MultiModem® iCell

Intelligent Cellular Modems

MultiTech® Systems

The MultiModem® iCell family of intelligent cellular modems offers a broad range of options including 2G and 3G models as well as a full line of GSM and CDMA models. All MultiModem iCell modems are fully certified and carrier approved so you can get to market extremely fast allowing customers to start obtaining the benefits of M2M. Multi-Tech products are designed specifically for M2M applications thus they are durable, stable, reliable, and easy to deploy. In addition, the MultiModem iCell includes Universal IP® stack which allows users to implement enhanced M2M functions such as persistent connectivity, event monitoring, and others.
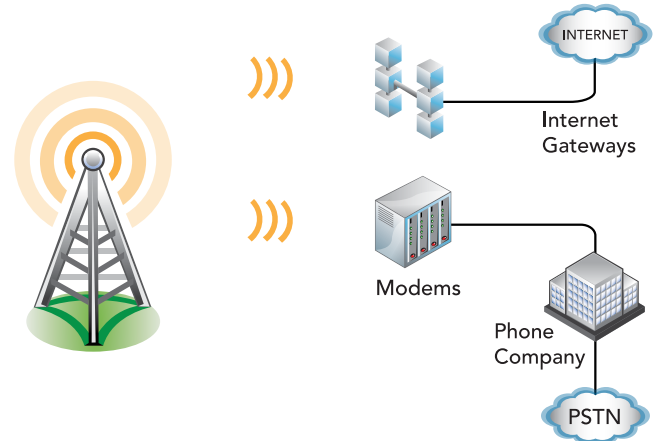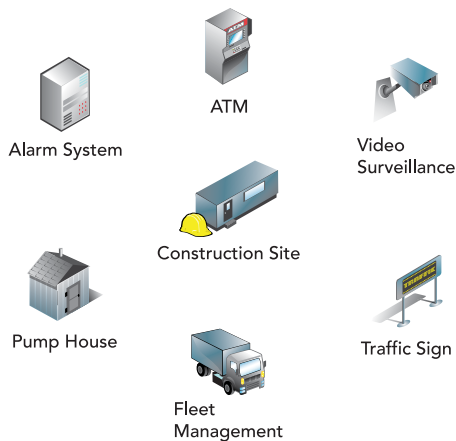
Features

- 3G and 2G models available
- GSM and CDMA models available
- Models with GPS tracking capability
- USB and Serial connectors
- GPIO connectivity
- Universal IP Stack for enhanced M2M functionality
- FCC, PTCRB, Industry Canada, and R&TTE certified
- Carrier approved
- Two year warranty

Benefits

- Quick deployments to shorten time to market
- Long and stable life cycles
- Certified and Carrier approved

M2M Simplified.™ *Innovative Designs, Innovative Solutions.*

Specifications

Models	MTCMR-H5	MTCMR-EV2	MTCMR-E1
Technical Specifications			
Performance	HSPA+	EV-DO Rev A backwards compatible to EV-DO Rev 0 and CDMA2000 1xRTT	EDGE: E-GPRS Class 12 GPRS: Multislot Class 12
Frequency Band	Penta band 850/900/1700/1900/2100 MHz	Dual band 800/1900 MHz	Quad band 850/900/1800/1900 MHz
Packet Data*	HSDPA data service of up to 21.0 Mbps HSUPA data service of up to 5.76 Mbps	Up to 153.6K bps forward and reverse	EDGE: E-GPRS up to 240K bps, coding scheme MCS1-9, mobile station Class B, LLC layer, 4 time slots GPRS: Full PBCCH support, coding scheme 1-4, mobile station Class B
Circuit Switched Data	NA	IS-95A, IS-95B up to 14.4K bps forward and reverse	Up to 14.4 Kbps, non-transparent
SMS	Text & PDU, Point-to-Point, Cell broadcast		
Universal IP Features	TCP/IP Features: DNS resolve, FTP client, Ping, POP3 client, PPP (dial out), SMTP client, TCP RAW client & server, UDP RAW client and server, PAP, CHAP		
Voltage	9V to 32V DC		
Connectors			
RF Antenna Connector	50 ohm SMA (female connector)		
SIM Connector	Standard 1.8 and 3V SIM receptacle	NA	Standard 1.8 and 3V SIM receptacle
GPIO Connector	6 pin 2x3 style		
USB Connector	Type B		
RS-232 Connector	DE9		
Power Connector	2.5mm miniature (screw-on)		
Physical Description			
Physical Dimensions (L x W x H)	3.1" x 4.9" x 1.1" (7.9cm x 12.4cm x 2.8cm)		
Physical Weight	8 oz (227 g)		
Chassis Type	Industrial Metal		
Environmental			
Operating Temperature**	-22°to 167° F -30° to 75° C	-22°to 185° F -30° to 85° C	-31° to 167° F -35° to 75° C
Storage Temperature	-40°to 185° F (-40° to 85° C)		
Humidity	Relative humidity 20% to 90% noncondensing		
Certifications			
EMC Compliance Certifications	FCC Part 15 Class B, EN55022 Class B	FCC Part 15 Class B, EN55022 Class B	FCC Part 15 Class B, EN55022 Class B
Radio Compliance Certifications	FCC Part 22, 24, RSS132, 133, EN301 489-1, EN489-3 (GPS models only), EN301 489-7, EN301 489-24, EN301 511, EN301 908, AS/ACIF S042.1, S042.3	FCC Part 22, 24	FCC Part 22, 24, RSS132, 133, EN301 489-1, EN489-3 (GPS models only), EN301 489-7, EN301 511, EN301 908, AS/ACIF S042.1, S042.3
Safety Certifications	UL/cUL 60950-1 2nd Ed, IEC60950-1 2nd Ed am.1	UL/cUL 60950-1 2nd Ed, IEC60950-1 2nd Ed am.1	UL/cUL 60950-1 2nd Ed, IEC60950-1 2nd Ed am.1
Network Certifications	PTCRB		PTCRB

Specifications

Models	MTCMR-G2	MTCMR-C2
Technical Specifications		
Performance	GPRS Class 10	CDMA2000 1xRTT
Frequency Band	Quad band 850/900/1800/1900 MHz	Dual band 800/1900 MHz
Packet Data*	Up to 85.6K bps, coding schemes CS1 to CS4	Up to 153.6K bps forward and reverse
Circuit Switched Data	Up to 14.4 Kbps transparent and non-transparent	IS-95A, IS-95B up to 14.4K bps forward and reverse
SMS	Text & PDU, Point-to-Point, Cell broadcast	
Universal IP Features	TCP/IP Features: DNS resolve, FTP client, Ping, POP3 client, PPP (dial out), SMTP client, TCP RAW client & server, UDP RAW client and server, PAP, CHAP	
Voltage	9V to 32V DC	
Connectors		
RF Antenna Connector	50 ohm SMA (female connector)	
SIM Connector	Standard 1.8 and 3V SIM receptacle	NA
GPIO Connector	6 pin 2x3 style	
USB Connector	Type B	
RS-232 Connector	DE9	
Power Connector	2.5mm miniature (screw-on)	
Physical Description		
Physical Dimensions (L x W x H)	3.1" x 4.9" x 1.1" (7.9cm x 12.4cm x 2.8cm)	
Physical Weight	8 oz (227 g)	
Chassis Type	Industrial Metal	
Environmental		
Operating Temperature**	-40° to 185° F -40° to 85° C	
Storage Temperature	-40°to 185° F (-40° to 85° C)	
Humidity	Relative humidity 20% to 90% noncondensing	
Certifications		
EMC Compliance Certifications	FCC Part 15 Class B, EN55022 Class B	FCC Part 15 Class B, EN55022 Class B
Radio Compliance Certifications	FCC Part 22, 24, RSS132, 133, EN301 489-1, EN489-3 (GPS models only), EN301 489-7, EN301 511, EN301 908, AS/ACIF S042.1, S042.3	FCC Part 22, 24, RSS132, 133
Safety Certifications	UL/cUL 60950-1 2nd Ed, IEC60950-1 2nd Ed am.1	UL/cUL 60950-1 2nd Ed, IEC60950-1 2nd Ed am.1
Network Certifications	PTCRB	

* Actual performance speeds may be affected by a variety of attributes such as cell tower distance, data loads, packet sizes, etc.

**UL Listed @ 40°C, limited by power supply. UL Certification does not apply or extend to an ambient above 40°C and has not been evaluated by UL for ambient greater that 40°C. "UL has evaluated this device for use in ordinary locations only. Installation in a vehicle or other outdoor locations has not been evaluated by UL. UL Certification does not apply or extend to use in vehicles or outdoor applications or in ambient above 40°C."

Specifications

GPS Specifications

Accuracy	Position 2.5m CEP, Velocity 0.1 m/sec
Open Sky TTFF	Hot start 1 second Cold start 29 seconds Reacquistion <1s
Sensitivity Tracking	-161 dBm
Protocol	NMEA-0183, V3.01, GGA, GLL, GSA, GSV, RMC, VTG

GPIO Functions

Pin 1	Digital input, 24V tolerance
Pin 2	Digital input, 24V tolerance
Pin 3	Configurable as either Digital input (5V tolerant TTL/CMOS levels) or Digital output (3.3V High) or as an ADC input (0 to 3.3V rail)
Pin 4	Configurable as either Digital input (5V tolerant TTL/CMOS levels) or Digital output (3.3V High) or as an ADC input (0 to 3.3V rail)
Pin 5	ADC input (0 to 3.3V rail)
Pin 6	Ground and must be connected to the ground of the attached device

Ordering Information

GSM Products

Product	Description	Bundle Available	Region
MTCMR-H5	Intelligent HSPA+ Modem	Yes*	Regional
MTCMR-H5-GP	Intelligent HSPA+ Modem with GPS	No	Regional
MTCMR-E1	Intelligent EDGE Modem	Yes*	Global
MTCMR-E1-GP	Intelligent EDGE Modem with GPS	No	Global
MTCMR-G2	Intelligent GPRS Modem	Yes*	Global
MTCMR-G2-GP	Intelligent GPRS Modem with GPS	No	Global

* Bundles include power supply, antenna, and cables and are noted as follows.

-NAM Includes US style power plug

-EU Includes Euro style power plug

-GB/IE Includes UK style power plug

CDMA Products

Product	Description	Bundle Available	Region
MTCMR-EV2-Nx**	Intelligent EV-DO Rev A Modem	Yes*	USA
MTCMR-EV2-GP-Nx**	Intelligent EV-DO Rev A Modem with GPS	No	USA
MTCMR-C2-Nx**	Intelligent 1xRTT Modem	Yes*	Regional
MTCMR-C2-GP-Nx**	Intelligent 1xRTT Modem with GPS	No	Regional

* Bundles include power supply, antenna, and cables and are noted as follows.

-NAM Includes US style power plug

** Nx signifies the specific Carrier that the product is approved for

-N2 For Sprint Networks (USA)

-N3 For Verizon Wireless Networks (USA)

-N16 For Aeris Communications Networks (USA)

Use ordering codes for specific build options. Go to www.multitech.com for detailed product model numbers.

Services & Warranty

Multi-Tech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations. Products include a 2-year warranty that can be extended up to 5 years via Multi-Tech's Extended Warranty program, which offers the convenience of Overnight Service* for optimal uptime.

Extended Warranty & Overnight Services

To give you peace-of-mind and protect your investment, our Extended Warranty Service Plans ensure your Multi-Tech products are covered for 1, 2, or 3 years beyond the manufacturer's warranty with an optional Overnight Service plan*.

Installation Support

Multi-Tech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced Multi-Tech technical support engineer, to guide you through the installation process for our products.

Technical Support Services

At Multi-Tech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your Multi-Tech representative or visit www.multitech.com/support.go.

* Overnight replacement service is currently available for U.S. customers.

World Headquarters

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