

## ENERGY STAR® and STANDBY POWER MEASUREMENTS with WT210 Power Analyzer

**Application:**

Many consumer products and appliances continue to consume a very small amount of power even after they are switched off. These products include TV's and other devices with a remote control, VCR's, Computers, Printers, Microwave Ovens, products with Digital Displays, Cordless Phones, Cell Phone chargers, and many others. Each of these devices consumes just a very small amount of power when turned off. However, considering the billions of products that use standby power, the amount of electrical energy consumed becomes very significant. The Federal Energy Management Program has established guidelines for measurement of Standby Power.

**Guidelines for Measurement of Standby Power Use**  
Version April 29, 2002  
Part 3.5 Measurement uncertainty and instrumentation accuracy

MEASUREMENT REQUIREMENTS		WT210 Power Analyzer	
		120 V Input	240 V Input
<b>Power Measurement Resolution</b>	Less than 0.1 W at 1.0 W Actual Power	0.001 W	0.001 W
<b>Watt-Hours Accumulation</b>	Accumulate into Watt-Hours at a minimum power level of 20 milliwatts	Will accumulate into Watt-Hours at 6 milliwatts	Will accumulate into Watt-Hours at 12 milliwatts
<b>Measurement Period</b>	No less than 5 minutes	Timer range is 10,000 hours. Timer resolution is Hr:Min:Sec	Timer range is 10,000 hours. Timer resolution is Hr:Min:Sec
<b>Voltage Operating Conditions</b>	Input Voltages up to 5% Total Harmonic Distortion	Input Voltages up to 100% Total Harmonic Distortion	Input Voltages up to 100% Total Harmonic Distortion
<b>Frequency Operating Conditions</b>	47 through 63 Hz	DC, 0.5 to 100 KHz	DC, 0.5 to 100 KHz
<b>Crest Factor</b>	Not less than 5 at RMS currents of 2 amps or less	Equal to or better than 5. At 2 amps RMS on 5A Range CF=7.5	Equal to or better than 5. At 2 amps RMS on 5A Range CF=7.5
<b>Time Measurement</b>	Accurate to within 2 seconds	0.02% of reading Accurate to within 2 seconds in 2.77 hour period.	0.02% of reading Accurate to within 2 seconds in 2.77 hour period.



**Solution:**

The only way to determine if a product consumes standby power is to measure it with a watt-meter. The Model WT210 Power Analyzer meets or exceeds the requirements for Standby Power Measurements as specified by the Federal Energy Management Program. Refer to the following Web Sites for complete information on Energy Star® and Standby Power.

[http://www.eren.doe.gov/femp/resources/standby\\_power.html](http://www.eren.doe.gov/femp/resources/standby_power.html)

<http://oahu.lbl.gov/>

<http://www.energystar.gov/default.shtml>