

## **Acoustical analysis for a microspeaker used in cellular phones**

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### **Summary**

To play melodious sound, a microspeaker in a cellular phone needs to generate wide, smooth sound-pressure-level distribution over the mid-frequency spectrum, ranging from 600 Hz to 10 kHz. In this paper, parametric study is carried out to investigate the effect of various design parameters on the sound-pressure-level distribution. The electro-mechano-acoustical analogous approach is applied to simulate the sound-pressure-level. Also, experiments are conducted for verifications. Discussions about each role of the design parameters are addressed to improve the overall sound-pressure-level performance over the mid-frequency spectrum.

**keywords:** Microspeaker, Sound-pressure-level, Electro-mechano-acoustical analogous

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