EMVCo reference design for the ST25R3916B high performance NFC universal device

Features

- Based on the ST25R3916B NFC reader for payment, consumer and industrial applications, in QFN32, 5 mm x 5 mm package
- ISO 14443A and ISO 14443B protocols supported
- Dynamic power output (DPO) and active wave shaping (AWS)
- User selectable and automatic gain control
- 51 mm x 27 mm, four turns antenna etched on the PCB
- STM32L476 32-bit microcontroller with 1 Mbyte embedded Flash memory, with integrated ST-LINK/V2 for programming and debugging
- Micro-USB connector for communication with the host PC and board supply
- Comprehensive device test environment (DTE) for controlling the EMVCo Level 1 firmware
- EMVCo 3.1a L1 compliant
1 Description

The ST25R3916B-EMVCo kit is a reference design representing the contactless part of a payment terminal, including the example code for the EMVCo level 1 stack.

The board is equipped with a small (51 mm x 27 mm) four turns RF antenna, with the option to connect customer made antennas.

The STM32L476 (packaged in a 100-pin LQFP) serves as host controller for the ST25R3916B and the connected peripherals.

Figure 1. Functional block diagram
## Revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-Jul-2022</td>
<td>1</td>
<td>Initial release.</td>
</tr>
</tbody>
</table>
## Contents

1 Description ........................................................................ 2  
Revision history ........................................................................ 3  
List of tables ........................................................................... 5  
List of figures .......................................................................... 6
List of tables

Table 1.  Document revision history  .............................................................. 3
List of figures

Figure 1. Functional block diagram ............................................................. 2
IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2022 STMicroelectronics – All rights reserved