

Modified Dipole Antenna DL1BA for 40- and 20- meter Bands

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In my opinion the explanation how the DL1BA Antenna (*Antentop 01- 2015, pp: 53-55, Dipole Antenna for 40- and 20- meter Bands*) is working at the 20- meter Band is very simple. Parts of the antenna- there are long wire (5.6-meter length) before inductor and short wire (1.5- meter length) after inductor – make 1.5- lambda dipole at the 20- meter Band. **Figure 1** shows current distribution in the DL1BA Antenna at the 20- meter Band. The current distribution proves my suggestion.

As you can see from the **Figure 1** the minimal current (current node) is placed at half meter up from the inductor. It allows find another approach for tuning of the DL1BA Antenna. It is possible make one side of the antenna a little short- say to 30... 50- cm.

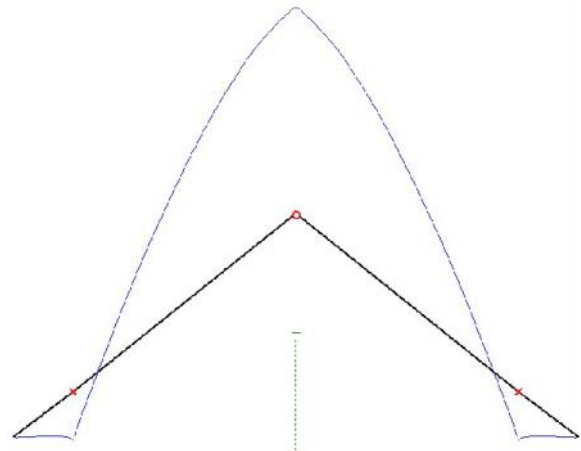


Figure 1 Current Distribution in the DL1BA Antenna at the 20- meter Band

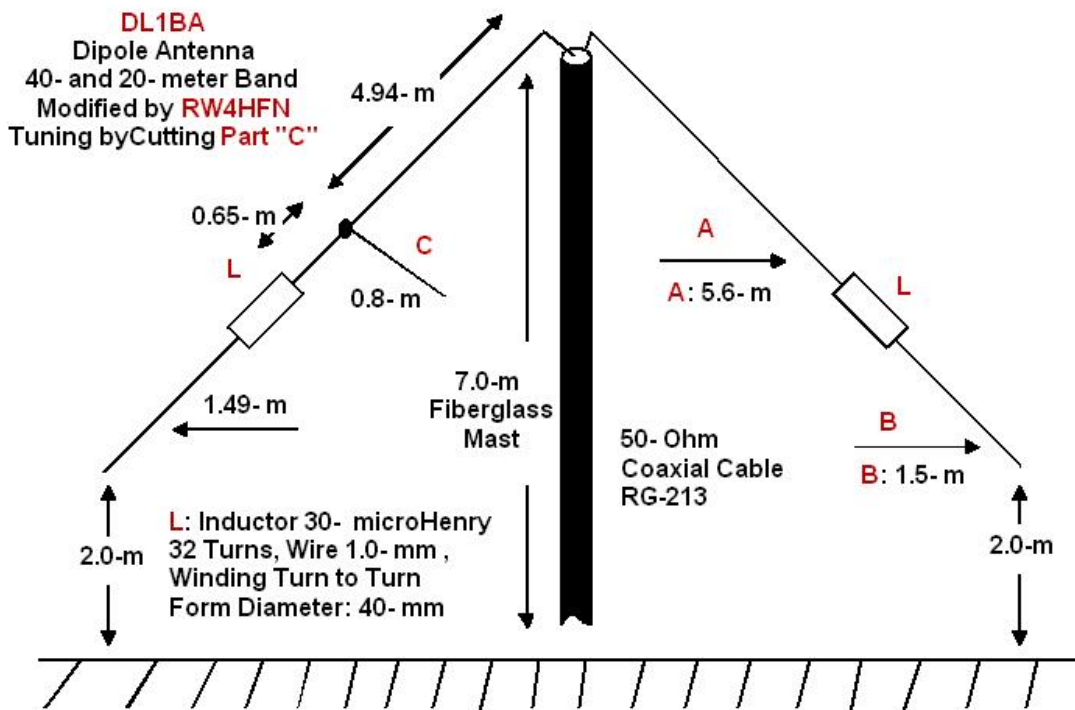


Figure 2 Modified Dipole Antenna DL1BA for 40- and 20- meter Bands

At the current node at the short side it is added wire in length (what the antenna is shortened) 30- 50- cm. At this case the adjusting of the antenna would be simple. At the 20- meter band the antenna is tuned by shortening the added wire. At the 40- meter Band the antenna is tuned by shortening of the one short wire after inductor that laid at non modification (that is without added wire) side. Both tuning practically do not influenced to each other. **Figure 2** shows the modified antenna.

The MMANA file of the Modified Dipole Antenna DL1BA for 40- and 20- meter Bands may be loaded: [http:// www.antentop.org/019/rw4hfn_dipole_019.htm](http://www.antentop.org/019/rw4hfn_dipole_019.htm) Simulation the Antenna in MMANA shows that it is possible to tune the antenna for both Bands by playing the lengths of the added wire (part C see **Figure 2**) and the short wire after inductor (part B at right side antenna shown on **Figure 2**).

Figure 3 shows SWR of the modified antenna at the 40- meter Band. **Figure 4** shows SWR of the modified antenna at the 20- meter Band.

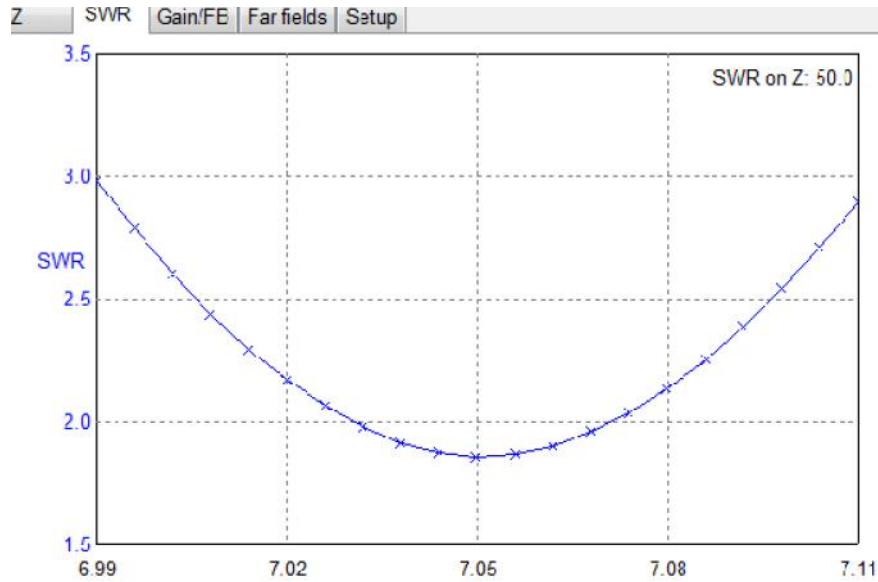


Figure 3 SWR of the Modified DL1BA Antenna at the 40- meter Band

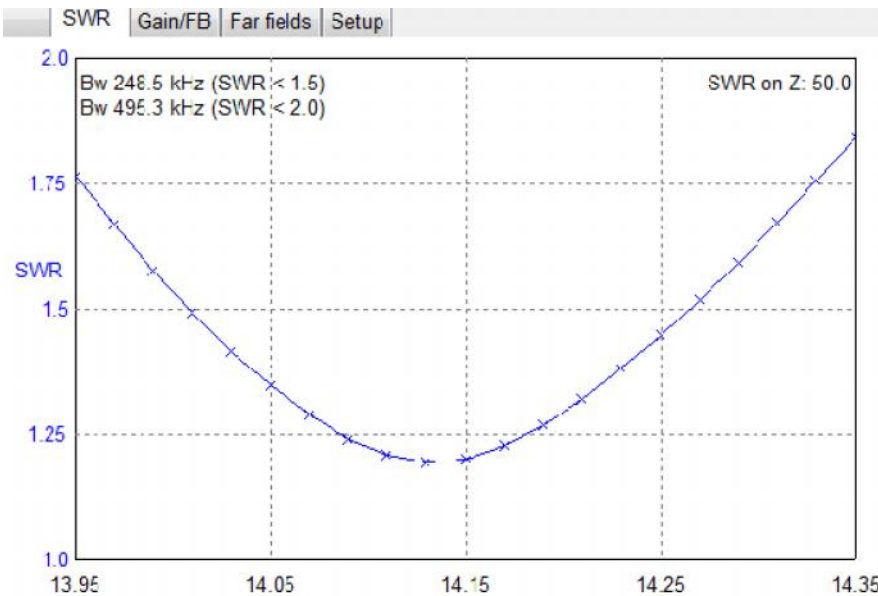


Figure 4 SWR of the Modified DL1BA Antenna at the 20- meter Band