Boonton

9 Entin Road, Suite 101
Parsippany, New Jersey 07054

Boonton RTP-Series and 55-Series
USB Power Sensor Security Procedures

Product Names: Boonton 55-Series USB Peak Power Sensor
Boonton RTP5000 USB Peak Power Sensor
Boonton RTP4000 USB Average Power Sensor

Applicable Models: All 55xxx, RTP5xxx and RTP4xxx USB power sensors

1. **Memory Description.** The Boonton 55-Series and RTP-Series power sensors contain three types of internal memory, designated (a) through (c). A discussion of each memory group follows.

   a. Program/Data Flash

   i. Type/Model: Non-volatile SPI Flash, S25FL128S
   ii. Size/Org: 128 Mbit (16 Mbyte serial QSPI)
   iii. Location: U12 on main control board
   iv. Contents: Operating firmware and FPGA configuration images, permanent sensor identification, factory calibration information, “zero” offset and “fixed cal” values.
   v. Read Access: Not user accessible.
   vi. Write Access: Not user accessible.
   vii. Sanitization: Not required since no measurement data or user frequency information is stored in this location.

   b. Program/Data RAM

   i. Type/Model: On-chip volatile static RAM
   ii. Size/Org: 256 kbytes (four 64 kB banks)
   iii. Location: U11 on main control board
   iv. Contents: Main program and all temporary program and user data
   v. Read Access: Not user accessible.
   vi. Write Access: Not user accessible.
   vii. Sanitization: All data is destroyed by unplugging sensor for 15 seconds.

c. FPGA acquisition/buffer RAM

i.	Type/Model:	FPGA volatile Block RAM
ii.	Size/Org:	Approx 5 Mbits in various areas and organizations
iii.	Location:	U11 on main control board
iv.	Contents:	Acquisition data, working cal tables, measurement output buffers
v.	Read Access:	Not user accessible.
vi.	Write Access:	Not user accessible.
vii.	Sanitization:	All data is destroyed by turning off instrument for 15 seconds.

2. **Sanitization Discussion.** Data in the volatile CPU Program/Data RAM and FPGA block RAM will be destroyed ("sanitized") by removing power from the sensor for 15 seconds. All user-set setup and configuration data as well as any buffered measurement data is contained in the volatile memories and will be cleared upon power loss. The sensor contains no internal power source, so unplugging the sensor's USB connection will sanitize all volatile memory within the power sensor.

   Data in the non-volatile Program/Data Flash consists only of permanent identification and calibration information. Measurement settings, configuration or acquired measurement data cannot be stored in the non-volatile memory, so sanitization of this area is typically unnecessary.

   - User sensor calibration ("fixed cal" or "zero") values can be stored in a dedicated area "user calibration" area of the Program/Data Flash. Only the actual level offset correction values are stored, and this occurs only in response to explicit user commands. The user's selected frequency for calibration correction is not stored in this device. No measurement or configuration data is stored.

   Sanitization Procedures. The following two steps may be used to sanitize instrument memory.

   a. **User Cal/Zero Data**: While these locations contain no frequency or absolute measurement data, should you wish, you may overwrite these values by performing a fresh "fixed cal" or "zero" from the API or other application.

   b. **Volatile Data:** All volatile data including all measurement data may be cleared by disconnecting the sensor from the USB for 15 seconds.