

OneRoof Energy: *Making Residential Solar Possible*



PV system installation with Maxim-enabled modules at San Clemente, CA residence

OneRoof Energy is a full service residential solar company dedicated to empowering homeowners with low, predictable electricity rates for the long term by providing clean alternatives to utility-provided electricity. OneRoof offers homeowners everything from PV system design to financing, installation, and ongoing monitoring and maintenance. Voted Best Residential Contractor in the U.S. by Solar Power World magazine, OneRoof streamlines the process so homeowners are able to get the power they need and when they need it.

Issue

Dr. Frank Mogavero, DDS, an orthodontist with offices in San Clemente and San Diego, California, wanted to install solar panels at his residence, but because his home's roof had many planes, facing different directions, it presented a challenge for conventional PV technology. Before meeting with OneRoof Energy, another solar panel installer told Dr. Mogavero that there was no way they could source his energy needs based on the available roof space.

Solution

OneRoof Energy introduced Dr. Mogavero to modules equipped with Maxim optimizers, which perform maximum point power tracking (MPPT) at the cell string level. By replacing each diode with a Maxim cell-string optimizer, the on-off response to performance mismatch is eliminated. Each cell string contributes maximum power without interfering with the power production capability of the others. This provides a higher degree of system design and layout flexibility by incorporating multiple string lengths, multiple orientations, and to expand panels into partially shaded areas.



"I didn't want to have to think about the panels after they were installed, and the Maxim-enabled system is trouble-free," said Dr. Frank Mogavero, DDS. "During the hot summer, I was running the air conditioner much more and using more power, but spending much less on the energy bill."



"Maxim's junction box integrated cell-string optimizer has given us maximum design and layout flexibility to be able to put panels on multiple roof planes without compromising performance," said Anand Janaswamy, Senior Vice President, Product Development and Utilization at OneRoof Energy. "It allows our installation crew to wire up the systems without complicated wire management issues with no changes to existing installation flow. The combination of design flexibility and ease of installation has allowed us to harness the technology's shade tolerance feature without any loss of performance."



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Issue

Dr. Mogavero needed a flexible system that could cost-effectively generate energy from his home's available roof space. Installing a PV system onto a rooftop with multiple planes would usually be much more expensive than conventional panels.

Solution

With Maxim-enabled modules, there's no additional hardware or boxes to bolt on at the site, making installations easier and quicker. Streamlining the installation process means OneRoof Energy was able to deliver more value to the customer.



"As an owner and operator of solar PV systems and assets for 20 years, OneRoof Energy expects the integrated solution offered by Maxim to be the most cost effective over the life of a PPA contract," said Anand Janaswamy. "We believe the low component count of the integrated solution will enhance durability, increase robustness of the system on the roof, and improve performance by correcting for cell string mismatches - soiling, shading, and partial snow cover in some geographies."

"Maxim-enabled modules are the most cost effective systems to deploy on roofs with multiple planes," said **Anand Janaswamy**. "The system using Maxim technology is performing better than our expectations and our customer is realizing significant dollar savings each month."

[Learn more at maximintegrated.com/solar](http://maximintegrated.com/solar)



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