



Advantages of IT2705 DC Power Analyzer in Low-Power Consumption Testing

In the evolution of electronic products, users consistently expect longer battery life. Yet, while functions continue to increase, product sizes shrink—creating a constant “bottleneck” that keeps battery capacity in a state of delicate balance. As a result, endurance has become a key competitive factor for consumer electronics, medical devices, and communication modules.

From everyday smartwatches and smart home appliances, to life-critical implantable medical devices and portable monitors, and even to communication modules that enable the IoT, all require rigorous low-power testing and validation. Engineers must accurately measure currents across the full dynamic range—from deep sleep current to peak operating current—and precisely capture transient current pulses.

This demands a test system with not only exceptional accuracy and dynamic performance, but also seamless range switching and high-speed sampling. Only then can it capture both subtle leakage currents and the critical peak loads that may compromise the entire battery budget.

IT2705 DC Power Analyzer + IT27814 SMU Module

-System-Level Testing Solution Made Test Simple

- ✓ Ultra-High Resolution: Up to 6 μV / 0.1 nA, far exceeding standard power supplies, ideal for ultra-small parameter measurements.
- ✓ High-Speed Sampling: 200 kHz oscilloscope sampling with a minimum data logging interval of 20 μs .
- ✓ Seamless Current Range Switching: Automatic switching among 1 mA / 100 mA / 3 A ranges ensures accurate capture from sleep to operating current without delay or data loss (10 μA range selectable manually).
- ✓ Battery Simulation: Precisely emulates terminal voltage, SoC variation, and internal resistance of portable devices under long-term use, and supports reverse validation of battery life. Advanced features available via optional BSS2000 battery simulation software.
- ✓ Integrated Power Consumption Analysis: Upper-computer software provides clear, intuitive insights into overall performance.



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- ✓ Flexible Modular System: IT2705 analyzer supports up to 8 channels with optional modules including DC source, bidirectional DC source, and regenerative DC load, enabling maximum system flexibility.

Here is an example of the IT2700 DC Power Analyzer testing a smart lock.

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