

## XC22A - 2.4GHz Wireless Camera Circuit Description

Complete wireless camera set is XX23A, which includes XM20A (addressable adaptor) and XC22A (camera and 2.4GHz transmitter).

XC22A contains camera chip sensor (OV7451 or OV7950) & microphone on PCB(042010=12010C), regulator & channel switch on camera main pcb (042010=12243A) and 2.4G Transmitter module (042010=11677B).

On camera pcb, a 3.3V LDO (HT7533) regulate input 5V to 3.3V output for camera chip. Crystal 12.27MHz generate clock reference for camera chip. Q1 & Q2 are audio amplifier for embedded microphone.

On camera main pcb (042010=12243A), Channel switch and LM1117-3.3V LDO(U100) are worked for 2.4G Tx module. Regulator U201 is for camera section.

Video & audio signals are connector to 2.4G Tx (042010=11677B) from camera pcb. The core of the Tx is a highly integrated PLL chip RTC6701A which clock by 8MHz crystal, Y1.

The 2.4GHz channel freq. is controlled by pull low the three channel control pins, CS0,1,2 of the 2G4 Tx chip RTC6701 and 2G4 Rx chip RTC6711. e.g.

CS0,1,2=011 -> 2414MHz,

CS0,1,2=101 -> 2432MHz,

CS0,1,2=110 -> 2450MHz,

CS0,1,2=111 -> 2468MHz,

In addition, RTC 6701 embedded two audio sub-carrier PLLs which lock to 6.0M and 6.5MHz for stereo audio signal.

On Rx side, there are 2 filters, one filter is for 2.4GHz out of band rejection, another one is 480M for adjust channel rejection. The audio demodulation is done by RTC6721.