



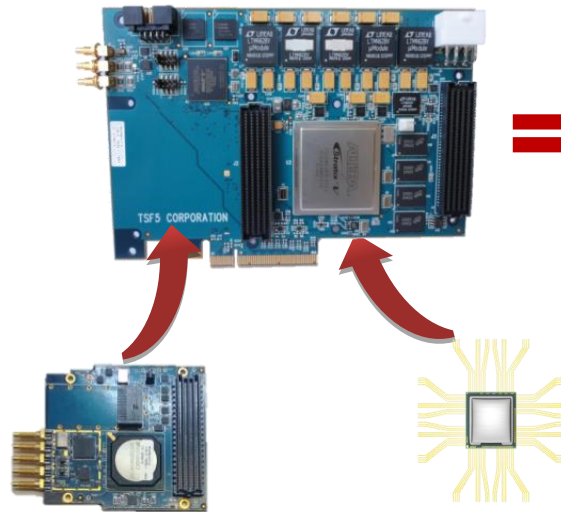
Hunter Model 1000 Data Acquisition at 12 Bits

Two Ch 1.60 GSPS - One Ch 3.20 GSPS

Key Features

- Second FMC site is available for expansion of DSP processing capability
- Latest Altera Stratix V GS D5 FPGA with 1,590 DSP blocks
- Timing signal inputs for precise time stamping of the digitizer outputs
 - IRIG
 - 10 MHz
 - 1 PPS
- PCI Express Interface for up to 8 GB/s data transfer
 - x8 Gen 1/2/3
- 1 GB DDR3 SDRAM
- 2 analog input channels
- Full FPGA code support for RAW data acquisition, FFT processing and digital downconversion (DDC)
- FMC module interface allows for low-cost, COTS solutions to support many applications
- Delivered with a fully featured C++ development library to simplify integration with user applications

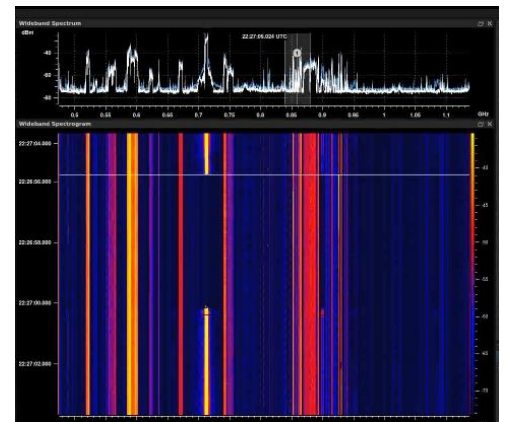
TSF5 – Hunter PCIe Core Card



TSF5 Ultra Wideband ADC & QSFP+ Module

TSF5 FPGA IP

Ultra Wideband RF Acquisition and Analysis System



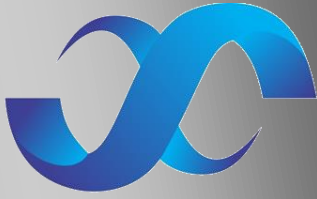
The Model 1000 is a member of the Hunter family of products. The Hunter product line is a modular system using the latest in ultra-high speed interface technology. A multichannel, high-speed data converter, it is suitable for processing HF or IF data streams for communications (COMINT) or radar (ELINT) intelligence exploitation. Its built in data capture features offer an ideal turnkey solution as well as a platform for developing and deploying custom FPGA processing IP. In addition to supporting PCI Express Gen3 as a native interface, the Hunter includes a QSFP+ interface for 40-Gig Ethernet as well as two industry standard FMC processing sites for flexible modularity to serve any customer need.

The modular design of the Hunter allows for an inexpensive solution to many of today's SIGINT mission requirements. The Hunter can process and transfer raw and FFT data from the Single/Dual ADC input simultaneously. The 12 bit 3.2 GSPS ADC allows for higher resolution signal exploitation with an analog bandwidth of 2.8 GHz, a much needed capability supporting the intelligence community mission.

This card also provides greater than 500 MHz instantaneous bandwidth of real data for exploitation of challenging modern signals of interest.

In addition to its industry leading SIGINT capabilities, the Hunter when loaded with the TSF5 Hornbow algorithm becomes an extraordinarily powerful co-processor, providing a wide range of capabilities to process in real time datasets and mathematically intensive applications that traditionally takes hours to complete using standard microprocessor technology.

The Hunter's wide bandwidth data ports and processing power are well suited to address many computationally intensive processes. Financial calculations such as a Monte Carlo simulation can be performed 200x times faster than a typical simulation run in software on Intel processors and several times faster than GPU approaches with 1/8th the power consumption



Hunter Model 1000 Data Acquisition at 12 Bits

PCIe Core FMC Carrier

Ultra Wideband ADC Module

Applications

- EW & SIGINT
- Real time signals monitoring with no loss of spectral content
- Signal capture
- Spectrum analysis
- Hardware FFT Acceleration
- Multichannel coherent data capture
- High channel count digital tuner applications
- Communication providers or owners of the spectrum may perform monitoring tasks to ensure proper operation of their systems or to troubleshoot interference problems

Power Requirements

+12V 3.0A Typical (some applications may require connection to ATX supply for additional current)

+3.3V 0.5A Typical

Physical

Size Single slot, half-length PCIe card (4.2 Inches x 6.6 Inches)

I/O

Timing IRIG-B12X, 10MHz, 1PPS (SSMC)

FMC Two sites supporting FMC IO module and processing module
- Cardset becomes full-length PCIe card with rear FMC slot populated.

PCIe x8 Gen2 (4 GB/s) with support for x8 Gen3 (8 GB/s) in a future firmware update

Software

Interactive control program
C++ Application Programmer's Interface (API)
64-bit Linux driver

Environmental

Operating Temperature 0 to 50 degrees Celsius
Storage Temperature -20 to 70 degrees Celsius
Relative Humidity 5 to 95%, non-condensing

Power Requirements (sourced from core)

+12V 0.0A
+3.3V 1.5A Typical
+2.5V(Vadj) 1.8A Typical

Physical

Size FMC ANSI/VITA 57.1 standard
3.0 x 2.7 Inches

I/O

Analog A, Analog B (SSMC)
800 mVp-p

Trigger In, Trigger Out (SSMC)
LVTTTL

Ext Clock In, Ext Clock Out (SSMC, Micro Coax)
800mVp-p

Ethernet

QSFP+ interface for 40-Gig Ethernet or can be split into four 10-Gig Ethernet ports.

Analog to Digital

12-Bit 3.2 GSPS / 1.6 GSPS dual

ENOB 8.6 Bits (typ)
SNR 53.8 dB(typ)
SFDR 63.4 dBc (typ)

Environmental

Matches Core Card

*All specifications are subject to change without notice.

