

Device Modeling Report

COMPONENTS: CAPACITOR/CERAMIC
PART NUMBER: DE1E3KX102MA5B
MANUFACTURER: MURATA
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

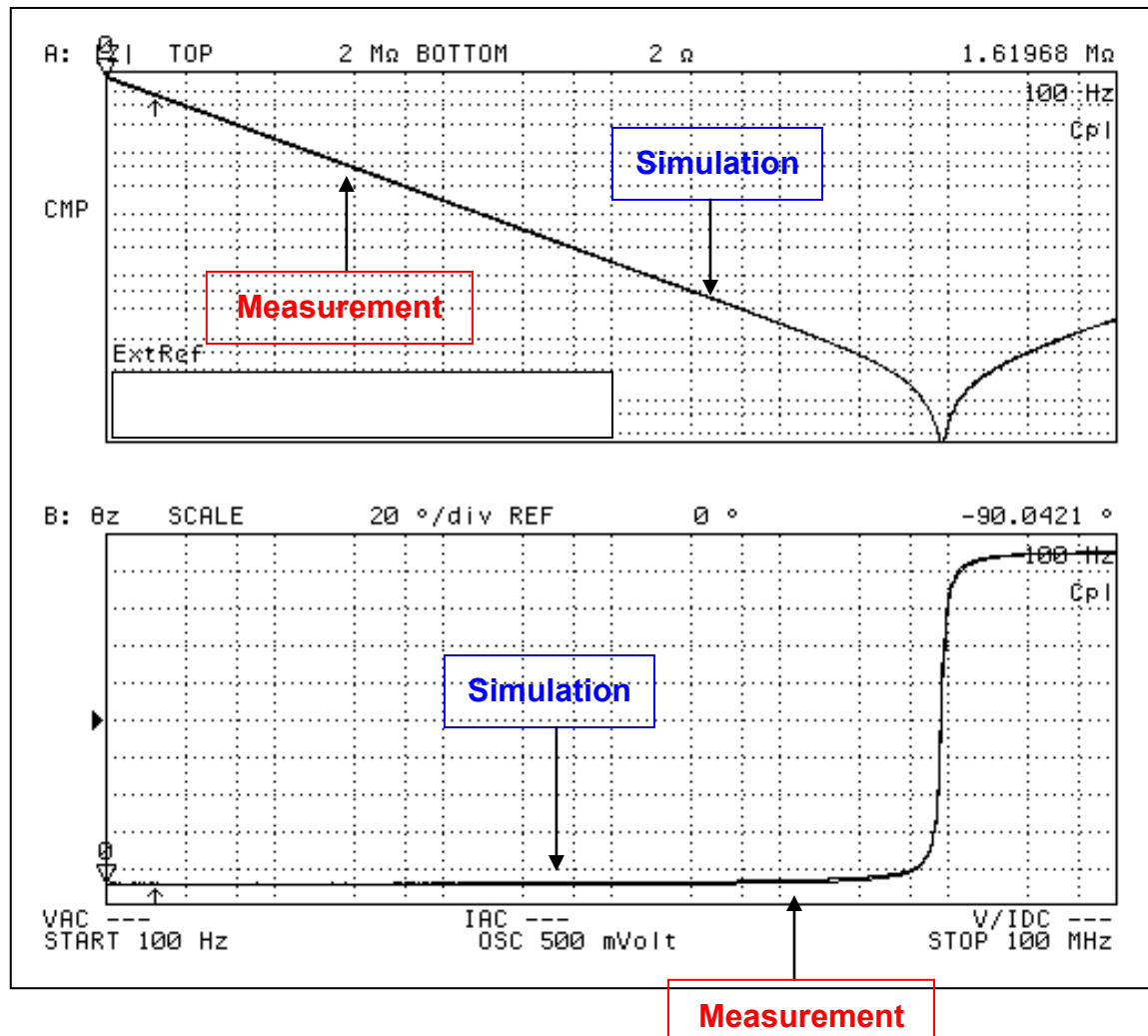
Optimization of Simulation

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)



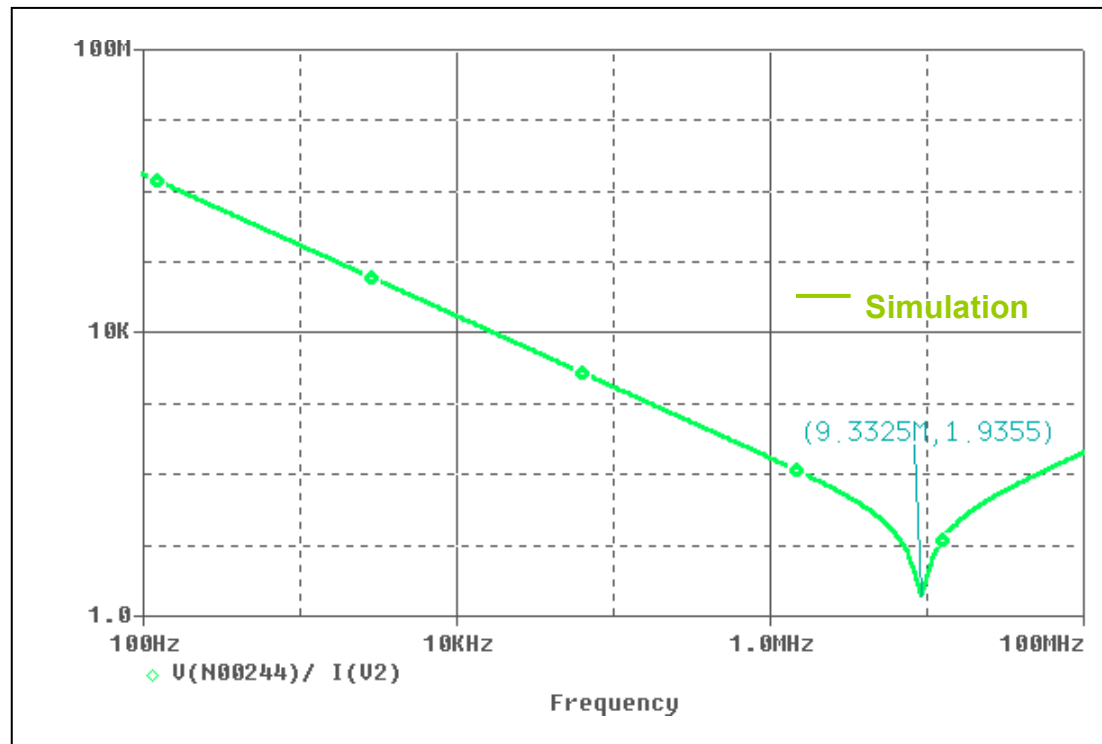
L1	
C1	
R1	

Equivalent circuit

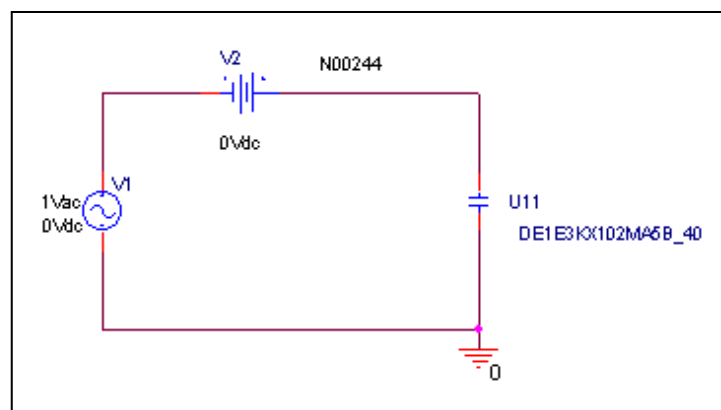


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	1.61968M	1.7273M	6.6445
1K	162.839K	172.727K	6.0723
10K	16.4004K	17.273K	5.3206
100K	1.66043K	1.727K	4.0152
1M	168.514	170.725	1.3121
10M	3.75511	3.620	3.5927
100M	188.944	199.550	5.6133

	Measurement	Simulation	%Error
FSRF(Hz)	9.225M	9.333M	1.1653
IZI (ohm)	1.91397	1.9355	1.1249