



IDT Technology Limited

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Technical Description of AW129 & AWR129

This product is a Grill Alert set, which is consisted of a transmitter unit (AWR129) and a receiver unit (AW129). The transmitter has a thermo probe and is used to measure the temperature of the meat or food during barbeque. The actual temperature data will then be sent to the receiver unit by the carrier frequency of 433.92MHz. The receiver picks up the data, and determines the doneness of the food based on its temperature. Finally the temperature of the food will be displayed on the LCD; in addition, an alerting buzzer sound will be activated if the food reaches its target doneness and temperature.

The transmitter is made of a Colpitts Oscillator, with a 433.92 MHz SAW resonator (X2) to guarantee the carrier center frequency. The transmitting power will be controlled by adjusting the value of a matching network (L2, C18, L4, C19 and C20) and an attenuator (R6, R7 and R8).

The 433.92MHz receiver is an enhanced super-regenerative type by adding a front-end low noise amplifier. It is consisted of an antenna matching network, a front-end low noise amplifier, a mixer, an envelope detector, and lastly a comparator. By adjusting LC pic network, the antenna can be matched to the low noise amplifier. The center frequency of the oscillator is fine-tuned by trimming the capacitor C1. The data from the transmitter is received by the oscillator, and is demodulated by the envelope detector. Then it will be amplified and translated to digital format by the comparator.