



## FINAL INSPECTION REPORT

### 1x4 Wideband Coupler

Item #: TWQ850HA  
SN: A002434

Center Wavelength: 850 nm  
Coupling Ratio Specification  
Tap Output: 19.00% - 31.00%  
Bandwidth:  $\pm 100$  nm  
Maximum Optical Power<sup>a</sup>  
With Connectors or Bare Fiber: 0.5 W  
Spliced: 2 W  
Fiber Type: Nufern 780-HP

Test Data <sup>b</sup>					
Excess Loss <sup>c</sup>	$\leq 0.60$ dB				
Input-Output Path	White (Common) – Red (Port 1)				
Wavelength <sup>d</sup>	734 nm	750 nm	850 nm	950 nm	967 nm
Coupling Ratio <sup>e</sup>	31.0%	28.3%	20.4%	28.1%	31.0%
Insertion Loss <sup>f</sup>	5.19 dB	5.59 dB	7.06 dB	5.70 dB	5.27 dB
Uniformity	1.88 dB	1.49 dB	0.02 dB	1.37 dB	1.81 dB
Input-Output Path	White (Common) – Red (Port 2)				
Wavelength <sup>d</sup>	734 nm	750 nm	850 nm	950 nm	967 nm
Coupling Ratio <sup>e</sup>	31.0%	23.8%	24.7%	23.4%	31.0%
Insertion Loss <sup>f</sup>	6.41 dB	6.34 dB	6.24 dB	6.49 dB	6.68 dB
Uniformity	0.29 dB	0.22 dB	0.11 dB	0.37 dB	0.55 dB
Input-Output Path	White (Common) – Red (Port 3)				
Wavelength <sup>d</sup>	734 nm	750 nm	850 nm	950 nm	967 nm
Coupling Ratio <sup>e</sup>	19.0%	26.4%	25.2%	26.9%	19.0%
Insertion Loss <sup>f</sup>	5.85 dB	5.90 dB	6.14 dB	5.89 dB	5.83 dB
Uniformity	0.30 dB	0.25 dB	0.02 dB	0.26 dB	0.32 dB
Input-Output Path	White (Common) – Red (Port 4)				
Wavelength <sup>d</sup>	734 nm	750 nm	850 nm	950 nm	967 nm
Coupling Ratio <sup>e</sup>	19.0%	21.5%	29.7%	21.7%	19.0%
Insertion Loss <sup>f</sup>	7.22 dB	6.79 dB	5.43 dB	6.83 dB	7.44 dB
Uniformity	1.91 dB	1.48 dB	0.12 dB	1.52 dB	2.13 dB

a. Specifies the maximum power allowed through the component. Performance and reliability under high power conditions must be determined within the user's setup.

b. All values are measured at room temperature without connectors through the white input port.

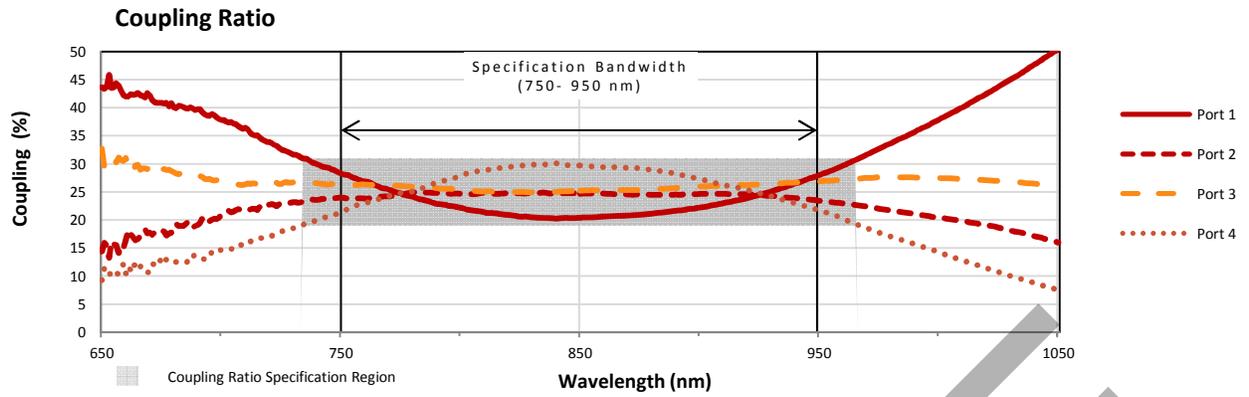
c. Ratio of the input optical power to the total optical power from all output ports. It is measured at the center wavelength.

d. These wavelengths indicate the range that meets the specified coupling ratio. It is shown by the gray shaded area on the accompanying graphs. Coupling ratio specification wavelength range may exceed measurement capabilities at the manufacturing station.

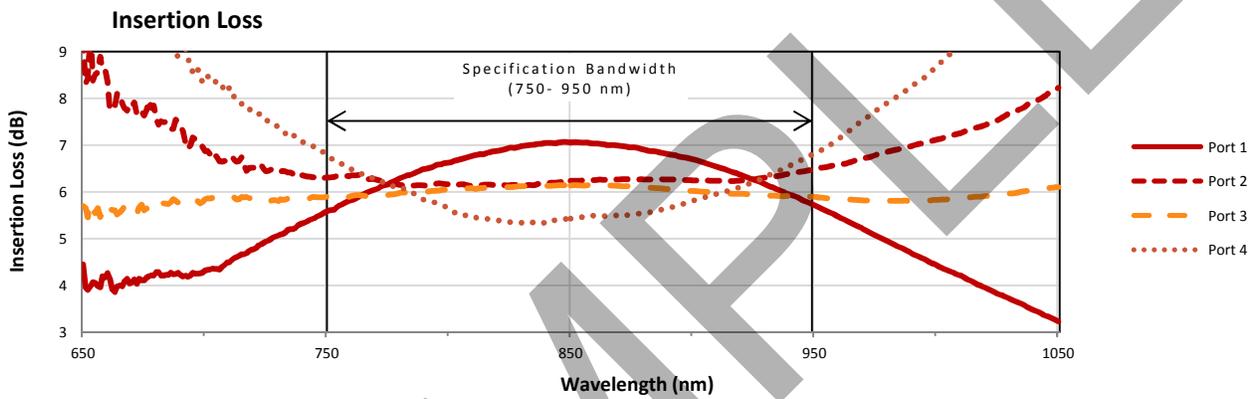
e. Does not include losses, as this is a measurement of the output power distribution only.

f. Includes both the split of the power between the two outputs, as well as any optical losses in the coupler.

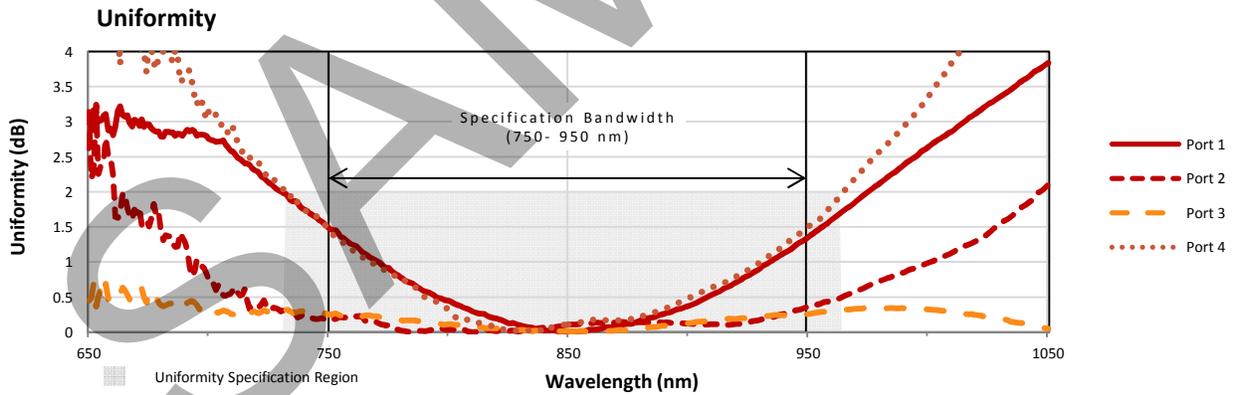
Verified by: \_\_\_\_\_



Coupling ratio (%) is the ratio of the optical power from each output port to the sum of the total power of all output ports as a function of wavelength.



Insertion loss (dB) is the ratio of the input power to the output power from each leg of the coupler as a function of wavelength. It captures both the coupling ratio and the excess loss.



Uniformity is the variation (dB) of the insertion loss over the bandwidth. It is a measure of how evenly the insertion loss is distributed over the spectral range.