

# Device Modeling Report

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MANUFACTURER:  
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**Bee Technologies Inc.**

## Theory: Auto Balancing Bridge Method

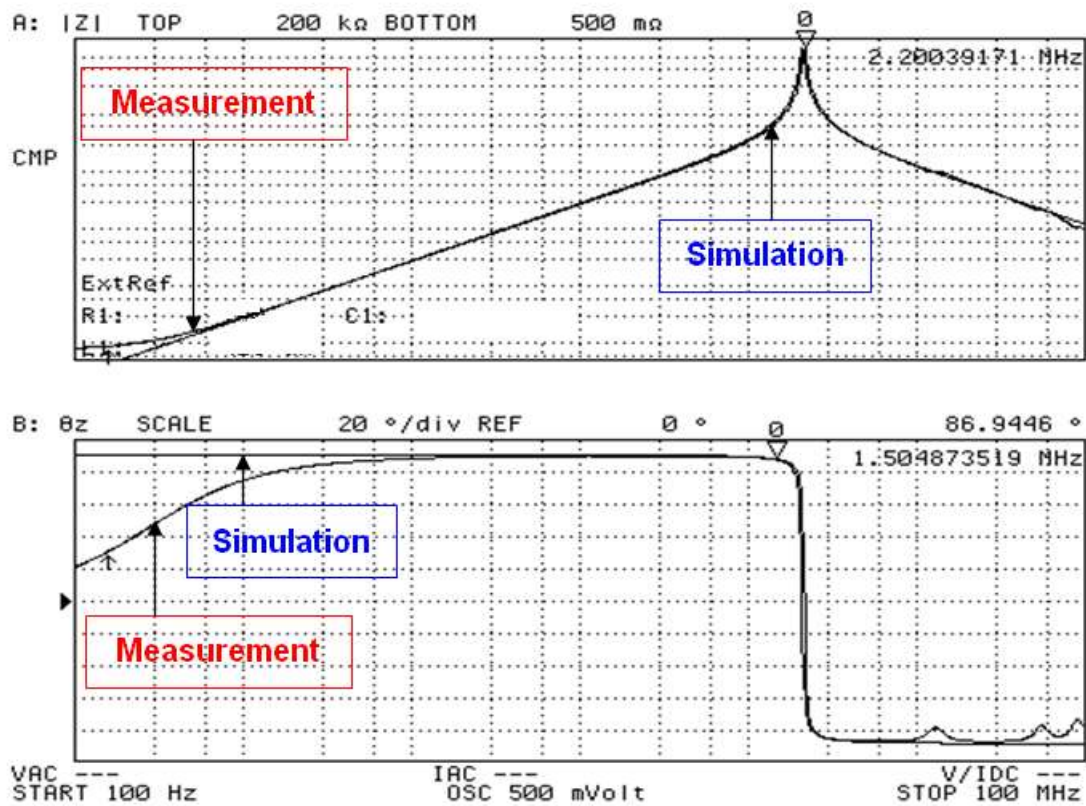
### Optimization of Simulation

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

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

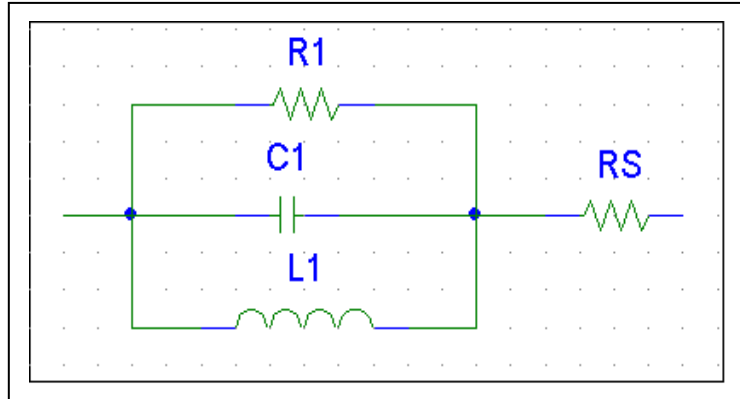
Attention)

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



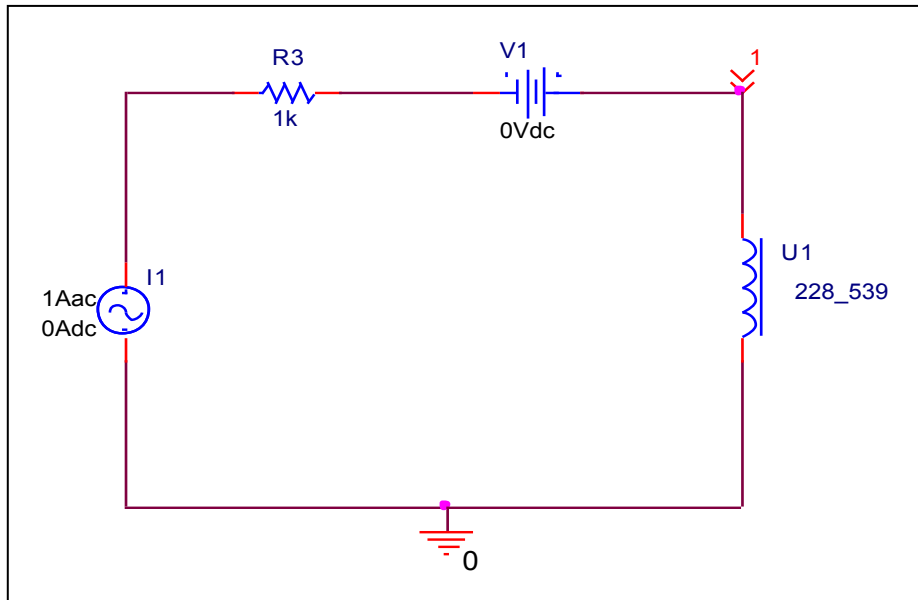
L1	
C1	
R1	

Equivalent circuit

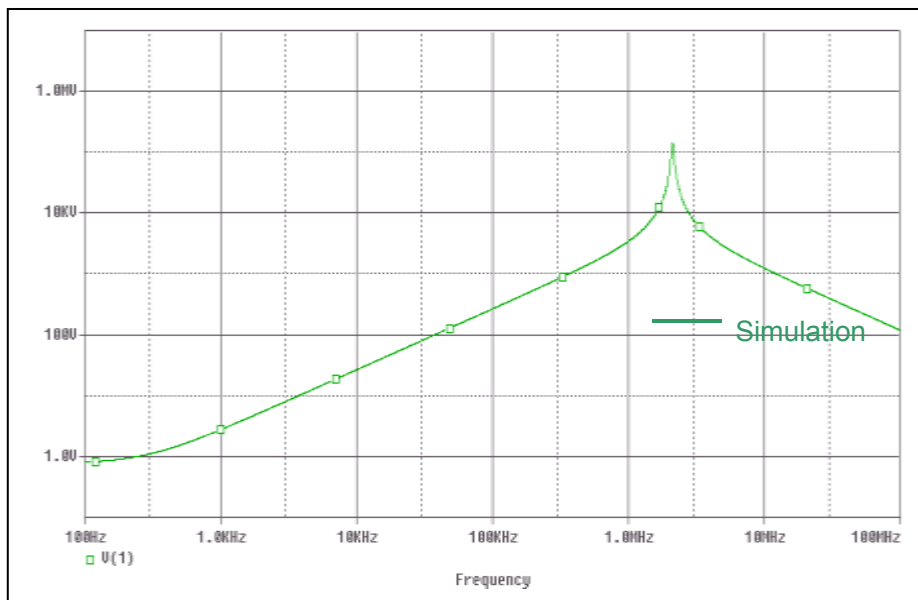


# Frequency vs. $|Z|$ Characteristic

## Evaluation circuit



## Simulation result



Comparison Table

Frequency (Hz)	Z (ohm) : Measurement	Z (ohm) : Simulation	% Error
<b>100</b>	802.085 m	804.913 m	-0.353
<b>1K</b>	2.78297	2.7643	0.671
<b>10K</b>	26.1401	26.590	-1.721
<b>100K</b>	255.495	266.379	-4.260
<b>10M</b>	1.19374 k	1.2393 k	-3.817

	Measurement	Simulation	% Error
<b>F<sub>SRF</sub> (Hz)</b>	2.20 M	2.1115 M	4.023
<b> Z  (ohm), at F<sub>SRF</sub></b>	138.161 k	139.980 k	-1.317