

# Fuzzy Volt: A Zero Communication Authentication Scheme Based Electronic Noise from an Outlet

Anonymous Author(s)

## ACM Reference Format:

Anonymous Author(s). 2020. Fuzzy Volt: A Zero Communication Authentication Scheme Based Electronic Noise from an Outlet. In *Proceedings of ACM Conference (Conference'17)*. ACM, New York, NY, USA, 1 page. <https://doi.org/10.1145/nnnnnnn.nnnnnnn>

## 1 INTRODUCTION

Voltkey is a new type of family WiFi access product intended to use no password authentication but retain the security and simplicity that password based authentication schemes have. To accomplish this, Voltkey implements an environmental authentication scheme. Due to many different types of living situations, there is a lack of environmental variables that remain consistent from a person's home. Therefore, the only reliable source of randomness lies within the wall, i.e the electricity. Electrical noise is not inherently random. If an individual does not use any electronic devices within the

residence, the noise remains consistent. Although, in the modern age of technology, the likelihood of a residence not using any power source besides a router and the Voltkey devices is miniscule. The implication of that a customer buys a Voltkey is based on the fact they have several devices that need fast and simple connection to the internet. Therefore, a person who uses Voltkey is much more likely to generate electrical noise from their devices.

---

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from [permissions@acm.org](mailto:permissions@acm.org).

*Conference'17, July 2017, Washington, DC, USA*

© 2020 Association for Computing Machinery.

ACM ISBN 978-x-xxxx-xxxx-x/YY/MM...\$15.00

<https://doi.org/10.1145/nnnnnnn.nnnnnnn>