

# Evolution Platform

## Connector Modules



MC75i, TC65i, TC63i  
Full flexibility – same dimensions



Evolution Platform



Powerful Processor  
Large Memory



SIM Access Profile



Quad-Band



TCP/IP



EDGE Class 12



Industrial Interface



GPRS Class 12



USB



Java™



RIL Driver

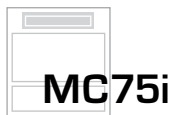


EDGE, GPRS, GSM, Java™, optimized size and performance (with an ARM9 processor), RLS Monitor (Jamming Detection) – these are just a few of the features offered by the MC75i, TC65i, and TC63i. Apart from the difference in lengths, the new platform's modules are compatible with the MC75, TC65, and TC63 modules. The three new modules share the same technology platform offering Quad-Band GSM, TCP/IP functionality, and M2M interfaces such as serial or I<sup>2</sup>C bus. They also share the same size, mounting arrangement, and command set, ensuring full compatibility. Designed to satisfy

the needs of different M2M applications such as metering, security, and remote maintenance and control, each module's focus varies in terms of data transmission speed and the Java™ open platform. The feature rich platform affords you great flexibility, enabling you to respond to changing demands simply by switching to another of the platform's modules. The hallmarks of this new platform include optimized performance, miniaturized dimensions, and enriched features. And with all this, it offers three topdrawer modules today that are ready to satisfy tomorrow's demands.

# MC75i, TC65i, TC63i

## Same dimensions, full flexibility



- EDGE Class 12
- GPRS Class 12
- GSM

**MC75i Wireless Module | EDGE up your business** — EDGE, short for Enhanced Data rates for GSM Evolution, is the fastest transmission standard in GSM networks. The MC75i lets you apply this technology wherever you wish to transmit certain data. Alongside this core technology, the MC75i comes with a TCP/IP stack over AT, serial and USB ports, and a RIL driver for Microsoft® Windows™ Mobile 6.1 based devices.



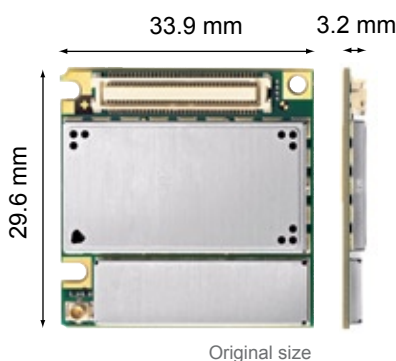
- GPRS Class 12
- GSM
- JAVA™

**TC65i Wireless Module | The M2M application platform** — At the heart of the TC65i is the Java™ Virtual Machine, making it a highperformance, open-platform module. The powerful Java™ platform runs on the embedded hardware, like the ARM9 processor and the memory which is tuned and aligned to it. The TC65i leverages this platform-and-processor combination alongside GPRS technology, a TCP/IP stack over AT, and an array of industrial interfaces such as SPI, I<sup>2</sup>C bus, AD/DA converter, and GPIOs to speed up time to market and cut development costs.



- GPRS Class 12
- GSM

**TC63i Wireless Module | Top-of-the-scale M2M connectivity** — The TC63i features GPRS Class 12 functionality, an integrated TCP/IP stack over AT as well as industrial interfaces SPI, I<sup>2</sup>C bus and USB port. This makes it the perfect choice for M2M applications where a microcontroller is already available and only a highperformance wireless communications connection is needed. Rounding out the product platform, the TC63i embodies the grow-as-you-go benefits of this triple-module package: You can use it to satisfy basic GPRS needs, and as demand for EDGE technology grows, switch to the MC75i without investing money to redevelop the application.



**EDGE Class 12** — The highest symmetric data speed (236.8 kbps in uplink and downlink) for M2M applications requiring fast data transmissions.

**GPRS Class 12** — High symmetric data speed (86 kbps in uplink and downlink) for M2M applications.

**RLS Monitoring** — Remote Link Stability Monitoring providing network performance information which enables for example effective customized jamming detection.

**Advanced Temperature Management** — Protects the module in critical thermal environments to maintain reliability and functionality, allowing a long product life time.

**Internal Memory** — Fully integrated and optimized internal memory for highest reliability and easy design-in.

**Java™** — Java offers easy and fast application development, a broad choice of tools, high code reusability, easy maintenance, a proven security concept, on-device debugging as well as multi-threading programming and program execution.

**Multi SIM Interface** — Flexible SIM interface enables usage of the best fitting and newest SIM technology — from regular SIM cards to M2M component SIM's.

	MC75i	TC65i	TC63i
	EDGE	Java™	GPRS Advanced
<b>General features</b>			
Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)	Group 3, class 1	Group 3, class 1	Group 3, class 1
EDGE (E-GPRS) multi-slot	Class 12		
GPRS multi-slot	Class 12	Class 12	Class 12
Circuit Switched Data	Up to 14.4 kbps	Up to 14.4 kbps	Up to 14.4 kbps
SMS	•	•	•
Fax			
SIM Application Toolkit (release 99)	•	•	•
TCP/IP stack access via AT commands	•	•	•
Internet services: TCP, UDP, HTTP, FTP, SMTP, POP3	•	•	•
Supply voltage range: 3.2 ... 4.5 V	•	•	•
Operational temperature range: -40°C to +75°C, switch off: > +80°C	•	•	•
Dimensions: 33.9 x 29.6 x 3.2 mm	•	•	•
Weight: 5.5 g	•	•	•
<b>Specification for EDGE data transmission</b>			
EDGE Class 12	Max. 236.8 kbps (DL and UL)		
Modulation and coding schemes MCS 1-9	•		
<b>Specification for GPRS data transmission</b>			
GPRS Class 12	Max. 86 kbps (DL and UL)	Max. 86 kbps (DL and UL)	Max. 86 kbps (DL and UL)
Coding schemes CS 1-4	•	•	•
<b>Specification for voice</b>			
Triple-rate codec for HR, FR, and EFR	•	•	•
Adaptive multi-rate AMR	•	•	•
Hands-free operation, Echo cancellation & Noise reduction	•	•	•
<b>Java™ features</b>			
Java™ profile IMP-NG & CLDC 1.1 HI		•	
Secure data transmission with HTTPS, SSL, and PKI		•	
Multi-threading programming and program execution		•	
<b>Special features (extract)</b>			
RIL driver for Microsoft® Windows Mobile™ 6.1 based devices	•		
Character framing 7E1 and 8E1 at serial interface	•	•	•
SIM Access Profile integrated	•	•	•
RLS Monitoring	•	•	•
Advanced Temperature Management	•	•	•
<b>Interfaces (LGA pads)</b>			
Antenna 50 Ω solder pad	•	•	•
Audio: 2 x analog, 1 x digital	•	•	•
Serial interfaces (ITU-T V.24 protocol)	2	2	2
SIM card interface	3 V, 1.8 V	3 V, 1.8 V	3 V, 1.8 V
USB 2.0 full speed	•	•	•
I <sup>2</sup> C & SPI bus	•	•	•
Analog in and analog out (ADC and PWM)		2 ADC, 1 PWM	
Multiple GPIOs		•	
<b>Approvals</b>			
CE, R&TTE, GCF, UL, FCC, IC, PTCRB	•	•	•
Local approvals and network operator certifications (list available)	•	•	•

For detailed specification please see Hardware Interface Description.



**CINTERION**  
WIRELESS MODULES



#### **Cinterion Global Support**

Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

The Cinterion support includes:

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- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops

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Further information about our products and services is also accessible via [www.cinterion.com](http://www.cinterion.com)

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#### **About Cinterion Wireless Modules**

Cinterion Wireless Modules is a leading supplier of machine-to-machine communication devices and solutions based on HSDPA, EDGE, GPRS and GSM technologies. Our broad product portfolio of fully certified and high quality products offer communication for a wide range of applications, including automotive, metering, remote maintenance, e-health, e-toll systems, POS systems, tele-services, industrial PDA's, routers and gateways, security systems, as well as tracking and tracing.

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