

## ABSTRACT

TDMA ( Time Division Multiple Access) representing method multiple access where a lot of user can communicate at same frequency, but in different is time slot. FDD (Frequency Division Duplex) representing method where uplink frequency have different number with downlink frequency. At TDMA - FDD system, each user (slave station) given different time on the signal transmission (in this case arranged by master station) but same frequency. While frequency up-link to master station differ from the downlink direction, but send and received time can be the same.

In this final task, a peripheral ( hardware and software) will be designed and made to arrange the time process of communications system using TDMA-FDD ( Time Division Multiple Access-Frequency Division Duplexing ). Usually this system is consisted of a master station and some slave station, but in this final task only a minimum system consisted of 1 master station and 2 slave station will be realized. Master station arrange time scheduling of information delivery conducted by slave station, that mean during same time there is only one slave station delivering information signal. Frequency used by master station is 240 kHz, different from each slave station that use same frequency at 80 kHz for transmit and use different time for information delivery, so that can avoid the collision between slave station when delivering packet.

This final task have succeeded designed and realized the modulator FSK used for the downlink communications at 240 kHz and uplink at 80 kHz. Also succeed realized a mixer as modulator ASK-OOK ( Amplitude of Shift Keying- On Off Keying) like the on-off saklar, which is on when transmit and otherwise will be off when not transmit. Microcontroller system which is in scheme will be used for transmit scheduler, sent data regulator and accepted data processor, cannot work as expected. This matter is caused by some failure in microcontroller programming.