

## Optimising Your WiFi Location

This guide paper has been written to assist users in configuring their WiFi for maximum effectiveness, for both fixed locations or to help you understand how to site if not yet fixed.

### Optimising your Wi-Fi location: Quick Checks



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| 1 | Find a central location:                           | Place it in the middle of the office, rather than at one end. Solid surfaces degrade the Wi-Fi signal and this degrades further every time the signal crosses through walls.  |
| 2 | <b>Make sure it's away from</b> thick walls:       | The thicker the wall, the harder it is for the Wi-Fi signal to pass through and significant signal degradation should be expected.  |
| 3 | Avoid fitting it at floor level:                   | Try and position it on a shelf or table, otherwise part of the Wi-Fi signal will be lost through the floor.   |
| 4 | <b>Ensure it's visible:</b>                        | The Wi-Fi signals have better reach if in line of sight. The more you can see your router, the better the signal. If you put it in a cupboard, the Wi-Fi signal has to cross through objects and it will be degraded as a result. |
| 5 | Avoid windows:                                     | Place the router near a window and some of the signal will be lost to the outside.  |
| 6 | Avoid fitting in proximity to metal walls/objects: | Metal walls/objects can also considerably interfere with your Wi-Fi signal.   |
| 7 | Avoid fitting in proximity to Microwave ovens:     | Microwaves also use the same emission frequency than Wi-Fi (2.4 GHz). When you <b>use the microwave, it's literally</b> interfering with your Wi-Fi signal.   |

| Improving the Wi-Fi signal in a fixed location |                              |  |
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| 1  | Adjust your router's Aerial. | The aerials that ship with routers are called dipoles - they produce a circular 'omni' signal in the shape of a 3D doughnut, with the strongest segment of signal on the same plane as the router. This means if you are above or below the router, it's best to angle the aerial towards your position, so they're perpendicular. |
| 2  | Wi-Fi repeater               | A Wi-Fi repeater receives your existing Wi-Fi signal, amplifies it, then transmits the boosted signal onwards. With a Wi-Fi repeater you can effectively double the coverage area of your Wi-Fi network - reaching far corners of your home or office or different floors.   |
| 3  | Directional Aerial           | Directional Aerials must be aimed in the direction of the signal transmitter or receiver which can be for example use to boost the transmission distance.  |
| 4  | Change the Wi-Fi Channel     | Wireless routers can operate on a number of different channels, and optimally you want your router on a channel with as little interference as possible.   |

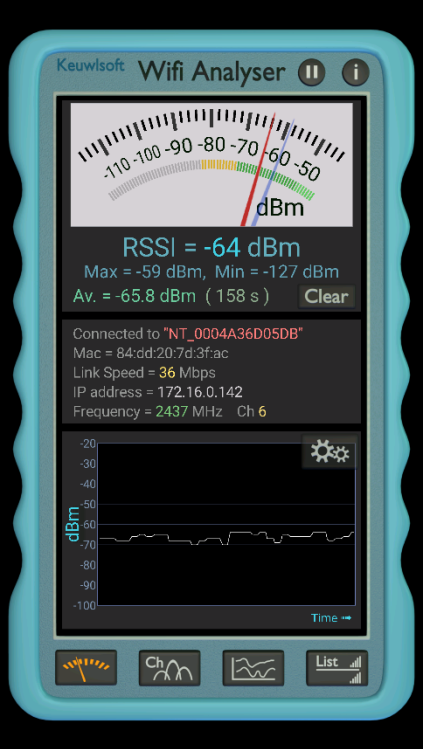
Optimising your Wi-Fi location: Software applications

HeatMapping

When installing a home or office network, you want to see exactly what the quality of coverage your Wi-Fi router provides (and whether you should move it, add another access point, or otherwise tweak your network).

Using a (free) software Wi-Fi HeatMap (such as [Ekahau HeatMapper](#) , or [Acrylic HeatMap](#)) provides detailed signal strength map layout of the office or home to ensure the optimum location, free from obstacles or interruptions.



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|  | <p data-bbox="858 324 1246 360">Wi-Fi Signal Strength Meter</p> <p data-bbox="699 600 1390 763">Wi-Fi Smart phone apps (such as <a href="#">NETGEAR Wifi Analytics</a> or <a href="#">WiFi Analyzer</a>) can be used to get detailed information about your measured placement signal strength, once a relative area has been selected.</p> <p data-bbox="699 801 1385 898">The minimum signal strength NetThings recommend for successful Display connection is greater than -64 dBm.</p> |
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