

## **Functional description**

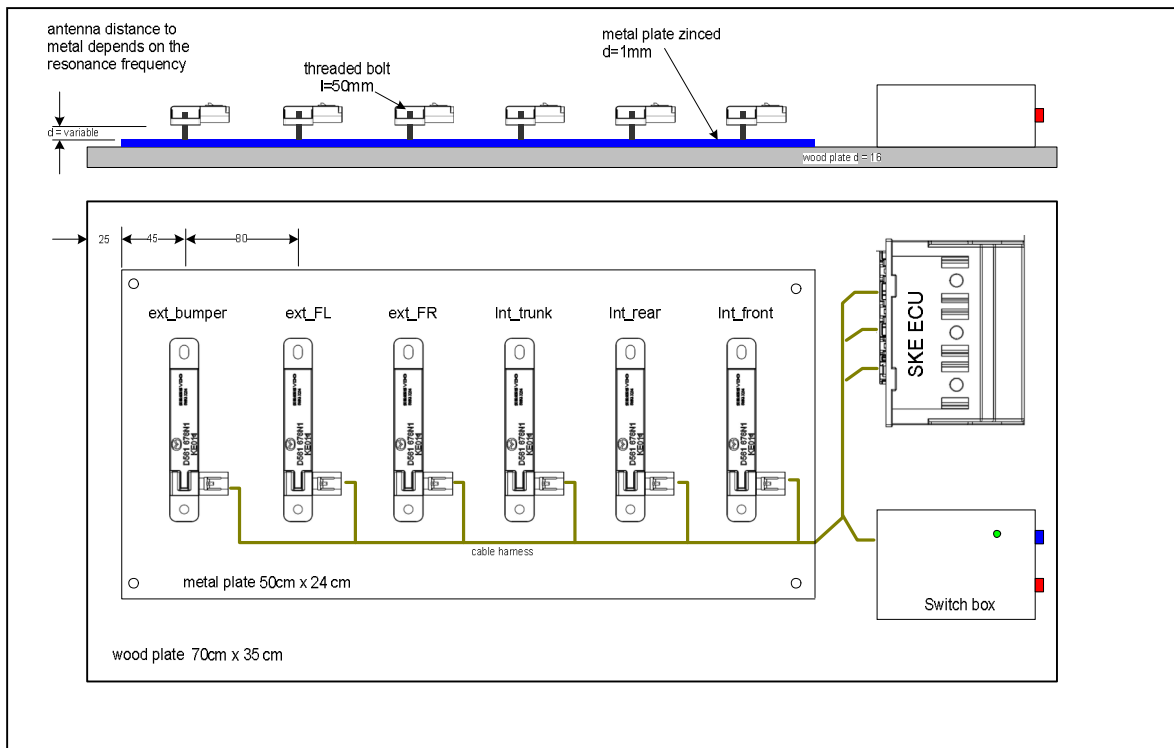
## **Functional Description**

## **Homologation Board**

**SKE ECU**

**5WK49385**

## 1.1. BLOCKDIAGRAM HOMOLOGATION BOARD



## 1.2. FUNCTIONAL DESCRIPTION OF HOMOLOGATION BOARD

The homologation board is performed to activate different functions of the SKE Module

via Software. You must only connect the plus and the minus plug to a battery (normal operating voltage is  $V_{bat} = 13,5 \text{ V} \pm 0.2 \text{ V}$ ) or a power supply and the ECU starts sending the LF telegrams in the following order:

Int. group => int. front > int. rear > Int. trunk > Int. front ...

Ext. group => ext.FL > ext. FR > ext. bumper > ext.FL ...

Every group has a time slot of 150ms. After this time, the Software changes automatically the sending group.

In case of malfunction, disconnect the power supply, wait 3 seconds and connect it again.

The test will be done with SKE for J61A (v01)

## 2. FUNCTIONAL DESCRIPTION OF THE MEASUREMENT SYSTEM

The test setup comprises the following components:

- SKE Control unit
- 6 inductive ferrite antennas
- Board for radio homologation measurements (including Wiring harness)
- Key (normal Mode) to verify the function (if attached/required)
- Test box

### 2.1. FUNCTIONAL DESCRIPTION OF THE MEASUREMENT SYSTEM

The entire setup is supplied with power via the two banana jacks on the test box:

Banana jack, red : +12V DC

Banana jack, black : GND (ground)

The current input (in case of operation) is

**min 0,3A/ max 0,8A av. ( min 1,5App/max 8App)**

**"Main" switch:**

"Main" switch on: control unit is powered and the green LED is lighting

"Main" switch off: control module is unpowered

**Switches "Ext" and "Int"**

"Ext" on, "Int" off: selects functional test and test of emission of external antenna

"Ext" off, "Int" on: selects test of emission of internal antenna

"Ext" off, "Int" off: no mode selected

"Ext" on, "Int" on: no operation is possible when both switches are turned on

### 2.2. FUNCTIONAL TEST

1. Select "main" switch on

2. green LED is lighting
3. Turn the switch "ext" on ( make sure switch "int" is off )
4. Place the Id-key (normal Mode) within the marked square on the board. It will receive the inductive telegram and answer via RF.
5. If an RF telegram from the ID- key is received by the control module, the red LED is flashing for 200ms.
6. As soon as the ID-Key is brought out of range (use 5m) the red LED will stop flashing.

### **2.3. TEST OF EMISSION OF THE EXTERIOR ANTENNA**

1. Select "main" switch on
2. Green LED is lighting
3. Turn the switch "ext" on ( make sure switch "int" is off )
4. The control module sends typical every 600ms an inductive telegram via the exterior antenna
5. Measure the emission
6. After the test switch the switch "ext" and the main switch off.

### **2.4. TEST OF EMISSION OF THE INTERIOR ANTENNAS**

1. Select "main" switch on
2. Green LED is lighting
3. Switch the switch "int" on (make sure switch "ext" is off )
4. The control module sends every 600ms an inductive telegram via the interior antenna
5. Measure the emission
6. After the test switch the switch "int" and the "main" switch off.