Private and Confidential

Gmate Circuit Description Guide

Brand	Model number
Skyroam	GMATE

Revision: V00
Date: 6 November 2011
Gmate Board
The Gmate Board consists of a single Wireless Board.;

Wireless Board

The wireless Board is made up of:

- CPU/MT6235
- MCP(MEMORY)/512M_256M_HYC0UEE0F1P-6SS0E HYNIX
- TRANSCEIVER/MT6140
- PA/SKY77344
- SWITCHPLEXER/ MULATA _LMSP33CB-465
- Bluetooth/CSR_BC6888
- Push button
- BATTERY
- LED

CPU/MT6235
MT6235 is a highly-integrated and extremely powerful single-chip solution for GSM/GPRS/EDGE mobile devices. Based on the 32-bit ARM926EJ-STM RISC processor, MT6235's superb processing power, along with high bandwidth architecture and dedicated hardware support, provides an unprecedented platform for high performance GPRS 10& /EDGE Class 12 modul application.

MCP/MEMORY
512Mb (64Mb x8) NAND Flash / 256Mb (16Mb x16) SDR

TRANSCEIVER/MT6140
MT6140 is a highly integrated RF transceiver IC for Global Systems for Mobile communication (GSM850, GSM900), Digital Cellular communication Systems (DCS1800), and Personal Communication Services (PCS1900) quad band cellular systems

PA/SKY77344

High efficiency:
- GSM850 54%
- GSM900 54%
- DCS 53%
- PCS 53%

Input/Output matching
50 Ω internal (with DC blocking)
Detector Output Linear dB/V

SWITCHPLEXER
MULATA _LMSP33CB-465/CONTROL LOGIC
GSM850/900-Rx
GSM1800-Rx
GSM1900-Rx
GSM850/900-Tx
GSM1800/1900-Tx

Bluetooth/CSR_BC6888
Fully qualified
Bluetooth® v2.1 + EDR Specification
Piconet and scatternet support
Green (RoHS and no antimony or halogenated
flame retardants)

Push button
Two push buttons: Power and Reset function.

BATTERY
Mobile Device Power Source
Operating Voltage Range: 3.6-4.2V

LED
Provide low power and charging status

Rf Description
-Tx:Digital voice processing circuit/MT6235 transmit processed I,Q baseband TXUQ signal to modulation circuit MT6140, transmit modulated TXUQ IF signal. /*Compare IF signal with reference IF transmit signal in phase detector, obtain DC pulse signal including transmit data, to control the VCO transmit operation (Reference IF transmit signal comes from mixing transmit VCO signal & first local oscillator RXVCO signal in MT6140).*/
MT6140 transmit VCO out signal at the end of the launch (GSM850/EGSM or DCSl800/PCS1900 frequency band), amplified by the amplifier SKY77344,

through switchplexer, transmit via antenna;

-Rx: Received（850/900/1800/1900MHZ）signal from antenna, through switchplexer to corresponding filter (four filter supporting 850/900/1800/1900MHZ frequency band). Filtered signal send to modem MT6140 by differential circuit, Signal demodulate to 67.707KHZ . Signal transmitted to processor (BASEBAND/MT6235), restore to voice signal.