

# FreeRTOS Wi-Fi Driver Enables Plug-n-Play Wi-Fi and BT for the NXP i.MX RT Crossover Processors



## Easily Add Wireless Connectivity to your i.MX RT Device

FreeRTOS is a market leading RTOS from Amazon Web Services which is a preferred choice for many embedded developers for its ease of use, small foot print and robustness. It is designed to be small enough to run on a micro-controller - although its use is not limited to micro-controller applications.

As the need for smarter and more 'aware' edge computing grows and becomes critical to the development of the Internet of Things (IoT), edge devices are expected to provide the highest compute performance together with reliable security and assured privacy at the lowest cost possible. NXP's i.MX RT series tackles this challenge by architecting i.MX RT crossover processors to deliver high performance and functional capabilities of applications processors, but with the ease-of-use and real-time deterministic operation of traditional micro controllers (MCUs). NXP has also chosen FreeRTOS as its operating system to enable rapid development and easy prototyping.

Silex's FreeRTOS wireless driver for its QCA9377 based SX-SDMAC, offers "Plug-n-Play" solution allowing manufacturers to easily add Wi-Fi and Bluetooth capability to their NXP's i.MX RT based devices.

### Key Features:

- WLAN Operating Modes**  
 The FreeRTOS Wi-Fi driver supports both AP and STA modes (including ad-hoc) mode allowing your device to operate both as an access point and station device.
- Industry-Leading Enterprise Security**  
 The driver supports WPA and WPA2 including 802.1x Extensible Authentication Protocol (EAP) types. PEM and DER certification file formats are also supported.
- Bluetooth**  
 Bluetooth based on Bluetopia 4.2.1.2 Stack with Legacy and LE profile support.

- Application Programming Interface**  
 API's are provided to enable set/get operations like, SSID, channel configuration, operating modes, scanning, security configuration and getting general network status.
- Superior Evaluation and Driver Support**  
 With Silex Technology, you get a single vendor that provides hardware and software support from design through manufacturing. You can use the driver with Silex hardware and NXP platform to begin evaluation today.

### Evaluation Platform and Environment:

Radio Module	SX-SDCAC-2830 / SX-SDCAC-2832+
Host Interface	SDIO 3.0
Radio Specifications	802.11a/b/g/n/ac (1x1)
Operating System	FreeRTOS 9.0.0_rev3
Platform	i.MX RT 1050 (EVK-MIMXRT1050)
CPU	MIMXRT1052DVL6A (Cortex-M7F / 600 MHz)
Memory	RAM : 256 Mbyte SDRAM + 512KB SRAM
Development Tools	GNU Tools provided by NXP as part of the MCU Expresso SDK
Evaluation Software	Evaluation software including the Silex Wi-Fi driver and other utilities is available from Silex website.

### How to get started?

You can get started by signing our online click through evaluation license agreement and request the SX-SDMAC FreeRTOS driver on our website at:

<https://www.silextechnology.com/silex-driver-evaluation-license-agreement>

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