

**To:** File **November 27, 2012**  
**From:** Richard Timko  
**Subject:** Modular Approval Request for Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions), FCC ID: R7PNG0R1S2

---

## 1. Scope

FCC Public Notice **DA 00-1407** released June 26, 2000 communicated guidelines for products requesting modular approval. In particular, 8 requirements were enumerated along with a request that each of the 8 be explained for any product requesting such approval. It is the purpose of this document to respond to those 8 guidelines in regard to the Landis+Gyr products: **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)**.

## 2. Modular Approval Requirements

### 2.1 RF Shielding

The **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** are self-shielding and are not dependent on any component or characteristic of the device into which they are embedded. Shielding is accomplished through a combination of metallic self-shielding components, copper planes, guards, and vias in the PCB. The result is a design that has been proven to be neither sensitive to outside influence nor capable of introducing interference into outside components.

### 2.2 Buffered Modulation / Data Inputs

The **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** do not have external modulation or data inputs. Rather, the RF sections are driven by an on-board microprocessor which directly controls the RF data lines and operates so as to not allow excessive modulation.

### 2.3 Power Supply Regulation

The **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** use linear, low-dropout regulators to provide all the electronics with a supply that is fixed, even when the input voltage is varied.

### 2.4 Antenna Requirement

The **Gridstream S4 Modular SCADA/DA (Internal Antenna Version)** utilizes an F-type antenna integrated into the PCB and is not changeable. The **Gridstream S4 Modular SCADA/DA (External Antenna Version)** utilizes an external antenna which is connected by a unique MCX-type connector.

### 2.5 Stand-Alone Testing

All testing on the **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** was conducted standalone. No shields or enclosures were used, other than those fully integrated into the modules themselves. No ferrites were used on data or power lines during testing. These devices are DC powered, and exceed applicable conducted emission requirements.

### 2.6 Labeling

As indicated, each module will have its own FCC ID label. In addition, devices into which they are placed will have labels indicating that this module is contained within. Exact text will be as specified in the FCC Public Notice.

### 2.7 Specific Rules and Operating Requirements

The **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** comply with all pertinent rules for its section. Other than their reduced power levels, they share common code and are functionally equivalent to the 26-1309 product which is FCC certified as R7PIWRS4.

### 2.8 RF Exposure Requirements

The **Gridstream S4 Modular SCADA/DA (Internal & External Antenna Versions)** comply with all exposure requirements. As components used in the Utility industry, these products are not intended for use near human operators. They are reduced-power versions of products that reside in the same locations and have already been approved for use.