

Wi-Fi 6E: The Next Frontier in Wi-Fi

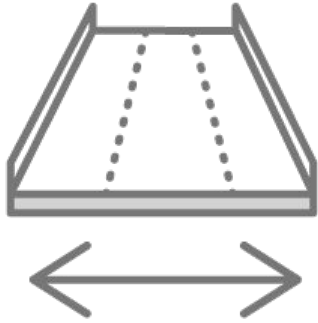


Wi-Fi 6E: Wi-Fi 6 in 6 GHz

- Unlocks full-capability of Wi-Fi 6 using
 - 160 MHz wide channels
 - Greenfield 6 GHz spectrum
- Delivers steady, swift and secure Wi-Fi
- Provides unprecedented capacity and low latency for demanding applications
 - 8K Video Streaming
 - Real-time immersive gaming
 - Virtual and Augmented reality
 - High speed tethering
- No degradation in incumbent services



Next Gen Wi-Fi: 5G Services from the Ground Up



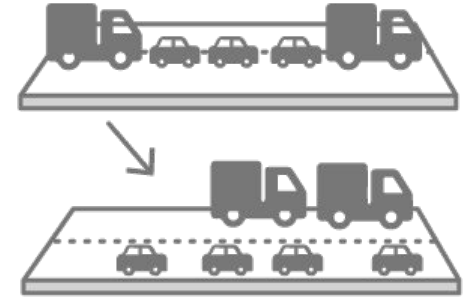
Wider Bandwidth

160 MHz channels
2x bandwidth 2x
throughput



More Spectrum

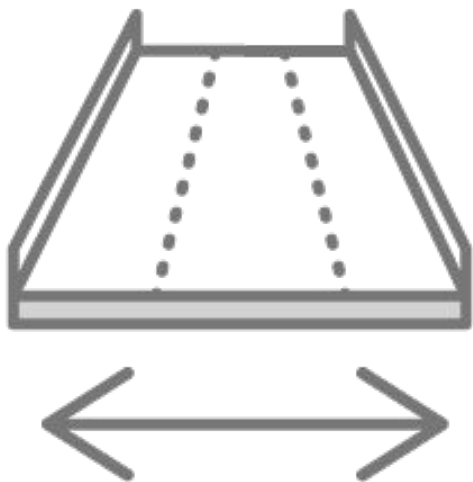
Up to 1200 MHz of
additional spectrum
for Wi-Fi in 6 GHz
band



Fully Scheduled Traffic

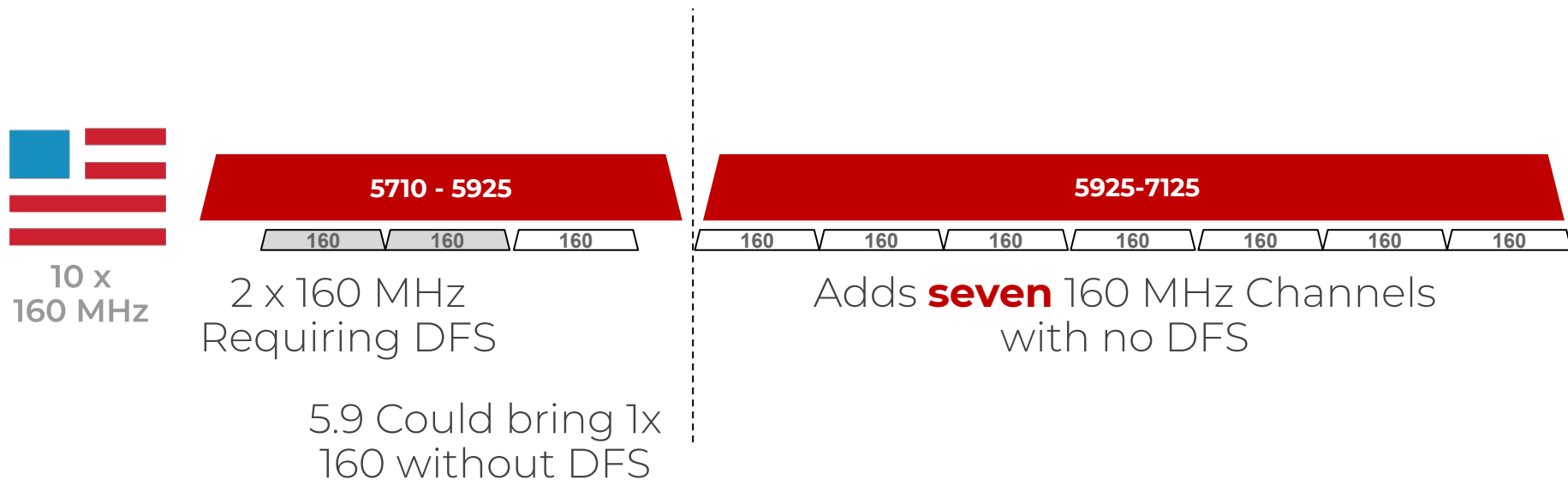
Guaranteed low-latency
No channel
contention

160 MHz helps build up on Wi-Fi 6 stability



- Access points ~10 Gbps
- Multi-Gigabit smartphone speeds
- Double the bandwidth, double the throughput
- Higher speeds over wider area
- For Gigabit speeds from DOCSIS 3.x modems
- Single AP and multi-AP deployments for whole-home Gigabit speeds

6 GHz brings 160 MHz to life



Greenfield 6 GHz = high performance Wi-Fi

 802.11ax

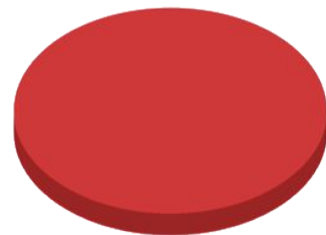
 Legacy



2.4 GHz band



5 GHz band



6 GHz band



6 GHz Wi-Fi will be the most efficient and friendliest technology yet

5 GHz Airtime Overhead %

Probe Request

1.6%

Beacon / Probe Response

20%

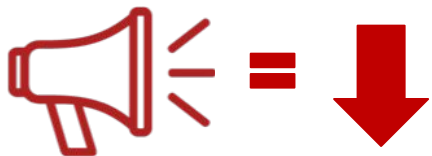
6 GHz Airtime Overhead %

Probe Request

0%

Beacon / Probe Response

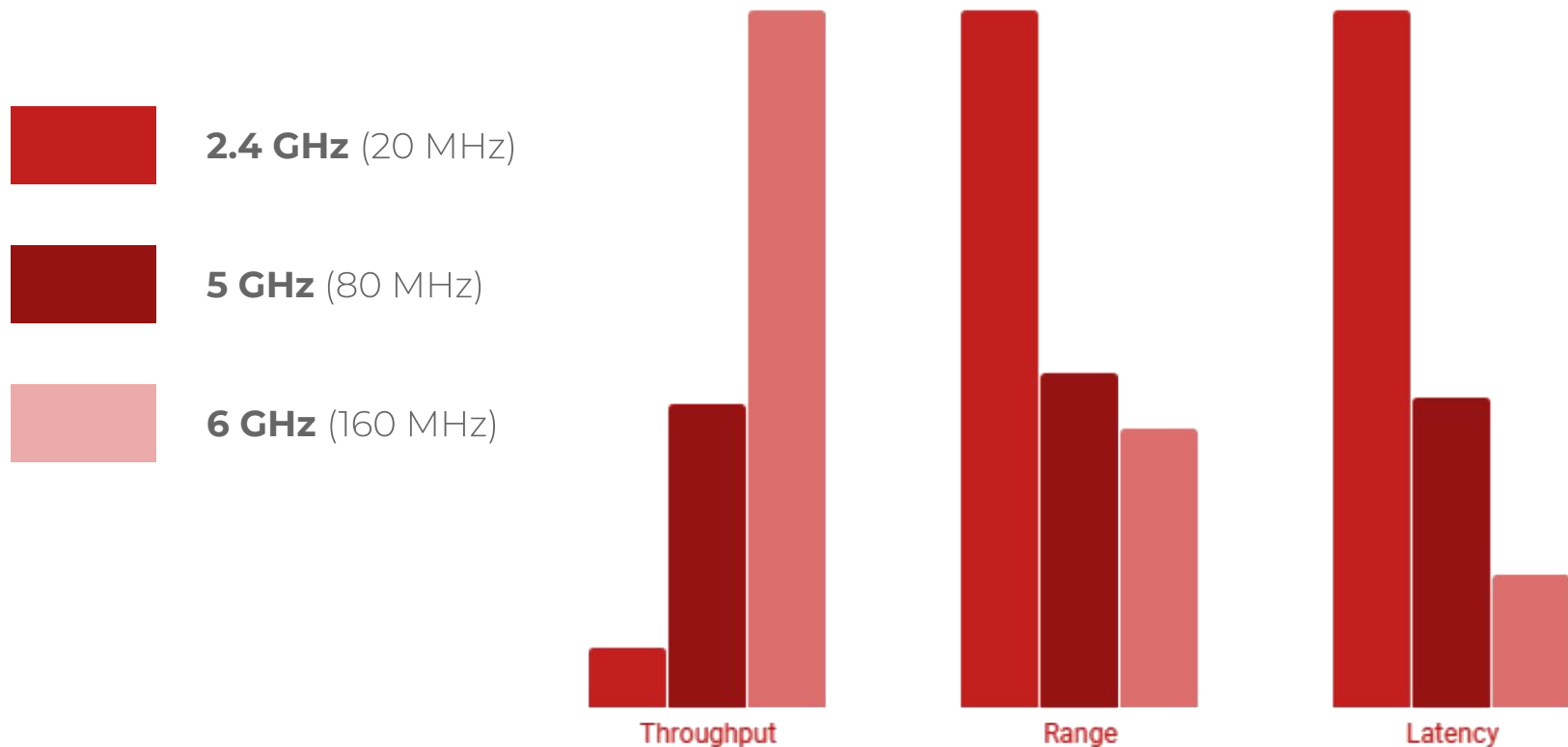
4%



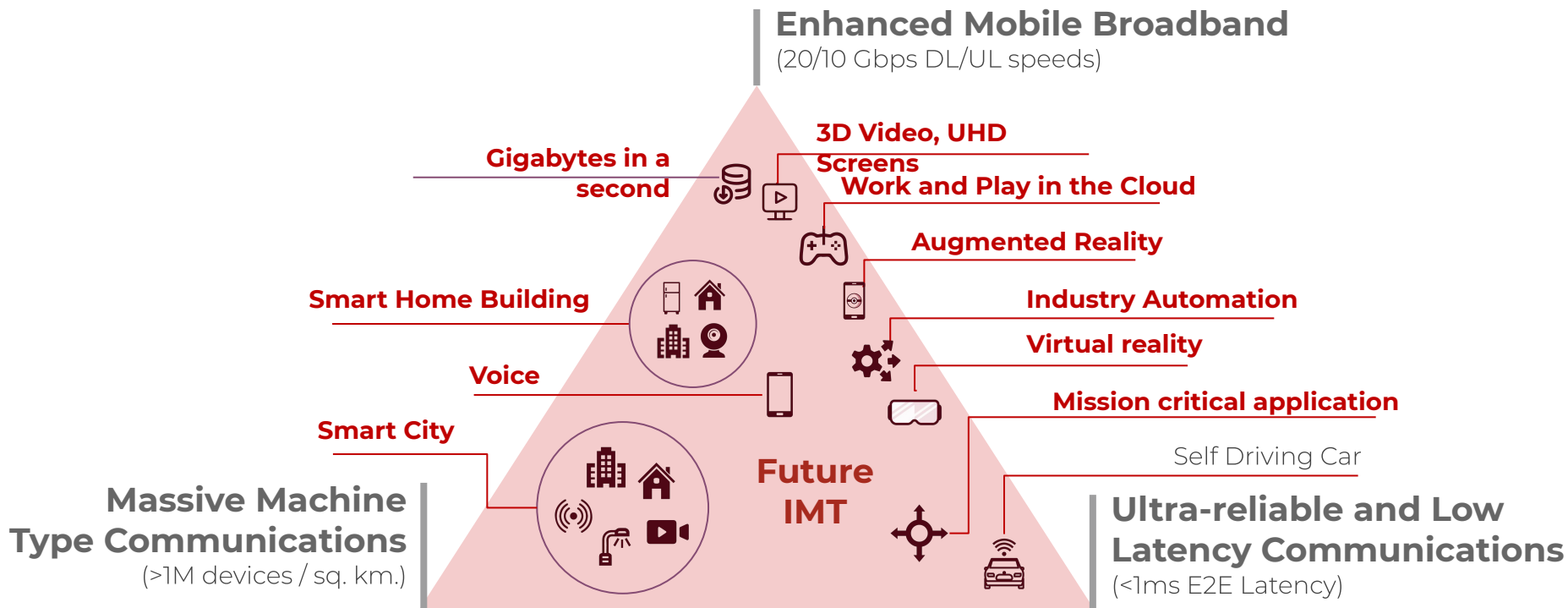
Eliminates **over 70% of the overhead** compared to 2.4 and 5 GHz devices, which is typically at higher power levels

Devices also required to transmit at lowest effective power level

Boost Wi-Fi performance with 6 GHz



Wi-Fi 6 in 6 GHz delivers for 5G services



Source: ITU-R

6 GHz Very Low Power Wi-Fi for Ultra High Performance for AR/VR



**Mobile
AR/VR**



**UHD Video
Streaming**



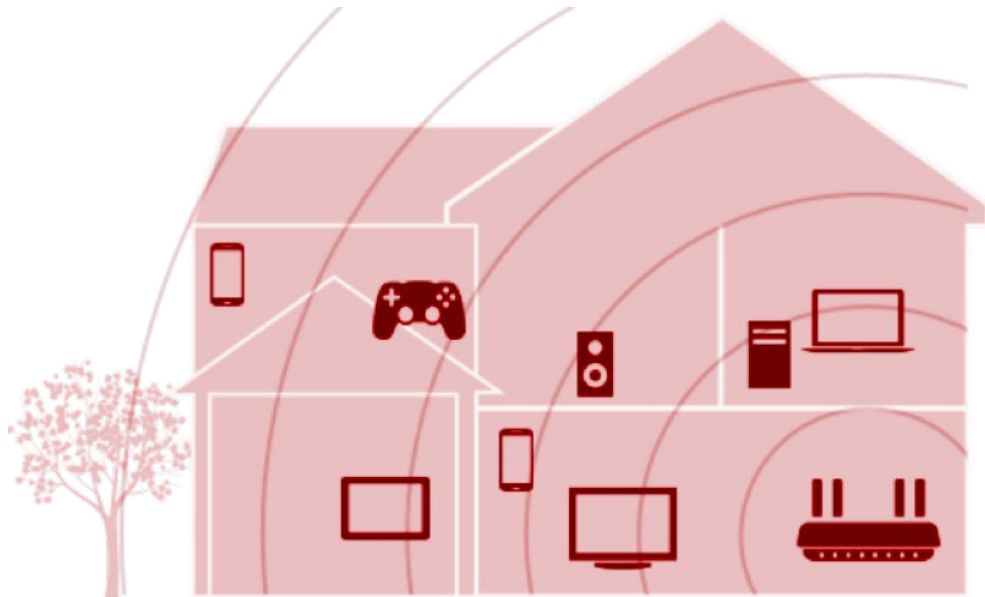
**High Speed
Tethering**



**In-Vehicle
Entertainment**

~2 Gbps throughput with sub-ms latency at 3m

6 GHz enables robust Low Power indoor use cases



6 GHz delivers **1.4 Gbps at 7m** distance even with obstructions

Use Cases

- Residential Multi-AP / mesh networks
- Multiple dwelling unit (MDU) Single-AP networks
- High-density enterprise networks
- Indoor public venues
- Industrial IoT

Wi-Fi 6 innovations in 6 GHz are integral to 5G success



- **11%** of new devices in 2019 (~150-250 Mu) will be Wi-Fi 6 enabled
- Cisco asserts Wi-Fi 6 is important for **5G era driving increased offload** from cellular networks
- **71% data offload to Wi-Fi for 5G networks**; total data offload to Wi-Fi increases from 74% to **79% in 2022**

To unlock the full benefits of the next generation of Wi-Fi we need more spectrum—6 GHz is the best bet

- Freeing this band for unlicensed would create a **“Wi-Fi Superhighway,”** critical to carrying the **traffic expected with 5G** services
- The 6 GHz band could **enable up to seven 160 MHz channels**, which would **provide superfast coverage**
- If the NPRM is approved, the 6 GHz band **could open up to 1,200 MHz of more spectrum for Wi-Fi**

Thank You

