A Filterless Class D Audio Amplifier with Spread-Spectrum Modulation for EMI Reduction

- EMI Reduction
- No Degradation of Specs
  - THD+N
  - Efficiency
- No Output Filters Required

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**Technology** | TSMC 0.35 μm 2P4M CMOS
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**Power Supply** | 3.3 V
**Input Voltage Range** | 0.02~2.8 V (p-p)
**Speaker Load** | 8 Ω
**Max. Output Power** | 550 mW @ THD=1%, \( f_{\text{in}} = 1 \text{kHz} \)
**Switching Frequency** | 250 kHz
**PSRR** | 76 dB
**THD+N** | 0.09% @ \( P_{\text{out}} = 500 \text{ mW}, f_{\text{in}} = 1 \text{kHz} \)
**Power Efficiency** | 86% @ \( P_{\text{out}} = 200 \text{ mW}, f_{\text{in}} = 1 \text{kHz} \)
**Average Peak Attenuation** | 10 dB @ 1.5% spread amount