



Application Note

SANGOMA FSP

13.56 MHz Field Strength Probe

Version 1.0



13.56 MHz Field Strength Probe

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### 3. Introduction

The SANGOMA-FSP is targeted to check the field strength of a 13.56MHz HF-field. The full passive probe allows a simple and fast check of the available field strength. The form factor is equal to an ISO//IEC 7810 class 1 card and indicates if the available energy is within the limits defined in the ISO/IEC 14443 for this dimension. Different colors of the LED further highlight this area.

#### 4. Key features

- Fully passive RFID Field strength probe
- intuitive and easy to use as no additional equipment is needed
- ISO//IEC 7810 class1 card form factor covers most applications
- 15 LEDs indicating the measurement result
- Different colors indicate the field strength referred to the ISO//IEC 14443 specification

#### 5. Hardware details

### 5.1 Description



## 5.2 SANGOMA-FSP physical dimensions

#### SANGOMA-FSP dimensions [mm]





The SANGOMA-FSP has the same dimension as a class1 card defined in ISO//IEC 7810. Which is the state of the art dimension of banking cards.

## 6. Getting started





#### 13.56 MHz Field Strength Probe

## 7. Measurement method and calibration

The SANGOMA-FSP field strength probe is calibrated using an ISO/IEC 10373-7 setup. This setup is defined in the ISO/IEC 14443 and ISO/IEC 15693 standards for measuring the performance of class 1 RFID Tags.



This specific setup generates a homogenous HF-field with a certain field strength. The Antennas and distances of this setup are strictly defined. During the calibration GMMC the SANGOMA-FSP, the measurement result is set to the value set by the ISO/IEC setup. So the probe indicates the field strength condition as measured by the ISO/IEC setup. This calibration allows to indicate the field strength a class 1 RFID Tag is exposed to.

Please note, that the measurement result is only valid for a class 1 RFID Tag and also depends on the coupling between the reader and the tag antenna. The accuracy for different sized reader or label antennas might varying strongly.



# 8. Revision history

1v0 Initial released version		
1v1 Minor modifications		