

CTech™ ViPER® ANLYTX Software Version 1.0 Release Notes

Abstract:	This document provides detailed Release Note Information for Version 1.0 of the CTech™ ViPER® ANLYTX Software Platform
Applicability:	This article applies to Version 1.0 CTech ViPER ANLYTX Software Platform (ViPER) which is a bundled software release consisting of the core ViPER Software and the Secure Add-On. Versioning is constructed from a Major ID, Minor ID and Build ID. (e.g. X.Y.zzz) where “X” represents the Major ID, “Y” represents the Minor ID and “zzz” represents the Build ID. The releases are documented according to the Major and Minor release ID’s since Build ID’s are subject to frequent changes not all associated with changes to the software.
Detailed Info:	Version 1.0 of the ViPER Software was released for General Availability on December 11, 2020 following the successful completion of the Release Candidate Validation protocol. This document serves as the inception release note Version 1.0 release and will be revised with updated information in the event of future maintenance releases, patches and new sub-system or feature roll outs. It is intended to provide information about the software product for those groups and individuals responsible for selecting, using, configuring, implementing and validating the software products that are an integral part of CTech variable pathlength systems, as well as a feature change and bug fix log of future releases.
Computer System & Hardware Requirements:	<ul style="list-style-type: none"> • VP 1.0 has been validated for use with the Agilent Cary 60 spectrophotometer • VP 1.0 has been validated for use with all hardware versions of the CTech™ FlowVPE® and CTech™ FlowVPX® hardware when used with an Agilent Cary 60. • VP 1.0 requires Microsoft .NET 4.7 Framework or later. • VP 1.0 requires SQL Server Express 2017 or newer (SQL Server Standard 2012 and newer can also be used). • VP 1.0 still requires the Agilent Cary WinUV environment to run. It has been validated for use with the Cary WinUV Version 5.1.3.xxx platform • <i>Computer Hardware</i> <ul style="list-style-type: none"> • VP 1.0 will functions properly when used on the computer hardware recommended in the Agilent Cary 60 User Manual. • VP 1.0 Validation Testing was performed using the Standard Production Computer System: <ul style="list-style-type: none"> • Lenovo ThinkPad T460s <ul style="list-style-type: none"> • Intel Core i7 (Dual Core 2.6GHz 3MB) • 20GB 1600 MHz DDR Non-ECC RAM • 500GB 7200rpm Hard Disk Drive • Intel Integrated Graphics • Windows 10 64-Bit • Chrome 64bit V.75 or later • Dell Rugged Latitude 7424 <ul style="list-style-type: none"> • Intel Core i7-8650U 1.90GHz • 16GB DDR4 RAM • 128GB Solid State Hard Drive • Windows 10 Pro 64-Bit • Chrome 64bit V.75 or later

Features and Functions Released:

- ViPER Platform**
- The overall platform is designed with an app-based architecture where each app is designed for a specific purpose. The front end is accessed through a self-hosted web site from a browser. Data is stored in the SQL Server back end, which autosaves all run data. Help documents and a system-wide audit log can be accessed from the main platform home screen. The overall system administration is done through the Admin menu of the platform.
- Major Features include:
- Display Settings
 - App Configuration settings
 - Device settings
 - Usage Reports
 - Licensing
- Quick Kinetics**
- An application that allows the user to leverage the power of variable pathlength technology for the purposes of process stream monitoring. The software will graph data over time to show how the data changes. The system also contains a robust reporting feature that allows the user to export data in a variety of different formats.
- Major Features include:
- Quick and Fixed Slope modes
 - Multiwavelength support
 - Extinction coefficient support per wavelength
 - Scatter Correction
 - Baseline Correction
- Manual Controls**
- An application that allows the user to manually manipulate supported variable pathlength hardware to support installation, configuration and maintenance.
- Major Features include:
- Quick Read/Scan
 - Go to Pathlength
 - Perform a Quick Slope reading
- Validate VPT**
- An application that allows the user to perform system suitability verification that would ensure the accuracy and reliability of supported variable pathlength hardware by measuring the connected light source.
- Major Features include:
- Quick Check
 - Couple Check
 - Coupler Align Tool
- SecureVPT™ Settings**
- A tool in ViPER Software that allows an administrator to assign user roles and feature access of available applications on a group or user level. Administrators can also use these security measures to dictate how eSignatures are initiated and managed during specific software events. The secure settings are designed to help the admin make the software compliant with CFR 21 Part 11.
- Major Features include:
- User Platform Access Levels
 - User App Access Levels
 - User App Feature Access
 - E-Signature event configurations

OPC-UA

An interface to the system that allows the user to set up methods and device control runs from outside ViPER. This will allow users to integrate their system with other process control software or LIMS systems.

Major Features include:

- Start/Stop a Run
- Get last Cycle Data
- Open an existing method

Hardware Supported

FlowVPE	[IN-VPE-FLOW5]
• 3 mm Flow Cell	[OC1004]
• 10 mm Flow Cell	[OC1003-01]
• GXP Flow Cells	[10 mm OC1005-01]
FlowVPE-L	[IN-VPE-FLOW5-L]
• 1 Inch Flow Cell	[OC1007]
FlowVPX	[IN-VPX-FLOW-A]

DEC 10 2020

Release Notes for Version 1.0.13

Improvements and Issues Addressed:

ViPER Platform

- Enhanced the Help feature
- Enhanced IQOQ/PM reporting
- Fixed an issue that prevented the 22mm Flow Cell from being loaded in a FlowVPE-L device

DEC 17 2020

Improvements and Addressed Issues:

ViPER Platform

- Improved functionality of eSignatures or Quick Check and Coupler Check events across supported applications
- Improved functionality of Filter by Users feature in Open Data across supported applications
- Resolved issue that saw ViPER failing to open with a connected FlowVPX device

Quick Kinetics

- Improved Loading and Unloading Procedure when using a connected FlowVPE-L device
- Resolved issue that saw error messages being received
- Resolved issue that prevented a 22mm Flow Cell from being properly loaded into a connected FlowVPE-L device

Manual Controls

- Resolved issue that prevented the XSA procedure from being completed after initiation
- Resolved issue that prevented a user from exporting Slope Data

Improvements and Addressed Issues:

- ViPER Platform
- Implemented an impasse for Core activation when attempting to open while the connected device resides in a state divergent from that which was last recorded in software
 - Resolved an issue that prevented ViPER applications from being run when connected to a FlowVPE device
 - Updated FlowVPX loading procedure
 - Resolved an issue that prevented smart Flow Cells from being properly loaded
 - Resolved an issue that saw the FlowVPX zeroing again after successfully completing the loading procedure
 - Improved search functionality within Open Data
 - Resolved an issue that omitted Transmission Test results at the close of the loading procedure
- Quick Kinetics
- Resolved an issue that compromised the initial slope collection of initiated runs
 - Improved clarity of Scatter Correction details in the Report
 - Implemented I/O Configuration details to the Report
 - Resolved an issue with I/O Configurations not being reset upon user request
 - Resolved an issue that prevented initiated runs from being stopped upon user request
 - Resolved an issue that made Interval Read an editable parameter when disabled
 - Improved clarity of Coupler Check requirement when attempting to run methods that failed Quick Check
 - Resolved an issue that prevented I/O Configurations from being saved in a method
 - Implemented a means of clearing the test signal within I/O Configuration
 - Resolved an issue with I/O functionality that prevented the signal from returning to the proper state following the end of a run
- Manual Controls
- Improved reliability of initiated data collection events
- Validate VPT
- Implemented Transmission Test functionality
 - Improved functionality of Xenon Emission Line and Photometric Noise tests
 - Improved functionality of Coupler Align feature
 - Resolved an issue that allowed users to initiate the System Suitability procedure while the FlowVPX remained in a loaded state
 - Improved clarity of recorded Quick Check results
- SecureVPT™ Settings
- Resolved an issue that prevented Add/Remove actions from being recorded within the Audit Log
 - Resolved an issue the inaccurately logged password expiration actions in the Audit Log
 - Implemented password complexity for Non-LDAP users

Improvements and Addressed Issues:

ViPER Platform	<ul style="list-style-type: none">• Implemented a login function for service technicians• Resolved an issue that prevented ViPER from functioning with FlowVPE devices• Resolved an issue that prevented Core from starting with the FlowVPX in an unloaded state• Implemented password requirement for Admin Setting access in non-secure• Implemented resting state of FlowVPX to the Home position• Resolved an issue that failed to prevent active instances of ViPER from entering automatic sleep• Improved non-secure instances to only include settings and data relevant to its state• Improved I/O interface and functionality								
Quick Kinetics	<ul style="list-style-type: none">• Resolved an issue that prevented user requested Tabular Data from being displayed• Improved functionality of Report Wizard• Resolved an issue that prevented Baseline Correction from being performed								
Manual Controls	<ul style="list-style-type: none">• Resolved an issue that allowed a user to initiate Quick Scans with wavelength values exceeding one's instrument range								
Validate VPT	<ul style="list-style-type: none">• Resolved an issue that prevented Coupler Align feature from properly functioning• Improved readability of results for completed QVCA tests• Resolved an issue that saw tolerance values entered in NIST tests also being applied to Photometric Accuracy—K2Cr2O7 tests• Improved readability of a wavelength's/serial number's associated replicate settings• Resolved an issue that allowed a user to change the pre-defined significant digits of the values found within the results of completed QVCA tests• Improved readability of Holmium Oxide Wavelength Accuracy Tests• Resolved an issue that prevented Coupler Check feature from properly functioning• Resolved an issue that could prevent a user from leaving the XSA procedure should their selected sample fail its respective test• Improved accuracy of Pass/Fail criteria of completed Stray Light Tests								
SecureVPT™ Settings	<ul style="list-style-type: none">• SecureVPT can now be licensed/unlicensed, restricting or allowing access accordingly• Implemented add/remove license keys functionality on a per app basis• Implemented password protection of Admin settings for non-secure instances• Improved group-level assignment functionality								
Hardware Supported	<table><tr><td>FlowVPX</td><td>[IN-VPX-FLOW-A]</td></tr><tr><td><ul style="list-style-type: none">• 3mm NON-GxP Flow Cell</td><td>[OC2002]</td></tr><tr><td><ul style="list-style-type: none">• System Suitability Adapter</td><td>[ACC-FVPX-XSA]</td></tr><tr><td><ul style="list-style-type: none">• XSA Fibrette</td><td>[OF2003]</td></tr></table>	FlowVPX	[IN-VPX-FLOW-A]	<ul style="list-style-type: none">• 3mm NON-GxP Flow Cell	[OC2002]	<ul style="list-style-type: none">• System Suitability Adapter	[ACC-FVPX-XSA]	<ul style="list-style-type: none">• XSA Fibrette	[OF2003]
FlowVPX	[IN-VPX-FLOW-A]								
<ul style="list-style-type: none">• 3mm NON-GxP Flow Cell	[OC2002]								
<ul style="list-style-type: none">• System Suitability Adapter	[ACC-FVPX-XSA]								
<ul style="list-style-type: none">• XSA Fibrette	[OF2003]								

Improvements and Addressed Issues:

- | | |
|----------------|--|
| ViPER Platform | <ul style="list-style-type: none">• Implemented an installation path for local database environments• Resolved an issue that prevented Coupler Check from displaying percent transmissions readings upon completion• Improved Coupler Check and Quick Check to prevent premature/accidental closure after initialization |
| Quick Kinetics | <ul style="list-style-type: none">• Implemented an in-app option to use NiDAQ devices for IO collection• Resolved an issue that saw IO-enabled methods still outputting a current associated with the last collected slope after a run had ended• Resolved an issue that would yield a crash should IO-enabled methods be run without a connected NiDAQ device |
| Validate VPT | <ul style="list-style-type: none">• Implemented vProtocol UI |

Improvements and Addressed Issues:

ViPER Platform

- Resolved an issue with filtering acquired data from a Cary 60

Validate VPT

- Improved Coupler Align graphing
- Improved Baseline Flatness test results
- Updated generated reports to include additional device information

Improvements and Addressed Issues:

ViPER Platform	<ul style="list-style-type: none">• Implemented support of 22 mm Flow Cells• Resolved an issue that prevented a 10mm Flow Cell from being properly identified with a FlowVPX device• Resolved an issue that occasionally prevented the ViPER shortcut from opening ViPER• Improved reliability of flow cell loading events performed outside of software• Improved functionality of reordering report contents within Report Wizard• Resolved an issue that saw Cary settings changing after reads in ViPER• Improved detail of returned ConfiRM results within the report of applicable apps• Updated OPC Version• Improved reliability of Backup Datastore when disconnected from centralized SQL Server• Implemented support for hardware version 4.2.16• Improved Instrument Scanning to properly handle manual stoppage• Modified fresh install default settings to match Applications Group's recommended settings				
Quick Kinetics	<ul style="list-style-type: none">• Resolved an issue that saw completed Quick Checks yield blank results• Resolved an issue that prevented runs from being properly initiated or stopped• Resolved an issue that prevented Baseline Correction enabled methods from being run after baseline collection• Resolved an issue that prevented loaded FlowVPE-L devices from being properly unloaded				
Manual Controls	<ul style="list-style-type: none">• Resolved an issue that prevented ConfiRM from properly completing after initiating• Updated Trace Selections to be more clear and distinguishable from one another				
Validate VPT	<ul style="list-style-type: none">• Implemented a 60 second delay for Baseline Flatness tests to maintain consistency with Agilent Software• Resolved an issue that saw an error message being returned when initiating Quick Check• Resolved an issue that prevented a Coupler Check from being performed with a FlowVPE-L device• Implemented hardware and software inspections to eProtocols				
SecureVPT™ Settings	<ul style="list-style-type: none">• Implemented addition of Coupler Align, White Light, and starting QVCA tests as Feature Access Points• Resolved an issue that allowed locked out users to still log in• Implement password complexity for both Admin and Users				
Hardware Supported	<table><tbody><tr><td>FlowVPX</td><td>[IN-VPX-FLOW-A]</td></tr><tr><td><ul style="list-style-type: none">• 22mm GXP Flow Cell</td><td>[OC2004]</td></tr></tbody></table>	FlowVPX	[IN-VPX-FLOW-A]	<ul style="list-style-type: none">• 22mm GXP Flow Cell	[OC2004]
FlowVPX	[IN-VPX-FLOW-A]				
<ul style="list-style-type: none">• 22mm GXP Flow Cell	[OC2004]				

Features and Functions Released:

Quick Slope	<p>An application that allows the user to take Slope measurements.</p> <p>Major Features include:</p> <ul style="list-style-type: none">• Quick and Fixed Slope modes• Multiwavelength support• Extinction coefficient support per wavelength• Scatter Correction• Baseline Correction• Repeat Methods• Graphing and Reporting
Quick Survey	<p>An application that allows the user to rapidly collect multiple spectra at a wide range of pathlengths in order to quickly determine the wavelengths (absorbance peaks) of interest and required pathlength ranges.</p> <p>Major Features include:</p> <ul style="list-style-type: none">• Broad wavelength range• 3D Graphing and Reporting• Spectrum and Section Plots

Improvements and Addressed Issues:

ViPER Platform	<ul style="list-style-type: none">• Implemented optimization of SoloVPE support for all applicable applications• Improved UI responsiveness for lower screen resolutions• Resolved an issue that prevented eSignatures from being applied to required items• Improved functionality of App Configuration menus to be consistent with other Admin Settings when making modifications
Quick Kinetics	<ul style="list-style-type: none">• Resolved an issue that saw report configuration changes not being properly reflected in said reports
Validate VPT	<ul style="list-style-type: none">• Improved CPV testing• Implemented eSignature points for QVCA testing• Improved reliability of Photometric Accuracy—NIST test• Resolved an issue that prevented Linearity Test from performing properly• Resolved an issue that saw Coupler Check returning inconsistent and inaccurate results
SecureVPT™ Settings	<ul style="list-style-type: none">• Improved eSign queue UI and role order• Improved LDAP syncing to check if the user was added to or removed from a group• Implemented Overrider capability within eSign
Hardware Supported	SoloVPE [IN-VPE-SOLO5]

Improvements and Addressed Issues:

- ViPER Platform
 - Resolved an issue that saw the software hang upon the initial login of a user whose password was changed
 - Implemented licensing for individual apps
 - Resolved an issue that saw multiple licenses duplicating available apps
 - Updated the default FlowVPX App Configuration settings to more appropriate values
 - Resolved an issue that saw the FlowVPE using the incorrect load position for supported flow cells
- Quick Kinetics
 - Implemented ability to export Raw Data
 - Resolved an issue that prevented extended runs from completing
- Manual Controls
 - Resolved a crash experienced when performing a Quick Scan after a run was conducted in another app
 - Resolved an issue that prevented Quick Read from functioning if performed after a run was conducted in another app
- Validate VPT
 - Resolved an issue that would cause the vProtocol to become locked if it had not been previously completed before closing
 - Improved Audit Log functionality to record QVCA Export events
 - Resolved an issue that prevented System Suitability from functioning with a FlowVPE device
- SecureVPT™ Settings
 - Resolved an issue that allowed the Support account to be visible to users on a local database
 - Resolved an issue that allowed an Admin to add User Groups that did not exist within the Active Directory
 - Resolved an issue that prevented Overrider instances from functioning properly
 - Resolved an issue that locked the Service User account after failed passwords attempts
 - Improved Extinction Coefficient functionality to prevent access to users that do not possess full control
 - Improved functionality of Domain users that reside within multiple Groups
 - Improved functionality of Feature Access for users that reside within multiple Groups
 - Resolved an issue that prevented eSignatures requests from behaving properly
 - Improved reliability and consistency of LDAP and ViPER authentication

Improvements and Addressed Issues:

ViPER Platform	<ul style="list-style-type: none">• Implemented OPC-UA Server• Implemented ViPER OPC Client communication• Implemented OPC Report Nodes• Implemented Load/Unload OPC functionality• Implemented Firmware and Hardware version visibility• Implemented 10mm PPSU Flow Cell support• Implemented 22mm PPSU Flow Cell support• Implemented Flow Cell use percentage• Implemented Updated Report Version• Improved Report Version handling of reports created in earlier incarnations of software										
Quick Kinetics	<ul style="list-style-type: none">• Implemented revised Flow Cell selection• Implemented caution and lock-out functionality with Flow Cells nearing and meeting their usage limits• Implemented Loading Procedure steps for System Suitability• Resolved an issue that resulted in a homing error when attempting to bypass a step within the Loading Procedure										
Quick Slope	<ul style="list-style-type: none">• Implemented Tall Plastic vessel support										
Validate VPT	<ul style="list-style-type: none">• Resolved an issue that prevented the System Suitability Log from being properly exported• Resolved an issue that compromised report formatting when running a Holmium Oxide test with Replicates enabled										
Hardware Supported	<table><tr><td>SoloVPE</td><td>[IN-VPE-SOLO5]</td></tr><tr><td><ul style="list-style-type: none">• Tall Plastic Vessel</td><td>[OC0009-2]</td></tr><tr><td>FlowVPX</td><td>[IN-VPX-FLOW-A]</td></tr><tr><td><ul style="list-style-type: none">• 10mm PPSU Flow Cell</td><td>[OC2009-EB]</td></tr><tr><td><ul style="list-style-type: none">• 22mm PPSU Flow Cell</td><td>[OC2010-EB]</td></tr></table>	SoloVPE	[IN-VPE-SOLO5]	<ul style="list-style-type: none">• Tall Plastic Vessel	[OC0009-2]	FlowVPX	[IN-VPX-FLOW-A]	<ul style="list-style-type: none">• 10mm PPSU Flow Cell	[OC2009-EB]	<ul style="list-style-type: none">• 22mm PPSU Flow Cell	[OC2010-EB]
SoloVPE	[IN-VPE-SOLO5]										
<ul style="list-style-type: none">• Tall Plastic Vessel	[OC0009-2]										
FlowVPX	[IN-VPX-FLOW-A]										
<ul style="list-style-type: none">• 10mm PPSU Flow Cell	[OC2009-EB]										
<ul style="list-style-type: none">• 22mm PPSU Flow Cell	[OC2010-EB]										

Improvements and Addressed Issues:

- ViPER Platform
 - Implemented Cary Reboot Reminder
 - Implemented Cycle Limit for Single-Use Flow Cells
 - Implemented a caution message when Cycle Limits for employed Flow Cells are near
 - Quick Check and Coupler Check events allocated to the General Audit Log
 - Resolved an issue that saw the VPX Head fail to properly detect loaded/unloaded state
- Quick Kinetics
 - Implemented the ability to perform multiple User Result calculations
 - Implemented the ability to run a method with both Scatter Correction and Baseline Correction enabled
 - Resolved an issue that prevented User Result enabled methods from being run
 - Resolved an issue that prevented data from being properly opened
 - Resolved an issue with User Results not being removed when resetting a method
 - Resolved an issue that prevented lengthy User Results from being properly displayed
 - Resolved an issue that prevented one from initiating Baseline Correction a second time
 - Resolved an issue that allowed a user to prematurely “Complete” Baseline Correction
- Quick Slope
 - Implemented the ability to switch between Extinction Coefficient and Concentration
 - Resolved an issue that prevented Repeats from completing in full
 - Resolved an issue that yielded incomplete Reports for User Result enabled methods within added Graphs
 - Resolved an issue that prevented User Results from being recovered after network loss
 - Resolved an issue that saw Method Details yielding no data
 - Resolved an issue that prevented both Concentration and EC values from being properly saved upon export
 - Resolved an issue with Quick Slope mode runs displaying graphed slopes that differed from their original appearance once its corresponding saved data was opened
- Manual Controls
 - Implemented support of Repeats for Quick Slope inquiry
- Validate VPT
 - Implemented degrees of access for licensed, unlicensed and service users
 - Removed access to service only tests from users
- SecureVPT™ Settings
 - Updated eSign App Configuration to require Author when selecting Reviewer/Approver types and ensure subsequent eSignature events perform properly
 - Resolved an issue that saw unedited events being recorded within the Audit Log when editing others
 - Resolved an issue that would not properly update Feature Access for newly created users
 - Resolved an issue that saw Event Type for eSignature changes being incorrectly reported within the Audit Log

Features and Functions Released:

AAV An application that allows the user to automate the testing of AAV samples to determine genome and capsid tier as well as percent full capsid ratios.

Major Features include:

- Quick and Fixed Slope modes
- Multiwavelength support
- Extinction coefficient support for Capsid and DNA
- Baseline Correction
- Scatter Correction
- % Full

Improvements and Addressed Issues:

- | | |
|---------------------|--|
| ViPER Platform | <ul style="list-style-type: none">• Resolved an issue that compromised the formatting of the Unloading Procedure in supported apps• Resolved an issue that saw the Audit Log incorrectly recording instances of reports being printed• Implemented a Firmware version check on Core startup to ensure compatibility• Improved the Audit Log to display application specific events when added to the Report• Improved Display Time Zone• Improved UTC Time Zone functionality• Improved PC Settings Time Zone functionality• Implemented an alert when loading Single-Use Flow Cells that have been used more than once• Improved Reports to include ConfiRM Standard Results in applicable apps |
| Quick Kinetics | <ul style="list-style-type: none">• Resolved an issue that saw Data Points reverting back to values set within App Configuration when opening data• Improved reporting to include Validate VPT Summary automatically at the end of every run |
| Quick Slope | <ul style="list-style-type: none">• Improved reporting functionality to be more clear and concise with multiple sample runs• Improved Trace Name reporting to ensure it does not truncate Sample Names• Improved Tall Plastic vessel type• Improved the order in which Run Details are displayed within the Report |
| Manual Controls | <ul style="list-style-type: none">• Implemented Rep Mode for Slope Inquiry |
| Validate VPT | <ul style="list-style-type: none">• Implemented SecureVPT Installation Qualification to the vProtocol |
| SecureVPT™ Settings | <ul style="list-style-type: none">• Resolved an issue that prevented the Admin from deleting Groups from eSignature Roles |

Improvements and Addressed Issues:

- ViPER Platform
 - Implemented Flow Cell Zeroing Counter
 - Implemented ability to delete Methods within ViPER
 - Implemented a brief stoppage at 100 microns before moving to absolute zero whenever a movement exceeding 1mm is performed to better ensure hardware reliability
 - Implemented Firmware version 4.03.05
 - Improved the 3mm Flow Cell naming convention to be more accurate in the report by ensuring it doesn't include "Non-GXP"
 - Resolved an issue that prevented Read-Only mode from opening when no Cary was detected
 - Improved reliability of LDAP authentication
 - Resolved an issue that prevented Flow Cell unloading from being completed
- Quick Kinetics
 - Resolved an issue that prevented the System Suitability Adapter from being loaded
 - Resolved an issue that prevented a method from being run with a Flow Cell life cycle between 50—100%
 - Improved performance of slope selection during multi-wavelength runs
- Quick Slope
 - Resolved an issue that saw the averages being incorrectly tabulated whenever Reps exceeded a count of 5
- Quick Survey
 - Improved functionality of Export Data feature
- Manual Controls
 - Resolved an issue that prevented the user from printing the report as a PDF
- Validate VPT
 - Improved KRCr207 testing to properly reflect the correct units of measurement for Standard Deviation
- SecureVPT™ Settings
 - Implemented secure points for Acceptance Criteria and Slope Analysis

Improvements and Addressed Issues:

- | | |
|----------------|--|
| ViPER Platform | <ul style="list-style-type: none">• Resolved an issue that prevented a user from registering ViPER Software with a SoloVPE device• Resolved an error with report handling when reports would outnumber the collected number of runs |
| Validate VPT | <ul style="list-style-type: none">• Resolved an issue that prevented users from entering wavelengths with decimals in vProtocol |

Improvements and Addressed Issues:

ViPER Platform

- Implemented FlowVPX Firmware Version 4.06.19
- Implemented support and functionality for Beams System
- Resolved an issue that resulted in unloaded FlowVPX devices occasionally emitting a siren like sound at core startup
- Implemented Backlash Correction
- Improved ViPER installation to automatically include necessary drivers/dependencies
- Improved reliability of time zone conversion within reports and logs
- Resolved an issue that prevented the VPX from returning to the Home position following the Loading Procedure's conclusion
- Resolved a zeroing error within core that prevented the VPX from returning to the Home position when initiating the Unloading Procedure
- Resolved an issue with the Hide function that caused the Method Input Panel to remain hidden
- Improved error handling when the System Suitability Adapter is incorrectly loaded
- Updated the order of the Loading Procedure steps to be consistent with all supported Flow Cell types
- Implemented Multi-Linear and Dual Linear Scatter Correction for both Quick Kinetics and Quick Slope applications

Quick Kinetics

- Resolved an issue that prevented Baseline Correction from functioning properly with Quick Slope Mode methods
- Resolved an issue that prevented the Loading Procedure from being resumed if exited prematurely
- Resolved an issue that compromised data collection for devices in a preloaded state at start up

Quick Slope

- Resolved an issue that saw the incorrect method name being displayed in the report

Manual Controls

- Resolved an issue that prevented Quick Scans from ending properly

Validate VPT

- Improved accuracy of the System Suitability acquired value and variance when multiple runs are performed
- Resolved an issue where the Flow Cell Status would fail to update when initiating System Suitability
- Implemented vProtocols for use with Beams System
- Resolved an issue that prevented the System Suitability Adapter from being loaded in the application

Improvements and Addressed Issues:

SecureVPT™ Settings	<ul style="list-style-type: none">Improved database stability to prevent retention of previously set rolesResolved an issue that prevented the preview for pending “Save a Method” eisgnatures from being displayed for Reviewers	
Hardware Supported	FlowVPX	[IN-VPX-FLOW-A]
	<ul style="list-style-type: none">2.0 inch Flow Cell	[OC2012]
	Beams System	[SYS-BEAM-FX1]
	<ul style="list-style-type: none">Controller	[IN-BEAM-FX4-VPC]
	<ul style="list-style-type: none">260 nm Source	[IN-BEAM-FX1-0260]
	<ul style="list-style-type: none">272 nm Source	[IN-BEAM-FX1-0272]
<ul style="list-style-type: none">280 nm Source	[IN-BEAM-FX1-0280]	
<ul style="list-style-type: none">310 nm Source	[IN-BEAM-FX1-0310]	
Firmware	FlowVPX	[4.06.19]
	<ul style="list-style-type: none">Implemented internal error logging	
	<ul style="list-style-type: none">Enhanced motor control capabilityImplemented full support of 1.5in and 2.0in Flow Cell types	