



# **R/W Protocol Specification**

## **Added for VHBR**

**DUALi Inc.**

Document Version: 1.30

Last Revised Date: 13 Jan 2014

---

Copyright © 2009 DUALi Inc. All rights reserved. You are strictly prohibited to copy, disclose, distribute, or use this document in part or as a whole for any purposes other than those for which this document is disclosed. This document is copyrighted and contains confidential information and other intellectual property rights of DUALi Inc. Any unauthorized use, copy, disclosure or distribution constitutes infringement of DUALi's intellectual property rights.

DUALi Inc. reserves the right to make changes to its applications or services or to discontinue any application or service at any time without notice. DUALi provides customer assistance in various technical areas, but does not have full access to data concerning the use and applications of customer's products.

Therefore, DUALi assumes no liability and is not responsible for customer applications or software design or performance relating to systems or applications incorporating DUALi products. In addition, DUALi assumes no liability and is not responsible for infringement of patents and/or any other intellectual or industrial property rights of third parties, which may result from assistance provided by DUALi.

Composition of the information in this manual has been done to the best of our knowledge. DUALi does not guarantee the correctness and completeness of the details given in this manual and may not be held liable for damages ensuing from incorrect or incomplete information. Since, despite all our efforts, errors may not be completely avoided, we are always grateful for your useful tips.

We have our development center in South Korea to provide technical support. For any technical assistance can contact our technical support team as below;

Tel: +82 31 213 0074

e-mail : [duali@duali.com](mailto:duali@duali.com)

## Revision History

- 2012.02.03(Ver. 1.00) : First Release
- 2012.05.08(Ver. 1.01) : S-parameter activate and VHBR Transparent function added
- 2012.06.05(Ver. 1.10) : add specification of DE-620V and more explanation for S-parameter activation
- 2012.06.11(Ver. 1.20) : Remove common functions to standard Protocol Specification.
- 2014.01.13(Ver. 1.30) : Add DE-620A.

## **CONTENTS**

<b>1.</b>	<b>INTRODUCTION.....</b>	<b>4</b>
<b>2.</b>	<b>PROTOCOL AND SPARA ACTIVATION.....</b>	<b>5</b>
2.1	VHBR FUNCTIONS .....	5
2.2	VHBR ACTIVATION PROCESS AT PC/SC MODE.....	5

## 1. Introduction

This document defines the USB communication protocol between DUALi's DE-620V, DE-620A and a host computer.

***The protocols in this document are all for VHBR(very high baud rate) developers.***

DE-620V reader supports ISO7816, ISO14443 type A/B, my-d™, Mifare®, DESFire®, ISO15693 and I-CODE cards.

DE-620A reader supports ISO7816, ISO14443 type A/B, FeliCa and ISO15693 cards.

**DE-620V and DE-620A supports VHBR(very high baud rate).**

This document is dedicated for DE-620V and DE-620A. So, if you use other reader products of DUALi, those readers have possibility to return code UNKNOWN COMMAND ERROR(23, 0x17), it means your reader or module doesn't support this command.

my-d™ is registered trademarks of Infineon Technologies AG  
Mifare® and DesFire® are registered trademarks of NXP Semiconductors

## 2. Protocol and SPARA Activation

### 2.1 VHBR Functions

You can refer “*RW\_Protocol\_spec\_XXXXXX.pdf*” for supported functions.

Especially refer to ‘RF Find Card(Command = 0x4C)’, ‘RF Speed Set (Command = 0x1A)’, ‘SPARAMETER Activate (Command = 0x68)’ and ‘Mode Change (Command = 0x15)’.

### 2.2 VHBR activation process at PC/SC mode

In PC/SC mode card will be activated at the highest speed which card supports.

