FCOMM PROJECT

GROUP-16

Group members

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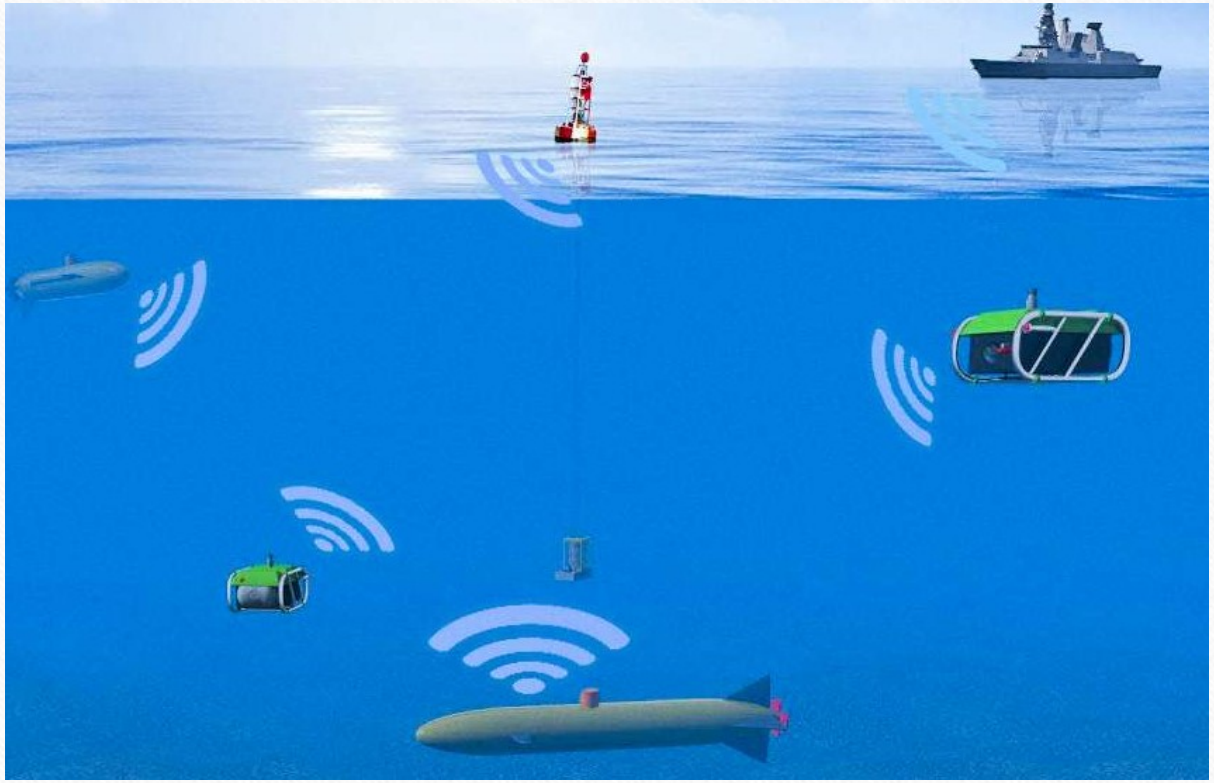
UNDERWATER COMMUNICATION

Using RF module



THEORY:

ASK (AMPLITUDE SHIFT KEY)

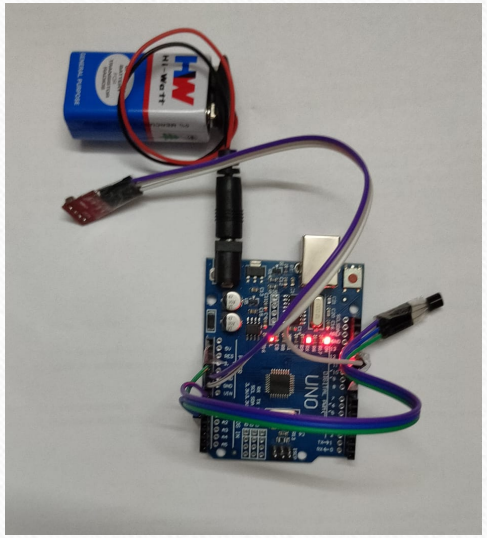
Wireless transmission can be done by using 433Mhz or 315MHz ASK RF Transmitter and Receiver modules. In these modules digital data is represented by different amplitudes of the carrier wave, hence this modulation is known as Amplitude Shift Keying (ASK).

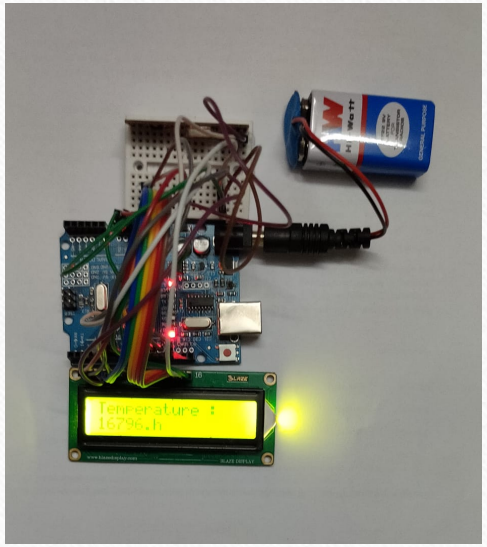
- **Underwater wireless communications play an important role in marine activities such as environmental monitoring, underwater exploration, and scientific data collection.**

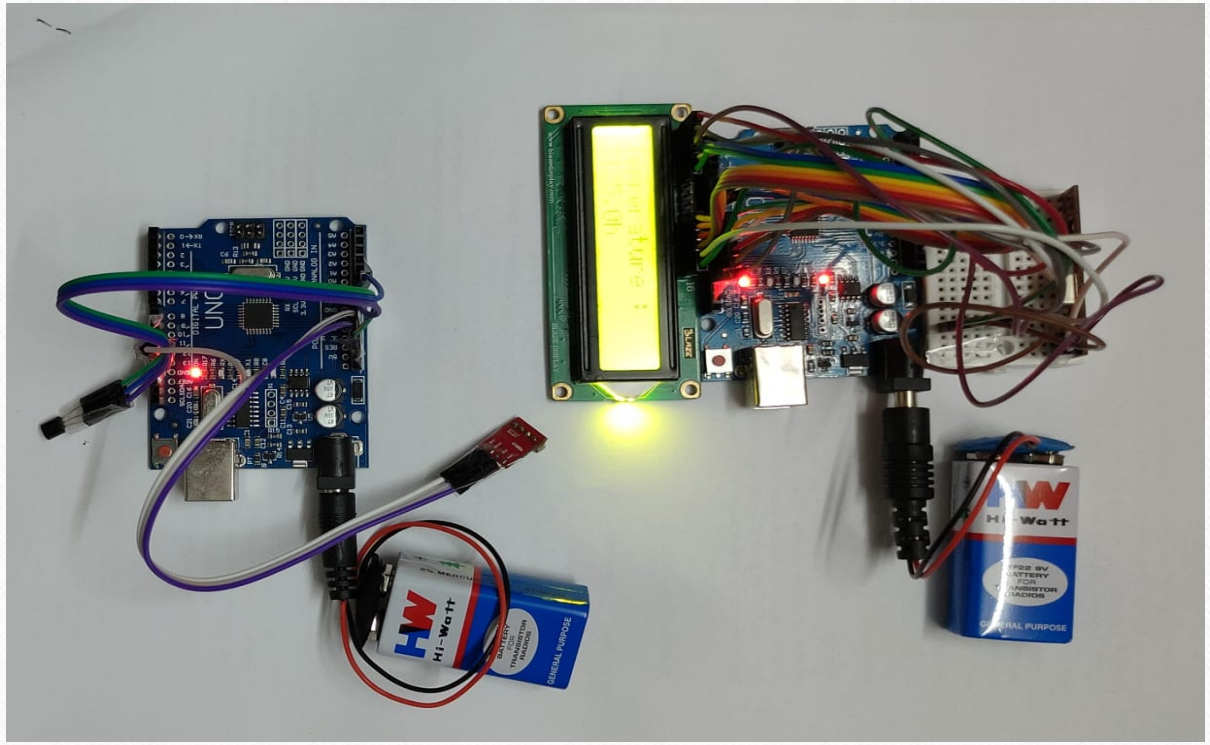
- **is possible for radio frequency waves to propagate longer distances through sea water at very low frequencies (30 to 300 Hz). But this requires larger antenna and higher transmit power.**

- **It This is not feasible. Moreover very high attenuation occurs using Rf wave propagation technique in the ocean.**

TRANSMITTER AND RECIEVER





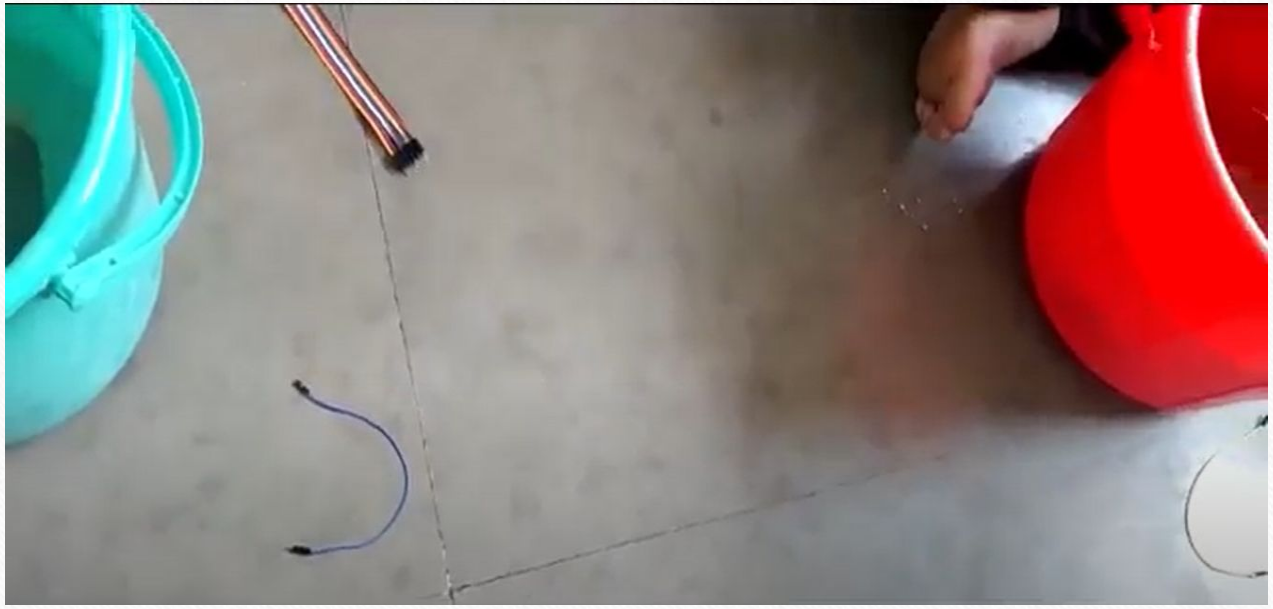


1) Transmitter in water and receiver in air medium:

** **Then the distance between transmitter and receiver 2.6 meters**

2)Both transmitter and receiver in different buckets:

* **Then the distance between transmitter and receiver 0.9 meters**



3) Both transmitter and receiver in same Bucket:

* **Then the distance between transmitter and receiver 0.4 meters**

CHALLENGES FACED DURING THE PROJECT

- 315Mhz rf transmitter and receiver (antenna)
- Water proofing the components
- Water medium to real time results
- Different libraries used for transmission (RH_ASK.h, RCSwitch.h)

THANK YOU