

Pratt & Whitney
400 Main Street
East Hartford, CT 06118
(860) 565-9743 FAX: (860) 755-5845



To: Cetecom, Inc.,
Re: PTCRB Project Request
Date: 11/23/2021

Exhibit A3: Internal Photos of eFAST product

SHORT TERM CONFIDENTIALITY – This notice expires 180 days from grant issue date.

WARNING - PROPRIETARY RIGHTS NOTICE

This document is the property of Pratt & Whitney Corp. ("P&W"). You may not possess, use, copy or disclose this document or any information in it, for any purpose, including without limitation to design, manufacture, or repair parts, or obtain TCCA, FAA or other government approval to do so, without P&W's express written permission. Neither receipt nor possession of this document alone, from any source, constitutes such permission. Possession, use, copying or disclosure by anyone without P&W's express written permission is not authorized and may result in criminal or civil liability.

U.S. Export Classification: EAR ECCN 9E991

Product Designation:

Manufacturer:	Collins Aerospace & Setrix 400 Main Street East Hartford, CT 06118
Marketing Name:	EFAST™ (Enhanced, Flight-data, Acquisition, Storage & Transmission)
Part # / Rev:	
FCC ID:	2AQWD-HMU200-2
IC_ID:	25562-HMU2002

Internal Circuit Boards:

1. eFAST Certified Processor Boards:

Figure 1: eFAST Certified Processor Board



Figure3: Backside of eFAST Certified Processor Board



eFAST Certified Processor channels A and B are avionics-grade DAL A United Technologies Aerospace System (UTAS) hardware designs. Their primary task is interfacing with the aircraft for collecting and recording data. Each eFAST channel uses a time and space partitioned, real-time operating system (RTOS) allowing multiple processes with different design assurance levels (DAL) to run on the same processor.

2. eFAST Micro-Server Board:

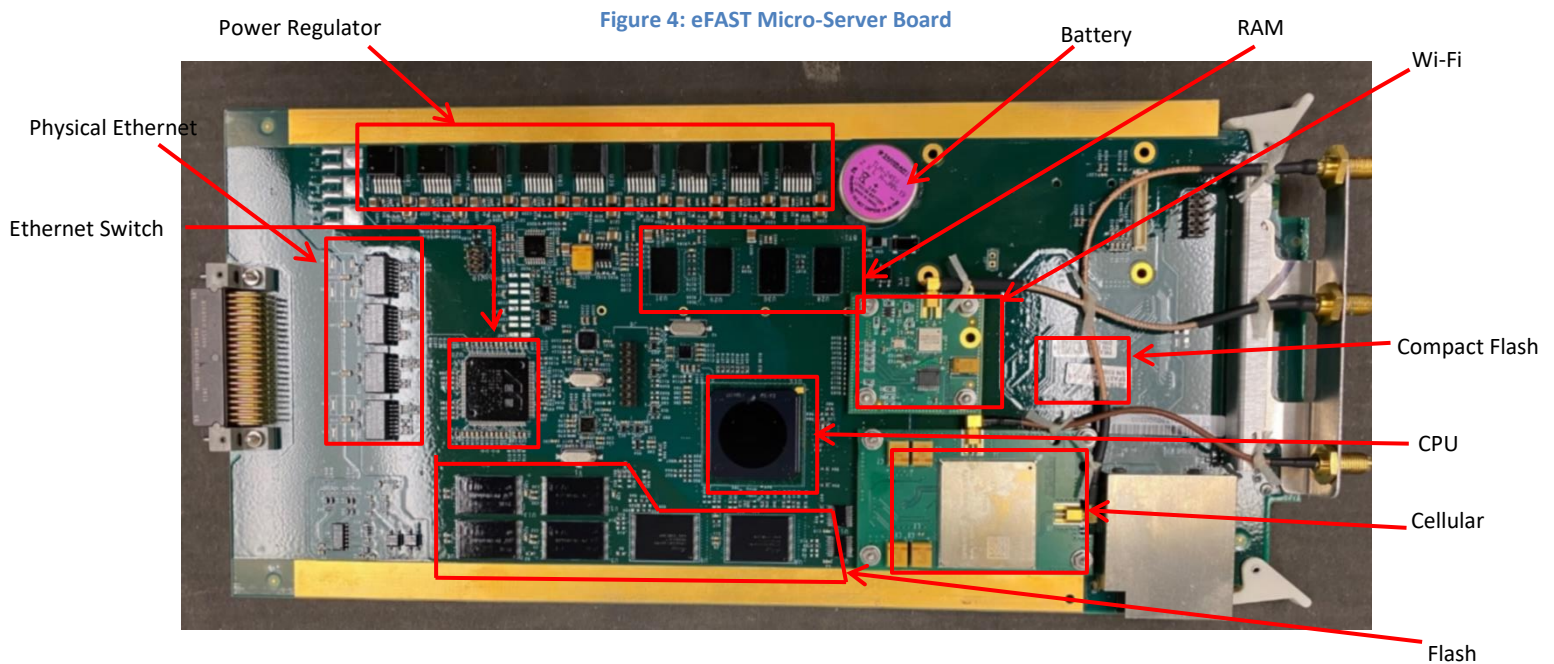


Figure 5: Backside of eFAST Micro-Server Board

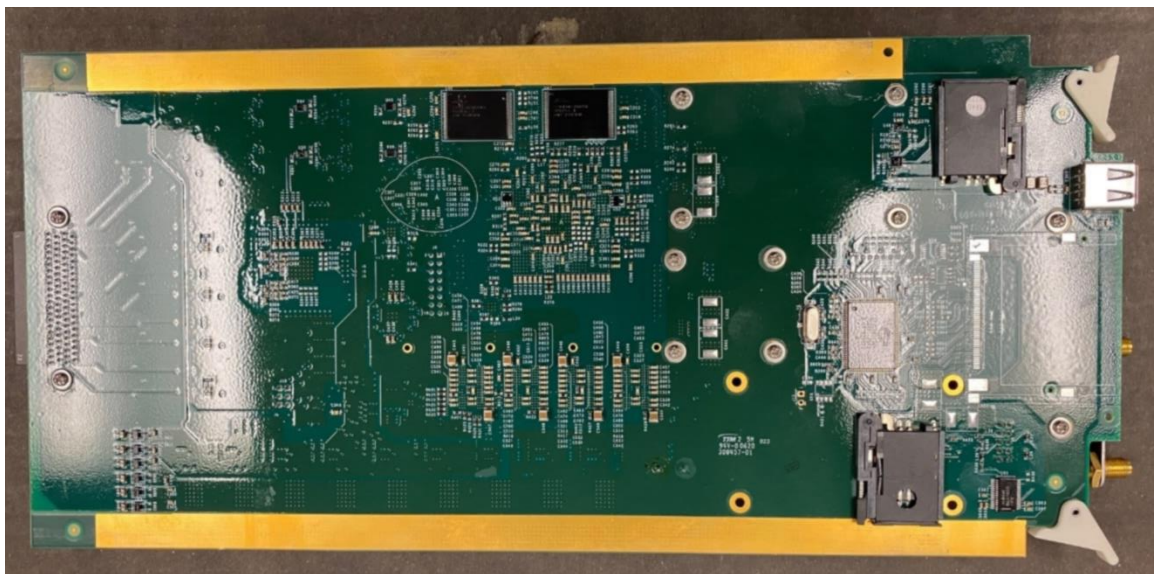
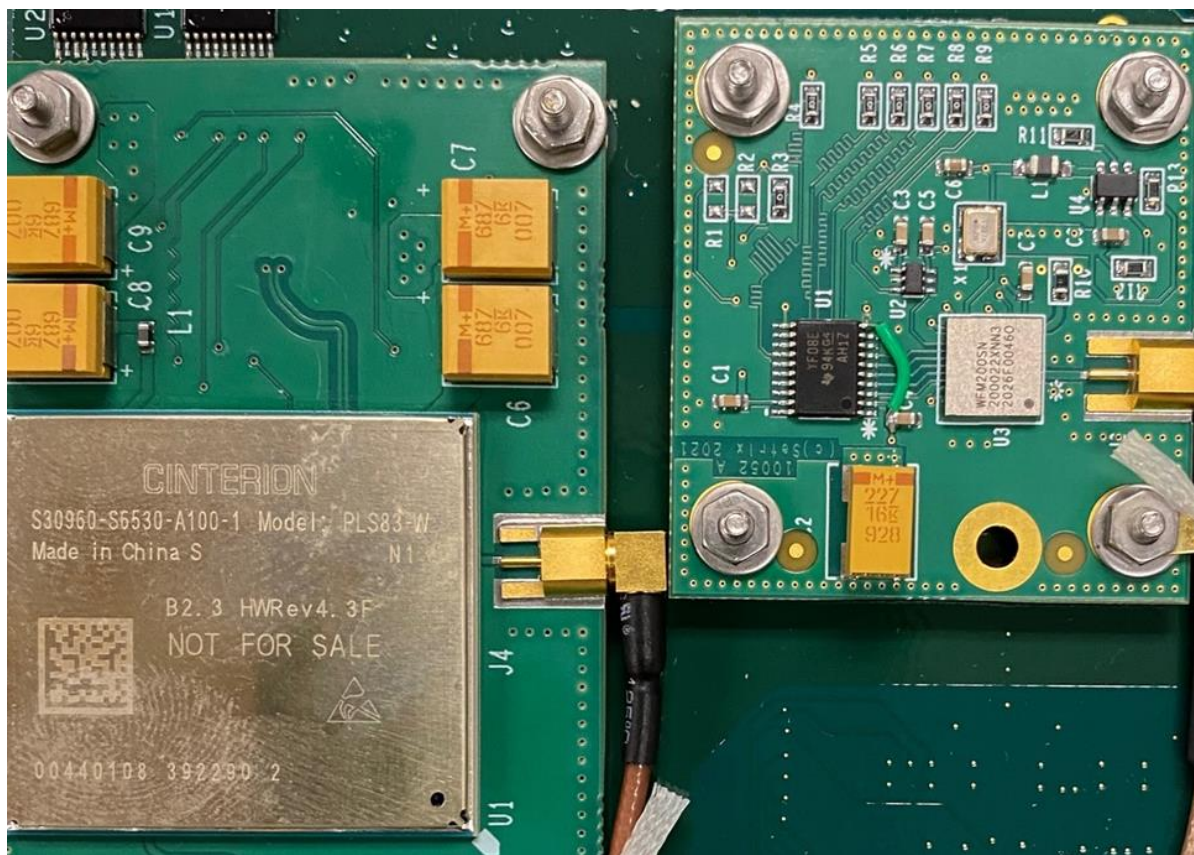


Figure 5: Backside of eFAST Micro-Server Board

Figure 6: Wi-Fi and Cellular Modem



The MicroServer is a DAL E industrial grade commercial-off-the-shelf (COTS) component that acts as the communications processor board. The MicroServer handles file transfer between:

- The eFAST and the outside world via wireless interfaces (Cellular, Wi-Fi,)
- The eFAST and the outside world, via a wired Ethernet connection to a user laptop for accessing the GSE Web Interface

The MicroServer hosts applications for file processing and management and hosts the mass storage device. The MicroServer uses a hardware specific version of Linux as its operating system and includes a Java Virtual Machine (JVM), allowing it to host Java-based applications.

Isolation between the outside world network connection to the MicroServer and the aircraft systems network connected to eFAST Channel A and eFAST Channel B is provided by Pratt & Whitney proprietary intrusion protection software. The interfaces between the two eFAST channels and the MicroServer are managed by a DAL D process for exposing data received on the A429 interfaces to other eFAST processes.