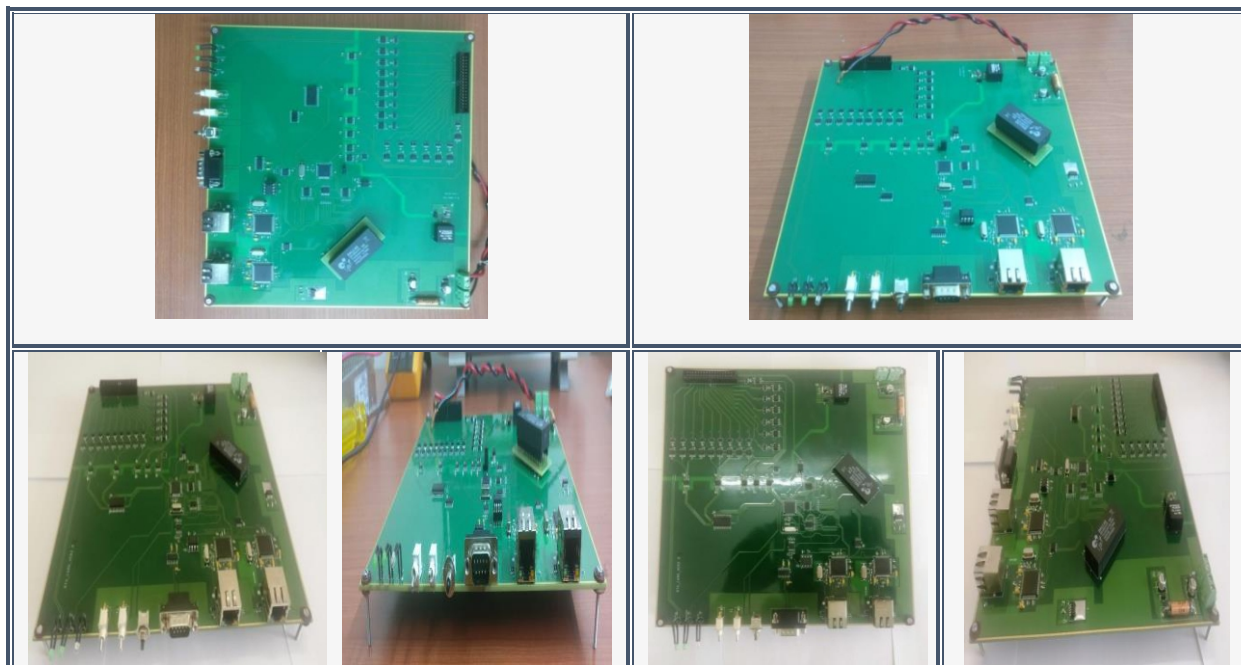




Table 1 – MICROCONTROLLER BASED REMOTE TERMINAL UNIT CARD



Microcontroller based Single Board Computer design that can directly take input from 16 channels of K type thermocouple.

- **14bit, 0.25°C resolution converter cold-junction compensated thermocouple to digital converter – MAX31855 interfacing with the uC using 1KV digital isolators.**
- **On board CJC and OTD.**
Dual channels of 10/100Mbps of Ethernet communication for control and data transfer operations having GPMC control through uC – WIZNET - W5300
- **On board RTC and Watch Dog timer for board healthiness indication and fail safe operations.**
- **On board temperature measurement using 0.25°C accurate 16bit digital SPI temperature sensors - ADT7320.**
- **PCB Potting has been done to sustain under extreme heat, dust and worse environmental conditions.**
- **100 ohm differential and 50 ohm impedance controlled board design.**
- **Complicated power supply planning.**
- **SI, PI, Thermal Analysis done.**

THIS HAS BEEN DEVELOPED FOR IGCAR, KALPAKKAM FOR PROCESS INSTRUMENTATION APPLICATION