

SYSTEM: 21-SEER 4-ton iQ Drive air conditioner versus 13-SEER 5-ton conventional air conditioner.
INSTALLER: Interstate Plumbing and Air Conditioning, LLC, Las Vegas, Nev.
SAVINGS: 39% energy savings with the iQ Drive, a point greater than anticipated
NOTES: Homeowner appreciated excellent overall comfort, long-term energy savings and sound reduction.



iQ Drive®

iQ DRIVE® AIR CONDITIONER SURPASSES ENERGY SAVINGS IN THIRD-PARTY TRIAL.

NV Energy, a utilities company based out of Las Vegas, Nevada, conducted an efficiency field test of the 21 SEER 4-ton iQ Drive air conditioner as part of their Market and Technology Trials Program. The program is designed to measure and verify the energy savings achievable in a Nevada residential application. For this trial, they compared the performance of a 4-ton iQ Drive to that of a 5-ton 13-SEER unit at the same home.

Homeowner Steve Schmid saw a 39 percent energy savings with the iQ Drive, a point greater than his anticipated 38 percent based on the 21 SEER rating.

"I expected a reduction of 38 percent," says Schmid. "Once the results were provided, I was happy to see that the energy savings was 39 percent. On one similar-day comparison, the savings was 46 percent."

To monitor energy usage and eliminate any variables that would alter data, NV Energy installed current sensors, current loggers, recording power meters and split-core current transformers in Schmid's home. Data loggers were installed throughout the home at return and supply registers, one at the thermostat, one at the condenser and one to monitor outdoor temperatures. Voltage, current, power (kW) and energy (kWh) were measured for the condenser and indoor blower. Both units were measured for six weeks.

Schmid's results also showed that the 4-ton 21-SEER unit provided a reduction in peak electrical demand during critical times.

"The data collected showed the largest energy savings (about 50 percent) were during the peak hours of 1 p.m. to 7 p.m. By switching to the Time Of Use plan available from NV Energy, I believe the energy savings will be even larger."

According to Schmid, the home's overall comfort was also drastically improved by the iQ Drive system compared to the 13-SEER system. "The iQ Drive system monitors the cooling demand and provides a capacity that corresponds to the demand. This causes the unit to run longer but at a much lower capacity using less electricity. The benefit is the air continues to move within the home, allowing for better filtration and less dust as well as reduced air stratification. As the home is a two-story, stratification was a problem. The level of comfort was greatly improved and the temperature remained more constant."

Sound levels were also reduced with the iQ Drive system. While decibel levels were not measured, Schmid states that the 21-SEER system was inaudible inside the home. "It wasn't necessary to turn up the volume on the television when the blower came on as you couldn't even hear it."

NV Energy chose the iQ Drive air conditioner for the study because of its published 21 SEER rating, the highest efficiency rating currently available for a 4-ton residential air conditioner.

For more information on the iQ Drive air conditioner and heat pump, please visit www.iqdrive.net.

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