

# Device Modeling Report

COMPONENTS: CHOKE COIL  
PART NUMBER: 228-488  
MANUFACTURER:  
WURTH ELEKTRONIK GmbH & CO.KG



**Bee Technologies Inc.**

## Theory: Auto Balancing Bridge Method

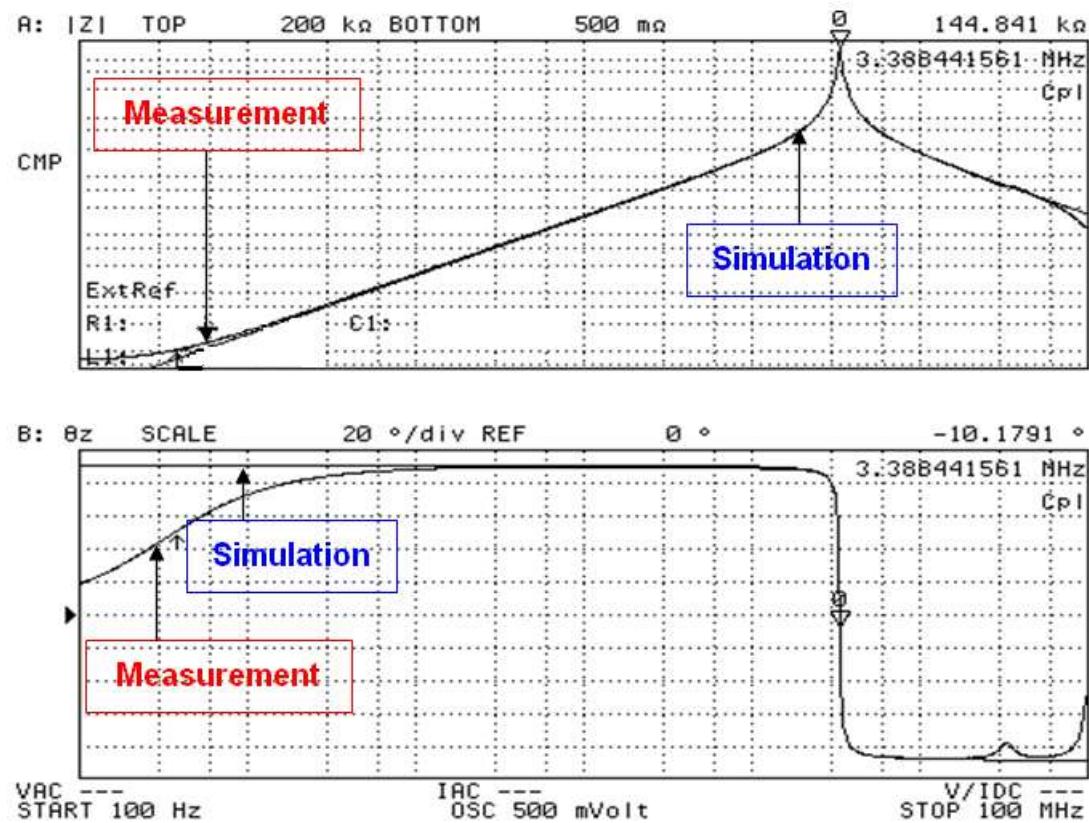
### Optimization of Simulation

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

Frequency vs. |Z| and Frequency vs.  $\theta_z$  Characteristic

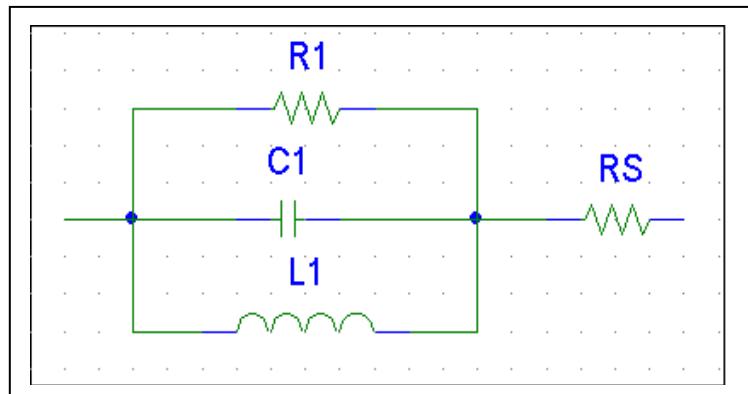
Attention)

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



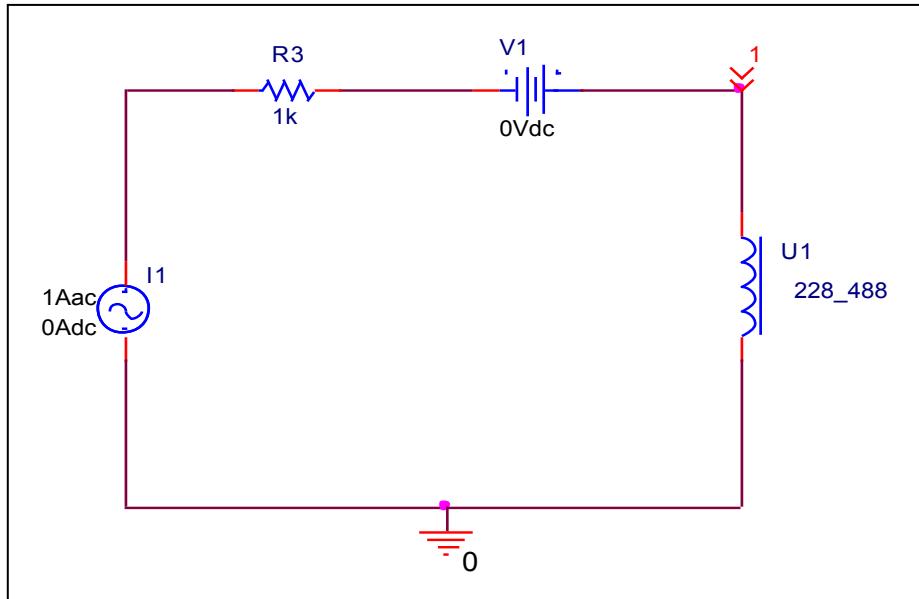
L1	
C1	
R1	

**Equivalent circuit**

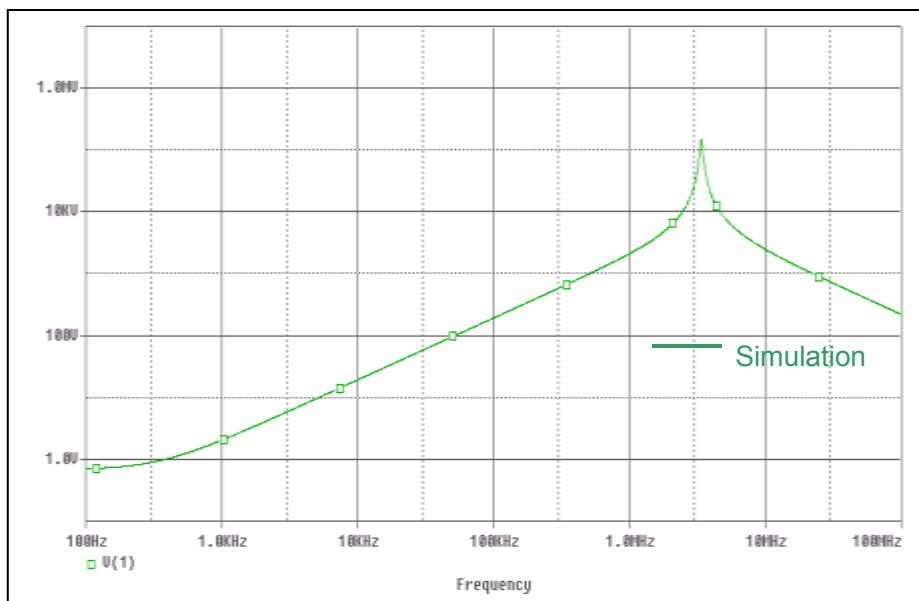


## Frequency vs. |Z| Characteristic

Evaluation circuit



Simulation result



**Comparison Table**

<b>Frequency (Hz)</b>	<b> Z (ohm) : Measurement</b>	<b> Z (ohm) : Simulation</b>	<b>% Error</b>
<b>100</b>	706.212 m	699.863 m	0.899
<b>100K</b>	201.464	192.367	4.515
<b>1M</b>	2.12997 k	2.1067 k	1.093
<b>10M</b>	2.45927 k	2.4703 k	-0.449

	<b>Measurement</b>	<b>Simulation</b>	<b>% Error</b>
<b>F<sub>SRF</sub>(Hz)</b>	3.388 M	3.3736 M	0.425
<b> Z  (ohm), at F<sub>SRF</sub></b>	144.899 k	146.045 k	-0.791