In the view of the performance, when the bias point is moved to the lower quadrant of Class D operation, the efficiency deteriorates. So there is a clear trade-off between the efficiency and the linearity. However, the linearity is not the only performance parameter that needs to be considered when designing a Class D amplifier. The switching frequency, the output power, and the signal quality are also important factors. In general, the higher the operating frequency, the better the signal quality, but the lower the efficiency. Therefore, the designer needs to carefully balance these trade-offs to achieve the best performance.

When designing a Class D amplifier, the designer needs to consider the linearity, the efficiency, the output power, and the signal quality. The linearity is determined by the distortion, the efficiency is determined by the switching loss, the output power is determined by the output voltage and current, and the signal quality is determined by the phase noise and the harmonic distortion. Therefore, the designer needs to carefully consider all these factors when designing a Class D amplifier.
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