



# TECHNOLOGY COMPARISON CHART

## High-Capacity Link Alternatives

Significant Advantage    Meets Typical Application Requirements    Serious Deficiency

	Data Rates	Range <sup>2</sup>	Installed Cost	License Required?	Time to Deploy	Security <sup>4</sup>	Interference Immunity <sup>5</sup>	Max. Link Availability	Form Factor	AdaptRate™
<b>60GHz</b> BridgeWave	1000 Mbps	0.5-1 mile	\$25-35K	No	Days	Very High	Very High	99.999%	Small <sup>9</sup>	Yes <sup>10</sup>
<b>E-Band</b> BridgeWave	1000 Mbps	1-3 miles	\$40-50K	Yes <sup>8</sup>	Days	Very High	Very High	99.999%	Small <sup>9</sup>	Yes <sup>10</sup>
<b>Fiber</b>	1000+ Mbps	> 3 miles	\$100-500K <sup>3</sup>	No	Months	High	N/A	99.999%	N/A	N/A
<b>FSO</b>	1000 Mbps	0.5-2 miles	\$40-50K	No	Days	Very High	Very High	99.9% <sup>6</sup>	Medium	No
<b>5.8GHz</b>	500 Mbps <sup>1</sup>	> 3 miles	> \$100K	No	Days	Low	Low	99.9% <sup>7</sup>	Small	No
<b>38GHz</b>	622 Mbps <sup>1</sup>	1-3 miles	> \$100K	Yes	Weeks	Medium	High	99.999%	Large	No

**NOTES:**

- <sup>1</sup> It is very difficult to support increased data rates in the lower frequency (< 50GHz) RF bands due to the limited spectrum allocations.
- <sup>2</sup> Ranges for wireless products vary based on geography and required link availability. Ranges are typical, not absolute maximums.
- <sup>3</sup> Fiber costs listed are per installed-mile. Costs vary widely based on the cost of construction.
- <sup>4</sup> Very narrow beamwidth 60GHz, E-Band and FSO links are typically even harder to compromise than buried fiber.
- <sup>5</sup> Very narrow beamwidth 60GHz, E-Band and FSO links produce a "spatial pipe" between ends, preventing interference from other band users.

- <sup>6</sup> FSO links beyond 100-200 meters are typically unavailable during extended periods of heavy fog.
- <sup>7</sup> 5.8GHz link availability is limited by outages due to increasing interference levels in major markets where 5.8GHz is being widely deployed.
- <sup>8</sup> E-Band 70/80/90 GHz products require, in the US, a coordination license that easy and affordable to procure for point to point solutions.
- <sup>9</sup> Small form factor for medium distance antennas (10"-12" diameter)
- <sup>10</sup> Adaptive Rate capability optimized for Gigabit performance is available only with BridgeWave products (AR60 and AR60X)