

CASE STUDY

SatixFy SCPC modem meets real-life LEO satellites challenges



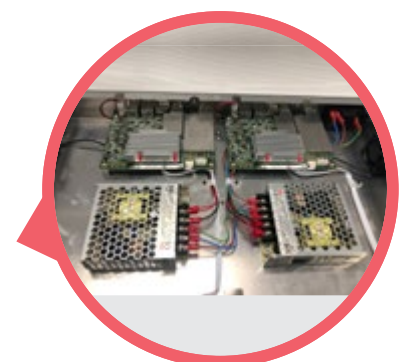
BACKGROUND

OneWeb is building the first global communications network to be powered by a constellation of Low Earth Orbit (LEO) satellites, enabling high speed internet access everywhere, for everyone. For its In-Orbit tests, OneWeb was seeking a robust modem that can support high-speed, low-latency wideband data link to meet the challenging requirements of its emerging LEO satellite system.

SATIXFY SCPC MODEM RISES TO THE CHALLENGE

To meet the demanding requirements of rapid moving low-orbit satellites, modems need to exhibit special capabilities, including real-time/high Doppler compensation, handover between beams and satellites, and trajectory power control compensation.

OneWeb selected SatixFy's SCPC modem based on the SX-3000 Software Defined Radio (SDR) ASIC. Each dual SCPC modem supports a 125 MHz carrier in both forward and return links, and is suitable for GEO, MEO, and LEO operations.



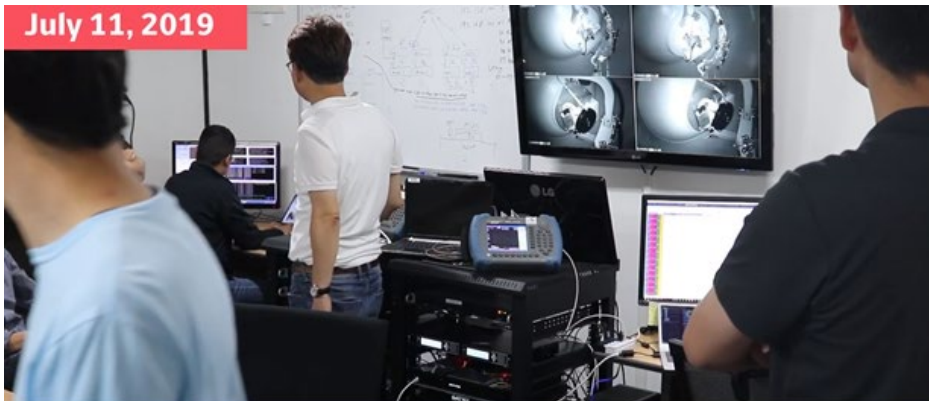
TESTING FULL HD STREAMING FROM SPACE

OneWeb's first live HD video streaming tests took place on July 16, 2019 in Seoul, Korea, also in partnership with Intellian, developer of the antennas used in the tests. SatixFy SCPC modems underwent comprehensive testing for latency, speed, jitter, seamless handover between satellites and power control. REST interface was used to control the integrated SCPC modems with OneWeb's control center.

MARKING THE TEST A SUCCESS

LEO Satellites Deliver Real-Time HD Streaming from Space

SatixFy's family of modems includes the SCPC modem and features inherent SDR capabilities proven to be the perfect fit for the mission. All satellites delivered high-speed, low-latency services, with throughput of more than 400 Mbps, marking the fastest real-time video streaming in Full HD



from a LEO constellation.

The SatixFy SCPC modem was reliable in meeting the demanding testing environment, demonstrating superb results.

- **Test speed rates exceeding 400 Mbps**
- **Extremely low latency (<32 milliseconds)**
- **Up to 1080p live stream video resolution**
- **Seamless beam and satellite handovers**

“Our tests prove that OneWeb will enable very high speed and low latency connectivity everywhere and we are on schedule to offer the service globally”.

Adrian Steckel, CEO of OneWeb

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