

### Comparison of Agilent Laser Receiver Families

Characteristic	E1709A Receiver	E1708A Receiver	10780C, 10780F Receivers
<b>Dynamic Range</b>	25:1 to 6:1, depending on the AC/DC ratio	10:1	Not specified
<b>Sensitivity</b>	.20 - .80 $\mu$ W (depending on the AC/DC ratio), with 2 meter plastic cable	2.2 $\mu$ W (E1708A with 2-meter fiber optic cable) 5 $\mu$ W (E1708A with 10-meter fiber optic cable)	1.5 $\mu$ W (10780C) 2.2 $\mu$ W (10780F with 2-meter fiber optic cable) 5 $\mu$ W (10780F with 10-meter fiber optic cable)
<b>Alignment Tolerance</b>	For plastic fiber optic cable (Option 010)  Roll: $\pm 3^\circ$ Pitch: $\pm 1^\circ$ Yaw: $\pm 1^\circ$  Agilent remote sensor is self-aligning with some interferometers.	For plastic fiber optic cable  Roll: $\pm 3^\circ$ Pitch: $\pm 1^\circ$ Yaw: $\pm 1^\circ$  Agilent remote sensor is self-aligning with some interferometers.	Roll: $\pm 3^\circ$ Pitch: $\pm 1^\circ$ Yaw: $\pm 1^\circ$  10780F is self-aligning with some interferometers.
<b>Output Signal Frequency</b> (Differential square wave at Doppler-shifted frequency)	100 kHz to 15.5 MHz (slew rates to 1 m/s with plane mirror optics)	100 kHz to 7.2 MHz (slew rate to 500 mm/s with plane mirror optics)	100 kHz to 7.2 MHz
<b>Fixed Data Delay (typical)*</b>	33.2 ns (typical) 0.01 ns/ $^\circ$ C	86 ns	Not specified
<b>Errors due to frequency variations at fixed temperature*</b>	For 25:1 to 6:1 input amplitude variations and frequency range of 100 kHz to 15.5 MHz  $\leq \pm 1.2$ nm for linear optics $\leq \pm 0.6$ nm for plane mirror optics $\leq \pm 0.3$ nm for high resolution optics	For 3:1 input amplitude variations and frequency range of 100 kHz to 7.2 MHz  $\leq \pm 1.2$ nm for linear optics $\leq \pm 0.6$ nm for plane mirror optics $\leq \pm 0.3$ nm for high resolution optics	Not specified
<b>Signal Strength Monitor</b>	0 to 10 volts output, proportional to optical input signal power	0 to 8 volts output, proportional to optical input signal power	Range: 0 to 0.8 volts
<b>Power Requirements</b>	15 Vdc $\pm 1$ V at less than 267 mA	15 Vdc $\pm 1$ V at less than 250 mA	+15 Vdc at 136 mA
<b>Heat Dissipation</b>	0.0 W for remote sensor 4.0 W typical for receiver	0.0 W for remote sensor 3.8 W typical for receiver	0.0 W for remote sensor 2.0 W typical for receiver
<b>Temperature Range</b>	0 to 40 $^\circ$ C operating	0 to 40 $^\circ$ C operating	0 to 40 $^\circ$ C operating

### Comparison of Agilent Laser Receiver Families (Continued)

Characteristic	E1709A Receiver	E1708A Receiver	10780C, 10780F Receivers
<b>Fiber-Optic Cable Length</b>	Option 010: 2m (plastic)  Contact Agilent for longer fiber optic cables.	2 m standard (plastic)  Contact Agilent for longer fiber optic cables.	2 m standard 10 m maximum
<b>Weight</b>	Receiver body:190 g  Option 010: Remote sensor with 2 m cable: 26 g	Receiver body:170 g,  Remote sensor with 2 m cable: 26 g	136 g, 10780C 126 g, 10780F body 26 g, remote sensor with 2 m cable
<b>Dimensions</b>	Height: 78.1 mm (3.075 in) Width: 115.6 mm (4.552 in) Depth: 19.8 mm (0.780 in)	Height: 78.1 mm (3.075 in) Width: 115.6 mm (4.552 in) Depth: 19.8 mm (0.780 in)	Height: 38.1 mm (1.50 in) Width: 114.8 mm (4.52 in) Depth: 19.8 mm (0.78 in)
<b>Dimensions</b> (receiver body, mounting area)	4 holes at corners of a rectangle  40.0 mm (1.575 in) high 108.0 mm (4.250 in) wide, centered on receiver body centerline	4 holes at corners of a rectangle  40.0 mm (1.575 in) high 108.0 mm (4.250 in) wide, centered on receiver body centerline	2 holes 107.8 mm (4.25 in) apart on receiver centerline
<p>* For ac input signal power: E1708A: &lt;200 <math>\mu</math>W E1709A: &lt;50 <math>\mu</math>W</p>			