



SSP Python Test Executive Features and Benefits

Main GUI shown below.

The screenshot displays the SSP Test Executive GUI. On the left, a sidebar shows the user is signed in as 'operator' with profile 'demo'. The main area shows a test run summary: 'Ran 70 of 70 tests', 'Start time: 12:05:03', and 'Run time: 0:00:35.143483'. Below this is a log of test steps. On the right, a table lists the test results for 24 items.

Run Mode	Group	Test Name	Args	Low Limit	High Limit	Comp	Units	Result	Status
stop on failure	SETUP	SETUP		1		eq		1	Pass
Normal	psu	1. PSU1 config ch1	{ 'psu':...	1		eq		1	Pass
Normal	psu	1a. PSU1 ch1 voltage ...	1	24		eq	volts	24.000	Pass
Normal	psu	1b. PSU1 ch1 current ...	1	0.5		eq	ohms	0.500	Pass
Normal	psu	1c. PSU1 ch1 vlimit ...	1	25		eq	volts	25.000	Pass
Normal	psu	1d. PSU1 ch1 ilimit ...	1	0.5		eq	ohms	0.500	Pass
Normal	psu	2. PSU1 measure ch1 ...	1	-100	400	gele	ohms	0.0001	Pass
Normal	dmm	3. DMM measure +12V...	1	-11.75	12.25	gele	volts	-1.21...	Pass
Normal	dmm	4. DMM measure -12V ...	2	-12.25	11.75	gele	volts	+1.2...	Pass
Normal	dmm	5. DMM measure LED ...	3	-23.5	24.5	gele	volts	-3.45...	Pass
Normal	dmm	6. DMM measure +3.3...	4	-3.2	3.4	gele	volts	-3.60...	Pass
Normal	dmm	7. DMM measure +5V ...	5	-4.75	5.25	gele	volts	-1.10...	Pass
Normal	dmm	8. DMM measure -5V ...	6	-4.75	5.25	gele	volts	+2.6...	Pass
Normal	a	9. GPIO set channel 1 ...	{'chan':...	1		eq		1	Pass
Normal	a	9a. GPIO set channel 1 ...	{'chan':...	1		eq		1	Pass
Normal	a	9b. GPIO set channel 1 ...	{'chan':...	1		eq		1	Pass
Normal	a	9c. GPIO set channel 45...	{'chan':...	1		eq		1	Pass
Normal	a	10c. GPIO set channel 4...	{'chan':...	1		eq		1	Pass
Normal	a	11c. GPIO set channel 4...	{'chan':...	1		eq		1	Pass
Normal	a	10. DAC set channel 2 0	{'chan':...	0		eq		0.0	Pass
Normal	a	11. DMM measure ...	13	-0.1	0.1	gele	volts	-3.21...	Pass

Category	User Mode	Features	Benefits
General	All	Customizable User Login Profiles	Provide each user with a unique username and password. Assign Operator or Engineer mode to each user.
Hardware Abstraction Layer (HAL)	Engineer	Simple API using the hardware abstraction layer to control standard configuration instruments.	An instrument control step can be coded in a minute or two, often with a single line of code. This is one of the ways SSP reduces software development time and costs for standard configurations.
		Add non-standard configuration instruments to the HAL API if desired. Also for non-standard configuration instruments, the test executive includes generic read, write and query calls to send instrument SCPI commands directly to bypass the HAL API.	We can provide you with the same time and cost saving efficiencies of the standard configuration instruments.
		Instrument Library	As the SSP Python Test Executive matures, a growing library of instruments will be available for customers.
		Device Programming	Program DUT devices using all standard programming modules.
		SSH	SSH from Windows into a Linux Nuc or Raspberry Pi to download firmware to the DUT.
		Bus Pirate	Bus Pirate control scripts can be coded easily.

Development	Engineer	Easy to understand test architecture	SSP and customer developers can focus on writing test scripts for DUTs. Just create a configuration file and create test scripts for test steps. Use the HAL API to code even faster. Customers who already have scripts to test their DUTs can use the SSP Python Test Executive to easily automate their tests with the GUI and the benefits listed in this document.
		Create tests for multiple DUTs available to the operator to select from a pull-down menu	Config file specifies: Whether to run, skip or stop on failure for each test step Test name Test group Test script to run for each test step in proper sequence Pass/fail limits and how to evaluate them
			Test Name
Debug	Engineer	Manually run individual test scripts with a double-click on the GUI	Quickly jump to specific tests to speed up debugging.
		Modify test scripts on the fly to quickly troubleshoot	Quickly modify and then run test scripts in the moment.
		Run Test group	Create unique group names to run through a group of tests with one click.
		Debug Terminal Shell	Interface with DUT, instruments and peripheral devices to validate functionality outside the scripting environment.
Production	Operator	Unique Login Profiles	Ability to configure unique login profiles for Operators. Reports will log operator login name.
		Test Configuration	Load and populate GUI with test parameters for easy viewing
		Automated Test Run Time	Test time for each test step and total time for the entire test sequence is included on each test results file.
		Easy to understand GUI	GUI is clearly labeled and intuitive.
		Multiple DUT Part Number Selection	The test populates a pull-down menu on the GUI listing all the available test configurations that can be run. Additional configurations can be added at any time.
		Runtime pass/fail indication for each test step as it is run	The test results table indicates whether each test step passes or fails as it is run and overall pass or fail when the test sequence is complete.
		Test Result Reporting	All test results are included in a test results report.
		Logging Functionality	Full write and read communications with instruments, peripherals and DUT are displayed in an onscreen log and saved. Flexibility to customize which data to be sent to the log.

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