

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1B3KX471KA5B
MANUFACTURER: MURATA
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

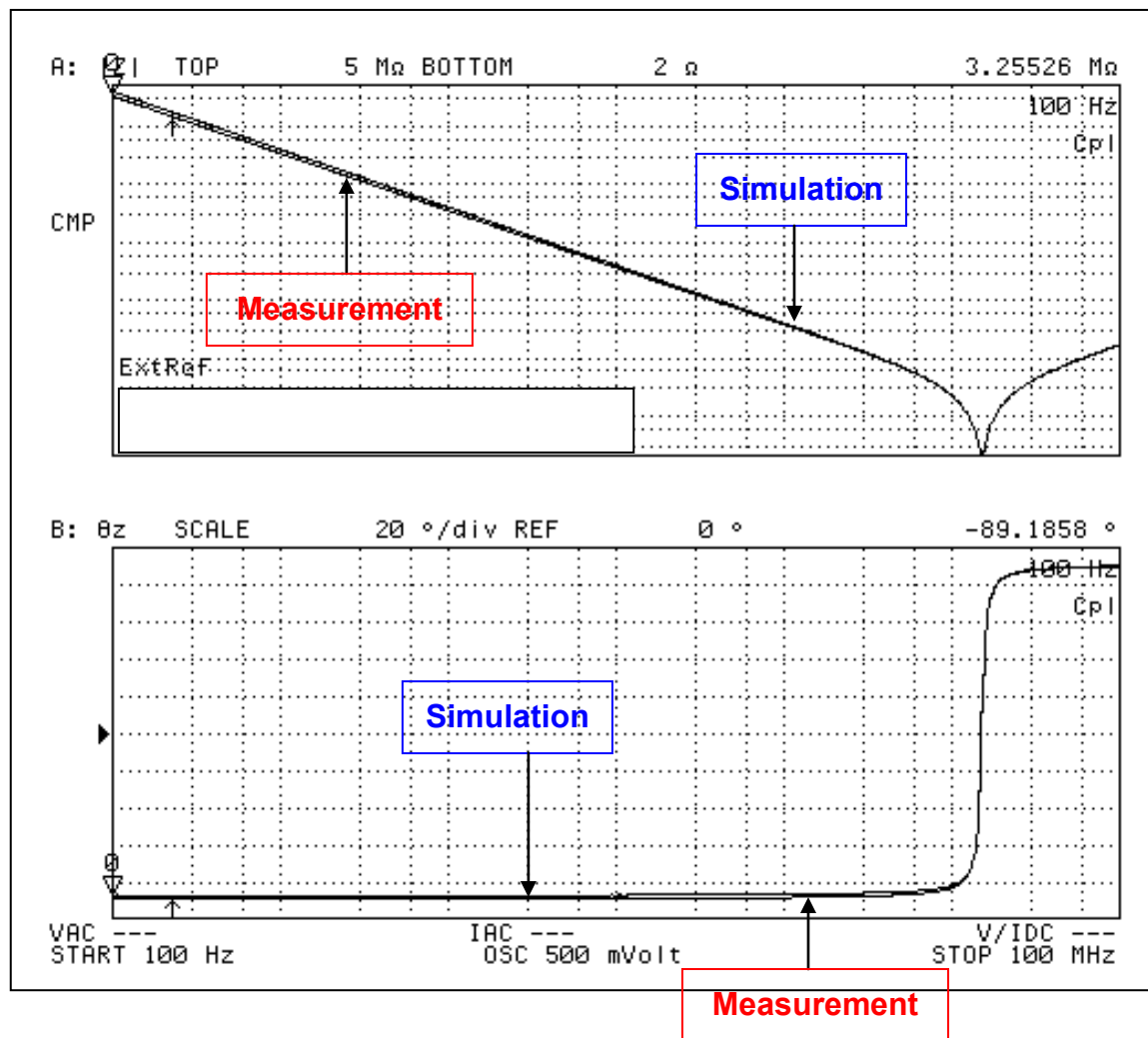
Optimization of Simulation

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

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

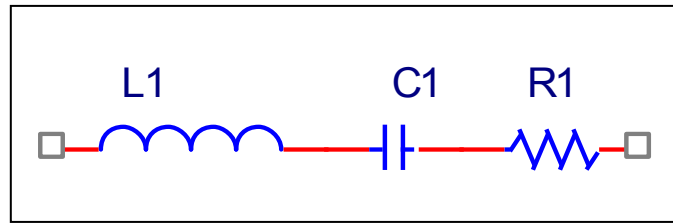
Attention)

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



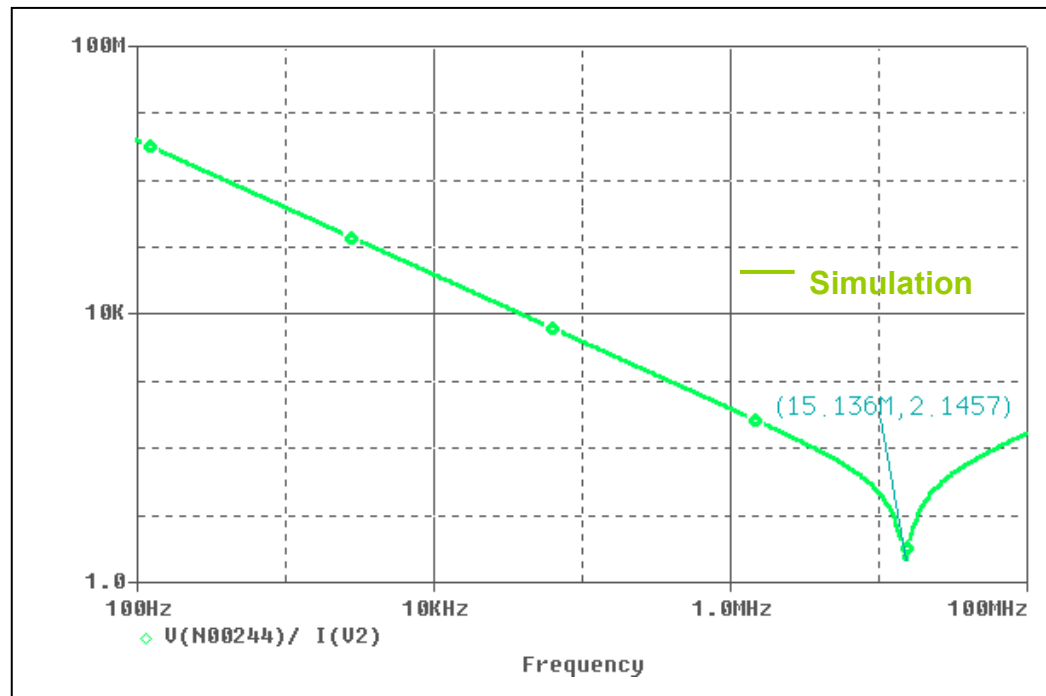
L1	
C1	
R1	

Equivalent circuit

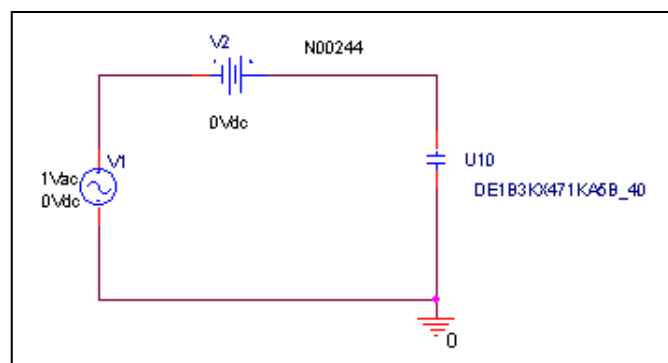


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	3.32025M	3.9140M	17.8827
1K	337.413K	391.400K	16.0003
10K	34.5883K	39.140K	13.1597
100K	3.57256K	3.914K	9.5517
1M	371.48	389.717	4.9093
10M	22.4402	22.351	0.3975
100M	158.623	165.004	4.0227

	Measurement	Simulation	%Error
FSRF(Hz)	15.212M	15.136M	0.4996
IZI (ohm)	2.12433	2.1457	1.0060