IPTel Solutions

Network Engineering Excellence

WI-FI AP ESTIMATE

Your Wi-Fi Access Point Estimate

Access points · PoE · Switching · Channel plan

Request a Free Quote →

Book a Call with Mark →

Prepared by IPTel Solutions

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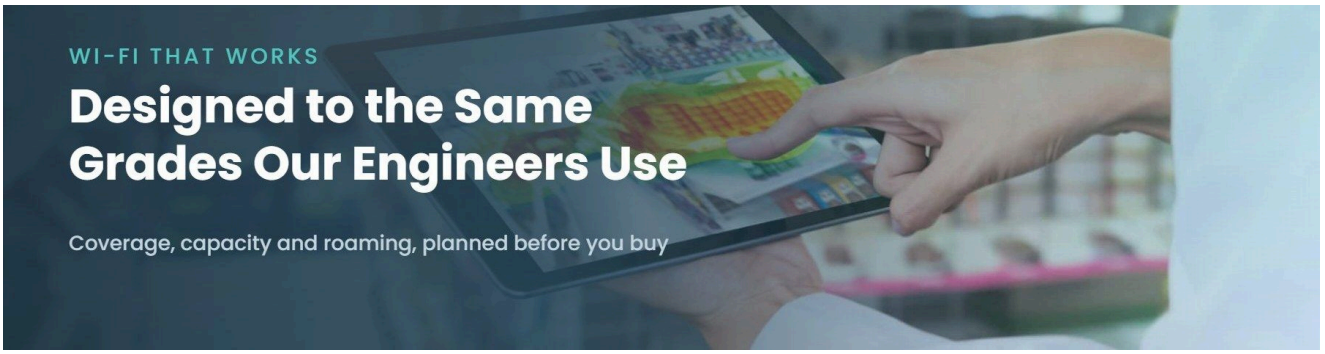
01

WI-FI AP ESTIMATE

Your Estimate at a Glance

Thanks for using the IPTel Wi-Fi AP Estimator. Here is the full access point estimate for your building, based on the same survey grades our Cisco wireless engineers design to.

ACCESS POINTS	POE SWITCH PORTS	POE POWER BUDGET
20	**20**	**640 W**
Likely range 17-24	One per access point	Planning figure



Your Site

The details you entered. Everything in this report is calculated from them.

Building type	**Office**	Survey grade	**Voice Grade**
Floor area	**1,500 m²**	Floors	**2**
Peak users	**120**	Wi-Fi generation	**Wi-Fi 7**
Management	**Cisco Meraki (cloud dashboard)**		

02

ACCESS POINTS AND HARDWARE

Your Access Points and Hardware

How many access points each floor needs, and the hardware it takes to run them.

Access Points by Floor

Each floor is sized on whichever needs more access points: the area to cover at your survey grade (Area), or the number of devices to carry at the busiest time (Devices).

FLOOR	GRADE	AREA M²	PEOPLE	CEILING	SIZED BY	APS
Ground floor	Voice	750	60	2.4 m	Area	**10**
Level 1	Voice	750	60	2.4 m	Area	**10**
Total		**1,500**	**120**			**20**

These figures are an estimate based on the information supplied. A predictive survey is needed to confirm the AP quantity for each floor. **Learn about our Wi-Fi surveys and RF design →**

Indicative Hardware List

A starting bill of materials based on your answers. Final models, licensing and quantities are confirmed in the design.

ITEM	SUGGESTED MODEL OR SPEC	QTY
Indoor access points	Cisco CW9172I	**20**
AP licences	Meraki / Cisco Networking Subscription	**20**
PoE switch ports	2.5 Gbps mGig, PoE+ / UPOE	**20**
Spare switch ports (about 10%)	For growth and spares	**2**
Mounting kits	Ceiling, wall or drop-pole bracket	**20**

About This Hardware

The access point models we suggest for your site, and why. Final models and licensing are confirmed once we see your floor plans.

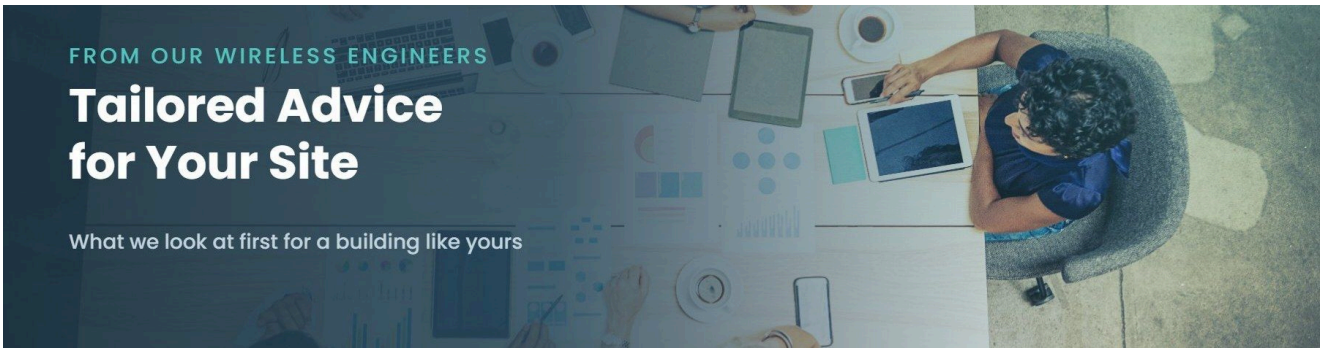
- Cisco Wireless CW9172I: mainstream Wi-Fi 7
- Managed from the Meraki cloud dashboard. Cisco's current Wi-Fi 6E and 7 access points can run either way.

03

TAILORED ADVICE

Advice for Offices

Every building type and survey grade has its own traps. Here is what our wireless engineers look at first for a site like yours.



Offices

Meeting rooms, boardrooms and training rooms carry the heaviest load, so they usually earn their own access point rather than sharing one with the corridor outside. Teams and Webex calls need devices to roam cleanly between APs, which is why we design offices to voice grade.

Open-plan floors look easy, but glass meeting pods, lift cores and kitchens all change how signal travels. Where the APs go matters as much as how many you buy.

Before You Buy

Check that your switches have the PoE budget and multi-gig ports for the new access points, and that cabling to each AP location is Cat6A where you want 2.5 Gbps or faster.

Neighbouring networks, Bluetooth and older 2.4 GHz devices all add interference, so channel planning and AP power settings matter as much as the AP count.

Your Survey Grade

Voice Grade is our default. Every spot is covered by at least two APs at a strong signal level, so phones and Teams calls roam without dropping. Getting there depends on AP placement at corridor junctions, lifts and stairwells, which is exactly what a predictive design checks.

Placement around building features that block signal is very important. Lift cores, stairwells, fire doors, concrete and block walls and metal-clad rooms all cast shadows, so APs go on the corners of these features where a phone keeps line of sight as it moves past. Get this wrong and calls drop in exactly the places people walk and talk.

04

DESIGN NOTES

Channel Plan and Things to Note

The settings we would start from, and the assumptions behind this estimate.

Channel Plan (Australia)

Suggested channel widths for each band. Wider channels are faster but leave fewer channels to reuse, so we balance speed against interference.

BAND	SUGGESTED WIDTH	NOTES
2.4 GHz	**20 MHz**	Channels 1, 6 and 11 only. Consider turning 2.4 GHz off on some APs to reduce interference.
5 GHz	**40 MHz**	Channels 36–64, 100–116, 132–144 and 149–165; 120–128 are not used in Australia. Use the DFS channels (52–64, 100–116, 132–144) only if all your client devices support DFS, and note APs leave them when they detect radar. Many devices don't support channel 165, so check before using it.
6 GHz	**40 MHz or wider**	5925–6585 MHz: up to 33 × 20, 8 × 80 or 4 × 160 MHz channels. Indoor APs run at low-power indoor (LPI) limits of 24 dBm EIRP; Australia has no standard-power (AFC) mode yet. WPA3 is required. Set every AP to the Australian regulatory domain (e.g. Cisco -Z).

IPTel channel widths: 2.4 GHz always 20 MHz; 5 GHz 40 MHz indoors and 20 MHz outdoors; 6 GHz 40 MHz or wider. Check ACMA rules at design time.

Things to Note

Assumptions behind this estimate, and points to check for your site before you buy.

- These figures are an estimate based on the information supplied. A predictive survey is needed to confirm the AP quantity for each floor.
- PoE draw depends on the access point model selected, so the power budget is an estimate only. Typical access points draw between 30 W and 60 W each.

- Signal bleeds between floors, so APs on adjacent floors are staggered rather than stacked. Atria and open stairwells need extra care.
- Wi-Fi 6E and 7 access points perform best with 2.5 Gbps (mGig) switch ports and 802.3bt (PoE++/UPOE) power on some models. Check your existing switches.
- Add a row with the External or Car Park grade for outdoor areas or car parks. Lifts and stairwells need separate design.

This is a planning estimate only. Walls, ceiling heights, interference and how people use the space all change the final design. A predictive survey confirms exact AP placement.

05

NEXT STEPS

From Estimate to Real Design

This estimate is a starting point. Here is how we turn it into a predictive RF design you can build from.

WHAT YOU GET

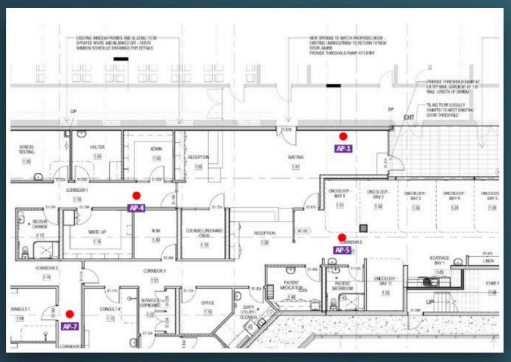
Your Predictive RF Design Deliverables



1 Design report



2 Coverage heatmaps



3 Wi-Fi markup (AP locations)

1
Send Us Your Floor Plans

We measure from your plans to accurately scope and quote your design. Professional Wi-Fi design places every AP for your building, not by rule of thumb, so coverage and roaming work from day one.

2
You Get a Free Quote

A free, no-obligation quote for a predictive RF design of your site.

3
We Design It

Our engineers place every AP and check coverage and roaming for your survey grade. You receive a survey report and our unique IPTel Solutions Wi-Fi Markup, which makes life easier for your chosen cabler.

We also recommend a pre-deployment survey: we put a test AP on site to confirm the design against your real walls and ceilings before any cabling goes in. **Learn about pre-deployment surveys →**

If you need more help, we also offer a turnkey, end-to-end service to design, deliver and deploy your Wi-Fi, including cabling and AP installation.

HOW IPTEL CAN HELP

Send us your floor plans and we will place every AP, check roaming paths and give you a heatmap before you commit to hardware.

Quotes are free and there is no obligation.

Request a Free Quote →

Book a Call with Mark →

06

WORKING WITH IPTEL

How IPTel Can Help

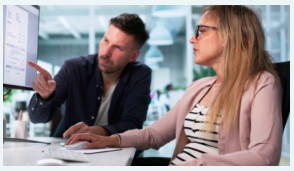
IPTel Solutions is a Cisco wireless specialist. We survey, design, install and manage Wi-Fi for offices, hospitals, warehouses, schools and campuses across Australia.



Wi-Fi Surveys

Predictive, pre-deployment and validation surveys using Ekahau, so APs go in the right place first time.

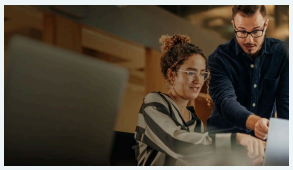
Wi-Fi survey services →



Design and Deployment

Cisco Catalyst and Meraki wireless, designed to our survey grades and installed by our own engineers.

Talk to an engineer →



Managed Services

Cisco Powered managed Wi-Fi, LAN and SD-WAN with proactive monitoring and support.

Managed services →



Equipment Supply

Cisco and Meraki access points, switches and licensing from our online store.

Visit the IPTel store →

SERVICE

Already Have Wi-Fi That Isn't Performing?

Wi-Fi Assurance Review

More access points won't always fix it. Dropouts, poor roaming and slow speeds usually come from RF, client or configuration problems. Our Wi-Fi Assurance Review finds the root causes, and we typically find **6–8 root-cause issues** per site.

1. **Wi-Fi diagnostic survey:** onsite RF measurements with heatmaps across six key metrics
2. **End-client debug:** real roaming events captured from your own devices
3. **Configuration review:** your settings checked against Cisco and industry best practice

Find out more about the Wi-Fi Assurance Review →

07

KEEP READING

Useful Reading From Our Blog

Want to go deeper before you talk to us? These articles from our wireless engineers explain the thinking behind this estimate: survey grades, predictive design, channel tuning and when to upgrade to Wi-Fi 7.



Wi-Fi Grades Explained →

How data, voice and location grades change the number of APs you need.



Wi-Fi Surveys →

Predictive, pre-deployment and validation surveys compared.



Predictive Design and Heatmaps →

What a predictive design shows you before you buy any hardware.



RF Tuning →

Channel and power tuning that improves Wi-Fi without adding APs.



Wi-Fi 7 →

What Wi-Fi 7 brings, and when it makes sense to upgrade.



Increasing Access Point Density →

When adding access points helps, and when it makes things worse.

FREE DOWNLOAD

The Top 8 Secrets to Great Wi-Fi

Our insider's guide to getting Wi-Fi right the first time, from survey grades and AP placement to channel planning and roaming.

Download the Top 8 Secrets to Great Wi-Fi →

08

GET IN TOUCH

Contact Us

Ready to turn this estimate into a design, or just want a second opinion? Call or email our team, or visit one of our offices. We work on projects right across Australia, and quotes are always free.

IPTel Solutions

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