# Device Modeling Report

COMPONENTS: CAPACITOR/ ELECTROLYTIC
PART NUMBER: ECEA0JKG470
MANUFACTURER: Panasonic
THERMAL: Ta= 60C (degree)

**Bee Technologies Inc.**
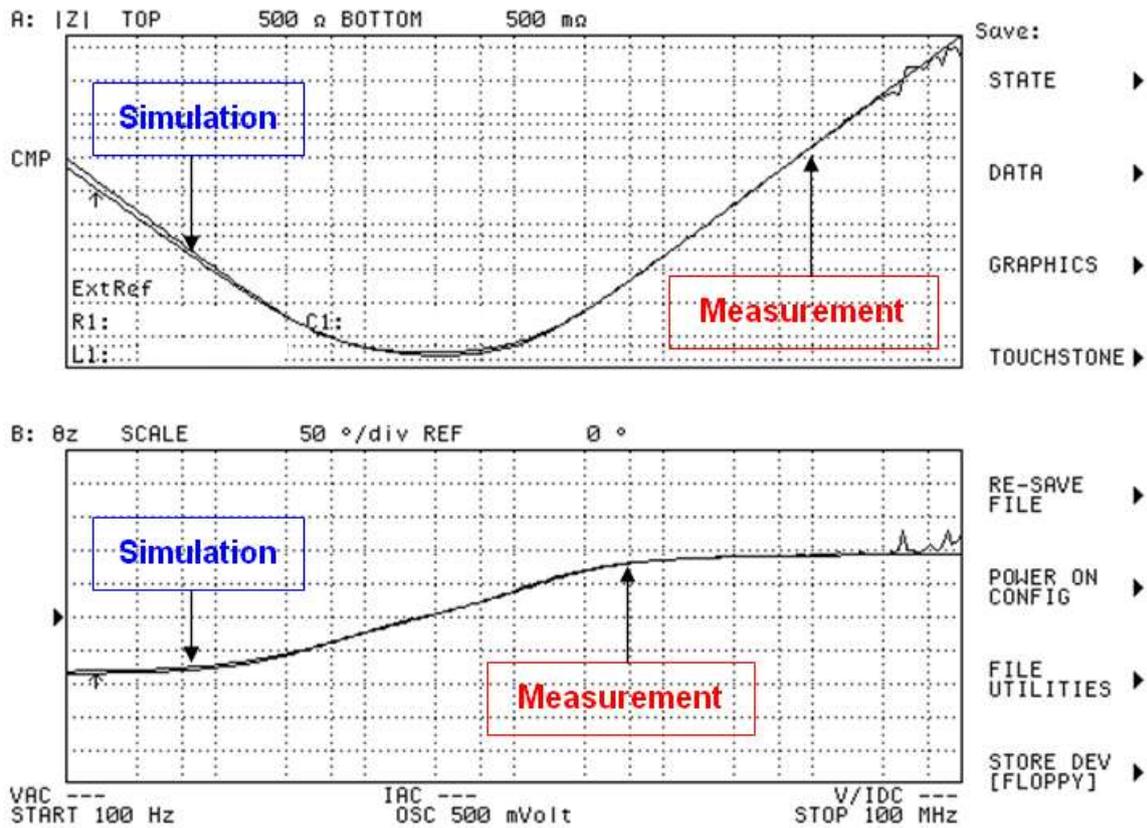
**Theory: Auto Balancing Bridge Method**

<span style="background-color:#cccccc">**Optimization of Simulation**</span>

Range of adjustment Frequency:100 Hz to100M(Hz)
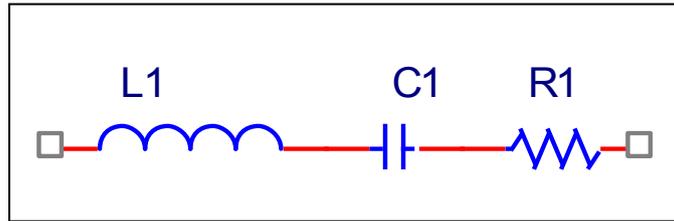
Frequency vs.|Z| and Frequency vs. θz Characteristic

Attention)

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



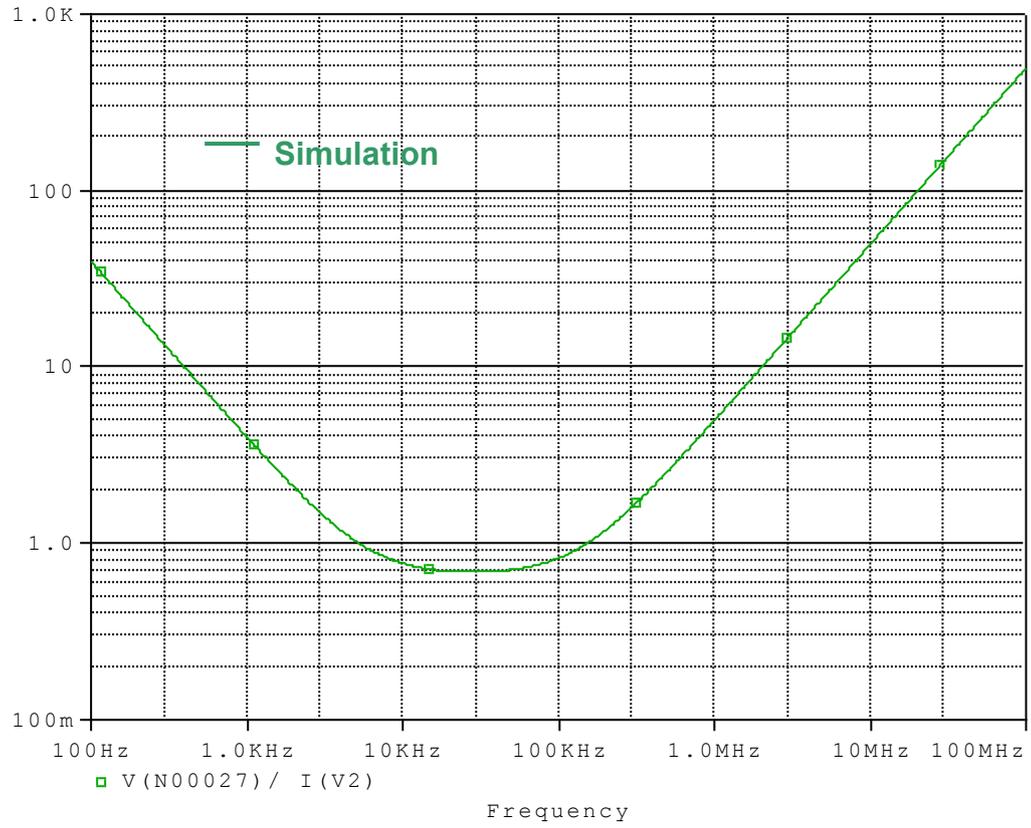| | Measurement | |
|---|---|---|
| **R1** | | |
| **C1** | | |
| **L1** | | |

Equivalent circuit

L1          C1    R1

# Frequency vs. IZI Characteristic

□ V(N00027)/ I(V2)

Frequency

Evaluation Circuit
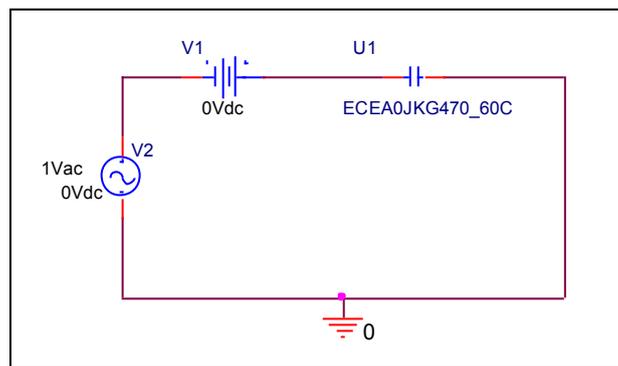
Simulation result

| Frequency (Hz) | IZI (Ω) | | % Error |
| --- | --- | --- | --- |
| | Measurement | Simulation | |
| 100 | 33.242 | 39.598 | 19.121 |
| 1K | 3.590 | 4.014 | 11.806 |
| 10K | 816.698m | 770.885m | - 5.610 |
| 100K | 815.783m | 825.032m | 1.134 |
| 1M | 5.220 | 4.984 | - 4.519 |
| 10M | 49.004 | 49.406 | 0.821 |