<https://dl.espressif.com/dl/package_esp32_index.json>

From the datasheet, we find nominal voltage of the esp8266 is 3.3V. Minimum voltage for stable operation is 2.5V and the maximum allowable limit is 3.6V. So for safely running an ESP8266 device, the battery **voltage should be within 2.5 to 3.6V**. An esp8266 chip can draw **maximum 170mA current**. So, for the esp8266 battery discharge rate should not be less than 170mA.