Antenna for 50 and 70- MHz Band

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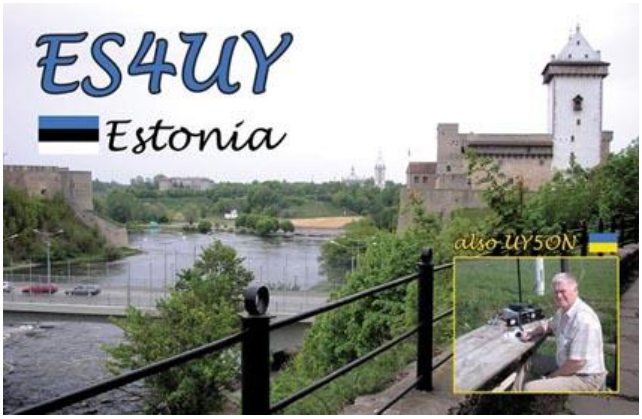
The antenna was designed several years ago, when I got Estonian call sign ES4UY. With the call I able use 50 and 70- MHz bands from Estonia. Need to say that I was in a very rare square- K049CJ. So I need an antenna for those bands. Restricted place could not allow me to create something serious. So, wire in length in 3.75 meter was placed on to perimeter of my window then the wire was fixed at balcony. The wire was connected to the home brew ATU. Counterpoise in length 0.7- meter was connected to the ATU. **Figure 1** shows the antenna on the window. **Figure 2** shows design of the antenna. **Figure 3** shows schematic of the ATU. **Figure 4** shows design of the ATU.



ES4UY QSL Card

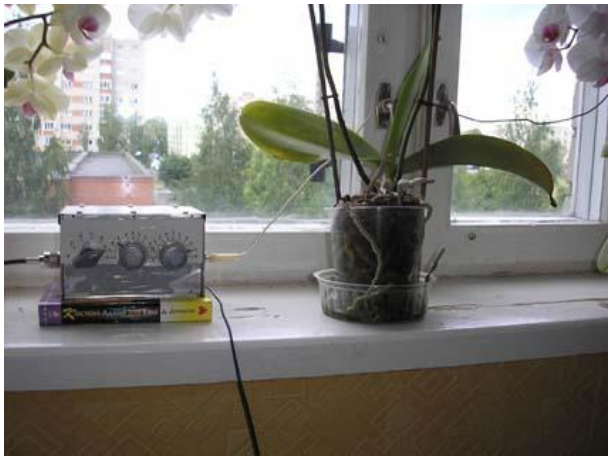


Figure 1 Antenna for 50 and 70- MHz Band Placed on the Window

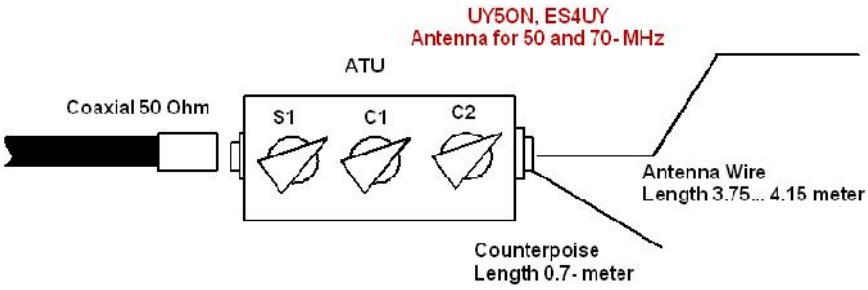


Figure 2 Design of the Antenna for 50 and 70- MHz Band

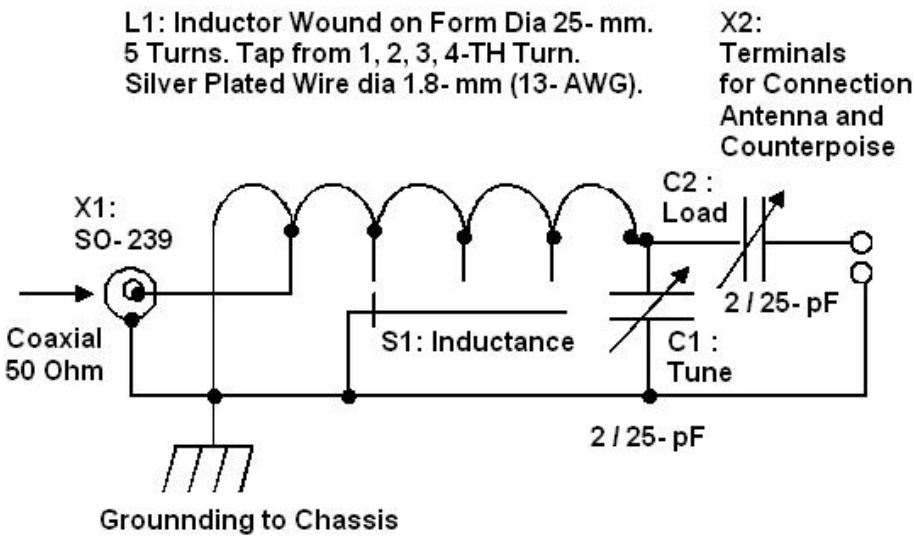


Figure 3 Schematic of the ATU

Figure 4 Design of the ATU

The antenna is kind of Windom Antenna for 50- and 70- MHz. Length in 3.5 is a long part of the antenna counterpoise in 0.7- meter is short part of the antenna. ATU match the antenna with coaxial cable. I made ATU inside of aluminum box. Inductor was wound on a form with OD- 25- mm and contained 5 turns. Inductor was coiled by silver- plated wire in diameter 1.8- mm (13- AWG).Taps were made from 1, 2, 3, and 4-th turn.

First tap of the inductor through a short length connected to the “hot” lead of the RF socket X1. Beginning of the inductor soldered to the ground of the RF socket X1. Taps 2, 3, 4 connected by a short length to the switch S1.

Capacitors C1 and C2 were hi- Q air capacitors. Capacitor C2 insulated from the box. I managed tune capacitors of the ATU in such way that I could change working Band only with switch S1. ATU has losses only minus 0.53 dB. It was checked by ADVANTEST made analyzer.

Below you can see data from my Log for 25- 26-June, 2015. There are 29 QSOs and one QSO with CT1HZE- distance 3600- km. So the antenna works and works well. It should be used at any place with restricted conditions.

QSO by ES4UY on 70mhz
Type of propagation: ES
Loc: KO49CJ
TRX: Ft-847 -60 wats Ant: Home Made with 3.75m Window Antenna.
Format: Call, Loc, RS/RST

DJ7MN, JN58WH, 599/ 599: S57LM, JN76HD, 599/559; OK2BGW, JN89CH, 599/ 599; OZ3ZW, JO54RS, 59/ 59; OK2BGW, JN89CH, 57/ 57; OK2BRD, JN99ET, 59/ 59; PA0RDY,JO22KJ, 579/ 559; PA0RDY, JO22KJ,579/ 559; OM5KM, JN98BG, 559/599; HA3GR, JN86VK,579/ 599; PA2IP, JO23VF, 599/599; SP3RNZ, JO92DF, 559/ 559; LZ1AG,KN22ID, 559/ 559; OK1KT, JO80CH, 599/599; HA3GR, N86VK, 599/ 599; SP6GWB, JO80JG, 599/ 599; YO7BSN, KN15OA, 599/ 599; 9A2SB, JN95GM, 559/559; CT1HZE, IM57NH,55/55; PG5V, JO21, 559/ 549 ; PA0O, JO33HG, 599/599; PA2M, JO21IP,59/59; ON4PS, JO20KQ, 599/599; ON4PS, JO20KQ,599/ 599; DK2PH, JO41GV, 599/559; OZ1BNN, JO55PM, 55/ 55; OZ2OE, JO45VV, 59/ 59; OZ3ZW, JO54RS, 59/ 59; OZ8ZS, JO55RT, 57/59; OZ1JXY, JO46TX,57/ 55.