

WSPRlite fault finding – transmitting

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

This document covers problems with transmitting and being heard by WSPR receivers, there is a separate document covering problems with connecting to and configuring the WSPRlite.

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 <https://time.is/>

- there are various phone apps that give accurate time when connected to wi-fi.
- 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 <https://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 <https://www.sotabeams.co.uk/usb-battery-pack-keep-alive-load/>

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.

Further help

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 support@sotabeams.co.uk for support; we are happy to help!