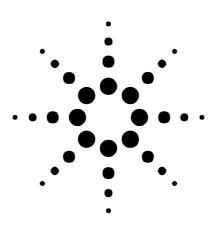


Performance Verification Test Tool for 81200 Platform



User Guide

Revision 1.0



1 Introduction

1.1 Tasks of PVT

The PVT is a software tool to conduct the Performance Verification Test (PVT) for the 81200 platform, that currently comprises the systems 81210 (previously 81200) and 81250. The systems are VXI-based and consist of clock and carrier modules, plug-in front-ends, and mainframes. The PVT tool needs to verify product functionality and specifications.

1.2 Requirements of PVT

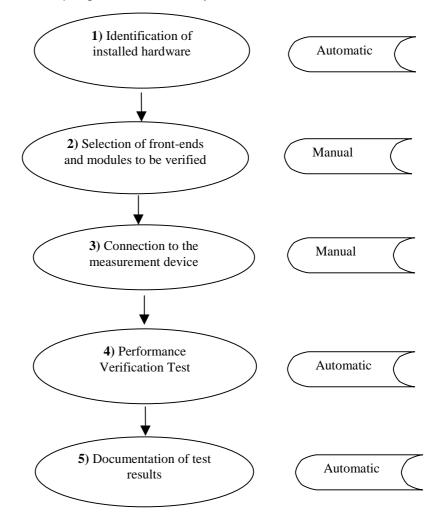
The PVT software tool will be used by service engineers at a customer-site or in local service centers of Agilent Technologies for fast support, e.g. repair or calibration.

The aim of the PVT tool is to provide field service a semi-automatic program procedure to verify multiple Data channels.

The PVT Tool is built upon the TEST EXEC SL. It is possible to set up an individual schedule of available test cycles

1.3 Software Structure

1.3.1 Simplified overview of program functionality





1.3.1.1 Identification of installed hardware

The registration of the installed hardware will be displayed in a single overview on the Graphical User Interface (GUI). There, all modules installed are described with any front-ends they might contain and the front-ends addresses. Module and front-end slots not used are also displayed.

1.3.1.2 Selection of front-ends and modules

The user of the PVT tool can select every front-end in the module that he wants to be tested. All possible performance verification test routines for the specific front-end/module is displayed and can be selected individually.

<u>1.3.1.3</u> Connection to the measurement device

After selecting the front-end and the verification test to be conducted, the user needs to connect the front-end to the measuring device manually. The PVT provide information about the required connections.

1.3.1.4 Performance Verification Test

The PVT Software Tool conducts the complete Performance Verification Test in steps, e.g. by testing all front-end/carrier-module tests sequentially. In order to conduct the PVT steps, the Software Tool automatically will set all parameters for a selected front-end/module combinations.

After running each Performance Verification Test step, the user can repeat the step once more or proceed to the next step.

All settings for the measurement device, e.g. Oscilloscope, Counter or Digital Voltmeter, will be set automatically.

<u>1.3.1.5</u> Documentation of test results

User-selectable, all results can be displayed or printed out after each single Performance Verification Test step, or after finishing the complete Performance Verification Test. The Performance Verification Test results need to comprise the results measured and the specification values, also "Pass" or "Fail" needs to be indicated for each parameter.

2 PVT Software Tool Scope and Technical Requirements

2.1 Scope

The following tests for Modules and Generator and Analyzer front-ends can be performed:

Clock Modules:

- 1. System Clock
- 2. Clock Jitter

Generator front-ends:

- 1. Generator Delay
- 2. Generator Width
- 3. Generator Level
- 4. Generator Transition time
- 5. Generator Overshoot



Analyzer front-ends:

1. Receiver Threshold

2.2 Devices-under-Test

Three systems have to be characterized: 81200 "Basic" 81210 "Basic" (successor of 81200) 81250 "ParBert" (CPL Apr 1 2000)

Each system supports a choice of different front-ends and modules:

81200 - System

Modules:

mounes.	
E4831A	Clock and Data Generator Module
E4841A	Module for Data Generator and Analyzer front-end
E4805A	Clock Module

Generator front-ends:

E4842A	330MHz (Differential Output)
E4843A	660MHz (Differential Output)
E4846A	200Mbit/s; Dual Output
E4838A	660MHz (Differential Output)

Analyzer front-ends:

E4844A	660MSa/s (Single Input)
E4845A	330MSa/s (Dual Input)
E4847A	330MSa/s (Dual Input, High Impedance)
E4837A	660MSa/s

<u>81210 - System</u>

Modules	
E4805B	Central Clock Modul
E4831A	Clock and Data Generator Module
E4832A	Module for Data Generator and Analyzer front-end (660MHz)
E4841A	Module for Data Generator and Analyzer front-end (660MHz
E4861A	Module for Data Generator and Analyzer front-end (2,6GB/s)

Generator front-ends:

E4838A	660MHz (Differential Output)
E4843A	660MHz
E4846A	200Mbit/s; Dual Output
E4862A	2,6GSa/s
E4864A	1,3GSa/s

Analyzer front-ends:

E4835A	660MSa/s
E4863A	2,6GSa/s
E4865A	1,3GSa/s
E4847A	330MSa/s (Dual Input, High Impedance)
E4837A	660MSa/s
E4844A	660MSa/s (Single Input)
E4845A	330MSa/s (Dual Input)



<u>81250 - System</u>

Modules E4805B E4832A E4861A	Central Clock Modul Module for Data Generator and Analyzer front-end (660MHz) Module for Data Generator and Analyzer front-end (2,6GB/s)		
Generator front-e	ends:		
E4838A	660MHz (Differential Output)		
E4843A	660MHz		
E4862A	2,6GSa/s		
E4864A	1,3GSa/s		
Analyzer front-e	Analyzer front-ends:		
E4835A	660MSa/s		

2.3 Measurement Equipment

2,6GSa/s 1,3GSa/s

Recommended Devices.

E4863A

E4865A

- Oscilloscope with bandwidth >20GHz (e.g.: Agilent 54120, and 86100 series)
- Counter with range up to 1GHz (e.g. Agilent 53132A)
- Digital Volt Meter with a dc voltage range up to 10 V (e.g.: Agilent 34401A)

Recommended Accessories:

- Attenuator 20db
 - (Agilent 8493A, Opt.020)
- 4 SMA Cables á 50 Ohm 90cm length
- (Agilent 8120-4948)
- Power Splitter 500hm (Agilent 11667B)
- 50 Ohm Feedthrough Termination, 10 W, 0.1 %
- Torque Wrench
 - (Agilent 8710-1582)

2.4 Compatibilities

The Performance Verification Test Tool can test multiple numbers of one Module type with different Front-end combinations within a test cycle.

Every Module type needs to be tested individually: E4841A, E4832A and E4861A.

We recommend to test clock group wise. This requires to test all Modules related to a common Clock Module to test in the same test cycle.

This will give the customer the best performance verification results, because all settings and specifications are depend on Clock Module, Data Module and Front-end.

To conduct a Performance Verification Test for a single Front-end or Data Module requires all HW Clock Module, Data Module to set up a proper system to run a complete test cycle.



3 How do I set up the PVT Tool

- You need to load the Test Exec SL and the PVT SW under different directories. Filename for the Test EXEC SL: C:\Test EXEC SL
 Filename for the PVT User SW: C:\PVT
- 2) Create an Start Icon for starting the Test EXEC SL. You will find the start icon under: C:\Test Exec SL\bin\tstexcsl.exe In the shortcut properties please adjust following path in START IN: C:\PVT\bin\
- 3) If necessary, you need to adjust the tstexcsl.ini with following paths: Developer=C:\PVT\Bin\opui.dll Operator=\$ROOT\$\bin\opui.dll [Action Definition Paths] Path00= C:\PVT \TestExec\Actions [Dynamic Link Library Paths] Path00= C:\PVT \Project Files\Bin [Symbol Table Paths] Path00= C:\PVT \TestExec\Symbols [Topology Layer Paths] Path00= C:\PVT\TestExec\Topology
- By double clicking on the Test EXEC SL Button a small window will pop up Please do enter User name: WILD, no Password is necessary, and choose in the next window "Developer".

The Use Userinterface will pop up next as you will see in the next chapter.

4 Deskew Procedure

Before running the Performance Verification Procedure the user must do a deskewing of each channel. Therefor it is necessary to have a known delay of the used cable. Please do following the Deskew Procedure in the User Manuel of the 812xx Software.



5 Structure of the user Interface

812xx PVT, Agilent TestExecSL	
Madules in 812a	Report
	DpUI Dynamic Link Library 1.00 DpUI DUL 1.00.000.000 Donnerstag, 26: Oktober 2000 13:05:14 Copyright © 19912000 A-Soft and Aglent (Hewlett-Packard) GmbH Indruments in current configuration A344010, DMM, Universal Multimeter, GPIB1:22:INSTR, 5000, 1 A551320, Counter, Universal Counter, GPIB1:22:INSTR, 5000, 1 A541200, Scope, Digitzing Decilorcope, GPIB1:27:INSTR, 60000, 1
Open DUT Close DUT	
	Dinting Plint Report new list Plint C No printout Only errors @ glways Plint Report new list 9100
Available Instruments Setup Instruments	Aint
Name Categoy Description	Address Timeout Reset
A344010 DMM Universal Multimeter	
A531320 Counter Universal Counter A541200 Scope Digitizing Oscillosc	GPB1:4:INSTR 5000 1 GPB1:27:INSTR 60000 1

Figure 1User Interface of PVT

Figure 1 shows the User Interface of the PVT, there are four windows:

-Modules in 812xx

In the window "Modules in 812xx" there will be all detected front-ends displayed there you can select the front-end you want to test.

-Report

The report window will display all necessary information about the test report. The test report must be reviewed and the results of every verification procedure must be transferred into the report file of the attached document.

-Available test Routines

By selecting a front-end all available test routines for this front-end will be displayed and can be started separate. A test routine can multiple times running.

-Available Instruments

In this window, the user need to setup his measurement devices.



5.1 Step I

By pressing the "open DUT" button the user has got three choices:

- 81200, this does include front-ends within the E4841A module
- 81210, this test is currently the same as under 81250

81250, this test covers all front-ends which belongs to the modules E4832A and E4861A.

It is required that all module types are running separately and cannot mixed within one Hardware configuration.

Select DUT type	
Select actual DUT Type	<u>0</u> K

Figure 2: Select DUT Type

5.2 Step II

The next step after selecting the DUT type the Report window will show all modules, front-ends and clockboards installed in the current hardware configuration.

99 812xx PVT, Agilent TextExecSL		_ 🗆 🗙
Modules in 812x A01250 Frame- E43058 E4363A E4363A E4363A E436AA E436AA E436AA E436AA E436AA E436AA E436AA E436AA	Pepot DpUI Dynamic Link Library 1.00 DpUI DUL 1.00.0000 Domnentsg. 26. Oktober 2000 13:05:14 Copsright 40 19912000 A-S oft and Aglent (Hewlett-Packard)GmbH Instruments in current configuration AS31320, Counter, Universal Multimeter, GPB1::22::INSTR, 5000, 1 AS31320, Counter, Universal Multimeter, GPB1::27::INSTR, 5000, 1 AS41200, Scope, Digiting Diselforcoope, GPB1::27::INSTR, 60000, 1 Devices: in current heme AS1250 -Fname- E48058 E48054 E48054	
	Binting No printout C grily errors C glivages Plint Report new list	<u>Piet</u>
Available Instruments Setup Instruments Name Category Description A344010 DHM Universal Multimeter A531320 Counter Universal Counter A541200 Scope Digitizing Oscilloso	Address Timeout Reset GPIB1::22:INSTR 5000 1 GPIB1::4:INSTR 5000 1 GPIB1::27:INSTR 60000 1	Stop Advent Login Epit

Figure 3: User Interface with hardware configuration



5.3 Step III

When selecting the front-end that needs to be tested, the window " Available Test Routines" will show all available test routines.

## 812xx PVT, Agilent TestExecSL		_ 🗆 X
Modules in 812x	Repot	
A61250 Frame E 43058 E 4365A E 4365A	OpUI Dynamic Link Library 1.00 OpUI DUL 1.00.000.000 Domentag, 26. Oktober 2000 13:05:14 Dopsight # 19912000 A-Soft and Aglent (Hewlett-Packard) GmbH Instruments in current configuration A344010, DMM, Universal Multimeter, GPIB1:22:INSTR, 5000, 1 AS31320, Counter, Universal Counter, GPIB1:22:INSTR, 5000, 1 AS34200, Scope, Digitizing Oscilloscope, GPIB1:27:INSTR, 5000, 1 Devices: in current hame A81250 -Fname E48058 E4853A E4853A E4851A E4851A E4851A E4851A E4851A E4853A E4853A E4853A	
Available Test Routines	New device selected : E4952A	
Generator Delay		
Generator Level Generator Overshoot	L.	×
Generator Transition Time System Clock Performance	Disting Opinion Opinion <t< td=""><td><u>9</u>154 9155</td></t<>	<u>9</u> 154 9155
Setup Instruments		
Available Instruments	Address Timeout Reset	Aint
A344010 DMM Universal Multimeter	GPIB1:22:INSTR 5000 1	
A531320 Counter Universal Counter A541200 Scope Digitizing Oscilloso	GPIB1:4:INSTR 5000 1 GPIB1:27:INSTR 60000 1	Login
		<u>E</u> xit

Figure 4 User Interface with available Test Routines



5.4 Step IV

To select the test routine, the user needs to select the test routine. In the report window the name of the selected test routine will be display.

Second, you need to run the test routine by pressing the start button.

19 812xx PVT, Agilent TestExecSL		_ 🗆 ×
Modules in 812x	Report	
A01290 Frame- E 49058 E 4965A E 4965A	DpUI Dynamic Link Library 1.00 DpUI DUL 1.00.000.000 Domentag, 26. Oktober 2000 13:05:14 Copyright & 19912000 A-Soft and Aglent (Hewlet:Packard) GmbH Instruments in current configuration A344010, DMM, Universal Multimeter, GPIB1:22:INSTR, 5000, 1 A531320, Counter, Universal Counter, GPIB1:22:INSTR, 5000, 1 A541200, Scope, Digitizing Decilorcope, GPIB1:27:INSTR, 60000, 1 Devices in current frame A81250 -Frame- E4805B E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A E4863A	
Available Test Routines Clock Jitter	New device selected : E4962A Test selected : Generator Delay	
Generator Delay Generator Level	•	
Generator Overshoot Generator Transition Time System Clock Performance	Printing C No printout C grily errors C gliways Print Report new list	Stat
Available Instruments Setup Instruments		ojco Airat
Name Category Description A344010 DMM Universal Multimeter A531320 Counter Universal Counter A541200 Scope Digitizing Oscillosc	Address Timeout Reset GPIB1:22:INSTR 5000 1 GPIB1:4:INSTR 5000 1 GPIB1:27:INSTR 60000 1	Login Exit

Figure 5 Selected Test Routine

Before the test routine will start, the user will be noticed to make all necessary connections. Please be aware, to use 20db Attenuators for scope input and scope trigger input.

Message	for the user
⚠	Please connect generator output to scope input and clock trigger output to scope trigger input.
	ок

Figure 6 Information about connection



5.5 Step V

After a test routine has finished, the result will be displayed in the report window. The report window will also decide, whether the verification test was pass or fail. BUT, you need to adapt the results into the PVT procedure and decide about the test result. This is necessary, because there are many tests who cover a functionality or a typically specification. A typically specification is whether pass nor fail, it must be decided by the user. A general answer what is fail or pass is, if the result is +/-20% of the typical specified value the test result can be seen as fail.

## 812xx PVT, Agilent TestExecSL		_ 🗆 X
Modules in 812x	Repot	
	Instruments in current configuration A344010, DNM, Universal Multimeter, GPIB1:22::NSTR, 5000, 1 A531320, Counter, Universal Counter, GPIB1:34::INSTR, 5000, 1 A541200, Scope, Digitizing Dacilloscope, GPIB1:27::INSTR, 60000, 1	×
E 4862A E 4851A E 4865A E 4865A E 4865A E 4865A E 4863A E 4863A E 4863A E 4863A	Devices in current frame AB1250 -Frame- E48058 E4861A E4863A E4862A E4865A E4865A E4865A	
	E 4854A E 4861A E 4853A E 4852A New device selected : E 4852A Test selected : G enerator Delay	
Open DUT Close DUT	Testplan : AS1250 E 4352A.Generation Delay tpa Time : Donnentag, 25. Oktober 2000, 13:10:03 Generator Delay Generator Delay : NDT OK 9:94556-003 1.005056-008 4.0556-009 3.004176-006	
Dock Jitter Generator Delay	Evecution time : 0.00:00.49	-
Generator Level Generator Overshoot	•	2
Generator Transition Time System Clock Performance	C No printout C gnly errors C giveays Plint Report new list	<u>S</u> tat Sjoo
Available Instruments Setup Instruments		Aint
Name Category Description A344010 DMM Universal Multimeter A531320 Counter Universal Counter A541200 Scope Digitizing Oscillosc	Address Timeout Reset GPIB1:22:INSTR 5000 1 GPIB1:4:INSTR 5000 1 GPIB1:27:INSTR 60000 1	Login
1		<u>E</u> xit

Figure 7 Displayed results after performance test



5.6 Step VI

The user has got the choice of printing the report to the current default printer.

The user can select between test results who cover " only errors" or "always" which will printout all results.

With the button "new List" a new report list will be generated and all previous test results in the report window are deleted.

Question	i to the User 🛛 🕅
?	There are some report data available, which have not yet been printed !!! Print them now before starting the new sesseion ?
	a <u>N</u> ein

Figure 8 Print out of data report

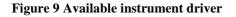
6 PVT configuration

With "Setup Instruments" the user will be able to adapt the connected instruments via GPIB.

- 1. Mark the checkbox
- 2. Double click the device
- 3. Figure 11 will pop up

After adjusting the properties of the device, please press Setup new list and the new devices will be setup.

A3458 DMM Universal Multimeter GPIB1::22::INSTR 5000 1 A53132 Counter Universal Counter GPIB1::4::INSTR 5000 1	Name	Category	Description	Address	Timeout	Reset		
A53132 Counter Universal Counter GPIB1::4::INSTR 5000 1	🗸 A34401	DMM	Universal Multimeter	GPIB1::22::INSTR	5000	1	S	ietp <u>n</u> ew l
	A3458	DMM	Universal Multimeter	GPIB1::22::INSTR	5000	1		
A F 41 20 Course Distribute CDID 1/27/JINCTD C0000 1	🗸 A53132	Counter	Universal Counter	GPIB1::4::INSTR	5000	1		
AS4120 Scope Digitizing Oscillosc GPIBT::27::INSTR 60000 T	🗸 A54120	Scope	Digitizing Oscillosc	GPIB1::27::INSTR	60000	1		





There are two possibilities for setting up the test environment and control the embedded PC: A) Controlled via LAN from an external PC:

the User Softwareof the 812xxand the LAN Server must run on the embedded PC the Test EXEC SL must run on the external PC

Please set up at Run I/O config at the WIN NT environment GPIB1

B) Working from the embedded PC:

the User Software and the Test EXEC SL must run on the embedded PC Please set up at RUN I/O config at the WIN NT environment GPIB0

The GPIB1 or GPIB0 must also be adapted in this window.

Instrument properties		×
Instrument name A54120		OK
Instrument address GP(B1::27::INSTR	Timeout [ms] 60000	
Perform reset @ startup		

Figure 10 Instrument Properties

At the Setup Instrument window you need to modify the DUT address. This is the computer name where the User Software 812xx is running e.g.: BVSTP031

Modify DUT Interface	×
Interface to DUT Please enter name of DUT computer if used via a online connection, or "localhost" if used on an embedded system Else specify the VISA interface address if connected via GPIB or FIREWIRE (GPIB0::10::INSTR)	
SLC00166	OK Abbrechen

Figure 11 Modify Computer name



7 Report of the PVT tool

OpUI Dynamic Link Library 1.00 812xx OpUI DLL 1.03.000.000 Thursday, November 23, 2000 02:44:14 PM Copyright © 1991...2000 A-Soft and Agilent Technologies GmbH no additional specs Main user interface

Instruments in current configuration A344010, DMM, Universal Multimeter, GPIB1::22::INSTR, 5000, 1 A531320, Counter, Universal Counter, GPIB1::4::INSTR, 5000, 1 A541200, Scope, Digitizing Oscilloscope, GPIB1::7::INSTR, 5000, 1

Devices in current frame A81200 -Frame-E4805A E4841A -empty-E4837A E4843A E4838A

Test selected : Clock Jitter Testplan : A81200.E4838A.Clock Jitter.tpa Time : Friday, November 24, 2000, 7:21:58 AM Clock Jitter Clock Jitter : Pass 1e-011 Specification: value must be <10ps typ 4.48333e-012 Measured value Execution time : 0.00:01:37

Test selected : Generator Delay Testplan : A81200.E4838A.Generator Delay.tpa Time : Friday, November 24, 2000, 7:24:40 AM Generator Delay Generator Delay : Pass 9.9495e-009 1.00505e-008 Specifications: minimum - maximum value 9.99e-009 3.01002e-006 Measured value, functionality of 3000ns test Execution time : 0.00:00:24

Test selected : Generator Overshoot Testplan : A81200.E4838A.Generator Overshoot.tpa Time : Friday, November 24, 2000, 7:25:09 AM Generator Overshoot Generator Overshoot : Pass 0.056 0.0375 Specification: value must be <56mV; measured value Execution time : 0.00:00:12



Test selected : Generator Transition TimeTestplan : A81200.E4838A.Generator Transition Time.tpaTime : Friday, November 24, 2000, 7:25:25 AMGenerator Transition TimeGenerator Transition Time : Pass5.5e-010 3.474e-010Specification3.75e-010 6.25e-010 5.058e-0104.65e-009 5.35e-009 4.9048e-009Execution time : 0.00:00:37

Specification value; measured value Specification minimum - maximum value; measured value Specification minimum - maximum value; measured value

Test selected : Generator Width Testplan : A81200.E4838A.Generator Width.tpa Time : Friday, November 24, 2000, 7:26:10 AM Generator Width Generator Width : Pass 4.975e-008 5.025e-008 5.00826e-008 Spe 9.79e-009 1.021e-008 9.9954e-009 Spe Execution time : 0.00:00:29

Specification minimum - maximum value; measured value Specification minimum - maximum value; measured value

Test selected : Generator Level Testplan : A81200.E4838A.Generator Level.tpa Time : Friday, November 24, 2000, 7:27:32 AM Generator Level Generator Level : Pass -0.871 -0.929 -0.8895 Spe 4.248 4.552 4.3865 Spe Execution time : 0.00:00:08

Specification minimum - maximum value; measured value Specification minimum - maximum value; measured value

New device selected : E4838A Test selected : System Clock Performance Testplan : A81200.E4838A.System Clock Performance.tpa Time : Friday, November 24, 2000, 7:51:32 AM System Clock Performance System Clock Performance : Pass 999.95 1000.05 1000.02 Specification minimum - maximum value; measured value 6.59967e+008 6.60033e+008 6.59998e+008 Specification minimum - maximum value; measured value Execution time : 0.00:00:06



Page 1 of ____

8 Documentation

Agilent 81200 System: Performance Test Record

Test Facility:

	Report No.	
	Date	
	Customer	
	Tested by	
Software Rev.	Ambient temperature	°C
Options	Relative humidity	%

System Configuration of the Agilent 81200 Data Generator / Analyzer Platform:

Mono–Frame System	If so:	Agilent E4840A Mainframe
		Agilent E4849A/B/C Mainframe
Multi–Frame System	If so:	1 Extender Frame (Agilent E4848A/B)
		2 Extender Frames (Agilent E4848A/B)



Agilent 81200 System: Performance Test Record

Page__ of ____

Slot No.	System Component	Y/N	Model No.	Serial No	
	VXI MXI Interface Board		Agilent E1482B		
	Central Board				
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	:	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	3:	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	3:	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	3:	4:
	Generator/Analyzer Module Board		Agilent E4841A		
	Front-Ends: 1:	2:	3	: :	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	3:	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
	Front-Ends: 1:	2:	3	:	4:
	Generator/Analyzer Module H	Board	Agilent E4841A		
•	Front-Ends: 1:	2:	3	:	4:



Agilent 81200 System: Performance Test Record

Page __ of __

Extender Frame 1 Configuration:

Slot No.	System Component		Y/N	Model No.		Serial No.		
1	VXI MXI Interface Bo	oard	Y	Agilent E1482E	3			
2	Central Board		Y					
3	Generator/Analyzer M	Iodule Board	Y	Agilent E4841A	Α			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	l:	2:		3:		4:	
	Generator/Analyzer Module Board			Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	l:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	l:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:		4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	:	2:		3:	-	4:	
	Generator/Analyzer M	Iodule Board		Agilent E4841A	A			
	Front-Ends: 1	l:	2:		3:		4:	



Agilent 81200 System: Performance Test Record

Page __ of __

Extender Frame 2 Configuration:

Slot No.	System Component		Y/N	Model No.		Serial No.		
1	VXI MXI Interface Boa	ard	Y	Agilent E1482E	3			
2	Central Board		Y					
3	Generator/Analyzer Mo	odule Board	Y	Agilent E4841A	A			
	Front-Ends: 1:		2:		3:	-	4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Module Board			Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:	-	4:	
	Generator/Analyzer Mo	odule Board		Agilent E4841A	A			
	Front-Ends: 1:		2:		3:		4:	

User Guide for Performance Verification Test Procedur	User	Guide for	r Performance	Verification	Test Procedure
---	------	-----------	---------------	--------------	----------------



Agilent 81200 System: Performance Tes	st Record		Page of
Central Board Tests, Test 1 and 2:			
Type of Front-end Module:	Agilent E4842A	Agilent E4843A	Agilent E4846A Agilent E4838A
Location of host Agilent E4841A Module:	Mainframe Extender Frame 1 Extender Frame 2	Position within Agilent E4	841A Module: 1 2 2
Slot No. of host Agilent E4841A Module:		_	4
Serial No. of host Agilent E4841A Module:			

Test 1: System Clock Performance

Central Board E4805A	Counter reading	Specification	Pass/Fail
E4838A		1000Hz +/-0.050Hz	P / F
		660MHz +/-33kHz	P/F
E4842A		1000Hz +/-0.050Hz	P / F
		330MHz +/-16,5kHz	P/F
E4843A		1000Hz +/-0.050Hz	P / F
		660MHz +/-33kHz	P / F
E4846A		1000Hz +/-0.050Hz	P / F
		100MHz +/-5kHz	P / F

Central Board E4831A	Counter reading	Specification	Pass/Fail
E4838A		1000Hz +/-0.050Hz	P / F
		660MHz +/-66kHz	P / F
E4842A		1000Hz +/-0.050Hz	P / F
		330MHz +/-33kHz	P / F
E4843A		1000Hz +/-0.050Hz	P / F
		660MHz +/-66kHz	P / F
E4846A		1000Hz +/-0.050Hz	P / F
		100MHz +/-10kHz	P / F

Test 2: Clock Jitter

	Oscilloscope reading	Specification	Pass/Fail
E4838A		<10ps typ.	P / F
E4842A		<10ps typ.	P / F
E4843A		<10ps typ.	P / F
E4846A		<10ps typ.	P / F

User Guide for Performance Verification Test Procedure
--



Agilent 81200 System: Performance Tes	at Record		Page of
Central Board Tests, Test 3 to 7:			
Type of Front-end Module:	Agilent E4842A	Agilent E4843A	Agilent E4846A Agilent E4838A
Location of host Agilent E4841A Module:	Mainframe Extender Frame 1 Extender Frame 2	Position within Agilent E4	4841A Module: 1 2 2 3
Slot No. of host Agilent E4841A Module:		_	4
Serial No. of host Agilent E4841A Module:			

Test 3: Generator Delay:

	Oscilloscope reading	Specification	Pass/Fail
E4838A		+/-50ps +/-50ppm	Functionality P / F
E4842A		+/-50ps +/-50ppm	Functionality P / F
E4843A		+/-50ps +/-50ppm	Functionality P / F
E4846A		+/-50ps +/-50ppm	Functionality P / F
			1 / 1

Delay=3000ns	Oscilloscope reading	Specification	Pass/Fail
E4838A		Funktionality	P / F
E4842A		Funktionality	P / F
E4843A		Funktionality	P / F
E4846A		Funktionality	P / F

Test 4: Generator Width:

	Oscilloscope reading	Specification	Pass/Fail
E4838A		50ns	P / F
		+/-200ps +/-0,1%	
		10ns	P / F
		+/-200ps +/-0,1%	
E4842A		50ns	P / F
		+/-300ps +/-0,1%	
		10ns	P / F
		+/-300ps +/-0,1%	
E4843A		50ns	P / F
		+/-50ps +/-0,1%	
		10ns	P / F
		+/-50ps +/-0,1%	



Test 5: Generator Level:

	Digital Voltmeter	Specification	Pass/Fail
E4838A		4,4V +/-152mV	P / F
		-0,9V +/- 29mV	P / F
E4842A		3,5V +/-205mV	P / F
		-0,9V +/-127mV	P / F
E4843A		3V +/-190mV	P / F
		-0,9V +/-127mV	P / F
E4846A		2,5V +/-225mV	P / F
		-0,9V+/-145mV	P / F

Test 6: Generator Transition Time:

	Oscilloscope reading	Specification	Pass/Fail
E4838A		0,5ns@2,5V	P / F
		+/-125ps	
		0,5ns @ 2,5V	P / F
		+/-350s	
		@ECL	Functionality
		350ps	P/F
E4842A		0,7ns@2,5V	P / F
		+/-270ps	
		5ns @ 2,5V	P / F
		+/-800ps	
		@ECL	P / F
		<600ps	
E4843A		@ 2,5V	Functionality
		500ps	P/F
		@ 2,5V	Functionality
		500ps	P/F
		@ ECL	Functionality
		<350ps	P/F
E4846A		@ 2,5V	Functionality
		<2,5ns	P/F
		@ 2,5V	Functionality
		<2,5ns	P/F
		@ ECL	Functionality
		<1,2ns	P/F

Test 7: Generator Overshoot

	Oscilloscope reading	Specification	Pass/Fail
E4838A		@ECL	Functionality
		<56mV	P / F
E4842A		@ECL	P / F
		<140mV	
E4843A		@ECL	Functionality
		<40mV	P/F
E4846A		@ECL	P / F
		<160mV	



Agilent 81200 System: Performance Tes		Page of	
Central Board Tests, Test 8:			
Type of Front-end Module:	Agilent E4842A	Agilent E4843A	Agilent E4846A Agilent E4838A
Location of host Agilent E4841A Module:	Mainframe	Position within Agilent E4	841A Module: 1
	Extender Frame 1		2
	Extender Frame 2		3
			4
Slot No. of host Agilent E4841A Module:		-	
Serial No. of host Agilent E4841A Module:		-	

Test 8: Receiver Threshold Range

	Oscilloscope reading	Specification	Pass/Fail
E4837A		Set1:	P / F
		<37mV	
		Set2:	P / F
		<42mV	
E4844A		Set1:	P / F
		<37mV	
		Set2:	P / F
		<42mV	
E4845A		Set1:	P / F
		<37mV	
		Set2:	P / F
		<42mV	
E4847A		Set1:	P / F
		<37mV	
		Set2:	P / F
		<42mV	