

WSPRlite Fault finding

WSPRlites generally work first time! However, if yours doesn't here are some things to check:

PC Connection

- WSPRlites are programmed via a USB port. The lead required is a common one that many people will have already - perhaps supplied with a mobile phone. Unfortunately many such leads are only suitable for charging the phone and do not support data. Suppliers do this to save money (2-core cable instead of 4-core, 4 connections instead of 8). It is not possible to tell visually which leads support data. While it is possible to check them with a multimeter, it's a bit fiddly.
- Often the easiest way to test the lead is using your mobile phone. Connect it to your computer using the lead and see if it is recognised as a USB device. Importantly, also check that you can actually "see" the phone on the computer (often as a USB drive). If your lead passes these simple tests it's "WSPRlite ready".
- If all else fails, over at SOTABEAMS we do stock an inexpensive lead that is guaranteed to support data.

Timing

- WSPRlite needs accurate timing to work (error of less than 1 second). It's a good idea to check your time source against another known accurate source such as the website <http://time.is>
 - there are various phone apps that give accurate time when connected to wifi.
 - customers have reported that some radio controlled clocks can be quite inaccurate if they have not received a time signal for a while.
 - Computer (PC) clocks are often inaccurate.

No spots

- Always start testing with your WSPRlite set to 200mW to maximise your chances of being spotted.
- Always use **the best antenna** that you have for your initial testing. Once you have it working, you can experiment with other lesser antennas with confidence.
- Make sure that your antenna is properly tuned up on the right band and is actually connected to the WSPRlite – check with your transceiver first! WSPRlite is not powerful enough to trigger auto tuners to work.
- At this point in the sunspot cycle (early 2017), 20m and 30m are often only open in daylight hours so you will probably only get spotted then. If you

want spots at night, 40m and 80m are much better choices – but will require use of an external low-pass filter such as ours – see www.sotabeams.co.uk.

DC Power

- If you are not seeing the LED showing either red or flashing green at the start of every even minute, the WSPRlite is probably not being powered. Some USB supplies (especially USB batteries) will switch off if the current being drawn is too low. Try another USB supply or use our special USB keep-alive load <http://www.sotabeams.co.uk/usb-battery-pack-keep-alive-load-kit/>
- If you have your WSPRlite connected to a 12 Volt source via a Power Conditioner, you may find that the 12 Volt source dips too low when you switch on other equipment. This happens in my shack when I switch on my HF transceiver. In this case the WSPRlite gets reset (LED flashes). It will need restarting.

Signal Quality

- When your WSPRlite shows a steady red light, it should be transmitting. Do listen to the transmission on a receiver to make sure that it sounds “clean”. It should sound like a pure tone. If it sounds more like a buzzer or a chain-saw, you will need to use a different USB supply. Some cheap unbranded USB phone charger emit voltage spikes that can damage your WSPRlite.

Frequency

- WSPRlite picks its exact frequency within the WSPR band at random each time it is reprogrammed for a different band. If another station is using that frequency aggressively (more than 50% repetition rate) or with high power, it will reduce the likelihood that you will be spotted – **this is rare however**. If you suspect this is happening, change your WSPRlite’s frequency by reprogramming it to another band then back to the band you want and it will choose a different frequency.

Support

Try asking for help on the WSPRlite Facebook group where a growing user community are happy to help <https://www.facebook.com/groups/607517072784534/>.

Failing that, feel free to contact Richard@sotabeams.co.uk for support; we are happy to help!