

# User Manual

## HH5

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| Editor :        | A. Rebello                                                                       |
| Department :    | RDE1-PU                                                                          |
| Tel. :          | +91 (0) 20 6693 8266                                                             |
| Email :         | <a href="mailto:Agnetta.Rebello@marquardt.com">Agnetta.Rebello@marquardt.com</a> |
| First Version : | 18.09.2023                                                                       |
| Version :       | 1.0                                                                              |

The **HH5** is a door handle for a car with capacitive touch sensors and NFC. An integrated NFC antenna inside into the door handle allows the **HH5** to identify authorized smartphones, wearables and NFC tags; to allow the user access to the car.

The **HH5** is connected to the car using a CAN-FD interface. It acts as communication channel between CAR Electronics control Unit and NFC Readers. The car ECU NFC Reader requests to the **HH5** which communicates with the NFC device on the integrated antenna using a magnetic field.

### 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 **HH5** 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.

|                                                                   |                 |                 |             |                                |
|-------------------------------------------------------------------|-----------------|-----------------|-------------|--------------------------------|
| MARQUARDT GmbH<br>Schloßstraße 16<br>D 78 604 Rietheim – Weilheim | Initial Version | 18.09.2023      | Version     | 1.0                            |
|                                                                   | Department      | RDE1-PU         | File        | 2023-09-18_User_Manual_HH5.doc |
|                                                                   | Editor          | Agnetta Rebello | Project No. |                                |
|                                                                   | Revision        | -               | Page        | Page 2 of 3                    |

History

| Version | Chapter | Changes          | Date       | Editor     |
|---------|---------|------------------|------------|------------|
| 1.0     | All     | Original version | 18.09.2023 | A. Rebello |

Proprietary data, company confidential. All rights reserved.  
Conté à titre de secret d'entreprise. Tous droits réservés.  
Comunicado como segredo empresarial. Reservados todos os direitos.  
Confidado como secreto industrial. Nos reservamos todos los derechos.

Weitergabe sowie Vervielfältigung dieser Unterlage, Ver-  
wertung und Mitteilung ihres Inhalts nicht gestattet, soweit  
nicht ausdrücklich zugestanden. Zuwiderhandlungen ver-  
pflichten zu Schadenersatz. Alle Rechte vorbehalten, insbe-  
sondere für den Fall der Patenterteilung oder GM-Entragung

|                                                                   |                 |                 |             |                                |
|-------------------------------------------------------------------|-----------------|-----------------|-------------|--------------------------------|
| MARQUARDT GmbH<br>Schloßstraße 16<br>D 78 604 Rietheim – Weilheim | Initial Version | 18.09.2023      | Version     | 1.0                            |
|                                                                   | Department      | RDE1-PU         | File        | 2023-09-18_User_Manual_HH5.doc |
|                                                                   | Editor          | Agnetta Rebello | Project No. |                                |
|                                                                   | Revision        | -               | Page        | Page 3 of 3                    |

11 December 2023

SGS North America Inc.  
620 Old Peachtree Road  
SUITE 100  
Suwanee, Georgia  
United States

Compliance Statement in Car Manual / FCC ID: IYZHH5

Dear Sirs,

Our products with the above FCC ID code is an NFC enabled Door Handle Sensor.

The product will be supplied as an original equipment device to the car manufacturer.

Hereby we assure that the following caution statement as per CFR 47, Part 15, § 15.21 will be included in the owner's manual of the cars:

The title "CAUTION TO USERS" or "FCC Warning:" "NOTE:" or relevant title and "Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

In addition our client also assures that the following statement will be included in the manual as per CFR 47, Part 15, § 15.19 (a) (3).

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

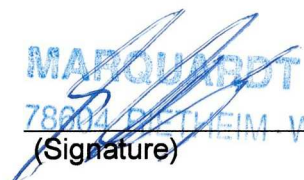
- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Signed for and on behalf of:

**Rietheim-Weilheim, 11.12.2023**

---

ppa. Gerd Villing  
Vice President, Research & Development



**MARQUARDT GMBH**  
78604 RIETHEIM WEILHEIM  
(Signature)

11 December 2023

SGS North America Inc.  
620 Old Peachtree Road  
SUITE 100  
Suwanee, Georgia  
United States

**Compliance Statement in Car Manual / IC: 2701A-HH5**

Dear Sirs,

Our products with the above IC ID Number is an NFC enabled Automotive Door Handle Sensor.

The product will be supplied as an original equipment device to the car manufacturer and mounted in their factory

Hereby we assure that the following caution statement as requested per RSS Regulation will be included in the owner's manual of the cars:

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le present 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;
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

Signed for and on behalf of:

**Rietheim-Weilheim, 11.12.2023**

---

ppa. Gerd Villing  
Vice President, Research & Development

**MARQUARDT GMBH**  
**78604 RIETHEIM-WEILHEIM**  
(Signature)