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IDT Technology Limited
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FACSIMILE COMMUNICATION

To : ITS
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Remote Thermometer
IDT model no.THR122NX

Technical Description

Introduction

The unit is a transmitter equipped with temperature through RF carrier in the frequency of 433.92MHz. It is designed for outdoor usage and it is powered by 2 x AAA battery cells.

MCU

IC U1 is the MCU of the unit. It detects temperature data with the temperature sensor and transmit those data by OOK modulation through the 433.92MHz RF carrier.

RF Oscillator

The RF transistor Q10 oscillates in the frequency of the SAW resonator, X2 which is 433.92MHz.

Low Pass Filter

The RF output from the oscillator would pass through a low pass filter before radiating out from the antenna. The purpose of the low pass filter is to get rid of the second (867.84MHz) and higher order harmonics of the RF carrier.

Tx Data Driver

Q2 and Q3 is controlled by the MCU inorder to AM modulate the temperature data into the RF carrier.

Low Battery Detection

The MCU detects low battery signal with the switching circuitry Q5 Q6 Q7. The low battery signal would also be transmitted through RF, 433.92MHz carrier.