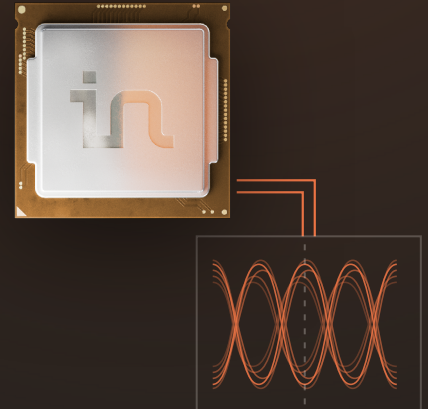


SERDES PHY IP • JESD204C-B12 • RADIATION-TOLERANT

AIX-SerDes-RT

Radiation-tolerant SerDes PHY IP for space

Low-power serial link between data converters and processors in satellite payloads. 12.5 Gb/s per lane, scalable in lane pairs.



The INCIRT AIX-SerDes-RT is a high-speed serial link PHY IP core in GlobalFoundries 22FDX, designed for JESD204C-B12 compliance. It is a six-lane instance designed for 75 Gb/s raw and 60 Gb/s of payload with 8B/10B encoding at an estimated 400 mW. Each lane runs at up to 12.5 Gb/s with an estimated 66 mW, or 5.3 pJ/bit.

It targets interfaces satellite payloads, where bandwidth, power and radiation tolerance are crucial. The 22FDX FD-SOI process provides intrinsic tolerance to total ionising dose, extended by radiation-hardening-by-design. The IP will be characterised for TID and single-event effects according to ESCC test criteria, with a TID target of 300 krad.

75 Gb/s

THROUGHPUT
(6× JESD204C B-12)

≈ 66 mW

PER LANE, EST.
(5.3 pJ/bit)

22FDX

GF 22 nm
FD-SOI