



PADS® Design Reuse Cuts Design Time

COMPANY: Anritsu, Inc. Morgan Hill, CA, and Kanagawa, Japan— www.anritsu.com

Applications

Anritsu® (www.anritsu.com) is a worldwide organization with a long history in technology and communications since 1895. In Japan, Anritsu introduced the first wireless telephone in the early 1900s. Today, Anritsu develops a wide range of products in test and measurement, especially for high-frequency communications. Kathy Clasen manages the company's PCB Design group in California.

“PADS Physical Design Reuse is a time saver.”

— KATHY CLASEN,
PCB DESIGN MANAGER,
ANRITSU

Background

“I’ve used PADS® for 30 years,” says Kathy. “I’ve watched it evolve over the years.” At Anritsu, Kathy and her design team

continue to use PADS® and look for new ways to enable them to work more efficiently and save time and money.

“We develop a lot of RF, analog, and digital designs,” she says. “High-speed layout design includes matched length, differential pairs, micro via technology, and power plane decoupling techniques for high-frequency, high-current transients. Working in very high frequencies, as we do, requires paying close attention to exact trace placement, stripline, microstrip transmission lines, co-planars, EMI considerations, and sometimes blind vias.” On critical RF boards, the Anritsu engineers simulate and create printed filters for their boards, so precision in the layout is critical to achieving the desired behavior of the engineers’ circuits.

“We use the PADS workflow,” says Kathy. “The engineers capture their schematic designs in Dxdesigner, and my department uses PADS for layout. Plus, we have two full HyperLynx® seats for engineers doing full-time analysis, plus a couple of floating licenses.”

Results

“PADS saves us an enormous amount of time,” says Kathy. “That means we can get to market faster.”

PADS Physical Design Reuse Cuts Layout Work

“One of the features in PADS that we’ve found very useful is Physical Design Reuse. PDR helps cut layout time by as much as one week per board. We can take a circuit, like a DDR2 layout with 16 layers of routing of a large number of traces, and copy that section to a new board.” While they started using PDR only



recently, Kathy says it's a huge time saver and that they'll expand its application to more designs. "We're working with our local PADS reseller to find more ways to take advantage of PADS, including the features coming up in PADS VX®."

Importing Printed Filters Ensures Design Integrity

Anritsu engineers create a lot of printed filters. "PADS lets us give the engineers exactly what they expect for their printed filters," says Kathy. The engineers simulate the filters in Microwave Office®, which gives them an exact design that must then be perfectly duplicated in layout. "We use the ASCII file from Microwave Office. The simulator gives us the copper layout for the printed filter. We import it into PADS as a filled copper entity and create the filters from it. So the engineers get on the board exactly what they have already simulated and designed."

According to Kathy, many people use DXFs for printed filters, but the PCB designer then has to copy over the top of the DXF drawing. "It's just not the same," says Kathy. "The engineer likes to use the ASCII file to get exactly what they've designed. Importing the ASCII file directly into PADS saves us a tremendous amount of time and ensures that the engineer's

design integrity carries to the board layout."

Collaborative Design Saves Time with RF Shields

Working with so much RF on a board, Anritsu engineers create a lot of shields. Kathy and the engineers are always looking for a way to help accelerate the collaborative design process around shields. "We use SolidWorks®," she says, "so we have to go back and forth between the physical design and layout for shield design. We're looking for a PADS feature to help accelerate this process." Currently, Kathy's team exports the ASCII file from SolidWorks into Circuit Works, a component of SolidWorks. "We do the copper part of the layout and they take the copper part and create their shields from it. It has helped us efficiently and accurately design shields."

"PADS gets us to market sooner."

– KATHY CLASEN,
PCB DESIGN MANAGER,
ANRITSU

Looking to the Future

"We're really looking forward to migrating to a newer version of PADS and eventually installing PADS VX," says Kathy. "PADS 9.5 will allow us to flip the back side of the board to right reading, which previous versions don't do. That will make it so much better for us and the engineers. We're also looking forward to the PADS VX library manager, which we're expecting will help us save even more time."

Kathy's team has looked at other PC design tools, but they've found that for RF designs, PADS is the best match. "PADS is cool stuff," says Kathy. "We're always looking for ways to speed up the design process throughout the company. As we have with printed filters and PDR, we always seem to find a way to use PADS to be more efficient and save time."

For more about PADS, visit www.pads.com.

Find out how MMI Designs can help solve your challenges at www.anritsu.com.

For the latest product information, call us or visit: www.pads.com

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