

# Device Modeling Report

COMPONENTS : CHOKE COIL  
PART NUMBER : 8RHB  
VALUE : 220  $\mu$ H  
CURRENT MAX : 0.7 A  
MANUFACTURER : TOKO



**Bee Technologies Inc.**

## Theory: Auto Balancing Bridge Method

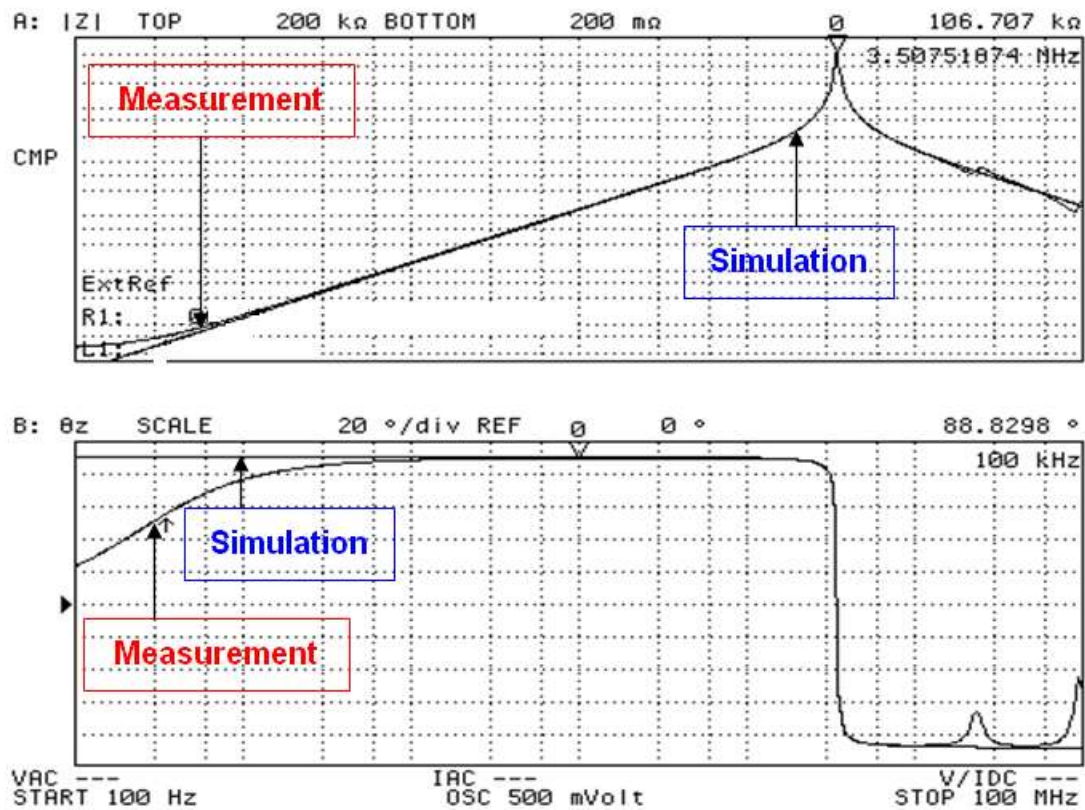
### Optimization of Simulation

Range of adjustment Frequency: 100 to 100M(Hz)

Frequency vs.  $|Z|$  and Frequency vs.  $\theta z$  Characteristic

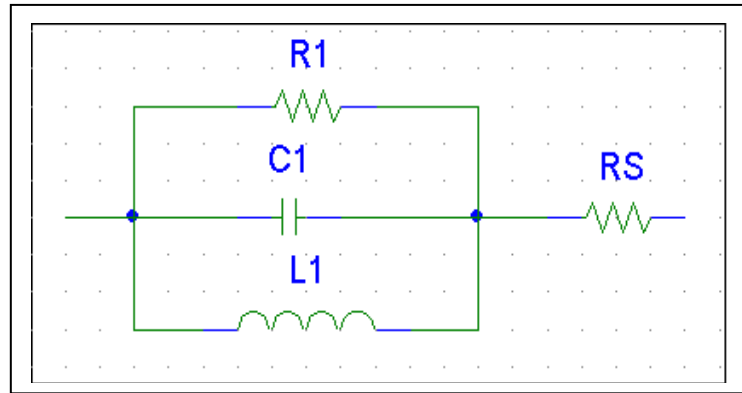
Attention)

*Please use SPICE MODEL within the range from 100 to 100M(Hz)*



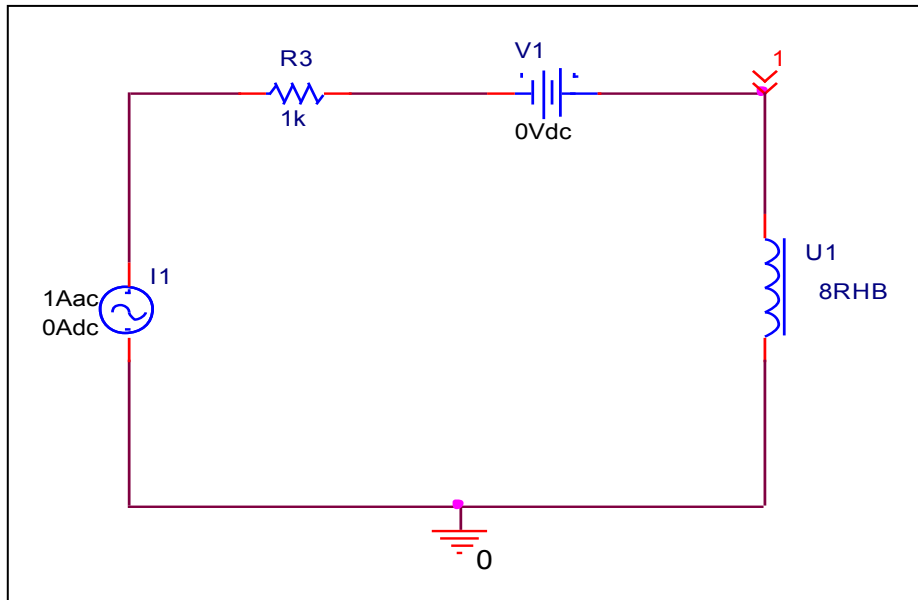
|    |  |
|----|--|
| L1 |  |
| C1 |  |
| R1 |  |

# Equivalent circuit

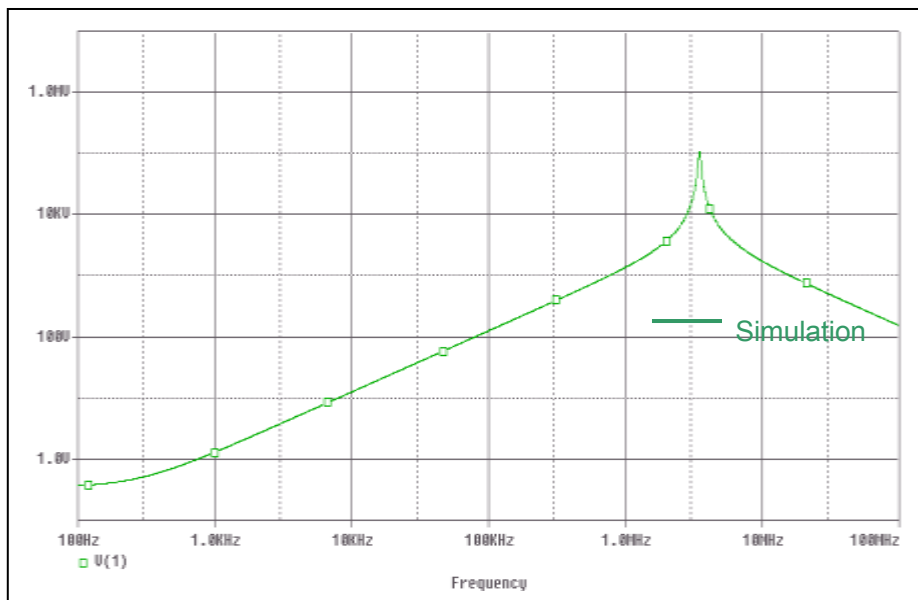


## Frequency vs. $|Z|$ Characteristic

### Evaluation circuit



### Simulation result



Comparison Table

| Frequency (Hz) | Z (ohm) :<br>Measurement | Z (ohm) :<br>Simulation | % Error |
|----------------|--------------------------|-------------------------|---------|
| <b>100</b>     | 366.056 m                | 367.478 m               | -0.388  |
| <b>100K</b>    | 130.962                  | 125.402                 | 4.246   |
| <b>1M</b>      | 1.37192 k                | 1.3656 k                | 0.461   |
| <b>10M</b>     | 1.70162 k                | 1.752 k                 | -2.961  |

|                                          | Measurement | Simulation | % Error |
|------------------------------------------|-------------|------------|---------|
| <b>F<sub>SRF</sub> (Hz)</b>              | 3.508 M     | 3.482 M    | 0.741   |
| <b> Z  (ohm),<br/>at F<sub>SRF</sub></b> | 106.695 k   | 106.751 k  | -0.052  |