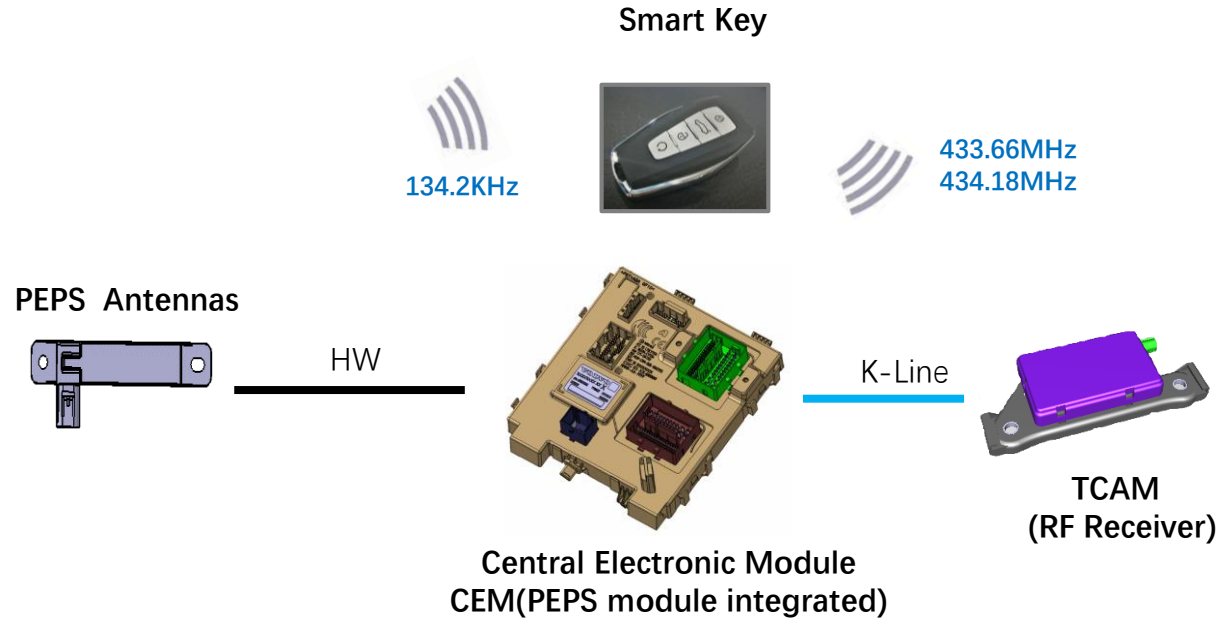# PEPS System

Contents

Components of PEPS System

1. PEPS module is integrated in the CEM;

2. The system is composed of CEM, PEPS antennas, smart key and TCAM (telematics and connectivity antenna module);

3. CEM controls PEPS antennas to send out LF through hardwire;

4. Smart key receives (LF-low frequency) signals from PEPS antennas and sends out (RF-radio frequency) signals to TCAM;

5. CEM communicates with TCAM through K-line (a LIN line).

Smart Key

134.2KHz

433.66MHz
434.18MHz

PEPS Antennas

HW

K-Line

**TCAM
(RF Receiver)**

**Central Electronic Module
CEM(PEPS module integrated)**

Note:

TCAM is not available in overseas market now, only RF receiver (RFR).

If TCAM is available, RFR will be integrated in TCAM.

CEM(PEPS)：

➤ Drive the antennas to send LF searching smart key, and receive signals from RFR；

➤ Carry out vehicle locking and unlocking，complete the power on and start of vehicle；(entry and start)

➤ Anti-theft alarm function；

PEPS antennas:

There are 5 antennas (low frequency, 134k Hz), using for passive start.

➤ 1-Front antenna, on the front grill;

➤ 2-Console antenna, under the gear shift penal; (IMMO)

➤ 3-Left antenna, on the trim under left B pillar;

➤ 4-Right antenna, on the trim under right B pillar;

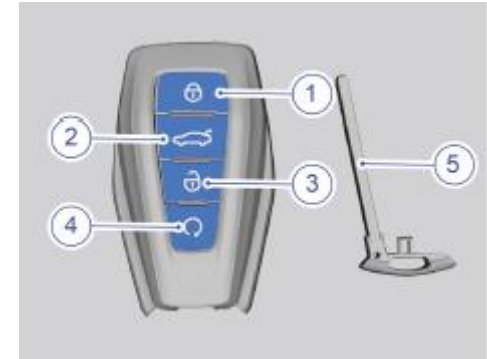➤ 5-Rear antenna, on the rear penal.

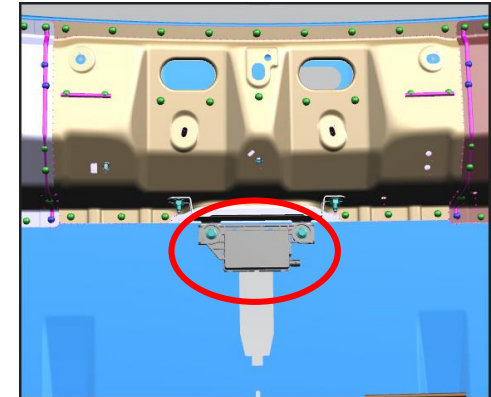There are 2 PE sensors inside left and right door handle，using for passive entry.
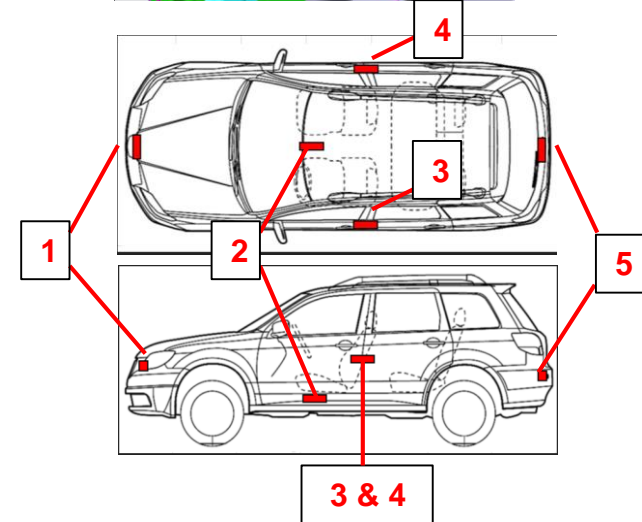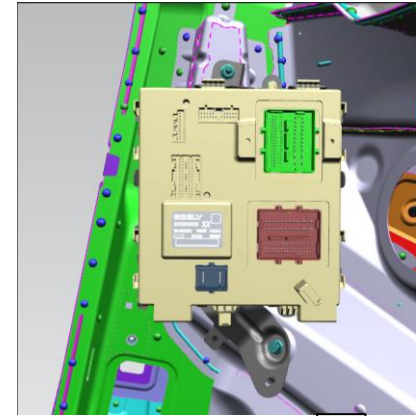
Smart Key:

- ➢ 1- Lock/Search car
- ➢ 2- Open/Close tailgate
- ➢ 3- Unlock
- ➢ 4- Remote start
- ➢ 5- Mechanical key

RF receiver:

Radio frequency receiver is integrated in TACM, installed on the top rear cross member.

Normal Start：

1. Depress brake pedal, press the SSB switch, then CEM will drive the LF antennas to search the smart key;

2. Smart key receives LF signal from antennas, then send out RF signal to the RF Receiver;

3. The RFR communicates with CEM(PEPS) through K_LIN to certify;

4. If smart key be found and certified, CEM will communicate with ECM to certify;

5. CEM(PEPS module）finish vehicle start.

Start when smart key low power:

1. When the smart key battery is low, it may not send out RF normally and vehicle can not start;

2. At this time, put the smart key onto the storage box, the IMMO under the storage box will help to start.

PE-Passive Entry

Click on the multimedia display screen in turn: Vehicle Settings → Vehicle Setting Item →Vehicle Lock/Key, and then select the front doors or the whole vehicle of PE function.

➢ Front doors: Either the driver's door or the front passenger's door can be unlocked through PE function, upon which, the other doors will remain unlocked, but the back door will be unlocked synchronously.

➢ Whole Vehicle: After this function is activated, all the doors will be unlocked through PE function automatically.
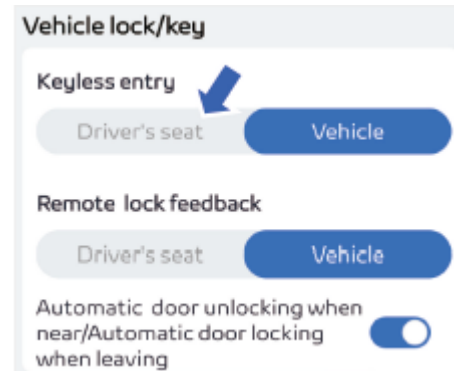
Contents

Electrical schematic diagram
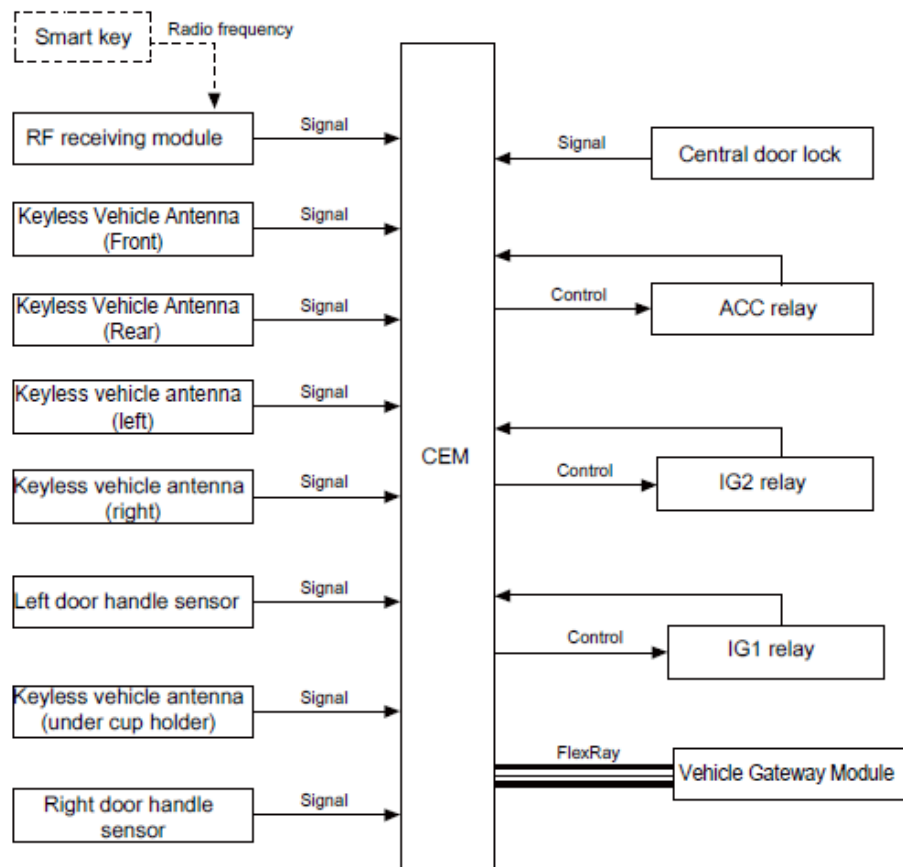
Add/Remove Keys

- Download software "Add/remove key" (operations are the same with other software upgrades and reload);
- Run the software program and a new interface will be opened, we can choose "add key" or "remove all keys";

Notes:

- All the keys will be removed when we choose " remove all keys", unable to select the number of keys to remove;
- When adding keys, only one key can be added at one time, put the key to be added on the storage box , and it's not allowed to add multiple keys at the same time;
- 12 Keys can be learnt in maximum.

Guidance for replacing CEM :

1. Before replace CEM, remove all keys with the original CEM;

2. Replace new CEM;

3. Reload CEM software (check steps on the CEM training course) ;

4. Match CEM (SET IMMO);

5. Add old keys to the new CEM.

Note:

After replace CEM/ECM, match them through GLDS "Set IMMO" sequence, no need to apply and write ESK code manually.
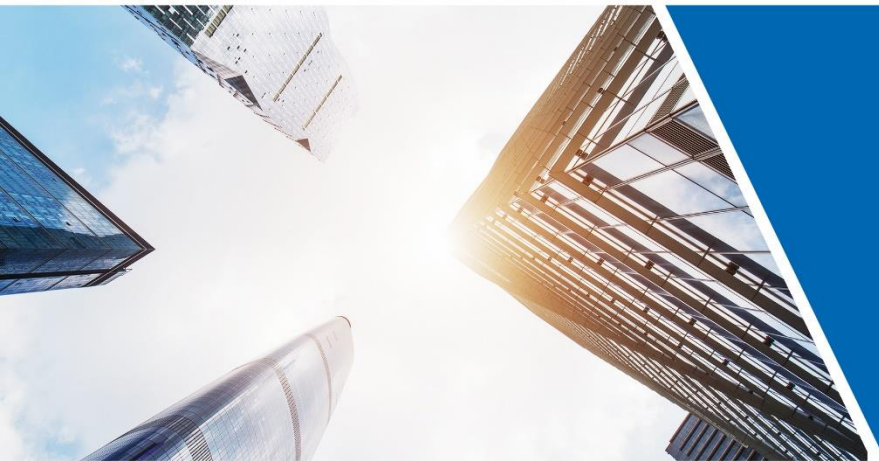
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