



# Q80 IPv6 Wi-SUN FAN 1.0 Local Border Router/Intermediate Router

## Wi-SUN FAN CONNECTIVITY

### overview

The Q80 is a compact Wi-SUN local border router or intermediate router platform, designed to seamlessly forward IPv6 traffic between the outside world on an Ethernet link and a Wi-SUN FAN 1.0 wireless network.

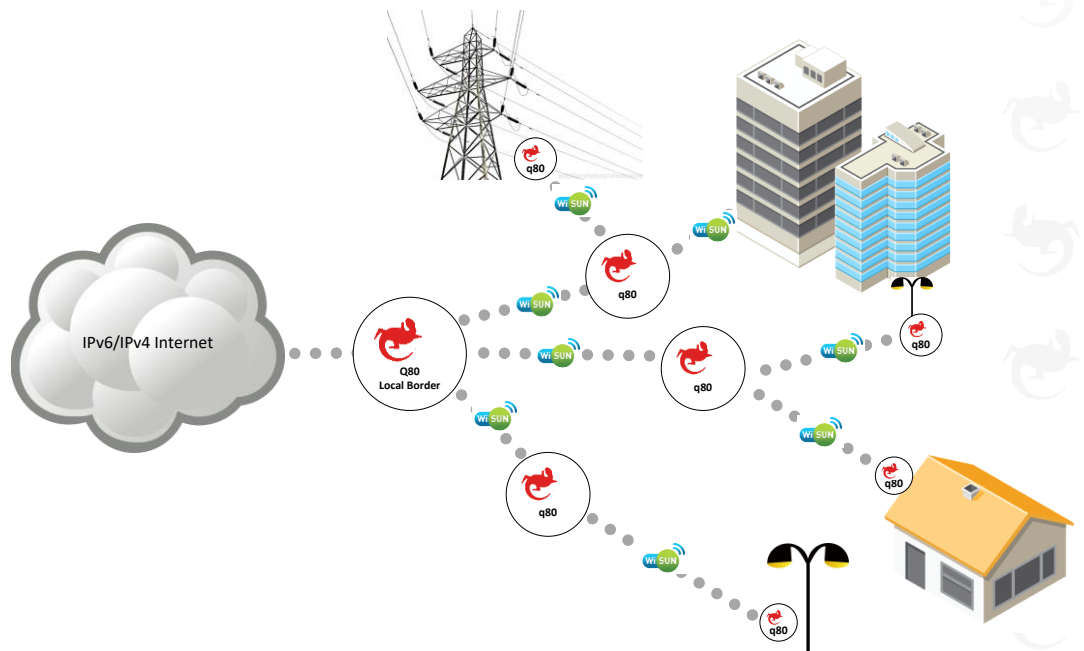
The Q80 uses the LWiPv6 network stack and Exegin's tested Wi-SUN FAN 1.0 components to provide one of the most reliable Wi-SUN FAN evaluation platforms available today.

The q80 is based on a Hummingboard from SolidRun. The Hummingboard provides a versatile Linux based platform on which to base Local Border Routers and Intermediate Routes. The Hummingboard chassis provides a Mikrobus expansion interface, which Exegin uses for its Q59 radio module.

The q59 support a versatile Microchip RF215 radio that is capable of meeting all Wi-SUN FAN PHY requirements with support for both sub-GHz and 2.4GHz frequency bands, baud rates from 10k to 2.4M bits per seconds and (G)FSK, O-QPSK and OFDM modulations.

The coupling of the Linux based platform with the feature rich radio module creates a versatile Wi-SUN evaluation platform with global applicability.

#### ■ IPv6 Connected Wi-SUN FAN





# Q80 IPv6 Local Border Router



## SPECIFICATIONS

## FEATURES

### ● SYSTEM REQUIREMENTS

- IPv6 connectivity (Ethernet)

### ● DIMENSIONS

- Metric – 120mm x 80mm x 30mm

### ● WEIGHT

- Device – 300g / 12 oz.
- 110VAC Power Supply – 83g / 3 oz.
- 220VAC Power Supply – 94g / 3.5 oz.

### ● POWER SUPPLY

- Available with external DC power supplies for most voltages and frequencies (120V / 60Hz – 220V / 50Hz)
- IEEE 802.11af Power Over Ethernet

### ● ENVIRONMENTAL

- 0°C – 50°C operating
- -40°C – 85°C storage
- 95% maximum humidity, non-condensing

### ● REGULATORY CERTIFICATION

None

Wi-SUN PHY certification

### ● WARRANTY

- 1 year parts and labour

### ● HARDWARE

- 10/100/1000 Ethernet port

### ● FEATURE SET

RFC 768: User Datagram Protocol

RFC 793: Transmission Control Protocol

RFC 2460: Internet Protocol Version 6 (IPv6)

RFC 3315: Dynamic Host Configuration Protocol for IPv6 (DHCPv6)

RFC 3587: IPv6 Global Unicast Address Format

RFC 3748: Extensible Authentication Protocol

RFC 4279: Pre-Shared Key Ciphersuites for Transport Layer Security (TLS)

RFC 4492: ECC Cipher suites

RFC 4861: Neighbor Discovery for IP version 6 (IPv6)

RFC 4862: IPv6 Stateless Address Autoconfiguration

RFC 4944: Transmission of IPv6 Packets over IEEE 802.15.4 Networks

RFC 5191: Protocol for Carrying Authentication for Network Access (PANA)

RFC 6345: Protocol for Carrying Authentication for Network Access (PANA) Relay Element

RFC 5216: The EAP-TLS Authentication Protocol

RFC 5246: TLS version 1.2

RFC 6206: The Trickle Algorithm

RFC 6282: Compression Format for IPv6 Datagrams over IEEE 802.15.4-Based Networks

RFC 6434: IPv6 Node Requirements

RFC 6550: RPL: IPv6 Routing Protocol for Low-Power and Lossy Networks

RFC 6551: RPL: Routing Metrics Used for Path Calculation in Low-Power and Lossy Networks

RFC 6552: RPL: Objective Function Zero

RFC 6553: RPL: The Routing Protocol for Low-Power and Lossy Networks (RPL) Option for Carrying RPL Information in Data-Plane Datagrams

RFC 6554: An IPv6 Routing Header for Source Routes with the Routing Protocol for Low-Power and Lossy Networks (RPL)

RFC 6775: Neighbor Discovery Optimization for IPv6 over Low-Power Wireless Personal Area Networks (6LoWPANs)

RFC 7731: Multicast Protocol for Low-Power and Lossy Networks (MPL)



401 - 2071 kingsway avenue  
port coquitlam | bc | canada | v3c 6n2  
t +1.604.468.2552  
info@exegin.com | [www.exegin.com](http://www.exegin.com)