



MICRO LAMBDA WIRELESS, INC.

46515 Landing Pkwy., Fremont, CA 94538 Tel: (510) 770-9221, Fax: (510) 770-9213
E-mail Address: sales@microlambdawireless.com * <http://www.microlambdawireless.com>

MLVS Series Synthesizer Memory Information and Sanitization Procedure.

The Information contained in this document refers to the use of the product in a secured environment, and the clearing of sensitive information from the product before removal.

Overview

When the MLVS is used in a secure environment, it is important to prevent inadvertent removal of confidential data from the secure environment. This document describes the various types and uses of digital memory within the MLVS Product. The section below titled **Maintaining Security** describes a **process for clearing all memory that may contain confidential information** resulting from normal use of the product.

Definition of "user accessible memory" for this document:

User accessible memory is memory that stores frequency setting related information during normal use, either directly or indirectly. Clearing all user accessible memory **clears all history of set frequencies previously made by the MLVS product.**

Battery Information

The MLVS product does not contain a battery.

Types of Memory

The MLVS has several types of memory.

1. Microcontroller internal program flash memory, 64 KB. This is nonvolatile memory. It is used for firmware storage and is not accessible by the customer.
2. Microcontroller internal SRAM memory, 640 KB. This is volatile memory. It is used for calculations and program execution, it is not accessible by the customer. All information is erased and unrecoverable when power to the unit is turned off.
3. Aux. External SRAM memory, 256 MB. This is volatile memory. It is used for frequency list storage. All information is erased and unrecoverable when power to the unit is turned off.
4. Aux. External Flash, 256 MB this is nonvolatile memory. It is used for frequency list storage.
5. External FRAM, this is nonvolatile memory, 32 KB. It is used for storing the products configuration, frequency settings, user memory storage, and specification information.

Maintaining Security

The following process completely clears all user accessible memory on the MLVS product.

Using USB or the SPI interface, send the following commands: (See MLVS User Manual for information on sending commands)

SP – This command resets the MLVS to factory settings. This clears the current frequency memory location to be the minimum frequency of the product and sets the unit to minimum frequency.

LIST:ERAS:FLASH (SCPI command) – This command resets the MLVS to factory settings. This clears the current frequency memory location, and sets the current frequency to be 10.0 GHz, Erases the entire Frequency Sweep List Table in FLASH, RAM and NOVO.

Power the unit OFF then ON. Set the unit to minimum frequency. While the unit is sitting at minimum frequency, send the MS0 through MS99 commands (100 commands). This will store the minimum frequency of the MLVS product into the 100 user saved frequency locations in nonvolatile FRAM memory, clearing any sensitive user saved frequency information from these locations. A programmatic technique is the preferred method for clearing this memory.

*SAV 1 (SCPI command) – This will save the current state (Minimum frequency) in to user setting 1 location.

*SAV 2 (SCPI command) – This will save the current state (Minimum frequency) in to user setting 2 location.

Resend the SP command.

The above process will completely erase the User Data nonvolatile memory information and reboot the unit. When the reboot is completed, the instrument will be ready for normal operation, and clear of any past frequency setting information.

Notes on the process for erasing the User Data nonvolatile memory.

There is no "full chip erase" function available on the memory chips used for the flash memory on the MLVS product.

More Information

Additional information on this subject can be found in our document – MLVS Series Synthesizer Letter of Volatility.