PSIRT Notification
MSP430FR5xxx and MSP430FR6xxx IP Encapsulation Write Vulnerability

Summary
The IP Encapsulation feature of the Memory Protection Unit may not properly prevent writes to an IPE protected region under certain conditions. This vulnerability assumes an attacker has control of the device outside of the IPE protected region (access to non-protect memory, RAM, and CPU registers).

Vulnerability

TI PSIRT ID
TI-PSIRT-2023-040180

CVE ID
Not applicable.

CVSS Base Score
7.1

CVSS Vector

Affected Products
- MSP430FR58xx family devices
- MSP430FR59xx family devices
- MSP430FR6xxx family devices

Potentially Impacted Features
This vulnerability allows an attacker to write arbitrary code to an IPE protected region, potentially gaining access to protected code. Applying recommended mitigations may limit the functionality of the code within the IPE protected memory region.

Suggested Mitigations
The attacker needs access to the non-protected regions of the device to exploit this vulnerability. Preventing this access would be the first step in preventing the vulnerability. A combination of the following mitigations can be utilized to prevent the vulnerability.

- Locking of JTAG and BSL interfaces to prevent device access.
- Use the Memory Protection Unit (MPU) to place write protections on the IPE protected region, while locking MPU settings to prevent attackers from removing protections.

Additional security practices are discussed in the MSP Code Protection Features application note.
Acknowledgments
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External References
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