

Device Modeling Report

COMPONENTS: CAPACITOR/CERAMIC
PART NUMBER: ECKTBC222ME
MANUFACTURER: PANASONIC
REMARK: TA=25C



Bee Technologies Inc.

Optimization of Simulation

Attention)

Plot A: Magnitude |Z| vs Frequency

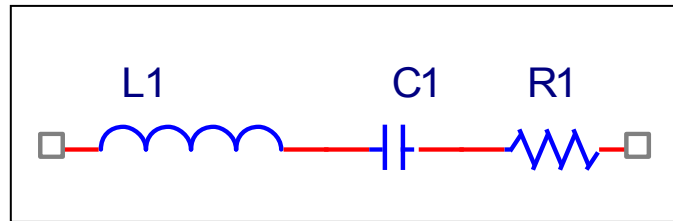
Frequency (MHz)	Simulation Z (Ω)	Measurement Z (Ω)
10	~1000	~1000
20	~500	~500
30	~300	~300
40	~200	~200
50	~150	~150
60	~120	~120
70	~100	~100
80	~80	~80
90	~60	~60
100	~40	~40

Plot B: Phase Angle vs Frequency

Frequency (MHz)	Simulation Phase (°)	Measurement Phase (°)
10	~0	~0
20	~0	~0
30	~0	~0
40	~0	~0
50	~0	~0
60	~0	~0
70	~0	~0
80	~0	~0
90	~0	~0
100	~-7.56	~-7.56

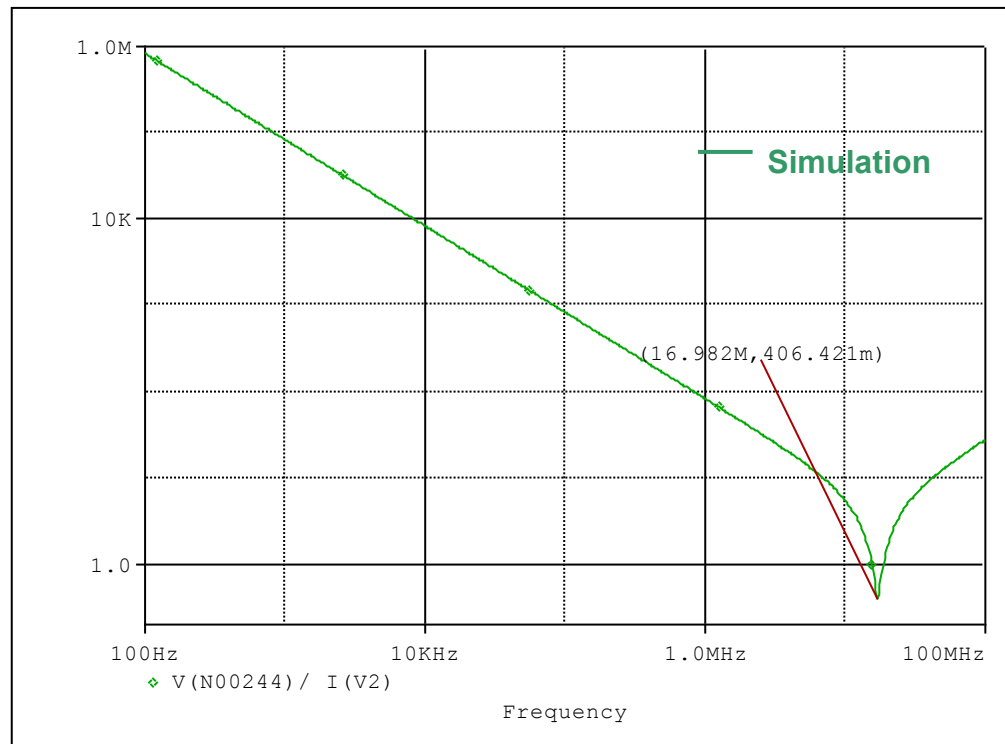
L1	
C1	
R1	

Equivalent circuit

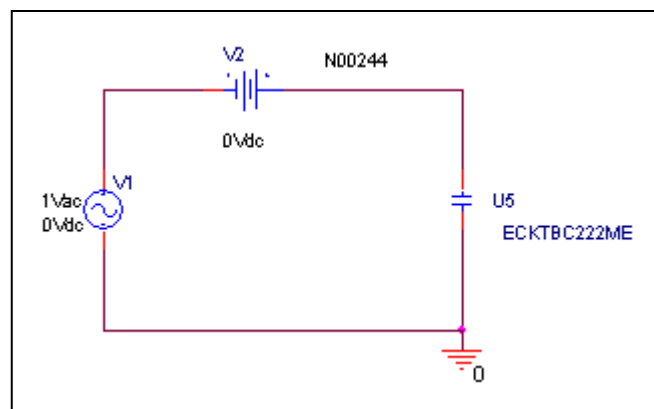


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	793.572k	830.784k	4.6892
1K	79.9348k	83.078k	3.9322
10K	8.03169k	8.3078k	3.4378
100K	806.993	830.756	2.9446
1M	80.9234	82.794	2.3116
10M	5.38602	5.4692	1.5444
100M	27.1662	27.708	1.9944

	Measurement	Simulation	%Error
FSRF(Hz)	16.89362M	16.982M	0.5232
IZI (ohm)	422.843m	406.421m	-3.8837