

RN3DEK Loop Antenna for the 50- MHz Band

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The antenna made from aluminum pipe coated with PVC. Benefit of the pipe: you may easy cut the pipe with knife; you may easy bend the pipe without any special fixtures; the antenna holds the form; the conduit protected to work in atmospheric conditions. Disadvantage is that the pipe has unknown shortening factor on the 50- MHz band. The factor depends on thickness and composition of the PVC. However the disadvantage is easy overcome to tuning the antenna if the tube for the loop will take a little longer.

Figure 1 shows design of the Lop Antenna for the 50-

MHz band. Perimeter of the antenna is taken in 658- cm, diameter of the tube is 28- mm. The antenna may be made in horizontal (as it is shown on the **Figure 1**) or vertical installation. Input impedance of the antenna is 200 Ohm. So, for matching with feeding 50- Ohm coaxial cable it should be used transformer 200/50-Ohm.

The MMANA file for horizontal and vertical Loop Antenna for the 50- MHz Band may be downloaded at: http://www.antentop.org/025/RN3DEK_loop_025.htm

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It is possible use usual transformer on ferrite core or classical transformer made from coaxial cable. Design of the transformer made from coaxial cable you may find at http://www.antentop.org/018/ub5ug_018.htm

Figure 2 shows Z of the Horizontal Loop Antenna for 50- MHz Band. **Figure 3** shows SWR of the Horizontal Loop Antenna for 50- MHz Band. **Figure 4** shows DD of the Horizontal Loop Antenna for 50- MHz Band.

Figure 5 shows Z of the Vertical Loop Antenna for 50- MHz Band. **Figure 6** shows SWR of the Vertical Loop Antenna for 50- MHz Band. **Figure 7** shows DD of the Vertical Loop Antenna for 50- MHz Band.

73! de RN3DEK

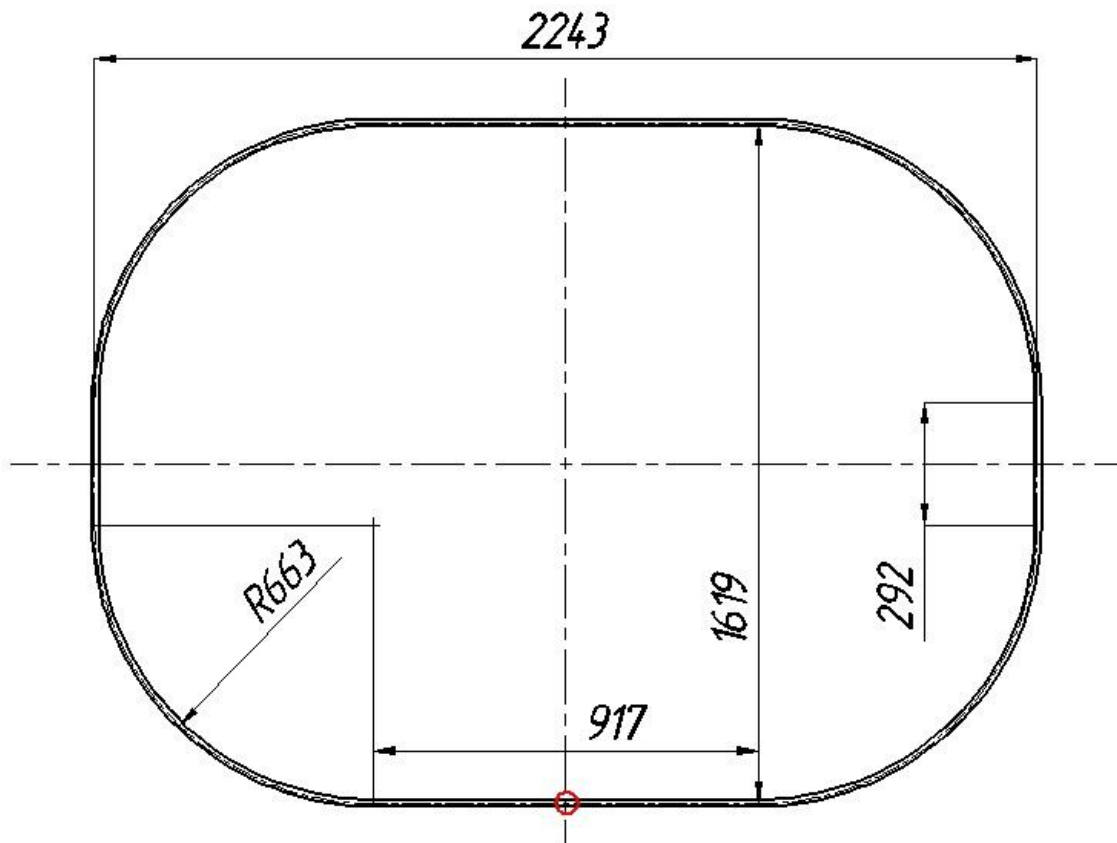


Figure 1 RN3DEK Horizontal Loop Antenna for the 50- MHz Band

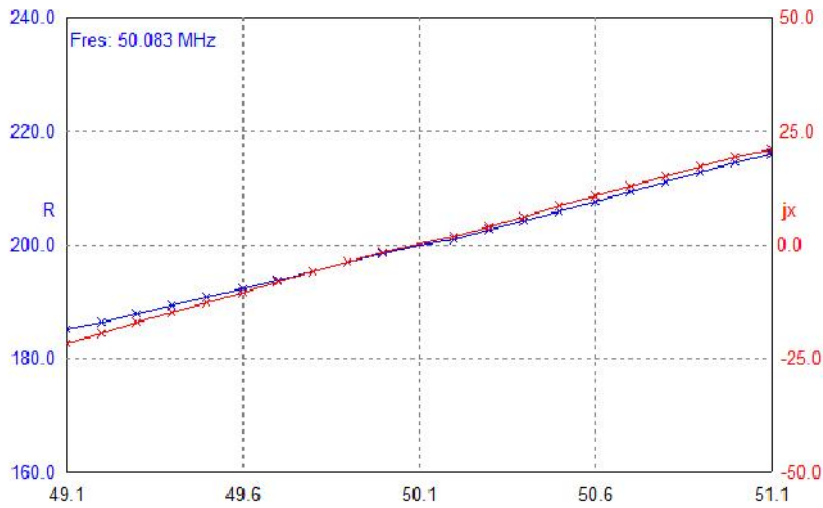


Figure 2 Z of the Horizontal Loop Antenna for the 50- MHz Band

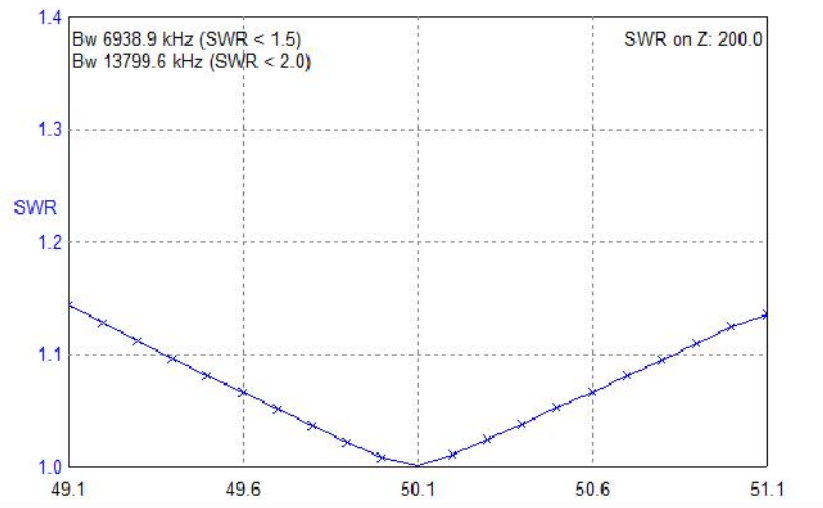


Figure 3 SWR of the Horizontal Loop Antenna for the 50- MHz

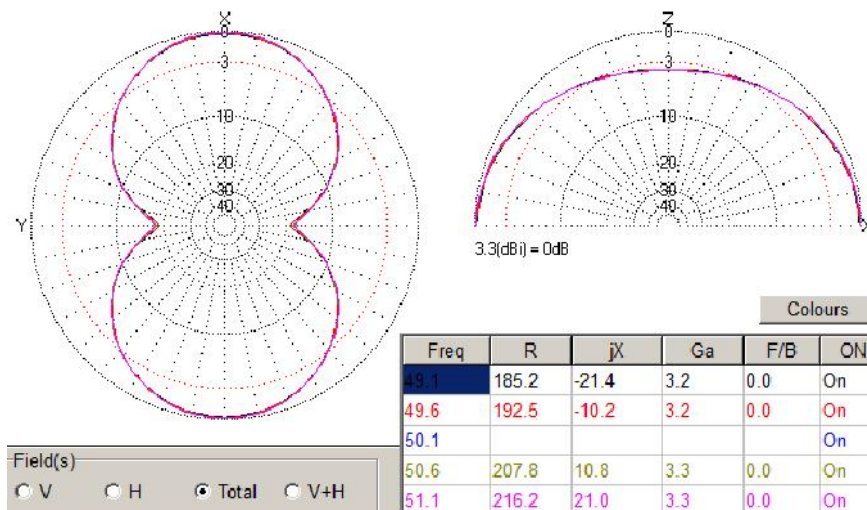


Figure 4 DD of the Horizontal Loop Antenna for the 50- MHz Band

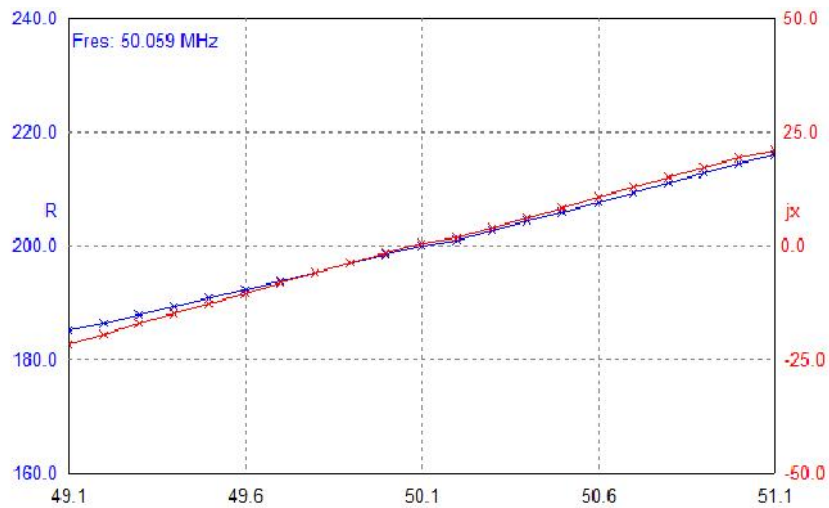


Figure 2 Z of the Vertical Loop Antenna for the 50- MHz Band

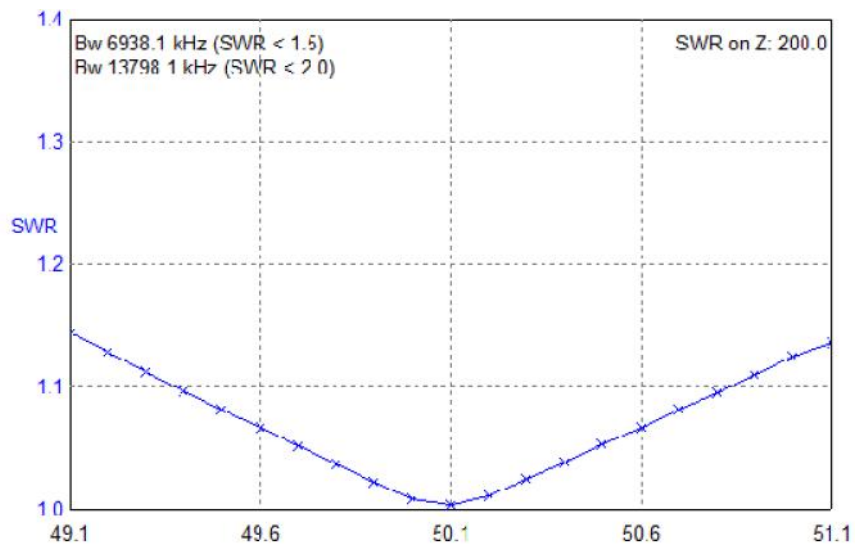


Figure 3 SWR of the Vertical Loop Antenna for the 50- MHz

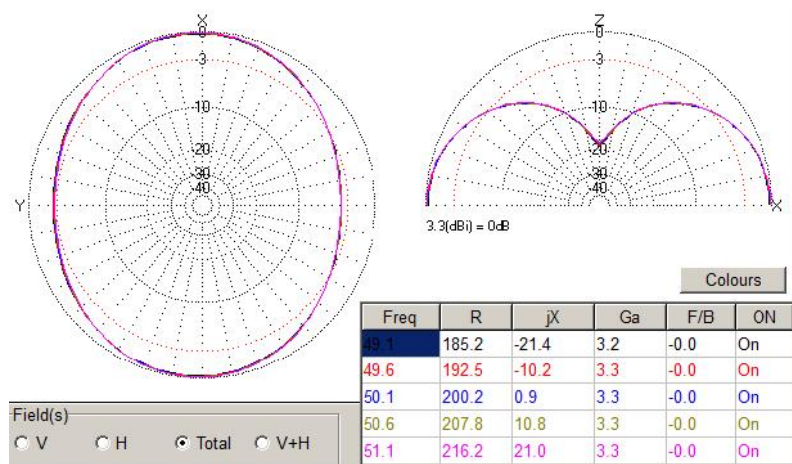


Figure 4 DD of the Vertical Loop Antenna for the 50- MHz Band