Supplementary sheet to Engineering Sample
Energy harvesting wireless light switch AFIS-2004

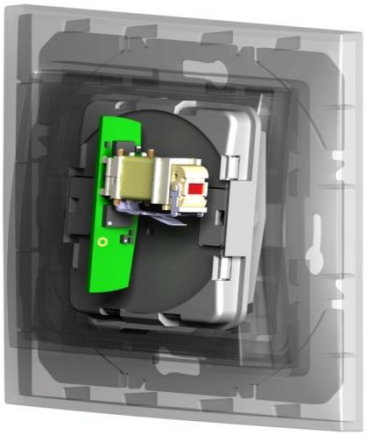
Safety instructions

CAUTION: Damage to components of the evaluation kit due to electrical discharge

- Observe the ESD protection.

CAUTION: Damage due to liquid in the components of the evaluation kit

- Prevent liquid from getting inside the components.
- Do not use solvents such as benzine or alcohol, or scouring agent and scourers for cleaning.



1. Application field
Batteryless and wireless RF light switch for the direct communication with a LED bulb.

2. Product description
2.1 Light Switch
The light switch includes a generator which converts the mechanical energy of the switch into electrical energy. The energy is used for the RF electronics and the data is transmitted without batteries and wires via 2.4 GHz to a receiver integrated into the LED bulb.

2.2 Receiver
The receiver chip NXP JN51xx is integrated into the LED bulb. The chip receives the RF signal from the light switch and forwards the information for switching the bulbs on and off.

3 Implementation
For the implementation, a E27 socket powered with 230V/AC is necesseary. Functions: On / Off / Dimming

4. Technical Data

Description	Value
Storage and operating temperature	0°C … +50°C
Permissible relative humidity	10 … 90%, non-condensing
Supply voltage receiver	230V/AC
Power consumption receiver incl. bulb	3,5mA switched off, 47mA switched on
Socket	E27
Frequency	2,4GHz
Modulation	FM
Range	Free field: typ. 30m, in buildings: typ 10m
Power level transmitter	On the antenna connection: max. 2.5 dBm, radiated: max. 1 dBm
Attenuation	typ. 6dB
Signal-to-noise ratio receiver	min. 6 dB

5. Declaration of Conformity
Radiofrequency radiation exposure Information:
The radiated output power of the device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTICE:
This device complies with Part 15 of the FCC Rules [and with Industry Canada licence-exempt RSS standard(s)]. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NOTICE:
Changes or modifications made to this equipment not expressly approved by (manufacturer name) may void the FCC authorization to operate this equipment.

These components are CE certified and comply with the EN 300 440, EN 301 489-1 and 301 489-3, EN 60950-1:2006/A11:2009/A1:2010/A12:2011 guidelines. They were made and tested for use in Europe and USA in accordance with the FCC Part 15.247. Observe the local regulations before using in other countries.

6. Disposal
Dispose of the used components of the evaluation kit at an official collection point for electronic waste or at your local dealer.

7. Contact ZF Friedrichshafen AG
Cherrystraße
91275 Auerbach

Model: AFIS2004 FCC ID: 2AHGFAFIS2004 IC ID:11057A_AFIS2004
CAN RSS_Gen/CNR_Gen

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