

Wi-Fi Site Survey

Wireless survey for a new or existing network: requirements, building, signal readings area by area, access point positions, cabling and PoE.

1. Survey details

Who the survey is for and how it is being done.

Project

Filled in from the project in SiteSurvey.

Customer

Site *

Site address

Date of survey *

Surveyor

Type of survey * (choose one)

- ☐ Before installing a new network
- ☐ Existing network with problems
- ☐ Check after installation

What problems have been reported, and where? (if applicable)

How are you surveying? (tick all that apply)

- ☐ Walk round with a survey tool and floor plan
- ☐ Speed and connection tests on the live network
- ☐ Test access point on a pole
- ☐ Checking a predictive design on site
- ☐ Visual inspection only

Survey tool and device used

For example the app, the adapter and the phone or laptop.

Do you have scaled floor plans?

- ☐ Yes ☐ No

If applicable: Without a scaled plan the readings cannot be placed accurately. Sketch each floor, mark at least one measured wall and photograph the sketch.

Floor plans or sketches (photos: attach, or note the file names)

2. What the network must do

Agree this with the customer before you measure anything.

People on Wi-Fi at the busiest time

Devices at the busiest time

What will connect? (tick all that apply)

- ☐ Laptops
- ☐ Phones and tablets
- ☐ Voice or video calls over Wi-Fi
- ☐ Handheld scanners
- ☐ Payment terminals
- ☐ Printers
- ☐ Sensors and smart building devices
- ☐ Wireless presentation in meeting rooms
- ☐ Guest devices
- ☐ Other: _____

What must never drop out?

For example tills, warehouse scanners, calls in the boardroom.

Where is coverage needed?

List the areas, and any that do not need coverage.

Is outdoor coverage needed?

- ☐ Yes ☐ No

Is a separate guest network needed?

- ☐ Yes ☐ No

Bands to design for (tick all that apply)

- ☐ 2.4 GHz ☐ 5 GHz ☐ 6 GHz

Target signal strength at the edge of coverage (choose one)

- ☐ -65 dBm or better
- ☐ -67 dBm or better
- ☐ -70 dBm or better
- ☐ -72 dBm or better
- ☐ Other: _____

Agree the target first. Many designers aim for -67 dBm or better where people make voice or video calls, and -70 dBm or better for general use. These are common design figures, not a legal standard, and the access point maker may publish its own.

3. The building

What the signal has to get through, and what it competes with.

Type of building (choose one)

- ☐ Office
- ☐ School or college
- ☐ Warehouse or industrial
- ☐ Shop or retail
- ☐ Hotel or hospitality
- ☐ Healthcare
- ☐ Housing block
- ☐ Outdoor site
- ☐ Other: _____

Number of floors to cover

What are the walls and obstructions made of? (tick all that apply)

- ☐ Plasterboard or stud partitions
- ☐ Brick or block
- ☐ Concrete
- ☐ Metal cladding or foil-backed insulation
- ☐ Glass partitions
- ☐ Lift shafts or stairwells
- ☐ Racking with stock
- ☐ Fire doors kept closed
- ☐ Other: _____

Ceilings (choose one)

- ☐ Suspended tile
- ☐ Solid plasterboard or concrete
- ☐ Open to the roof or soffit
- ☐ Mixed

Typical ceiling height (m)

Possible sources of interference seen (tick all that apply)

- ☐ Neighbouring Wi-Fi networks
- ☐ Microwave ovens
- ☐ Wireless cameras or video senders
- ☐ Bluetooth devices in large numbers
- ☐ Machinery or motors
- ☐ Radar nearby (5 GHz channel changes)
- ☐ Other: _____

Neighbouring networks seen at the worst spot

2.4 GHz channels. At 20 MHz width only channels 1, 6 and 11 do not overlap each other. If neighbours are on other channels, note which, as they will interfere with two of the three.

4. Existing network and cabling

What is there now and what the new access points can plug into.

Is there Wi-Fi on site now?

☐ Yes ☐ No

Make and model of the access points (if applicable)

Number of access points (if applicable)

How are they managed? (if applicable; choose one)

☐ Cloud managed ☐ Controller on site ☐ Each one on its own ☐ Not known

Comms room or cabinet the access points will connect to

Do the switches have spare PoE ports for the access points?

☐ Yes ☐ No

PoE standard on the switches (choose one)

☐ 802.3af (PoE) ☐ 802.3at (PoE+) ☐ 802.3bt (PoE++) ☐ No PoE ☐ Not known

PoE power at the switch port. 802.3af supplies up to 15.4 W, 802.3at up to 30 W and 802.3bt up to 60 W or 90 W depending on type. Check the data sheet for what the chosen access point needs to run all its radios.

Existing data cabling (choose one)

- ☐ Cat5e
☐ Cat6
☐ Cat6A
☐ Fibre between cabinets only
☐ None
☐ Not known

Internet speed, download (Mbps)

Internet speed, upload (Mbps)

5. Area by area readings

One entry for each room or area you measure.

Measure where people actually use their devices, with doors closed as they would normally be. Signal strength is a negative number: -60 dBm is stronger than -75 dBm.

Areas measured (copy this block for each one)

Room or area *

Floor

How is the area used? (choose one)

- ☐ Open plan desks
- ☐ Meeting room
- ☐ Classroom
- ☐ Warehouse aisle
- ☐ Shop floor
- ☐ Reception or public area
- ☐ Bedroom or flat
- ☐ Corridor or stairwell
- ☐ Outdoor
- ☐ Other: _____

People at the busiest time

Strongest signal (dBm)

Enter it with the minus sign, for example -68.

Signal to noise ratio (dB)

Band measured (choose one)

- ☐ 2.4 GHz ☐ 5 GHz ☐ 6 GHz

Speed test, download (Mbps)

Speed test, upload (Mbps)

Result against the target (choose one)

- ☐ Meets the target ☐ Marginal ☐ Does not meet the target ☐ Not measured

If applicable: Weaker than -75 dBm. Most devices will struggle to hold a good connection here.

Notes

Dead spots, drop-outs when moving, what blocks the signal.

Photos of the area (photos: attach, or note the file names)

Areas measured (worked out automatically in the app)

Areas that do not meet the target (worked out automatically in the app)

6. Proposed access point positions

One entry for each new or moved access point.

Access point positions (copy this block for each one)

Reference on the plan

Location *

Indoor or outdoor (choose one)

☐ Indoor ☐ Outdoor

Mounting (choose one)

☐ Ceiling ☐ Wall ☐ Pole or mast ☐ Desk or shelf

Mounting height (m)

Cable route back to the cabinet

Estimated cable length (m)

If applicable: Long cable run. Structured cabling standards allow 90 m of fixed copper cable, and 100 m once patch leads are added. Plan a nearer cabinet, a fibre link or a PoE extender for this position.

Does it need a new cable?

☐ Yes ☐ No

Photos of the position (photos: attach, or note the file names)

Access points proposed (worked out automatically in the app)

Total cable (m) (worked out automatically in the app)

7. Access and safe working

What the install team needs to know before they arrive.

Hours the work can be done

For example out of hours only, or term time only.

Access restrictions

Permits, inductions, escorts, parking, keys, areas that need notice.

Will any of the work be at height?

☐ Yes ☐ No

Access equipment needed (if applicable; choose one)

- ☐ Step ladder
☐ Podium steps
☐ Mobile tower
☐ MEWP or scissor lift
☐ Not decided
☐ Other: _____

Was the building built before 2000? (choose one)

☐ Yes ☐ No ☐ Not known

Have you seen the asbestos register for the areas where you will drill or work above ceilings? (if applicable; choose one)

☐ Seen ☐ Asked for, not received ☐ Not asked for

If applicable: Asbestos. Buildings built before 2000 can contain asbestos. Get the asbestos register from the person in charge of the building before anyone drills, fixes to walls or lifts ceiling tiles.

Other hazards the install team should know about

8. Summary and sign-off

What you found and what happens next.

Overall result * (choose one)

- ☐ Coverage meets the requirement
☐ Changes needed to the existing network
☐ New design needed

Recommendations

Next steps and who will do them

Surveyor name

Surveyor signature