

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1B3KX471KA5B
MANUFACTURER: MURATA
REMARK: TA=60C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

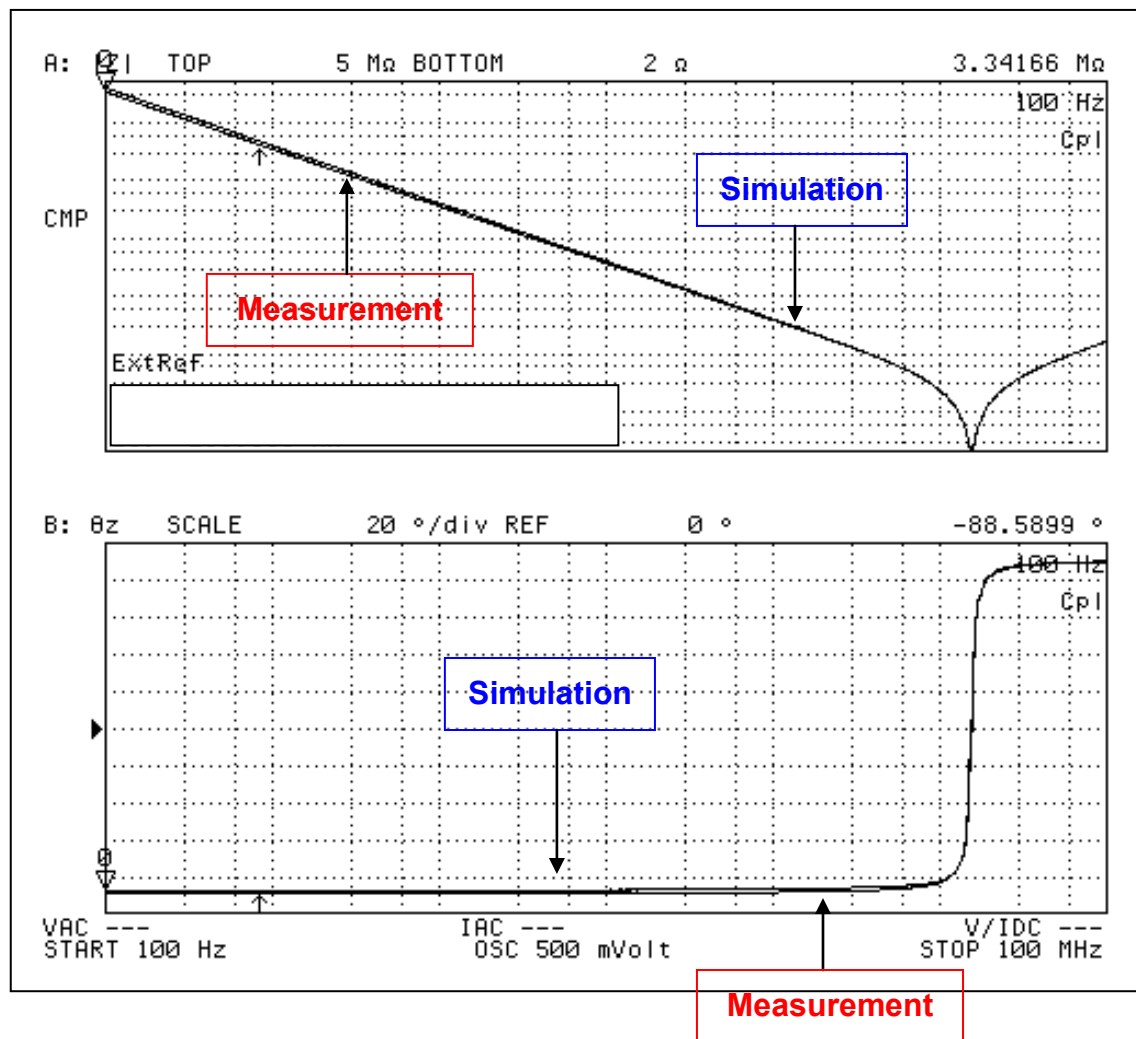
Optimization of Simulation

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

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

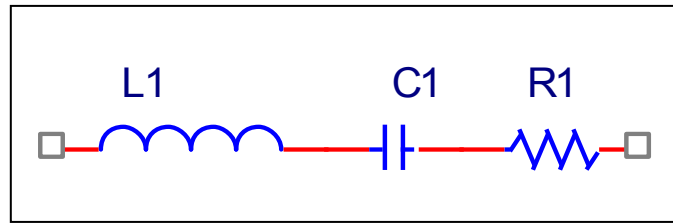
Attention)

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



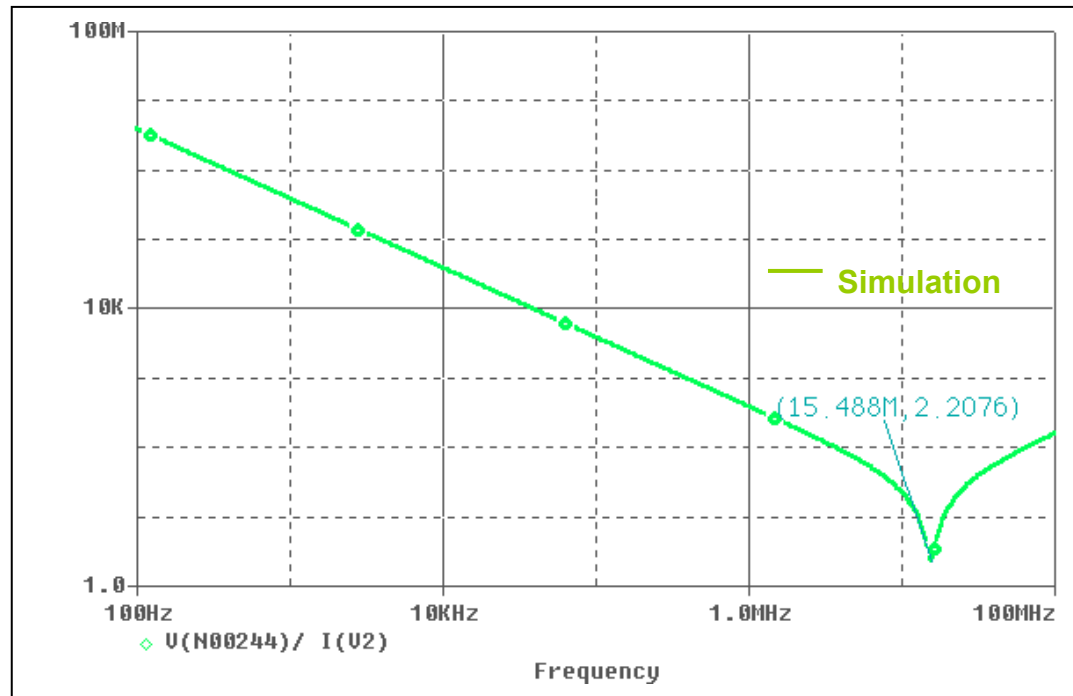
L1	
C1	
R1	

Equivalent circuit

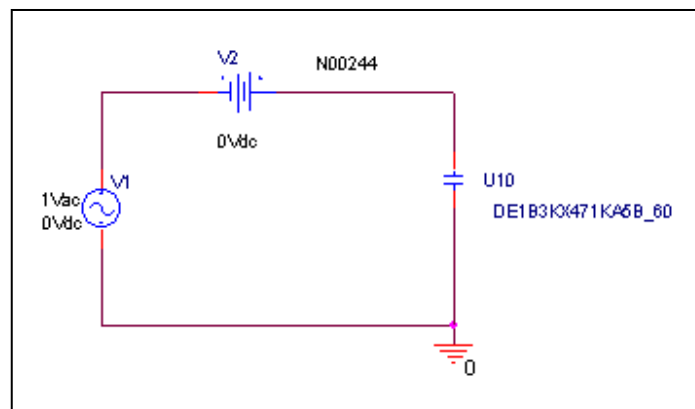


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	3.33391M	3.9148M	17.4237
1K	342.061K	391.484K	14.4486
10K	35.0916K	39.148K	11.5595
100K	3.61693K	3.915K	8.2327
1M	375.867	389.876	3.7271
10M	23.603	23.113	2.0760
100M	154.565	157.492	-1.8937

	Measurement	Simulation	%Error
FSRF(Hz)	15.48816M	15.488M	0.0010
IZI (ohm)	2.18655	2.2076	0.9627