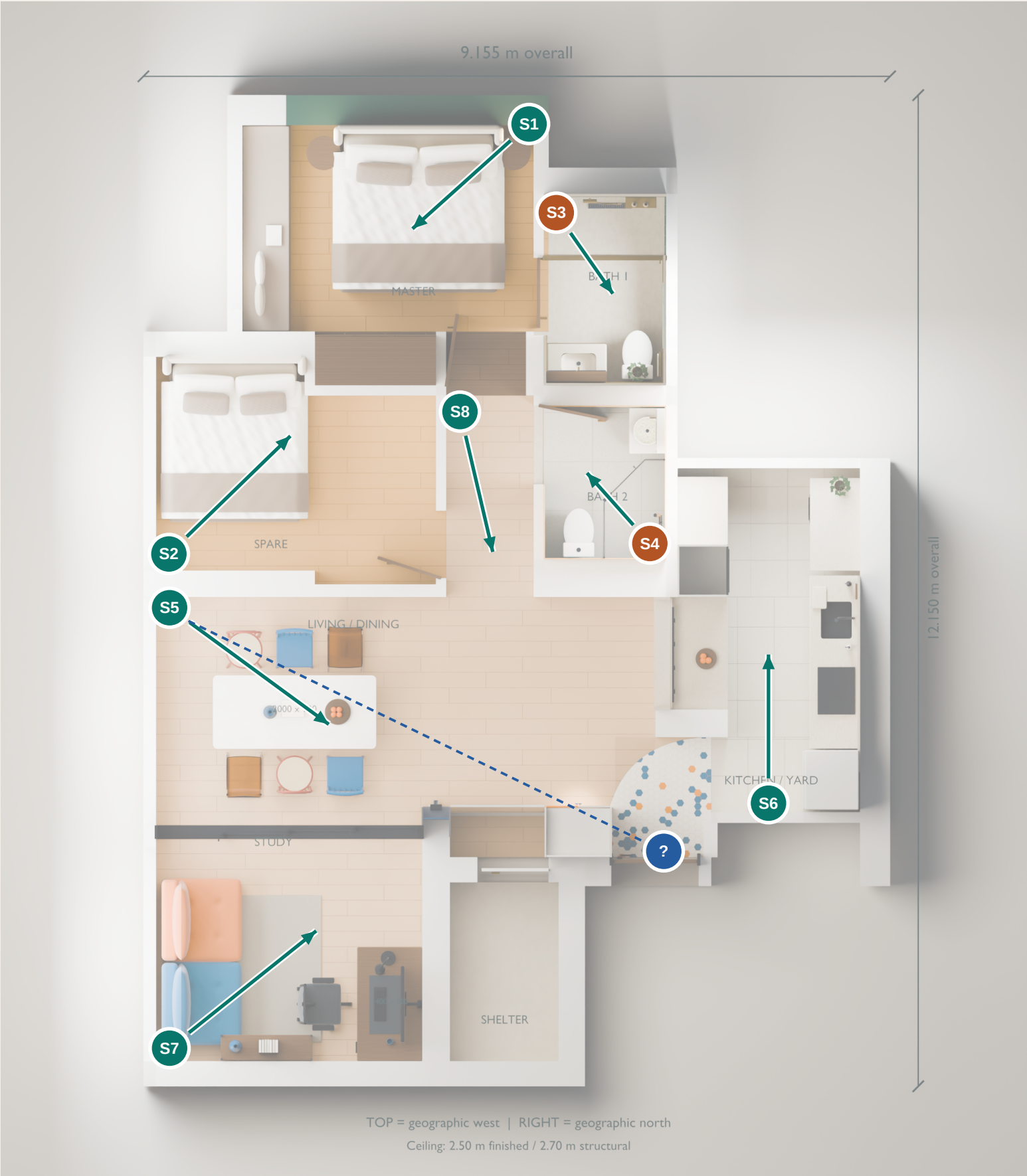


Presence sensors. Exposed, with concealed wiring.

Eight trial points shown. S6 is at the kitchen entrance, aiming plan-up toward the yard. Arrows show aim, not coverage.



Shelter excluded. Blue dashed ray = S5 entrance sightline to test; no guaranteed threshold coverage.

- S1 Master bedroom**
Plan-top-right corner; aim diagonally at bed.
Check bed, doorway and curtain interference.
- S2 Spare bedroom**
Plan-bottom-left corner; aim into room.
Keep clear of curtains; test with door closed.
- S3 Master bathroom / Bath 1**
Plan-top-left shower region; aim into room.
Wet-area trial only; test across shower glass.
- S4 Common bathroom / Bath 2**
Plan-bottom-right shower region; aim inward.
Wet-area trial only; avoid direct shower spray.
- S5 Living / dining + entrance**
Plan-top-left, below spare; aim across dining.
Entrance is provisional: test shelter-corner blind spot.
- S6 Kitchen / yard - entrance end**
Exposed wall / bracket near entrance; aim plan-up along aisle.
Toward yard, not ceiling. Confirm clear support, height and coverage.
- S7 Study**
Plan-bottom-left corner; aim toward room / desk.
Check shelving, sofa and sliding-glass interference.
- S8 Bedroom corridor**
Master end, on corridor-side wall / bracket.
Aim plan-down; clear the revised master door swing.

Mounting + power

Keep radar exposed on a wall / suitable bracket; conceal wiring using available routes. No new kitchen ceiling work is planned; S6 cable routing awaits confirmation. Choose height by room trial with logo level; 1.6-1.8 m in the old sketch is not an approved mounting rule. Keep power supplies and connections accessible. Check 2.4 GHz Wi-Fi at final positions.

Bathroom hold point + commissioning

S3 / S4 require supplier and installer approval of sensor, USB connection and power protection. Aqara states IPX5 and requires a waterproof adapter / outlet for humid use. Avoid direct spray. Test shower occupied and water running alone; doors and shower glass open / closed. Also test study glass and the entrance threshold.

Guidance: Aqara FP2 product page, user manual and FAQ (06 Sep 2026).

Audio. Five ceiling speakers + one tabletop provision.

Six proposed audio positions across five areas. Kitchen tabletop provision is audio output only; on the existing left-side kitchen surface.



Circles = trial ceiling centres; square T1 = tabletop audio provision. Final products, outlets and routes need coordination.

- L Living / dining - left**
One conventional ceiling speaker, left channel.
- R Living / dining - right**
One conventional ceiling speaker, right channel.
- A3 Master bedroom**
One single stereo DVC speaker; both L + R channels.
- A4 Master bathroom / Bath 1**
One single stereo DVC speaker; both L + R channels.
- A6 Study**
One single stereo DVC speaker; both L + R channels.
- T1 Kitchen - left-side surface inside kitchen**
Near existing power (user-confirmed); exact outlet not surveyed.
Connection, amplification and power TBD. No microphone.

Placement intent

Living L / R straddles the current dining and shared area, replacing the old sofa-based positions. L / R identifies cable channels; confirm listening orientation on site. Clear the dining pendant. A4 is proposed on the bathroom dry side. No speakers in the spare, common bathroom or shelter. Kitchen ceiling speaker and its wiring are removed; T1 sits on the existing left-side surface **INSIDE** the kitchen, near user-confirmed power; outlet not surveyed. No kitchen renovation / false-ceiling work.

Independent cabling to DB equipment bay

For ceiling speakers, home-run each room separately to an accessible amplifier rack at the entrance DB cupboard. Living L and R each return to the rack. Every DVC unit needs both L and R channel pairs (four conductors), with no room-to-room daisy chain. Label both ends. Supplier to select cable type / gauge from length and amplifier / speaker load.

Before ceiling closure or cut-outs

Model: 2.50 m finished / 2.70 m structural ceiling. The nominal 200 mm void is NOT verified usable speaker depth. Survey services, framing, AC, lighting and glass-track conflicts. Confirm selected speaker cut-out, depth, back enclosure, clearance, bathroom suitability and service access. No cut-outs until coordinated.

DB rack coordination

Add amplifier space to the UniFi gateway, Raspberry Pi and possible Mac mini provision. Detail equipment access, DB clearance, outlets, shelf loading, cable separation and actual ventilation / heat load with selected equipment. Existing vent artwork is not a cooling calculation.

Conversation devices. Within reach, at furniture height.

Three provisional power / data provisions for the owner's own AI system. No ceiling microphones, now or later.



- V1 Study - prototype first**
Accessible desk device; allow cable slack for desk movement.
Mic array + small local speaker; accessible and unobstructed.
- V2 Living / dining**
Provisional low console / shelf by study-side wall; coordinate furniture.
Mic array + small local speaker; accessible and unobstructed.
- V3 Master bedroom**
Accessible bedside surface; keep microphone clear of curtains.
Mic array + small local speaker; accessible and unobstructed.

Conceal the route, keep the device accessible

Reserve power / data pathways from the accessible entrance equipment bay to each furniture location, via coordinated ceiling routes and wall / joinery drops. V2 needs a shelf / console agreed with the ID. Final power method, cable category, termination and device are unselected. These symbols are provision locations, not purchased hardware.

Prototype V1 before repeating the arrangement

Test natural back-and-forth and interruption handling in the study with music and AC on and the sliding glass closed. Check microphone pickup, local response volume and echo performance at the desk and lounge. Record the successful mounting and wiring arrangement before fitting V2 / V3.

Audio decisions intentionally left open

The small local speaker is the initial conversation output. Ceiling audio is committed for music / announcements; routing AI speech through it remains undecided. Future routing needs a tested amplifier / audio path, low latency, music ducking and a synchronized playback reference for acoustic echo cancellation. A generic smart amplifier does not establish this.

Equipment + system provision

An owner-controlled central AI system may connect to optional Home Assistant automation later. This drawing does not select an ecosystem or build software. Coordinate amplifier and computing space together in the DB cupboard; allow accessible wiring, replacement and ventilation appropriate to actual equipment.

Installer handover sequence

1. Survey ceiling and wet-area constraints.
2. Trial S1-S8 and study voice.
3. Agree product data, furniture and service access.
4. Mark final points and routes with the ID.
5. Label, photograph and test cabling before closure. Cable paths are not construction-approved by this sketch.

Power / data endpoints shown only. Installer to draw measured cable routes after the ceiling and services survey.

Wireless. Primary AP now, master provision for later.

Both proposed locations are ceiling mounted. Two independent Ethernet runs; the master AP is optional.



Blue filled AP1 = primary. Orange outlined AP2 = optional device, cable now. Dashed routes are illustrative Ethernet runs.

- AP1 Living / dining - primary ceiling AP**
Above the dining table; coordinate with pendant and speakers.
Primary AP planned; final model and position need site testing.
- AP2 Master bedroom - optional future ceiling AP**
Run the ceiling cable provision now; install AP later if needed.
Decide after testing AP1 coverage with bedroom doors closed.
- DB Entrance DB cupboard - network equipment**
User-described UniFi Fiber Gateway; exact model not verified.
Keep service access, cable labels and equipment ventilation clear.

Two separate Ethernet home runs
E1 (blue): DB network equipment to AP1 above dining. E2 (orange): DB network equipment to the optional AP2 master ceiling provision. Do not daisy-chain AP1 to AP2. Dashed lines show illustrative routing intent, not measured or construction-approved cable paths.

Cable now; decide the master device after testing
Provide both Ethernet runs while access is available. Label both ends E1 / AP1 and E2 / AP2; test and record cable performance. Leave the unused master end safely terminated and accessible at a coordinated ceiling outlet / service point. Reserve access for later fitting; no master AP purchase is implied.

Power and network hardware still to be selected
Do not assume the gateway provides PoE or Wi-Fi. Verify its actual model and LAN ports, plus the chosen AP power requirements. A compatible PoE switch / injector or other supported power provision depends on those products; check power budget and space at the DB bay. No switch, injector, AP model or cable category is selected by this drawing.

Ceiling and coverage coordination
Coordinate AP1 with the dining pendant and L / R speakers; coordinate AP2 with master speaker A3 and other ceiling services. Use the selected AP mounting kit and preserve replacement access. Test AP1 in the proposed location with bedroom doors and study glass open / closed, using the actual devices in each room. Add AP2 only if the results justify it; this is not a coverage guarantee.

Official guidance: Ubiquiti PoE overview and AP radiation / coverage guidance.