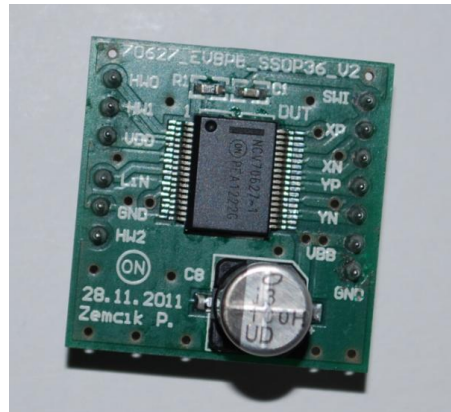


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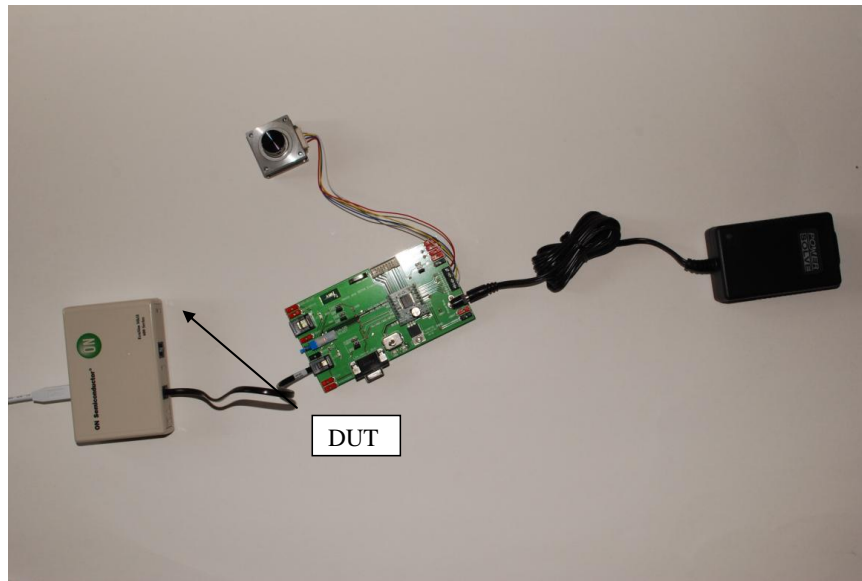


Test Procedure for the NV706271R2DBGEVB Evaluation Board



For the test of this DUT, the ON semiconductor evaluation kit for the AMIS_306xx and ON Semi_30627 has to be used. The procedure assumes that the test engineer is familiar with the use of the evaluation board and the GUI software.

Wire up the Evaluation kit and install the DUT.



At initial start-up place the jumpers at the evaluation board as follows:

- HW0 at GND position
- HW1 at GND position
- HW2 at GND position
- SW1 at GND position

Power up the evaluation board.

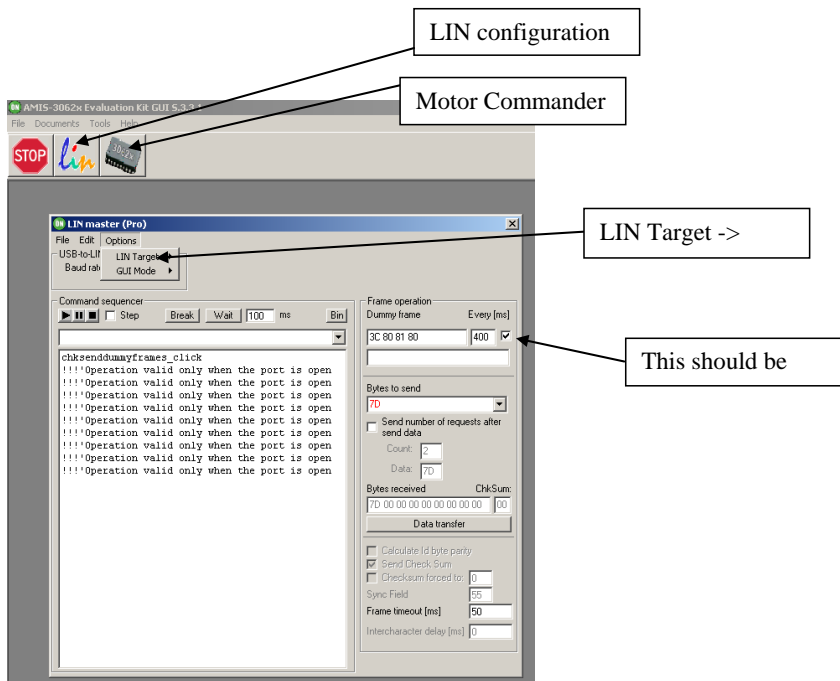
Start the GUI software of the kit.

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Adjust USB operation in the options menu.
Guarantee that dummy LIN frames are regularly send (400ms).

After LIN set-up start the motor commander.



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The screenshot shows the '30627 LIN Motor Commander' software interface. The main window is divided into a command history pane on the left and a command configuration pane on the right. The command history pane shows a sequence of commands and responses:

```
Tc:000000:3C 80 81 80 FF FF FF FF 7D GetFullStatus
Tc:000078:7B DataRequest
Rd:      :7D 80 00 00 00 50 10 74 00
Tc:000109:7B DataRequest
Rd:      :7D 80 00 00 00 00 10 00
```

The right pane is titled '30627 Motor Commands' and contains various configuration options. Annotations with arrows point to specific elements:

- Node address**: Points to the 'Node address' field in the 'LIN addresses' section, which is set to '70627'.
- 70627**: A separate box containing the value '70627', also pointing to the 'Node address' field.
- Get Full Status**: Points to command 81 in the 'Assign Id' list, which is '7D 80 00 00 00 50 10 74 00'.
- SetMotorParam**: Points to command 89 in the 'Assign Id' list, which is '7D 80 00 00 00 00 10 00'.
- Set Position**: Points to command 88 in the 'Assign Id' list, which is '7D 90 00 00 00 48 FF FF FF'.

The 'Assign Id' list shows the following commands:

Id	Command
11	General purp. 2bytes
01	GetStatus
02	GetActualPos
21	SetPosShort 2 motors
81	7D 80 00 00 00 50 10 74 00
82	7D 80 00 00 00 00 10 00
83	
84	ActToSecurePosition
85	HardStop
86	ResetPos
87	RunVelocity
88	7D 90 00 00 00 48 FF FF FF
89	7D 80 00 00 00 00 10 00
8A	
8B	
8C	
8D	
8E	
8F	
90	



Tests:

1) Device accessibility via LIN at LIN address 00:

Perform a GetFullStatus command 2 times by clicking the GetFullStatus button twice.

The DUT should respond with an in frame status respond: 7D 80 00 00 xx xx 10 74 00

2) SWI input check:

Remove jumper SWI and perform again a GetFullStatus command:
Check if the status bit is presenting that the SWI input is changed.

The DUT should respond with an in frame status respond: 7D 80 00 00 xx xx 00 74 00

3) Device accessibility via LIN at LIN address 40:

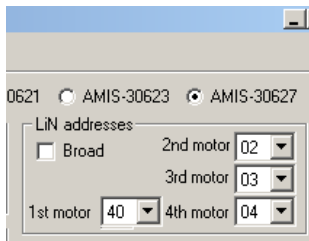
Switch off the Evaluation board and place jumper HW0 to position VDD
Switch on the Evaluation board.

First perform a GetFullStatus command 2 times at LIN address 00 by clicking the GetFullStatus button twice.

The DUT should **not** respond. The GetFullStatus is presented as: 7D 00 00 00 00 00 00 00 00

Change the LIN address in the GUI to 40:

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Again perform a GetFullStatus command.

Now, the DUT should respond with its status: 7D C0 00 00 00 00 00 74 00

4) Device accessibility via LIN at LIN address 20:

Switch off the Evaluation board and place jumper HW0 back to position GND and place jumper HW1 to VDD
Switch on the Evaluation board.

Repeat the command as mentioned in the previous test with the LIN address set to 20.
Check again the DUT status response: 7D C0 00 00 00 00 00 74 00

5) Device accessibility via LIN at LIN address 10:

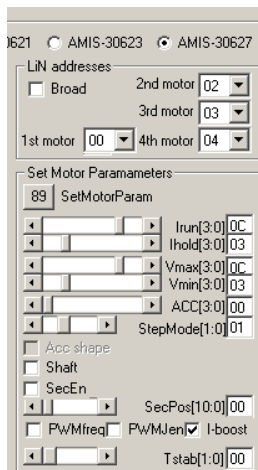
Switch off the Evaluation board and place jumper HW1 back to position GND and place jumper HW2 to VBAT
Switch on the Evaluation board.

Repeat the command as mentioned in the previous test with the LIN address set to 10.
Check again the DUT status response: 7D C0 00 00 00 00 00 74 00



6) Motor Operation in Forward and Backward directions:

Set the motor parameters as presented in following picture:



Give a position with the position slider and click the Set Position Command button. The motor should perform a positioning to the given position.

Slide back the position slider and click the Set Position Command button again. The motor should now perform a motion in opposite direction.

The test is positively finished when above responses and reactions are given. Switch off the Evaluation kit and remove the DUT.

When removing the DUT, prevent for bending the connector pins!

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DUT: Date: Operator:

Test:	Description:	Passed:
1	Device accessibility via LIN at LIN address 00	
2	SWI input check	
3	Device accessibility via LIN at LIN address 40	
4	Device accessibility via LIN at LIN address 40	
5	Device accessibility via LIN at LIN address 40	
6	Motor Operation in Forward and Backward directions	