



Test Report No.:
FCCSZ2025-0005-EMC

RF Test Report

FCC ID : 2AOWK-5021

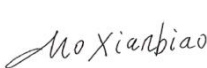
NAME OF SAMPLE : Smart Phone

APPLICANT : Shenzhen Gotron Electronic CO.,LTD.

CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant	Name: Shenzhen Gotron Electronic CO.,LTD. Address: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China		
Manufacturer	Name: Shenzhen Gotron Electronic CO.,LTD. Address: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China		
Equipment Under Test	Name: Smart Phone Model/Type: GQ5021 Additional Model: Armor X32 Pro, Armor X32 Ultra, Armor X32E, Armor X32S, Armor X32 Lite, Armor X32s, Armor X32s Pro Serial NO.: N/A Brand: ulefone Sample NO.: 2-1		
Date of Receipt.	2025.01.08	Date of Testing	2024.01.08-2025.02.27
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:2025.02.27		
Compiled by:  <u>Liang Jiatong</u> Name Signature	Reviewed by:  <u>Mo Xianbiao</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
FCCSZ2025-0005-EMC	Original release	2025-02-27



1. SUMMARY OF TEST RESULTS

EMISSION			
Standard	Test Item	Result	Remarks
FCC Part 15, Subpart B, Class B(SDOC)	Conducted test	PASS	Minimum passing margin is 9.4dB at 0.508MHz
	Radiated Test (30MHz~ 1GHz)	PASS	Minimum passing margin is 8.19dB at 35.821MHz
	Radiated Test (Above 1GHz)	PASS	Minimum passing margin is 14.16dB at 17083.608MHz



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

RE Test - 3M Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
EMI Test Receiver	Rohde&Schwarz	ESR 26	101718	1 year	2025.5.24
Antenna(30MHz~1000MHz)	SCHWARZBECK	VULB 9168	01132	1 year	2025.4.25
Horn antenna(1GHz-18GHz)	ETS	3117	227634	1 year	2026.3.24
Horn antenna(18GHz-40GHz)	SCHWARZBECK	BBHA 9170	01003	1 year	2026.3.25
3m anechoic chamber	MORI	966	CS0200019	3 year	2026.5.18
Preamplifier(1GHz-18GHz)	Tonscend	TAP-051845	AP22G806257	1 year	2025.4.28
Attenuator	/	SJ-5dB	607684	1 year	2026.2.21
#1 control room	MORI	433	CS0300028	3 year	2026.5.16
Temperature and humidity meter	UNI-T	A10T	C193561473	1 year	2025.4.27
Conducted emission					
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
EMI Test Receiver	Rohde&Schwarz	ESR3	102694	1 year	2025.5.24
Voltage probe	Rohde&Schwarz	CVP9222C	28	1 year	2025.4.27
Current probe	Rohde&Schwarz	EZ-17	101442	1 year	2025.4.28
ISN network	Rohde&Schwarz	ENV 81	100401	1 year	2025.4.28
ISN network	Rohde&Schwarz	ENV 81 Cat6	101896	1 year	2025.4.28
ISN network	Rohde&Schwarz	NNLK&8129RC	05021	1 year	2025.4.27
#1Shielding room	MORI	854	N/A	3 year	2026.5.16



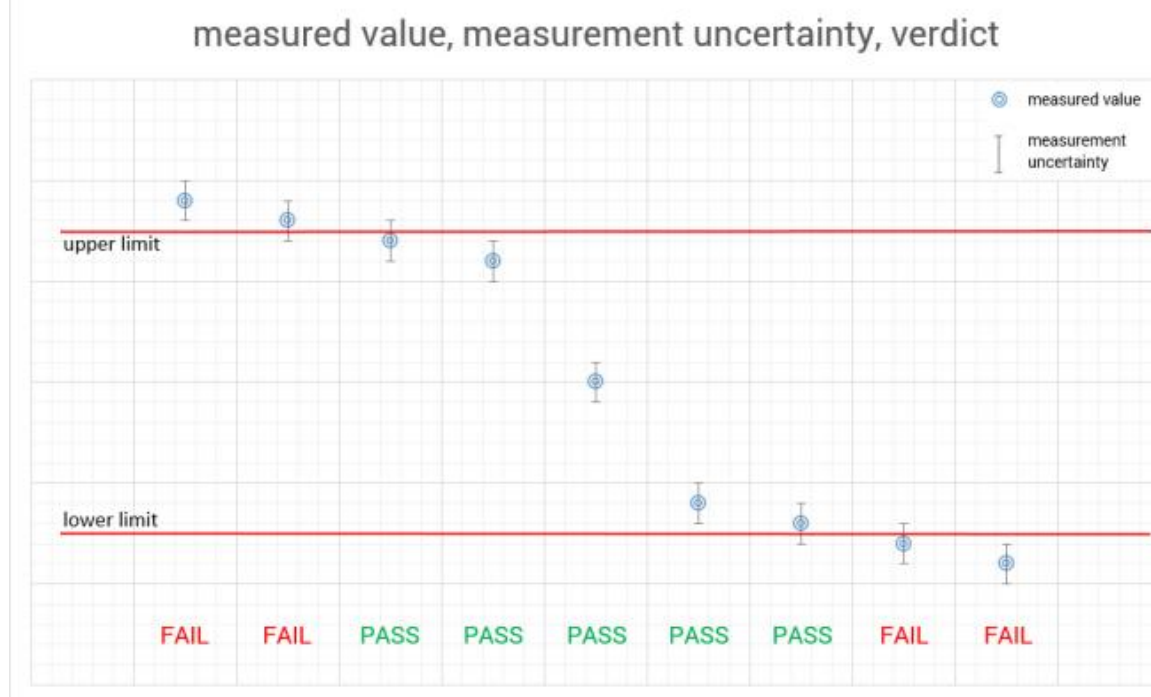
1.2 MEASUREMENT UNCERTAINTY

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	+/-2.70 dB
2	Radiated emission 30MHz-1GHz	+/-4.6 dB
3	Radiated emission 1GHz-18GHz	+/-4.4 dB
4	Radiated emission 18GHz-40GHz	+/-5.1 dB
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.



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 Subdistrict, Longhua District, Shenzhen, Guangdong, 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	Smart Phone
BRAND	ulefone
TEST MODEL	GQ5021
ADDITIONAL MODEL	Armor X32 Pro, Armor X32 Ultra, Armor X32E, Armor X32S, Armor X32 Lite, Armor X32s, Armor X32s Pro
POWER SUPPLY	Battery Model: 5021Rechargeable Li-ion Battery Limited Charge Voltage: 4.45V Nominal Voltage: 3.87V Rated Capacity: 5500mAh/21.285Wh 11CP7/57/74
OPERATING FREQUENCY	Above 108MHz
I/O PORTS	refer to the 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 report (Report NO.: FCCSZ2025-0005-EUT).	

2.2 DESCRIPTION OF ACCESSORIES

AC Adapter	
Model No.:	QZ-0180AA2H
Input:	100-240V~50/60Hz 0.5A
Output:	5.0V ---3.0A 15.0W or 9.0V ---2.22A 20.0W Max or 12.0V ---1.67A 20.0W Max.



2.3 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		
1	N/A	N/A	N/A	N/A	N/A		
Support Cable							
NO	Description	Quantity (Number)	Length (m)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	Power Line	1	1	Yes	NO	N/A	Lab
2							



2.4 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 Conducted Emission Test		
Test Mode		Test Voltage
1	Front camera + charging + flash	DC 12V
2	Rear camera + charging + flash	DC 12V
3	MP4	DC 12V
4	Front camera + charging + flash	DC 5V
5	Rear camera + charging + flash	DC 5V
6	MP4	DC 5V
For Radiated Emission Test		
Test Mode		Test Voltage
1	Front camera + charging + flash	DC 12V
2	Rear camera + charging + flash	DC 12V
3	MP4	DC 12V
4	Front camera + charging + flash	DC 5V
5	Rear camera + charging + flash	DC 5V
6	MP4	DC 5V
7	Front camera + charging + flash	DC 3.87V
8	Rear camera + charging + flash	DC 3.87V
9	MP4	DC 3.87V

2.5 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

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

3. EMISSION

3.1 CONDUCTED EMISSION

3.1.1 Limits of Conducted Emission

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.107)

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

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

NOTE: 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

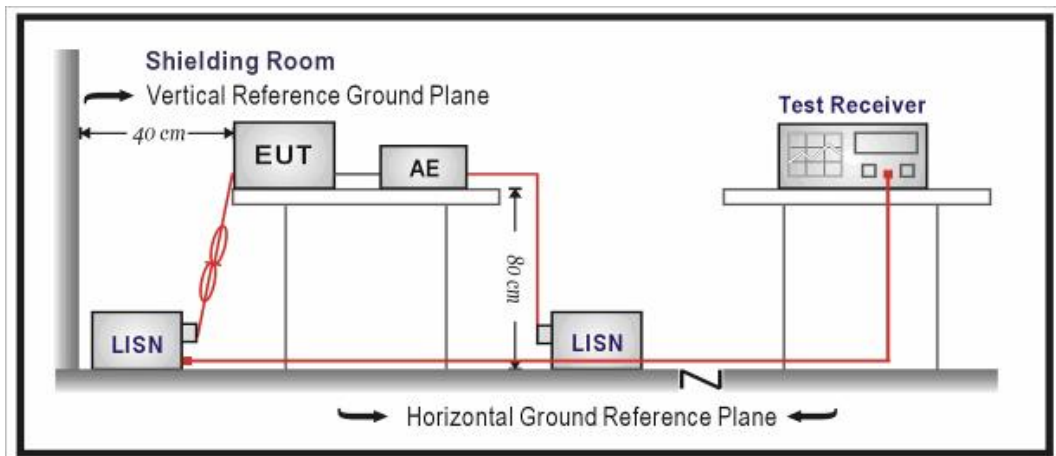
NOTE: 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.1.2 Test Procedures

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

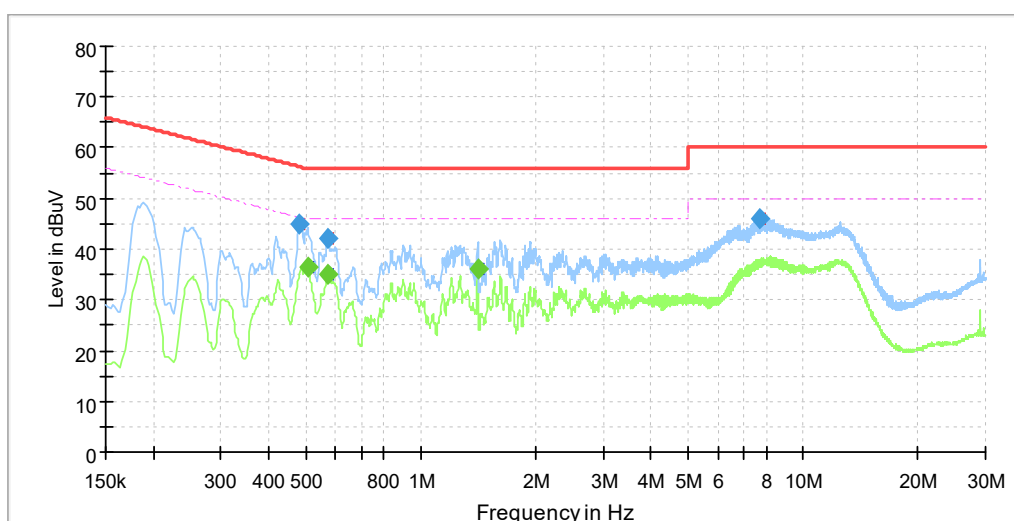
3.1.3 Test setup





3.1.4 Test Results

Test Mode	See section 2.4	Frequency Range	150KHz ~ 30MHz
Test Voltage	See section 2.4	PHASE	Line (L)
Environmental Conditions	23.1deg. C, 67% RH	Tested By	Li Yutong

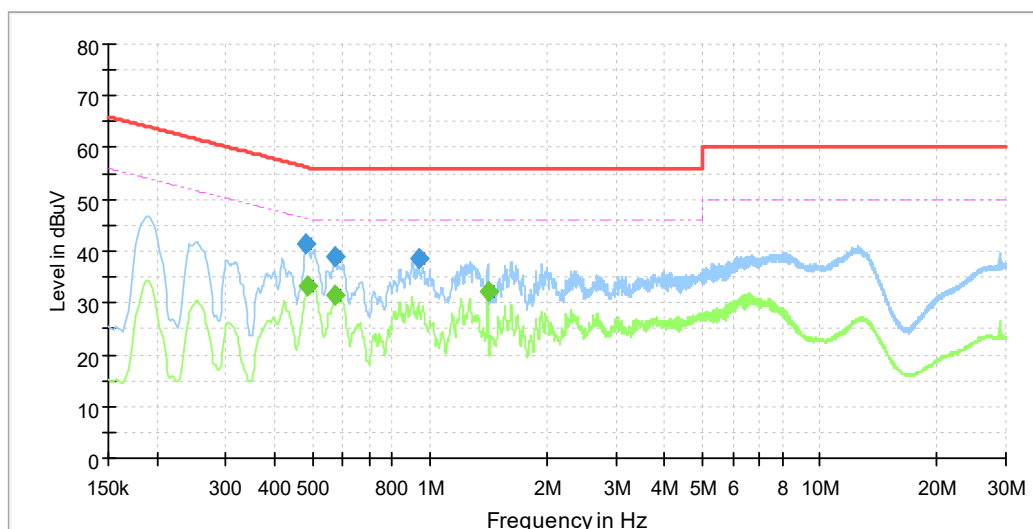


NO.	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
1	0.481	44.9	---	56.3	11.4	L1	20.2
2	0.508	---	36.6	46.0	9.4	L1	20.3
3	0.571	42.1	---	56.0	13.9	L1	20.3
4	0.571	---	34.9	46.0	11.1	L1	20.3
5	1.410	---	36.1	46.0	9.9	L1	20.5
6	7.717	45.9	---	60.0	14.1	L1	22.8

Remark: The emission levels of other frequencies were very low against the limit.



Test Mode	See section 2.4	Frequency Range	150KHz ~ 30MHz
Test Voltage	See section 2.4	PHASE	Line (N)
Environmental Conditions	23.1deg. C, 67% RH	Tested By	Li Yutong



NO.	Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
1	0.481	41.3	---	56.3	15.0	N	20.2
2	0.488	---	33.4	46.2	12.9	N	20.2
3	0.571	38.8	---	56.0	17.2	N	20.2
4	0.571	---	31.4	46.0	14.6	N	20.2
5	0.938	38.7	---	56.0	17.3	N	20.3
6	1.408	---	32.4	46.0	13.6	N	20.5

Remark: The emission levels of other frequencies were very low against the limit.



3.2 RADIATED EMISSION

3.2.1 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.

3.2.2 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:

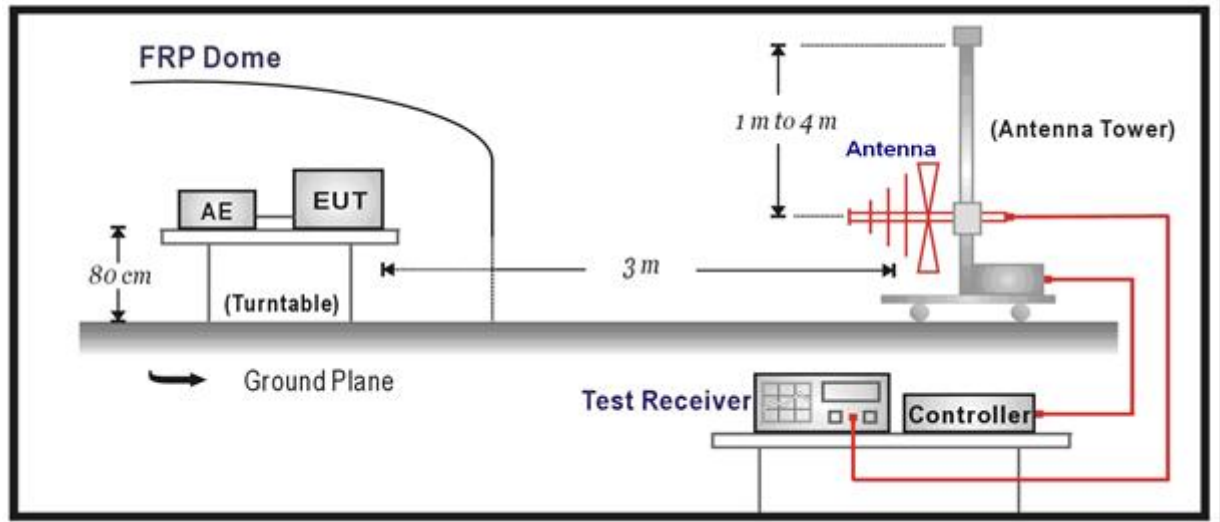
- 1) The radiated emissions were tested in a semi-anechoic chamber.
- 2) The Product was placed on the non-conductive turntable 0.1 m above the ground at a chamber.
- 3) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan 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:

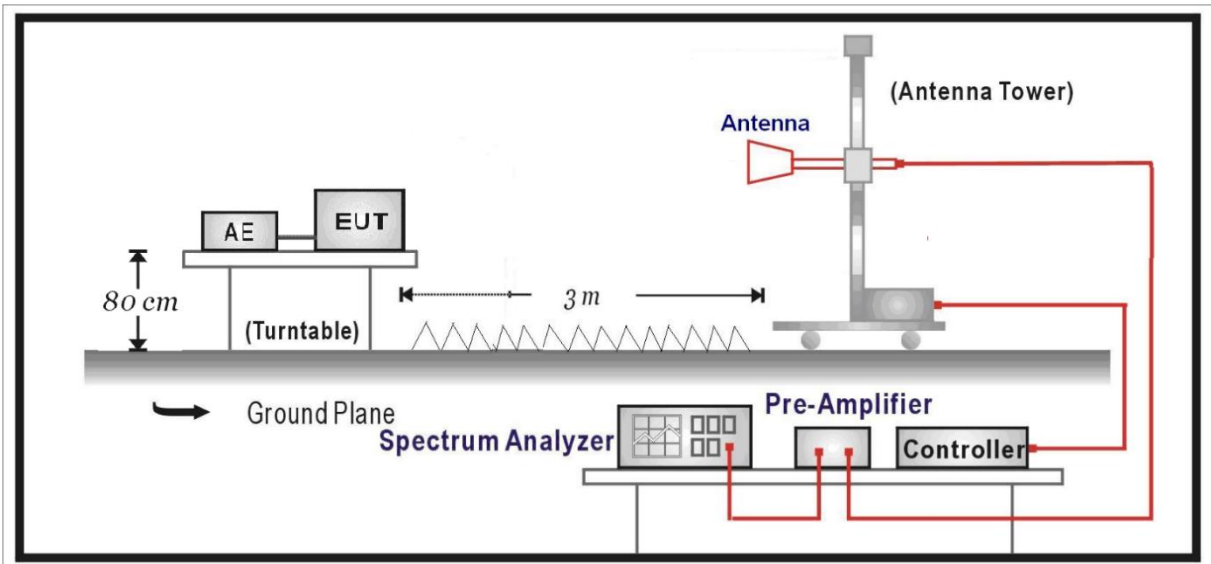
- 1) The radiated emissions were tested in a fully Anechoic Chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the 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.

3.2.3 Test Setup

Below 1GHz Test Setup:



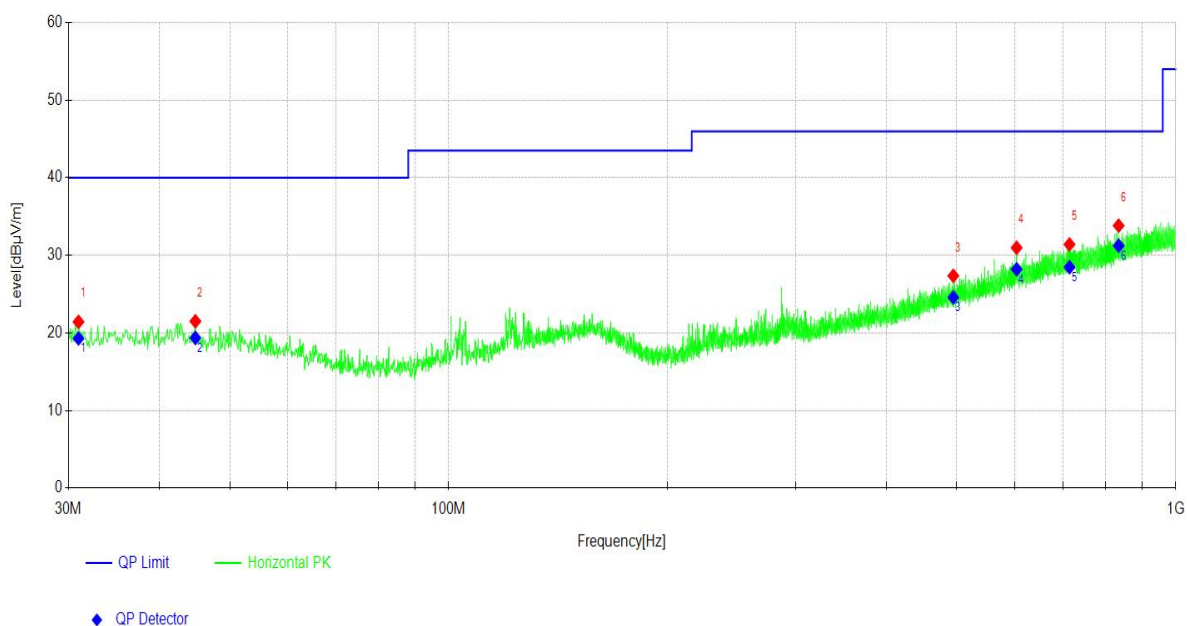
Above 1GHz Test Setup:





3.2.4 Test Results (Below 1GHz)

Test Mode:	See section 2.4	Frequency Range	30-1000MHz
Test Voltage	See section 2.4	Detector Function	Quasi-Peak(QP)
Environmental Conditions	24deg. C,45% RH	Tested By	Zhou ye



NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	30.970	2.07	19.36	21.43	40.00	18.57	100	246	Horizontal
2	44.842	1.67	19.83	21.50	40.00	18.50	200	213	Horizontal
3	494.48	3.43	23.93	27.36	46.00	18.64	100	315	Horizontal
4	604.29	4.95	26.03	30.98	46.00	15.02	200	286	Horizontal
5	714.50	3.91	27.50	31.41	46.00	14.59	200	191	Horizontal
6	834.69	5.08	28.75	33.83	46.00	12.17	200	359	Horizontal

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

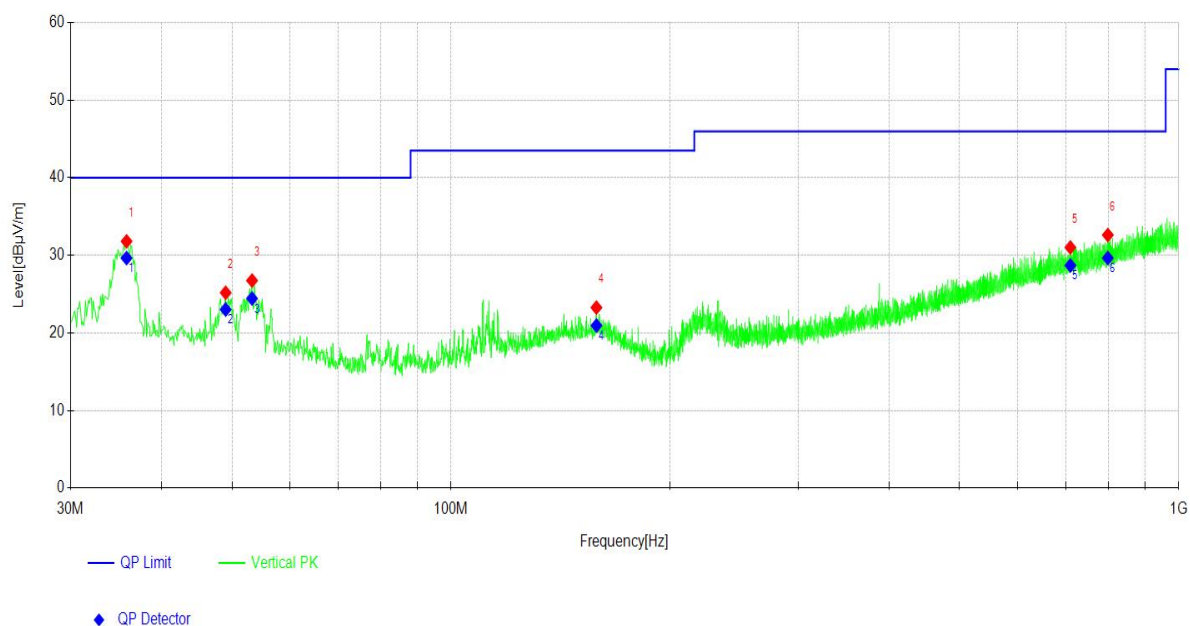
2. Level (dBμV/m) = Reading (dBμV/m) + Factor (dB).

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

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



Test Mode:	See section 2.4	Frequency Range	30-1000MHz
Test Voltage	See section 2.4	Detector Function	Quasi-Peak(QP)
Environmental Conditions	24deg. C,45% RH	Tested By	Zhou ye



NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	35.821	12.1	19.70	31.81	40.00	8.19	100	54	Vertical
2	49.014	5.55	19.63	25.18	40.00	14.82	100	2	Vertical
3	53.282	7.50	19.25	26.75	40.00	13.25	100	67	Vertical
4	158.441	2.55	20.72	23.27	43.50	20.23	200	236	Vertical
5	709.941	3.56	27.46	31.02	46.00	14.98	200	4	Vertical
6	799.287	4.18	28.44	32.62	46.00	13.38	200	88	Vertical

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

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

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

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



3.2.5 Test Results (Above 1GHz)

Test Mode:			See section 2.4		Frequency Range		Above 1GHz		
Test Voltage			See section 2.4		Detector Function		PK/AV		
Environmental Conditions			24deg. C,45% RH		Tested By		Zhou ye		
Horizontal									
NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	1576.058	53.82	-17.58	36.24	74.00	37.76	100	110	PK
2	2200.720	52.79	-15.30	37.49	74.00	36.51	100	280	PK
3	3888.689	51.47	-12.54	38.93	74.00	35.07	100	20	PK
4	5694.269	39.32	-9.05	30.27	54.00	23.73	100	260	AV
5	12078.108	36.09	1.12	37.21	54.00	16.79	100	60	AV
6	17018.702	34.34	5.44	39.78	54.00	14.22	100	340	AV
Vertical									
NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	1672.667	53.44	-16.95	36.49	74.00	37.51	100	340	PK
2	2206.721	52.78	-15.32	37.46	74.00	36.54	100	60	PK
3	4599.760	50.60	-11.19	39.41	74.00	34.59	100	20	PK
4	7042.904	39.25	-7.87	31.38	54.00	22.62	100	340	AV
5	11552.255	36.33	0.31	36.64	54.00	17.36	100	280	AV
6	17083.608	34.42	5.42	39.84	54.00	14.16	100	20	AV
Remark: 1. The emission levels of other frequencies were greater than 20dB margin. 2. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB). 3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB). 4. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]									



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 report 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 Subdistrict, Longhua District, Shenzhen, Guangdong, China

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