



**WP76xx R10.1.1.1**

# Customer Release Notes



**SIERRA**  
WIRELESS®

41114346  
Rev. 1.0

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Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless product are used in a normal manner with a well-constructed network, the Sierra Wireless product should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless product, or for failure of the Sierra Wireless product to transmit or receive such data.

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Do not operate the Sierra Wireless product in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless product **MUST BE POWERED OFF**. When operating, the Sierra Wireless product can transmit signals that could interfere with various onboard systems.

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*Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless products may be used at this time.*

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Corporate and product information	Web: <a href="http://sierrawireless.com">sierrawireless.com</a>

## Revision History

Revision number	Release date	Changes
1.0	December 2021	Creation

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# >> 1: Introduction

This document describes WP76xx firmware releases. These release notes may be distributed to all direct and indirect customers.

# Compatibility

## Hardware Compatibility

<b>Product compatibility list</b>
WP7601 - LTE Cat-4, LTE bands 4/13
WP7601-1 - LTE Cat-1, LTE bands 4/13
WP7603 - LTE Cat-4, LTE bands 2/4/5/12, WCDMA bands 2/4/5
WP7603-1 - LTE Cat-1, LTE bands 2/4/5/12, WCDMA bands 2/4/5
WP7605 – LTE Cat-4, LTE bands 1/3/8/11/18/19/21, WCDMA bands 1,6,19
WP7605-1 – LTE Cat-1, LTE bands 1/3/8/11/18/19/21, WCDMA bands 1,6,19
WP7607 - LTE Cat-4, LTE bands 1/3/7/8/20/28, WCDMA bands 1/8, GSM900/1800
WP7607-1 - LTE Cat-1, LTE bands 1/3/7/8/20/28, WCDMA bands 1/8, GSM900/1800
WP7608 - LTE Cat-4, LTE bands 1/3/5/8/40/41(partial) WCDMA bands 1/8, GSM900/1800
WP7608-1 - LTE Cat-1, LTE bands 1/3/5/8/40/41(partial) WCDMA bands 1/8, GSM900/1800
WP7609 - LTE Cat-4, LTE bands 1/3/5/7/8/28, WCDMA bands 1/5/8, GSM900/1800
WP7610 - LTE Cat-4, LTE bands 2/4/5/12/13/14/17/66, WCDMA bands 2/4/5
WP7611 – LTE Cat-4 LTE bands 2/4/5/12/13/14/25/26/66/71, WCDMA bands 2/4/5
WP7611-1 – LTE Cat-1, LTE bands 2/4/5/12/13/14/25/26/66/71, WCDMA bands 2/4/5

## >> 2: SWI9X07Y Release 10.1.1.1

Release 10.1.1.1 is a point release to Release 10.1.1 with minor updates of alternate memory drivers for:

- WP7601 / WP7601-1
- WP7603 / WP7603-1
- WP7607 / WP7607-1
- WP7608 / WP7608-1
- WP7609

## Software Release Description

### Release Identification

Component	Revision
Modem Firmware	SWI9X07Y_02.18.05.00 000000 jenkins 2018/07/19 17:40:21
Linux Firmware	SWI9X07Y_02.18.07.01 2021-08-19_10:49:05
MCU Firmware	002.009 (embedded as a binary in the linux image, not distributed as a separate component)
Legato Application Framework	18.06.3_dc55d84226223a3798b01c1a272e9603
Binary Size	58 MB (compressed binaries)
IMEI SV	5
Qualcomm Stack Version	MDM9607.LE.2.0-00120
Linux Kernel Version	Linux version 3.18.44 (jenkins@jenkins) (gcc version 6.2.0 (GCC) ) #2 PREEMPT Thu Aug 19 10:49:40 UTC 2021
Supported H/W	WP7601 / WP7601-1 WP7603 / WP7603-1 WP7607 / WP7607-1 WP7608 / WP7608-1 WP7609

## Software Tools Version

S/W Tools Name	Version
Windows Driver Package	B4836
Windows SDK	None
Skylight	None
Linux Drivers	S2.34N2.53
Linux SDK	SLQS04.00.16

\*Available in <https://source.sierrawireless.com>

## Released Files

File	Carrier	Modem Firmware	Config	Linux Distribution	Base Legato System	Comment
<b>WP7601/WP7601-1 Approved</b>						
WP76xx_Release-10.1.1.1_GENERIC.exe	GENERIC (GCF)	SWI9X07Y_02.18.05.00	002.041_004	SWI9X07Y_02.18.07.01	18.06.3	Windows 1-click signed
WP76xx_Release-10.1.1.1_SIERRA.exe	SIERRA (GCF)	SWI9X07Y_02.18.05.00	001.002_003	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
WP76xx_Release-10.1.1.1_VERIZON.exe	VERIZON	SWI9X07Y_02.18.05.00	002.041_003	SWI9X07Y_02.18.07.01	18.06.3	Verizon Approved
<b>WP7603/WP7603-1 Approved</b>						
WP76xx_Release-10.1.1.1_PTCRB.exe	GENERIC (PTCRB)	SWI9X07Y_02.18.05.00	002.041_004	SWI9X07Y_02.18.07.01	18.06.3	PTCRB Approved
WP76xx_Release-10.1.1.1_SIERRA.exe	SIERRA (GCF)	SWI9X07Y_02.18.05.00	001.002_003	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
WP76xx_Release-10.1.1.1_ATT.exe	ATT	SWI9X07Y_02.18.05.00	002.040_003	SWI9X07Y_02.18.07.01	18.06.3	AT&T Approved
<b>WP7607 / WP7607-1 Approved</b>						
WP76xx_Release-10.1.1.1_GENERIC.exe	GENERIC (GCF)	SWI9X07Y_02.18.05.00	002.041_004	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
WP76xx_Release-10.1.1.1_SIERRA.exe	SIERRA (GCF)	SWI9X07Y_02.18.05.00	001.002_003	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
<b>WP7608 / WP7608-1 Approved</b>						
WP76xx_Release-10.1.1.1_GENERIC.exe	GENERIC (GCF)	SWI9X07Y_02.18.05.00	002.041_004	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
WP76xx_Release-10.1.1.1_SIERRA.exe	SIERRA (GCF)	SWI9X07Y_02.18.05.00	001.002_003	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
<b>WP7609 Approved</b>						
WP76xx_Release-10.1.1.1_GENERIC.exe	GENERIC (GCF)	SWI9X07Y_02.18.05.00	002.041_004	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved
WP76xx_Release-10.1.1.1_SIERRA.exe	SIERRA (GCF)	SWI9X07Y_02.18.05.00	001.002_003	SWI9X07Y_02.18.07.01	18.06.3	GCF Approved

## Customer Release Notes

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Function	Files
Firmware components	9999999_9907152_SWI9X07Y_02.18.05.00_00_GENERIC_002.041_004.spk (GCF, PTCRB) 9999999_9907152_SWI9X07Y_02.18.05.00_00_SIERRA_001.002_003.spk (GCF) 9999999_9907152_SWI9X07Y_02.18.05.00_00_ATT_002.040_003.spk (ATT) 9999999_9907152_SWI9X07Y_02.18.05.00_00_VERIZON_002.041_003.spk (VERIZON)  linux-SWI9X07Y_02.18.07.01.cwe legato-18.06.3.cwe
Available in <a href="https://source.sierrawireless.com">https://source.sierrawireless.com</a> .	

## Software Changes Description

The second memory source changes are included in Release 10.1.1.1, built from Release 10.1.1.

**Table 2-1: Software Changes Description for WP76xx Release 10.1.1.1**

ID	Description	Impacted Domain
QT19X07-5444	Add the IDs of these alternate memory sources: New Micron/ESMT/JSC	System
QT19X07-5464	Exclude the legato.cwe from ant-rollback fw download	
QT19X07-5524	Implement the anti-rollback mechanism to prevent from downgrading to the firmwares in which alternate memory sources (New Micron/ESMT/JSC) are not supported	

## Known Issues

The following table presents the known issues in this release.

**Table 2-2: Known Issues for WP76xx Release 10.1.1.1**

ID	Description	Impacted Domain
QT19X07-1653	At temperature below -20, units in sleep mode may lose LTE network synchronization. A workaround that inhibits sleep mode at low temperature has been placed (QT19X07-2478) to mitigate this problem.	Protocol
QT19X07-2159	WP is not in compliance with the latest Anatel (Brazil regulatory) IPv6 requirements	Wireless Network
QT19X07-1764	By default, the WP will generate a new MAC address on the Ethernet interface on every boot. This may be fixed by pre-configuring a MAC address in /etc/network/interfaces	Wireless Network
QT19X07-2348	A recent regression in external PCM functionality has broken audio playback. This was introduced with a fix to address power consumption after a call. A Linux kernel patch is available to revert that change and restore external PCM functionality, available from Sierra Wireless support upon request. There is no impact to mangOH (or compatible) audio support.	Audio
QT19X07-2140	AT+KSLEEP=2 only disables sleep mode if at!muxmode=0	Mux mode
QT19X07-2300	Normally, while idle, the UART will suspend to save power, however currently, after first waking up on RX data, it will no longer automatically suspend, incurring an extra ~12mA.	UART
QT19X07-1705	With AT+KSIMSEL, when SIM cards are inserted in both external slots, they can be manually selected, but with hot swap enabled if SIM in slot 1 is removed, SIM in slot 2 does not work.	External SIM multiplexer
QT19X07-2185 QT19X07-2223 QT19X07-2242	The PSM lowest power mode option was added in Release 9 to achieve ~7uA. Subsequent testing has found this mode has issues with missing TAU complete message and time of day continuity across PSM cycles. While these issues will continue worked on for a future release (Linux update) the previous default option (consuming ~16uA) has been restored.	PSM

**Table 2-2: Known Issues for WP76xx Release 10.1.1.1 (Continued)**

ID	Description	Impacted Domain
QT19X07-1308	<p>The Android Signing tools for the LK bootloader require Java Runtime Environment (JRE) to be installed on the host platform. JRE has not been added to the build environment, so it must be installed on the build machine manually.</p> <p>Example, for Ubuntu 16.04: <code>sudo apt-get install default-jre</code></p> <p>Manual JRE installation will continue to be required going forward.</p>	Build
QT19X07-2562	<p>Although support for GPIO4, 6, and 28-31 have been added in previous releases, they do not automatically become visible in AT+WIOCFG with a firmware upgrade. A custom tool must be used to update the OEM PRI to include support. This is available from Sierra Wireless customer support upon request.</p>	GPIO
QT19X07-2102	<p>Different versions of a workaround were provided to allow Linux control of GPIOs with carrier certified modem images. With the issue now addressed in the new carrier certified modem version the workaround is not required, however for workarounds using <code>AT+WIOCFG=&lt;gpio&gt;,0</code> to enable Linux access, these will need to be changed back to <code>AT+WIOCFG=&lt;gpio&gt;,16</code> going forward. The setting will subsequently be persistent across upgrades so this would be a one time action when upgrading to Release 10.</p>	GPIO
QT19X07-1007	<p>The ability to set a profile to use a particular interface is controlled by <code>AT!AVPIFACEPREF</code> (level 2 access). By default, PCM was not included so PCM could not be set with <code>AT!AVCFG</code> without first setting <code>AT!AVPIFACEPREF=F</code>.</p> <p>The factory default has been updated to make PCM available by default, however this will only benefit newly manufactured units so <code>AT!AVPIFACEPREF=F</code> is still required.</p>	Audio
QT19X07-1494	<p>Customer legato.cwe image must be small enough to fit into the LEFWKRO partition (8 MB).</p>	Legato
QT19X07-1278	<p>Any time the MCU is accessed (for version info, GPIO read/write, etc) from a MCU low power state, the first access is needed to wake it up. The retry is automatic and succeeds, but a kernel error is generated on the first attempt. This can be annoying as it floods the kernel log.</p>	Kernel
QT19X07-2482	<p>Hardware failure (overheating) when using I2S audio with MAX98357 external codec.</p>	Audio

**Table 2-2: Known Issues for WP76xx Release 10.1.1.1 (Continued)**

ID	Description	Impacted Domain
QT19X07-2471	Over a VoLTE call, no +WDDI URC is reported when DTMF detection is enabled. Over 2G/3G call, DTMF detection also fail if an audio codec is not present.	DTMF
QT19X07-2399	Incorrect temperature state is reported by SWI DMS qmi indications.	PC, QMI/DMS
QT19X07-2387	With Legato, fail to establish a data session with authentication enabled.	Legato
QT19X07-2375	Crystal calibration is not optimal for extreme temperature range, impacting extreme temperature performance.	RF
QT19X07-2340	The module cannot go to sleep when at!muxmode=1 is enabled. (CMUX over UART mode)	UART/ CMUX
QT19X07-2245	Incremental build failed, need to clean and rebuild for every Yocto change. A temporary workaround is to backup and restore libxml.la to avoid clean build.	Build
QT19X07-2195	Unlike the WPx5, the WP76 SNTP client must open a new connection, which is more visible and could have undesirable consequences. Therefore, for WP76, the feature is turned off by default. The user would need to enable it via QMI/Legato, but because it is an AT!CUSTOM feature, it requires a level 2 password.	FOTA
QT19X07-2186	With SINGLEAPNSWITCH feature enabled, Legato cm data connect always fails on LTE with Legato 18.05.1 or older.	Legato
QT19X07-2167	Customer application using ANT_CTRL (I/O control external antenna) in 2G does not work.	Driver, GSM/Other
QT19X07-2076	No Legato event is reported for STK BIP Open Channel proactive command.	Legato/ UICC

# >> A: Appendix

## List of Abbreviations

Abbreviation /Acronym	Definitions
AT	Access Terminal, Attention
CS	Circuit Switched
EDL	Emergency Download
FDT	Firmware Download Tool
GCF	Global Certification Forum
LK	Little Kernel Linux bootloader
MCU	Microcontroller Unit – An onboard MCU enables Ultra Low Power modes of operation
MR	Maintenance Release
PSM	Power Saving Mode
QMI	Qualcomm Messaging Interface
SDP	Software Download Protocol
ULPM	Ultra Low Power Mode

## List of References

1. WP76xx - Product Technical Specification  
Reference number: 4119652
2. WPx5xx-76xx-77xx AT Command Reference  
Reference number: 4118047
3. WP Series - Preparing Your Devices for Deployment  
Reference number: 41110380
4. WPX5-76-77 Scalability Guide  
Reference number: 41110866
5. WP Series - Secure Boot  
Reference number: 41112164