ALP LAB

E1M-X V2N RoHS / REACH / POPs Declaration

Declaration of Conformity — materials compliance

Document Number: DC-V2N-001 **Revision:** 0.4 **Date:** November 2026 **Status:** Preliminary

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1 Declaration

Declaration of Conformity **Alp Lab AB** declares, on the basis of the component-supplier declarations referenced in Section 6, that the **E1M-X V2N System-on-Module** (Renesas RZ/V2N, base variant, all production revisions) conforms to:

- **EU RoHS 3** — Directive 2011/65/EU as amended by (EU) 2015/863 (Section 3);
- **EU REACH** — Regulation (EC) No 1907/2006, Article 33 (SVHC, Section 4);
- **EU POPs** — Regulation (EU) 2019/1021 (Section 5).

Status of this issue: **Preliminary.** Finalised and signed (Section 8) only once every supplier declaration in Section 6 is confirmed on file. Until then it states Alp Lab's **expected** conformity from standard catalogue-part compliance, not a warranted legal declaration.

2 Scope

Covers the assembled E1M-X V2N module (base variant, Pb-free SAC assembly). The **V2N-M1** variant (with the DeepX accelerator) is covered by DC-V2NM1-001.

Item	Value
Product	E1M-X V2N System-on-Module (base)
Assembly process	Pb-free SAC reflow (RoHS-compliant solder)
BOM basis	~ 1180 placements, ~ 95 line items, 34 suppliers
Issued by	Alp Lab AB

Table 1 Declaration coverage

3 RoHS 3 — Restricted Substances

Conforms to 2011/65/EU as amended by (EU) 2015/863. No restricted substance is intentionally present above its maximum concentration value in any homogeneous material, except where covered by an Annex III exemption at component level.

Restricted substance	Symbol	Max. (wt% homog.)	Status
Lead	Pb	0.1%	Conform
Mercury	Hg	0.1%	Conform
Cadmium	Cd	0.01%	Conform
Hexavalent chromium	Cr(VI)	0.1%	Conform
Polybrominated biphenyls	PBB	0.1%	Conform
Polybrominated diphenyl ethers	PBDE	0.1%	Conform
Bis(2-ethylhexyl) phthalate	DEHP	0.1%	Conform
Butyl benzyl phthalate	BBP	0.1%	Conform
Dibutyl phthalate	DBP	0.1%	Conform
Diisobutyl phthalate	DIBP	0.1%	Conform

Table 2 RoHS 3 restricted substances and maximum concentration values

Common Annex III exemptions potentially invoked at component level (the module's assembly solder is Pb-free SAC): **6(c)** lead in copper alloy; **7(a)** lead in high-melting solders; **7(c)-I** lead in dielectric/glass of ceramic components; **15(a)** lead in die/carrier solder within IC packages.

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4 REACH — Substances of Very High Concern

Based on the supplier declarations in Section 6, **no SVHC on the ECHA Candidate List (as last updated) is intentionally present above 0.1% w/w** in the module as delivered.

> **Note:** The ECHA Candidate List is updated ~ twice yearly; this declaration is valid against the revision in force at the issue date.

5 POPs — Persistent Organic Pollutants

Conforms to Regulation (EU) 2019/1021. None of the restricted POPs — SCCPs, PFOS, PFOA and related compounds, HBCDD, and the restricted PBDEs — is intentionally added or present above the applicable limits.

6 Basis of Declaration

A roll-up of component-supplier declarations (not analytical testing). Conformity rests on the declarations from the manufacturers below.

Manufacturer	Key component classes	Declaration
Texas Instruments	Bucks, CAN, mux, temp, logic	Public · filed
Murata Electronics	MLCCs, ferrites, Wi-Fi module	Public · filed
TDK Corporation	MLCCs	Public · filed
Yageo	Chip resistors	Public · filed
Winbond Electronics	SPI NAND flash	Public · filed
Diodes Incorporated	Load switch	Public · filed
Microchip Technology	Clock buffer	Public · filed
Samtec	RF connector	Public · filed
Renesas	RZ/V2N SoC, DA9292 PMIC, clock gen	Public · locate
Micron Technology	LPDDR4 DRAM	Public · locate
Realtek	Ethernet PHY (×2)	Public · locate
Macronix	OSPI NOR flash	Public · located
Kingston Technology	eMMC	Public · locate
Qorvo	Multi-output PMIC	Public · locate
Rohm Semiconductor	Load switches	Public · locate
Nexperia	Level shifter, TVS	Public · locate
Analog Devices	RTC (MAX31331)	Public · locate
GigaDevice	Companion MCU	Public · locate
Infineon	Secure element	Public · locate
STMicroelectronics	EEPROM	Public · located
onsemi	EEPROM, LDO, NS5A4684	Public · located
Toshiba Elec. Devices	Load switches, LDO	Public · located
Samsung Electro-Mechanics	MLCCs, inductors	Public · located
Taiyo Yuden	MLCCs, ferrites	Public · located
Vishay Dale	Resistors	Public · locate
Würth Elektronik	Inductors/magnetics	Public · locate

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Manufacturer	Key component classes	Declaration
AVX	Capacitors	Public · locate
Abracon	Crystals	Public · locate
TKD	Crystals	Public · locate
ECS Inc.	Crystals	Public · located
Micro Crystal AG	RTC	Public · located
Seiko Instruments	Supercapacitor	Public · locate
Kinetic Technologies	LED driver	Public · located
Delta Electronics / Cyntec	Power inductor	Public · located

Table 3 Component-supplier compliance basis (declaration tracker)

Note: **filed** — PDF in the OneDrive evidence folder (shared with E1M-AEN where the supplier is common); **located** — public source identified, retrieve by MPN; **locate** — vendor publishes, exact PDF not yet pulled. All suppliers publish a public declaration; the declaration is issued **Released** once all PDFs are on file and the signatory has signed. Sources in `supplier-declarations-index.md`.

7 Validity & Limitations

1. **Roll-up, not test** — asserted from supplier declarations.
2. **Per-revision issue** — a BOM change triggers re-evaluation and re-issue.
3. **Regulatory currency** — valid against the RoHS exemption / REACH Candidate List state at the issue date.
4. **Scope boundary** — module as delivered only.

8 Authorisation

Signed for and on behalf of **Alp Lab AB**:

Name: _____

Title: _____

_____

Date: _____

Signature

Place: _____

9 Revision History

Revision	Changes	Date
0.1	• Initial preliminary declaration from the released E1M-X V2N BOM (base variant, 34 suppliers). • 8 suppliers filed (shared with E1M-AEN). • Awaiting remaining declarations and signature.	June 2026
0.2	• Release history: every entry formatted as a bullet list.	October 2026
0.3	• Table of Contents: each entry links to its section; the front-matter lists are set tighter.	October 2026
0.4	• Product name on page 1 links to the product page on alplab.ai.	November 2026

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Table 4 Document revision history

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