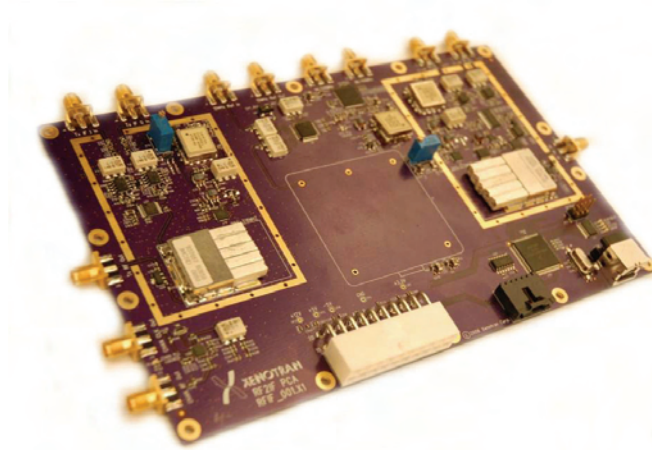


RF/IF Conversion Board for 181C Modem



- Integration of Xenotran's platform-independent CIB waveform software would allow further reuse of the CIB waveform, as a whole or in part, on other radio platforms and by other radio vendors.
- Portability of waveforms is a primary means of reducing development costs and providing for interoperability.
- The CIB waveform is optimized through the use of a single, common format and data dissemination prioritization system that meets the warfighter needs for critical, real-time information.
- Xenotran is the first to introduce DAMA Phase II for CIB/IW.

• Frequency Ranges

- UHF Transmit 292.0 – 318.0 MHz
- UHF Receive 243.0 – 270.0 MHz
- IF Transmit 10.0 – 37.0 MHz
- IF Receive 10.0 – 37.0 MHz

• Features

- Switchable Internal/External reference clock
- Firmware Configurable Gain/Attenuations
- LED: USB, Heartbeat, Access and Error

Xenotran introduces a new test and development tool for CIB/IW waveform design. This RF/IF board is a wideband RF front-end, with full duplex transmit and receive capabilities. This tool supports COTS D/A and A/D development boards to facilitate RF waveform synthesis and receive RF signals in the UHF SATCOM band.

The transmitter chain takes a modulated I/Q (Q is optional) input signal at 0 dBm, amplifies and frequency shifts the signal to an output range from 290 MHz to 318 MHz. The input signal range from 7 to 35 MHz is readily producible for a majority of COTS D/A development boards. Xenotran has designed this support tool to work specifically with Hunt Engineering D/A modules and Xenotran's 181C modulator implementation.

The receive chain has an input RF bandwidth range from 240 to 268 MHz. The receiver provides about 72 dB of gain, and frequency shifts the incoming signal down to a range from 7 to 35 MHz, where it can be readily sampled by a COTS A/D development board. Xenotran has designed this tool to work specifically with Hunt Engineering A/D modules and Xenotran's 181C demodulator implementation.

The RF/IF board provides an extremely low phase noise OCXO reference clock and can take an external 10 MHz reference as test requirements warrant. Furthermore, a cross mix signal is provided that gives the test platform an RF loopback capability for UHF SATCOM RF testing without a satellite simulator.

**XENOTRAN SOFTWARE
SOLUTIONS for
COMMUNICATIONS**

- Waveforms
- Algorithms
- Logic Devices
- Custom Interfaces
- Independent Verification & Validation

WIRELESS SYSTEM DESIGN

- Requirement Analysis
- System Architecture Definition
- Design & Manufacture Custom Interfaces
- Application mapping into a variety of engines FPGA, DSP, & Power PC
- Integration of 3rd Party Components including Digital RF transceiver/receivers
- Protocol Development & Test
- Signal Processing & Bandwidth Optimization
- Full-Channel Modeling & Simulation

FACILITIES & EQUIPMENT

- Latest in Design & Development Tools
- Modeling & Simulation Environments
- Test & Validation Environments

For more information on any of our products or services please visit us on the Web at: www.Xenotran.com

RF/IF Conversion Board Specifications

- Frequency Ranges
 - UHF Transmit 292.0 – 318.0 MHz
 - UHF Receive 243.0 – 270.0 MHz
 - IF Transmit 10.0 – 37.0 MHz
 - IF Receive 10.0 – 37.0 MHz
- I/O Signals
 - Male SMA Connectors
 - 2 Transmit IF I/Q
 - 1 Transmit RF
 - 1 Receive RF
 - 2 Receive IF I/Q
 - 1 Hunt Clock Driver: 98.768 MHz
 - 1 External 10 MHz Reference (Optional)
 - 1 Mixer LO for RF Loopback testing
 - USB 2.0
 - Digital AGC Control – 2 differential pairs
 - JTAG
- Power Supply: ATX {+5V,+3.3V,+12V,-5V}
- Size: 5" by 8"
- Operating Temperature: -40°C to +70°C
- Performance
 - Phase Noise < -46 dBc/Hz at 10 Hz
 - Internal 10 MHz OXCO clock with reference out SMA
 - Tx RF Power programmable from -20 to +6 dBm
 - Rx Sensitivity -116 dBm (10 dB SINAD)
 - Rx Gain 20 to 62 dB
 - Tx Gain -6 dB to TBD dB
- Features
 - Switchable Internal/External reference clock
 - Firmware Configurable Gain/Attenuations
 - LED: USB, Heartbeat, Access and Error

The Xenotran Corporation

Xenotran specializes in the analysis, design and implementation of digital communication components used in wireless communication systems – including satellite and terrestrial systems. Xenotran is currently developing the industry reference for the Common Interactive Broadcast (CIB) and Joint Tactile Terminal (JTT) waveform based on the new MIL-STD-188-181C, -182B, -183B, and -186.

Over a decade of cutting edge digital signal processing research has enabled Xenotran to expand across the military and transportation sectors with unique solutions in a diversified market. Xenotran combines a rich history of proven successes with sound program management techniques so you won't need a 'lessons learned' session after the program.

SERVICES AVAILABLE

- Technical Support
- Installation & Setup
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