

# Wi-Fi 6 Module Field Test — Basement RF Performance

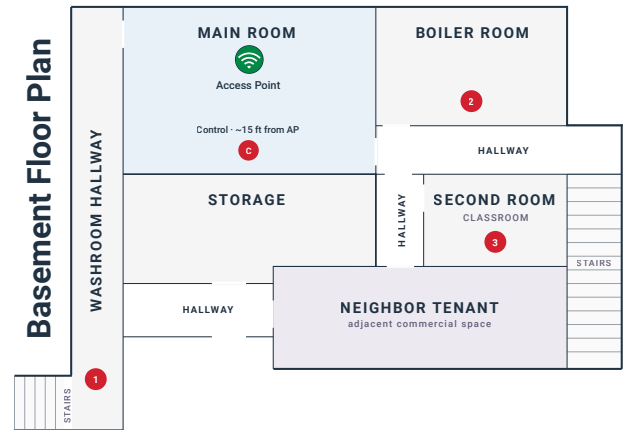


## TEST METHODOLOGY

Three Wi-Fi 6 modules tested for video streaming in a challenging commercial basement with 2ft. thick stone walls, heavy machinery, exposed infrastructure, and ~75 competing SSIDs.

- Modules tested: CMP9605 (20 MHz BW), CMP9610 (20 MHz BW), CMP9611 (80 MHz BW)
- Host platforms (embedded Debian Linux):
  - i.MX8 CMP9610 & CMP9611 — encoder + CSI base camera
  - i.MX93 EVK CMP9605 — USB Logitech camera, no encoder
- 2.4 & 5 GHz tested, static antenna position & orientation per location
- iperf throughput + live RTSP stream (1920x1080, H.264, 30 fps)
- Modules mounted on non-metallic PVC/cardboard fixture to eliminate antenna detuning
- Streaming threshold: ~6Mbps for 30fps, <4Mbps drops fps

Access Point: Netgear AX1600 router + laptop server

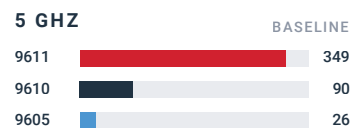


## TEST LOCATIONS AND TEST RESULTS



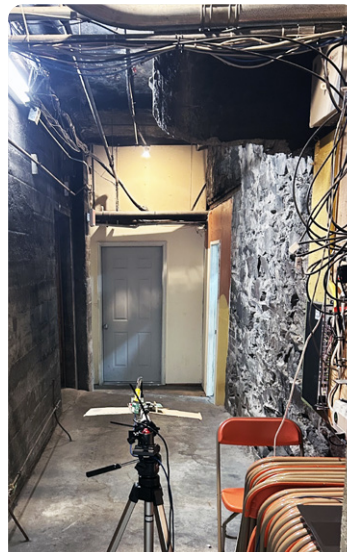
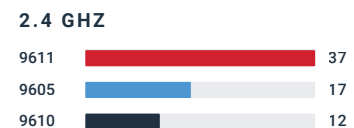
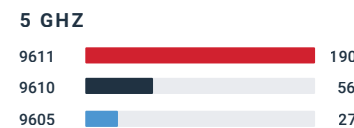
**Control Room**  
~15 FT • Line of Sight

Reference point directly under the access point. All four modules link & achieve 30 fps.  
All values in Mbps • FPS noted only when below 30 fps



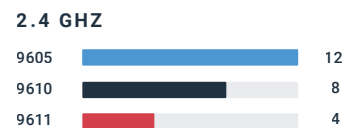
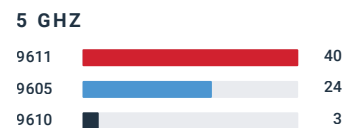
**Boiler Room**  
~35 FT • Metal • Pumps • Elevator Shaft

Heavy machinery, pipes, and an elevator-shaft wall create dense RF clutter.



**Washroom Hallway**  
~55 FT • Stone Wall in Path

Signal must penetrate a 2ft fieldstone wall. The competitor falls way below the streaming threshold.



**Classroom/Second Room**  
~75 FT • Furthest • Adjacent-Tenant Noise

Furthest from the AP with a shared wall introducing interference. Only CEL Wi-Fi 6 modules maintained a connection.

