Experimental Window Antenna for the 14– and 21– MHz Band

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Credit Line: http://samlib.ru/editors/g/grachew_a_w/

The antenna is very simple for design. It needs to buy just two aluminum tubes in 40 and 10- mm in diameter and two aluminum plates (it is possible use kitchen aluminum foil instead of the plates). Others stuff for antenna may be found in amateur junk box or bought in amateur flea market. **Figure 1** shows stuff for the Experimental Window Antenna. **Figure 2** shows the schematic of the antenna.

Antenna elements are placed above a wooden box. Inside the box there are placed tuning capacitor and matching coils for the vertical vibrator. The tube in diameter of the 40- mm is fastened to the box with aluminum insertion as it is shown in **Figure 3**.

I would like create an antenna that having not defined sizes of their parts could work without ATU at the feeding terminals. I solved the question in the antenna design.

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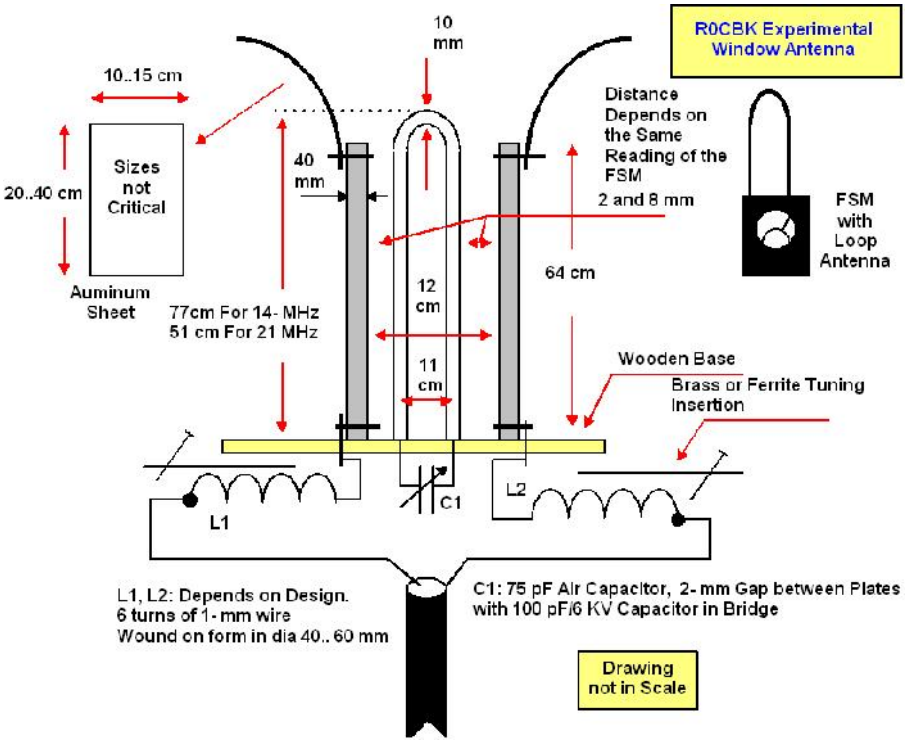

Figure 2 Schematic of the Experimental Window Antenna

Figure 1 Stuff for making of the Experimental Window Antenna

Figure 3 Fastened of the 40- mm Tubes to the Wooden Box

The vertical radiators of the antenna may not have the same sizes at it is shown in the **Figure 2**. Loop that tuning in the resonance helps tune the antenna to the working range and match the antenna with the feeding cable. It is possible use 50- or 75 – Ohm coaxial cable to feed the antenna. It is possible use 50- or 75 – Ohm coaxial cable to feed the antenna.

The antenna is tuned in two steps. First step you need tune the variable capacitor for good reception. Then tune the matching coils for maxima reception. I used a brass insertion to tune the coils however it is possible use a ferrite rod that could work at the frequencies.

You may experiment with the turns in the coils anywhere it is possible that the coils would have up to 10- 20 turns.

Figure 4 Experimental Window Antenna Installed at my Window

Distance between the radiator and the matching loop should be set up on the same reading of the FSM (Field Strength Meter) placed on both sides at the antenna. The FSM should have a loop antenna. **Figure 4** shows one early sample of the antenna installed at my window, FSM is located at left side of the antenna as well you can see a brass tuning rod inside the matching coils and the tuning capacitor.

Caution: High RF currents flow on the parts of the antenna. CFL bulb glows near the antenna. So you need avoid touch elements of the antenna and place the antenna as far as possible from transceiver and operator. In my case the antenna is placed on the distance of 5- meter from me.

The antenna installed on the fourth floor of a multistore building allows me be on the Air. The antenna is open for further experimenters ever. Do not hesitate do it!

73! R0CBK