## **80 PLUS Verification and Testing Report**

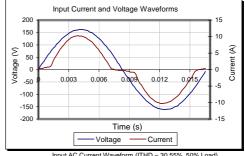
| TYPICAL EFFICIENCY (50% Load): | 86.87% |
|--------------------------------|--------|
| AVERAGE EFFICIENCY:            | 85.19% |
| 80 PLUS COMPLIANT:             | YES    |



| Ecos ID #     | 1169.1    |
|---------------|-----------|
| Manufacturer  | GTR       |
| Model Number  | F650      |
| Serial Number | N/A       |
| Year          | 2008      |
| Туре          | ATX12V    |
| Test Date     | 12/1/2008 |

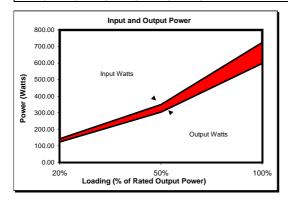
| Rated Specifications | Value   | Units |
|----------------------|---------|-------|
| Input Voltage        | 115-230 | Volts |
| Input Current        | 12/8    | Amps  |
| Input Frequency      | 50/60   | Hz    |
| Rated Output Power   | 600     | Watts |

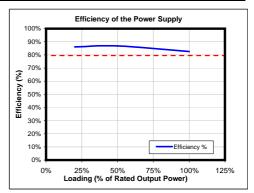
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



| input AC Current waveform | (ITHD = 30.55%, 50% L0ad) |  |
|---------------------------|---------------------------|--|
|                           |                           |  |

| I <sub>RMS</sub> | PF   | I <sub>THD</sub> (%) | Load | Fraction | Input  | DC Terminal Voltage (V)/ DC Load Current (A) |          |         |         | Output  | Efficiency |        |
|------------------|------|----------------------|------|----------|--------|--|----------|---------|---------|---------|------------|--------|
| Α                |      |                      | (%)  | of Load  | Watts  | 12V (cumulative of 12V1, 12V2, etc.)         | -12V     | 3.3V    | 5V*     | 5VSB    | Watts      | %      |
| 1.28             | 0.97 | 1.86%                | 20%  | Light    | 142.10 | 12.2/8.4                                     | 11.1/0.1 | 3.3/2.4 | 5.1/1.6 | 5.1/0.5 | 122.39     | 86.13% |
| 3.20             | 0.95 | 30.55%               | 50%  | Typical  | 349.32 | 12.1/21                                      | 11.1/0.2 | 3.3/6   | 5.1/4   | 5.1/1.2 | 303.46     | 86.87% |
| 6.51             | 0.97 | 24.42%               | 100% | Full     | 724.50 | 11.9/41.9                                    | 11/0.5   | 3.3/12  | 5.1/8   | 5/2.5   | 598.19     | 82.57% |







These tests were conducted by a third party independent testing firm on behalf of the 80 PLUS® Program. 80 PLUS is a certification program to promote highly-efficient power supplies (greater than 80% efficiency in the active mode) in technology applications. http://www.80plus.org/

