Circuit description

Handset Unit:
The MB9BF104N is the main processor of the handset unit. It mainly controlled the RF module PM108, image processor SSD1928, key board, audio codec NAU8814, and power management network.
The PM108 RF module utilizes RF transceivers operating at high data throughput. Each transceiver will contain its own packet ID and same data packet format,
i.e. 32bit preamble, 32 bit ID, Max. payload 128 byte. On each transceiver, there are 32 non overlapping channels, and will adopt FHSS modulation according to the frequency table below. The hopping table follows a pseudo random hopping sequence controlled by MCU. Hopping frequency is about 1000 time per second, packet length duration is from 80us to 600us is used to communicate with the camera unit, through the 2.4GHz FHSS RF link. The MB9BF104N are through the SPI bus to control the PM108. And MB9BF104N will provide the 16MHz clock to the PM108 using the GPIO pin.
The MB9BF104N will control an image processor IC SSD1928 (using 8bit parallel data bus and I2C) which will do video decoding and display image in the 2.4’ LCD. MB9BF104N will provide a 4 MHz clock to SSD1928 using GPIO pin.
The system consist of 8 buttons and are all monitored by an ADC inside the MB9BF104N. The audio codec IC NAU8814, which is used for encode and decode the in/output audio signal.
Also, the power management network of the handset is handled by the MB9BF104N. The power management network converts the 5V input from DC adaptor (or 3.7V from battery) to 3.3V, 2.8V, and 1.8V power rail. These different power rails are used to power up different parts of the system. The MB9BF104N can be reset by the Reset RC circuit