FCC and Industry Canada Testing of the EDTracker Ltd Dongle, Model: EDTracker Wireless Dongle Computer peripheral for motion tracking of user's head, Model: EDTracker Pro Wireless In accordance with FCC 47 CFR Part 15B and ICES-003

Product Service

Choose certainty.
Add value.

Prepared for: EDTracker Ltd
16 Woodhurst Lane
Wokingham
Berkshire
RG41 1JQ
UNITED KINGDOM

FCC ID: EDTracker Wireless Dongle: 2AKV8-000002
EDTracker Pro Wireless: 2AKV8-000001
IC: EDTracker Wireless Dongle: 22431-000002
EDTracker Pro Wireless: 22431-000001

COMMERCIAL-IN-CONFIDENCE

Date: June 2017
Document Number: 75938172-03 | Issue: 01

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Project Management	Steven White	21 June 2017	
Authorised Signatory	Matthew Russell	21 June 2017	

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 ICES-003. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Graeme Lawler	21 June 2017	

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 in compliance with FCC 47 CFR Part 15B: 2015 and ICES-003: 2016.

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ACCREDITATION
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Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).

TÜV SÜD Product Service
is a trading name of TUV SUD Ltd
Registered in Scotland at East Kilbride,
Glasgow G75 0QF, United Kingdom
Registered number: SC215164

TUV SUD Ltd is a
TÜV SÜD Group Company

Phone: +44 (0) 1489 558100
Fax: +44 (0) 1489 558101
www.tuv-sud.co.uk

TÜV SÜD Product Service
Octagon House
Concorde Way
Fareham
Hampshire PO15 5RL
United Kingdom

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	21 June 2017

Table 1

1.2 Introduction

Applicant	EDTracker Ltd
Manufacturer	EDTracker Ltd
Model Number(s)	1) EDTracker Wireless Dongle 2) EDTracker Pro Wireless
Serial Number(s)	1) #001 2) #005
Hardware Version(s)	1) 1.0 2) v3.0
Software Version(s)	1) 0.1 2) 0.1
Number of Samples Tested	One of each
Test Specification/Issue/Date	FCC 47 CFR Part 15B: 2015 ICES-003: 2016
Test Plan/Issue/Date	Not Applicable
Order Number Date	PO-0033 07-March-2017
Date of Receipt of EUT	13-March-2017 and 14-March-2017
Start of Test	19-March-2017
Finish of Test	21-March-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 ICES-003 is shown below.

Section	Specification Clause		Test Description	Result	Comments/Base Standard
	Part 15B	ICES-003			
Configuration: Pro Wireless - Idle					
2.1	15.109	6.2	Radiated Emissions	Pass	ANSI C63.4
Configuration: Wireless Dongle - Idle					
2.1	15.109	6.2	Radiated Emissions	Pass	ANSI C63.4

Table 2

1.4 Declaration of Build Status

EDTracker Wireless Dongle

Manufacturer	EDTracker Ltd
Country of origin	United Kingdom
UK Agent	EDTracker Ltd
Technical Description	Computer peripheral for motion tracking
Model No	EDTracker Wireless Dongle
Part No	EDTDGL001
Serial No	#001
Drawing Number	n/a
Build Status	As Production
Software Issue	0.1
Hardware Issue	1.0
Highest Internally Generated Frequency	2481MHz
FCC ID	2AKV8-000002
Industry Canada ID	22431-000002

Signature	Dan Howell
Date	27 February 2017
D of B S Serial No	75938172-01

EDTracker Pro Wireless

Manufacturer	EDTracker Ltd
Country of origin	United Kingdom
UK Agent	EDTracker Ltd
Technical Description	Computer peripheral for motion tracking
Model No	EDTracker Pro Wireless
Part No	EDTPWL001
Serial No	#005
Drawing Number	n/a
Build Status	As Production
Software Issue	0.1
Hardware Issue	v3.0
Highest Internally Generated Frequency	2481MHz
FCC ID	2AKV8-000001
Industry Canada ID	22431-000001

Signature	Dan Howell
Date	27 February 2017
D of B S Serial No	75938172-02

1.5 Product Information

1.5.1 Technical Description

Computer peripheral for motion tracking.

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: #001			
0	As supplied by the customer	Not Applicable	Not Applicable
Serial Number: EDTPWL#005			
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: Pro Wireless - Idle		
Radiated Emissions	Graeme Lawler	UKAS
Configuration: Wireless Dongle - Idle		
Radiated 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 Radiated Emissions

2.1.1 Specification Reference

FCC 47 CFR Part 15B, Clause 15.109
ICES-003, Clause 6.2

2.1.2 Equipment Under Test and Modification State

EDTracker Wireless Dongle, S/N: #001 - Modification State 0
EDTracker Pro Wireless, S/N: #005 - Modification State 0

2.1.3 Date of Test

19-March-2017 to 21-March-2017

2.1.4 Test Method

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

2.1.5 Environmental Conditions

Ambient Temperature	17.8 - 18.8 °C
Relative Humidity	33.0 - 47.0 %

2.1.6 Test Results

Pro Wireless - Idle

Highest frequency generated or used within the EUT:
Upper frequency test limit: 13 GHz

Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	QP Margin (dBuV/m)	Angle(Deg)	Height(m)	Polarity
30.010	30.4	40.0	-9.6	0	1.00	Vertical
31.567	29.5	40.0	-10.5	0	1.00	Vertical
32.927	28.8	40.0	-11.2	0	1.00	Vertical
850.672	33.1	46.0	-12.9	0	1.00	Vertical
896.647	33.6	46.0	-12.4	0	1.00	Vertical
960.000	33.9	46.0	-12.1	0	1.00	Vertical

Table 5 - 30 MHz to 1 GHz

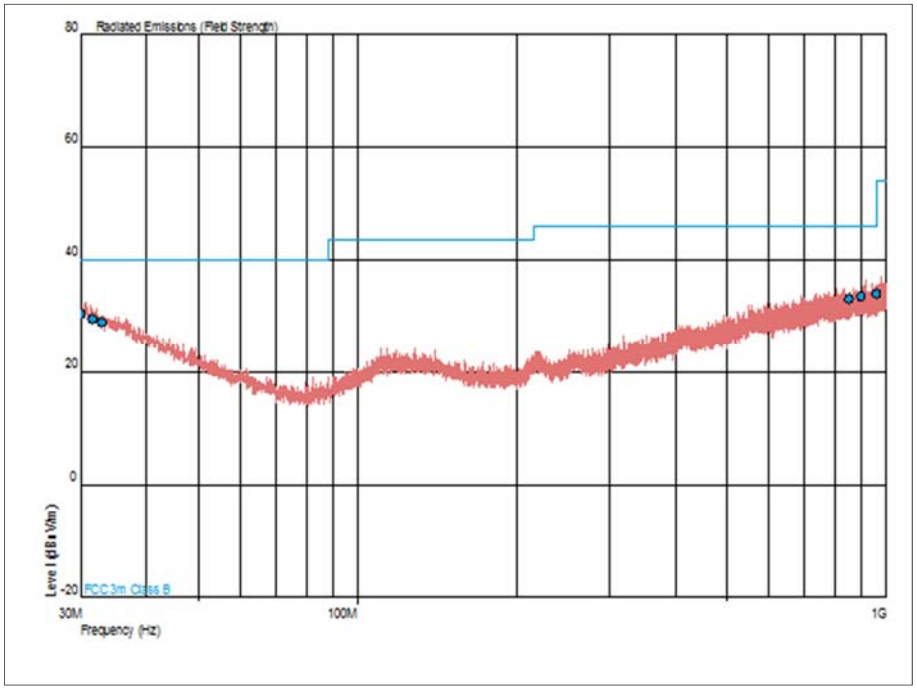

Figure 1 - 30 MHz to 1 GHz - Horizontal and Vertical

Frequency (GHz)	Result (µV/m)		Limit (µV/m)		Margin (µV/m)		Angle (°)	Height (m)	Polarisation
	Peak	Average	Peak	Average	Peak	Average			
*									

Table 6 - 1 GHz to 13 GHz

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

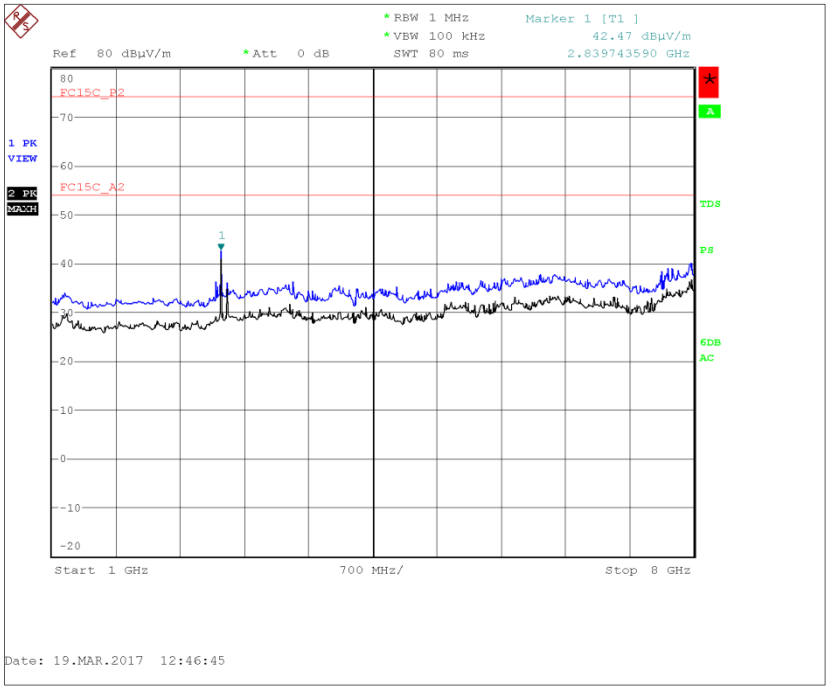

Figure 2 - 1 GHz to 8 GHz - Horizontal and Vertical

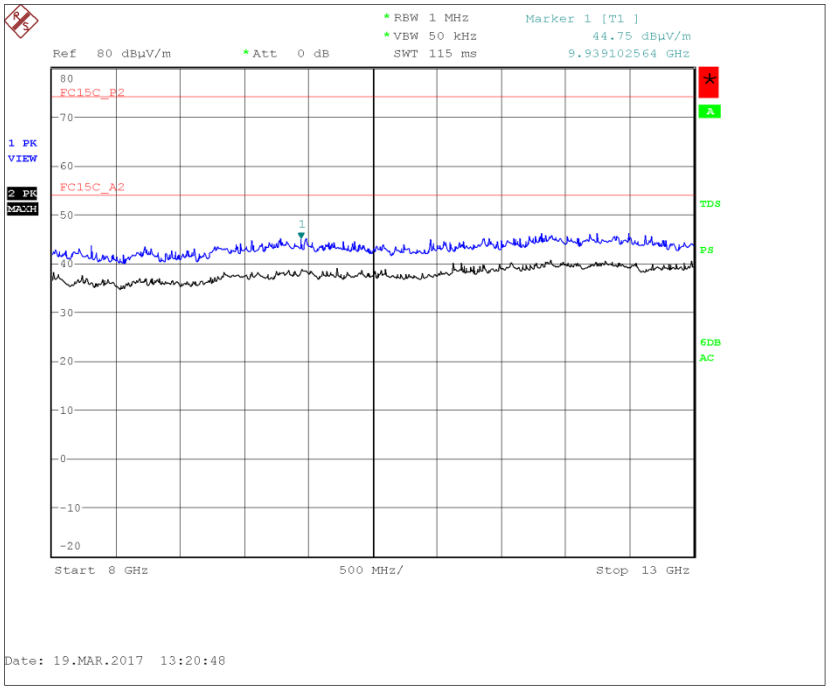

Figure 3 - 8 GHz to 13 GHz - Horizontal and Vertical

FCC 47 CFR Part 15, Limit Clause 15.109

Frequency of Emission (MHz)	Field Strength (µV/m)
30 to 88	100.0
88 to 216	150.0
216 to 960	200.0
Above 960	500.0

ICES-003, Limit Clause 6.2

Frequency of Emission (MHz)	Quasi-Peak (dBµV/m)
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 1000	54.0

Frequency of Emission (MHz)	Field Strength (dBµV/m)	
	Linear Average Detector	Peak Detector
Above 1000	54.0	74.0

Wireless Dongle - Idle

Highest frequency generated or used within the EUT:
Upper frequency test limit: 13 GHz

Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	QP Margin (dBuV/m)	Angle(Deg)	Height(m)	Polarity
30.480	30.5	40.0	-9.5	132	1.00	Vertical
32.646	29.4	40.0	-10.6	208	1.00	Vertical
35.981	28.3	40.0	-11.7	0	1.00	Vertical
95.419	27.9	43.5	-15.6	96	1.00	Vertical
119.964	22.4	43.5	-21.1	43	1.00	Vertical
503.990	29.4	46.0	-16.6	177	1.00	Vertical

Table 7 - 30 MHz to 1 GHz

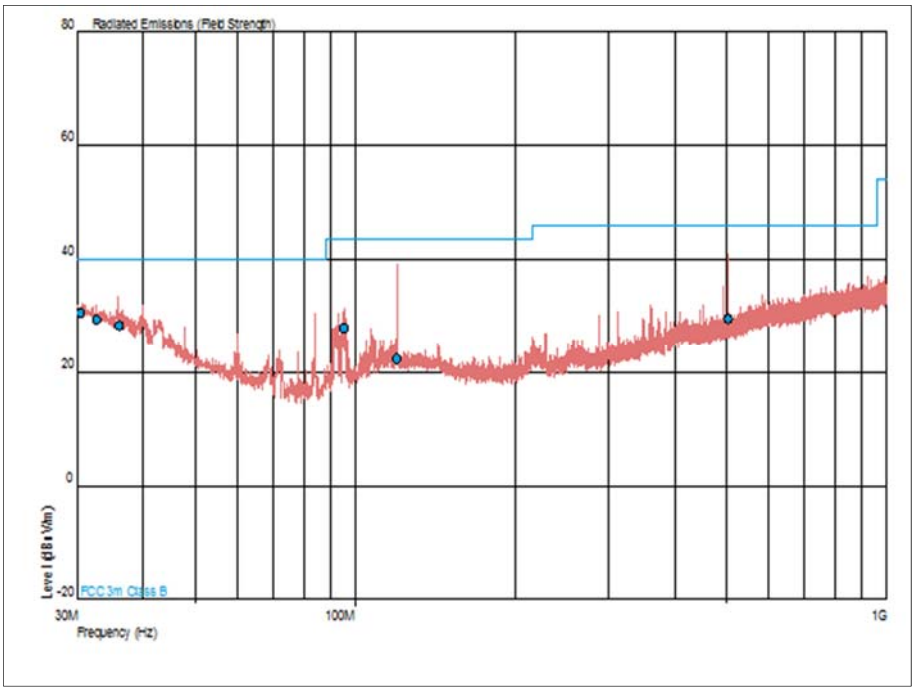

Figure 4 - 30 MHz to 1 GHz - Horizontal and Vertical

Frequency (GHz)	Result (µV/m)		Limit (µV/m)		Margin (µV/m)		Angle (°)	Height (m)	Polarisation
	Peak	Average	Peak	Average	Peak	Average			
*									

Table 8 - 1 GHz to 13 GHz

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

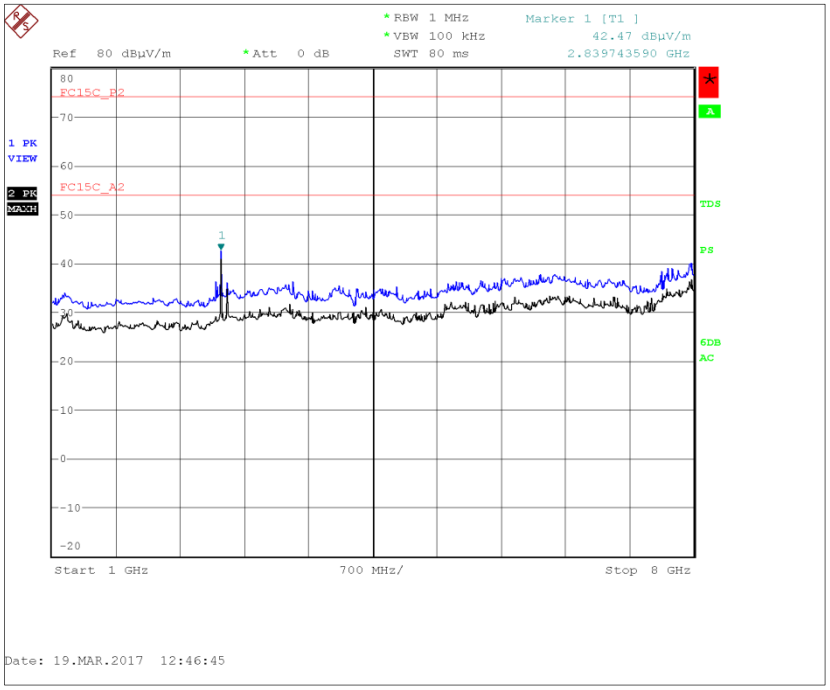

Figure 5 - 1 GHz to 8 GHz - Horizontal and Vertical

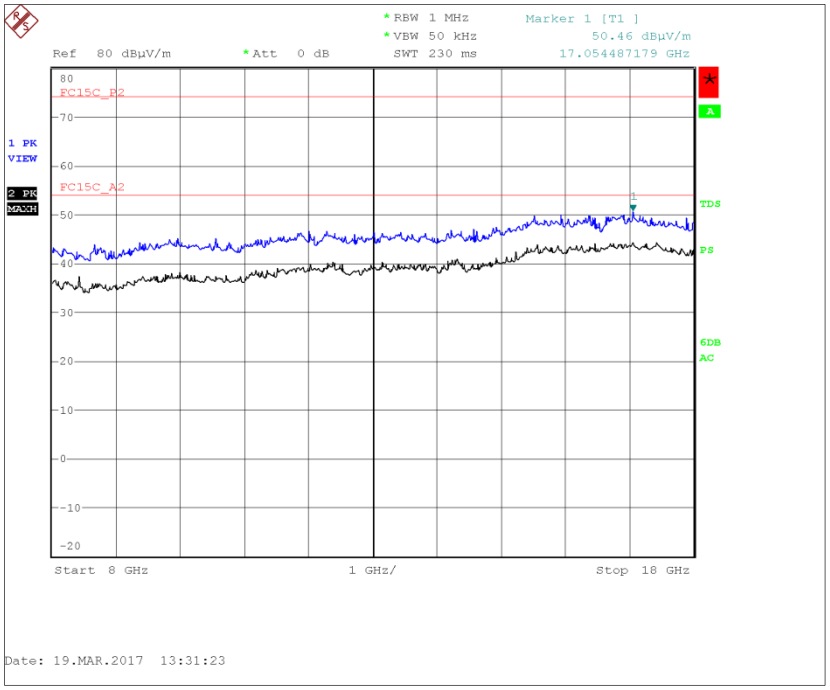

Figure 6 - 8 GHz to 13 GHz - Horizontal and Vertical

FCC 47 CFR Part 15, Limit Clause 15.109

Frequency of Emission (MHz)	Field Strength (µV/m)
30 to 88	100.0
88 to 216	150.0
216 to 960	200.0
Above 960	500.0

ICES-003, Limit Clause 6.2

Frequency of Emission (MHz)	Quasi-Peak (dBµV/m)
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 1000	54.0

Frequency of Emission (MHz)	Field Strength (dBµV/m)	
	Linear Average Detector	Peak Detector
Above 1000	54.0	74.0

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
Hygrometer	Rotronic	A1	1388	12	13-Apr-2017
Pre-Amplifier	Phase One	PS04-0086	1533	12	29-Jul-2017
Screened Room (5)	Rainford	Rainford	1545	36	20-Dec-2017
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	11-Jun-2017
Cable (N-N, 8m)	Rhophase	NPS-2302-8000-NPS	3248	-	O/P Mon
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU
1GHz to 8GHz Low Noise Amplifier	Wright Technologies	APS04-0085	4365	12	17-Oct-2017
Cable (Yellow, Rx, Km-Km 2m)	Scott Cables	KPS-1501-2000-KPS	4527	-	O/P Mon
Cable (Rx, SMAm-SMAm 0.5m)	Scott Cables	SLSLL18-SMSM-00.50M	4528	-	O/P Mon
Double Ridged Waveguide Horn Antenna	ETS-Lindgren	3117	4722	12	17-Feb-2018

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Double Ridge Broadband Horn Antenna	Schwarzbeck	BBHA 9120 B	4848	12	17-Feb-2018

Table 9

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
Radiated Emissions	30 MHz to 1 GHz: ±5.2 dB 1 GHz to 40 GHz: ±6.3 dB

Table 10