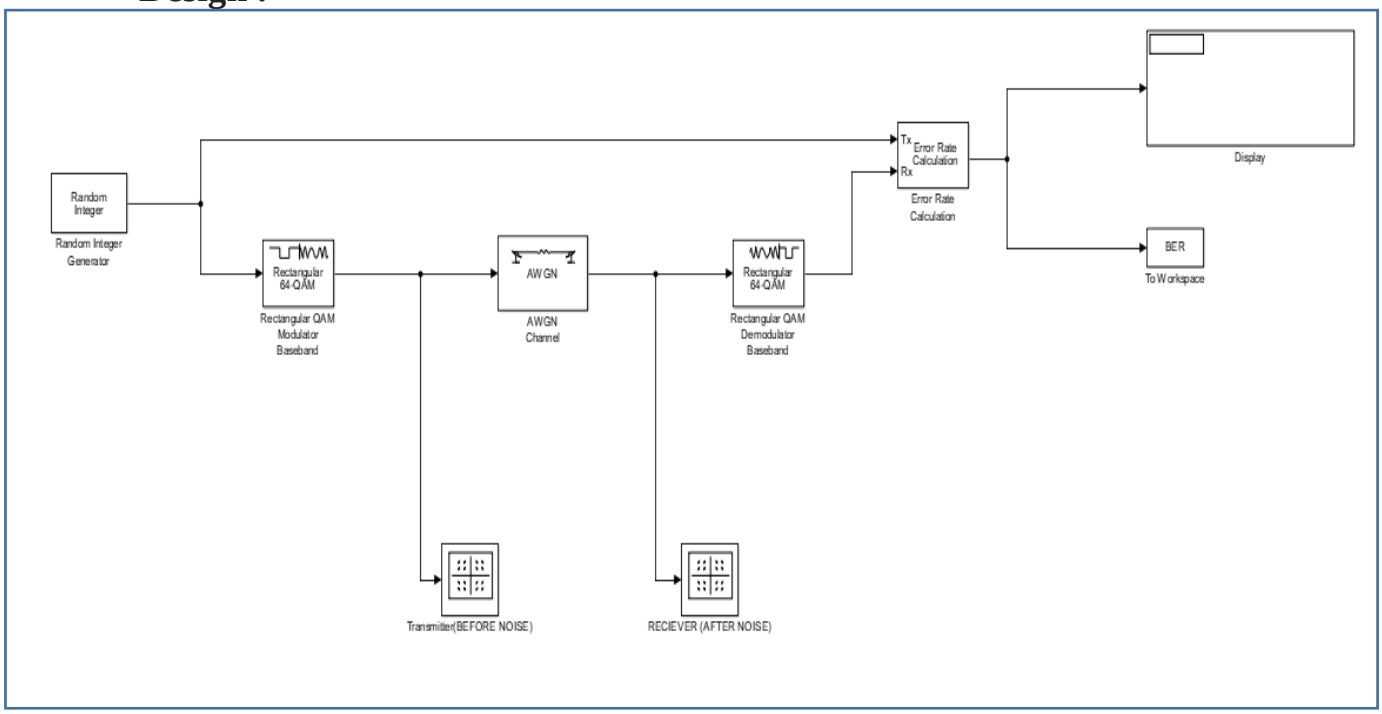
4-QAM_64:

Short for : Quadrature Amplitude Modulation 64.

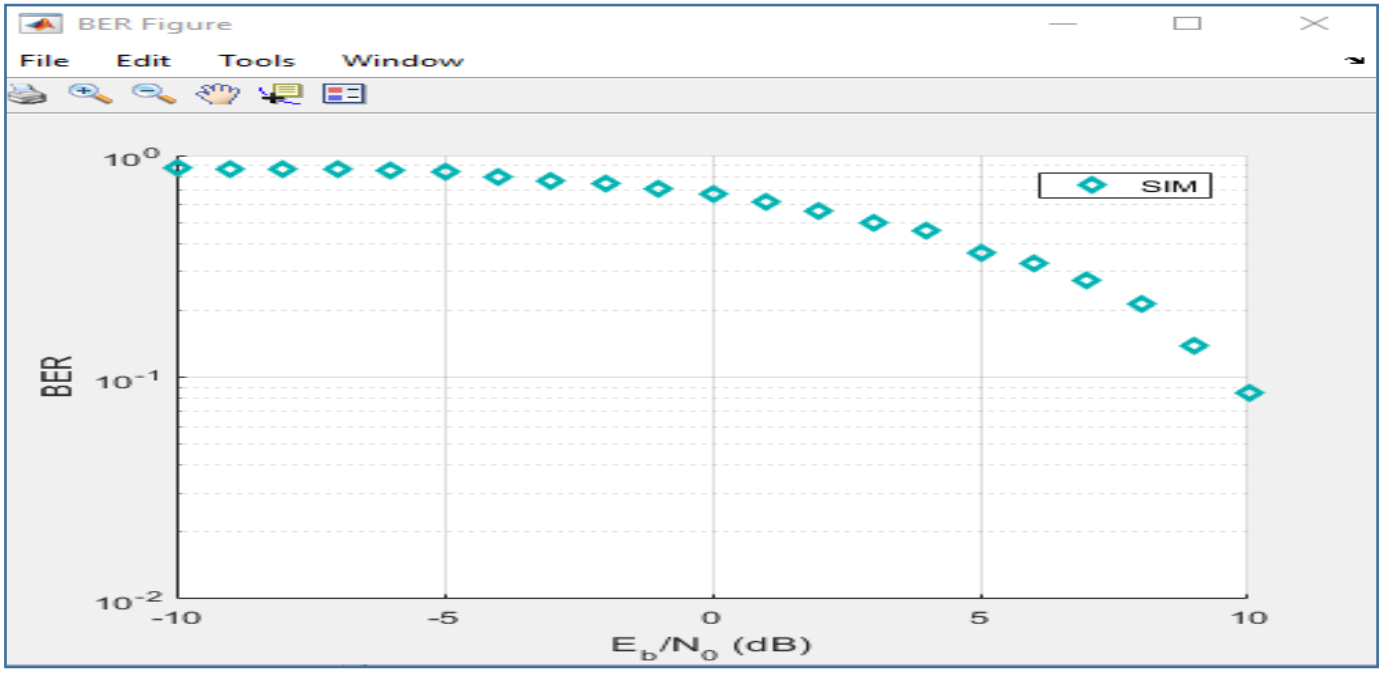
Definition :

It shifts both of the amplitude and phase of the output signal by a single channel. It uses the full bandwidth. The number "64" means –using eight phases and eight amplitudes-.

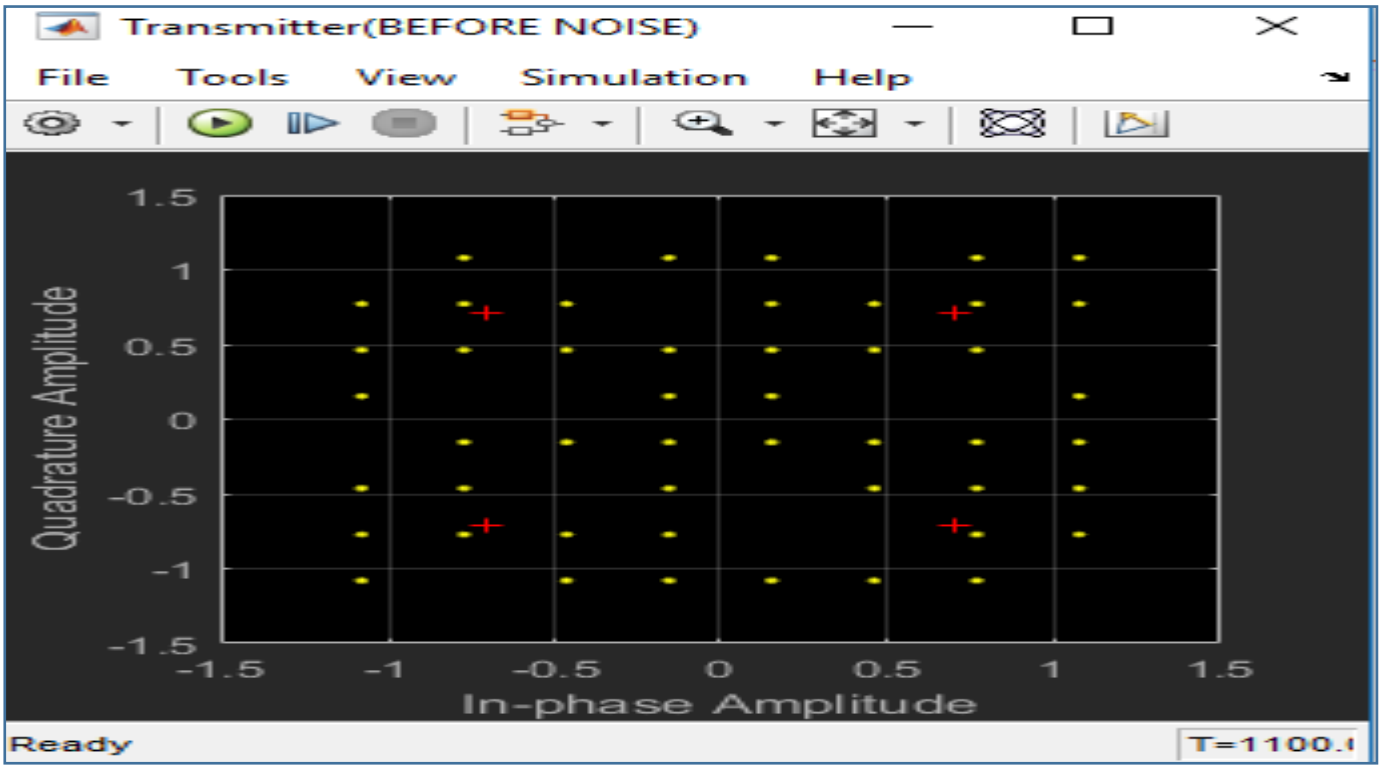
Design :



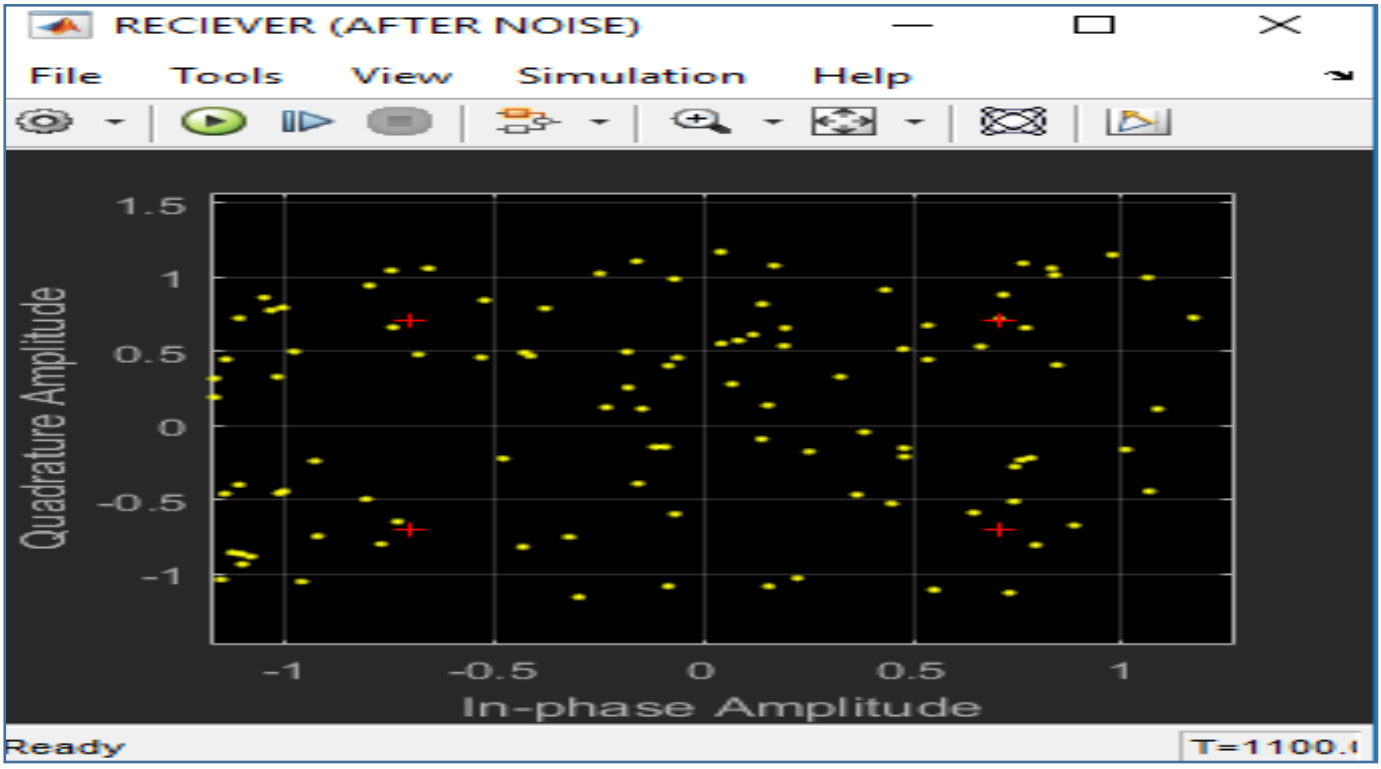
BER:



Transmitter :

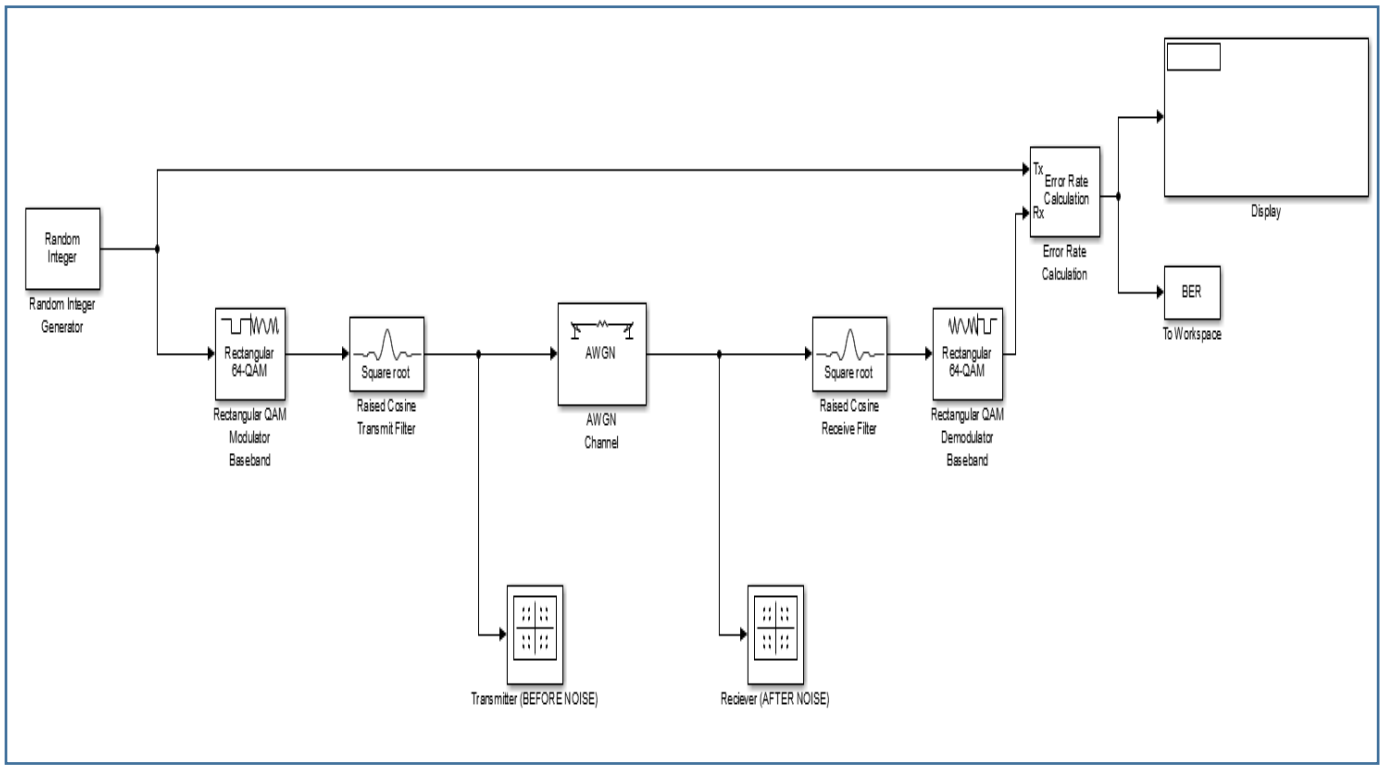


Reciever :

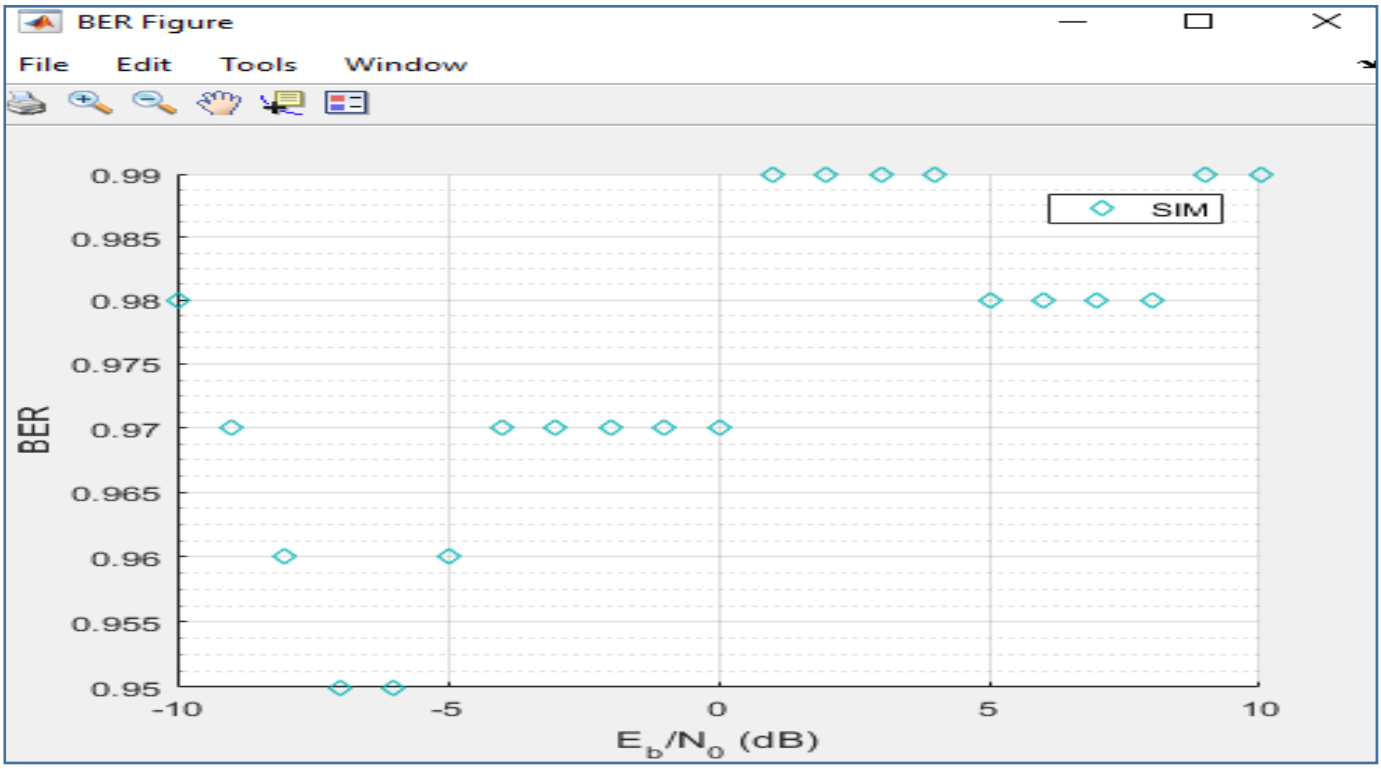


On Adding Raised-Cosine:

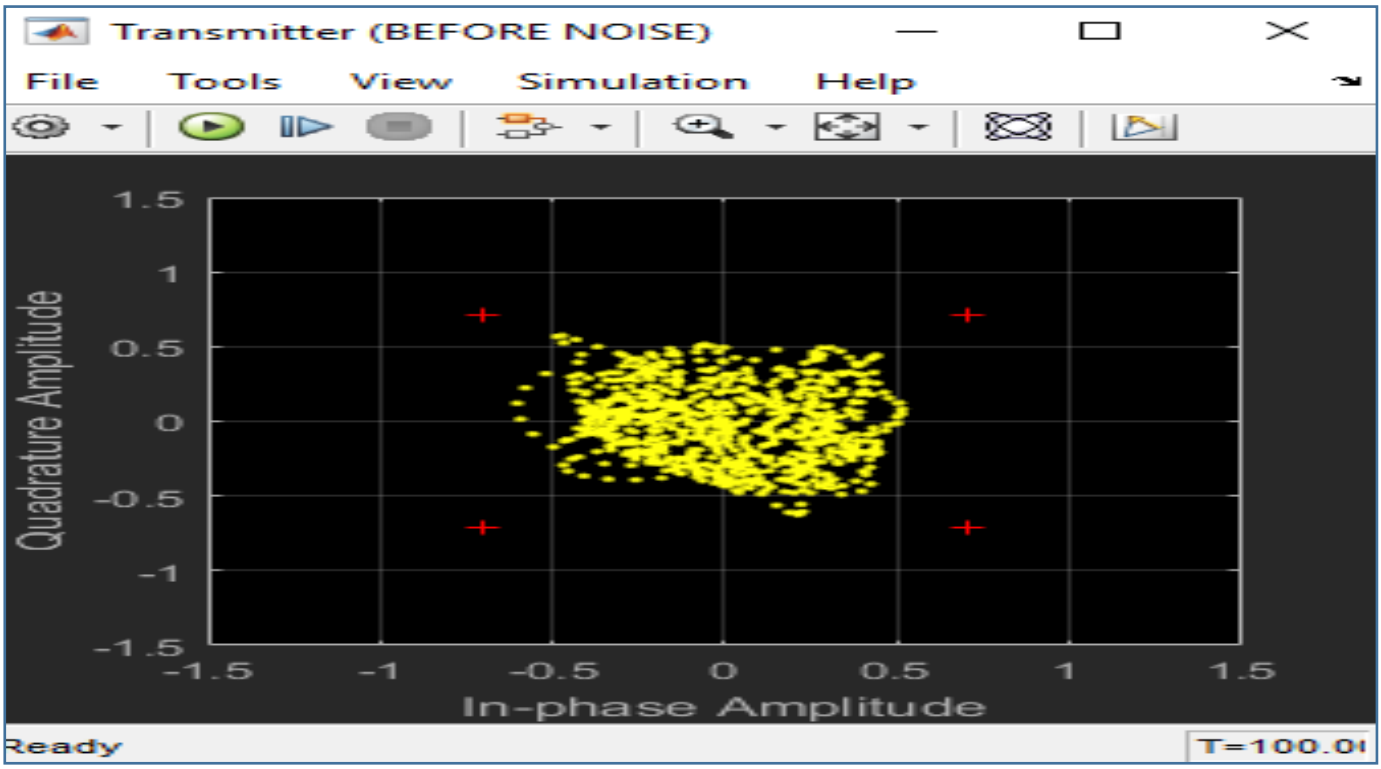
Design :



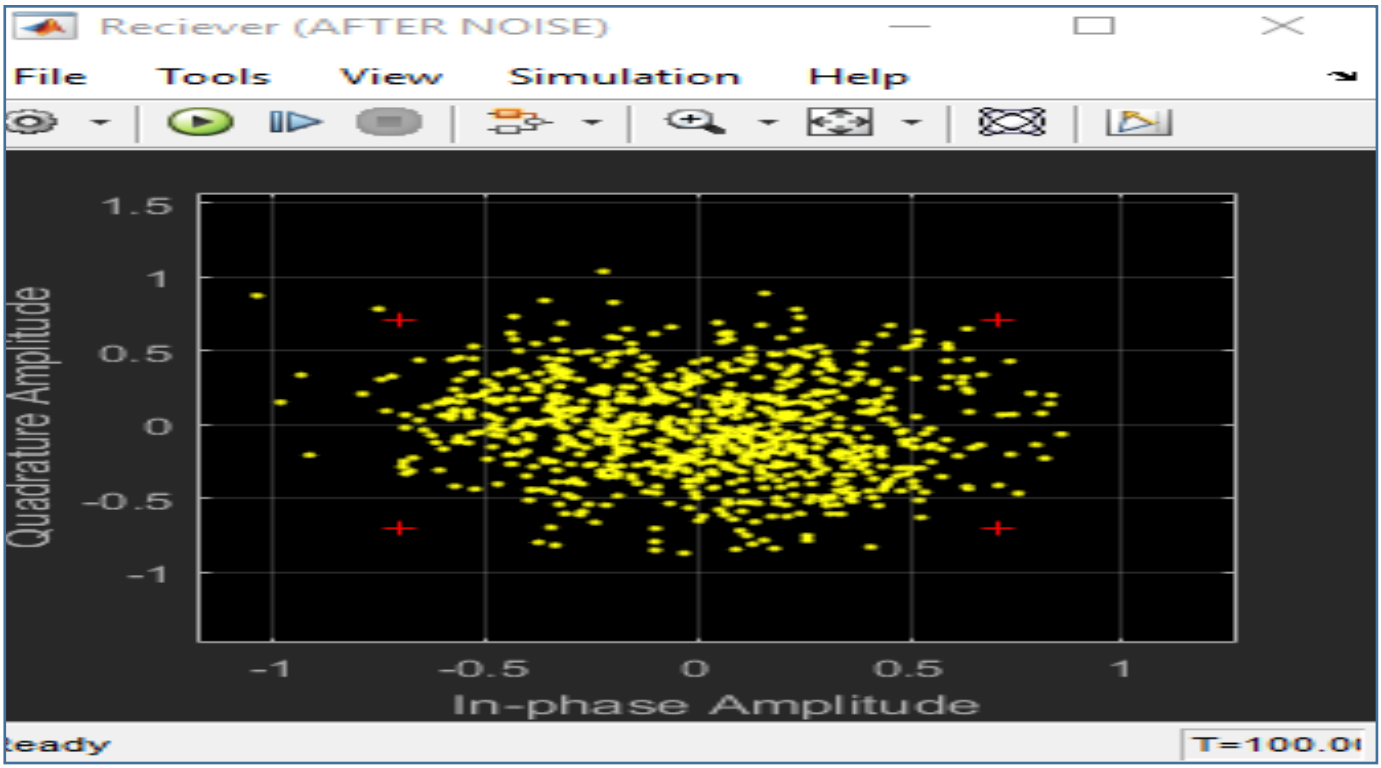
BER:



Transmitter :



Reciever :



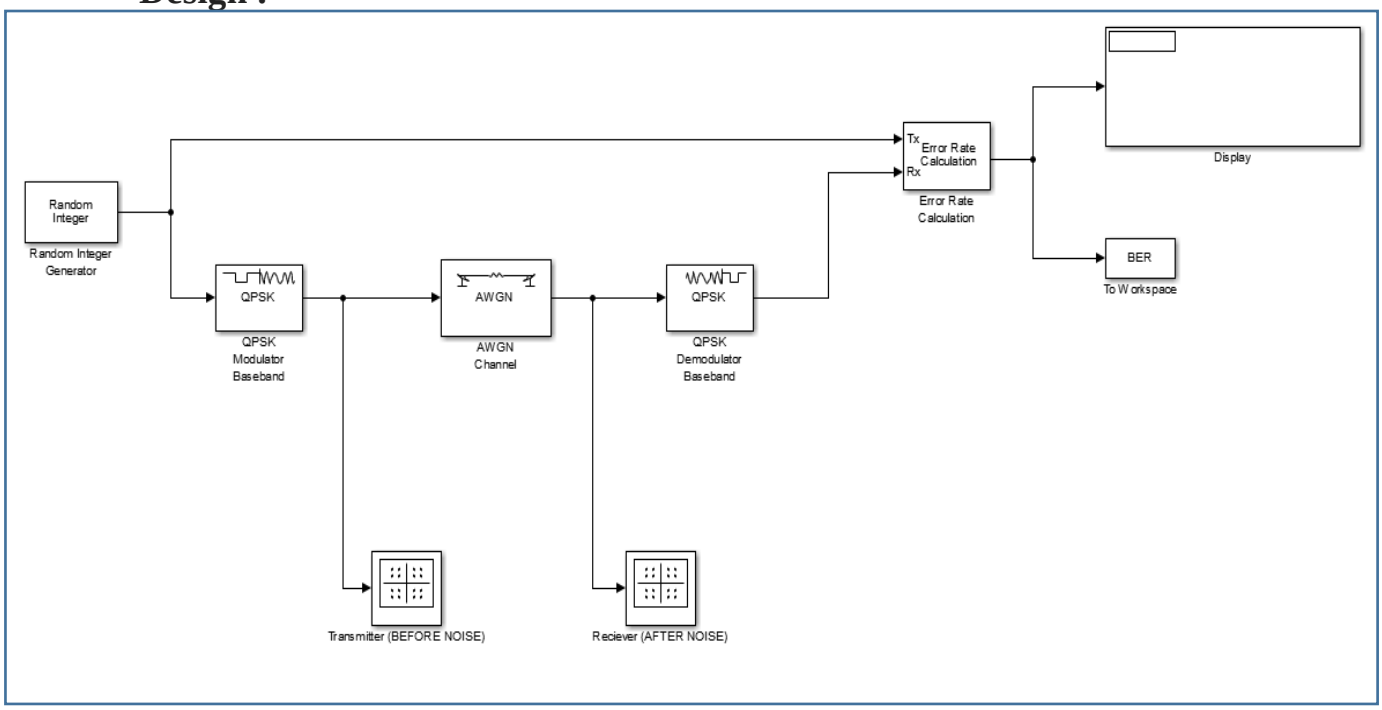
5-QPSK:

Short for : Quadrature Phase Shift Keying Modulation.

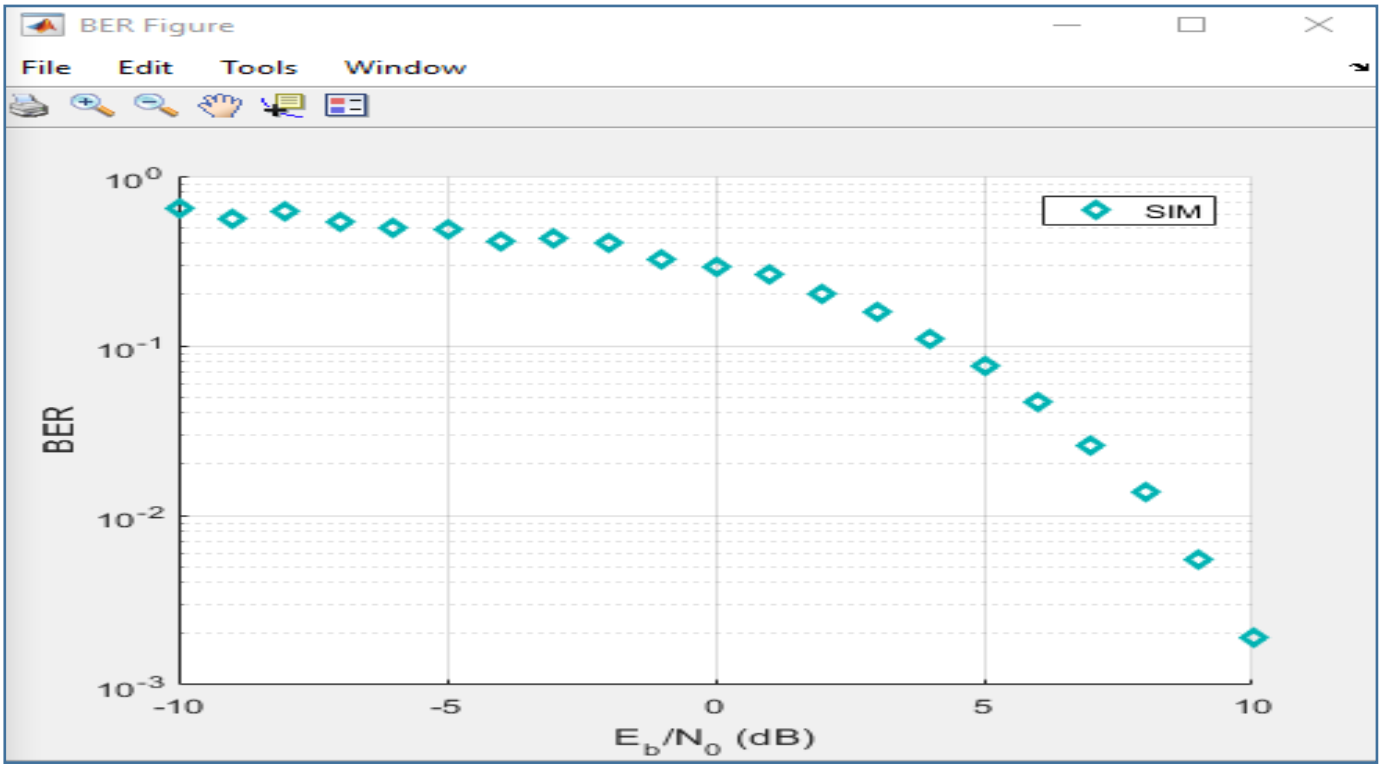
Definition :

It provides a real time experiment and lager number of users within the channel. It is a type of phase shift keying. It is a DSBCS-Double Side band Supressed carrier- modulation scheme. It sends two bits of digital information a time .

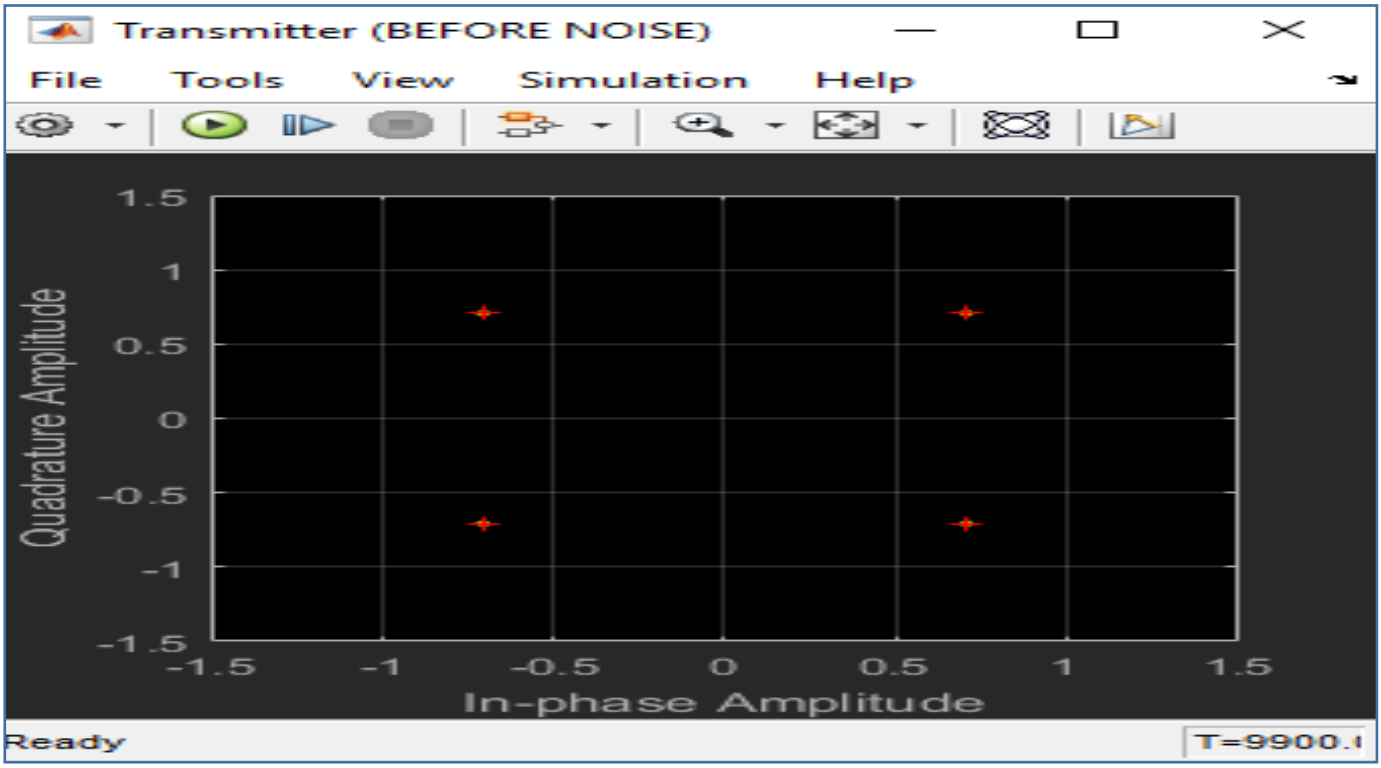
Design :



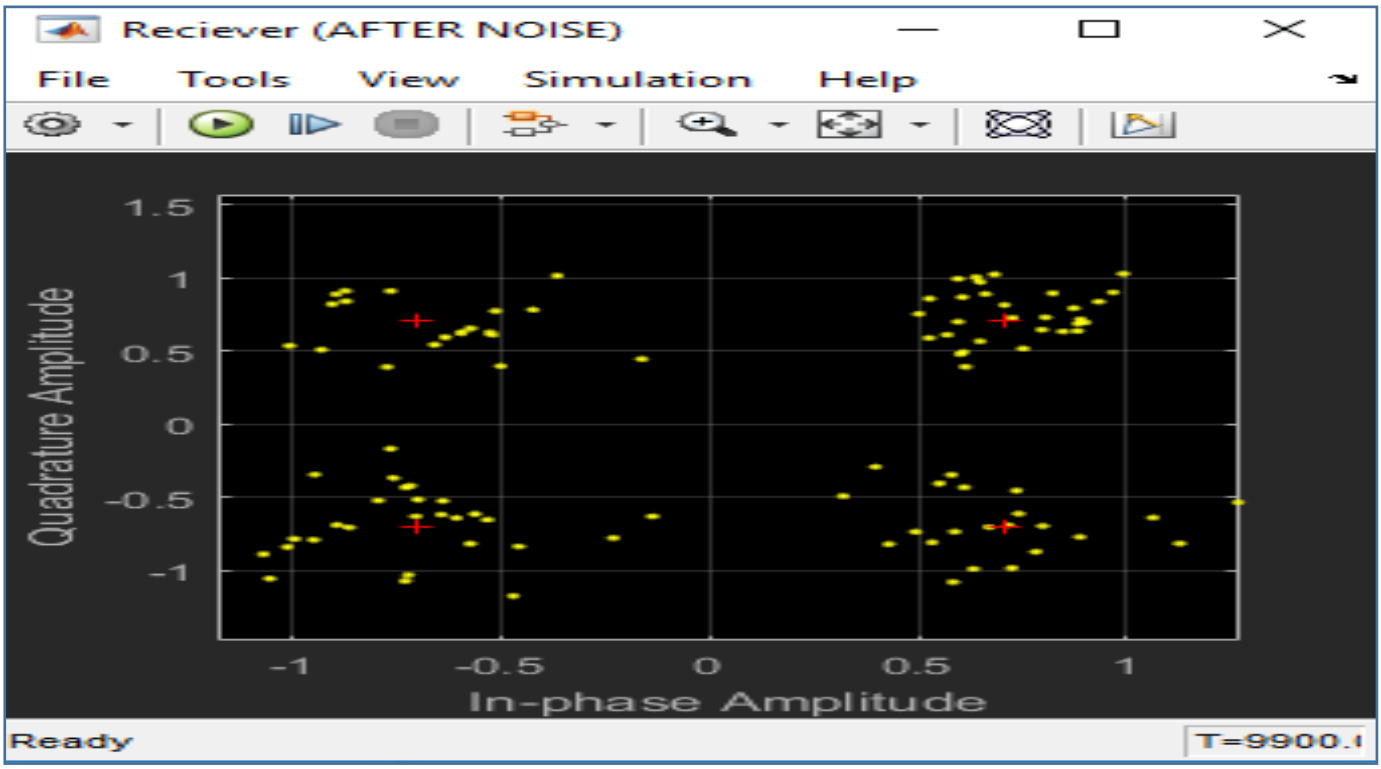
BER:



Transmitter :

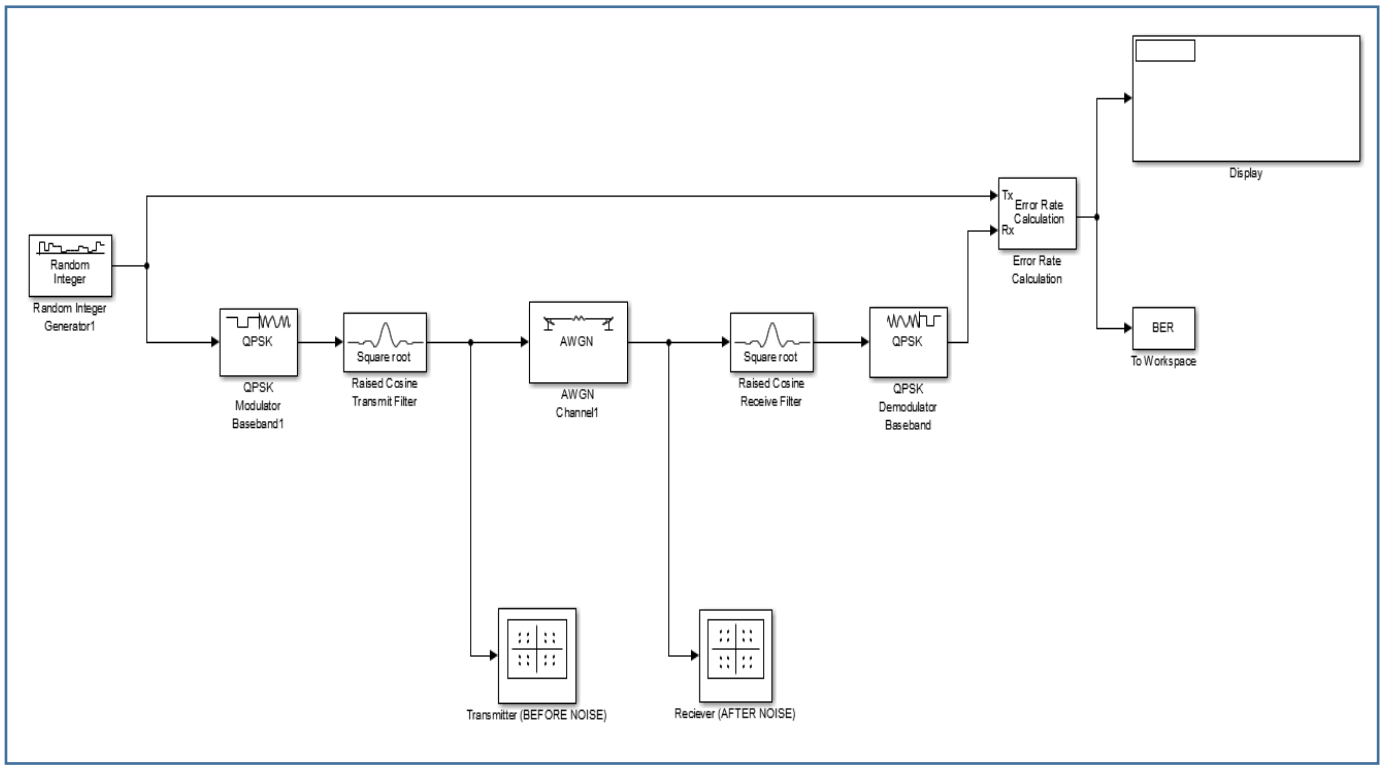


Reciever :

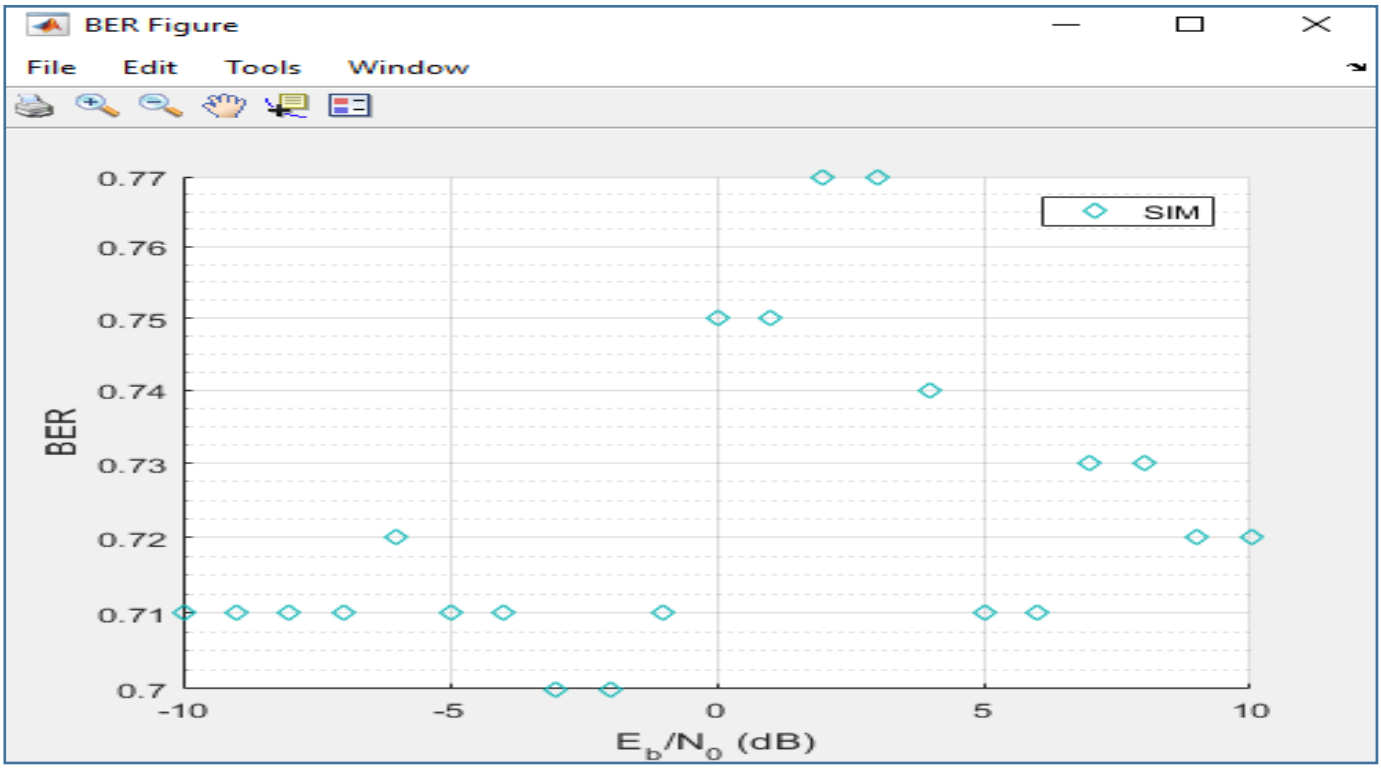


On Adding Raised-Cosine:

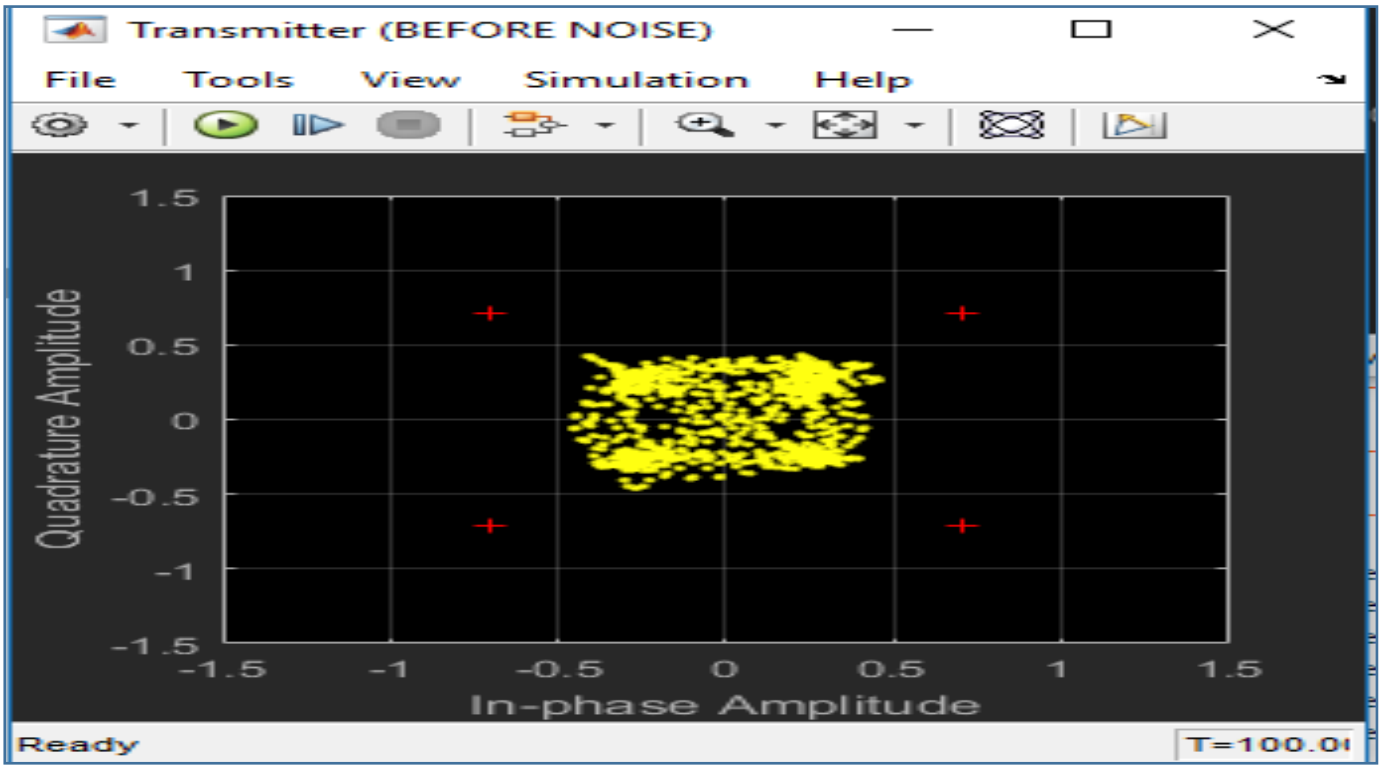
Design :



BER:



Transmitter :



Reciever :