

Device Modeling Report

COMPONENTS: CAPACITOR/CERAMIC
PART NUMBER: ECKTBC472ME
MANUFACTURER: PANASONIC
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

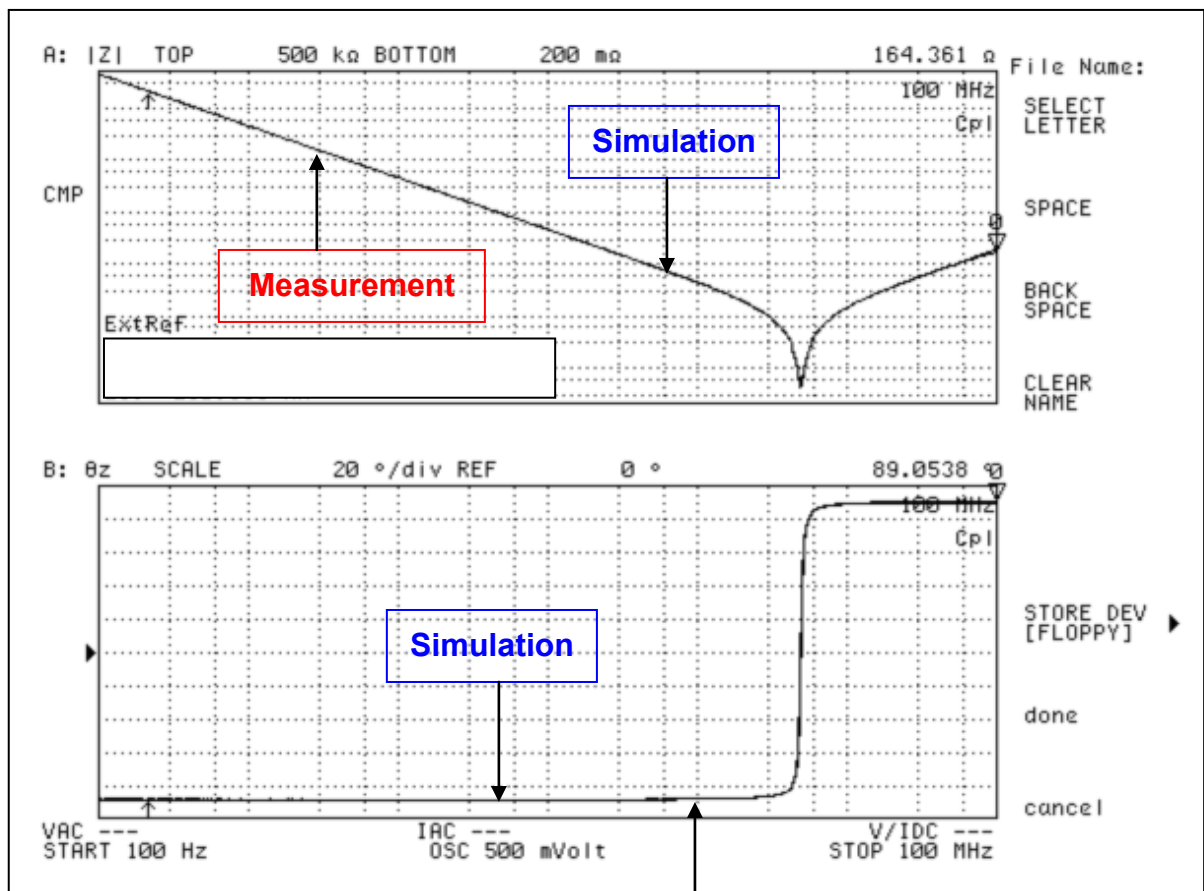
Optimization of Simulation

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

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

Attention)

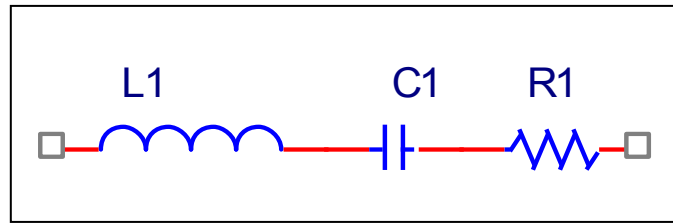
Please use SPICE MODEL within the range from 100Hz to 100M(Hz)



Measurement

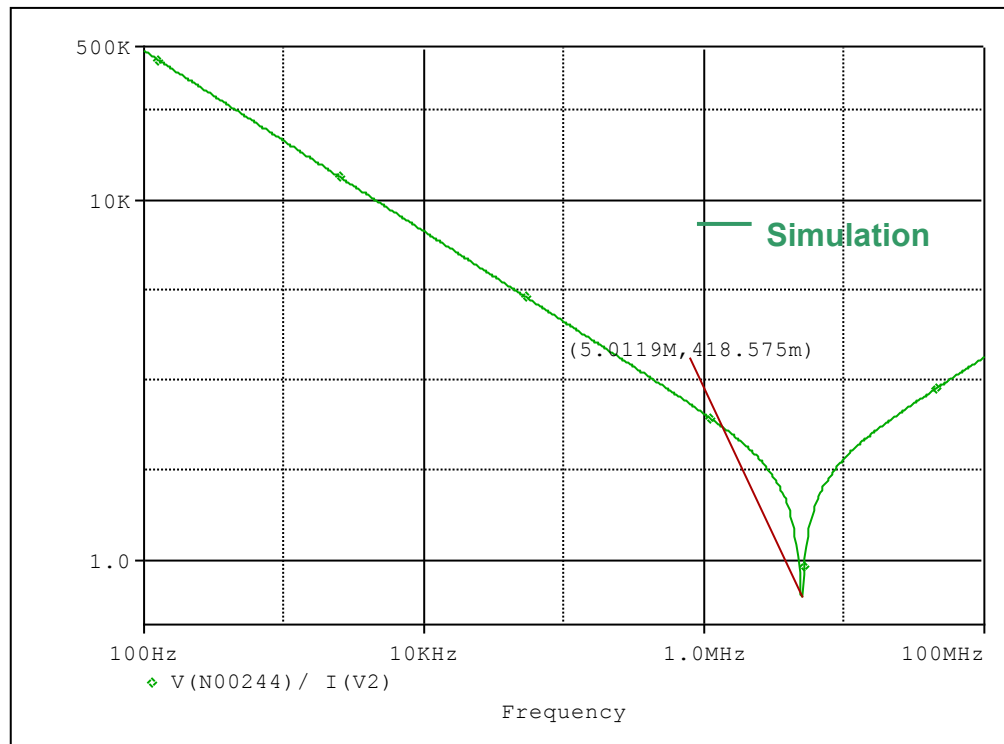
L1	
C1	
R1	

Equivalent circuit

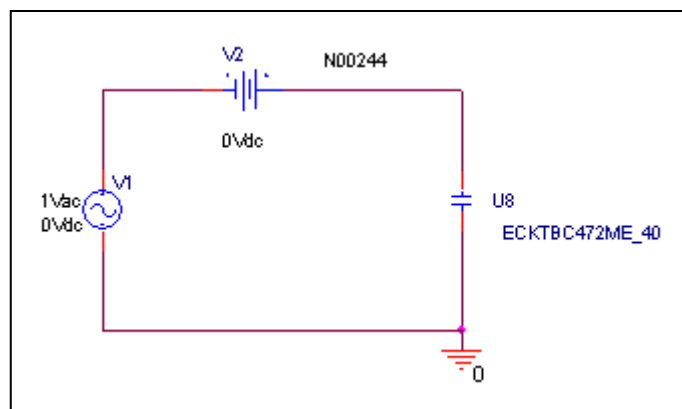


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	450.347k	448.978k	-0.3040
1K	45.7152k	44.898k	-1.7876
10K	4.59815k	4.4898k	-2.3564
100K	462.937	448.795	-3.0548
1M	44.717	43.074	-3.6742
10M	13.5449	13.774	1.6914
100M	164.066	182.140	11.0163

	Measurement	Simulation	%Error
FSRF(Hz)	5.05824M	5.0019M	-1.1138
IZI (ohm)	365.356m	418.575m	14.5663