

DS-SHD-SE-01**Development set IQRF Multifunctional Sensor**

Hardware v1.03

Brief User's Manual

See DS-SHD-SE-01 User's guide for details.

DS-SHD-SE-01 is a development set for IQRF multifunctional wireless sensor SHD-SE-01. This set is intended for development of user-specific application and SHD-SE-01 itself for final implementation.

Electrical specifications*Typical values unless otherwise stated*

Parameters specified in this datasheet are typical values for power supply 3 V only.

Battery	LiMnO ₂ CP502441, 3 V, 1200 mAh (primary cell)
Operating temperature	-30 °C to +60 °C
Supply current	
Sleep mode (all functionality disabled)	380 nA
Run mode (MCU running, RF IC disabled)	1 mA
Additional supply current	Refer to datasheets of respective ICs
RX mode	3 mA (STD mode), 330 µA (LP mode), 25 µA (XLP mode)
TX mode	14 mA – 24 mA (according to RF output power)
Nominal frequency	868.35 MHz or 916.50 MHz (software selectable)
RF sensitivity	-104 dBm (868 MHz), -102 dBm (916 MHz)
RF output power	Programmable in 8 levels (0 – 7), -12.5 dBm to 5 dBm (-2.5 dBm/level)
RF range	Up to 380 m (strongly depends on device orientation and surroundings)
EEPROM	16 Kb, serial interface I2C, 1 000 000 erase / write cycles typ.
Storage temperature	0 °C to +30 °C

Hardware

SHD-SE-01 is a generic equipment, i.e. the hardware is fixed and specific functionality (communication with individual peripherals, their control and readout) can be achieved by application software for internal MCU only.

Power supply

SHD-SE-01 is supplied from built-in non-removable primary battery. DS-SHD-SE-01 is delivered with the battery soldered but power supply disconnected by the jumper for development purpose. Energy consumption should be minimized by software techniques.

TR module

The RF circuitry is compatible with IQRF smart transceiver TR-54DA. Application SW should be uploaded to MCU via RFPGM (wireless) interface.

Peripherals

G-sensor (accelerometer), real time clock/calendar (RTCC), temperature sensor, illumination sensor, EEPROM memory, pushbutton and LED are available.

Case

The plastic case can not be repeatedly disassembled.

