

SRC5986A MICRO-TRANSCEIVER

This Micro-Transceiver is a **small form factor multi-channel software defined radio frequency (RF) system** for commercial and government spectrum applications

SPECIFICATIONS

Size, Weight and Power Specifications

- Input range: 7V to 15V, nominal 12V
- Backup battery support (CR-123A)
- Typical power consumption: 18W
- Dimensions: 7.25in x 2.5in x 3.1in
- Weight: 2.5 lb
- Operating temperature: 35°C/95°F (conservative; natural convection)

Transceiver RF Specifications

- Tuning range: 70 MHz – 6 GHz
- Tuning step-size: < 3 Hz
- RF channel bandwidth: 200 kHz to 112 MHz
- Typical I/Q balance: > 50 dB
- A/D converter sample rate: 233 Ksamples/sec to 61.44 Msamples/sec
- A/D converter sample width: 12 bits
- RF I/O: SMA (50 ohms)
- Number of RF transceivers: 4 (independently configurable to receive or transmit)
- Receive input: internal limiters allow up to 2W (+33 dBm) survival
- Transmit output: ≥ 0 dBm up to 6 GHz
- Tuning time: < 50 μ s
- Pre-select filter bank: 11 internal sub octave filter paths
- Typical noise figure: 8.5 dB [LNA], 22 dB [BYP] (2.4 GHz estimate used)

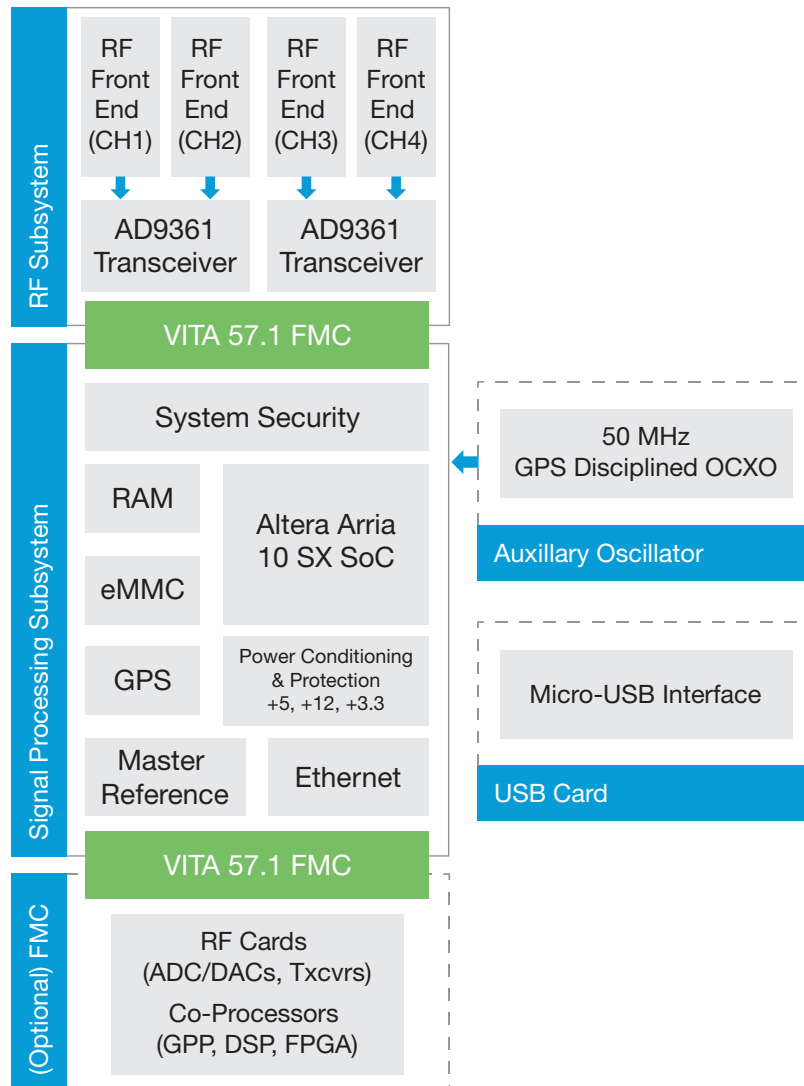
- Typical IIP3: -20 dB [LNA], -5 dB [BYP] (2.4 GHz estimate used)
- Gain control: 0 to 96 dB (0 to 76 from AD9361 with bypassable amplifier > 20 dB)

Digital Specifications

- SoC: Altera Arria 10 SX 660 (Dual-Core ARM Cortex A9)
- MCU: Freescale Kinetis K65 MCU (ARM Cortex-M4F) for health and security monitoring
- RAM: 2GB DDR3L-1600 SDRAM with ECC
- Internal flash storage: 64GB eMMC for Linux and root filesystem
- Operating System: Linux Kernel 4.0
 - Quad 10 gigabit ethernet (10GbE) interfaces through MTP, or single 40GbE
 - Dedicated RS-232 UARTs to MCU and SoC
 - 1000BASE-T ethernet for command and control
- IQ Streaming using VITA 49.0 over UDP
- USB
 - USB to UART bridge allows console access to MCU and SoC
 - USB mass storage device interface
 - USB headphone/microphone accessory interface
- Integrated GNSS/GPS receiver with 1PPS for disciplining internal OCXO, with optional output for external oscillator



SRC5986A MICRO-TRANSCEIVER



FEATURES

- Small Form Factor Transceiver Design
 - Hand-held, passively cooled enclosure
 - Enclosure: 7.25in x 2.5in x 3.1in
 - PCBs: 5.5in x 2.75in x .5in (1in stacked height)
 - Enclosure Weight: 2.5 lb
 - Prime Power: 18W (typical) at 12V DC
- Base-Mezzanine Architecture
 - Internal auxiliary 50 MHz OCOXO
 - External reference accepted for multi- μ X synchronization
 - Common baseband processor card
 - Enclosure Weight: 2.5 lb
 - 2x VITA 57.1 FMC expansion sites
- Baseband Processor Card
 - 1.5 TFlop Altera Arria 10 SoC
 - Multiple console access via microUSB port
 - High speed RAM and flash access
 - Ultra-low power MCU for health and security monitoring
- RF Mezzanine
 - Four RF receive paths (configurable as two separately tunable phase coherent pairs, or four phase coherent channels, using a single LO)
 - 11 selectable sub-octave filters per RF channel
 - 70 – 6000 MHz up to 112 MHz IBW
 - Noise figure 5 dB (50 MHz) to 15 dB (6 GHz)
 - 2W limiter
 - RF loopback for finite calibration of entire signal chain



800-724-0451 • inquiries@srcinc.com • www.srcinc.com

Scan QR code to download an electronic copy.

© 2019 SRC, Inc. All rights reserved. 20191219

