



OUTDOOR SUPER WIFI

GIVING EVERYONE INTERNET ACCESS, EVERYWHERE

+ WHAT IS OUTDOOR SUPER WIFI?

Leti's Wireless broadband technology provides Internet access to everyone, even citizens located in remote rural places, or boats navigating along the coast.

Today, spectrum crunch is a major issue for less than 6GHz wireless communications. To avoid spectrum shortage, Leti leveraged the Dynamic Spectrum access (DSA) technique based on geographic database to tailor a flexible solution based on a patented scalable waveform for next generation of wireless networks. Leti's technology overcomes the shortcomings inherent in conventional technologies for 4G or WiFi.

+ APPLICATIONS

Leti's outdoor versatile and flexible super WiFi is designed for:

- Outdoor wireless access
- Maritime communications
- Rural broadband access
- Wireless backhauling
- Mission-critical applications
- Long range communication

+ WHAT'S NEW?

A major research effort was required to investigate the air interface perspective, addressing a wide range of requirements with a unified physical layer in the same system bandwidth.

A novel waveform, called BF-OFDM (Block-Filtered OFDM), has been identified. It combines the new wireless requirements, including good spectral confinement, a flexible and simple structure that can support legacy OFDM receivers. The BF-OFDM spectrum localization has been significantly improved despite a slight complexity increase at the transmitter level. The BF-OFDM receiver architecture remains identical to the receiver used for 4G or Wifi (OFDM based).

A proof-of-concept was built within the European GateOne project, in partnership with CloudNet.

+ WHAT'S NEXT?

With Leti's technology, rural broadband content delivery has been demonstrated on ranges up to 20km, using non-contiguous channels. The over-the-air versatile and portable Leti test platform based on FPGA, ARM processors and an agile RF front-end was used to demonstrate a broadband transmission. The same set of equipment's is also used in field tests conducted by Leti on 5G radios.

Beyond rural needs for effective wireless connectivity, this technology is now a good candidate for lower-cost maritime wireless networks.

Also, this waveform unlocks the usage of spectrum sharing, such as license shared access in TVWS and CBRS (Citizen broadband radio service).

KEY FACTS

- Publications : ICC 2017, Globecom 2017
- Best Paper Award ICC 2017
- CEA patents



INTERESTED IN THIS TECHNOLOGY?

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