

# Wide Temperature Com Express Module (COMe) Enables Ruggedized Aeronautical Satellite Communication

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## Background Introduction

In Military and Aerospace industry, COM Express module design is extensively needed. With the flexibility of updating the latest platform without changing the existing I/O and carrier boards, COM-Express module design helps reduce the design effort and also satisfies customer's time-to-market demand.

Portwell, as one of the world's leading expertise of designing and manufacturing COM Express module, provided a tailor-made customized solution fit based on standard COM Express module to meet customer requirement in this Aeronautical Satellite Communication project.

## Project Requirements

This project required a ruggedized aeronautical satellite communication server application and required the computer to be reliable and survival in extreme harsh

environment. It required wide temperature, dust and waterproof, toxic & flammability resistant, fungal resistant and also need to pass related altitude test (35000 ft).

## Project Implementation

Based on standard COM Express module product ([PCOM-B638/PCOM-BA00](#)) Portwell modified/customized both hardware and software design (BIOS/EC) to meet this customer's demand and test requirement. The customized solution with conformal coating and special selected PCB material fits all the environmental demand including dust/waterproof, flammability, toxicity, fungal resistant...etc. from customer and passed the strictly test criteria including 35000ft altitude test and other harsh environmental test, proving it to be a reliable and robust solution. Additionally, Portwell modified BIOS for customer features and carrier board per customer special demand.

## Portwell's Value for Customer Benefits

1. Experienced in COM Express module design, Portwell can help customer reduce the designing effort and risk, lower product developing cost (NRE), lead time and provide the flexibility of platform upgrade.
2. Fully customization services for conformal coating (dust/waterproof), customized PCB material for flammability, toxicity resistance and customized BIOS to fit customer specific features and carrier board.
4. Dedicate hardware and software design team for customized thermal/environmental solution.
5. As one of the world's leading embedded computer/boards manufacturer, Portwell is committed to the success of customer's project by providing faster time-to-market solution and by meeting different kinds of requirements.