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/.
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
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.
• 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
**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
**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
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
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
Supported Operating Systems
N/A

Applicable Products
UC-8100 Series

New Features
N/A

Enhancements
N/A

Bugs Fixed
- Fixed MC7354 "switch_carrier" Issue.

Changes
N/A

Notes
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
<table>
<thead>
<tr>
<th>Version: v1.5</th>
<th>Build: Build 15090108</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release Date: N/A</td>
<td></td>
</tr>
</tbody>
</table>

### 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 libmymssqlclient18:armhf to version 5.5.44-0+deb7u1
  - Update libsqlite3-0:armhf to version 3.7.13-1+deb7u2
  - Update libtsasn1-3: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 1:4.2.6.5+dfsg-2+deb7u4
  - Update ppp to version 2.4.5-5.1+deb7u2
  - Update tzdata to version 2015e-0+deb7u1
  - Update wphpmapper 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 overlayfs 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
**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 rfkill 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
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
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
Supported Operating Systems
UC-8100 Series

New Features
• First release.

Enhancements
N/A

Bugs Fixed
N/A

Changes
N/A

Notes
N/A