

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX472MA5B
MANUFACTURER: MURATA
REMARK: TA=60C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

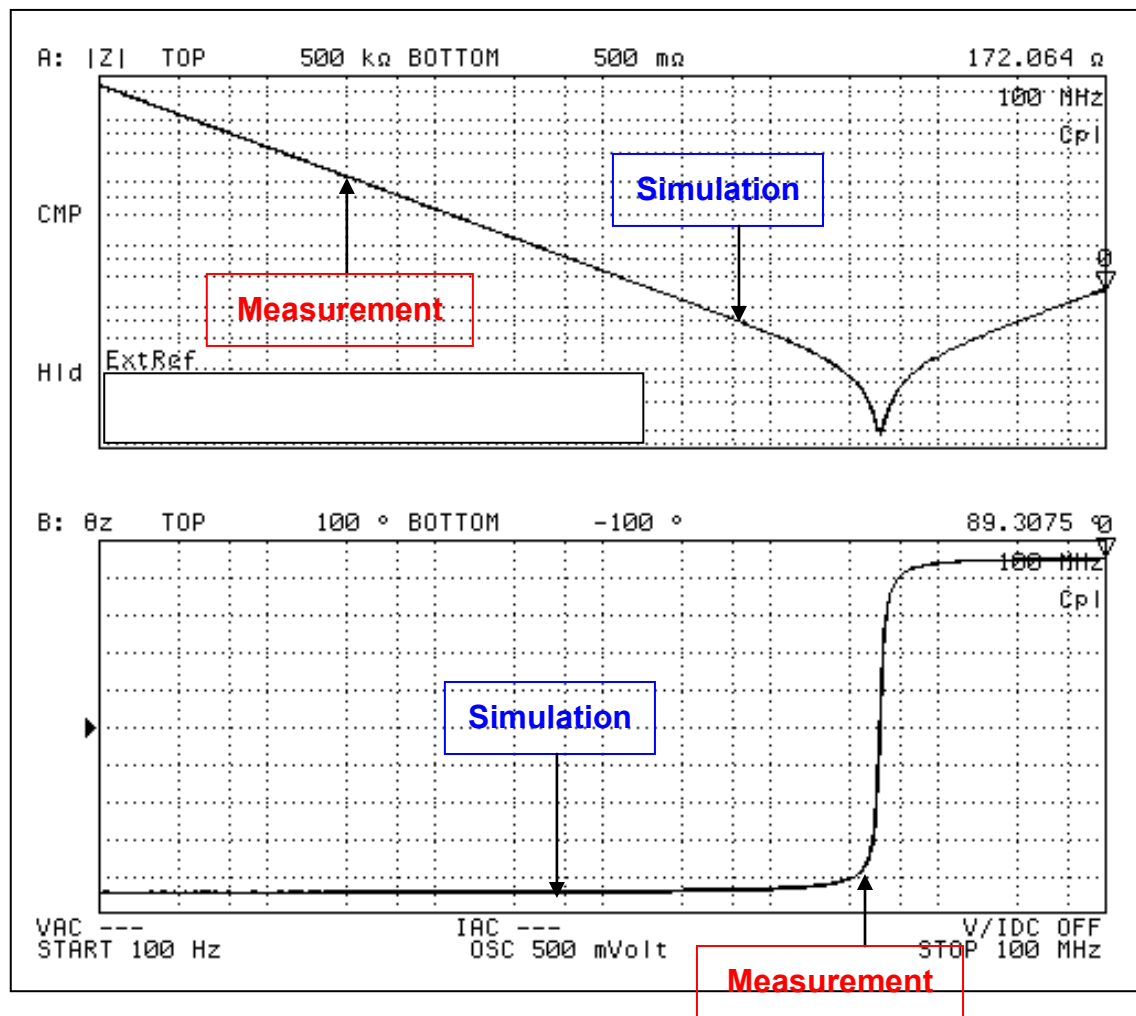
Optimization of Simulation

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

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

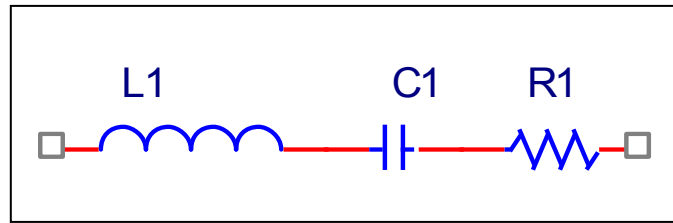
Attention)

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



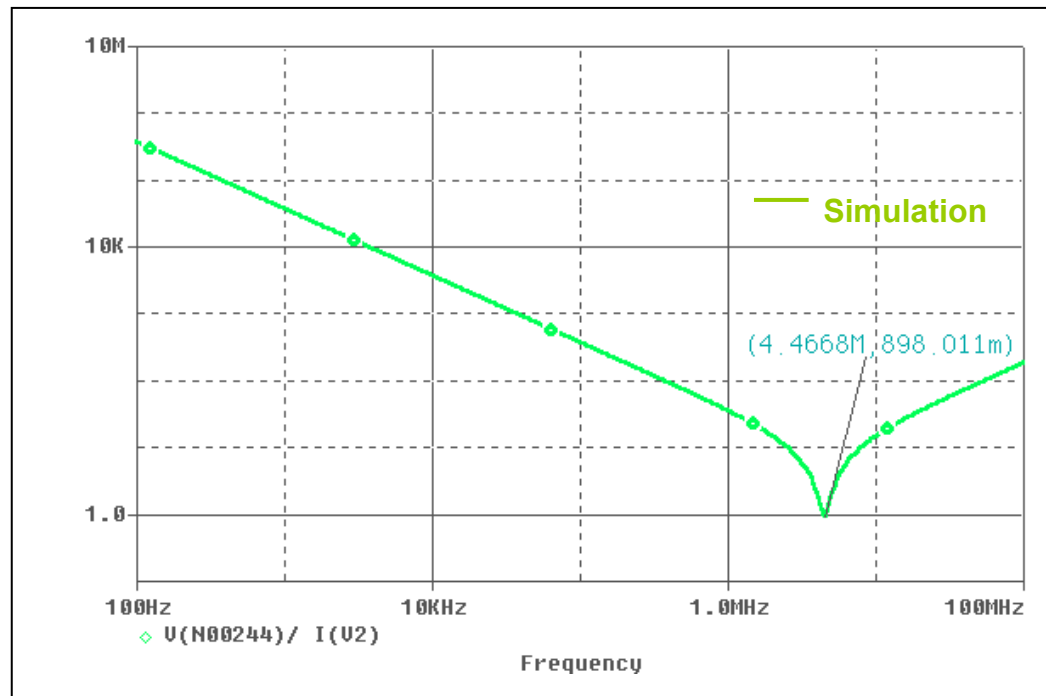
L1	
C1	
R1	

Equivalent circuit

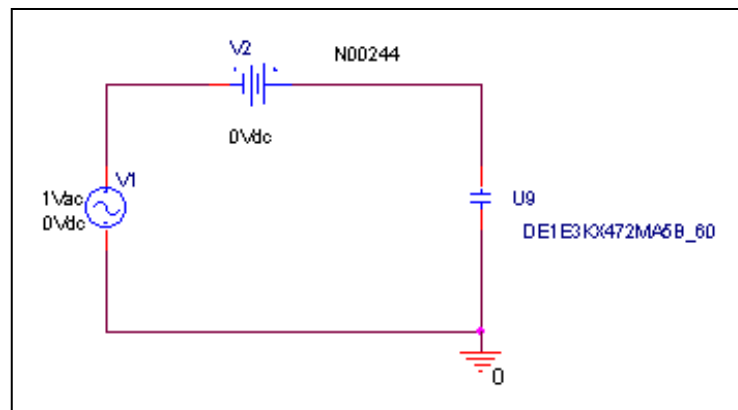


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	358.466K	375.755K	4.8231
1K	36.0126K	37.576K	4.3413
10K	3.64095K	3.7575K	3.2011
100K	370.228	375.572	1.4434
1M	36.4511	35.742	1.9453
10M	14.6823	14.71	0.1887
100M	172.064	184.036	6.9579

	Measurement	Simulation	%Error
FSRF(Hz)	4.5708M	4.4668M	2.2753
IZI (ohm)	850.192m	898.011m	5.6245