

Device Modeling Report

COMPONENTS: CAPACITOR/CERAMIC
PART NUMBER: DE1B3KX471KA5B
MANUFACTURER: MURATA
REMARK: Ta = 80 °C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

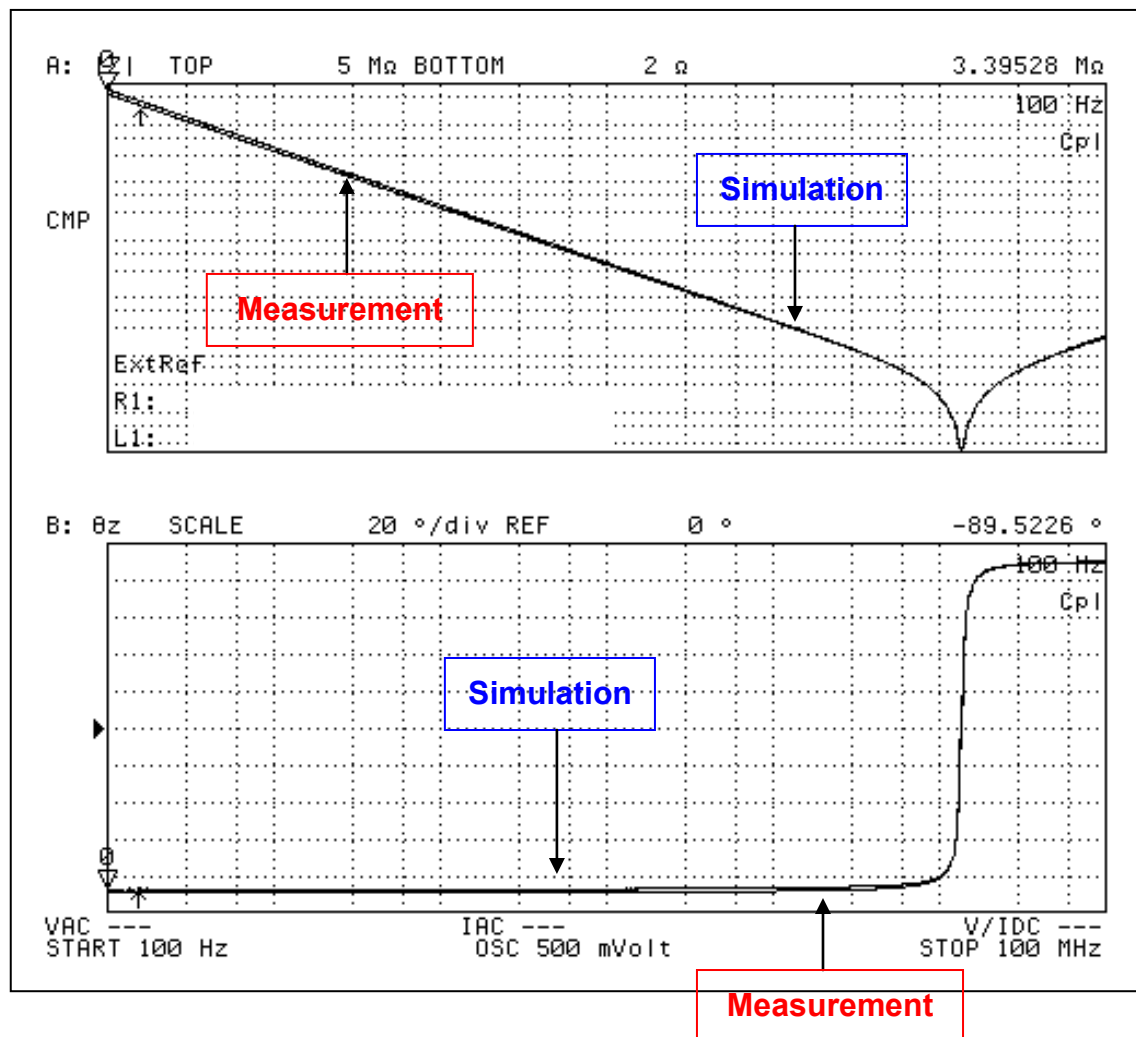
Optimization of Simulation

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)

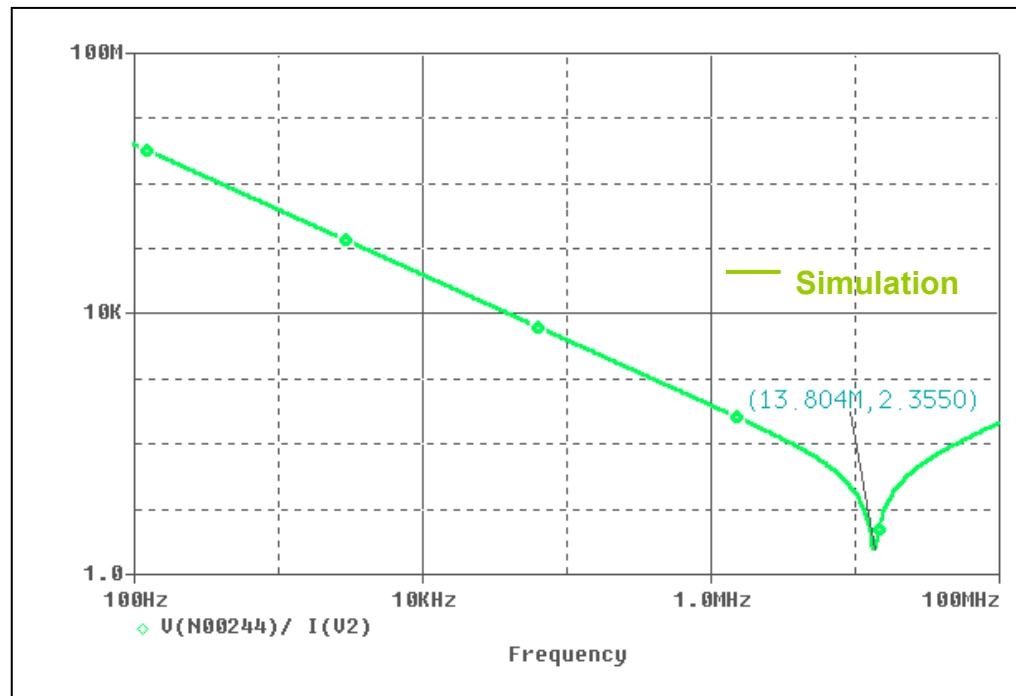


Equivalent circuit

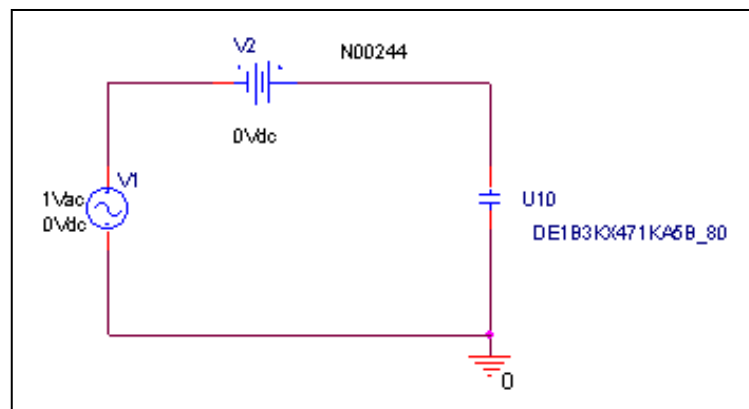


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	3.42291M	3.9567M	15.5946
1K	344.862K	395.674K	14.7340
10K	35.4019K	39.567K	11.7652
100K	3.65394K	3.957K	8.2804
1M	378.632	393.564	3.9437
10M	18.9458	18.545	2.1155
100M	187.087	207.699	11.0173

	Measurement	Simulation	%Error
FSRF(Hz)	13.7246M	13.804M	0.5785
IZI (ohm)	2.28261	2.3550	3.1714