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Test report No:
24C0966R-RF-US-P20V01

Low Power Exemption Test Report

Product Name	Mobile Computer
Model and /or type reference	PM68
Trademark	N/A
FCC ID	V2X-PM68
Applicant's name / address	Point Mobile Co.,LTD. A-26F, Building Gasan Publik 178, Digital-ro, Geumcheon-gu Seoul, 08513 Republic of Korea
Test method requested, standard	47 CFR FCC Part 2.1093
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao / Project Manager
Approved by (name / position & signature)	Frank He / Technical Manager
Date of issue	2025-04-01
Report Version	V1.0
Report template No	Template_FCC MPE-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Feb. 17, 2025
Date (start test)	Feb. 18, 2025
Date (finish test)	Mar. 20, 2025

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	:	Equipment Under Test
QP	:	Quasi-Peak
CAV	:	CISPR Average
AV	:	Average
CDN	:	Coupling Decoupling Network
SAC	:	Semi-Anechoic Chamber
OATS	:	Open Area Test Site
BW	:	Bandwidth
AM	:	Amplitude Modulation
PM	:	Pulse Modulation
HCP	:	Horizontal Coupling Plane
VCP	:	Vertical Coupling Plane
U_N	:	Nominal voltage
*T*x	:	Transmitter
*R*x	:	Receiver
N/A	:	Not Applicable
N/M	:	Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
24C0966R-RF-US-P20V01	V1.0	Initial issue of report.	2025-04-01

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 2.1093 and KDB 447498 and FCC Part 1.1307.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
   - Chapter 1.1 General Description of the Item(s);
   - Chapter 1.2 Antenna Information;
   - Chapter 1.3 Channel List.

USED EQUIPMENT

Electric Field Strength / Magnetic Field Strength / TR6					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Electromagnetic field meter	WAVECONTROL	SMP3	23SL0136	2023.05.09	2026.05.08
Temperature/Humidity Meter	RTS	RTS-8S	RF06	2024.07.04	2025.07.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document.The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%, The Uncertainties is complice with standard required as below.

Test item	Uncertainty
Electric Field Strength Magnetic Field Strength	±1.5dB

TEST FACILITY

USA	**:**	**FCC Designation Number: CN1199**

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name ..... :	Mobile Computer
Model No. ..... :	PM68
Trademark..... :	N/A
FCC ID..... :	V2X-PM68
Hardware Version..... :	MP
Software Version..... :	68.00
Manufacturer..... :	Point Mobile Co.,LTD.
Manufacturer Address ..... :	A-26F, Building Gasan Publik 178, Digital-ro, Geumcheon-gu Seoul, 08513 Republic of Korea

Wireless Specification ..... :	NFC
Operating frequency range(s)..... :	13.56 MHz
Type of modulation..... :	ASK
Number of channel..... :	1

Rated power supply..... :	Voltage and Frequency	
	☐	AC: 220 - 240 V, 50/60 Hz
	☐	AC: 100 - 240 V, 50/60 Hz
	☐	DC: 5 Vdc
	☒	Battery: 3.8V
	☒	Adapter: Input:100-240V, 50/60 Hz,0.3A; Output:5.0V,2.0A,10W
Mounting position ..... :	☐	Tabletop equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held/Portable equipment
	☐	Other:

1.2 Antenna Information

Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:……		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type.....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	Ceramic Chip
			☐	PIFA
			☒	LOOP
			☐	Others:
Antenna Gain .....:	N/A			

1.3 Channel List

NFC Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	13.56 MHz						

1.4 Limits

According to § 1.1307(b)(3)(i)(A)

The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

§ 1.1307(b)(3)(ii)(A)

The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A)

According to § 1.1307(b)(3)(i)(B)

The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (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). Pth is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\ cm}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\ cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

Finally, when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption threshold.

1.5 Test Result

Operation Mode	Frequency Range (MHz)	Test result (V/m)	Test result (dBm)	Tune up (dBm)
NFC	13.56	0.088	-16.87	-15.00

Note:
$S=Z_0/E_2$
$Z_0\approx377\Omega$
E=0.088V/m
$S=377/(0.088)^2=377/0.007744\approx2.054\times10^{-5}W/m^2$
$dBm=10\log_{10}(S_{mW})$
$dBm=10\log_{10}(0.02054)\approx10\times(-1.687)\approx-16.87dBm$
The tune-up power is 1 dB

1.6 RF Exposure Evaluation

Frequency Range (MHz)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Verdict
13.56	-15.00	-17.15	0.02	1	SAR test not required

Note:
ERP=EIRP-2.15=-17.15dBm
$P_{mW}=10^{(10/PdBm)}=10^{(10/-17.15)}=10^{-1.715}\approx0.0193$ mW

The End