Technical Description

HH7

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1. Functional description

The **HH7** is a door handle for a car with capacitive touch sensors and NFC. An integrated NFC antenna inside into the door handle, smartphones, wearables and NFC tags can be identified and a driver can be authorized by the car so the door can be opened.
It acts as communication channel between CAR Electronics control Unit and NFC Readers. The car ECU NFC Reader requests to the **HH7** which communicates with the NFC device on the integrated antenna using a magnetic field.
Additionally, the **HH7** has touch sensors for Lock & Unlock functions on the Door handle

2. User manual

The user places his authorized NFC device (a smartcard or a mobile phone / wearable with an integrated secure element ID) onto the door handle. The **HH7** authorizes the user to the car automatically as soon as a valid device is recognized. Then the door is unlocked and the driver can access the car. The NFC communication is only activated once a NFC device is placed onto the door handle.

For additional information, please refer to the User Manual provided by the OEM.

3. Block Diagram

Refer to Block Diagram datasheet

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CAN communication is not active during the NFC operation of the device.

4. Technical Data

4.1 Temperature Range

Operating temperature:	-40 °C to +80 °C
Storage temperature:	-40 °C to +85 °C

4.2 Data of RF-Part

Transmission Mode	Continous Transmission mode
Reader to card	100 % ASK, Miller Coded, 106 kbit/s
Card to reader	Subcarrier Load Modulation, Manchester Coded, 106 kbit/s
Transmission center frequency	**13.56 MHz**
3 dB bandwidth	400 kHz
Maximum magnetic field strength	7.5 A/m
Antenna	Integrated PCB loop antenna, approx. 64 x15.5 mm.

5. History

Version	Chapter	Changes	Date	Editor
1.0	All	Original version	12.10.2023	A. Rebello