

Wireless Protocol Suite Release Notes

Updated: August 11, 2020

1. Overview

This document contains release notes for Wireless Protocol Suite software and various hardware products. For full instructions on using the software and the hardware, please see the user manual and other documents provided with the software.

2. Release Notes 1.40

2.1. *What's New*

Release Notes	X240	Sodera	Sodera LE	802.11
Explore the <i>new</i> analyzer toolbar to manage hardware settings from within the main application. Check out the “Welcome Tour” that guides you through the new changes when you launch the software for the first time or via “Help” menu later.	*	*	*	
Added support to capture Bluetooth Classic and LE data using two X240 hardware synchronized using a CATC Sync cable.	*			
Added support for Bluetooth 5.2 ISOAL features for CIS and BIS.	*	*		
Added a toolset to export 802.11 packets to pcapng format.				*
Added support to reassemble packets for Authorization Control Profile (ACP).	*	*		
Added sample captures. Links to the capture files are available on the Start page or via the File menu.	*	*	*	*
Improvements to the Stats view to show stats on each technology row.	*	*	*	*
Added C# sample for Automation.	*	*	*	*
Added the ability to open the relevant help section of the user manual via F1.	*	*	*	*
Indication of a view's current open/close status added to View menu.	*	*	*	*

2.2. *Bug Fixes*

Release Notes	X240	Sodera	Sodera LE	802.11
Fixed an issue with identifying direction on the first CIS Event Counter packet.	*	*		

Fixed an issue where VERSION_IND packets were marked with incorrect BDADDR.	*	*	*	
Fixed an issue with unexpected header bytes in SBC frames.	*	*		
Fixed an issue with capturing 2M AUX_ADV_IND or subsequent AUX_CONNECT packets in Soder LE.			*	
Fixed a stability issue with MWS-WCI2.	*			
Fixed an issue where frame lost focus after adding bookmark and users were unable to navigate using arrow keys.	*	*	*	*
Fixed an issue where bookmark shortcut executes twice.	*	*	*	*
Fixed an issue with navigating using keyboard keys (arrows up/down) in the Decode pane.	*	*	*	*
Fixed an issue in the Coexistence view where error packets were not outlined in red.	*	*	*	*
Fixed an issue with column filtering LMP opcode.	*	*		
Fixed a decoding issue with 'Conn_Latency' field units.	*	*		
Fixed an issue with HTML export of baseband layer.	*	*	*	
Significant performance and stability improvements.	*	*	*	

2.3. *User Notes*

- The following analyzers - Soder, Soder LE, X240 and 802.11 are **compatible** with laptops with Device Guard Credential software.
- It is occasionally observed that on certain laptops, the X240 analyzer does not connect back after firmware update. To fix the problem, disconnect all power sources to the analyzer and connect again.

2.4. *Firmware Versions*

- X240 – Firmware: 202007151427; FPGA: 202007230758 (LE), 202007230700 (Classic); CPLD: 03.02 (**FW update required**).
- Soder – Firmware: 201911141635; FPGA: 202006090729; PIC:1.12 (**FW update required**)
- Soder LE – Firmware: 2.03; FPGA 16908385 (No change)
- 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4 (No change)

3. System Requirements

The following is a list of recommendations for the host machine that runs the Wireless Protocol Suite application and that connects to Frontline hardware: X240, Soder, Soder LE and 802.11.

For optimal performance, the software should run on a recent generation computer. However, the software should also operate on machines that are below the minimum requirements specified here, at the cost of slower performance, provided the memory, storage and display requirements are satisfied.

3.1. Software

Operating System:

- Windows 10 (32 and 64 bit) with latest Service Pack.

3.2. Hardware

Processor:

- Core i5 processor at 2.7 GHz

Memory (RAM):

- This software application may use up to 4 GB of RAM in the host machine. For improved performance of the software, it is recommended that 8 GB of RAM be installed on the host machine.

Non-volatile Storage (SDD or Hard Disk):

- 250 MB is required for installing the Frontline Analyzer software on the host machine.
- At least 20 GB of additional storage space is needed for operation of the software application and for storing recorded data in files. Note that large captures can require multiple gigabytes and can quickly fill your available storage space.

Display:

- To take full advantage of the rich visualization and analysis of Wireless Protocol Suite application it is recommended that the display be set to at least 1050 lines of vertical resolution with at least 24-bit color depth.
- The minimum requirement for the display is a resolution of 1024x768 with at least 16-bit color depth.

4. Previous Release Notes

4.1. Release 1.30

Release Notes	X240	Sodera	Sodera LE	802.11
Allow capturing data for wired technologies – 16 Logic signals and HCI-UART.	*			
Added Hotkey options for various common operations.	*	*	*	*
Added ability to drag n' drop fields from “Decode” view to “Summary” view as a new column.	*	*	*	*
Added ability to dynamically expand/collapse tree nodes in “Decode” view based on packet context.	*	*	*	*
Added ability to grab pane via left click on the mouse and make small moves in the pane.				*
Added support to Channel Map Update Indication (0x28) and LE Supported Features (0x27) that comes over ACAD.	*	*		
Added a new “Stats View” to show data rates for BR/EDR, LE and 802.11 packet by data types and rates.	*	*	*	*
Added support for aptX-HD decode, playback and export.	*	*		
Added a new “Automatic Gain Control” feature that helps user control the gain on the hardware and improves sensitivity in the upper range.	*			
Added a new “Manual Gain Control” feature that lets user control the gain manually in preset intervals.	*			
Added a toolset to export LE packets to Wireshark.	*	*	*	

Further improvements to ISOC-BIS decryption.	*	*		
Improvements to column filtering on “Summary” View.	*	*	*	*
Added support for BAP Profile – BASS, ASCS, and PACS services.	*	*		
Added an option to synchronize PER Stats with other views.	*	*	*	
Minor improvements to Logic Analyzer view.	*	*	*	

4.2. Bug Fixes

Release Notes	X240	Sodera	Sodera LE	802.11
Fixed burst number (BN) decoding bug in the LL_CIS_REQ PDU.	*	*		
UPF65: Fixed an issue with LEPC decoding of TxPower in LL_POWER_CHANGE_RSP and L_POWER_CHANGE_IND.	*	*		
UPF65: Fixed an issue with traversal of BIS data packets with CRC errors.	*	*		
UPF65: Fixed UUID mapping issue with ATT_Multiple_Variable_RSP in EATT.	*	*		
Fixed an issue with remembering last file location folder.	*	*	*	*
Fixed an issue where close LAP addresses caused failure to decrypt data during reconnection.	*	*		
Fixed several issues with Automation feature.	*	*	*	*
Stability improvements while saving large capture files.				*

4.3. Firmware Versions in Release WPS 1.30

- X240 – Firmware: 202005071347; FPGA: 202004061643 (LE), 202005061533 (Classic); CPLD: 03.02 (FW update required).
- Sodera – Firmware: 201911141635; FPGA: 202001271042; PIC:1.12 (No change)
- Sodera LE – Firmware: 2.03; FPGA 16908385 (No change)
- 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4 (No change)

4.4. Release 1.21

- Performance improvements to the Frontline X240 analyzer.
- No changes in other products – Frontline Sodera, Sodera LE, and 802.11.
- Firmware Versions in Release WPS 1.21
 - X240 – Firmware: 202002270737, 202002270842; FPGA: 202003120018; CPLD: 03.02 (FW update required).
 - Sodera – Firmware: 201911141635; FPGA: 202001271042; PIC:1.12 (No change)
 - Sodera LE – Firmware: 2.03; FPGA 16908385 (No change)
 - 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4 (No change)

4.5. Release 1.20

Release Notes	X240	Sodera	Sodera LE	802.11
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Added support for Bluetooth 5.2 BIS decryption.	*	*		
Added support for Bluetooth 5.2, HCI commands (CIS/BIS).	*	*		
Added support for Bluetooth 5.2 feature - Power Control (LE and HCI)	*	*		
Added support for Bluetooth 5.2 feature - EATT (LE and HCI).	*	*		
Added support for ASHA protocol decoding.	*	*		
Added a toolset to export BR/EDR packets to Wireshark.	*	*		
Added a new feature “Airtime Utilization” that shows packet duration over time for Bluetooth and Wi-Fi packets.	*	*	*	*
Introduced a new feature to allow filtering on columns in Summary Pane. Please see user manual to learn more about the feature.	*	*	*	*
Added support for Automation. Compatible with previous scripts using Legacy software.	*	*	*	*
Updated decoders and methods support to Visual Studio 2019. Customers should recompile their existing methods in Visual Studio 2019.	*	*	*	*
Improvements to Zoom functionality. Added consistency across all views.	*	*	*	*
Added legend to Timeline and Coexistence views. In the view, go to “Display” and select “Show Legend”.	*	*	*	*
Resolved an issue related to not capturing BIG INFO on sub-event 0.	*	*		
Fixed decoding of LE extended header (ACAD).	*	*	*	
Fixed a Subinterval decoding issue.	*	*		
Fixed an issue where packet footnote text overlapped at certain Zoom level.	*	*	*	*
Fixed an issue where packets were delayed in high RF environment.		*		
Fixed a minor decoding issue with HCI supervision timeout.	*	*	*	*

4.6. Release 1.10

- Launching a brand *new* Frontline X240 Wireless Wideband Analyzer. Please refer to datasheet and QSG to learn more about the hardware.
 - Supports capturing released and draft Bluetooth specs for both Bluetooth BR/EDR and LE.
 - Supports capturing spectrum data.
 - Supports Excursion mode for PC free captures.
 - Flexible configuration options are available.
 - *Note:* For the best user experience, it is recommended to use the X240 analyzer on a PC that supports USB Power Delivery.
 - *Known Issue:* Occasional issues with USB connection and enumeration.
- No changes in other products – Frontline Sodera, Sodera LE, and 802.11.

4.7. Release 1.01

Release notes	Sodera	Sodera LE	802.11
Added scale markers for Throughput view.	*	*	*
Added show packet and packet outline in Coexistence View.	*	*	*

Added a feature to copy data from Decode pane.	*	*	*
Added support for decoding characteristics for Authorization Control Service (ACS).	*	*	
Early access support for Bluetooth Milan.SPEC.d1.0r06_CSS.d9.0r06_ext sniffing. Supports capturing and decoding all CIS data. Supports capturing and decoding unencrypted BIS data.	*		
Fixed an issue where occasionally Sodera failed with error message “signal strength too strong”.	*		
Fixed a decoding issue with HCI decode for “AVDTP_GENERAL_REJECT”.	*		
Added shortcut for release notes on Start Page.	*	*	*
Added support to capture 802.11 data using Frontline 802.11 hardware.	*		
Added support to capture Bluetooth and 802.11 data concurrently using ProbeSync functionality.	*		*
Added a feature to show number of bytes for highlighted field in decode pane.	*	*	*
Added a feature to show multiple panes (e.g. hex and binary pane) simultaneously. Please note - the user settings are not persistent after closing and reopening the application.	*	*	*
Added functionality to zoom using mouse wheel + CTRL key on various views.	*	*	*
Updated to Apple Accessory Interface Specification Release R31 for LEA, iAP and hearing aid.	*		
Resolved an issue related to pasting security information (Link key, LTK) from external program, e.g. btsnoop files.	*	*	
Other bug fixes and stability improvements.	*	*	*

4.7.1. Firmware Versions in Release WPS 1.01

- X240 – Firmware: 202001281019; FPGA: 202001270852; CPLD: 03.01
- Sodera – Firmware: 201911141635; FPGA: 202001271042; PIC:1.12
- Sodera LE – Firmware: 2.03; FPGA 16908385
- 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4

4.7.2. User notes

On certain systems running McAfee anti-virus or Device Guard software, they might interfere with software installation process, causing some or all of the following issues:

- “Driver Installer” error during the installation.
- Frontline Protocol Analysis application fails to launch after installation.
- Delay in receiving packets from the hardware.

Software packages signed by Teledyne LeCroy, Inc., do not contain any malware nor viruses. If you encounter any of these issues, please contact your IT administrator about adding Teledyne LeCroy, Inc in whitelist or exception list.

4.8. Release 1.00

- Launching new “Wireless Protocol Suite” application based on feedback from customers to improve user experience with “ComProbe Protocol Analysis Software (CPAS)” software.
- The “Main Window” with single docking framework contains most views.
- The new “Start Page” shows connected hardware, recent files and other useful links for easy access.
- Modern toolbar buttons and revised menu items for contemporary look and ease of use.
- Simplified, standardized and improved various plugins by removing visual clutter, and redundant items.
- Supports data capture using Frontline Soderia and Soderia LE hardware.
- Compatible with CPAS captures file created with Soderia or Soderia LE hardware.
- The software installs under new location - “Teledyne LeCroy Wireless” folder in Start Menu.

4.8.1. User Notes

- Premium Maintenance (PM) *must* be up to date to use the new software. PM status can be check via Renew PM tool or through Event log in Soderia Datasource Window.
- To capture data with other hardware, such as BPA range of products and HSU, please use old CPAS software.
- To open capture files created with other hardware, such as BPA range of products and HSU, please use old CPAS software.
- Support for Automation is coming in the future releases.
- Beta support for custom decoders and methods is included in this release. Users must copy methods and decoders files from old location “user\Public\Documents\Frontline Test Equipment” to the new location “\Users\Public\Documents\Teledyne LeCroy Wireless” and recompile custom methods.
- Support for Live Import API is not included in this release.
- Older versions of the Apple LE Audio decoder fileset is not support in Wireless Protocol Suite software. Please contact to Teledyne LeCroy Support to receive an updated version of the Apple LE Audio fileset.
- Some performance degradation seen on large captures performed overnight.

5. Support

Online Download

Please periodically check Teledyne LeCroy Protocol Solutions Group’s web site for software updates and other support related to this product. Software updates are available to those users with current Maintenance Agreements.

Web (SW downloads): <http://www.fte.com/products/default.aspx>

Online Support

Web: <http://www.fte.com/support/supportrequest.aspx>
E-Mail: Frontline_TechSupport@Teledyne.com



Sales Information

Web: <http://www.fte.com/support/supportrequest.aspx>

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SyncML decoder written by ARS Software GmbH, Munich/Germany, www.ars2000.com.

This product contains features utilizing the Qt open source library, licensed under LGPL.

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