

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1B3KX331KA5B
MANUFACTURER: MURATA
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

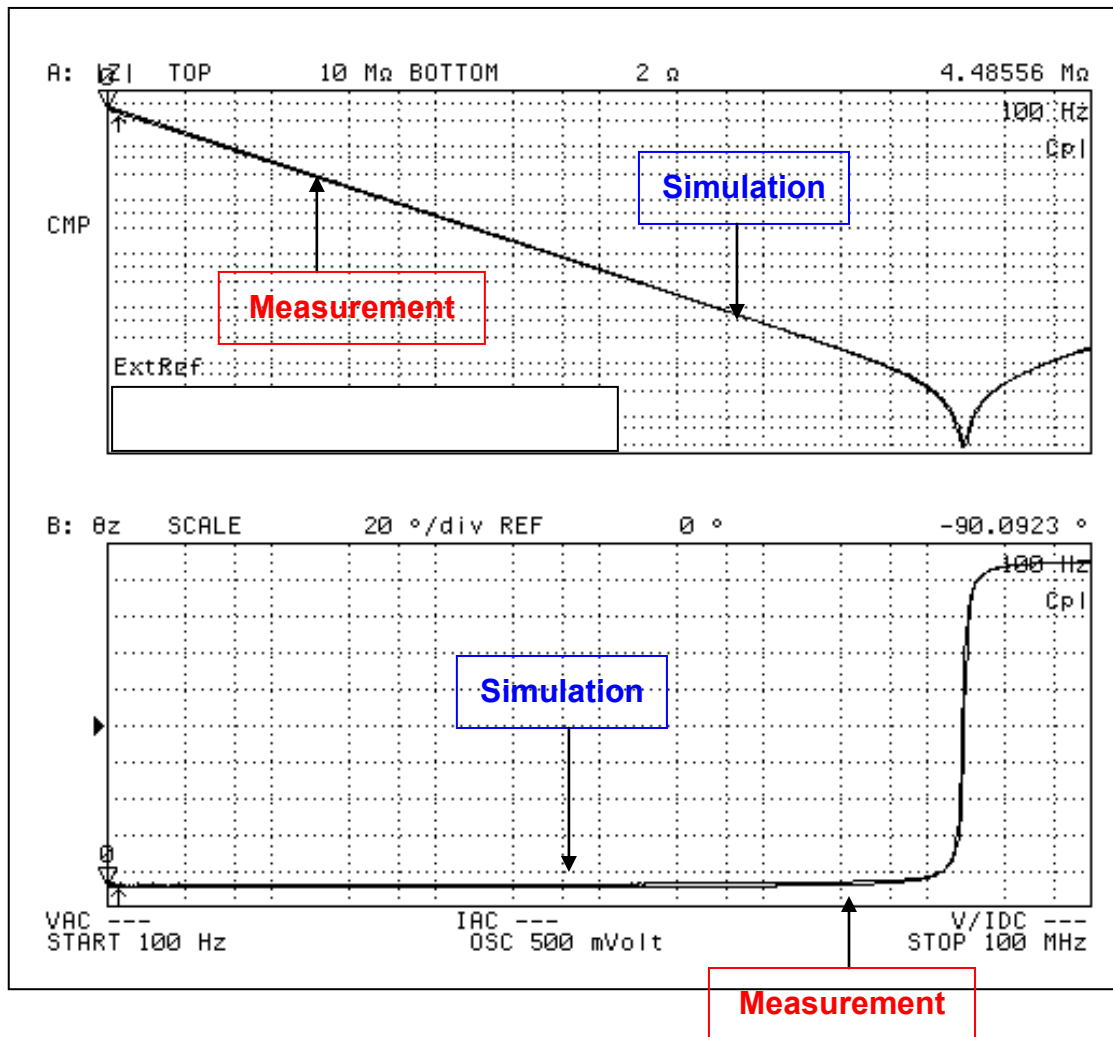
Optimization of Simulation

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

Frequency vs. $|Z|$ and Frequency vs. θ_z Characteristic

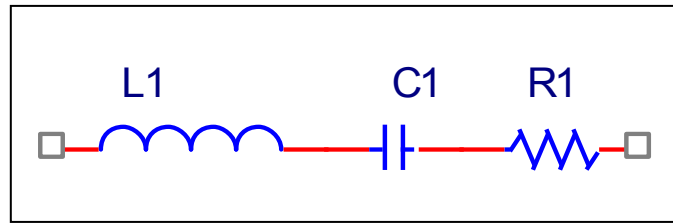
Attention)

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



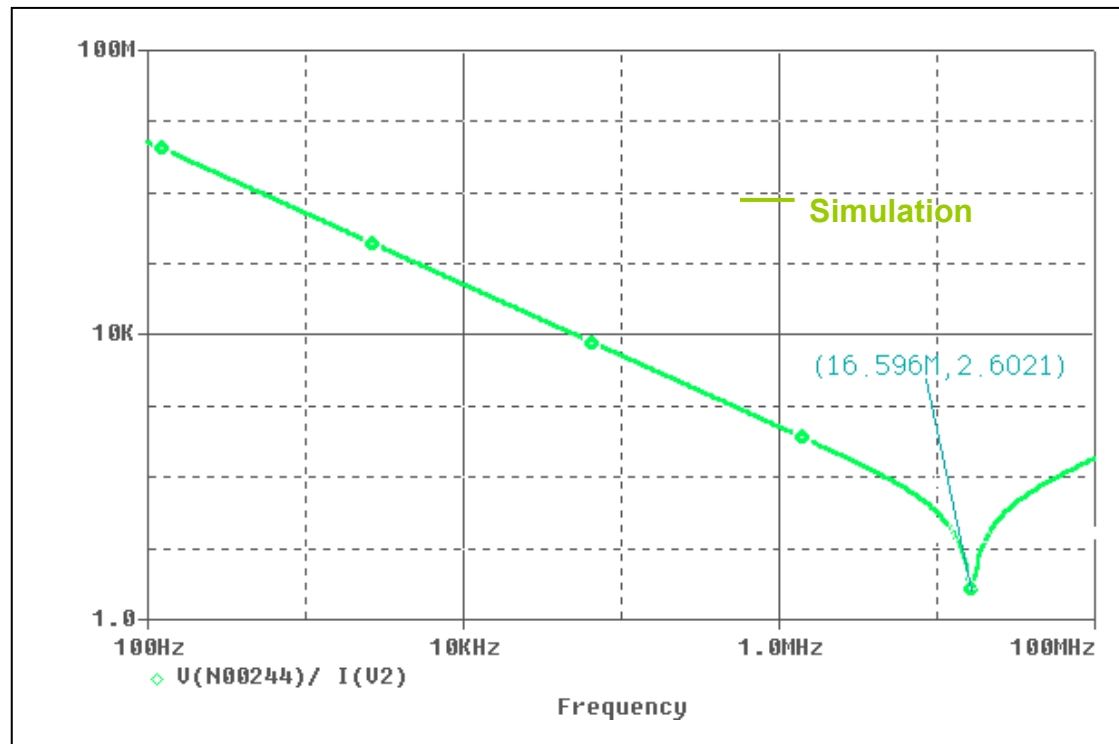
L1	
C1	
R1	

Equivalent circuit

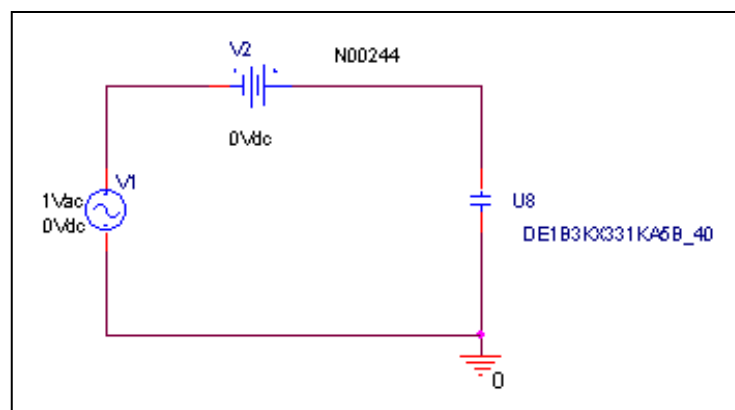


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	4.71156M	5.1399M	9.0913
1K	470.008K	513.992K	9.3581
10K	48.2359K	51.399K	6.5576
100K	4.96981K	5.140K	3.4184
1M	516.172	512.140	0.7811
10M	35.9199	32.919	8.3544
100M	169.816	180.712	6.4164
100	4.71156	5.1399	9.0913

	Measurement	Simulation	%Error
FSRF(Hz)	17.179M	16.596M	3.3937
IZI (ohm)	2.59974	2.6021	0.0908