

**Applicant: Strategic Vista Technologies Inc.**  
**FCC ID: RTMSV-04-TX**

## **Circuit Description for SV-04-TX 2.4G Wireless Transmitter with built in 315Mhz receiver for IR extender**

The SV-04-TX is separate into two parts:

1. Transmitter control Portion
2. 2.4G RF transmitter module

### **1. Transmitter control portion**

This portion is mainly for power supply circuitry and signal path.

The video and audio signal enter the PCB through the RCA connectors and then pass through the main control PCB to the 2.4G transmitter module.

The power on/off switches on the control PCB control the power supply for the product.

The push button switch on the control PCB allows user to select the right channel frequency and pass the channel selects information to the RF transmitter module.

The built in 315Mhz receiver module receive the 315Mhz ASK RF signal and output through pin 3 to IC3. IC3 is a 38KHz modulator which modulate the control signal to 38Khz standard IR remote control signal and output through the IR Jack. The IR jack will connect to a external IR LED which act as a IR remote control.

### **2. 2.4G RF transmitter module**

The core of the RF transmitter module is the IC1. U1 is a single chip PLL frequency synthesizer. Control data from MCU IC2 is entered via the I2C bus, select the oscillator frequency. The output of IC1 is feed to control the Q6 and Q7 which form a RF mixer circuitry.

Video signal from control board is passed to the RF mixer. Audio signal A1 is pass to a modulate circuit Q1 and Q2, which modulate the A1 audio signal to a 6Mhz carrier. An optional audio channel A2 is pass to a modulate circuitry Q3 and Q4 which modulate the A2 audio signal to a 6.5Mhz carrier.

The video signal, together with A1 and A2 signal are entered the RF mixer and through the RF circuitry sent the signal to the dipole antenna to broadcast the signal.