

iSAFT SpaceFibre Test Tool

In this GSTP activity, the iSAFT SpaceFibre Test Tool was developed, which is an integrated validation solution for SpaceFibre networks, supporting different operations including simulation, monitoring, traffic generation, fault injection etc.

Its main features include:

- Four single lane data ports (Type C connectors) supporting up to 16VCs total and link rates of 1, 1.25, 2, 2.5, 3.125 Gbps, according to ECSS-E-ST-50-11C DIR1
- Complete graphical software environment for controlling and monitoring the hardware
- Packet Editors (SpaceFibre, RMAP, CPTP)
- Asynchronous SpaceFibre transmission and traffic generation support
- SpFi physical link capturing and decoding of SpFi characters for debugging purposes
- Built-in recording function for received / transmitted packets (spy function)
- Integrated Wireshark Protocol Analyser
- Programmable transmission triggers per packet, selective tracing (filtering) support
- Real-Time Statistics per port / virtual channel (packet and SpFi characters statistics)
- Recordings management, export to XML, Postscript, etc.
- Software APIs in C#, C++, Python, standard Web services (Windows, Linux)
- IRIG support for time synchronization with other components in a testbed
- Expandable with additional interfaces (SpaceWire, MIL-STD-1553, CAN/CANOpen)
- Flight equipment protection according to the SpaceFibre standard