



CERTIFICATE #5473.03

No.:
FCCSZ2024-0028-EMC

TEST REPORT

FCC ID : 2BAXKYX2406LL100
NAME OF SAMPLE : AOVX LABEL TRACKER
APPLICANT : AOVX WIRELESS SOLUTIONS CO.,LTD
CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant	Name: AOVX WIRELESS SOLUTIONS CO.,LTD Address: Room 501, BlockA1, ZhongAn Valley, 900 Wangjiang West Road, High-tech Zone, HeFei, China 230088				
Manufacturer	Name: AOVX WIRELESS SOLUTIONS CO.,LTD Address: Room 501, BlockA1, ZhongAn Valley, 900 Wangjiang West Road, High-tech Zone, HeFei, China 230088				
Equipment Under Test	Product Name: AOVX LABEL TRACKER Model/Type: LL100 Brand Name: AOVX Serial NO.: N/A Sample NO.:3-1				
Date of Receipt.	2024.04.17	Date of Testing	2024.04.17 ~ 2024.05.17		
Test Specification		Test Result			
FCC Part 15, Subpart B, Class B		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: 2024.05.17					
Compiled by: Cai Jianyu Name Signature	Reviewed by: Mo Xianbiao Name Signature	Approved by: Dong Sanbi 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
FCCSZ2024-0028-EMC	Original release	2024.05.17



1. SUMMARY OF TEST RESULTS

EMISSION			
Standard	Test Item	Result	Remarks
FCC Part 15, Subpart B, Class B	Radiated Test (30MHz~ 1GHz)	PASS	Minimum passing margin is 12.1 dB at 945.675 MHz
	Radiated Test (Above 1GHz)	PASS	Minimum passing margin is 21.18 dB at 9199.120MHz

1.1 List of Test and Measurement Instruments

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Radiation Spurious					
EMI Test Receiver	Rohde&Schwarz	ESR 26	101718	1 year	2024.5.25
Loop antenna (8.3k~30MHz)	Rohde&Schwarz	HFH2-Z2E	100951	1 year	2024.5.26
Antenna(30MHz~1000MHz)	SCHWARZBECK	VULB 9168	1132	1 year	2025.2.13
Horn antenna(1GHz-18GHz)	ETS	3117	227634	1 year	2025.3.24
Horn antenna(18GHz-40GHz)	SCHWARZBECK	BBHA 9170	01003	1 year	2025.3.24
3m anechoic chamber	MORI	966	CS0200019	3 year	2026.5.18
#1 control room	MORI	433	CS0300028	3 year	2026.5.16
Temperature and humidity meter	/	C193561473	CS0200071	1 year	2024.5.21



1.2 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

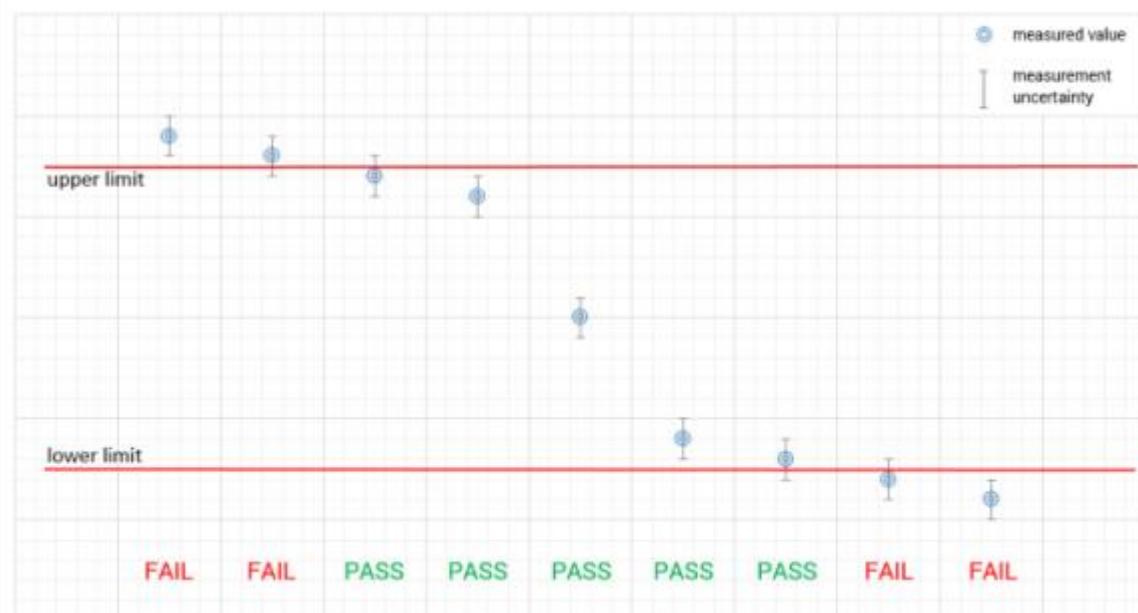
No.	Item	Measurement Uncertainty
1	Conducted emission test	+/- 2.7 dB
2	Radiated emission 30MHz-1GHz	+/- 4.6 dB
3	Radiated emission 1GHz-18GHz	+/- 4.4 dB
4	Volatage fluctuations and flicker	$\pm 1.4 \%$

Remark: 95% Confidence Levels, k=2.

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed.

The measurement uncertainty is mentioned in this test report, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.

measured value, measurement uncertainty, verdict



1.3 Test Location

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address: No. 1301-14,16, Guanguang Road, Xinlan Community, Guanlan Street, Longhua District, Shenzhen, Guangdong, 518110, P. R. China

Post Code: 518110 Tel: 0755-23763060-8805

Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn

FCC(Test firm designation number: CN1363)

IC(Test firm CAB identifier number: CN0137)

CNAS(Test firm designation number: L16091)



2. GENERAL INFORMATION

2.1 General Product Information

PRODUCT	AOVX LABEL TRACKER
BRAND	AOVX
TEST MODEL	LL100
POWER SUPPLY	DC 3V from battery
HARDWARE VERSION:	LL100_V1.3
SOFTWARE VERSION:	LL100_V10
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. EUT photo refer to the report (Report NO.: FCCSZ2024-0028-EUT).

2.2 Description of Accessories

N/A



2.3 Independent Operation Modes

The EUT were tested under the following modes, the final worst mode was marked in boldface and recorded in this report.

EMISSION Test Modes		
For Radiated Emission Tests		
	Test Mode	Test Voltage
1	Normal Working + LTE Link + GNSS IDLE	DC 3V from battery
Remark: The above test modes in boldface were the worst cases, only the test data of these modes were reported.		



2.4 General Description of Applied Standards

According to the specifications of the manufacturers, the EUT must comply with the requirements of the following standards:

FCC PART 15, SUBPART B, CLASS B

ANSI C63.4:2014

All test items have been performed and recorded as per the above standards.

2.5 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment					
NO	Description	Brand	Model No.	Serial Number	Supplied by
N/A	N/A	N/A	N/A	N/A	N/A



3. EMISSION

3.1 Radiated emission

3.1.1 Limits Of Radiated

TEST STANDARD:

FCC Part 15, Subpart B (Section: 15.109), for above 1GHz(section 3.2.2 Table 4)

FCC Part 15, Subpart B

Frequency (MHz)	Distance (m)	Class A (dBuV)	Class B (dBuV)
30 - 88	3	QP: 49.5	QP: 40
88 - 216	3	QP: 54	QP: 43.5
216 - 960	3	QP: 56.9	QP: 46
960-1000	3	QP: 60	QP: 54
Above 1000	3	Avg: 60 Peak: 80	Avg: 54 Peak: 74

NOTE: 1. The lower limit shall apply at the transition frequencies.

NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

NOTE: 3. All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



3.1.2 Test Procedures

The basic test procedure was in accordance with ANSI C63.4:2014 (section 12).

1. From 30 MHz to 1GHz test procedure as below:

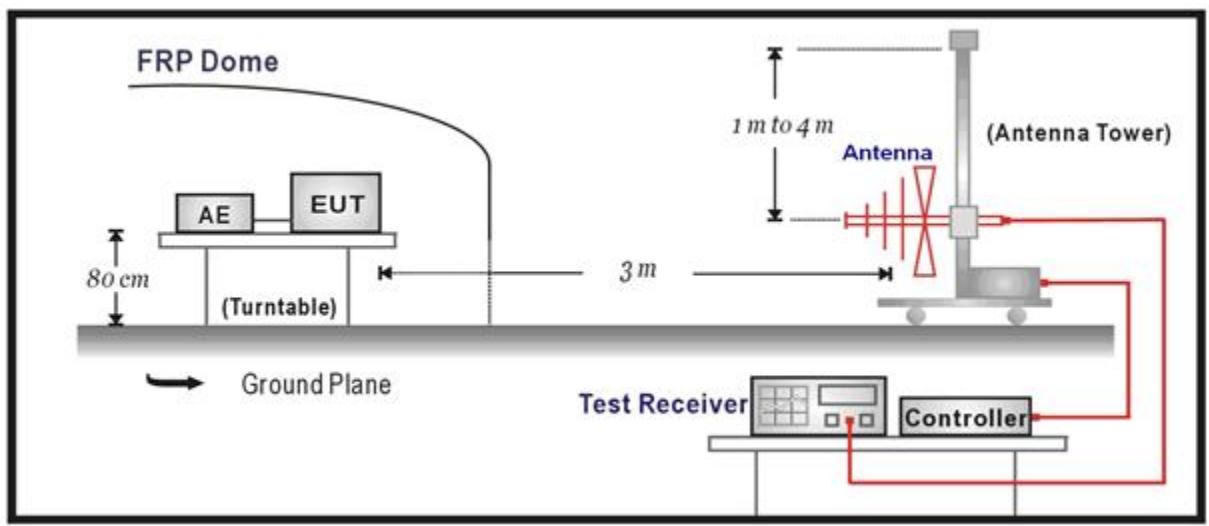
- 1) The radiated emissions were tested in a semi-anechoic chamber.
- 2) The Product was placed on the non-conductive turntable 0.1 m above the ground at a chamber.
- 3) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- 4) For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

2. Above 1GHz test procedure as below:

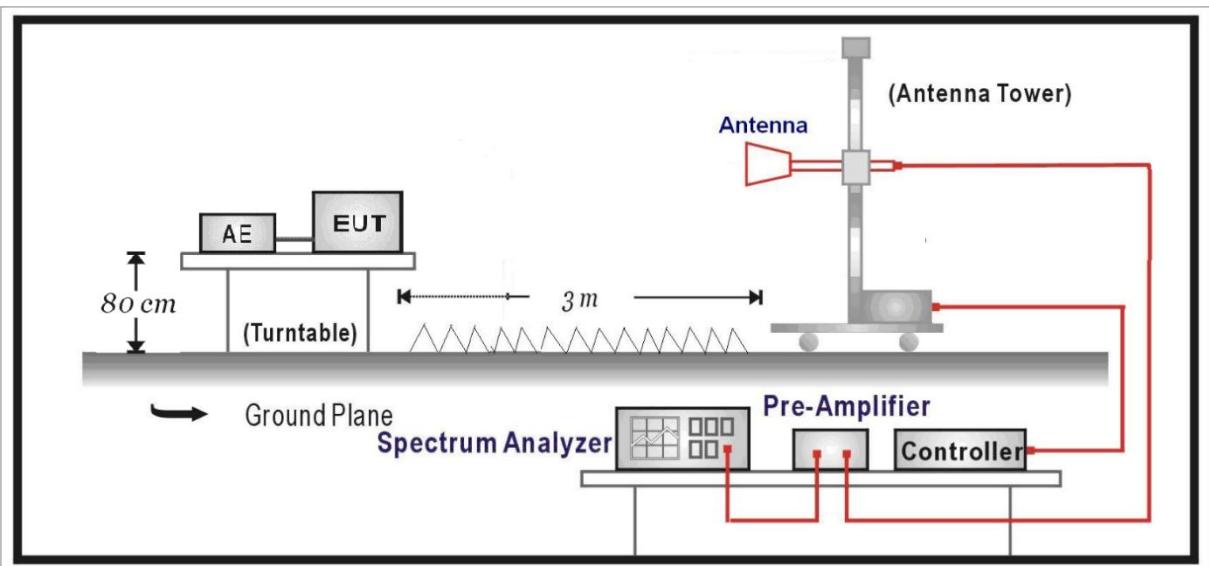
- 1) The radiated emissions were tested in a fully Anechoic Chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- 3) For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

3.1.3 Test Setup

Below 1GHz Test Setup:



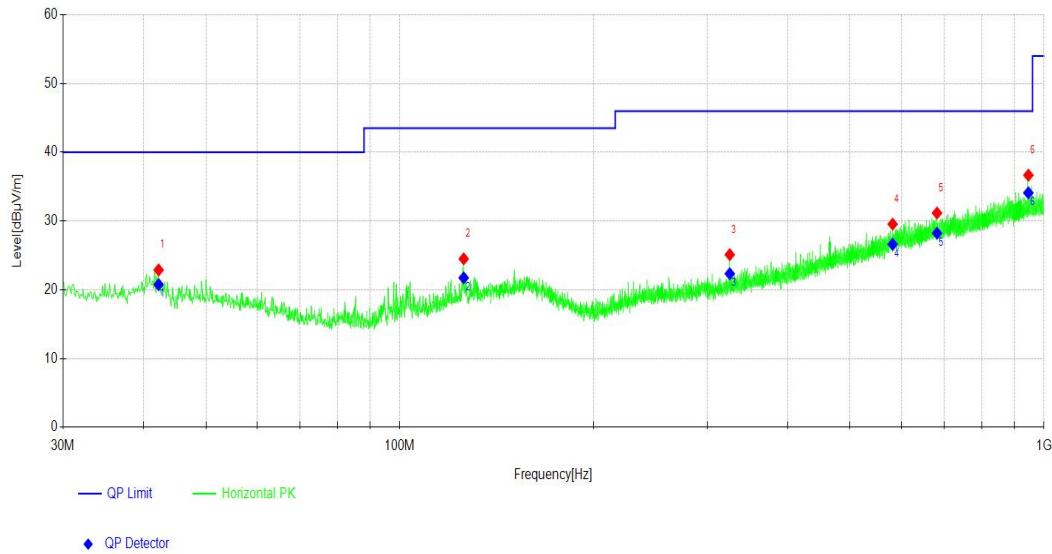
Above 1GHz Test Setup:



3.1.4 Test Results (Below 1GHz)

Test Mode	See section 2.3	Frequency Range	30-1000MHz
Test Voltage	See section 2.3	Detector Function	Quasi-Peak(QP)
Environmental Conditions	25.7deg. C,52% RH	Tested By	Zhou Ye

Horizontal



NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]
1	42.223	0.87	19.88	20.75	40.00	19.25	100	116
2	125.652	2.58	19.15	21.73	43.50	21.77	200	248
3	325.201	1.97	20.37	22.34	46.00	23.66	100	344
4	582.179	1.17	25.45	26.62	46.00	19.38	200	76
5	682.196	1.03	27.20	28.23	46.00	17.77	200	251
6	945.675	3.99	30.11	20.75	40.00	19.25	100	116

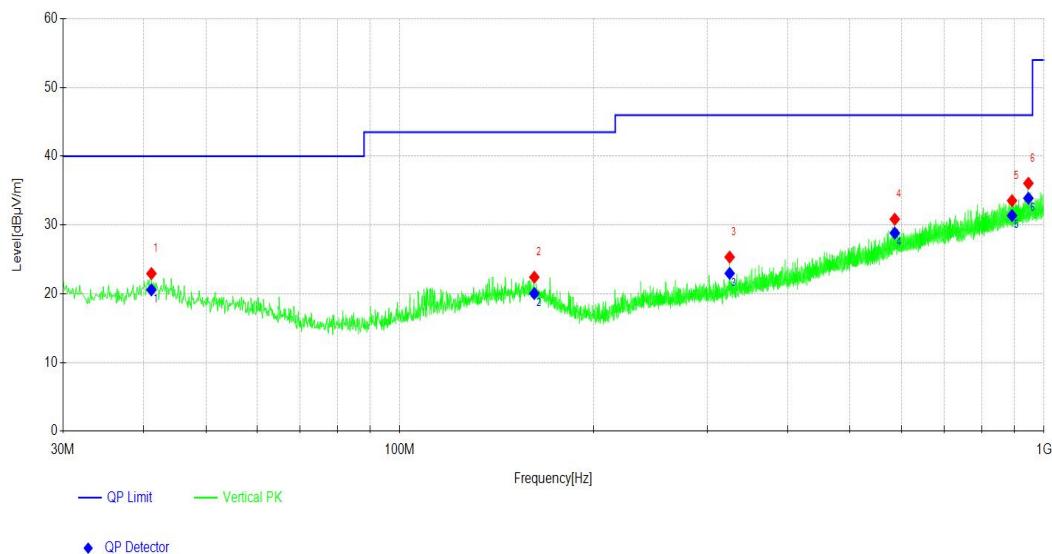
Remark: 1. The emission levels of other frequencies were greater than 20dB margin.

2. Level (dB μ V/m) = Reading (dB μ V/m) + Factor (dB).

3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

4. Margin(dB) = Limit[dB μ V/m] - Level [dB μ V/m]

Test Mode	See section 2.3	Frequency Range	30-1000MHz
Test Voltage	See section 2.3	Detector Function	Quasi-Peak(QP)
Environmental Conditions	25.7deg. C,52% RH	Tested By	Zhou Ye

Vertical


NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]
1	41.156	0.69	19.88	20.57	40.00	19.43	200	2
2	161.739	-0.48	20.52	20.04	43.50	23.46	100	30
3	325.104	2.59	20.37	22.96	46.00	23.04	200	84
4	586.642	3.22	25.62	28.84	46.00	17.16	100	137
5	891.931	1.85	29.53	31.38	46.00	14.62	200	197
6	945.675	3.79	30.11	33.90	46.00	12.10	200	334

Remark: 1. The emission levels of other frequencies were greater than 20dB margin.

2. Level (dB μ V/m) = Reading (dB μ V/m) + Factor (dB).

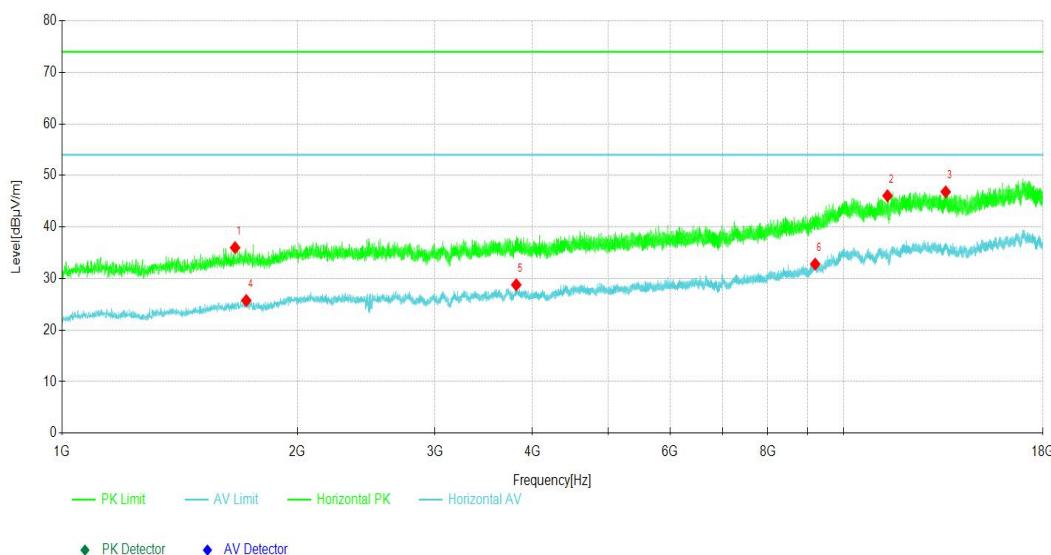
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

4. Margin(dB) = Limit[dB μ V/m] - Level [dB μ V/m]

3.1.5 Test Results (Above 1GHz)

Test Mode	See section 2.3	Frequency Range	Above 1GHz
Test Voltage	See section 2.3	Detector Function	PK/AV
Environmental Conditions	25.7deg. C, 52% RH	Tested By	Zhou Ye

Horizontal



NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	1665.467	53.00	-17.01	35.99	74.00	38.01	100	180	PK
2	11383.938	46.19	-0.13	46.06	74.00	27.94	100	120	PK
3	13512.651	45.02	1.81	46.83	74.00	27.17	100	30	PK
4	1721.272	42.29	-16.55	25.74	54.00	28.26	100	70	AV
5	3813.081	41.72	-12.93	28.79	54.00	25.21	100	100	AV
6	9199.120	36.88	-4.06	32.82	54.00	21.18	100	290	AV

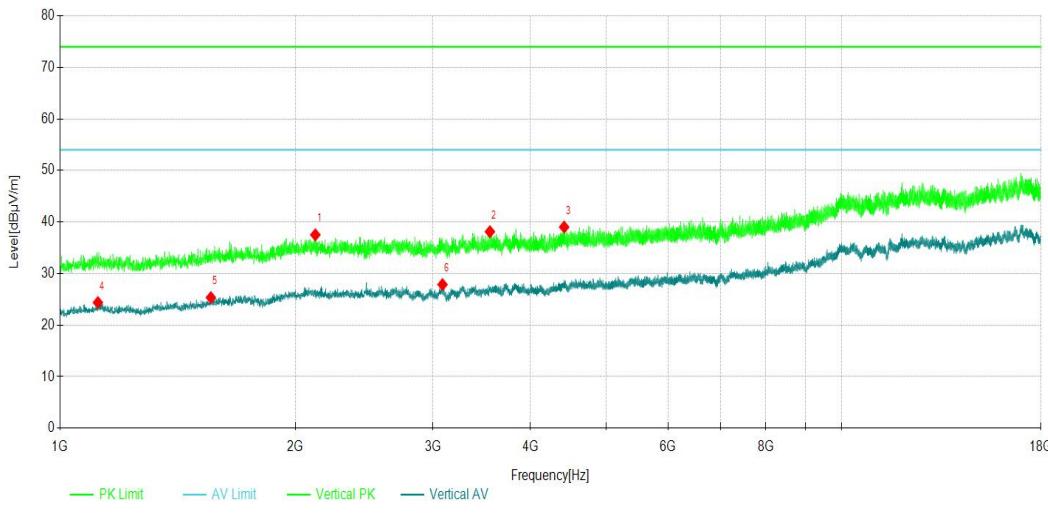
Remark: 1. Above 18GHz have been test and test data more than 20dB margin.

2. Level (dB μ V/m) = Reading (dB μ V/m) + Factor (dB).

3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

4. Margin(dB) = Limit[dB μ V/m] - Level [dB μ V/m]



Test Mode	See section 2.3	Frequency Range	Above 1GHz																																																																						
Test Voltage	See section 2.3	Detector Function	PK/AV																																																																						
Environmental Conditions	25.7deg. C, 52% RH	Tested By	Zhou Ye																																																																						
Vertical																																																																									
																																																																									
<table border="1"><thead><tr><th>NO.</th><th>Freq. [MHz]</th><th>Reading [dBμV]</th><th>Factor [dB/m]</th><th>Level [dBμV/m]</th><th>Limit [dBμV/m]</th><th>Margin [dB]</th><th>Height [cm]</th><th>Angle [°]</th><th>Detector</th></tr></thead><tbody><tr><td>1</td><td>2122.112</td><td>52.54</td><td>-15.02</td><td>37.52</td><td>74.00</td><td>36.48</td><td>100</td><td>50</td><td>PK</td></tr><tr><td>2</td><td>3549.055</td><td>51.57</td><td>-13.45</td><td>38.12</td><td>74.00</td><td>35.88</td><td>100</td><td>180</td><td>PK</td></tr><tr><td>3</td><td>4416.742</td><td>50.68</td><td>-11.66</td><td>39.02</td><td>74.00</td><td>34.98</td><td>100</td><td>170</td><td>PK</td></tr><tr><td>4</td><td>1118.212</td><td>43.74</td><td>-19.35</td><td>24.39</td><td>54.00</td><td>29.61</td><td>100</td><td>110</td><td>AV</td></tr><tr><td>5</td><td>1559.856</td><td>43.05</td><td>-17.71</td><td>25.34</td><td>54.00</td><td>28.66</td><td>100</td><td>150</td><td>AV</td></tr><tr><td>6</td><td>3086.409</td><td>42.21</td><td>-14.34</td><td>27.87</td><td>54.00</td><td>26.13</td><td>100</td><td>80</td><td>AV</td></tr></tbody></table>				NO.	Freq. [MHz]	Reading [dB μ V]	Factor [dB/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	1	2122.112	52.54	-15.02	37.52	74.00	36.48	100	50	PK	2	3549.055	51.57	-13.45	38.12	74.00	35.88	100	180	PK	3	4416.742	50.68	-11.66	39.02	74.00	34.98	100	170	PK	4	1118.212	43.74	-19.35	24.39	54.00	29.61	100	110	AV	5	1559.856	43.05	-17.71	25.34	54.00	28.66	100	150	AV	6	3086.409	42.21	-14.34	27.87	54.00	26.13	100	80	AV
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4. PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Photos).



5. PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos and Internal Photos).

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



Important

- (1) The test report is invalid 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”

Address: No.1301-14,16, Guanguang Road, Xinlan Community, Guanlan Street, Longhua District, Shenzhen, Guangdong, 518110, P. R. China

Post Code: 518110 Tel: 0755-23763060-8805

Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn

<http://www.cvc.org.cn>