Keysight N8844A
Data Analytics Web Service Software

Data Sheet
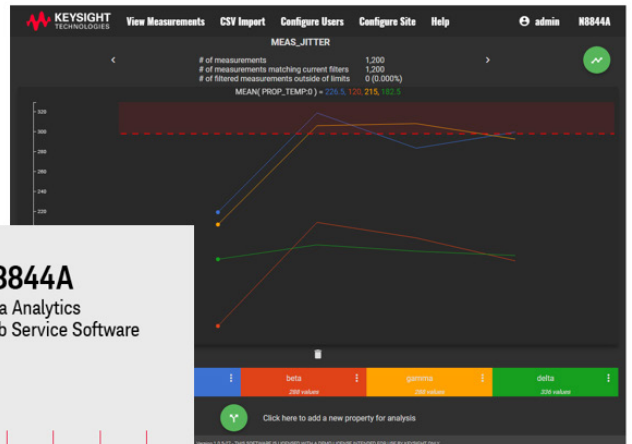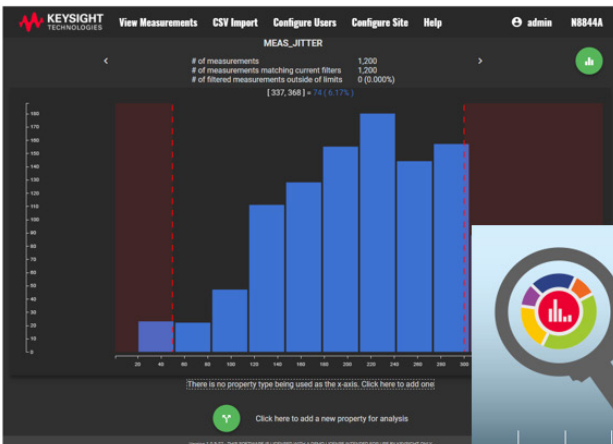
KEYSIGHT
TECHNOLOGIES

Unlocking Measurement Insights

Introduction

The Keysight Technologies, Inc. Data Analytics Web Service 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 N8844A Data Analytics Web Service software supports multiple data sources and also a wide range of data import clients. The second component of N8844A is the Visualization Tool. N8844A provides histogram and line plots with split capabilities to enable data analysis.

Key features

– Supports multiple data sources
  – Infiniium Compliance Application Software
  – Keysight Software products (i.e FlexDCA)
  – Keysight ADS Simulation input (via Infiniium Offline software)
  – Keysight data sources (measurement result from Keysight test equipment)
  – Non-Keysight data sources (measurement result from other 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 CSV import tool
  – C# Import program
  – Python Import program
  – JSON Import program

– Data can be retrieved and analyzed with the N8844A Visualization Tool application included in the N8844A Data Analytics Web Service software

– Data can be retrieved offline for result viewing

– Machine learning for quick data analysis

– USB 3.1 Industry Data for benchmarking

Setting up the N8844A Data Analytics Web Service Software

The user would set up a web server that hosts the N8844A 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 respository 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.

User-supplied IT support for backup, restore and replication

User internal network

Repository

This interface is OS and programming language independent

Firewall

Data repository server
Host data repository infrastructure
MySQL, SQL Server or Oracle

Results viewer

Web server
Hosts MS IIS and N8844A web server application

The Web App abstracts the data repository schema and enforces data repository consistency. Enables version control

Keysight recommends separate web and data repository servers to ensure scalability, performance and data repository security
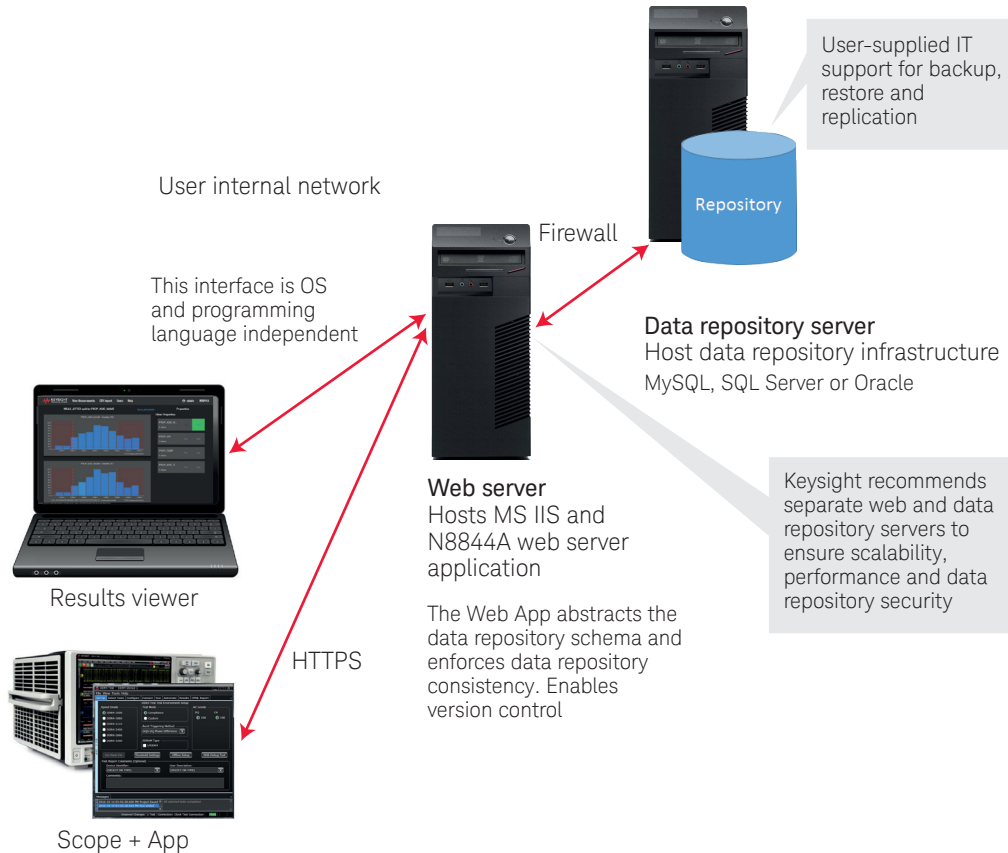
HTTPS

Scope + App

Figure 1. The N8844A Data Analytics Web Server application software and the Data Repository Server is setup separately. The user will utilize the N8844A web service application to import data to the data repository.

Data Sources and Data Import

The N8844A-6FP Data Analytics Web Service Software with compliance test enabled option provides an interface that allows the user to export their compliance test result directly to the data repository server via a URL. The user would first configure the compliance application software, run the test suite and then review the measurement results in the Infiniium user interface. If the results are deemed valid, the user would export the test result to the data repository. In this use model, the user would need to set up the N8844A Data Analytics Web Service software.

The second use model allows data viewing for Keysight Advanced Design System (ADS) users. For example, the W2351EP DDR4 Compliance Test Bench outputs simulated waveforms which the user can use to run on the Infiniium N6462A-1FP DDR4 and LPDDR4 compliance test software in offline mode.
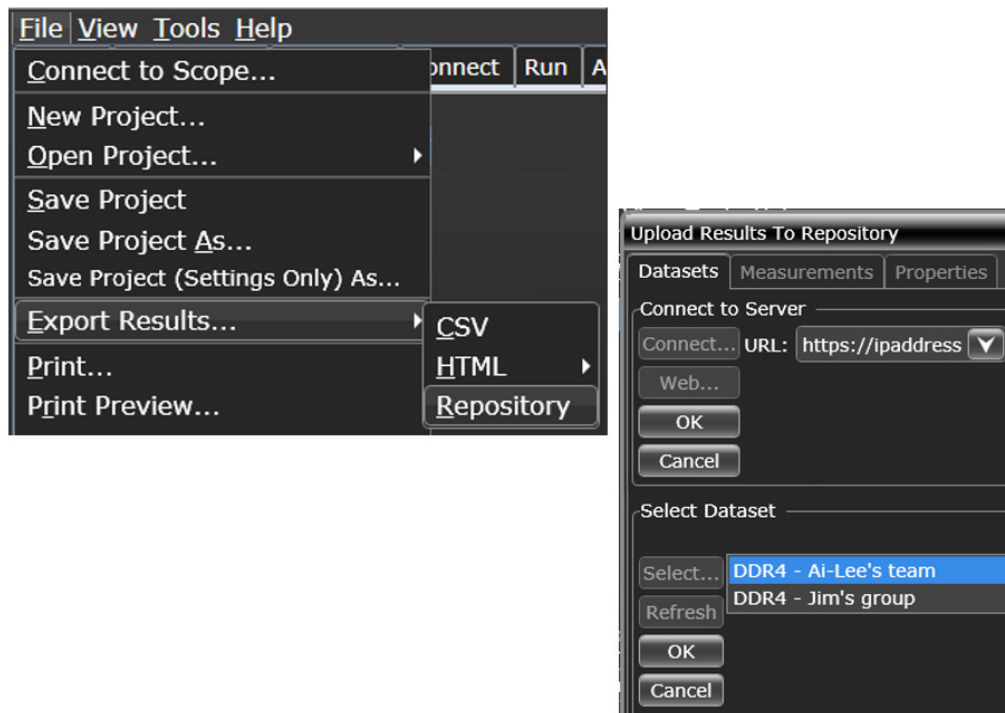

Figure 2. Infiniium Compliance Test Software with Data Analytics option. The user exports the compliance test result to the repository via an URL address that connects to the server.

The N8844A 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 (included in the N8844A Data Analytics Web Server application software) 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 N8844A software includes C#, Python and other programming languages reference applications to help the user script a customized data import tool.

N8844A Visualization Tool

Users can retrieve the test results from the data repository server to be viewed with the N8844A Visualization Tool. The N8844A Visualization Tool allows the user to see their compiled measurement result in histogram or line mode. The plots can be split by properties. Examples of properties 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 N8844A Data Analytics Web Service software.
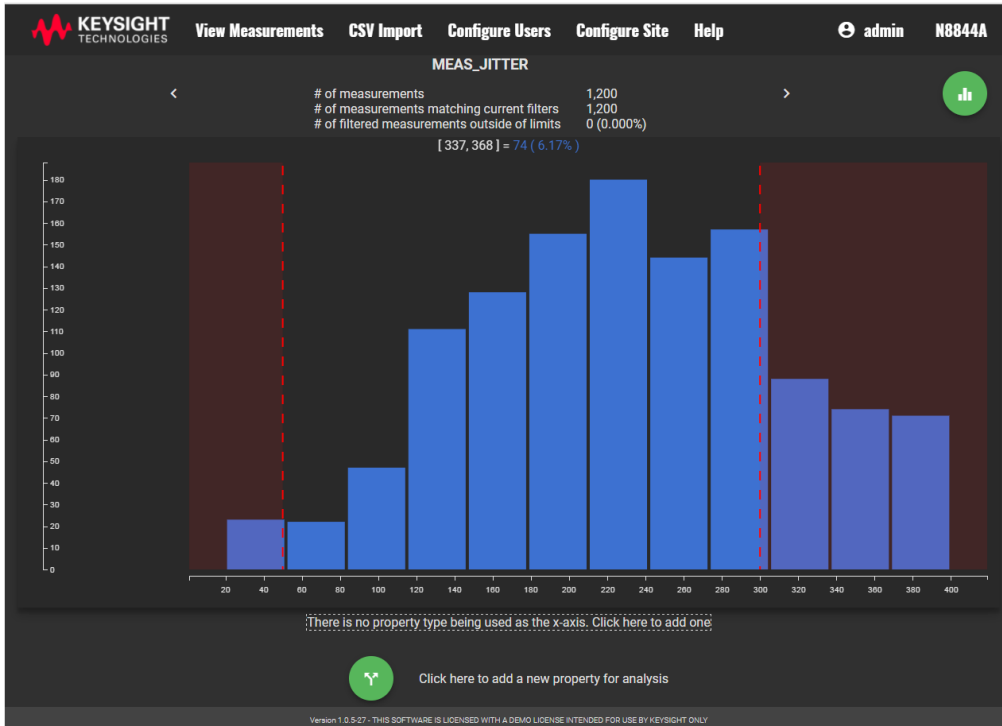

Figure 3. N8844A Visualization Tool reveals the plot of a DDR4 clock jitter measurement in histogram mode. The red zones show the upper and lower test limits of the measurement as specified in the JEDEC specification.

The N8844A-2FP advance option provides advance Visualization Tools which includes the Sweep plot and Stacked Box plot with filtering capabilities.

Figure 4. Sweep plot and Stacked Box plot with filtering capabilities.

Machine Learning

The N8844A-2FP advance option also offers machine learning capability. This allows for complex data analysis and delivers more accurate and faster results.
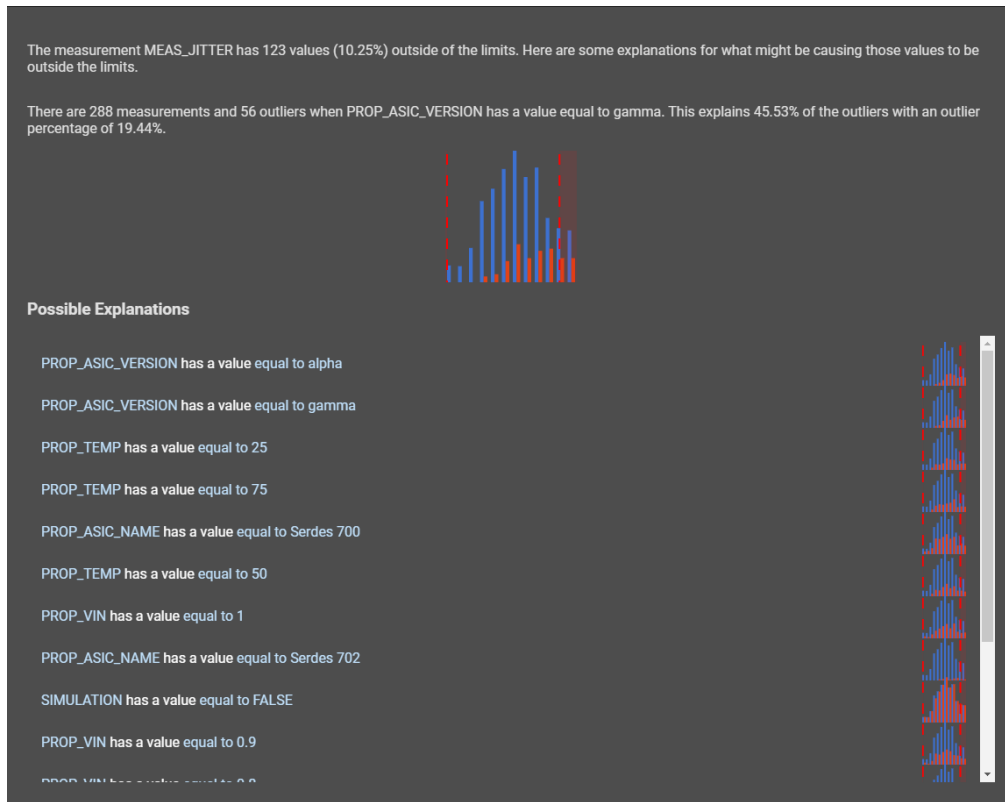

Figure 5. The machine learning capability offers possible explanations to the device under test failure.

Industry Data

The N8844A-7FP 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 peers in the industry.
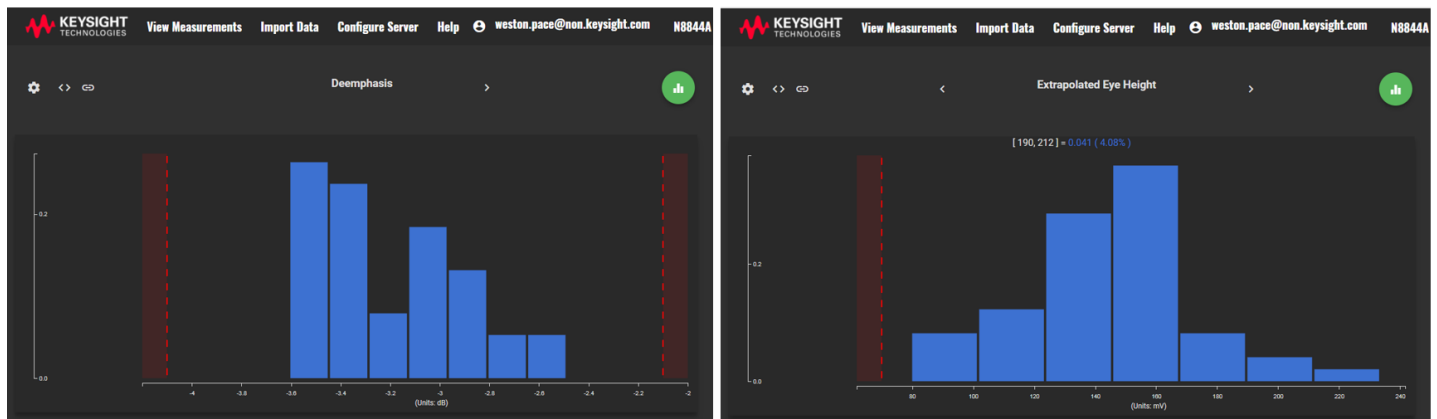

Figure 6. USB3.1 Industry Data - Deemphasis and 10G Eye Height Test Industry Data.

Ordering Information

N8844A web service software

Application	License type		Installed on a web server
Data Analytics Web Service Software (1 license)	Fixed	Factory-installed	–
		User-installed	N8844A-1FP
	Floating	Transportable	N8844A-1TP
		Server based	–
Data Analytics Web Service Software (15 licenses)	Fixed	Factory-installed	–
		User-installed	N8844A-4FP
	Floating	Transportable	N8844A-4TP
		Server based	–
Data Analytics Web Service Software (Corporate/ Unlimited licenses)	Fixed	Factory-installed	–
		User-installed	N8844A-5FP
	Floating	Transportable	N8844A-5TP
		Server based	–
Data Analytics Web Service Software (Corporate/ Unlimited licenses)	Fixed	Factory-installed	–
		User-installed	N8844A-5FP
	Floating	Transportable	N8844A-5TP
		Server based	–
Data Analytics Web Service Software (Advance option)	Fixed	Factory-installed	–
		User-installed	N8844A-2FP
	Floating	Transportable	N8844A-2TP
		Server based	–
Data Analytics Web Service Software (for use with Keysight software products)	Fixed	Factory-installed	–
		User-installed	N8844A-6FP
	Floating	Transportable	N8844A-6TP
		Server based	–
USB3.1 Industry Data	Fixed	Factory-installed	–
		User-installed	N8844A-7FP
	Floating	Transportable	N8844A-7TP
		Server based	–

Note: User can order maximum quantity 1 of the N8844A-1FP/TP, -4FP/TP or -5FP/TP for one server setup. User can either buy another set of licenses for the second sever or use a transportable license to move the license from one server to another.

For more information

www.keysight.com/find/data-analytics

Related Literature

Publication type	Publication number
N6462A and N6462B DDR4/LPDDR4 Compliance Test Software - Data Sheet	5991-0853EN

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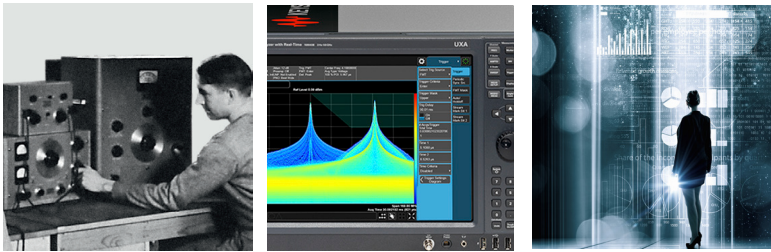For other unlisted countries:
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