

RF EXPOSURE REPORT

Applicant	3Dconnexion
Address	7, Boulevard du Jardin Exotique, 98000 Monaco

Manufacturer or Supplier	3Dconnexion
Address	7, Boulevard du Jardin Exotique, 98000 Monaco
Product	SpaceMouse Wireless
Brand Name	3Dconnexion
Model	3DX-600060
Additional Model & Model Difference	3DX-700108, 3DX-700115, 3DX-700136, ect; See items 1;
Date of tests	Jul. 19, 2023 ~ Aug. 03, 2023

☒ FCC Part 2 (Section 2.1093)

☒ KDB 447498 D01 v06

☒ IEEE C95.1

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Niko Zhang Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	

Date: Aug. 16, 2023

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Test Report No.: FM2304WDG0032

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2304WDG0032	Original release	Aug. 16, 2023

1. CERTIFICATION

FCC ID:	2AAHQ-SMWBT
PRODUCT:	SpaceMouse Wireless
BRAND NAME:	3Dconnexion
MODEL NO.:	3DX-600060
ADDITIONAL NO.:	3DX-700108, 3DX-700115, 3DX-700136, 3DX-600044, 3DX-700043, 3DX-700066, 3DX-700067, 3DX-700084
APPLICANT:	3Dconnexion
STANDARDS:	FCC Part 2 (Section 2.1093)
	KDB 447498 D01 v06
	IEEE C95.1

Note: Additional models (see above table) are identical with the test model 3DX-600060 except the model number, different packaging made according to regional and marketing programs for trading purpose.

2. RF EXPOSURE DEFINE

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, 16 where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

- 2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:
- a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) $\cdot$ (f(MHz)/150)] mW, at 100MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) $\cdot$ 10] mW at > 1500 MHz and ≤ 6 GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
- a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm.
 - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm.
 - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

3. CLASSIFICATION

The antenna of this product, under normal use condition, is at less than 20cm away from the body of the user. So, this device is classified as **Portable Device**.

4. SAR TEST EXCLUSION THRESHOLDS

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
GFSK(BT-LE)	2402-2480	0	±2	-2	2
2.4G SRD TX	2404-2477	-5	±2	-7	-3

The measured conducted Average Power

Mode	Frequency (MHz)	Peak Power (dBm)
BT-LE	2402	-0.05

Mode	Frequency (MHz)	Peak Power (dBuV/m)	Peak Power (dBm)
2.4G SRD TX	2404	89.74	-5.49

Note:

$$E = \frac{\sqrt{30 PG}}{d}$$

E =Electric field streng in v/m

$$V/m=10^{(dBuV/m -120)/20}$$

P =Power in Watts

G =Antenna gain in dBi

d =Measurement distance in metres

Power = 0.111461 (mW)

$$dBm=10*\log_{10}(0.111461) \approx -9.53 \text{ (dBm)}$$

SAR Test Exclusion Thresholds

Frequency (MHz)	Maximum source-based time averaged conducted output power (dBm)	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
2402-2480	2	5	0.492	3.0	7.5	Exempt from SAR
2404-2477	-3	5	0.156	3.0	7.5	Exempt from SAR

Conclusion

Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.