

## CINTERION Wireless Modules Product Families



### Automotive

The Automotive Products are designed to meet the high requirements of the automotive industry and are manufactured according to TS16949 quality standards.



### M2M Advanced

The M2M Advanced Family is designed for applications, which require latest cellular technologies in M2M quality. The wireless broadband technologies UMTS and HSPA including backward compatibility with EDGE, GPRS and GSM are served.



### M2M Evolution

M2M Evolution Products offer scalability, compatibility as well as an easy path to future upgrades and added functionality as technology needs expand. Portfolio benefits include maximum flexibility, high functionality, ease of integration, as well as backward and forward compatibility, which ensures a reliable, high quality and cost efficient solution that preserves your technology investment.



### M2M Value

M2M Value products are designed for applications, which require an industry standard M2M feature set. They are optimized for single application cases with fixed demands. The M2M Value family includes vertical specific products for tracking and tracing with on board GPS functionality.



### Terminals

Terminals are an easy and fast way to add M2M communication capabilities to an application. The terminal products can be connected via standard interfaces to the application.



## High-quality GSM/GPRS/EDGE & UMTS/HSPA Modules and Terminals

CINTERION is the worldwide leading supplier of cellular machine-to-machine (M2M) communication modules and combines unparalleled M2M engineering expertise and localized worldwide customer support with a strong portfolio of high-quality GSM, GPRS, EDGE, UMTS and HSPA products.

CINTERION is a reliable partner and valued by many vertical market customers for its award-winning modules which enable machines, equipment and vehicles to communicate over wireless networks helping enterprises dramatically cut costs and increase productivity and efficiency.

We deliver high-quality GSM/GPRS/EDGE and UMTS/HSPA modules and terminals, and provide leading-edge support for integration, all over the world. Our wireless modules are based

on the UMTS and/or GSM standard. This technology provides users with unlimited mobility due to worldwide coverage and the closely interwoven roaming network. The respective data standards, GPRS, EDGE and HSPA offer reliable data connections with high data rates enabling data centric applications.

Our modules are readily customized to suit unique needs by combining them with other innovative features such as Java™, GPS, and SIM Access Profile. Full type approval (FTA) and local network operator certifications ensure all modules integrate easily into the GSM network. All products comply with ISO TS16949 quality benchmarks to deliver the high quality you have come to expect from Cinterion. What's more, we adhere to RoHS and WEEE environmental regulations for compliance with legislative directives.

CINTERION  
St-Martin-Str. 53  
81669 Munich  
Germany

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

### About CINTERION

CINTERION 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.

The information provided in this brochure contains merely general descriptions or characteristics of performance, which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. All product designations may be trademarks or product names of CINTERION or supplier companies whose use by third parties for their own purposes could violate the rights of the owners. Java and the Java logo are registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

### CINTERION Global Support




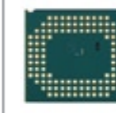
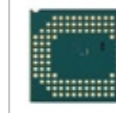
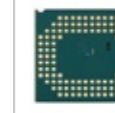
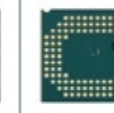
Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.





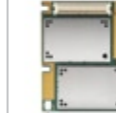
The Cinterion support includes:

- Personal design-in consulting for hardware and software
- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops




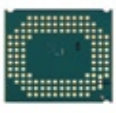


# CINTERION Wireless Modules Products

Product family	M2M Evolution						M2M Value
Product	MC75i	TC65i	TC63i	EES3	EGS5	EGS3	BGS3
	EDGE	Java™	GPRS	EDGE	Java™	GPRS	GPRS
							
Frequency range	QB GSM/GPRS EDGE	QB GSM/GPRS	QB GSM/GPRS	QB GSM/GPRS EDGE	QB GSM/GPRS	QB GSM/GPRS	QB GSM/GPRS
Embedded processing		Java™			Java™		
GPS							
Dimensions	33.9x35x3.3mm	33.9x35x3.3mm	33.9x35x3.3mm	33.9x29.6x3.2mm	33.9x29.6x3.2mm	33.9x29.6x3.2mm	33.9x29.6x3.2mm
Temperature range	-40°C to +75°C	-40°C to +75°C	-40°C to +75°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Voice	•	•	•	•	•	•	•
<b>Data Transmission</b>							
HSPA							
UMTS							
EDGE	Class 12			Class 12			
GPRS	Class 12	Class 12	Class 12	Class 12	Class 12	Class 12	Class 10
CSD	•	•	•	•	•	•	•
SMS	•	•	•	•	•	•	•
Fax	•	•	•	•	•	•	•
TCP/IP connectivity	•	•	•	•	•	•	•
<b>Interfaces</b>							
Antenna connector	U.FL-R-SMT	U.FL-R-SMT	U.FL-R-SMT	via LGA pad	via LGA pad	via LGA pad	via LGA pad
Antenna solder pad	•	•	•	via LGA pad	via LGA pad	via LGA pad	via LGA pad
Board-to-board connector	80-pin	80-pin	80-pin				
Surface mounting				LGA	LGA	LGA	LGA
Multi SIM interface	•	•	•	•	•	•	•
Audio analog/digital	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x
Serial interfaces	2x	2x	2x	2x	2x	2x	2x
USB	•	•	•	•	•	•	•
PC bus	•	•	•	•	•	•	•
SPI bus	•	•	•	•	•	•	•
ADC/DAC		2x/1x			2x/1x		
Dedicated multiple GPIO's (digital)		•			•		
<b>Approvals</b>							
R&TTE	•	•	•	•	•	•	•
GCF	•	•	•	•	•	•	•
FCC, UL, IC, PTCRB	•	•	•	•	•	•	•
Japanese approvals (Jate, Telec)							
CE	•	•	•	•	•	•	•
Local operator certifications	•	•	•	•	•	•	•
Automotive e-mark							
<b>Special features</b>							
Over-the-air update		•			•		
RLS-Monitor (Jamming Detection)	•	•	•	•	•	•	•
Advanced Temperature Management	•	•	•	•	•	•	•
NDIS driver							
RIL driver	•			•			•
Multiplex driver Microsoft® Windows	•	•	•	•	•	•	•
Character framing	7E1 & 8E1	7E1 & 8E1	7E1 & 8E1	7E1 & 8E1	7E1 & 8E1	7E1 & 8E1	
SIM Access Profile	•	•	•	•	•	•	
Advanced Automotive features							
IMDS listed & GADSL compliant							
<b>Environmental regulations</b>							
RoHS compliant	•	•	•	•	•	•	•
WEEE compliant							

Product family	M2M Value		M2M Advanced		
Product	MC55i	BG2	HC28/HC28-J	HC25	EU3
	GPRS	GPRS	HSDPA	HSDPA	HSDPA
					
Frequency range	QB GSM/GPRS	QB (BG2-W) DB (BG2-E) GSM/GPRS	TB 3G (HC28) DB 3G (HC28-J) QB 2G (H28) DB 2G (HC28-J)	TB 3G QB 2G	TB 3G (EU3-P) DB 3G (EU3-E) DB 2G
Embedded processing					
GPS					
Dimensions	35x32.5x2.95mm	26.7 x 31 x 3 mm	33.9 x 50 x 4.5 mm	33.9 x 50 x 4.5 mm	33.9 x 44.6 x 5 mm
Temperature range	-40°C to +70°C	-40°C to +85°C	-30°C to +75°C	-30°C to +75°C	-40°C to +85°C
Voice	•	•	•	•	•
<b>Data Transmission</b>					
HSPA			HSDPA 3.6Mbps	HSDPA 3.6Mbps	HSDPA 3.6Mbps
UMTS			•	•	•
EDGE			Class 10	Class 10	Class 10
GPRS	Class 10	Class 10/8	Class 10	Class 10	Class 10
CSD	•	•	•	•	•
SMS	•	•	•	•	•
Fax	•	•	•	•	•
TCP/IP connectivity	•	•			•
<b>Interfaces</b>					
Antenna connector	U.FL-R-SMT		2 x U.FL-R-SMT	2 x U.FL-R-SMT	U.FL-R-SMT
Antenna solder pad	•		•	•	•
Board-to-board connector	50-pin	60-pin	50-pin	50-pin	80-pin
Surface mounting					
Multi SIM interface	•	•	•	•	•
Audio analog/digital	2x/1x	1x/-	1x /-	1x /-	1x/1x
Serial interfaces	2x	2x	1x	1x	1x
USB			•	•	•
PC bus		•			
SPI bus					
ADC/DAC		1x/1x			1x/-
Dedicated multiple GPIO's (digital)		10			10
<b>Approvals</b>					
R&TTE	•	•	•	•	•
GCF	•	•	•	•	•
FCC, UL, IC, PTCRB	•	• (BG2-W)	• (HC28)	•	•
Japanese approvals (Jate, Telec)					
CE	•	•	•	•	•
Local operator certifications	•	•	•	•	•
Automotive e-mark					
<b>Special features</b>					
Over-the-air update					
RLS-Monitor (Jamming Detection)					•
Advanced Temperature Management	•	•	•	•	•
NDIS driver			•	•	
RIL driver	•		•	•	
Multiplex driver Microsoft® Windows	•		•	•	•
Character framing					
SIM Access Profile					
Advanced Automotive features					
IMDS listed & GADSL compliant					
<b>Environmental regulations</b>					
RoHS compliant	•	•	•	•	•
WEEE compliant					

QB=Quad-Band | TB=Tri-Band | DB=Dual-Band

For detailed specification please see Hardware Interface Description.

Product family	Automotive		Terminals	
Product	AC65i/AC75i	AGS3	TC65T	MC55iT/MC52iT
	EDGE/GPRS	GPRS	Java™	GPRS
				
Frequency range	QB GSM/GPRS EDGE	QB GSM/GPRS	QB GSM/GPRS	QB (MC55iT) DB (MC52iT) GSM/GPRS
Embedded processing	Java™ (AC65i)		Java™	
GPS				
Dimensions	33.9 x 45 x 4 mm	33.9x29.6x3.2mm	90 x 130 x 38 mm	65 x 74 x 33 mm
Temperature range	-40°C to +85°C	-40°C to +85°C	-30°C to +75°C	-30°C to +75°C
Voice	•	•	•	•
<b>Data Transmission</b>				
HSPA				
UMTS				
EDGE	Class 12 (AC75i)			
GPRS	Class 12	Class 12	Class 12	Class 10/8
CSD	•	•	•	•
SMS	•	•	•	•
Fax	•	•	•	•
TCP/IP connectivity	•	•	•	•
<b>Interfaces</b>				
Antenna connector	Rosenberger SMP	via LGA pad	SMA	FME
Antenna solder pad		via LGA pad		
Board-to-board connector	80-pin			
Surface mounting		LGA		
Multi SIM interface	•	•		
Audio analog/digital	2x/1x PCM	2x/1x	handset interface	handset interface
Serial interfaces	2x	2x	9 pin sub-D	9 pin sub-D
USB	•	•		
PC bus	•	•	•	
SPI bus	•	•		
ADC/DAC	2x/1x		2x/1x	
Dedicated multiple GPIO's (digital)	•		•	
<b>Approvals</b>				
R&TTE	•	•	•	•
GCF	•	•	•	•
FCC, IC, PTCRB	•	•	•	• (MC55iT)
Japanese approvals (Jate, Telec)				
CE	•	•	•	•
Local operator certifications	•	•	•	•
Automotive e-mark	•	•	•	•
<b>Special features</b>				
Over-the-air update	• (AC65i)		•	
RLS-Monitor (Jamming Detection)	•	•	•	
Advanced Temperature Management	•	•	•	•
NDIS driver				
RIL driver	• (AC75i)			
Multiplex driver Microsoft® Windows	• (AC75i)	•		•
Character framing	7E1 & 8E1	7E1 & 8E1	7E1 & 8E1	
SIM Access Profile	•	•		
Advanced Automotive features	•	•		
IMDS listed & GADSL compliant	•	•		
<b>Environmental regulations</b>				
RoHS compliant	•	•	•	•
WEEE compliant			•	•