Pratt & Whitney

400 Main Street East Hartford, CT 06118

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To: Cetecom, Inc.,

Re: PTCRB Project Request 59306

Date: 07/06/2017

Exhibit A3: Internal Photos of eFAST product

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

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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-HMU200-4G |
| IC_ID: | 25562-HMU2004G |

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Internal Circuit Boards:

1. eFAST Certified Processor Boards:



Figure 1: eFAST Certified Processor Board

Figure 3: 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.

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2. eFAST Micro-Server Board:

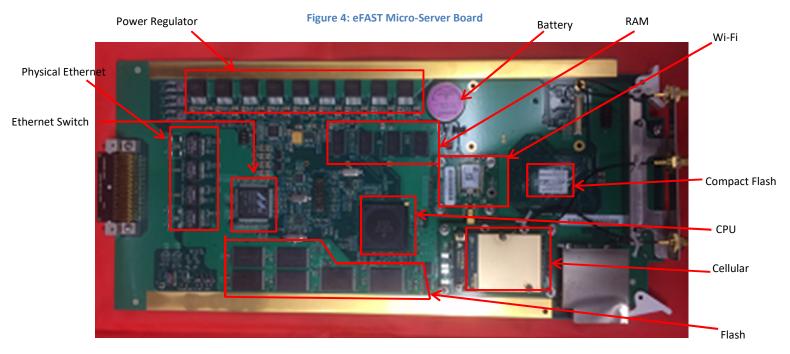


Figure 5: Backside of eFAST Micro-Server Board



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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.