

EF-ALLBAND-KW : Real-world trial

The half-wave end-fed antennas with a 49:1 unun provide an excellent multi-band HF antenna solution with easy installation, and with just the one wire extending down the garden, quite discrete. My neighbours do not even notice it.

Even portable they have a reputation of working really well, simple to throw a string over a tree (or portable pole) and hoist the wire up, giving a HF all-band solution.

We tested the new EF-ALLBAND-KW antenna in a *real live compromised installation* to show what it can really do, not just in an ideal situation.

Test Installation:

The antenna was installed in an L-shape, with the unun box on the house wall, the wire rising up to 30ft on a spider-pole, then down the garden with the end supported by a tree with a counterweight. So we have the proximity to the house, and near trees, and a bend in the antenna, and sloping – all these compromises to contend with. So these results are *real-world*, not marketing hype.

Tuning:

The grounding or counterpoise is important for this antenna, and as per the supplied instructions, there are several ways of going about this.

In the installation under test, the coax feeder outer was used as the counterpoise to keep to a minimal and discrete installation. What I found important was to make a coil in the coax at about 20.5M (1/4 wave) away from the antenna to choke the rf in the outer sheath, else it de-tuned the antenna.

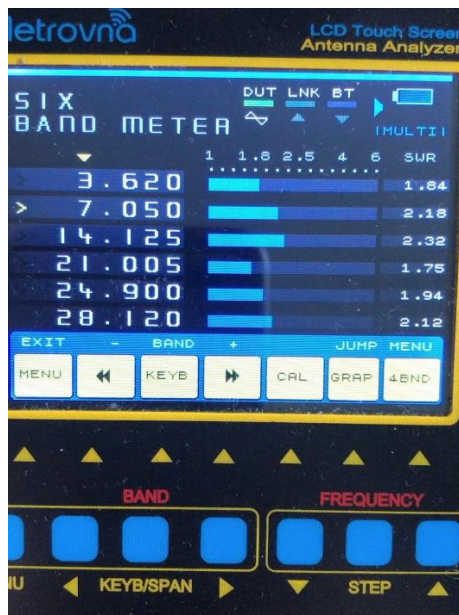
It should be noted that the antenna comes with instructions of how to optimise the natural resonance(s) of the antenna to suit your application. As default it is optimised towards the CW area of the bands, but the natural resonance can be lifted toward the SSB section if desired. But this is not necessary, especially if an AMU/tuner is used, or when using a Linear that can “tune” up to SWR of 3.

Findings:

It was found that this antenna can be used on most of the main bands without a tuner/amu, and as a high power antenna, makes it great to use with Linear amplifiers like the ACOM 1010 and 1500 which will happily match it, requiring no other tuning/AMU device.

The antenna can be easily matched more precisely using the internal AMU/tuner of a rig.

Being a high-power antenna, this can easily handle the UK 400w CW/SSB endlessly. Data I predict 350W-ish continuous. I hammered this with SSTV an 80M with no detectable change in antenna performance. (My 400W end-fed would quickly saturates it's ferrites at that frequency and would have to operate at about 30w). This vibroplex EF-ALLBAND-KW antenna I have not been able to saturate within UK power limits.



Using an AMU/ Tuner

When using an external AMU/Tuner, not only does the SWR "that the radio sees" improve, I have also successively bullied the antenna to work quite successfully on 6M, 30m, 60m and even top-band (160m). Obviously there are some notable losses operating in those bands, but it works. One has to be careful not to get the AMU too warm!

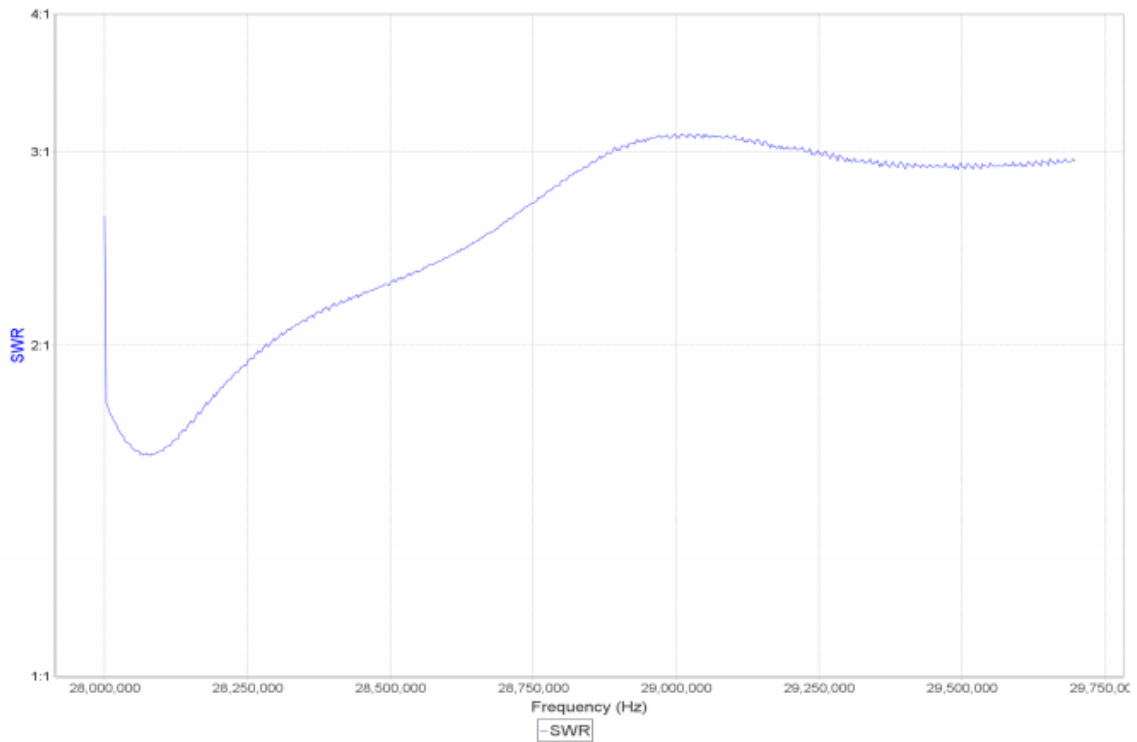
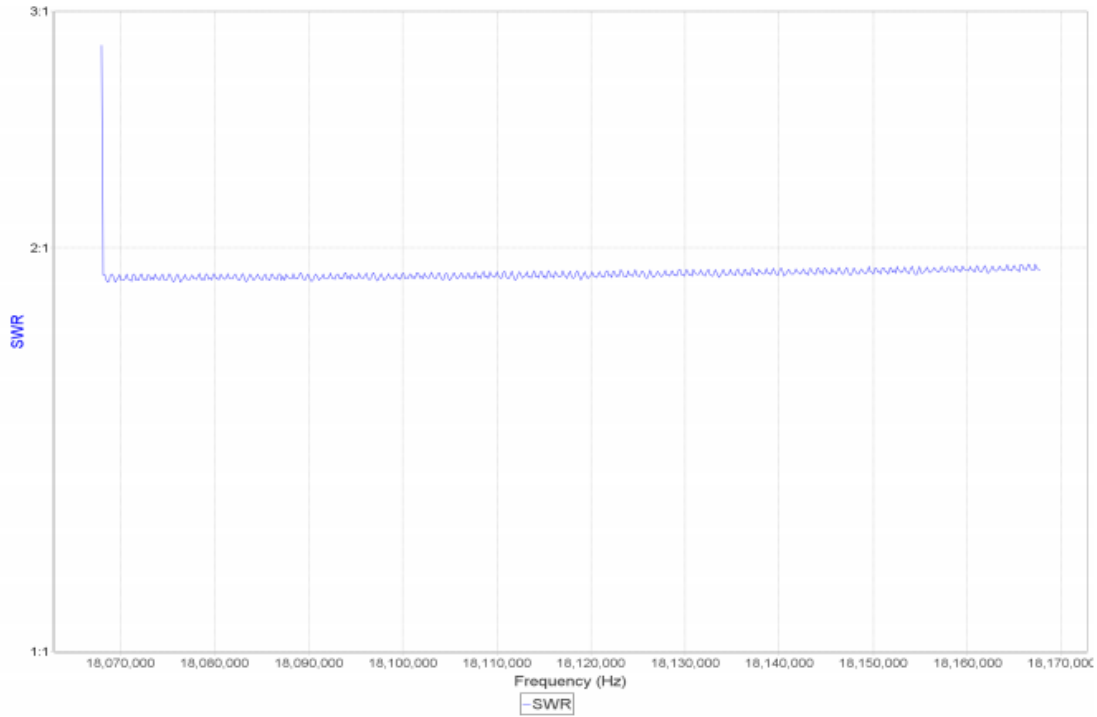
Overall conclusion

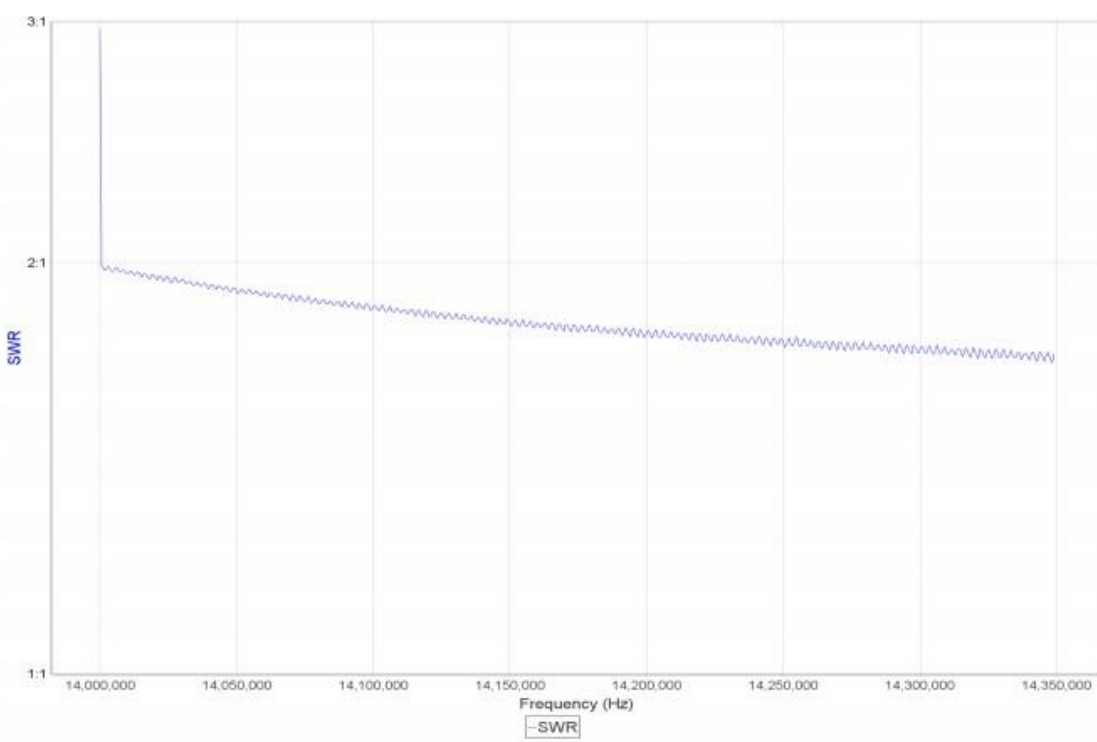
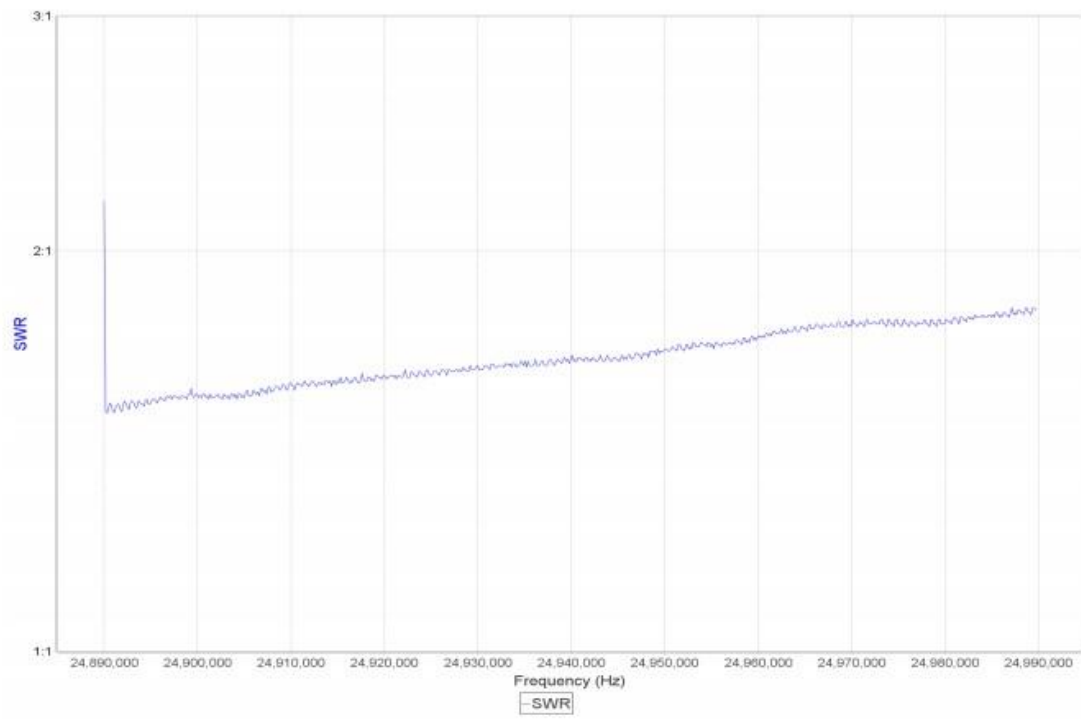
This is a brilliant antenna that really does work, and is **very forgiving** of less-than-ideal installations and portable use.

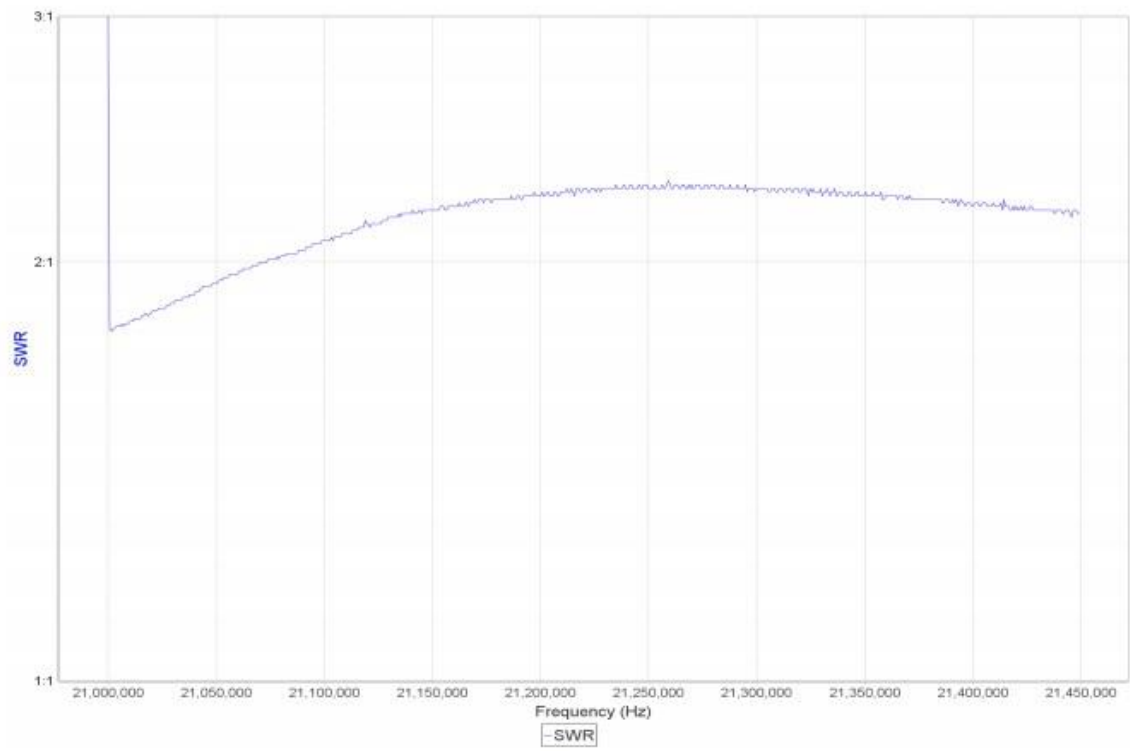
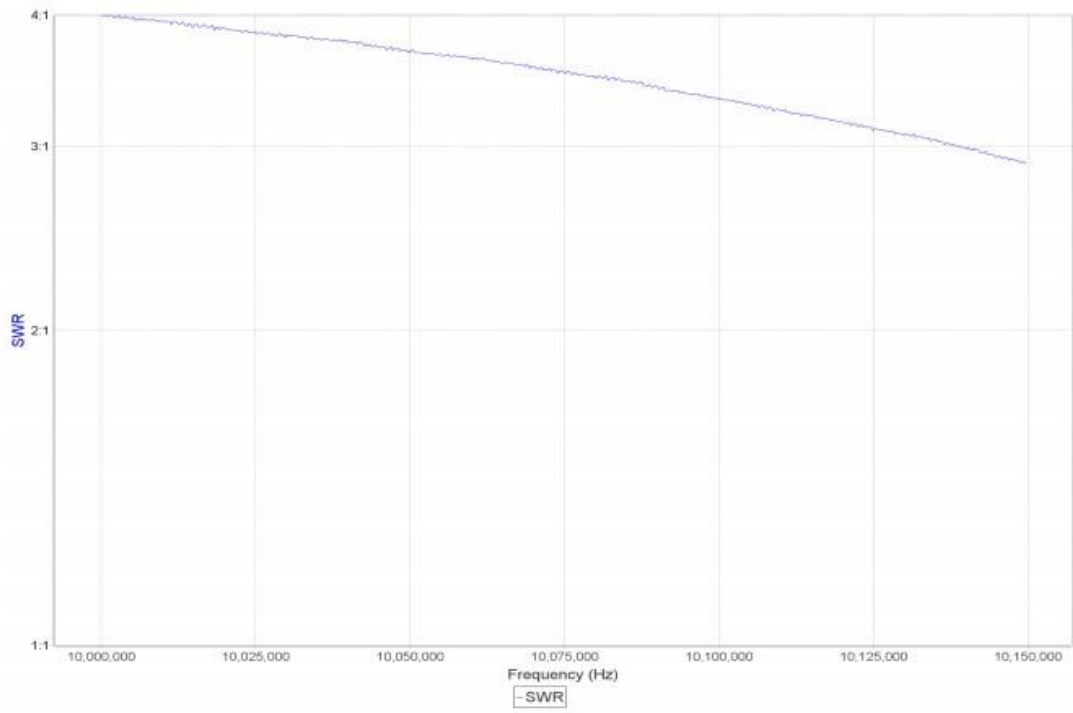
It is ideal for use with radios with no tuner, liner amplifiers, and radios with tuners. And quite resilient to saturation of the unun.

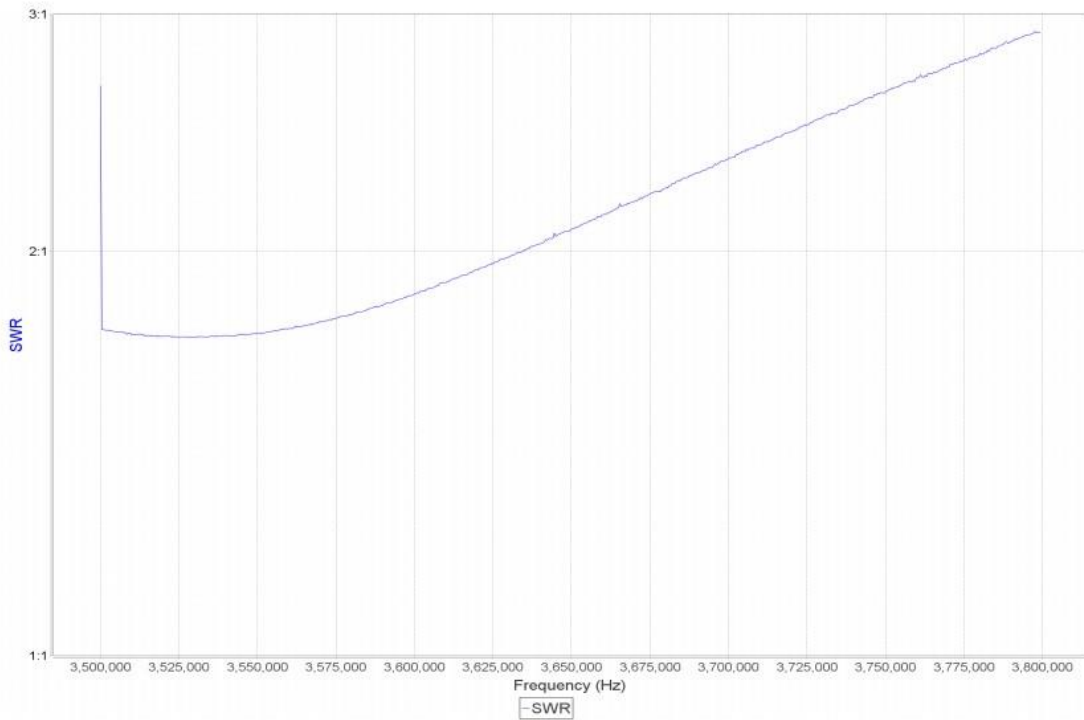
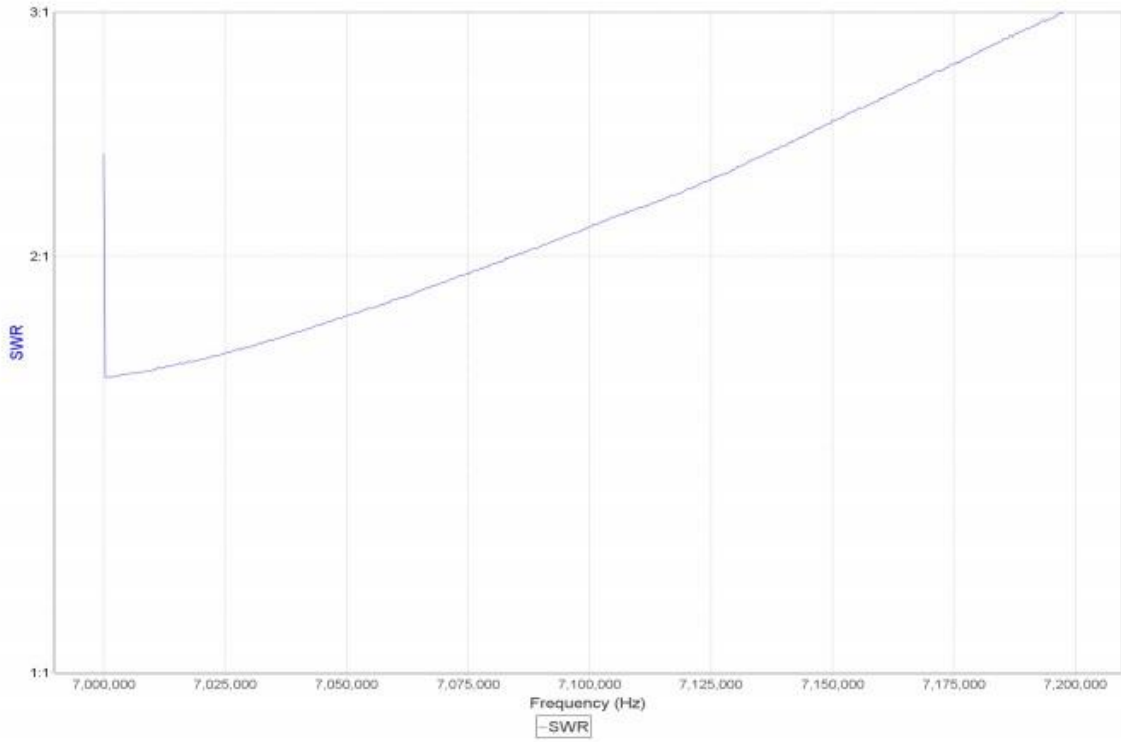
Measurements:

These are “out of the box” measurements in the installation above when using coax as the counterpoise, with a throttling choke of about 4 turns of coax about 8inch diameter (cable tied) about 20.5M away from the UNUN box.









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