## Table 1: Comparison of AES Variants for Cloud/IoT Applications

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| --- | --- | --- | --- | --- | --- | --- |
| Work | Year | Method | Cloud-Specific? | Energy Reduction (%) | Latency Improvement (%) | Limitations |
| Saha et al. [5] | 2018 | RK-AES | No | 0 | 8 | High key overhead, +20% latency |
| Abikoye et al. [6] | 2019 | Modified AES | No | 0 | 5 | +20% memory, no cloud focus |
| Tsai et al. [7] | 2018 | AES-128 LoRaWAN | Yes | 12 | 0 | No multi-tenant protection |
| Suana et al. [8] | 2018 | Cipher S-box AES | No | 0 | 0 | +10% overhead, no scalability |
| Zhang et al. [24] | 2023 | Lightweight AES | Yes | 12 | -8 | Reduced cloud throughput |
| This Paper | 2025 | DRK-AES | Yes | 10-15 | 20-28 | Scalable, low-overhead |