FCC and ISED Test Report

Paxton Access Ltd
Net2 Proximity Mifare Reader, Model: P50

In accordance with FCC 47 CFR Part 15C, ISED RSS-210 and ISED RSS-GEN (RFiD)

Add value.
Inspire trust.

Prepared for: Paxton Access Ltd
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FCC ID: USE353467 IC: 10217A-353467

COMMERCIAL-IN-CONFIDENCE

Document 75948439-03 Issue 01

SIGNATURE			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Matthew Russell	RF Team Leader	Authorised Signatory	10 November 2020

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD 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, ISED RSS-210 and ISED 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	10 November 2020	
Testing	Nandhini Mathivanan	10 November 2020	

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

ISED Accreditation
12669A 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: 2019, ISED RSS-210: Issue 09 (08-2016) A1 and ISED RSS-GEN: Issue 05 (03-2019) A1 for the tests detailed in section 1.3.

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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	10 November 2020

Table 1

1.2 Introduction

Applicant	Paxton Access Ltd
Manufacturer	Paxton Access Ltd
Model Number(s)	P50
Serial Number(s)	Not serialised (0075948439-TSR0032) Not serialised (0075948439-TSR0030)
Hardware Version(s)	z-df53_Rev 3
Software Version(s)	V1.11
Number of Samples Tested	2
Test Specification/Issue/Date	FCC 47 CFR Part 15C: 2019 ISED RSS-210: Issue 09 (08-2016) A1 ISED RSS-GEN: Issue 05 (03-2019) A1
Order Number Date	193063 24-February-2020
Date of Receipt of EUT	17-April-2020
Start of Test	27-September-2020
Finish of Test	07-October-2020
Name of Engineer(s)	Graeme Lawler and Nandhini Mathivanan
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, ISED RSS-210 and ISED RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	Part 15C	RSS-210	RSS-GEN			
Configuration and Mode: 125 kHz RFiD Transceiver						
-	15.203	-	-	Antenna Requirement	Pass	Antennas are integral therefore the requirement is met. See application form for details.
2.1	15.209	4.3	6.13	Field Strength of any Emission	Pass	
Configuration and Mode: 13.56 MHz RFiD Transceiver						
-	15.203	-	-	Antenna Requirement	Pass	Antennas are integral therefore the requirement is met. See application form for details.
2.2	15.215 (c)	-	6.6	20 dB Bandwidth	Pass	
2.3	15.225 (a)(b)(c)(d)	B.6	6.13	Field Strength of any Emission	Pass	
2.4	15.225 (e)	B.6	6.11	Frequency Tolerance Under Temperature Variations	Pass	

Table 2

1.4 Customer Supplied Form

Equipment Description

Technical Description: *(Please provide a brief description of the intended use of the equipment)*	Net2 Proximity Mifare Reader for access control. It has dual frequency functionality for reading tokens with 125 kHz and 13.56 MHz carrier frequencies.
Manufacturer:	Paxton Access Ltd
Model:	P50
Part Number:	353-467
Hardware Version:	z-df53_Rev 3
Software Version:	V1.11
FCC ID (if applicable)	USE353467
IC ID (if applicable)	10217A-353467

Intentional Radiators

Technology	RFID	RFID
Frequency Band (MHz)	0.125	13.56
Conducted Declared Output Power (dBm)	-47	-44
Antenna Gain (dBi)	< 2	< 2
Supported Bandwidth(s) (MHz)	5 kHz	1.1 kHz
Modulation Scheme(s)	AM	AM
ITU Emission Designator	5K001D	5K331D
Bottom Frequency (MHz)	0.125	13.56
Middle Frequency (MHz)	0.125	13.56
Top Frequency (MHz)	0.125	13.56

Un-intentional Radiators

Highest frequency generated or used in the device or on which the device operates or tunes	27.12 MHz
Lowest frequency generated or used in the device or on which the device operates or tunes	125 kHz
Class A Digital Device (Use in commercial, industrial or business environment) ☐ Class B Digital Device (Use in residential environment only) ☒	

AC Power Source

AC supply frequency:		Hz
Voltage		V
Max current:		A
Single Phase ☐ Three Phase ☐		

DC Power Source

Nominal voltage:	13	V
Extreme upper voltage:	13.83	V
Extreme lower voltage:	12.61	V
Max current:	120	mA

Battery Power Source

Voltage:		V
End-point voltage:		V *(Point at which the battery will terminate)*
Alkaline ☐ Leclanche ☐ Lithium ☐ Nickel Cadmium ☐ Lead Acid* ☐ **(Vehicle regulated)*		
Other ☐ Please detail:		

Charging

Can the EUT transmit whilst being charged	Yes ☐ No ☒

Temperature

Minimum temperature:	-20.0	°C
Maximum temperature:	+55.0	°C

Antenna Characteristics

Antenna connector ☐			State impedance		Ohm
Temporary antenna connector ☐			State impedance		Ohm
Integral antenna ☒	Type:	PCB Antenna & Coil Antenna	Gain	< 2	dBi
External antenna ☐	Type:		Gain		dBi
For external antenna only: Standard Antenna Jack ☐ If yes, describe how user is prohibited from changing antenna (if not professional installed): Equipment is only ever professionally installed ☐ Non-standard Antenna Jack ☐					

Ancillaries (if applicable)

Manufacturer:		Part Number:	
Model:		Country of Origin:	

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

Name:Kevin Feeney
Position held: Compliance Engineer
Date: 20.03.2020

1.6 Product Information

1.6.1 Technical Description

Proximity reader for access control. It has dual frequency functionality for reading tokens with 125 kHz and 13.56 MHz carrier frequencies.

1.7 Deviations from the Standard

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

1.8 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
Model: P50, Serial Number: Not serialised (0075948439-TSR0030)			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: P50, Serial Number: Not serialised (0075948439-TSR0032)			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 3

1.9 Test Location

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

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 125 kHz RFiD Transceiver		
Field Strength of any Emission	Graeme Lawler	UKAS
Configuration and Mode: 13.56 MHz RFiD Transceiver		
20 dB Bandwidth	Nandhini Mathivanan	UKAS
Field Strength of any Emission	Graeme Lawler	UKAS
Frequency Tolerance Under Temperature Variations	Nandhini Mathivanan	UKAS

Table 4

Office Address:

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

2 Test Details

2.1 Field Strength of any Emission

2.1.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.209
ISED RSS-210, Clause 4.3
ISED RSS-GEN, Clause 6.13

2.1.2 Equipment Under Test and Modification State

P50, S/N: Not serialised (0075948439-TSR0030) - Modification State 0

2.1.3 Date of Test

28-September-2020 to 04-October-2020

2.1.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.4 and 6.5. and ISED 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 10 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.

2.1.5 Environmental Conditions

Ambient Temperature	20.9 - 23.7 °C
Relative Humidity	44.3 - 46.0 %

2.1.6 Test Results

125 kHz RFiD Transceiver

Frequency	Fundamental Field Strength (dBuV/m)	Limit (dBuV/m)
125.000	73.21	105.67

Table 5 - Fundamental Emission Field Strength

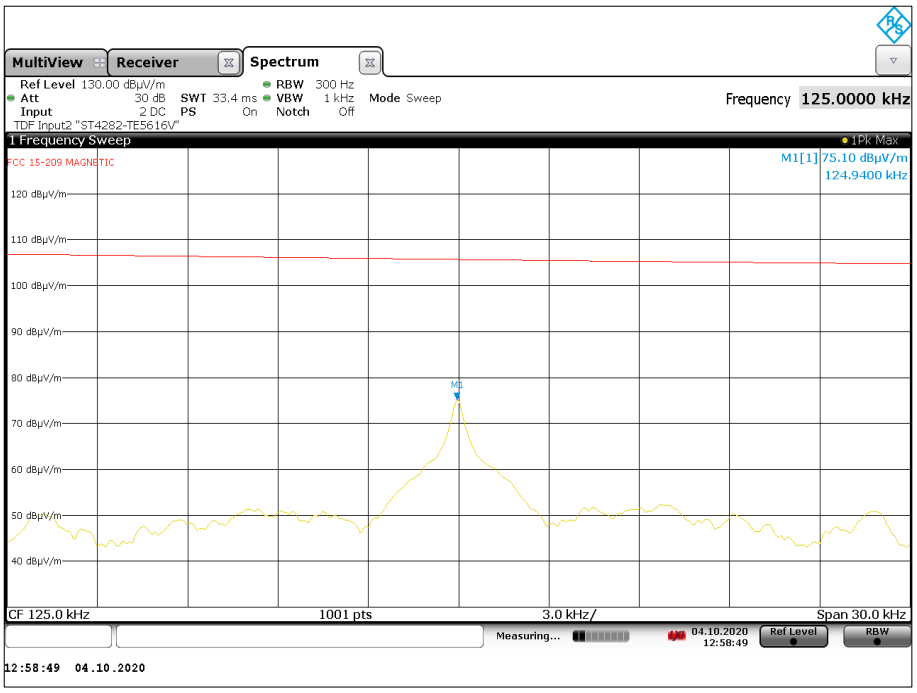

Figure 1 - Plot of the Fundamental Emission

Frequency (MHz)	Results at Measurement Distance			Results at Limit Distance		
	Level (µV/m)	Distance	Detector	Level (µV/m)	Distance	Detector
*						

Table 6 - Emissions Results - 9 kHz to 30 MHz

* No emissions were detected within 10 dB of the limit.

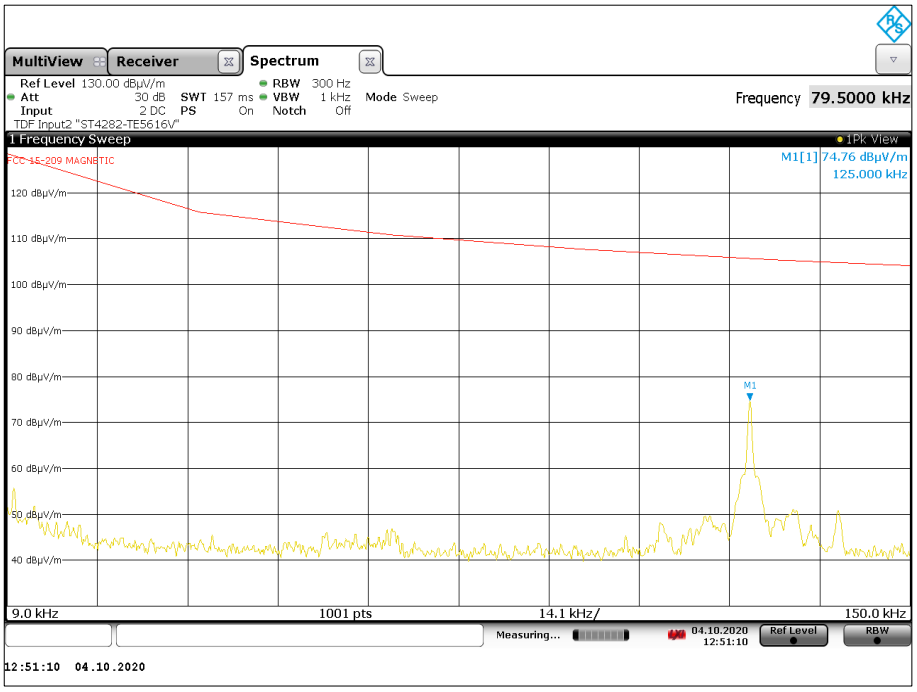

Figure 2 - 9 kHz to 150 kHz

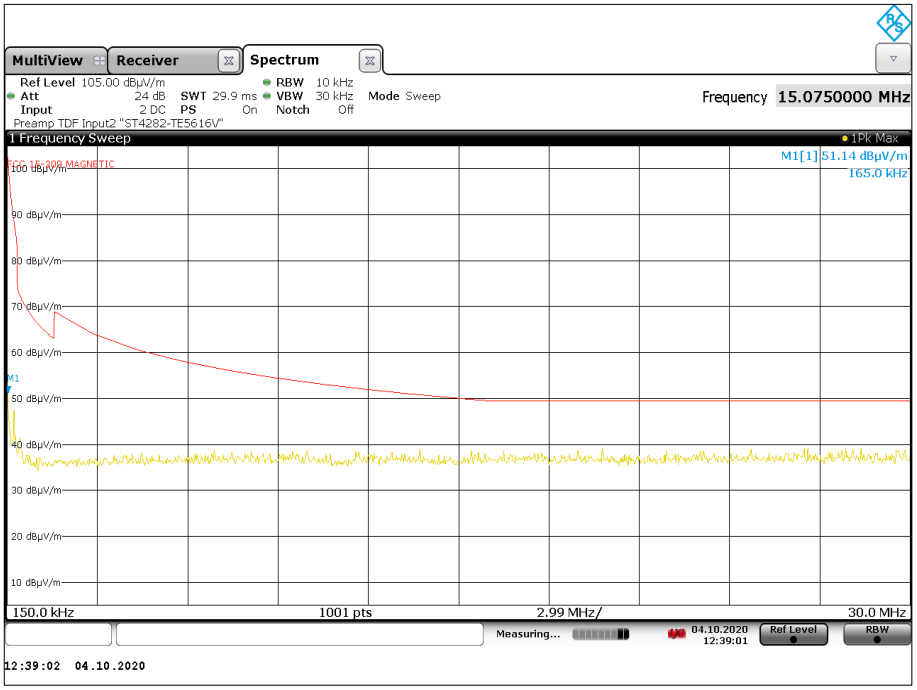

Figure 3 - 150 kHz to 30 MHz

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
70.007	30.4	40.0	-9.6	Q-Peak	291	100	Vertical

Table 7 - Emissions Results - 30 MHz to 1 GHz

No other emissions were detected within 10 dB of the limit.

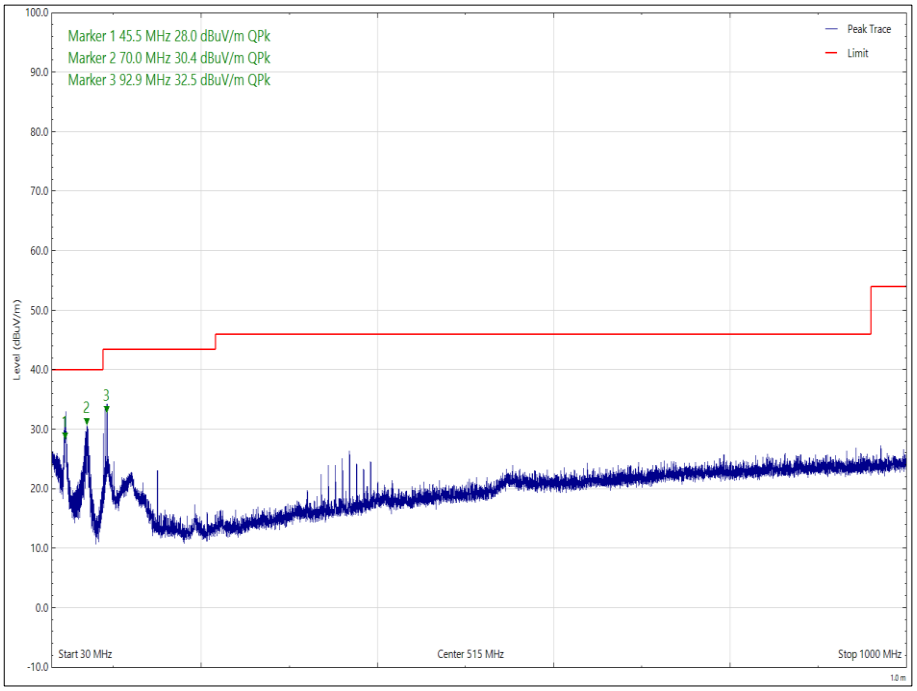

Figure 4 - 30 MHz to 1 GHz

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 8 - Emissions Results - 30 MHz to 1 GHz

* No emissions were detected within 10 dB of the limit.

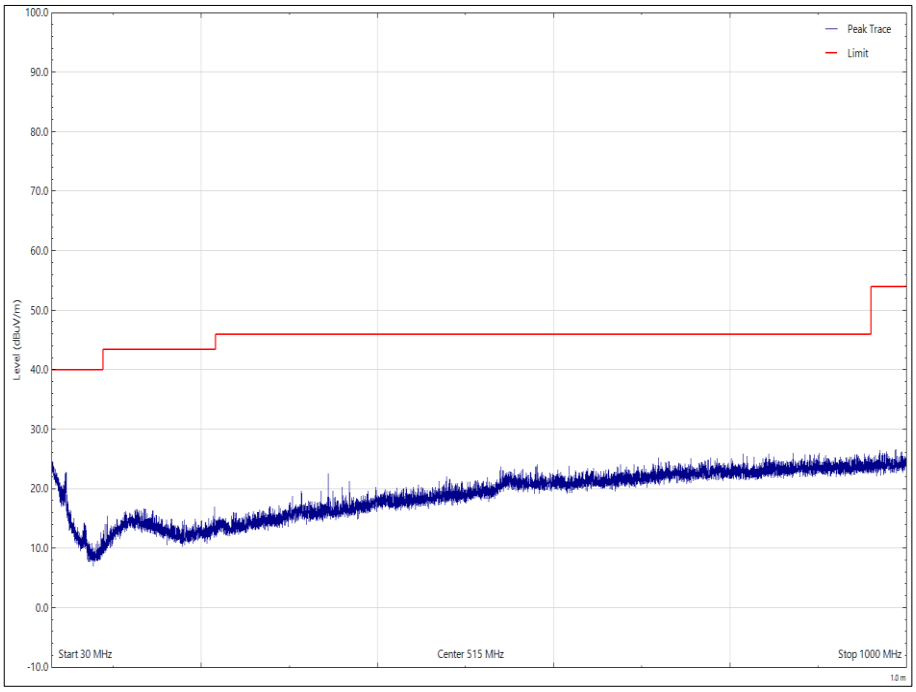

Figure 5 - 30 MHz to 1 GHz

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 9 - FCC Limit

NOTE: The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission.

ISED RSS-210, Limit Clause 4.4

Under no circumstance shall the level of any unwanted emissions exceed the level of the fundamental emissions.

ISED 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 10 - IC Limit, Below 30 MHz

Frequency (MHz)	Field Strength (µV/m at 3 metres)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Table 11 - IC Limit, Above 30 MHz

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
Screened Room (5)	Rainford	Rainford	1545	36	23-Jan-2021
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna with permanent attenuator (Bilog)	Chase	CBL6143	2904	24	30-Sep-2021
Comb Generator	Schaffner	RSG1000	3034	-	TU
Cable (Rx, Nm-Nm, 2m)	Scott Cables	SLU18-NMNM-02.00M	4485	12	06-Mar-2021
Mast Controller	Maturo Gmbh	NCD	4810	-	TU
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	4811	-	TU
EmX Emissions Software	TUV SUD	V1.6.3 V.V1.6.3	5125	-	Software
Thermo-Hygro-Barometer	PCE Instruments	OCE-THB-40	5470	12	16-Mar-2021
8m N-Type Cable	Junkosha	MWX221-08000NMSNMS/B	5520	12	24-Mar-2021
EMI Test Receiver	Rohde & Schwarz	ESW44	5527	12	06-Feb-2021
HLA 6121 Active Loop Antenna	Teseq	HLA	5616	24	01-Jul-2022

Table 12

TU - Traceability Unscheduled

2.2 20 dB Bandwidth

2.2.1 Specification Reference

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

2.2.2 Equipment Under Test and Modification State

P50, S/N: Not serialised (0075948439-TSR0032) - Modification State 0

2.2.3 Date of Test

06-October-2020 to 07-October-2020

2.2.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.9.1.

2.2.5 Environmental Conditions

Ambient Temperature	24.0 - 24.2 °C
Relative Humidity	36.1 - 40.2 %

2.2.6 Test Results

<u>13.56 MHz RFiD Transceiver</u>

Frequency (MHz)	20 dB Bandwidth (Hz)	99% Occupied Bandwidth (Hz)	F_{LOWER} (MHz)	F_{UPPER} (MHz)
13.56	229.0	618.0	13.560300	13.560531

Table 13

Figure 6 - 20 dB Bandwidth

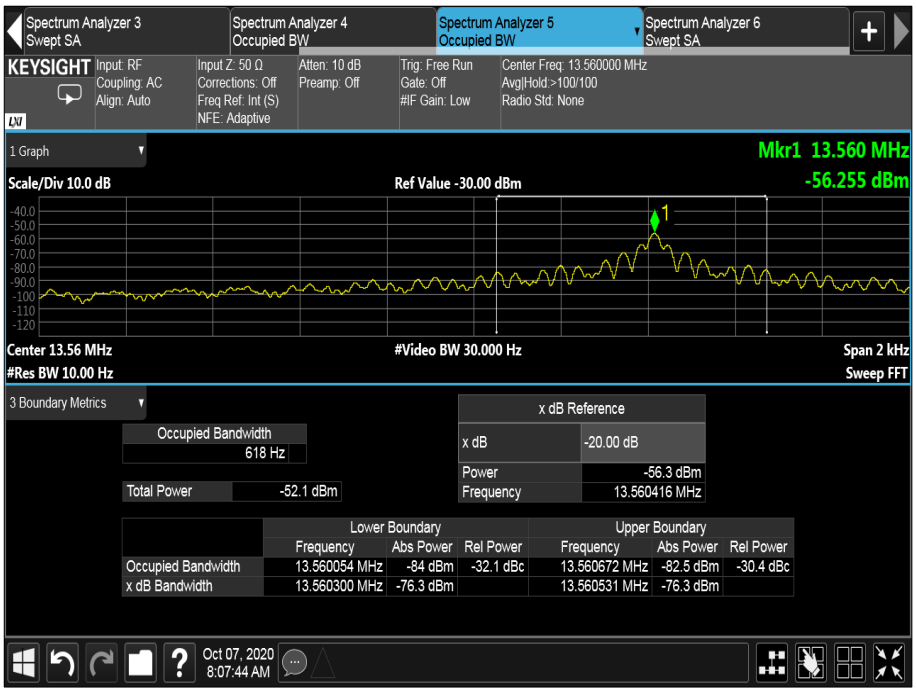

Figure 7 - 99% Occupied Bandwidth

<u>FCC 47 CFR Part 15, Limit Clause 15.215 (c)</u>

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.

<u>ISED RSS 210 and ISED RSS GEN, Limit Clause</u>

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
Multimeter	Iso-tech	IDM101	2424	12	12-Dec-2020
Hygrometer	Rotronic	A1	2760	12	02-Jan-2021
2 Channel PSU	Rohde & Schwarz	HMP2020	4735	-	O/P Mon
EXA	Keysight Technologies	N9010B	4968	24	23-Dec-2021
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5582	-	O/P Mon

Table 14

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)
ISED RSS-210, Clause B.6
ISED RSS-GEN, Clause 6.13

2.3.2 Equipment Under Test and Modification State

P50, S/N: Not serialised (0075948439-TSR0032) - Modification State 0

2.3.3 Date of Test

27-September-2020 to 04-October-2020

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.
It was not possible to disable the 125 kHz transmitter during testing.

2.3.5 Environmental Conditions

Ambient Temperature	20.9 - 23.7 °C
Relative Humidity	44.3 - 46.0 %

2.3.6 Test Results

<u>13.56 MHz RFiD Transceiver, Carrier Results</u>

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	66.59	45.20	2135.50	181.97

Table 15

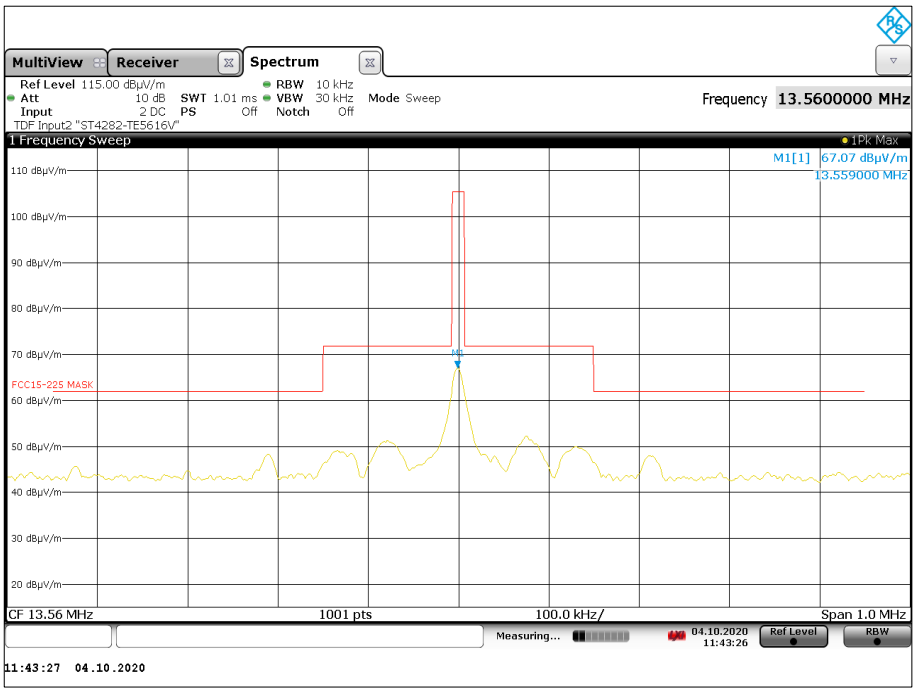

Figure 8 - Plot of the Fundamental - 13.56 MHz

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 16 - Emissions Results - 9 kHz to 30 MHz

*No emissions were detected within 10 dB of the limit.

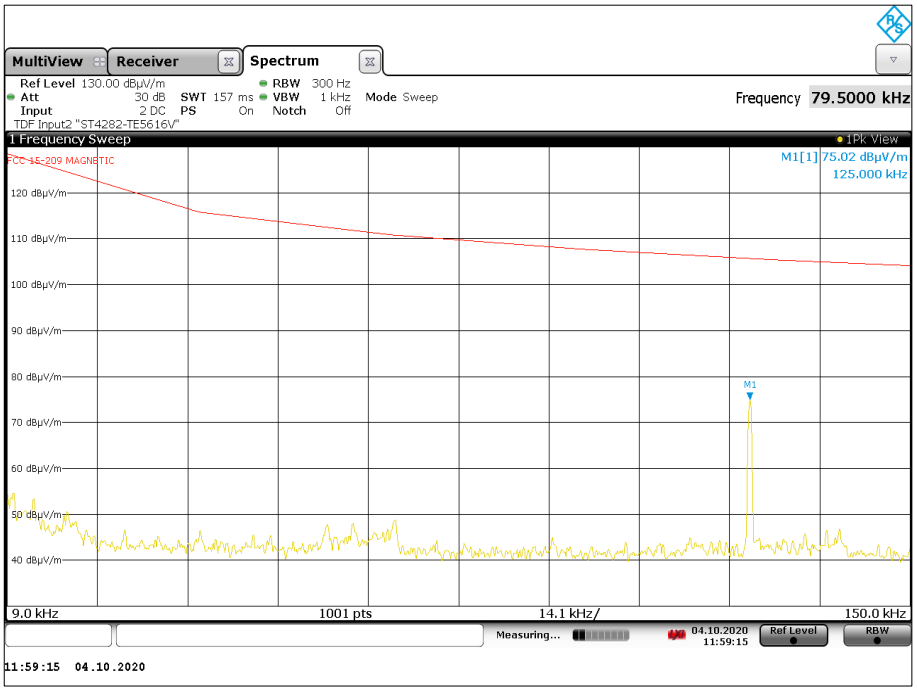

Figure 9 - 9 kHz to 150 kHz - Combined Polarisation

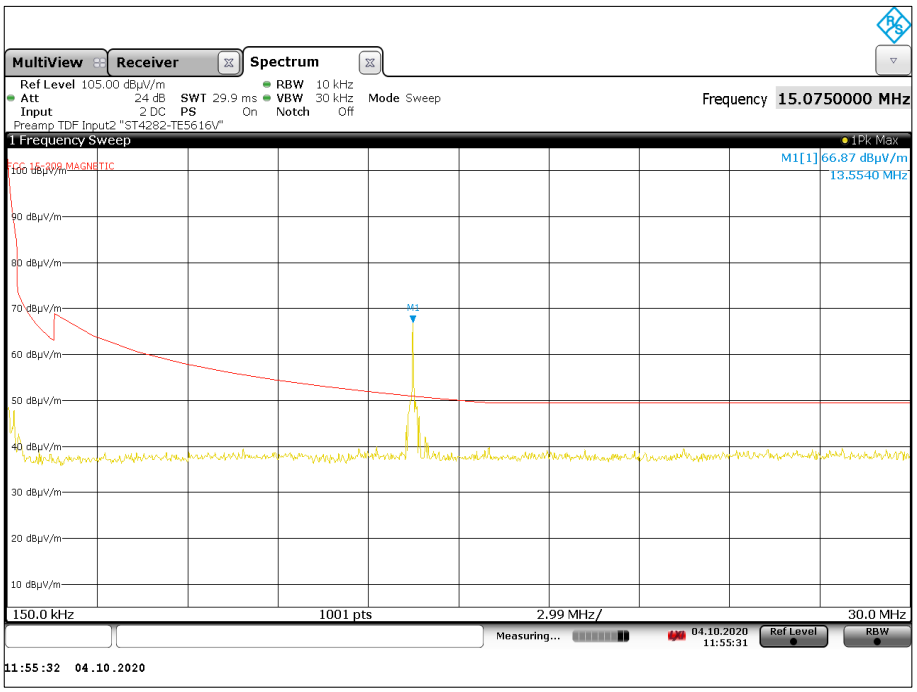

Figure 10 - 150 kHz to 30 MHz - Combined Polarisation

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
47.251	32.5	40.0	-7.5	Q-Peak	171	100	Vertical

Table 17 - Emissions Results – 30 MHz to 1 GHz

No other emissions were detected within 10 dB of the limit.

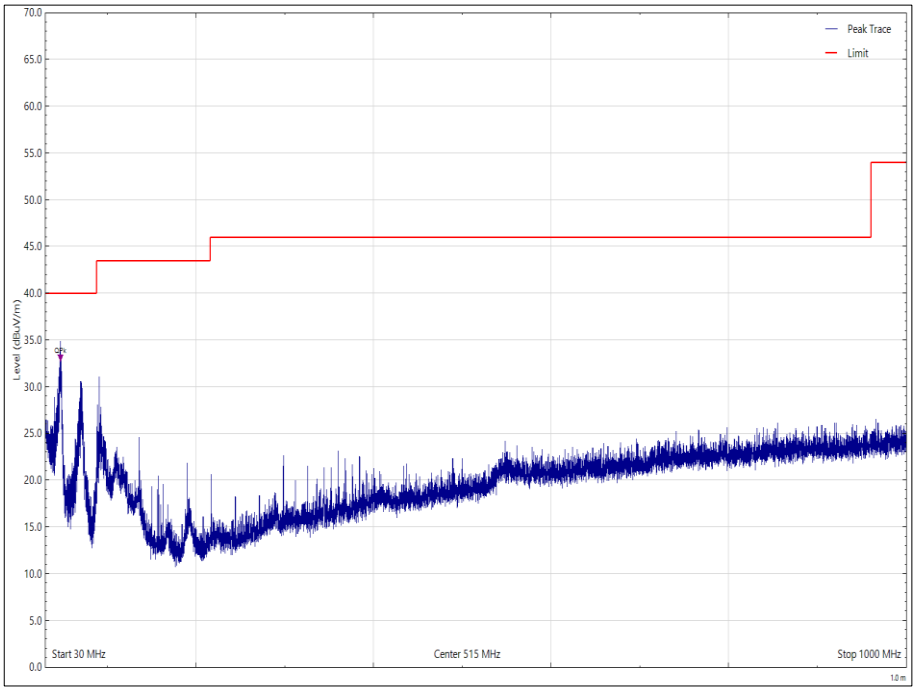

Figure 11 – 30 MHz to 1 GHz

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 18 - Emissions Results – 30 MHz to 1 GHz

*No emissions were detected within 10 dB of the limit.

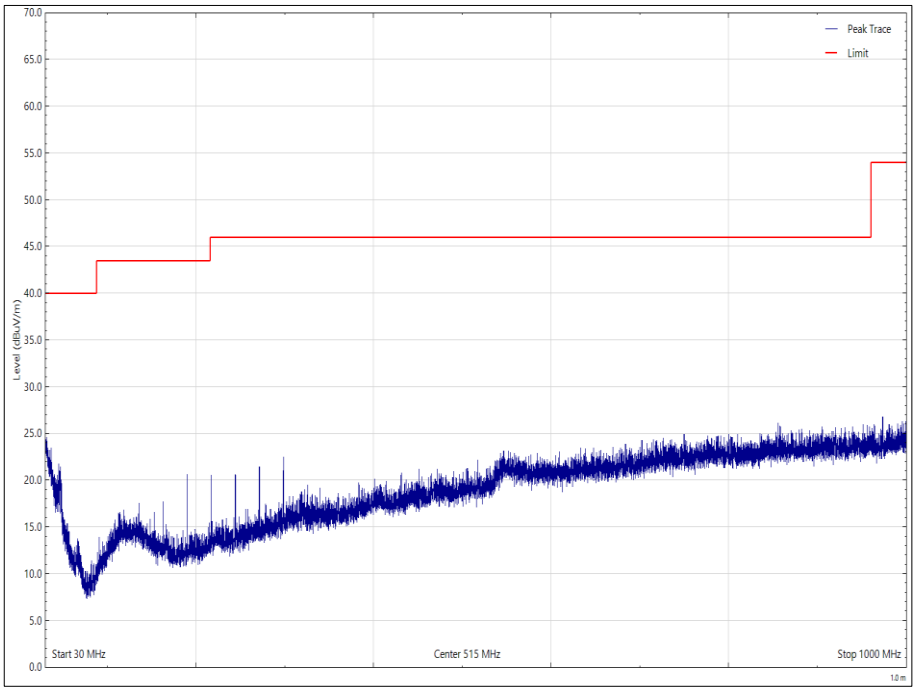

Figure 12 - 30 MHz to 1 GHz

<u>FCC 47 CFR Part 15, Limit Clause 15.225 (a)(b)(c)(d)</u>

(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 (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	5

Table 19 - FCC Radiated Emission Limit

ISED RSS-210, Limit Clause B.6

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

(a) 15.848 mW/m (84 dBµV/m) at 30 m, within the band 13.553 – 13.567 MHz.

(b) 334 µV/m (50.5 dBµV/m) at 30 m, withing the bands 13.410 – 13.553 MHz and 13.567 – 13.710 MHz.

(c) 106 µV/m (40.5 dBµV/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.

ISED RSS-GEN, Limit Clause

Frequency	Electric Field Strength (µV/m)	Magnetic Field Strength (H-Field) (µA/m)	Measurement Distance (m)
9 - 490 kHz	2,400/F (F in kHz)	2,400/377F (F in kHz)	300
490 - 1,705 kHz	24,000/F (F in kHz)	24,000/377F (F in kHz)	30
1,705 kHz - 30 MHz	30	N/A	30

Table 20 - ISED Radiated Emission Limit - Less than 30 MHz

Frequency (MHz)	Field Strength (µV/m at 3 m)
30 - 88	100
88 - 216	150
216 - 960	200
> 960	500

Table 21 - 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
Screened Room (5)	Rainford	Rainford	1545	36	23-Jan-2021
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna with permanent attenuator (Bilog)	Chase	CBL6143	2904	24	30-Sep-2021
Comb Generator	Schaffner	RSG1000	3034	-	TU
Cable (Rx, Nm-Nm, 2m)	Scott Cables	SLU18-NMNM-02.00M	4485	12	06-Mar-2021
Mast Controller	Maturo Gmbh	NCD	4810	-	TU
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	4811	-	TU
4dB Attenuator	Pasternack	PE7047-4	4935	24	30-Sep-2021
EmX Emissions Software	TUV SUD	V1.6.3 V.V1.6.3	5125	-	Software
Thermo-Hygro-Barometer	PCE Instruments	OCE-THB-40	5470	12	16-Mar-2021
8m N-Type Cable	Junkosha	MWX221-08000NMSNMS/B	5520	12	24-Mar-2021
EMI Test Receiver	Rohde & Schwarz	ESW44	5527	12	06-Feb-2021
HLA 6121 Active Loop Antenna	Teseq	HLA	5616	24	01-Jul-2022

Table 22

TU - Traceability Unscheduled

2.4 Frequency Tolerance Under Temperature Variations

2.4.1 Specification Reference

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

2.4.2 Equipment Under Test and Modification State

P50, S/N: Not serialised (0075948439-TSR0030) - Modification State 0

2.4.3 Date of Test

07-October-2020

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 24.0 °C
Relative Humidity 36.1 %

2.4.6 Test Results

13.56 MHz RFiD Transceiver

Temperature	Voltage	Measured Frequency (MHz)	Frequency Deviation (%)	Frequency Error (ppm)
-20.0 °C	13.00 V DC	13.560566	0.0042	41.74
-10.0 °C	13.00 V DC	13.560530	0.0039	39.09
0.0 °C	13.00 V DC	13.560490	0.0036	36.14
+10.0 °C	13.00 V DC	13.560448	0.0033	33.04
+20.0 °C	13.00 V DC	13.560424	0.0031	31.27
+30.0 °C	13.00 V DC	13.560414	0.0031	30.53
+40.0 °C	13.00 V DC	13.560416	0.0031	30.68
+50.0 °C	13.00 V DC	13.560434	0.0032	32.01

Table 23 - Frequency Tolerance Under Temperature Variation

Temperature	Voltage	Measured Frequency (MHz)	Frequency Deviation (%)	Frequency Error (ppm)
+20.0 °C	11.05 V DC	13.560424	0.0031	31.27
+20.0 °C	13.00 V DC	13.560424	0.0031	31.27
+20.0 °C	14.95 V DC	13.560424	0.0031	31.27

Table 24 - Frequency Tolerance Under Voltage Variation

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

The frequency tolerance of the carrier signal shall be maintained within ± 0.01 % of the operating frequency.

ISED RSS-210, Limit Clause B.6

Carrier frequency stability shall be maintained to ±0.01% (±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
Climatic Chamber	Votsch	VT4002	161	-	O/P Mon
RF Coupler	TUV SUD	RFC1	414	-	TU
Multimeter	Iso-tech	IDM101	2424	12	12-Dec-2020
Hygrometer	Rotronic	A1	2760	12	02-Jan-2021
Digital Thermometer	Digitron	T208	2831	12	05-Dec-2020
2 Channel PSU	Rohde & Schwarz	HMP2020	4735	-	O/P Mon
EXA	Keysight Technologies	N9010B	4968	24	23-Dec-2021
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5582	-	O/P Mon

Table 25

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

3 Photographs

3.1 Test Setup Photographs

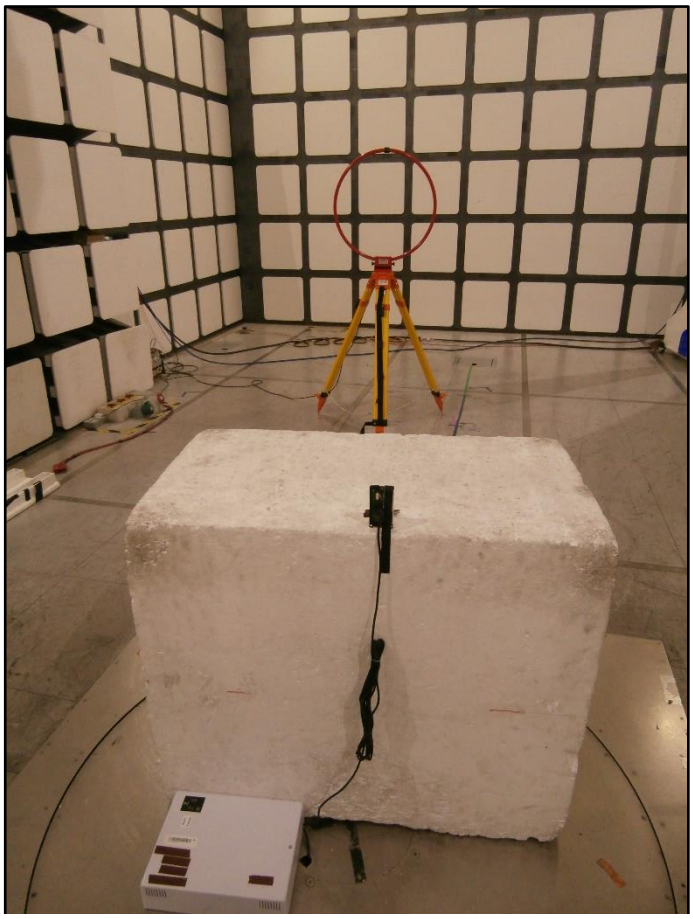

Figure 13 – Test Setup - 9 kHz to 30 MHz - Face On

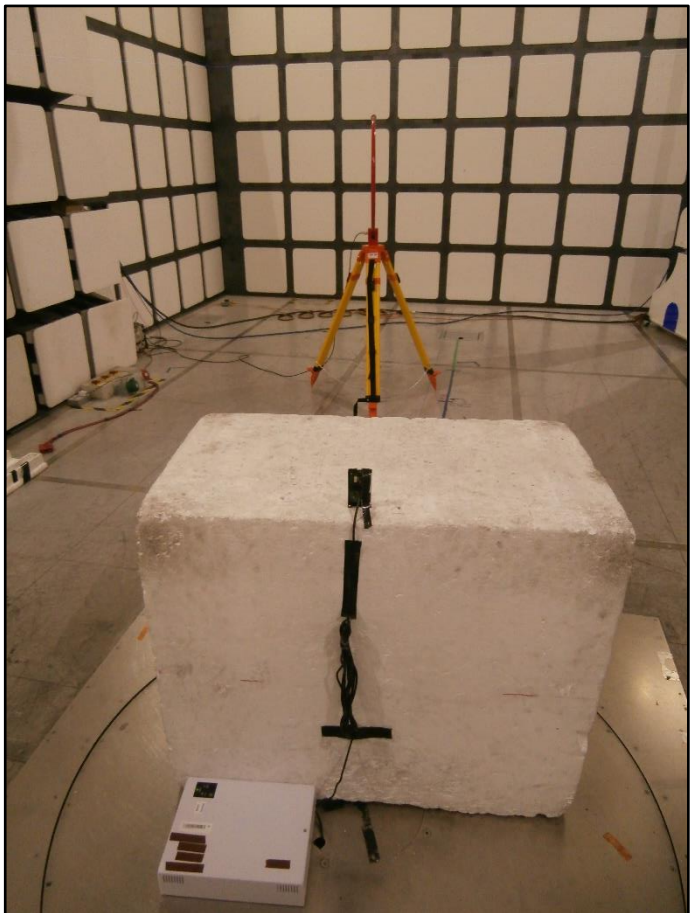

Figure 14 – Test Setup - 9 kHz to 30 MHz - Edge On
a

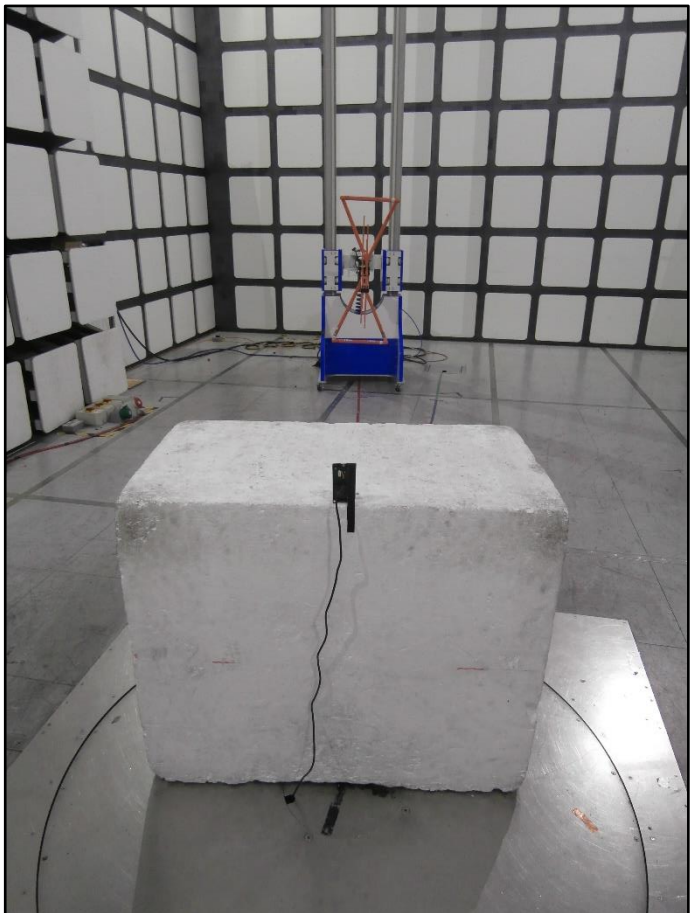

Figure 15 – Test Setup - 30 MHz to 1 GHz

4 Measurement Uncertainty

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

Test Name	Measurement Uncertainty
Field Strength of any Emission	9 kHz to 30 MHz: ± 3.4 dB 30 MHz to 1 GHz: ± 5.2 dB
20 dB Bandwidth	± 0.019 kHz
Field Strength of any Emission	9 kHz to 30 MHz: ± 3.4 dB 30 MHz to 1 GHz: ± 5.2 dB
Frequency Tolerance Under Temperature Variations	± 33.89 Hz

Table 26

Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2007, clause 4.4.3 and 4.5.1.