

LAN9383 Evaluation Board (EVB-LAN9383)

Out-of-the-Box, Single-Pair AVB/TSN Ethernet Switch Development Kit
Supporting 10BASE-T1S and 100BASE-T1 Ports With 100/1000BASE-T Uplink

Summary

The LAN9383 Evaluation Board provides a convenient and small-form-factor evaluation platform for our seven-port, safe and secure family of Time-Sensitive Networking (TSN) Gigabit Ethernet switches. This evaluation board comes with five integrated 100BASE-T1 PHYs and an RGMII port that connects to a KSZ9131 PHY, which enables a standard 100/1000BASE-T uplink. An on-board LAN8672 10BASE-T1S PHY supports a multi-drop 10BASE-T1S network with up to eight nodes.

Key Features

- Five integrated 100BASE-T1 PHYs
- 10/100/1000BASE-T uplink
- One 10BASE-T1S PHY
- Ultra-low power, maximum 45 uA TC10 sleep (all ports)
- Fast secure boot, including optional code encryption/decryption
- Arm® Cortex®-M7 CPU-based subsystem with integrated Flash code memory
- Audio Video Bridging (AVB) and TSN hardware support
- Functional safety ready

LAN9383 Evaluation Board

The board showcases the capabilities of the LAN938x family of seven-port TSN Gigabit Ethernet switches. These single-chip, single-pair Ethernet switch solutions with integrated Flash are available in four different variations, as shown in the table below.

LAN938x Family Selection Table

Part Number	Package	Number of Integrated 100BASE-T1 PHYs	100BASE-TX Ports	RGMII/RMI/MII Ports	SGMII/HSGMII/RGMII/RMI/MII Ports	Full AVB Support	Time-Sensitive Networking Support	OPEN Alliance TC10 Sleep/Wake up Energy Efficiency	Cascade Mode Support	AEC-Q100 Qualification	Grade 2 Automotive Temp. (–40 to +105°C)
LAN9381	128 TQFP	4	0	2	1	✓	✓	✓	✓	✓	✓
LAN9382	128 TQFP	4	1	1	1	✓	✓	✓	✓	✓	✓
LAN9383	128 TQFP	5	0	1	1	✓	✓	✓	✓	✓	✓
LAN9384	128 TQFP	5	1	0	1	✓	✓	✓	✓	✓	✓

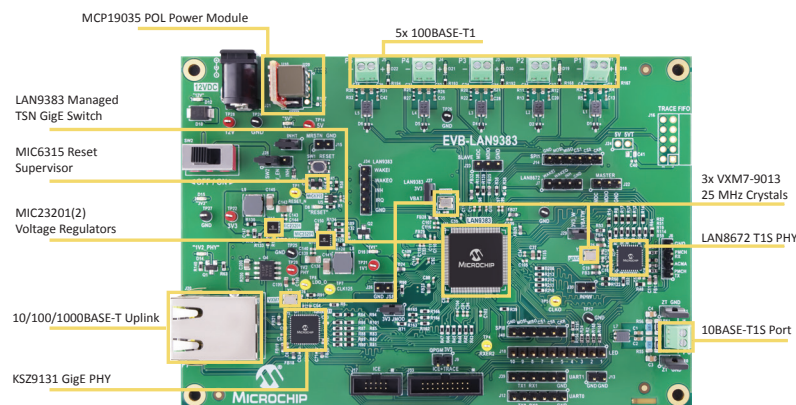
Common Applications

- Advanced Driver Assistance Systems (ADAS)
- Infotainment
- Telematics and smart antennas
- In-vehicle backbones
- Gateways
- Industrial control

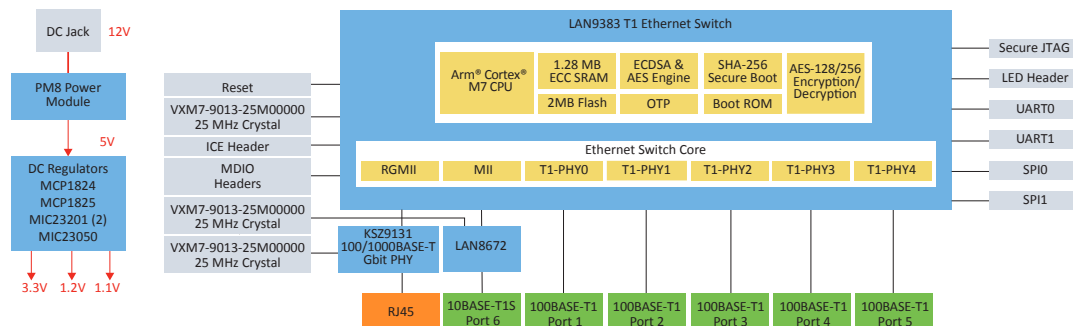
Microchip System Solution

- Complete solution that allows you to start evaluating all essential functions immediately
- Out-of-the-box:
 - Industry test reports
 - Microchip-maintained releases
 - Configuration tool
 - Management API
- Automotive-qualified components

EVb-LAN9383 Evaluation Board



Block Diagram



Function	Description	Recommended Part Number
Ethernet Switch	LAN9383 AVB/TSN single-pair Ethernet switch in 128-pin TQFP	LAN9383-V/6XXVAO
Ethernet PHY	LAN8672 10BASE-T1S Ethernet PHY in 36-pin VQFN	LAN8672B1-E/LNX
Ethernet PHY	KSZ9131 10/100/1000BASE-T Ethernet PHY in 48-pin QFN	KSZ9131RNXC-TR
Power Module	MCP19035 POL Power Module	ADM00987
Power Management	MIC6315 2.93V analog supervisor in 4-pin SOT-143	MIC6315-29D2UY-TR
Switching Regulator	MIC23201 0.95V to 3.6V, 2A buck regulator in 10-pin MLF	MIC23201YML-TR
Crystal	VXM7 25 MHz, 10 pF, 3.2 × 2.5 mm crystal in SMD	VXM7-9013-25M0000000

For more information visit <https://www.microchip.com/en-us/solutions/ethernet-technology/single-pair-ethernet>