

BA- Butterfly Antenna

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Credit Line: www.cqham.ru

The antenna is a version of a shunt fed loop (Reference 1). However, the antenna has some advantage compare to a version from Reference 1.

1. Input impedance is closed to 50 Ohm.
2. The antenna has more narrow diagram directivity.
3. Easy to installation. It could be hanged between trees, trees and house, etc.

Figure 1 shows the antenna at a horizontal installation. Figure 2 shows the diagram directivity of the antenna at its height 5 meters over real ground. Mostly vertical polarization is at the installation. Figure 3 shows the SWR the antenna at its height 5 meters over real ground. Figure 4 shows input impedance the antenna at its height 5 meters over real ground. The plots were taken with help of MMANA (Reference 2).



UA9XBI

Radio club 'Arktika' Championship 2004

Photo Credit Line:

http://www.arktika.komi.com/Champ_2004.htm

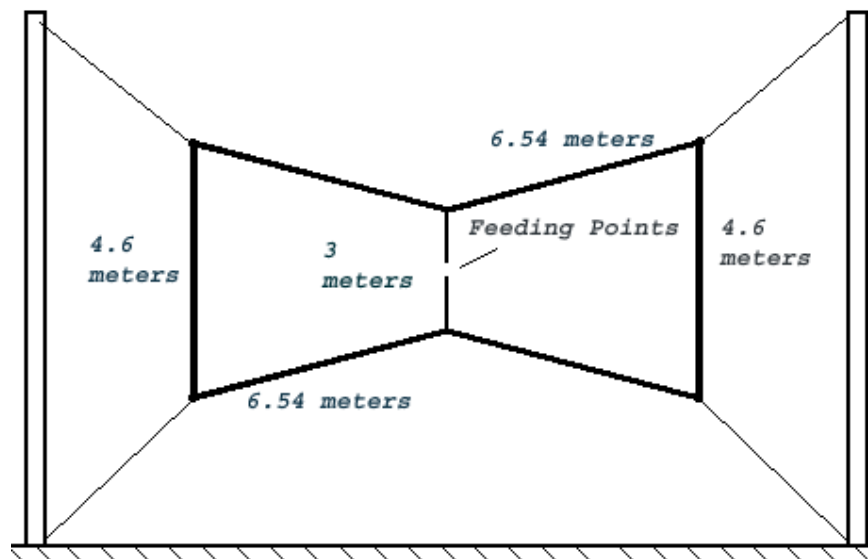


Figure 1 Butterfly Antenna at Horizontal Installation

<http://www.cqham.ru/>



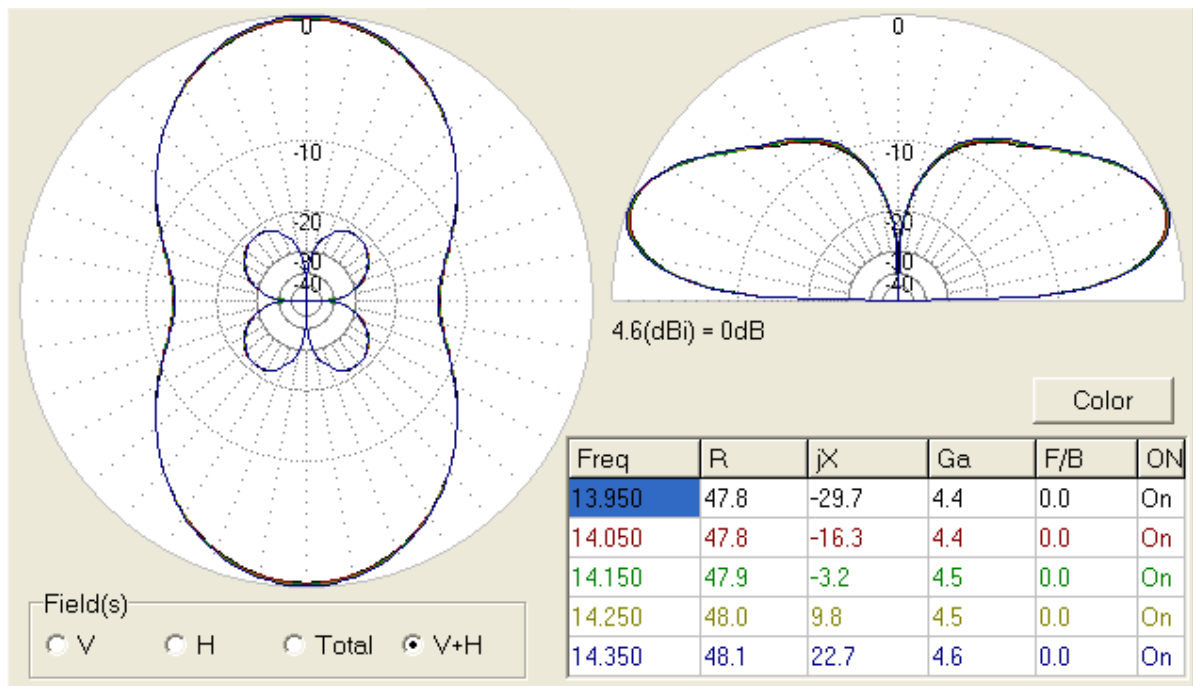


Figure 2 Diagram Directivity of the Antenna at Its Height 5 meters Over Real Ground

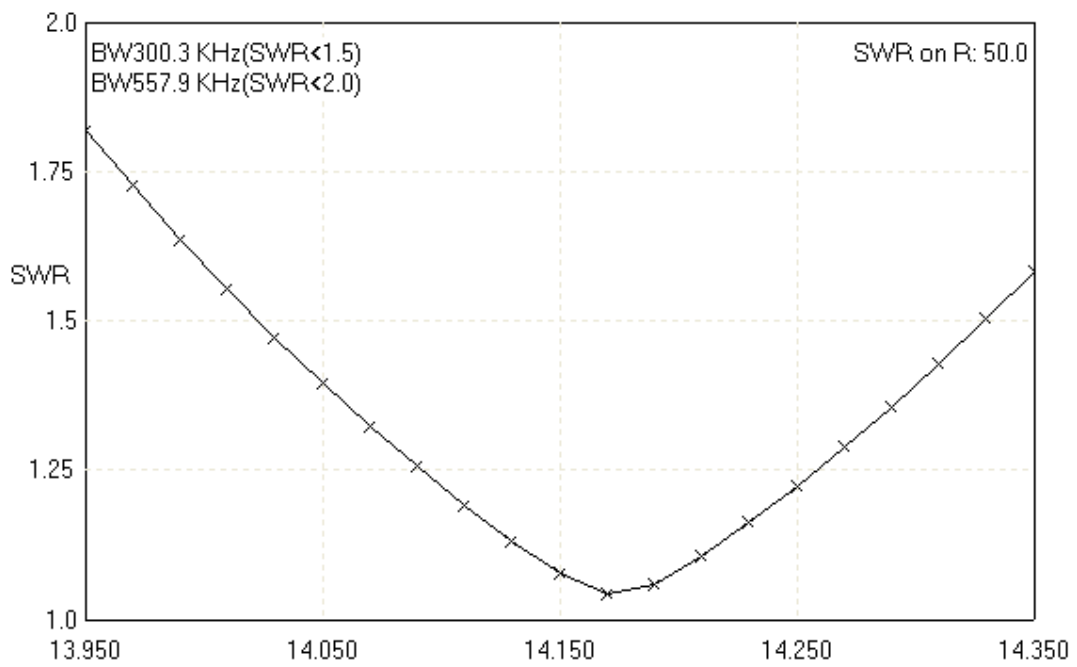


Figure 3 SWR the Antenna Its Height 5 meters Over Real Ground



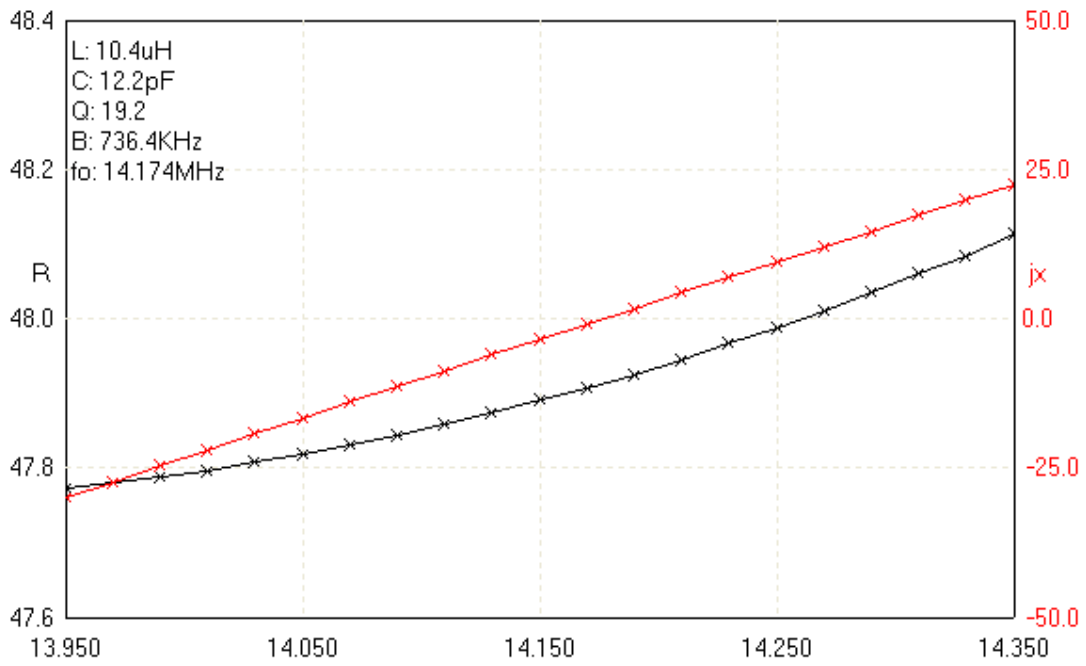


Figure 4 Impedance of the Antenna at Its Height 5 meters Over Real Ground

Antenna parameters at antenna horizontal installation are very depended on ground properties. The more wet ground the stronger main lobe is declined to the

ground, i. e., the better antenna works for DX. Figure 5 shows the antenna at a vertical horizontal installation.

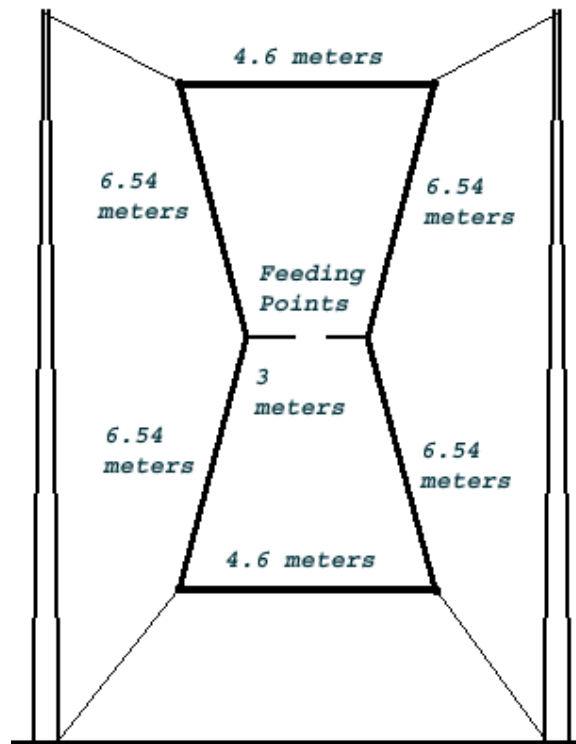


Figure 5 Butterfly Antenna at Vertical Installation

Figure 6 shows the diagram directivity of the antenna at its height 7 meters over real ground. Mostly horizontal polarization is at the installation. Figure 7 shows the SWR the antenna at its height 7 meters over real ground.

Figure 8 shows input impedance the antenna at its height 7 meters over real ground. The plots were taken with help of MMANA (Reference 2).

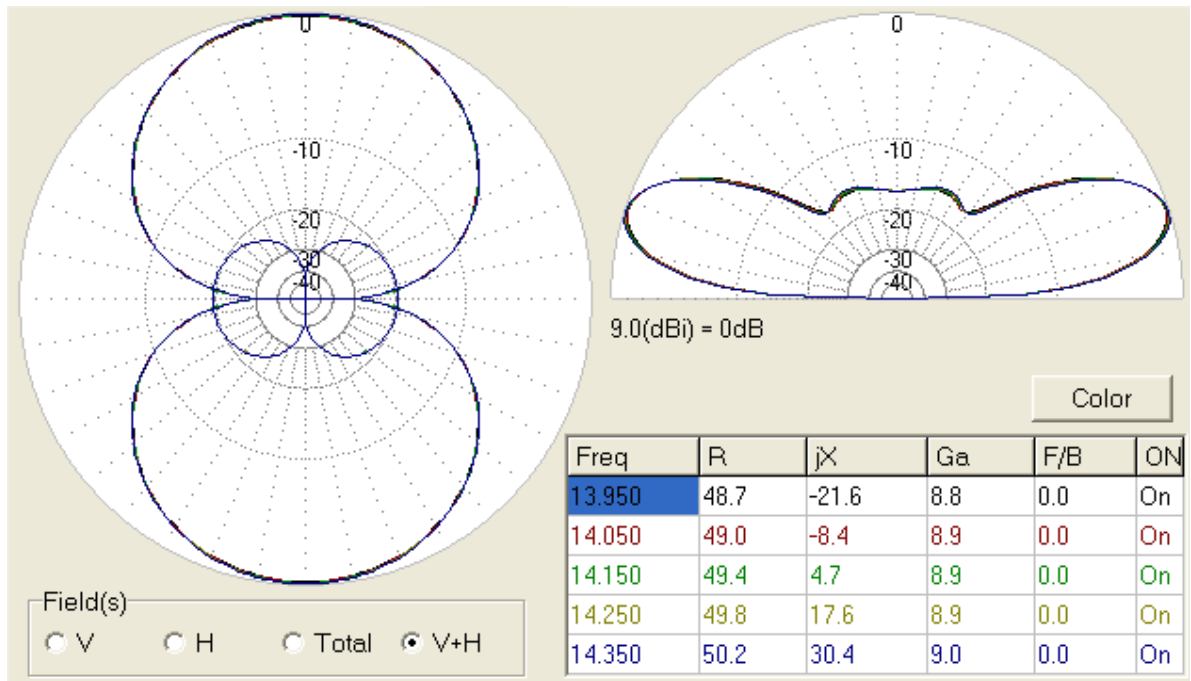


Figure 6 Diagram Directivity of the Antenna at Its Height 7 meters Over Real Ground

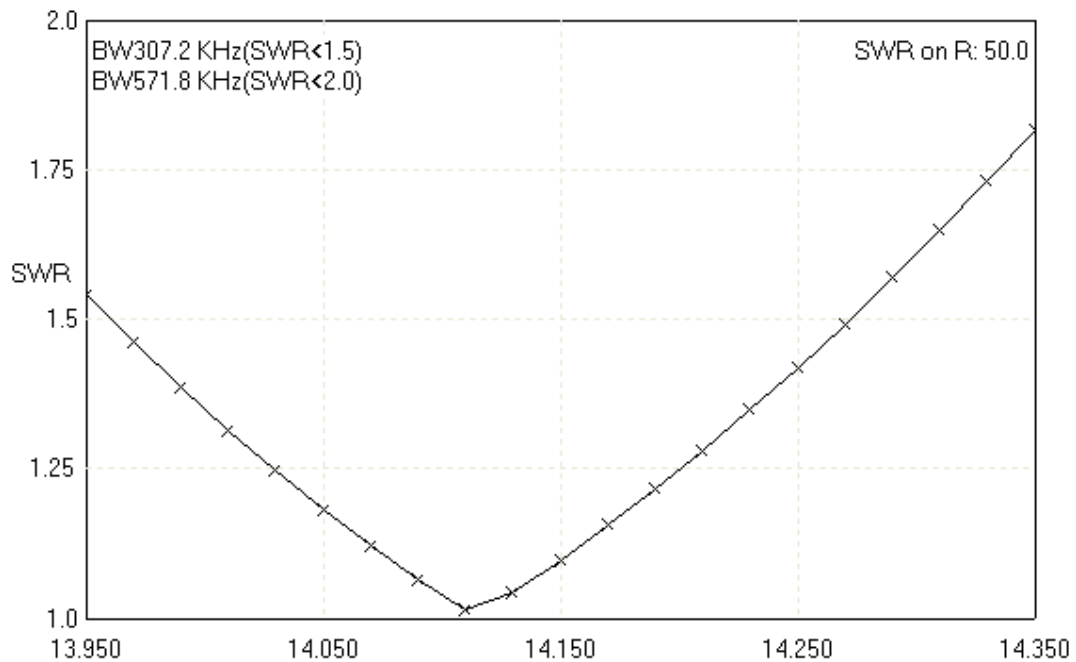


Figure 7 SWR the Antenna Its Height 7 meters Over Real Ground

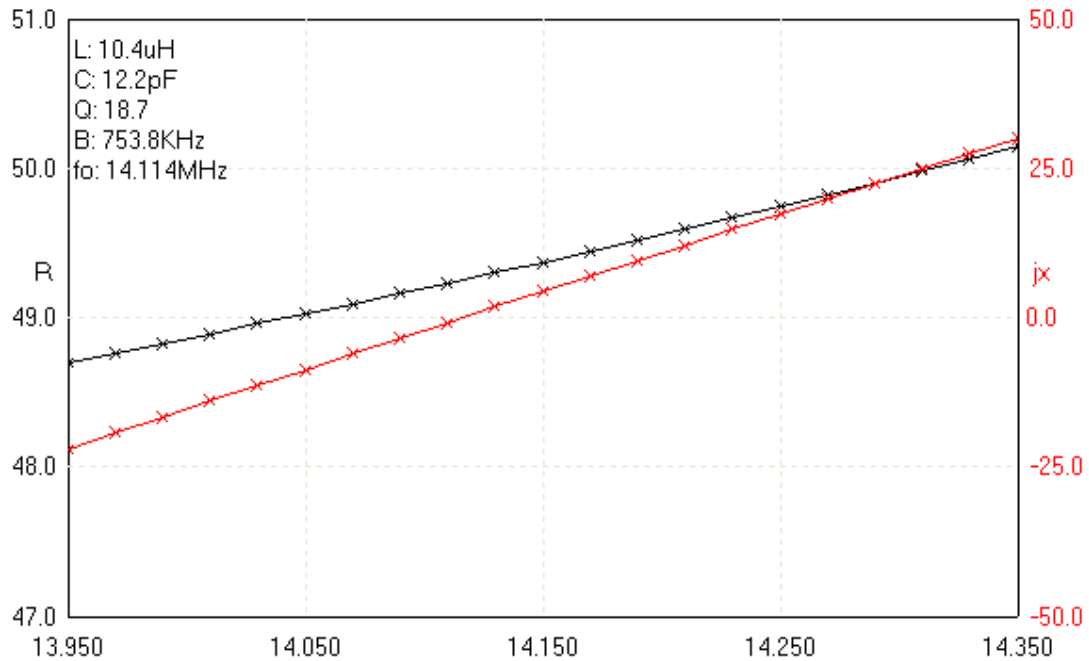


Figure 8 Impedance of the Antenna at Its Height 7 meters Over Real Ground

Antenna was made from bare copper wire in 4 mm diameter. May be used any 50 Ohm coax for feeding the antenna. Try place the coax athwart to antenna at least 5 meter.

References:

1. **Antennas for Radio Amateurs**
By Igor Grigorov, RK3ZK. Antentop -1-2007, Antentop 2- 2004
2. **MMANA is free for Amateur Radio Use**
<http://mmhamsoft.ham-radio.ch/>

