GH3062 Circuit Description

1   PRODUCT DESCRIPTION

The GH3062 is a 2.4GHz 40 Channels Analog Modulation Cordless Phone with Radio , Type I Caller ID . The unit is tone dialing. The internal power supply's isolation is accomplished through a power transformer having an adequate dielectric rating. The circuit wiring is consistent under the requirement of part 68.

The base unit has a page key, which is used to page the handset unit

Connection between the device and the telephone network is accomplished through the use of USOC RJ11C in the 2-wire loop calling central office line.

The handset unit consists of a keypad with twelve standard keys (0,.. 9, * and #), six function keys (Calls, Del; Memo, Flash, Redial, Volume), and one channel switch key. A Talk key is provided to control pick/release telephone line in a toggle base.

2   BASE UNIT

CPU

The host of base unit is the CPU, U2. It has two system clocks: 32.768KHz for Timer/Counter and 3.579545MHz for system clock. It controls the RF combo IC on RF module for wireless communication with handset. The CPU also handles keyboard and switches scanning, 7-seg LED control and other LED , and power managements. besides, in charge of Caller detection, DTMF generation, ring detection and line states control.

RADIO SECTION

CXA16919M is heart of handle tuned radio module , CXA16919M is a 28 pin integrated AM/FM radio circuit ,the tuning synthesizer is on-chip with the radio .Another including demodulate audio power amplitier.PVC1 adjust the TUNING control to select station (receiver radio frequency) ,SW1 set the AM/FM Band to either AM or FM as desired.VR1 select a suitable listening level .

RF module

The most important part of the module is combo IC that provide TX, RX PLL for VCOs, demodulator, Compandor, battery level detect, mic per-amplifier and receiver power amplifier. It is controlled by CPU via serial linking.

In the receiving path, the RX signal is filtered and amplified on LNA and then converted to signal 10.7MHz at the mixer. An 8xxMHz signal is generated on RX VCO, which is controlled by RX PLL and feed into mixer to mix the IF signal. The signal is demodulate and expanding on combo IC to reproduce audio signal.

In the transmitting path, the audio signal is converted to 8xxMHz signal on TX VCO, which is controlled by TX PLL. The signal is tripled to 2.4GMz RF signal on frequency tripler. Finally, the RF signal is amplified and filter then feed to antenna.

Line Interface Circuit

Line interface circuit, Q31,Q32,Q33,D8,D10,D17,D18 provides the hybrid 2-to-4 conversion to communicate handset or speakerphone to telephone line. It also included th ringing detection circuit, C3, Z3,4, Q16; Line state control circuit, Q31. The internal telephone line isolation is

accomplished through D6, Q32,Q33,Q31, and two 1000P/1KV safety capacitor C26,27.

3   HANDSET UNIT

CPU

The heart of base unit also is the CPU, U1. It has two system clocks: 32.768KHz for power down mode and 3.58MHz for normal mode. It controls the RF combo IC on RF module for wireless communication with base unit. It also handles LCD display, keyboard scanning, LEDs control, buzzer control and power managements.

RF module

The most important part of the module is combo IC that provide TX, RX PLL for VCOs, demodulator, Compandor, battery level detect, mic per-amplifier and receiver power amplifier. It is controlled by CPU via serial linking.

In the receiving path, the RX signal is filtered and amplified on LNA and then converted to IF signal 10.7MHz at the mixer. An 8xxMHz signal is generated on RX VCO, which is controlled by RX PLL and feed into mixer to mix the IF signal. The signal is demodulate and expanding on combo IC to reproduce audio signal. Finally, the audio signal is amplified on power amplifier and connects to receiver or headset via headset jack.

In the transmitting path, the audio signal is converted to 8xxMHz signal on TX VCO, which is controlled by TX PLL. The signal is tripled to 2.4GMz RF signal on frequency tripler. Finally, the RF signal is amplified and filter then feed to antenna.

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