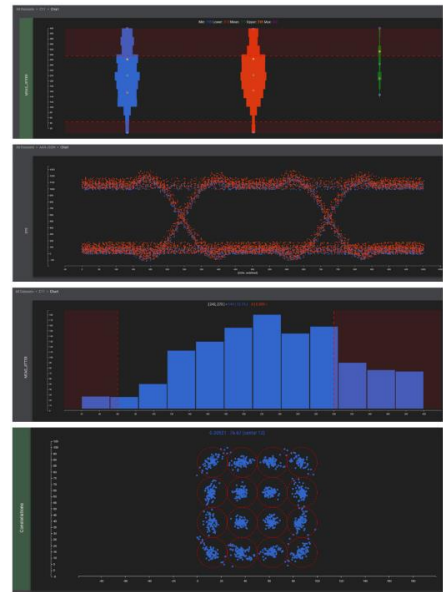


# KS6800A Series Measurement Analytics Software

The Keysight Technologies, Inc. Measurement Analytics software provides an interface that allows users to import their test data to a data repository server. It protects the data repository server from data corruption and allows version control. It also allows for a simple interface which abstracts away the implementation details. The KS6810 Data Analytics Web Service software supports multiple data sources and a wide range of data import clients. The second component of KS6810A is the visualization tool. The KS6810A provides histogram, waveform plots and other modern test and measurement visualization tools with filter and split capabilities to enable data analysis.



## Features

- Supports multiple data sources:
  - Keysight software products (i.e FlexDCA, compliance application software, ADS simulation software)
  - Keysight test equipment measurement result
  - Non-Keysight data sources (measurement result from multiple vendor test equipment or customized data source from user test environment)
- Supports a wide range of clients for data import:
  - Infiniium compliance software framework
  - Web import tool for different file format (i.e CSV, JSON)
  - Import program (i.e C#, Python, JSON)
- Data can be retrieved for real time analysis with the visualization tool.
- Supports data analytics features:
  - Test optimization report
  - Outlier detection
  - Data overlay
- USB 3.1 Industry Data for industry benchmarking.



For more information:

Contact your NSCA & Tra-Cal Small Business Partner: Email [info@nscainc.com](mailto:info@nscainc.com)

or call your local sales rep today at 301-527-9200.



## Setting up the KS6810A Data Analytics Web Service Software

The user would set up a web server that hosts the KS6810A Data Analytics Web Service software and a data repository server that hosts the data repository infrastructure. The user can use any data repository infrastructure such as MySQL, SQL Server, Microsoft SQL, Oracle or other data repository management system. It is recommended that the web and data repository servers are setup separately to ensure scalability, performance and data repository security. The user is responsible to provide backup, restore and replication of the data repository server. It is recommended that the user set up the servers through their Information Technology (IT) department.

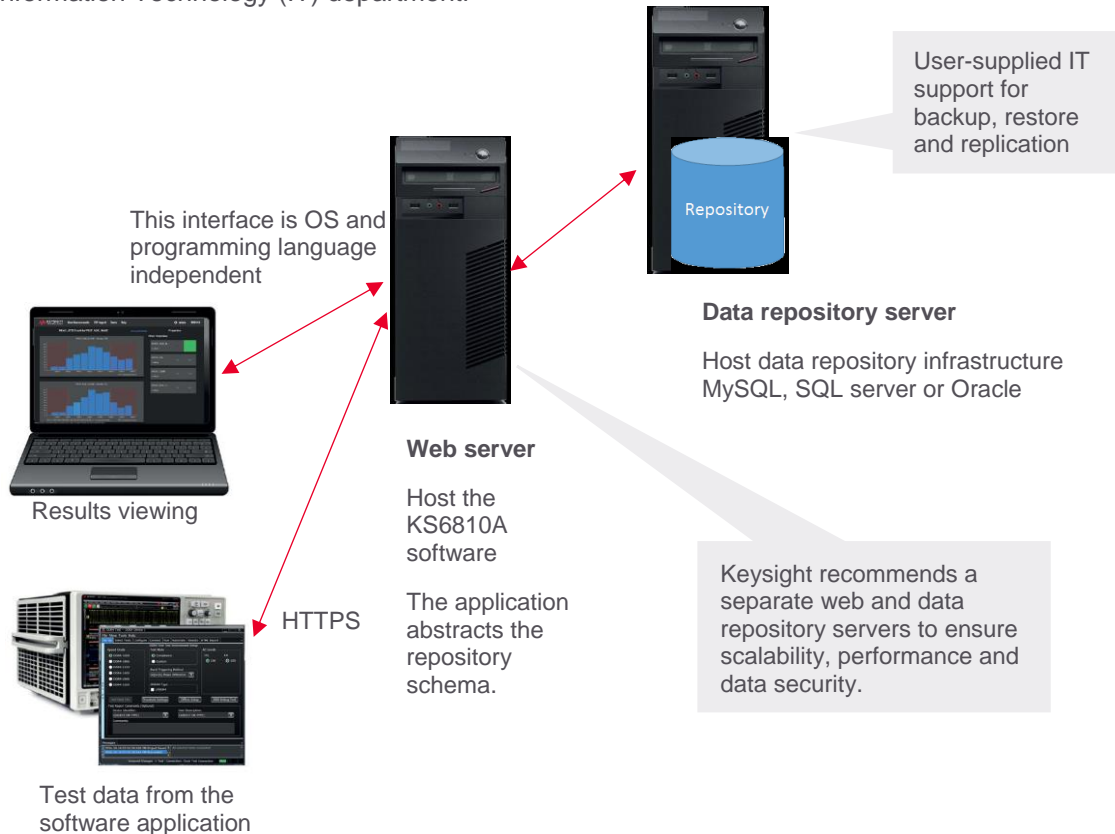


Figure 1: The KS6810A Data Analytics Web Server application software is installed on a server maintained by the user. The user will import and retrieve the data via a URL address that connects to the server.

## Data Sources and Data Import

The KS6810A Data Analytics Web Server application software enables users to upload test results from other sources to the data repository. The data source can come from Keysight test equipment such as the oscilloscopes. The software also supports non-Keysight test equipment measurement data as well as other user defined measurement methods. The user would collect the measurement result and save it into a .CSV format. Users can use the Web CSV import tool to import the data to the repository. The .CSV data import tool allows users to specify the number of measurements and properties available in the .CSV format test result. If the user chooses not to use .CSV format, the KS6810A software includes C#, Python

and other programming languages reference applications to help the user script a customized data import tool

## Keysight compliance software use model

The KS6810A Data Analytics Web Service software allows the user to import the test result from the Keysight compliance test software. The user would first configure the compliance application software, run the tests and then export the test result to the data repository.

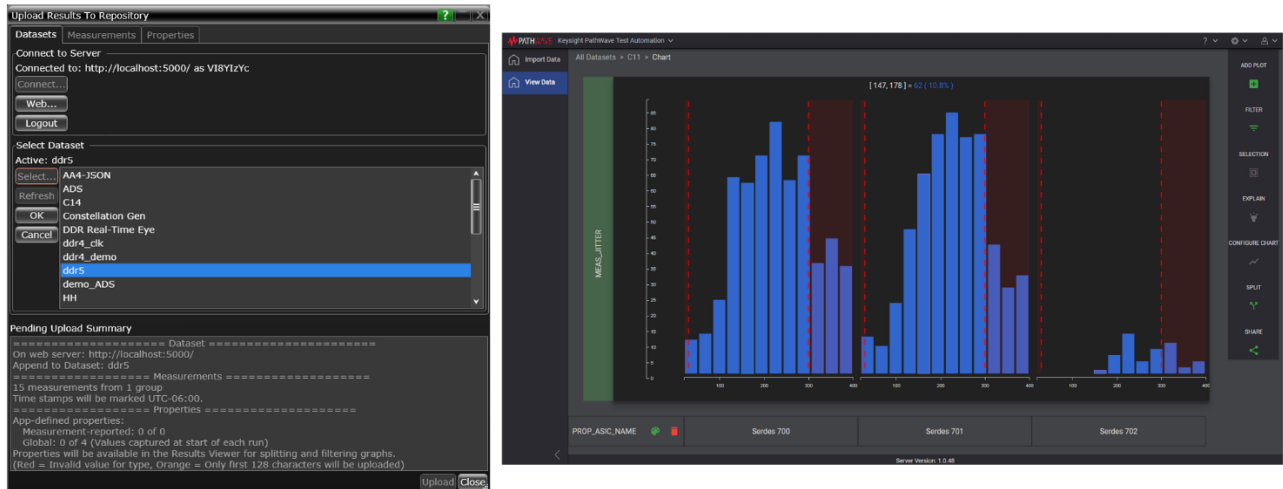


Figure 2. Infiniium Compliance Test Software with Data Analytics option. The user exports the compliance test result to the repository via an URL address that connects to the server.

## KS6810A Visualization Tool

Users can retrieve the test results from the data repository server to be viewed with the KS6810A visualization tool. The KS6810A visualization tool allows the user to see their compiled measurement result in histogram and line plots. The KS6820A advance version of the data analytics software provides additional viewing capabilities such as box-whisker and waveform plots. The plots can be split by properties or test conditions which include temperature, ASIC version, work bench, date and equipment model. The user can navigate to each measurement taken. The visualization tool is included as part of the KS6810A Data Analytics web service software.

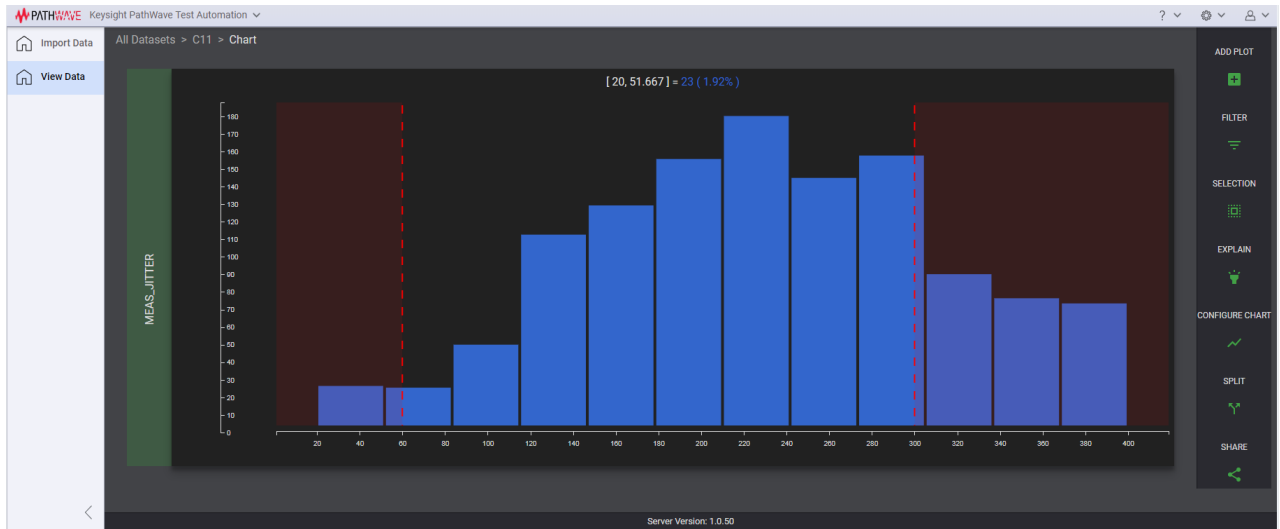


Figure 3: The KS6810A Visualization Tool reveals the plot of a DDR4 clock jitter measurement in histogram mode. The red zones show the upper and lower test limits of the measurement as specified in the JEDEC specification.

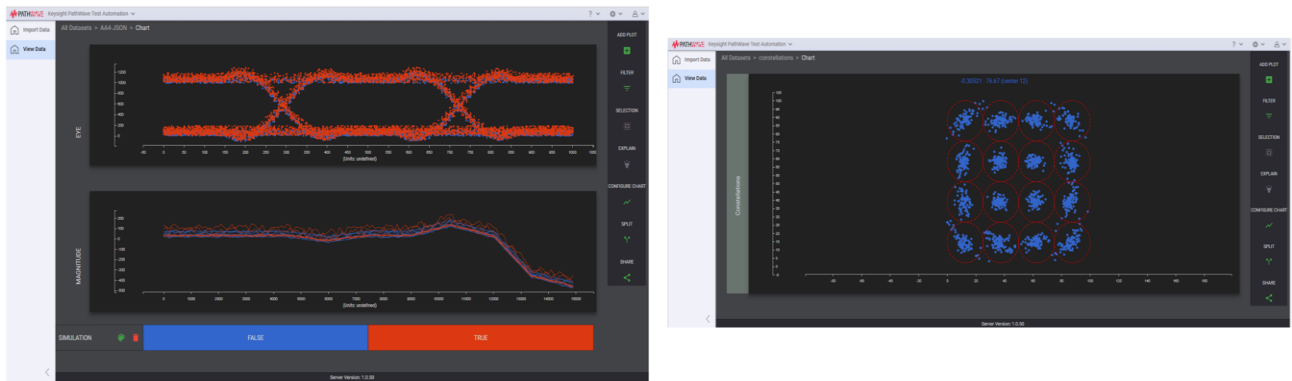


Figure 4: Waveform plots of eye diagram and constellation with filtering capabilities.

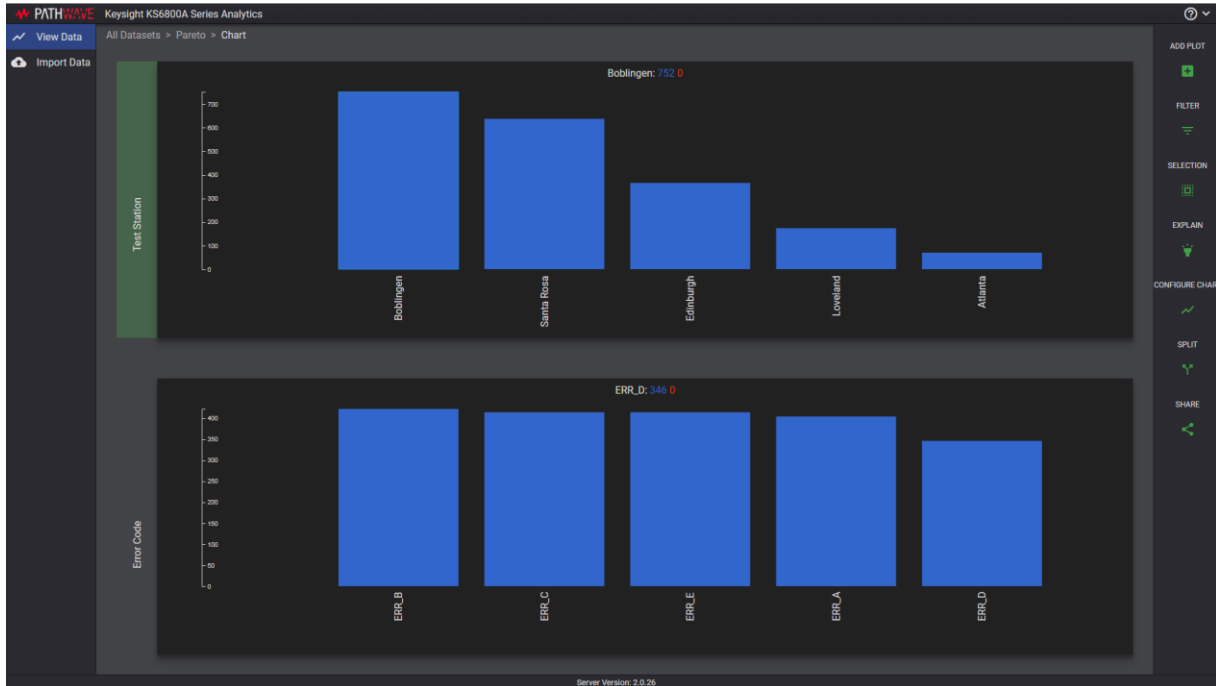


Figure 5: Pareto plot of manufacturing data analysis.

## Analytics

The KS6820A advance option offers data analytics capabilities. The user can select a group of data of interest which includes failed test data. The user interface allows user to review the possible test properties that causes the result of the test data. It also provides outlier detection and a test optimization report.

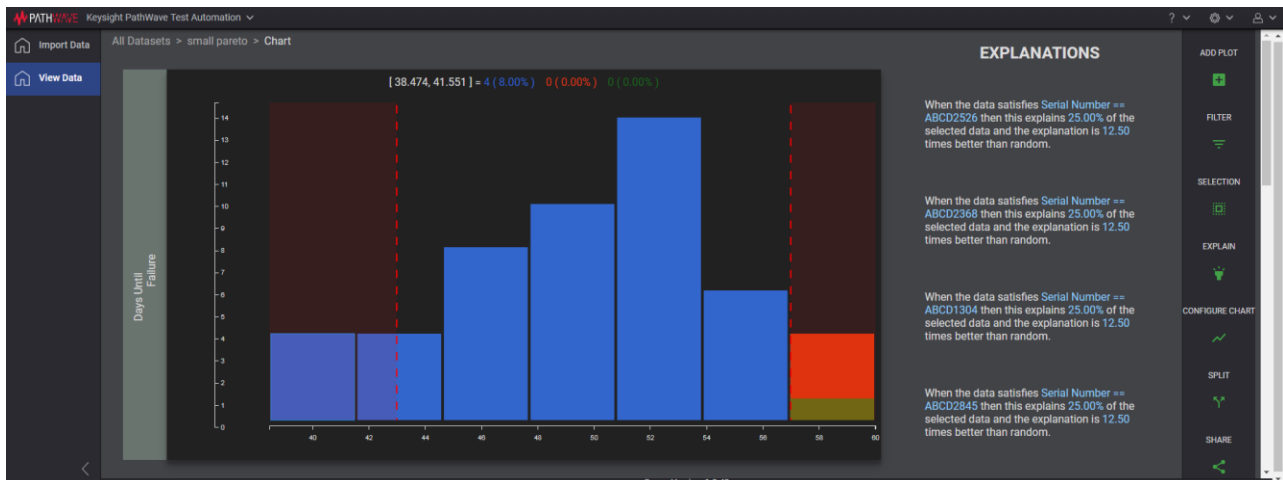


Figure 6: The Explain feature offers possible explanations to the device under test failure as indicated by the red bar distribution.

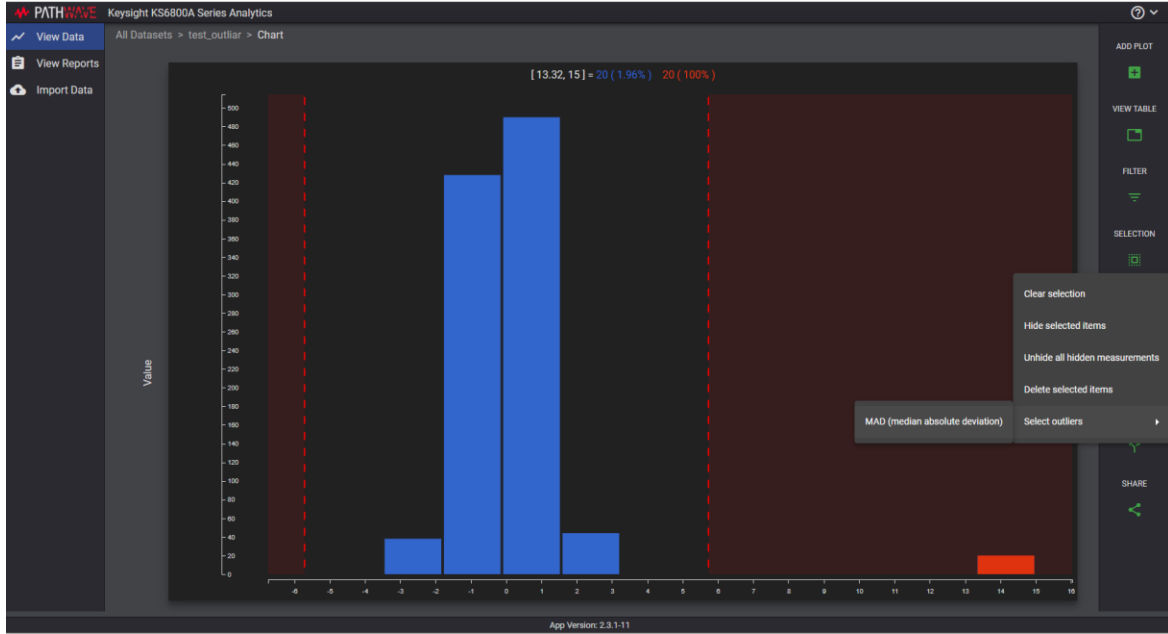


Figure 7. The outlier detection algorithm computes the expected data deviation from the median

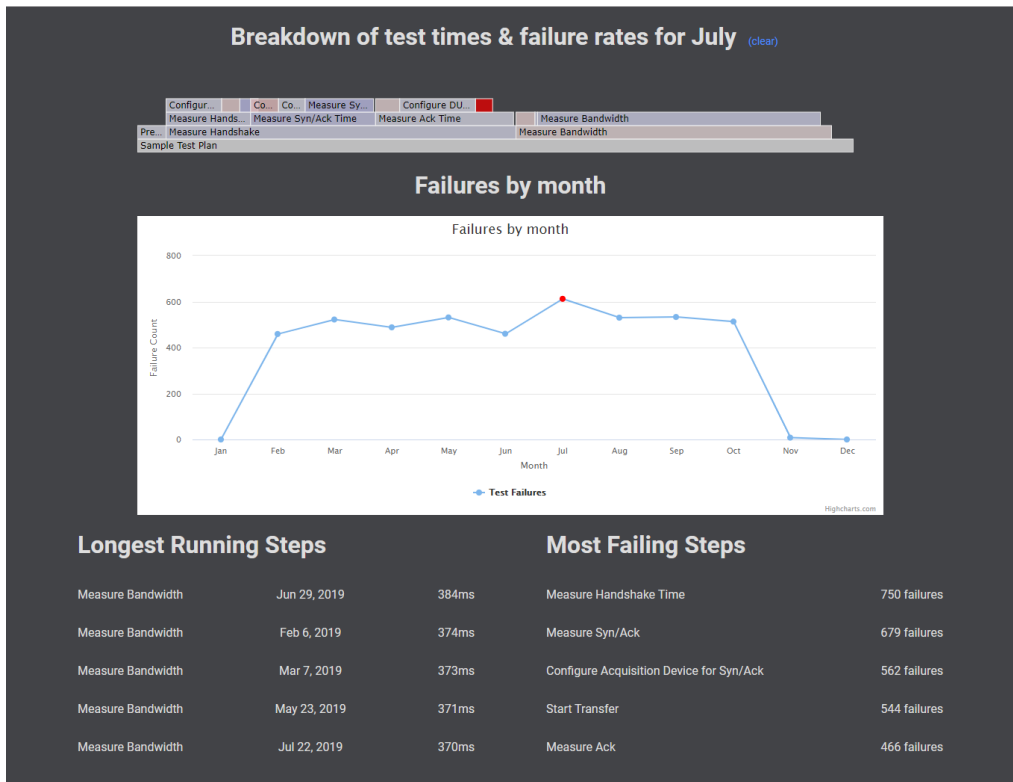


Figure 8. The test optimization report outlines the details of test times and failure rates.

# Industry Data

The KS6830A USB3.1 Industry Data provides USB3.1 compliance test data collected from the USB design industry. The test data offers insight for performing benchmarking against own or peers in the industry.

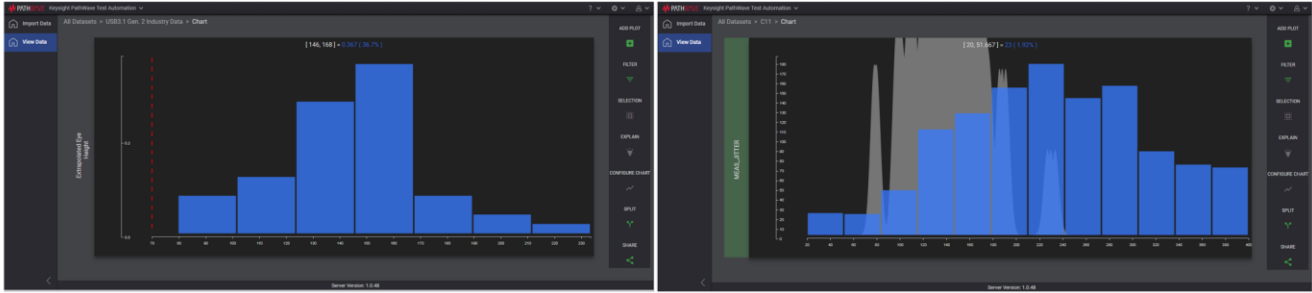


Figure 9. USB3.1 Industry Data – 10G Eye Height Test Industry Data used as a dataset benchmark.



## Ordering Information

Model number	Description	Note
KS6810A	Data Analytics Web Service Software (1 license)	
KS6811A	Data Analytics Web Service Software (15 licenses)	
KS6812A	Data Analytics Web Service Software (unlimited/corporate license)	
KS6820A	Data Analytics Web Service Software (Advance version)	Requires KS6810A, KS6811A or KS6812A
KS6830A	USB 3.1 Industry Data Software	Requires KS6810A, KS6811A or KS6812A

## Flexible Software Licensing and KeysightCare Software Support Subscriptions

Keysight offers a variety of flexible licensing options to fit your needs and budget. Choose your license term, license type, and KeysightCare software support subscription.

### License Terms

**Perpetual** – Perpetual licenses can be used indefinitely.

**Time-based** – Time-based licenses can be used through the term of the license only (6, 12, 24, or 36 months).



## License Types

**Node-locked** – License can be used on one specified instrument/computer.

**Transportable** – License can be used on one instrument/computer at a time but may be transferred to another using Keysight Software Manager (internet connection required).

**USB Portable** – License can be used on one instrument/computer at a time but may be transferred to another using a certified USB dongle (available for additional purchase with Keysight part number E8900-D10).

**Floating (single site)** – Networked instruments/computers can access a license from a server one at a time. Multiple licenses can be purchased for concurrent usage.

## KeysightCare Software Support Subscriptions

Perpetual licenses are sold with a 12 (default), 24, 36, or 60-month software support subscription. Support subscriptions can be renewed for a fee after that.

Time-based licenses include a software support subscription through the term of the license.

### Selecting your license:

- Step 1.** Choose your software product (eg. S1234567A).
- Step 2.** Choose your license term: perpetual or time-based.
- Step 3.** Choose your license type: node-locked, transportable, USB portable, or floating.
- Step 4.** Depending on the license term, choose your support subscription duration.

KeysightCare Software Support Subscription provides peace of mind amid evolving technologies.

- Ensure your software is always current with the latest enhancements and measurement standards.
- Gain additional insight into your problems with live access to our team of technical experts.
- Stay on schedule with fast turnaround times and priority escalations when you need support.



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