Inspection

1. In the body electrical system, failure can be quickly diagnosed by using the vehicle diagnostic system (KDS).
   The diagnostic system (KDS) provides the following information.
   (1) Self diagnosis : Checking failure and code number (DTC).

   (2) Current data : Checking the system input/output data state.

   (3) Actuation test : Checking the system operation condition.

   (4) Additional function : Controlling other features including system option setting and zero point adjustment

2. Select the "Car model" and the "IBU-SMK" to be checked in order to check the vehicle with the tester.

3. Select the "Current Data" menu to search the current state of the input/output data.

4. If you want to check each module operation forcefully, select "Actuation test".

Antenna Actuation Diagnosis

1. Connect the cable of KDS to the data link connector in driver side crash pad lower panel.

2. After IG ON, select the "Actation Test".

3. Set the smart key near the related antenna and operate it with a KDS.

4. If the LED of smart key is blinking, the smart key is normal.

5. If the LED of smart key is not blinking, check the voltage of smart key battery.

6. Antenna actuation
   – Interior Antenna 1
   – Interior Antenna 2
   – Liftgate Antenna
   – Bumper Antenna
   – Driver Door Antenna
   – Assist Door Antenna

Antenna Status Check

1. Connect the cable of KDS to the data link connector in driver side crash pad lower panel.

2. Select the "Antenna Status Check".

S/W Management

Systems	Components		Unfold All

- ■ Active Hood System
- ■ E-Shifter
- ■ Amplifier
- ■ Cluster Module
- ■ Driver Door Module
- ■ Head Up Display
- ■ IBU-BCM
- ■ IBU-SMK
  - ■ System Identification
  - ■ Current FOB Key Check
  - ■ Neutralization Mode
  - ■ SMK STATUS INFORMATION
  - ■ FOB KEY STATUS INFORMATION
  - ■ Smart Key Code Saving
  - ■ Antenna Status Check
- ■ IBU-TPMS
- ■ Power Seat Module

!   Do not touch any system buttons while performing this function.

S/W Management

• Antenna Status Check

Purpose	To check unit's antenna status.
Enable Condition	1.FOB KEY Out 2.Ignition Switch Off
Concerned Component	Smart Key(SMK) Module, Transponder, PCM/ECM, Antenna
Concerned DTC	-
Fail Safe	-
Etc	- Antenna Status Check Interior Antenna1, Interior Antenna 2, Trunk Antenna, Bumper Antenna, Driver Door Handle Antenna, Passenger Door Handle Antenna, Hat Shelf Antenna

OK

! Do not touch any system buttons while performing this function.

3. After IG ON, select the "Antenna Status Check".

S/W Management

■ Antenna Status Check

- Interior Antenna 1
- Interior Antenna 2
- Trunk Antenna(Sedan Only)
- Bumper/Tailgate Antenna
- Driver Door Handle Antenna
- Passenger Door Handle Antenna

● [Antenna Status Check]

If you're ready, select the menu.

Cancel

! Do not touch any system buttons while performing this function.

4. Set the smart key near the related antenna and operate it with a KDS.

S/W Management

■ Antenna Status Check

● [Interior Antenna 1]

Locate FOB key at interior antenna 1 area.

(Put in FOB key between ashtray and shifter.)

Press [OK] button to check.

(CONDITION : IG OFF)

OK   Cancel

!   Do not touch any system buttons while performing this function.

S/W Management

■ Antenna Status Check

● [Interior Antenna 1]

Locate FOB key at interior antenna 1 area.

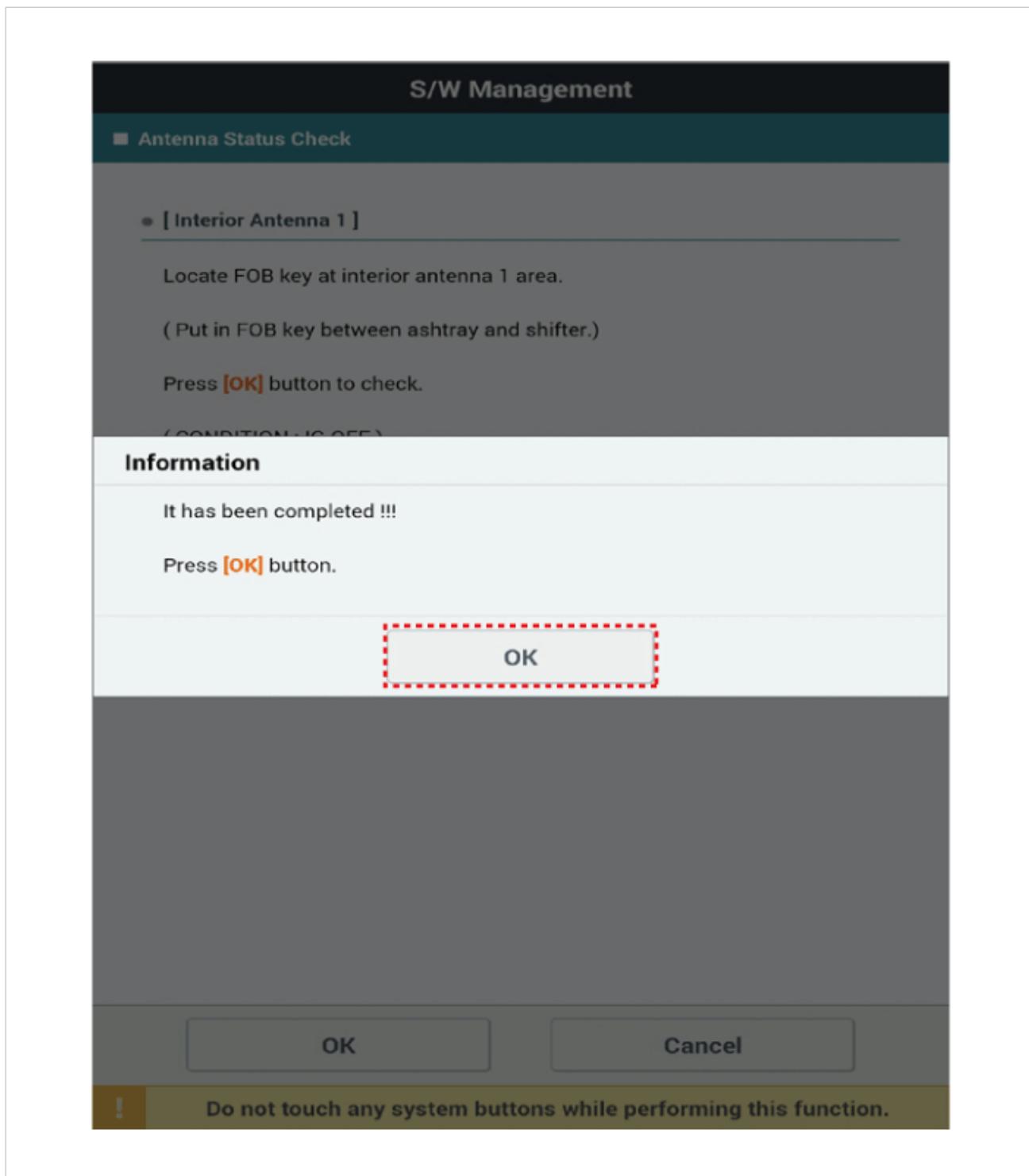(Put in FOB key between ashtray and shifter.)

Press [OK] button to check.

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

!   Do not touch any system buttons while performing this function.

S/W Management

■ Antenna Status Check

● **[Interior Antenna 2]**

Locate FOB key at interior antenna 2 area.

(Put the FOB key on the console box cover.)

Press [OK] button to check.

(CONDITION : IG OFF)

<div align="center">
OK   Cancel
</div>

!   **Do not touch any system buttons while performing this function.**

S/W Management

■ Antenna Status Check

● [Interior Antenna 2]

Locate FOB key at interior antenna 2 area.

(Put the FOB key on the console box cover.)

Press [OK] button to check.

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

!   Do not touch any system buttons while performing this function.

S/W Management

■ Antenna Status Check

● **[Trunk Antenna(Sedan Only)]**

Locate FOB key at Trunk antenna area.

(Put the FOB key on the center rear Trunk.)

Press **[OK]** button to check.

(CONDITION : IG OFF)

OK   Cancel

! **Do not touch any system buttons while performing this function.**

S/W Management

■ Antenna Status Check

● [Trunk Antenna(Sedan Only)]

Locate FOB key at Trunk antenna area.

(Put the FOB key on the center rear Trunk.)

Press [OK] button to check.

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

!   Do not touch any system buttons while performing this function.

S/W Management

■ Antenna Status Check

● [Bumper/Tailgate Antenna]

Locate FOB key at bumper/tailgate antenna area.

(Put the FOB key on the center rear bumper/tailgate.)

Press [OK] button to check.

(CONDITION : IG OFF)

OK	Cancel

⚠ **Do not touch any system buttons while performing this function.**

S/W Management

■ Antenna Status Check

● [Bumper/Tailgate Antenna]

Locate FOB key at bumper/tailgate antenna area.

(Put the FOB key on the center rear bumper/tailgate.)

Press [OK] button to check.

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

!   Do not touch any system buttons while performing this function.

S/W Management

■ Antenna Status Check

● **[Driver Door Handle Antenna]**

Locate FOB key at driver door handle antenna area.

(Put the FOB key on the driver door handle of outside.)

Press **[OK]** button to check.

(CONDITION : IG OFF)

| OK | Cancel |

! **Do not touch any system buttons while performing this function.**

S/W Management

■ Antenna Status Check

● [Driver Door Handle Antenna]

Locate FOB key at driver door handle antenna area.

(Put the FOB key on the driver door handle of outside.)

Press [OK] button to check.

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

! **Do not touch any system buttons while performing this function.**

S/W Management

■ Antenna Status Check

● **[Passenger Door Handle Antenna]**

Locate FOB key at passenger door handle antenna area.

(Put the FOB key on the passenger door handle of outside.)
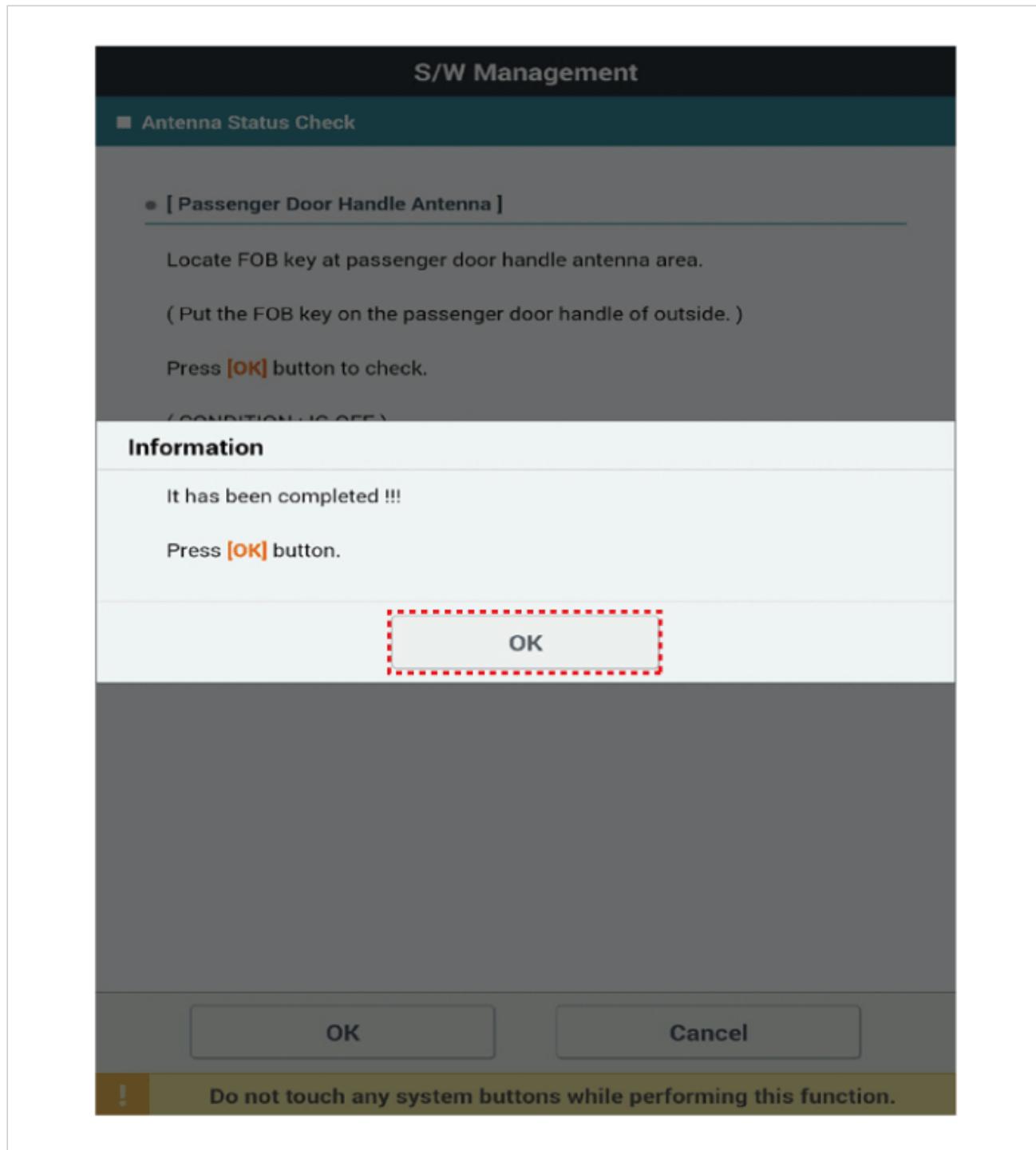
Press **[OK]** button to check.

(CONDITION : IG OFF)

OK	Cancel

! **Do not touch any system buttons while performing this function.**

5. If the smart key runs normal , the related antenna, smart key(transmission, reception) and exterior receiver are normal.

6. Antenna status
   – Interior Antenna 1
   – Interior Antenna 2
   – Liftgate Antenna
   – Bumper Antenna
   – Driver Door Antenna
   – Assist Door Antenna

FOB Status Check

1. Connect the cable of KDS to the data link connector in driver side crash pad lower panel.

2. After IG ON, select the "FOB KEY STATUS INFO".

S/W Management

Systems	Components		Unfold All

■ Active Hood System

■ E-Shifter

■ Amplifier

■ Cluster Module

■ Driver Door Module

■ Head Up Display

■ IBU-BCM

■ IBU-SMK

  ■ System Identification

  ■ Current FOB Key Check

  ■ Neutralization Mode

  ■ SMK STATUS INFORMATION

  ■ FOB KEY STATUS INFORMATION

  ■ Smart Key Code Saving

  ■ Antenna Status Check

■ IBU-TPMS

■ Power Seat Module

! Do not touch any system buttons while performing this function.

S/W Management

• FOB KEY Status Information

Purpose	To check unit's status.
Enable Condition	1.Engine Off 2.Ignition Switch On
Concerned Component	Smart Key(SMK) Module
Concerned DTC	-
Fail Safe	-
Etc	KEY Status : NORMAL Button Status : UNLOCK

OK

! Do not touch any system buttons while performing this function.

Smart Key Status Check

1. Connect the cable of KDS to the data link connector in driver side crash pad lower panel.

2. After IG ON, select the "SMK STATUS INFO".

S/W Management

Systems | **Components** | Unfold All

- Active Hood System
- E-Shifter
- Amplifier
- Cluster Module
- Driver Door Module
- Head Up Display
- IBU-BCM
- IBU-SMK
  - System Identification
  - Current FOB Key Check
  - Neutralization Mode
  - SMK STATUS INFORMATION
  - FOB KEY STATUS INFORMATION
  - Smart Key Code Saving
  - Antenna Status Check
- IBU-TPMS
- Power Seat Module

! Do not touch any system buttons while performing this function.

S/W Management ↩

• SMK STATUS INFORMATION

Purpose	To check smart key status.
Enable Condition	1. Engine Off 2. Ignition Switch On
Concerned Component	Smart Key(SMK) Module
Concerned DTC	-
Fail Safe	-
Etc	-

OK

!   Do not touch any system buttons while performing this function.

S/W Management

■ SMK STATUS INFORMATION

● [SMK Status Information]

Key :   2

Status : LEARNT

OK

⚠ Do not touch any system buttons while performing this function.

Neutralization Status Check

1. Connect the cable of KDS to the data link connector in driver side crash pad lower panel.

2. After IG ON, select the "Neutralization mode".

S/W Management

| Systems | Components | | Unfold All |

■ Active Hood System

■ E-Shifter

■ Amplifier

■ Cluster Module

■ Driver Door Module

■ Head Up Display

■ IBU-BCM

■ IBU-SMK

   ■ System Identification

   ■ Current FOB Key Check

   ■ Neutralization Mode

   ■ SMK STATUS INFORMATION

   ■ FOB KEY STATUS INFORMATION

   ■ Smart Key Code Saving

   ■ Antenna Status Check

■ IBU-TPMS

■ Power Seat Module

! Do not touch any system buttons while performing this function.

S/W Management

• **Neutralization Mode**

Purpose	To initialize the units that related to SMK.
Enable Condition	1.Engine Off 2.Ignition Switch On
Concerned Component	ECM, Intelligent Power Module(IPM), Power Distribution Module(PDM), Electronic Steering Column Lock(ESCL)
Concerned DTC	-
Fail Safe	-
Etc	- Neutralization Mode ECM Neutralization, IPM Neutralization, PDM Neutralization, ESCL Neutralization

OK

! Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

- ECM Neutralization
- SMK Neutralization
- ESCL Neutralization

● **[Neutralization Mode]**

This function needs only when you do swapping test with normal

vehicle's parts related to SMK except for Smart Key (FOB).

- Related parts : SMK ECU, ECM

⚠ **[Caution]**
In case that Smart Key, SMK ECU, ECM are replaced with new one,
it doesn't need to neutralize and please carry out only Smart Key teaching.

If you're ready, select the menu.

Cancel

❗ **Do not touch any system buttons while performing this function.**

S/W Management

■ Neutralization Mode

● **[ECM Neutralization]**

Input PIN code and press **[OK]** button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.

Please enter carefully.

OK   Cancel

!   **Do not touch any system buttons while performing this function.**

S/W Management

■ Neutralization Mode

● **[ECM Neutralization]**

Input PIN code and press [OK] button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.

Please enter carefully.

123456

| OK | Cancel |

! Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

● [ECM Neutralization]

Input PIN code and press [OK] button.

Information

Under neutralization !!!

Please change from IG Off to On within 10 seconds.

IG Off again and if you click [OK] button, the Neutralization is completed.

⚠ ❋ **Caution : Please be careful that the neutralization is cancelled if you change to IG On again after neutralization.**

OK

| OK | Cancel |

❗ Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

● **[ESCL Neutralization]**

Input PIN code and press **[OK]** button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.
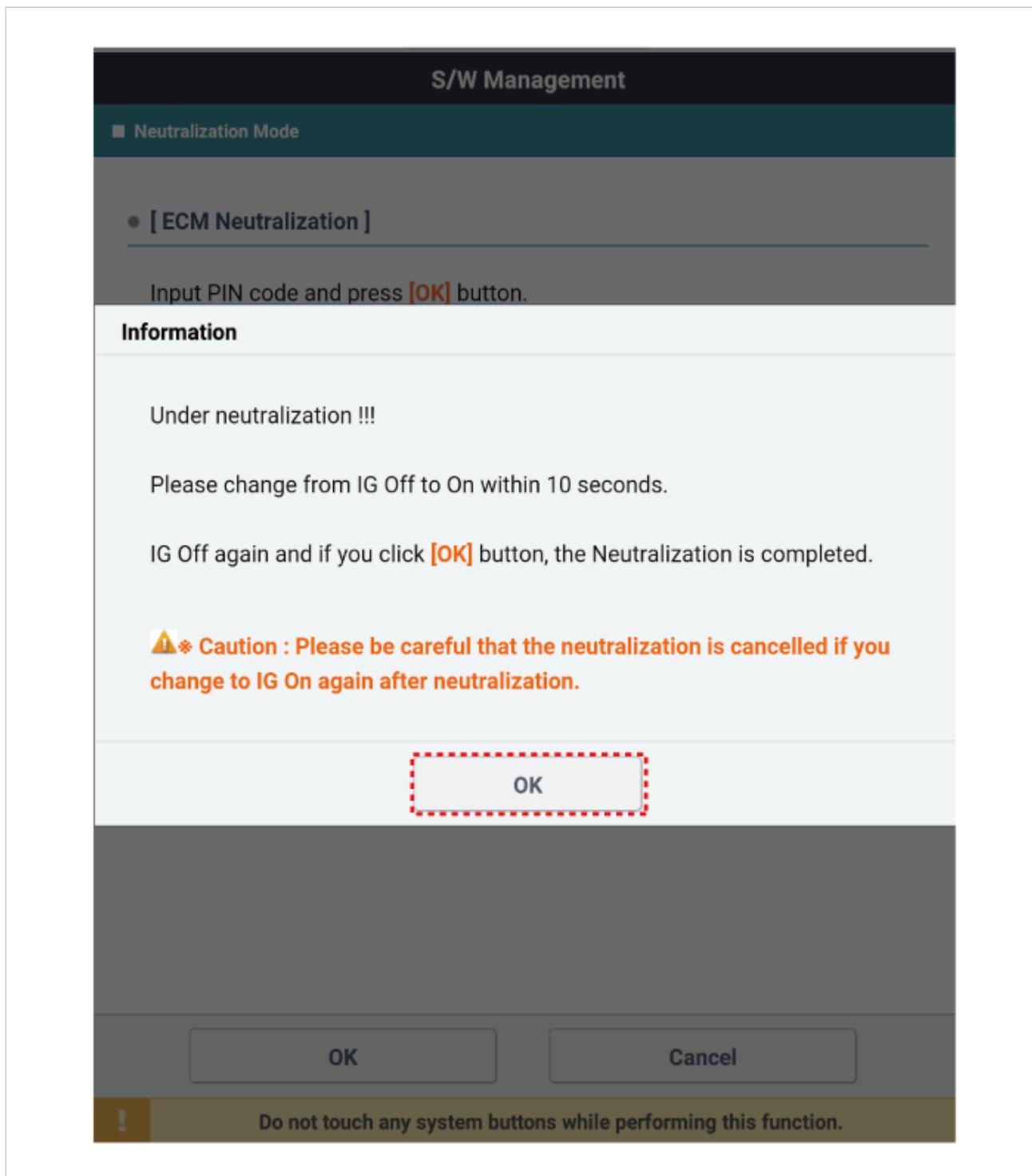
Please enter carefully.

OK	Cancel

!   **Do not touch any system buttons while performing this function.**

S/W Management

■ Neutralization Mode

● **[ESCL Neutralization]**

Input PIN code and press **[OK]** button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.

Please enter carefully.

123456

| OK | Cancel |

!   Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

● [ESCL Neutralization]

Input PIN code and press [OK] button.

(CONDITION : IG OFF)

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

! Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

● **[SMK Neutralization]**

Input PIN code and press **[OK]** button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.
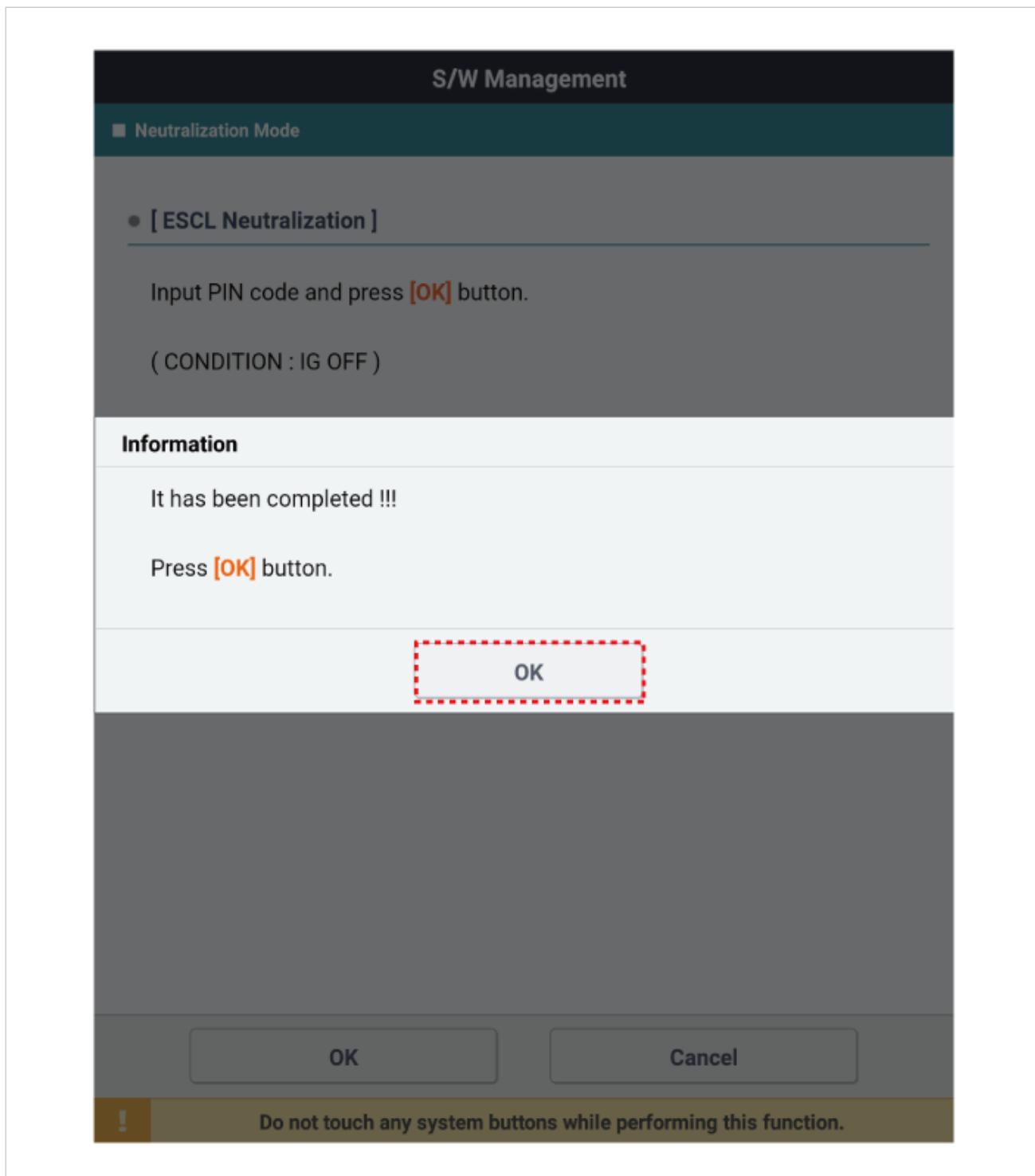
Please enter carefully.

OK   Cancel

!   **Do not touch any system buttons while performing this function.**

S/W Management

■ Neutralization Mode

● [SMK Neutralization]

Input PIN code and press [OK] button.

(CONDITION : IG OFF)

This function may be limited If the PIN code is entered incorrectly three times.

Please enter carefully.

123456

OK	Cancel

! Do not touch any system buttons while performing this function.

S/W Management

■ Neutralization Mode

● [SMK Neutralization]

Input PIN code and press [OK] button.

(CONDITION : IG OFF)

Information

It has been completed !!!

Press [OK] button.

OK

OK   Cancel

! Do not touch any system buttons while performing this function.