



Test Report No.:
FCCSZ2023-0022-H

RF Test Report

FCC ID : 2BEA6AP6275
IC : 31870-AP6275
EUT : Module
MODEL : VT-MOB-6275-AX
BRAND NAME : N/A
APPLICANT : Vantron Technology, Inc.
Classification of Test : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant		Name: Vantron Technology, Inc. Address: 48434 Milmont Drive Fremont, CA 94538-7324, USA	
Manufacturer		Name: Vantron Technology, Inc. Address: 48434 Milmont Drive Fremont, CA 94538-7324, USA	
Equipment Under Test		Product Name: Module Model/Type: VT-MOB-6275-AX Brand Name: N/A Serial NO.: N/A Sample NO.: 3-1	
Date of Receipt.	2023.12.07	Date of Testing	2023.12.07~2024.03.28
Test Specification		Test Result	
FCC Part 2 (Section 2.1091) KDB 447498 D04, IEEE C95.3 ISED RSS-102 Issue 5		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied.		
	Seal of CVC Issue Date: 2024.03.29		
Tested by:  <u>Liang Jiatong</u> Name Signature	Tested by:  <u>Huang Meng</u> Name Signature	Approved by:  <u>Dong Sanbi</u> Name Signature	
Other Aspects: NONE.			
Abbreviations: OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2023-0022-H	Original release	2024.03.29

1 GENERAL PRODUCT INFORMATION

PRODUCT	Module
BRAND	N/A
TEST MODEL	VT-MOB-6275-AX
ADDITIONAL MODEL	N/A
POWER SUPPLY	DC 3.3V
STANDARDS	FCC Part 2 (Section 2.1091)
	IC RSS-102 Issue 5
	KDB 447498 D04
	IEEE C95.3

2 RF EXPOSURE LIMIT GENERAL INFORMATION

2.1 CLASSIFICATION

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

2.2 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (FCC)

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda / 2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda / 4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF SOURCE FREQUENCY (MHZ)	THRESHOLD ERP(W)
0.3 -1.34	$1,920 R^2$
1.34 - 30	$3,450 R^2 F^2$
30 -300	$3.83 R^2$
300-1500	$0.0128 R^2 F$
1500-100,000	$19.2R^2$

2.3 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (IC)

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

Mode	Antenna	Conducted Power (dBm)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BT-EDR	ANT1	12.09	12	±1	11	13
BT-LE	ANT1	10.74	11	±1	10	12

Test Mode	Antenna	Freq(MHz)	Conducted Power (dBm)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
11B	Ant1	2412	17.87	18	±1	17	19
	Ant2	2412	15.05	16	±1	15	17
	Ant1	2437	18.5	20	±1	19	21
	Ant2	2437	15.55	16	±1	15	17
	Ant1	2462	17.9	18	±1	17	19
	Ant2	2462	15.59	16	±1	15	17
11G	Ant1	2412	21.68	22	±1	21	23
	Ant2	2412	19.36	20	±1	19	21
	Ant1	2437	21.93	22	±1	21	23
	Ant2	2437	19.77	20	±1	19	21
	Ant1	2462	21.82	22	±1	21	23
	Ant2	2462	19.95	20	±1	19	21
11N20MIMO	Ant1	2412	18.86	20	±1	19	21
	Ant2	2412	16.33	18	±1	17	19
	Ant1	2437	19.3	20	±1	19	21
	Ant2	2437	17.29	18	±1	17	19
	Ant1	2462	19.28	20	±1	19	21
	Ant2	2462	17.53	18	±1	17	19
11AX20MIMO	Ant1	2412	20.59	22	±1	21	23
	Ant2	2412	18.53	20	±1	19	21
	Ant1	2437	21.07	22	±1	21	23
	Ant2	2437	18.65	20	±1	19	21
	Ant1	2462	20.83	22	±1	21	23
	Ant2	2462	18.77	20	±1	19	21

Test Mode	Antenna	Freq(MHz)	Conducted Power (dBm)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
11A	Ant1	5180	15.09	16	±1	15	17
11A	Ant1	5220	14.62	16	±1	15	17
11A	Ant1	5240	15.4	16	±1	15	17
11A	Ant1	5745	16.67	18	±1	17	19
11A	Ant1	5785	16.35	18	±1	17	19
11A	Ant1	5825	15.47	16	±1	15	17
11A	Ant2	5180	10.41	12	±1	11	13
11A	Ant2	5220	10.04	12	±1	11	13
11A	Ant2	5240	10.14	12	±1	11	13
11A	Ant2	5745	16.18	18	±1	17	19
11A	Ant2	5785	15.77	16	±1	15	17
11A	Ant2	5825	14.97	16	±1	15	17
11N20MIMO	Ant1	5180	10.61	12	±1	11	13
11N20MIMO	Ant2	5180	6.73	8	±1	7	9
11N20MIMO	Ant1	5220	10.82	12	±1	11	13
11N20MIMO	Ant2	5220	5.85	6	±1	5	7
11N20MIMO	Ant1	5240	11.35	12	±1	11	13
11N20MIMO	Ant2	5240	8.29	10	±1	9	11
11N20MIMO	Ant1	5745	14.99	16	±1	15	17
11N20MIMO	Ant2	5745	14.7	16	±1	15	17
11N20MIMO	Ant1	5785	12.27	14	±1	13	15
11N20MIMO	Ant2	5785	14.3	16	±1	15	17
11N20MIMO	Ant1	5825	14	14	±1	13	15
11N20MIMO	Ant2	5825	11	12	±1	11	13
11N40MIMO	Ant1	5190	12.72	14	±1	13	15
11N40MIMO	Ant2	5190	6.43	8	±1	7	9
11N40MIMO	Ant1	5230	12.92	14	±1	13	15
11N40MIMO	Ant2	5230	4.96	6	±1	5	7
11N40MIMO	Ant1	5755	11.8	12	±1	11	13
11N40MIMO	Ant2	5755	11.16	12	±1	11	13
11N40MIMO	total	5755	14.5	16	±1	15	17
11N40MIMO	Ant1	5795	11.7	12	±1	11	13
11N40MIMO	Ant2	5795	10.87	12	±1	11	13
11AC80MIMO	Ant1	5210	10.45	12	±1	11	13
11AC80MIMO	Ant2	5210	6.37	8	±1	7	9
11AC80MIMO	Ant1	5775	12.47	14	±1	13	15
11AC80MIMO	Ant2	5775	12.01	14	±1	13	15
11AX20MIMO	Ant1	5180	9.95	10	±1	9	11
11AX20MIMO	Ant2	5180	10.06	12	±1	11	13

11AX20MIMO	Ant1	5220	8.31	10	±1	9	11
11AX20MIMO	Ant2	5220	8.54	10	±1	9	11
11AX20MIMO	Ant1	5240	7.76	8	±1	7	9
11AX20MIMO	Ant2	5240	7.96	8	±1	7	9
11AX20MIMO	Ant1	5745	11.18	12	±1	11	13
11AX20MIMO	Ant1	5785	10.62	12	±1	11	13
11AX20MIMO	Ant2	5785	10.08	12	±1	11	13
11AX20MIMO	Ant1	5825	10.18	12	±1	11	13
11AX20MIMO	Ant2	5825	9.74	10	±1	9	11
11AX40MIMO	Ant1	5190	12.12	14	±1	13	15
11AX40MIMO	Ant2	5190	6.44	8	±1	7	9
11AX20MIMO	Ant2	5745	9	10	±1	9	11
11AX40MIMO	Ant1	5755	10.24	12	±1	11	13
11AX40MIMO	Ant2	5755	9.46	10	±1	9	11
11AX40MIMO	Ant1	5795	8.07	10	±1	9	11
11AX40MIMO	Ant2	5795	7.2	8	±1	7	9
11AX40MIMO	Ant1	5230	8.87	10	±1	9	11
11AX40MIMO	Ant2	5230	8.92	10	±1	9	11
11AX80MIMO	Ant1	5210	10.55	12	±1	11	13
11AX80MIMO	Ant2	5210	6.66	8	±1	7	9
11AX80MIMO	Ant1	5775	12.83	14	±1	13	15
11AX80MIMO	Ant2	5775	12.14	14	±1	13	15

MAXIMUM PERMISSIBLE EXPOSURE (FCC)

Mode	Frequency (MHz)	Antenna	Max Power (dBm)	Antenna Gain (dBi)	R (cm)	EIRP (dBm)	ERP (dBm)	ERP (W)	Threshold ERP(W)	Ratio
BT-EDR	2402-2480	ANT1	13	0.9	20	13.9	11.75	0.015	0.77	0.019
BT-LE	2402-2480	ANT1	12	0.9	20	12.9	10.75	0.0119	0.77	0.015
2.4G WIFI	2412-2472	ANT1	23	0.9	20	23.9	21.75	0.1496	0.77	0.194
		ANT2	21	0.9	20	21.9	19.75	0.0944	0.77	0.123
5.1G WIFI	5180-5240	ANT1	17	2.1	20	19.1	16.95	0.0495	0.77	0.064
		ANT2	13	2.1	20	15.1	12.95	0.0197	0.77	0.026
5.8G WIFI	5745-5825	ANT1	19	4.2	20	23.2	21.05	0.1274	0.77	0.165
		ANT2	19	4.2	20	23.2	21.05	0.1274	0.77	0.165
Sum of ratio = BT-EDR + WIFI ANT1+ WIFI ANT2										0.336

Note1: This device can operate simultaneously in BT and WIFI.

Note2: ERP=EIRP-2.15dB

Conclusion:

Therefore, the worst-case situation is 0.336(Sum of Ratios), which is less than "1". This confirmed that the device compliance with FCC RF exposure requirements..

MAXIMUM PERMISSIBLE EXPOSURE (IC)

Mode	Frequency Band (MHz)	Antenna	Max power (dBm)	Antenna gain (dBi)	EIRP(dBm)	EIRP(W)	LIMIT(W)	Ratio
BT-EDR	2402-2480	ANT1	13	0.9	13.9	0.025	2.68	0.009
BT-LE	2402-2480	ANT1	12	0.9	12.9	0.019	2.68	0.007
2.4G WIFI	2412-2472	ANT1	23	0.9	23.9	0.245	2.68	0.091
		ANT2	21	0.9	21.9	0.155	2.68	0.058
5.1G WIFI	5180-5240	ANT1	17	2.1	19.1	0.081	4.53	0.018
		ANT2	13	2.1	15.1	0.032	4.53	0.007
5.8G WIFI	5745-5825	ANT1	19	4.2	23.2	0.209	4.86	0.043
		ANT2	19	4.2	23.2	0.209	4.86	0.043
Sum of ratio = BT-EDR + WIFI ANT1+ WIFI ANT2								0.158

Note: This device can operate simultaneously in BT and WIFI.

Conclusion:

Based on RSS-102, the worst-case situation is 0.158(Sum of Ratios), which is less than "1"., is compliant with the ISED RF exposure requirements.

----- End of the Report -----

Important

- (1) The test report is valid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented.

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