



C24-L CDMA 1X module
Delivering seamless mobility to the M2M world

Motorola's C24-L high-speed, Dual-Band (Cellular and PCS) CDMA module enables seamless connectivity for today's fastest-growing M2M applications. The C24-L, a single Engine capable of multiple software configurations, is designed for flexibility to meet the specific needs of its customers around the globe.

Motorola, a wireless pioneer in both the M2M and the automotive industries, brings to market superb technologies and rugged hardware. These meet in the design of a cost-effective, easily integrated mobility engine. Motorola establishes true relationships with customers to deliver reliable, customized products and best-in-class support. Our service approach helps to ensure Motorola customers have the ability to establish the foundation for increased productivity and efficiency, while conforming to the strictest industry standards.

The C24-L CDMA 1X Module, a lead-free product, conforming to the RoHS standard, is one of the most compact modules available and is ideally suited for a wide range of M2M applications, including:

- Security and Tracking
- Telemetry and Automated Meter Reading (AMR)
- Automotive Telematics Control Units (TCU)
- Electronic Point-Of-Sale (EPOS)

PRODUCT FEATURES

Supported Bands

- Dual band CDMA-cellular 800 and 1900-PCS
- GPS Band 1575 MHz

Physical

- Size: 24.4 x 45.2 x 6.0 mm
(6 mm stacking height)
- Mounting: Two 2.4 mm holes
- Weight: <15 gram

Environmental

- Operating temperature:
-30°C to +70 °C
- Storage temperature:
-40°C to +85 °C



PERFORMANCE

Operating Voltage

- Voltage: 3.3 - 4.2V

Current Consumption

- up to 750 mA TX/RX Full Power
- 4 mA in Sleep Mode

Typical RX sensitivity

- -106dBm

TX Out Power

- -24dBm at RF Port

INTERFACES

Connectors

- Single 70 pin board to board
- RF MMCX
- GPS mini U.FL

Connectivity

- USB 2.0 full speed
- UART:

BR from 300 bps to 115 Kbps

Auto BR

- Two physical UART's for AT commands, Data and Diagnostic Monitor
- 3V R-UIM

DATA FEATURES

- CDMA 1X High Speed Data – Max BR 153.6 kb/s
- CSD - Max BR 14.4 kb/s
- CDMA data - IS707 - Max BR 14.4 kb/s
- CDMA - IS95B - Max BR 64 kb/s
- SMS MT / MO Text mode
- FAX
- Embedded TCP/IP and UDP/IP protocol stack
- Mobile IP/Simple IP
- Location Based Services

VOICE

- Analog audio
- Differential analog audio lines
- Vocoder 8 kbps EVRC
- DTMF support
- Audio Controls: Echo Cancellation; Noise Suppression; Side Tone; Gain Control



SUPPLEMENTARY SERVICES

- Call Forwarding
- Call hold; Multiparty
- Call diverting
- Missed call indicator
- Call barring (depends on Service Provider)

- IS2000 Release R.0
- Over The Air Activation (ATASP)
- Preferred Roaming List (PRL)
- NAM
- TTY/TDD
- System Determination

CONTROL / STATUS INDICATIONS

- 8 GPIO's
- 3x A2D general purpose converters
- CDMA Network coverage
- Wake up in/out
- Antenna presence detect
- Temperature sensor
- Voltage sensor

AT COMMAND SET

- IS 707A.3
- Motorola proprietary AT commands
- Qualcomm AT Commands

STANDARDS

- IS-95B Phase I, Phase II
- CDMA 2000 R.0
- IS 98D Phase I, Phase II
- CDG-27: 13 Kbps variable rate vocoder specifications
- TSB-74: Physical layer for 13K Vocoder
- IS-637A: Short Message Service (SMS)
- IS-683A: Over The Air Activation
- IS-801: Position Determination Service.
- IS 820 R-UIM



ACCESSORIES

- Firmware data loader
- Data logger
- Developer Kit

REGULATORY AND APPROVALS

- CDG1
- CDG2
- CTIA
- FCC Part 15B, Part 22 and Part 24
- DoC
- RoHS