

GNSS L1/E1 Radio

Front-End

ACGNS_L1-E1_FE



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ACORDE's ACGNS_L1-E1_FE consists of a GNSS Radio Front-End (FE) with SPI controls specifically designed to interface the Stratix II EP2S180 DSP FPGA development board and other pin-compatible boards. It uses 2.54mm-connectors but custom interfaces for other boards can be provided.

The FE is designed to work at the GPS L1 and Galileo E1 bands, but can be adapted for Glonass/Compass signals reception upon request. The device is fully reconfigurable (filtering, IF, output data format...) according to customer needs. An MMCX connector can be used as a buffered output of the internal TCXO reference, or as an input for an external source.

This module can be used with either a passive or an active antenna.

RECEIVER OEM SPECIFICATIONS

Input frequency	1575.42MHz
FE Analog 3dB Bandwidth.....	{2.6, 4.2, 8 MHz} band-pass, 15MHz Low pass
FE NF.....	1.4dB (passive antenna mode) / 2.7 (active antenna)
TCXO Frequency.....	10 to 40MHz
TCXO Stability	0.5ppm
Sampling Frequency	fTCXO, fTCXO/2, fTCXO/4, 2xfTCXO (40MHz max)
Input Impedance	50 Ω
Data Output	1-2 bits (I&Q), 3 bits (I only), Analog
VCC	3.3V (internally regulated)
ICC	<30mA (internal reference, passive antenna)

POWER SUPPLY

DC input voltage	3.3-5V DC
Active Antenna supply voltage	3.3V DC (provided by FE via input SMA connector)
Antenna Supply Current	20mA max.

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +85°C
Operating temperature.....	-20 to +55°C
Relative humidity	Up to 95%

MECHANICAL SPECIFICATIONS

Interfaces:	
RF Input	SMA female
Supply, control input and data output	Double 20x2 Female 2.54mm connectors
Dimensions	61 mm x 43 mm

APPLICATIONS

- Baseband Hardware Research and Development
- Education
- GNSS applications development