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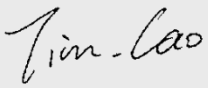
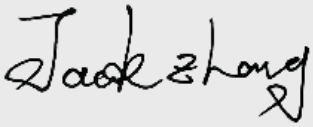
Test report No:
2470726R-RF-US-P20V01

RF Exposure Evaluation Exemption Report

Identification of item tested	IOT Module
Model and /or type reference	VIC100
FCC ID	2BK6VVIC100
Applicant´s name / address	Amptek Technologies Inc. 40 Vogell Road, Unit 28 Richmond Hill ON L4B3N6 Canada
Test method requested, standard	FCC Part1.1307 KDB 447498 D04V01
Verdict Summary	IN COMPLIANCE
Documented By (name / position & signature)	Tim Cao/ Project Manager 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2024-11-13
Report Version	V1.3
Report template No	Template_FCC MPE-RF-V1.0

INDEX

page

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)	July. 23, 2022
Date (start test)	July. 23, 2022
Date (finish test)	July. 23, 2022

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℃ - 35 ℃
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
UN : Nominal voltage
Tx : Transmitter
Rx : Receiver
N/A : Not Applicable
N/M : Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2470026R-RF-US-P20V01	V1.0	Initial issue of report.	2024-08-27
2470026R-RF-US-P20V01	V1.1	Page 1,7: Update product and applicant's information. (The test report No.: 2470026R-RF-US-P20V01 V1.1 is to replace the test report No.: 2470026R-RF-US-P20V01 V1.0, and test report 2470026R-RF-US-P20V01 V1.0 is obsoleted.)	2024-10-16
2470026R-RF-US-P20V01	V1.2	Page 9: Update data. (The test report No.: 2470026R-RF-US-P20V01 V1.2 is to replace the test report No.: 2470026R-RF-US-P20V01 V1.1, and test report 2470026R-RF-US-P20V01 V1.1 is obsoleted.)	2024-11-12
2470026R-RF-US-P20V01	V1.3	Page 9: Revised note 4. (The test report No.: 2470026R-RF-US-P20V01 V1.3 is to replace the test report No.: 2470026R-RF-US-P20V01 V1.2, and test report 2470026R-RF-US-P20V01 V1.2 is obsoleted.)	2024-11-13

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 FCC 47CFR §2.1091.
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 1.3 Product information.

1. RF Exposure Evaluation

1.1. Limits

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

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

For limb-worn devices, 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.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Identification of item tested .....:	IOT Module
Model No.....:	VIC100
FCC ID.....:	2BK6VVIC100

Wireless specification .....:	LTE Cat-M1
Support Band .....:	LTE Cat-M1 Band 2/4/5/12/13/14/17/25/26/66
Uplink.....:	LTE Band 2: 1850 ~ 1910 MHz LTE Band 4: 1710 ~ 1755 MHz LTE Band 5: 824 ~ 849 MHz LTE Band 12: 699 ~ 716 MHz LTE Band 13: 777 ~ 787 MHz LTE Band 14: 788 ~ 798 MHz LTE Band 17: 704 ~ 716 MHz LTE Band 25: 1850 ~ 1915 MHz LTE Band 26: 814 ~ 849 MHz LTE Band 66: 1710 ~ 1780 MHz
Downlink .....:	LTE Band 2: 1930 ~ 1990 MHz LTE Band 4: 2110 ~ 2155 MHz LTE Band 5: 869 ~ 894 MHz LTE Band 12: 729 ~ 746 MHz LTE Band 13: 746 ~ 756 MHz LTE Band 14: 758 ~ 768 MHz LTE Band 17: 734 ~ 746 MHz LTE Band 25: 1930 ~ 1995 MHz LTE Band 26: 859 ~ 894 MHz LTE Band 66: 2110 ~ 2200 MHz
Wireless specification .....:	LTE-NB1
Support Band .....:	LTE-NB1 Band 2/4/5/12/13/17/25/26/66
Uplink.....:	LTE Band 2: 1850.1 ~ 1909.9 MHz LTE Band 4: 1710.1 ~ 1754.9 MHz LTE Band 5: 824.1 ~ 848.9 MHz LTE Band 12: 699 ~ 715.9 MHz LTE Band 13: 777 ~ 786.9 MHz LTE Band 17: 704.1 ~ 715.9 MHz LTE Band 25: 1850.1 ~ 1914.9 MHz LTE Band 26: 814.1 ~ 848.9 MHz LTE Band 66: 1710.1 ~ 1779.9 MHz
Downlink .....:	LTE Band 2: 1930.1 ~ 1989.9 MHz LTE Band 4: 2110.1 ~ 2154.9 MHz LTE Band 5: 869.1 ~ 893.9 MHz LTE Band 12: 729 ~ 745.9 MHz LTE Band 13: 746 ~ 755.9 MHz

	LTE Band 17: 734.1 ~ 745.9 MHz LTE Band 25: 1930.1 ~ 1994.9 MHz LTE Band 26: 859.1 ~ 893.9 MHz LTE Band 66: 2110.1 ~ 2179.9 MHz

Note: The antenna information for the EUT in clause 1.3 are provided and confirmed by the client.

The evaluation process in the table below uses limit values for Pmax, which are tighter compared to the actual test data.

LTE Band	Exposure Condition	Pmax (dBm)	Duty cycle	Distance (mm)	f(GHz)	Pth (mW)	Maximum permitted EIRP (mW)	Maximum permitted EIRP (dBm)	Maximum permitted ERP (dBm)	EIRP Limit (dBm)	Maximum permitted Antenna gain (dBi)
2	Limb	24.00	0.0028	5	1850	8.59	1995.26	33.00	30.85	33.00	9.00
4	Limb	24.00	0.0028	5	1710	9.15	1000.00	30.00	27.85	30.00	6.00
5	Limb	24.00	0.0028	5	824	23.55	8394.60	39.24	37.09	40.60	15.24
12	Limb	24.00	0.0028	5	699	29.67	4920.40	36.92	34.77	36.92	12.92
13	Limb	24.00	0.0028	5	777	25.57	4920.40	36.92	34.77	36.92	12.92
14	Limb	24.00	0.0028	5	788	25.07	4920.40	36.92	34.77	36.92	12.92
17	Limb	24.00	0.0028	5	704	29.37	4920.40	36.92	34.77	36.92	12.92
25	Limb	23.38	0.0028	5	1850	8.59	1995.26	33.00	30.85	33.00	9.00
26	Limb	24.00	0.0028	5	814	23.96	8550.67	39.32	37.17	40.60	15.32
66	Limb	24.00	0.0028	5	1710	9.15	1000.00	30.00	27.85	30.00	6.00

Note 1: Duty cycle is provided and confirmed by client.

Note 2: ERP = EIRP - 2.15dB

Note 3: Maximum permitted Antenna gain = Maximum permitted EIRP – Pmax

Note 4: The Pth shown in the table is for Limb and includes a factor of 2.5

Conclusion: When the duty cycle does not exceed 0.0028 and the antenna gain does not exceed the maximum permitted gain, the limb-worn device does not need to be tested for SAR.

The End