

Software Release Notes

mPower™ Edge Intelligence Software

Includes firmware version mPower MTR 5.3.6s-s1

MultiConnect® rCell 100 Series Cellular Routers



Overview

mPower™ Edge Intelligence is MultiTech’s embedded software offering delivering network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions. mPower Edge Intelligence simplifies integration with a variety of popular upstream IoT platforms to streamline edge-to-cloud data management and analytics, while also providing the programmability and processing capability to execute critical tasks at the edge of the network to reduce latency, control network and cloud services costs, and ensure core functionality – even in instances when network connectivity may not be available.

Notes

This document includes the release notes and cumulative changelog for mPower Edge Intelligence embedded software. Detailed information is listed in reverse chronological order, starting with the most recent mPower MTR release:

- Operating system updates
- New hardware supported
- New features
- Enhanced features
- Known behaviors
- Bug fixes
- Feature deprecations

Additional Resources

Downloads:

- Visit www.multitech.com/brands/multiconnect-rCell-100-series
 - Locate and select the correct model number from the Product Listing
 - Visit the DOWNLOADS tab for the list of available firmware downloads
- Getting Started: <http://www.multitech.net/developer/software/aep/creating-a-custom-application/>

API Reference: <http://www.multitech.net/developer/software/mtr-api-reference/>

Support: Visit <https://support.multitech.com/> to create a support case

DeviceHQ, Cloud-based IoT Device Management: Login: https://www.devicehq.com/sign_in

Security Advisories: <http://www.multitech.com/landing-pages/security>

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mPower MTR 5.3.0	(November 2021)
mPower MTR 5.2.2	(August 2020)
mPower MTR 5.2.1	(June 2020)
mPower MTR 5.1.4	(March 2020)
mPower MTR 5.1.3	(February 2020)
mPower MTR 5.1.1	(November 2019)

mPower MTR 5.3.6s-s1 Changelog and Overview

April 2022

Updates in mPower MTR 5.3.6s-s1, from [mPower MTR 5.3.6](#)

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Operating System Updates (mPower MTR 5.3.6s-s1)

<p>Updated OpenSSL</p> <ul style="list-style-type: none"> OpenSSL updated to version 1.1.1n Previous versions of mPower used OpenSSL 1.1.1b Resolution to CVE-2022-0778 and other openssl CVE (openssl release notes) Additional information available at: http://www.multitech.com/landing-pages/security 	GP-1534
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Schedule (mPower MTR 5.3.6s-s1)

- Manufacturing Updates:
 - Devices that ship from MultiTech starting in April will include mPower MTR 5.3.6s-s1
 - See part numbers impacted for details
- DeviceHQ
 - mPower MTR 5.3.6s-s1 Availability: April 2022
- Downloadable Versions
 - mPower MTR 5.3.6s-s1 Availability: April 2022
 - Visit www.multitech.com/brands/multiconnect-rCell-100-series
 - Locate and select the correct model number from the Product Listing
 - Visit DOWNLOADS tab and select mPower MTR 5.3.6s-s1 from the list of available firmware downloads
- Differential Files:
 - Visit <https://support.multitech.com/> to create a support case and request access to differential file updates

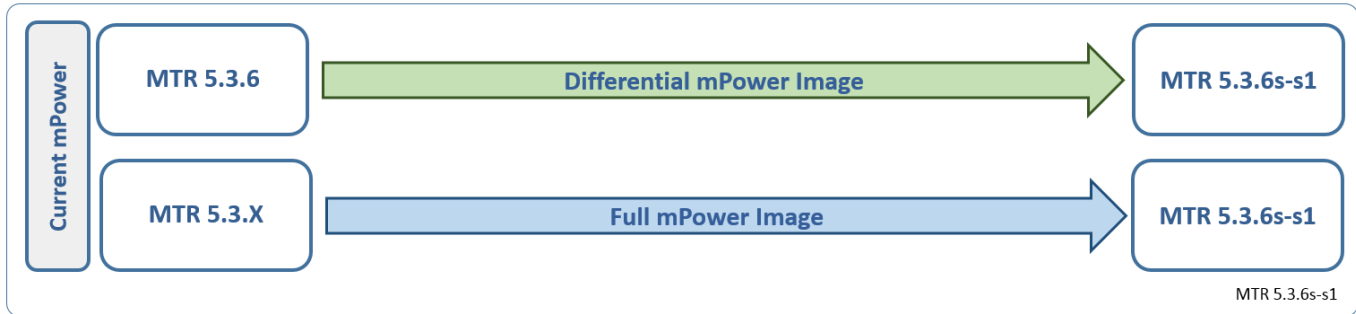
Models Impacted (mPower MTR 5.3.6s-s1)

The following ordering part numbers are impacted by mPower MTR 5.3.6s-s1:

Model Name Ordering Part Numbers	
MultiConnect® rCell 100 Cellular Routers	
Status: Active	Status: Active
MTR-L4G1-B07	MTR-L4G1-B10
MTR-L4G1-B07-WW	MTR-L4G1-B10-WW
MTR-LEU7-B07	MTR-LEU7-B10
MTR-LEU7-B07-EU-GB	MTR-LEU7-B10-EU-GB
MTR-LEU7-B07-HZ	MTR-LEU7-B10-HZ
MTR-LNA7-B07	MTR-LNA7-B10
MTR-LNA7-B07-US	MTR-LNA7-B10-US
MTR-LNA7-B07-HZ	MTR-LNA7-B10-HZ
MTR-MNG2-B07	MTR-MNG2-B10
MTR-MNG2-B07-WW	MTR-MNG2-B10-WW

Upgrade Process (mPower MTR 5.3.6s-s1)

Impacted devices can be upgrade to mPower MTR 5.3.6s-s1 using two methods:



mPower MTR 5.3.6 Changelog and Overview

January 2022

Updates in mPower MTR 5.3.6, from [mPower MTR 5.3.5](#)

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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New Hardware Support (mPower MTR 5.3.6)

Support for MTR-L4G1, MTR-LEU7 and MTR-LNA7 devices with substitute components Hardware version MTRV1-0.4	-
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Feature Enhancement (mPower MTR 5.3.6)

<p>Downgrade Protection</p> <ul style="list-style-type: none"> mPower MTR 5.3.6 includes a means of identifying MTR (hardware version MTRV1-0.4) devices with substitute components and limits the version of mPower that customers can use <ul style="list-style-type: none"> Devices with substitute components can only be used with mPower MTR 5.3.6 and later Future mPower versions will not allow MTRV1-0.4 devices with substitute components to downgrade to versions of mPower prior to mPower MTR 5.3.6 The downgrade protection feature prevents customers from downgrading devices to an unsupported version of mPower software DeviceHQ includes a similar feature that prevents customers from downgrading devices to an unsupported version of mPower software Error Messages: If a user attempts to downgrade a device with substitute components to an incompatible firmware version, an error message will be displayed: <ul style="list-style-type: none"> Downgrade using API Command: "Firmware check failed. Invalid firmware version for [MTRV1-0.4] hardware." Downgrade using DeviceHQ: "Software check failed. Invalid firmware version for [MTRV1-0.4] hardware." 	[GP-1386]
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Schedule (mPower MTR 5.3.6)

- Manufacturing Updates:
 - Devices that ship from MultiTech starting in December 2021 will include mPower MTR 5.3.6
 - See part numbers impacted for details
- DeviceHQ
 - mPower MTR 5.3.6 Availability: November 2021
- Downloadable Versions
 - mPower MTR 5.3.6 Availability: November 2021
 - Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - Locate and select the correct model number from the Product Listing
 - Visit DOWNLOADS tab and select mPower MTR 5.3.6 from the list of available firmware downloads
- Differential Files:
 - Visit <https://support.multitech.com/> to create a support case and request access to differential file updates

Models Impacted (mPower MTR 5.3.6)

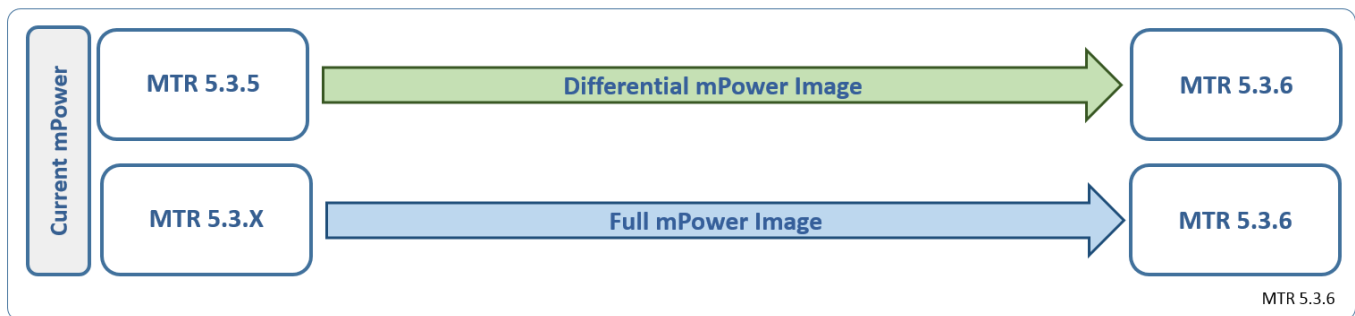
The following ordering part numbers are impacted by mPower MTR 5.3.6:

Model Name	
Ordering Part Numbers	
MultiConnect® rCell 100 Cellular Routers	
Status: Active	Status: Active
MTR-L4G1-B07	MTR-L4G1-B10
MTR-L4G1-B07-WW	MTR-L4G1-B10-WW
MTR-LEU7-B07	MTR-LEU7-B10
MTR-LEU7-B07-EU-GB	MTR-LEU7-B10-EU-GB
MTR-LNA7-B07	MTR-LNA7-B10
MTR-LNA7-B07-US	MTR-LNA7-B10-US

Upgrade Process (mPower MTR 5.3.6)

Minimum System Requirements (mPower MTR 5.3.6) – MTR LTE Category 4 Device with Original Components

Impacted devices can be upgrade to mPower MTR 5.3.6 using two methods:



Minimum System Requirements (mPower MTR 5.3.6) – MTR LTE Category 4 Device with Substitute Components

mPower MTR 5.3.6 is already installed on MTR LTE Category 4 devices with substitute components.

mPower MTR 5.3.5 Changelog and Overview

November 2021

Updates in mPower MTR 5.3.5, from [mPower MTR 5.3.0](#)

OS Changes	New Hardware	New Features	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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New Hardware Support (mPower MTR 5.3.5)

4G-LTE Category 4 Global (MTR-L4G1 models)	Global Wireless Carriers
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New Features (mPower MTR 5.3.5)

<p>AT&T 3G Sunset – Impacts on 4G Devices</p> <ul style="list-style-type: none"> • mPower MTR 5.3.5 includes important updates to the current cellular module firmware defaults. These changes will help avoid service interruption for certain MultiTech 4G products impacted by the impending AT&T 3G network sunset <ul style="list-style-type: none"> ○ Current cellular module default: CEMODE=1 (Voice Centric) ○ New cellular module default: CEMODE=2 (Data Centric) • Overview of mPower MTR 5.3.5 solution: • Once a device is updated to mPower MTR 5.3.5, the wireless carrier for the cellular module will be determined • If the wireless carrier is AT&T, mPower MTR 5.3.5 updates the cellular module firmware default <ul style="list-style-type: none"> ○ Current default: Voice Centric ○ New default: Data Centric ○ Models Impacted: MTR-LNA7, MTR-LAT1 • If a wireless carrier other than AT&T is recognized (i.e. Verizon Wireless), no changes to the cellular module firmware defaults are made • Additional Resources <ul style="list-style-type: none"> ○ AT&T Overview of 3G Sunset: https://iotdevices.att.com/att-iot/3GSunset.aspx ○ MultiTech Overview of AT&T 3G Sunset Impact on 4G Devices 	<p>[GP-988] [GP-1111]</p>
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New Features (mPower MTR 5.3.5)

<p>Current SIM and Advanced Carrier Configuration</p> <ul style="list-style-type: none"> • In mPower MTR 5.3.5, the system detects SIM card details (IMSI and MCC/MNC) and this data is available on the Cellular Configuration page under the Current SIM pane • For MTR-MNG2 models, the IMSI and MCC/MNC values are read-only and are not used by the carrier detection mechanism • For MTR-LEU7, MTR-LAT7, and MTR-L4G1 models, the Advanced Carrier Configuration feature that allows the user to configure the UE Mode of Operation manually, is implemented <ul style="list-style-type: none"> ○ User can manually set the UE Mode of Operation for a SIM card with a specified PLMN ID (MCC/MNC). If the system detects that the MCC/MNC set by user in the Advanced Carrier Configuration corresponds to the MCC/MNC of the SIM card, the system applies UE Mode of Operation that is specified by the user ○ If the user sets MCC/MNC that does not correspond to the SIM card, then the system ignores Advanced Carrier Configuration and changes the UE Mode of Operation to CS/PS Mode 2 if the MCC/MNC belongs to AT&T ○ If the user enables Advanced Carrier Configuration and sets the UE Mode of Operation to Auto, the system verifies if the MCC/MNC belongs to AT&T. If AT&T is detected, the system sets CS/PS Mode 2; if MCC/MNC is NOT AT&T, then the system leaves the actual UE Mode of Operation without changes 	<p>[GP-1111] [MTX-4121]</p>
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New Features (mPower MTR 5.3.5)

<p>Updated Reset Behavior</p> <ul style="list-style-type: none"> • Save and Restore Configuration page changes <ul style="list-style-type: none"> ○ Factory Default and User-Defined default panes have been added. These options are not dependent on each other ○ Now it is possible to reset the configuration to factory defaults when the user-defined default configuration is set ○ Factory Default: Reset to factory default configuration ○ User-Defined Default: Three options available: <ol style="list-style-type: none"> 1. Reset to User-Defined Configuration 2. Set current Configuration as User-Defined Default 3. Clear user-Defined Default ○ Reset Button Configuration: Four options available <ol style="list-style-type: none"> 1. Enable Reset to Factory Default. When the RESET button is held for 5 seconds or more, the unit will be reset to the factory default settings 2. Enable Reset to User-Defined Default. When the RESET button on the device is held for 5 seconds or more, the unit will be reset to the user-defined default settings 3. If both Factory Default and User-Defined Default are enabled: <ul style="list-style-type: none"> ▪ If the button is pressed for between zero and 5 seconds the device will perform a soft reset ▪ If the button is pressed for 5 to 30 seconds, the device will perform a User-Defined Default reset ▪ If the reset button is pressed for greater than 30 seconds a Factory Default reset will be performed 4. If no option is selected. The RESET button will always restart the system and will not allow you to restore the unit to factory or user-defined default • Once the RESET Button Configuration is changed, the user must first submit the changes, followed by a confirmation message • Once the user confirms the RESET Button Configuration, the changes are applied immediately. The device does not need to be rebooted for this change to be applied 	<p>[GP-775]</p>
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Deprecation (mPower MTR 5.3.5)

<p>3G Radio Support. mPower MTR 5.3.5 does not include support for 3G HSPA+ and HSPA cellular radios</p> <ul style="list-style-type: none"> • -H5 (Telit HE910-D), -H6 (Telit HE910EUD) radios • Models Impacted: MTR-H5, MTR-H6 devices 	<p>-</p>
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Schedule (mPower MTR 5.3.5)

mPower MTR 5.3.5 is available for download only

- DeviceHQ
 - mPower MTR 5.3.5 Availability: October 2021
- Downloadable Versions
 - mPower MTR 5.3.5 Availability: October 2021
 - Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - Locate and select the correct model number from the Product Listing
 - Visit DOWNLOADS tab and select mPower MTR 5.3.5 from the list of available firmware downloads
- Differential Files:
 - Visit <https://support.multitech.com/> to create a support case and request access to differential file updates

Models Impacted (mPower MTR 5.3.5)

The following ordering part numbers are impacted by mPower MTR 5.3.5

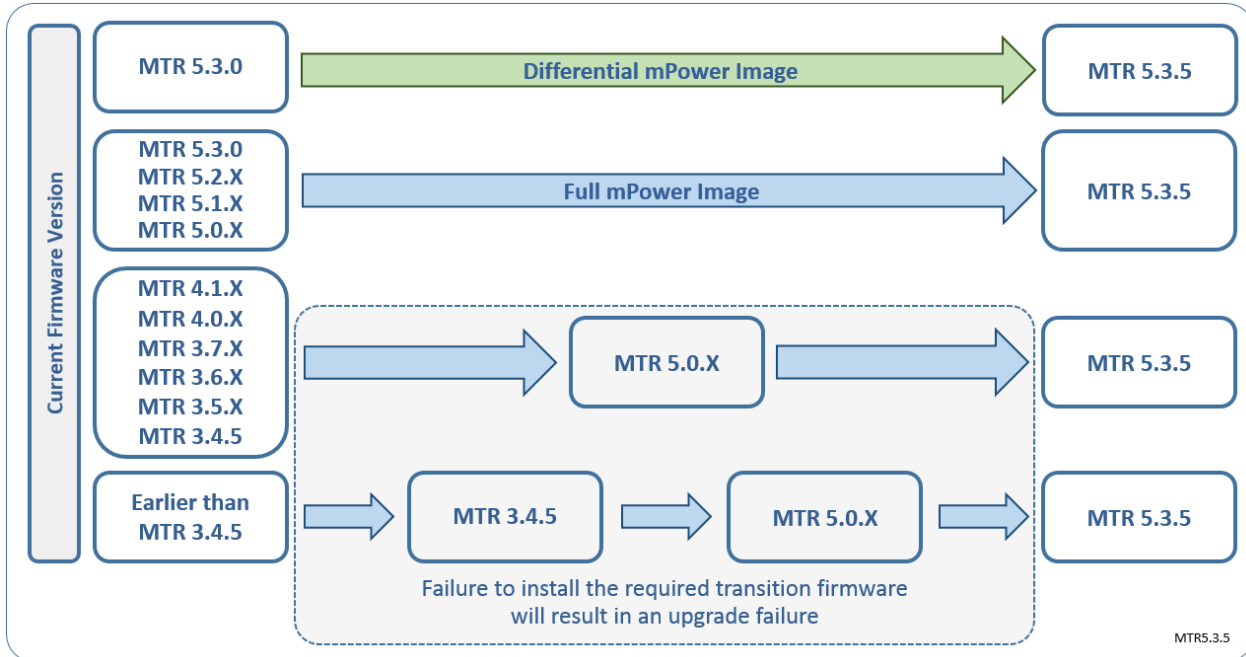
Model Name Ordering Part Numbers		
MultiConnect® rCell 100 Cellular Routers		
Status: Active ⁽¹⁾	Status: Active ⁽¹⁾	Status: EOL ⁽²⁾
MTR-LNA7-B07 ⁽¹⁾	MTR-LEU7-B07 ⁽¹⁾	MTR-LAT1-B07 ⁽²⁾
MTR-LNA7-B07-HZ ⁽¹⁾	MTR-LEU7-B07-EU-GB ⁽¹⁾	MTR-LAT1-B07-US ⁽²⁾
MTR-LNA7-B07-US ⁽¹⁾	MTR-LEU7-B10 ⁽¹⁾	MTR-LAT1-B08 ⁽²⁾
MTR-LNA7-B10 ⁽¹⁾	MTR-LEU7-B10-EU-GB ⁽¹⁾	MTR-LAT1-B08-US ⁽²⁾
MTR-LNA7-B10-HZ ⁽¹⁾	MTR-LEU7-B07-HZ ⁽¹⁾	MTR-LAT1-B09 ⁽²⁾
MTR-LNA7-B10-US ⁽¹⁾	MTR-LEU7-B10-HZ ⁽¹⁾	MTR-LAT1-B09-US ⁽²⁾
MTR-L4G1-B07 ⁽¹⁾		MTR-LAT1-B10 ⁽²⁾
MTR-L4G1-B07-WW ⁽¹⁾		MTR-LAT1-B10-US ⁽²⁾
MTR-L4G1-B10 ⁽¹⁾		
MTR-L4G1-B10-WW ⁽¹⁾		

Footnotes:

	Hardware Status	Manufacturing Updates	Comments
(1)	Active	December 2021	<ul style="list-style-type: none"> • Active devices will start shipping with mPower MTR 5.3.5 • Customers are encouraged to evaluate mPower MTR 5.3.5 and update deployed devices as needed
(2)	EOL	n/a Download only	<ul style="list-style-type: none"> • EOL devices are no longer shipping from MultiTech • Customers are encouraged to evaluate mPower MTR 5.3.5 and update device fleets as needed

Upgrade Process (mPower MTR 5.3.5)

To install mPower MTR 5.3.5, the MTR LTE Category 4 device must be upgraded to MTR 5.0.0 or higher. Customers that are running earlier versions of mPower must use the following upgrade process:



mPower MTR 5.3.0 Changelog and Overview

November 2021

Updates in mPower MTR 5.3.0, from [mPower MTR 5.2.2](#)

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Operating System Updates (mPower MTR 5.3.0)

Updated Yocto Version <ul style="list-style-type: none"> Yocto version updated to Thud (version 2.6). Previous versions of mPower used Yocto Morty (version 2.2) 	-
Upgrade to OpenSSL 1.1 <ul style="list-style-type: none"> mPower version 5.2.X supports OpenSSL 1.0.2k Customer applications written to earlier OpenSSL versions do not require porting to the latest version 	[GP-393]
Upgrade Cipher Suite to TLS 1.3 <ul style="list-style-type: none"> mPower version 5.2.1 supports configurable TLS 1.0, 1.1, and 1.2 The benefits of TLS 1.3 are: <ul style="list-style-type: none"> Increased speed of encrypted connections Improved security due to the removal of obsolete and insecure features from TLS 1.2 Greater browser support Increased SSL server support 	[GP-382]

New Features (mPower MTR 5.3.0)

Cellular radio firmware upgrades added for the following cellular radios <ul style="list-style-type: none"> MTR-LNA7 (Quectel EG95-NA) MTR-LEU7 (Quectel EG95-E) There are two types of radio firmware upgrades: <ul style="list-style-type: none"> Full Firmware Image Upgrade: When applied, the full firmware update replaces the current firmware image with the new image of the new version Delta Firmware Upgrade: When applied, the current firmware image is updated with the differences between it and the new version, and effectively becomes the new version of firmware 	[GP-615] [GP-397]
Cellular radio status updated to include additional details. Updates reported in Web UI and Device HQ. <ul style="list-style-type: none"> RSRP – LTE Signal Strength. Average power received from a single reference signal. RSRQ – LTE Signal Quality. Signal-to-noise ratio for a given signal RSSI – Relative Received Signal Strength. Power level received by the cellular radio after the antenna and possible cable loss Service Domain – CS domain (video/voice service) and PS domain (data service) available 	[GP-310]

Known Behaviors (mPower MTR 5.3.0)

Change in OpenSSL certificate validation and TLS 1.3 <ul style="list-style-type: none"> Changes have been made to the factory reset and upgrade/migration so that TLS 1.3 is not automatically enabled (disabled by default on both factory reset and upgrade). This change will prevent the issue where a user has an expired certificate, TLS 1.3 is automatically enabled, and the device becomes inaccessible through the Web UI. 	[GP-843]
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Known Behaviors (mPower MTR 5.3.0)

<p>OpenVPN - Encryption Cipher Configuration Issue</p> <ul style="list-style-type: none"> • OpenVPN configuration allows users to configure the Encryption Cipher (--cipher alg) parameter, but this setting is ignored by OpenVPN. The OpenVPN v2.6 documentation says that this parameter is deprecated and is ignored in v.2.6. • OpenVPN v.2.6 has another setting for data channel encryption, which is Negotiable Crypto Parameter (NCP). Now it is not configurable in the Web UI, and it always uses the default ciphers: AES_256_GCM and AES-128-GCM. • This issue does not affect the OpenVPN tunnel connection. 	<p>[GP-846]</p>
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Schedule (mPower MTR 5.3.0)

- Manufacturing
 - mPower MTR 5.3.0 Availability: April 2021
 - Select devices with a Date of Manufacture (DOM) after mid-April 2021 will include mPower MTR 5.3.0
 - See [Ordering Numbers Impacted](#) for details
- DeviceHQ®
 - Cloud-based IoT Device Management
 - mPower MTR 5.3.0 Availability: October 2020
 - DeviceHQ login: https://www.devicehq.com/sign_in
 - Instructions: [Upgrading Firmware Using DeviceHQ](#)
- Downloadable Versions
 - mPower MTR 5.3.0: October 2020
 1. Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 2. Locate and select the correct model number from the Product Listing
 3. Visit DOWNLOADS tab and select mPower MTR 5.3.0 from the list of available downloads
 - Instructions: [Upgrading Firmware Using Device Web Interface](#)

Models Impacted (mPower MTR 5.3.0)

The following ordering part numbers are impacted by mPower MTR 5.3.0

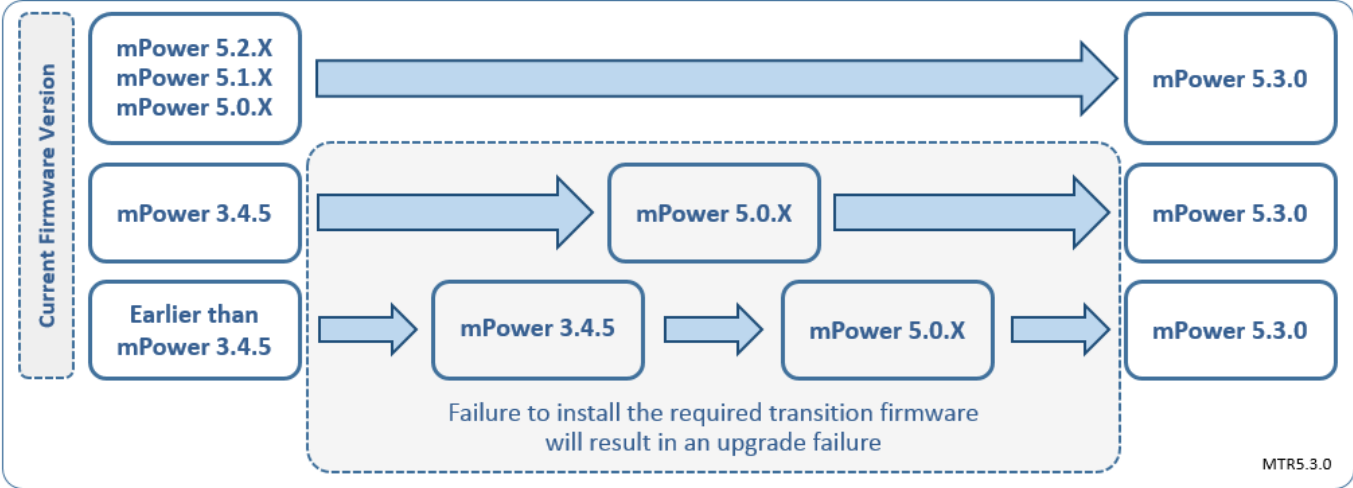
Model Name Ordering Part Numbers			
MultiConnect® rCell 100 Cellular Routers			
Status: Active ⁽²⁾		Status: Active ⁽²⁾	
MTR-LNA7-B07 ⁽²⁾ MTR-LNA7-B07-HZ ⁽²⁾ MTR-LNA7-B07-US ⁽²⁾ MTR-LNA7-B10 ⁽²⁾ MTR-LNA7-B10-HZ ⁽²⁾ MTR-LNA7-B10-US ⁽²⁾ MTR-MNG2-B07 ⁽²⁾ MTR-MNG2-B07-WW ⁽²⁾ MTR-MNG2-B10 ⁽²⁾ MTR-MNG2-B10-WW ⁽²⁾		MTR-LEU7-B07 ⁽²⁾ MTR-LEU7-B07-EU-GB ⁽²⁾ MTR-LEU7-B07-HZ ⁽²⁾ MTR-LEU7-B10 ⁽²⁾ MTR-LEU7-B10-EU-GB ⁽²⁾ MTR-LEU7-B10-HZ ⁽²⁾	
		Status: NEOL ⁽³⁾	
		MTR-H5-B07 ⁽³⁾ MTR-H5-B07-EU ⁽³⁾ MTR-H5-B07-GB ⁽³⁾ MTR-H5-B07-US ⁽³⁾ MTR-H5-B07-US-EU-GB ⁽³⁾ MTR-H5-B08 ⁽³⁾ MTR-H5-B08-US ⁽³⁾ MTR-H5-B08-US-EU-GB ⁽³⁾ MTR-H5-B09 ⁽³⁾ MTR-H5-B09-EU ⁽³⁾ MTR-H5-B09-GB ⁽³⁾ MTR-H5-B09-US ⁽³⁾ MTR-H5-B09-US-EU-GB ⁽³⁾ MTR-H5-B10 ⁽³⁾ MTR-H5-B10-US ⁽³⁾ MTR-H5-B10-US-EU-GB ⁽³⁾ MTR-H6-B16 ⁽³⁾ MTR-H6-B16-EU ⁽³⁾ MTR-H6-B16-EU-GB ⁽³⁾ MTR-H6-B16-GB ⁽³⁾ MTR-H6-B18 ⁽³⁾ MTR-H6-B18-EU ⁽³⁾ MTR-H6-B18-EU-GB ⁽³⁾ MTR-H6-B18-GB ⁽³⁾ MTR-H6-B19 ⁽³⁾	

Footnotes:

	Hardware Status	Manufacturing Updates	Comments
(1)	New	October 2020	<ul style="list-style-type: none"> • New device that is shipping for the first time • Some customers may be testing devices with an earlier version of mPower or a beta version of mPower • MultiTech recommends that customers update this hardware to mPower MTR 5.3.0
(2)	Active	April 2021	<ul style="list-style-type: none"> • Active devices continue to ship with earlier mPower versions • Customers are encouraged to evaluate mPower MTR 5.3.0 prior to this transition
(3)	NEOL	n/a	<ul style="list-style-type: none"> • NEOL devices continue to ship with earlier mPower versions • Devices can be individually updated by customers

Upgrade Process (mPower MTR 5.3.0)

To install mPower MTR 5.3.0, the MTR LTE Category 4 device must be upgraded to MTR 5.0.0 or higher. Customers that are running earlier versions of mPower must use the following upgrade process:



mPower MTR 5.2.2 Changelog and Overview

August 2020

Updates in mPower MTR 5.2.2, from [mPower MTR 5.2.1](#)

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Feature Enhancement (mPower MTR 5.2.2)

mPower MTR 5.2.2 resolves several known behaviors identified in mPower MTR 5.2.1 on MTR-LNA7 devices

Known Behavior #1: Lost Cellular Connection – MTR-LNA7 Models (MTR 5.2.1)

- In mPower MTR 5.2.1, when changing the MTR-LNA7 from one SIM card to another, cellular connection can be lost. MTR-LNA7 does not detect when the SIM card is swapped and continues to use the original dial string.
 - Scenario #1: Customer first inserts an AT&T SIM card and then later replaces it with a Verizon SIM card.
 - Scenario #2: Customer first inserts a Verizon SIM card and then later replaces it with an AT&T SIM card.
- Solution (mPower MTR 5.2.2): Default Dial String for Detected Carrier
 - The dial string number is empty by default
 - When the dial number is empty, the system considers it as AUTO, and uses a default dial string depending on the detected provider (carrier):

Detected Provider (Carrier)	Default Dial String
Verizon	*99***3#
Carrier other than Verizon	*99***1#

- If the dial number is not empty, the system uses the user-defined dial string, and the detected provider (carrier) is ignored.
- Note: When performing a firmware upgrade from mPower MTR 5.2.1 to mPower MTR 5.2.2, the dial string value remains without changes. There are three ways to reset the dial string value to default
 - [1] Click “Reset to Default” button on the Cellular Configuration page
 - [2] Reset the Dial String manually
 - [3] Reset the device configuration to factory default

[GP-652]
[MTX-3446]

Feature Enhancement (mPower MTR 5.2.2)

mPower MTR 5.2.2 resolves several known behaviors identified in mPower MTR 5.2.1 on MTR-LNA7 devices

<p>Known Behavior #2: Lost Cellular Connection – MTR-LNA7 Models (mPower MTR 5.2.1)</p> <ul style="list-style-type: none"> • Scenario (mPower MTR 5.2.1): Customer first inserts a Verizon SIM card with one APN and then later replaces it with a second Verizon SIM card that has a different APN • Solution #1 (mPower MTR 5.2.2): Web User Interface Update <ol style="list-style-type: none"> 1. If the current provider is Verizon, the system provides an option to retrieve APN settings from the Verizon network. 2. “Reset Class 3 APN (Verizon)” button has been added to the Debug Options page under the Reset Options pane. The “Reset Class 3 APN (Verizon)” button is visible ONLY if a Verizon SIM is detected. 3. When user clicks the “Reset Class 3 APN (Verizon)” button, the OMA DM procedure starts. An information message notifies the user that the request to retrieve APN settings from the Verizon network was sent successfully. The process occurs in the background and the user can continue working with Web UI. When the OMA DM procedure is completed, an informational message with the result appears. 4. If the result is successful, the message is displayed: “APN has been retrieved and applied to the modem configuration successfully.” 5. If the settings cannot be retrieved, the error message appears: “Failed to retrieve APN from the Verizon network.” • Solution #2 (mPower MTR 5.2.2): New API Command <ol style="list-style-type: none"> 1. A new API command is implemented and is available in the <code>/api/commands:</code> vzw_reset_class3_apn 2. If this command is executed on a device other than the MTR-LNA7, the following error message will be returned: “error”: “This command is not supported on this radio” 3. If this command is executed on the MTR-LNA7 and the current or detected carrier is NOT VERIZON, the following error message will appear: “error”: “This command is available for Verizon network only” 	<p>[GP-65] [MTX-3448]</p>
<p>Known Behavior #3: Lost Cellular Connection – MTR-LNA7 Models (mPower MTR 5.2.1)</p> <ul style="list-style-type: none"> • Scenario (mPower MTR 5.2.1): Cellular connection is lost because system detects that the SIM card is not present in the SIM slot • Solution (mPower MTR 5.2.2): New Error Message <ul style="list-style-type: none"> ○ When the SIM card is not present in the SIM slot, the following error message is displayed: “SIM card is not detected. If you swapped SIMs, please restart the device. (Date and Time Stamp)” 	<p>(GP-653)</p>
<p>Known Behavior #4: SMS Messages Not Being Received – MTR-LNA7 Models (mPower MTR 5.2.1)</p> <ul style="list-style-type: none"> • Scenario (mPower MTR 5.2.1): When a Verizon SIM and MTR-LNA7 have different 3GPP configurations, the MTR-LNA7 will not receive SMS messages • Solution (mPower MTR 5.2.2): SMS feature changed to support both SMS formats <ul style="list-style-type: none"> ○ System supports 3GPP and 3GPP2 formats ○ This change is implemented for Verizon SIM cards only 	<p>[GP-655]</p>

Feature Enhancement (mPower MTR 5.2.2)

mPower MTR 5.2.2 resolves several known behaviors identified in mPower MTR 5.2.1 on MTR-LNA7 devices

Known Behavior #5: Dial-On-Demand – Error/Warning (mPower MTR 5.2.1)

- Scenario (mPower MTR 5.2.1): Dial-on-demand is not supported on the Verizon network. In previous mPower versions, a warning was presented to the customer. This warning was removed in mPower MTR 5.2.1
- Solution (mPower MTR 5.2.2): New Error Message
 - When Verizon is the current provider, the system does not enable dial-on-demand feature
 - The following error message is displayed:
**“Dial-On-Demand feature cannot be supported when the provider is Verizon.
 Dial-On-Demand will not be enabled.”**

Schedule (mPower MTR 5.2.2)

- Downloadable Versions
 - mPower MTR 5.2.2 Availability: August 17, 2020
 - 1. Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - 2. Locate and select the correct model number from the Product Listing
 - 3. Visit DOWNLOADS tab and select mPower MTR 5.2.2 from the list of available firmware downloads
- Manufacturing
 - Devices continue to ship with earlier mPower versions for the next 30 days.
 - Customers are encouraged to evaluate mPower MTR 5.2.2 firmware prior to this transition.
 - See [Ordering Numbers Impacted](#) for more details.
- DeviceHQ®
 - Cloud-based IoT Device Management
 - mPower MTR 5.2.2 Availability: August 17, 2020
 - https://www.devicehq.com/sign_in

Models Impacted (mPower MTR 5.2.2)

The following ordering part numbers are impacted by mPower MTR 5.2.2

Model Name	Ordering Part Numbers	
MultiConnect® rCell 100 Cellular Routers		
MTR-LNA7-B07	MTR-LNA7-B10	MTR-LNA7-B07-HZ
MTR-LNA7-B07-US	MTR-LNA7-B10-US	MTR-LNA7-B10-HZ
MTR-LNA7-B07-PS		

- Devices continue to ship with earlier mPower versions for the next 30 days.
- Customers are encouraged to evaluate mPower MTR 5.2.2 firmware prior to this transition.

Upgrade Process (mPower MTR 5.2.2)

To install mPower MTR 5.2.2, the MultiConnect rCell must be upgraded to mPower MTR 5.0.0 or higher.

Customers that are running earlier versions of mPower should use the following upgrade process:

- mPower MTR 3.4.5
 - Upgrade to mPower MTR 5.0.0, then install and upgrade to mPower MTR 5.2.2
- mPower versions earlier than mPower 3.4.5
 - Upgrade to mPower MTR 3.4.5, then upgrade to mPower MTR 5.0.0. Finally, install and upgrade to mPower MTR 5.2.2

mPower MTR 5.2.1 Changelog and Overview

June 2020

Updates in mPower MTR 5.2.1, from [mPower MTR 5.1.4](#)

OS Changes	New Hardware	New Features	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Operating System Updates (mPower MTR 5.2.1)

Lighttpd Version Update lighttpd updated to version 1.4.48	[GP-552]
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New Features (mPower MTR 5.2.1)

Verizon APN Setting for Verizon APN is now configurable to override what is in the PDP context	[GP-33] [GP-435]
Security (/tmp Director Change) <ul style="list-style-type: none"> The /tmp directory includes the following permissions: noexec, nosuid, nodev (default noexec) This change affects any custom applications that try to run scripts in that directory Custom applications can no longer be executed from this directory 	[GP-59]
Added PPP Configurability <ul style="list-style-type: none"> IP mode in the PDP context is configurable (ipb6cp-max-configure <i>n</i>) Maximum number of IPv6CP configure-request transmissions, default 10 (ipb6cp-max-failure <i>n</i>) Maximum number of IPv6CP configure-NAKs returned before starting to send configure-rejects, default 10 (ipv6cp-max-terminate <i>n</i>) Maximum number of IPv6CP terminate-request transmissions, default 3 (ipv6cp-restart <i>n</i>) Set the IPv6CP restart interval (retransmission timeout), default 3 seconds 	[GP-274]
MTU Support Support added for Maximum Transmission Unit (MTU) and other connection settings through Web UI and API	[GP-341]
arping Requests Enhancement to use arping to broadcast IPs on interfaces. This enhancement was implemented in order to improve Web UI responsiveness after a reboot	[GP-343]

Feature Enhancements (mPower MTR 5.2.1)

Reduced Boot Time <ul style="list-style-type: none"> Previous versions of mPower resulted in longer boot times. mPower MTR 5.2.1 includes new features and optimization that decrease the device boot time up to 25% 	[GP-256] [GP-360] [GP-362] [GP-363] [GP-364]
Shutdown Time Optimization <ul style="list-style-type: none"> When restarting a device, the total time to reboot also includes shutdown time. Previous versions of mPower resulted in longer shutdown times mPower MTR 5.2.1 has been updated to reduce shutdown time. MTR mPower shutdown time has been shortened by 50% 	-

Feature Enhancements (mPower MTR 5.2.1)

<p>Save and Apply Configuration Settings without Restarting</p> <ul style="list-style-type: none"> • Previous versions of mPower required a device reboot for most system configuration settings. • mPower MTR 5.2.1 has been updated to save and apply many configuration settings without the need to restart. In these cases, the user will be presented a “Save and Apply” button after making configuration settings. If “Cancel” is selected, changes are not saved. • A limited number of system configuration setting changes will still require the device to be restarted. In these cases, the user will be presented with a “Save and Reboot” button after making configuration settings. If “Cancel” is selected, changes are not saved. • Only the following configuration changes will still require a reboot. <ul style="list-style-type: none"> ○ Access Configuration → Brute Force Prevention <ul style="list-style-type: none"> ▪ Brute Force Prevention prevents brute force password authentication attacks (requires API restart) ○ Access Configuration → Session Timeout <ul style="list-style-type: none"> ▪ This is the amount of inactivity time that a logged in Web UI user can have before being logged out. (requires API restart) ○ Debug Options <ul style="list-style-type: none"> ▪ Log level in API requires a reboot (requires an API restart) ○ PPP-IP Passthrough Mode → Cellular Configuration <ul style="list-style-type: none"> ▪ Most of the changes on the Cellular Configuration page except “Connect Timeout”, “Dialing Max Retries”, “Diversity”, “IPv4 Primary DNS”, and “IPv6 Primary DNS” will require a reboot. ○ Serial Modem Mode – Modem Configuration <ul style="list-style-type: none"> ▪ Serial Port Configuration and LAN Configuration on the Serial Modem Mode Configuration page will require reboot if user changes any of the available settings. ○ Network Interfaces Configuration <ul style="list-style-type: none"> ▪ Due to the nature of all the things impacted by changing an interface IP, or other configuration item, a reboot will still be required. ○ X.509 Certificates (Web Server Certificate) <ul style="list-style-type: none"> ▪ Due to the number of things changing the certificate affects (lighttpd and API primarily) it still requires a reboot. ○ Firmware Upgrade <ul style="list-style-type: none"> ▪ Required for applying upgrade ○ Restore Configuration <ul style="list-style-type: none"> ▪ All the features that require a reboot (since their configuration can be changed by this feature) force this feature to require a reboot also. ○ Initial Setup Wizard <ul style="list-style-type: none"> ▪ Serial Modem Mode, PPP-IP Passthrough Mode, and configuration of network interfaces ○ Cellular Configuration <ul style="list-style-type: none"> ▪ Enable/Disable PPP/WWAN will require a reboot ○ Wi-Fi as WAN <ul style="list-style-type: none"> ▪ Enable/Disable WLAN0 (WiFi-As-WAN) 	<p>[GP-339]</p>
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Feature Enhancements (mPower MTR 5.2.1)

<p>Radio Support</p> <ul style="list-style-type: none"> • It has been deemed best practice to de-register the cellular radio before setting the PDP context and re-registering • The firmware will check if the PDP context values are correct. If the IP mode and APN are already correct, do not make changes to PDP context. In earlier mPower versions, PDP context changes were applied no matter what the state in the PDP context, which proved to be problematic • When checking registration on LTE cellular radios, if CREG, CGREG, and/or CREG are available, the firmware needs to check for registered status. If any one of these returns a registered status, then device can proceed to connect • When using roaming SIMs, if 0,5 is returned by any of the registration check commands, the device can be treated as “registered” and create a connection to the network 	<p>[GP-438]</p> <p>[GP-439]</p> <p>[GP-440]</p> <p>[GP-441]</p>
<p>SMS Storage</p> <ul style="list-style-type: none"> • Earlier versions of mPower firmware stored SMS messages on the SIM card. • In mPower MTR 5.2, this has been changed and now SMS messages are stored on the cellular radio • This change resolves SMS send and receive failures 	<p>[GP-515]</p>
<p>ppp_pre_chat Updates</p> <ul style="list-style-type: none"> • Earlier mPower versions execute some separate paths for FSWITCH radios that do the exact same thing for the different modes including PDP context handling • mPower MTR 5.2 has been updated to handle these requests in the same manner whenever possible 	<p>[GP-327]</p>
<p>Cellular Radio Reset</p> <ul style="list-style-type: none"> • Customer feedback has reported that occasionally, the cellular radio needs to be reset when it is unable to register on the wireless network • mPower MTR 5.2 has been updated to include a new option to help resolve this issue: “Radio Reset Registration Failure” 	<p>[GP-443]</p>
<p>Support for Passive FTP Sessions</p> <p>Users can enable nf_contrack_helper when they create FTP rules in the web user interface</p>	<p>[GP-516]</p>
<p>Web User Interface: HTML 5 Updates</p> <ul style="list-style-type: none"> • Local storage issue was causing unresponsive user interface after device was updated to mPower MTR 5.1.5 • mPower MTR 5.2.1 has been updated to correct this issue 	<p>[GP-521]</p>
<p>DeviceHQ Custom Application Support</p> <ul style="list-style-type: none"> • When installing a new application, the backup of the original application will now be optional • If the installation of the new application fails, the original application will not be restored 	<p>[GP-540]</p>

Bug Fixes (mPower MTR 5.2.1)

<p>Remote Management Repeatable Time Option</p> <ul style="list-style-type: none"> When Remote Management (DeviceHQ) is enabled and repeatable option set at Daily, an extra colon is added to the end of the time (i.e. 9:00:) Functionally, this works but the user receives an “Invalid Repeat Time” message because of the extra colon This has been corrected in mPower MTR 5.2.1 	[GP-499]
<p>User-Interface Dialog Box Update</p> <ul style="list-style-type: none"> When the browser window is small enough for a hidden left menu, if the user selects one of the Commands options a pop-up with “OK Cancel” is provided The user cannot reach the dialog as it is behind the progress overlay. In full size browser this does not happen This has been corrected in mPower MTR 5.2.1 	[GP-522]
<p>API Updates</p> <ul style="list-style-type: none"> In mPower MTR 5.2.1, the following characters and sequences (separated by commas) are now prohibited in API commands that use the system() call: &, &&, , , ;, \$ `, 0x0a, \n 	[GP-541]

Schedule (mPower MTR 5.2.1)

- Downloadable Versions
 - mPower MTR 5.2.1 Availability: May 28, 2020
 - 4. Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - 5. Locate and select the correct model number from the Product Listing
 - 6. Visit DOWNLOADS tab and select mPower MTR 5.2.1 from the list of available firmware downloads
- Manufacturing
 - See [Ordering Numbers Impacted](#) for details on when mPower MTR 5.2.1, will be available for different devices
- DeviceHQ®
 - Cloud-based IoT Device Management
 - mPower MTR 5.2.1 Availability: May 28, 2020
 - https://www.devicehq.com/sign_in

Models Impacted (mPower MTR 5.2.1)

The following ordering part numbers are impacted by these updates:

Model Name		Ordering Part Numbers
MultiConnect® rCell 100 Cellular Routers		
Status: Active ⁽²⁾	Status: Active ⁽²⁾	Status: NEOL ⁽³⁾
MTR-H5-B07-US-EU-GB ⁽²⁾	MTR-H6-B18-EU ⁽²⁾	MTR-LAT1-B07 ⁽³⁾
MTR-H5-B09-US-EU-GB ⁽²⁾	MTR-H6-B18-GB ⁽²⁾	MTR-LAT1-B07-US ⁽³⁾
MTR-H5-B08-US ⁽²⁾	MTR-H6-B19 ⁽²⁾	MTR-LAT1-B07-US-NP ⁽³⁾
MTR-H5-B08-US-EU-GB ⁽²⁾	MTR-H6-B18-EU-GB ⁽²⁾	MTR-LAT1-B08 ⁽³⁾
MTR-H5-B07 ⁽²⁾	MTR-LEU7-B07 ⁽²⁾	MTR-LAT1-B07-AS ⁽³⁾
MTR-H5-B07-US ⁽²⁾	MTR-LEU7-B07-EU-GB ⁽²⁾	MTR-LAT1-B08-US ⁽³⁾
MTR-H5-B07-GB ⁽²⁾	MTR-LEU7-B10 ⁽²⁾	MTR-LVW2-B07 ⁽³⁾
MTR-H5-B07-EU ⁽²⁾	MTR-LEU7-B10-EU-GB ⁽²⁾	MTR-LVW2-B07-US ⁽³⁾
MTR-H5-B08 ⁽²⁾	MTR-LEU7-B07-HZ ⁽²⁾	MTR-LVW2-B07-PS ⁽³⁾
MTR-H5-B09 ⁽²⁾	MTR-LEU7-B10-HZ ⁽²⁾	MTR-LVW2-B08 ⁽³⁾
MTR-H5-B09-US ⁽²⁾	MTR-LNA7-B07-HZ ⁽²⁾	MTR-LVW2-B08-US ⁽³⁾
MTR-H5-B09-GB ⁽²⁾	MTR-LNA7-B10-HZ ⁽²⁾	MTR-LEU1-B07 ⁽³⁾
MTR-H5-B09-EU ⁽²⁾	MTR-LNA7-B07 ⁽²⁾	MTR-LEU1-B07-EU-GB ⁽³⁾
MTR-H5-B10 ⁽²⁾	MTR-LNA7-B07-US ⁽²⁾	MTR-LEU1-B08 ⁽³⁾
MTR-H5-B10-US ⁽²⁾	MTR-LNA7-B07-PS ⁽²⁾	MTR-LEU1-B08-EU-GB ⁽³⁾
MTR-H5-B10-US-EU-GB ⁽²⁾	MTR-LNA7-B10 ⁽²⁾	
MTR-H6-B16 ⁽²⁾	MTR-LNA7-B10-US ⁽²⁾	
MTR-H6-B16-EU ⁽²⁾	MTR-MNG2-B07 ⁽²⁾	
MTR-H6-B16-GB ⁽²⁾	MTR-MNG2-B10 ⁽²⁾	
MTR-H6-B16-EU-GB ⁽²⁾	MTR-MNG2-B07-WW ⁽²⁾	
MTR-H6-B18 ⁽²⁾	MTR-MNG2-B10-WW ⁽²⁾	

Footnotes:

	Hardware Status	Manufacturing Updates	Comments
(1)	New	May 2020	<ul style="list-style-type: none"> New device that is shipping for the first time Some customers may be testing devices with an earlier version of mPower firmware or a beta version of mPower firmware MultiTech recommends that customers update this hardware to mPower MTR 5.2.1 firmware
(2)	Active	July 2020	<ul style="list-style-type: none"> Active devices continue to ship with earlier mPower versions for the next 60 to 90 days Customers are encouraged to evaluate mPower MTR 5.2.1 firmware prior to this transition
(3)	NEOL	n/a	<ul style="list-style-type: none"> NEOL devices continue to ship with earlier mPower versions Devices can be individually updated by customers

Upgrade Process (mPower MTR 5.2.1)

To install mPower MTR 5.2.1, the MultiConnect rCell must be upgraded to mPower MTR 5.0.0 or higher. Customers that are running earlier versions of mPower should use the following upgrade process:

- mPower MTR 3.4.5
 1. Upgrade to mPower MTR 5.0.0
 2. Install and upgrade to mPower MTR 5.2,1
- mPower versions earlier than mPower MTR 3.4.5
 1. Upgrade to mPower MTR 3.4.5
 2. Upgrade to mPower MTR 5.0.0
 3. Install and upgrade to mPower MTR 5.2,1
- mPower MTR 5.0.0
 2. Install and upgrade to mPower MTR 5.2.1

mPower MTR 5.1.4 Changelog and Overview

March 2020

Updates in mPower MTR 5.1.4, from [mPower MTR 5.1.3](#)

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Bug Fixes (mPower MTR 5.1.4)

<p>Modbus Support</p> <ul style="list-style-type: none"> • In firmware version MTR 5.1.1, a bug was introduced that prevented the Modbus gateway code from executing, leading to the feature not working at all. • This issue has been corrected in MTR 5.1.4. 	-
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Schedule (mPower MTR 5.1.4)

- Downloadable Version
 - Availability: March 2020
 - Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - Select the model number you are interested in. In the DOWNLOADS section you can select mPower MTR 5.1.4 and download
- Manufacturing
 - See [Models Impacted](#) for details on when mPower MTR 5.1.4 will be available for different versions of the MultiConnect rCell
- DeviceHQ®
 - Cloud-based IoT Device Management
 - mPower MTR 5.1.4 Availability: March 2020
 - https://www.devicehq.com/sign_in

Models Impacted (mPower MTR 5.1.4)

The following ordering part numbers are impacted by these updates:

Model Name	Ordering Part Numbers	Release Date
MultiConnect® rCell LTE Category 3 Routers	MTR-LAT1-B07 MTR-LAT1-B07-US MTR-LAT1-B08 MTR-LAT1-B08-US MTR-LVW2-B07 MTR-LVW2-B07-US MTR-LVW2-B08 MTR-LVW2-B08-US MTR-LEU1-B07 MTR-LEU1-B07-EU-GB MTR-LEU1-B08 MTR-LEU1-B08-EU-GB	Product Status: Near-End-Of-Life Products must be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in
MultiConnect® rCell 3G-HSPA+ Routers	MTR-H5-B07 MTR-H5-B07-US-EU-GB MTR-H5-B08 MTR-H5-B08-US-EU-GB MTR-H5-B09 MTR-H5-B09-US-EU-GB MTR-H5-B10 MTR-H5-B10-US MTR-H5-B10-HZ	Product Status: Active Products shipping from MultiTech will begin shipping with firmware version mPower MTR 5.1.4 in April 2020 Products can be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in
MultiConnect® rCell 3G-HSPA Routers	MTR-H6-B16 MTR-H6-B16-EU MTR-H6-B16-GB MTR-H6-B18 MTR-H6-B18-EU MTR-H6-B18-GB MTR-H6-B19	Product Status: Active Products shipping from MultiTech will begin shipping with firmware version mPower MTR 5.1.4 in April 2020 Products can be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in

mPower MTR 5.1.3 Changelog and Overview

February 2020

Updates in mPower MTR 5.1.3, from [mPower MTR 5.1.1](#)

OS Changes	New Hardware	New Feature	Feature Enhancements	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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Feature Enhancements (mPower MTR 5.1.3)

<p>Registration Status (beta units only)</p> <ul style="list-style-type: none"> This change only impacts customers who received beta versions of the MTR-LEU7 and MTR-LNA7 which were shipped with firmware version mPower MTR 5.1.1 A change was made in libmts-io for checking the registration status of the cellular modem to check for REGISTERED or ROAMING status through the CREG, CGREG, and CERE commands instead of using just one of them 	-
<ul style="list-style-type: none"> WWAN Support. Changes have been made to the WWAN support on the MTR-MNG2 Registration Status <ul style="list-style-type: none"> A change was made in libmts-io for checking the registration status of the cellular modem to check for REGISTERED or ROAMING status through the CREG, CGREG, and CERE commands instead of using just one of them 	-

Known Behaviors (mPower MTR 5.1.3)

<p>SIM Card</p> <p>The MTR-LNA7 and MTR-LEU7 models all require an LTE micro SIM (3FF)</p>	-
<p>Missing SIM Card or Removed SIM Card</p> <p>The message “No SIM” is not displayed immediately when the SIM card is removed or missing from the MTR-LNA7 or MTR-LEU7</p>	-
<p>PPP-IP Passthrough IPV6 coverage</p> <p>The MTR-LNA7 has inconsistent PPP-IP Passthrough IPV6 coverage</p>	-
<p>Verizon Dial String</p> <p>When using the MTR-LNA7 on the Verizon network, the dial string will need to be switched from 1 to 3. For AT&T or T-Mobile, the dial string will remain at 1, which is default</p>	-
<p>SIM Card</p> <p>The MTR-MNG2 requires a Verizon Category M1 SIM or an AT&T LTE SIM.</p>	-
<p>LTE Category M1 Coverage</p> <p>We have experienced inconsistent Category M1 coverage on AT&T and Verizon networks.</p>	-
<p>Missing SIM Card or Removed SIM Card</p> <p>The message “No SIM” is not displayed immediately when the SIM card is removed or missing from the MTR-MNG2 models</p>	-
<p>Dial On-Demand (Verizon)</p> <p>The MTR-MNG2 models do not support Dial On-Demand when used on the Verizon network</p>	-
<p>NB-IoT Support</p> <p>NB-IoT is supported by the MTR-MNG2 modem, but not supported in the mPower firmware</p>	-

Bug Fixes (mPower MTR 5.1.3)

<p>Modbus Support (beta customers only)</p> <p>Some beta samples were shipped to customers with firmware version MTR 5.1.1. A bug was introduced that prevented the Modbus gateway code from executing, leading to the feature not working at all. This issue has been corrected in mPower MTR 5.1.3</p>	-
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Schedule (mPower MTR 5.1.3)

- Downloadable Version
 - Availability: February 2020
 - <https://www.multitech.com/brands/multiconnect-rCell-100-series>
 - Select the model number you are interested in. In the DOWNLOADS section you can select MTR 5.1.3 and download
- Manufacturing
 - See [Models Impacted](#) for details on when MTR 5.1.3 will be available for different versions of the MultiConnect rCell
- DeviceHQ®
 - Cloud-based IoT Device Management
 - MTR 5.1.3 Availability: February 2020
 - https://www.devicehq.com/sign_in

Models Impacted (mPower MTR 5.1.3)

The following ordering part numbers are impacted by these updates:

Model Name	Ordering Part Numbers	Release Date
MultiConnect® rCell 4G-LTE Category 4 Routers	MTR-LNA7-B07 MTR-LNA7-B07-US MTR-LNA7-B10 MTR-LNA7-B10-US MTR-LEU7-B07 MTR-LEU7-B07-EU-GB MTR-LEU7-B10 MTR-LEU7-B10-EU-GB	Released Available in all models that ship from MultiTech
MultiConnect® rCell 4G-LTE Category M1 / NB- IoT Routers	MTR-MNG2-B07 MTR-MNG2-B07-WW MTR-MNG2-B10 MTR-MNG2-B10-WW	Released Available in all models that ship from MultiTech

mPower MTR 5.1.1 Changelog and Overview

November 2019

Updates in mPower MTR 5.1.1, from mPower MTR 5.0.0

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted	Upgrade Process
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New Hardware Support (mPower MTR 5.1.1)

4G-LTE Category 4 Europe (MTR-LEU7 models)	European Carriers
4G-LTE Category 4 North America (MTR-LNA7 models)	AT&T Verizon
4G-LTE Category M1 North America (-MNG2 models) NOTE: Some MTR-MNG2 models shipped with mPower MTR 5.1.1	European Carriers AT&T Verizon
Added support for new GPS module <ul style="list-style-type: none"> MTR-LEU7-B10 and MTR-LNA7-B10 devices use Ublox EVA-M8 GPS/GNSS MTR-LAT1, MTR-LEU1, and MTR-LVW2 devices use SkyTraq Venus 636 or SkyTraq Venus 816 	-

Feature Enhancements (mPower MTR 5.1.1)

First-Time Setup <ul style="list-style-type: none"> Setup Wizard: option added for Remote Management – DeviceHQ® 	-								
Network Interfaces <ul style="list-style-type: none"> Added support for IPV6 in several specific network configurations <table border="1" data-bbox="334 1010 1076 1266"> <thead> <tr> <th>Network Interface</th> <th>IP Mode</th> </tr> </thead> <tbody> <tr> <td>Bridge (Br0)</td> <td>STATIC</td> </tr> <tr> <td>Ethernet (Eth0)</td> <td>STATIC DHCP Client</td> </tr> <tr> <td>PPP Interface (ppp0)</td> <td>PPP PPP – Addresses Only</td> </tr> </tbody> </table> <ul style="list-style-type: none"> IPv6 WAN on cellular only 	Network Interface	IP Mode	Bridge (Br0)	STATIC	Ethernet (Eth0)	STATIC DHCP Client	PPP Interface (ppp0)	PPP PPP – Addresses Only	-
Network Interface	IP Mode								
Bridge (Br0)	STATIC								
Ethernet (Eth0)	STATIC DHCP Client								
PPP Interface (ppp0)	PPP PPP – Addresses Only								
Global DNS <ul style="list-style-type: none"> Option added to configure the hostname of the device 	-								
Dynamic Host Configuration Protocol (DHCP) Server <ul style="list-style-type: none"> IPv4 DHCP Servers (IPv4 support) or DHCPv6 and Router can be viewed, added, or edited 	-								
Setting up Wi-Fi as a WAN <ul style="list-style-type: none"> Support added for connecting to hidden SSID networks 	-								
Updated Destination and Source Interface Firewall Rules now include OPENVPN option <ul style="list-style-type: none"> Pre-routing rules Post-routing rules Input filter rules Inbound forwarding rules Output filter rules 	-								

Feature Enhancements (mPower MTR 5.1.1)

<p>Added Cellular Configuration Fields</p> <ul style="list-style-type: none"> Cellular Mode: Select the cellular mode from the drop-down menu based on the cellular radio module in the device (Auto (default), LTE only, LTE prefer, 2G only, 3G only, or 3G prefer) Modem Configuration (allows user to switch firmware from one MNO network to another). <ul style="list-style-type: none"> MTR-MNG2 Models: Auto (default), AT&T Compatible, Verizon, World-Wide Auto option automatically detects SIM and configures to appropriate MNO 	-
<p>Added Password Complexity Rules: Administrative user can choose rules and limitations for user passwords, including:</p> <ul style="list-style-type: none"> Minimum length of passwords Upper and lower case requirements Special characters (non-alphanumeric) Characters that are not permitted <p>Two modes are available:</p> <ul style="list-style-type: none"> Default Mode: Minimum character length and specific number of characters Credit Mode: Credits are granted for each password character and extra credits are applied for certain character classes. Administrators specify a minimum number of classes. Longer passwords are the strongest. 	-
<p>Configuring Device Access: How the device can be accessed as well as security features that decrease susceptibility and malicious activity.</p> <ul style="list-style-type: none"> Added Reverse SSH Tunnel: enable and configure reverse SSH tunnel either using DeviceHQ (or other cloud service) or a 3rd party service. 	-
<p>Managing Devices Remotely (DeviceHQ): Updates to DeviceHQ Check-In Settings</p> <ul style="list-style-type: none"> Single Check-In: Configure device to check-in to DeviceHQ at a specific date and time Repeatable Check-In: Configure device to check-in to DeviceHQ at a specific time daily or on a specific day of the week. 	-
<p>Upgrading Firmware from MultiTech website or DeviceHQ</p> <ul style="list-style-type: none"> Signed Firmware Validation is automatically used once it is enabled after upgrading from mPower MTR 5.1.1 and higher 	-
<p>Manage Custom Applications</p> <p>The MultiConnect rCell includes added support for installing custom applications and the managing the version of all installed applications</p> <ul style="list-style-type: none"> Maximum application size: 4MB (larger applications may encounter problems) Refer to Creating a Custom Application on the MultiTech Developer Resources website for complete instructions on developing, installing, and deploying custom applications 	-

Schedule (mPower MTR 5.1.1)

- Downloadable Version
 - Availability: December 2019
 - Visit <https://www.multitech.com/brands/multiconnect-rCell-100-series>
- Manufacturing
 - See [Models Impacted](#) for details on when MTR 5.1.1 will be available for different versions of the MultiConnect rCell
- DeviceHQ®
 - Cloud-based IoT Device Management
 - MTR 5.1.1 Availability: December 2019
 - https://www.devicehq.com/sign_in

Models Impacted (mPower MTR 5.1.1)

The following ordering part numbers are impacted by these updates:

Model Name	Ordering Part Numbers	Release Date
MultiConnect® rCell LTE Category 4 Routers	MTR-LNA7-B07 MTR-LNA7-B07-US MTR-LNA7-B10 MTR-LNA7-B10-US MTR-LEU7-B07 MTR-LEU7-B07-EU-GB MTR-LEU7-B10 MTR-LEU7-B10-EU-GB	Early December 2019 MTR 5.1.1 firmware will ship as new MTR hardware is released
MultiConnect® rCell LTE Category 3 Routers	MTR-LAT1-B07 MTR-LAT1-B07-US MTR-LAT1-B08 * MTR-LAT1-B08-US * MTR-LVW2-B07 MTR-LVW2-B07-US MTR-LVW2-B08 * MTR-LVW2-B08-US * MTR-LEU1-B07 MTR-LEU1-B07-EU-GB MTR-LEU1-B08 * MTR-LEU1-B08-EU-GB *	Products must be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in
MultiConnect® rCell LTE Category M / NBIOT Routers	MTR-MNG2-B07 MTR-MNG2-B07-WW MTR-MNG2-B10 MTR-MNG2-B10-WW	Early December 2019 MTR 5.1.1 firmware will ship as new MTR hardware is released

Model Name	Ordering Part Numbers	Release Date
MultiConnect® rCell 3G-HSPA+ Routers	MTR-H5-B07 MTR-H5-B07-US-EU-GB MTR-H5-B08 * MTR-H5-B08-US-EU-GB * MTR-H5-B09 MTR-H5-B09-US-EU-GB MTR-H5-B10 * MTR-H5-B10-US * MTR-H5-B10-HZ *	January 2020 Products must be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in
MultiConnect® rCell 3G-HSPA Routers	MTR-H6-B16 MTR-H6-B16-EU MTR-H6-B16-GB MTR-H6-B18 MTR-H6-B18-EU MTR-H6-B18-GB MTR-H6-B19 *	January 2020 Products must be individually updated by the customer using information on www.multitech.com or using DeviceHQ https://www.devicehq.com/sign_in

* Models with GPS module will be upgraded to mPower MTR 5.1.1 in mid-December 2019.



Additional Information

If you have any questions regarding this Product Change Notification/Software Release Notice, please contact your MultiTech sales representative or visit the technical resources listed below:

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MultiTech Developer Resources

www.multitech.net

An open environment where you can ask development related questions and hear back from MultiTech engineering or a member of this community.

Knowledge Base

<http://www.multitech.com/kb.go>

Immediate access to support information and resolutions for all MultiTech products.

MultiTech Support Portal

support.multitech.com

Create an account and submit a support case directly to our technical support team.

MultiTech Website

www.multitech.com

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Revision History

Version	Author	Date	Change Description
-003	DT	06/16/2021	mPower MTR 5.3.5 , mPower MTR 5.3.6 , mPower MTR 5.3.6s-s1 MTR-L4G1 devices added
-002	DT	04/04/2022	mPower MTR 5.3.6s-s1 added
-001	DT	02/15/2022	mPower MTR release notes consolidated into one document