

Satellite On-Board Computers & Space Software Lab



Services Provided:

- Design and implementation of Command and Data Handling (CDH)/OBC hardware circuits
- Development of On-Board Computer (OBC) real-time embedded software
- Design & implement of OBC Real-Time Operating Systems
- Validation and testing of OBC hardware design
- Development of Command & Data Handling CDH software
- Validation and testing of OBC real-time space mission SW
- Fault detection, identification, isolation, and recovery FDIIR
- Autonomous check and test equipment for OBC with state-of-the-art artificial intelligence algorithms

Facilities Available:

- OBC development tools and Kits (ST, NXP, Microchip, etc....)
- Xilinx FPGA development tools and Kits
- Keysight Logic analyzer for system-level debugging of digital designs
- Keysight oscilloscope up to 200MHz
- NI test rack with PXI slots, Hybrid slots, PXI Express System Timing slot, and different IO cards
- Triple output DC power supply 0-30V, 3A

Samples from our Projects / Products:

- Satellite data handling software for CubeSat and Micro-satellites (EgSACube-4, NEXSAT-1, etc....)
- OBC mission software, autonomous check & test equipment SW for CubeSat (Egyptian Universities Satellite EUS-1)
- On-Board Computer Command and Data Handling Subsystem (CDHS) for CubeSat (EUS-1, EgSACube-4)
- Electrical Power Subsystem (EPS) mission software (EgyPWR-1) for Micro-Satellites (NEXSat-2)
- Testing software for command and data handling systems



Part of our Facilities / Services:

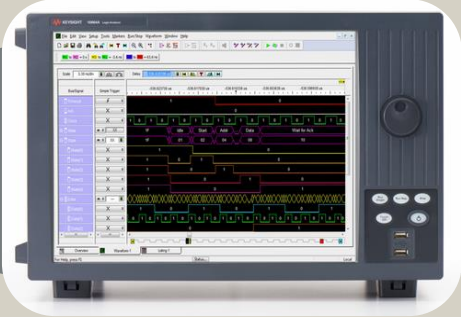
InfiniiVision 3000T X-Series oscilloscopes

Four channel oscilloscope with 100MHz Bandwidth, 5GSa/s sample rate, 4Mpts memory depth and a 21.6cm Touch display. Includes MSO with a 16-channel logic analyzer, upgradable to a 20MHz wave form generator



Keysight logic analyzer

68 channels, 350MHz state, 12.5GHz timing zoom, 2.5GHz timing, fast data transfer and storage of large amounts of data, 1.4GHz trigger sequencer to ensure high-speed events are captured



Itech triple output DC power supply

30V/3A/90Wx2CH, 5V/3A/15Wx1CH, Triple output voltage, all are adjustable, Support/parallel/tracking mode, Built-in RS232/USB communication interface



NI PXIE-1062Q test equipment with I/O outputs

Test and measurement equipment works with both PXI and PXI Express modules and can operate in a temperature range up to 55°C, Up to 1GB/s per-slot dedicated bandwidth [x4 PCI Express], 354W available power, 30W per-slot.



Digital control SMD ESD soldering station

YaoGong is a compact high performance soldering station, The station features a programmable sleep mode of 0-29 minutes or auto-power shut off at 30minutes.



And many others... Contact us to know more about our Services.

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