Quectel Wireless Solutions

Professional Wireless Solution Provider

M16 GSM Module Presentation

December 2009

Agenda

QUECTEL

☐ **M16 General description**

- Product advantages

- Target applications

- Hardware architecture

- Standard AT Command

- Enhanced Software Technology

- Mechanical dimension

☐ **M16 vs. Competitors' products**

- M16 vs C-Company XX39i

- M16 vs H-Company GXX900

☐ **Support**

-Technical materials package

Hardware Advantages

QUECTEL

Extremely Low Standby Current Consumption

1.1mA @ DRX=5

Quad-band High Data Speed

GPRS Multi-slot Class 12

Excellent Acoustic

Handsfree Mode

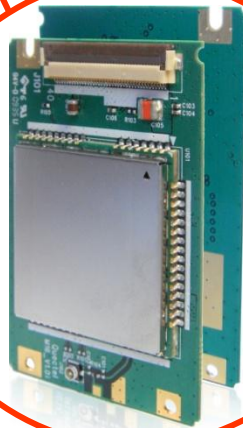**Industry-standard Interface**

+8KV/-6KV ESD

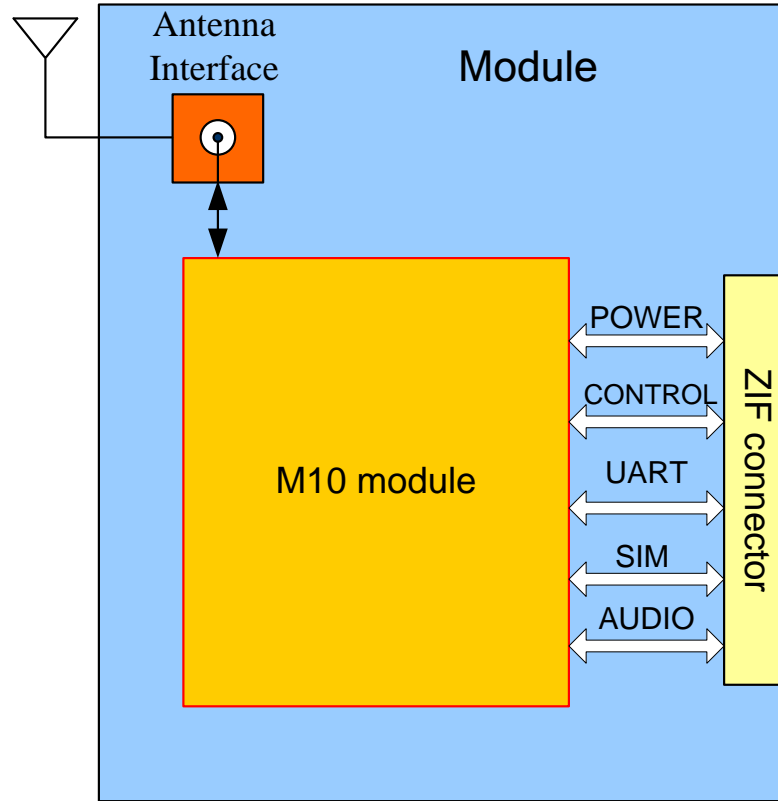**Wide Working Temperature Range**

-45 °C to +85 °C

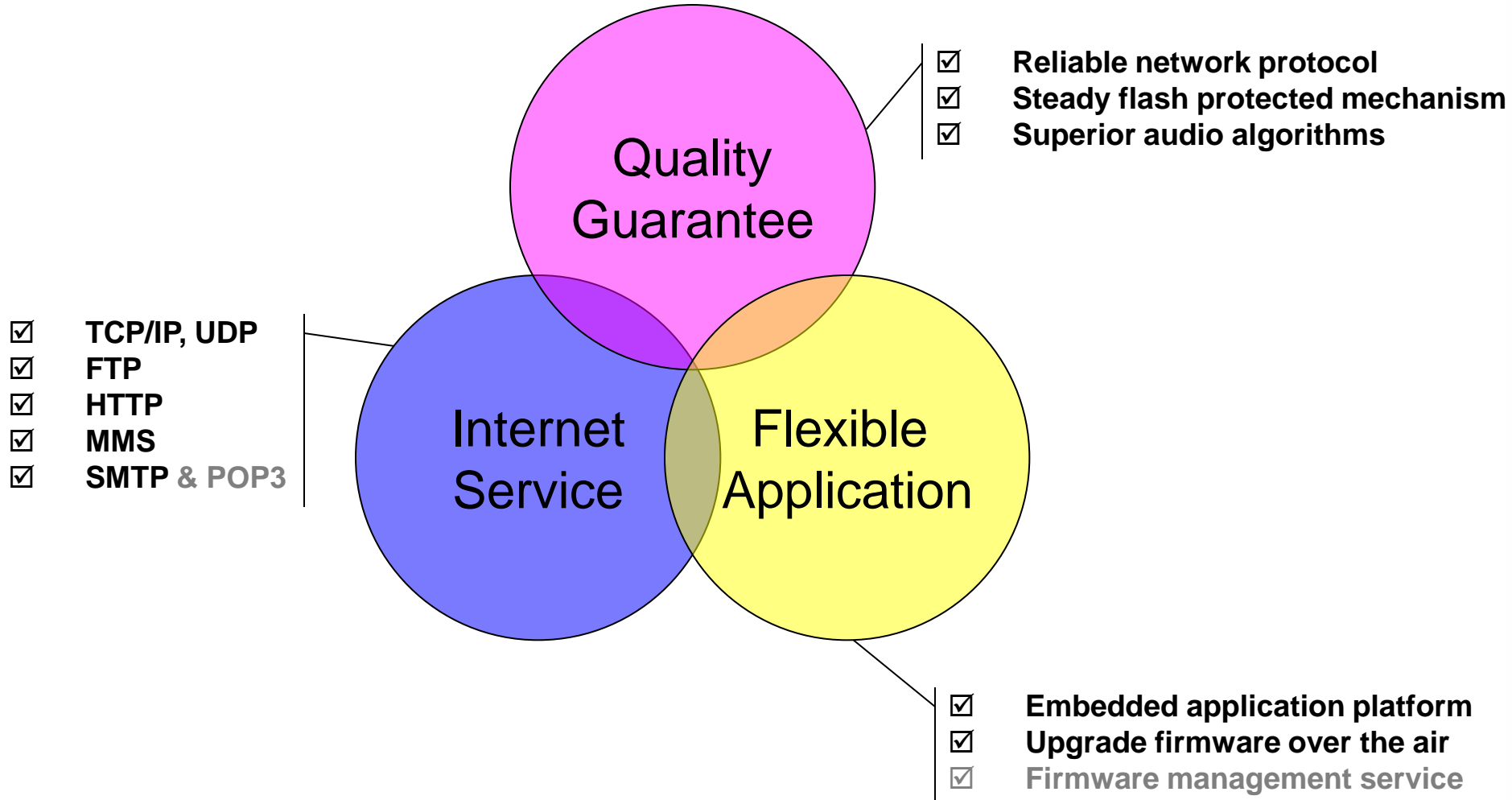**Quad Band**

GSM850\GSM900\DCS1800/PCS1900
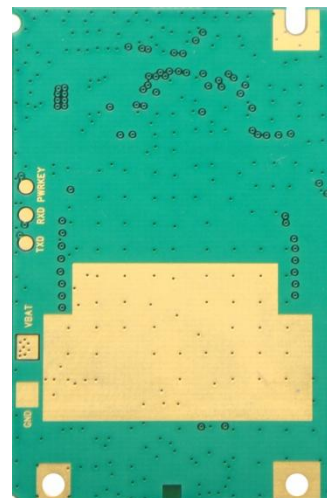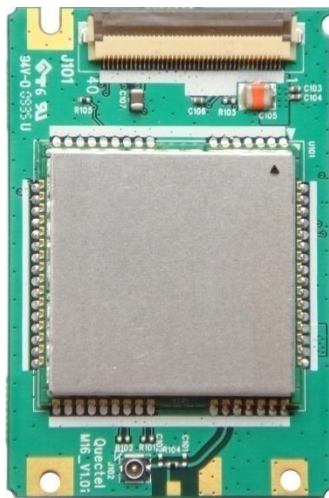
- ➤ Tracking and tracing

- ➤ Telemetry

- ➤ Wireless POS

- ➤ Security

- ➤ Connected PND

- ➤ Health Care

- ➤ Remote Maintenance & Control

- ➢ Standard V.25ter AT commands

- ➢ GSM 07.07

- ➢ GSM 07.05 (SMS)

- ➢ GPRS AT commands in accordance to GSM 07.07

- ➢ TCP/IP stack AT commands

- ➢ STK (SIM Application Toolkit)

- ➢ Quectel defined AT commands (enhanced functions)

Enhanced Software Technology

QUECTEL

- ☑ **Reliable network protocol**
- ☑ **Steady flash protected mechanism**
- ☑ **Superior audio algorithms**

Quality Guarantee

- ☑ **TCP/IP, UDP**
- ☑ **FTP**
- ☑ **HTTP**
- ☑ **MMS**
- ☑ **SMTP** & POP3

Internet Service

Flexible Application

- ☑ **Embedded application platform**
- ☑ **Upgrade firmware over the air**
- ☑ **Firmware management service**

Length: 54.5 mm ($\pm$ 0.15mm)
Width: 36   mm ($\pm$ 0.15mm)
Height: 4.5   mm ($\pm$ 0.3mm)
Weight: 12g

M16 vs C-Company XX39i

Product Feature		Quectel M16	C-Company XX39i
Power consumption	Idle registered	<12mA @ DRX=5	15mA
	Idle registered, power saving	1.1mA @ DRX=5 0.7mA @ DRX=9	3.0mA @ DRX=6
RX sensitivity	GSM850	<-108.5dBm average, -107dBm maxmum	
	EGSM900	<-108.5dBm average, -107dBm maxmum	-107dBm average
	DCS1800	<-108.5dBm average, -107dBm maxmum	-106dBm average
	PCS1900	<-108.0dBm average, -107dBm maxmum	
Temperature Range	Normal operation	−35° C ~ +80° C	-20° C ~ +55° C
	Restricted operation	−45° C ~ -35° C and +80° C ~ +85° C	-25° C to -20° C and +55° C to +70° C
	Storage and non operating	-45° C ~ +90° C	
ESD	VBAT, RF,GND	air discharge ±10KV, contact discharge ±5KV	air discharge ±8KV, contact discharge ±4KV
	other pins	air discharge ±8KV	SIM port air discharge ±8KV, other pins contact discharge ±1KV
Normal switch-off method		By PWRKEY or AT command	only AT command
GPRS		Class 12, max. 85.6 kbps(uplink & downlink). More than 0.7billions mobile terminals are using the same GPRS protocol.	Class 10, max. 42.8kbps (uplink).
Speech codec		FR,EFR, AMR, echo suppression, echo cancellation	no AMR
Internet service		TCP, UDP, FTP,HTTP, later SMTP, TFTP, HTTPS, POP3	None
MMS		Support	None
Embedded Application		Open CPU, can easily embed and run application in module	Java application. Restricted mode to develop application. Consume lots of system resource to support Java virtual machine.

M16 vs H-Company GXX900 Module

Product Feature		Quectel M16	H-Company GXX900
Power consumption	Idle registered, power saving	1.1mA @ DRX=5 0.7mA @ DRX=9	4mA
RX sensitivity		<-107dBm	<-106dBm
Temperature Range	Normal operation	−35°C ~ +80°C	
	Restricted operation	-45°C ~ -35°C and +80°C ~ +85°C (industrial standard)	-30°C ~ +55°C
	Storage and non operating	-45°C ~ +90°C	-40°C ~ +70°C
ESD	VBAT, RF,GND	air discharge ±10KV, contact discharge ±5KV	±2KV
	other pins	air discharge +8KV/-6KV	
GPRS		Class 12, max. 85.6 kbps(uplink & downlink). More than 0.7 billions mobile terminals are using the same GPRS protocol.	Class 10, max. 42.8kbps (uplink).
Speech codec		FR,EFR, AMR, echo suppression, echo cancellation	
Audio		provide superior audio features., e.g. midi, MP3 ring tone	no Midi or MP3 ringtone
Internet service		TCP/IP, FTP,HTTP, later SMTP, TFTP, HTTPS, POP3	TCP/IP only
MUX		Stabilization & Robustness	offline if large amounts of data transmitted
MMS		Support	None
Embedded Application		Open CPU, can easily embed and run application in module	None
Firmware upgrade over the air		Redbend FOTA solution	None

➤ **Technical materials package**
- Hardware, software, specification
- Application notes package
- Debug tool, download tool, test tool, EVB package
- Certification & test report package

➤ **Development Tool**
- **Interfaces**
  - ✓ RS-232 interface
  - ✓ Power supply
  - ✓ Antenna interface
  - ✓ Debug UART interface
  - ✓ Earphone interface
- **Features**
  - ✓ Network status LED
  - ✓ Power key
  - ✓ Emergency off key
  - ✓ Charging (optional)

M16 EVB Kit

Thank You!

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