

Timing and embedded systems

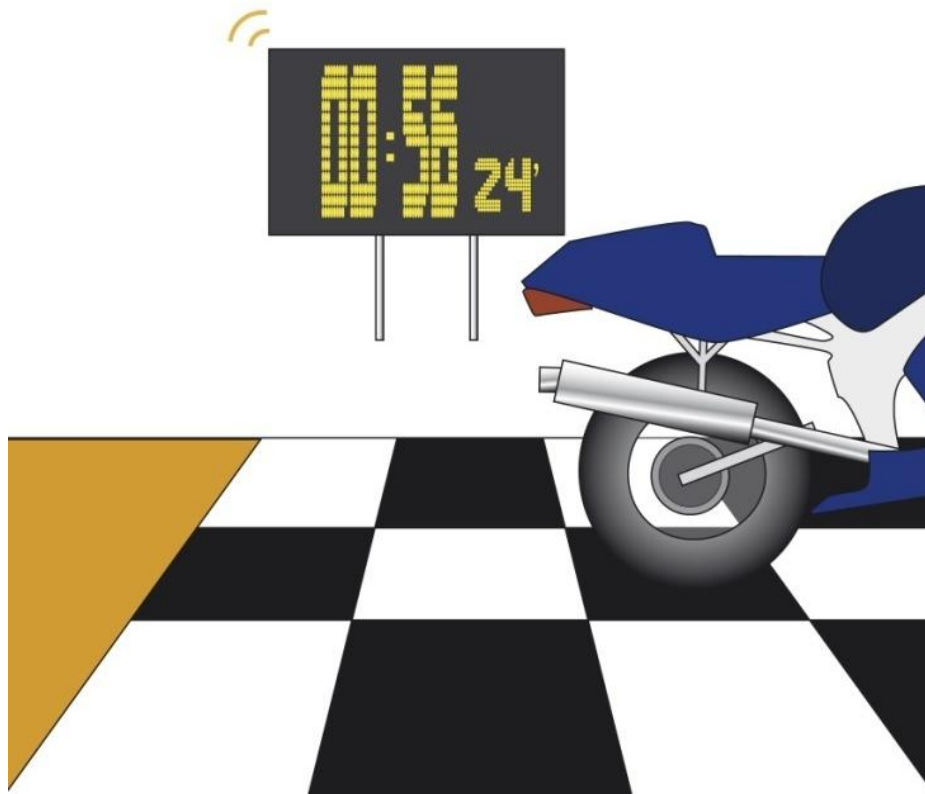


Objective:

- Wireless transmission of lap times
- Wireless data transmission from a moving vehicle (telemetry, GPS)

Products:

- ARM-SE



Application:

The ARM-SE radio modem is designed for competition motorbikes, in order to keep a precise and stable frequency in spite of the temperature difference between the transmitter and the receiver (in certain cases, more than 60°C of variation, because of the embedded modem temperature can reach 70°C).

The ARM-SE integrates a TCXO (Temperature Compensated Crystal Oscillator), which allowed a very precise frequency. At very high speed (more than 160m/h), the Doppler effect is very important and make a very high frequency gap. So it is very important to have a very precise reference frequency to avoid the loss of the RF connection.

Configuration:

With a high precision GPS differential receptor with position reference on the ground, the motorbike position is send in real time during the race on a screen placed in the paddocks. It is then possible to visualize and optimize trajectories, but also to make a virtual timing at 1/50e second.

The ARM-SE can also transmit all types of information on TCP/IP or serial connection, such as vehicle data (temperature, fuel level, motor parameters, etc.).

This modem is often used on race circuit or during sport events, to transmit data of lapping time.