

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

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
Adebikoye 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
Chang 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