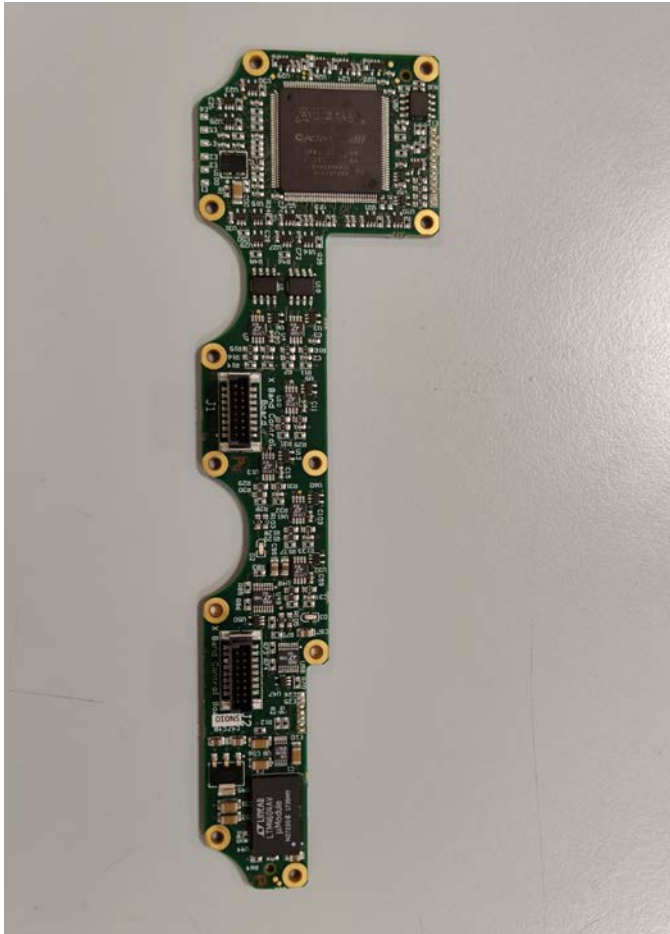# Model Number: A100684

Intech microwaves s.r.l.   Sede Legale e Operativa: Via Giacomo Peroni 400, 00131 Roma (RM) – Italy
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Control Board X Band

Features

- Based on Intel Cyclone IIIEP3C5E144A8N

  - lowest power /high functionality

  - 94 I/O

  - 321 LAB

  - Surrounded by phase-locked loops (PLL)
  - Routing architecture optimized for design separation flow with the Quartus® II software
  - Internal oscillator enables system monitor and health check capabilities

- Flash storage for different configuration images of FPGA

- 128K SPI Bus Serial EEPROM

- JTAG header for external USB BLASTER

- Power Supply +5V

- LDO's on board to 1.2V, 2.5V, 3.3V

- One link RS485 implemented with:

  - 5V Half-Duplex 20Mbps RS485

  - High Input Impedance Supports 256 Nodes

  - Current Limited Drivers and Thermal Shutdown

  - Low Operating Current: 900μA Maximum in Receive Mode

- Up to 5 links RS485 implemented with:

  - 3.3 V Half-Duplex 20Mbps RS485

  - High Input Impedance Supports 256 Nodes

  - Current Limited Drivers and Thermal Shutdown

  - Low Operating Current: 370μA Typical in Receive Mode

- Up to 19UHS Buffer with Three-State Output for TTL signals

  - Ultra−High Speed

  - High Output Drive

  - Over−Voltage Tolerance Inputs Facilitate 5 V to 3 V Translation

- Oscillator MEMS 25MHz ±10ppm (Stability) 15pF LVCMOS/LVTTL 55% 3.3V 4-Pin QFN SMD T/R on board
- 2 leds on board to power monitoring
- For military and automotive applications

IMW A100684 is a Control e Supply electronics board. It's a robust hardware design platform built around the Intel System-on-Chip (SoC) FPGA with 315MHz maximum frequency supported by clock tree for registered logic. The board comes equipped with a firmware infrastructure that will ease further developments in view many possible future applications by providing higher-level control over the functionalities implemented in the board and in particular in the FPGAs Firmware. A variety of different I/O interfaces also adds to versatility of this board. It has a collection of interfaces to communicate with others boards/system to distribute supply voltage (5v) and other signals (LVTTL/RS-485/I2C). It is equipped with three transceivers in TX mode, three transceivers in RX mode, three output buffers and up to 16 input buffers to protect FPGA from damages.

The reconfigurability offered by such systems make it easier to repurpose and adapt the board to other uses by allowing to implement new features.

Mechanical Specification

Parameter	Specification
Case Dimensions	165mm(L) x46.9mm(W) x 2.20mm(H)
Weight	24.27 g
Connectors	
DC Power & controls	#26 pads
DC Power & Control Interface & JTAG	#2 Connector har-flex strt male 3.25mm 16 pin ('15120162601000)