

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1B3KX331KA5B
MANUFACTURER: MURATA
REMARK: TA=60C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

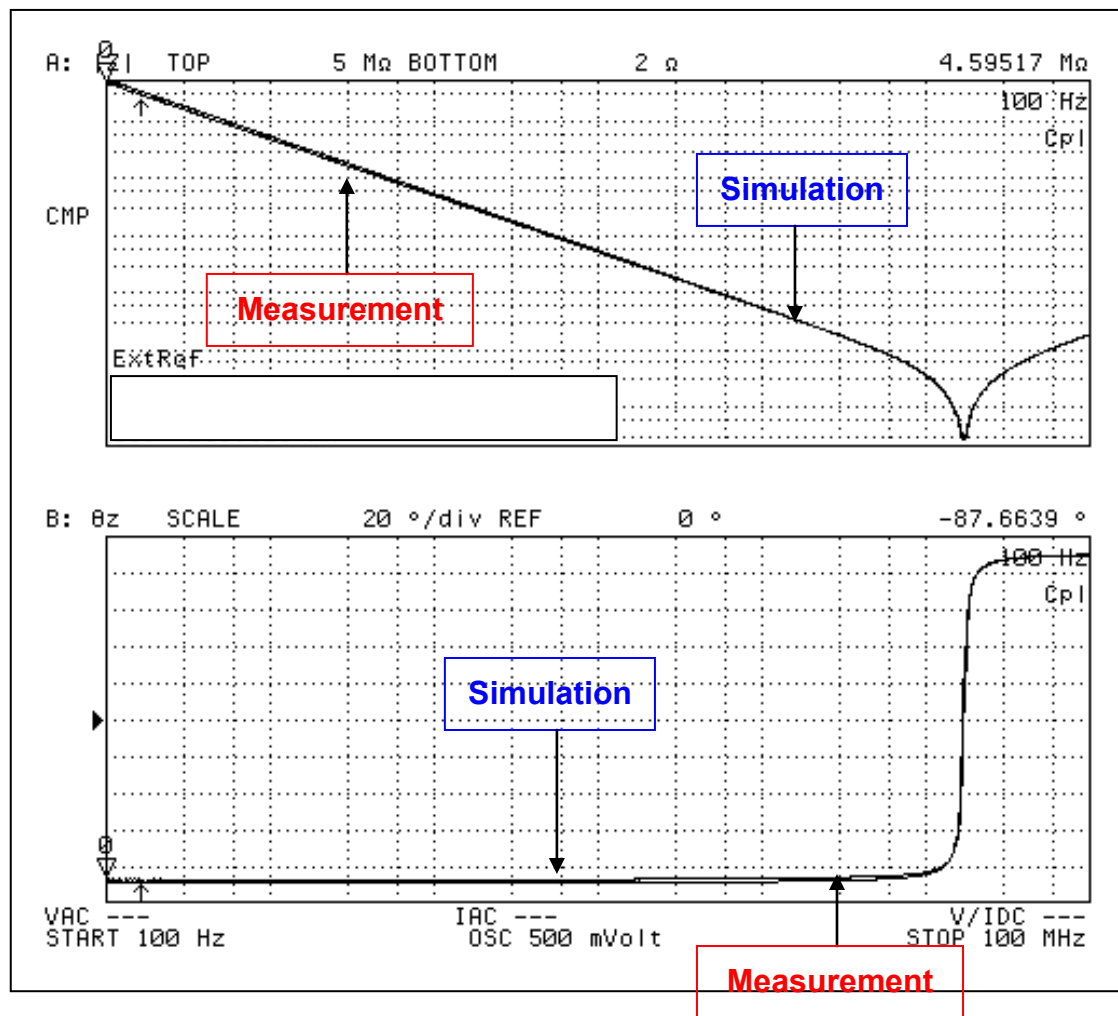
Optimization of Simulation

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

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

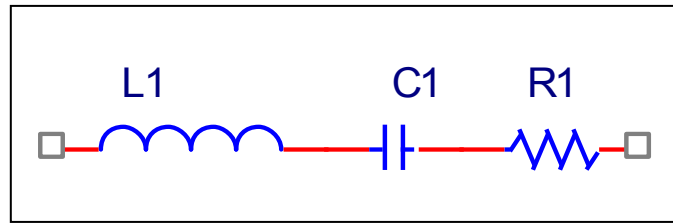
Attention)

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



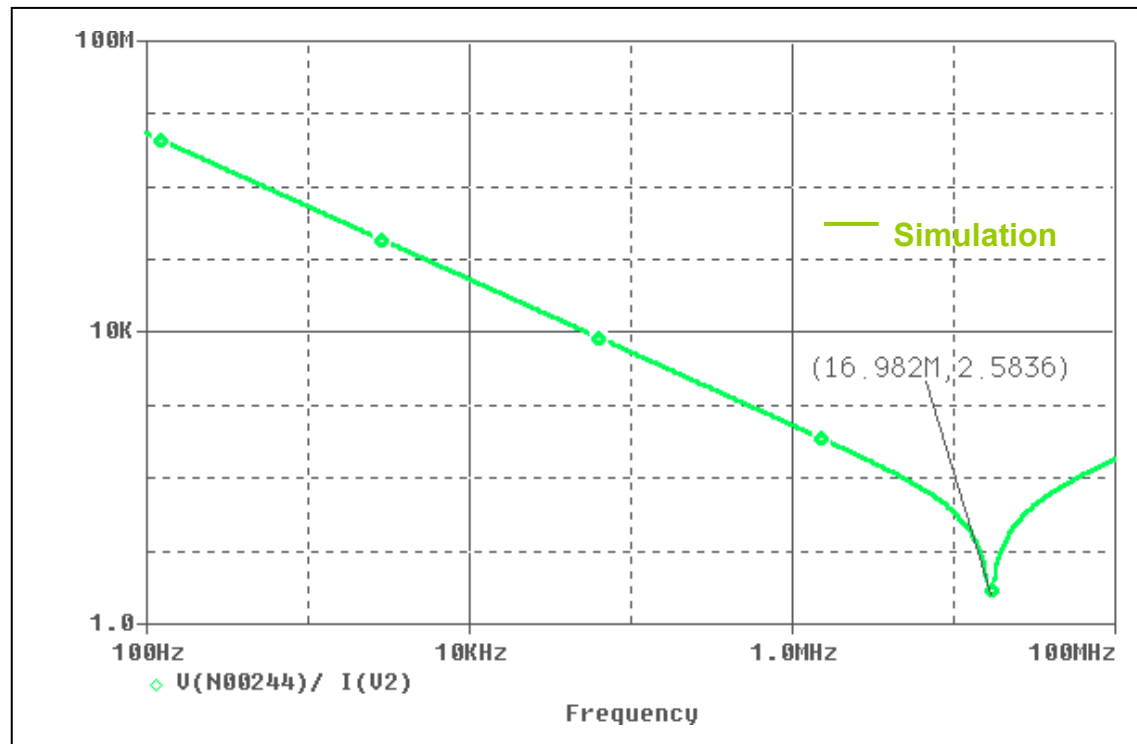
L1	
C1	
R1	

Equivalent circuit

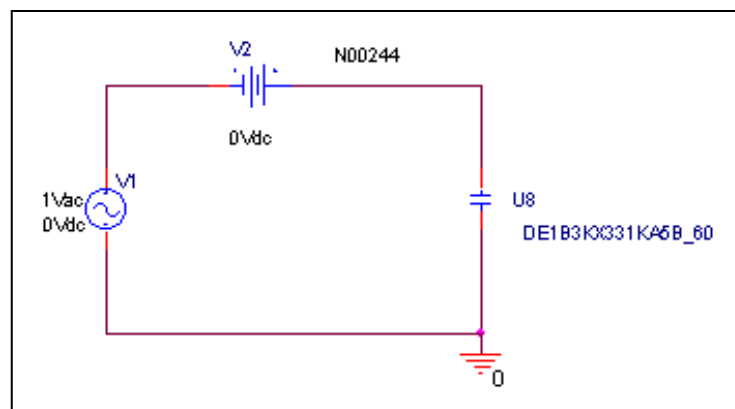


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	4.77791M	5.3535M	12.0469
1K	474.579K	535.351K	12.8055
10K	48.6498K	53.535K	10.0416
100K	5.01419K	5.353K	6.7630
1M	520.935	533.511	2.4141
10M	36.6856	35.168	4.1368
100M	171.81	179.281	4.3484
100	4.77791	5.3535	12.0469

	Measurement	Simulation	%Error
FSRF(Hz)	17.179M	16.982M	1.1467
IZI (ohm)	2.57987	2.5836	0.1446