



We are the link
between the real and
the digital world.

Infineon Solution for Head Unit



Infineon offerings for Head Unit



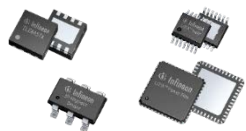
Energy efficiency

Dependable power supply

- › MOSFETs
- › Automotive power ICs
- › System basis chips
- › Transceivers

USB-C power delivery

- › USB-C power delivery controller



Safety

Audio

- › Audio amplifiers
- › MEMS microphones

Advanced driver assistance

- › Automotive microcontrollers
- › Pressure, magnetic, capacitive & RF sensors
- › Image/ ToF camera sensors



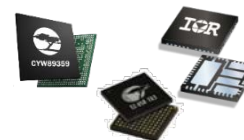
Connectivity

Storage

- › NOR Flash
- › F-RAM, SRAM, HyperRAM™

Intuitive sensing

- › TrueTouch® Touchscreen controller
- › PSoC® 4



Security

Wireless connectivity

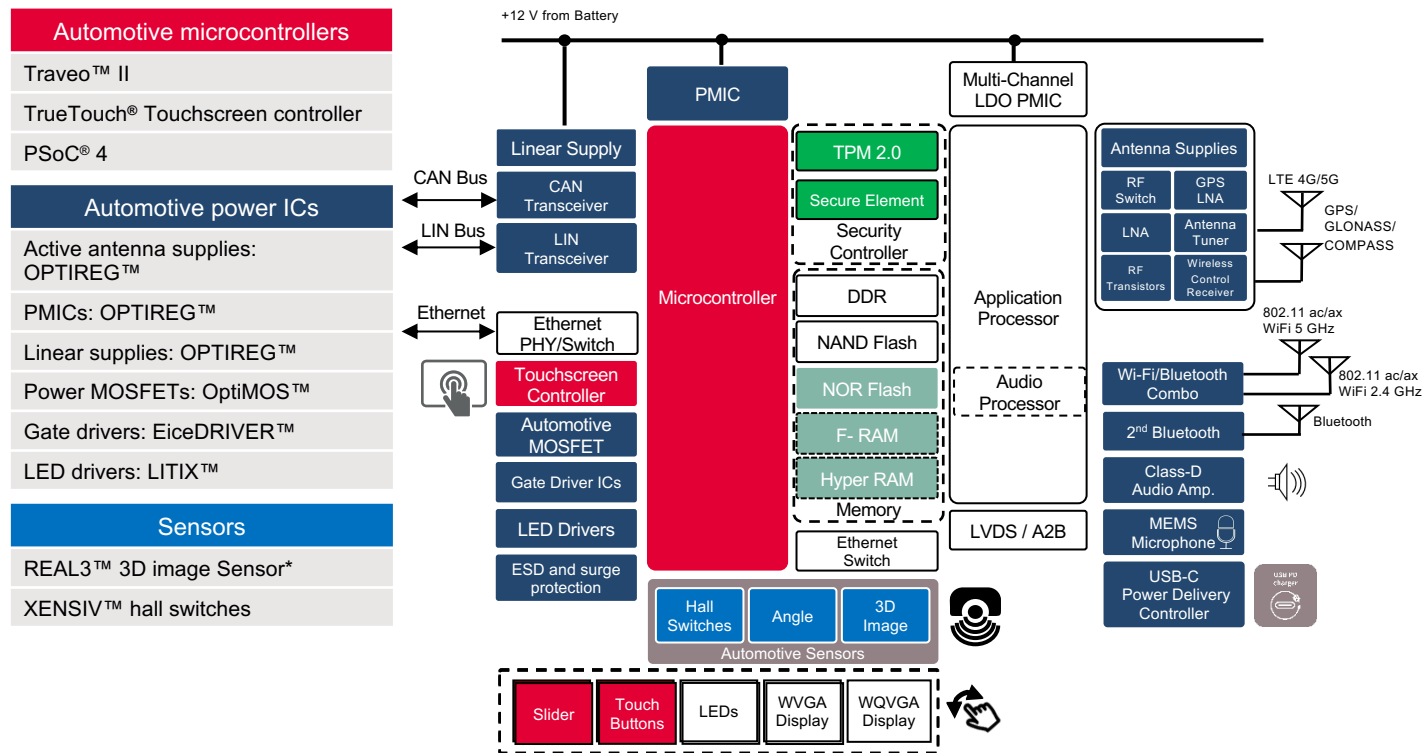
- › GPS / GLONASS / COMPASS LNA
- › WiFi + Bluetooth
- › RF switches
- › ESD and surge protection

Privacy

- › Automotive security (V2X, access, payment etc.)
- › Embedded SIM for mobile communication



Head Unit – block diagram and further product details



*Available on request

Focus product / Traveo™ II (TVII) family

scales across E/E architecture performance, memory & peripherals



Key features TVII family

Key value



Scalability

Flexible solution with respect to performance, package, memory, peripherals, security & safety implementation



Scalability **optimizes variant costs**



High performance

Triple CPU cores, performance up to 1600DMIPS



Easy for platform build up, from entry level to high level



Low power consumption

Ultra low power consumption in active mode, deep sleep mode, hibernate mode



Save power consumption for system



Functional safety

Functional safety concept enabling ISO26262 ASIL-B full functional safety in both hardware and software



Reliable for both hardware and software



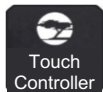
Security

HSM, on-chip security compliance to EVITA FULL standard



Increased **vehicle security**

Focus product / TrueTouch® touchscreen controller – advanced features with high reliability



Key features TrueTouch® family



Scalability

Flexible solutions support multiple touch technologies (On-Cell, Hybrid In-Cell, LCD, OLED, μ LED, ...) and various display sizes (up to 35")



High performance

Up to 50mm hover, force touch, haptic and acoustic feedback, integrated slider, buttons, waterproof, glove touch, gestures, dial on display and Multi-chip architecture for very large screen sizes



Reliability

Proprietary AutoArmor™ technology meets automotive electromagnetic compatibility (EMC) requirements with a customer shareable report



Quality

Qualified according to AEC-Q100, supporting an extended temperature range of -40° to 105°C

Key value



Scalability **optimizes variant costs**



Help customers to design **innovative automotive touch screens**



Reliable system in harsh automotive electromagnetic environment



Geared towards **minimal failure rates**

Focus product / PSoC® – scalable, easy-to-use, low-power and reliable HMI designs



Key features PSoC® family



Scalability

Broad and scalable portfolio (16KB -384KB flash and up to 100-pin packages) for the simplest to the most complex HMI systems



Ease of design

PSoC Creator™ and its CapSense Components make it easy to design sleek capacitive sensing HMI systems



Low power consumption

Ultra low power consumption in active mode, deep sleep mode, hibernate mode



Reliability

CapSense's robust noise immunity enables to meet the most challenging automotive electromagnetic compatibility (EMC) requirements



Quality

Qualified according to AEC-Q100, supporting an extended temperature range of -40° to 105°C

Key value



Scalability offers flexibility and **optimizes HMI design costs**



Reduce design effort and **Fast time-to-market**



Save power consumption for system



Reliable system in harsh automotive electromagnetic environment



Geared towards **minimal failure rates**

Focus product / automotive Wi-Fi and Bluetooth – industry leading portfolio of automotive wireless products



Key features Automotive Wi-Fi/BT family



Scalability

Industry's broadest product portfolio covering needs for low- / mid- / high-end systems



Unified software architecture

Unified software architecture across complete portfolio



Solution maturity

Industry's most deployed product portfolio, automotive use cases field-proven in multiple generations



Broad ecosystem

Modules available from major suppliers in automotive



Performance

Industry leading RF performance
full-dongle architecture offloads SoC completely

Key value



Scalability **optimizes variant costs**



Cost and time efficient R&D for different versions of end product



Reliable and fully tested **software code**



Ease of design, optimized development schedules



Best RF and system level performance

Focus product / CCG7D – Auto USB-C PD Controller – two port PD Controller with DC-DC Buck Boost Controller



Key features of EZ-PD™ CCG7x family



Integration

MCU + 2 port PD Controller + 2 DC-DC Buck Boost Controller + HV LDO



Programmability

MCU and Flash enables customization to meet OEMs requirements, by platform/model, and meet USB-IF and Automotive Compliance



Unique Automotive Specific Features

Load Sharing between Ports, Output Power Throttling – Temp/Voltage, Black Box and Secure Field Firm Ware Upgradability



Protection

High Voltage short-protection to CC pins, V_{BATT} to GND short-protection, OCP, OVP



Software and Support

Auto SDK and Projects offer USB-IF Compliant Firm Ware with excellent customization. Regional Apps Teams provide real-time support globally

Key value



Integration **optimizes BOM and Module Size**



Flexibility, Firm Ware Upgradability and maintain compliance



Better User Experience, Reduced System Cost, Diagnostics, Safety



Safety, optimized BOM and PCB Area



Excellent Customization and Localized Support

Focus product OPTIGA™ TPM SLI 9670 – hardens E/E architecture, standardized security solution



Key features OPTIGA™ TPM SLI 9670



Hardware security

Tamper resistant and security certified hardware & software solution (EAL4+) pre-personalized with initial key



Compatibility

Complaint to the international standard ISO/IEC 11889:2015, parts 1-4 of the trusted computing group



Quality

Qualified according to AEC-Q100, supporting an extended temperature range of -40° to 105°C



Ease of design

Turn-key system solutions with an existing eco-system (preprogrammed firmware plus SW-stack for Linux or AUTOSAR-OS)



Logistical benefits

TPM protects keys over value chain and enables transport and production in non-trusted environments

Key value



Increased **vehicle security**



Based on latest security standard of most innovative IOT players



Geared towards **minimal failure rates**



Reduce design effort and **time to market**



End-to-end protection

Focus product / Semper™ Flash – safe, reliable, and high-performance flash memory solution



Key features Semper™ Flash family



Functional safety

World's first ISO 26262 ASIL-B functional safety
Compliant Flash memory



Reliability

EnduraFlex™ architecture offering 1+ million
program/erase endurance cycles and 25 years data
retention



High Performance

JEDEC standard xSPI interfaces up to 400 MB/s read
bandwidth and Quad SPI interface up to 102 MB/s



Easy of design

Broad support from chipsets and ecosystem partners.
Semper SDK provides production-grade drivers



Scalability

Density range from 256 Mb to 4 Gb, supporting 1.8 V and
3 V interfaces, with common feature set

Key value



Safe storage for boot code
and ADAS algorithms



Reliable data-integrity for
grades up to +125°C



Instant-on boot performance
for instrument clusters and
other systems



Reduce design effort and
Fast time-to-market



Scalability **enables code and
data size changes** without
board re-design

Focus product / Excelon™ Auto F-RAM – most reliable data-logging solution



Key features Excelon™ Auto F-RAM family



Instant non-volatility

Instantly capture critical event data



High system
reliability

Reliability

Virtually unlimited endurance and long data-retention over automotive temperatures



Functional safety

ISO26262 ASIL-B functional safety compliant



High
Performances

High performance

Industry leading SPI/QSPI performance with no write delays



Scalability

Industry's broadest product portfolio with flexible architecture for value-added solutions

Key value



Ideal data-logger for post-crash forensics



Reliable data-logger for long automotive product life



Dependability for safety systems



Best throughput for continuous data-logging



Scalability **optimizes TTM and variant costs**

Support material



Learn more on our [webpage](#)



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Part of your life. Part of tomorrow.