

## **CIRCUIT DESCRIPTION**

### **1. Radio Part**

The RF (radio frequency) signal receiving from antenna pass through input loop, being expanded by radio amplifier, was sent to mixer; mixing with local oscillator signal, generate an IF (intermediate frequency) signal of 10.7Mhz (or 455 KHz); expanded by IF (intermediate frequency), being demodulated, generate an AF (audio frequency) signal and the AF signal was sent to power amplifier for expansion to push speaker making sound.

### **2. Base Part**

#### **1) Reception**

The signal receiving from handset by antenna (from 2470.000MHz to 2479.750MHz) was filtered through 2475Mhz filter and was sent to radio amplifier for expansion, then was sent to mixer; at the same time, local oscillator generate a basic signal (826.9MHZ - 830.15MHZ), then via three times oscillator generate 2480.7MHZ - 2490.45MHZ. a signal generated by local oscillator was also sent to mixer, generate an IF (intermediate frequency) signal of 10.7Mhz, another signal was sent to PLLIC KA8825B PIN1 as sampling signal; PLLIC8825B PIN3 outputs RX control voltage to change oscillator frequency, and then generate an IF (intermediate frequency) signal of 450Khz after remixing; being expanded and demodulated, generate an AF (audio frequency) signal; being expanded by voice amplifier, voice signal comes to telephone line.

#### **2) Transmission**

The AF (audio frequency) signal receiving from telephone line was expanded by voice compression amplifier, then was sent to modulation oscillator for modulation; at the same time, modulated oscillator generate a basic signal (800.0833MHZ - 803.3333MHZ), then via three times oscillator generate 2400.250MHZ-2410.000MHZ. modulation oscillator outputs a sampling signal to PLL IC KA8825B PIN16; PLL IC KA8825B PIN14 outputs TX control voltage to change modulation oscillator frequency; expanding the power of the demodulated signal, filtering it by 2405Mhz filter; antenna outputs a frequency signal of 2400.250MHz to 2410.000MHz.

### **Handset Part**

#### **1) Reception**

The signal receiving from base by antenna (from 2400.250MHz to 2410.750MHz) was

filtered through 2405Mhz filter and was sent to radio amplifier for expansion, then was sent to mixer; at the same time, local oscillator generate a basic signal (796.5166MHZ – 799.7666MHZ ) ,then via three times oscillator generate 2389.55MHZ – 2399.3MHZ., a signal generated by local oscillator was also sent to mixer, generates an IF (intermediate frequency) signal of 10.7Mhz, another signal was sent to PLLIC KA8825B PIN1 as sampling signal;PLLIC8825B PIN3 outputs RX control voltage to change oscillator frequency, and then generate an IF (intermediate frequency) signal of 450Khz after remixing; being expanded and demodulated, generates an AF (audio frequency) signal; being expanded by voice amplifier, make a sound to speaker.

## **2) Transmission**

Voice signal generates an AF (audio frequency) signal through microphone, was expanded by voice compression amplifier, then was sent to modulation oscillator for modulation; at the same time, modulated oscillator generate a basic signal (823.3333MHZ – 826.58333MHZ ) ,then via three times oscillator generate 2470.000MHZ-2479.750MHZ. modulation oscillator outputs a sampling signal to PLL IC KA8825B PIN16; PLL IC KA8825B PIN14 outputs TX control voltage to change modulation oscillator frequency; expanding the power of the demodulated signal, filtering it by 2475Mhz filter, antenna outputs a frequency signal of 2470.000MHz to 2479.750MHz to handset antenna .

## **3. Ringer and Caller ID circuit**

The ringer signal receiving from telephone line, being detected by ringer and caller ID detector, entered into CPU processor for identification; outputs a security code, then sent out by antenna via high frequency transmission.

The ringer (Caller ID) signal (receiving by handset antenna) was sent out to RX security code circuit via high frequency, was sent to CPU processor for identification; then outputs ringer signal (Caller ID).

## **4. FM radio and CD player**

TA2111N (IC101) is a single-chip for FM radio, and TC9457F (IC301) is a single-chip for CD player.

Laser module read CD signal, amplified by preamplifier, was sent to audio decoder for correction and decoding, output audio signal and send to power amplifier for amplification to push speaker making sound.

宽带 2.4GHZ (40CH) FREQ TABLE

CH	H /TX(MHZ)	B /TX (MHZ)
1	2470	2400.25
2	2470.25	2400.5
3	2470.5	2400.75
4	2475.75	2401
5	2471	2401.25
6	2471.25	2401.5
7	2471.5	2401.75
8	2471.75	2402
9	2472	2402.25
10	2472.25	2402.5
11	2472.5	2402.75
12	2472.75	2403
13	2473	2403.25
14	2473.25	2403.5
15	2473.5	2403.75
16	2473.75	2404
17	2474	2404.25
18	2474.25	2404.5
19	2474.5	2404.75
20	2474.75	2405
21	2475	2405.25
22	2475.25	2405.5
23	2475.5	2405.75
24	2475.75	2406
25	2476	2406.25
26	2476.25	2406.5
27	2476.5	2406.75
28	2476.75	2407
29	2477	2407.25
30	2477.25	2407.5
31	2477.5	2407.75
32	2477.75	2408
33	2478	2408.25
34	2478.25	2408.5
35	2478.5	2408. 75
36	2478.75	2409
37	2479	2409.25
38	2479.25	2409.5
39	2479.5	2409.75
40	2479.75	2410