



STEVAL-IHP004V1

High-end smartplug systems to measure and control AC loads based on the SPZB32W1A2.1, STPM10, T2035H and M24LR64

Data brief

Features

- RF network to monitor and manage the plugged load
- Energy consumption monitoring
- IEEE-802.15.4 communication
- ON/OFF and dimming
- RoHS compliant

Description

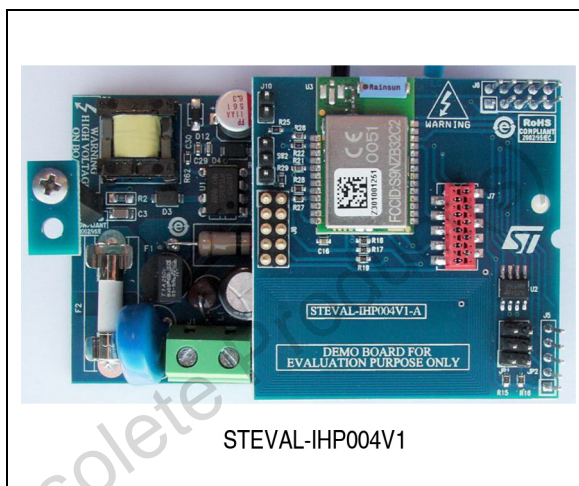
The STEVAL-IHP004V1 demonstration board is a smartplug based on the SPZB32W1A2.1 module which integrates the STM32W108 microcontroller with IEEE-802.15.4 integrated radio and 32-bit ARM Cortex-M3 core.

The STPM10 energy metering IC is used for energy measurement while the AC load can be controlled by a 16 A relay supporting soft-switch by the T2035H TRIAC.

The STEVAL-IHP004V1 demonstration board is a node of an RF network which allows the final user to monitor and manage the plugged load energy consumption. The node personalization is supported by the M24LR64 dual interface EEPROM.

The introduction of the dual interface EEPROM enables RF communication with RFID readers or ISO15693-capable NFC phones, allowing offline programming of the smart plug's parameters/profile, as well as download of events/logs.

The STEVAL-IHP004V1 demonstration board has been developed in order to provide a guideline to build a home/building automation subsystem for energy management and sub-metering. It is designed to fit the dimensions of a standard box for wall installation and easy integration into home/building electrical plants.



STEVAL-IHP004V1

The current, power, energy and other info related to the electrical load connected to the smartplug board are sent to an IEEE-802.15.4 data concentrator through the home/building RF network.

1 Schematic diagram

[illegible]

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Jun-2012	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2012 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com