

## Testing and Results

### 1.1 Efficiency, Regulation, PF, and iTHD

This section shows the efficiency, power factor, regulation, and iTHD results at 115-V AC and 230-V AC input.

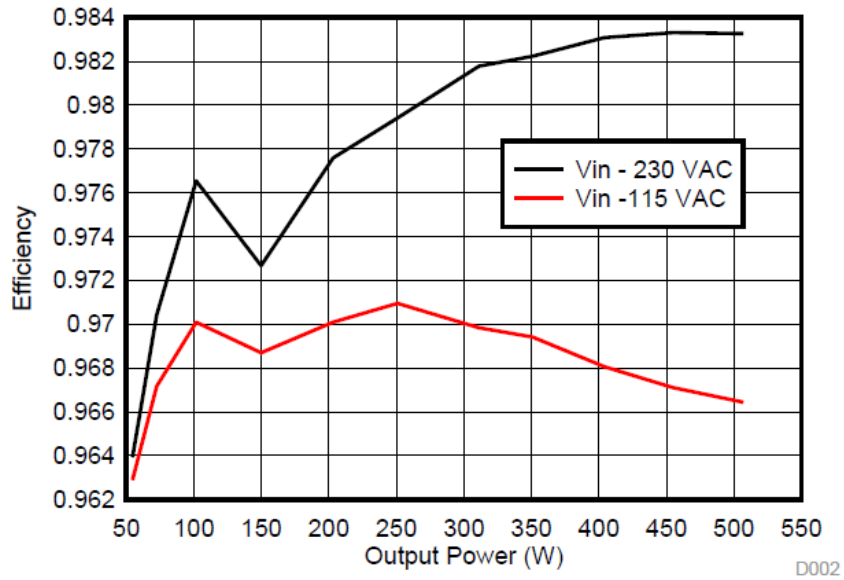


图 2. PFC Stage Efficiency

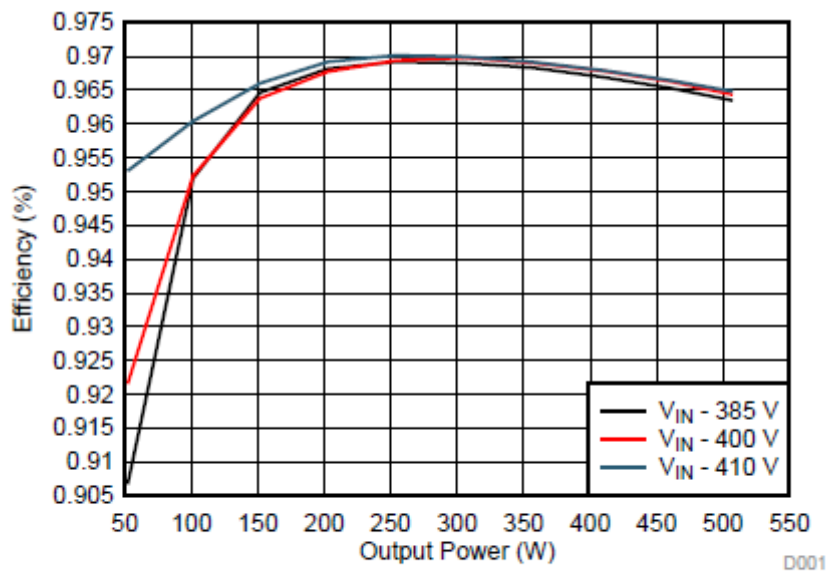


图 3. LLC Stage Efficiency

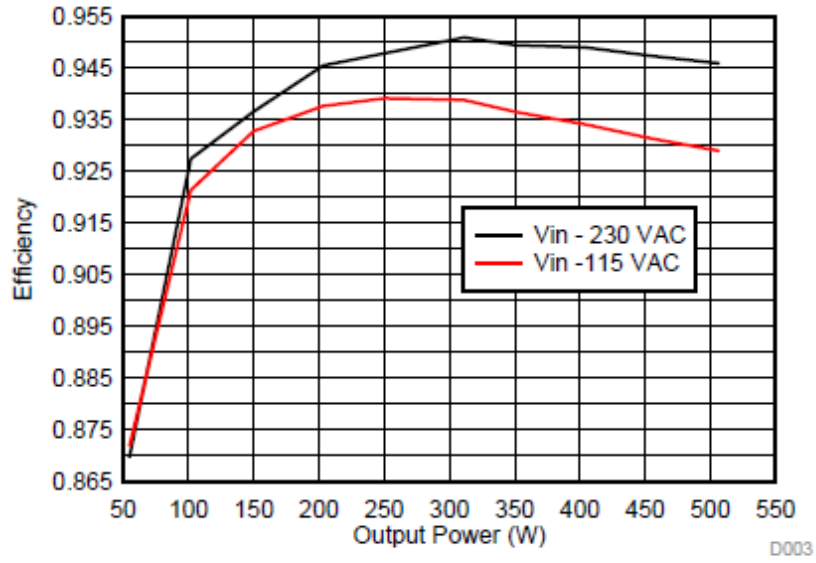


图 4. System Overall Efficiency

图 5. Load Regulation

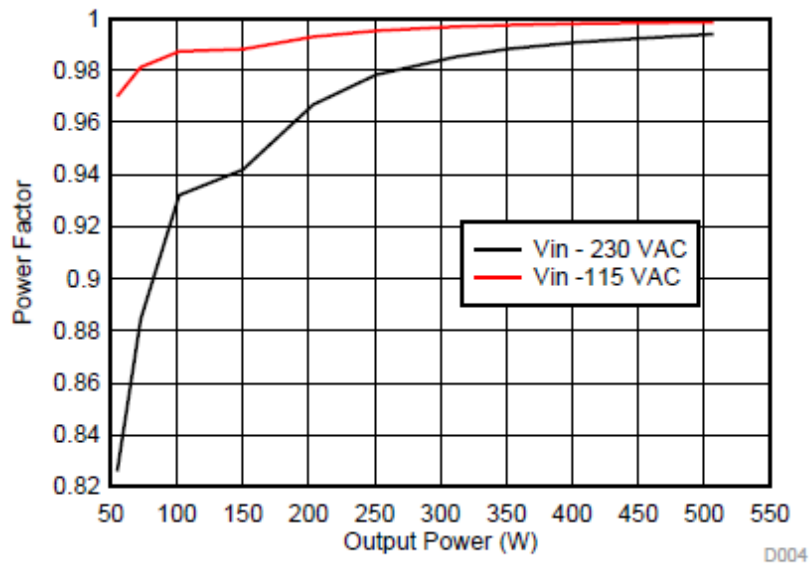


图 6. Power Factor

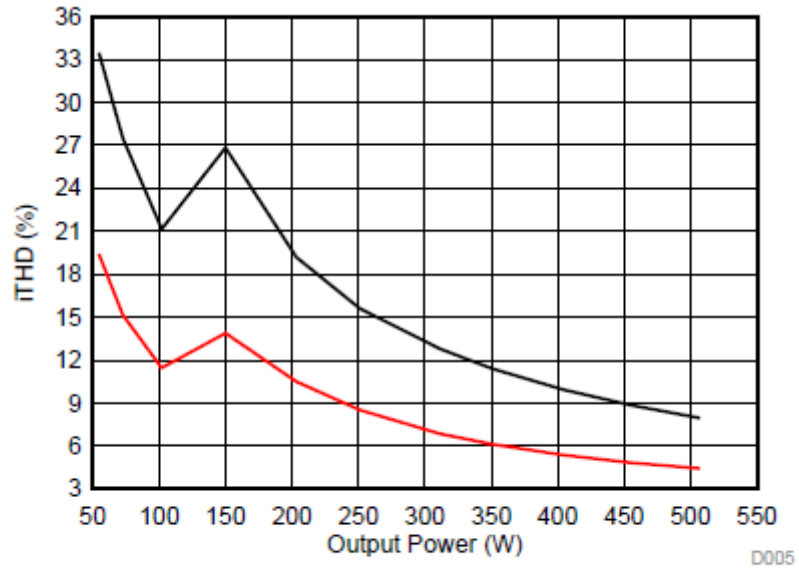


图 7. iTHD Data

### 1.2 Standby Power

The standby power consumption at no load is shown in

表 4. Standby Power

| VIN AC | Pin    |
|--------|--------|
| 115 V  | 170 mW |
| 230 V  | 190 mW |

### 1.3 Load Transient Response

图8 shows the transient response of the system when the 24-V output load varies from 5 A to 20 A at a slew rate of 500 mA/μs.

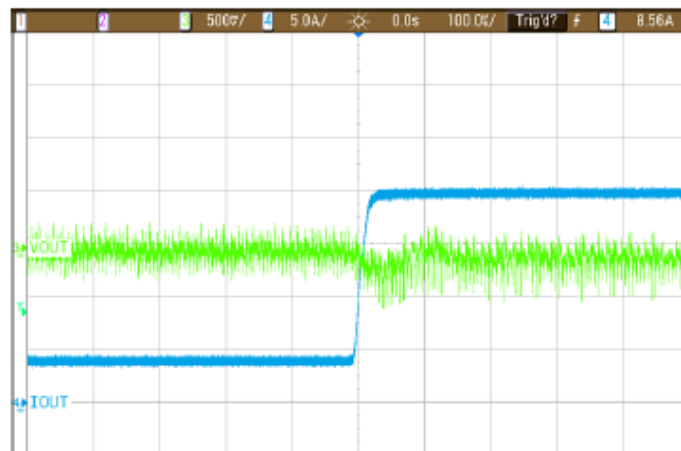


图 8. Transient Response at 24-V Output

## 1.4 PFC MOSFET Switching Waveforms

This section shows the PFC MOSFET turnon and turnoff switching waveforms. 图9 shows the turn on of PFC MOSFET at 115 V, 图10 shows the turn off of PFC MOSFET at 115 V, 图11 shows the turn on of PFC MOSFET at 230 V and 图12 shows the PFC MOSFET turn off switching waveform at 230 V.

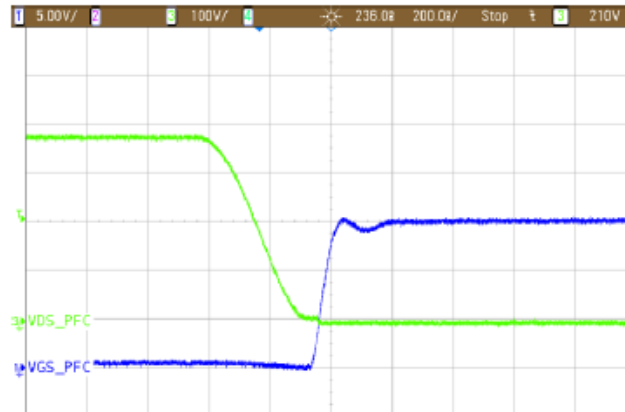


图 9. PFC MOSFET Turnon Waveform at 115 V

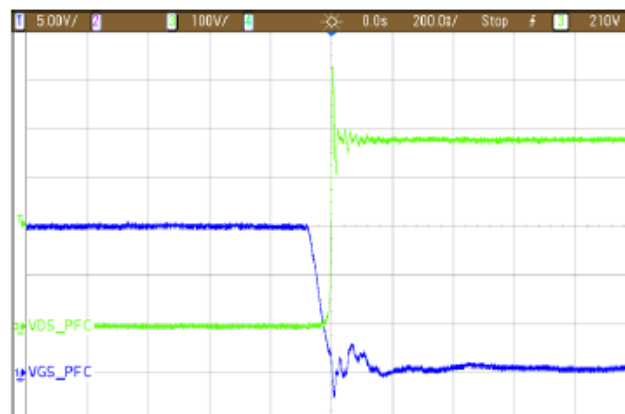


图 10. PFC MOSFET Turnoff Waveform at 115 V

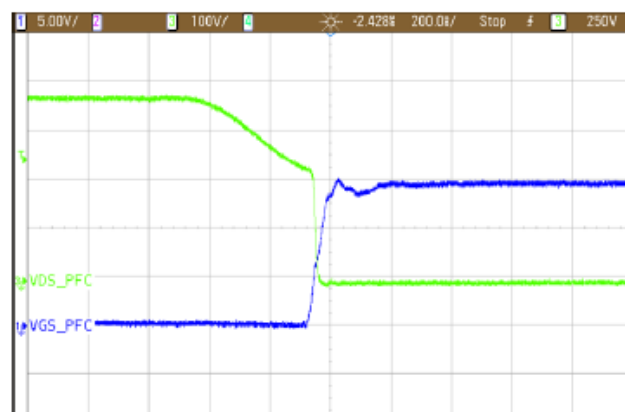


图 11. PFC MOSFET Turnon Waveform at 230 V

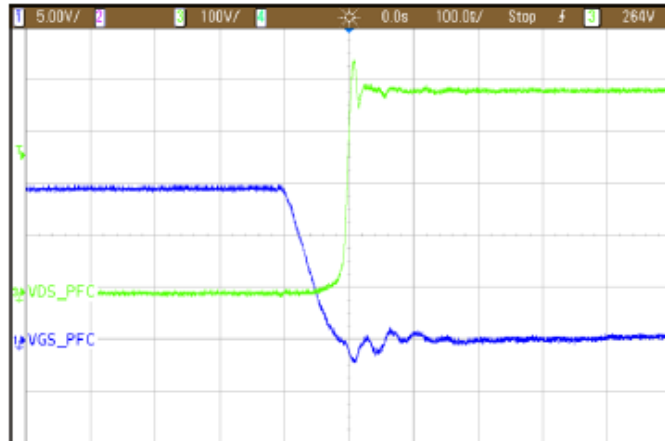


图 12. PFC MOSFET Turnoff Waveform at 230 V

### 1.5 LLC Stage Switching Waveform

图13 shows the primary-side switching waveform of the LLC stage depicting the tank current and low-side MOSFET switching waveform.

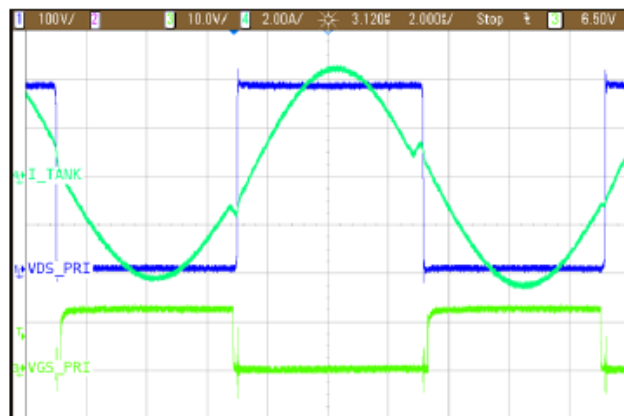


图 13. LLC Stage Primary-Side Tank Current and MOSFET Switching Waveform

图14 shows the synchronous MOSFET and synchronous drive output waveform.

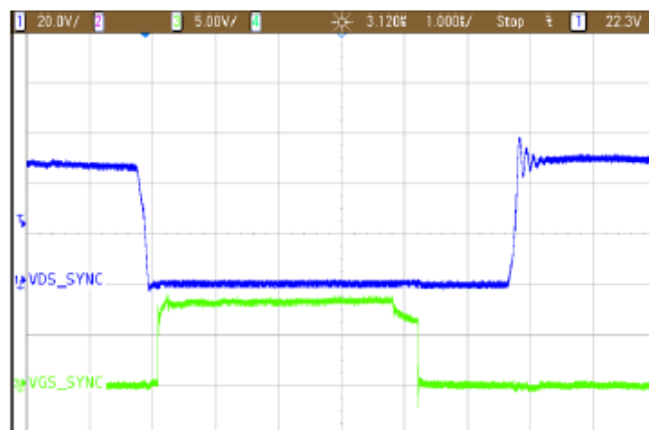


图 14. Synchronous MOSFET  $V_{DS}$  and Proportional Gate Drive Signal