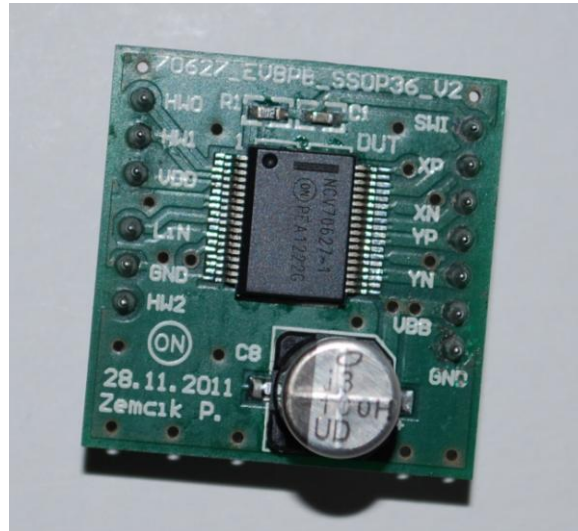


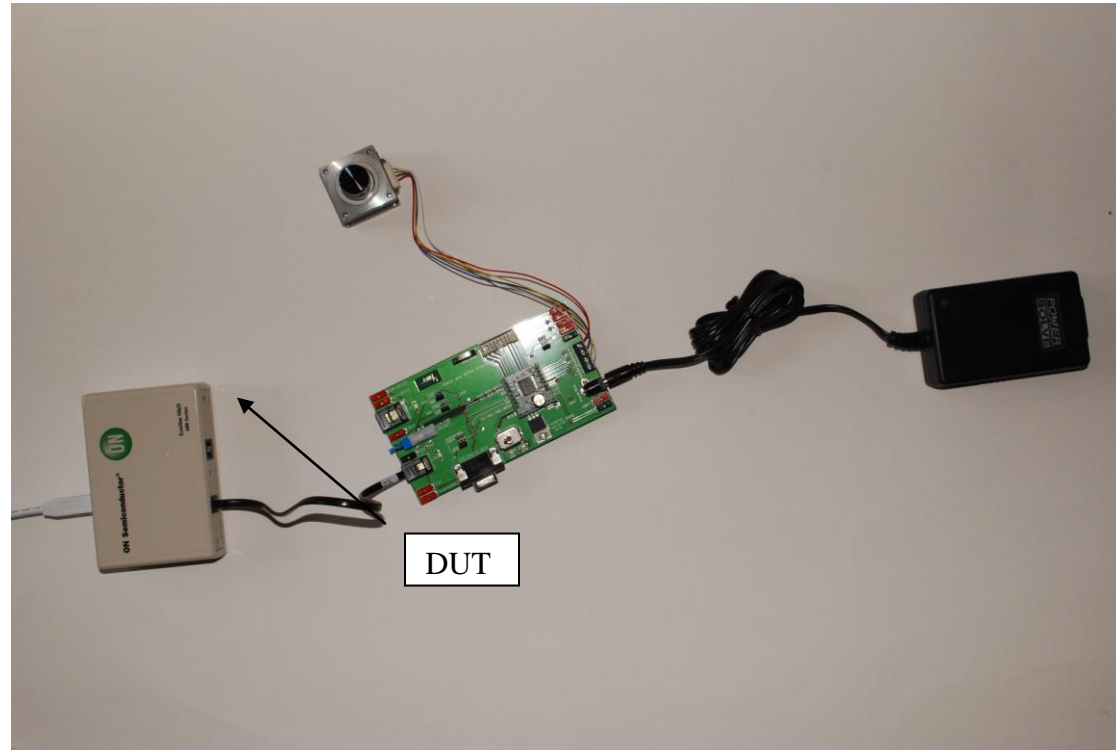


## Test Procedure for the NV706271R2DBGEVB Evaluation Board



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
- SWI at GND position

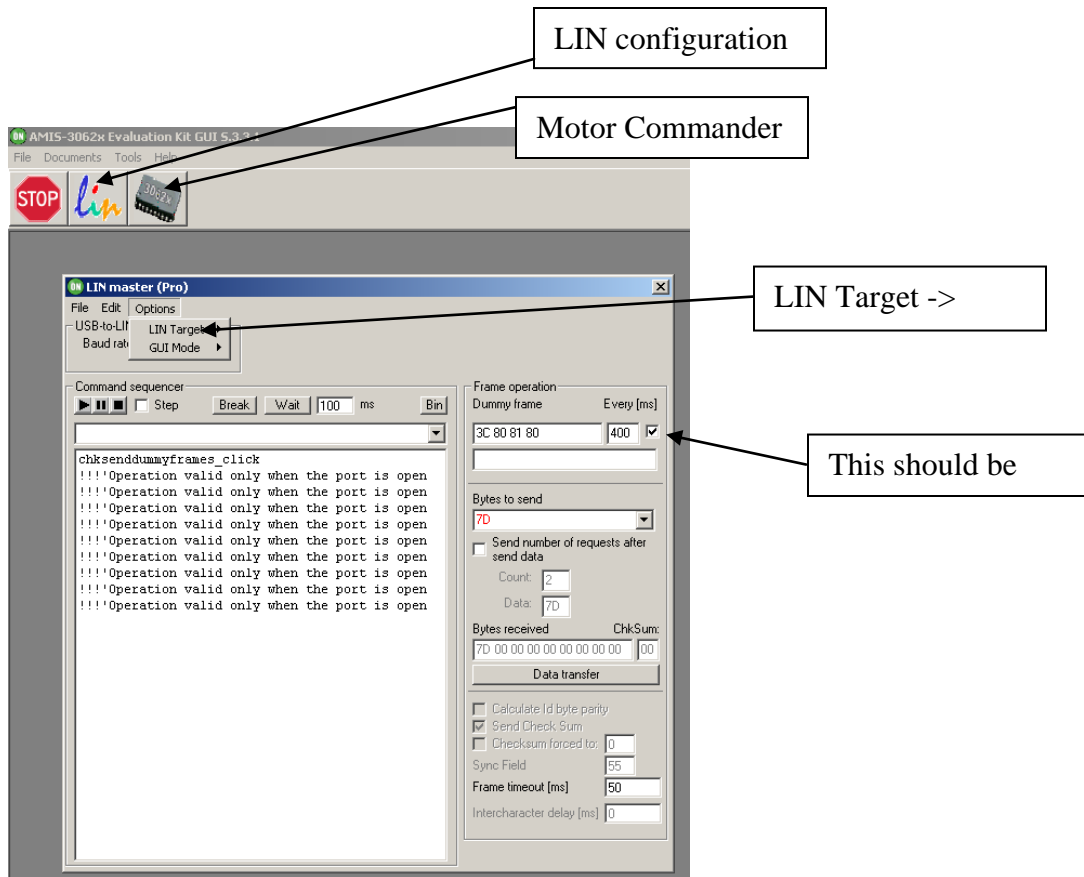
Power up the evaluation board.

Start the GUI software of the kit.



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

After LIN set-up start the motor commander.





The screenshot shows the '30627 LIN Motor Commander' application. On the left, the 'Command History' window displays the following data:

```
Tk:000000:3C 80 81 80 FF FF FF FF 7D'GetFullStatus
Tk:000078:7D'DataRequest
R-> :7D 80 00 00 00 50 10 74 00
Tk:000109:7D'DataRequest
R-> :7D 80 00 00 00 00 10 00
```

On the right, the '30627 Motor Commands' panel is active. Annotations with arrows point to specific elements:

- 'Node address' points to the 'AMIS-30627' radio button.
- '70627' points to the 'LIN addresses' dropdown menu.
- 'Get Full Status' points to the 'Get Status' command (ID 81) in the 'Assign Id' list, which shows a red hex value of 7D 80 00 00 00 50 10 74 00.
- 'SetMotorParam' points to the 'Set Motor Parameters' section, specifically the 'SetMotorParam' command (ID 89).
- 'Set Position' points to the 'Set Position' section, specifically the 'Set Position' command (ID 88) with a value of 5000.



## 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

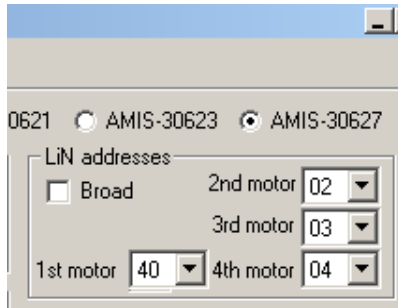
### 3) Device accessibility via LIN at LIN address 40:

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 GetFullSatus is presented as: 7D 00 00 00 00 00 00 00 00

Change the LIN address in the GUI to 40:



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:

0621  AMIS-30623  AMIS-30627

LiN addresses

Broad

2nd motor 02

3rd motor 03

1st motor 00 4th motor 04

Set Motor Parameters

89 SetMotorParam

Irun[3:0] 0C

Ihold[3:0] 03

Vmax[3:0] 0C

Vmin[3:0] 03

ACC[3:0] 00

StepMode[1:0] 01

Acc shape

Shaft

SecEn

SecPos[10:0] 00

PWMfreq  PWMJen  I-boost

Tstab[1:0] 00

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!**



**DUT:** ..... **Date:** ..... **Operator:** .....

<b>Test:</b>	<b>Description:</b>	<b>Passed:</b>
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	