The real tracking & tracing comes true XT75/ XT65

Wireless Modules, April 2006

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Disclaimer

Please be aware:

All mentioned statements and shown figures in this presentation are subject to changes in technology, design and availability.

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Summary

QUAD-BAND

EDGE

GPRS CLASS 12

RIL DRIVER

TCP/IP CONNECTIVITY

USB

FAX FUNCTIONALITY

JAVA IMP-NG

POWERFUL PROCESSOR/
LARGE MEMORY PROFILE

INDUSTRIAL INTERFACES

SIM ACCESS PROFILE

- XT75 first Quad Band EDGE module with on-board GPS functionality for high-speed tracking & tracing applications providing highest GPS sensitivity and accuracy – XT65 as GPRS variant available

- Full mechanical and logical GPS integration in GSM communication module for minimized total cost of ownership

- Compact size for footprint sensitive applications

- A-GPS enabled for improved Time-to-first-Fix and DGPS enabled for future high-accuracy location applications

- Embedded intelligence (Java^{TM} IMP-NG) for on-board processing of applications without the need of additional external processors or memory

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Perfect match of localisation and communication

High quality, high speed
Based on successful MC75/ TC65/ TC63 platform,
EDGE data speed at XT75

Global communication
Quad Band technology

Minimized application footprint
Java^{TM} IMP-NG for simplified application development

Precise localisation
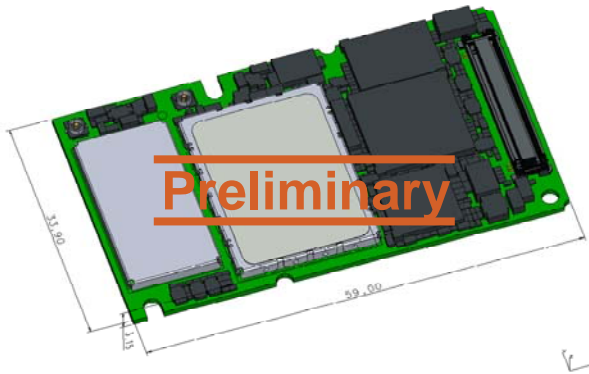State-of-the-art GPS,
A-GPS & DGPS enabled

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Drive the speed
RIL driver for Microsoft$^{®}$
Windows Mobile^{TM}

Easy data communication
Integrated TCP/IP supporting all major Internet services

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Convincing key features for Your applications

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XT75/ XT65

- EDGE (E-GPRS) multislot class 10 (XT75)

- GPRS multislot class 12

- State-of-the-art GPS receiver, 16 channels

- Open Platform: Java^{TM} IMP-NG

- Quad Band: 850 / 900 / 1800 / 1900 MHz

- RIL driver for Microsoft$^®$ Windows Mobile^{TM} 5.0 based devices for EDGE/ GPRS and GPS

- USB 2.0 full speed, I²C & SPI bus interface

- TCP/IP stack access via AT Commands

- Internet Services: TCP, UDP, HTTP, FTP, POP3, SMTP

- Dimensions: 34 x 59 x 3.5 mm

- RoHS compliant – leadfree

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Very attractive mechanical design

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34 mm

59 mm
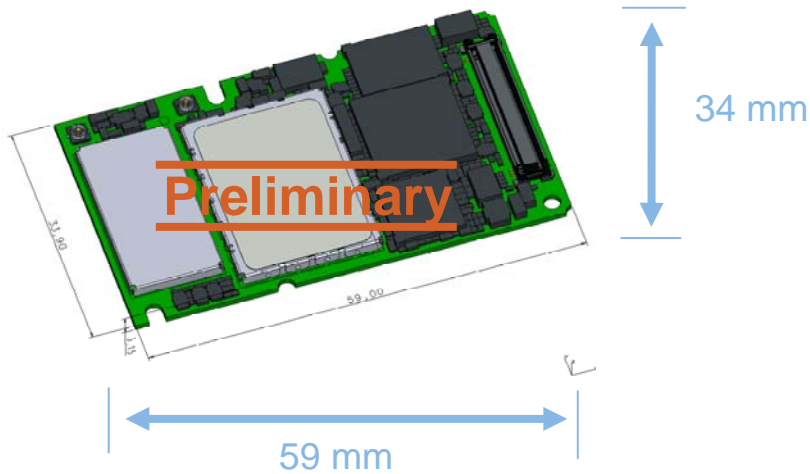
As member of our MC75/ TC65/ TC63 platform the XT75/ XT65 is compatible:

- identical B2B connector (type, position)
- identical module width and height
- identical mounting holes (size, position)
- TC65 Java™ applications are portable
- DSB75 as development tool

Antenna connector

- Hirose antenna connectors for GSM and GPS separately

- Antenna pads for GSM and GPS (opposite side)

Board-to-Board connector 80 pin

- Serial data interface
- Digital and analog audio
- External SIM Card Reader
- Power supply
- USB Interface
- I^{2}C & SPI bus interface
- Multiple GPIOs
- ADC input

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Smart answers to users´ expectations

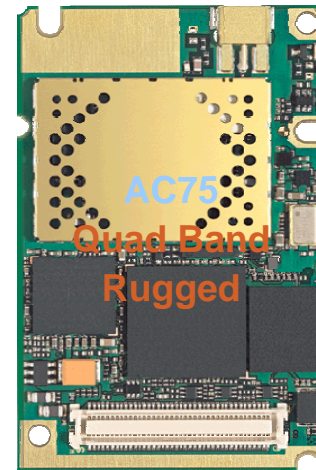| User expectation	Siemens Contribution	Customer benefit
Perfect match of localisation and communication: • Fast access to positioning data • High speed information transfer	• State-of-the-art GPS receiver, even for indoor localisation • High-speed EDGE and GPRS data transfer	Wide range of mobile & wireless applications combining GPS and communication becomes feasible
Easy to use positioning functionality, reliable and precise localisation	• Logical integration of GPS functionality into GSM – single interface • A-GPS, DGPS, and SBAS (EGNOS, WAAS) enabled	Optimized CapEx by customized location & communication solution
Simplified usability of applications at size-optimized devices	• Java™ IMP-NG as Open Platform of choice • Easy application development based on industry-standard Java™	Embedded programming intelligence for reduced footprint of customer application - no external memory and application processor necessary

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XT75/ XT65 are part of a very successful platform

A powerful product family

- EDGE
- GPRS
- Quad Band
- Java™
- RIL driver
- USB interface
- I²C interface
- SPI interface
- AMR, FR, EFR, HR
- Fax
- SIM Application Tool Kit
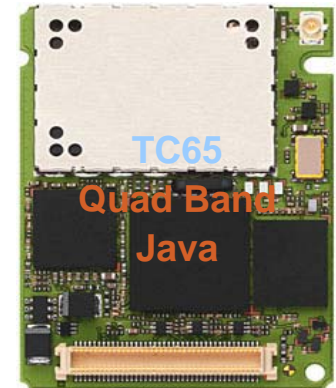- Firmware Update Over The Air (FOTA)
- Fully type approved

XT75

Quad Band EDGE/ GPS

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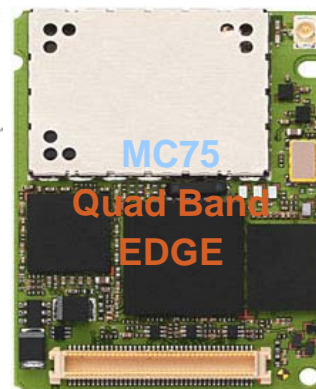
XT65

Quad Band GPRS/ GPS

AC75
Quad Band
Rugged

TC65
Quad Band
Java

MC75
Quad Band
EDGE

TC63
Quad Band
GSM/ GPRS

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Mechanical Samples	1st Functional Samples	2nd Functional Samples	Mass production
▼	▼	▼	▼
E/ March – B/April	E/June – M/July	E/August – M/September	November – December

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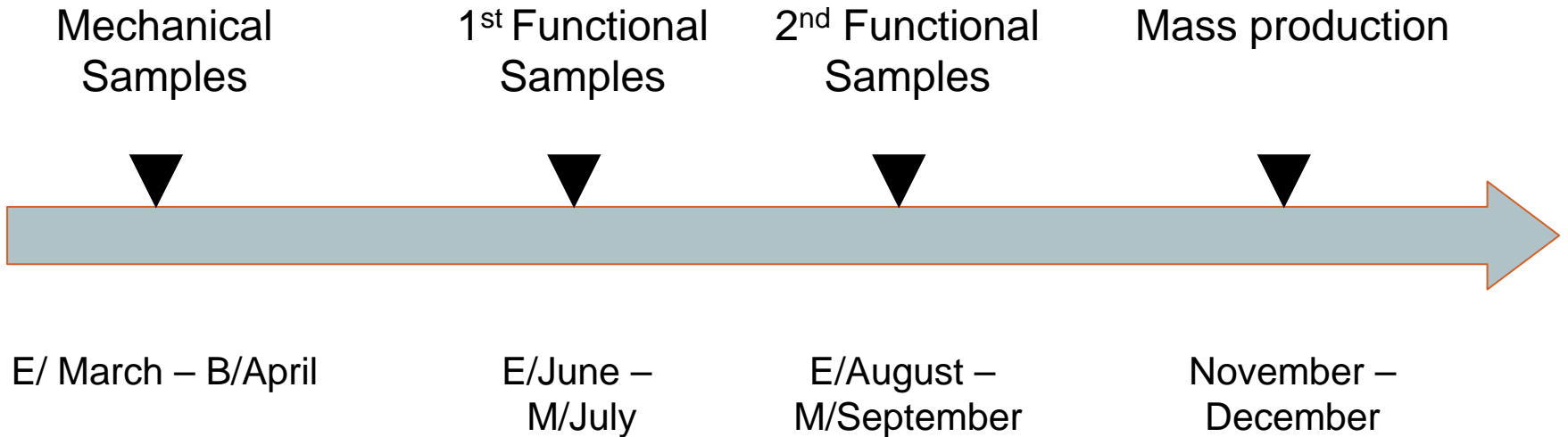
Questions and Answers (I)

Q: Which GPS chipset is used?

A: We have decided to use the Atmel chip. It provides the best performance regarding feature set, flexibility, technical performance, and costs.

Q: What is the outline of the GPS product?

A: The Atmel chip is a state-of-the-art GPS chipset. It is able to detect GPS signals with a sensitivity of -158dBm. That means, even indoor applications will become reality, weak satellite signals are able to be received.

Q: In what way does the GSM functionality interact with GPS? Will there be a better implementation between GSM and GPS, then the XT55?

A: The GPS functionality is full logically integrated in the GSM functionality. The GPS data will directly be addressed by the GSM module. Special AT commands, internal Java applications on the GSM part and external applications will have access to the GPS data via the GSM module. The customer has only to handle one common interface – the GSM module interface.

By the way, the XT55/ XT56 will be continued! It is not planned to stopp the XT55/ XT56 if the XT75/ XT65 will enter the market. The XT55/ XT56 is our module for those applications, which do not require highest GPS sensitivity, EDGE, GPRS class 12, and/ or Quadband.

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Questions and Answers (II)

Q: How are the RF connections designed?

A: The GSM antenna will be connected to the same Hirose RF connector as the MC75/ TC65/ TC63 platform. The GPS antenna will be connected to a second Hirose RF connector. On the backside of the module, antenna pads are existing for contacting coax cables. Please be aware, either the Hirose connectors or the antenna pad can be used at the same time.

Q: What is the time schedule for this product?

A: First functional samples are planned to be available end of June. Further functional samples could be offered to the customers end of September/ begin of October. The mass production is planned to start in November or December this year.

Q: Will it be possible with power management of the GSM and GPS to improve the usage for battery power applications?

A: Yes, the power management is defined to support different modi. It is possible to power-down/ switch-off either the GPS part, the GSM part (airplane mode), or both parts of the module. Depending on the requirements of applications for fleet management, tracking and tracing a sufficient power management will be implemented.

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Questions and Answers (III)

Q: Any idea on the price level?

A: Very good question! The target is to offer the XT75 (EDGE) on a higher price level than the XT65 (GPRS). As we are able to offer the best combi module in the market – high GPS sensitivity combined with state-of-the-art communication part – we expect market prices in the higher level. Unfortunately it is currently not possible to give a price level covering all types of customers and regions. Please calculate with an MC75 as basis module plus the Java functionality, plus state-of-the-art GPS functionality, and the advantage of the full logical integration. The customer will get the best fitting combi module, tested, approved and ready-to-use. Even the problems of discrete solutions (e.g., major problems with the losses between GSM and GPS antenna) are already solved for the customer.

Q: Will there be a terminal solution as well?

A: Currently, we do not plan a terminal solution. First of all we want to offer a competitive module to the market.

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