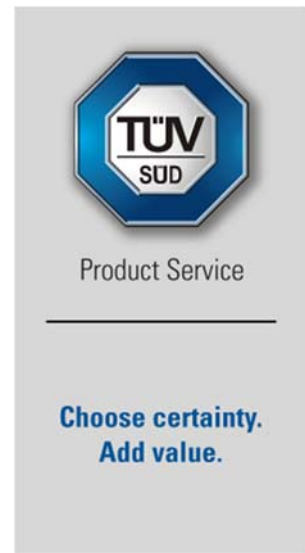


Report on the FCC and IC Testing of the  
 Guestkey Ltd  
 Mifare Key reader. Model: GKMR1000-4001  
 Mifare Key reader. Model: GKMS1000-4001  
 Switching power supply. Model: FW7556M  
 In accordance with FCC 47 CFR Part 15C, Industry  
 Canada RSS-210 and Industry Canada RSS-GEN



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: 75940778-02 | Issue: 01

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Project Management	Natalie Bennett	04 January 2018	<i>[Signature]</i>
Authorised Signatory	Matthew Russell	04 January 2018	<i>[Signature]</i>

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 15C, Industry Canada RSS-210 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	<i>[Signature]</i>
Testing	Mehadi Choudhury	04 January 2018	<i>[Signature]</i>

FCC 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 15C: 2016, Industry Canada RSS-210: Issue 09 (08-2016) and Industry Canada RSS-GEN: Issue 04 (11-2014).

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# 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) GKMR1000-4001 2) GKMR1000-4001 3) GKMS1000-4001 4) FW7556M
Serial Number(s)	1) Not serialised (75940778-TSR0001) 2) Not serialised (75940778-TSR0002) 3) Not serialised (75940778-TSR0019) 4) Not serialised (75940778-TSR0020)
Hardware Version(s)	REV 1
Software Version(s)	REV 1
Number of Samples Tested	4
Test Specification/Issue/Date	FCC 47 CFR Part 15C: 2016 Industry Canada RSS-210: Issue 09 (08-2016) Industry Canada RSS-GEN: Issue 04 (11-2014)
Order Number	PO1711-102
Date	03-November-2017
Date of Receipt of EUT	07-November-2017, 21-November-2017 and 04-December-2017
Start of Test	14-November-2017
Finish of Test	11-December-2017
Name of Engineer(s)	Graeme Lawler and Mehadi Choudhury
Related Document(s)	ANSI C63.10 (2013)



### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15C, Industry Canada RSS-210 and Industry Canada RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	Part 15C	RSS-210	RSS-GEN			
Configuration and Mode: MiFare Key Reader - Transmit						
2.1	15.207	-	8.8	AC Power Line Conducted Emissions	Pass	ANSI C63.10
2.2	15.215 (c)	-	6.6	20 dB Bandwidth	Pass	ANSI C63.10
2.3	15.225 (a)(b)(c)(d)	B.6	6.13	Field Strength of any Emission	Pass	ANSI C63.10
2.4	15.225 (e)	B.6	6.11	Frequency Tolerance Under Temperature Variations	Pass	ANSI C63.10

**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)	
Industry Canada ID (if applicable)	
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 mw			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
Please list all ancillaries which will be used with the device.

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-TSR0001)			
0	As supplied by the customer	Not Applicable	Not Applicable
Serial Number: Not serialised (75940778-TSR0002)			
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 – Transmit		
AC Power Line Conducted Emissions	Graeme Lawler	UKAS
20 dB Bandwidth	Mehadi Choudhury	UKAS
Field Strength of any Emission	Graeme Lawler	UKAS
Frequency Tolerance Under Temperature Variations	Mehadi Choudhury	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 15C, Clause 15.207  
Industry Canada RSS-GEN, Clause 8.8

#### 2.1.2 Equipment Under Test and Modification State

GKMR1000-4001, S/N: Not serialised (75940778-TSR0002) - Modification State 0  
GKMS1000-4001, S/N: Not serialised (75940778-TSR0019) - Modification State 0  
FW7556M, S/N: Not serialised (75940778-TSR0020) - Modification State 0

#### 2.1.3 Date of Test

22-November-2017 to 11-December-2017

#### 2.1.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.2

#### 2.1.5 Environmental Conditions

Ambient Temperature	17.5 - 19.7 °C
Relative Humidity	31.0 - 47.0 %





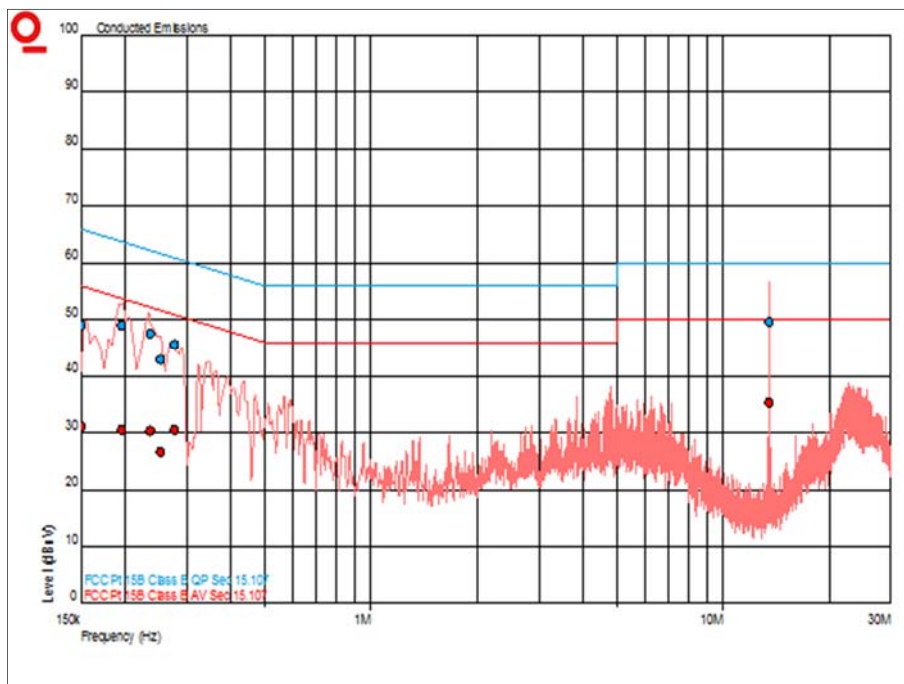
**2.1.6 Test Results**

MiFare Key Reader - Transmit

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)
0.150	49.1	66.0	-16.9	31.2	56.0	-24.8
0.196	49.0	63.8	-14.8	30.6	53.8	-23.2
0.237	47.6	62.2	-14.6	30.3	52.2	-21.9
0.253	42.9	61.7	-18.8	26.6	51.7	-25.1
0.276	45.6	60.9	-15.4	30.5	50.9	-20.4
13.559	49.6	60.0	-10.4	35.3	50.0	-14.7

**Table 5 - Live Line Emissions Results**

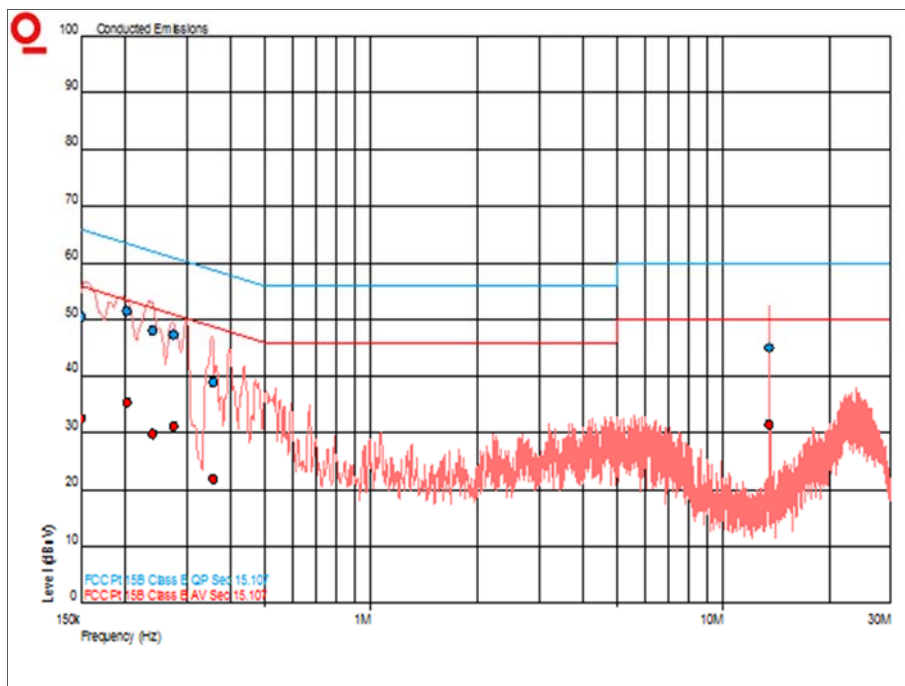


**Figure 1 - Live Line - 150 kHz to 30 MHz**



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.150	50.5	66.0	-15.5	32.4	56.0	-23.6
0.203	51.6	63.5	-11.9	35.3	53.5	-18.2
0.240	48.2	62.1	-13.9	29.8	52.1	-22.3
0.276	47.4	60.9	-13.6	31.0	50.9	-19.9
0.356	38.9	58.8	-19.9	21.9	48.8	-26.9
13.559	45.0	60.0	-15.0	31.4	50.0	-18.6

**Table 6 - Neutral Line Emissions Results**



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



**FCC 47 CFR Part 15, Limit Clause 15.207 and Industry Canada 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.

**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 8**



**2.2 20 dB Bandwidth**

**2.2.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.215 (c)  
Industry Canada RSS-GEN, Clause 6.6

**2.2.2 Equipment Under Test and Modification State**

GKMR1000-4001, S/N: Not serialised (75940778-TSR0001) - Modification State 0

**2.2.3 Date of Test**

14-November-2017

**2.2.4 Test Method**

The test was performed in accordance with ANSI C63.10, clause 6.9.2.

**2.2.5 Environmental Conditions**

Ambient Temperature	23.8 °C
Relative Humidity	37.8 %



2.2.6 Test Results

MiFare Key Reader - Transmit

Frequency (MHz)	20 dB Bandwidth (Hz)	99% Occupied Bandwidth (Hz)	F <sub>LOWER</sub> (MHz)	F <sub>UPPER</sub> (MHz)
13.56	66.99	119.87	13.559993910	13.5600609

Table 9

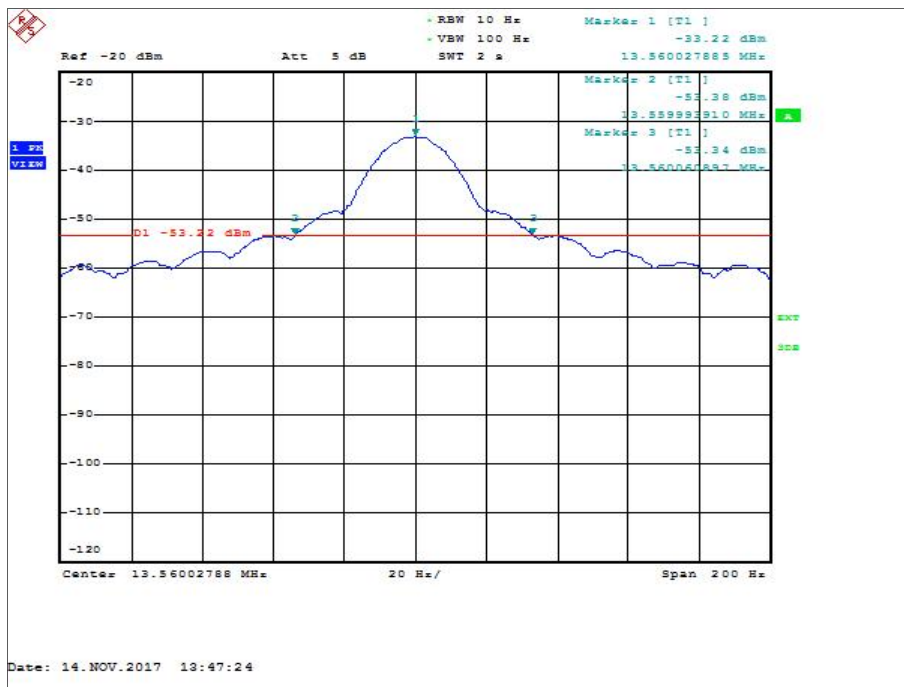


Figure 3 - 20 dB Bandwidth

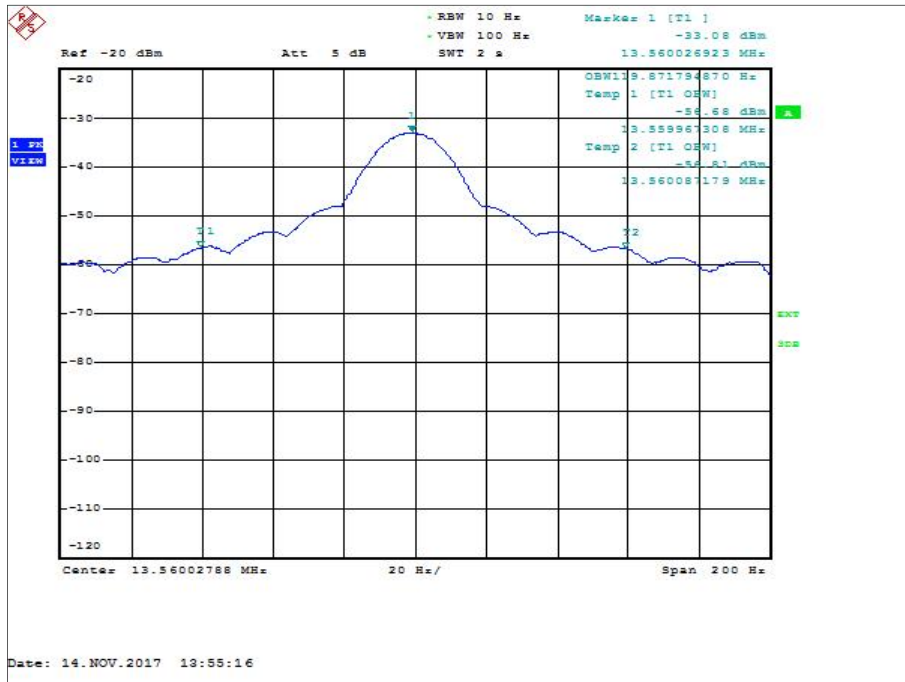


Figure 4 - 99% Occupied Bandwidth

FCC 47 CFR Part 15, Limit Clause 15.215 (c)

The 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Industry Canada RSS 210 and Industry Canada RSS GEN, Limit Clause

None specified.



**2.2.7 Test Location and Test Equipment Used**

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
RF Shielded Enclosure	Rittal	AE1380	162	-	TU
Multimeter	White Gold	WG022	190	12	24-Nov-2017
Cable( 3m, SMA(m) - SMA(m) )	Reynolds	262-0248-3000	2402	12	19-Sep-2018
Thermocouple Thermometer	Fluke	51	3172	12	16-Nov-2017
Hygrometer	Rotronic	I-1000	3220	12	30-Aug-2018
Signal Analyser	Rohde & Schwarz	FSQ 26	3545	12	23-Oct-2018
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	12-Mar-2018
4 Channel PSU	Rohde & Schwarz	HMP4040	4736	-	O/P Mon

**Table 10**

TU - Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



## **2.3 Field Strength of any Emission**

### **2.3.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.225 (a)(b)(c)(d)  
Industry Canada RSS-210, Clause B.6  
Industry Canada RSS-GEN, Clause 6.13

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

GKMR1000-4001, S/N: Not serialised (75940778-TSR0002) - Modification State 0

### **2.3.3 Date of Test**

20-November-2017 to 22-November-2017

### **2.3.4 Test Method**

The test was performed in accordance with ANSI C63.10, clause 6.3, 6.4 and 6.5. Pre-scan measurements were made at a distance of 3 m as shown by the plots below using a peak detector. Final emission measurements were then made using a Quasi-Peak detector and recorded in the tables below. The limit lines shown on the plot were extrapolated from either 300 m or 30 m to the measurement distance of 3 m in accordance with ANSI C63.10 Clause 6.4.4.2.

### **2.3.5 Environmental Conditions**

Ambient Temperature	18.1 - 19.7 °C
Relative Humidity	47.0 %





### 2.3.6 Test Results

#### MiFare Key Reader - Transmit, Carrier Results

Frequency (MHz)	Quasi-Peak Level (dBµV/m) at 3m	Quasi-Peak Level (dBµV/m) at 30m	Quasi-Peak Level (µV/m) at 3m	Quasi-Peak Level (µV/m) at 30m
13.56	58.48	37.09	839.46	71.53

Table 11

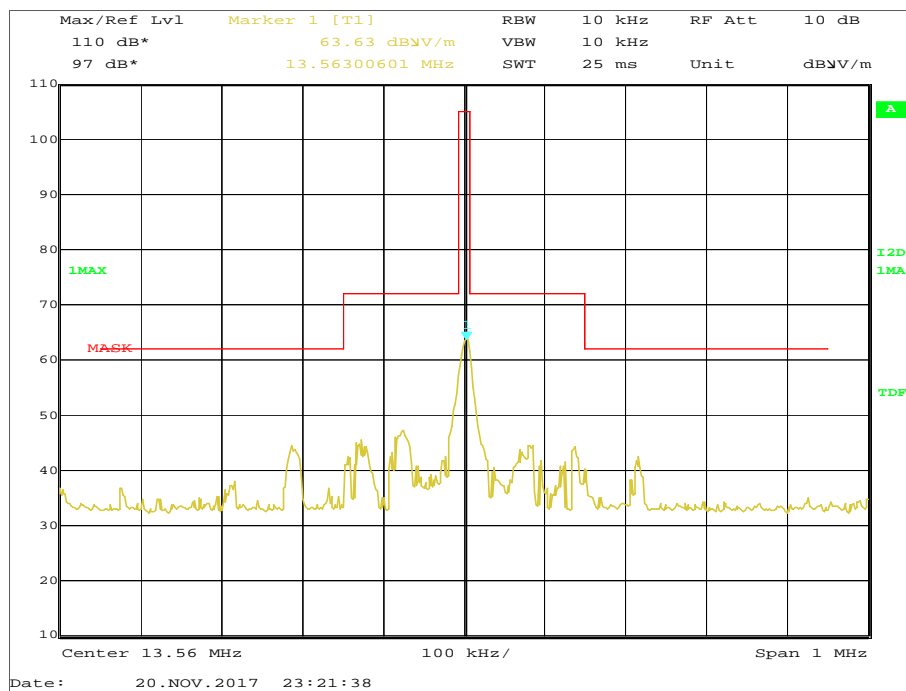


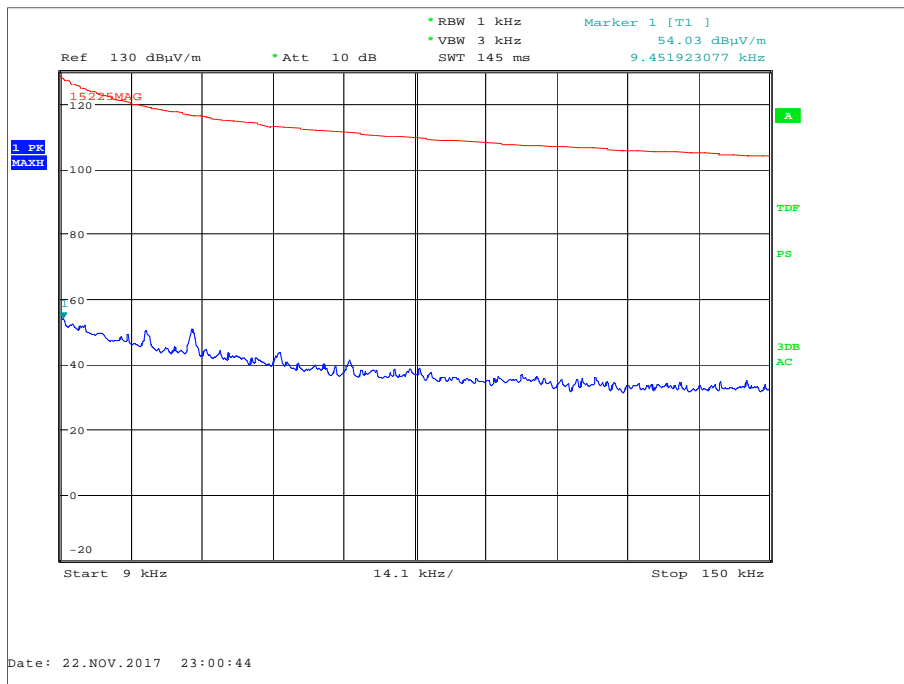
Figure 5 - Plot of the Fundamental - 13.56 MHz



Frequency MHz	Quasi-Peak Level (dBµV/m) at 3 m	Quasi-Peak Level (dBµV/m) at 30 m	Quasi-Peak Level (µV/m) at 3 m	Quasi-Peak Level (µV/m) at 30 m

**Table 12 - Emissions Results - 9 kHz to 30 MHz**

No emissions were detected within 10 dB of the limit.



**Figure 6 - 9 kHz to 150 kHz**

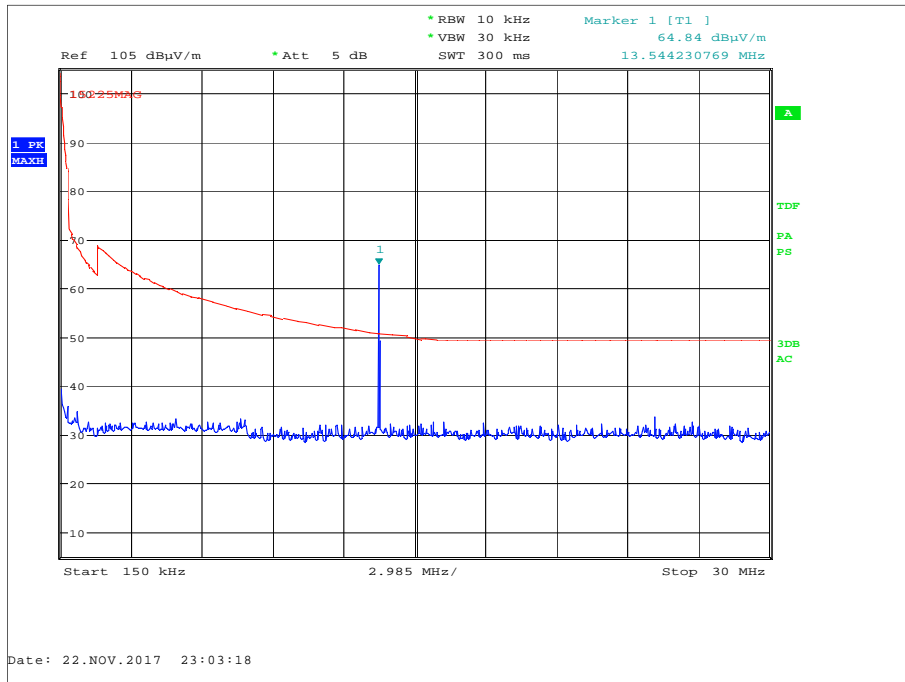


Figure 7 - 150 kHz to 30 MHz



Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	QP Margin (dBuV/m)	Angle(Deg)	Height(m)	Polarity
46.179	34.2	40.0	-5.8	37	1.00	Face On
49.231	30.9	40.0	-9.1	40	1.00	Edge On
49.249	38.6	40.0	-1.4	139	1.00	Face On
52.252	29.6	40.0	-10.4	153	1.00	Face On
55.392	29.2	40.0	-10.8	197	1.00	Face On
61.537	33.7	40.0	-6.3	0	1.59	Face On
64.694	39.3	40.0	-0.7	33	1.60	Face On
70.845	34.7	40.0	-5.3	188	1.89	Face On
73.829	39.9	40.0	-0.1	133	1.09	Face On
98.412	31.3	43.5	-12.2	151	1.00	Face On
123.053	39.8	43.5	-3.7	360	1.00	Face On

Table 13 - Emissions Results – 30 MHz to 1 GHz

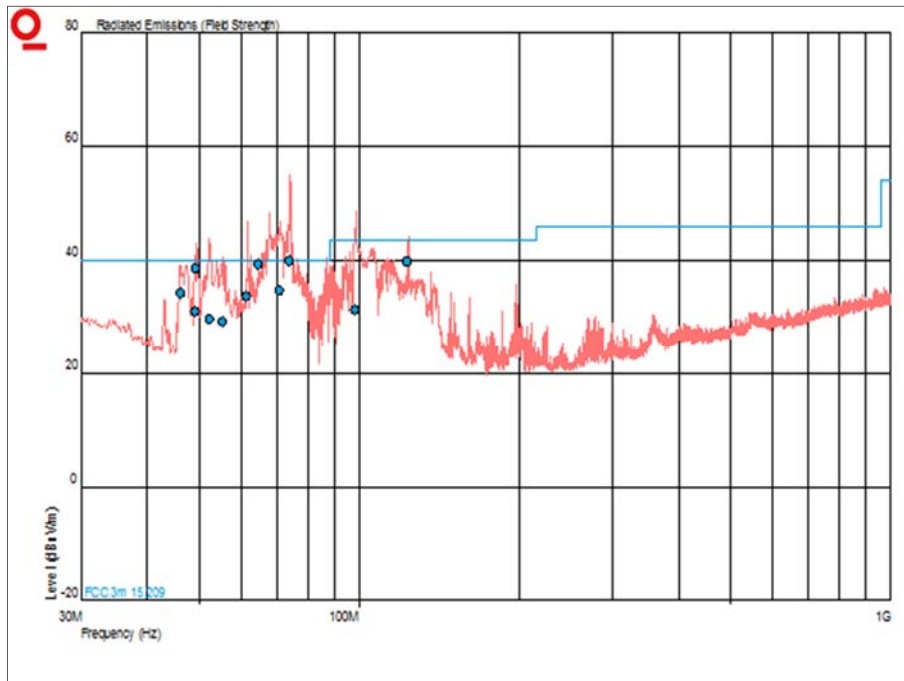


Figure 8 - 30 MHz to 1 GHz



FCC 47 CFR Part 15, Limit Clause 15.225 (a)(b)(c)(d)

- (a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 m.
- (b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 m.
- (c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 m.
- (d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

FCC 47 CFR Part 15, Limit Clause 15.209

Frequency (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )	Measurement Distance (m)
0.009 to 0.490	2400/F (kHz)	67.60/F (kHz)	300
0.490 to 1.705	24000/F (kHz)	87.60/F (kHz)	30
1.705 to 30	30	29.54	30
30 to 88	100**	40**	3
88 to 216	150**	43.52**	3
216 to 960	200**	46.02**	3
Above 960	500	53.98**	5

**Table 14 - FCC Radiated Emission Limit**

Industry Canada RSS-210, Limit Clause B.6

The field strength of any emission shall not exceed the following limits:

- (a) 15.848 mW/m (84  $\text{dB}\mu\text{V}/\text{m}$ ) at 30 m, within the band 13.553 – 13.567 MHz.
- (b) 334  $\mu\text{V}/\text{m}$  (50.5  $\text{dB}\mu\text{V}/\text{m}$ ) at 30 m, within the bands 13.410 – 13.553 MHz and 13.567 – 13.710 MHz.
- (c) 106  $\mu\text{V}/\text{m}$  (40.5  $\text{dB}\mu\text{V}/\text{m}$ ) at 30 m, within the bands 13.110 – 13.410 MHz and 13.710 – 14.010 MHz.
- (d) RSS-GEN general field strength limits for frequencies outside the band 13.110 – 14.010 MHz.



**Industry Canada RSS-GEN, Limit Clause 8.9**

Frequency	Electric Field Strength ( $\mu\text{V}/\text{m}$ )	Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )	Magnetic Field Strength (H-Field) ( $\mu\text{A}/\text{m}$ )	Measurement Distance (m)
9 - 490 kHz	2,400/F (F in kHz)	67.60/F (kHz)	2,400/377F (F in kHz)	300
490 - 1,705 kHz	24,000/F (F in kHz)	87.60/F (kHz)	24,000/377F (F in kHz)	30
1,705 kHz - 30 MHz	30	29.54	N/A	30

**Table 15 - Industry Canada Radiated Emission Limit - Less than 30 MHz**

Frequency (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ at 3 m)
30 - 88	100
88 - 216	150
216 - 960	200
> 960	500

**Table 16 - Industry Canada Radiated Emission Limit - 30 MHz to 1 GHz**



### 2.3.7 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
Test Receiver	Rohde & Schwarz	ESIB26	242	12	19-Jun-2018
Antenna (Bilog)	Schaffner	CBL6143	287	24	18-Apr-2018
Antenna (Active Loop, 9kHz-30MHz)	Rohde & Schwarz	HFH2-Z2	333	24	09-Dec-2018
Antenna (Dish/Tripod/Adaptor, 1GHz-18GHz)	Rohde & Schwarz	AC-008	334	-	TU
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	28-Jun-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
Tilt Antenna Mast	maturo GmbH	TAM 4.0-P	3916	-	TU
Mast Controller	maturo GmbH	NCD	3917	-	TU
TRUE RMS MULTIMETER	Fluke	179	4006	12	13-Dec-2017
Cable (Yellow, Rx, Km-Km 2m)	Scott Cables	KPS-1501-2000-KPS	4527	6	04-Dec-2017

**Table 17**

TU - Traceability Unscheduled



**2.4 Frequency Tolerance Under Temperature Variations**

**2.4.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.225 (e)  
 Industry Canada RSS-210, Clause B.6  
 Industry Canada RSS-GEN, Clause 6.11

**2.4.2 Equipment Under Test and Modification State**

GKMR1000-4001, S/N: Not serialised (75940778-TSR0001) - Modification State 0

**2.4.3 Date of Test**

15-November-2017

**2.4.4 Test Method**

The test was performed in accordance with ANSI C63.10, clause 6.8.

**2.4.5 Environmental Conditions**

Ambient Temperature 21.0 - 23.8 °C  
 Relative Humidity 37.8 - 52.4 %

**2.4.6 Test Results**

MiFare Key Reader - Transmit

Temperature	Voltage	Measured Frequency (MHz)	Frequency Deviation (%)	Frequency Error (ppm)
-30.0 °C	24.0 VDC	13.560	0.003	2.931
-20.0 °C	24.0 VDC	13.560	0.004	4.255
-10.0 °C	24.0 VDC	13.560	0.007	7.115
0.0 °C	24.0 VDC	13.560	0.007	7.280
10.0 °C	24.0 VDC	13.560	0.006	5.531
20.0 °C	20.4 VDC	13.560	0.002	1.938
20.0 °C	27.6 VDC	13.560	0.002	1.867
30.0 °C	24.0 VDC	13.560	0.003	3.380
40.0 °C	24.0 VDC	13.560	0.002	1.584
50.0 °C	24.0 VDC	*	*	*

**Table 18**

\* EUT powered down at 40.0 °C





FCC 47 CFR Part 15, Limit Clause 15.225 (e)

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01$  % of the operating frequency.

Industry Canada RSS-210, Limit Clause B.6

Carrier frequency stability shall be maintained to  $\pm 0.01\%$  ( $\pm 100$  ppm).

**2.4.7 Test Location and Test Equipment Used**

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
RF Shielded Enclosure	Rittal	AE1380	162	-	TU
Multimeter	White Gold	WG022	190	12	24-Nov-2017
RF Coupler	TUV SUD Product Service	RFC1	414	-	TU
Cable( 3m, SMA(m) - SMA(m) )	Reynolds	262-0248-3000	2402	12	19-Sep-2018
Thermocouple Thermometer	Fluke	51	3172	12	16-Nov-2017
Hygrometer	Rotronic	I-1000	3220	12	30-Aug-2018
Signal Analyser	Rohde & Schwarz	FSQ 26	3545	12	23-Oct-2018
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	12-Mar-2018
4 Channel PSU	Rohde & Schwarz	HMP4040	4736	-	O/P Mon

**Table 19**

TU - Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



### 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
20 dB Bandwidth	$\pm 4.1171$ Hz
Field Strength of any Emission	9 kHz to 30 MHz: $\pm 3.4$ dB 30 MHz to 1 GHz: $\pm 5.2$ dB
Frequency Tolerance Under Temperature Variations	$\pm 4.1171$ Hz

**Table 20**