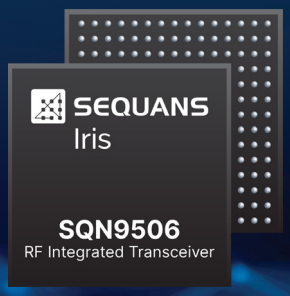
SEQUANS

PRODUCT BRIEF

RF Integrated Transceiver

Iris SQN9506

20 Rx, 4 Tx Wideband RF Transceiver



The Ultimate RF Transceiver for SDR Applications

The Sequans Iris™ SQN9506 is a cutting-edge integrated wideband RF transceiver designed for agile SDR applications. Operating across a frequency range from 220 MHz to 7.125 GHz, it offers an impressive instantaneous bandwidth of up to 200 MHz.

Equipped with advanced signal path architecture, the Iris SQN9506 features 20 Rx and 4 Tx paths, along with 10 RF synthesizers that enable simultaneous observation and scanning operations. Iris SQN9506 supports 4x4 MIMO in Tx and Rx. The transceiver also incorporates Frequency Hopping Spread Spectrum (FHSS) technology with an unlimited frequency list for anti-jamming scenario. It can hop across channels in real time during transmission and reception.

The Iris SQN9506 supports state-of-the-art digital interfaces, including DigRFv4 and JESD204C, for both data and control. Its single-die optimized solution ensures ultra-low power consumption, with just 0.2mA in sleep mode, and delivers outstanding performance in a remarkably compact package measuring 8.4mm x 4.8mm x 1mm.

With its advanced features and exceptional efficiency, the Iris SQN9506 is an ideal choice for the next generation of agile SDR applications, especially for mission critical communications systems, drones, satellite, smart cell, V2X, 5G NR devices and much more.

Highlights

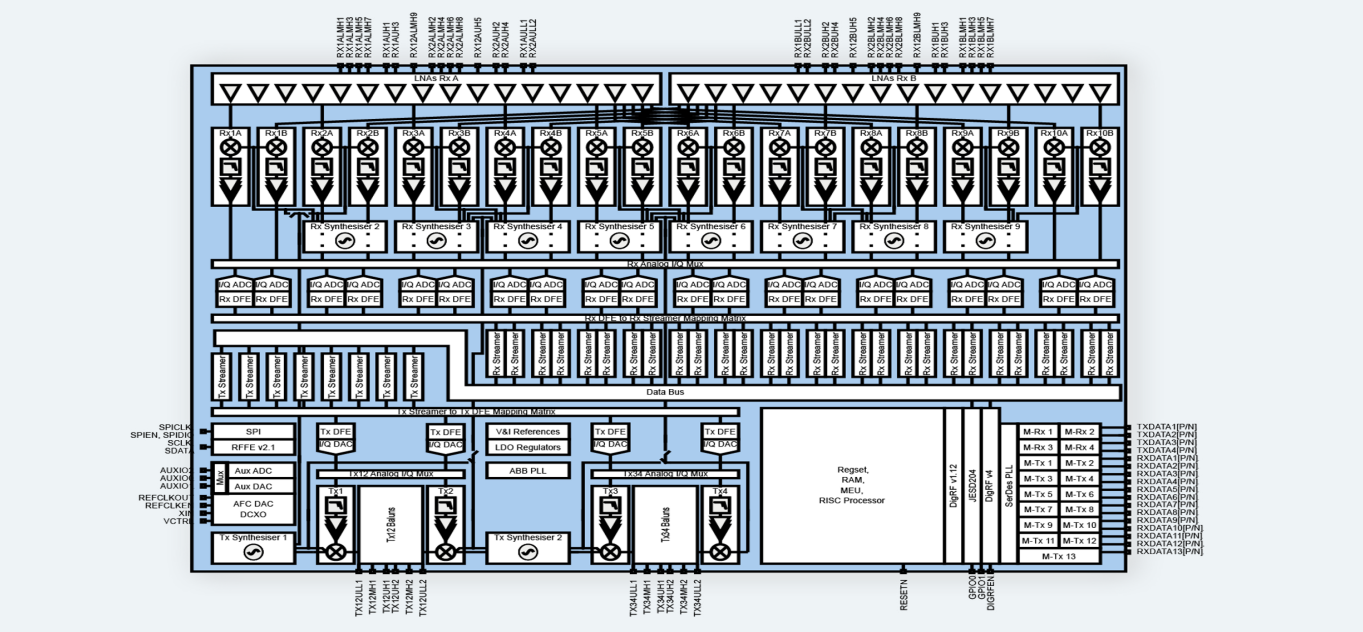
+ Wide frequency range : 220 MHz to 7.125 GHz
+ Support of instantaneous 200MHz channel bandwidth (with option for 2x200MHz)
+ Up to MIMO 4x4 in TX and RX
+ Compact size : 8.4 mm x 4.8 mm x 1 mm - in a 178-pin BGA package
+ 20 receive (Rx) paths and 4 transmit (Tx) paths
+ 10 RF synthesizers to enable concomitant observation/ scanning operations
+ Super fast Frequency Hopping with unlimited number of frequencies and anti-jam scenarios
+ Multiple interfaces, including DigRF V4.0 and JESD 204C
+ Low power consumption: Sleep: 0.2 mA, Standby: 3 mA, Idle: 8 mA
+ Easy integration with any SDR CPU/FPGA

Applications

Defense | Drone | 5G Device | V2X | Smart Cell | Critical Communication

Iris SQN9506

20 Rx, 4 Tx wideband RF Transceiver



General

+ Single-chip, single-die
+ Wide frequency range : 220 MHz to 7.125 GHz
+ 200MHz channel bandwidth (with option for 2x200MHz)
+ Up to MIMO 4x4 in TX and RX
+ 20 receive (Rx) paths and 4 transmit (Tx) paths
+ 10 RF synthesizers to enable concomitant observation/scanning operations
+ Unlimited frequency list for FHSS and anti-Jam scenarios
+ Flexible clocking: on-chip DCXO or external TCXO
+ Auxiliary ADC/DAC and up to 6 GPIO for system monitoring and control

Interfaces

+ JESD204C
+ DigRF v4
+ Time-stamped SPI : 3-wire
+ MIPI RFFE : v2.1

Package

+ 8.4 x 4.8 mm2 BGA, 178 pins, 0.4 mm ball pitch, 1 mm height

Software

+ Easy integration with any SDR CPU/FPGA
+ Driver as simple as a high-level abstraction layer
+ Multiple examples of SW code provided

Power Consumption

+ Low power consumption : Sleep : 0.2 mA/Standby : 3 mA/ Idle : 8 mA

Operating Supply

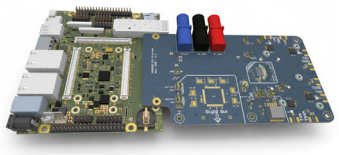
+ 1.2/1.8 V core supply from a DC-DC converter

Environmental

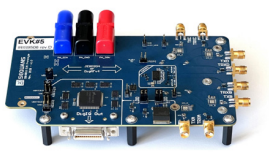
+ Operating temperature : -40° C to +85° C
+ Storage temperature : -65°C to +160°C
+ Soldering temperature : up to +300°C
+ Storage : JEDEC MSL 3
+ ROHS compliant, Halogen free

Evaluation Kits

+ Iris SQN9506 EVK :
  - 1× Iris SQN9506 RF Board
  - 1× FPGA pre-assembled board :
    - Enclustra Mercury ST1 board
    - Enclustra Mercury XU1 SoC module
  - 1× 12V DC power supply
  - 1× MicroSD card preloaded with :
    - Linux root filesystem
    - FPGA U-Boot. FPGA bitstream
    - Iris SQN9506 EVK control software



+ Iris SQN9506 RF Board
  - FMC connector



MORE INFORMATION HERE

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