

my-d™ vicinity

Release Notes

Intelligent EEPROM with contactless interface compliant to ISO/IEC 15693 and ISO/IEC 18000-3 mode 1 and security logic

Document release reference: Z8F80913125-A

Devices

- SRF 55V02P
- SRF 55V10P
- SRF 55V02S
- SRF 55V10S
- SRF 55V02P HC
- SRF 55V10P HC
- SRF 55V02S HC
- SRF 55V10S HC

About this document

Scope and purpose

This document provides information about the released version of the my-d™ vicinity.

Intended audience

This document is primarily intended for use by customers. It gives a quick overview of the features supported by this product.

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1 Overview

1 Overview

The my-d™ products are designed to meet increased demands for basic security and design flexibility. The my-d™ family of contactless memories supplies the user with different memory sizes and incorporates security features to enable considerable flexibility in the application design.

Please note that according to the notation of ISO/IEC 15693, the abbreviation VCD for the reader and VICC for the tag respectively is used in the further text.

2 Known limitations

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2.1 16-slot inventory request processing

Problem:

The ISO/IEC 15693 standard defines that during a 16-slot inventory request the VCD may stop sending EOFs for slot switching at any time and send a new command. The VICC should respond to this new command.

If the VICC is ready to send its reply in one particular slot n and if the VCD interrupts the 16-slot inventory command sequence by stop sending EOFs before this particular slot n was sent, then the SRF 55VxxP/S (HC) could stay deaf for the subsequent command sent from the VCD.

Workaround:

The VCD should stop sending EOFs after the particular slot n has occurred, but before all 16-slots were sent and the VICC has already sent its answer, then the VICC will react normally to the subsequent command sent from the VCD.

If for an example the VICC is going to respond to the inventory request in slot 5 but only 4 slots are sent then the next command may fail. If 6 slots are sent the next command will pass.

2.2 Performance restriction at low modulation index

Problem:

The ISO/IEC 15693 standard defines that communication between the VCD and the VICC takes place at modulation indicates 10% and 100%. The VICC shall be operational for any value of modulation index between 10% and 30%.

Operating a SRF 55VxxP/S (HC) transponder at low modulation index may result in reduced communication distance and partially communication holes.

Workaround:

The VCD should use a modulation index of 30%.

2.3 Chip behavior on non-supported commands

Problem:

The ISO/IEC 15693 standard defines different groups of commands (mandatory - optional - custom - proprietary). Upon reception of unsupported command codes the VICC shall not send any response to the VCD. However, the SRF 55VxxP/S (HC) responds to the VCD regardless of selected flags in each powered state ("Ready", "Quiet" and "Selected"). The VICC replies to unsupported command codes with the error code "command not supported" ('01'). For a detailed list of supported commands please refer to [\[4\]](#).

Workaround:

The VCD should only use supported commands.

2 Known limitations

2.4 Communication pass-rate drop

Problem:

In very special reader and tag configurations, SRF 55VxxP/S HC does not recognize incoming commands. This effect could be seen in very small sections (μm range) within the field generated by the VCD. In this range, the communication pass-rate drops.

Workaround:

The VCD should repeat sending the request.

References

- [1] ISO/IEC 15693-2:2019: *Cards and security devices for personal identification — Contactless vicinity objects — Part 2: Air interface and initialization (Third edition)*; 2019-04
- [2] ISO/IEC 15693-3:2019: *Cards and security devices for personal identification — Contactless vicinity objects — Part 3: Anticollision and transmission protocol (Third edition)*; 2019-04
- [3] ISO/IEC 18000-3:2010: *Information technology — Radio frequency identification for item management — Part 3: Parameters for air interface communications at 13.56 MHz (Third edition)*; 2010-11
- [4] Infineon Technologies AG: *SRF 55VxxP my-d™ vicinity plain, Extended Datasheet (Latest Revision)*
- [5] Infineon Technologies AG: *SRF 55VxxS my-d™ vicinity secure, Extended Datasheet (Latest Revision)*

Glossary

EEPROM

electrically erasable programmable read-only memory (EEPROM)

EOF

end of frame (EOF)

IEC

International Electrotechnical Commission (IEC)

The international committee responsible for drawing up electrotechnical standards.

ISO

International Organization for Standardization (ISO)

VCD

vicinity coupling device (VCD)

VICC

vicinity integrated circuit card (VICC)

Revision history

Revision history

Reference	Description
Revision 4.0, 2026-03-18	
All	Template updates
Revision 3.0, 2022-09-23	
All	Migrated to latest template and updated editorial changes
Revision 2.0, 2010-03-03	
All	Updated minor changes
Revision 1.0, 2007-06-15	
All	Initial release

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