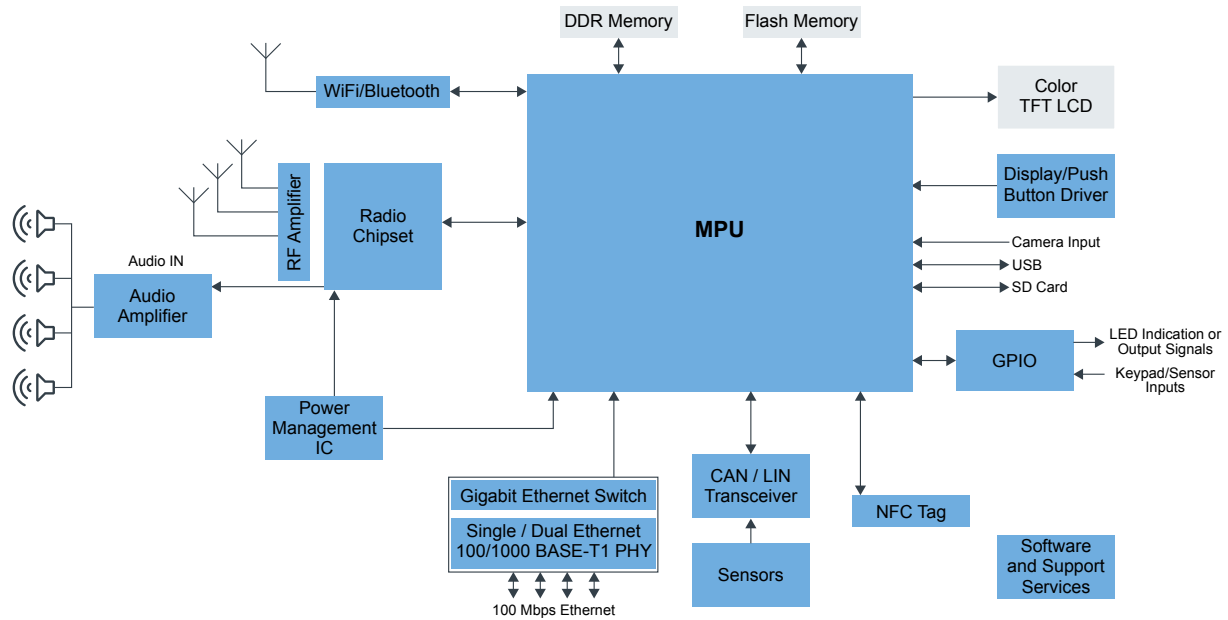# Connected Radio

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In-car audio systems today have changed from basic radio and CD systems to connected systems that can access content from various sources. Customers are expecting to plug in USB drives, insert SD cards or to connect their Bluetooth® hands-free devices even in the low-end segment.

NXP's comprehensive portfolio of AM/FM tuner and amplifier solutions and Arm®-based microprocessors offer a scalable set of product families that helps you design entry level connected radio and infotainment systems with USB, AM/FM and Bluetooth connectivity with enhanced audio and user interface capabilities.

Connected Radio Block Diagram

DDR Memory

Flash Memory

WiFi/Bluetooth

RF Amplifier

Radio Chipset

MPU

Color TFT LCD

Display/Push Button Driver

Camera Input

USB

SD Card

Audio IN

Audio Amplifier

GPIO

LED Indication or Output Signals

Keypad/Sensor Inputs

Power Management IC

Gigabit Ethernet Switch

Single / Dual Ethernet 100/1000 BASE-T1 PHY

100 Mbps Ethernet

CAN / LIN Transceiver

Sensors

NFC Tag

Software and Support Services

■ NXP Technology   ■ Non NXP Technology   ⌐ ⌐ Optional Technology

Recommended Products for Connected Radio

MPU	• i.MX6UL: i.MX 6UltraLite Processor - Low-Power, Secure, Arm® Cortex®-A7 Core • i.MX6SX: i.MX 6SoloX Processors - Heterogeneous Processing with Arm® Cortex®-A9 and Cortex-M4 Cores
GPIO	• PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features • PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features
Radio Chipset	• TDF8541: I^2C-Bus Controlled 4 x 45 W Power Amplifier • SAF4000: Multi-Standard Software Defined Radio Processor With Integrated Audio
Audio Amplifier	• Car Audio Amplifiers: Car Audio Amplifiers

RF Amplifier	• TLH501x: ALNA – Low Noise Active Antenna Amplifier
Display/Push Button Driver	• Automotive LCD Drivers: Automotive LCD Drivers • Automotive Lighting LED Driver ICs: Automotive Lighting - LED Driver ICs
CD Drive Controller	• Audio Converters: Audio Converters
CAN/LIN Transceiver	• TJA144x: Automotive CAN FD Transceiver Family • TJA1044: High-Speed CAN Transceiver with Standby Mode - Mantis Family • TJA1043: High-Speed CAN Transceiver with Standby and Sleep Mode • Automotive LIN Solutions: Automotive LIN Solutions • TJA1463: CAN Signal Improvement Capability Transceiver with Sleep Mode
Power Management IC	• FS5600: Automotive Dual Buck Regulator and Controller with Voltage Monitors and Watchdog Timer • MMPF0100: 14-Channel Configurable PMIC • PF8101-PF8201: 9-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • VR5500: High Voltage PMIC with Multiple SMPS • VR5510: Multi-Channel (9) PMIC for S32G Processor – 8 High Power, 1 Low Power, Fit for ASIL D Safety Level • PF81-PF82: 12-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • PF7100: 7-Channel Power Management Integrated Circuit for High Performance Applications, Fit for ASIL B Safety Level • PF5020: Multi-Channel (5) PMIC for Automotive Applications – 4 High Power and 1 Low Power, Fit for ASIL B Safety Level • PF5024: Multi-Channel (4) PMIC for Automotive Applications – 4 High Power, Fit for ASIL B Safety Level
Sensors	• Sensors: Sensors
NFC Tag	• NCx3310: NFC Forum-Compliant Tag IC with I^{2}C for Automotive
Bluetooth	• 88Q9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.3 Automotive Solution
Software	• i.MX Software: i.MX Software and Development Tools • Professional Support for Processors and Microcontrollers • NXP Engineering Services: NXP Engineering Services
Automotive Ethernet	• TJA1120: TJA1120, ASIL B Compliant Automotive Ethernet 1000BASE-T1 PHY Transceiver • TJA1104: TJA1104, MACsec Enabled ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1103: TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1102A: TJA1102A/TJA1102AS, Dual/Single Port Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1101: TJA1101B, IEEE 100BASE-T1 Compliant Automotive Ethernet PHY Transceiver
NFC Tag	• NCx3310: NFC Forum-Compliant Tag IC with I^{2}C for Automotive
CAN / LIN Transceiver	• TJA1128: LIN Mini System Basis Chip

View our complete solution for Connected Radio.

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