

GSM/GPRS/EDGE & UMTS/HSPA+

M2M Product Portfolio
Cinterion® Wireless Modules and Terminals

Cinterion® Product Portfolio

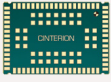
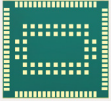
We are Experts in M2M

Gemalto M2M 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.


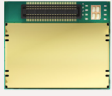
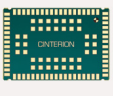
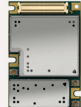



Gemalto M2M is a reliable partner and valued by many vertical market customers for its award-winning modules which enable machines, equipment and vehicles to communicate over wireless networks helping enterprises dramatically cut costs and increase productivity and efficiency.

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 Gemalto M2M. What's more, we adhere to RoHS and WEEE environmental regulations for compliance with legislative directives.

Product family	M2M Evolution	
	EHS5	EHS6
Product	HSPA	HSPA
		
Frequency range	DB 3G DB 2G	FB 3G QB 2G
Embedded processing	Java™	Java™
Extended memory	•	•
GPS, prepared for GLONASS		
Dimensions (in mm)	27.6 x 18.8 x 2.3	27.6 x 25.4 x 2.3
Temperature range	-40 °C to +85 °C	-40 °C to +85 °C
Voice	•	•
Data Transmission		
HSPA	HSDPA 7.2 Mbps	HSDPA 7.2 Mbps
UMTS	•	•
CDMA		
EDGE	Class 12	Class 12
GPRS	Class 12	Class 12
CSD	•	•
SMS	•	•
Fax		
TCP/IP connectivity	•	•
Prepared for eCall / ERA GLONASS		
Interfaces		
Antenna connector	via LGA pads	via LGA pads
Antenna solder pad		
Board-to-board connector		
Surface mounting	LGA	LGA
Audio analog/digital	-/1x	-/1x
Serial interfaces	•	•
USB	•	•
I²C bus	•	•
SPI bus	•	•
ADC/DAC	1x/-	1x/-
Dedicated multiple GPIO's (digital)	•	•
Approvals		
R&TTE / GCF	•	•
FCC, UL, IC, PTCRB	•	•
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	•	•
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-W	BG2	BGS2	PH8	PHS8	PXS8	PVS8
	GPRS	GPRS	GPRS	HSPA+	HSPA+	CDMA / HSPA+	CDMA
							
Frequency range	QB 2G	QB 2G (BG2-W) DB 2G (BG2-E)	QB 2G (BGS2-W) DB 2G (BGS2-E)	FB 3G QB 2G	FB 3G QB 2G	FB 3G QB 2G DB CDMA2000	DB CDMA2000
Embedded processing							
Extended memory							
GPS, prepared for GLONASS				•	•	•	•
Dimensions (in mm)	32.5 x 35 x 2.95	31 x 26.7 x 3	27.6 x 18.8 x 2.7	33.9 x 50 x 3.1	33 x 29 x 2	33 x 29 x 2	33 x 29 x 2
Temperature range	-40 °C to +85 °C*	-40 °C to +85 °C	-40 °C to +85 °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				HSPA+ 14.4 Mbps	HSPA+ 14.4 Mbps	HSPA+ 14.4 Mbps	
UMTS				•	•	•	
CDMA						•	•
EDGE				Class 12	Class 12	Class 12	
GPRS	Class 10	Class 10/8	Class 10	Class 12	Class 12	Class 12	
CSD	•	•	•	•	•	•	
SMS	•	•	•	•	•	•	•
Fax	•	•	•	•			
TCP/IP connectivity	•	•	•	•	•		
Prepared for eCall / ERA GLONASS							
Interfaces							
Antenna connector	U.FL-R		via LGA pads	3 x U.FL-R	via LGA pads	via LGA pads	via LGA pads
Antenna solder pad	•						
Board-to-board connector	50-pin	60-pin		80-pin			
Surface mounting			LGA		LGA	LGA	LGA
Audio analog/digital	1x/1x	1x/-	1x/1x	1x/1x	1x/1x	1x/1x	1x/1x
Serial interfaces	2x	2x	2x	1x	1x	1x	1x
USB				•	•	•	•
I ² C bus		•	•				
SPI bus							
ADC/DAC		1x/1x	1x/1x				
Dedicated multiple GPIO's (digital)		•	•				
Approvals							
R&TTE / GCF	•	•	•	•	•	•	
FCC, UL, IC, PTCRB	•	• (BG2-W)	• (BGS2-W)	•	•	•	•
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	•		•	•	•	•	•
SIM Access Profile							
Advanced Automotive features							
IMDS listed & GADSL compliant							
Environmental regulations							
RoHS compliant	•	•	•	•	•	•	•
WEEE compliant							

For detailed specification please see hardware interface description.

Product family	Automotive			Terminal	M2M miniPCIe	
Product	AH3	AGS2	AHS3	BGS2T	miniPCIe BGS2	miniPCIe EHS5
	HSPA+	GPRS	HSPA+	GPRS	GPRS	HSPA
						
Frequency range	QB 3G (AH3-W) TB 3G (AH3-US) QB 2G	QB 2G	TB 3G (AHS3-W) DB 3G (AHS3-US) QB 2G	QB 2G	QB 2G	DB 3G DB 2G
Embedded processing						
Extended memory						
GPS, prepared for GLONASS	•		•			
Dimensions (in mm)	53 x 33.9 x 3.1	27.6 x 18.8 x 2.7	33 x 29 x 2.4	80 x 55 x 23*	51 x 30 x 4.8	51 x 30 x 4.7
Temperature range	-40 °C to +85 °C	-40 °C to +90 °C	-40 °C to +85 °C	-30 °C to +75 °C	-40 °C to +85 °C	-40 °C to +85 °C
Voice	•	•	•			
Data Transmission						
HSPA	HSPA+ 14.4 Mbps		HSPA+ 14.4 Mbps			HSDPA 7.2 Mbps
UMTS	•		•			•
CDMA						
EDGE	Class 12		Class 12			Class 12
GPRS	Class 12	Class 10	Class 12	Class 10	Class 10	Class 12
CSD	•	•	•	•		
SMS	•	•	•	•	•	•
Fax		•		•		
TCP/IP connectivity	•	•	•	•		
Prepared for eCall / ERA GLONASS	•/•	•/-	•/•			
Interfaces						
Antenna connector	via pogo pads	via LGA pads	via LGA pads	SMA	U.FL-R	U.FL-R
Antenna solder pad						
Board-to-board connector	80-pin				52-pin (PCIe)	52-pin (PCIe)
Surface mounting		LGA	LGA			
Audio analog/digital	1x/1x	1x/1x	1x/1x			
Serial interfaces	1x	2x	1x	RS-232 or RS-485		
USB	•		•			
I ² C bus		•	•			
SPI bus						
ADC/DAC		1x/1x				
Dedicated multiple GPIO's (digital)		•				
Approvals						
R&TTE / GCF	•	•	•	•	•	•
FCC, IC, PTCRB	•	•	•	•	•	•
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	•	•	•	•		
SIM Access Profile	•		•			
Advanced Automotive features	•	•	•			
IMDS listed & GADSL compliant	•	•	•			
Environmental regulations						
RoHS compliant	•	•	•	•	•	•
WEEE compliant				•		

*] ex. connector

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.



M2M miniPCIe

M2M miniPCIe solutions are designed for industrial M2M applications based on x86-processor architectures. The Cinterion M2M miniPCIe complies with the PCI Express® Mini Card standard and meets extended quality and temperature requirements to ensure a durable 24x7 operation in outdoor environments and uncontrolled indoor environments in industrial facilities.

Gemalto M2M Support includes:

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



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.

For more information, please visit

gemalto.com/m2m, www.facebook.com/gemalto, or Follow @gemaltom2m on twitter.

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