CT5450/5550 Circuit Description :

The following circuit description for model CT5450 is base on the circuit diagram and block diagram of CT5450.

CT5450 Handset :

1. Receiving Path

The receiving path is established by below sections.

Low Noise Amplifier (LNA), Mixer, Demodulator

The RF signal thought the antenna switch IC of (RF_U2_ SKY13267). And then though the mixer (RF_U3_DH58RF05) step down to 2.4GHz. Then input to transceiver DLH24RF17B (RF_U4) and thought 2nd mixer go to GFSK demodulator.

GFSK data demodulate

The GFSK data is output from IC DH24RF17B (RF_U4) transceiver IC, then go to WDCT controller chip DLH36107 (BS_U1) for decode to audio and though audio amplifier output on pin 33. The audio signal output to the handset speaker .

2. Transmitting Path

The transmitting path is established by below sections.

Mic amplifier and encoder

Audio pick up by handset microphone is amplified by internal mic amplifier of U1 of WDCT controller chip DLH36107 (BS_U1), then go to encoding .

Modulator and RF power amplifier

The GFSK data output from WDCT controller chip (BS_U1), then input to transceiver IC DH24RF17B (RF_U4). The modulated signal go thought (RF_U3_DH58RFC05) step up to 5.8GHz, then pass the filter FL2 though 1st (RF_U1_ATR7040) power amplifier and 5.8GHz band pass filter FL1 to antenna switch IC (RF_U2_SKY13267) to antenna.

CT5450 Base Unit :

1. Receiving Path

The receiving path is established by below sections.

Low Noise Amplifier (LNA), Mixer, Demodulator

The RF signal thought the antenna switch IC of (RF_U2_ SKY13267). And then though the mixer (RF_U3_DH58RF05) step down to 2.4GHz. Then input to transceiver DLH24RF17B (RF_U4) and thought 2nd mixer go to GFSK demodulator..

GFSK data demodulate

The GFSK data is output from IC DH24RF17B (RF_U4) transceiver IC, then go to WDCT controller chip DLH36119 (BS_U1) for decode to audio and output on pin 34. And audio signal before output to the line interface though audio amplifier.

2. Transmitting Path

The transmitting path is established by below sections.

audio amplifier and encoder

Audio pick up by line interface is amplified by Q11 and internal audio amplifier of WDCT controller chip DLH36119 (BS_U1) , then go to encoding .

Modulator and RF power amplifier

The GFSK data output from WDCT controller chip (BS_U1), then input to transceiver IC DH24RF17B (RF_U4). The modulated signal go thought (RF_U3_DH58RFC05) step up to 5.8GHz, then pass the filter FL2 though 1st (RF_U1_ATR7040) power amplifier and 5.8GHz band pass filter FL1 to antenna switch IC (RF_U2_SKY13267) to antenna.

3. Telephone line interface
   The telephone line interface circuit is established by below sections.

   Audio power amplifier
   Q15 and Q18 are both as a power amplifier , according to high current output requirement for line interface.

   Line transistor
   Q13, Q10 and Q12 are the line controlled transistor , both audio input and output is though Q13 and Q10 line seize , which is controlled by Q12.

   Ring detect circuit
   Ringer is thought the R113, R114, C43 and C44 input to WDCT controller DLH36119 (BS_U1) pin 42 , 43 differential amplifier input for picks up the ring signal.

CT5450 digital security coding system :

The handset and base unit of CT5450 will registration on both 20 bit digital random generated security code with manufacturer ID code . This is pass to FCC Part 15.214(d) requirement.

CT5450 CID and CW system :

The CID signal through R113, R114, C43 and C44 input to WDCT controller DLH36119 (BS_U1) pin 42 , 43 differential amplifier and internal CID demodulator to demodulate the CID data then displayed on Handset LCD display.