

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX221KA5B
MANUFACTURER: MURATA
REMARK: TA=25C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

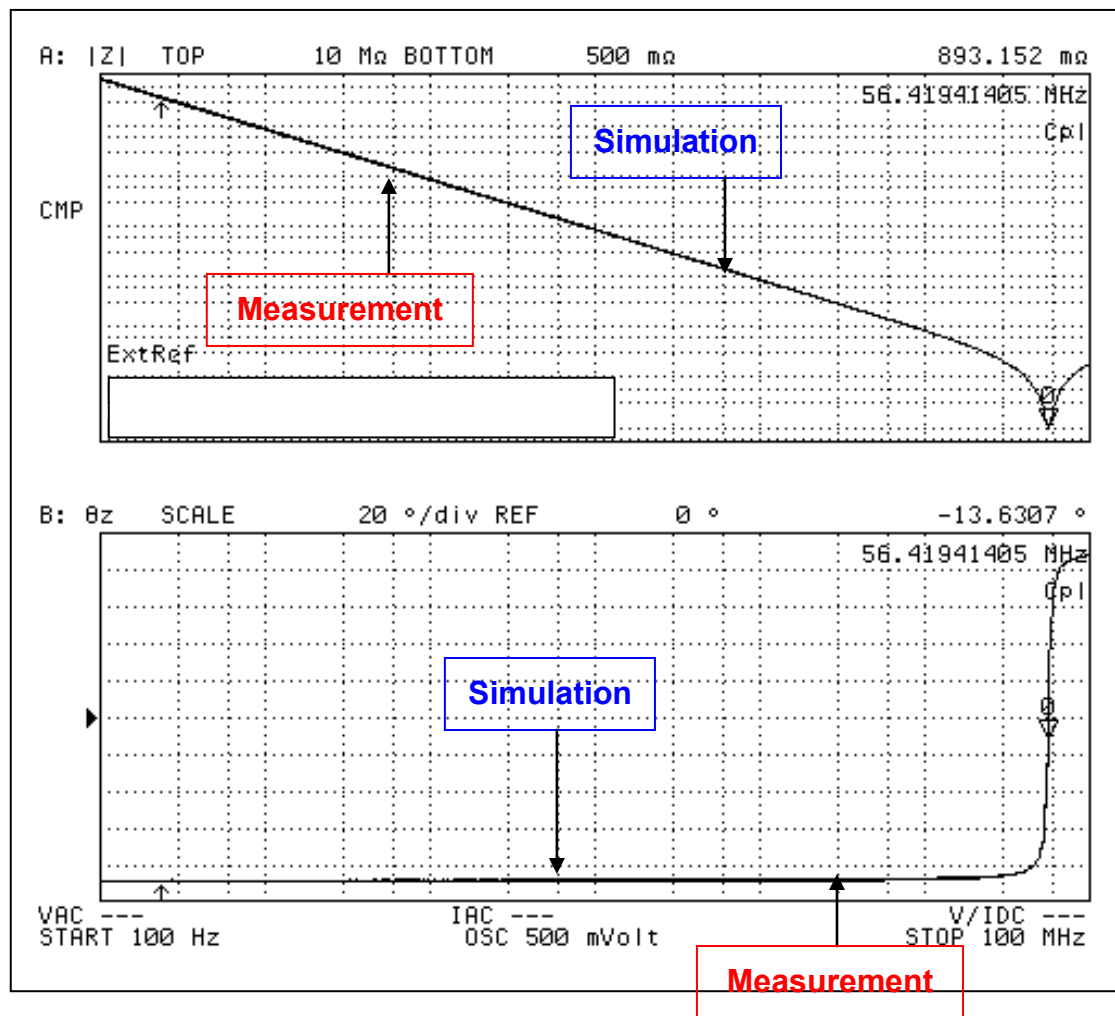
Optimization of Simulation

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

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

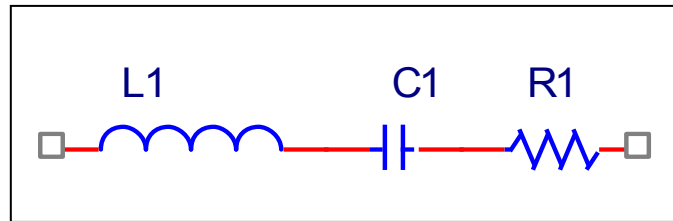
Attention)

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



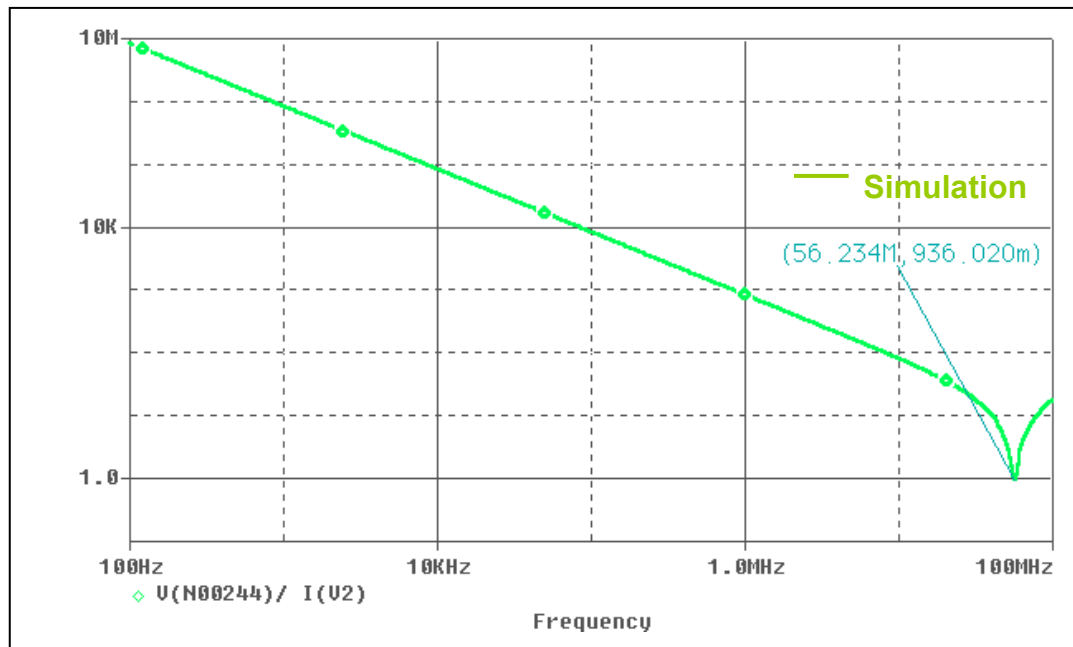
L1	
C1	
R1	

Equivalent circuit

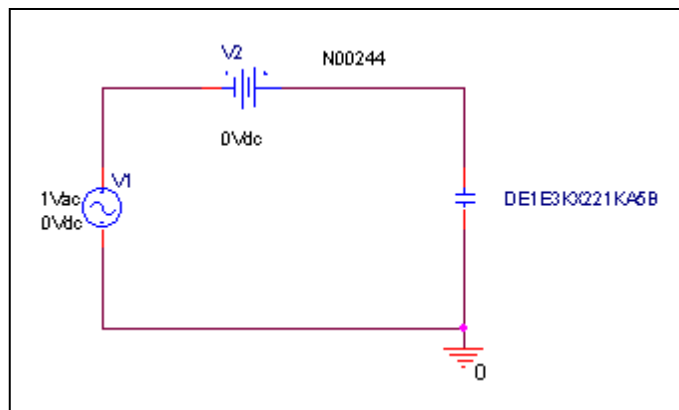


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	7.74984M	8.3909M	8.2719
1K	784.727K	839.093K	6.9280
10K	79.1609K	83.909K	5.9980
100K	7.99422K	8.3909K	4.9621
1M	811.288	838.833	3.3952
10M	80.4799	81.308	1.0290
100M	17.4884	17.690	1.1528

	Measurement	Simulation	%Error
FSRF(Hz)	56.419M	56.234M	0.3286
IZI (ohm)	893.152m	936.020m	4.7996