

The Radio Hotel WSPR - A Whisper in the Aether

Guest visit by Steve Flowers - W2WF, of the Oak Forest Amateur Radio Club

WSPR is an acronym for “Weak Signal Propagation Reporter” ([WSPR](#)) and is pronounced like the word “Whisper”. That name is very appropriate since the power level of the signals that it works with can be very weak indeed: 5 Watts, 2 Watts, and even 1 Watt. WSPR is a module of the [WSJT-X](#) program and was created by a team led by Dr. Joe Taylor - [K1JT](#), Nobel Prize winning physicist who studies very weak signals originating from distant astronomical pulsars.

To use WSPR you need to first launch WSJT-X. I recommend that you use the most recent version of WSJT-X which at the time of this writing is version 2.3, though you can also use beta version 2.4. The next steps to take are: select Mode = WSPR, select the band that you want to operate in, select the power that you will be transmitting, and press “Enable Tx” to allow your transceiver to transmit. That's all.

The point to highlight is that your program will not set the transmission power in your transceiver, so you must manually set the power. This power level must be the same as what you've selected in the WSPR program. This way you'll be accurately reporting the power that your transmission used and that will be useful to those using this data for propagation research.

WSJT-X v2.4.0-rc1 by K1JT, G4WJS, K9AN, and IV3NWW

File Configurations View Mode Decode Save Tools Help

UTC	dB	DT	Freq	Drive	Call	Grid	dBm	mi
1430	1	0.7	10.140205	-1	N15F	EM70	30	603
1430	-28	0.2	10.140251	0	K1BZ	EM70	30	1233
----- 30m -----								
1432	-26	0.4	10.140165	0	NOUDM	DM78	23	944
1432	-10	0.1	10.140198	0	KR4VJ	EM66	37	669
1432	-21	1.0	10.140207	0	N8CVW	EN82	37	1118
1432	-20	0.1	10.140218	0	K5KIP	FM08	37	1106
1432	-28	0.1	10.140234	0	KV0S	EM38	23	631
----- 30m -----								
1434	-21	-0.3	10.140156	0	W00Y	EN71	30	999
1434	-29	0.1	10.140200	0	KG4ODC	EM85	23	813
1434	-24	0.2	10.140204	0	WA4GLH	EM75	37	715
----- 30m -----								
1436	-26	0.5	10.140189	0	K4RUR	EL98	37	850
1436	-23	1.0	10.140207	0	N8CVW	EN82	37	1118
----- 30m -----								
1438	-22	-0.4	10.140193	0	N6RVI	DM12	37	1319
1438	-24	0.2	10.140202	0	N7ROJ	DM09	30	1526
1438	-31	0.9	10.140207	0	N8CVW	EN82	37	1118
----- 30m -----								
1440	-25	0.3	10.140125	0	KN4GFG	EM91	33	846
1440	-5	0.7	10.140206	0	N15F	EM70	30	603

Stop Monitor Erase Decode Enable Tx Halt Tx Tune Menus

30m 10.138 700

42 dB

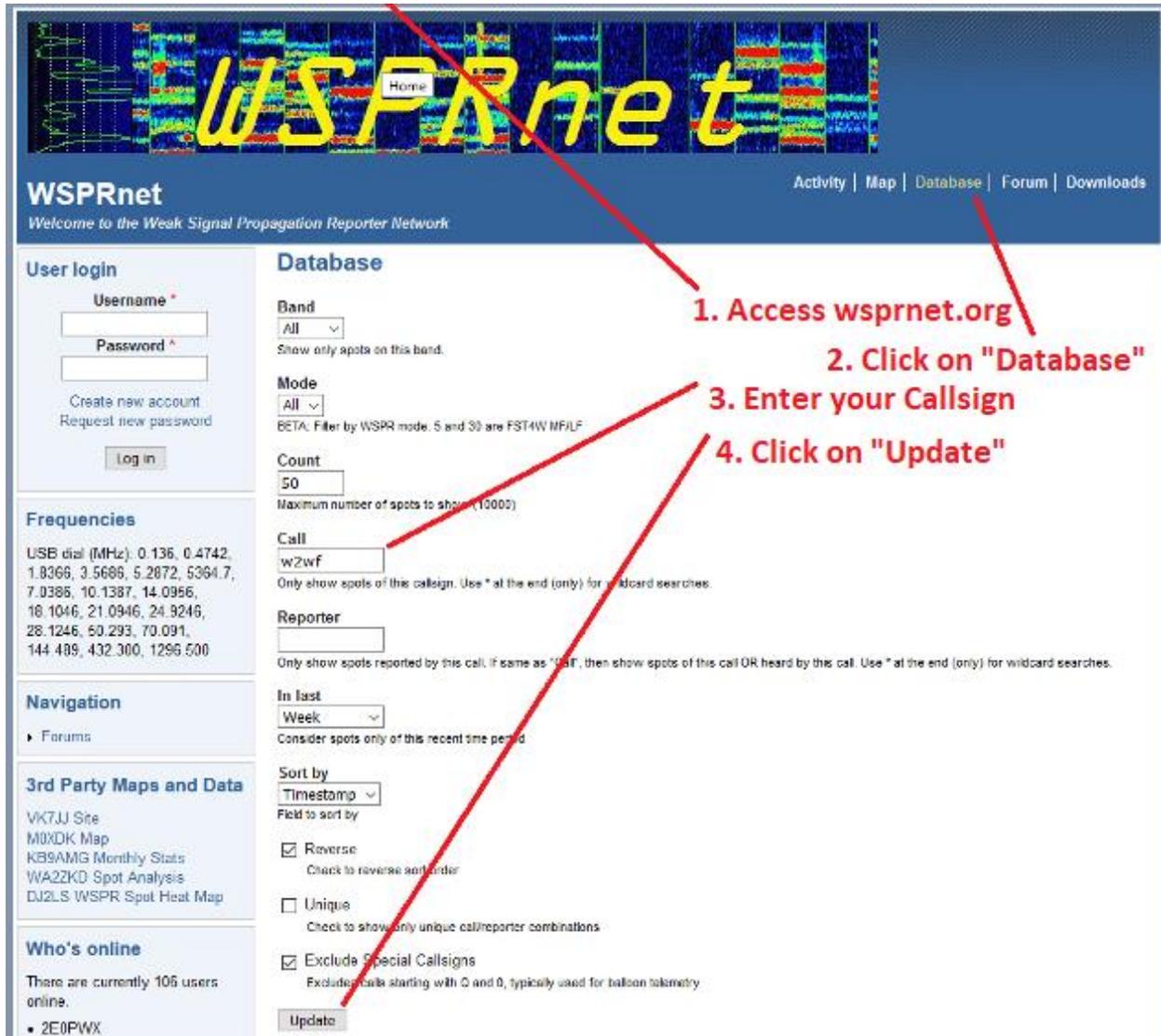
2021 Feb 09 14:43:18

0 dBm 1 mW
3 dBm 2 mW
7 dBm 5 mW
10 dBm 10 mW
13 dBm 20 mW
17 dBm 50 mW
20 dBm 100 mW
23 dBm 200 mW
27 dBm 500 mW
30 dBm 1 W
30 dBm 1 W

If your computer is connected to the Internet, then the WSPR program will automatically report the WSPR signals that your transceiver has picked up. Interestingly, the reports from stations around the world just like

yours get stored in the central wspnnet.org database. So your station in effect becomes a node in the global WSPR network. All other connected stations report the following: your received signal strength, the callsign of the station that detected your signal, their [Maidenhead](#) grid location, and their distance from you. You'll be surprised at how far away you're being heard!

To access your station's propagation data you'll need to go to the wspnnet.org website, click "Database", enter your Callsign under "Call", and click on "Update". This will return a page with your global signal reports!



WSPR doesn't support standard conversations, it only sends and receives transmissions to establish if propagation exists. The signal itself has a 6 Hz bandwidth and the WSPR protocol handles Signal-to-Noise (SNR) ratios of -28 dB in a total band width of 2500 Hz. Like other transmission modes of WSJT-X, time accuracy is very important so it's recommended that your computer is synchronized using programs such as [Dimension 4](#).

73 and hope that you make good contacts! Stephen (W2WF)

Thank you, Steve, for a great introduction to WSPR. To read more about WSPR, see QST, Nov 2010 **WSPRing Around the World** by K1JT, Joseph Taylor
Enjoy your hobby 73 Rick W5RH