Carrier Wi-Fi versus LTE-U: Competition or Cooperation

Unlicensed LTE (LTE-U) is currently one of the industry's hottest topics; causing an intense debate as it rapidly progresses towards standardized release. A standard version of the technology will be included in 3GPP release 13 due in 2016. Meanwhile, some supporting operators are considering pre-standard commercial deployments and are moving forward with their trials. Network infrastructure vendors are also upgrading their portfolios to support unlicensed spectrum aggregation.

However, the rapid development of unlicensed LTE especially a non-standard version is troubling the Wi-Fi industry. LTE-U is targeting the 5GHz unlicensed band which is currently occupied by Wi-Fi. Due to the different medium access mechanisms used by these two technologies, LTE-U can negatively impact the Wi-Fi market as LTE-U signals can interfere and degrade Wi-Fi signals. LTE-U needs to adopt a channel sensing mechanism and comply with different unlicensed spectrum regulations worldwide in order to coexist with Wi-Fi.

This report covers the technical and the business aspects of unlicensed LTE and the expected effects on the Wi-Fi market. Section one outlines LTE-U development and progress from a theoretical concept to a study item in 3GPP Release 13 standard. It also highlights benefits sought by operators and rising concerns from the Wi-Fi industry. Section two gives more details about the technical requirements, the unlicensed spectrum regulations, and standardization process. It explains the main proposed methods to achieve coexistence. Section three provides an outlook on LTE-U and LWA growing market. It discusses different positions of key players from both operators and technology providers' sides. Section four concludes the report with general observations and recommendations.

Table of Contents

Tables

Charts

Figures