

## OVER-MOLDING AND TESTING CAPABILITIES

### PROGRAM HIGHLIGHTS

Customer designed a Marine Navigation Electronics device that protected the complete electronics assembly using LFPM techniques. It operates with SiriusXM North America equatorial Satellite System, enabling the user to view current weather conditions, marine zones, and surface buoy reports with NOAA Marine Zone forecasts and NOWRAD.

The use of low flow plastics is typical for low cost electronics connector component assemblies, but not for complex electronic circuits as was presented to the Vexos team. The product consisted of five PCBAs with cables and wires, plus the cover and base. Seven rounds of testing were required for each unit. Proper temperature and handling methods were defined to hand-solder the extremely thin wires to the board without damaging the insulator of the wires. There was not much room in the cover and base for the wires on the receiver assembly which made the wire-wrapping process challenging. As well, the screws connecting the cover and base

were very small, which required proper pound-force to assemble the unit without causing the screws to strip.

### SOLUTION

The BOMs and documentation were reviewed and analyzed for build process and cycle times with recommendations to the customer to reconfigure the product structure to maximize assembly time efficiencies. Recommended DFM and product enhancements were incorporated into the design.

The Vexos engineering and quality teams in conjunction with the LFPM equipment manufacturer developed a multi-stage process to encase the sensitive electronics using LFPM resins that provided the requisite IP protection and the sensitive electronics assembly.

A complete test strategy including two tests on the board level, four times test on the over-molding sub-assembly, and one test to the full unit was developed to ensure the quality of this product.

### RESULT

The customer acknowledged the complexity of the product, as well as the high-level quality, quick response, and solutions that were delivered.



## Dependable Quality

Vexos achieves the highest quality levels by utilizing the latest equipment, processes, quality standards and certifications across the organization; to enable a flawless launch of each individual program.

- Rigorous selection of sub-contractors or partner factories
- Performance evaluation and monitoring through regular audits of the factories
- Continuous training for personnel at all levels
- Document control to safeguard your data and release of technical documents
- Sample approval process including production part approval process (PPAP)

## Certifications

- ISO 9001:2015
- ISO 13485:2016
- ISO 14001:2015
- FDA registered
- OHSAS 18001:2007
- RoHS and Non-RoHS
- IATF 16949:2016
- CGP certification

## Markets We Serve



COMMUNICATIONS



INDUSTRIAL



MEDICAL



SMART GRID



SECURITY



AUTOMOTIVE



COMPUTING



AVIATION  
DEFENSE SPACE



HVAC

# Locations

## USA

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