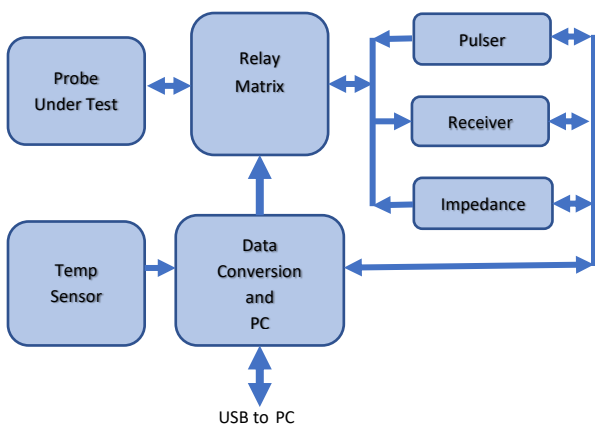# The ATLAS™ by Acertara

Product Overview

The ATLAS System was designed by Acertara as a scalable, high-speed, portable, high-precision probe/array testing device intended for contemporary probe and multi-element array technologies. ATLAS is an extremely flexible test and analysis device designed to match your specific needs. For example, the ATLAS features a transmit pulser that provides both a unipolar and a bi-polar pulse and has the capability to connect an external pulser as well. This flexibility allows matching of your historic test results generated from older systems such as the Panametrics PR5800. A small, rack mounted (or table mounted) industrial design allows for easy integration into a manufacturing line, or an engineering laboratory.

USB to PC

NOTE:
Revision Date: 02/23
Specifications may change, please review Acertara website for latest revision

Product Specifications

Physical Dimensions

1) Length: 43.18cm
2) Width: 35.56cm
3) Depth: 11.4cm
4) Weight: 5.67kg

PC Requirements for optimal performance

1) Operating System: Windows 10 Professional, Windows 7 Professional, or Windows XP Professional,
2) USB Ports: Two (2) USB 2.0 or USB 3.0,
3) CPU: 64-bit or 32-bit; recommend 2GHz or higher,
4) RAM: 4GB minimum, recommend 8GB,
5) Hard Disk Space: 1GB required for the software installation; additional space will be required to store user's measurement data (e.g., ~6MB per test for a basic data set from a 192-element array),
6) Display Resolution: 1280x768 or higher.

ATLAS software is developed and maintained using the LabVIEW programming language, but it is distributed as a native Windows executable application. All required software components are provided by Acertara at the time of software installation.
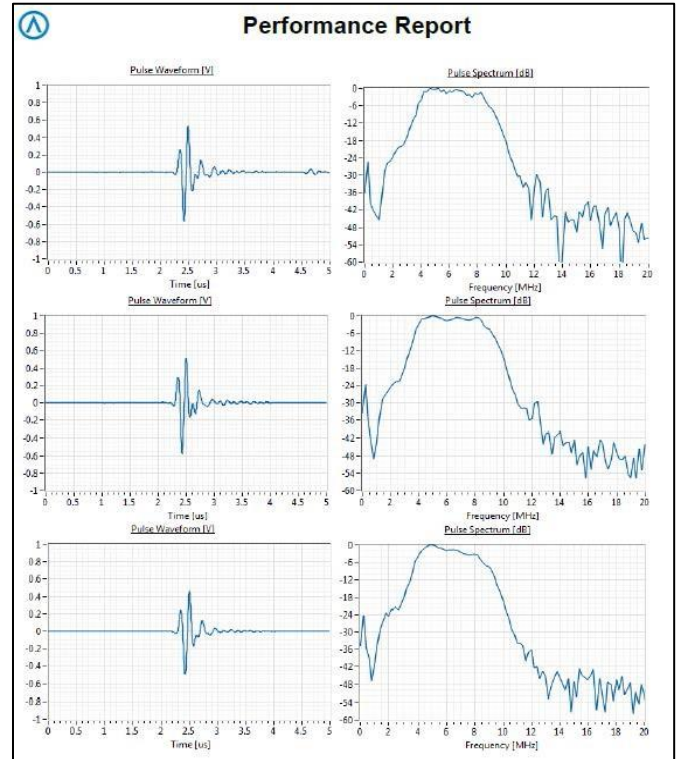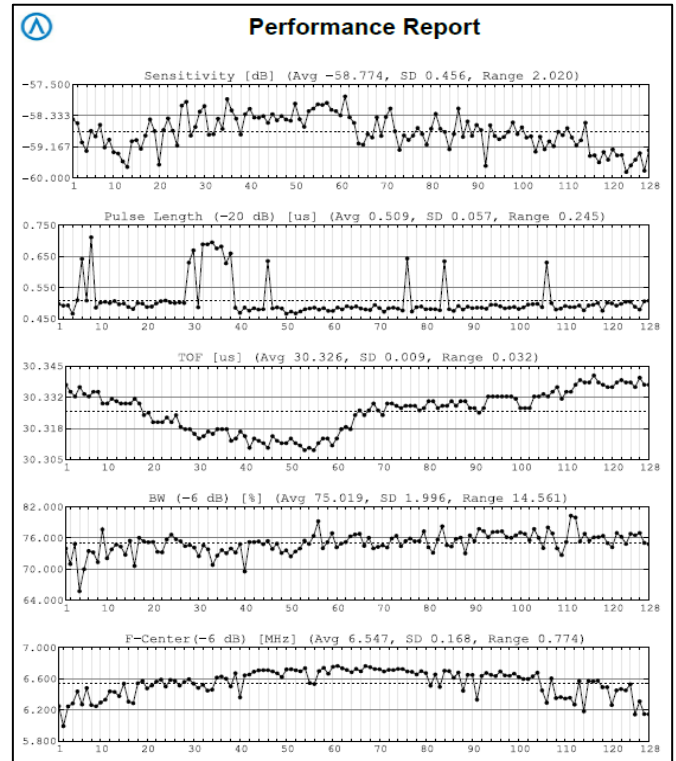
Features

1) Transmit pulser
2) Receiver
3) Impedance Measurement Module
4) Element Selection Matrix
5) Data Conversion and PC Interface
6) Pulse/Echo Measurement
7) Complex Impedance Measurement
8) Judgment/Acceptance Criteria
9) Results Save and Database
10) Report Generation
11) System Self-Test adaptor option
12) 408-pin electrical interface
13) Insertion loss
14) Array alignment
15) Multiplexed array hardware support

ATLAS Reporting

ATLAS test software provides the ability to generate a report in a portable data format, PDF. The report will contain all the displayed data from an array test as well as other key information such as date, time, and operator name to fully document the test. The results of the test are saved in a text file and a test database index allows for convenient searches and data retrieval. The test software also provides an acceptance screen. User defined acceptance criteria for any array will be defined in an acceptance script.

Parameters Reported

1) Sensitivity
2) Vpp (volts peak-to-peak)
3) Time-of-Flight (TOF)
4) 2nd Shoulder
5) Ring-down (-6dB and -20dB)
6) Pulse Length (-6dB and – 20dB)
7) Pulse Spectrum
8) Center Frequency (-6dB and -20dB)
9) Fractional Bandwidth (-6dB and -20dB)

Performance Report

Test Conditions

Model ExampleProbe		**Temp [°C]** 22.0	**Date** 2019-06-03
S/N 3154		**Ref [V]** 130	**Time** 16:07:50
Operator Op87	**Test Adapter** ExampleAdapter	**Gain [dB]** 18	**HW S/N** 200
Reference Certification	**Target** Flat		**SW Version** 1.8.0
Description Linear Array		**Comments** Example data	

Summary

Criteria	Composite Waveform	Array Statistics					Acceptance
		Mean	Stdev	Max	Min	Range	
Sensitivity [dB]	-69.16	-69.44	2.62	-66.41	-91.25	24.85	Pass
Vpp [V]	0.36	0.36	0.08	0.49	0.03	0.47	Pass
TOF [ns]	40780	40981	30	41035	40933	102	Pass
2nd Shoulder [dB]	-16.49	-16.49	0.00	-16.49	-16.49	0.00	Pass
Ring-down (-6 dB) [ns]	121	123	6	134	111	22	Pass
Ring-down (-20 dB) [ns]	200	204	10	221	184	37	Pass
PL (-6 dB) [ns]	237	242	12	263	219	44	Fail
PL (-20 dB) [ns]	415	423	21	459	383	76	Pass
Fc (-6 dB) [MHz]	5.66	5.57	0.28	6.14	5.12	1.02	Pass
Fc (-20 dB) [MHz]	5.86	5.77	0.29	6.35	5.29	1.05	Pass
FBW (-6 dB) [%]	73.8	73.8	0.0	74.0	73.8	0.2	Pass
FBW (-20 dB) [%]	109.7	109.8	0.1	110.0	109.7	0.3	Pass

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