



No.:
FCCSZ2025-0005-RF5

RF Test Report

FCC ID : 2AOWK-5021

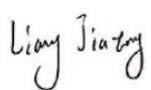
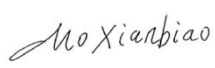
NAME OF SAMPLE : Smart Phone

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	2024.01.08-2025.03.27
Test Specification		Test Result	
FCC 47 CFR Part 2,22,24,27,90 ANSI/TIA-603-E, ANSI C63.26-2015		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: 2025-03-27		
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-RF5	Original release	2025-03-27



1 SUMMARY OF TEST RESULTS

1.1 LTE BAND 2/ WCDMA B2/GSM1900

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A1&A9&A10	Report Only
§24.232(c)	Equivalent Isotropic Radiated Power	EIRP < 2Watt	Annex A of FCCSZ2025-0005-RF5-A1&A9&A10	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A1&A9&A10	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A1&A9&A10	PASS
§2.1055 24.235	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A1&A9&A10	PASS
§2.1051 §24.238(a)	Band Edge Compliance	< $43+10\log_{10}(P[\text{Watts}])$	Annex D of FCCSZ2025-0005-RF5-A1&A9&A10	PASS
§2.1051 §24.238(a)	Conducted Spurious Emission	< $43+10\log_{10}(P[\text{Watts}])$	Annex E of FCCSZ2025-0005-RF5-A1&A9&A10	PASS
§2.1051 §24.238(a)	Radiates Spurious Emission	< $43+10\log_{10}(P[\text{Watts}])$	See section 3.1	PASS



1.2 LTE BAND 4/ LTE BAND 66/WCDMA B4

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A2&A7&A9	Report Only
§27.50(d)(4)	Equivalent Isotropic Radiated Power	EIRP < 1Watt	Annex A of FCCSZ2025-0005-RF5-A2&A7&A9	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A2&A7&A9	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A2&A7&A9	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A2&A7&A9	PASS
§2.1051 §27.53(h)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0005-RF5-A2&A7&A9	PASS
§2.1051 §27.53(h)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0005-RF5-A2&A7&A9	PASS
§2.1051 §27.53(h)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



1.3 LTE BAND 5/ WCDMA B5/GSM850

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A3&A9&A10	Report Only
§22.913(a)(5)	Equivalent Radiated Power	EIRP < 7Watt	Annex A of FCCSZ2025-0005-RF5-A3&A9&A10	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A3&A9&A10	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A3&A9&A10	PASS
§2.1055 §22.355	Frequency Stability	< 2.5 ppm	Annex F of FCCSZ2025-0005-RF5-A3&A9&A10	PASS
§2.1051 §22.917	Band Edge Compliance	< 43+10log ₁₀ (P[Watts])	Annex D of FCCSZ2025-0005-RF5-A3&A9&A10	PASS
§2.1051 §22.917	Conducted Spurious Emission	< 43+10log ₁₀ (P[Watts])	Annex E of FCCSZ2025-0005-RF5-A3&A9&A10	PASS
§2.1051 §22.917	Radiates Spurious Emission	< 43+10log ₁₀ (P[Watts])	See section 3.1	PASS



1.4 LTE BAND 12

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A4	Report Only
§27.50(c)(10)	Effective Radiated Power	ERP < 3Watt	Annex A of FCCSZ2025-0005-RF5-A4	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A4	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A4	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A4	PASS
§2.1051 §27.53(g)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0005-RF5-A4	PASS
§2.1051 §27.53(g)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0005-RF5-A4	PASS
§2.1051 §27.53(g)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



1.5 LTE BAND 17

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A5	Report Only
§27.50(c)(10)	Effective Radiated Power	ERP < 3Watt	Annex A of FCCSZ2025-0005-RF5-A5	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A5	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A5	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A5	PASS
§2.1051 §27.53(g)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0005-RF5-A5	PASS
§2.1051 §27.53(g)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0005-RF5-A5	PASS
§2.1051 §27.53(g)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



1.6 LTE BAND 41

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A6	Report Only
§27.50(h)(2)	Equivalent Isotropic Radiated Power	EIRP < 2Watt	Annex A of FCCSZ2025-0005-RF5-A6	PASS
§2.1049	Occupied Bandwidth	>1MHz	Annex C of FCCSZ2025-0005-RF5-A6	PASS
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A6	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A6	PASS
§2.1051 §27.53(m4)	Band Edge Compliance	For mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least: (i) 40 + 10 log ₁₀ p from the channel edges to 5 MHz away (ii) 43 + 10 log ₁₀ p between 5 MHz and X MHz from the channel edges, and (iii) 55 + 10 log ₁₀ p at X MHz and beyond from the channel edges In addition, the attenuation shall not be less than 43 + 10 log(p) on all frequencies between 2490.5 MHz and 2496 MHz, and 55 + 10 log ₁₀ p at or below 2490.5 MHz	Annex D of FCCSZ2025-0005-RF5-A6	PASS
§2.1051 §27.53(m4)	Conducted Spurious Emission		Annex E of FCCSZ2025-0005-RF5-A6	PASS
§2.1051 §27.53(m4)	Radiates Spurious Emission		See section 3.1	PASS



1.7 LTE Band 71

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0005-RF5-A8	Report Only
§27.50(c)(10)	Equivalent Radiated Power	ERP < 3Watt	Annex A of FCCSZ2025-0005-RF5-A8	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0005-RF5-A8	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0005-RF5-A8	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0005-RF5-A8	PASS
§2.1051 §27.53(g)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0005-RF5-A8	PASS
§2.1051 §27.53(g)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0005-RF5-A8	PASS
§2.1051 §27.53(g)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



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 1ICP7/57/74			
MODULATION TYPE	GSM	GMSK,8PSK		
	WCDMA	BPSK, QPSK		
	LTE	QPSK,16QAM		
OPERATING FREQUENCY And MAXIMUM OUTPUT POWER	Band	TX(MHz)	RX(MHz)	Maximum Output Power to Antenna (dBm)
	GSM850	824 ~ 849	869 ~ 894	31.88
	GSM1900	1850 ~ 1910	1930 ~ 1990	28.76
	WCDMA B2	1850 ~ 1910	1930 ~ 1990	23.92
	WCDMA B4	1710-1755	2110-2155	22.72
	WCDMA B5	824 ~ 849	869 ~ 894	23.83
	LTE B2	1850 ~ 1910	1930 ~ 1990	20.59
	LTE B4	1710 ~ 1755	2110 ~ 2155	19.82
	LTE B5	824 ~ 849	869 ~ 894	24.52
	LTE B12	699 ~ 716	729 ~ 746	24.17
	LTE B17	704 ~ 716	734 ~ 746	24.23
	LTE B41	2500 ~ 2690	2496 ~ 2690	20.74
	LTE B66	1710 ~ 1780	2110 ~ 2180	19.75
	LTE B71	663 ~ 698	617 ~ 652	24.01
ANTENNA TYPE(Note 4)	See section 2.2			
I/O PORTS	Refer to user' s manual			
CABLE SUPPLIED	USB line, 1.0Meter, Shielded without ferrite			

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. Please refer to the EUT photo document (Reference No.: FCCSZ2025-0005-EUT) for detailed product photo.



4. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

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 ANTENNA TYPE AND GAIN

ANTENNA TYPE	Band	TX(MHz)	RX(MHz)	Antenna Type	Antenna Port	Antenna Gain
	GSM 850	824 ~ 849	869 ~ 894	PIFA Antenna	2	-2.13
	GSM 1900	1850 ~ 1910	1930 ~ 1990	PIFA Antenna	5	-0.75
	WCDMA B2	1850 ~ 1910	1930 ~ 1990	PIFA Antenna	5	-0.75
	WCDMA B4	1710-1755	2110-2155	PIFA Antenna	5	0.3
	WCDMA B5	824 ~ 849	869 ~ 894	PIFA Antenna	2	-2.13
	LTE B2	1850 ~ 1910	1930 ~ 1990	PIFA Antenna	5	-0.75
	LTE B4	1710 ~ 1755	2110 ~ 2155	PIFA Antenna	5	0.3
	LTE B5	824 ~ 849	869 ~ 894	PIFA Antenna	2	-2.13
	LTE B12	699 ~ 716	729 ~ 746	PIFA Antenna	2	-2.81
	LTE B17	704 ~ 716	734 ~ 746	PIFA Antenna	2	-2.81
	LTE B41	2500 ~ 2690	2496 ~ 2690	PIFA Antenna	6	-1.04
	LTE B66	1710 ~ 1780	2110 ~ 2180	PIFA Antenna	5	0.3
	LTE B71	663 ~ 698	617 ~ 652	PIFA Antenna	2	-4.01



2.4 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

EUT CONFIGURE MODE	DESCRIPTION
-	EUT + Adapter + with WCDMA or LTE link

Test modes are chosen as the worst case configuration below for WCDMA

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
-	RF power output	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Equivalent Isotropic Radiated Power	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
	Equivalent Isotropic Radiated Power	1312 to 1513	1312,1413,1513	WCDMA Band 4
	Effective Radiated Power	9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Frequency Stability	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Occupied Bandwidth	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Band Edge Compliance	4132 to 4233	9262, 9538	WCDMA Band 2
		1312 to 1513	1312,1513	WCDMA Band 4
		9262 to 9538	4132, 4233	WCDMA Band 5
-	Conducted Spurious Emission	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Radiates Spurious Emission	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5
-	Peak-to-Average Power Ratio	4132 to 4233	9262, 9400, 9538	WCDMA Band 2
		1312 to 1513	1312,1413,1513	WCDMA Band 4
		9262 to 9538	4132, 4182, 4233	WCDMA Band 5



Test modes are chosen as the worst case configuration below for LTE

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
RF power output	2	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	4	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	5	O	O	O	O	-	-	O	O	-	O	O	O	O	O	O
	12	O	O	O	O	-	-	O	O	-	O	O	O	O	O	O
	17	-	-	O	O	-	-	O	O	-	O	O	O	O	O	O
	41	-	-	O	O	O	O	O	O	-	O	O	O	O	O	O
	26	O	O	O	O	O	-	O	O	-	O	O	O	O	O	O
	38	-	-	O	O	O	O	O	O	-	O	O	O	O	O	O
	66	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	71	-	-	O	O	O	O	O	O	O	O	O	O	O	O	O
Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
ERP/ EIRP (Note3)	2	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	4	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	5	O	O	O	O	-	-	O	O	-	O	O	O	O	O	O
	12	O	O	O	O	-	-	O	O	-	O	O	O	O	O	O
	17	-	-	O	O	-	-	O	O	-	O	O	O	O	O	O
	41	-	-	O	O	O	O	O	O	-	O	O	O	O	O	O
	26	O	O	O	O	O	-	O	O	-	O	O	O	O	O	O
	38	-	-	O	O	O	O	O	O	-	O	O	O	O	O	O
	66	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	71	-	-	O	O	O	O	O	O	O	O	O	O	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Occupied Bandwidth	2	O	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	4	O	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	5	O	O	O	O	-	-	O	O	O	-	-	O	O	O	O
	12	O	O	O	O	-	-	O	O	O	-	-	O	O	O	O
	17	-	-	O	O	-	-	O	O	O	-	-	O	O	O	O
	41	-	-	O	O	O	O	O	O	O	-	-	O	O	O	O
	66	O	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	71	-	-	O	O	O	O	O	O	O	-	-	O	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Band Edge Compliance	2	O	O	O	O	O	O	O	-	-	O	-	O	O	-	O
	4	O	O	O	O	O	O	O	-	-	O	-	O	O	-	O
	5	O	O	O	O	-	-	O	-	-	O	-	O	O	-	O
	12	O	O	O	O	-	-	O	-	-	O	-	O	O	-	O
	17	-	-	O	O	-	-	O	-	-	O	-	O	O	-	O
	41	-	-	O	O	O	O	O	-	-	O	-	O	O	-	O
	66	O	O	O	O	O	O	O	-	-	O	-	O	O	-	O
	71	-	-	O	O	O	O	O	-	-	O	-	O	O	-	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Peak-to-Average Power Ratio	2	O	O	O	O	O	O	O	O	O	O	-	O	O	O	O
	4	O	O	O	O	O	O	O	O	O	O	-	O	O	O	O
	5	O	O	O	O	-	-	O	O	O	O	-	O	O	O	O
	12	O	O	O	O	-	-	O	O	O	O	-	O	O	O	O
	17	-	-	O	O	-	-	O	O	O	O	-	O	O	O	O
	41	-	-	O	O	O	O	O	O	O	O	-	O	O	O	O
	66	O	O	O	O	O	O	O	O	O	O	-	O	O	O	O
	71	-	-	O	O	O	O	O	O	O	O	-	O	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Frequency Stability	2	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
	4	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
	5	-	-	-	O	-	-	O	-	-	-	-	O	O	O	O
	12	-	-	-	O	-	-	O	-	-	-	-	O	O	O	O
	17	-	-	-	O	-	-	O	-	-	-	-	O	O	O	O
	41	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
	66	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
	71	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Conducted Spurious Emission	2	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	4	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	5	O	O	O	O	-	-	O	-	-	O	-	-	O	O	O
	12	O	O	O	O	-	-	O	-	-	O	-	-	O	O	O
	17	-	-	O	O	-	-	O	-	-	O	-	-	O	O	O
	41	-	-	O	O	O	O	O	-	-	O	-	-	O	O	O
	66	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	71	-	-	O	O	O	O	O	-	-	O	-	-	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	1%	50%	100%	L	M	H
Radiates Spurious Emission (Note3)	2	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	4	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	5	O	O	O	O	-	-	O	-	-	O	-	-	O	O	O
	12	O	O	O	O	-	-	O	-	-	O	-	-	O	O	O
	17	-	-	O	O	-	-	O	-	-	O	-	-	O	O	O
	41	-	-	O	O	O	O	O	-	-	O	-	-	O	O	O
	66	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	71	-	-	O	O	O	O	O	-	-	O	-	-	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report															

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RF power output	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Effective Radiated Power	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Equivalent Isotropic Radiated Power	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Frequency Stability	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Occupied Bandwidth	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Band Edge Compliance	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Conducted Spurious Emission	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan
Radiates Spurious Emission	24.6deg. C, 53%RH	DC 3.87V	Liu Yuan
Peak-to-Average Power Ratio	25.3deg. C, 57%RH	DC 3.87V	Liu Yuan



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR PART 2

FCC 47 CFR PART 22,24,27,90

KDB 971168 D01 POWER MEAS LICENSE DIGITAL SYSTEMS V03R01

ANSI/TIA-603-E

ANSI C63.26-2015

ANSI C63.4-2014

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

2.6 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	Notebook	HP		HP ProBook 440 GB Notebook PC	N/A	Lab	
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A



2.7 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Antenna Port Conducted Test					
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	1 year	2025.5.22
#4Shielding room	MORI	443	N/A	3 year	2026.5.16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168588	1 year	2025.5.24
Analog signal Generator(100kHz~12.75GHz)	Rohde&Schwarz	SMB 100A	181882	1 year	2025.4.27
Vector signal Generator(8kHz~6GHz)	Rohde&Schwarz	SMBV 100B	101846	1 year	2025.4.28
DC power supply	Rohde&Schwarz	HMC8041-G	101203	1 year	2025.4.29
RF control unit(2/3/4/5G)	Tonscend	JS0806-1	CS0300027	1 year	2025.4.28
Automatic filter bank(2/3/4G)	Tonscend	JS0806-F	CS0300028	1 year	2025.4.28
Automatic filter bank(5G)	Tonscend	JS0806-F-5G NR	N/A	1 year	2025.4.28
Temperature and humidity meter	UNI-T	A10T	C193561464	1 year	2025.4.27
Radio Communication Analyzer	Anritsu	MT8821C	6272374548	1 year	2026.1.07
Constant temperature humidity chamber	TEELONG	TL-HW-225B	20220518-01	1 year	2025.5.24
Radio Communication Test Station	Anritsu	MT8000A	6272354169	1 year	2026.1.07
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Radiation Spurious(1GHz-40GHz)					
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 40	101898	1 year	2025.4.27
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.24
Antenna(30MHz~1001MHz)	SCHWARZBECK	VULB 9168	1133	1 year	2026.1.22
Horn antenna(1GHz-18GHz)	ETS	3117	227611	1 year	2026.3.28
Horn antenna(18GHz-40GHz)	QMS	QMS-00880	22051	1 year	2026.3.21
3m anechoic chamber	MORI	966	CS0300011	3 year	2026.5.18
Filter group(RSE-BT/WiFi)	Rohde&Schwarz	WiFi /BT Variant 1	100820	1 year	2025.4.28
Filter group(RSE-Cellular)	Rohde&Schwarz	Cellular Variant 1	100768	1 year	2025.4.28
Preamplifier(1GHz-18GHz)	Rohde&Schwarz	SCU-18F	100801	1 year	2025.4.28
Preamplifier(18GHz-40GHz)	Rohde&Schwarz	SCU40A	101209	1 year	2025.4.28
#2 control room	MORI	433	CS0300028	3 year	2026.5.16
Temperature and humidity meter	/	C193561517	C193561517	1 year	2025.4.28
Radiation Spurious(Below 1GHz)					
EMI Test Receiver	Rohde&Schwarz	ESR 26	101718	1 year	2025/5/24
Antenna(30MHz~1000MHz)	SCHWARZBECK	VULB 9168	1510	1 year	2026/1/12
3m anechoic chamber	MORI	966	CS0200019	3 year	2026/5/18
LISN (single-phase)	Rohde&Schwarz	ESH3-Z6	102152/102156	1 year	2025/4/27
Preamplifier(10kHz-1GHz)	Rohde&Schwarz	SCU-01F	100298	1 year	2025/4/28
Conducted Emission					
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.24
limiter (10 dB)	Rohde&Schwarz	ESH3-Z2	102824	1 year	2025.5.15
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
#1Shielding room	MORI	854	N/A	3 year	2026.5.16
LISN	SCHWARZBECK	NSLK 8129	5021	1 year	2025.4.27
Temperature and humidity meter	/	C193561430	C193561430	1 year	2025.4.27
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.24

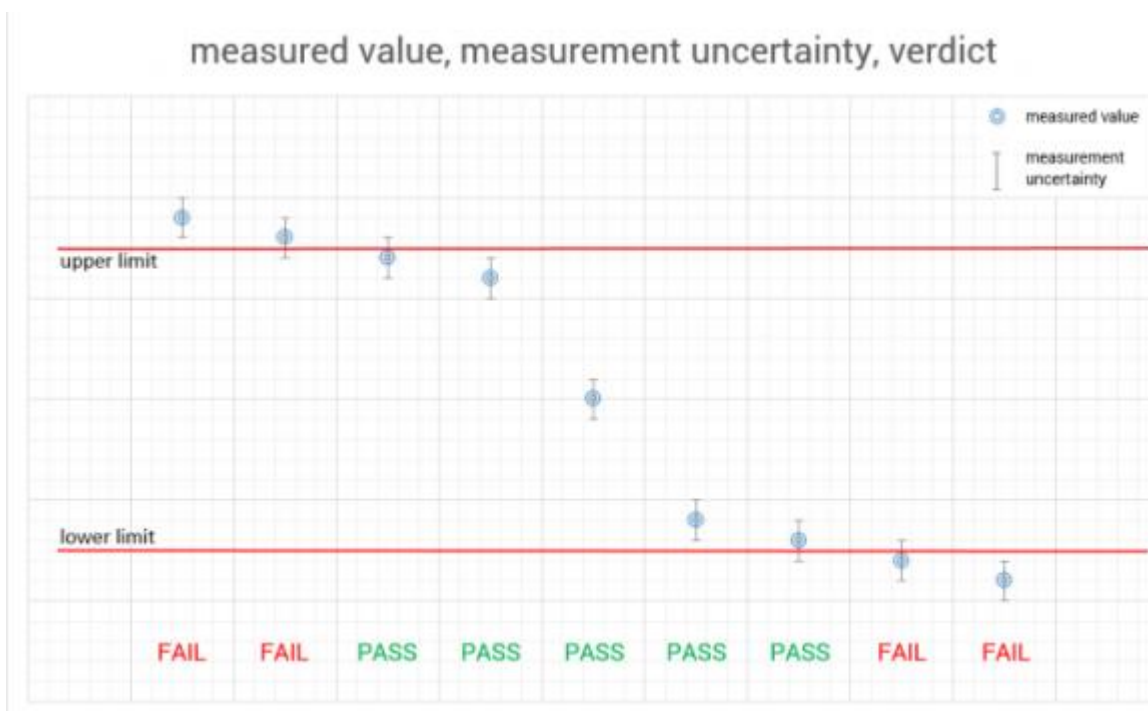
2.8 MEASUREMENT UNCERTAINTY

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	Occupied Channel Bandwidth	± 1.86 %
2	RF output power, conducted	± 0.9 dB
3	Power Spectral Density, conducted	± 0.8 dB
4	Conducted emission test	± 2.7 dB
5	Radiated emission 9kHz-30MHz	± 5.6 dB
	Radiated emission 30MHz-1GHz	± 4.6 dB
	Radiated emission 1GHz-18GHz	± 4.4 dB
	Radiated emission 18GHz-40GHz	± 5.1 dB
6	Temperature	± 0.73 °C
7	Humidity	± 3.90 %
8	Supply voltages	± 0.37 %
9	Time	± 0.27 %
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.





2.9 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)



3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION MEASUREMENT

3.6.1 TEST PROCEDURES

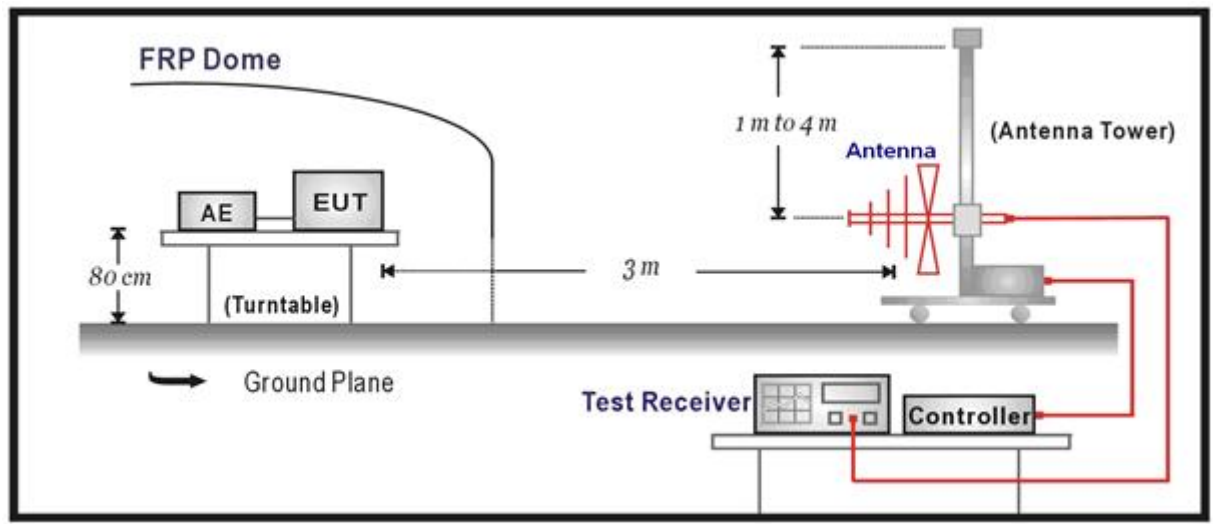
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
- c. $EIRP(dBm) = S.G.POWER - TX \text{ cable loss} + \text{Antenna gain.}$
- d. $E.R.P(dBm) = E.I.P.R - 2.15dBi.$

NOTE:

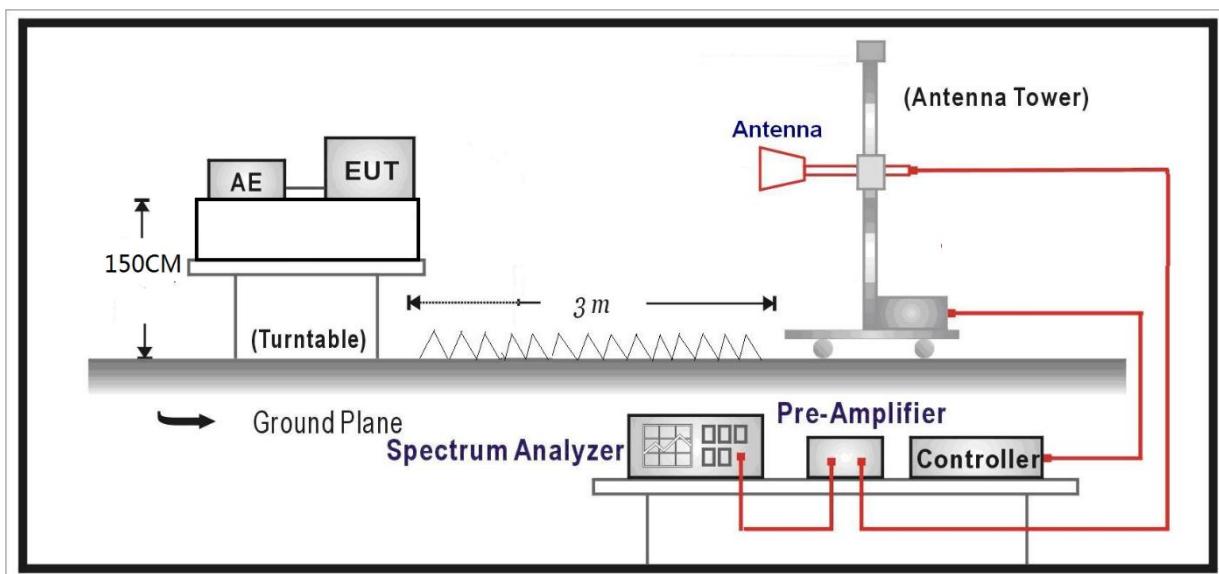
- 1.The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
- 2.Only the worst case was shown in test report

3.6.2 TEST SETUP

Below 1GHz Test Setup:



Above 1GHz Test Setup:



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).



3.6.3 TEST RESULTS - WCDMA

Test Mode		WCDMA B2-CH 9400					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.79	-70.71	-13.00	57.71	27.08	55
2	140.7561	-99.65	-75.66	-13.00	62.66	23.99	235
3	393.8364	-98.63	-69.93	-13.00	56.93	28.70	115
4	1077.2067	-97.92	-58.72	-13.00	45.72	39.20	55
5	3703.3003	-53.41	-38.83	-13.00	25.83	14.58	73
6	9920.342	-82.52	-61.75	-13.00	48.75	20.77	54
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.66	-69.99	-13.00	56.99	25.67	315
2	158.3058	-100.32	-74.12	-13.00	61.12	26.20	315
3	454.8325	-99.18	-69.33	-13.00	56.33	29.85	71
4	1093.3653	-98.22	-58.97	-13.00	45.97	39.25	193
5	3706.2706	-56.75	-43.14	-13.00	30.14	13.61	0
6	9634.8335	-82.13	-62.36	-13.00	49.36	19.77	259



Test Mode		WCDMA B4-CH 1413					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-98.12	-71.04	-13.00	58.04	27.08	133
2	177.3537	-99.05	-74.51	-13.00	61.51	24.54	133
3	471.9542	-99.04	-69.07	-13.00	56.07	29.97	317
4	1339.4479	-65.73	-61.72	-13.00	48.72	4.01	255
5	3744.2244	-70.42	-55.96	-13.00	42.96	14.46	0
6	11998.4698	-83.38	-59.28	-13.00	46.28	24.10	135
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-96.20	-70.53	-13.00	57.53	25.67	235
2	220.158	-98.99	-77.40	-13.00	64.40	21.59	235
3	705.4515	-99.31	-64.78	-13.00	51.78	34.53	0
4	2327.2655	-65.60	-56.69	-13.00	43.69	8.91	295
5	6034.3234	-71.51	-51.06	-13.00	38.06	20.45	258
6	15545.0945	-85.79	-57.27	-13.00	44.27	28.52	47



Test Mode		WCDMA B5-CH 4182					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-98.17	-71.09	-13.00	58.09	27.08	12
2	154.5605	-98.79	-73.73	-13.00	60.73	25.06	257
3	402.7183	-100.13	-71.43	-13.00	58.43	28.70	135
4	1063.4023	-97.84	-58.89	-13.00	45.89	38.95	360
5	2518.8438	-70.50	-59.73	-13.00	46.73	10.77	257
6	5237.9476	-69.78	-51.60	-13.00	38.60	18.18	318
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.86	-70.19	-13.00	57.19	25.67	360
2	163.3353	-99.67	-74.02	-13.00	61.02	25.65	195
3	377.1427	-99.35	-72.19	-13.00	59.19	27.16	360
4	990.6351	-98.00	-60.02	-13.00	47.02	37.98	134
5	2442.9086	-65.09	-56.17	-13.00	43.17	8.92	256
6	5407.5015	-72.08	-53.44	-13.00	40.44	18.64	73



3.6.4 TEST RESULTS - GSM

Test Mode		GSM-850					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9908	-96.48	-69.40	-13.00	56.40	27.08	57
2	178.9514	-98.44	-74.01	-13.00	61.01	24.43	117
3	586.0533	-96.75	-64.43	-13.00	51.43	32.32	357
4	2510.5221	-61.30	-50.50	-13.00	37.50	10.80	0
5	5737.2474	-69.45	-49.93	-13.00	36.93	19.52	297
6	9206.4738	-77.89	-58.45	-13.00	45.45	19.44	133
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	157.1224	-97.34	-71.32	-13.00	58.32	26.02	177
2	1673.1546	-68.18	-63.59	-13.00	50.59	4.59	358
3	2510.5221	-59.50	-50.35	-13.00	37.35	9.15	116
4	3347.8896	-66.88	-54.76	-13.00	41.76	12.12	0
5	4185.2571	-69.28	-53.88	-13.00	40.88	15.40	237
6	5022.6245	-70.09	-52.78	-13.00	39.78	17.31	116



Test Mode		GSM-1900					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.91	-70.83	-13.00	57.83	27.08	360
2	306.0876	-99.61	-74.02	-13.00	61.02	25.59	133
3	1071.7492	-97.56	-58.43	-13.00	45.43	39.13	71
4	3759.736	-63.53	-49.11	-13.00	36.11	14.42	298
5	5237.2937	-68.59	-50.24	-13.00	37.24	18.35	50
6	11979.748	-83.38	-59.25	-13.00	46.25	24.13	195
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.57	-69.90	-13.00	56.90	25.67	235
2	288.8589	-99.71	-73.82	-13.00	60.82	25.89	51
3	989.565	-97.71	-59.74	-13.00	46.74	37.97	173
4	3759.736	-58.43	-44.67	-13.00	31.67	13.76	257
5	5640.264	-62.67	-43.72	-13.00	30.72	18.95	195
6	7519.2619	-76.63	-58.35	-13.00	45.35	18.28	50



3.6.5 TEST RESULTS - LTE

Test Mode		LTE B2-QPSK-5MHz-CH 18625-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.46	-70.38	-13.00	57.38	27.08	253
2	178.7449	-99.75	-75.31	-13.00	62.31	24.44	133
3	471.9542	-99.25	-69.28	-13.00	56.28	29.97	71
4	1453.0906	-65.83	-62.01	-13.00	49.01	3.82	71
5	3750.8251	-50.87	-36.43	-13.00	23.43	14.44	55
6	8966.6967	-81.31	-62.53	-13.00	49.53	18.78	260
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	38.7749	-99.40	-72.68	-13.00	59.68	26.72	113
2	133.2653	-100.29	-77.19	-13.00	64.19	23.10	113
3	377.5708	-99.70	-72.53	-13.00	59.53	27.17	357
4	1069.609	-97.50	-58.52	-13.00	45.52	38.98	113
5	3751.1551	-52.89	-39.15	-13.00	26.15	13.74	11
6	11617.0117	-82.89	-60.66	-13.00	47.66	22.23	233



Test Mode		LTE B4-QPSK-5MHz-CH 20375-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-96.74	-69.66	-13.00	56.66	27.08	235
2	174.6785	-99.69	-74.97	-13.00	61.97	24.72	173
3	534.3414	-99.14	-67.89	-13.00	54.89	31.25	53
4	1306.3813	-65.82	-61.69	-13.00	48.69	4.13	113
5	5184.1584	-68.52	-50.19	-13.00	37.19	18.33	73
6	11901.3501	-83.74	-59.51	-13.00	46.51	24.23	55
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.40	-69.73	-13.00	56.73	25.67	191
2	135.8336	-99.70	-76.39	-13.00	63.39	23.31	360
3	322.7813	-98.97	-72.09	-13.00	59.09	26.88	316
4	930.067	-98.20	-61.04	-13.00	48.04	37.16	191
5	3417.1617	-40.54	-27.54	-13.00	14.54	13.00	110
6	9962.4662	-82.50	-61.28	-13.00	48.28	21.22	259



Test Mode		LTE B5-QPSK-5MHz-CH 20425-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-96.69	-69.61	-13.00	56.61	27.08	114
2	169.0069	-98.90	-73.85	-13.00	60.85	25.05	114
3	480.408	-99.14	-68.92	-13.00	55.92	30.22	0
4	1663.7928	-67.70	-63.72	-13.00	50.72	3.98	298
5	3316.6833	-71.13	-58.81	-13.00	45.81	12.32	114
6	5178.6557	-58.74	-40.62	-13.00	27.62	18.12	114
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-96.19	-70.52	-13.00	57.52	25.67	298
2	177.4607	-99.97	-77.06	-13.00	64.06	22.91	237
3	535.6256	-99.27	-67.98	-13.00	54.98	31.29	115
4	1641.9484	-69.88	-65.76	-13.00	52.76	4.12	358
5	3591.2983	-71.11	-58.53	-13.00	45.53	12.58	237
6	8885.8186	-80.81	-61.98	-13.00	48.98	18.83	360



Test Mode		LTE B12-QPSK-5MHz-CH 23025-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.85	-70.77	-13.00	57.77	27.08	233
2	160.6601	-99.70	-74.16	-13.00	61.16	25.54	111
3	462.4302	-99.68	-69.99	-13.00	56.99	29.69	0
4	2109.0018	-48.45	-40.30	-13.00	27.30	8.15	50
5	3450.8702	-57.42	-44.59	-13.00	31.59	12.83	111
6	5234.827	-68.95	-50.78	-13.00	37.78	18.17	172
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.74	-70.07	-13.00	57.07	25.67	298
2	157.2357	-99.84	-73.81	-13.00	60.81	26.03	298
3	404.6445	-99.22	-71.46	-13.00	58.46	27.76	176
4	1405.8212	-51.44	-48.43	-13.00	35.43	3.01	0
5	2109.0018	-49.74	-41.68	-13.00	28.68	8.06	298
6	5518.8038	-70.06	-51.13	-13.00	38.13	18.93	176



Test Mode		LTE B17-QPSK-10MHz-CH 23780-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.49	-70.41	-13.00	57.41	27.08	111
2	174.5715	-99.60	-74.87	-13.00	61.87	24.73	50
3	472.9173	-99.32	-69.31	-13.00	56.31	30.01	234
4	2116.2833	-50.56	-42.29	-13.00	29.29	8.27	0
5	3440.4681	-62.08	-49.32	-13.00	36.32	12.76	234
6	5247.3095	-68.56	-50.38	-13.00	37.38	18.18	0
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.70	-70.03	-13.00	57.03	25.67	0
2	162.9073	-100.25	-74.51	-13.00	61.51	25.74	112
3	398.9729	-99.73	-72.24	-13.00	59.24	27.49	173
4	911.6612	-97.76	-60.68	-13.00	47.68	37.08	173
5	2116.2833	-54.42	-46.31	-13.00	33.31	8.11	0
6	4460.9122	-69.91	-54.10	-13.00	41.10	15.81	295



Test Mode		LTE B41-QPSK-5MHz-CH 39675-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.17	-70.09	-25.00	45.09	27.08	174
2	198.5419	-99.96	-76.98	-25.00	51.98	22.98	357
3	531.3451	-98.81	-67.65	-25.00	42.65	31.16	0
4	1763.6127	-59.21	-54.63	-25.00	29.63	4.58	52
5	4238.9439	-70.76	-55.81	-25.00	30.81	14.95	194
6	10354.4554	-80.72	-59.92	-25.00	34.92	20.80	295
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-94.26	-68.59	-25.00	43.59	25.67	360
2	233.6414	-99.94	-76.47	-25.00	51.47	23.47	323
3	752.4292	-98.36	-63.43	-25.00	38.43	34.93	12
4	2968.4537	-60.97	-49.49	-25.00	24.49	11.48	12
5	7764.9865	-77.75	-58.63	-25.00	33.63	19.12	316
6	10354.4554	-80.14	-59.41	-25.00	34.41	20.73	73





Test Mode		LTE B66-QPSK-1.4MHZ-CH 132665-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-98.09	-71.01	-13.00	58.01	27.08	360
2	173.5014	-99.53	-74.75	-13.00	61.75	24.78	71
3	491.3231	-99.19	-68.79	-13.00	55.79	30.40	315
4	1267.2334	-62.54	-58.24	-13.00	45.24	4.30	131
5	3460.066	-49.73	-36.16	-13.00	23.16	13.57	233
6	11240.234	-83.12	-61.10	-13.00	48.10	22.02	259
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-95.67	-70.00	-13.00	57.00	25.67	53
2	190.5161	-100.06	-78.39	-13.00	65.39	21.67	53
3	489.0759	-98.81	-67.97	-13.00	54.97	30.84	175
4	1451.9504	-61.95	-58.76	-13.00	45.76	3.19	175
5	5222.1122	-67.87	-49.65	-13.00	36.65	18.22	321
6	14272.0072	-85.88	-59.04	-13.00	46.04	26.84	111



Test Mode		LTE B71-QPSK-20MHz-CH 132665-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.12	-70.04	-13.00	57.04	27.08	360
2	157.8778	-99.85	-74.43	-13.00	61.43	25.42	256
3	429.2569	-99.22	-70.50	-13.00	57.50	28.72	196
4	987.9598	-97.85	-59.62	-13.00	46.62	38.23	360
5	2027.8656	-49.97	-42.85	-13.00	29.85	7.12	256
6	4022.9846	-69.85	-55.70	-13.00	42.70	14.15	73
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-96.12	-70.45	-13.00	57.45	25.67	73
2	202.9293	-99.75	-78.62	-13.00	65.62	21.13	12
3	502.6663	-98.44	-67.46	-13.00	54.46	30.98	196
4	1351.7303	-66.65	-63.64	-13.00	50.64	3.01	73
5	2027.8656	-46.60	-38.83	-13.00	25.83	7.77	360
6	5244.1888	-69.24	-51.13	-13.00	38.13	18.11	257



3.2 OUT POWER MEASUREMENT

3.1.1 TEST PROCEDURES

Subclause 5.6 of Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$EIRP = PT + GT - LC$, $ERP = EIRP - 2.15dBi$, where

PT = transmitter output power dBm;

GT = gain of the transmitting antenna dBi;

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

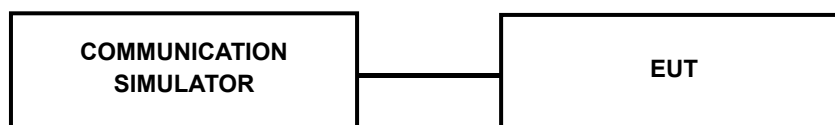
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.2 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



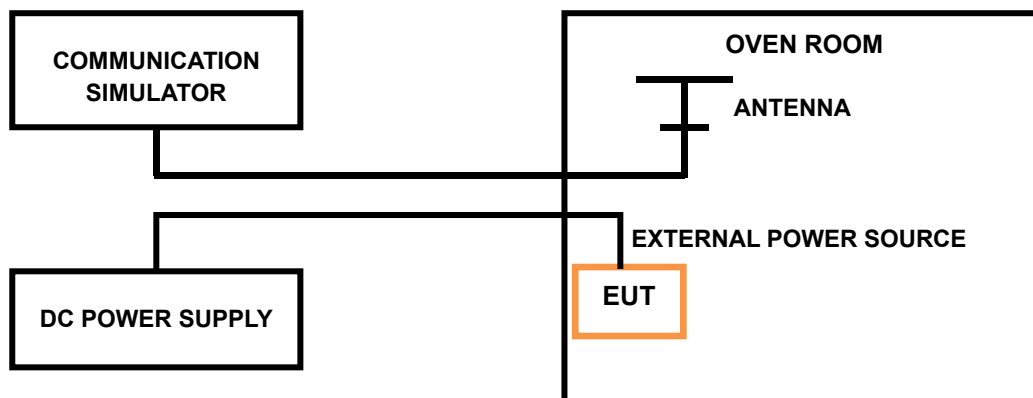
3.3 FREQUENCY STABILITY

3.2.1 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.2 TEST SETUP

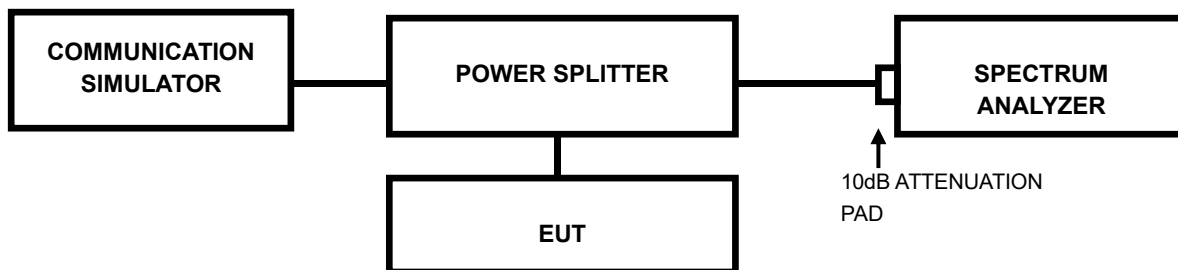


3.4 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.2 TEST SETUP

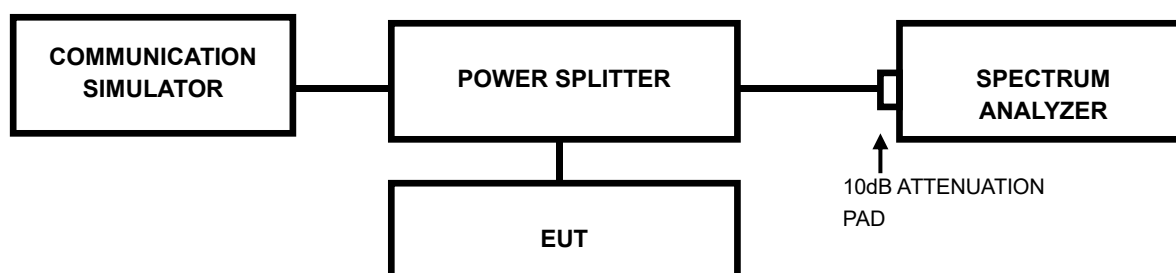


3.5 BAND EDGE MEASUREMENT

3.4.1 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 1.4MHz).
- c. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 5MHz).
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz).
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 600kHz. (LTE bandwidth 15MHz).
- g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 300kHz and VBW of the spectrum is 1000kHz. (LTE bandwidth 20MHz).
- h. Set the spectrum with RMS detector.
- i. Record the AVG trace plot into the test report.

3.4.2 TEST SETUP

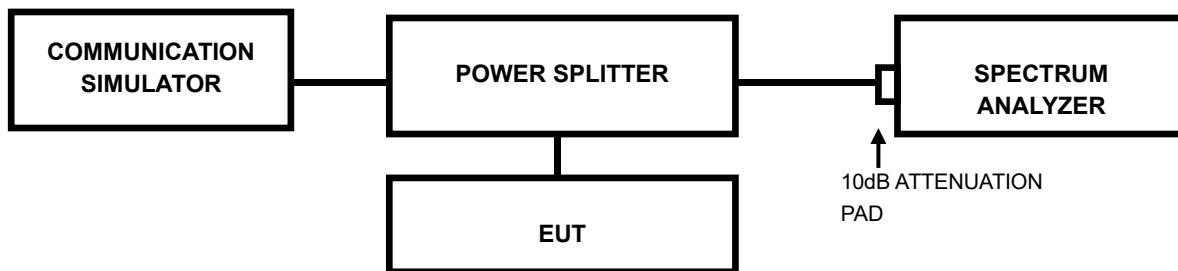


3.6 CONDUCTED SPURIOUS EMISSIONS

3.5.1 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 30 MHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.2 TEST SETUP

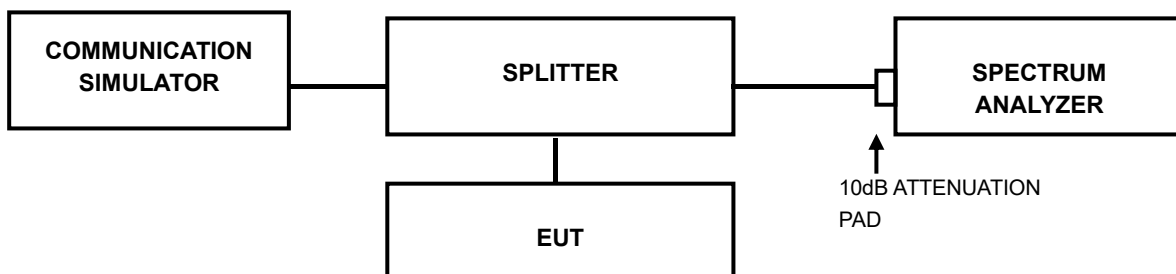


3.7 PEAK TO AVERAGE RATIO

3.7.1 TEST PROCEDURES

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.2 TEST SETUP





4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).



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”

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