Continental

Document: **User Manual**

Product: HFM (Hand Free Module)
                        Radio Frequency Transmitter-Receiver

Model number: HFM351

FCC ID: KR5HFM351

The HFM351 is a radio frequency transmitter-receiver used in vehicle access systems.

✓ **Car Access function:**

The first way is to use the remote key functionality (RKE) by pressing one of the "Lock" or "Unlock" buttons on the ID Key. Data frames are then transmitted at 433.92 MHz from the key fob ID of the car. The HFM processes the frames received and when the security code is correct, the doors are locked or unlocked automatically.
Car access functions by remote control are allowed using any key fob type.

The second way is to use the free hand mode
Unlocking the vehicle:
If the car is locked, when the door request switch located in the door is pressed by car user which has a car key fob, the HFM transmits data frames at 125 kHz. When the key fob receives the data and recognizes the content of the inquiry, it transmits the code to the car at 433.92 MHz. The HFM processes the frames received and when the code is correct, the doors are automatically unlocked.
Locking the vehicle:
If the car is unlocked, when the door request switch located in the door is pressed by car user which has a car key fob, the HFM transmits data frames at 125 kHz. When the key fob receives the data and recognizes the content of the inquiry, it transmits the code to the car at 433.92 MHz. The HFM processes the frames received and when the code is correct, the doors are automatically locked.
Car access functions by hand free are allowed using any key fob type.

✓ **Engine Start function:**

When the Hand free functions are disabled
First User has to hold the key fob in front of Immobilizer antenna for at least than 30s after one of the following action: press of the "START" button on the dashboard, open or close a door or press vehicle brake pedal. Each key fob has a transponder. When the key fob is hold in front of Immobilizer antenna, the HFM sends a 'transponder" recognition order to the key fob throw the Immobilizer antenna. The HFM performs a 'transponder" authentication using 125 kHz transceiver. The key fob sends the authentication result to the HFM. Then the HFM sends on the CAN bus a message to the central unit and engine control unit to allow or not the START of the engine.

When the Hand free functions are enabled
The user does not need to hold the key fob in front of the Immobilizer antenna. The key fob should only be inside the vehicle. When the "START" button is pushed, the HFM sends a recognize message at 125 kHz link via internal LF antennas. Receiving this message, the key fob sends an authentication message at 433.92 MHz. Then the HFM sends on the CAN bus a message to the central unit and engine control unit to allow or not the START of the engine.

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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.