



OS Image for UC-8100 Series (MIL v1.4) Release Notes

Version: v3.8	Build: 250430_121107
Release Date: Aug 20, 2025	

Applicable Products

N/A

Supported Operating Systems

Moxa Industrial Linux 1 (Debian 9)

New Features

N/A

Enhancements

- Includes the latest security patches.
- EN 18031-1 RED cybersecurity compliance.
For devices upgraded from previous firmware versions, Moxa Industrial Linux (MIL) will retain the original settings but provides the "mx-red-migrate" tool to ensure compliance with RED EN 18031-1 requirements. The tool implements the following changes:
 - Adds the password quality configure file.
 - Modifies the SSH configuration.
 - Adds fail2ban support.
 - Enforces a password change on first login.
 - Regenerates the SSH key on first login.
 - Adopts the pam_tally2 mechanism.

For details about the tool, see MIL1 manual at: <https://www.moxa.com/en/products/industrial-computing/system-software/moxa-industrial-linux#resources>

- Uses HTTPS communication for Debian source in /etc/apt/sources.list.

Bugs Fixed

N/A

Changes

N/A

Notes

N/A



Version: v3.7	Build: 24032111
Release Date: Mar 21, 2024	

Applicable Products

UC-8100 Series

Supported Operating Systems

Moxa Industrial Linux 1 (Debian 9)

New Features

- Supports auto installation of system image from an USB or a SD card upon next bootup.
Use the command `mx-bootloader-mgmt image_auto_install` to start the installation.

Enhancements

- Includes the latest security patches.
- Removes the 2 GB file size limitation on the bootloader for installing system images via the TFTP server.
To support system images exceeding 4 GB, use a TFTP server that can accommodate larger files. We recommend using the SolarWinds TFTP server, which is tested and approved by Moxa.

Bugs Fixed

N/A

Changes

N/A

Notes

- For detailed release notes, including a change list for the packages, visit the Moxa Linux document center at:
<https://docs.moxa.online/mil/>



Version: v3.6	Build: 221206_192919
Release Date: Mar 06, 2023	

Applicable Products

UC-8100 Series

Supported Operating Systems

Moxa Industrial Linux 1 (Debian 9)

New Features

- Adds the moxa-bootloader-manager utility for upgrading the bootloader from Linux.

Enhancements

- Includes the latest security patches.

Bugs Fixed

- Even if the watchdog timer flags WDIOS_ENABLECARD and WDIOS_DISABLECARD are set successfully, the return value always still indicates failure.
- CVE-2022-3088 for moxa-version utility.

Changes

N/A

Notes

- For detailed release notes, including a change list for the packages, visit the Moxa Linux document center at: <https://docs.moxa.online/mil/>.



Version: v3.5	Build: 220301_231534
Release Date: May 04, 2022	

Applicable Products

UC-8100 Series

Supported Operating Systems

Moxa Industrial Linux (Debian 9)

New Features

- Adds the moxa-auto-mountd package for configuring auto-mounting of USB devices and SD card.
- Synchronizes utilities, libraries, and configurations across all Moxa Arm-based computer models with Moxa Industrial Linux 1.1.0.
- Adds moxa-mxio-library, a user-friendly I/O programming library to reduce development effort and ease transfer operations when retrieving data from the ioLogik E1200 I/O devices.

Enhancements

- Updated Debian to version 9.13.
- Includes the latest security patches.
- Cellular signal strength LED will now light up only when a connection to the Internet is available.
- The mx-ver utility now displays the Moxa Industrial Linux version.
- Adds the Moxa UPort driver for the UPort 1100/1200/1400/1600 Series.

Bugs Fixed

- An issue with the Telit cellular module gps_off return code for the UC Series that supports Telit LE910.

Changes

N/A

Notes

- For detailed release notes, including a change list for the packages, visit the Moxa Linux document center at:
<https://docs.moxa.online/mil/>



Version: v3.4	Build: 20101418
Release Date: Nov 25, 2020	

Applicable Products

UC-8131-LX, UC-8132-LX, UC-8162-LX, UC-8112-LX

Supported Operating Systems

Moxa Industrial Linux (Debian 9)

New Features

- Supports LTE Cat. 4 optional accessory for EMEA (Telit LE910C4-EU) and APAC (Telit LE910C4-AP).
- EMEA Accessory Model: UC-8100 LTE-CAT4-EU
- APAC Accessory Model: UC-8100 LTE-CAT4-AP

Enhancements

- Includes function to initialize the RAM (initrd) to check and repair corrupted filesystem during boot up.

Bugs Fixed

N/A

Changes

N/A

Notes

N/A



Version: v3.3	Build: 200424_164309
Release Date: Jun 24, 2020	

Applicable Products

UC-8112-LX, UC-8131-LX, UC-8162-LX, UC-8132-LX

Supported Operating Systems

Moxa Industrial Linux (Debian 9)

New Features

N/A

Enhancements

- Now includes header files of all Moxa's libraries and kernel.

Bugs Fixed

- The Wi-Fi and cellular signal process initialization mechanism (signald) has been enhanced to fix an issue where the signal LED may not work under some circumstances.
- The power sequence of the mPCIe slot has been changed to fix a compatibility with the Sierra MC7354 on the UC-8100 Series V 2.0.0.
- Fixed an issue where the set to factory default function does not work if the Wi-Fi module is in use.

Changes

- Kernel version updated from CIP Linux 4.4.154 to 4.4.190.
- OS updated from Debian 9:9.9 to 9:9.12. For details, visit <https://www.debian.org/News/2020/2020020802>.
- The signal representation in moxa-cellular-utils now shows a level indicator with the range 0 to 5 instead of the Reference Signal Received Power (RSRP) value.

Notes

N/A



Version: v3.2	Build: N/A
Release Date: Jan 20, 2020	

Applicable Products

UC-8112-LX, UC-8131-LX, UC-8132-LX, UC-8162-LX

Supported Operating Systems

Debian 9.x

New Features

N/A

Enhancements

N/A

Bugs Fixed

- Upgraded kernel version to CIP Linux 4.4.154 for security patch update.
- Fixed the incorrect UART port order issue in the UC-8100 Series V2.0.0.
- Fixed the network bridge control failure issue.
- Fixed an issue where a command to reopen the UART port may fail in some cases.

Changes

- The default network interfaces in the computer are no longer set during the first boot up.

Notes

This firmware is not compatible with UC-8100-ME-T series.



Version: v3.1	Build: Build 18080312
Release Date: Aug 08, 2018	

Applicable Products

UC-8100 Series

Supported Operating Systems

Debian 9.x

New Features

N/A

Enhancements

N/A

Bugs Fixed

N/A

Changes

- Updates uc8100-system packages.
- Adds new package "firmware-misc-nonfree" for WPER 172GN Wi-Fi module.
- Updates moxa-cellular-utils to 1.36.3.
- LED check in diagnostic function.

Notes

N/A



Version: v3.0	Build: Build 18062518
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

N/A

Enhancements

N/A

Bugs Fixed

- add fsck mechanism in bootloader

Changes

- Upgraded root file system from debian8 to debian9.

For more package info, please refer to following link:

<https://www.debian.org/distrib/packages.en.html>

- Upgraded Linux kernel from 4.1.36 to 4.4.

For more detail info, please refer to following link:

<https://www.kernel.org/pub/linux/kernel/v4.x/>

- Updated uc8100-system packages.
- Add new platform packages: moxa-led-control, moxa-uart-control, moxa-push-button.
- Updated moxa-cellular-utils to 1.32.0, moxa-wifi-utils to 1.5.2.

Notes

N/A



Version: v2.1	Build: Build 17072510
Release Date: Jul 28, 2017	

Applicable Products

UC-8100 Series

Supported Operating Systems

Debian 8.x

New Features

N/A

Enhancements

N/A

Bugs Fixed

N/A

Changes

- Updates bootloader to be compliant with new memory.

Notes

N/A



Version: v2.0	Build: Build 17062219
Release Date: Jul 24, 2017	

Applicable Products

UC-8100 Series

Supported Operating Systems

Debian 8.x

New Features

N/A

Enhancements

N/A

Bugs Fixed

• Fixed CVE Issues:

CVE-2016-4482
CVE-2016-4486
CVE-2016-4805
CVE-2016-3138
CVE-2016-2550
CVE-2016-2847
CVE-2016-3134
CVE-2016-3156
CVE-2016-0723
CVE-2016-0821
CVE-2016-5696
CVE-2016-7117
CVE-2016-6828

Changes

- Upgrades root file system from Debian 7 to Debian 8. See <https://www.debian.org/distrib/packages.en.html>
- Upgrades Linux kernel from 3.2 to 4.1.36. See <https://www.kernel.org/pub/linux/kernel/v4.x/>
- Updates moxa-cellualr-utils, uc8100-system, uc8100-sysconfig, uc8100-syskernel packages.
- Updates moxa-cellular-utils to v1.19.0.
- Set some nouser and nogroup files to right attribute.
- Modified watchdog driver to fix 'ioctl could disable wdt in nowayout mode' issue.
- Moved mx_led_control tool from /bin folder to /sbin folder.
- Modified USB host driver to support "usb port control" feature by bootloader setting.
- Fixed the omap-sham warning message.
- Supports SD card write protect by bootloader setting.

Notes

N/A



Version: v1.7	Build: Build 17011120
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

N/A

Enhancements

N/A

Bugs Fixed

- Fixed MC7354 "switch_carrier" Issue.

Changes

N/A

Notes

N/A



Version: v1.6	Build: Build 15110421
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

- Adds Yuga cellular module (Enable China LTE).
- Adds ftp-related driver (Enable ftp function).
- Adds a check sierra modules mtu size function.

Enhancements

- Upgrade package
 - Update uc8100-cellular-utils to version 1.6.0
 - Update uc8100-diag to version 1.2.0
 - Update uc8100-system to version 1.6.0

Bugs Fixed

- Fix chs_signal led bugs
- Fix PPPoE Connection Error of MC73xx

Changes

- Remove TPM tool related-functions in following files
 - mx_diag
- modified default domain name
- disable supports_autosuspend function for qmi_wwan driver
- Clear bash shell history command.

Notes

N/A

Version: v1.5	Build: Build 15090108
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

- Add bluetooth related kernel drivers.

Enhancements

- Upgrade package
 - Update openssl to version 1.0.1e-2+deb7u17
 - Update libqmi to version 1.12.6
 - Update cellular-utils to version 1.5.0
 - Update libssl to version 1.0.1e-2+deb7u17
 - Update apache2 to version 2.2.22-13+deb7u6
 - Update apache2-mpm-prefork to version 2.2.22-13+deb7u6
 - Update apache2-utils to version 2.2.22-13+deb7u6
 - Update apache2.2-bin to version 2.2.22-13+deb7u6
 - Update apache2.2-common to version 2.2.22-13+deb7u6
 - Update dpkg to version 1.16.16
 - Update file to version 5.11-2+deb7u8
 - Update mysql-common to version 5.5.44-0+deb7u1
 - Update libexpat1:armhf to version 2.1.0-1+deb7u2
 - Update libldap-2.4-2:armhf to version 2.4.31-2
 - Update libmagic1:armhf to version 5.11-2+deb7u8
 - Update libmysqlclient18:armhf to version 5.5.44-0+deb7u1
 - Update libsqlite3-0:armhf to version 3.7.13-1+deb7u2
 - Update libtasn1-3:armhf to version 2.13-2+deb7u2
 - Update libxml2:armhf to version 2.8.0+dfsg1-7+wheezy4
 - Update mysql-common to version 5.5.44-0+deb7u1
 - Update ntpdate to version 1:4.2.6.p5+dfsg-2+deb7u4
 - Update ppp to version 2.4.5-5.1+deb7u2
 - Update tzdata to version 2015e-0+deb7u1
 - Update wpasupplicant to version 1.0-3+deb7u2

Bugs Fixed

- Fix USB driver
 - fix IRQ race during initialization
 - fix tty-device error handling at probe
 - fix potential use after free
 - fix race in generic write
- Fix RS232-UART driver
 - fix UART data failed issue when disabling hardware flow control.

Changes

- Bootloader version: 1.3.0S03.
- Enables GobiSerial module: Makes GPS function more stable, automatically enables or disables



GPS, when the module device node is opened or closed.

- Removes TPM tool related-packages: libtpm-unseal1, tpm-tools, ousers, libopencryptoki0, opencryptoki, and libtspi1
- Removes TPM tool related-functions in following files: expand2fs and mx_uc8100.
- Upgrades RAM from 256 MB to 512 MB.

Notes

N/A

Version: v1.4	Build: Build 15032016
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

- Adds GRE related drivers.
- Adds the Sierra 3G/4G driver for IPv6.
- Adds the mangle driver.
- Adds the overlaysfs driver.

Enhancements

- Enhance cellular connection utility: Dial up/connect to cellular network, Soft-reset (restart) module, Hard-reset module, Check carrier, Choose carrier, Reset module to factory default, Send AT command, Set PIN code, SIM card status, and Enable/ Disable PIN of SIM card
- Support UART baudrate 921600.
- Patch Linux 3.2.66 wifi related files.
- Enhances watchdog function: Disable "NOWAYOUT" in default, enable "MAGIC CLOSE" in default, and provides configurable option on the module parameters "NOWAYOUT" and "TIMER_MARGIN".
- Enhances SD card compatibility with bootloader.

Bugs Fixed

- Security issues in OpenSSL, ntpdate, bash, glibc.
- RS-232 data loss issue.
- Network driver issue
- Serial Number length to 12 byte in bootloader.

Changes

- Adds Black Gobi-related driver in default settings.
- All LEDs except power LED turn off when the system halts.
- Adds /etc/modprobe.d/watchdog.conf.
- Initializes the GPIO PIN for UART earlier to avoid "setinterface" fail in rc.local.
- Bootloader version: 1.2.0S02.
- Blinks the LED after stopping 8100 services.
- Switch the SD/USB LED control behavior to the user space, so as to enable specifying the number of LEDs in diagnostic function.
- Changes the LED behavior when LED device fails.
- Upgrades Debian version to 7.8.
- Work around solution for USB babble error.
- Disables micro SD "card detect" function.
- Builds watchdog driver into the kernel module.
- Turns off "Acquire::GzipIndexes" in the APT setting.

Notes

N/A

Version: v1.3	Build: Build 14112810
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

- Installs crda version 1.1.2-1.
- Installs firmware-ralink version 0.43~bpo70.
- Installs rfwkill version 0.4-1.
- Enables conntack kernel option.
- Enables LXC kernel option.

Enhancements

- Upgrades to Debian 7.7.
- Enhances the Wi-Fi connection utility.
- Adds signal and status function for cellular connections.
- Enables Spread Spectrum for CORE/PER/DDR.
- Adds Eth PHY analog off and power down function.
- Allows hardware assisted rts/cts modes to be disabled.
- Enhances stability of the SD driver.

Bugs Fixed

- System files issue.
- Security issue in OpenSSL.
- Security issue in bash.
- Sierra Wireless MC9090 issue.

Changes

- Update bootloader version to V1.1.
- Renames Wi-Fi utility from wifi.sh to wifi_mgmt.
- Use QMI instead of ppp to dial up Sierra Wireless MC73x4.
- Modifies SDRAM configuration to fit size and timing.
- Modifies GPIO_0_19 pin setting for EMI.
- Modifies MLO file check method in SD boot process.
- Use Wi-Fi open source driver instead of Ralink official driver.
- Disables USB PIO mode and enables USB DMA mode.

Notes

N/A



Version: v1.2	Build: Build 14080718
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

N/A

Enhancements

N/A

Bugs Fixed

- Backup zip file corrupted.

Changes

N/A

Notes

N/A



Version: v1.1	Build: Build 14072210
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

N/A

Enhancements

- Upgrades the package for OpenSSL.

Bugs Fixed

- Network driver issue.

Changes

- Removes the getty process.
- Disables GPS function for MC8090, MC9090.

Notes

N/A



Version: v1.0	Build: Build 14051515
Release Date: N/A	

Applicable Products

UC-8100 Series

Supported Operating Systems

N/A

New Features

- First release.

Enhancements

N/A

Bugs Fixed

N/A

Changes

N/A

Notes

N/A