

ESEN



VeGA

FLIGHT CONTROL COMPUTER

www.esensi.com.tr

Reliable Solution for Advanced Flight Control Management

FCC SW has state of the art sensor fusion and vehicle management algorithms with various levels of autonomy, redundancies and jam-resistance navigation techniques improving flight safety and mission capability.

SMU (Sensor Management Unit)

- Processing Sensor Data
- Voting Structures, Complex Kalman Filter Sensor Fusion
- Fault Detection and Isolation Logics

VMM (Vehicle Mode Management)

- Fundamental Modes: TO, CRUISE, EMG, RTH, LAND, LOITER, CamNav
- Autoums determination of flight modes execution
- Contingency managetment

Navigation Module Precise Waypoint Tracking

- Route Management
- Selection of routes based on flight mode
- Flight to Next Point Calculations, Waypoint Reach Logics, Loiter Logics

STANAG 4586 compliant Ground Segment(GS) SW is bundled with FCC SW. It has distributed service architecture providing a high level of extensibility and fast integration.

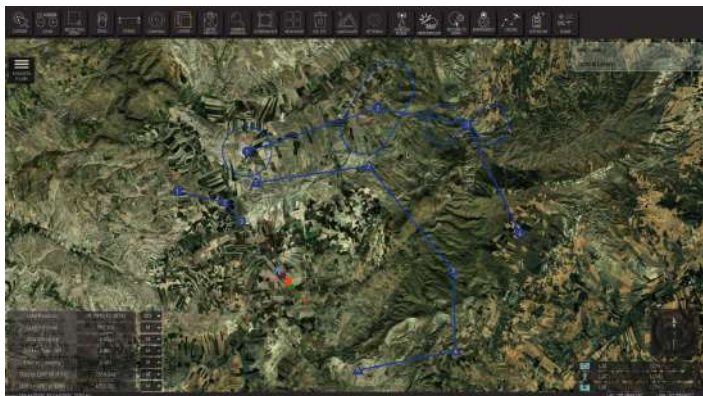
- Mission Planning on Map, Terrain Clash Analyses, LOS Analyses, Mission Upload to UAV
- Displaying UAV System Data and Navigation Data on the Layers of the Map
- Tactical Drawings
- Visualization of Flight and Mission Data
- Built-in Test
- Flight Control Mode Management



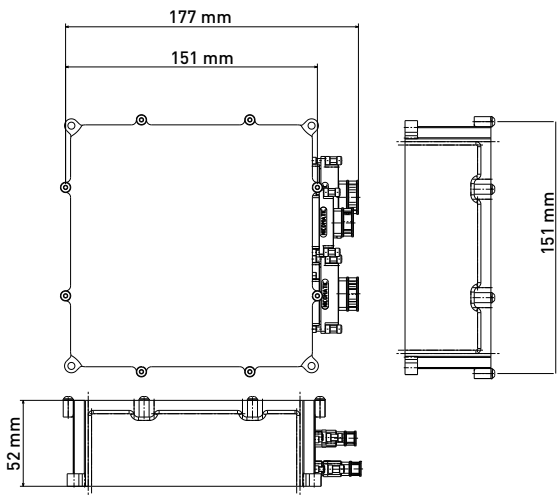
Autopilot Module

- Execution of pilot's speed and altitude commands by considering fight profile and envelope
- VTOL and Fixed Wing Autopilots
- Transition management
- Safety precautions through speed & path priority options in failure modes.
- Fully autonomous flight in cruise etc.
- Flight envelope protection

- Datalink Health Status Monitoring and Control
- GCS and GDT Handover
- Air and Ground Systems Status Monitoring and Control
- Warning, Caution and Alarm System
- Pilot Camera Streaming
- Mission and Flight Log Recording
- Pilot Cam and Payload Recording



Technical Specifications



- Artron Cygnus US+04EV SOM
 - Arm Cortex-A53, Quad Core, 1333 MHz
 - 4GB RAM
 - 32GB eMMC
 - H.264/H.265 Video codec
- On-board RTC
- Input power: 24-32 VDC with following protections
 - Reverse connection
 - High voltage
 - High current
 - Low voltage
 - 20ms hold-up
- Power Consumption: <10W nominal

Environmental:

MIL-STD-810G Method 500.5, 501.5, 502.5, 506.5, 507.5, 508.6, 510.5, 513.6, 514.6, 516.6

MIL-STD-461E/F Method CE102, CS101, CS114, CS115, CS116, RE102, RS103

- I/O Interfaces
 - 1x USB 2.0
 - 1x USB 3.0
 - 2x 1Gbps Ethernet
 - 2x CAN 2.0
 - 4x Differential Analog Input (0-5V)
 - 8x PWM
 - 16x GPIO
 - 10x RS422/RS485
 - 2x RS232/RS422/RS485
 - 4x UART
 - 5VDC output, <500mA
- Weight: 585 gr





eVeGA

FLIGHT CONTROL COMPUTER



eSEN



Titanyum C Blok Kat:2 ODTÜ Teknokent
06800, Çankaya, Ankara/ Türkiye

T: (+90) 312 220 14 88
F: (+90) 312 220 14 89

www.esensi.com.tr

