

QMTS

Quad Modem Telemetry System

The quad modem telemetry system (QMTS) is a multi-role communications platform designed to simultaneously utilise the wireless data networks of up to 4 mobile network operators in a single geographic location. Data is shared between carrier networks and aggregated in a central secure server before being sent to any number of configured client machines. Sharing the data payload across multiple networks leads to higher throughput and greater resilience.

The device has an integrated router that manages the packet queue internally, with all traffic carried over secure tunnels between the QMTS and the secure server. In addition to providing secure, reliable IP transport at up to 4x a single modem solution, the QMTS has built-in GPS for accurate position reporting and tracking.

KEY APPLICATIONS

The QMTS has a wide variety of applications, including:

- Backhaul of video and other surveillance traffic
- Use as a high bandwidth wireless router
- Remote control of missions critical assets
- Vehicle tracking and monitoring
- As a secure communications tool

BENEFITS AND KEY FEATURES

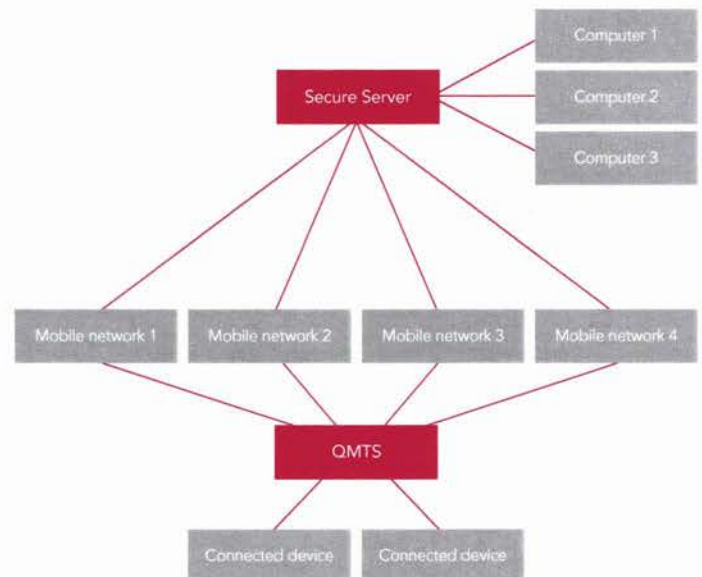
The QMTS has a number of key benefits:

- Higher bandwidth than using a single operator
- Resilience from using multiple networks
- High security of data streams
- System is designed to use low cost standard data SIMs
- Built in router, switch & GPS
- Up to 64 GB of on board storage via micro SD card
- Secure server can be located anywhere including user's own secure data centres
- Secure server serves multiple QMTS devices
- On-board processor able to run bespoke user applications.



QMTS SYSTEM ARCHITECTURE

Data from the the QMTS is split up and transmitted across separate mobile networks to the secure server. The secure server aggregates the data streams in the correct order. Traffic streams to and from the secure server are encrypted and within VPN tunnels. Remote devices such as cameras and surveillance are connected to the QMTS via the two Ethernet interfaces.



SPECIFICATION

Communications

■ LTE (in development/Q4)	700/800/1800/2600
■ UMTS/HSPA	850/900/1700/1900/2100 MHz
■ GSM/EDGE/GPRS	850/900/1800/1900 MHz
■ GPS	28 Channel Receiver
■ Ethernet	2 x 10/100
■ WiFi dongle included	
■ USB	1 x USB 2.0

Radio Bearers (x4)

■ HSPA	8
■ UMTS	8
■ EDGE	2
■ GPRS	2

Note: Actual bearer rates depend on a wide range of parameters including distance from base station, number of users and network operator policy. In practice the rates seen by typical mobile data users are usually significantly less than the maximum bearer rates.

External Peripheral Control

- 1x CANBUS for Automotive monitoring and control
- 6x GPIO (3.3v)
- 1x Serial Port (Rx/Tx, No Flow Control)

Encryption

- AES-128, AES-256, DES, 3DES, ARC4 and Blowfish with SHA-1 HMAC for Authentication

Onboard Processing

■ Primary Processor	Freescall i.MX537 800 MHz ARM Cortex-A8
■ RAM	512 MB DDR2-667 SDRAM
■ ROM	128 MB NAND Flash
■ Solid State Memory	Micro SD up to 64GB
■ OS	Linux

Physical dimensions

■ W108.5mm X L104mm X H45mm	
■ Weight	1.1kg
■ Power	11V-33V DC

Secure Server Hardware Requirements

■ Processor	Intel: 2 x BX80614L5630-Xeon L5630 2.13GHz Quad Core 12MB Cache (or AMD equivalent)
■ RAM	12 GB
■ Hard Disc	500 GB

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