

HAN Device Interoperability [Updated November 13, 2012]

Smart meters outfitted with Silver Spring Communications Modules support connectivity to the customer’s Home Area Network (HAN) through the ZigBee Smart Energy Profile specification. Silver Spring tests devices that it resells to confirm end-to-end interoperability with the Communications Modules and other components of the Silver Spring Smart Energy Platform. In addition, the Silver Spring HAN Test Kit enables utilities and third-party device manufacturers to qualify ZigBee-based HAN devices as compatible with the Silver Spring Communications Modules and UtilOS™ firmware.

To date the following devices have been confirmed to interoperate with the Silver Spring platform:

Manufacturer	Device	Type	Device Firmware	NIC FW	Date Tested	Tested By
Ambient Devices	Energy Joule	HAN IHD	1.0	FW 2.16	06/14/2012	Manufacturer
Carrier	Carrier Comfort Choice Touch Zigbee	HAN PCT	5.2.14	FW 2.16	10/01/2012	SSN
Carrier	Carrier Comfort Choice Touch Zigbee	HAN PCT	5.2.14	FW 2.16	10/01/2012	SSN
Ceiva Logic	CEIVA Share IHD	HAN IHD	5007	FW 2.14	03/20/2012	Manufacturer
Ceiva Logic	CEIVA Share IHD	HAN IHD	5008	FW 2.16	10/04/2012	Manufacturer
Control4	Control 4 IHD	HAN IHD	2.0705.2.1121254	FW 2.10	03/28/2011	SSN
Cooper Power Systems	UtilityPRO ZigBee	HAN PCT	1.1.11	FW 2.14	07/27/2012	Manufacturer
Ecobee	Smart Thermostat	HAN PCT	2.4.0.347	FW 2.14	03/01/2012	Manufacturer
Energate	Energate LCS	HAN LCS	1.5.18.0	FW 2.12	11/15/2011	SSN
Energate	Energate LCS	HAN LCS	1.5.18.0	FW 2.14	11/15/2011	SSN
Energate	Energate PCT Z100 P2	HAN PCT	2.2.0.0	FW 2.14	03/02/2012	SSN
Energate	Energate PCT Z100 P2	HAN PCT	2.2.0.0	FW 2.12	03/02/2012	SSN
Energate	Foundation FZ100	HAN PCT	3.1.12.0	FW 2.14	07/25/2012	Manufacturer
Energy Aware	PowerTab	HAN IHD	2.2.5	FW 2.14	06/12/2012	Manufacturer
Energy Aware	PowerTab	HAN IHD	2.2.5	FW 2.16	06/12/2012	Manufacturer
Energy Aware	PowerTab	HAN IHD	2.2.6	FW 2.16	06/12/2012	Manufacturer
Intercel	eKo	HAN IHD	1.0.1	FW 2.14	09/13/2012	Manufacturer
Jetlun	RD71206	HAN GW	0x03010002	FW 2.16	09/29/2012	Manufacturer
Jetlun	RD77721	HAN RXT	0x03010102	FW 2.16	09/10/2012	Manufacturer
Jetlun	RD77723	HAN IHD	0x03010004	FW 2.16	09/27/2012	Manufacturer
Jetlun	RD75606	HAN GW	0x03010002	FW 2.16	09/29/2012	Manufacturer
Jetlun	RD77715	HAN LCS	0x03040206	FW 2.16	10/17/2012	Manufacturer
Jetlun	RD77716	HAN LCS	0x0305000d	FW 2.16	10/23/2012	Manufacturer
Jetlun	RD77725	HAN LCS	0x03000100	FW 2.16	10/12/2012	Manufacturer
Rainforest Automation	RFA-Z105 EMU	HAN IHD	1.3.9	FW 2.16	07/11/2012	Manufacturer
Rainforest Automation	RFA-Z105 EMU	HAN IHD	1.4.6	FW 2.16	09/14/2012	Manufacturer
Rainforest Automation	RFA-Z105-2 EMU2	HAN IHD	1.4.6	FW 2.16	09/14/2012	Manufacturer
Rainforest Automation	RFA-Z106 RAVen	HAN IHD	1.4.6	FW 2.16	09/24/2012	Manufacturer

Frequently Asked Questions:

Q: What level of testing does Silver Spring perform for devices confirmed to interoperate with the Silver Spring Networks platform?

A: Silver Spring performs extensive testing of these devices to confirm they are interoperable with the Silver Spring platform. This testing includes:

- ZigBee Smart Energy Profile (SEP) 1.x interface to the Silver Spring Communications Module. This testing confirms that the devices, as appropriate, interoperate with the following SEP functionality: provisioning, messaging, Demand Response/Load Control (DRLC), pricing, simple metering, and over-the-air (OTA) upgrades.
- Testing using the UtilityIQ HAN Communications Manager back office software to verify end-to-end functionality across the Silver Spring network.

Silver Spring also performs a number of other tests including:

- Testing the end-user experience (e.g., whether the device is user friendly and provides information that is useful to consumers, how the device behaves if it loses connectivity for a prolonged period of time)
- Verifying the accuracy of all energy and cost information (e.g., correct cost calculations for TOU rates)

Q: What level of testing does the manufacturer perform for devices and how does this level differ from Silver Spring-tested devices?

A: Device manufacturers use the Silver Spring HAN Test Kit to validate basic ZigBee SEP interoperability between HAN devices and the Silver Spring Communications Module (NIC). The HAN Test Kit test procedures focus solely on protocol-level testing and do not verify other aspects of the HAN devices, such as their accuracy or user experience—elements for which Silver Spring does test.

Q: Does Silver Spring validate or “certify” the manufacturer’s test results before adding the device to this list?

A: No, Silver Spring does not validate the results and makes no claims as to the level of interoperability of manufacturer-tested device. For these details, please contact the manufacturer directly.

Q: What is the HAN Test Kit?

A: The Silver Spring HAN Test Kit is a test tool available to third-party device manufacturers for validating their HAN devices against the Silver Spring Communications Module (NIC). Silver Spring also provides the HAN Test Kit to utilities for lab interoperability testing.

The HAN Test Kit provides the following features:

- A structured environment for running existing tests and writing new ones;
- Support for testing HAN devices equipped with ZigBee security test certificates, production certificates, or no certificates;
- Sets of tests for provisioning, messaging, Demand Response/Load Control (DRLC), pricing, simple metering, and over-the-air (OTA) upgrades;
- A console application that can be used for experimentation and test development;

- Some simple command-line instructions that allow the tester to create DRLC, message, and price commands or obtain a summary of the HAN status tied to a particular meter (for example, radio status, network and link keys, joined devices, and cert type); and
- HTML reporting of test results (for suites).

Q: Does Silver Spring provide a warranty that the devices on this list will operate as intended without any issues?

A: Devices tested by Silver Spring and sold directly by Silver Spring carry Silver Spring's standard hardware warranty. Devices tested by the manufacturer are not covered by a Silver Spring warranty. The primary goal of both forms of device testing is to ensure a baseline level of compatibility and to resolve common issues that might arise in the field. Device testing significantly reduces, but does not eliminate, the possible risk of interoperability or other device issues.

Silver Spring continues to expand its ecosystem of technology partners and encourages suppliers to submit their devices for compatibility certification.