

Tag Impersonation Attack on Ultra-lightweight Radio Frequency Identification Authentication Scheme (ESRAS)

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Abstract : The proliferation of Radio Frequency Identification (RFID) technology has raised concerns about system security, particularly regarding tag impersonation attacks. Regarding RFID systems, an appropriate authentication protocol must resist active and passive attacks. A tag impersonation occurs when an adversary's tag is used to fool an authenticating reader into believing it is a legitimate tag. This paper analyzed the security of the efficient, secure, and practical ultra-lightweight RFID Authentication Scheme (ESRAS). Then, the paper presents a comprehensive analysis of the Efficient, Secure, and Practical Ultra-Lightweight RFID Authentication Scheme (ESRAS) in the context of radio frequency identification (RFID) systems that employed the Scyther tool to examine the protocol's security against a tag impersonation attack.

Keywords : RFID, impersonation attack, authentication, ultra-lightweight protocols

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