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## (57) Abstract:

The system in the present disclosure is an innovative solution designed to enhance the security and resilience of Wi-Fi networks (104) within IoT environments. This system leverages advanced techniques to collect, analyse, and collaboratively share Wi-Fi security data (108) among IoT devices (102), fostering a collective defence against potential threats. The system ensures real-time threat detection, efficient incident response, and improved network (104) security while maintaining user privacy (110) through anonymization mechanisms. By providing a seamless integration with existing IoT systems and adhering to industry standards, this solution offers a user-friendly interface for network 104 administrators and users (116) to access and manage Wi-Fi security data. The system's scalability, adaptability, and compliance features make it a valuable asset for safeguarding IoT networks (104), facilitating informed decision-making, and maintaining a secure and connected IoT ecosystem. The system may also log security-related activities to facilitate compliance audits and regulatory requirements.

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