Document : **User Manual for IBU 2.0 Non-SMK_ENG**

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1.1 Scope of IBU 2.0 Non-SMK System

IBU(Integrated Body control unit) System(Non-SMK) integrate BCM in one ECU

1.1.1 IBU 2.0 (Non-SMK) system offer following feature

- immobilizer backup solution integrated into IBU
- communication to the engine management system via a single line interface

1.1.2 BCM functions offer following feature

- BCM functions directly or indirectrly control Lamps, Indicators, Rear curtain, Steering wheel heat and relay

1.2 short description of the SYSTEM

If insert the Immobilizer including trasponder to ignition switch and then power enter the IBU(Non-SMK)
After Receive the frequency of key, ECU decide the own's key and if same code ,starting a engine.

1.2.1 General Definition of IBU(Non-SMK)

IBU(Non-SMK) has a immobilizer function which enable the start up When Folding key approaching the Lock-body.

1.2.2 Wireless Communication

the Electromagnetic waves used for communication between Foldingkey and car.
Therefore car and Folding key include the tramsmitter, receiver and Immobilizer Antenna.

1.2.3 concept Description

magnetic field with a frequency of 125 kHz and ASK modulation is used

Technical aspects of 125 kHz – magnetic field:

- high penetration,
- less sensitive for detuning compared to higher frequency.

For the down-link from the SMART KEY FOB to the vehicle, the standard radio frequency (RF) is used (similar to the classic remote control functions) with FSK modulation.

1.2.4 System Architecture

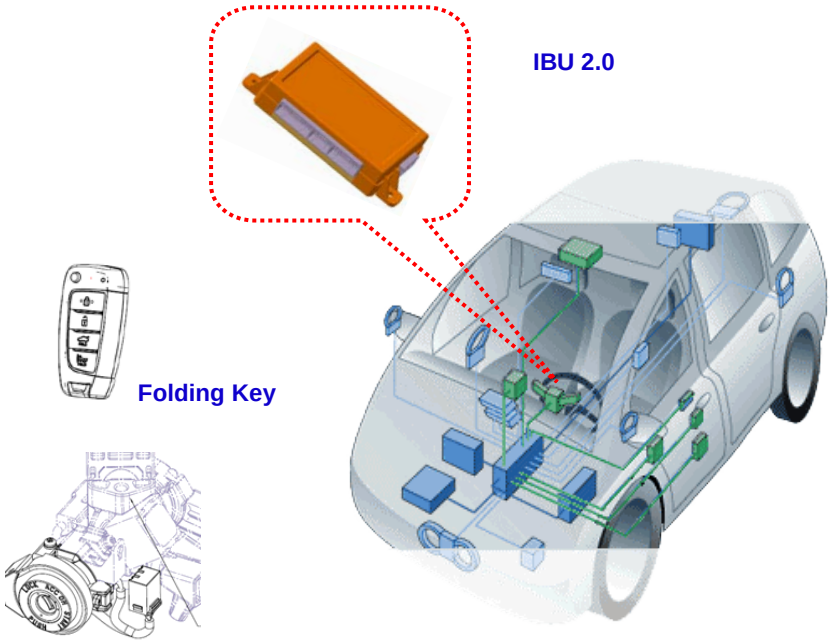
The system is designed as an optional system, making it possible to equip vehicles of the same car-Line with different levels of access control systems.

The system is suitable to be integrated into an existing architecture that provides central locking functions with standard remote control. This proposal assumes that the following functions / devices are already present in the vehicle's architecture.

- Central locking system (latch / motor – drivers etc.)
- Standard body control functions
- Warning buzzer
- Indicators
- Lamps
- Wiper control system
- Convenience equipments

1.2.5 Main Functions

- The system allows the user to operate relaies to provide power(Off, Accessory, Ignition) to other ECU, and to start/stop the vehicle's engine without performing any actions with the Folding key.



*** Measurement Distance**

This equipment should be installed and operated with minimum 50 cm between the radiator and your body.

Figure 1: Offered System Components

2.3 IBU 2.0 Non-SMK ECU

The main functional blocks of the IBU ECU are:

- Power supply
- Microcontroller with FLASH Memory
- Single Line Interface to EMS
- Input stage
- Immobilizer Antenna output
- CAN communication with Other
- ECU Internal receiver(433Mhz)
- Rear curtain control
- Steering wheel heat control
- Head lamp wahser relay control
- Indicators control
- Lamps control
- High speed CAN communication
- LIN communication

3. Homologation

FCC Compliance Statement.

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.

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

FCC Interference Statement

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.

Do Not

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

IC Compliance Statement.

This device complies with Industry Canada licence-exempt RSS standard(s).
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 autorisee aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.