

# The CMA 5000

## Optical Spectrum Analysis Application



The OSA module maintains industry-leading accuracy performance over the entire temperature and spectral range.



### Ideal Solution For Any Test Scenario

As a part of the CMA 5000 platform, the OSA application is just one other way to accelerate the deployment of services while reducing the cost of measurement. With test and measurement options ranging from OTDR, connector inspection and dispersion to optical spectral analysis, bit error rate, SONET/SDH analysis and Gigabit Ethernet, the CMA 5000 is the ideal single-solution for all your testing needs.

Today's competitive environment demands that networks offer exceptional performance and reliability with minimal down time. When characterizing and documenting such stringent performance levels, the CMA 5000 Optical Spectrum Analysis (OSA) application is the ideal single-solution for facilitating accurate and efficient channel management, power balancing and tuning throughout the network. The OSA application lowers DWDM installation and maintenance costs by providing industry-leading spectral analysis of system-critical parameters.

Operating from 1450-1650 nm (S-, C- and L-bands), the OSA module for the CMA 5000 maintains industry-leading accuracy performance over the entire temperature and spectral range. In addition, 30 dB of OSNR at  $\pm 25$  GHz channel spacing is perfect for testing high-capacity DWDM systems.

Increased revenue through accurate channel characterization:

- **30 dB of OSNR at  $\pm 25$  GHz channel spacing**

- **+20 pm wavelength accuracy over spectrum and temperature**
- **+0.3 dB power accuracy over spectrum and temperature**

Added value through performance:

- **High resolution, two-pass Diffraction Grating**
- **Wide spectral range for characterization of the S-, C- and L-bands with a single unit**
- **Channel Select option allows user to drop a wavelength**

Reduced cost of measurement:

- **Easy-to-use - one button complete spectral characterization**
- **User-defined configurations for custom DWDM testing**
- **Reduced test time through targeted applications**



research  
& design



manufacturing



installation  
& maintenance



network  
monitoring



optical  
components

OSA Specifications	
<b>Technology</b>	Diffraction Grating
<b>Wavelength Range</b>	1450 - 1650 nm
<b>Wavelength Accuracy<sup>1</sup></b>	±20 pm (typical)
<b>Wavelength Repeatability<sup>1,2</sup></b>	±5 pm
<b>Resolution Bandwidth<sup>3,4</sup></b>	85 pm FWHM (typical)
<b>Channel Spacing (minimum)</b>	25 GHz
<b>Power Range<sup>4,5</sup></b>	+15 to -65 dBm
<b>Power Accuracy<sup>1</sup></b>	±0.3 dB over temperature and spectrum
<b>Power Linearity<sup>2</sup></b>	±0.1 dB
<b>Power Repeatability<sup>1,4,6</sup></b>	±0.1 dB
<b>Stability</b>	±0.2 dB per hour
<b>Optical Signal to Noise Ratio<sup>4,7</sup></b>	>40 dB @ ±100 GHz >35 dB @ ±50 GHz >30 dB @ ±25 GHz (typ.)
<b>Channel Table</b>	256 simultaneous
<b>Sweep Time</b>	4 seconds typical over full spectrum
<b>Polarization Dependence Loss<sup>1,2,8</sup></b>	<±0.05 dB
<b>Optical Return Loss</b>	>35 dB
<b>Internal Reference</b>	Yes
<b>Channel Drop Feature</b>	5 dB maximum loss (optional)
<b>Operating Temperature</b>	0° to 40° C (32° to 104° F)
<b>Storage Temperature Range</b>	-20° to 70° C (68° to 162° F)
<b>Humidity</b>	95% RH non-condensing
<b>Connector Types</b>	Single-mode FC or SC (PC/Ultra polish)

**Notes**

<sup>1</sup> Signal from -30 to +5 dBm

<sup>2</sup> At 1550 nm

<sup>3</sup> Full width at half maximum (FWHM) value

<sup>4</sup> 1550 nm to 1620 nm

<sup>5</sup> Typical noise filter -70 dBm; maximum total power +30 dBm

<sup>6</sup> Over 15 minutes at 23° ±2° C

<sup>7</sup> For signal above 0 dBm (noise computed in a 0.1 nm equivalent bandwidth)

<sup>8</sup> Add ±0.05 dB for the filter option

Specifications are subject to change without notice



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