Agilent Technologies

Innovating the HP Way

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

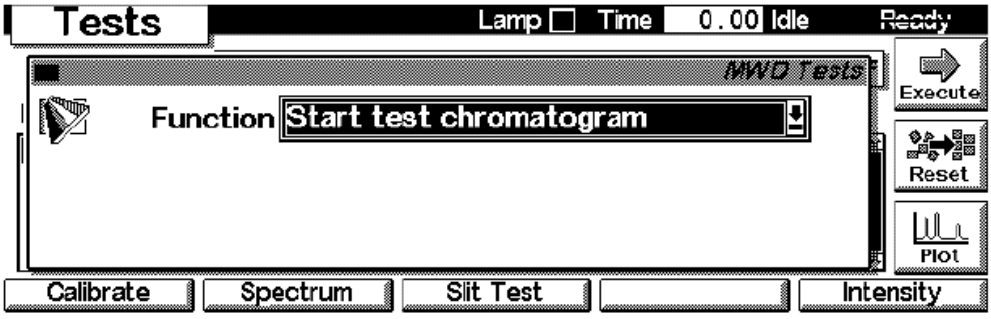
Troubleshooting the Detector

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.

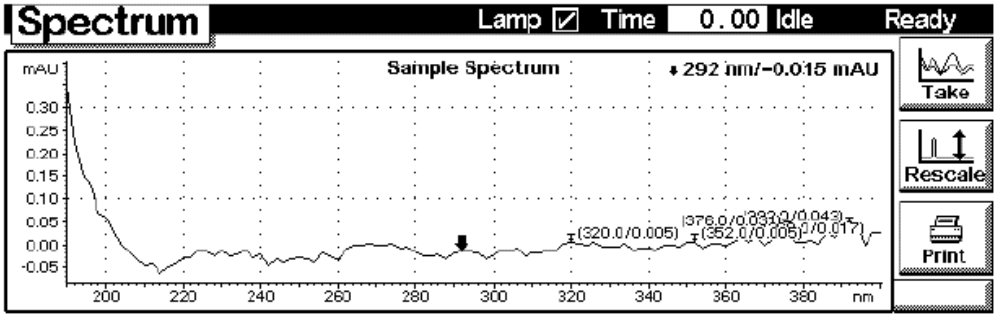


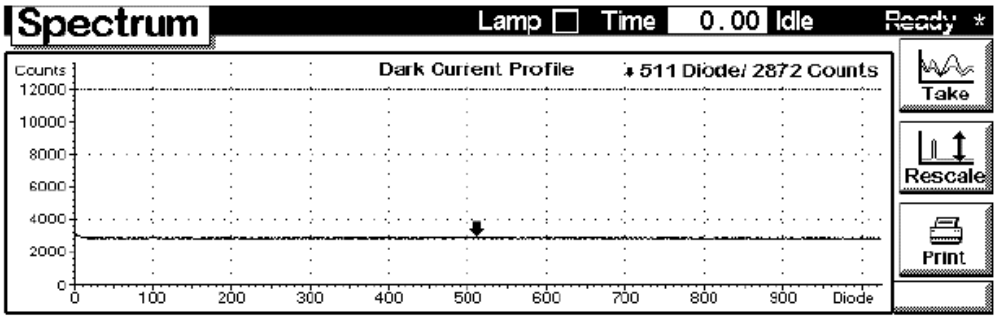
The selection of tests depends on the revision of the hand-held control module. For information about each test, see the *Reference Manual* for the Agilent 1100 detectors.

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

Sample, Holmium and Dark Current Spectrum

Use 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.

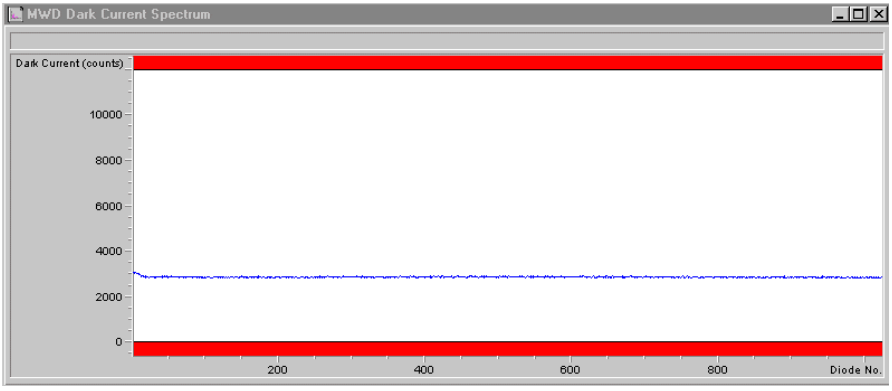




Dark-Current Test

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).

Figure 26 **Dark-Current Test**



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

- Defective optical unit.

Suggested Actions

❑ Exchange the optical unit.