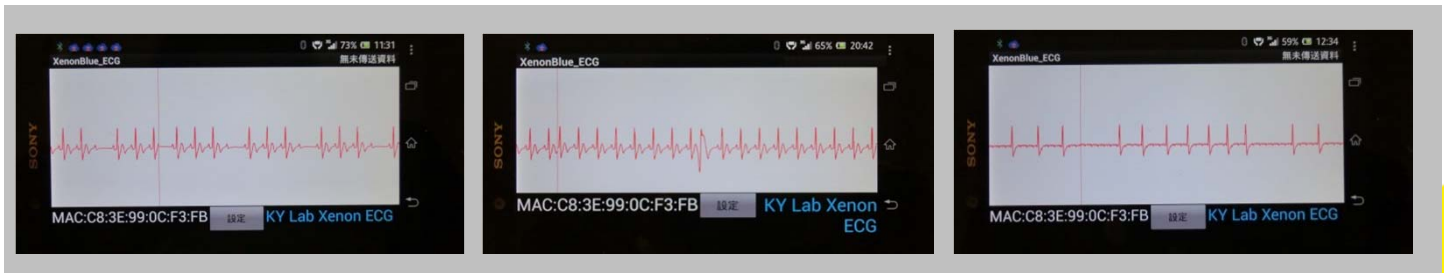




# Cloud ECG management system and mobile phone kit

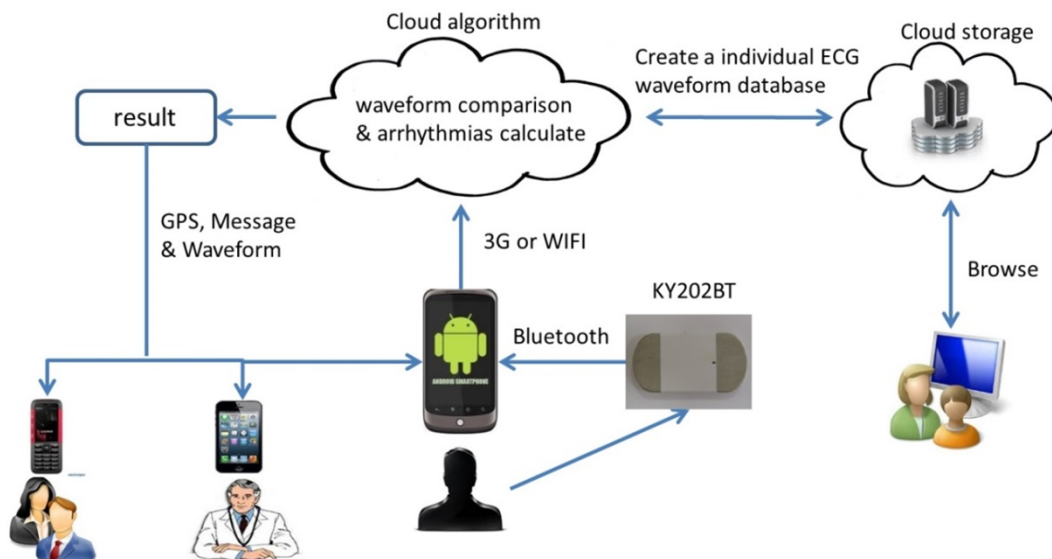
## System briefing

The proposed ECG sensor package for mobile phones sends ECG to smart phone via Bluetooth, and reconstructs the ECG in the phone screen through APP in real time. Next, the ECG is transmitted to the web server for analysis and processing through 3G or WIFI, and will be returned (include GPS data and ECG) to the smart phone of a user (or family member) after algorithmic operation.



## Innovation and R&D

The mobile phone ECG sensor package is a lightweight microsensor (8.6 gm, 5.5 x 3.5 x 1.2 centimeter<sup>3</sup>). The power consumption of MCU and analog signal amplifier is adjusted to meet the ultra-low power consumption function (smaller than 1mW). If cloud ECG sensor package continuously operates more than 50 hours, the power consumption at standby mode is smaller than 8 $\mu$ W. From this, physiological signal recorders of cloud mobile ECG sensor package can run long time with minimum interference. Moreover, wireless device also reduce signal interference from collection of ECG signals, so as to obtain high quality signals.

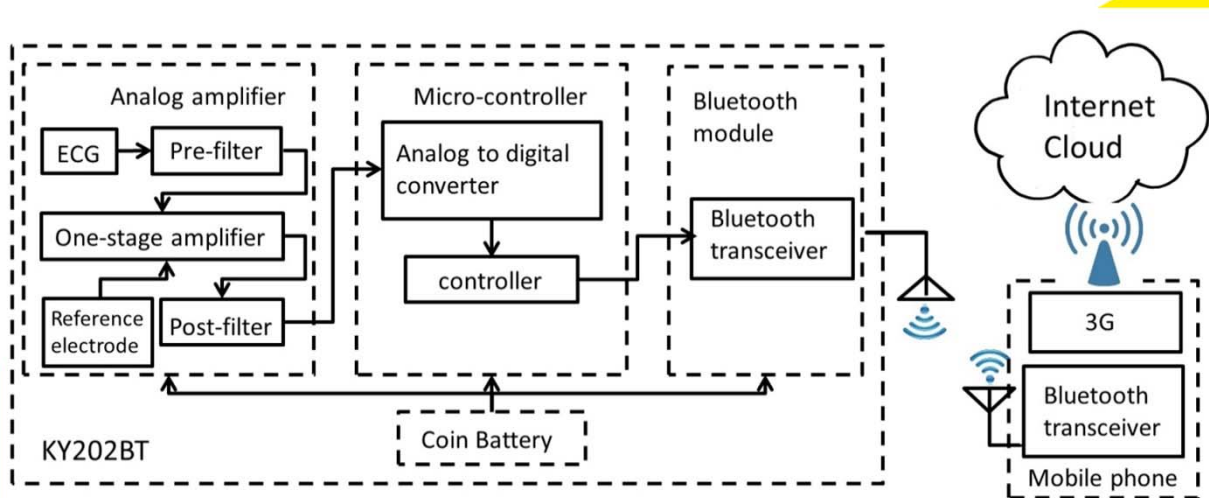




## System description

This system is designed to be a portable user-friendly detection package. When a user has chest pain or feels uncomfortable, smart phone app can be started immediately for ECG detection. The abnormal ECG signals will be transmitted to the smart phone through Bluetooth, and then to cloud database server through smart phone. The cloud storage system can store records to provide reference for doctors. Moreover, in the future, through strong cloud computing capability, people can judge whether ECG signals of the user have potential danger, and provide necessary aid if necessary.

The invention can successfully sense all 25 types of arrhythmias from ECG signals (6 types of arrhythmias signals, 7 types of conduction disorders and 12 types of ventricular arrhythmias) of the analog generator (MiniSim 1000). The sensor package can send ECG signals to mobile phones for plotting ECG signals through Bluetooth modules, and then to web database server for storage via 3G or WIFI modules. Finally, ECG signals will be sent back to mobile phone of the user (or other person).



### Features

**Immediately** ( < 1 min )

**Simple** ( no hospital, no electrode )

**Record** ( no print, no carry )

**Feedback** ( GPS, ECG, Result )

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