

## Circuit Description

Brand	Model Number	Version
		V1.0

KCC620 adopts GSM communication system as main design; its circuit mainly consists of the following 5 parts

- 1: BASEBAND (baseband, power supply, logic control)
- 2: GSM\_RF TRANSCEIVER
- 3: AUDIAO\_USB\_INTERFACE
- 4: SIM\_MEMORY

The description for each part is as follows,

### 1. BASEBAND (baseband, power supply, logic control)

Baseband mainly contains main control chip SC6531E and charging chip. SC6531E is an extensively high-degree integrated chip provided by MTK, which integrates system control, power management, GSM system controller, A-D signal processing, audio signal input/output control, mic signal input/output control, LCD display driver, memory interface, USB, UART interface, Bluetooth control interface, system clock(32.768khz) and logic control.

### 2. GSM\_RF TRANSCEIVER

GSM\_RF TRANSCEIVER is a quad-band transceiver (GSM850\900\DCS1800\PCS1900MHZ). It contains transceiver chip, RF PA module SC2631H, SAW (GSM850\900\DCS1800\PCS1900MHZ), 26MHz crystal and antenna. The power is supplied to VDD\VRF by VBAT and SC6531E. The transceiver is mainly controlled by SC6531E, which supply GSM operating time base, signal processing and logic control.

While receiving the signal, GSM antenna receives signal from base station, and then transmit it to SAW filter. After amplifying, the signal detected will be sent to MT6261 for processing and then to D\A converter, finally it will be amplified to drive earphone or speaker.

While transmitting the signal, SC6531E send command to transceiver by I\Q interface, and then the data will be processed according to GSM regulations. RF signal will be amplified to 0~2dBm and then to 30~32DBm. Finally it will send signal to base station by GSM antenna, then the whole process is completed.

### 3. AUDIAO\_USB\_INTERFACE

Audio signal is output from SC6531E. And then it will be sent to speaker or headphone.

USB function is reserved in this board.

UART interface is used for downloading and calibration. This model does not provide UART cable. And all functions will be accomplished internally in SC6531E.

### 4. SIM\_MEMORY

SIM circuit consists of SIM socket and SC6531E. Insert SIM card, the card type and network selection will be auto recognized.

### **FCC Statement**

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### **NOTE:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

### **SAR Information Statement**

Your Mobile Phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. \* Tests for SAR are conducted with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the ear is **1.063W/Kg** and when worn on the body, as described in this user guide, is **1.122W/Kg**(Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). They all meet the government requirement for safe exposure. The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on

FCC ID:**2AG78-FP01** Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) web-site at <http://www.wow-com.com>. \* In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a sub-stantial margin of safety to give additional protection for the public and to account for any variations in measurements.

### **Body-worn Operation**

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of **10mm** must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.