



**IDT Technology Limited**

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## **Technical descriptions of EMGR819LR**

A EMGR819LR is a remote thermo hygro receiver. It is composed of two main parts that are control part and remote-receiver part. The center frequency of the remote-receiver part is 433.92MHz.

The remote-receiver part employs enhanced superregenerative receiver technique. An amplifier, mainly by Q1, is used to collect higher gain of the received RF signal. There are three matching circuits to optimize the gain. The first matching circuit is composed of L5, C21, C26, C27 and C29. The second is composed of L3, C23, C24, C25 and C18. The third is composed of C30, C32 and L31. The LC circuitry, L2, C6, C10 and C19 provides channel selection and the resonant frequency is set to 433.92MHz. By extracting the emitter output of the transistor, Q2, a regenerated signal is obtained. The circuitry, C7 and R10, acts as a low pass filter which extracts the envelope of the regenerated signal. Demodulated signal is obtained from the output port of operational amplifier, pin 1 of LMV358. The other part of LMV358 composes a schmitt-trigger circuitry that converts the demodulated signal into pulses that can be read by micro-controller.