



COMPLIANCE WORLDWIDE INC. TEST REPORT 197-24RF

In Accordance with the Requirements of
Federal Communications Commission CFR Title 47 Part 2.1091:2020
Radio Frequency Exposure Evaluation: Mobile Devices

Innovation, Science and Economic Development Canada
RSS-102, Issue 6

Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus

Issued to

STATSports Group Ltd
Drumalane Mill, The Quays
Newry, Co Down BT35 8QS, United Kingdom

for the
Apex Next Dock Basic
Model: V4 X

FCC ID: 2APHS-APD200
IC: 25854-APD200

Report Issued on July 31, 2024

Tested by

Sean P. Defelice

Sean P. Defelice

Reviewed by

Larry K. Stillings

Larry K. Stillings

This test report shall not be reproduced, except in full, without written permission from Compliance Worldwide, Inc.

Compliance Worldwide, Inc. - 357 Main Street - Sandown, NH 03873
(603) 887 3903 Fax (603) 887 6445
www.complianceworldwide.com



Test Number: 197-24RF



Issue Date: 7/31/2024

Table of Contents

1. Scope.....	3
2. Product Details.....	3
2.1. Manufacturer	3
2.2. Model Number.....	3
2.3. Serial Number	3
2.4. Description	3
2.5. Power Source	3
2.6. EMC Modifications.....	3
3. Product Configuration.....	3
3.1. Operational Characteristics & Software	3
3.2. EUT Hardware.....	3
3.3. EUT Cables/Transducers	3
3.4. Support Equipment.....	4
3.5. Block Diagram	4
4. Measurements Parameters	4
4.1. Measurement Equipment Used to Perform Test	4
4.2. Software used to perform the test.....	5
4.3. Measurement & Equipment Setup	5
4.4. Measurement Uncertainty.....	5
5. Choice of Equipment for Test Suits	6
6. Measurement Data.....	7
6.1. Radiated Field Strength of Fundamental	7
6.2. Public Exposure to Radio Frequency Energy Levels	10
6.3. Radio Frequency (RF) Exposure of Radiocommunication Apparatus.....	11



Test Number: 197-24RF



Issue Date: 7/31/2024

1. Scope

This test report certifies that the STASTSports Group Ltd Apex Next Dock V4 X Basic with 13.56 MHz NFC Reader, as tested, meets the FCC Part 2.1091 requirements and the ISED RSS-102, Issue 6 Section 6.6 requirements exempting the device from a SAR Evaluation.

The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

2. Product Details

2.1. Manufacturer:	STASTSports Group Ltd.
2.2. Model Numbers:	V4 X
2.3. Serial Numbers:	BDL0130
2.4. Description:	Docking and Charging Station.
2.5. Power Source:	120 VAC, 60 Hz
2.6. Hardware Revision:	v4.41
2.7. Software Revision:	N/A
2.8. Modulation Type:	ASK
2.9. Operating Frequency:	13.56 MHz
2.10. EMC Modifications:	None

3. Product Configuration

3.1. Operational Characteristics & Software

The device under test is powered up normally. Initial tests across USB to ensure data can be transferred successfully, checksums verified.

3.2. EUT Hardware

Device	Manufacturer	Model	Serial No.
Apex Next Dock	Statsports	V4 X	BDL0130
Power Supply	Fidus Power	ATS090A1-P120	None

3.3. EUT Cables/Transducers

Cable Type	Shield	Length	From	To
USB Type A – USB-C	Yes	1.5M	Laptop	Dock (UUT)
Power cable	No	2M + 2M	Dock (UUT)	AC Mains

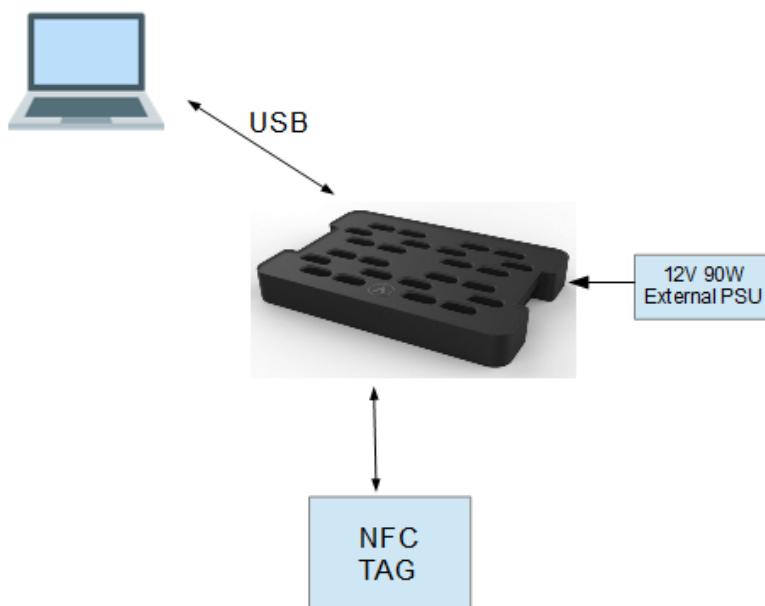
Test Number: 197-24RF
Issue Date: 7/31/2024

3. Product Configuration (continued)

3.4. Support Equipment

Device	Manufacturer	Model	Serial No.
Laptop	Lenovo	ThinkPad T440P	PB-031DX9
Pods (4) (only used for conducted emissions)	STATSports	ApexNXT	8DD81BB2FC1F, C4D65120E808, B19D13EB3D9, AC0B791900F5

3.5. Block Diagram



4. Measurements Parameters

4.1. Measurement Equipment and Software Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due	Interval
EMI Test Receiver, 9kHz - 7GHz ¹	Rohde & Schwarz	ESR7	101156	101156	10/26/2024
EMI Test Receiver, 10 Hz - 7GHz ¹	Rohde & Schwarz	ESR7	101770	101770	7/23/2025
Loop Antenna 9 kHz - 30 MHz	EMCO	6512	9309-1139	4/14/2025	3 Years
Digital Barometer	Control Company	4195	ID236	3/15/2025	1 Year

¹ ESR7 Firmware revision: V3.48 SP3, Date installed: 09/30/2020 Previous V3.48 SP2, installed 07/23/2020.



Test Number: 197-24RF



Issue Date: 7/31/2024

4. Measurements Parameters (continued)

4.2. Software Used to Perform Test

Manufacturer	Software Description	Title or Model #	Rev.	Report Sections
Compliance Worldwide	Test Report Generation Software	Test Report Generator	1.0	Used to process conducted emissions data

4.3 Measurement & Equipment Setup

Test Dates:	6/19/2024
Test Engineer:	Sean Defelice
Site Temperature (°C):	21
Relative Humidity (%RH):	42
Frequency Range:	9 kHz to 1 GHz
Measurement Distance:	3 Meters and 1 Meter
EMI Receiver IF Bandwidth:	200 Hz (30 kHz – 150 kHz) 9 kHz (150 kHz – 30 MHz) 120 kHz (30 MHz – 1 GHz) ≥ 3 * RBW or IF(BW)
EMI Receiver Avg Bandwidth:	
Detector Functions:	Peak, Quasi-Peak and Average

4.4 Test Procedure

The test measurements contained in this report are based on the requirements detailed in FCC Part 15, Subpart C - Intentional Radiators, notably Section 15.225, Operation within the band 13.110 – 14.010 MHz using ANSI C63.10: 2013, American National Standard for Methods for Unlicensed Wireless Devices.

In addition, FCC KDB 447498 D01 General RF Exposure Guidance v06, October 23, 2015 are referenced for the testing and requirements detailed in this report.

Testing was performed in accordance with the requirements detailed in ISED RSS-210, Issue 11 Annex B.6 using ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and ISED RSS-GEN, Issue 5 Amendment 1 (March 2019) and Amendment 2 (February 2021).

In addition, ISED RSS-102, Issue 6, (December 15, 2023) is referenced for the testing and requirements detailed in this report.



Test Number: 197-24RF



Issue Date: 7/31/2024

5. Choice of Equipment for Test Suits

5.1. Choice of Model

This test report is based on the test samples supplied by the manufacturer and are reported by the manufacturer to be equivalent to the production units.

5.2. Presentation

The test sample was tested complete with all required ancillary equipment. Refer to Section 3 of this report for the product equipment configuration.

5.3. Choice of Operating Frequencies

The transmitter in the unit under test utilizes a single operating frequency at approximately 13.56 MHz



Test Number: 197-24RF



Issue Date: 7/31/2024

6. Measurement Data (continued)

6.1. Operation within the Band 13.110 MHz – 14.010 MHz (15.225 (a), (b) and (c))

Radiated Field Strength of Fundamental (15.225 (a), (b) and (c))

Requirement: (a) The field strength of any emissions within the band 13.553 - 13.567 MHz shall not exceed 15,848 microvolts/meter (84 dB μ V/m) at 30 meters.

(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 (50.5 dB μ V/m) at 30 meters.

(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 (40.5 dB μ V/m) at 30 meters.

Test Note: Reference ANSI C63.10-2013 sections 5.3.2 and 6.4.4.2. The following formula was used to extrapolate the measurement distance to the limit distance:

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log\left(\frac{d_{\text{near field}}}{d_{\text{measure}}}\right) - 20 \log\left(\frac{d_{\text{limit}}}{d_{\text{near field}}}\right) \quad \text{Equation 1}$$

FS_{limit} is the calculation of field strength at the limit distance (dB μ V/m)

25.53

FS_{max} is the measured field strength, expressed in (dB μ V/m QP @ 3M)

46.92

d_{near field} is the $\lambda / 2\pi$ distance (Meters)

3.52

d_{measure} is the distance of the measurement point from the EUT (Meters)

3.00

d_{limit} is the reference limit distance (Meters)

30.00

The screen captures on the following pages display the value measured at a distance of 3 meters. This distance value was adjusted to the limit distance using the formula detailed in Equation 1.

Result: Compliant - The fundamental frequency radiated field strength of the device under test complies with the requirements detailed in FCC Part 15.225, Section (a).

The peak field strength of the device under test met the average requirement. For this reason, the quasi-peak field strength was not factored using a duty cycle correction factor.

Freq. (MHz)	Ampl. ¹ (dB μ V/m) Peak	Corr. Ampl. ² (dB μ V/m) (3M) QP	Corr. Ampl. ² (dB μ V/m) (30M) QP	FCC 15.225 Limit (dB μ V/m) QP 30M	Margin (dB)	Ant Pos. Par/Per Gnd Par	Ant Height (cm)	Turntable Azimuth (Deg)	Result
13.56	52.53	46.92	25.53	84.00	-37.58	Gnd Par	100	354	Compliant

¹ Measurement has been extrapolated from 3 meters to 30 meters using Equation 1 on this page.

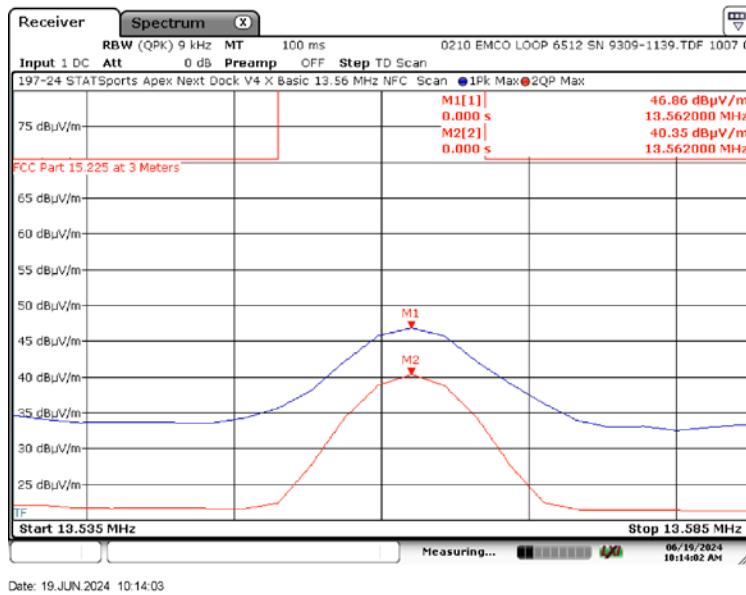
Test Number: 197-24RF
Issue Date: 7/31/2024

6. Measurement Data (continued)

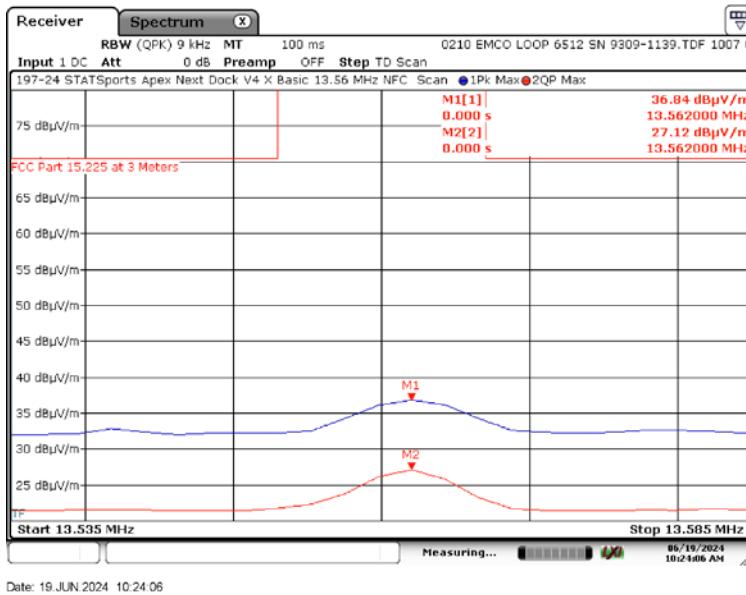
6.1. Operation within the Band 13.110 MHz – 14.010 MHz (15.225 (a), (b) and (c))

Radiated Field Strength of Fundamental (15.225 (a), (b) and (c)) (continued)

6.1.1. Worst Case Field Strength of the Fundamental – Parallel Antenna



6.1.2. Worst Case Field Strength of the Fundamental – Perpendicular Antenna



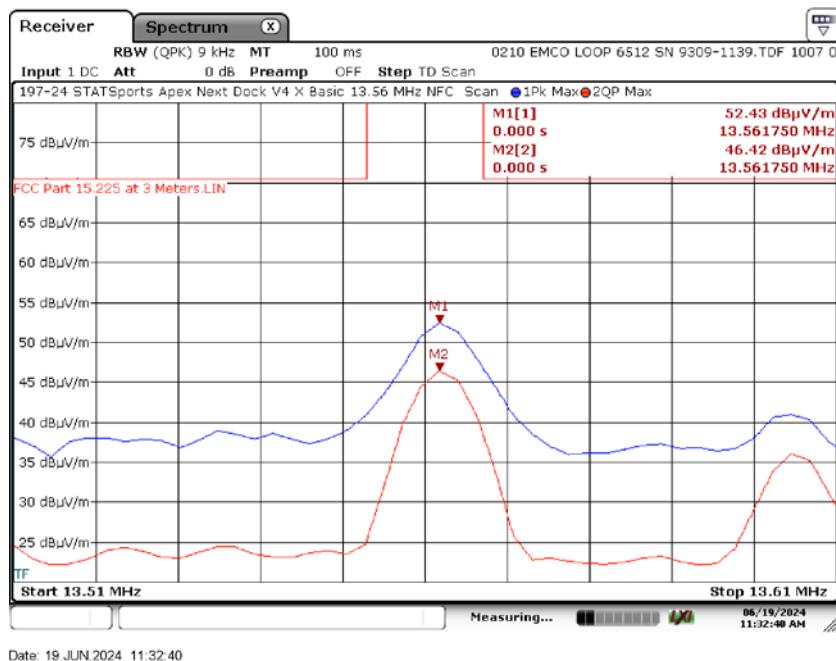
Test Number: 197-24RF
Issue Date: 7/31/2024

6. Measurement Data (continued)

6.1. Operation within the Band 13.110 MHz – 14.010 MHz (15.225 (a), (b) and (c))

Radiated Field Strength of Fundamental (15.225 (a), (b) and (c)) (continued)

6.1.3. Worst Case Field Strength of the Fundamental – Ground Parallel Antenna





Test Number: 197-24RF



Issue Date: 7/31/2024

6. Measurement Data (continued)

6.2. Public Exposure to Radio Frequency Energy Levels (FCC Part 2.1091:2020)

6.2.1. 2.1091 Requirements

Requirement: Reference CFR 2.1091: For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

RF Exposure of simultaneously operated radios within the host which is considered a Mobile Device.

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0 , according to calculated/estimated, numerically modeled, or measured field strengths or power density. The MPE ratio of each antenna is determined at the minimum *test separation distance* required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to the MPE limit at the test frequency

FCC Part 1.1310:2020 Table 1 Limits for General Population / Uncontrolled Exposure
Power Density Limit from 1.34 to 30 MHz is $180 / f^2$, where f is in MHz
Power Density Limit from 1500 to 100,000 MHz is 1.0

Power Density (S) = $(P^*G) / 4\pi R^2$, where S = mW/cm², P is power to antenna (mW), G = Gain of the Antenna (numeric), $\pi = 3.1416$ and R is the distance in cm to the antenna

Frequency (MHz)	MPE Distance (cm)	DUT Peak Field Strength at 3M (dB μ V/m)	DUT Output Power (dBm)	DUT Antenna Gain (dBi)	DUT Output Power (mW)	Power Density	Limit (mW/cm ²)	Result
		(1)	(2)	(3)	(4)	(5)		
13.56	20	52.43	-42.77	0	0.00005	0.00000001	0.98	Compliant

Result: Compliant - The device under test meets the exclusion requirement detailed in FCC OET 447498, dated October 23, 2015 Clause 7.2 for simultaneous operation.



Test Number: 197-24RF



Issue Date: 7/31/2024

6. Measurement Data (continued)

6.3. Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (RSS-102, Issue 6)

6.3.1. RSS-102 Issue 6 Section 6.6 Field reference level exposure exemption limits

Requirement: All transmitters are exempt from routine NS, SAR, APD, IPD and/or FRL exposure evaluations provided that they comply with the appropriate requirements specified in section 6.6.

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1W (adjusted for tune-up tolerance)

Frequency	Separation Distance	Maximum Power	Maximum Power	RSS-102 Exemption Limit	Result
(MHz)	(cm)	(mW)	(W)	(W)	
13.56	≥ 20	0.00005	0.00000005	1.00	Compliant

Result: Compliant, the device operates below 1 Watt and is exempt from an FRL exposure evaluation.