

5G-SAT Link

Built on 5G standards, ASTRI's highly customisable base station and terminal physical layer design, 5G-SAT Link is commercially proven and adaptable to meet diverse RAN requirements. Tailored for private networks, it supports multiple chipset and hardware platforms, ensuring supply chain diversity and global deployment flexibility. The design continuously evolves to support for cutting-edge applications, including non-terrestrial networks (NTN) with different satellite systems encompassing both geostationary (GEO) and low Earth orbit (LEO) constellations, enabling seamless terrestrial-satellite convergence.

Industry Challenges

- Extremely high computational complexity and stringent real-time processing demands
- Hardware and chipset diversity require extensive platform compatibility
- Rigorous verification, testing and compliance standards across jurisdictions
- Rapidly evolving feature requirements for emerging satellite systems (GEO, LEO)

Major Benefits

- Proven expertise in 4G to 5G research, development and commercialisation
- Highly customisable to meet specific RAN needs
- Supports diverse platforms (Intel x86/NXP ARM + Xilinx FPGA, domestic CPU + domestic FPGA)
- Comprehensive testing infrastructure for seamless integration and compliance

Application Areas

- Private network deployment for diverse industries
- NTN and satellite communications for global coverage
- Critical communications and emergency response in disaster scenarios
- Maritime and aviation connectivity beyond terrestrial coverage
- Remote area connectivity for IoT and industrial application
- 5G/6G prototyping and research testbeds

Collaborator(s)

Telecommunications operators, satellite service providers, electronics manufacturers and chipset vendors

Award(s)

International Exhibition of Inventions Geneva



5G-SAT Link integrates ASTRI's 5G communications technologies with satellite services seamlessly, providing full coverage even in remote areas, emergency situations and maritime or aviation environments where traditional infrastructure is unavailable

