

Horizontal Antenna with Vertical Polarization for the 2- meter Band

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At my vacation I gusted my friends at their cottage near 40-km from the city. On the second day I decided to try my FT51. Oops, nobody can copy me when I transmitted on to the transceiver's rubber duck. So I need an antenna that could take the 40 km.

Experimenters with cottage- brew YAGI and Twin Loop antenna was failed. However I newer give up. I found at the cottage:

- 10 meter aluminum wire in 4-mm diameter;
- 4 meters RG58 with connector for my transceiver;
- An old TV- antenna – most valuable thing there was a broadband transformer 1:4.

Figure 1 shows antenna what I made from the stuff. Antenna was fastened by nails to wooden strip. The strip was placed under the cottage roof. It is a classical Chireix antenna that does not require strictly tuning and has broadband passband.

The antenna is exceeded all my expectations. Antenna provided very good communication at radius 40- 45- km also I could open two repeaters at distance more the 50- km.

The MMANA file of the Horizontal Antenna with Vertical Polarization for the 2- meter Band may be loaded: [http:// www.antentop.org/018/rw4hx_018.htm](http://www.antentop.org/018/rw4hx_018.htm)

Figure 2 shows impedance of the antenna (antenna placed at 7- meter above the real ground). Figure 3 shows SWR of the antenna (antenna placed at 7- meter above the real ground). Figure 4 shows DD of the antenna (antenna placed at 7- meter above the real ground).

UR0GT is noticed, that the antenna would work fine at 10- meter Band. However at the band the antenna has input impedance near 50- Ohm. So, to do the antenna dual band a special ATU is needed. The Atu should work as transformer 1:4 at the 2- meter and as straight line at 10 meter.

Figure 5 shows impedance of the antenna (antenna placed at 7- meter above the real ground). Figure 6 shows SWR of the antenna (antenna placed at 7- meter above the real ground). Figure 7 shows DD of the antenna (antenna placed at 7- meter above the real ground).

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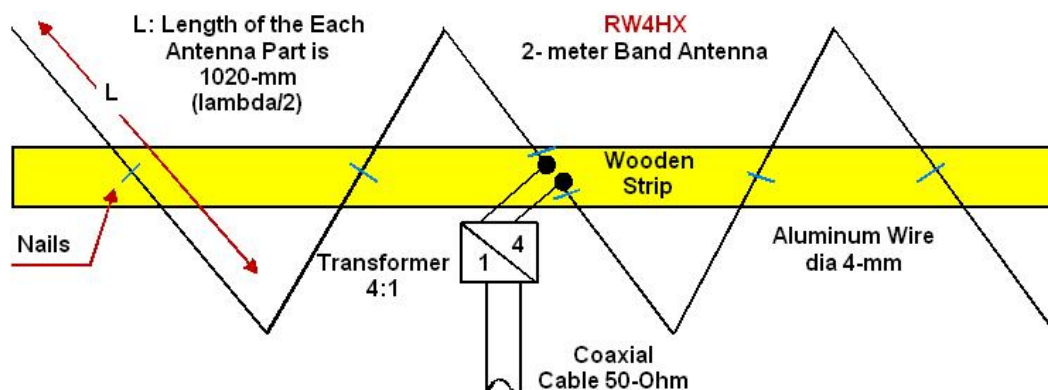


Figure 1 Horizontal Antenna with Vertical Polarization for the 2- meter Band

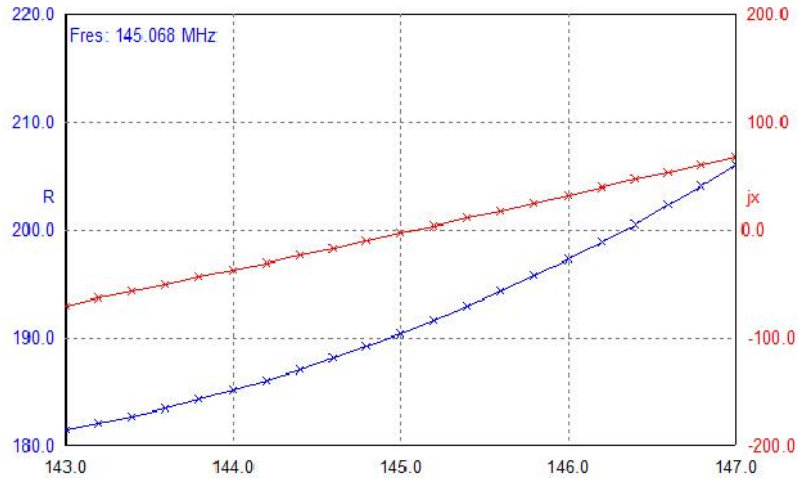


Figure 2 impedance of the Horizontal Antenna with Vertical Polarization at 2- meter Band

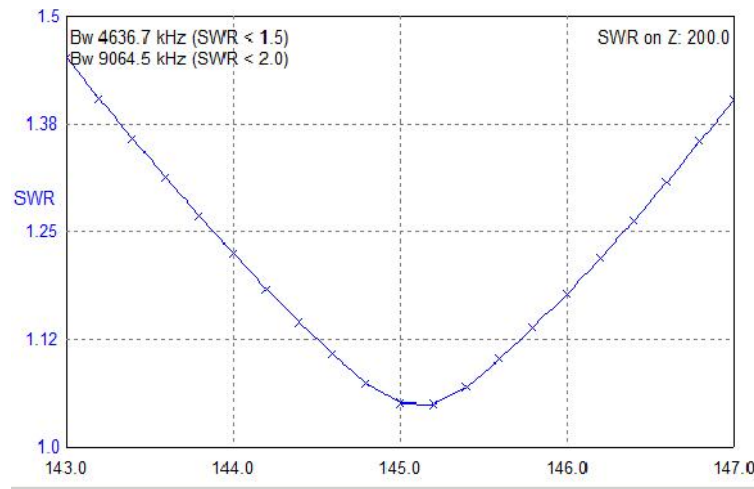


Figure 3 SWR of the Horizontal Antenna with Vertical Polarization at 2- meter Band

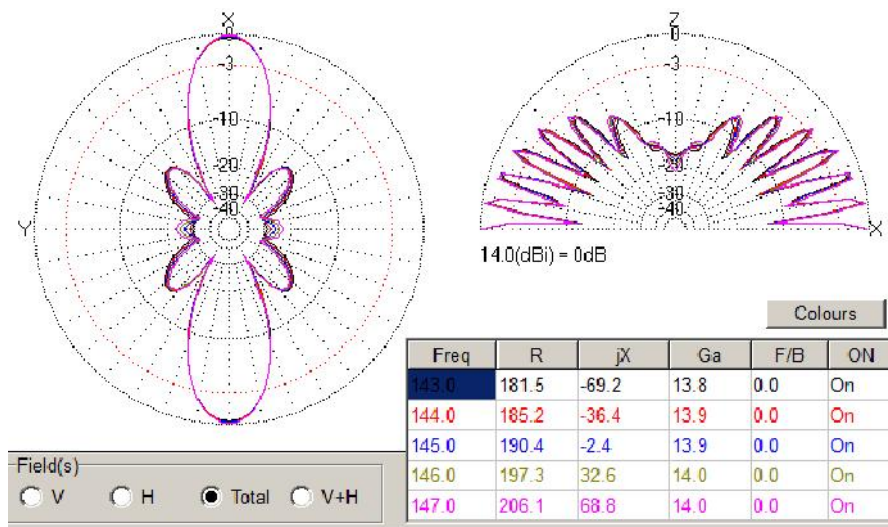


Figure 4 DD of the Horizontal Antenna with Vertical Polarization at 2- meter Band

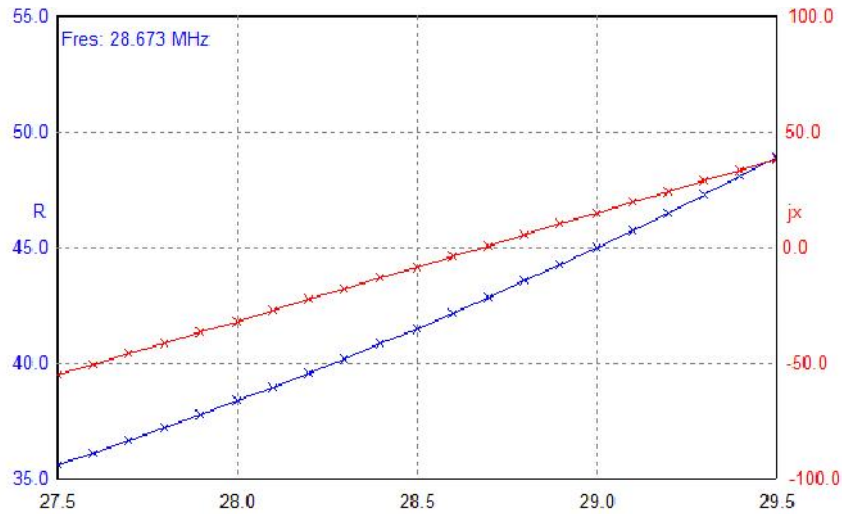


Figure 5 impedance of the Horizontal Antenna at 10- meter Band

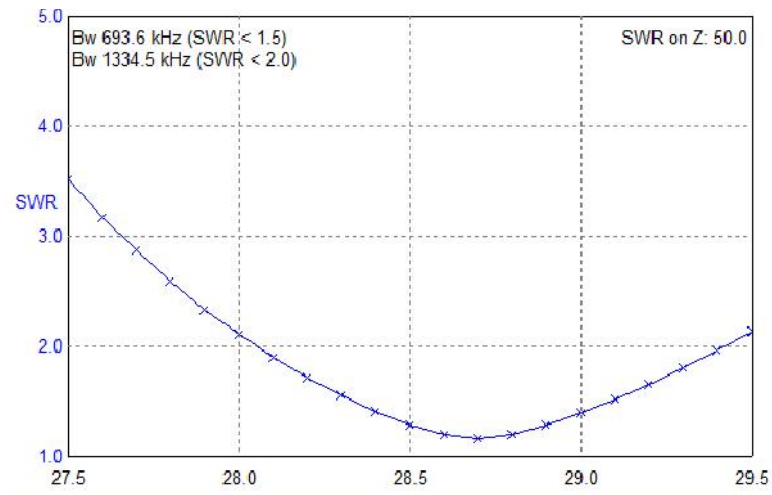


Figure 6 SWR of the Horizontal Antenna at 10- meter Band

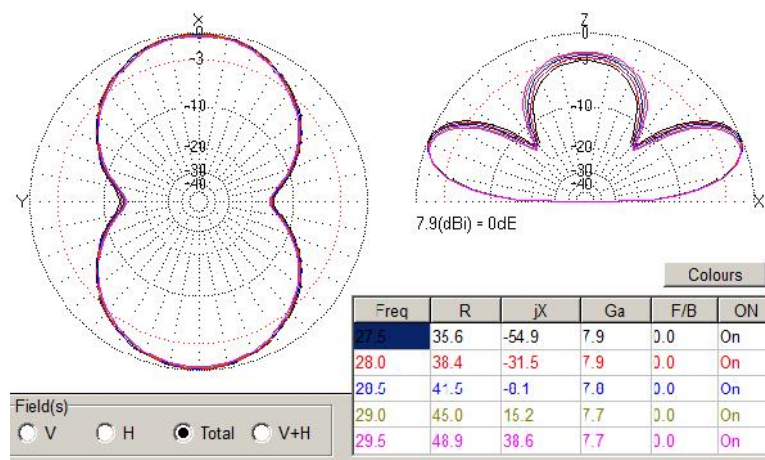


Figure 7 DD of the Horizontal Antenna at 10- meter Band