

Agilent Technologies

Innovating the HP Way

1100 Series Multiple Wavelength Detector (MWD) Dark Current Test Procedure Using the Hand-Held Control Module

Troubleshooting the Detector

- 1. Select the Tests button [F3] in the System screen.
- 2. Select the Detector from the menu.
- 3. Press the Enter key.
- 4. Select the Dark Current Test.

Diagnostics and Tests

Tests screen

Use the **Esc** key to receive **Views** on the F5 key. Choose **System** from the pull-down menu. Use the F3 key (**Tests**) to select the MWD. Several tests are available to test the Agilent 1100 MWD. Additional test are listed in the function box. Refer to "Troubleshooting and Test Functions" on page 49 for more information on the tests.

	Tests		Lamp 🗌	Time	0.00 idle	Ready
Ļ.,					NWO Tes	
	Fur	nction Start t	est chromato	gram	-	
						Reset
	Calibrate	Spectrum	Slit Test]		Intensity

The selection of tests depends on the revision of the hand-held control module. For information about each test, see the *Reference Manual* for the Agilent 1100 detectors.

NOTE The full test capability is only available from the LC ChemStation.

This document is believed to be accurate and up-to-date. However, Agilent Technologies, Inc. cannot assume responsibility for the use of this material. The information contained herein is intended for use by informed individuals who can and must determine its fitness for their purpose. Sample, Holmium and
Dark CurrentUse the F2 key (Spectrum) to take a spectrum (sample, dark current or
holmium). Use the Left/Right arrow to move the curser within the spectrum
to find the wavelength of interrest.

Spe	ectr	um				Lam		Time	0.00	Idle		Ready
mAU]	:		:	:	Sample	: Spectr	um	•	292 nm/-	-0.015	nAU	44
0.30	;							;				Take
0.25		:	:	:	:	:	:	:	:	:		l 🕇
0.20	\ i −			-				-		-		
0.151	Ni											Rescale
0.05			:				; (320).0/0.005)	1376.070'03 (352,070	30/0.043 .005/1/0.0	_ןלון	8
-0.05		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~;~	~~~~		×÷~		~;~	· · ·		ŕ	Print
+	200	220	240	260	280	300	320	340	360	380	nm	

Sp	ec	trum				La	mp 🗌	Time	0.0	0 Idle		Ready *
Counts	1	:		:	Dark	Current	Profile	¥ 51	1 Diode.	2872 0	ounts	
10000]	:	:	:	:		:	:	:	:	:	Take
8000	4	: ;	:	: ;	: .		: ;	: 	: ;	: .	: 	
6000		:	:	:				:		:		Rescale
4000	<u>.</u>	• • • • • • • •	:	;		· · · · · · · · ·		•••		;	••••	, <u>e</u> l
2000	-	÷	:	÷	÷		÷		÷	÷	÷	Print
o	1 0	100	200	300	400	500	600	700	800	900	Diode	

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Dark-Current Test

Dark-Current Test

The dark-current test measures the leakage current from each diode. The test is used to check for leaking diodes which may cause non-linearity at specific wavelengths. During the test, the slit assembly moves to the dark position, cutting off all light falling onto the diode array. Next, the leakage current from each diode is measured, and displayed graphically (see Figure 26). The leakage current (represented in *counts*) for each diode should fall within the limits (red bands) shown in the plot (see Figure 26).

MWD Dark Current Spectrum

Dark-Current Test Evaluation

Figure 27

Dark-Current Test Results

Dark Current Test Results			_
	Limits	Measured	Result
Date: 17.03.99; Time: 10:44:53			
Dark current maximum value	<= 12000 cts	3080 cts	Passed
Dark current minimum value	> 0 cts	2801 cts	Passed

Test Failed

Probable Causes Suggested Actions

- Defective optical unit.
- **□** Exchange the optical unit.

Figure 26

Dark-Current Test