

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: ECKATS221MB
MANUFACTURER: PANASONIC
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

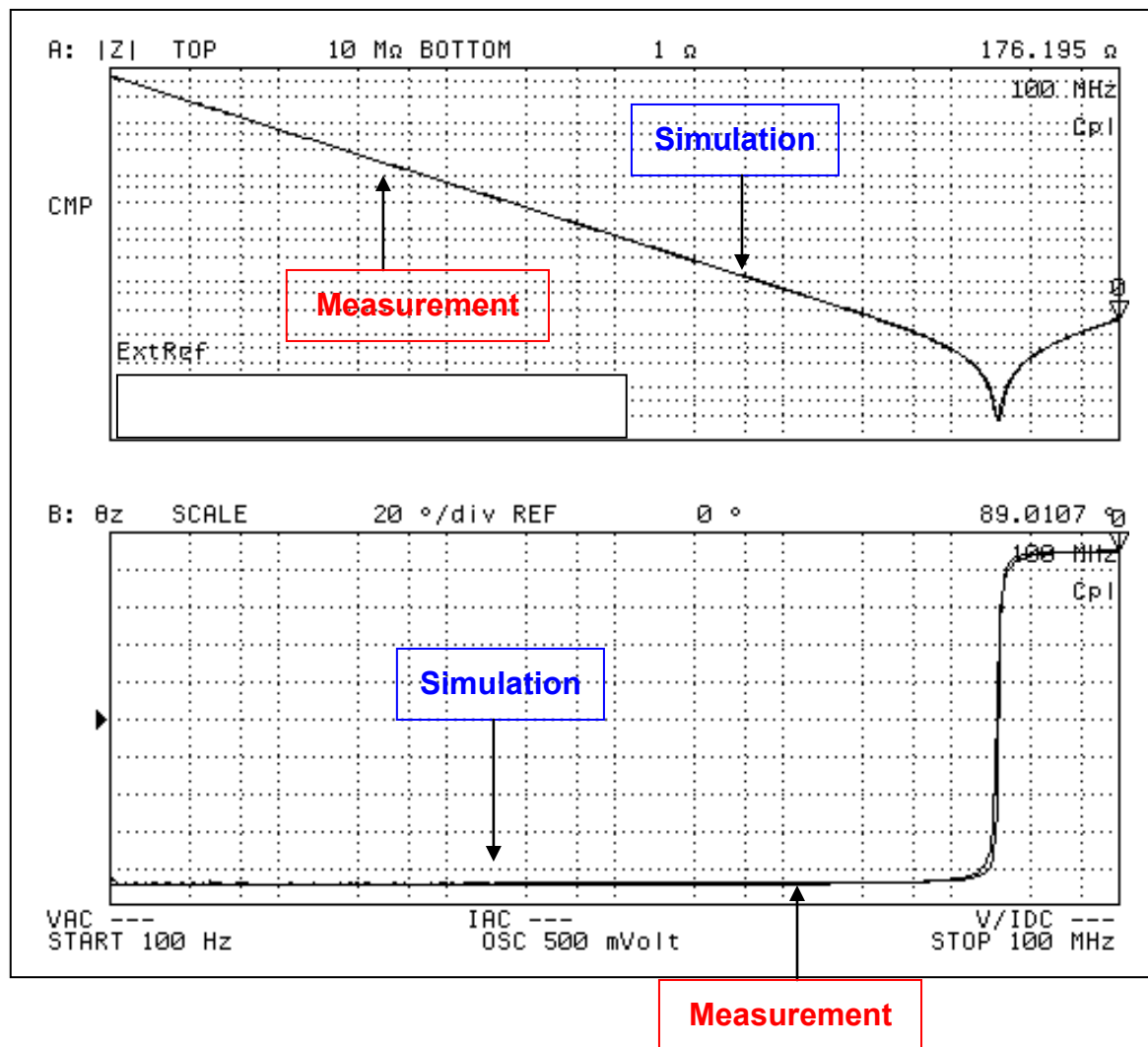
Optimization of Simulation

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)



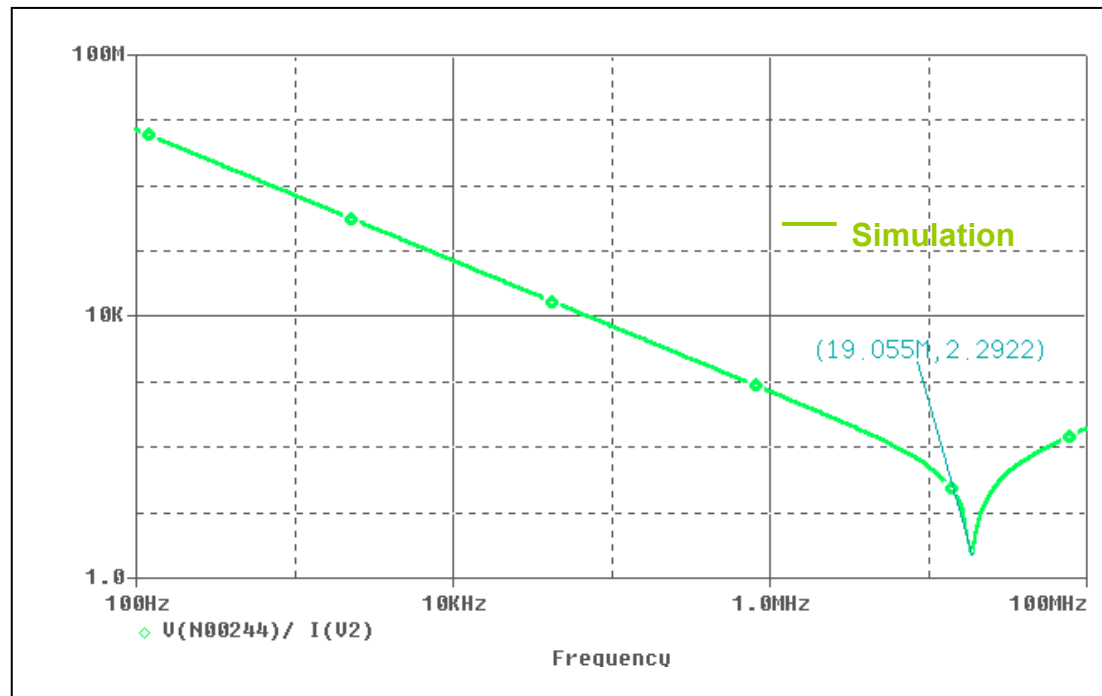
L1	
C1	
R1	

Equivalent circuit

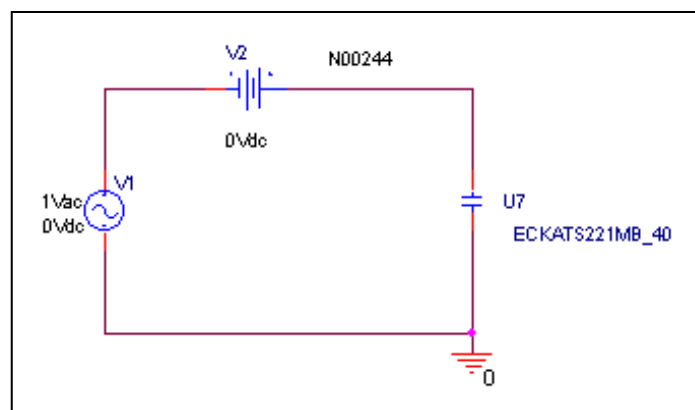


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	6.73112M	7.1586M	6.3508
1K	712.944K	707.285K	0.7938
10K	71.9102K	71.586K	0.4508
100K	7.27889K	7.0727K	2.8327
1M	737.177	713.888	3.1592
10M	55.51717	50.78	8.5328
100M	176.255	190.676	8.1819

	Measurement	Simulation	%Error
FSRF(Hz)	19.054M	19.0550M	0.0052
IZI (ohm)	2.30219	2.2922	0.4339