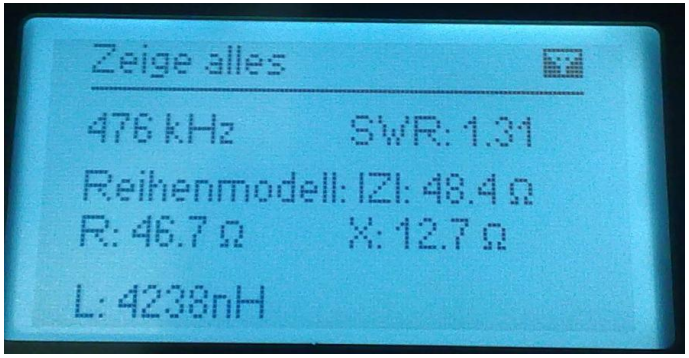
DL2WB 630 m TX antenna

(ca. -38 dBi "gain" * at 476 kHz)

2017-05-05

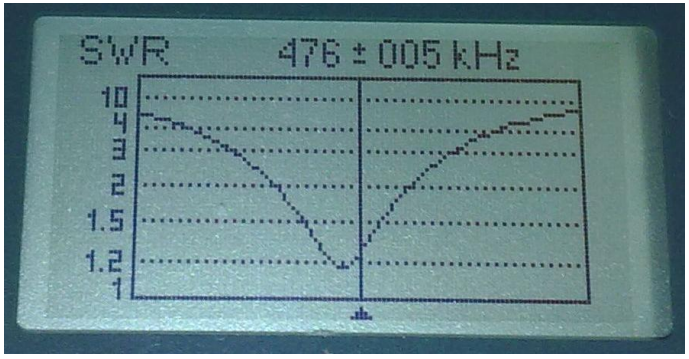
loop circumference:	ca. 16 m
material:	insulated, braided copper (e.g. old rotator control cable)
wire cross-section:	13 x 0.5 mm² = 6.5 mm²
transformer winding ratio:	coax-side : loop-side = 13:1



adjust transformer for R close to 50 Ohm:

R < 50 Ohm:
increase number of windings on coax side

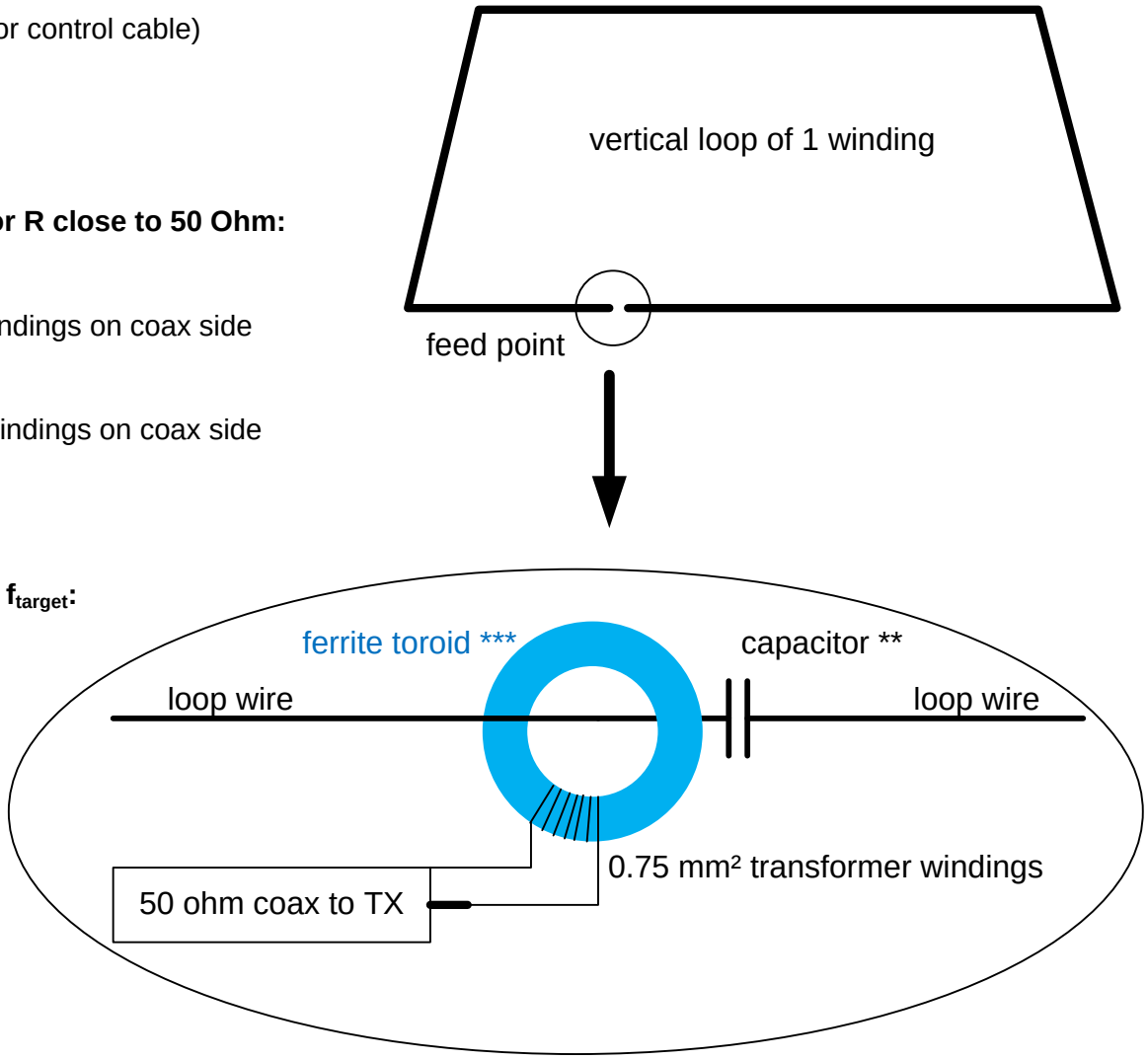
R > 50 Ohm:
decrease number of windings on coax side



tune the capacitor to f_{target}:

$f_{dip} > f_{target}$:
increase capacitance

$f_{dip} < f_{target}$:
decrease capacitance



* Magnetic loop calculator by DG0KW
http://www.dl0hst.de/magnetlooprechner.htm

** WIMA FKP 1Polypropylene (PP) capacitors
ca. 5 nF: 10 x 470 pF || + 1 x 100 pF || + (several 100 pF in series) ||
www.wima.com/EN/WIMA_FKP_1.pdf

*** N30 ferrite toroid TDK B64290L0048X830 (2 x || for 30 W TX power)
https://product.tdk.com/info/en/documents/data_sheet/R3400x2050x1250.pdf

DL2WB
German Amateur Radio Station