

Installing a 5 and 6 GHz wireless access system? Here's what you need to know.

Radio Local Area Networks (RLANs) are radio systems which allow the extension of a local area computer network without needing cables (e.g. wireless internet access). RLANs are intended to support smaller geographic areas, wifi hotspots, or wireless networks within a home.

RLANs are also known as Wireless LANs (WLANs) and Wideband Data Transmission Systems.

Correct installation will depend on the equipment's location as well as the power limits.

Make sure you are using the right equipment for your needs... with the right settings:

	Band & frequencies	Maximum power limit	Will I need a licence?	Must comply with
Indoor	Band A: 5150-5350 MHz	200 mW - no fixed outdoor or airborne use, DFS* required above 5250 MHz	No	IR2030
	Band C: 5725-5850 MHz	200 mW - no fixed outdoor or airborne use		
	Band D: 5925-6425 MHz	250 mW - no outdoor or airborne use		
	Band D: 5925-6425 MHz	25 mW - no fixed outdoor or airborne use		
Outdoor	Band B: 5470-5730 MHz	1 W - no airborne use, DFS and TPC* required	No	IR2030
	Band C: 5725-5850 MHz	4 W - Must hold a 5.8 GHz licence and all terminals must be registered. DFS and TPC*	Yes	IR2007
	Band D: 5925-6425	Maximum mean EIRP density of 12.6mW/MHz in any 1 MHz band.	No	IR2030

* DFS stands for Dynamic Frequency Selection. TPC stands for Transmit Power Control

The **Interface Requirements (IRs)** specify the technical standards and conditions that must be met in order for your equipment to be legal; you might also need a licence. Different IRs apply depending on which spectrum the RLAN equipment is operating on.

For Band A and Band B (the **5150-5730 MHz** band), you need to use [IR2030](#).

The IR also covers low-power RLANs using Band C (**5725-5850 MHz**) and using the lower 6GHz Band D (**5925 – 6425 MHz**). No licence is needed for these uses.

Higher-power and fixed outdoor RLANs in use of Band C will require a **licence**, and must also comply with [IR2007](#).

Get Licensed

Frequently Asked Questions

What will Ofcom do to assess compliance in the field?

Ofcom Spectrum Engineering Officers will test compliance following the report of a spectrum interference complaint, or through a proactive inspection.

In either circumstance, we will look to see if technical standards and conditions, including licensing or licence-exempt criteria, are met.

What happens if I get something wrong?

Equipment operating in Bands A, B, C and D will be lawful where the required technical standards and conditions of use are met.

Standard RLAN equipment settings should not be altered or deliberately changed.

Certain usage in Band C also requires a licence for operation of equipment in the band (for example where higher transmit power is used or where a fixed outdoor service is used). Unlicensed or unregistered use of RLAN equipment in Band C is unlawful.

Additionally, the installation and use of RLAN equipment in Band A, B, C or D that does not meet the required technical standards and conditions may mean risk of prosecution under the Wireless Telegraphy Act 2006. If found guilty, you could face an unlimited fine and up to a year in prison.

The principles of enforcement

Ofcom's approach to enforcement is to enact firm and impartial enforcement underpinned by the principle of proportionality.

Ofcom will choose the most proportionate response needed to secure compliance with the law, including to issue warnings, serve notices, issue fixed penalty notices or prosecute (or report to the Procurator Fiscal with a view to prosecution in Scotland).

Technical details

Each band has its own maximum allowed effective radiated power output (e.i.r.p) and specific rules as to where it can be used and whether a license is needed.

Band	Maximum transmit power limit
Band A1 5150-5250 MHz	Maximum mean e.i.r.p. of 200 mW Maximum mean e.i.r.p. density of 10mW/MHz in any 1 MHz band Deployment restrictions: Indoor use only and Aeronautical mobile use not permitted. Where Band A1 is used, Transmit Power Control is assumed to be implemented.
Band A2 5250-5350 MHz	Maximum mean e.i.r.p. of 200 mW Maximum mean e.i.r.p. density of 10mW/MHz in any 1 MHz band Deployment restrictions: Indoor use only and Aeronautical mobile use not permitted. Where Band A2 is used, Dynamic Frequency Selection and Transmit Power Control are assumed to be implemented.
Band B 5470-5730 MHz	Maximum mean e.i.r.p. of 1W Maximum mean e.i.r.p. density of 50mW/MHz in any 1 MHz band Deployment restrictions: Aeronautical mobile use not permitted, Indoor/Outdoor use permitted. Where Band B is used, Dynamic Frequency Selection and Transmit Power Control are assumed to be implemented.
Band C 5725-5850 MHz	Maximum mean e.i.r.p. of 200mW Maximum mean e.i.r.p. density of 10 mW/MHz in any 1 MHz band Deployment restrictions: Fixed outdoors use not permitted. Aeronautical mobile use not permitted.
Band C (licensed and registered) 5725-5850 MHz	Maximum mean e.i.r.p. of 4W Maximum mean e.i.r.p. density of 23dBm/MHz Deployment restrictions: Fixed use only, Light-licensing. This requires a minimum payment and registration of each deployed terminal
Band D 5925-6425 MHz	Maximum mean EIRP of 250mW for Low Power Indoor (LPI) 25mW for Very Low Power (VLP) Deployment restrictions: Fixed outdoors use not permitted. Aeronautical mobile use not permitted. LPI Indoor use only and VLP indoor and mobile outdoor use permitted. Maximum mean EIRP density of 12.6mW/ MHz in any 1 MHz band