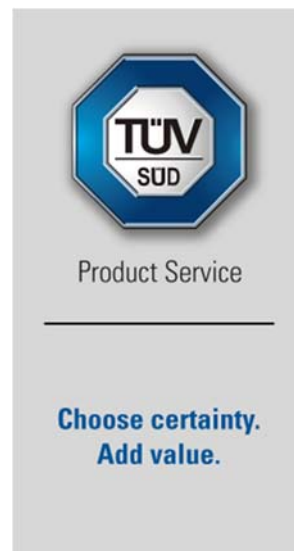


FCC and Industry Canada Testing of the  
 Guestkey Ltd  
 3 channel 7A PSU. Model: GKPS1000-4001  
 Control Module. Model: GKMC1000-4001  
 Mifare Power Injector. Model: N/A  
 Switching power supply. Model: 6323  
 Mifare Key reader. Model: GKMR1000-4001  
 Mifare Key reader. Model: GKMS1000-4001  
 Switching power supply. Model: FW7556M  
 In accordance with FCC 47 CFR Part 15B and Industry  
 Canada RSS-GEN



Prepared for: Guestkey Ltd  
 Summerleys Road  
 Princes Risborough  
 Buckinghamshire  
 HP27 9BS  
 UNITED KINGDOM

FCC ID: 2AOGK-MR1000-4001  
 IC: 23419-MR1000-4001

## COMMERCIAL-IN-CONFIDENCE

Date: January 2018  
 Document Number: 75940778-01 | Issue: 01

| RESPONSIBLE FOR      | NAME            | DATE            | SIGNATURE |
|----------------------|-----------------|-----------------|-----------|
| Project Management   | Natalie Bennett | 04 January 2018 |           |
| Authorised Signatory | Matthew Russell | 04 January 2018 |           |

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service document control rules.

### ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15B and Industry Canada RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

| RESPONSIBLE FOR | NAME          | DATE            | SIGNATURE |
|-----------------|---------------|-----------------|-----------|
| Testing         | Graeme Lawler | 04 January 2018 |           |

CC Accreditation  
 90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation  
 IC2932B-1 Octagon House, Fareham Test Laboratory

### EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15B: 2016 and Industry Canada RSS-GEN: Issue 4, November 2014.

|  |                                                                                                                                                                                                                                                                                                                                                                         |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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Contents

**1      Report Summary .....2**

1.1      Report Modification Record.....2

1.2      Introduction.....2

1.3      Brief Summary of Results .....3

1.4      Application Form .....4

1.5      Product Information .....6

1.6      Deviations from the Standard.....6

1.7      EUT Modification Record .....6

1.8      Test Location.....7

**2      Test Details .....8**

2.1      AC Power Line Conducted Emissions .....8

2.2      Radiated Emissions.....14

**3      Measurement Uncertainty .....19**



## 1 Report Summary

### 1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue | Description of Change | Date of Issue   |
|-------|-----------------------|-----------------|
| 1     | First Issue           | 04 January 2018 |

**Table 1**

### 1.2 Introduction

|                               |                                                                                                                                                                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant                     | Guestkey Ltd                                                                                                                                                                                                                        |
| Manufacturer                  | Guestkey Ltd                                                                                                                                                                                                                        |
| Model Number(s)               | 1) GKPS1000-4001<br>2) GKMC1000-4001<br>3) N/A<br>4) Mascot 6323<br>5) GKMR1000-4001<br>6) GKMS1000-4001<br>7) FW7556M                                                                                                              |
| Serial Number(s)              | 1) Not serialised (75940778-TSR0003)<br>2) 02804<br>3) Not serialised (75940778-TSR0006)<br>4) C39071391418<br>5) Not serialised (75940778-TSR0018)<br>6) Not serialised (75940778-TSR0019)<br>7) Not serialised (75940778-TSR0020) |
| Hardware Version(s)           | REV 1                                                                                                                                                                                                                               |
| Software Version(s)           | REV 1                                                                                                                                                                                                                               |
| Number of Samples Tested      | 7                                                                                                                                                                                                                                   |
| Test Specification/Issue/Date | FCC 47 CFR Part 15B: 2016<br>Industry Canada RSS-GEN: Issue 4, November 2014                                                                                                                                                        |
| Order Number                  | PO1711-102                                                                                                                                                                                                                          |
| Date                          | 03-November-2017                                                                                                                                                                                                                    |
| Date of Receipt of EUT        | 07-November-2017, 21-November-2017 and<br>04-December-2017                                                                                                                                                                          |
| Start of Test                 | 22-November-2017                                                                                                                                                                                                                    |
| Finish of Test                | 12-December-2017                                                                                                                                                                                                                    |
| Name of Engineer(s)           | Graeme Lawler                                                                                                                                                                                                                       |
| Related Document(s)           | ANSI C63.4 (2014)                                                                                                                                                                                                                   |



Product Service

### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15B and Industry Canada RSS-GEN is shown below.

| Section                                                               | Specification Clause |         | Test Description                  | Result | Comments/Base Standard |
|-----------------------------------------------------------------------|----------------------|---------|-----------------------------------|--------|------------------------|
|                                                                       | Part 15B             | RSS-GEN |                                   |        |                        |
| Configuration and Mode: MiFare Key Reader - Idle                      |                      |         |                                   |        |                        |
| 2.1                                                                   | 15.107               | 8.8     | AC Power Line Conducted Emissions | Pass   | ANSI C63.4             |
| 2.2                                                                   | 15.109               | 7.1     | Radiated Emissions                | Pass   | ANSI C63.4             |
| Configuration and Mode: 3 Channel 7A PSU - Powered On                 |                      |         |                                   |        |                        |
| 2.1                                                                   | 15.107               | 8.8     | AC Power Line Conducted Emissions | Pass   | ANSI C63.4             |
| Configuration and Mode: Fully Monitored Locking Control System - Idle |                      |         |                                   |        |                        |
| 2.2                                                                   | 15.109               | 7.1     | Radiated Emissions                | Pass   | ANSI C63.4             |

**Table 2**

## 1.4 Application Form

| EQUIPMENT DESCRIPTION                                                                           |                                                              |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Model Name/Number                                                                               | 42mm Mifare/Optical Key Reader                               |
| Part Number                                                                                     | GKMR1000-4001 (R011001-001 & R011002-001)                    |
| Hardware Version                                                                                | REV 1                                                        |
| Software Version                                                                                | REV 1                                                        |
| FCC ID (if applicable)                                                                          | 2AOGK-MR1000-4001                                            |
| Industry Canada ID (if applicable)                                                              | 23419-MR1000-4001                                            |
| Technical Description (Please provide a brief description of the intended use of the equipment) | Identification of Guestkey Optical Keys and Mifare RFID tags |

| INTENTIONAL RADIATORS |                      |                                       |                    |                               |                      |                         |                     |        |     |
|-----------------------|----------------------|---------------------------------------|--------------------|-------------------------------|----------------------|-------------------------|---------------------|--------|-----|
| Technology            | Frequency Band (MHz) | Conducted Declared Output Power (dBm) | Antenna Gain (dBi) | Supported Bandwidth (s) (MHz) | Modulation Scheme(s) | ITU Emission Designator | Test Channels (MHz) |        |     |
|                       |                      |                                       |                    |                               |                      |                         | Bottom              | Middle | Top |
| RFID                  | 13.56                | 250 nW                                |                    |                               | ASK                  |                         | 13.56               |        |     |
|                       |                      |                                       |                    |                               |                      |                         |                     |        |     |
|                       |                      |                                       |                    |                               |                      |                         |                     |        |     |
|                       |                      |                                       |                    |                               |                      |                         |                     |        |     |
|                       |                      |                                       |                    |                               |                      |                         |                     |        |     |

| UN-INTENTIONAL RADIATOR                                                                    |           |
|--------------------------------------------------------------------------------------------|-----------|
| Highest frequency generated or used in the device or on which the device operates or tunes | 27.12 MHz |

| Power Source                           |                 |             |                                                                     |
|----------------------------------------|-----------------|-------------|---------------------------------------------------------------------|
| AC                                     | Single Phase    | Three Phase | Nominal Voltage                                                     |
|                                        |                 |             |                                                                     |
| External DC                            | Nominal Voltage |             | Maximum Current                                                     |
|                                        | 24 V            |             | 0.2 A                                                               |
| Battery                                | Nominal Voltage |             | Battery Operating End Point Voltage                                 |
|                                        | 4.2 V           |             | 3.6 V                                                               |
| Can EUT transmit whilst being charged? |                 |             | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |

| EXTREME CONDITIONS  |          |                     |      |
|---------------------|----------|---------------------|------|
| Maximum temperature | +40.0 °C | Minimum temperature | 0 °C |



## Ancillaries

## ANTENNA CHARACTERISTICS

|                                     |                             |      |                 |     |
|-------------------------------------|-----------------------------|------|-----------------|-----|
| <input type="checkbox"/>            | Antenna connector           |      | State impedance | Ohm |
| <input type="checkbox"/>            | Temporary antenna connector |      | State impedance | Ohm |
| <input checked="" type="checkbox"/> | Integral antenna            | Type |                 |     |
| <input type="checkbox"/>            | External antenna            | Type |                 |     |

I hereby declare that the information supplied is correct and complete.

Name: Tony Marsden  
Position held: Director

Date: 04 January 2018

## 1.5 Product Information

### 1.5.1 Technical Description

Identification of Guestkey Optical Keys and Mifare RFID tags.

### 1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

### 1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.  
The modifications incorporated during each test are recorded on the appropriate test pages.

| Modification State                               | Description of Modification still fitted to EUT | Modification Fitted By | Date Modification Fitted |
|--------------------------------------------------|-------------------------------------------------|------------------------|--------------------------|
| Serial Number: Not serialised (75940778-TSR0003) |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: 02804                             |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: Not serialised (75940778-TSR0006) |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: C39071391418                      |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: Not serialised (75940778-TSR0018) |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: Not serialised (75940778-TSR0019) |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |
| Serial Number: Not serialised (75940778-TSR0020) |                                                 |                        |                          |
| 0                                                | As supplied by the customer                     | Not Applicable         | Not Applicable           |

Table 3



## 1.8 Test Location

TÜV SÜD Product Service conducted the following tests at our Fareham Test Laboratory.

| Test Name                                                             | Name of Engineer(s) | Accreditation |
|-----------------------------------------------------------------------|---------------------|---------------|
| Configuration and Mode: MiFare Key Reader - Idle                      |                     |               |
| AC Power Line Conducted Emissions                                     | Graeme Lawler       | UKAS          |
| Radiated Emissions                                                    | Graeme Lawler       | UKAS          |
| Configuration and Mode: Fully Monitored Locking Control System - Idle |                     |               |
| Radiated Emissions                                                    | Graeme Lawler       | UKAS          |
| Configuration and Mode: 3 Channel 7A PSU - Powered On                 |                     |               |
| AC Power Line Conducted Emissions                                     | Graeme Lawler       | UKAS          |

**Table 4**

Office Address:

Octagon House  
Concorde Way  
Segensworth North  
Fareham  
Hampshire  
PO15 5RL  
United Kingdom



## 2 Test Details

### 2.1 AC Power Line Conducted Emissions

#### 2.1.1 Specification Reference

FCC 47 CFR Part 15B, Clause 15.107  
Industry Canada RSS-GEN, Clause 8.8

#### 2.1.2 Equipment Under Test and Modification State

MiFare Key Reader – Idle

6323, S/N: C39071391418 - Modification State 0  
GKMR1000-4001, S/N: Not serialised (75940778-TSR0018) - Modification State 0  
GKMS1000-4001, S/N: Not serialised (75940778-TSR0019) - Modification State 0

3 Channel 7A PSU - Powered On

GKPS1000-4001, S/N: Not serialised (75940778-TSR0003) - Modification State 0  
GKMC1000-4001, S/N: 02804 - Modification State 0  
N/A, S/N: Not serialised (75940778-TSR0006) - Modification State 0  
GKMR1000-4001, S/N: Not serialised (75940778-TSR0018) - Modification State 0

#### 2.1.3 Date of Test

22-November-2017

#### 2.1.4 Test Method

The test was performed in accordance with ANSI C63.4, clause 7.

#### 2.1.5 Environmental Conditions

|                     |         |
|---------------------|---------|
| Ambient Temperature | 19.7 °C |
| Relative Humidity   | 47.0 %  |

## 2.1.6 Test Results

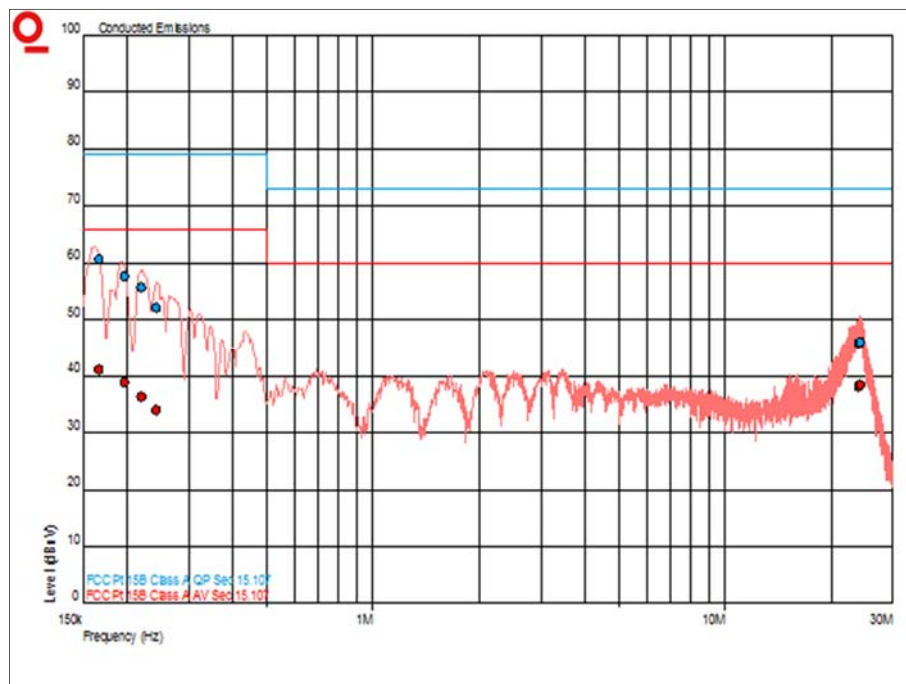
### MiFare Key Reader - Idle

Applied supply voltage: 60 Hz

Applied supply frequency: 120 V AC

| Frequency (MHz) | QP Level (dBuV) | QP Limit (dBuV) | QP Margin (dBuV) | AV Level (dBuV) | AV Limit (dBuV) | AV Margin (dBuV) |
|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| 0.167           | 60.7            | 79.0            | -18.3            | 41.1            | 66.0            | -24.9            |
| 0.196           | 57.6            | 79.0            | -21.4            | 38.9            | 66.0            | -27.1            |
| 0.220           | 55.7            | 79.0            | -23.3            | 36.4            | 66.0            | -29.6            |
| 0.242           | 52.1            | 79.0            | -26.9            | 33.9            | 66.0            | -32.1            |
| 24.076          | 45.8            | 73.0            | -27.2            | 38.2            | 60.0            | -21.8            |
| 24.265          | 46.0            | 73.0            | -27.0            | 38.5            | 60.0            | -21.5            |

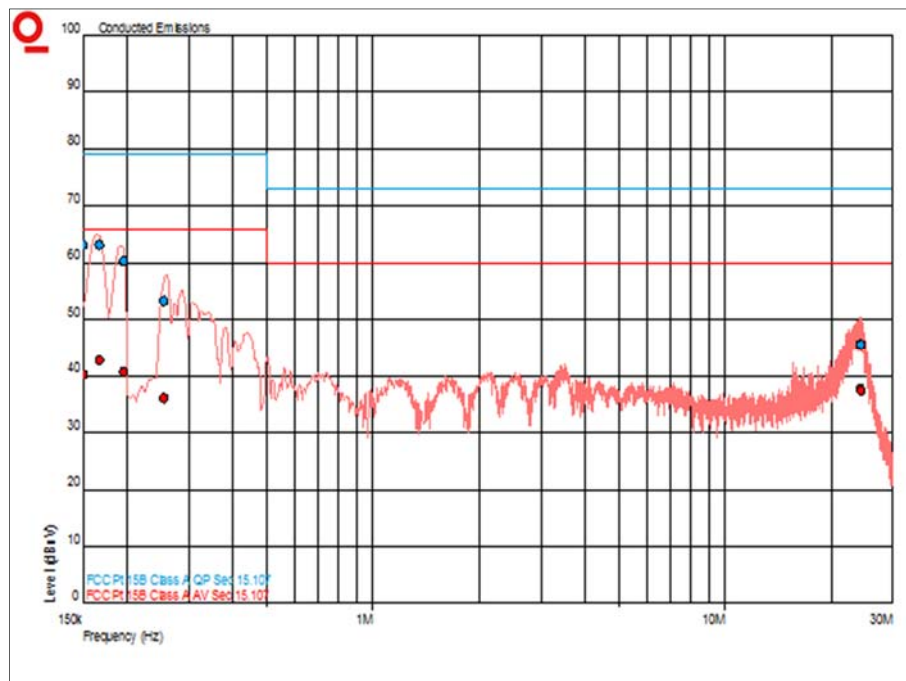
**Table 5 - Live Line Emissions Results**



**Figure 1 - Live Line - 150 kHz to 30 MHz**

| Frequency (MHz) | QP Level (dBuV) | QP Limit (dBuV) | QP Margin (dBuV) | AV Level (dBuV) | AV Limit (dBuV) | AV Margin (dBuV) |
|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| 0.150           | 63.2            | 79.0            | -15.8            | 40.2            | 66.0            | -25.8            |
| 0.167           | 63.3            | 79.0            | -15.7            | 42.7            | 66.0            | -23.3            |
| 0.196           | 60.4            | 79.0            | -18.6            | 40.7            | 66.0            | -25.3            |
| 0.255           | 53.3            | 79.0            | -25.7            | 36.1            | 66.0            | -29.9            |
| 24.272          | 45.6            | 73.0            | -27.4            | 37.6            | 60.0            | -22.4            |
| 24.414          | 45.6            | 73.0            | -27.4            | 37.3            | 60.0            | -22.7            |

**Table 6 - Neutral Line Emissions Results**



**Figure 2 - Neutral Line - 150 kHz to 30 MHz**

FCC 47 CFR Part 15, Limit Clause 15.107 and RSS-GEN, Limit Clause 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBµV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-Peak             | Average   |
| 0.15 to 0.5                 | 66 to 56*              | 56 to 46* |
| 0.5 to 5                    | 56                     | 46        |
| 5 to 30                     | 60                     | 50        |

**Table 7**

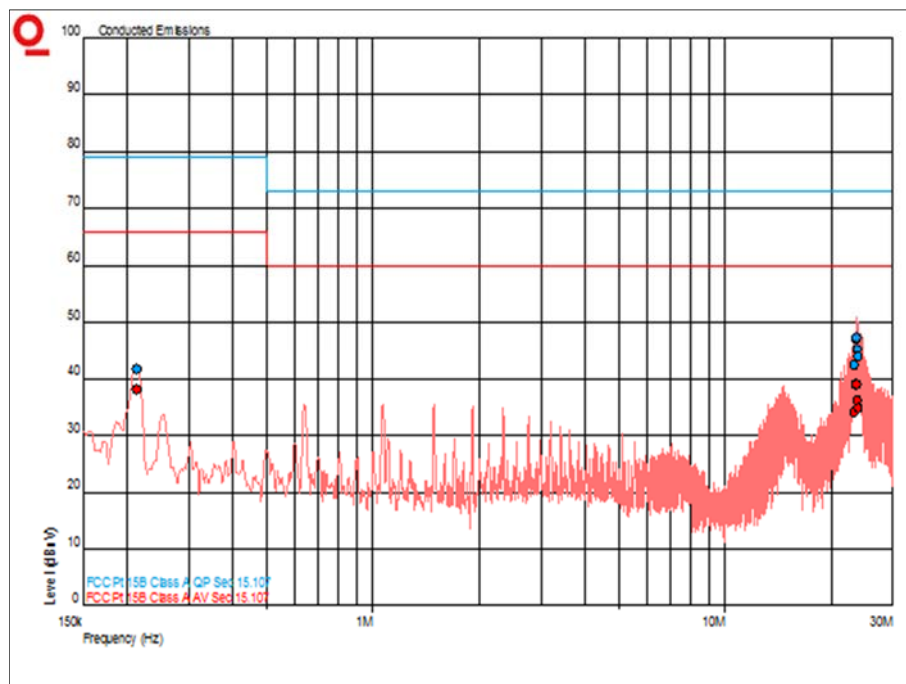
\*Decreases with the logarithm of the frequency.

### 3 Channel 7A PSU - Powered On

Applied supply voltage: 60 Hz  
 Applied supply frequency: 120 V AC

| Frequency (MHz) | QP Level (dBuV) | QP Limit (dBuV) | QP Margin (dBuV) | AV Level (dBuV) | AV Limit (dBuV) | AV Margin (dBuV) |
|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| 0.213           | 41.8            | 79.0            | -37.2            | 38.1            | 66.0            | -27.9            |
| 23.334          | 42.4            | 73.0            | -30.6            | 34.1            | 60.0            | -25.9            |
| 23.598          | 47.3            | 73.0            | -25.7            | 39.1            | 60.0            | -20.9            |
| 23.729          | 47.4            | 73.0            | -25.6            | 39.0            | 60.0            | -21.0            |
| 23.860          | 45.4            | 73.0            | -27.6            | 36.2            | 60.0            | -23.8            |
| 23.992          | 44.0            | 73.0            | -29.0            | 34.8            | 60.0            | -25.2            |

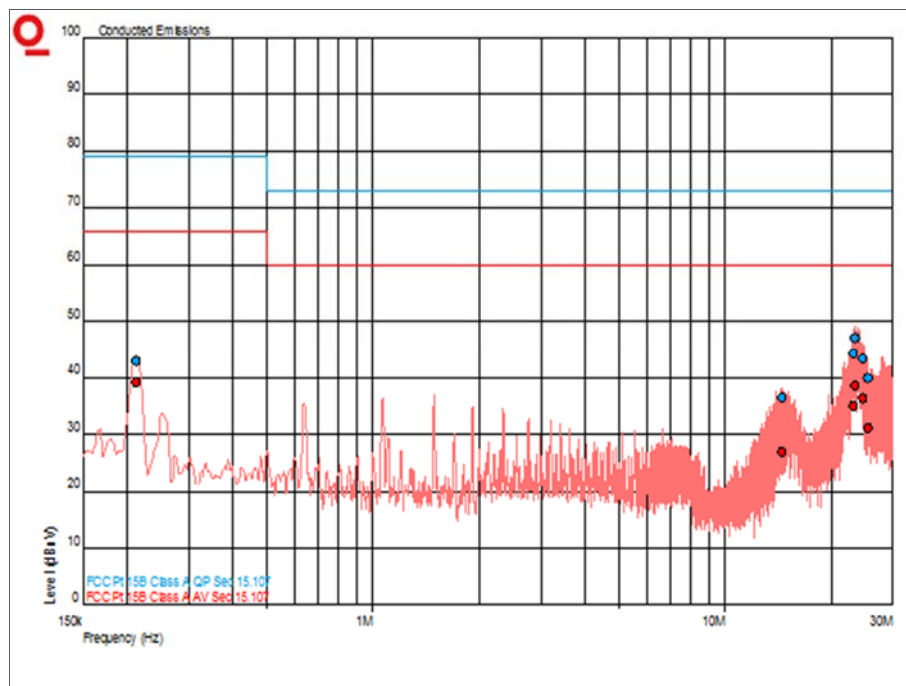
**Table 8 - Live Line Emissions Results**



**Figure 3 - Live Line - 150 kHz to 30 MHz**

| Frequency (MHz) | QP Level (dBuV) | QP Limit (dBuV) | QP Margin (dBuV) | AV Level (dBuV) | AV Limit (dBuV) | AV Margin (dBuV) |
|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| 0.213           | 42.9            | 79.0            | -36.1            | 39.2            | 66.0            | -26.8            |
| 14.573          | 36.4            | 73.0            | -36.6            | 26.9            | 60.0            | -33.1            |
| 23.222          | 44.3            | 73.0            | -28.7            | 35.1            | 60.0            | -24.9            |
| 23.470          | 47.0            | 73.0            | -26.0            | 38.6            | 60.0            | -21.4            |
| 24.617          | 43.4            | 73.0            | -29.6            | 36.4            | 60.0            | -23.6            |
| 25.513          | 39.9            | 73.0            | -33.1            | 31.1            | 60.0            | -28.9            |

**Table 9 - Neutral Line Emissions Results**



**Figure 4 - Neutral Line - 150 kHz to 30 MHz**

FCC 47 CFR Part 15, Limit Clause 15.107 and RSS-GEN, Limit Clause 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBμV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-Peak             | Average   |
| 0.15 to 0.5                 | 66 to 56*              | 56 to 46* |
| 0.5 to 5                    | 56                     | 46        |
| 5 to 30                     | 60                     | 50        |

**Table 10**

\*Decreases with the logarithm of the frequency.



### 2.1.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

| Instrument         | Manufacturer    | Type No     | TE No | Calibration Period (months) | Calibration Due |
|--------------------|-----------------|-------------|-------|-----------------------------|-----------------|
| Transient Limiter  | Hewlett Packard | 11947A      | 15    | 12                          | 30-May-2018     |
| LISN (1 Phase)     | Chase           | MN 2050     | 336   | 12                          | 07-Apr-2018     |
| Screened Room (5)  | Rainford        | Rainford    | 1545  | 36                          | 20-Dec-2017     |
| Hygrometer         | Rotronic        | HYGROPALM 1 | 2338  | 12                          | 24-Oct-2018     |
| Digital Multimeter | Iso-tech        | IDM-101     | 2895  | 12                          | 20-Jul-2018     |
| EMI Test Receiver  | Rohde & Schwarz | ESU40       | 3506  | 12                          | 22-Nov-2018     |

**Table 11**



## **2.2 Radiated Emissions**

### **2.2.1 Specification Reference**

FCC 47 CFR Part 15B, Clause 15.109  
Industry Canada RSS-GEN, Clause 7.

### **2.2.2 Equipment Under Test and Modification State**

#### MiFare Key Reader – Idle

GKMR1000-4001, S/N: Not serialised (75940778-TSR0018) - Modification State 0  
GKMS1000-4001, S/N: Not serialised (75940778-TSR0019) - Modification State 0  
FW7556M, S/N: Not serialised (75940778-TSR0020) - Modification State 0

#### Fully Monitored Locking Control System - Idle

GKPS1000-4001, S/N: Not serialised (75940778-TSR0003) - Modification State 0  
GKMC1000-4001, S/N: 02804 - Modification State 0  
N/A, S/N: Not serialised (75940778-TSR0006) - Modification State 0  
GKMR1000-4001, S/N: Not serialised (75940778-TSR0018) - Modification State 0

### **2.2.3 Date of Test**

22-November-2017

### **2.2.4 Test Method**

The test was performed in accordance with ANSI C63.4, clause 8.

### **2.2.5 Environmental Conditions**

|                     |         |
|---------------------|---------|
| Ambient Temperature | 19.7 °C |
| Relative Humidity   | 47.0 %  |

## 2.2.6 Test Results

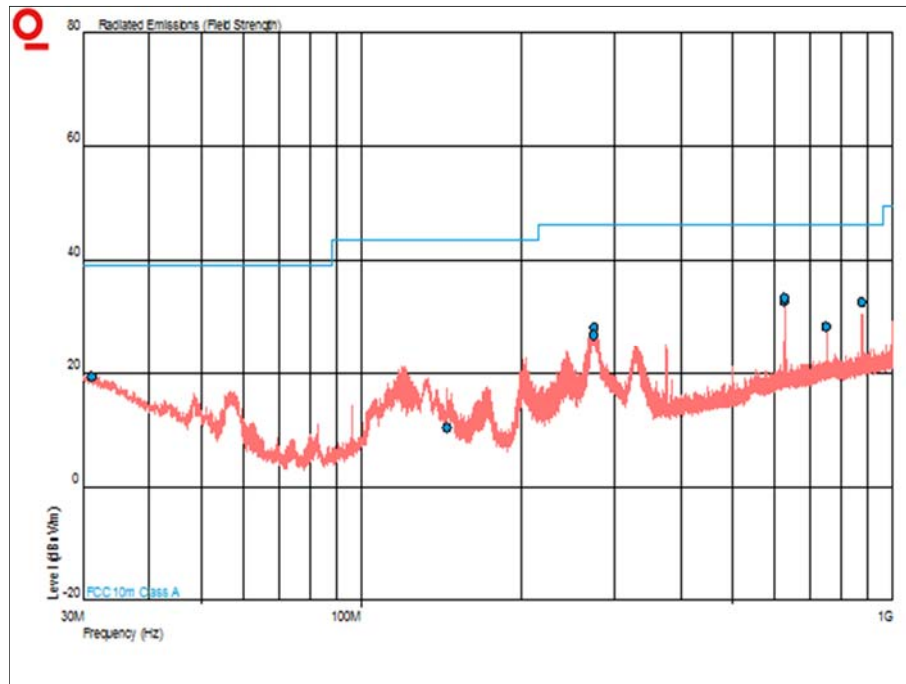
### MiFare Key Reader - Idle

Highest frequency generated or used within the EUT: 27.12 MHz

Upper frequency test limit: 1 GHz

| Frequency (MHz) | QP Level (dBuV/m) | QP Limit (dBuV/m) | QP Margin (dBuV/m) | Angle(Deg) | Height(m) | Polarity   |
|-----------------|-------------------|-------------------|--------------------|------------|-----------|------------|
| 31.139          | 19.3              | 39.1              | -19.8              | 360        | 1.00      | Horizontal |
| 145.078         | 10.4              | 43.5              | -33.1              | 23         | 1.00      | Horizontal |
| 273.562         | 26.8              | 46.4              | -19.6              | 57         | 1.00      | Vertical   |
| 275.308         | 28.1              | 46.4              | -18.3              | 238        | 1.00      | Horizontal |
| 624.990         | 33.4              | 46.4              | -13.0              | 144        | 1.00      | Vertical   |
| 625.030         | 32.8              | 46.4              | -13.6              | 201        | 1.00      | Horizontal |
| 750.016         | 28.3              | 46.4              | -18.1              | 188        | 1.00      | Vertical   |
| 875.022         | 32.6              | 46.4              | -13.8              | 237        | 1.31      | Vertical   |

**Table 12 - 30 MHz to 1 GHz**



**Figure 5 - 30 MHz to 1 GHz - Horizontal and Vertical**





Product Service

FCC 47 CFR Part 15, Limit Clause 15.109 and RSS-GEN, Limit Clause 7.1.2

| Frequency of Emission (MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) |
|-----------------------------|-----------------------|-------------------------|
| 30 to 88                    | 90.0                  | 39.1                    |
| 88 to 216                   | 150.0                 | 43.5                    |
| 216 to 960                  | 210.0                 | 46.4                    |
| Above 960                   | 300.0                 | 49.5                    |

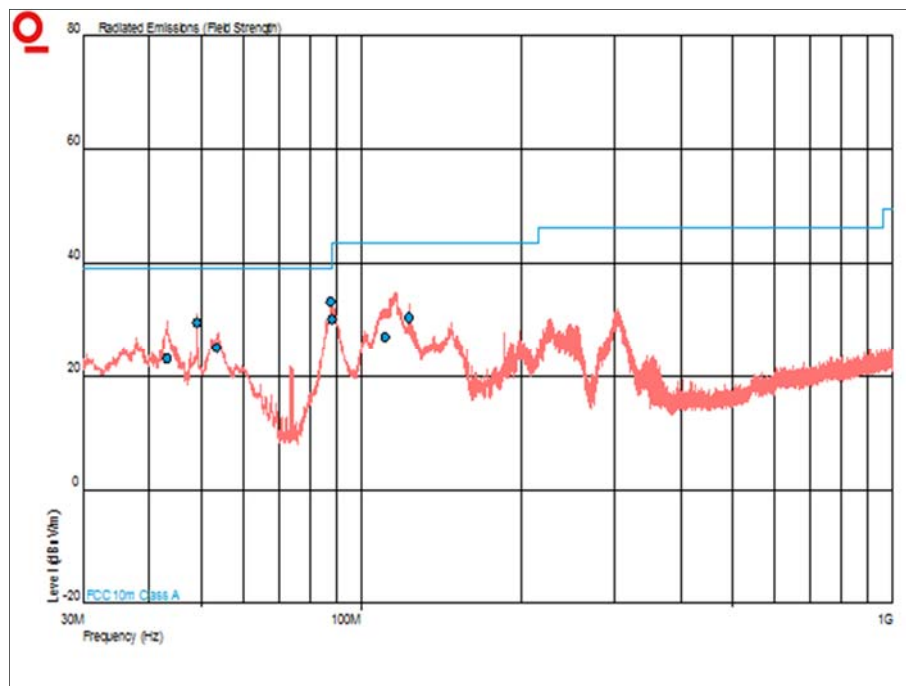
Fully Monitored Locking Control System - Idle

Highest frequency generated or used within the EUT: 27.12 MHz

Upper frequency test limit: 1 GHz

| Frequency (MHz) | QP Level (dBuV/m) | QP Limit (dBuV/m) | QP Margin (dBuV/m) | Angle(Deg) | Height(m) | Polarity   |
|-----------------|-------------------|-------------------|--------------------|------------|-----------|------------|
| 43.249          | 23.1              | 39.1              | -16.0              | 14         | 1.00      | Vertical   |
| 49.222          | 29.5              | 39.1              | -9.6               | 346        | 1.00      | Vertical   |
| 53.563          | 25.0              | 39.1              | -14.1              | 0          | 1.00      | Vertical   |
| 87.650          | 33.2              | 39.1              | -5.9               | 189        | 3.63      | Horizontal |
| 88.211          | 30.0              | 43.5              | -13.5              | 142        | 2.51      | Vertical   |
| 110.816         | 26.9              | 43.5              | -16.6              | 27         | 1.00      | Vertical   |
| 123.051         | 30.4              | 43.5              | -13.1              | 360        | 1.00      | Vertical   |

**Table 13 - 30 MHz to 1 GHz**



**Figure 6 - 30 MHz to 1 GHz - Horizontal and Vertical**

FCC 47 CFR Part 15, Limit Clause 15.109 and RSS-GEN, Limit Clause 7.1.2

| Frequency of Emission (MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) |
|-----------------------------|-----------------------|-------------------------|
| 30 to 88                    | 90.0                  | 39.1                    |
| 88 to 216                   | 150.0                 | 43.5                    |
| 216 to 960                  | 210.0                 | 46.4                    |
| Above 960                   | 300.0                 | 49.5                    |

## 2.2.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

| Instrument           | Manufacturer    | Type No           | TE No | Calibration Period (months) | Calibration Due |
|----------------------|-----------------|-------------------|-------|-----------------------------|-----------------|
| Antenna (Bilog)      | Schaffner       | CBL6143           | 287   | 24                          | 18-Apr-2018     |
| Screened Room (5)    | Rainford        | Rainford          | 1545  | 36                          | 20-Dec-2017     |
| Turntable Controller | Inn-Co GmbH     | CO 1000           | 1606  | -                           | TU              |
| Hygrometer           | Rotronic        | HYGROPALM 1       | 2338  | 12                          | 24-Oct-2018     |
| Digital Multimeter   | Iso-tech        | IDM-101           | 2895  | 12                          | 20-Jul-2018     |
| Comb Generator       | Schaffner       | RSG1000           | 3034  | -                           | TU              |
| Cable (N-N, 8m)      | Rhophase        | NPS-2302-8000-NPS | 3248  | 12                          | 02-May-2018     |
| EMI Test Receiver    | Rohde & Schwarz | ESU40             | 3506  | 12                          | 22-Nov-2018     |
| Tilt Antenna Mast    | maturo GmbH     | TAM 4.0-P         | 3916  | -                           | TU              |
| Mast Controller      | maturo GmbH     | NCD               | 3917  | -                           | TU              |
| Cable (Rx, Km-Km 2m) | Scott Cables    | KPS-1501-2000-KPS | 4526  | 6                           | 22-May-2018     |

**Table 14**

TU - Traceability Unscheduled



### 3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

| Test Name                         | Measurement Uncertainty               |
|-----------------------------------|---------------------------------------|
| AC Power Line Conducted Emissions | 150 kHz to 30 MHz, LISN, $\pm 3.7$ dB |
| Radiated Emissions                | 30 MHz to 1 GHz: $\pm 5.2$ dB         |
|                                   | 1 GHz to 40 GHz: $\pm 6.3$ dB         |

Table 15