

Applicant: Interactive Toy Concepts (HK) Ltd.  
FCC ID: **QE8403XX**

## **Operational Circuit Description**

### **Item 1: Transmitter (R/C)**

The circuit consists of transmit circuit and charging circuit;

The transmit circuit is powered by 9v (6F22) battery. Subordinate Signal circuit and IC1 (MCU) are powered by Q4 (VCC at approx. 4.4v). It is a typical series regulated power supply.

IC1(MCU) applies 3-channel specialized program. When transmit circuit is powered up, LED glows in green color. When VR1 is in the 0 position, transmit signal is close to 0. When VR1 is adjusted, IC1 (MCU) P1.0 (or P1.1) will transmit pulse codes proportionally. If VR2 is adjusted, tail motor speed will change in two different directions. If VR3 is adjusted, the speed difference between two main channels will change.

When IC1 (MCU) detects that the voltage of 6F22 battery is under 7v, LED will glow in green color.

Pulse codes pass D1 (a variable capacity 2105). The codes then are modulated to 27.195MHz in the signal oscillation circuit that consists mainly of Q3 and are transmitted out to the air. L1, T1 and C1, C2, C3 are for antenna matching and harmonic restrain.

IC2 and its simple outskirt circuit are for charging management of battery on Rx. It is a SOC. Charging output is 4.715v-4.225v. Charging current is 390-526mA.

### **Item 2: Receiver:**

Receiver consists of ANT1 (antenna), Q1 (RF amplification), IC1/3661 (modulator-demodulator), Q2 (signal processor and phase reversing unit), IC5 (MCU) and IC4, IC6 (motor driving circuit).

ANT1 receives FM signal for 27.195MHz. The signal is amplified through Q1 and de-modulated by IC1 (3361). After passed Q2, the pulse codes are output to IC5 P0.0. IC5 will de-code for 3 channels duty-variable pulse signal to control IC4 (9926) to drive the main motors or control IC6 to drive the tail motor.

IC4 and IC5 are powered by chargeable 3.7v 250mAh Lithium Polymer battery. Subordinate signal circuit and MCU are powered by LDO regulator-ML62252.