



Certificate / Certificat

Zertifikat / 合格証

Nuclei 23/09-103 C001

exida hereby confirms that the:

NA300 Processor

**Nuclei System Technology Co., Ltd.
Shanghai, P.R. China**

The manufacturer
may use the mark:



Has been assessed per the relevant requirements of:

ISO 26262:2018 Parts 2, 4, 5, 7, 8 and 9

and meets the requirements providing a level of integrity to:

ASIL D

Safety related function:

The NA300 Processor was developed as a HW Safety Element out of Context (SEooC), with the following assumed top-level safety requirements for a safety related application context:

- Safe computation
- Safe data storage and transfer
- Safe communication
- Correctly indicate the processor status

Application restrictions:

The NA300 processor shall be used according to the requirements described in the Nuclei NA300 Processor Safety Manual.

Revision 1.0 Jun 24, 2024
Surveillance Audit Due
Jul 1, 2027



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Evaluating Assessor

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Certifying Assessor

NA300 Processor

Systematic Capability: ASIL D

Product Overview

The Nuclei NA300 Processor (NA300 V1.0.0-RC0) is a configurable CPU core based on the RISC-V architecture, which is developed as a Hardware SEooC (Safety Element out of Context) and delivered to customers as a soft-IP (i.e., delivery as RTL code).

To support safety related applications, the NA300 includes several safety mechanisms to detect and control hardware faults (including Dual-Core Lockstep, ECC for all safety related SRAMs, and EDC / parity-based bus I/O protection).

Systematic Capability: ASIL D

The NA300 Processor has been developed as a Hardware Safety Elements out of Context (SEooC) according to ISO 26262-10. The development, as documented by Nuclei, meets the applicable ASIL D design specification, implementation and verification requirements of ISO 26262, parts 4, 5, 7, 8, 9, as guided by ISO 26262-10, and the functional safety management requirements per ISO 26262-2.

Hardware Safety Integrity: ASIL D

The FMEDA results show that the NA300 can meet the ASIL D requirements of ISO 26262-5, clause 8, including the ASIL D target values for the architectural metrics SPFM ($\geq 99\%$) and LFM ($\geq 90\%$).

The FMEDA metric results depend on the configuration of the NA300 Processor. It is the responsibility of the user and integrator of the NA300 processor, to adjust the FMEDA according to their actual IP configuration, and to re-evaluate the FMEDA results in the context of their safety related IC or system.

Following documents are a mandatory part of this certification

Assessment Report: Nuclei 23/09-103 R003, V1 R0

Safety Manual: Nuclei NA300 Safety Manual V1 R1

FMEDA Report: Nuclei NA300 FMEDA V1 R4

NA300 Processor



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