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	33.9 x 35 x 3.3 mm	33.9 x 35 x 3.3 mm	33.9 x 35 x 3.3 mm	33.9 x 29.6 x 3.2 mm	33.9 x 29.6 x 3.2 mm	33.9 x 29.6 x 3.2 mm	33.9 x 29.6 x 3.2 mm
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	●	●	●	●	●	●	●
Data Transmission							
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	●	●	●	●	●	●	●
Interfaces							
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	●	●	●	●	●	●	
I²C bus	●	●	●	●	●	●	
SPI bus	●	●	●	●	●	●	
ADC/DAC		2x/1x			2x/1x		
Dedicated multiple GPIO's (digital)		●			●		
Approvals							
R&TTE	●	●	●	●	●	●	●
GCF	●	●	●	●	●	●	●
FCC, UL, IC, PTCRB	●	●	●	●	●	●	●
Japanese approvals (Jate, Telec)							
CE	●	●	●	●	●	●	●
Local operator certifications	●	●	●	●	●	●	●
Automotive e-mark							
Special features							
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							
Environmental regulations							
RoHS compliant	●	●	●	●	●	●	●
WEEE compliant							

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

Product family	M2M Value			M2M Advanced			
Product	**MC55i/MC55i-W**	**BG2**	**BGS2**	**HC28/HC28-J**	**HC25**	**EU3**	**PH8**
	GPRS	GPRS	GPRS	HSDPA	HSDPA	HSDPA	HSPA+
							
Frequency range	QB GSM/GPRS	QB (BG2-W) DB (BG2-E) GSM/GPRS	QB (BGS2-W) DB (BGS2-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	FB 3G QB 2G
Embedded processing							
GPS				●	●		●
Dimensions	35 x 32.5 x 2.95 mm	26.7 x 31 x 3 mm	18.8 x 26.7 x 2.7 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	50 x 33.9 x 3.1 mm
Temperature range	-40°C to +85°C*	-40°C to +85°C	-40°C to +85°C	-30°C to +75°C	-30°C to +75°C	-40°C to +85°C	-40°C to +85°C
Voice	●	●	●	●	●	●	●
Data Transmission							
HSPA				HSDPA 3.6 Mbps	HSDPA 3.6 Mbps	HSDPA 3.6 Mbps	HSPA+ 14.4 Mbps
UMTS				●	●	●	●
EDGE				Class 10	Class 10	Class 10	Class 12
GPRS	Class 10	Class 10/8	Class 10/8	Class 10	Class 10	Class 10	Class 12
CSD	●	●	●	●	●	●	●
SMS	●	●	●	●	●	●	●
Fax	●	●	●	●	●	●	●
TCP/IP connectivity	●	●	●			●	
Interfaces							
Antenna connector	U.FL-R-SMT		via LGA pad	2 x U.FL-R-SMT	2 x U.FL-R-SMT	U.FL-R-SMT	3 x U.FL-R-SMT
Antenna solder pad	●		via LGA pad	●	●	●	
Board-to-board connector	50-pin	60-pin		50-pin	50-pin	80-pin	80-pin
Surface mounting			LGA				
Multi SIM interface	●	●	●	●	●	●	●
Audio analog/digital	1x/1x	1x/-	1x/1x	1x /-	1x /-	1x/1x	1x/1x
Serial interfaces	2x	2x	2x	1x	1x	1x	2x
USB				●	●	●	●
I²C bus		●	●				
SPI bus							
ADC/DAC		1x/1x	1x/1x			1x/-	
Dedicated multiple GPIO's (digital)		10	10			10	
Approvals							
R&TTE	●	●	●	●	●	●	●
GCF	●	●	●	●	●	●	●
FCC, UL, IC, PTCRB	●	● (BG2-W)	● (BGS2-W)	● (HC28)	●		●
Japanese approvals (Jate, Telec)				●			
CE	●	●	●	●	●	●	●
Local operator certifications	●	●	●	●	●	●	●
Automotive e-mark							
Special features							
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							
Environmental regulations							
RoHS compliant	●	●	●	●	●	●	●
WEEE compliant							

* Temperature range MC55i: -40°C to +70°C

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	33.9 x 29.6 x 3.2 mm	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	●	●	●	●
Data Transmission				
HSPA				
UMTS				
EDGE	Class 12 (AC75i)			
GPRS	Class 12	Class 12	Class 12	Class 10/8
CSD	●	●	●	●
SMS	●	●	●	●
Fax	●	●	●	●
TCP/IP connectivity	●	●	●	●
Interfaces				
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	●	●		
I²C bus	●	●	●	
SPI bus	●	●	●	
ADC/DAC	2x/1x		2x/1x	
Dedicated multiple GPIO's (digital)	●		●	
Approvals				
R&TTE	●	●	●	●
GCF	●	●	●	●
FCC, IC, PTCRB	●	●	●	● (MC55iT)
Japanese approvals (Jate, Telec)				
CE	●	●	●	●
Local operator certifications	●	●	●	●
Automotive e-mark	●	●	●	●
Special features				
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	●	●		
Environmental regulations				
RoHS compliant	●	●	●	●
WEEE compliant			●	●

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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.

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

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Further information about our products and services is also accessible via www.cinterion.com

About CINTERION

CINTERION is the 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.

CINTERION

Intelligent M2M Communication

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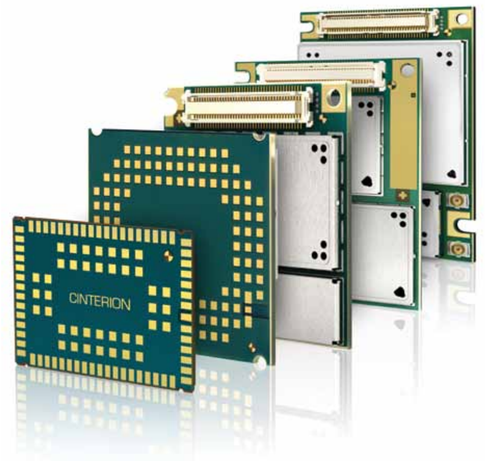
High-quality GSM/GPRS/EDGE & UMTS/HSPA Modules and Terminals



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.

WWW.CINTERION.COM