

Wi-Fi and 5G technology assessment guide

Wi-Fi 6e and 5G indoor technologies have advanced to meet the ever-evolving needs of private enterprise connectivity. It's important to understand the technical benefits of each technology to assess the right fit for your business.

	Wi-Fi 6e	5G
Key benefits	<ul style="list-style-type: none"> • Increased speeds with wider channels in 6GHz • Low cost of Wi-Fi 6e modems and wide ecosystem • Easy installation & deployment • Unlicensed spectrum available to all 	<ul style="list-style-type: none"> • High reliability & low latency • Built in end-to-end security • Seamlessly transitions connections between indoor & outdoor coverage • Enterprise can directly manage the network • High capacity and connection density
Best for	<ul style="list-style-type: none"> • Cost-efficient indoor coverage • Non-enterprise critical application support • Primary data-only application • High-bandwidth network enduring some latency • Indoor use cases that need best-effort connectivity 	<ul style="list-style-type: none"> • Applications requiring high mobility • Highly secure network and end-points – IoT • Networks requiring high reliability <ul style="list-style-type: none"> - Enterprise critical QoS – URLLC - High quality voice application support – VoNR - Mission-critical services – mMTC • New revenue-generating services – AR/VR, eMBB



Assessment key questions and checklist

Decision Parameter	Key Questions	Wi-Fi 6e Features/Benefits	5G Indoor Features/Benefits
Quality of service	<p>What are the demands and related risks based on the quality of service?</p> <p>How many applications demand quality of service?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Unlicensed spectrum • Best effort connectivity • Indoor connectivity; primarily with data applications 	<input type="checkbox"/> <ul style="list-style-type: none"> • Dedicated license spectrum • Warranty quality of service • Seamless transition between indoor & outdoor coverage • High quality voice & data application support
Security needs	<p>How important is security?</p> <p>How much is confidential or proprietary?</p> <p>How many levels or types of security services?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Improve security protocol WPA3 Personal & WPA3 Enterprise • Up to 192bit consistent cryptographic password protection 	<input type="checkbox"/> <ul style="list-style-type: none"> • High end-to-end security • Requires subscription to access: subscriber Identity Module (SIM) or embedded (eSIM)
Range and coverage	<p>Does the coverage need to extend outside and/or across distances?</p> <p>Do you have locations with high data demand?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Indoor-preferred technology • Low mobility areas - home & office • Shorter coverage areas 	<input type="checkbox"/> <ul style="list-style-type: none"> • Indoor and outdoor macro-area coverage • Hotspots, stadiums, convention centers and industrial applications • High mobility extended coverage
Capacity	<p>Do you have services, areas and/or events that require a lot of throughput?</p> <p>How many devices and/or users need to be considered?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Medium capacity • Depends on network resources and adjacent network use • Shared spectrum capacity • Best effort 	<input type="checkbox"/> <ul style="list-style-type: none"> • High capacity and low latency • Connection density, more than 1 million devices per 1km² • Massive Machine-Type Communication (mMTC) • Enhanced Mobile Broadband (eMBB) to transfer massive data AR/VR • Designed to support AI/ML application via edge computing and cloud
Reliability and mobility	<p>How much mobility is required by your users or devices?</p> <p>How much is indoor/outdoor?</p> <p>How much transition in between indoor and outdoor?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Reliability depends on basic network structure and influence by adjacent networks use and number of users • Best effort due to unlicensed spectrum • High mobility 	<input type="checkbox"/> <ul style="list-style-type: none"> • Warranty service level agreement • Network slicing with SLA priority • Low latency for Ultra-Reliable Low Latency Communication (URLLC)
Device ecosystem	<p>What are your requirements around broad device availability?</p>	<input type="checkbox"/> <ul style="list-style-type: none"> • Low cost and easier to install and manage • Robust ecosystem • Currently supports wide range of devices: PCs, printer, tablets, smartphones, wearables, TVs, security cameras, thermostats, appliances, etc. 	<input type="checkbox"/> <ul style="list-style-type: none"> • Higher price and requires higher expertise to install and managed • Currently limited range of devices: smart phones, IoT devices/sensors for manufacturing, energy, transportation & logistics, smart city, healthcare, mission-critical communications, etc

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