KSD-5113 原理书

KSD-5113 circuit description
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1. MCU(U3)

It controls all the activities of KSD-5113, including:
a. Accepts commands from the keyboard.
b. Outputs data to the LCD panel.
c. Control for transmitting and receiving of text data.

2. Tansmitter

Q5 is the switch, it turns on the transmitter only when the user sends data, otherwise it remains off.
Q6 is the oscillator, it generates the 315MHz carrier frequency, which is modulated by the data from the MCU.
Q2 is the RF power amplifier, it accepts the modulated carrier from the oscillator then it boosts its power.
then the amplified signal is fed to the antenna.

3. Receiver

Q3 is the rx power switch, it is controlled by the MCU.
U2 is the voltage regulator, supplying 3.3V DC to the receiver.
Q1 is an RF amplifier, it amplifies the signal received from the antenna.
Q8 is a super-regen receiver, it acts as an oscillator, amplifier and detector in a single stage.
U1 is an operation amplifier, it is configured as a high gain amplifier to convert the output from Q8 to
square wave so that it can be read by the MCU.