RF Exposure evaluation

Product Name	:	WIRELESS SYSTEM FOR WIND INSTRUMENT
Brand Name	:	NUX
Model	:	B-6 PRO
Series Model	:	N/A
FCC ID	:	2BCVT-B-6PRORX
Applicant	:	**Cherub Technology Co., Ltd.**
Address	:	No.10, Keji 9th Road, Tangjiawan Town, Zhuhai High-tech Zone, Zhuhai, Guangdong, China, 519080
Manufacturer	:	**Cherub Technology Co., Ltd.**
Address	:	No.10, Keji 9th Road, Tangjiawan Town, Zhuhai High-tech Zone, Zhuhai, Guangdong, China, 519080
Standard(s)	:	47CFR §1.1310, 47CFR §2.1093 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt	:	May 12, 2025
Date of Test	:	May 13, 2025~ May 20, 2025
Issued Date	:	May 21, 2025

Issued By: **Guangdong Asia Hongke Test Technology Limited**

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Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Guangdong Asia Hongke Test Technology Limited. If there is a need to alter or revise this document, the right belongs to Guangdong Asia Hongke Test Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.

Report Revise Record

Report Version	Issued Date	Notes
M1	May 21, 2025	Initial Release

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1 GENERAL INFORMATION

1.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

1.2 General Description of EUT

Product Name:	WIRELESS SYSTEM FOR WIND INSTRUMENT
Model/Type reference:	B-6 PRO
Serial Model:	N/A
Power Supply:	RX: DC9V from adapter TX: DC 3.7V from battery or DC 5V from external circuit
Adapter:	Brand: FJ Model: FJ-SW1260901200DN Input: 100~240V~ 50/60Hz 0.4A Max Output: 5.0V⎓1.2A
Hardware Version:	V1.0
Software Version:	N/A
Sample(s) Status:	AiTSZ-250512046-1(Normal sample) AiTSZ-250512046-2(Engineer sample)
SRD:	
Supported type:	2.4G wireless protocol
Modulation:	GFSK
Operation frequency:	2402MHz~2480MHz
Channel separation:	1 MHz
Channel number:	79
Antenna type:	PIFA antenna
Antenna gain:	2.43dBi
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual..	

1.3 Test Facility

Test Laboratory:
Guangdong Asia Hongke Test Technology Limited
B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:
FCC-Registration No.: 251906 Designation Number: CN1376
Guangdong Asia Hongke Test Technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC —Registration No.: 31737 CAB identifier: CN0165
The 3m Semi-anechoic chamber of Guangdong Asia Hongke Test Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 31737

A2LA-Lab Cert. No.: 7133.01
Guangdong Asia Hongke Test Technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the Guangdong Asia Hongke Test Technology Limited’s quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Asia Hongke laboratory is reported:

Test	Measurement Uncertainty	Notes
Power Line Conducted Emission	150KHz~30MHz ±1.20 dB	(1)
Radiated Emission	9KHz~30Hz ±3.10dB	(1)
Radiated Emission	9KHz~1GHz ±3.75dB	(1)
Radiated Emission	1GHz~18GHz ±3.88 dB	(1)
Radiated Emission	18GHz-40GHz ±3.88dB	(1)
RF power, conducted	30MHz~6GHz ±0.16dB	(1)
RF power density, conducted	±0.24dB	(1)
Spurious emissions, conducted	±0.21dB	(1)
Temperature	±1℃	(1)
Humidity	±3%	(1)
DC and low frequency voltages	±1.5%	(1)
Time	±2%	(1)
Duty cycle	±2%	(1)
Bandwidth	$\pm 1.5 \times 10^{-6}$	(1)

The report uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

2 Method of measurement

2.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1093 RF exposure is calculated.

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures

2.2 Evaluation Method and Limit

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: "Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc."
[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] · [√f (GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:
• f (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
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below
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 according to f) in section 4.1 is applied to determine SAR test exclusion.

When one of the following test exclusion conditions is satisfied for all combinations of simultaneous transmission configurations, further equipment approval is not required to incorporate transmitter modules in host devices that operate in the mixed mobile and portable host platform exposure conditions. The grantee is responsible for documenting this according to Class I permissive change requirements. Antennas that qualify for standalone SAR test exclusion must apply the estimated standalone SAR to determine simultaneous transmission test exclusion.
The [∑ of (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance) / 1.6 W/kg] + [∑ of MPE ratios] is ≤ 1.0.
The SAR to peak location separation ratios of all simultaneously transmitting antenna pairs operating in portable device exposure conditions are all ≤ 0.04, and the [∑ of MPE ratios] is ≤ 1.0.

2.3 Manufacturing Tolerance

Freq. (MHz)	Field strength (dBuV/m)	EIRP (dBm)	Turn-up Power (dB)	Max tune up power (dBm)
2402MHz	92.79	-2.47	-2±1	-1.0
2441MHz	96.03	0.77	1±1	2.0
2480MHz	93.42	-1.84	-1±1	0.0

Note:

E = EIRP – 20log D + 104.8

where:

E = electric field strength in dBμV/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

EIRP=E-104.8+20logD, D=3

2.4 Evaluation Result

Standalone Evaluation Results

Band/Mode	f (GHz)	Antenna Distance (mm)	Max. RF output power (including tune-up tolerance)		SAR Test Exclusion Threshold	SAR Test Exclusion
			dBm	mW		
2.4G SRD	2.441	5	2	1.585	0.5 <3	Yes

2.5 Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

********** End of Report **********