



JN5168-RD6040

## IoT Gateway Kit Getting Started

### Introduction

The NXP 'Internet of Things' (IoT) Gateway enables the control of wireless nodes in a WPAN from IP-connected devices in a LAN or WAN (e.g. smart phones, tablets and laptops). It is used with a conventional IP router (which acts as a DHCP server) to provide an interface between the LAN/WAN and WPAN domains. The gateway is designed around the NXP LPC3240 microcontroller and NXP JN5168 wireless microcontroller. The LPC3240 device provides a Linux-capable processing platform for the LAN/WAN interface. The JN5168 device provides the processing platform for the WPAN interface as well as 2.4GHz radio communication with the WPAN.

### Kit Contents

Check the contents of the kit, which are listed below.

- IoT Gateway unit \*
- Universal 12V DC power supply unit \*\*
- Swivel SMA antenna
- 1-metre RJ45 Ethernet cable

Before using the IoT Gateway, make sure you attach the supplied antenna to the SMA connector on the unit.

\* **RF information:** IEEE 802.15.4 Tx/Rx, frequency range 2400–2483.5 MHz, 2 dBm

**Operating temperature:** 0°C to 40°C (32°F to 104°F)

**Operating humidity:** 10% to 85% relative humidity (non-condensing)

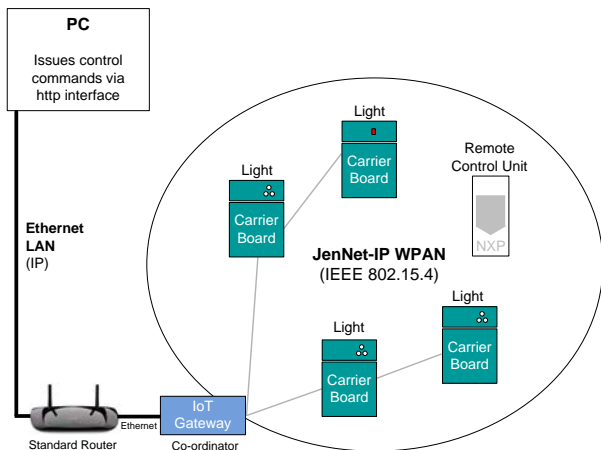
\*\* Mass Power SFF1200100U1BA or Stontronic T5148RW

### Using the IoT Gateway

The IoT Gateway is supplied pre-programmed with the JenNet-IP Border-Router software, which is described in the *Border-Router Application Note (JN-AN-1110)* available from the NXP Wireless Connectivity TechZone (web address over-page). This allows the gateway to be used with the JenNet-IP Smart Home Demonstration that is pre-programmed into the components of the NXP JN516x-EK001 Evaluation Kit. This kit and demonstration are fully described in the *JN516x-EK001 Evaluation Kit User Guide (JN-UG-3093)*, also available from the TechZone.

The Smart Home Demonstration represents a typical JenNet-IP system in which a WPAN of lights can be controlled from a PC located in a LAN or WAN. Normally, the interface between the WPAN and LAN/WAN domains is provided by a Linksys router and a JN5168 USB Dongle (both supplied in the evaluation kit).

The IoT Gateway can replace the USB dongle in this demonstration, with the gateway providing the processing platform for the JenNet-IP LAN/WAN and WPAN stacks as well as radio communication with the WPAN. The Linksys router must be connected to the IoT Gateway via an Ethernet cable (supplied in this kit). The resulting system is shown below.



In setting up and using the above demonstration system, the instructions provided in the *JN516x-EK001 Evaluation Kit User Guide* remain valid with the exception of the references to the JN5168 USB Dongle and the IPv4 address of the Border-Router. In the instructions, the IPv4 address 192.168.11.1 must be replaced with the dynamically assigned (DHCP) IPv4 address of the IoT Gateway.

**Note:** Any standard IP router can be used as the DHCP server instead of the Linksys router (the JenNet-IP firmware in the Linksys router is no longer required).

For online support resources, Declarations of Conformity and other compliance information for this and other JN516x products, visit the NXP Wireless Connectivity TechZone:

[www.nxp.com/techzones/wireless-connectivity](http://www.nxp.com/techzones/wireless-connectivity)

NXP Laboratories UK Ltd, Furnival Street, Sheffield, S1 4QT, United Kingdom