

Atlas Copco (Wuxi) Compressor Co., Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

ZBP 2000, ZBP 2000 PREDEFINED

REPORT NUMBER:

230900297SHA-002

ISSUE DATE:

December 14, 2023

DOCUMENT CONTROL NUMBER:

TTRFFCCMPE-01_V1 © 2018 Intertek





Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North) Caohejing Development Zone Shanghai 200233, China

Telephone: 86 21 6127 8200

www.intertek.com

Report no.: 230900297SHA-002

Applicant: Atlas Copco (Wuxi) Compressor Co., Ltd.

No.45 Ximei Road, Xinwu District, Wuxi, Jiangsu, China

Manufacturer: Atlas Copco (Wuxi) Compressor Co., Ltd.

No.45 Ximei Road, Xinwu District, Wuxi, Jiangsu, China

Factory: Atlas Copco (Wuxi) Compressor Co., Ltd.

No.45 Ximei Road, Xinwu District, Wuxi, Jiangsu, China

FCC ID: 2BBHM-ZBP2000

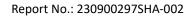
SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

| PREPARED BY: | KEVIEWED BY: | |
|------------------|--------------|--|
| Sky Yang | Zrie.li | |
| Project Engineer | Reviewer | |
| Sky Yang | Eric Li | |

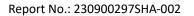
This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.





Revision History

| Report No. | Version | Description | Issued Date | |
|------------------|---------|-------------------------|-------------------|--|
| 230900297SHA-002 | Rev. 01 | Initial issue of report | November 17, 2023 | |
| 230900297SHA-002 | Rev. 02 | Modify the EUT rating. | December 14, 2023 | |
| | | | | |





1 GENERAL INFORMATION

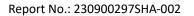
1.1 Description of Equipment Under Test (EUT)

| Product name: | LITHIUM-ION POWER STATION | | |
|---|---|--|--|
| Type/Model: | ZBP 2000 PREDEFINED, ZBP 2000 | | |
| Description of EUT: | The EUT is a mobile energy storage power supply with WIFI function. Two models are electrically identical except that ZBP 2000 doesn't have heating film. | | |
| AC Input: 120VAC, 50Hz/60Hz, 15A Max Solar Input: 12~60VDC, 15A Max AC Output: 120VAC, 50/60Hz, 16.6A Max 120VAC, 50/60Hz, 15A (when input is connected with mains together) USB-A Output: 5V/3A, 9V/2A, 12V/1.5A, 18W Max USB-C Output: 5V/3A, 9V/2A, 12V/1.5A, 18W Max USB-A+C Output: 5V/2A, 10W | | | |
| EUT type: | ☐ Table top ☐ Floor standing | | |
| Software Version: | / | | |
| Hardware Version: | / | | |
| Sample received date: | March 13, 2023 | | |
| Date of test: | March 15, 2023 ~ April 21, 2023 | | |

1.2 Technical Specification

| Frequency Band: | 2400MHz ~ 2483.5MHz | |
|---------------------------|--|--|
| Support Standards: | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20 | |
| | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) | |
| Type of Modulation: | EEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) | |
| | IEEE 802.11n-HT20: OFDM (64-QAM, 16-QAM, QPSK, BPSK) | |
| Channel Number: | 11 Channels for 802.11b, 802.11g and 802.11n(HT20) | |
| | IEEE 802.11b: Up to 11 Mbps | |
| Data Rate: | IEEE 802.11g: Up to 54 Mbps | |
| | IEEE 802.11n-HT20: Up to MCS7 | |
| Channel Separation: 5 MHz | | |

| Antenna information: | | | |
|----------------------|--------------|------------|------|
| No. | Antenna Type | Gain (dBi) | Note |
| 1 | PCB Antenna | -1.27 | - |

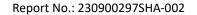




1.3 Description of Test Facility

| Name: | Intertek Testing Services Shanghai | | |
|---|------------------------------------|--|--|
| Address: Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China | | | |
| Telephone: | 86 21 61278200 | | |
| Telefax: | 86 21 54262353 | | |

| The test facility is recognized, | CNAS Accreditation Lab Registration No. CNAS L0139 |
|--|--|
| certified, or accredited by these organizations: | FCC Accredited Lab Designation Number: CN0175 |
| | IC Registration Lab CAB identifier.: CN0014 |
| | VCCI Registration Lab Member No.: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252) |
| | A2LA Accreditation Lab Certificate Number: 3309.02 |





2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

| Frequency range | E-field strength | H-field strength | B-field | Equivalent plane wave | |
|-----------------|------------------------|-------------------------|-------------------------|---|--|
| | (V/m) | (A/m) | (uT) | power density S _{eq} (W/m²) | |
| 0-1 Hz | - | 3,2 × 10 ⁴ | 4 × 10 ⁴ | - | |
| 1-8 Hz | 10 000 | $3.2 \times 10^4/f^2$ | $4 \times 10^4/f^2$ | - | |
| 8-25 Hz | 10 000 | 4 000/f | 5 000/f | - | |
| 0,025-0,8 kHz | 250/f | 4/f | 5/f | - | |
| 0,8-3 kHz | 250/f | 5 | 6,25 | - | |
| 3-150 kHz | 87 | 5 | 6,25 | - | |
| 0,15-1 MHz | 87 | 0,73/f | 0,92/f | - | |
| 1-10 MHz | 87/f ^{1/2} | 0,73/f | 0,92/f | - | |
| 10-400 MHz | 28 | 0,073 | 0,092 | 2 | |
| 400-2 000 MHz | 1,375 f ^{1/2} | 0,0037 f ^{1/2} | 0,0046 f ^{1/2} | f/200 | |
| 2-300 GHz | 61 | 0,16 | 0,20 | 10 | |

Mobile device exposure for simultaneous transmission operations: the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is \leq 1.0





2.2 Assessment Results

Power density (S) is calculated according to the formula:

 $S = P / (4\pi R^2)$

Where $S = power density in mW/cm^2$

P = Radiated transmit power in mW

R = distance (cm)

As we can see from the test report 230900297SHA-001:

Here R is chosen to be 20cm,

| Mada | | Frequency Range | Ро | wer | R | S | Limits |
|------|-------|-----------------|-------|--------|-----------------------|----------|--------|
| Mode | (MHz) | dBm | mW | (cm) | (mW/cm ²) | (mW/cm²) | |
| | WIFI | 2412 - 2462 | 10.59 | 11.455 | 20 | 0.0023 | 1 |





Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.