



IDT Technology Limited

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Technical Description of WGR800

The WGR800 is outdoor integrated wind sensor with wind speed, wind direction, temperature and humidity. It is operated by 2 pieces of size AA batteries (DC 3V). The voltage supplied to MCU (MSM64164C) is regulated to DC1.5V, so that the performance of the product can be guaranteed before the battery voltage drops to 1.5V. Also, it can be powered by 3.6Vd.c. solar panel.

WGR800 is a remote transmitter. It converts wake up measurement into OOK signal format and transmits through the RF channel of 433.9MHz. It is consisted of 2 parts: Control part and transmitter part. The MCU outputs the digital data, then this data will be modulated into the Colpitts oscillator, where the SAW Y1(433.92MHz) are used to adjust the operating frequency to 433.9MHz. The transistor Q3, with its f_T greater than 6GHz, provide a good frequency response to the oscillator circuitry. The data signal is transferred through matching network(C9 C10 C11 C12 C13 C14 L4 L5) and Pi-network attenuator(R8 R9 R10).