

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX472MA5B
MANUFACTURER: MURATA
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

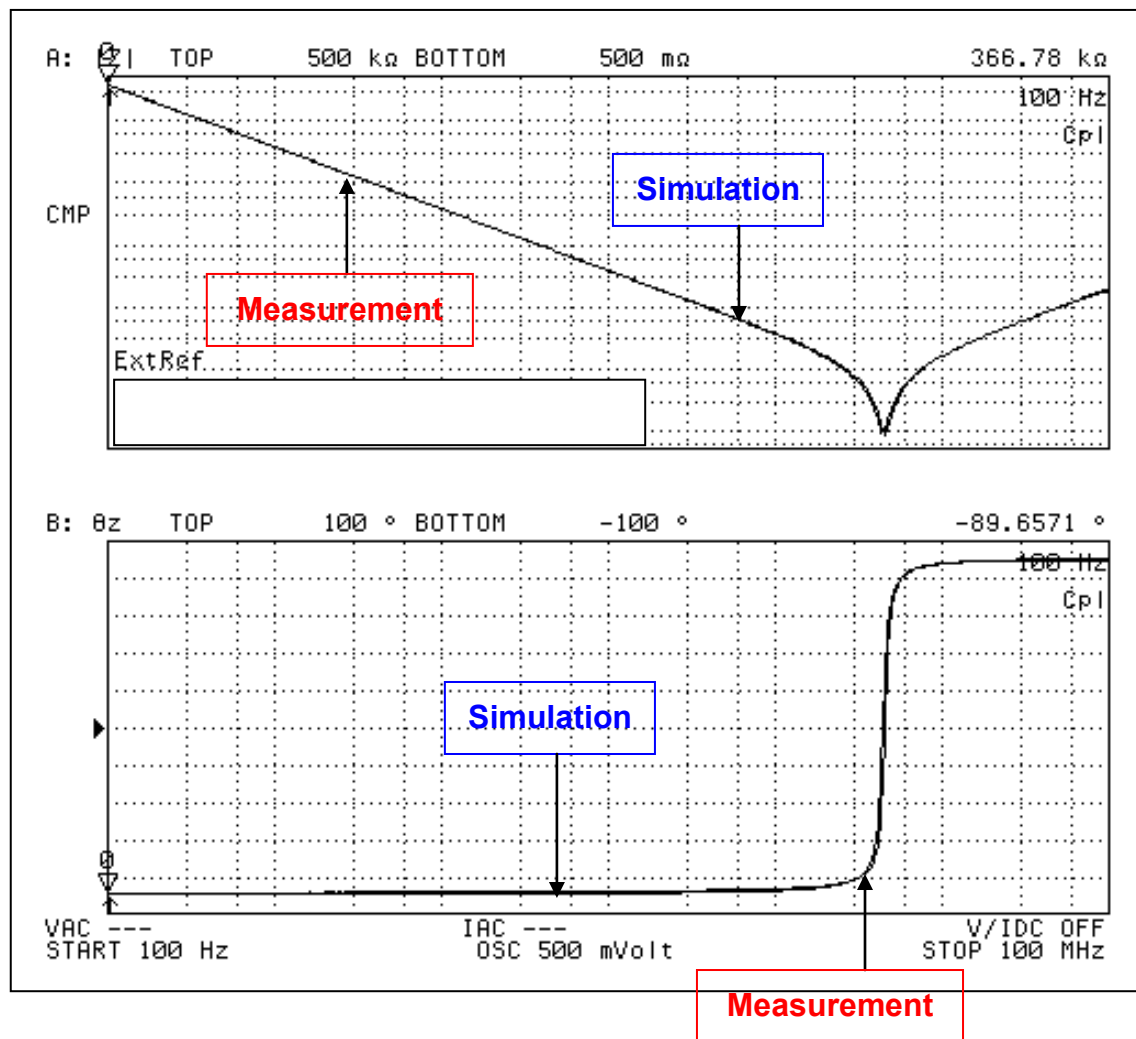
Optimization of Simulation

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

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

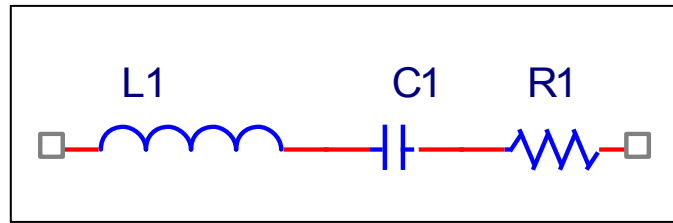
Attention)

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



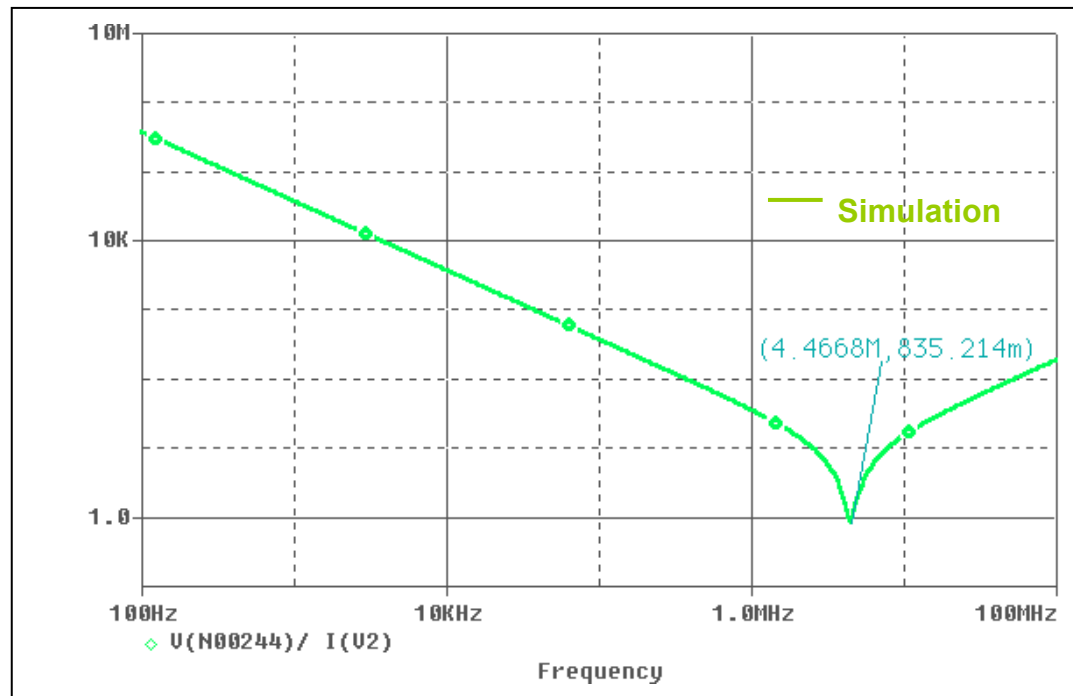
L1	
C1	
R1	

Equivalent circuit

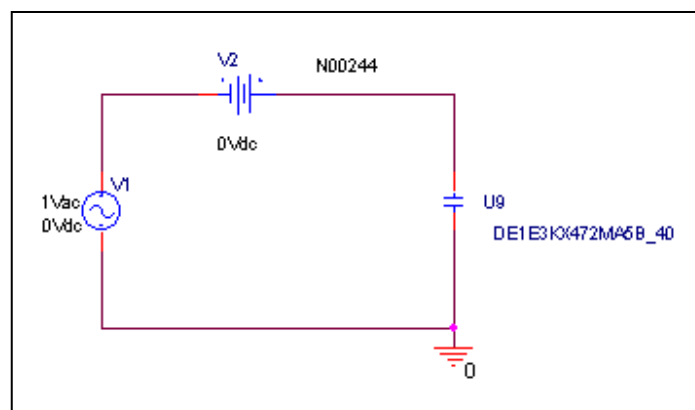


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	366.78K	374.098K	1.9952
1K	36.9641K	37.410K	1.2063
10K	3.71979K	3.7410K	0.5702
100K	378.439	373.912	1.1962
1M	37.1049	35.542	4.2121
10M	14.892	15.063	1.1483
100M	171.92	187.436	9.0251

	Measurement	Simulation	%Error
FSRF(Hz)	4.570M	4.4668M	2.2582
IZI (ohm)	830.644m	835.214m	0.5502