

RF Exposure Exemption Report

Manufacturer: 3D Technologies LTD

Model: Moasure 2 & Moasure 2 Pro



In accordance with FCC CFR 47 Part 1.1307

Add value.
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Prepared for: 3D Technologies Ltd
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COMMERCIAL-IN-CONFIDENCE

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SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Steve Marshall	Senior Engineer	Authorised Signatory	18 June 2025

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

FCC Accreditation

294497/UK2010 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.



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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	18 June 2025

Table 1

1.2 Introduction

Applicant	3D Technologies Ltd
Manufacturer	3D Technologies Ltd
Model Number(s)	Moasure 2, Moasure 2 Pro
Specification/Issue/Date	FCC 47 CFR Part 1.1307: 2022
Order Number	1257
Date	12-June-2025
Related Document(s)	<ul style="list-style-type: none">• KDB 447498 D04 v01• FCC 47 CFR Part 2.1093: 2023



1.3 Brief Summary of Results

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.

The calculations shown in this report were made in accordance with the procedures specified in the applied test specification(s).

1.4 Application Form

Equipment Description

Technical Description: <i>(Please provide a brief description of the intended use of the equipment)</i>	Mobile measurement equipment utilising Bluetooth LE to send data to a mobile phone or other similar device
Manufacturer:	3D Technologies Ltd (Trading as Moasure)
Model:	Moasure 2 & Moasure2 PRO
Part Number:	Moasure 2 / Moasure2 PRO

If more than one frequency band is supported, please confirm which combinations of bands are capable of Simultaneous Transmit.	N/A Single band
--	-----------------

Frequency Band 1: Please detail (one entry for each band), e.g GSM 900 / WCDMA FDD I etc.

Antenna Model:	Johansen chip antenna C-ANT-2450AT07A0100	
Antenna length:	0.1	cm
Bottom frequency:	2402	MHz
Middle frequency:	2440	MHz
Top frequency:	2480	MHz

Maximum power (input to the antenna including a tolerance):	<1 dBm (when set to 0dBm in SW)	dBm
Antenna gain (or maximum gain allowed):	1	dBi

Or

Field Strength Measurement:	dB μ A/M	
Measurement Distance:		cm

Separation distance from antenna to the user/bystander	0	cm
Transmitter Duty Cycle:	32	%

The above information was provided by the applicant.



1.5 Product Information

1.5.1 Technical Description

Mobile measurement equipment utilising Bluetooth LE to send data to a mobile phone or other similar device.

1.5.2 Transmitter Description

The following radio access technologies and frequency bands are supported by the equipment under test.

Radio Access Technology	Frequency Band (MHz)	Minimum Frequency (MHz)	Output Power (dBm)	Duty Cycle (%)
Bluetooth Low Energy	2402-2480	2402	1.0	32

Table 2 - Transmitter Description - FCC

Note: Transmitter power includes upper bounds of uncertainty therefore maximum values are used.

1.5.3 Antenna Description

The following antennas are supported by the equipment under test.

Radio Access Technology	Antenna Model	Gain (dBi)	Antenna Length (cm)	Minimum Separation Distance (mm)
Bluetooth Low Energy	2450AT07A0100T	1	0.1	0

Table 3 - Antenna Description

In the case of more than one type of antenna being supported by the equipment, the calculation is based on the maximum of the antenna gains. If other antennas can be used that have greater gains, the minimum separation distances will need to be recalculated.

Note: Antenna gain includes upper bounds of uncertainty therefore maximum values are used.

1.5.4 Equipment Configuration

Single transmitter.



2 Assessment Details

2.1 Single RF Source Options for Determination of Exemption

Option	Reference	RF Exposure Test Exemptions for Single Source												
A (1-mW Test Exemption)	FCC 1.1307(b)(3)(i)(A)	The available maximum time averaged power is no more than 1 mW, regardless of separation distance.												
B (SAR-Based Exemption)	FCC 1.1307(b)(3)(i)(B)	<p>The available maximum timeaveraged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:</p> $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ <p>Where</p> $x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ <p>and</p> $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ <p>d = the separation distance (cm);</p>												
C (MPE-Based Exemption)	FCC 1.1307(b)(3)(i)(C)	<p>Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).</p> <p>TABLE 1 TO § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION</p> <table border="1"> <thead> <tr> <th>RF Source frequency (MHz)</th> <th>Threshold ERP (watts)</th> </tr> </thead> <tbody> <tr> <td>0.3–1.34</td> <td>1,920 R^2.</td> </tr> <tr> <td>1.34–30</td> <td>3,450 R^2/f^2.</td> </tr> <tr> <td>30–300</td> <td>3.83 R^2.</td> </tr> <tr> <td>300–1,500</td> <td>0.0128 R^2f.</td> </tr> <tr> <td>1,500–100,000</td> <td>19.2 R^2.</td> </tr> </tbody> </table>	RF Source frequency (MHz)	Threshold ERP (watts)	0.3–1.34	1,920 R^2 .	1.34–30	3,450 R^2/f^2 .	30–300	3.83 R^2 .	300–1,500	0.0128 R^2f .	1,500–100,000	19.2 R^2 .
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300–1,500	0.0128 R^2f .													
1,500–100,000	19.2 R^2 .													

Table 4



2.2 Individual Antenna Port Exposure Results

2.2.1 Single Source Calculation of Exposure at Specified Separation Distance FCC 1.1307 (b)(3)(i)(A) 'Option A'

RAT	Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	1.1307(b)(3)(ii)(A) Exemption (Yes/No)
Bluetooth Low Energy	2402	1.26	32	0.4	Yes

Table 5 - Transmitter Result

The calculations show that the individual transmitters comply with FCC 1.1307(b)(3)(i)(A) 1 mW based exception