

Inspection

Self Diagnosis With Scan Tool

It will be able to diagnose defects of SMART KEY system with Diagnostic tool quickly. Diagnostic tool can operate actuator forcefully, input/output value monitoring and self diagnosis.

The following three features will be major problem in SMART KEY system.

1. Problem in SMART KEY unit input.

2. Problem in SMART KEY unit.

3. Problem in SMART KEY unit output.

So the following three diagnosis operates will be the major problem solution process.

4. SMART KEY unit Input problem : switch diagnosis

5. SMART KEY unit problem : communication diagnosis

6. SMART KEY unit Output problem : antenna and switch output diagnosis

Switch Diagnosis

1. In the body electrical system, failure can be quickly diagnosed by using the vehicle diagnostic system (Diagnostic tool).

The diagnostic system(Diagnostic tool) provides the following information.

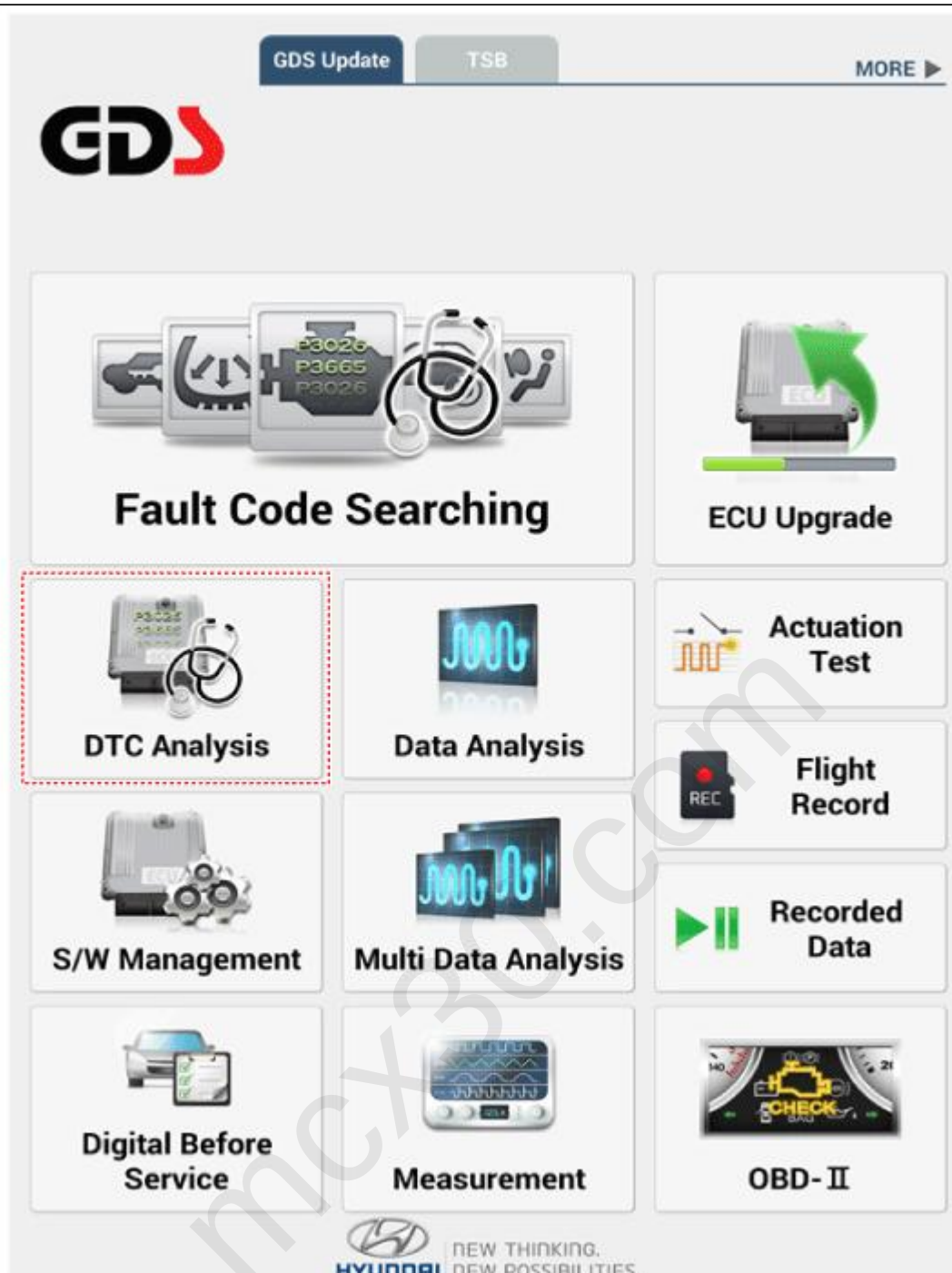
(1) Fault Code Searching : Checking failure and code number (DTC)

(2) Data Analysis : Checking the system input/output data state

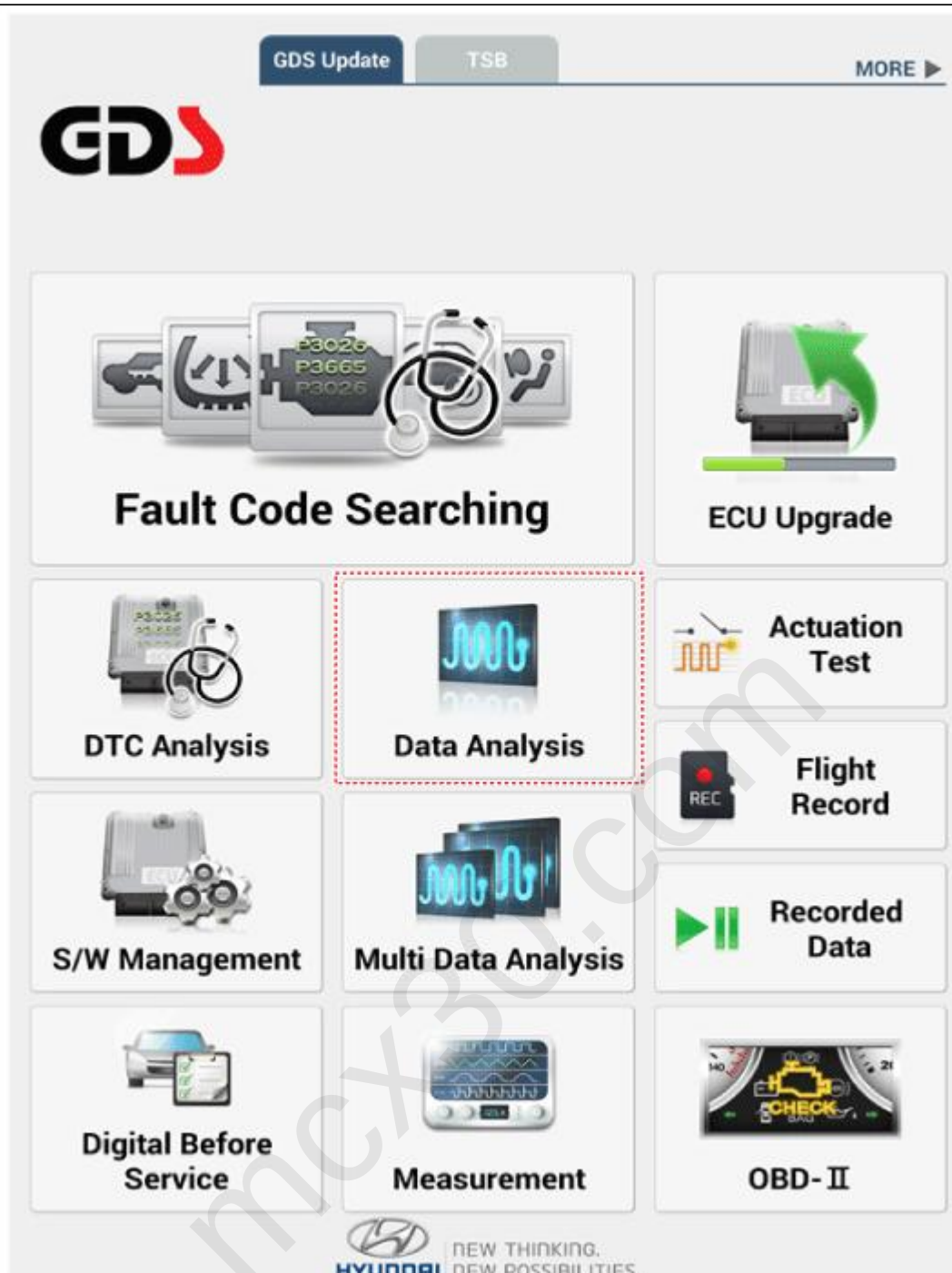
(3) Actuation test : Checking the system operation condition

(4) S/W Management : Controlling other features including system option setting and zero point adjustment

2. If diagnose the vehicle by Diagnostic tool, select "DTC Analysis" and "Vehicle".



3. If check current status, select the "Data Analysis" and "Car model".



4. Select the SMK' to be checked in order to check the vehicle with the tester.

Vehicle Selection



PREV

AUTO
VIN



RESET

IX35/VERACRUZ(EN)		
KONA(OS)		
G 2.0 MPI		

System Selection

 ENGINE	 A / T	 ABS/ESP	 FCA	 AIRBAG	 AIRCON
 EPS	 SET 80km/h SCC	 RVM	 BCW	 LKA	 AHL5
 IMMO	 SMK	 AMP	 CLU	 80km/h HUD	 TPMS BCM SMK IBU-BCM
 TPMS BCM SMK IBU-TPMS	 WPC	 IGPM	 SOS e-Call	 CODE	

● System

Smart Key Unit

OK

Data Analysis			
Stop Graph Selective Display Actuation Test			
Sensor Name(48)	Value	Unit	Link Up
Start Stop Button Switch1	OFF	-	
Start Stop Button Switch2	OFF	-	
ACC	ON	-	
IGN1	ON	-	
IGN2	ON	-	
Start Relay Feed Back Signal	OFF	-	
Gearshift P Position(AT)/Clutch(MT)	ON	-	
Brake Switch	OFF	-	
Driver Door Handle Toggle Button Switch	OFF	-	
Assist Door Handle Toggle Button Switch	OFF	-	
Battery Voltage Monitoring Input(by CPU)	7.2	V	
Engine Speed	0	RPM	
Vehicle Speed Signal	0	km/h	
ACC Relay Output	6.9	V	
IGN1 Relay Output	6.9	V	
IGN2 Relay Output	6.9	V	
Starter Relay Output	0.6	V	
Battery Voltage Monitoring Input(by Load)	7.2	V	
External Buzzer	OFF	-	
SSR Illumination GND Output	OFF	-	

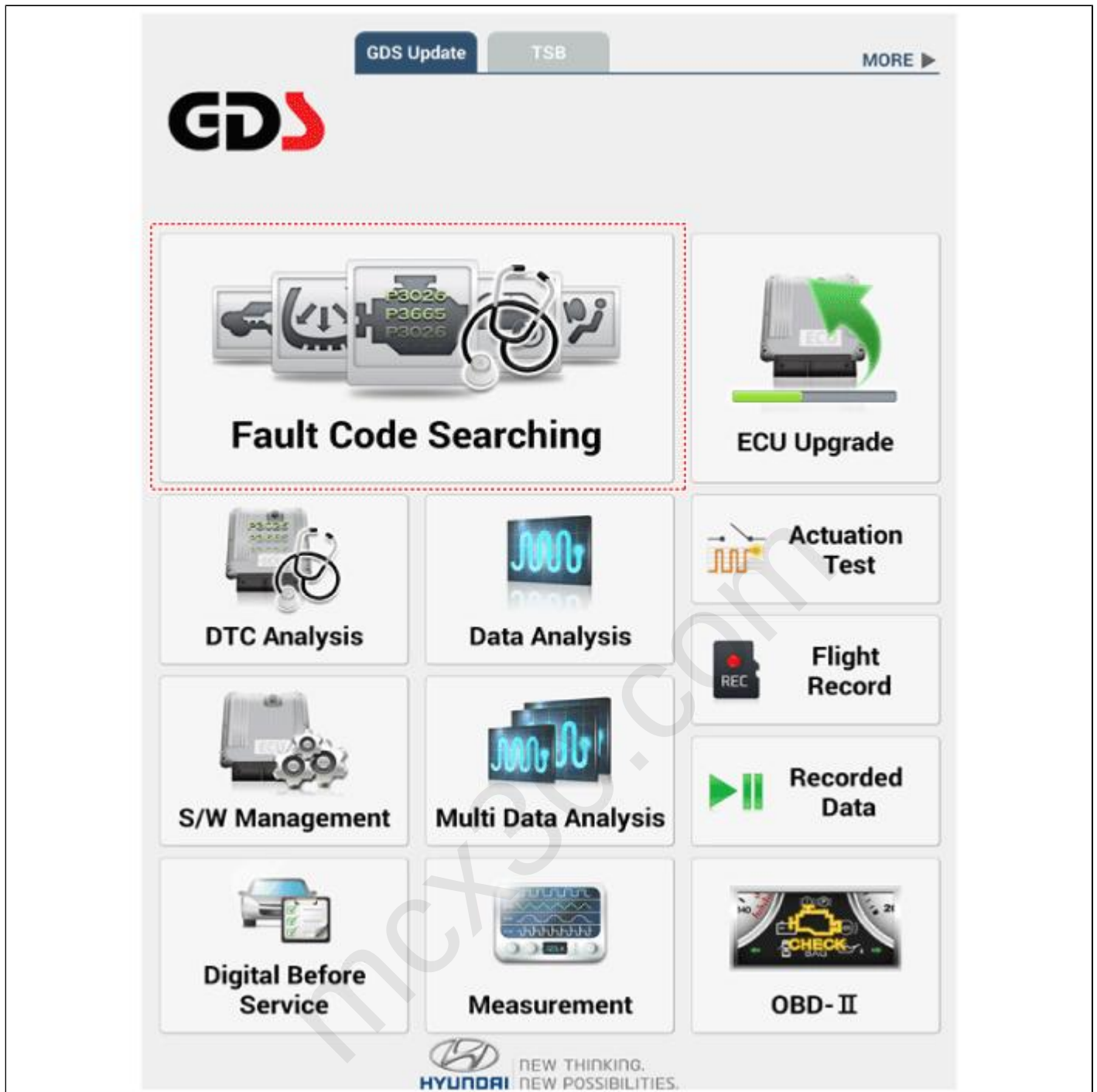
5. You can see the situation of each switch on scanner after connecting the "current data" process.

Display	Description
FL Toggle SW	ON : Push button is ON in the driver door handle.
FR Toggle SW	ON : Push button is ON in the assist door handle.
Tailgate open SW	ON : Tailgate button is ON.
Gear P Position	ON : Shift lever is P position.
IGN 1	ON : IGN switch is IG position.
ACC	ON : IGN switch is ACC position.
Brake SW	ON : Brake switch is ON.

Fault Code Searching

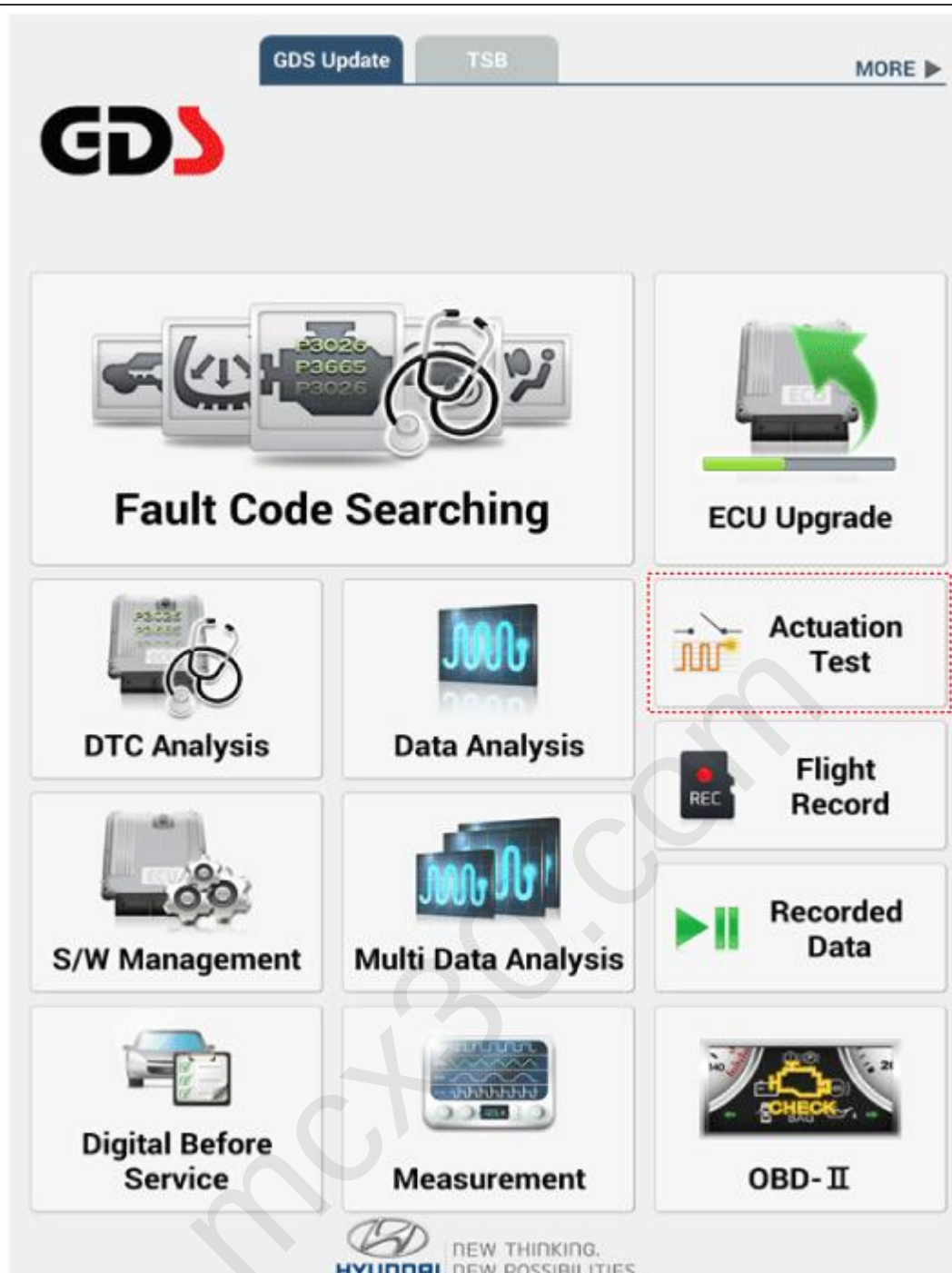
1. Fault code searching that the each linked components operates normal.
2. Connect the cable of Diagnostic tool to the data link connector in driver side crash pad lower panel.

3. Select the 'Fault Code Searching' and 'Car model'.



Antenna Actuation Diagnosis

1. Connect the cable of Diagnostic tool to the data link connector in driver side crash pad lower panel.
2. Select the 'Actuation Test' and 'Car model'.



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

Actuation Test

Test Item(14)

IGN1 Relay

IGN2 Relay

Starter Relay

External Buzzer

Interior Antenna 1

Interior Antenna 2

Interior Antenna 3

Bumper Antenna Active

Activate Driver Side Antenna

Activate Assist Side Antenna

Search

Data Analysis

Stop

Graph

Selective Display

Group

Sensor Name(48)	Value	Unit
Start Stop Button Switch1	OFF	-
Start Stop Button Switch2	OFF	-
ACC	ON	-
IGN1	ON	-
IGN2	ON	-
Start Relay Feed Back Signal	OFF	-
Gearshift P Position(AT)/Clutch(MT)	ON	-
Brake Switch	OFF	-

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

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

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

7. Antenna actuation

â Interior Antenna 1

â Interior Antenna 2

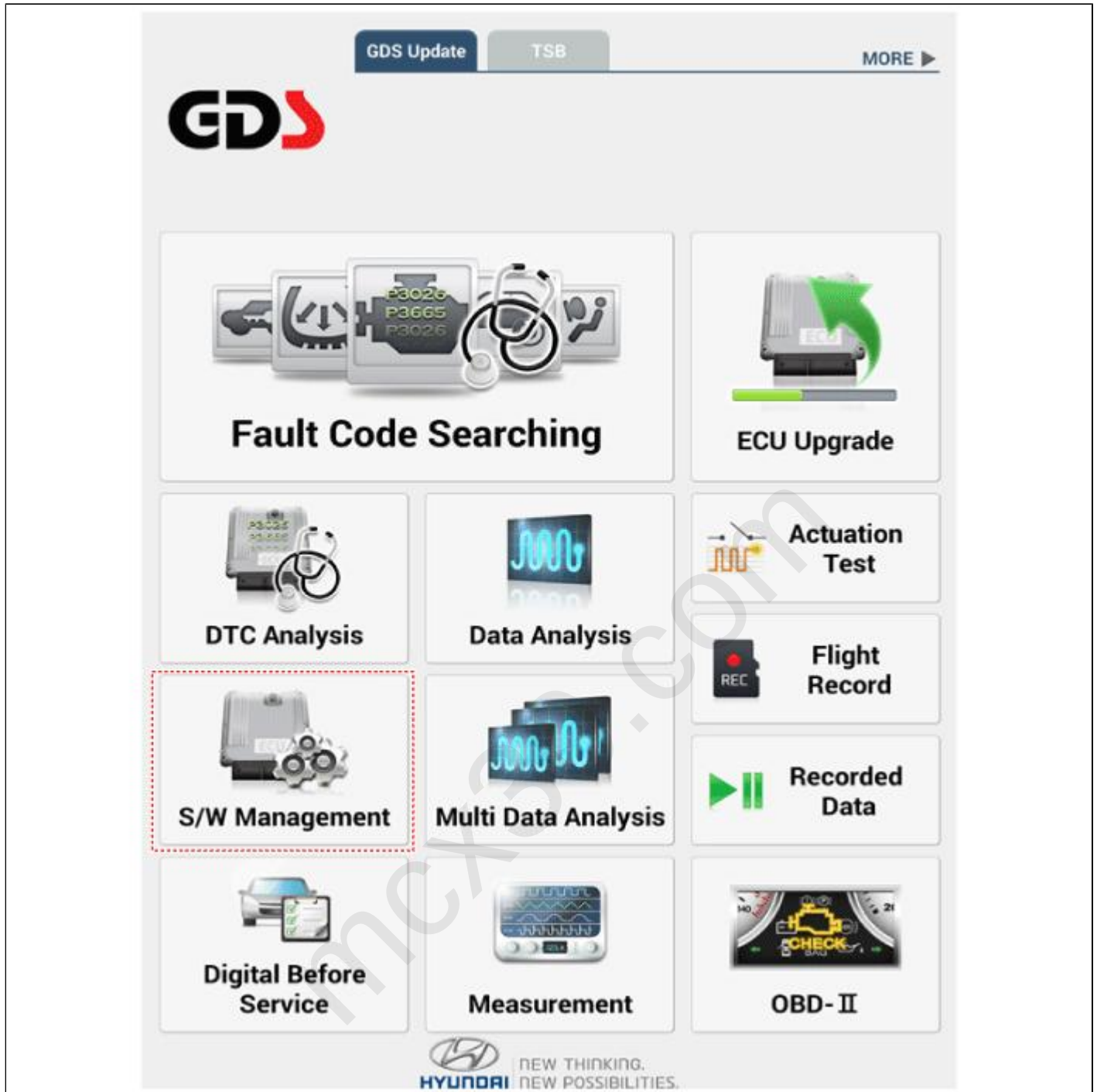
â Bumper Antenna

â Driver Door Antenna

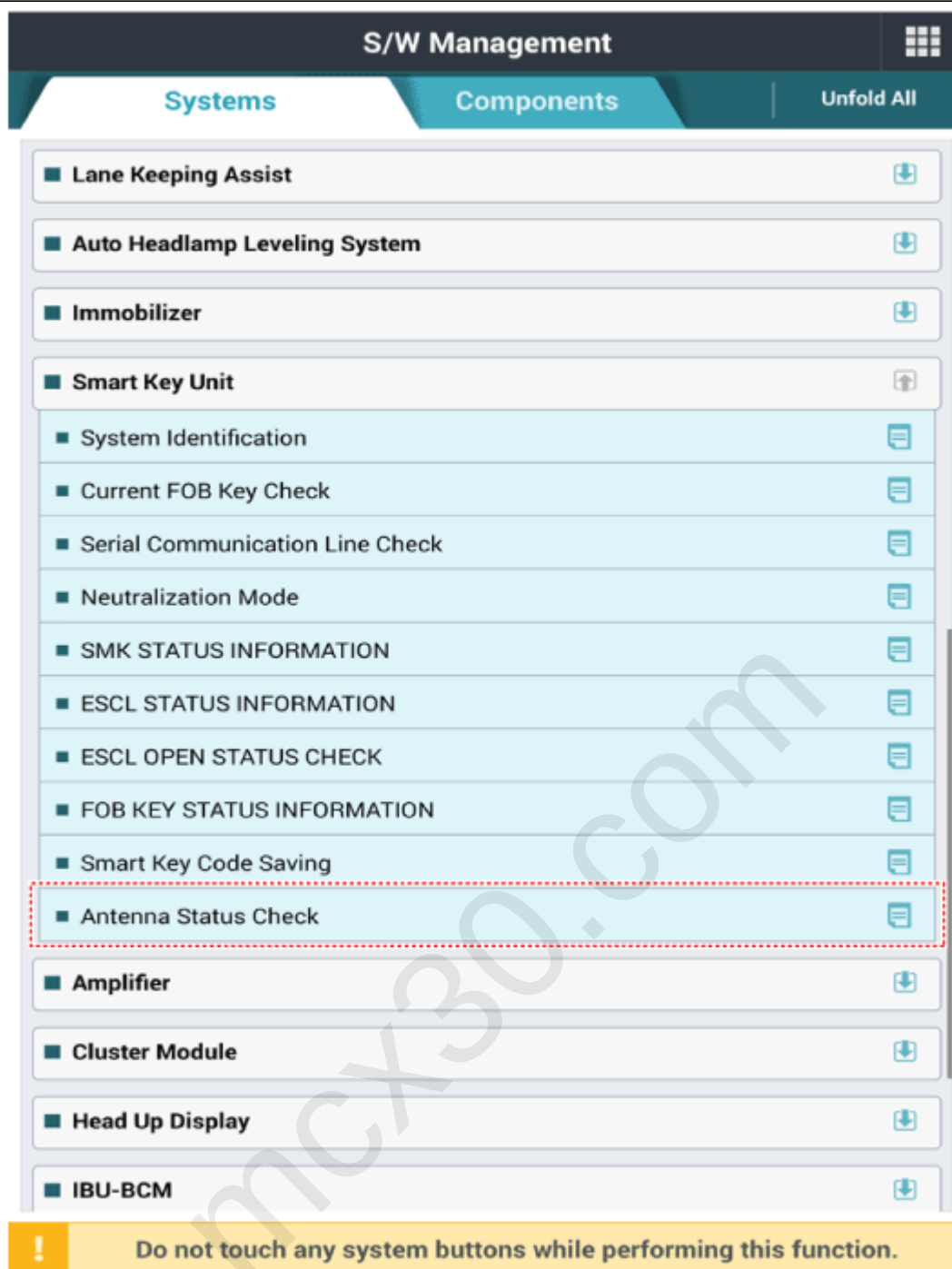
â Assist Door Antenna

Antenna Status Check

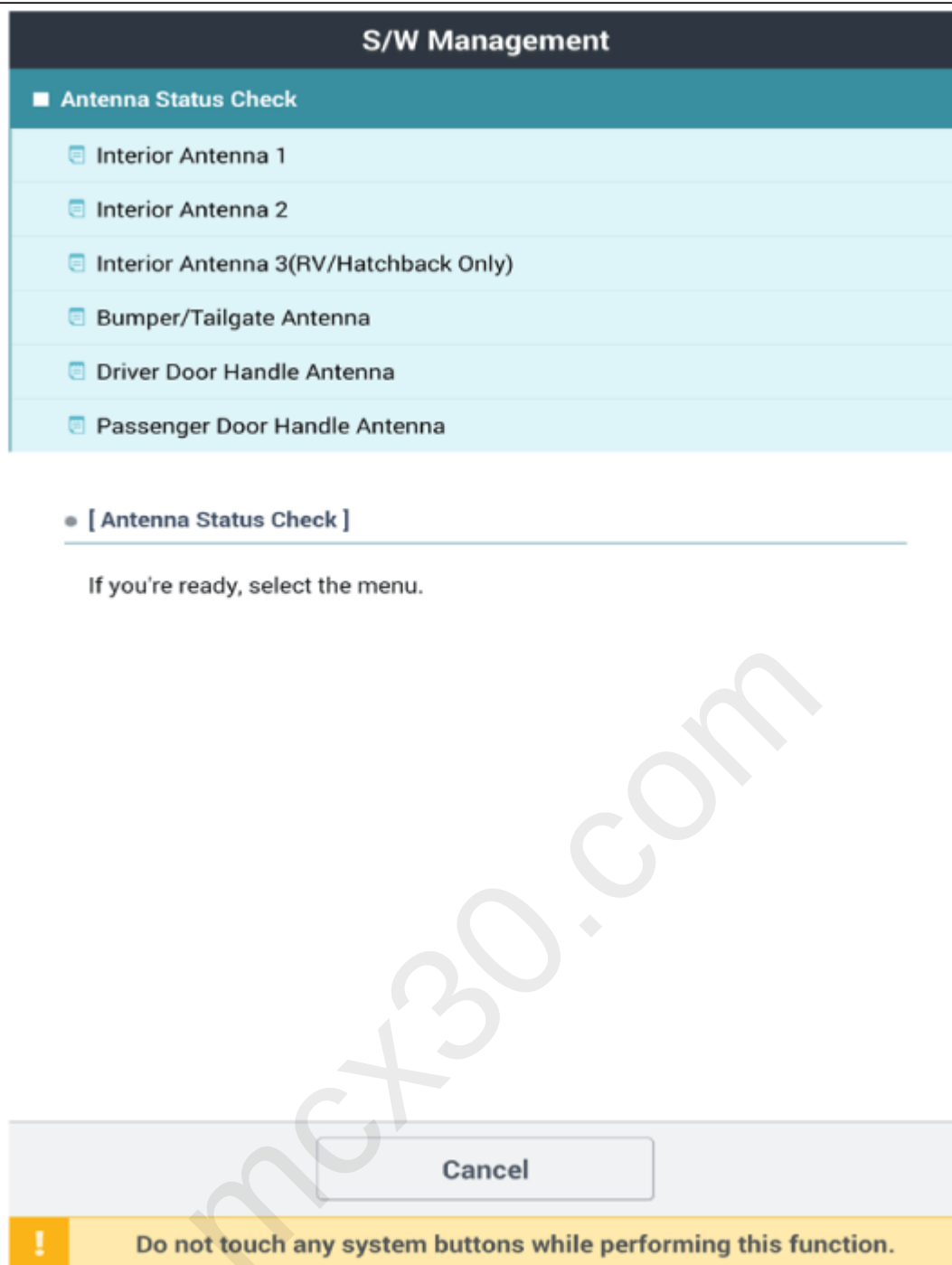
1. Connect the cable of Diagnostic tool to the data link connector in driver side crash pad lower panel.
2. Select the 'S/W Management' and 'Car model'.



3. Select the 'Smart Key Unit' and 'Antenna Status Check'.



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



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

6. Antenna status

â Interior Antenna 1

â Interior Antenna 2

â Bumper Antenna

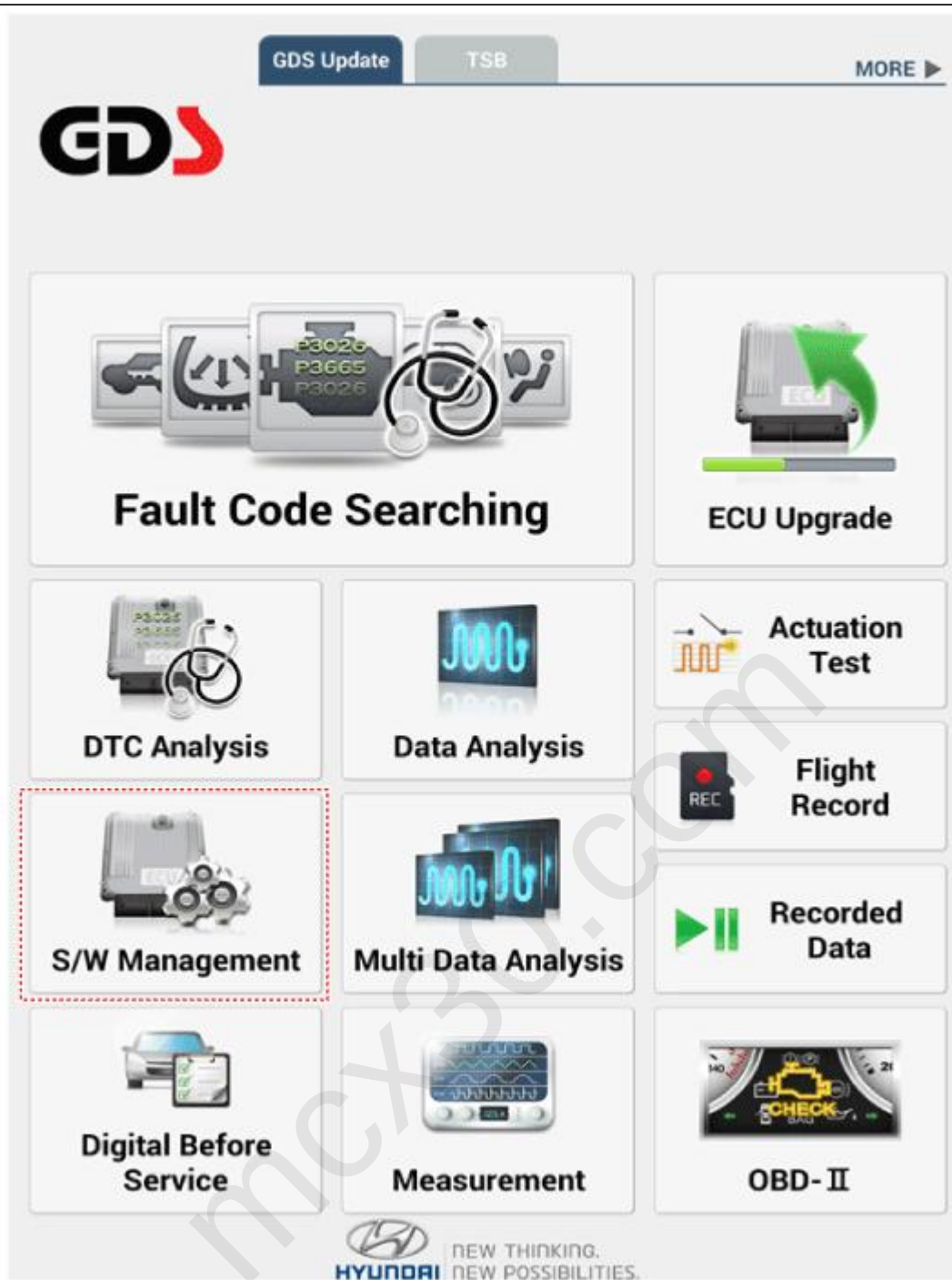
â Driver Door Antenna

â Assist Door Antenna

FOB Status Check

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

2. Select the 'S/W Management' and 'Car model'.



3. Select the 'Smart Key Unit' and 'FOB KEY STATUS INFORMATION'.

S/W Management

Systems

Components

Unfold All

■ Lane Keeping Assist	
■ Auto Headlamp Leveling System	
■ Immobilizer	
■ Smart Key Unit	
■ System Identification	
■ Current FOB Key Check	
■ Serial Communication Line Check	
■ Neutralization Mode	
■ SMK STATUS INFORMATION	
■ ESCL STATUS INFORMATION	
■ ESCL OPEN STATUS CHECK	
■ FOB KEY STATUS INFORMATION	
■ Smart Key Code Saving	
■ Antenna Status Check	
■ Amplifier	
■ Cluster Module	
■ Head Up Display	
■ IBU-BCM	

Do not touch any system buttons while performing this function.

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S/W Management

■ FOB KEY STATUS INFORMATION

● [FOB Key Status Information]

Key Status : NORMAL

Button Status : -

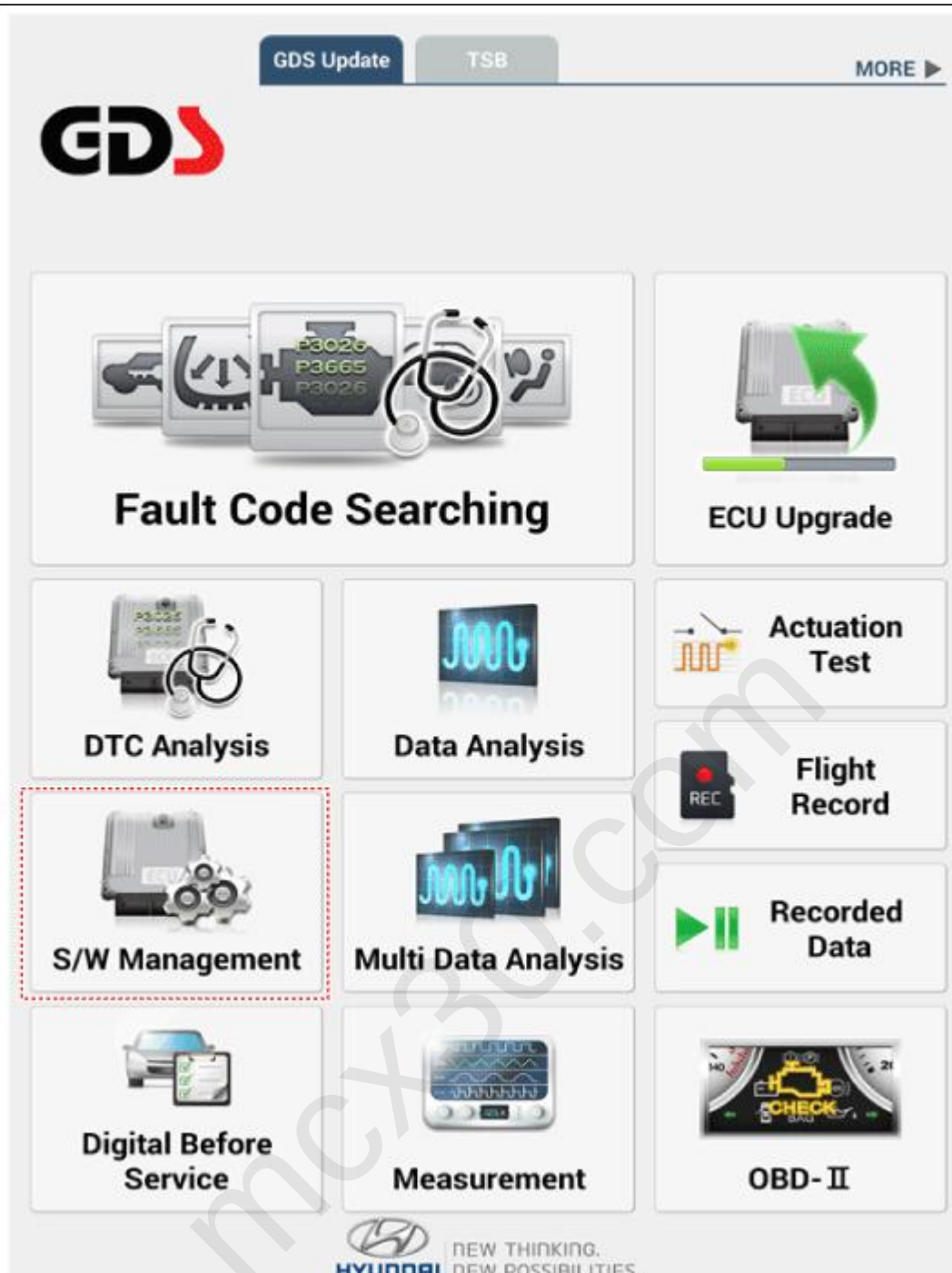
OK



Do not touch any system buttons while performing this function.

Smart Key Status Check

1. Connect the cable of Diagnostic tool to the data link connector in driver side crash pad lower panel.
2. Select the 'S/W Management' and 'Car model'.



3. Select the 'Smart Key Unit' and 'SMK STATUS INFORMATION'.

S/W Management

Systems

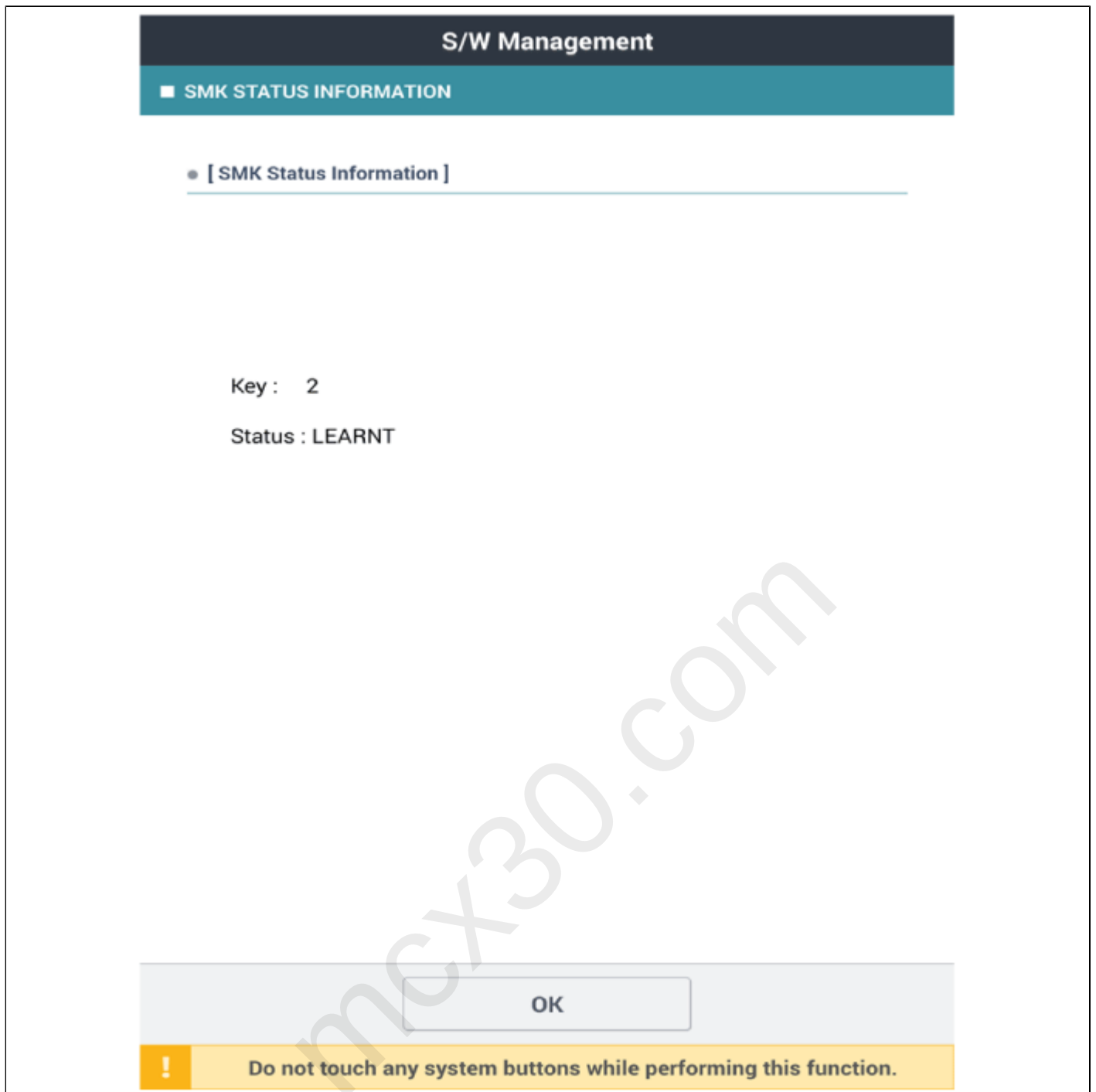
Components

Unfold All

■ Lane Keeping Assist	
■ Auto Headlamp Leveling System	
■ Immobilizer	
■ Smart Key Unit	
■ System Identification	
■ Current FOB Key Check	
■ Serial Communication Line Check	
■ Neutralization Mode	
■ SMK STATUS INFORMATION	
■ ESCL STATUS INFORMATION	
■ ESCL OPEN STATUS CHECK	
■ FOB KEY STATUS INFORMATION	
■ Smart Key Code Saving	
■ Antenna Status Check	
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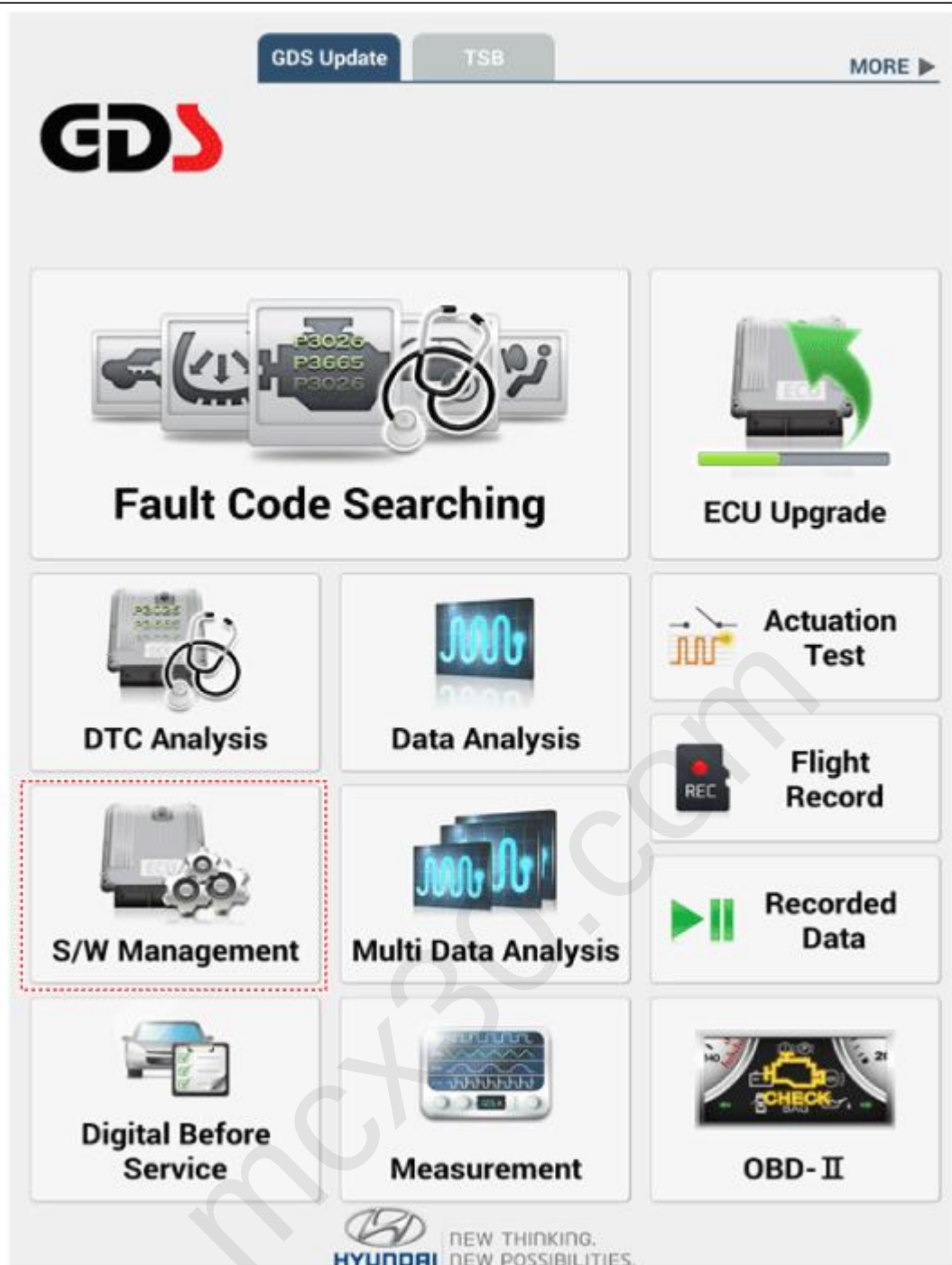
Do not touch any system buttons while performing this function.

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Neutralization Status Check

1. Connect the cable of Diagnostic tool to the data link connector in driver side crash pad lower panel.
2. Select the 'S/W Management' and 'Car model'.



3. Select the 'Smart Key Unit' and 'Neutralization Mode'.

S/W Management

Systems

Components

Unfold All

■ Lane Keeping Assist	
■ Auto Headlamp Leveling System	
■ Immobilizer	
■ Smart Key Unit	
■ System Identification	
■ Current FOB Key Check	
■ Serial Communication Line Check	
■ Neutralization Mode	
■ SMK STATUS INFORMATION	
■ ESCL STATUS INFORMATION	
■ ESCL OPEN STATUS CHECK	
■ FOB KEY STATUS INFORMATION	
■ Smart Key Code Saving	
■ Antenna Status Check	
■ Amplifier	
■ Cluster Module	
■ Head Up Display	
■ IBU-BCM	

Do not touch any system buttons while performing this function.

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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.

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1

2

3

4

5

Excellent Value