Operational Description of WHF-7020S

900MHz cordless internet phone is designed ultra compact and light weight that enables dual-mode cordless telephone.
This cordless telephone offers both internet calls and ordinary regular phone service simply by pressing a button on the phone.

1. General SPecification

-.Frequency Range : For North Americans(ISM)
           Base Station Rx, Handset Tx : 925.30~927.25 MHz
           Base Station Tx, Handset Rx : 902.80~904.75 MHz

-.Transmit Output Power : For North Americans : -2 dBm

-.Spurious Transmission : For North Americans : -54 dBm max.

-.Adjacent Channel Selectivity : For North Americans : 45 dB min.

-.Channels : 40
-.Communication System : Full Duplex
-.Modulation System : Analog FM
-.Receiving Sensitivity : -110 dBm
-.Radiation Interference : -57 dBm
-.Talk Time : About 4 hours
-.Standby Time : About 16 hours
-.Weight (Handset, Including battery) : Approx. 82g
-.Dimension (Handset) : 70.0mm(H) x 59.3 mm(W) x 28mm(D)

2. Operational Description

1) Base Unit

-. Power Supply : The power supplied by 9V AC-DC adapter is divided into two parts as charging parts and circuit part. The circuit part supplies DC power passed 5V into the circuit.

-. Ring detection : The photo coupler of U8 can read the ring signal at the MCU of U1.

-. Speech network : It connects to thenetwork by TEA1118 chip of U7.

-. DTMF generation ; DTMF is created under the control of the MCU of U4.
-. Main control ; The main controller of the U1 controls both the wired and wireless parts. MCU uses 8 bit RISC type.

-. Compander : Compander IC U6 compresses and expanders the voice band in order to guarantee better quality of voice in case of limited frequency band(wireless transmission of the voice). Also, the built-in MSK modem makes possible the wireless transmission of control signals and it creats frame code and detects the code.

-. Relay ; It devides and connects input and output of the voice, data and PC GND both an ordinary telephone and internet phone operations.

-. RS-232 : By the communication support of the RS-232(U10), the communication between the PC and the BASE can be made.

-. EEPROM : It saves the telephone ID and other settings.

-. RF module ; It supplies 40(BW 12.5KHz) channels in the frequency band of transmission 925MHz, receiver 902MHz.

2) Handy Unit

-. Power supply : 3.6V Ni-MH battery supplies power for the circuit operation.

-. Battery checker : It detects under 3.2V of battery voltage from Q1 and informs it to MCU.

-. Audio amplifier : The headphone amplifier of the U1 operates the ear set and the built-in speaker.

-. Bell sound : Bell sound is made at Q2. Various melodies and ordinary bell sounds can be saved.

-. Main control ; The main controller of the U1 controls both the wired and wireless parts. MCU uses 8bit RISC type.

-. Compander : Compander IC U6 compresses and expanders the voice band in order to guarantee better quality of voice in case of limited frequency band(wireless transmission of the voice). Also, the built-in MSK modem makes possible the wireless transmission of control signals and it creats frame code and detects the code.

-. Flex PCB : attached to the various speakers, microphones, switched and ear set jack.
-. EEPROM ; It saves the telephone ID and other settings.

-. RF module : It supplies 40(BW 12.5KHz) channels in the frequency band of transmission 902 MHz, receiver 925MHz.