

# AN11134

## PTN3460 DPCD utility user's guide

Rev. 1 — 15 December 2011

Application note

### Document information

Info	Content
<b>Keywords</b>	DisplayPort, PTN3460, DP to LVDS Bridge
<b>Abstract</b>	This document describes the DPCD utility operations.



**Revision history**

<b>Rev</b>	<b>Date</b>	<b>Description</b>
v.1	20111215	application note; initial version

**Contact information**

For more information, please visit: <http://www.nxp.com>

For sales office addresses, please send an email to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

## 1. Introduction

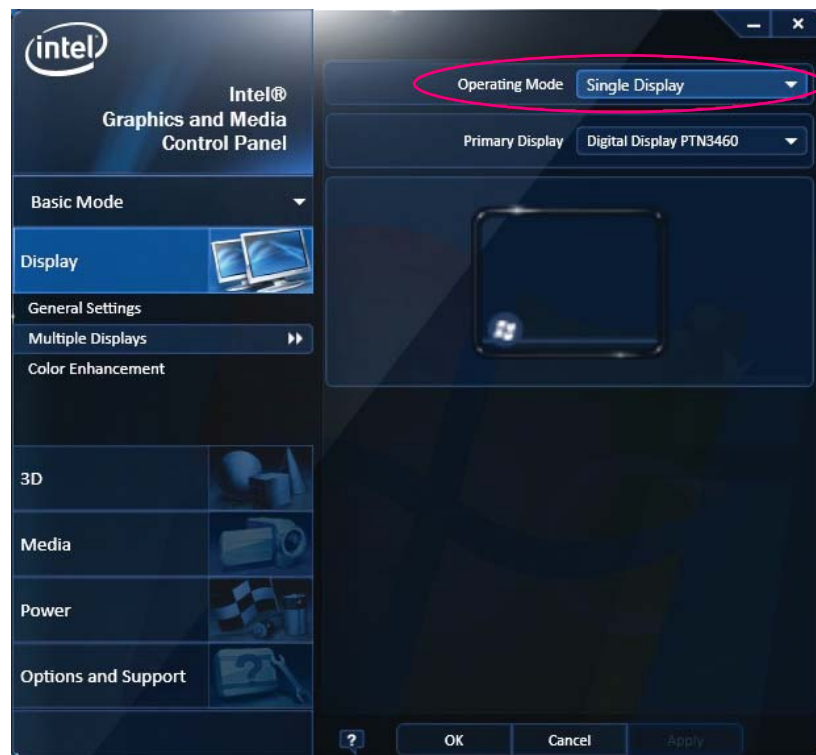
The DPCD utility is a PC utility that allows the user to access the product number, firmware as well as hardware version number of PTN3460BS on NXP eDP to LVDS bridge application board or customer's motherboard. DPCD utility also allows user to access the DPCD (DisplayPort Configuration Data) registers which are embedded in PTN3460. For more details information of DPCD registers, please refer to 'VESA DisplayPort Standard specification V1.2' as reference.

This user guide is mainly focused on the operation of DPCD utility. In the operation section, it uses the actual operation panel to guide the user step-by-step. The details of each function is explained and listed in order.

The NXP DPCD utility supports Windows 7, XP and Vista operation system in all platforms. Please install the latest version of graphics card driver before the start of running DPCD utility.

## 2. Operation

1. Connect an LCD panel to LVDS connector on PTN3460 eDP to LVDS bridge application board, and then plug in a DP cable between PTN3460 eDP to LVDS bridge application board and a DisplayPort source with Windows 7, XP or Vista OS.
2. Use control panel of graphics utility to select 'Single Display', as shown below.



019aac676

3. Select the primary (main) display as 'Digital Display PTN3460', as shown below.



019aac677

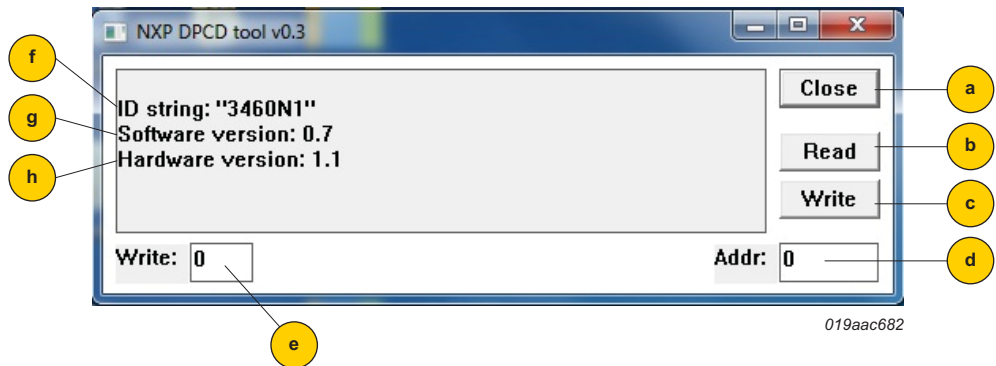
4. Click the NXP DPCD tool v0.3 icon, the following control panel will pop up.



019aac681

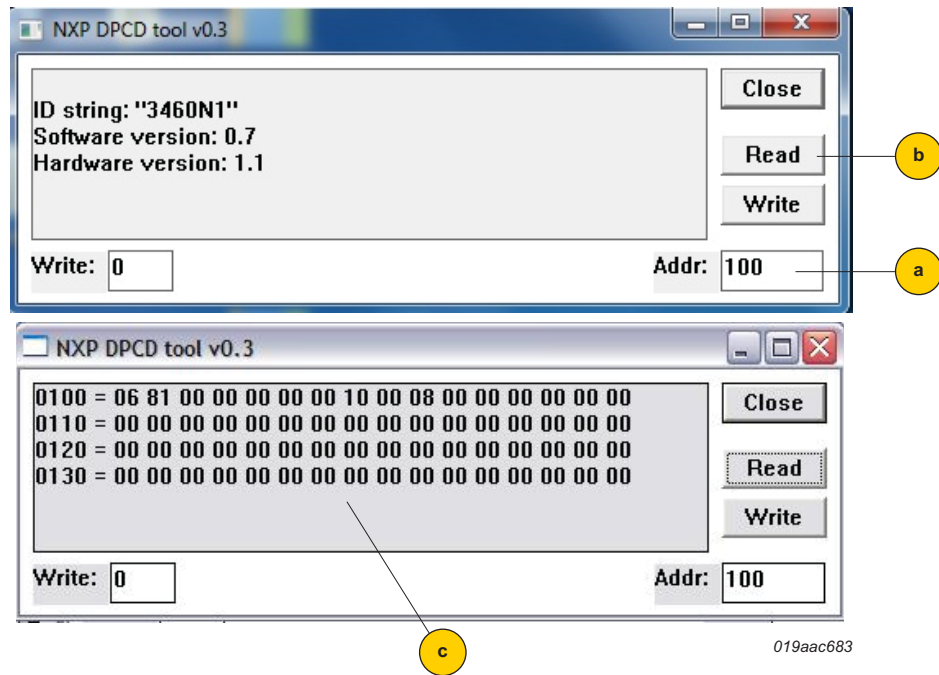
- a. Use 'Setup' button to check the version (software, hardware) of the NXP DP-VGA dongle.
- b. Use 'Cancel' button to close the program.
- c. Use 'About' button to read some detail about the DPCD tool.

- After clicking the 'Setup' button, it shows the product number, software and hardware version number of the NXP DP to VGA dongle on screen.



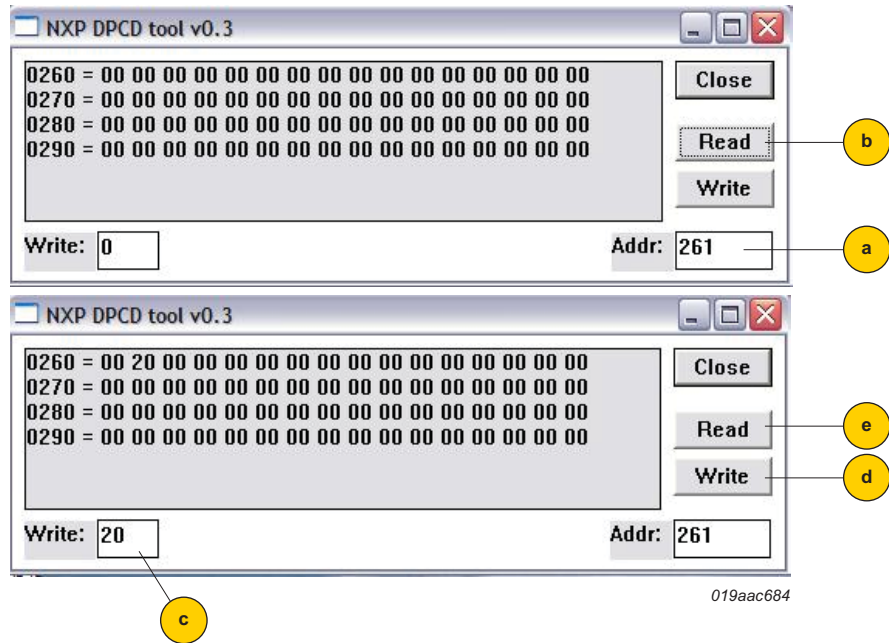
- Use 'Close' button to terminate the DPCD tool.
- Use 'Read' button and type in value into the 'Addr' block to read out 64 bytes register data from the specific register address in 'Addr' block.
- Use 'Write' button and type in value into the 'Write' block to write value into the register in the specific register address in 'Addr' block.
- Number in the 'Addr' block can either read out 64 bytes register data from the register address or the writable register address.
- Number in the 'Write' block is the specific value that is used to be written in the register address in 'Addr' block.
- The product number of the chip in NXP PTN3460 eDP-LVDS bridge application board.
- The software version number of the chip in NXP PTN3460 eDP-LVDS bridge application board.
- The hardware version number of the chip in NXP PTN3460 eDP-LVDS bridge application board.

6. The procedure of reading 64 bytes register data from register 100 (hex format) is shown here as an example.



- a. Type in value (100) in the 'Addr' block for reading out 64 bytes register data starting from the register address.
- b. Click 'Read' button to read out 64 bytes data.
- c. The 64 bytes data is shown on screen.

- The procedure of writing one byte data into register address '261' (all numbers below are in hex format). Not all registers can support both read and write. Please refer to *DisplayPort Specification V1.1a* for the details.



- Type in 261 in 'Addr' block, which means the register address to be read or written with value.
- Use 'Read' button to read out 64 bytes data from register address 260.
- Type 20 in the 'Write' block and 261 in the 'Addr' block.
- Click 'Write' button so '20' is written into register address 261.
- Click 'Read' button to read out 64 bytes, and see the value of register address 261 has changed to '20'.

### 3. Abbreviations

Table 1. Abbreviations

Acronym	Description
DP	DisplayPort
DPCD	DisplayPort Configuration Data
eDP	embedded DisplayPort
LVDS	Low-Voltage Differential Signaling
PC	Personal Computer
OS	Operating System
VESA	Video Electronics Standards Association
VGA	Video Graphics Array

## 4. Legal information

### 4.1 Definitions

**Draft** — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. NXP Semiconductors does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

### 4.2 Disclaimers

**Limited warranty and liability** — Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. NXP Semiconductors takes no responsibility for the content in this document if provided by an information source outside of NXP Semiconductors.

In no event shall NXP Semiconductors be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Notwithstanding any damages that customer might incur for any reason whatsoever, NXP Semiconductors' aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the *Terms and conditions of commercial sale* of NXP Semiconductors.

**Right to make changes** — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

**Suitability for use** — NXP Semiconductors products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an NXP Semiconductors product can reasonably be expected

to result in personal injury, death or severe property or environmental damage. NXP Semiconductors and its suppliers accept no liability for inclusion and/or use of NXP Semiconductors products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

**Applications** — Applications that are described herein for any of these products are for illustrative purposes only. NXP Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Customers are responsible for the design and operation of their applications and products using NXP Semiconductors products, and NXP Semiconductors accepts no liability for any assistance with applications or customer product design. It is customer's sole responsibility to determine whether the NXP Semiconductors product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products.

NXP Semiconductors does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using NXP Semiconductors products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). NXP does not accept any liability in this respect.

**Export control** — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

**Translations** — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

### 4.3 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.



## 5. Contents

---

<b>1</b>	<b>Introduction</b> .....	<b>3</b>
<b>2</b>	<b>Operation</b> .....	<b>3</b>
<b>3</b>	<b>Abbreviations</b> .....	<b>7</b>
<b>4</b>	<b>Legal information</b> .....	<b>8</b>
4.1	Definitions .....	8
4.2	Disclaimers .....	8
4.3	Trademarks.....	8
<b>5</b>	<b>Contents</b> .....	<b>9</b>

---

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

---

© NXP B.V. 2012.

All rights reserved.

For more information, please visit: <http://www.nxp.com>

For sales office addresses, please send an email to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

Date of release: 15 December 2011

Document identifier: AN11134