



Using the CSA with the New Focus 6428A Sweeping Tunable Laser

Overview

The Component Spectrum Analyzer® is a versatile and flexible measurement tool which works with a wide variety of tunable laser sources. This application note is to help users make good measurements with the CSA and New Focus 6428 quickly and easily.

Connections

1. Connect a BNC cable from the **TRIGGER A** output of the tunable laser to the **MEASUREMENT START** input in the CSA.
2. Connect an optical patch cord from the TLS to "TLS IN" on the CSA. Connect the device under test (DUT) input to the "TO DUT" on the CSA, and the output of the DUT to the appropriate channels on the CSA.

TLS Setup

1. Set the start wavelength to 2 nm lower than the desired sweep wavelength (e.g., 1508 nm).
2. Set the end wavelength to 1 nm above the desired sweep end wavelength (e.g., 1571 nm).
3. Set the scan speed to the desired rate (e.g., 100 nm/sec).
4. Set the sweep trigger (simultaneously the left switch down, the right switch up, and turn the knob in between them) to the desired start sweep wavelength (e.g., 1510 nm).
5. Start a continuous sweep by holding the right switch up, and pressing the **SCAN** button.

CSA Setup

1. Press **SWEEP**. Select soft keys for continuous; start λ (1510); end λ (1570); sweep rate (100 nm/sec); reading spacing (0.001 nm); samples to average (1); Start to **TRIGGER**.
 2. Press **RUN**.
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Notes

1. To turn on Power Referencing, connect the optical patch cord from the **PREF OUTPUT** (on the bottom right side of the CSA) to the **PREF CHANNEL** (slot 5 of the CSA, counting from the left). Then, under **CHANNELS, POWER UNITS**, select **dB RELATIVE**, and **REFERENCE TO CHANNEL**. The data will now be relative to the reference.
 2. To calibrate the reference, set the Power Reference Ratio to 100. Set the amplitude units (**AMPLITUDE, MORE, UNITS**) to **LINEAR**. Connect an optical patch cord from the **TO DUT** output to one channel. Measure the channel (with power reference on). Put this value (multiplied by 100) into the power reference ratio.
 3. To use the wavelength reference, enable it in **SYSTEM, MORE...**
 4. To continuously sweep, press [**SWEEP**], **SWEEP MORE...**, repeat sweep **YES**.
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