

Team Name: Flex

Team Members: 190018V, 190622R, 190648C, 190712T

Project Idea: Portable & affordable digital oscilloscope

Problem:

The oscilloscope is a mandatory device for every people who are engaged in electronics, telecommunication and electrical fields. But available oscilloscopes in the market are too expensive even the currently available portable oscilloscopes are not affordable for students and undergraduates.

Solution:

Develop a portable oscilloscope at an affordable price. It can be connected wirelessly to a mobile phone or a PC to see the waveforms.

Here the most critical part is the sampling rate of the ADC. So we did a market search in the availability of high-speed ADC chips & found that ESP32 is the most cost-effective chip for that with 2MPS ADC capability with inbuilt wifi. Also, we suppose to add a voltage scaling circuit to our design then we can monitor signals with a wide range of voltage variation.