Paper title: A Comprehensive Survey on Internet of Things (IoT) Towards 5G Wireless Systems

Paper link:
https://ieeexplore.ieee.org/document/8879484?fbclid=IwAR14BNdJmNoNGSJzq-R3YvL2J2KVzy1mGS1_aj2sDDVluCppVV-hCAKChds

1. **Summary:**

1.1 Motivation:

The article is interested in the fast growth of wireless tech, especially 5G. It wants to explore how combining 5G with the Internet of Things (IoT) can be a big deal for the future. The motivation comes from the problems with the current 4G network, which struggles with many devices, fast data, and good quality service.

1.2 Contribution:

The article shares a lot of information about how 5G and IoT can work together. It talks about the challenges and dreams of different tech industries in this area. It explains the different parts of 5G IoT systems and covers new technologies like 5G New Radio, MIMO antennas, and more. It also looks at how IoT can be used in different areas. Overall, it helps us understand the topic better.

1.3 Methodology:

The article looks at a bunch of information and studies already done on 5G and IoT. It checks the problems with current networks like 4G and why we need something better like 5G. It goes through the different layers of 5G IoT and looks at how certain technologies fit into the picture. It also studies the security issues and ways to control them. The article uses all this info to build a clear picture of how 5G and IoT can work together.

1.4 Conclusion:

In the end, the article says that combining IoT with 5G can really change how we use wireless tech. It points out that the current 4G network isn't enough for what we want. The article believes that 5G, with its different parts like 5G NR and MIMO, is a good solution. It wraps up by saying that 5G is a big player in the future of wireless tech, especially when combined with IoT.

2. Limitations:

2.1 **Infrastructure Challenges:** Upgrading existing technology to 5G is expensive and might take time. Implementing new technologies in busy areas can be tricky, making it hard to smoothly roll out 5G everywhere.

2.2 **Security Worries**: With so many devices connected in 5G, there's a higher risk of cyber threats. Keeping data safe and secure is a big challenge, and making sure there are strong measures in place is crucial.

3. **Synthesis:**

The article talks about how 5G can make wireless technology better, but it might be hard to put it everywhere because of costs and security worries.