

MTX-3G-JAVA Family

Intelligent Java enabled applications HSPA Modem



Java programmable



Five Band UMTS (WCDMA) HSPA+



I2C Optocoupled GPIO



USB 2.0 RS232/RS485



Analog inputs



GPS/GLONASS



Ultra Low Power Lithium Battery



WiFi Bluetooth/ZigBee ISM RF



Extended Temperature Range



Automatic restart after shutdown



The MTX-3G-JAVA modem is an innovative and powerful all-in-one solution enabling GSM voice, SMS, fax and **3G (UMTS/HSPA) high speed data transmission**. It has an intrinsic TCP/IP communication stack with Internet Services such: TCP, UDP, HTTP, FTP, SMTP, and POP3.

The MTX-3G-JAVA is **Java J2ME programmable** and has a **complete set of interfaces** (RS232, RS485, USB, GPIO, I2C, GPIO, optoisolated IOs, Analog-to-Digital converter) avoiding need for further hardware components, shortening time to market and reducing costs. It also has a wide range of options allowing it to be used in **infinite M2M applications**:

- **Ultra Low Power:** 2.5µA power consumption in sleep mode. Ideal in remote-battery operated systems
- **GNSS module inside:** GPS and GLONASS receiver modules allow track & location applications
- **Hardware Watchdog** and internal **Li-Po battery**
- **RS485 port:** isolated input/output for industrial use
- **RF card:** allows for easy development of RF gateways (Wavenis, WiFi, Bluetooth, ZigBee, ISM 868/915)

Industrial features: the modem can be used in industrial applications due to its extended operating temperature range. It also features an automatic restart after shutdown in case of faulty power conditions.

General features

- World Wide Version (default)
 - UMTS/HSPA+: Five-Band
800/850/900/1900/2100MHz
 - GSM/GPRS/EDGE: Quad band
850/900/1800/1900MHz
- European Version
 - UMTS/HSPA+: Dual-Band 900/2100MHz
 - GSM/GPRS/EDGE: Dual band 900/1800MHz
- American Version
 - UMTS/HSPA+: Dual-Band 850/1900MHz
 - GSM/GPRS/EDGE: Dual band 850/1900MHz
- 3GPP Release 6, 7
- SIM Application Toolkit, 3GPP release 99
- Control via AT commands (Hayes, TS 27.007, TS 27.005)
- TCP/IP stack access via AT commands
- Internet services: TCP, UDP, HTTP, FTP, SMTP, POP3
- Power consumption at 12V (average)
 - Ultra Low Power: 2.5µA (*)
 - Sleep mode: 7mA (*)
 - Idle: 12mA
 - HSPA data transfer: 152mA
- Operating temperature range: -30°C to +85°C
- Dimensions, excluding connectors: 78.1 x 66.8 x 37.2mm
- Weight: <190 g
- IP30 enclosure
- Internal Hardware Watchdog (*)
- Internal 1650mAh Li-Po battery (*)
- 3-Axis Accelerometer ($\pm 2g/\pm 4g/\pm 8g$) optional (*)
- Powered by Cinterion EHS6 module

Special features

- USB interfaces support multiple composite modes and a Linux/Mac compliant mode
- Firmware update via USB/RS232
- Real Time Clock with alarm functionality
- Multiplexer according 3GPP TS 27.010
- RLS Monitoring (Jamming detection)
- Informal Network Scan

Interfaces (model dependent)

- GSM FME M antenna connector
- SMA F antenna connector or other RF options (*)
- USB 2.0 High Speed port up to 480Mbps
- SIM card interface 1.8V and 3V
- DB9 female connector: complete 8-wires RS232 modem interface (*)
- HD-Dsub15 female connector:
 - 1x RS232 (4-wire) port (*)
 - 1x I2C port
 - 5x GPIO (*)
 - 6x optoisolated I/Os (*)
 - 2x analog inputs (*)
 - 1x analog output (*)
- 1x RS485 optional (5-way plug-in terminal block) (*)
- Operating status LEDs
- Plug-in power supply (RJ connector)

Specifications

- **HSPA (3GPP Release 6,7)**
 - DL 7.2Mbps, UL 5.7Mbps
 - HSDPA Cat.8 / HSUPA Cat.6 data rates
 - Compressed mode (CM) according to 3GPP TS25.212
- **UMTS (3GPP Release 4)**
 - PS data rate – 384 kbps DL, UL 384kbps
 - CS data rate – 64 kbps DL, UL 64kbps
- **HSPA (3GPP Release 6,7)**
 - DL 7.2Mbps, UL 5.7Mbps
 - HSDPA Cat.8 / HSUPA Cat.6 data rates
- **GPRS**
 - GPRS class 12
 - Mobile station class B
 - PBCCH support
 - Coding schemes CS 1-4
- **EGPRS**
 - Multislot class 12
 - EDGE E2 power class for 8PSK
- **CSD data transmission**
 - Up to 9.6kbps
 - V.110
 - Non-transparent mode
 - USSD support
- **SMS**
 - Point-to-point MO and MT
 - SMS cell broadcast
 - Text and PDU mode

Java™ features

- Oracle Java ME Embedded 3.2
- Compliant to CLDC 1.1 HI and IMP-NG standards
- Capable of running multiple MIDlets in parallel with inter-MIDlet communication
- Additional Java standards APIs:
 - JSR75 (FileConnection)
 - JSR177 (CRYPTO)
 - JSR280 (XML)
- Additional accessible periphery for Java applications
 - I/O pins, I2C, SPI interfaces, ADC/DAC
 - Serial interfaces (API): ASC0, ASC1, USB
- Memory space for Java applications
 - Flash File System: 8MB
 - RAM: 6MB
 - Just-in-Time (JIT) Compiler execution optimization

Drivers

- USB, MUX driver for Microsoft® Windows XP™, Vista™, Windows 7™
- USB, MUX driver for Microsoft® Windows Embedded Handheld™ >=6.x
- USB, MUX driver for Microsoft® Windows Embedded Compact™ >=6.x
- USBserial/CDC-ACM driver for Linux

*: depending on model, see table below

MTX-3G-JAVA Family



	MTX-3G-JAVA	MTX-3G-JAVA-RS485	MTX-3G-JAVA-RS485-WC25	MTX-3G-JAVA-BAT	MTX-3G-JAVA-GPS	MTX-3G-JAVA-GPS-BAT	MTX-3G-JAVA-GPS-BT	MTX-3G-JAVA-ULP	MTX-3G-JAVA-ULP-GPS	MTX-3G-JAVA-ULP-WC25	MTX-3G-JAVA-WC25	MTX-3G-JAVA-WC500	MTX-3G-JAVA-BT	MTX-3G-JAVA-BLE	MTX-3G-JAVA-XBEE	MTX-3G-JAVA-868	MTX-3G-JAVA-900	MTX-3G-JAVA-WMBUS	MTX-3G-JAVA-WIFI
RS232 (8-wire)	X						X	X	X										
RS232 (4-wire)	X	X		X	X	X	X			X	X	X	X	X	X	X	X	X	X
RS485		X	X																
USB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
I2C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ADC	x2	x2	x2	x2	x2	x2	x1	x1	x1	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2
DAC	x1						x1	x1	x1										
GPIO	x4			x1	x1	x1	x1	x5	x5	x5	x1	x1	x1	x1	x1	x1	x1	x1	x1
Optoisolated IO		x4	x4	x6	x6	x6	x6				x6	x6	x6	x6	x6	x6	x6	x6	x6
Accelerometer				X	X	X	X				X	X	X	X	X	X	X	X	X
RTC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sleep mode		*1	*1	X	X	X	X				X	X	X	X	X	X	X	X	X
Ultra Low Power mode								X	X	X									
Wake Up (by RTC)		*1	*1	X	X	X	X				X	X	X	X	X	X	X	X	X
Wake Up (by Accelerometer)				X	X	X	X				X	X	X	X	X	X	X	X	X
Power On (by RTC)								X	X	X									
Power On (by Opto IO)								X	X	X									
Li-Po Battery				X	X						*2	*2	*2	*2	*2	*2	*2	*2	*2
HD WatchDog				X	X	X	X				X	X	X	X	X	X	X	X	X
Auto On	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Internal RF module			X				X			X	X	X	X	X	X	X	X	X	X
GPS				X	X	X		X		*3	*3	*3	*3	*3	*3	*3	*3	*3	*3
GPS/GLONASS				*4	*4	*4		*4		*4	*4	*4	*4	*4	*4	*4	*4	*4	*4

- *1: only if AUTO ON is disabled by hardware
- *2: battery option can be ordered upon request
- *3: GPS can be ordered upon request
- *4: GLONASS can be ordered upon request

Ordering information

- **199801320:** MTX-3G-JAVA
2xRS232, USB, I2C, 2xADC, 1xDAC, 4xGPIO
- **199801330:** MTX-3G-JAVA-RS485
1xRS485, 1x RS232, USB, I2C, 2xADC, 4xOptoIO, Sleep mode
- **199801330:** MTX-3G-JAVA-RS485-WC25
Coronis Wavecard 25mW 1xRS485, USB, I2C, 2xADC, 4xOptoIO, Sleep mode
- **199801331:** MTX-3G-JAVA-BAT
Li-Po battery, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801332:** MTX-3G-JAVA-GPS
GPS, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801342:** MTX-3G-JAVA-GPS-BAT
GPS, Li-Po battery, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801342:** MTX-3G-JAVA-GPS-BT
GPS, Bluetooth 2.1, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801343:** MTX-3G-JAVA-ULP
Ultra Low Power, 2xRS232, USB, I2C, 2xADC, 1xDAC, 5xGPIO, 4xOptoIO
- **199801340:** MTX-3G-JAVA-ULP-GPS
GPS, Ultra Low Power, 2xRS232, USB, I2C, 2xADC, 1xDAC, 5xGPIO, 4xOptoIO
- **199801344:** MTX-3G-JAVA-ULP-WC25
Coronis Wavecard 25mW (868MHz), Ultra Low Power, 2xRS232, USB, I2C, 2xADC, 1xDAC, 5xGPIO, 4xOptoIO
- **199801336:** MTX-3G-JAVA-WC25
Coronis Wavecard 25mW, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801337:** MTX-3G-JAVA-WC500
Coronis Wavecard 500mW, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801345:** MTX-3G-JAVA-BT
Bluetooth 2.1, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801346:** MTX-3G-JAVA-BLE
Bluetooth Low Energy, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801347:** MTX-3G-JAVA-XBEE
XBee, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801348:** MTX-3G-JAVA-868
European ISM (868MHz), 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801349:** MTX-3G-JAVA-900
USA ISM (900MHz), 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801350:** MTX-3G-JAVA-WMBUS
Wireless MBUS, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog
- **199801351:** MTX-3G-JAVA-WIFI
WiFi, 1xRS232, USB, I2C, 2xADC, 1xGPIO, 6xOptoIO, Accelerometer, Sleep mode, Hardware Watchdog