Difference between Single Carrier and OFDM

The single carrier transmission means one Radio Frequency carrier is used to carry the information. Hence information in the form of bits is carried by one RF carrier. OFDM, also called multicarrier transmission or modulation, uses multiple carrier signals at different frequencies, sending some of the bits on each channel. This is similar to FDM, however in the case of OFDM; all of the sub channels are dedicated to a single data source. For OFDM case IFFT is used at the transmitter to accomplish this, which does not exist in SC case.

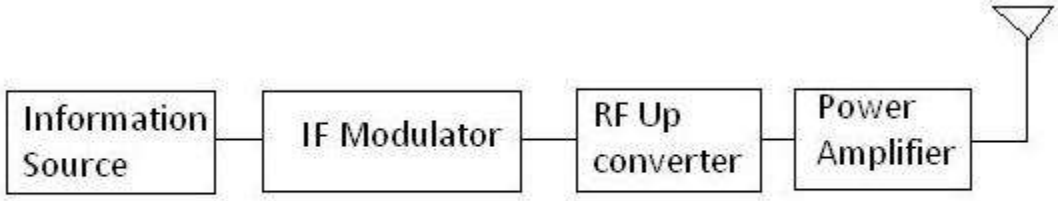

Fig.1 Single carrier system

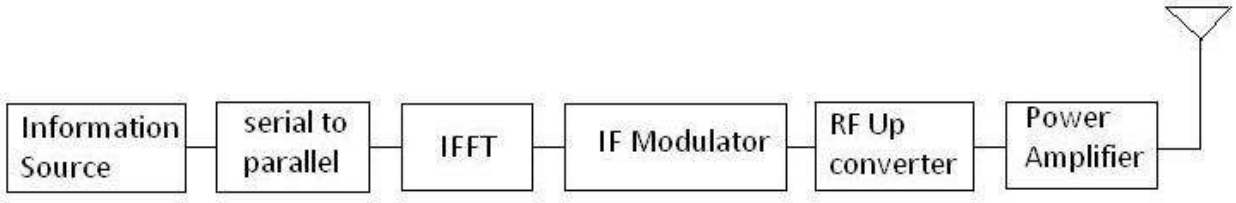

Fig. 2 OFDM based system