CIRCUIT EXPLANATION

1. Organization and summary

(1) Included : a. Transmitter
b. Receiver

(2) Summary

This products is the vehicle alarm system, used with the frequency of 311.0 MHz, that is arm/disarm, door lock/unlock, door open/shock detect and panic siren function.

2. Circuit

(1) Transmitter

Press the buttons of the transmitter, input the voltage to IC1 and output the ID code from the encode IC. It oscillates X1(SAW generator) through R5 and the oscillation frequency F0(311.0 MHz) is amplified through TR(Q1). It is emitted through the pattern antenna.

The encode IC's code output through R5 consists of ON(1) and OFF(0) in serial. Its ON signal makes X1 oscillated as the frequency of 311.0 MHz and OFF signal makes X1 not oscillated. The oscillated signal goes to Q1(TR) and Q1 makes LED, L1 & coil(pattern antenna) operated. Then, the pattern antenna has the high frequency signal and it's emitted in the air.

(2) Receiver

The RF signal emitted from the transmitter is received through the RF module, which is produced by the surface mount technology and get the high reliability.
It is composed of the SRG (Super Regenerative Demodulation), which consists of the circuits, RF oscillation(colpits) & LPF(low pass filter).
The received signal goes through the SRG to be the low frequency signal. It is amplified by the OP Amp. to be the square wave. It is input to U1(CPU) to control all input or output.

The received signal is amplified by RF Amp. and oscillated through MQ2(TR) to be the signal eliminated the carrier. The RF oscillation(colpits) is coupled with the carrier by L(ML2) & C(MC6). The signal eliminated the carrier through LPF(MR9, MC12) is amplified by OP Amp(MIC1) to be the square wave so that CPU can be recognized. Thus, CPU controls all function of the vehicle alarm system.