LC_Solver.nb by R. C. Toonen
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Replace {Cvmax value} with your calculated value.
Replace {Cvmin value} with your calculated value.

```
Cvmax = {Cvmax value}; (* maximum varactor capacitance, units = F *)

Cvmin = {Cvmin value}; (* minimum varactor capacitance, units = F *)

Cant = 8.19 * 10^-12; (* antenna capacitance, units = F *)

f0mid = 1070 * 10^3; (* midband frequency, units = Hz *)

BW = 250 * 10^3; (* bandwidth, units = Hz *)

f0min = f0mid - BW/2 (* minimum frequency, units = Hz *)

f0max = f0mid + BW/2 (* maximum frequency, units = kHz *)

f0[L_, C_] := 1/(2 * π * √(L * C)) (* resonant frequency function *)

data = Solve[{f0min == f0[L, (C0 + Cvmax) + Cant], f0max == f0[L, (C0 + Cvmin) + Cant]}, {C0, L}];

C0 = 10^12 * C0 /. data[[1, 1]] (* fixed capacitance, units = pF *)

L = 10^3 * L /. data[[1, 2]] (* inductance, units = mH *)
```