Status report
Group 13

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1 Achieved results

After finishing the proposal, the group agreed on the following:

- Read, understand and discuss the project details.
- Made sure that each individual understand the presented computer exercises and the basic theory behind it.
- Agreed on the design parameters based on the theoretical aspects as follows:

  Base-band bandwidth with 120 Hz.

  Root Raised Cosine with roll of factor 0.35 as pulse shape.

  Carrier frequencies 2k Hz and 6 k Hz for full duplex transmission.

  Symbol detecting using matched filter at the receiver.

  Modulation using QPSK with gray code (2 bits per symbol).

  Symbol rate at 160 symbols per second.

  Sampling frequency at 24k Hz. A basic transmitter was built based on what we have studied with the chosen design parameters. A basic receiver was also built without any synchronization just to make sure that we have the basic full duplex design working.
- Tasks for the next week were divided between the group members as:

  Frame synchronisation : Sara and Eltjon.

  Phase synchronisation : Haitham and Waleed.
- The team shares the code through git and tortoise git for good programming management.

2 Expected results

For the next week, the group will start testing the transmitter and receiver function to make sure that each part is working as intended both on software and hardware. For the synchronisation, the group decided to use Barker code and it will be tested in the lab until the end of next week, 1th October.

3 Identified problems

The current problem which the group has been faced with is that the frame and the phase synchronization parts should be built to evade hardware problems, which may lead us to use different Roll off factor for the pulse shape.