Report on the FCC and IC Testing of the, SureFlap Ltd Cat Flap Connect. Model: iDSCF In accordance with FCC 47 CFR Part 15C, Industry Canada RSS-310 and Industry Canada RSS-GEN

Product Service

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FCC ID: XO9-DSCF-1002 IC: 8906A-DSCF1002

COMMERCIAL-IN-CONFIDENCE

Date: July 2018
Document Number: 75941461-05 | Issue: 01

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Project Management	Natalie Bennett	12 July 2018	
Authorised Signatory	Matthew Russell	12 July 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 15C, Industry Canada RSS-310 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	Mehadi Choudhury	12 July 2018	
Testing	Graeme Lawler	12 July 2018	

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: 2017, Industry Canada RSS-310: Issue 04 (2015-07) and Industry Canada RSS-GEN: Issue 04 (2014-11).

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Product Service

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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	12 July 2018

1.2 Introduction

Applicant	SureFlap Ltd
Manufacturer	SureFlap Ltd
Model Number(s)	iDSCF
Serial Number(s)	Not Serialised (75941461-TSR0009)
Hardware Version(s)	00500621-DA_02 Internet 00500621-DA_02 Internet DualScan Cat Flap General Assembly (_02: revision 02)
Software Version(s)	Firmware 01127_FF (but special version for TUV SUD testing)
Number of Samples Tested	1
Test Specification/Issue/Date	FCC 47 CFR Part 15C: 2017 Industry Canada RSS-310: Issue 04 (2015-07) Industry Canada RSS-GEN: Issue 04 (2014-11)
Order Number Date	2265 19-January-2018
Date of Receipt of EUT	14-February-2018
Start of Test	21-February-2018
Finish of Test	05-May-2018
Name of Engineer(s)	Mehadi Choudhury Graeme Lawler
Related Document(s)	ANSI C63.10 (2013)

Product Service

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-310 and Industry Canada RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	Part 15C	RSS-310	RSS-GEN			
Configuration and Mode: 126 kHz - RFiD Transceiver						
2.1	-	2.6	6.6	Emission Bandwidth	Pass	
2.2	-	2.6	6.11	Frequency Tolerance Under Temperature Variations	Pass	
2.3	15.209	2.6	6.12	Transmitter Output Power	Pass	
2.4	15.209	2.6	6.13	Transmitter Unwanted Emissions	Pass	
-	-	2.6	7.1	Receiver Emission Limits	N/A	Receiver exempt from Industry Canada requirements as not within the band 30-960 MHz as described in Industry Canada RSS-GEN, Clause 5.3.
Configuration and Mode: 133 kHz - RFiD Transceiver						
2.1	-	2.6	6.6	Emission Bandwidth	Pass	
2.2	-	2.6	6.11	Frequency Tolerance Under Temperature Variations	Pass	
2.3	15.209	2.6	6.12	Transmitter Output Power	Pass	
2.4	15.209	2.6	6.13	Transmitter Unwanted Emissions	Pass	
-	-	2.6	7.1	Receiver Emission Limits	N/A	Receiver exempt from Industry Canada requirements as not within the band 30-960 MHz as described in Industry Canada RSS-GEN, Clause 5.3.

Table 1

Product Service

1.4 Application Form

EQUIPMENT DESCRIPTION	
Model Name/Number	iDSCF
Part Number	N/A
Hardware Version	00500621-DA_02 Internet DualScan Cat Flap General Assembly (_02: revision 02)
Software Version	Firmware 01127_FF (but special version for TUV SUD testing)
Technical Description (Please provide a brief description of the intended use of the equipment)	CatFlap connected by 2.4 GHz RF to a hub which is connected to the internet. Allows the conditional entry of animals based on RFID tags. Usually situated in an external door of a house.

EXTREME TEMPERATURE RANGE (over which equipment is to be type tested)		
Category I (General) -20ºC to +55ºC	☒ Yes	☐ No
Category II (Portable) -10ºC to +55ºC	☐ Yes	☒ No
Category III (Equipment for normal indoor use) 0ºC to +35ºC	☐ Yes	☒ No

TYPE OF EQUIPMENT			
☒ Fixed Station	☐ Transmitter	☐ Simplex	☒ Integral Antenna
	☒ Receiver	☒ Duplex	☐ Single Antenna
☐ Mobile Station	☐ Transceiver		☐ Two Antenna Connector
	☐ Battery Charger		☐ Multiple Antenna Connectors No.
☐ Portable Station			
☐ Transponder (Tag)	☐ Active	☐ Passive	

TRANSMITTER TECHNICAL CHARACTERISTICS		
Product Class :	3	(See EN 300 330 Subclause 6.1.2.)
ANTENNA CHARACTERISTICS		
For Class 1 Equipments - Average area for the loop		m^2 (See Note 1)
For Class 2 and 3 Equipments - Maximum current in the loop	1	Amps
FREQUENCY CHARACTERISTICS		
Transmitter frequency alignment range (See Note 2)	0.126 to 0.133	MHz
Transmitter channel switching frequency range (See Note 3)	0.126 to 0.133	MHz
CHANNEL SEPARATION - (if applicable)	7 kHz	
State the maximum number of channels over which the equipment can operate -	2	

Notes

(1) The Area of the loop is the physical area and does not take into account the number of turns.

(2) The alignment range is the frequency range over which the receiver or the transmitter can be programmed and/or realigned to operate, without any physical change to components other than programmable read only memories or crystals (for the receiver or transmitter).

(3) The switching range is the maximum frequency range over which the receiver or the transmitter can be operated without reprogramming or realignment.

TRANSMITTER RF CARRIER CHARACTERISTICS		
MAXIMUM RATED TRANSMITTER OUTPUT		
	Watts	At transmitter permanent external RF output connector (for class 2 or 3 equipment)
or		
to be measured	dB(µA/m)	Field strength at 10 m (for class equipment with integral antenna)
or		
	dB(µA/m)	Field strength at 10 m (for class 4 equipment with integral antenna)
MINIMUM RATED TRANSMITTER OUTPUT		
	Watts	At transmitter permanent external RF output connector (for class 2 or 3 equipment)
or		
to be measured	dB(µA/m)	Field strength at 10 m (for class equipment with integral antenna)
or		
	dB(µA/m)	Field strength at 10 m (for class 4 equipment with integral antenna)
Transmit Power Control Range	dB	Transmit Power Control Step dB

TRANSMITTER - MODULATION			
Amplitude	☐	Other	☒
Frequency	☐	Details:	the flap send out an unmodulated carrier
Phase	☐		

POWER SOURCE			
☐	AC mains		State voltage
	AC supply frequency	(Hz)	
	VAC		
	Max Current		
	Hz		
☐	Single phase		☐ Three phase
And / Or			
☐	External DC supply		
	Nominal voltage	V	Max Current A
	Extreme upper voltage	V	
	Extreme lower voltage	V	
Battery			
☐	Nickel Cadmium		☐ Lead acid (Vehicle regulated)
☒	Alkaline		☐ Leclanche
☐	Lithium		☐ Other Details:
6	Volts nominal.		
End point voltage as quoted by equipment manufacturer		5	V

AUTOMATIC EQUIPMENT SWITCH OFF	
If the equipment is designed to automatically switch off at a predetermined voltage level which is higher or lower in value than the battery minimum and minimum calculated values this shall be clearly stated.	
☐ Applies	V cut-off voltage
☒ Does not apply	

FREQUENCY IDENTIFICATION			
Each equipment, whether one or more submitted for tests shall carry clear identification (such as a serial number), together with the frequency identification displayed on the equipment.			
Equipment identification e.g. serial number	Channel No. (if applicable)	Transmit Nominal Frequency (MHz)	Receive Nominal Frequency (MHz)
unit 1 - mode 1		0.126	0.126
unit 1 - mode 2		0.133	0.133

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

Name: Chris Cowdery Position held: Head of Embedded Systems
Date: 23rd Feb 2018

1.5 Product Information

1.5.1 Technical Description

The product is a Cat Flap that permits transit of selected pets based on the unique ID number of their implanted RFiD Microchip. It is intended for use in a domestic environment.

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 (75941461-TSR0009)			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 2

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: 126 kHz - RFiD Transceiver		
Emission Bandwidth	Mehadi Choudhury	UKAS
Frequency Tolerance Under Temperature Variations	Mehadi Choudhury	UKAS
Transmitter Output Power	Graeme Lawler	UKAS
Transmitter Unwanted Emissions	Graeme Lawler	UKAS
Configuration and Mode: 133 kHz - RFiD Transceiver		
Emission Bandwidth	Mehadi Choudhury	UKAS
Frequency Tolerance Under Temperature Variations	Mehadi Choudhury	UKAS
Transmitter Output Power	Graeme Lawler	UKAS
Transmitter Unwanted Emissions	Graeme Lawler	UKAS

Table 3

Office Address:

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

2 Test Details

2.1 Emission Bandwidth

2.1.1 Specification Reference

Industry Canada RSS-310, Clause 2.6
Industry Canada RSS-GEN, Clause 6.6

2.1.2 Equipment Under Test and Modification State

iDSCF, S/N: Not Serialised (75941461-TSR0009) - Modification State 0

2.1.3 Date of Test

28-February-2018

2.1.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.9.3 and Industry Canada RSS-Gen clause 6.6.

2.1.5 Environmental Conditions

Ambient Temperature	22.6 °C
Relative Humidity	20.5 %

2.1.6 Test Results

126 kHz - RFiD Transceiver

Frequency (kHz)	99% Occupied Bandwidth (Hz)
126	121

Table 4 - Occupied Bandwidth Result

Figure 1 - Emission Bandwidth

Industry Canada RSS-GEN Limit Clause

None specified.

133 kHz - RFiD Transceiver

Frequency (kHz)	99% Occupied Bandwidth (Hz)
133	132

Table 5 - Occupied Bandwidth Result

Figure 2 - Emission Bandwidth

Industry Canada RSS-GEN Limit Clause

None specified.

2.1.7 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
Multimeter	Fluke	75 Mk3	455	12	14-Sep-2018
Antenna (Loop)	Ailtech	94605-1	1422	-	TU
Cable (3m, SMA(m) - SMA(m))	Reynolds	262-0248-3000	2402	12	19-Sep-2018
Hygrometer	Rotronic	I-1000	3220	12	30-Aug-2018
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	12-Mar-2018
Quad Power Supply	Rohde & Schwarz	HMP4040	4954	-	O/P Mon
EXA	Keysight Technologies	N9010B	4968	12	21-Dec-2018

Table 6

TU – Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

2.2 Frequency Tolerance Under Temperature Variations

2.2.1 Specification Reference

Industry Canada RSS-310, Clause 2.6
Industry Canada RSS-GEN, Clause 6.11

2.2.2 Equipment Under Test and Modification State

iDSCF, S/N: Not Serialised (75941461-TSR0009) - Modification State 0

2.2.3 Date of Test

21-February-2018

2.2.4 Test Method

This test was performed in accordance with Industry Canada RSS-Gen clause 6.11.

An unmodulated carrier was not available therefore the measurement was performed using a spectrum analyser. The spectrum analyser was configured for a span of 10 kHz, with an RBW of 100 Hz. The entire fundamental was displayed on screen and a single marker was used to record the frequency of the maximum peak.

2.2.5 Environmental Conditions

Ambient Temperature	22.4 °C
Relative Humidity	24.8 %

2.2.6 Test Results

126 kHz - RFiD Transceiver

Test Conditions		126 kHz	
Temperature	Voltage	Measured Frequency (kHz)	Frequency Error (Hz)
-30.0 °C	6.0 V DC	125.994	-6
+20.0 °C	6.9 V DC	125.993	-7
+20.0 °C	6.0 V DC	125.993	-7
+20.0 °C	5.1 V DC	125.993	-7
+50.0 °C	6.0 V DC	125.991	-9

Table 7 - Frequency Tolerance Results

133 kHz - RFiD Transceiver

Test Conditions		133 kHz	
Temperature	Voltage	Measured Frequency (kHz)	Frequency Error (Hz)
-30.0 °C	6.0 V DC	132.790	-210
+20.0 °C	6.9 V DC	132.789	-211
+20.0 °C	6.0 V DC	132.789	-211
+20.0 °C	5.1 V DC	132.789	-211
+50.0 °C	6.0 V DC	132.787	-213

Table 8 - Frequency Tolerance Results

Industry Canada RSS-GEN, Limit Clause 8.11

Transmitter frequency stability for licence-exempt radio apparatus shall be measured in accordance with Section 6.11. For licence-exempt radio apparatus, the frequency stability shall be measured at temperatures of -20°C (-4°F), +20°C (+68°F) and +50°C (+122°F) instead of at the temperatures specified in Section 6.11.

If the frequency stability of the licence-exempt radio apparatus is not specified in the applicable standard (RSS), measurement of the frequency stability is not required provided that the occupied bandwidth of the licence-exempt radio apparatus lies entirely outside the restricted bands and the prohibited TV bands of 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-806 MHz.

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
Antenna (Loop 5.25)	Eaton	94605-1	2073	36	10-Oct-2019
Digital Temperature Indicator	Fluke	51	2267	12	5-Jul-2018
Hygrometer	Rotronic	I-1000	3220	12	30-Aug-2018
'3.5mm' - '3.5mm' RF Cable (2m)	Rhophase	3PS-1803-2000-3PS	3702	12	9-Feb-2019
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	20-Oct-2018
1 metre K-Type Cable	Florida Labs	KMS-180SP-39.4-KMS	4520	12	13-Feb-2019
PXA Signal Analyser	Keysight Technologies	N9030A	4653	12	5-Feb-2019
Climatic Chamber	Aralab	FitoTerm 300E45	4823	12	O/P Mon
Quad Power Supply	Rohde & Schwarz	HMP4040	4954	-	O/P Mon

TU - Traceability Unscheduled
O/P Mon - Output Monitored using Calibrated Equipment

2.3 Transmitter Output Power

2.3.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.209
Industry Canada RSS-310, Clause 2.6
Industry Canada RSS-GEN, Clause 6.12

2.3.2 Equipment Under Test and Modification State

iDSCF, S/N: Not Serialised (75941461-TSR0014) - Modification State 0

2.3.3 Date of Test

05-May-2018

2.3.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.4 and Industry Canada RSS-GEN, clause 6.12.

2.3.5 Environmental Conditions

Ambient Temperature	18.0 °C
Relative Humidity	45.0 %

2.3.6 Test Results

126 kHz - RFiD Transceiver

Frequency kHz	Transmitter Output Power dBµV/m	Limit dBµV/m	Margin dBµV/m
125.992	15.82	25.59	9.77

Table 9

FCC Part 15.209 requires that measurements be made at a distance of 300 m. The near field boundary was established as being 379.13 m, (47.77 / 0.126), (ANSI C63.10 Clause 6.4.4.1). Two measurement distances were chosen to establish the decay factor:

Measurement Distance (m)	Measured Field Strength (dBµV/m)	Measured Field Strength (µV/m)
10	90.15	32173.62
30	66.14	2027.68

Table 10

Using the formula in Clause 6.4.4.4, the decay factor was determined:

$20 * [(\log (E_1 / E_2)) / (\log (d_1 / d_2))]$
= 20 * [(log (32173.62/ 2027.68)) / (log (10/30))
= -50.3 dB

As the specification measurement distance of 300 m is within the near field boundary, only an extrapolation in the near field has been calculated:

Using the formula from Clause 6.4.4.7:
Extrapolated Field Strength = Field Strength Max – $N * \log (d_{LIMIT} / D_{MEAS})$
= 66.14 – (50.3 * log (300 / 30)
= 15.82 dBµV/m

FCC Part 15C, Limit VClause 15.209

2400/126 = 19.05 µV/m = 25.59 dBµV/m

Industry Canada RSS-GEN Limit Clause 8.9

2400/126 = 19.05 µV/m = 25.59 dBµV/m

133 kHz - RFiD Transceiver

Frequency kHz	Transmitter Output Power dBµV/m	Limit dBµV/m	Margin dBµV/m
132.792	15.56	25.13	9.57

Table 11

FCC Part 15.209 requires that measurements be made at a distance of 300 m. The near field boundary was established as being 359.17 m, (47.77 / 0.133), (ANSI C63.10 Clause 6.4.4.1).

Two measurement distances were chosen to establish the decay factor:

Measurement Distance (m)	Measured Field Strength (dBµV/m)	Measured Field Strength (µV/m)
10	89.68	30478.95
30	65.74	1936.42

Table 12

Using the formula in Clause 6.4.4.4, the decay factor was determined:

$20 * [(\log (E_1 / E_2)) / (\log (d_1 / d_2))]$

= 20 * [(log (30478.95/ 1936.42)) / (log (10/30))

= -50.2 dB

As the specification measurement distance of 300 m is within the near field boundary, only an extrapolation in the near field has been calculated:
Using the formula from Clause 6.4.4.7:
Extrapolated Field Strength = Field Strength Max – N * log (d_{LIMIT} / D_{MEAS})

= 65.74 – (50.2 * log(300 / 30)

= 15.56 dBµV/m

Test limits in accordance with FCC Part 15.209 = 2400/133 = 18.05 µV/m = 25.13 dBµV/m

FCC Part 15C, Limit VClause 15.209

2400/133 = 18.05 µV/m = 25.13 dBµV/m

Industry Canada RSS-GEN Limit Clause 8.9

2400/133 = 18.05 µV/m = 25.13 dBµV/m

2.3.7 Test Location and Test Equipment Used

This test was carried out in Open Air Test Site.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Antenna (Active Loop, 9kHz-30MHz)	Rohde & Schwarz	HFH2-Z2	333	24	9-Dec-2018
Antenna (Dish/Tripod/Adaptor, 1GHz-18GHz)	Rohde & Schwarz	AC-008	334	-	TU
Hygromer	Rotronic	A1	2138	12	21-Feb-2019
Multimeter	Iso-tech	IDM101	2419	12	23-Nov-2018
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	22-Nov-2018
Signal Analyser	Rohde & Schwarz	FSQ 26	3545	12	14-Mar-2019

Table 13

TU – Traceability Unscheduled

2.4 Transmitter Unwanted Emissions

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.209
Industry Canada RSS-310, Clause 2.6
Industry Canada RSS-GEN, Clause 6.13

2.4.2 Equipment Under Test and Modification State

iDSCF, S/N: Not Serialised (75941461-TSR0009) - Modification State 0

2.4.3 Date of Test

14-Mar-2018

2.4.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.4 and 6.5. and Industry Canada RSS-GEN clause 6.13.

Measurements were made at a distance of 3 m. 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.

For any emissions detected within 20 dB of the limit, a final measurement was made and recorded in the table below. The detector used for these measurements was a quasi-peak detector except for emissions within the bands 9 kHz to 90 kHz and 110 kHz to 490 kHz where a CISPR average detector was used.

2.4.5 Environmental Conditions

Ambient Temperature	20.1 °C
Relative Humidity	32.0 %

2.4.6 Test Results

126 kHz - RFiD Transceiver

Frequency (MHz)	Quasi-Peak Level (µV/m) at 3m	Quasi-Peak Level (µV/m) at 30m
0.252153*	22413.00	3.55
0.377484*	8609.94	2.04
0.504167	4275.63	42.75
0.630849	1840.77	18.40
0.757532	1391.55	13.91
0.882853	1254.58	12.55

Table 14 - Emissions Results - 9 kHz to 30 MHz

*These emissions are CISPR Average detector and have been extrapolated to a measurement distance of 300 m in accordance with FCC 47 CFR Part 15, Clause 15.209.

Figure 3 - Test Frequency Range 9 kHz to 150 kHz

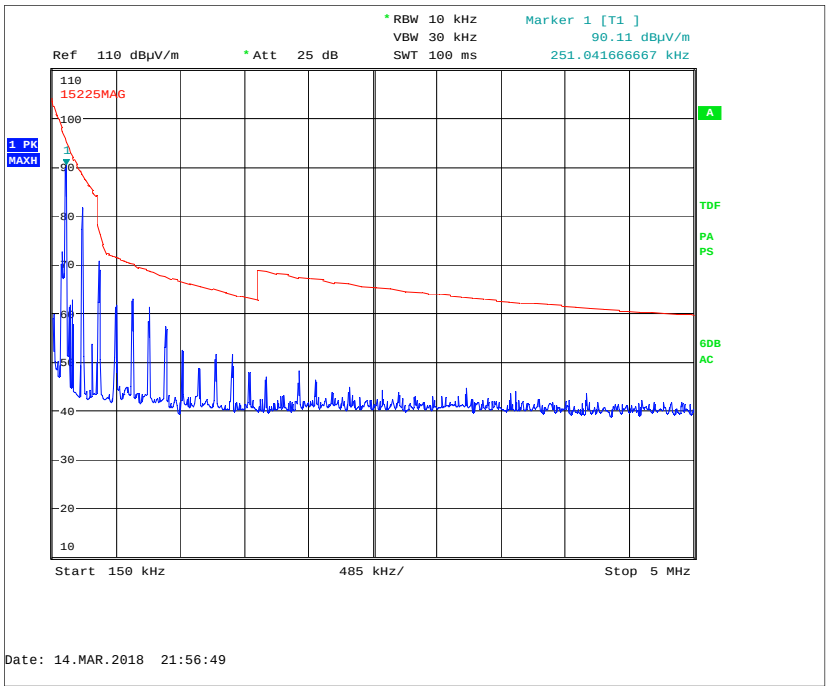

Figure 4 - Test Frequency Range 150 kHz to 5 MHz

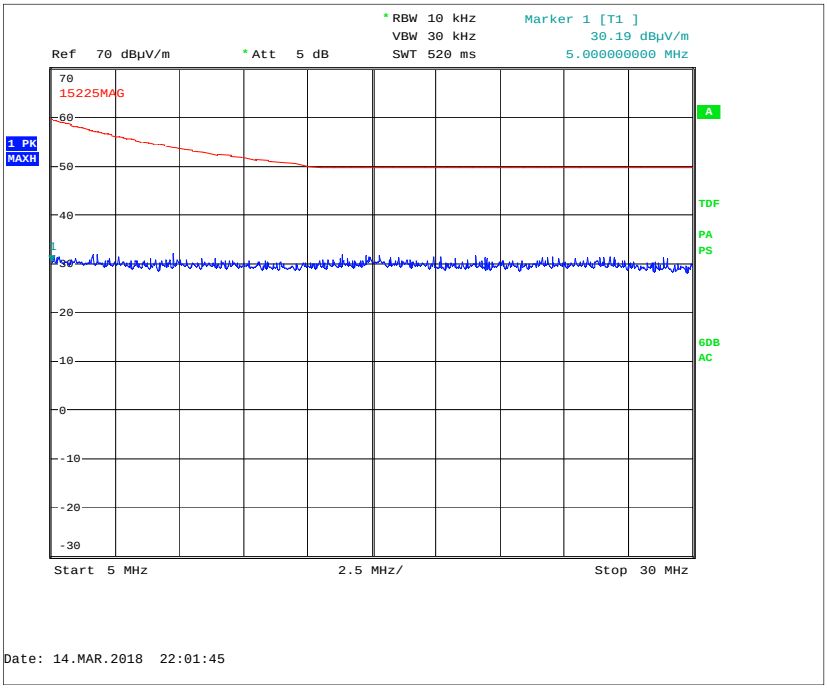

Figure 5 - Test Frequency Range 5 MHz to 30 MHz

FCC 47 CFR Part 15, Limit Clause 15.209

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 to 0.490	2400/F (kHz)	300
0.490 to 1.705	24000/F (kHz)	30
1705 to 30	30	30
30 to 88	100**	3
88 to 216	150**	3
216 to 960	200**	3
Above 960	500	3

Table 15 - FCC Limit

Industry Canada RSS-GEN, Limit Clause 8.9

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 to 0.490	2400/F (kHz)	300
0.490 to 1.705	24000/F (kHz)	30
1705 to 30	30	30

Table 16 - IC Limit

133 kHz - RFiD Transceiver

Frequency (MHz)	Quasi-Peak Level (µV/m) at 3m	Quasi-Peak Level (µV/m) at 30m
0.265416	25644.84	4.28
0.397583	9236.34	2.32
0.530865	3981.07	39.81
0.929420	1680.74	16.80

Table 17 - Emissions Results - 9 kHz to 30 MHz

*These emissions are CISP Av detector and have been extrapolated to a measurement distance of 300 m in accordance with FCC 47 CFR Part 15, Clause 15.209.

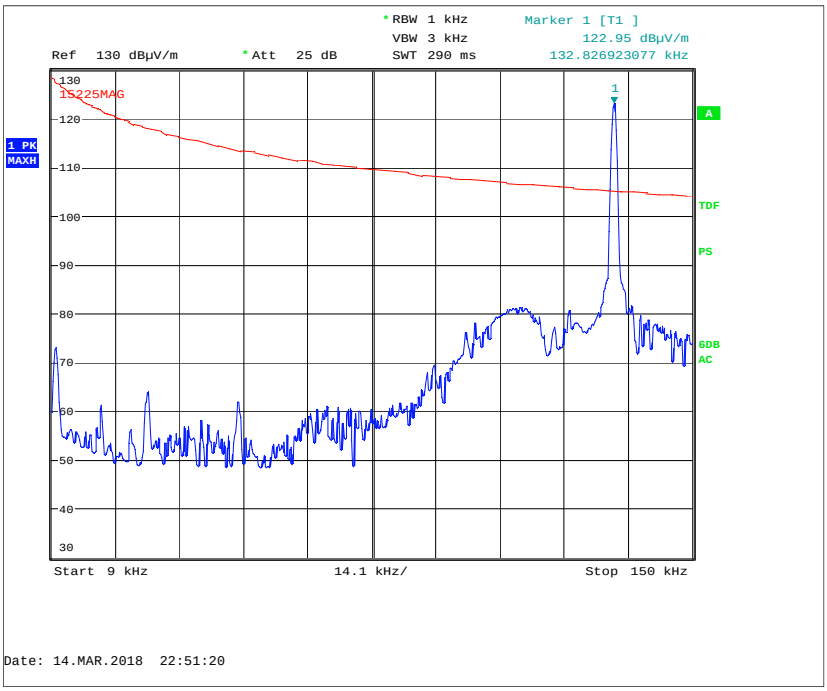

Figure 6 - Test Frequency Range 9 kHz to 150 kHz

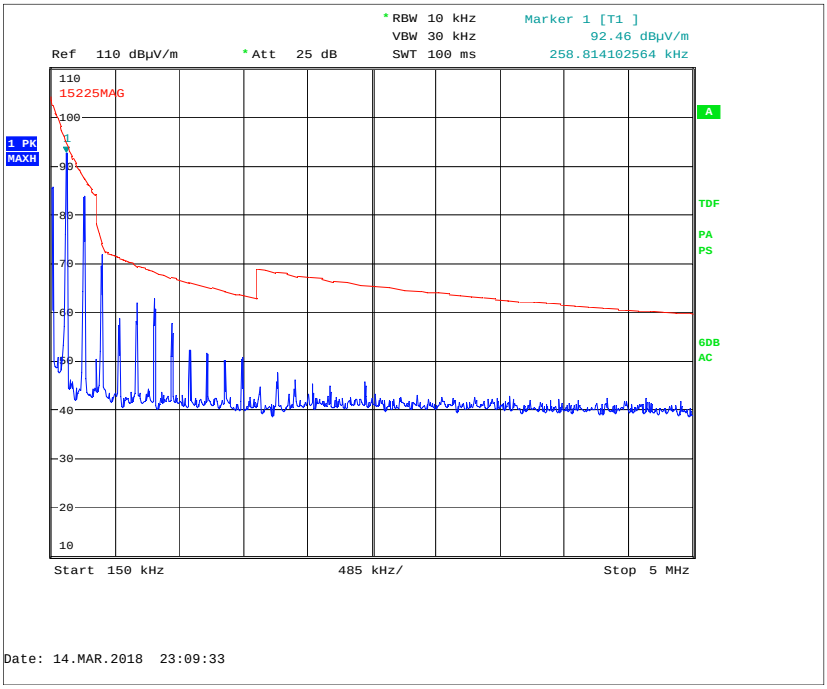

Figure 7 - Test Frequency Range 150 kHz to 5 MHz

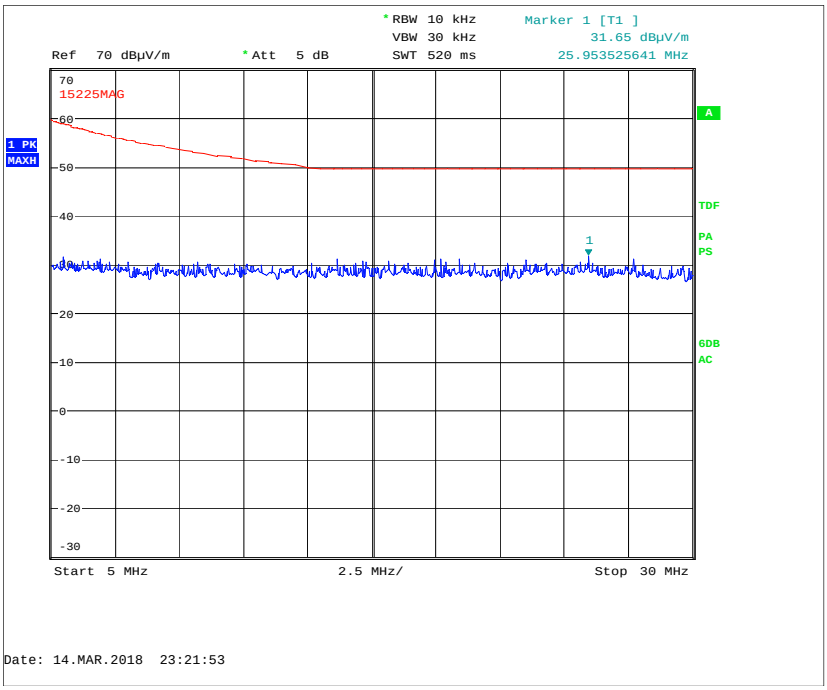

Figure 8 - Test Frequency Range 5 MHz to 30 MHz

FCC 47 CFR Part 15, Limit Clause 15.209

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 to 0.490	2400/F (kHz)	300
0.490 to 1.705	24000/F (kHz)	30
1705 to 30	30	30
30 to 88	100**	3
88 to 216	150**	3
216 to 960	200**	3
Above 960	500	3

Table 18 - FCC Limit

Industry Canada RSS-GEN, Limit Clause 8.9

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 to 0.490	2400/F (kHz)	300
0.490 to 1.705	24000/F (kHz)	30
1705 to 30	30	30

Table 19- IC Limit

2.4.7 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
Antenna (Active Loop, 9kHz-30MHz)	Rohde & Schwarz	HFH2-Z2	333	24	9-Dec-2018
Antenna (Dish/Tripod/Adaptor, 1GHz-18GHz)	Rohde & Schwarz	AC-008	334	-	TU
Screened Room (5)	Rainford	Rainford	1545	36	9-Jun-2018
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2138	12	21-Feb-2019
Multimeter	Iso-tech	IDM101	2419	12	23-Nov-2018
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	22-Nov-2018
Signal Analyser	Rohde & Schwarz	FSQ 26	3545	12	14-Mar-2019
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	3916	-	TU
Cable (2m N-Type)	Teledyne	SA90-195-2MTR	4065	12	13-Apr-2018

Table 20

TU – Traceability Unscheduled

3 Measurement Uncertainty

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

Test Name	Measurement Uncertainty
Emission Bandwidth	±3.0 Hz
Frequency Tolerance Under Temperature Variations	±3.8 Hz
Transmitter Output Power	Radiated: ± 5.2 dB Conducted: ± 0.96 dB
Transmitter Unwanted Emissions	9 kHz to 30 MHz: ± 3.4 dB 30 MHz to 1 GHz: ± 5.2 dB

Table 21