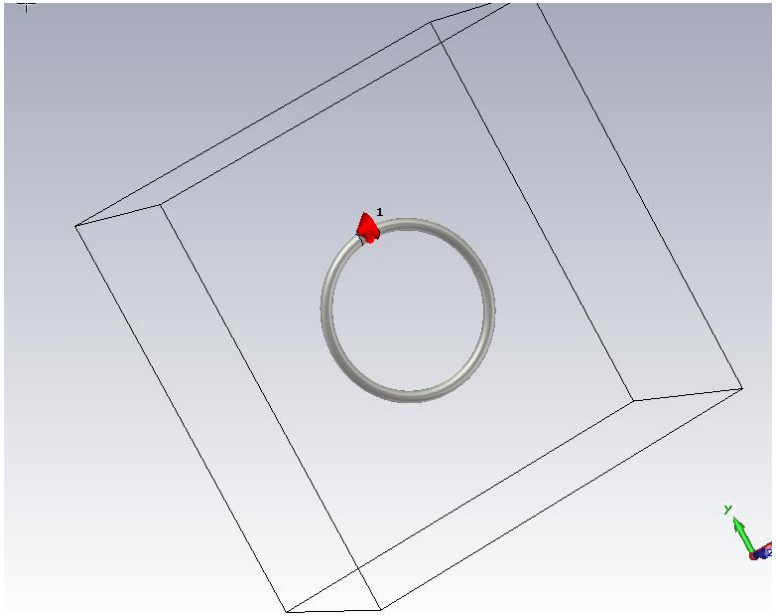


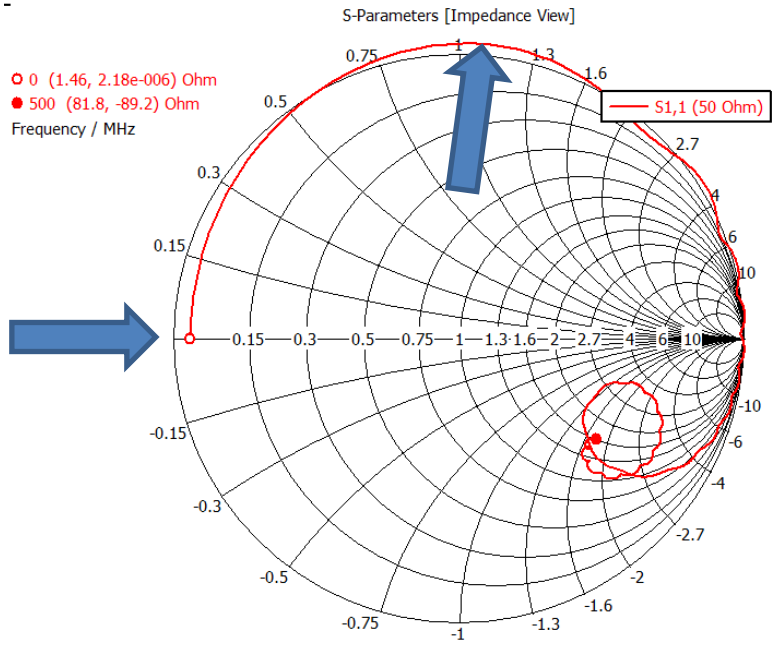
Raio = 20 cm

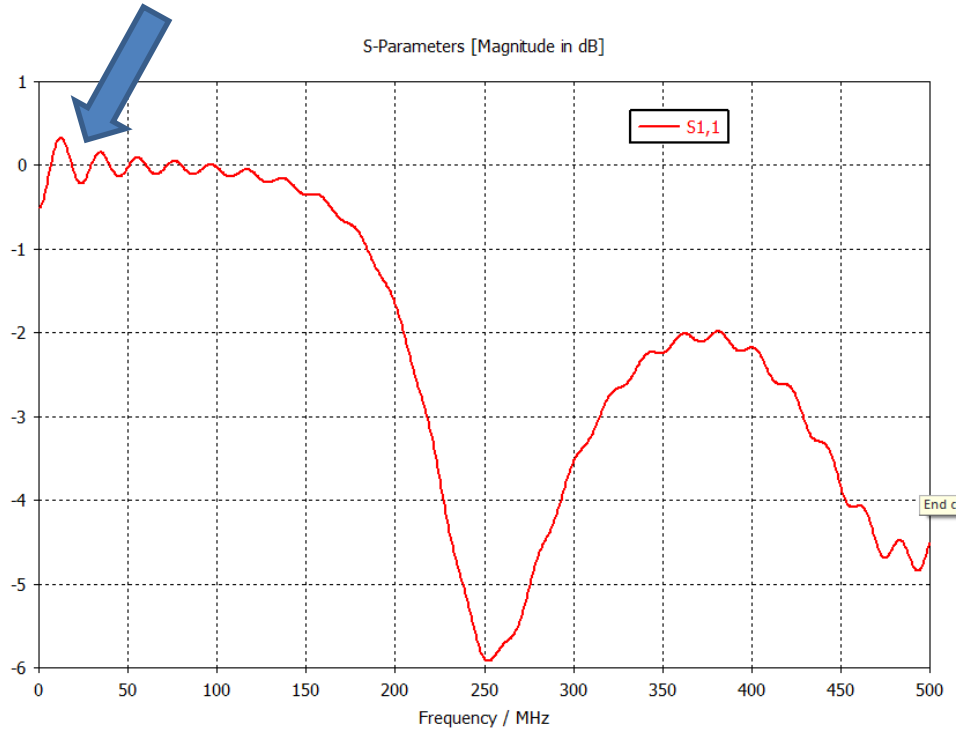
primeira aproximacao

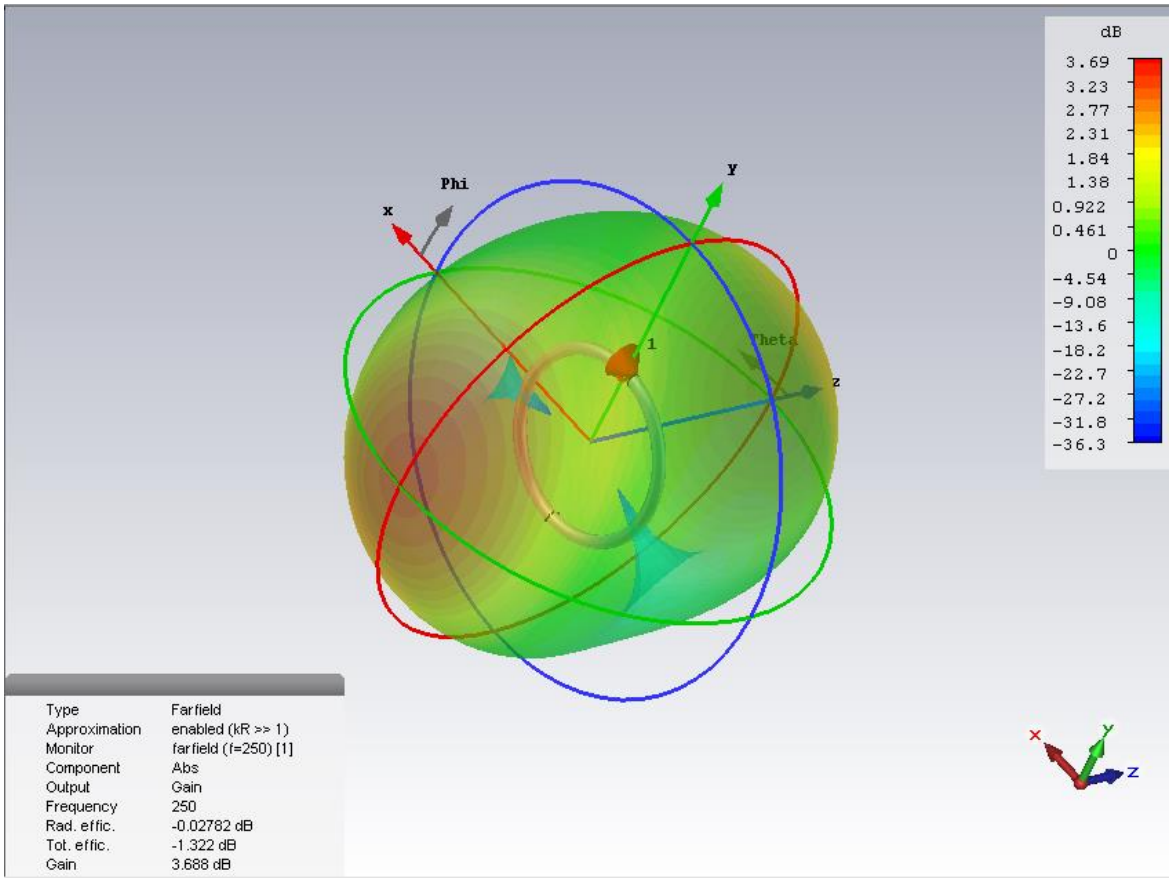
$2\pi r = \lambda$ perimetro loop aprox. Igual comprimento onda

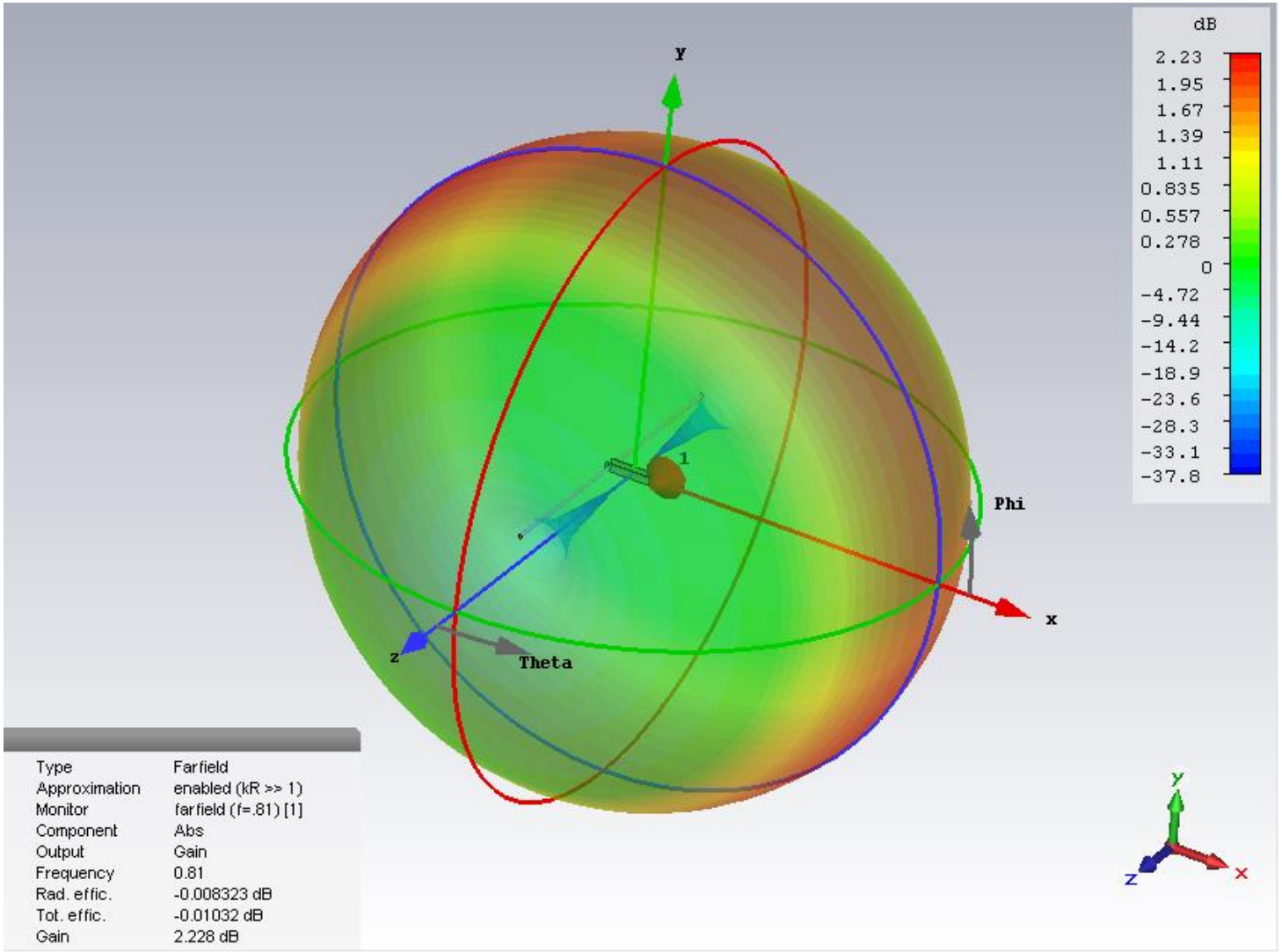
$2\pi * 0.2 = 1.25$ m

Freq =3E8/1.25 = 238 MHz



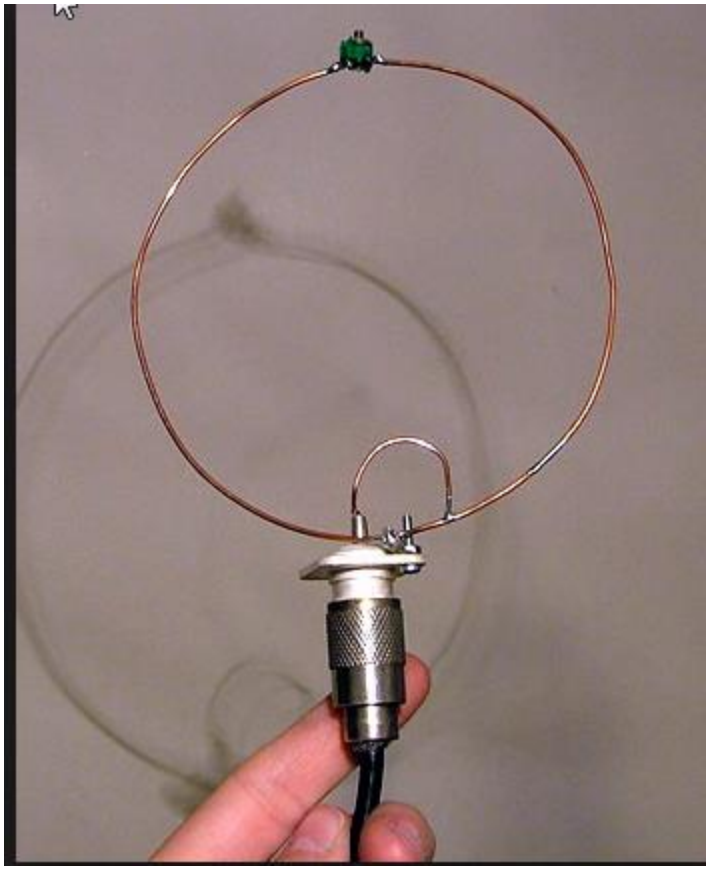


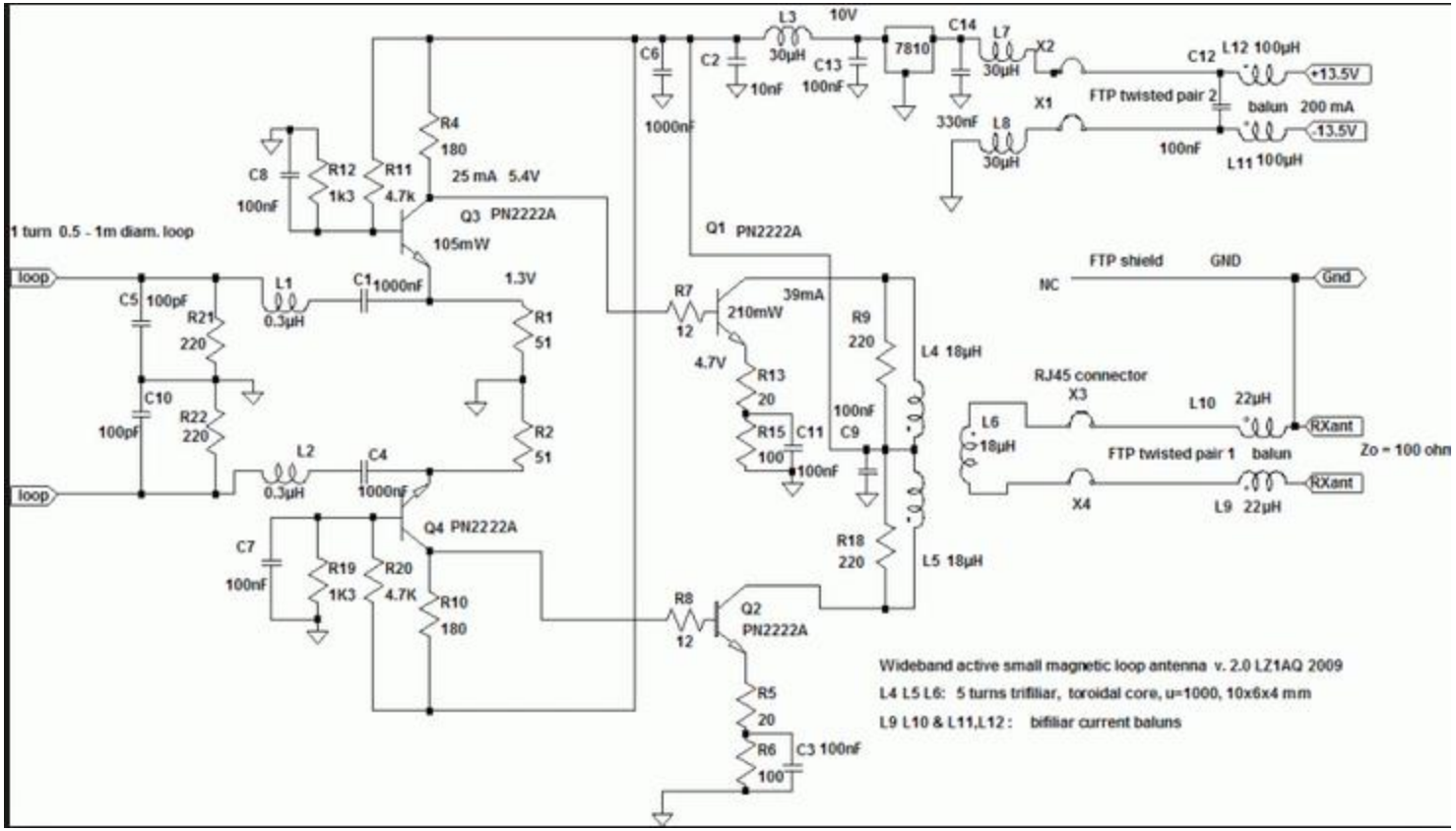

dB
3.69
3.23
2.77
2.31
1.84
1.38
0.922
0.461
0
-4.54
-9.08
-13.6
-18.2
-22.7
-27.2
-31.8
-36.3
Phi
x
y
z
Theta
1
Type Farfield
Approximation enabled (kR >> 1)
Monitor farfield (f=250) [1]
Component Abs
Output Gain
Frequency 250
Rad. effic. -0.02782 dB
Tot. effic. -1.322 dB
Gain 3.688 dB



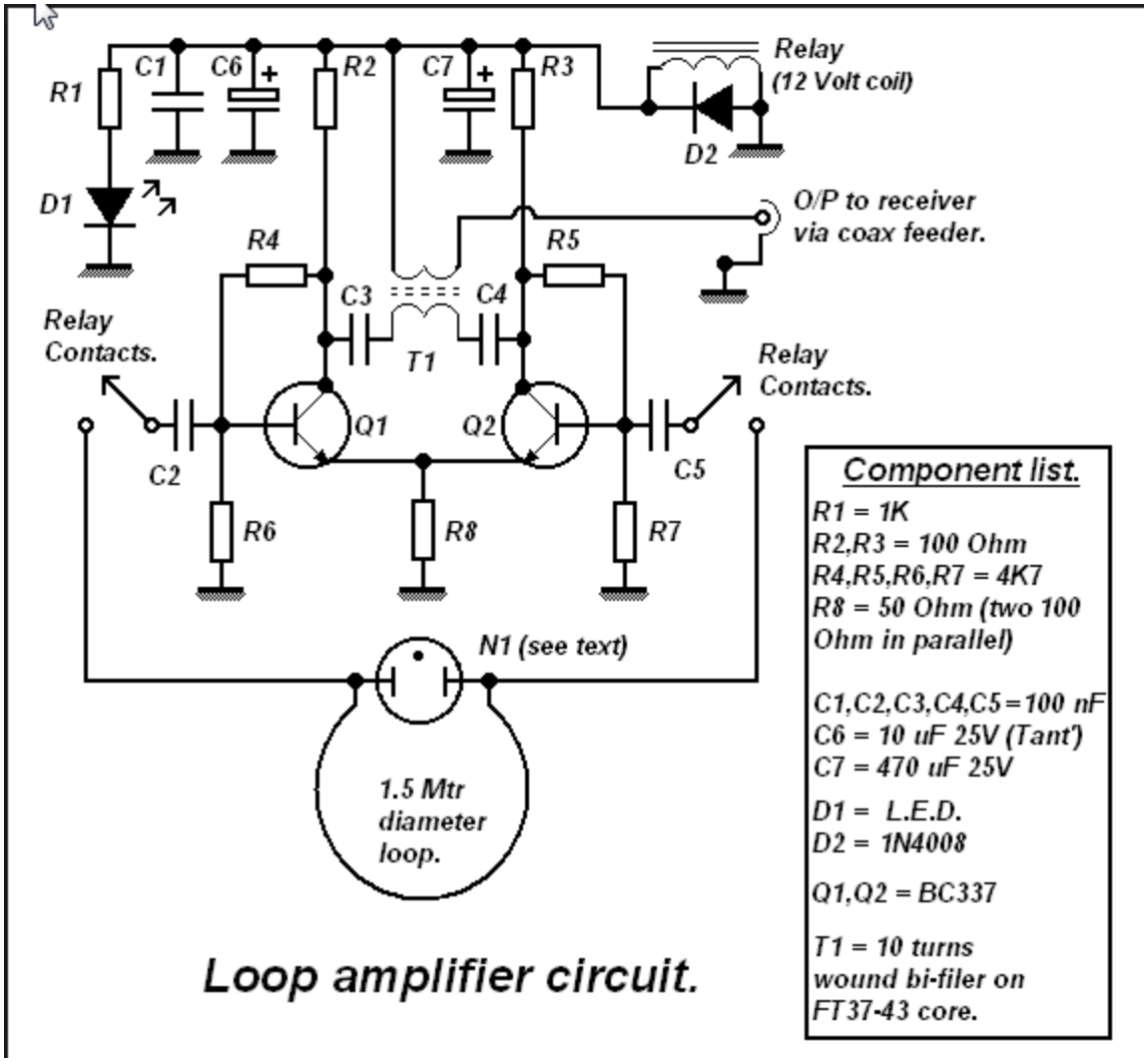
Comparacao com Dipolo – veja que aqui eh mais complicado usar para radiolocalizacao.

Loop Antennas





Repare na entrada do ckt – esta esperando o loop operando como diferencial (+ - e terra).



Loop amplifier circuit.

Component list.

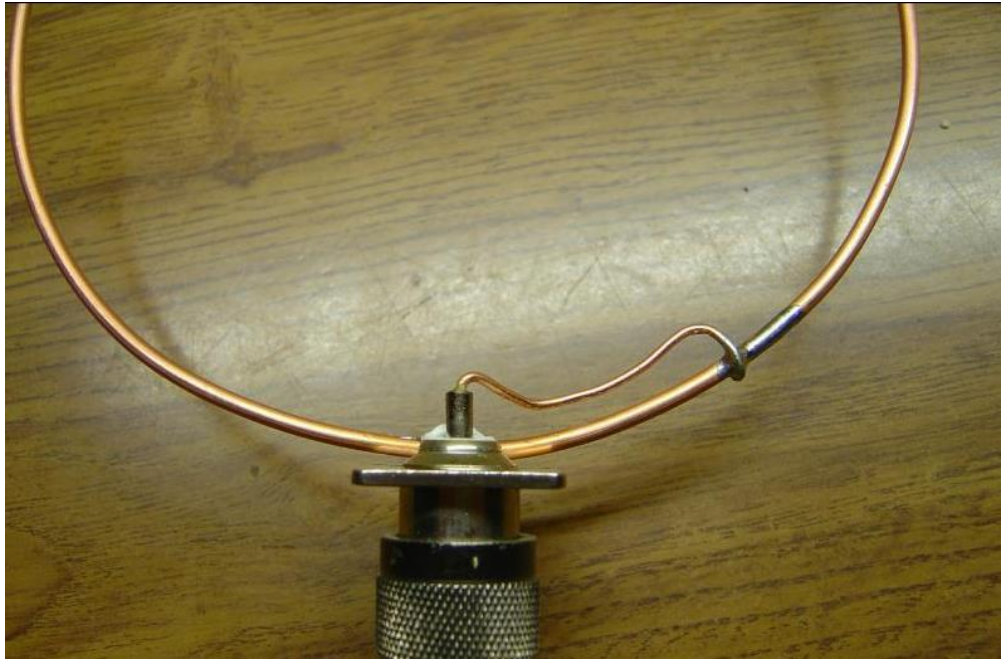
R1 = 1K
R2,R3 = 100 Ohm
R4,R5,R6,R7 = 4K7
R8 = 50 Ohm (two 100 Ohm in parallel)

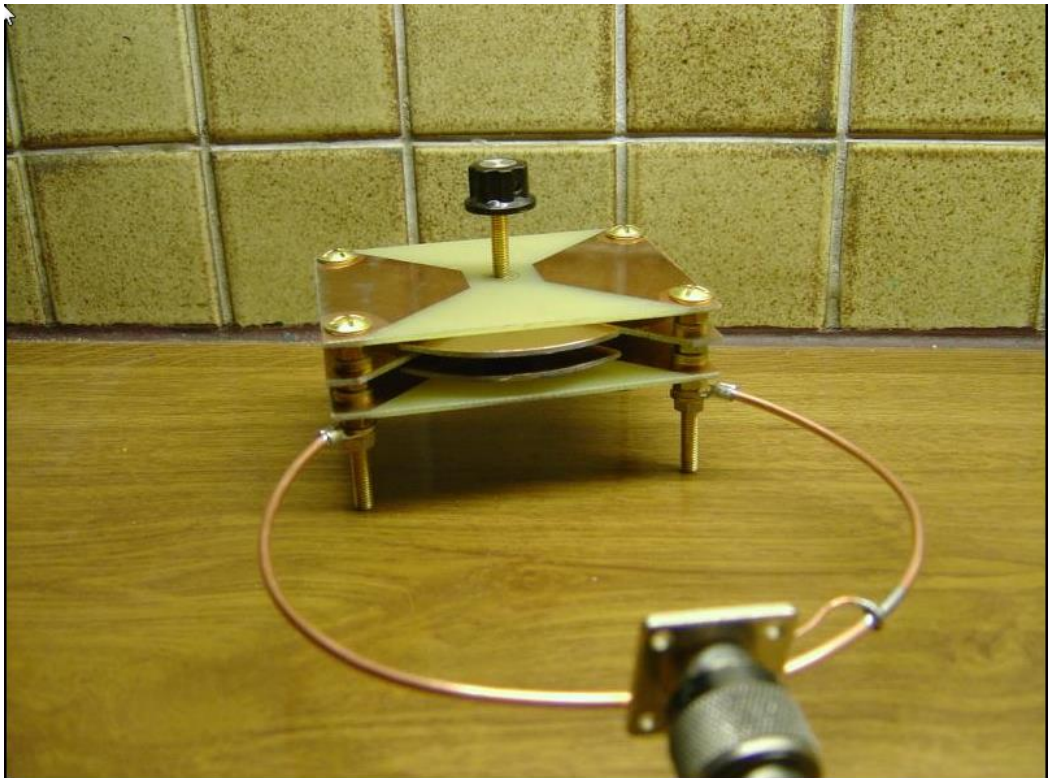
C1,C2,C3,C4,C5 = 100 nF
C6 = 10 uF 25V (Tant')
C7 = 470 uF 25V

D1 = L.E.D.
D2 = 1N4008

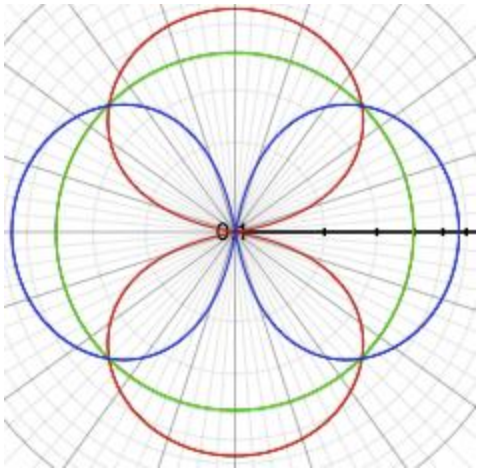
Q1,Q2 = BC337

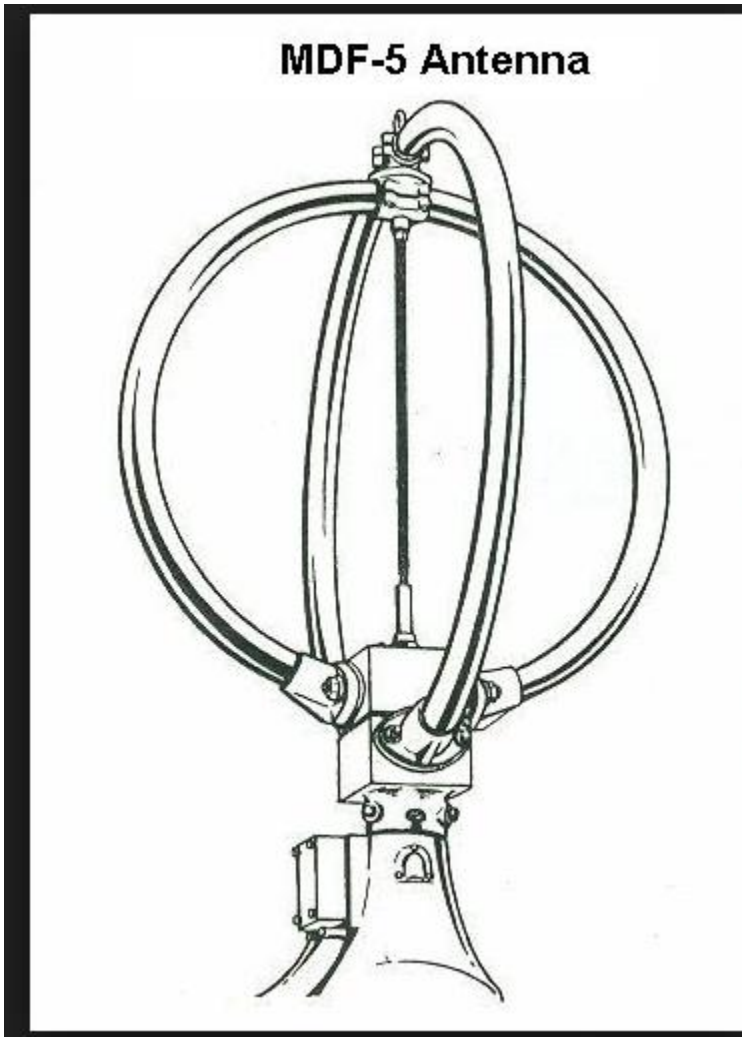
T1 = 10 turns wound bi-filer on FT37-43 core.



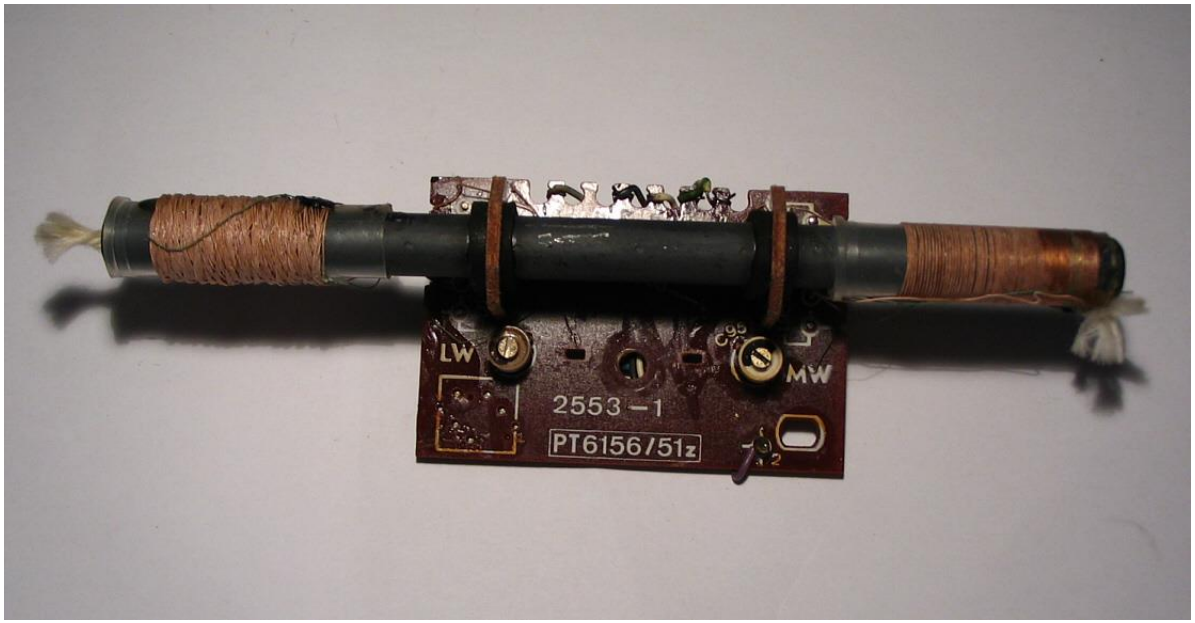


Radio Localizacao





Antena embarcada Navio



Antena Radio AM (receptor).

Como ha muitas espiras de fio fino (para nao resultar em volume grande), a Resistencia de Perdas R_L acaba sendo MAIOR que a Resistencia de Radiacao R_r (o dipolo era o contrario, eh apenas um fio!).

Alem disso possui naturalmente carater indutivo.