

Overview of Emerging Technology Coordinating Council (ETCC) Report on Tier 2 APS (February 2016)

PG&E and SDG&E undertook an evaluation of two different Tier 2 Advanced Power Strips (APS) devices across over 150 households. This field trial collected data on both energy savings and retention rate data on this exciting new product category to address plug load.

Tier 2 APS utilize more intelligent sensing and control processes to deliver both greater energy savings and higher customer acceptance when compared to existing Tier 1 APS technologies.

The ETCC report provides a performance comparison of two different Tier 2 APS devices which utilized different sensing and control processes to manage the energy consumption of Audio Visual (AV) equipment.

The two Tier 2 APS devices tested had the following design differences.

		Tier 2 APS device	
		Embertec	Tricklestar
Sensing Approach		Infra-Red/Power Sensing of all controlled devices	Infra-Red/Motion Sensing & Power Sensing of Master device only
Control Approach		Masterless	Master/controlled

Page 13 & 15 of the ETCC Report.

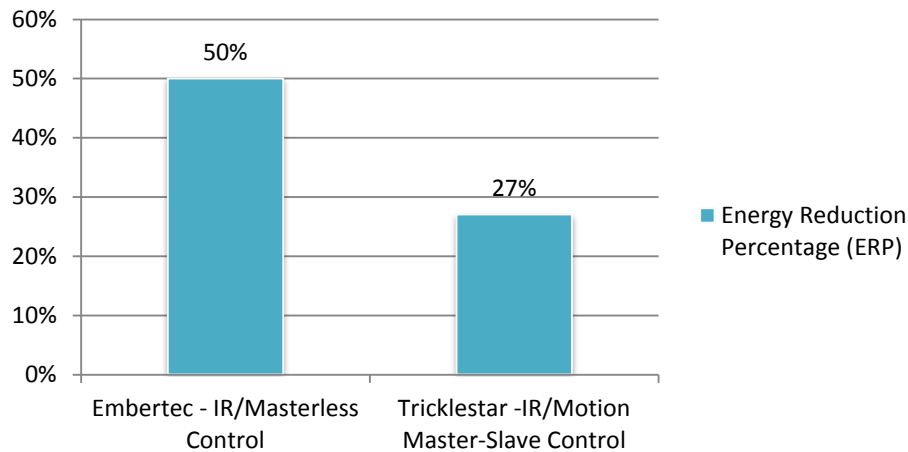
The two Tier 2 APS devices were field trialled side by side in the same households across the same time period to ensure all usage variables were removed in the field trial process.

The results of the trial highlighted the following performance metrics for the two devices field trialled. The Energy Reduction Percentage (ERP) is a measure of device performance. The higher this value, the more effective the Tier 2 device is in delivering energy savings.

		Tier 2 APS device	
		Embertec	Tricklestar
Sample Size		98	56
Energy Reduction Percentage (ERP)		50%	27%
Retention Rate after 23 weeks		83%	82.50%

Page 30, 35 & 54 of the ETCC Report.

Energy Reduction Percentage (ERP)



Page 30 of the ETCC Report.

The data highlights that Tier 2 APS devices which utilize different sensing and control processes will deliver a significant variation in energy saving performance; this needs to be considered for overall program design when assessing cost effectiveness of different technology solutions.

Through using regional base load data of TV viewing areas in the home, the proven ERP of tested Tier 2 APS can be applied to the baseline energy usage to determine the energy savings of each device.

For example, in Michigan the MEMD team determined the average base load energy usage in each AV environment to be on average 614 kWh. Applying the ERP performance for each Tier 2 APS tested delivers an annual energy reduction percentage of 307 kWh and 166 kWh for the Embertec and Tricklestar devices respectfully.