

# Device Modeling Report

COMPONENTS: CAPACITOR/ ELECTROLYTIC  
PART NUMBER: UUG1A103MRR1MS  
MANUFACTURER: Nichicon  
REMARK: TA=25C



**Bee Technologies Inc.**

## Theory: Auto Balancing Bridge Method

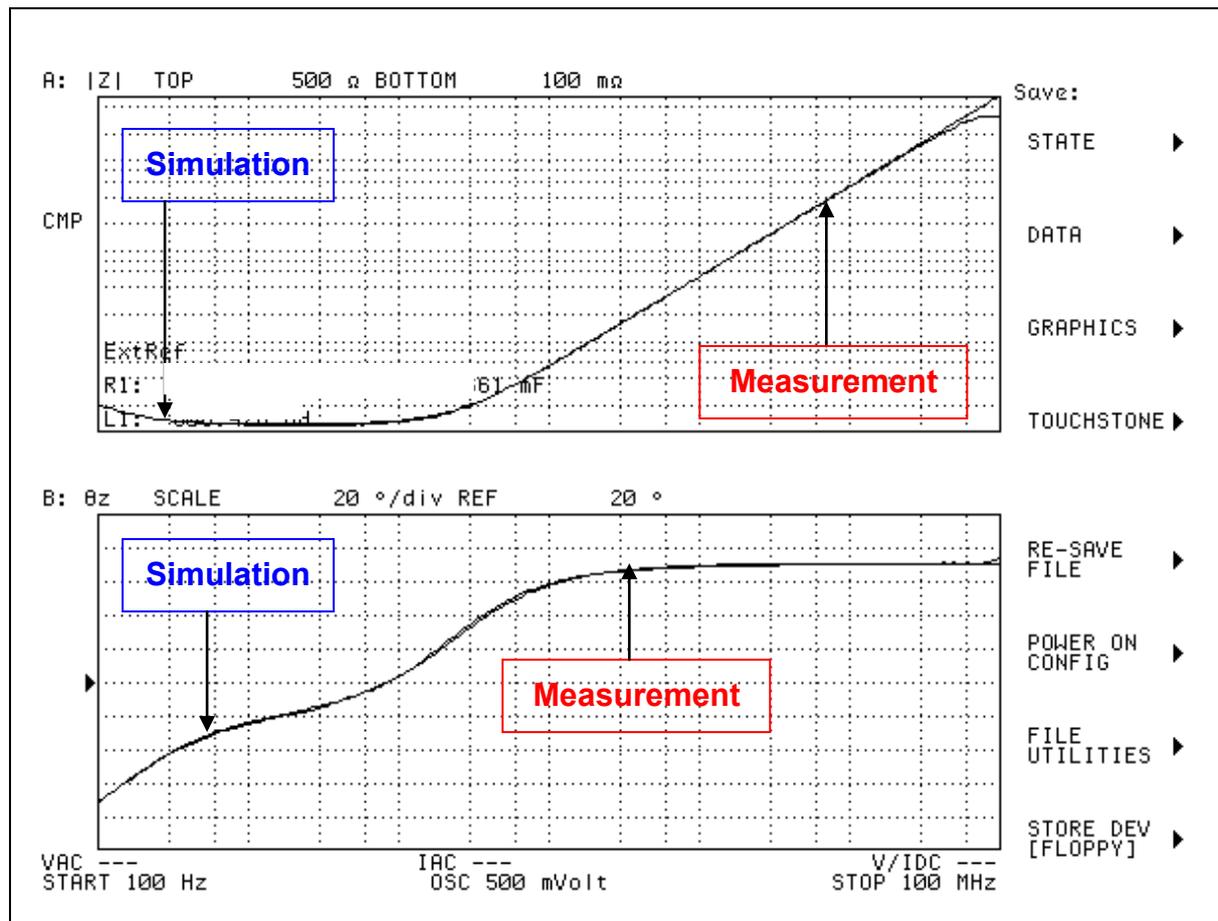
### Optimization of Simulation

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

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

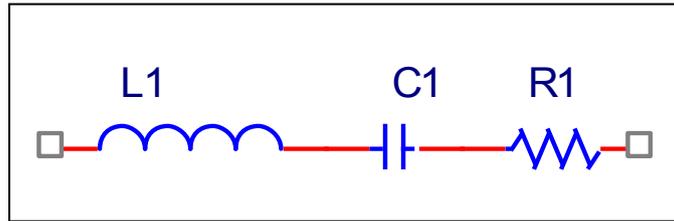
Attention)

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



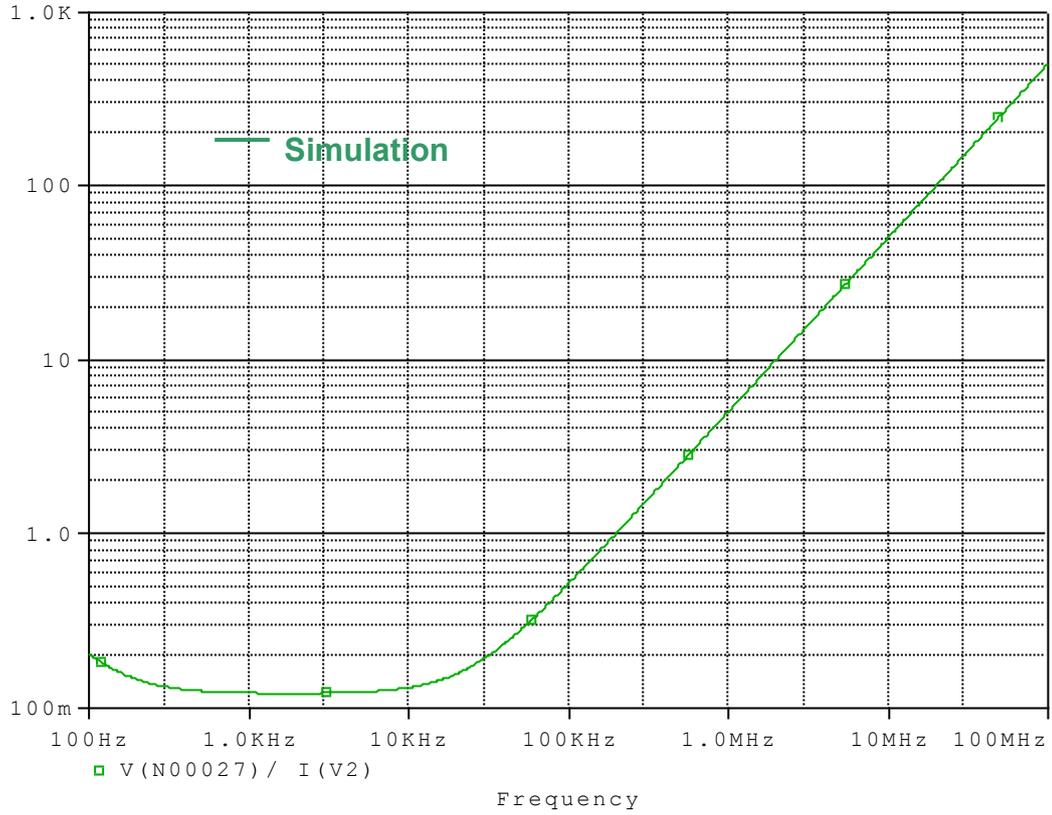
	Measurement	
R1		
C1		
L1		

Equivalent circuit

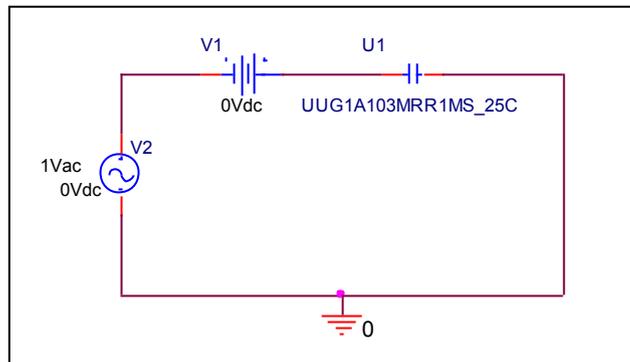


# Frequency vs. IZI Characteristic

## Circuit Simulation result



## Evaluation Circuit



Simulation result

Frequency (Hz)	Z  ( $\Omega$ )		% Error
	Measurement	Simulation	
100	204.559	204.246	- 0.153
1K	118.128	122.315	3.544
10K	127.353	131.281	3.085
100K	528.538	520.964	- 1.433
1M	5.303	5.068	- 4.426
10M	50.689	50.670	- 0.038