Frontline Analyzer 15.17 Release Notes

Updated: April 13, 2021

Bluetooth 5.2 Support

For complete Bluetooth 5.2 support please use Wireless Protocol Suite software available on the website - http://www.fte.com/products/default.aspx.

Microsoft Device Guard and Credential Guard

We **do not support** legacy products BPA 600 and BPA low energy on computers with **Device Guard** or **Credential Guard** enabled. Users are **strongly recommended** to upgrade their hardware to the latest lines of products, such as Sodera and X240. Sodera, X240 and 802.11 users are also **recommended** to upgrade the software to Wireless Protocol Suite for access to the latest specification decodes and enhanced user experience.

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1. Overview

This document contains release notes for Frontline Analyzer software and various hardware products. For full instructions on using the software and the hardware, please see the User's Manual and other documents provided with the software.

2. Release Notes

2.1. Bug Fixes

Release Notes	BPA 600	BPA LE	Sodera	Sodera LE	802.11	HSU	NFC
Fixed an issue where after installing and running Wireless Protocol Suite 1.40 or later caused CPAS to stop working.	*	*	*	*	*	*	*
Fixed an issue with mesh: Protocol viewer fail to decode Sensor Cadence Status/Set message properly.	*		*	*			
Fixed a decoding issue with HCI AVRCP browsing.	*		*				
Fixed a decoding issue with Mesh Generic Delta set.	*	*	*	*			
Fixed a decoding issue with Mesh Heartbeat feature bit.	*	*	*	*			

1. System Requirements

The following is a list of recommendations for the host machine that runs the Frontline Analyzer Software application and that connects to Frontline hardware: Sodera, Sodera LE, ComProbe 802.11, etc.
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 requirement are satisfied.

1.1. Software

Operating System:

- Windows 10, 8.1 and 7 (32 and 64 bit) with latest Service Pack.
- MacOS Mojave 10.14 with Parallels Desktop 14 with Windows 10 64-bit.

1.2. Hardware

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 16 GB of RAM be installed on the host machine. Memory as little as 2GB would still allow the software to function, but would limit its performance and user experience.

Non-volatile Storage (SDD or Hard Disk):

- 500 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 Frontline software 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.

2. Release Notes for Previous Releases
2.1. Release notes for 15.16

Release Notes	Sodera	Sodera LE	802.11	BPA 600	BPA LE	HSU	NFC
Fixed a minor decoding issue with HCI_LE_Connection_Complete cmd.	*	*		*	*		
Some stability improvements.	*			*			

2.2. Release notes for 15.15

Release Notes	Sodera	Sodera LE	802.11	BPA 600	BPA LE	HSU	NFC
Added support for ASHA protocol.	*			*			
Fixed a crash in NFC product.							*

2.3.   Release notes for 15.14

Release Notes	Sodera	Sodera LE	802.11	BPA 600	BPA LE	HSU
Added support for Bluetooth 5.2 feature - Power Control (LE and HCI)	*					
Added support for Bluetooth 5.2 feature - EATT (LE and HCI).	*					
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 packets were delayed in high RF environment.	*	*				
Resolved decryption issue with BPA600 when the Slave device is in the upper device dropdown.				*		

2.4.   Release notes for 15.13

	Changes	Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU
1	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.	*					
2	Updated to Apple Accessory Interface Specification Release R31 for LEA, iAP and hearing aid.	*	*	*	*		
3	Updated Automation feature to include return status message when Sodera Analyze is 100% complete.	*	*				
4	Updated Automation feature to allow setting ConfigSettings (LK, ADDRS, etc.) after capturing.	*	*				
5	Fixed a HCI decoding error with Host HCI Inquiries.	*		*			
6	Fixed an issue pasting security information from external files, e.g. btsnoop into Sodera security pane.	*	*				

2.5.   Release notes for 15.12

	Changes	Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU
1	Fixed an issue where occasionally Sodera reported a false "signal strength too strong" or "modulation scheme error".	*					
2	Fixed an issue with Isochronous Channels BIS data packets were erroneously marked as CRC error.	*					
3	Fixed an issue with calculating direction with first CIS Event Counter.	*					
4	Added support for decoding Authorization Control Service characteristics.	*	*	*	*		
5	Fixed an issue in Automation exporting "LL BB" tab.	*	*				
6	Fixed a minor decoding issue with AVDTP_GENERAL_REJECT.	*		*			
7	Fixed an issue where decryption fails on subsequent reconnects using ASCII PIN code.			*			
8	Included missing CSharp Client sample for BPA 600.			*			

2.6.   Release Notes for 15.11

- Fixed an issue related to capturing Isochronous Channels CIS Data packets with Sodera hardware.

- Fixed an issue related to OPP decoding.

2.7.   Release Notes for 15.10

What's new in Sodera

- Updated support for beta LE Isochronous Channels feature to spec revision CR 22. Supports decrypting CIS packets. Captures BIS BIG Info packets. Also, updated opcodes to SIG official opcodes.

- Added support for capturing AoA/AoD CTE tone bits.

- Added support for capturing and decrypting Mesh data using keys transmitted over-the-air (OTA) after provisioning of their devices.

Improvements and Bug Fixes for All Products

	Changes	Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD

1	Updated support for beta LE Isochronous Channels feature to spec revision CR 22. Supports decrypting CIS packets. Captures BIS BIG Info packets. Also, updated opcodes to SIG official opcodes.	*							
2	Added support for capturing AoA/AoD CTE tone bits.	*							
3	Added support for capturing and decrypting Mesh data using keys transmitted over-the-air (OTA) after provisioning of their devices.	*	*						
4	Fixed an issue where connection/data packets were missing after AUX_CONNECT_REQ and RES with Sodera hardware.	*							
5	Fixed display of packets with length error on Timeline, Coexistence View, etc.	*							
6	Stability improvements.	*	*	*	*	*			
7	Improved HFP decoding for RSSI in +CSQ and AT+BIND commands.	*		*					
8	Several improvements to GATT cache feature.	*	*						
9	Added support for showing undecoded Mesh data in separate tab.	*	*						
10	Fixed an occasional eSCO issue.	*							
11	Fixed a decoding issue with Periodic Sync IND.	*	*						
12	Fixed an issue where ACL connection stopped decrypting after several eSCO packets.			*					

2.8. Release 15.01

Sodera

- Added support for Bluetooth Madrid 5.1 feature – GATT Caching. Please refer to GATT Caching help document included in the software to learn more about the feature and how to use it.

- Updated HCI decoding to Bluetooth Madrid 5.1 specification.

Other Improvements and Bug Fixes for All Products

	Changes	Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD
1	Improved capturing data for longer duration.	*	*						
2	Improved Sodera LE data capture on 2M PHY. Reduced header length errors.		*						
3	Fixed decoding issue for PHY fields in CIS_REQ.	*							
4	Fixed a decoding issue with Mesh provisioning over GATT.	*	*						
5	Improved Export functionality in automation server feature.	*	*	*	*	*	*		
6	Fixed an issue with payload length and payload data fields decoding for error packets.	*							
7	Fixed a decoding issue with PBAP.	*		*					
8	Replaced HTML-based "Help" with PDF.	*	*	*	*	*	*	*	*
9	Stability improvements in Mesh, BTSnoop, HCI, and other areas.	*	*	*	*				
10	Improved scanner functionality for reporting channel number for Access Point.					*			
11	Fixed an issue where no devices were seen on Wi-Fi scanner until after the first capture.					*			
12	Performance improvements.	*							

Known Issues

		Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD
1	Occasionally, while capturing 4.1 Classic Secure Connection using BPA 600 hardware, the hardware fails to follow connection and packets are marked with CRC error.			*					

#	Description												
2	When reopening a capture file (with .frm file) that has LE data, packet duration is incorrect on "Logic Analyzer" view. The packet duration is correct in other views, such as LE timeline. The packet duration is also correct during live capture. To fix the problem, click on "recreate companion file" from File menu on Frame Display.	*	*										
3	On very rare instances, when a user clicks on "Record" repeatedly to start and stop capture, the Sodera hardware stops capturing new packets. When this happens and the capture LED on the hardware is ON, restart recording. If the capture LED on the hardware does not turn ON when user clicks on "Record" button, power cycle the Sodera hardware to restart capture.	*											

2.8.1. Firmware Versions in Release 15.01

- Sodera – Firmware: 201812051654; FPGA: 201808211235; PIC:1.12 (Firmware update required)
- BPA 600 - Firmware: 369 (4.2 Compliant); 268 (4.0) (No firmware change)
- BPA le - Firmware: 268 (No firmware change)
- 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4 (No firmware change).

2.9. Release 15

Sodera

- Added flexible licensing in Sodera analyzer that allows users to have various options to upgrade when needs change.

- Added support for Bluetooth Madrid features: Periodic Advertising Synchronous Transfers (PAST), Control Length Extension, Advertising Channel Index Changes, and updated decoders for Minor Functional Enhancements (Batch 1 CR12).

- Added limited beta support for LE Isochronous Channels. This is an early release of the feature. Please contact Teledyne if you have questions using this feature.

- Added new capture filters for improved user experience when capturing in a high RF environment, such as UPF. User can filter data based on Bluetooth® device address and/or signal strength (RSSI).

- Mesh decoder updates: Support for Friendship messages and Mesh Proxy Protocol.

- Added display of payload counter for AES encrypted packets in BR/EDR.

Other Improvements and Bug Fixes for All Products

		Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD
1	Fixed an issue where occasionally timestamps were sorted incorrectly.	*	*	*	*	*	*	*	*
2	Fixed a decoding issue with Hands-free Profile.	*		*					
3	Fixed a decoding issue where AVDTP signaling packets did not decode if ACL role switch happened during setup.	*		*					
4	Added packet status information in detail pane for retransmitted packets.	*		*					
5	Shows capture file name when user hovers over App icon in task bar.	*	*	*	*	*	*	*	*
6	Updated HCI decoders and fixed minor issues.	*	*	*	*				
7	Updated Insulin delivery decoding to v1.0.	*	*	*	*				
8	Fixed an issue where +CIEV event was decoded incorrectly when data included multiple devices in a capture session.	*		*					
9	Fixed an issue where encrypted packets were marked as unencrypted and decoded incorrectly.	*		*					
10	Improved decryption algorithm to handle missed "encryption_key_size_req" packet.	*							
11	Improved the algorithm to handle error packets in LE to enhance packet detection.	*							
12	Added support for CP bit in AoA/AoD feature.	*							
13	Fixed a decoding issue with "object action control point" in ATT decoders.	*	*	*	*				
14	Updated Mesh GATT Service data decoding.	*	*						
15	Updated Insulin Delivery Profile to v1.0.	*	*	*	*				
16	Updated Reconnection Configuration Profile to v1.0.	*	*	*	*				
17	Added support for Reconnection Configuration Service and Profile v1.0.0.	*	*	*	*				

#		Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD
18	Updated GATT Characteristics and fixed issues related to Central Address Resolution	*	*	*	*				
19	Fixed an issue to correctly display advertising PDU type name AUX_CHAIN_IND.	*	*						
20	Stability improvements.	*	*	*	*	*	*	*	*

Known Issues

#		Sodera	Sodera LE	BPA 600	BPA le	802.11	HSU	NFC	SD
1	Occasionally, while capturing 4.1 Classic Secure Connection using BPA 600 hardware, the hardware fails to follow connection and packets are marked with CRC error.			*					
2	When reopening a capture file (with .frm file) that has LE data, packet duration is incorrect on logic analyzer view. The packet duration is correct in other views, such as LE timeline. The packet duration is also correct during live capture. To fix the problem, click on "recreate companion file" from File menu on Frame Display.	*	*						
3	While capturing 2M packets using Sodera LE hardware, some packets on higher channels are truncated and marked with error "Length in header too big for packet type".		*						
4	On very rare instances, when a user clicks on "Record" repeatedly to start and stop capture, the Sodera hardware stops capturing new packets. When this happens and the capture LED on the hardware is ON, restart recording. If the capture LED on the hardware does not turn ON when user clicks on "Record" button, power cycle the Sodera hardware to restart capture.	*							

2.10. Firmware Versions in Release 15

- Sodera – Firmware: 201808241607; FPGA: 201808170821; PIC:1.12 (Firmware update required)
- BPA 600 - Firmware: 369 (4.2 Compliant); 268 (4.0) (No firmware change)
- BPA le - Firmware: 268 (No firmware change)
- 802.11 - Firmware: FPGA: 2.9; Application: 1.5; Interface: 1.4 (No firmware change).

3. API

Automation Server:

- There are several sample projects included with the application. To run them, you should make sure that the Frontline Protocol Analysis Software application is already installed. For details, please refer to Automation Server Protocol.pdf included with the software.
- **C# Sample:** CSharpAutomationSampleClientProject
- **TCL sample:** SampleClient.tcl

DecoderScript:

- There is a sample DecoderScript project included with the application to help programmers who want to write decoders using Teledyne's proprietary language. To run them, you should make sure that the Frontline Protocol Analysis Software application is already installed. For details, please refer to DecoderScript QSG.pdf included with the software.
- You will need Visual Studio 2012 to compile your methods and a text editor to write decoders.

4. 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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