

NETWORK SPEED COMPARISON CHART

Ethernet (Wired) vs. Wi-Fi (Wireless)

Feature	Ethernet (Cat6/6a)	Wi-Fi (6/6E)
Max Potential Speed	Up to 10 Gbps	Up to 9.6 Gbps
Real-World Stability	High (Constant)	Variable (Fluctuates)
Latency (Ping)	< 1ms (Ultra-Low)	5ms - 20ms+ (Moderate)
Interference	None (Shielded)	High (Walls/Microwaves)
Security	Physical Access Required	Encryption Dependent
Best For	Gaming, NAS, 4K Editing	Mobile, Browsing, IoT

Summary of Findings

While modern Wi-Fi 6 technology approaches Ethernet in theoretical burst speeds, Ethernet remains the industry standard for low-latency tasks and consistent bandwidth delivery. Wi-Fi remains superior for convenience and multi-device mobility.