INTERFACES & MIXED-SIGNAL

Garmo-LIN-CTL

Automotive I/O — 8-channel autonomous LIN controller

IP-2090 · Evaluation package · Evaluation / IP scope

Function and architecture

- Commander/responder modes, checksum classic/enhanced, wake/sleep handling
- Hardware schedule tables, event-triggered frames and diagnostics
- Autobaud and oscillator-trim feedback for low-cost endpoints

Integration summary

Garmo-LIN-CTL integration role: Automotive I/O — 8-channel autonomous LIN controller. Documented composition: Commander/responder modes, checksum classic/enhanced, wake/sleep handling; Hardware schedule tables, event-triggered frames and diagnostics; Autobaud and oscillator-trim feedback for low-cost endpoints.

Technical record

Canonical identity	IP-2090
Responsibility	Automotive I/O — 8-channel autonomous LIN controller
Documented interface architecture	8 LIN transceiver UART-like bit ports, AXI/APB, DMA, IRQ
Documented building blocks	Commander/responder modes, checksum classic/enhanced, wake/sleep handling; Hardware schedule tables, event-triggered frames and diagnostics; Autobaud and oscillator-trim feedback for low-cost endpoints
Delivery boundary	Evaluation / IP scope
Evidence scope	Evaluation package
Architecture targets · not measurements	8 independent LIN 2.2A/SAE J2602 channels, 20 kb/s each, crystal-less autobaud assist, schedule offload.

Delivery and release binding

- Interface version and parameter set
- Clock/reset domains and integration constraints
- Companion memory, PHY and software requirements
- Verification collateral and acceptance criteria

Confirm for the selected release: Node/library binding, Clock/reset limits, Physical and protocol dependencies, Artifact hashes, Acceptance criteria.

Evidence and qualification

Canonical technology and its architecture/integration role are recorded. The offered delivery is confirmed against the exact release before licensing.

Control/model IP does not establish analog PHY, electrical, RF or standards compliance. Qualified third-party or foundry collateral may be required.

Canonical status: P0 / REPRESENTATIVE ARCHITECTURE RTL — concrete integration specification and synthesizable RTL shell/representative datapath only; all frequency, throughput, power, area, jitter and standards-superiority figures remain architecture targets until the required evidence hierarchy closes.

Evaluation and licensing

Evaluation: Evaluate an individual IP configuration. Production: Named-design production license. Custom work: Node binding or derivative integration. Rights, pricing, support and acceptance criteria are agreed for the exact scope.

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