

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX392MA5B
MANUFACTURER: MURATA
REMARK: TA=80C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

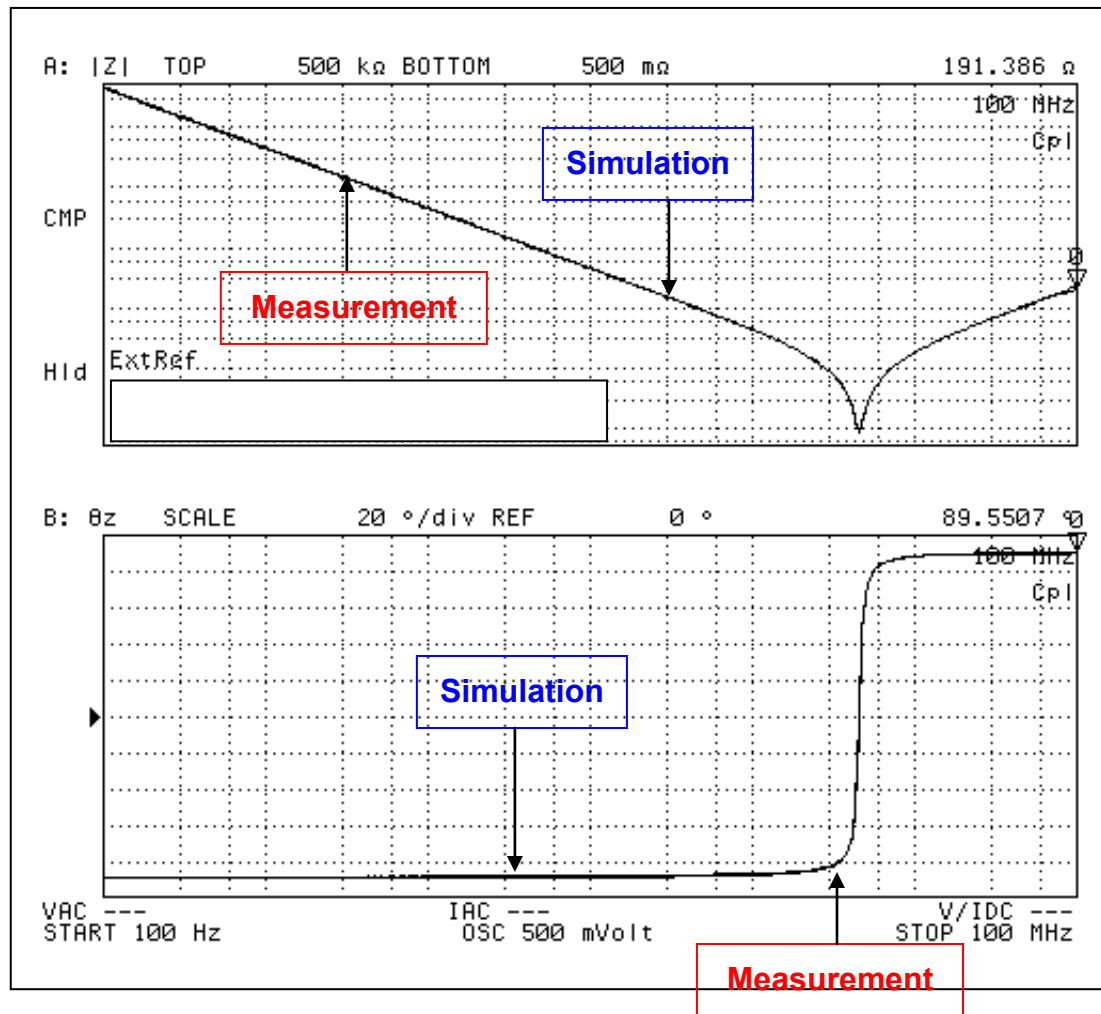
Optimization of Simulation

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)



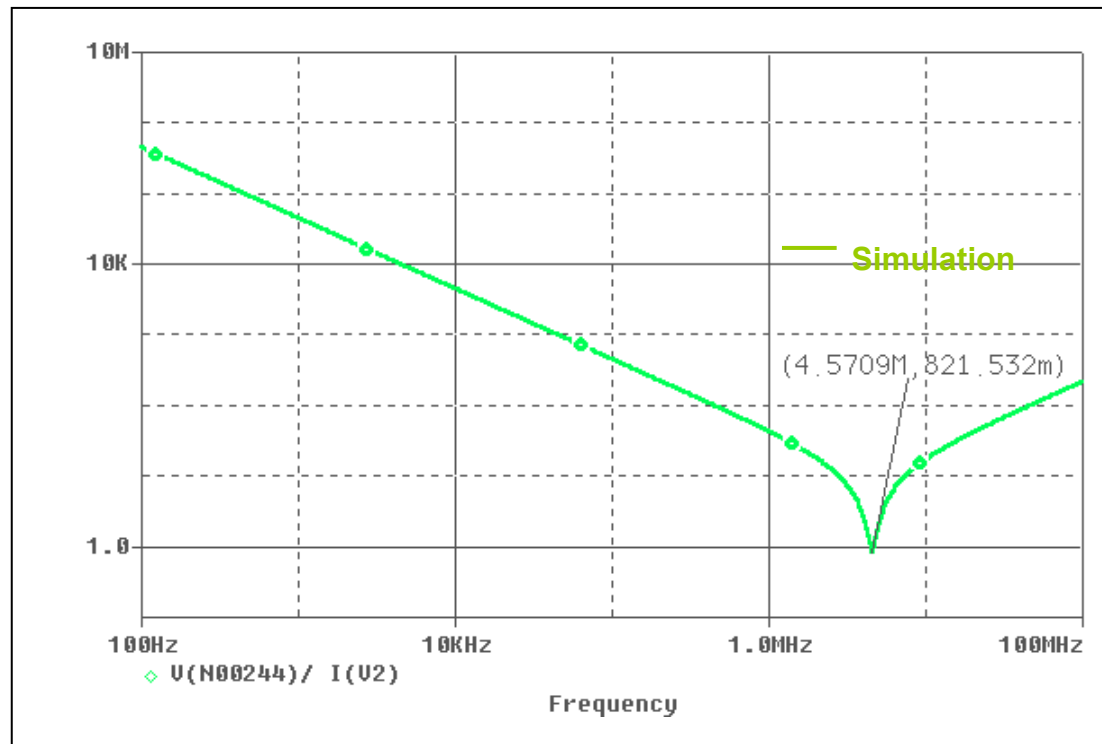
L1	
C1	
R1	

Equivalent circuit

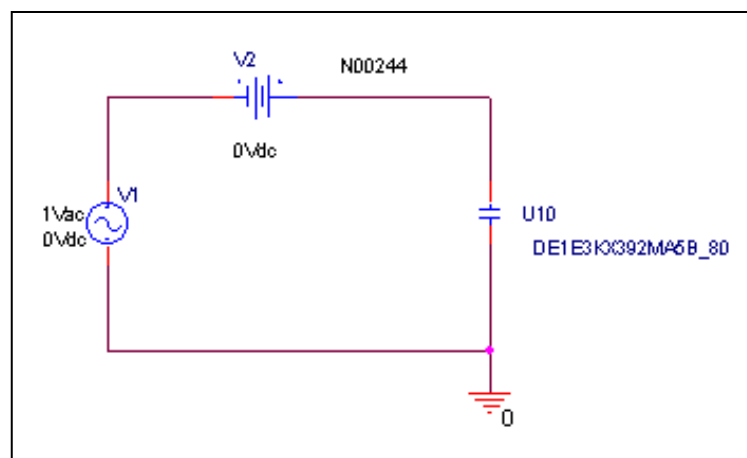


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	427.376K	451.891K	5.7362
1K	42.6723K	45.189K	5.8976
10K	4.30765K	4.5189K	4.9040
100K	436.385	451.676	3.5040
1M	42.5977	43.042	1.0430
10M	16.9828	17.049	0.3898
100M	191.386	215.032	12.3551

	Measurement	Simulation	%Error
FSRF(Hz)	4.5708M	4.5709M	0.0022
IZI (ohm)	814.07m	821.532m	0.9166