ZPE Systems, Inc.
46757 Fremont Blvd.
Fremont, CA 94538

To Whom It May Concern:

Thank you for requesting a letter of volatility for the device you purchased. We take security very seriously and are glad to share the volatility information of our products with you.

In normal operation, user data resulting from keystrokes, managed devices output and device monitoring data passing through our product may be stored in nonvolatile device memory when data logging or monitoring is enabled in the configuration settings.

The NodeGrid devices contain the following memory devices:

1. **BIOS**
    Memory Size: 64MB
    Memory Type: NOR Flash
    Volatility: Nonvolatile
    User Data: No

2. **Flash Disk**
    Memory Size: 32 GB or 64 GB. Other custom sizes may be used.
    Memory Type: SSD
    Volatility: Nonvolatile
    User Data: Yes.
    Partition/Data: sda2 - unit configuration
                    sda5 - backup configuration
                    sda8 - user home directories and log files

3. **RAM**
    Memory Size: 4 GB or 8 GB
    Memory Type: DDR3
    Volatility: Volatile
    User Data: Yes

There are two ways to remove user data from the nonvolatile memory of NodeGrid unit:
    a. **Soft Removal**: removes files and installs factory default configuration on flash disk.
    b. **Hard Removal**: completely erases the flash disk. This procedure will destroy ALL data on flash disk and render it unrecoverable even by data recovery services. After that, the NodeGrid software must be reinstalled via network.

Soft Removal

Erase the nonvolatile memory of NodeGrid using the following procedure:
    1. Shutdown NodeGrid unit and power it off
    2. Remove NodeGrid unit from the network (disconnect Ethernet cables of the unit)
    3. Disconnect any USB storage device and USB network device connected to NodeGrid unit
    4. Access NodeGrid unit with one of the following options:

      a.   NodeGrid console port using a RJ-45 console adapter and a straight-through network cable connected to a terminal or workstation.

      b.   HDMI port and USB port connected to an HDMI monitor and USB keyboard.

5.   Power on NodeGrid unit and select 'NodeGrid \<version\> - Rescue Mode' in the following menu:

```
***************************************************************************
*NodeGrid Manager <version>                                               *
*NodeGrid Manager <version> - Factory Default Settings                    *
*NodeGrid Manager <version> - Rescue Mode                                 *
*NodeGrid Manager <version> - Network boot                                *
*NodeGrid Manager <version> (verbose)                                     *
*                                                                         *
*                                                                         *
*                                                                         *
*                                                                         *
*                                                                         *
*                                                                         *
*                                                                         *
*                                                                         *
***************************************************************************

    Use the * and * keys to select which entry is highlighted.
    Press enter to boot the selected OS, `e' to edit the commands
    before booting or `c' for a command-line.
```

6.   At the prompt ("bash-4.3#"), run this command to erase all files and load factory configuration, without quotation marks (''):
'apply_settings --factory-and-cleanlogs -f -h'

7.   Wait the following message:
Apply factory settings completed.
INIT: Switching [...] reboot: System halted

8.   Power off the unit.

Hard Removal - Secure Erase

Erase the nonvolatile memory of NodeGrid unit using the following procedure:

1.   Shutdown NodeGrid unit and power it off
2.   Remove NodeGrid unit from the network (disconnect Ethernet cables of the unit)
3.   Disconnect any USB storage device and USB network device connected to NodeGrid unit
4.   Access NodeGrid unit with one of the following options:
      a.   NodeGrid console port using a RJ-45 console adapter and a straight-through network cable connected to a terminal or workstation.
      b.   HDMI port and USB port connected to an HDMI monitor and USB keyboard.
5.   Power on the unit
6.   Press the 'Esc' key after BIOS setup page appears on your screen
7.   Select 'Nodegrid Platform - Secure Erase' in the Grub Menu:

```
                    GNU GRUB version 2.00
+-----------------------------------------------------------------------+
|NodeGrid Platform - Chain boot                                         |
|NodeGrid Platform - Rescue Mode                                        |
|NodeGrid Platform - Secure Erase                                       |
|                                                                       |
|                                                                       |
|                                                                       |
|                                                                       |
|                                                                       |
|                                                                       |
|                                                                       |
|                                                                       |
+-----------------------------------------------------------------------+

     Use the ^ and v keys to select which entry is highlighted.
     Press enter to boot the selected OS, `e' to edit the commands
     before booting or `c' for a command-line.
```

8. Type 'erase' to permanently erase all data from the system:
   NodeGrid Boot live - Secure Erase

   This action will completely erase the system.
   Using this procedure will destroy ALL data on the SSD and render it unrecoverable
   even by data recovery services.
   After executing this step, system software will no longer exist and must be reinstalled via network.
   Type 'erase' to secure erase the SSD or 'cancel' to reboot:

   Note: Secure Erase requires the unit to be power cycled (powered off and powered on) prior to the
   erase command. Otherwise, the following message will show and the system will halt to allow the
   user to perform a power cycle as required:
   Operation not supported. Unit must be power cycled prior to erase command.
   Wait for system halt and power cycle the unit.
   [4.614365] reboot: System halted

9. Confirming
   Secure erase cannot be canceled once confirmed.
   Type 'yes' to confirm secure erase:

10. Wait for the message 'System halted'.
    Secure erase of SDD will start now…
    security_password="PasSWorD"

    /dev/sda:
    Issuing SECURITY_SET_PASS command, password="PasSWorD", user=user, mode=high
    security_password="PasSWorD"

    /dev/sda:
    Issuing SECURITY_ERASE command, password="PasSWorD", user=user

    Secure erase completed. System halting…
    [29.083186] reboot: System halted

11. Power off the unit.
             == End of instructions and letter of volatility. ==