

1 Purpose

This document describes new features and fixed bugs in the following new software version in comparison with the previous version.

- New version: 4.1.1.394
- Old version: 4.1.1.362

2 New features

Instrument	Topic	Description
All instruments	Pretreatment	Asymmetric Least Square (ALS) pretreatment is added.
2060 Raman	2060 Raman driver	The 2060 Raman driver is released.

3 Improvements

Instrument	Topic	Description
All instruments	Clustering	Clustering is introduced to visualize PCA results.
XDS/DS laboratory instruments	Performance test	The specification on standard deviation for the stability of the peak position at 2307.54 nm is changed from 0.015 nm to 0.025 nm.
All Raman instruments	Auto integration during Raman shift calibration	The range to calculate the integration time during Raman shift calibration is changed to 350–2000 cm^{-1} .
All Raman instruments	Performance test range	The range used for the performance test and the creation of the PVR file is editable.
All Raman instruments	Performance test tolerances	Tolerance limits during the performance test are editable.
iRaman series and PTRam	Temperature detector	Better temperature control.

Instrument	Topic	Description
All Raman instruments	PVR file compatibility	PVR files are compatible between BWSpec and Vision.
XDS Process instruments	SIL	SIL drivers got improved, timing of heartbeat is synchronized with data acquisition.

4 Fixed bugs

Instrument	Topic	Description
All Raman instruments	Raman shift calibration	If the dialog was not closed properly after the Raman shift calibration, the application would crash. The bug is fixed.
All Raman instruments	Ratio3 file	If the ratio3 file was missing for the sample channel, then the performance test could not be carried out. The bug is fixed.
All Raman instruments	Icon multiplying	If switching back and forth from data acquisition to routine analysis, then icons would multiply. The bug is fixed.
XDS Process instruments and XDS/DS laboratory instruments	SNV pretreatment	If SNV was applied to NIR data, then 1 data point of the selected range was removed, leading to inconsistency with previous Vision versions. The bug is fixed.
XDS/DS laboratory instruments	Low Flux Test	For XDS and DS2500 Solid the results of the Low Flux Test were incorrect in the previous version. The bug is fixed.

5 Known bugs

None

6 Compliance

The current software version does not contain any modifications that affect conformity of Vision regarding GAMP.

Requirements of 21 CFR Part 11 can only be activated when a Vision Pharma License has been used for the installation of Vision.