



BCP01 RTA

User Manual

HW version:113.000.001

SW version:130.040.045

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BCP21 RTA

Intended Use

- Body Domain Controller device for controlling several vehicle functions

Specifications

- Voltage: 13,5 V
- Current: 1,3 A
- Frequency: 125kHz
- Software Version: 130.040.045
- Hardware Version: 113.000.001

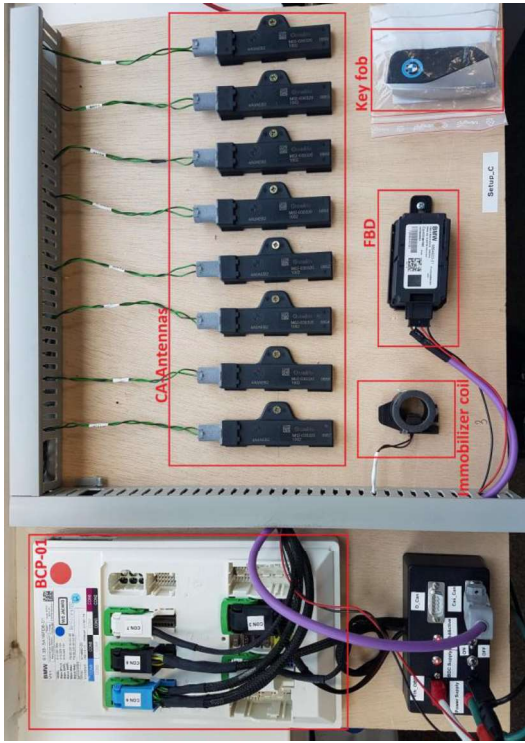
- This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) this device must accept any interference received, including interference that may cause undesired operation



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Index/Process Checklist



Process Steps	Page	Verification
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SW tools and Setup Preparation

Before start, we need to assure that we have installed the following SW programs on the computer:

-Diagnoser



-Ediabas and the .prg file related to **BCP21** project(BCP_SP21.prg)



The script needed for automatic cyclical requests:

- RTA_transp+Ant_testing.SKR diagnoser Script



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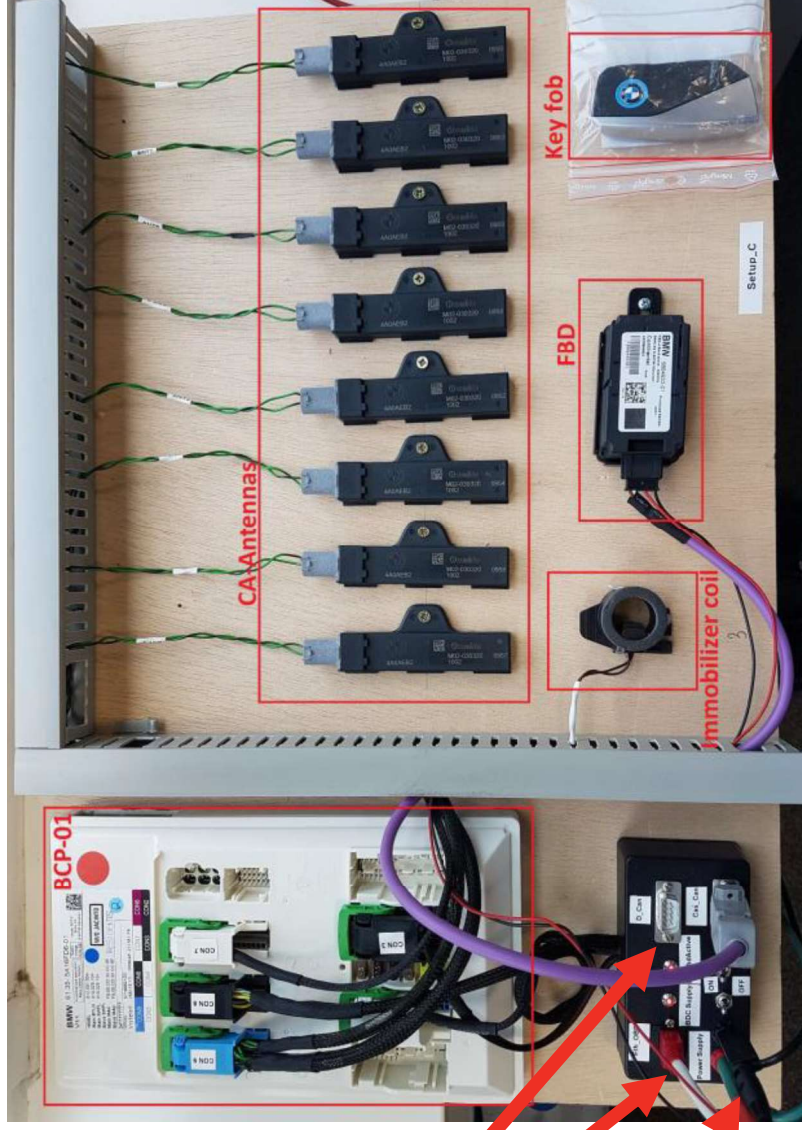
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Setup and connectors

Ethernet Port and D_CAN:
Establish communication with
SW tools Diagnoster and Ediabas

Supply Line: 13,5 Vdc and Gnd

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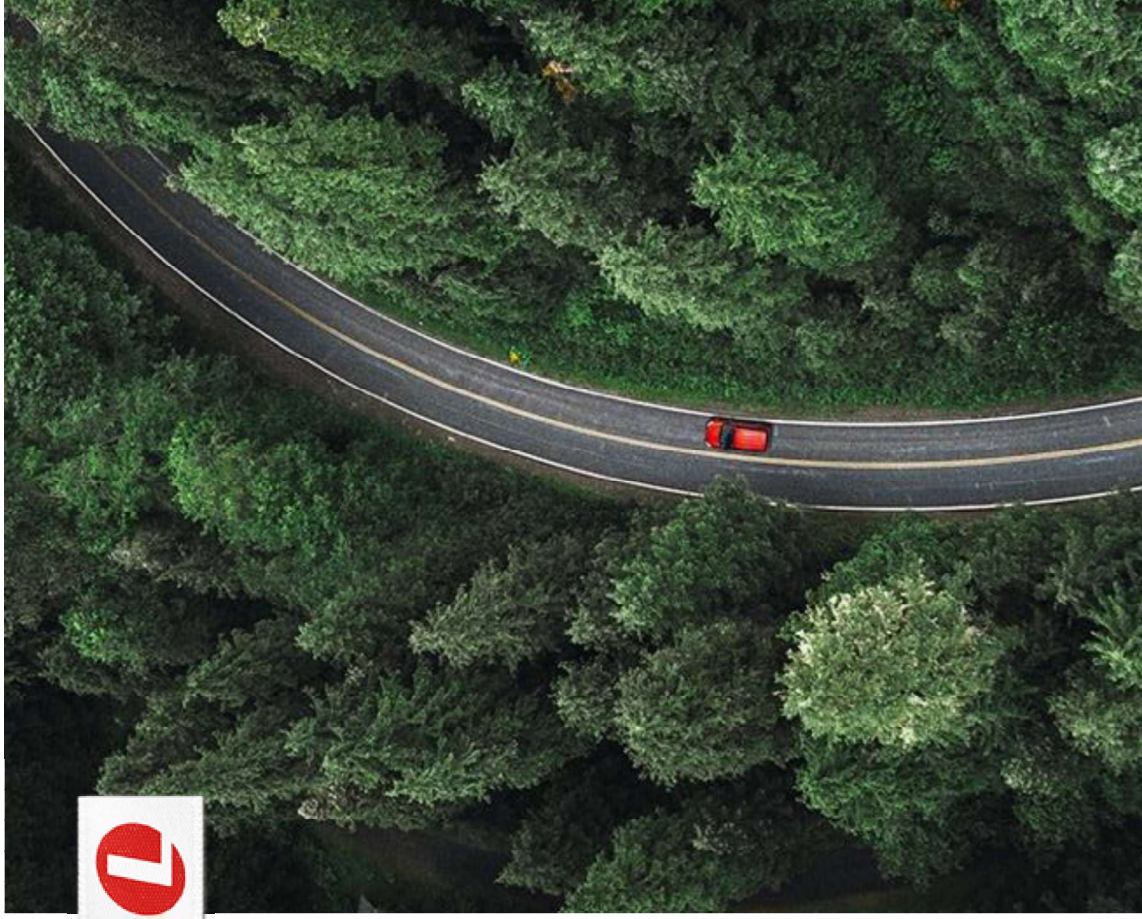
Setup and connectors

Once the part is powered up and ETH_ACT is activated, both LED indicators must be turned on in order to indicate the correct status of the part.



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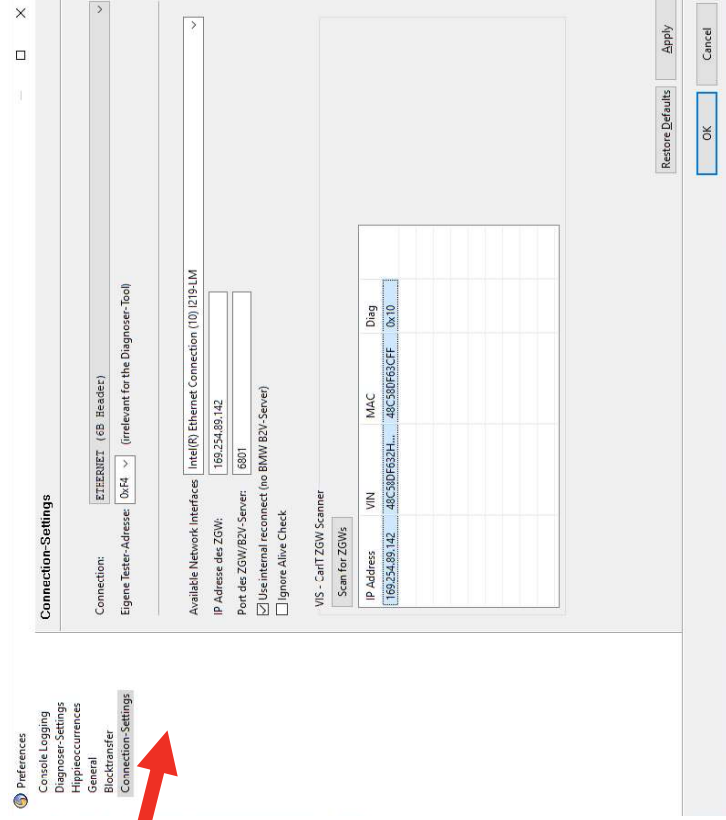
Be Inclusive
Be Inventive
Get Results the Right Way



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Diagnoser Connection

Connect the part and assure that the 2 LED indicators are ON. Open Diagnoser tool and click on Configuration:

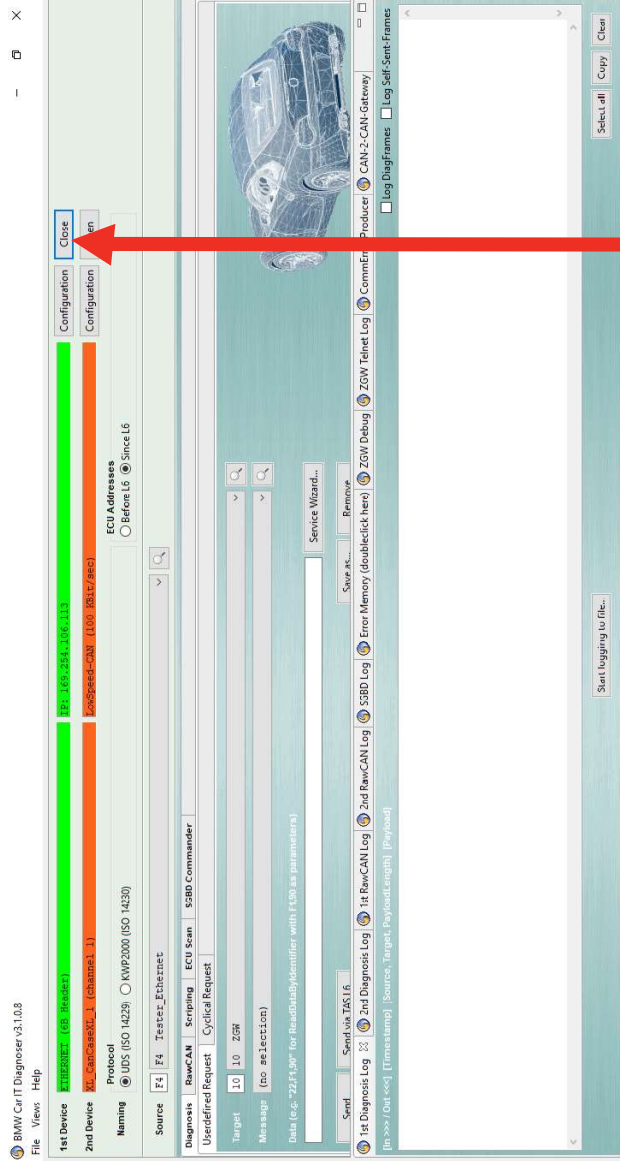
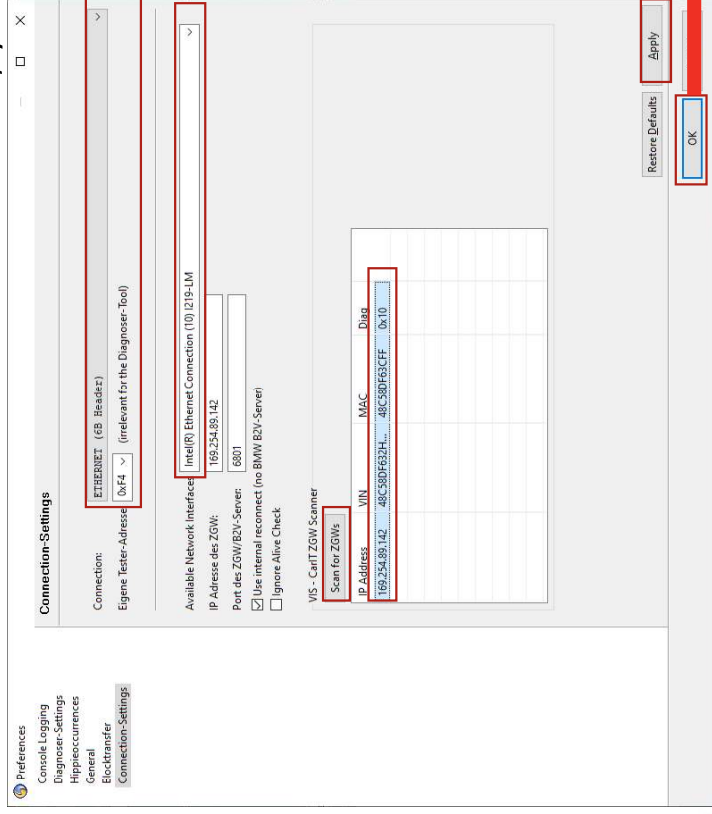


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Diagnoser Connection

Click on Scan for ZGWs and you will find the part's IP, click on it, then "Apply" and finally "OK". After that, click on "OPEN". If the connection is well established, you will see the green window as shown in the below image:



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Diagnoser Script Selection

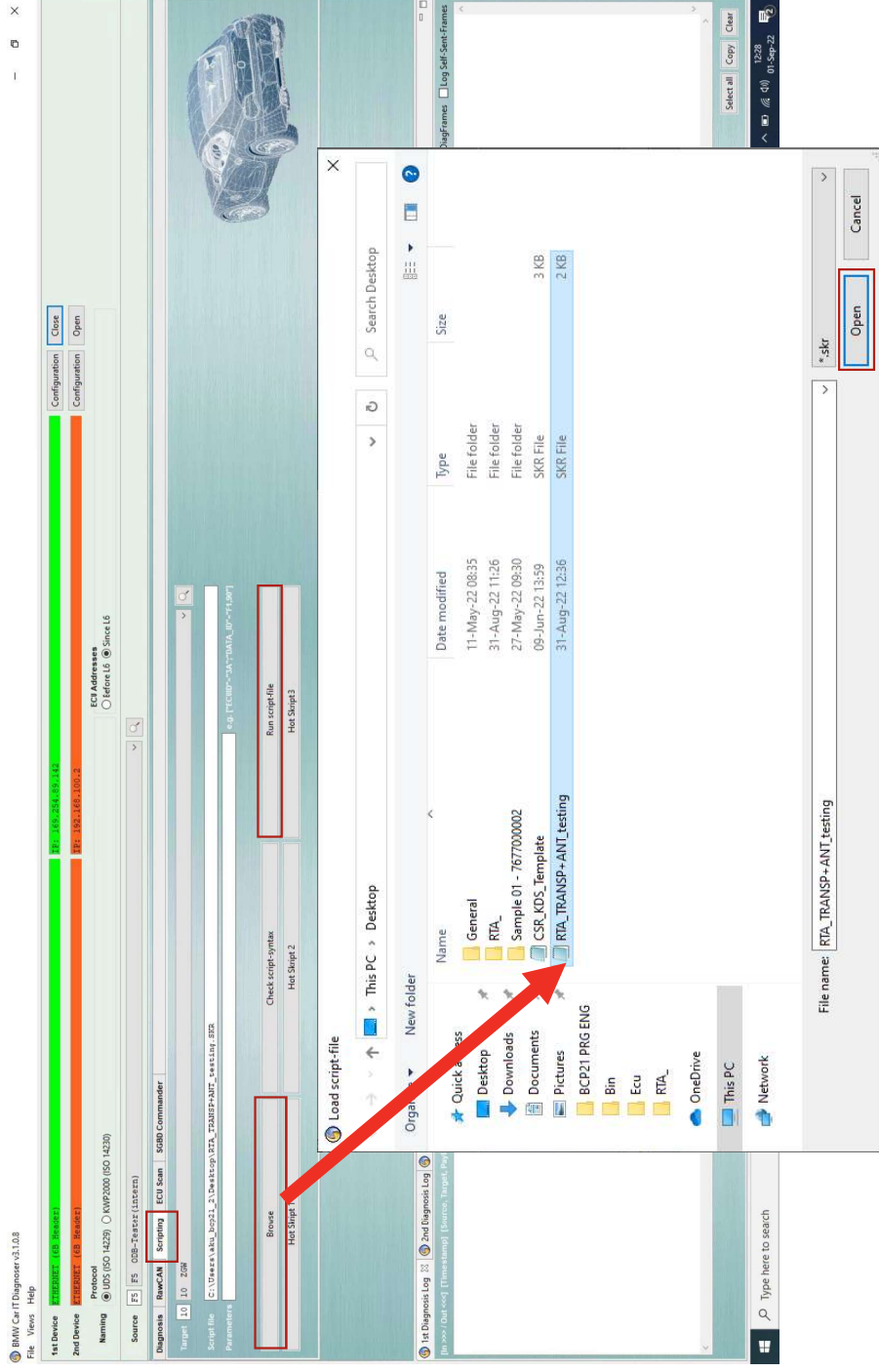
Go to Scripting widows;

Click on "Browse" to select the script;

Select "RTA_transp+Ant_testing.SKR "



Click on "Run script-file" to execute it.



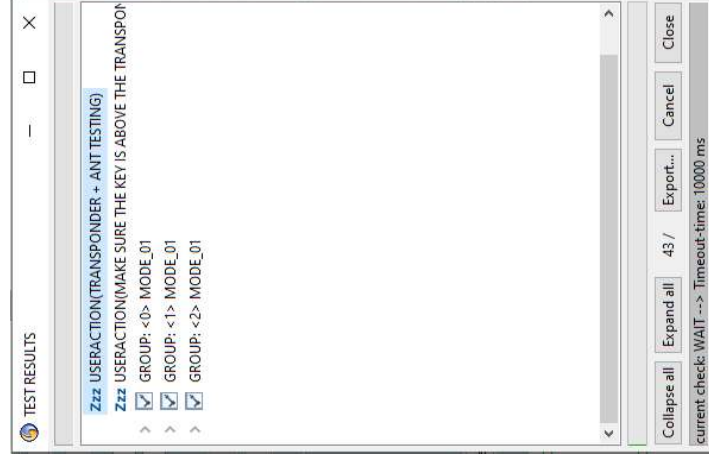
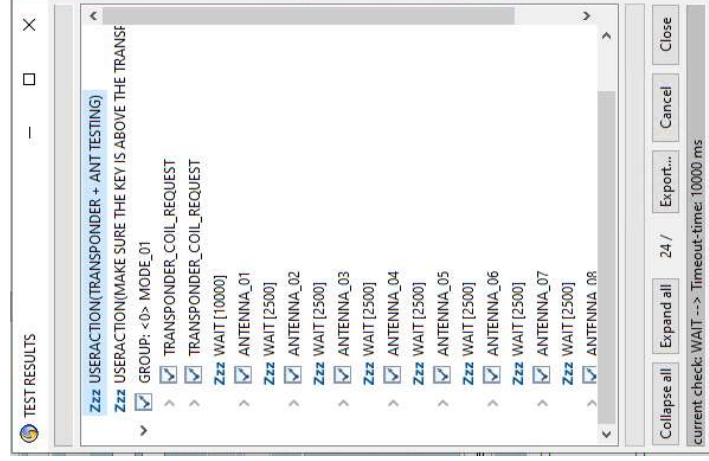
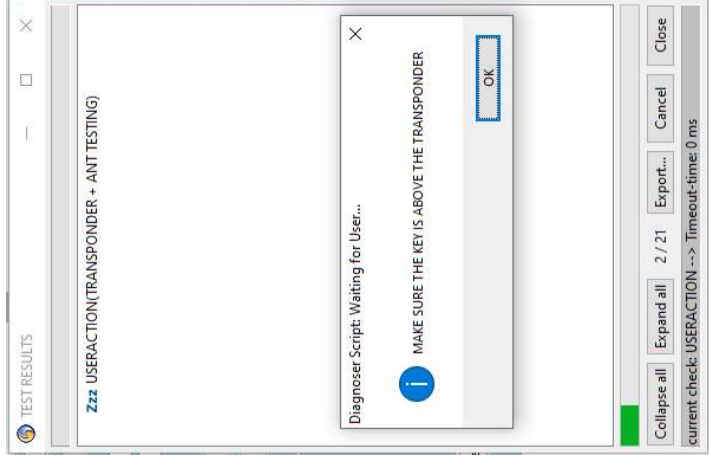
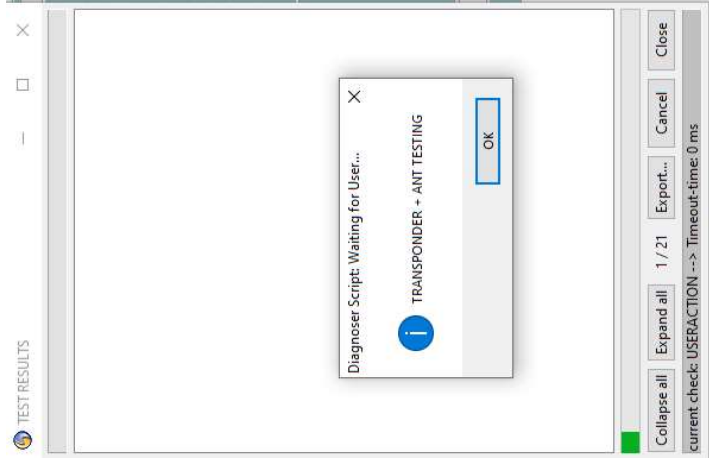
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Diagnoser Script Execution

Click OK on both prompts, then the cyclical testing will start. Each group is a complete set of testing.

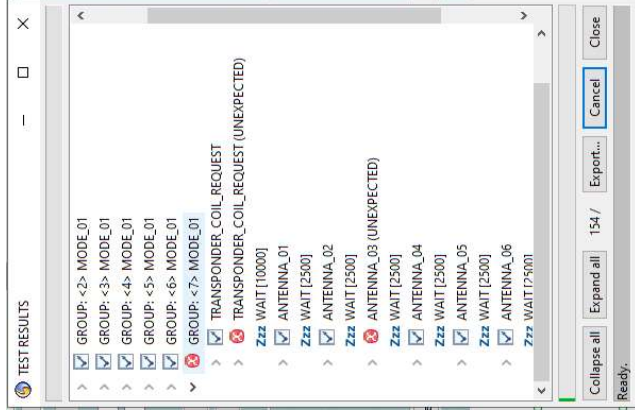


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Diagnoser Script Execution

If an error is found, the GROUP will be marked with the red marking and will specify which load is presenting an issue. For the bellow example, we simulated an open load at the transponder coil and antenna_03. To stop the testing click on "cancel" then "close".



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Diagnoser Script modification (if needed)

```
RTA TRANSP+ANT_testing - Notepad
File Edit Format View Help
USERACTION("Transponder + Ant testing")
USERACTION("Make sure the KEY is above the Transponder")

LOOPSTART [MODE_01] COUNT [1000]
//FIRST READING DONT DETECT THE DTC
DIAG[Transponder_Coil_Request] SEND[22,D2,63] EXPECT[62,D2,63,??,??,??,??,??,??,??,??,??,??,??,??,??,*] TIMEOUT[10000]
//SECOND READING DETECT IF THERE ARE DTC OPEN LOAD OR SHORT-CIRCUIT
DIAG[Transponder_Coil_Request] SEND[22,D2,63] EXPECT[62,D2,63,??,??,??,??,??,??,??,??,??,??,??,??,??,*] TIMEOUT[10000]
WAIT[10000]
DIAG[Antenna_01] SEND[31,01,AC,53,00,01] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
DIAG[Antenna_02] SEND[31,01,AC,53,00,02] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
DIAG[Antenna_03] SEND[31,01,AC,53,00,03] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
DIAG[Antenna_04] SEND[31,01,AC,53,00,04] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
DIAG[Antenna_05] SEND[31,01,AC,53,00,05] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
DIAG[Antenna_06] SEND[31,01,AC,53,00,06] EXPECT[71,01,AC,53,01] TIMEOUT[10000]
WAIT[2500]
DIAG[Antenna_07] SEND[31,01,AC,53,00,07] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
//DIAG NOT CODIFIED_c SEND[31,01,AC,53,00,08] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
//WAIT[2500]
DIAG[Antenna_08] SEND[31,01,AC,53,00,08] EXPECT[71,01,AC,53,01] TIMEOUT [10000]
WAIT[2500]
LOOPEND [MODE_01]
```

Transponder and individual Antenna testing can also be modified according to lab needs.



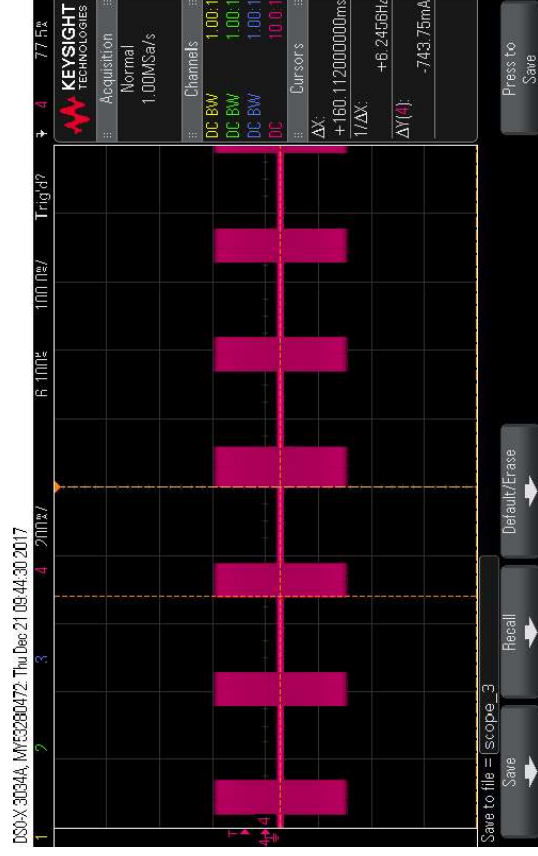
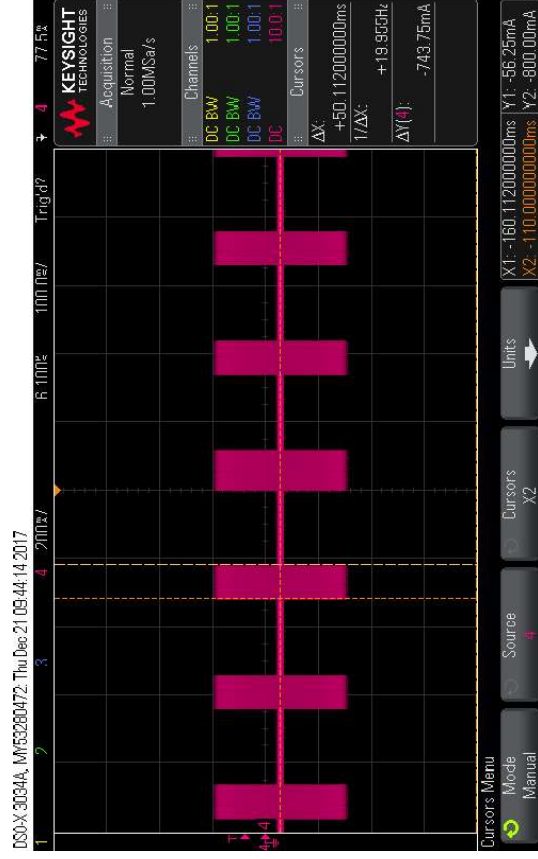
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Transponder Coil Function

When the key has a low battery and the car can't be started via the keyless go function, the key must be placed next to the transponder coil and trigger the communication.

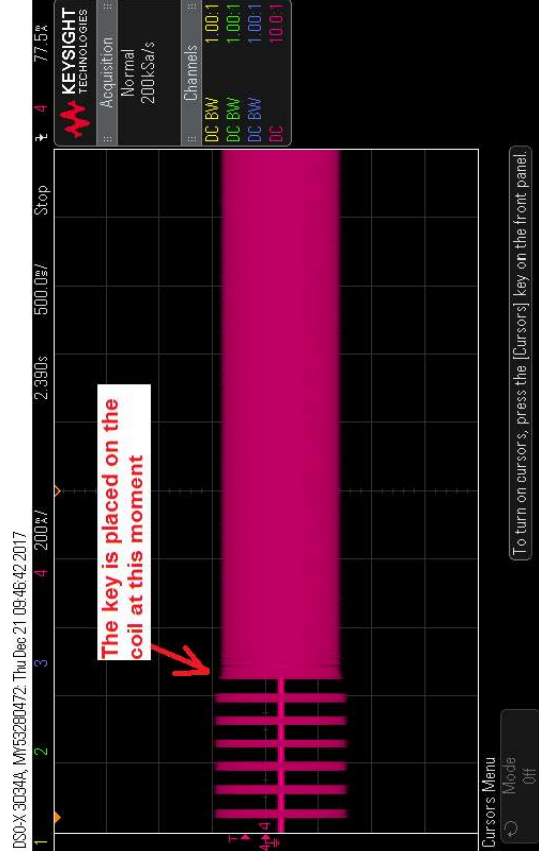
When there is no key placed on the transponder coil and the immobilizer is activated:



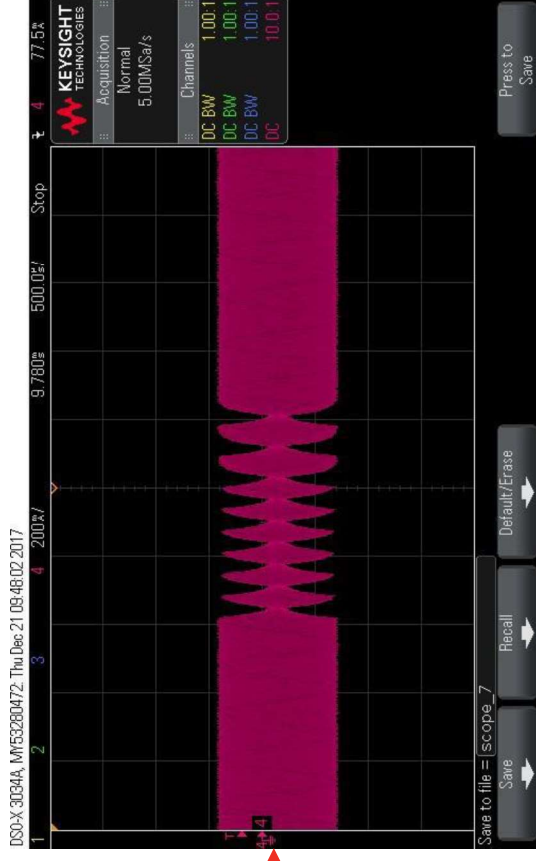
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Transponder Coil Function



Zoomed:



If you see that the signal is changed as it is in the last two pics that means the key is identified and the SW will decide if this key is the right key and if the car can be started.



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