

my-d[™] move lean and my-d[™] move lean NFC

Release Notes

Intelligent 64 byte EEPROM with contactless interface compliant to ISO/IEC 14443-3 Type A and support of NFC Forum[™] Type 2 Tag operation

About this document

Scope and purpose

This document provides information about the released version of the my-d[™] move lean and my-d[™] move lean NFC.

Intended audience

This document is primarily intended for use by customers.

Table of contents

	About this document	1
	Table of contents	2
1	Overview	3
2	Known limitations	4
2.1	Maximum PICC PauseA length support at high field strength	4
2.1.1	Workaround	4
	References	5
	Glossary	6
	Revision history	7
	Disclaimer	8

1 Overview

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This document describes the limitations of my-d™ move lean (SLE 66R01L) and my-d™ move lean NFC (SLE 66R01LN) with respect to the latest my-d™ move lean and my-d™ move lean NFC Datasheet.

Affected product

SLE 66R01L and SLE 66R01LN, design step A11.

2 Known limitations

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2.1 Maximum PICC PauseA length support at high field strength

Problem

For the PICC the ISO/IEC 14443-2 [1] (Section 8.1.2, Table 6), indicates for a bit rate of $f_C/128$ the maximum PauseA length $t_1 = 41/f_C$ (3.02 μs) for the RF operating field strength up to $H_{\text{max}} = 7.5 \text{ A/m}$.

The my-d™ move lean and my-d™ move lean NFC reliably communicates with the maximum PICC reception PauseA length of $t_1 = 41/f_C$ up to an operating field strengths of $H_{\text{max}} = 4.5 \text{ A/m}$.

If the PCD considers a shortened PauseA length of $t_1 = 40.5/f_C$ (2.99 μs) as specified in the ISO/IEC 14443-2 [1], the my-d™ move lean and my-d™ move lean NFC reliably operates at a field strength of up to $H_{\text{max}} = 5.5 \text{ A/m}$.

Cause

In case of multi-byte commands an internal counter of the digital circuitry mismatches.

2.1.1 Workaround

The my-d™ move lean and my-d™ move lean NFC operates up to the maximum operating field strength of $H_{\text{max}} = 7.5 \text{ A/m}$ if the PICC PauseA length is shortened to at least $t_1 = 39/f_C$ (2.88 μs) for any resonance frequency and maximum PICC PauseA rise time (t_4).

Outlook

Modification in digital circuitry.

References

- [1] ISO/IEC 14443-2:2020: *Cards and security devices for personal identification – Contactless proximity objects – Part 2: Radio frequency power and signal interface (Fourth edition)*; 2020-07
- [2] ISO/IEC 14443-3:2018: *Cards and security devices for personal identification – Contactless proximity objects – Part 3: Initialization and anticollision (Fourth edition)*; 2018-07

Glossary

EEPROM

electrically erasable programmable read-only memory (EEPROM)

IEC

International Electrotechnical Commission (IEC)

The international committee responsible for drawing up electrotechnical standards.

ISO

International Organization for Standardization (ISO)

NFC

near field communication (NFC)

PCD

proximity coupling device (PCD)

A reader device for NFC cards.

PICC

proximity integrated circuit card (PICC)

A contactless smart card which can be read without inserting it into a reader device.

Revision history

Revision history

Reference	Description
Revision 1.0, 2021-12-20	
All	Initial release

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