



## CADENCE AND TAIT ELECTRONICS

Tait Improves PCB Design Productivity by 30% Using Cadence Allegro Platform

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*Dave Elder, PCB Design Manager, Tait Electronics*

### CORPORATE PROFILE

- Tait Electronics designs and manufactures mobile radio equipment and systems

### DESIGN CHALLENGE

- Translate legacy UniCAD designs to Cadence Allegro® Design Entry HDL and Allegro formats
- Reduce design cycle time

### CADENCE SOLUTION

- Customized translators and converted libraries from UniCAD to Cadence
- Customized Cadence Allegro platform to meet customer design needs

### CADENCE PRODUCTS AND SERVICES

- Cadence Allegro Design Entry, Cadence Allegro PCB Editor, Part Browser
- Methodology services

### REPLACING LEGACY SOFTWARE TO MEET MARKET DEMANDS

Tait, Electronics, located in Christchurch, New Zealand was designing portable mobile radio communication products, which typically have development life spans of several years. They were looking at replacing the existing legacy software with minimal negative impact on development projects. Most importantly, they needed to reduce their design cycle time, and at the same time provide a more seamless integration with the MRP system.

They decided to implement a new PCB design tool to improve their PCB design process and time-to-market. The new solution would need to be scalable, have the right functionality, and have a readily available UniCAD translator to ease their migration process. The team also considered the benefits of building a platform for future requirements on high-speed design and ERP integration.

### CADENCE ALLEGRO PLATFORM PROVIDES UNMATCHED FUNCTIONALITY

The Tait design team wanted to work with a market leader to minimize the likelihood of future forced migrations. After evaluating their options, they selected Cadence. Cadence was able to fulfil the design specifications and understand the importance of successful data migration. In addition to conducting a full-blown customized training for 12 engineers from Concept to Allegro, Cadence provided a further 6 months of expert consultation to help shorten the team’s learning curve. The Cadence Allegro platform tools were easily customizable to fit the team’s design needs, with benefits including silkscreen and library checking utilities, and an automated documentation feature, which contributed to significant savings in design cycle time.

"By implementing the Cadence Allegro platform in our design, we have improved our PCB design productivity by 30%. A recent project that would have taken six weeks using our previous tools was completed in less than four weeks."

*Dave Elder, PCB Design Manager, Tait Electronics*

## LIBRARY TRANSLATION EASED USING ALLEGRO CUSTOMIZED TRANSLATOR

Since most of the team's designs were started in UniCAD, Tait project leaders and engineers had viewed design migration with some fear. Their most difficult project to be their new base station product – the TB8000 Receiver/Exciter ("Reciter") board, because of its mixture of dense digital, sensitive RF and a power supply all on one board. They needed several people to work on this board at times.

To help ease the process, experienced Cadence engineers worked on-site for two weeks to help identify potential problems, provide assistance in the design project, and support in the migration process. The Tait team made a special request to the Cadence Research & Development team to modify the standard translator to better fit into Tait's requirements for the conversion. The process took several days and introduced some data integrity issues. They needed to check migrated designs and used Gerber overlays to verify the final results in many cases.

"Migrating tools is never an easy task," said Dave Elder, PCB Design Manager at Tait Electronics. "Cadence made an effort to understand our needs and requirements. The time that they spent on site with our team made the process run very smoothly."

"The impact of a successful migration means future projects and design continuation will be made simpler," continued Elder. "We will now also have ability to use the more advanced features offered in the Cadence tools."

## PART BROWSER ENHANCES PRODUCTIVITY

With the large analog designs that Tait handles, the amount of parts for each schematic in the company reference library naturally increases. Cadence had made available a free downloadable Part Browser. It is a client-server web-based application that allows Tait's engineers to access their reference libraries without needing to locally install Cadence libraries.

Tait's engineers can use the parametric search feature to browse and/or search for parts across the Allegro Design Entry HDL (formerly Concept HDL) that are specific to their design needs, and insert them on the schematic page. This saves time by eliminating the need to create duplicate parts, leaving more time to enhance design productivity.

## PARTNERING FOR SUCCESS

"Through Cadence, we have improved our PCB design productivity by 30%," said Elder. "A recent project that would have taken six weeks in the past using our previous tools was completed in less than four weeks."

"One of the most significant benefits we have gained in this transition is that we are now able to return schematic ownership to our engineers," added Elder. "All of our design engineers are now trained on the Allegro Design Entry HDL tools and are expected to design and maintain their own work. Previously, engineers had to develop schematics on paper and other CAD tools, which is a very time-consuming and tedious task."

With Tait's design now fully migrated to the Cadence design flow, the company is looking into the high-speed design solutions and the Allegro Design Workbench for product life cycle management as the next level of engagement with Cadence.

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