International Journal of Computer Networking,
Wireless and Mobile Communications (IJCNWMC)
ISSN(P): 2250-1568; ISSN(E): 2278-9448
Vol. 4, Issue 2, Apr 2014, 31-36

A FULL DUPLEX INDOOR WIRELESS COMMUNICATION SYSTEM

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ABSTRACT

This paper about the full duplex indoor wireless communication system using MATLAB tool .In this experiment it consists of duplex system which is a two connected device that communicate with one another in both directions simultaneously. It was on optical domain which uses a single mode fiber (SMF) for transmission and reception. It is simplified using MATLAB software and instead of using (SMF) transmission is carried through AWGN channel which work similar to the (SMF). It consist of transmitter and receiver, where typically a frequency of (10^9) which is modulated using digital modulation technique is transmitted through AWGN channel and received at the receiver, where demodulating the signal to obtain it into original form of signal. A feedback is then sending from receiver to transmitter which is monitored by Data centre. It is a centre which keeps tracking the information send and receives between transmitter and receiver.BER of both transmitter and receiver is checked to analyze the output obtained at receiver is same as that of transmitter. If the obtained output is found mismatched then transmitter resend the data bits to receiver for correction, At receiver side viterbi decoding algorithm is used to correct the error and resend it back to transmitter as a matched output.

KEYWORDS: Full Duplex Communication, System Structure, Software Tool, Bit Error Rate