Operating Description

Dual Band	GSM: 850/900 /1800/1900 MHz
GPRS	Support Class 10
WAP	Support
MP3/MPEG4	Support
FM	Support
Bluetooth	Support
U-disk	Support USB1.1
TV Tuner	Support Analog TV
Camera	0.3M pixels
Size of PCBA	--
Size of Mobile Phone	--
SIM Card	GSM/GSM dual mode
Display	QVGA, TP,TFT
Audio	MP3 stereo output; Stereo earphone, support 3 speakers
Keypad light	LED, Blue/White
Antenna	Inside
Battery	Can be made to 1000mAH, support standby in a long time
Interface	Charger interface, USB interface, earphone interface
RF testing interface	To preserve this part of circuit and soldering-pan
Working Temperature	Normal condition:15℃～35℃; Limit condition:-20℃～55℃
Software	preliminary
Hand Writing	Support
Language	English; Chinese,Turkish,etc ,,
Input	English/Chinese/etc, Support handwriting
Phone book	In name card form, each name card with 3 phone number; 500 phone numbers storage; IP dial
SMS	Support
Ring tones	64 ring tones (SMS, Keypad, power on/off, alarm clock)
STK	Support
Dynamic game	Yes
Call records	30 records for each (received call/dialed call/missed call)
setting	Ring tones; Screen saver; Volume, standby greeting, Automatic on/off, contrast
MMS	Support

Screen saver	Yes
Call Service	Group call, call waiting, call hold, call divert, call restrict, etc.
PC synchronous	Support Data Interface, can download music and standby screen picture
Tools	Calculator, word time, several alarm clock, timing power on/off, Calendar Journey, Memo, audio record, stopwatch, etc.
Traditional Chinese	Support

Specific Operating Power Range:

Power Class 1;

Power Control Level 5	+33dBm +0.3dB/-0.3dB
Power Control Level 6	+31dBm +2.0dB/-2.0dB
Power Control Level 7	+29dBm +2.0dB/-2.0dB
Power Control Level 8	+27dBm +2.0dB/-2.0dB
Power Control Level 9	+25dBm +2.0dB/-2.0dB
Power Control Level 10	+23dBm +2.0dB/-2.0dB
Power Control Level 11	+21dBm +2.0dB/-2.0dB
Power Control Level 12	+19dBm +2.0dB/-2.0dB
Power Control Level 13	+17dBm +2.0dB/-2.0dB
Power Control Level 14	+15dBm +2.0dB/-2.0dB
Power Control Level 15	+13dBm +2.0dB/-2.0dB
Power Control Level 16	+11dBm +2.0dB/-2.0dB
Power Control Level 17	+9dBm +2.0dB/-2.0dB
Power Control Level 18	+7dBm +2.0dB/-2.0dB
Power Control Level 19	+5dBm +2.0dB/-2.0dB

Accessories

```
┌──────────┐        ┌──────────┐
│ AC       │        │ Battery  │
│ Charger  │        │          │
│          │        │          │
└──────────┘        └──────────┘
```

Figure 1.2: Terminal Components (Accessories)

Technical Descriptions

TX synthesizer uses an Offset-PLL circuit. The Offset-PLL circuit consists of PLL-IC and TX_VCO and loop filter. Reference frequency of the above synthesizers is 26MHz and generated by VCTCXO. Control signal is sent from Baseband section and keeps frequency stability.

TX IQ signal is input from Baseband section to MT6235, The Bluetooth signal is input form MT6601 and FM signal is input form TLG1120 section to MT6235.

TX IQ signal is applied to the quadrature up-converter, and the up-converter LO signal is generated from the transceiver VCO within MT6139B. This up-converter translates the GMSK-modulated signal to an intermediate frequency (IF) that forms one input to a frequency/phase detector circuit. This IF signal is the reference input to an Offset-PLL circuit. The feedback path of this Offset-PLL circuit includes a down-conversion from the RF output frequency range to the IF range. The two inputs to this down-conversion mixer are formed the TX_VCO output and the LO generation circuits. The mixer output is the offset feedback signal that forms the variable input to a frequency/phase detector circuit. The detector compares its variable input to its reference input and generates an error signal that is low-pass filtered by the loop filter and applied to TX_VCO to force the RF frequency in the direction that minimizes errors.

The TX_VCO output passes PA, Antenna SW, Coaxial connector with switch and emitted from embedded antenna.

Digital Modulation:

Analog speech produced by a microphone is encoded to digital PCM samples using a CODEC. The PCM samples are passed to a Vocoder for AMR (Advanced Multi Rate) encoding, to compress the speech samples. The encoding rate is determined by the Vocoder which formats the speech samples as data packets. A new data packet with data rate information is read by the microprocessor every 20 ms. The speech CODEC becomes AMR, FR(Full Rate), EFR(Enhanced FR) and HR(Half Rate). The microprocessor then sends the data packet to the transmit subsystem, and passed DAC to covert analog signal. I/Q base band signal is filtered and is inputted into 6M4003 containing quadrature phase modulator.