

# FCC TEST REPORT

**Product Name:** Smart Phone

**Trade Mark:**  or RHINO

**Model No.:** PACE A1

**Add. Model No.:** N/A

**Report Number:** 220514003RFM-2

**Test Standards:** FCC 47 CFR Part 22 Subpart H  
FCC 47 CFR Part 24 Subpart E  
FCC 47 CFR Part 27 Subpart L

**FCC ID:** 2AUOUPA1NA

**Test Result:** PASS

**Date of Issue:** July 14, 2022

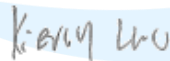
Prepared for:

**Rhino Mobility LLC**  
**8 The Green, Suite A, Dover, Delaware, 19901, USA**

Prepared by:

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**  
**Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and**  
**technology park, Longhua district, Shenzhen, China**  
**TEL: +86-755-2823 0888**  
**FAX: +86-755-2823 0886**

Prepared by:



Kieron Luo  
Project Engineer

Reviewed by:



Henry Lu  
Team Leader

Approved by:



Kevin Liang  
Assistant Manager

Date:

July 14, 2022

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC23G-V1.1

**Version**

Version No.	Date	Description
V1.0	July 14, 2022	Original

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

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## 1. GENERAL INFORMATION

### 1.1 CLIENT INFORMATION

<b>Applicant:</b>	Rhino Mobility LLC
<b>Address of Applicant:</b>	8 The Green, Suite A, Dover, Delaware, 19901, USA
<b>Manufacturer:</b>	Rhino Mobility LLC
<b>Address of Manufacturer:</b>	8 The Green, Suite A, Dover, Delaware, 19901, USA

### 1.2 EUT INFORMATION

#### 1.2.1 General Description of EUT

<b>Product Name:</b>	Smart Phone			
<b>Model No.:</b>	PACE A1			
<b>Add. Model No.:</b>	N/A			
<b>Trade Mark:</b>	 or RHINO			
<b>DUT Stage:</b>	Identical Prototype			
<b>EUT Supports Function:</b> (Provided by the customer)	<b>UTRA Bands:</b>	Band II/ Band IV/ Band V		
	<b>E-UTRA Bands:</b>	FDD Band 2/ Band 4/ Band 5/ Band 12/ Band 13/ Band 25/ Band 26/ Band 66/ Band 71		
		TDD Band 41		
	<b>2.4 GHz ISM Band:</b>	IEEE 802.11b/g/n		
		Bluetooth V4.2		
	<b>5 GHz U-NII Bands:</b>	5 150 MHz to 5 250 MHz	IEEE 802.11a/n	
		5 250 MHz to 5 350 MHz	IEEE 802.11a/n	
5 470 MHz to 5 725 MHz		IEEE 802.11a/n		
5 725 MHz to 5 850 MHz		IEEE 802.11a/n		
<b>RNSS Bands:</b>	1164 MHz to 1300 MHz	GPS		
<b>Software Version:</b>	PACE_A1(005)_20220531 (Provided by the customer)			
<b>Hardware Version:</b>	H318_MB_V2 (Provided by the customer)			
<b>Sample Received Date:</b>	May 18, 2022			
<b>Sample Tested Date:</b>	May 20, 2022 to June 14, 2022			
<b>Note:</b> The PACE A1 have two LCD Module from different vendors. This report has evaluated and pre-testing of two batches of LCD Module, with only the worst data recorded in the report.				
<b>Remark:</b> The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.				

### 1.2.2 Description of Accessories

Adapter	
<b>Model No.:</b>	MST-0501000
<b>Input:</b>	100-240 V~50/60 Hz 0.15 A Max
<b>Output:</b>	5.0 V $\equiv$ 1000mA
<b>AC Cable:</b>	N/A
<b>DC Cable:</b>	N/A

Battery	
<b>Model No.:</b>	BPA1
<b>Battery Type:</b>	Lithium-ion Rechargeable Battery
<b>Rated Voltage:</b>	3.8 Vdc
<b>Limited Charge Voltage:</b>	4.35 Vdc
<b>Rated Capacity:</b>	2400 mAh

Cable	
<b>Description:</b>	USB Type-C Plug Cable
<b>Cable Type:</b>	Shielded without ferrite
<b>Length:</b>	1 Meter

### 1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

<b>Support Networks:</b>	WCDMA, HSDPA, HSUPA, DC-HSDPA, HSPA+	
<b>Type of Modulation:</b>	WCDMA	BPSK
	HSDPA:	QPSK
	HSUPA:	QPSK
	HSPA+:	16QAM
	DC-HSDPA:	64QAM
<b>Frequency Range:</b>	WCDMA Band II:	1852.4-1907.6 MHz
	WCDMA Band IV:	1712.4-1752.6 MHz
	WCDMA Band V:	826.4-846.6 MHz
<b>Max RF Output Power:</b>	WCDMA Band II:	21.92dBm
	WCDMA Band IV:	21.95dBm
	WCDMA Band V:	22.00dBm
<b>Emission Designator:</b>	WCDMA Band II:	4M19F9W
	WCDMA Band IV:	4M18F9W
	WCDMA Band V:	4M18F9W
<b>Antenna Type:</b> (Provided by the customer)	LDS Antenna	
<b>Antenna Gain:</b> (Provided by the customer)	WCDMA Band II:	1.49 dBi
	WCDMA Band IV:	1.45 dBi
	WCDMA Band V:	0.75 dBi
<b>IEMI:</b>	Radiated: 351528101297138	
	Conducted: 351528101296957	
<b>Normal Test Voltage:</b>	3.8 Vdc	
<b>Extreme Test Voltage:</b>	3.5 to 4.35Vdc	
<b>Extreme Test Temperature:</b>	-30 °C to +50 °C	

### 1.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
--	--	--	--	--

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.3 Meter	UnionTrust

### 1.5 TEST LOCATION

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China, China 518109  
 Telephone: +86 (0) 755 2823 0888  
 Fax: +86 (0) 755 2823 0886

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China  
 Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>  
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## 1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

**CNAS-Lab Code: L9069**

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

**A2LA-Lab Certificate No.: 4312.01**

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

**ISED Wireless Device Testing Laboratories**

CAB identifier: CN0032

**FCC Accredited Lab.**

Designation Number: CN1194

Test Firm Registration Number: 259480

## 1.7 DEVIATION FROM STANDARDS

None.

## 1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

## 1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

## 1.10 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted Output Power	±0.7 dB
2	99%&26dB Bandwidth	±1.86 %
3	Emission Mask	±2.7 dBm
4	Spurious emissions at antenna terminals	±2.7 dBm
5	Field strength of spurious radiation	30 MHz-1 GHz: ±4.9 dB 1 GHz-18 GHz: ±4.8 dB 18 GHz-40 GHz: ±5.1 dB
6	Frequency stability	±6.5 x 10 <sup>-8</sup>
7	Humidity	±3.9 %
8	Temperature	±0.62 °C
9	DC Voltages	±0.68 %

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

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Fax: +86-755-28230886

E-mail: info@uttlab.com

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## 2. TEST SUMMARY

FCC 47 CFR Part 22 Subpart H Test Cases			
Test Item	Test Requirement	Test Method	Result
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 24 Subpart E Test Cases			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 24.232(d)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 24.238(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 24.235	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS



FCC 47 CFR Part 27 Subpart L Test Cases			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(h)(1)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

**Disclaimer and Explanations:**

The declared of product specification and data (e.g. antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.

### 3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
<input checked="" type="checkbox"/>	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	Euroshiedpn-CT001270-1317	22-Jan-2021	21-Jan-2024
<input checked="" type="checkbox"/>	Receiver	R&S	ESIB26	100114	5-Nov-2021	4-Nov-2022
<input type="checkbox"/>	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	15-Apr-2022	14-Apr-2023
<input type="checkbox"/>	Loop Antenna	ETS-LINDGREN	6502	00202525	11-Nov-2021	10-Nov-2023
<input checked="" type="checkbox"/>	Broadband Antenna	ETS-LINDGREN	3142E	00201566	11-Nov-2021	10-Nov-2023
<input checked="" type="checkbox"/>	6dB Attenuator	Talent	RA6A5-N-18	18103001	11-Nov-2021	10-Nov-2023
<input checked="" type="checkbox"/>	Preamplifier	HP	8447F	2805A02960	5-Nov-2021	4-Nov-2022
<input type="checkbox"/>	Broadband Antenna (Pre-amplifier)	ETS-LINDGREN	3142E-PA	00201891	30-Apr-2021	29-Apr-2023
<input type="checkbox"/>	6dB Attenuator	Talent	RA6A5-N-18	18103002	5-Nov-2021	4-Nov-2022
<input type="checkbox"/>	Horn Antenna	ETS-LINDGREN	3117	00164202	11-Nov-2021	10-Nov-2023
<input checked="" type="checkbox"/>	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	17-Apr-2022	16-Apr-2024
<input checked="" type="checkbox"/>	Pre-amplifier	ETS-LINDGREN	00118385	00201874	6-Nov-2021	5-Nov-2022
<input type="checkbox"/>	Horn Antenna	ETS-LINDGREN	3116C	00200180	17-Apr-2022	16-Apr-2024
<input checked="" type="checkbox"/>	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	14-Nov-2020	13-Nov-2022
<input checked="" type="checkbox"/>	Pre-amplifier	ETS-LINDGREN	00118384	00202652	17-Nov-2020	16-Nov-2022
<input checked="" type="checkbox"/>	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
<input checked="" type="checkbox"/>	Test Software	Audix	e3	Software Version: 9.160323		

RF Conducted Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
<input type="checkbox"/>	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	15-Apr-2022	14-Apr-2023
<input checked="" type="checkbox"/>	EXA Spectrum Analyzer	KEYSIGHT	N9020A	MY51286807	5-Nov-2021	4-Nov-2022
<input type="checkbox"/>	Spectrum analyzer	R&S	FSV40-N	101653	15-Apr-2022	14-Apr-2023
<input checked="" type="checkbox"/>	DC Source	KIKUSUI	PWR400L	LK003024	20-Aug-2021	19-Aug-2022
<input type="checkbox"/>	Temp & Humidity chamber	Espec	GL(U)04KA(W)	16921H201P3	20-Aug-2021	19-Aug-2022
<input checked="" type="checkbox"/>	Temp & Humidity chamber	Votisch	VT4002	58566133290020	15-Apr-2022	14-Apr-2023
<input type="checkbox"/>	Wideband Radio Communication Tester	R&S	CMW500	119583	15-Apr-2022	14-Apr-2023
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	R&S	CMW500	120932	15-Apr-2022	14-Apr-2023

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#### 4. TEST CONFIGURATION

##### 4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

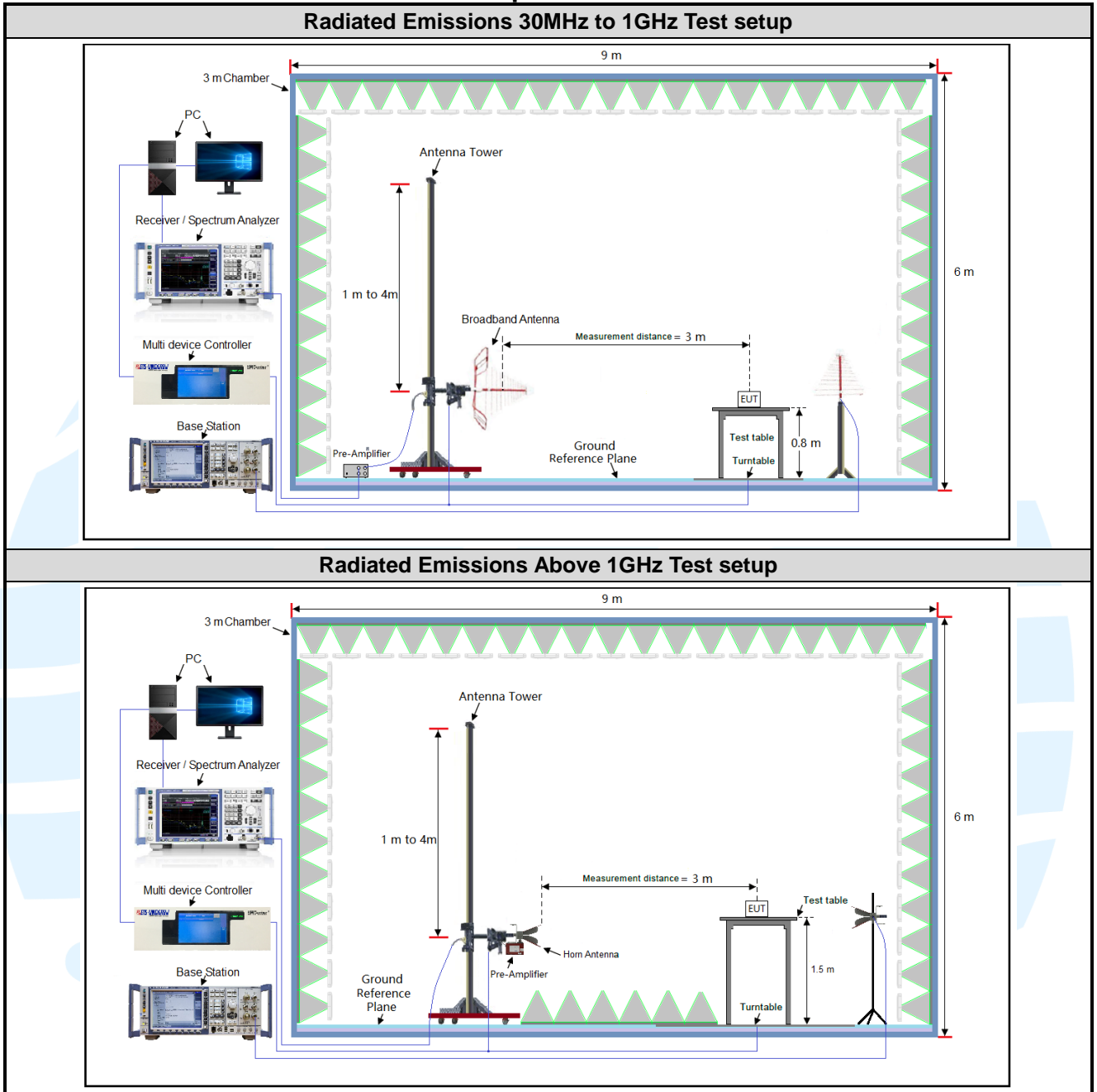
Test Environment	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
TN/VN	+15 to +35	3.8	20 to 75
TL/VL	-30	3.5	20 to 75
TH/VL	+50	3.5	20 to 75
TL/VH	-30	4.35	20 to 75
TH/VH	+50	4.35	20 to 75

**Remark:**

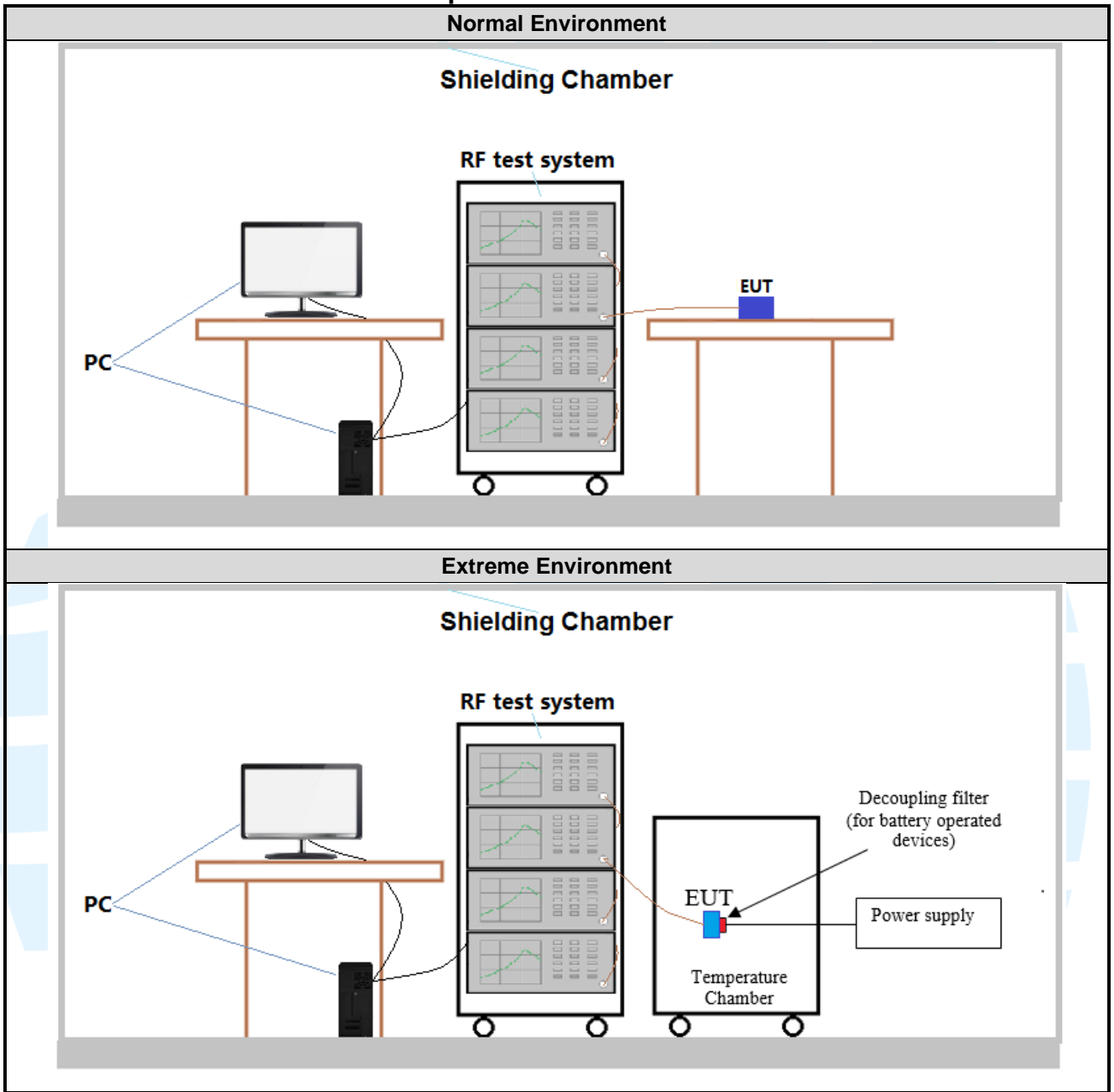
- 1) The EUT just work in such extreme temperature of -30 °C to +50 °C and the extreme voltage of 3.5 V to 4.35 V, so here the EUT is tested in the temperature of -30 °C to +50 °C and the voltage of 3.5 V to 4.35 V.
- 2) VN: Normal Voltage; TN: Normal Temperature;  
 TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;  
 VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

## 4.2 TEST SETUP

### 4.2.1 For Radiated Emissions test setup



4.2.2 For Conducted RF test setup



### 4.3 TEST CHANNELS

Bands	Tx/Rx Frequency	RF Channel		
		Low(L)	Middle(M)	High(H)
WCDMA band V	Tx (824 MHz ~ 849 MHz)	Channel 4132	Channel 4182	Channel 4233
		826.4 MHz	836.4 MHz	846.6 MHz

Bands	Tx/Rx Frequency	RF Channel		
		Low(L)	Middle(M)	High(H)
WCDMA Band II	Tx (1850 MHz-1910 MHz)	Channel 9262	Channel 9400	Channel 9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz

Bands	Tx/Rx Frequency	RF Channel		
		Low(L)	Middle(M)	High(H)
WCDMA Band IV	Tx (1710 MHz-1755 MHz)	Channel 1312	Channel 1412	Channel 1513
		1712.4 MHz	1732.4 MHz	1752.6 MHz

### 4.4 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.85Vdc rechargeable Li-on battery. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

### 4.5 PRE-SCAN

Pre-scan under all rate at lowest middle and highest channel, find the transmitter power as below:  
SIM 1 Card Conducted transmitter power measurement result.

WCDMA Band II Maximum Average Power (dBm)			
Channel	9262	9400	9538
Frequency (MHz)	1852.4 MHz	1880.0 MHz	1907.6 MHz
RMC 12.2kbps	21.89	21.93	22.00
HSDPA Subtest-1	20.92	20.95	20.99
HSDPA Subtest-2	20.91	20.95	21.03
HSDPA Subtest-3	20.47	20.54	20.60
HSDPA Subtest-4	20.45	20.45	20.57
HSUPA Subtest-1	20.89	20.95	21.02
HSUPA Subtest-2	20.92	20.97	21.03
HSUPA Subtest-3	20.45	20.48	20.58
HSUPA Subtest-4	20.92	20.95	21.05
HSUPA Subtest-5	20.40	20.44	20.52
DC-HSDPA Subtest-1	20.91	20.92	20.99
DC-HSDPA Subtest-2	20.84	20.84	20.95
DC-HSDPA Subtest-3	20.44	20.43	20.57
DC-HSDPA Subtest-4	20.38	20.38	20.55
HSPA+	20.32	20.39	20.45

WCDMA Band IV Maximum Average Power (dBm)			
Channel	1312	1412	1513
Frequency (MHz)	1712.4 MHz	1732.4 MHz	1752.6 MHz
RMC 12.2kbps	21.74	21.67	21.63
HSDPA Subtest-1	20.71	20.73	20.68
HSDPA Subtest-2	20.78	20.71	20.73
HSDPA Subtest-3	20.29	20.23	20.24
HSDPA Subtest-4	20.26	20.21	20.25
HSUPA Subtest-1	20.73	20.70	20.72
HSUPA Subtest-2	20.76	20.73	20.75
HSUPA Subtest-3	20.31	20.28	20.24
HSUPA Subtest-4	20.81	20.75	20.77
HSUPA Subtest-5	20.26	20.21	20.24
DC-HSDPA Subtest-1	20.61	20.62	20.62
DC-HSDPA Subtest-2	20.71	20.57	20.69
DC-HSDPA Subtest-3	20.21	20.13	20.14
DC-HSDPA Subtest-4	20.18	20.20	20.21
HSPA+	20.21	20.07	20.10



WCDMA Band V Maximum Average Power (dBm)			
Channel	4132	4182	4233
Frequency (MHz)	826.4 MHz	836.4 MHz	846.6 MHz
RMC 12.2kbps	22.17	22.05	22.06
HSDPA Subtest-1	21.15	21.06	21.12
HSDPA Subtest-2	21.16	21.12	21.08
HSDPA Subtest-3	20.71	20.68	20.65
HSDPA Subtest-4	20.73	20.67	20.63
HSUPA Subtest-1	21.16	21.06	21.08
HSUPA Subtest-2	21.18	21.11	21.12
HSUPA Subtest-3	20.75	20.64	20.66
HSUPA Subtest-4	21.21	21.12	21.14
HSUPA Subtest-5	20.65	20.62	20.63
DC-HSDPA Subtest-1	21.11	21.05	21.02
DC-HSDPA Subtest-2	21.15	21.01	21.00
DC-HSDPA Subtest-3	20.65	20.63	20.58
DC-HSDPA Subtest-4	20.63	20.63	20.57
HSPA+	20.52	20.50	20.50

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Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

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During all testing, EUT is in link mode with base station emulator at maximum power level. WCDMA worse case mode applicability and tested channel detail as below:

Item	Mode					Test Channel		
	RMC 12.2kbps	HSDPA	HSUPA	HSPA+	DC-HSDPA	Low	Mid	High
Conducted Output Power	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Peak-to-average ratio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
99%&26dB Bandwidth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Band Edge at antenna terminals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Spurious emissions at antenna terminals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Field strength of spurious radiation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Frequency stability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remark:

The mark "" means is chosen for testing;  
 The mark "" means is not chosen for testing.

## 5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

### 5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 22	Public Mobile Services
3	FCC 47 CFR Part 27	Miscellaneous Wireless Communications Services
4	FCC 47 CFR Part 24	Personal Communications Services
5	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
6	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01
7	KDB 412172 D01 Determining ERP and EIRP v01r01	Guidelines for determining the effective radiated power (ERP) and isotropically radiated power (EIRP) of an RF transmitting system

### 5.2 MAXIMUM ERP/EIRP

**Test Requirement:** FCC 47 CFR Part 2.1046(a),  
 FCC 47 CFR Part 22.913(a),  
 FCC 47 CFR Part 24.232(c),  
 FCC 47 CFR Part 27.50(d)(4)

**Test Method:** KDB 971168 D01v03r01 Section 5.6 & ANSI C63.26-2015

**Limit:**

**FCC 47 CFR Part 22.913(a)**

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

**FCC 47 CFR Part 24.232(c)**

Mobile and portable stations are limited to 2 watts EIRP.

**FCC 47 CFR Part 27.50(d)(4)**

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

**Test Procedure:**

According to KDB 412172 D01 Power Approach,

1.  $ERP \text{ or } EIRP = P_T + G_T - L_C$
2.  $ERP = EIRP - 2.15$

where

3.  $P_T$  = transmitter output power, expressed in dBW, dBm, or PSD;
4.  $G_T$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
5.  $L_C$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

**Test Setup:** Refer to section 4.2.1 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** See table below

Band	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	Lowest	Middle	Highest	Limit (dBm)	Lowest	Middle	Highest	Limit (W)	
WCDMA II	23.38	23.42	23.49	33.01	0.2178	0.2198	0.2234	2	Pass
WCDMA V	20.77	20.65	20.66	38.45	0.1194	0.1161	0.1164	7	Pass
WCDMA IV	23.19	23.12	23.08	30.00	0.2084	0.2051	0.2032	1	Pass

Note: The maximum ERP/EIRP is calculated from max output power and antenna gain, the antenna gain provided by the customer, and the customer takes all the responsibilities for the accuracy of antenna gain.

### Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

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### 5.3 CONDUCTED OUTPUT POWER

**Test Requirement:** FCC 47 CFR Part 2.1046(a),  
FCC 47 CFR Part 22.913(a),  
FCC 47 CFR Part 24.232(c),  
FCC 47 CFR Part 27.50(d)(4)

**Test Method:** KDB 971168 D01v03r01 & ANSI C63.26-2015

**Limit:**

**FCC 47 CFR Part 22.913(a)**

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

**FCC 47 CFR Part 24.232(c)**

Mobile and portable stations are limited to 2 watts EIRP.

**FCC 47 CFR Part 27.50(d)(4)**

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

**Test Procedure:**

The EUT was set up for the maximum power with GSM, GPRS, EDGE, WCDMA, CDMA2000, and 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.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** The full result refer to section 4.5 for details.

### 5.4 PEAK-TO-AVERAGE RATIO

**Test Requirement:** FCC 47 CFR Part 22.913(a),  
 FCC 47 CFR Part 24.232(c),  
 FCC 47 CFR Part 27.50(d)(5)

**Test Method:** KDB 971168 D01v03r01 Section 5.7

**Limit:** In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

**Test Procedure:**  
 The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

- a) Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth
- b) Set the number of counts to a value that stabilizes the measured CCDF curve
- c) Record the maximum PAPR level associated with a probability of 0.1 %

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

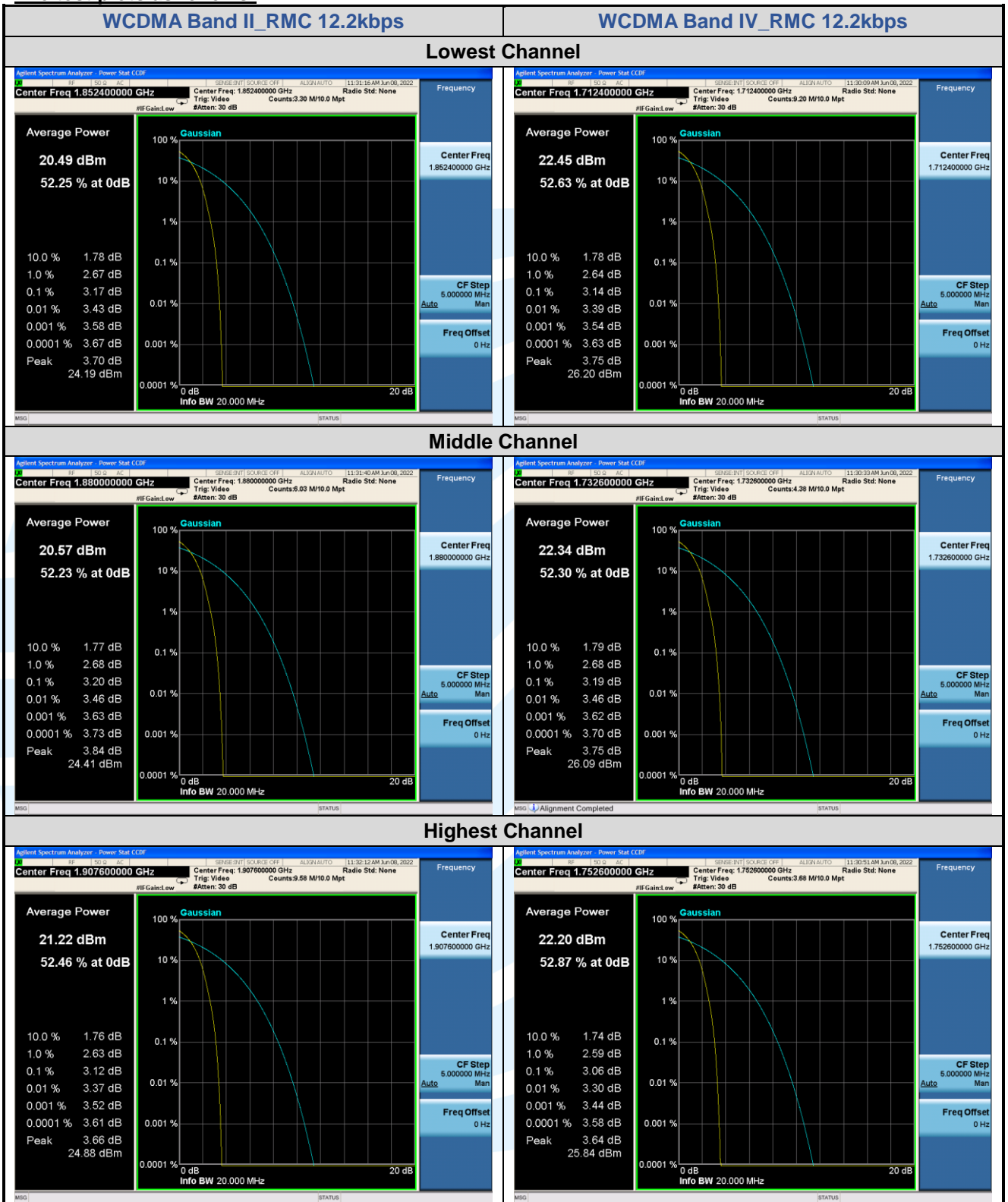
**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** See table below

Bands	Modulation	Peak-to-average ratio (dB)			Limit (dBm)	Result
		Lowest	Middle	Highest		
WCDMA Band II	RMC 12.2kbps	3.17	3.20	3.12	13	Pass
WCDMA Band IV	RMC 12.2kbps	3.14	3.19	3.06	13	Pass
WCDMA Band V	RMC 12.2kbps	2.73	2.89	2.88	13	Pass

The test plots as follows:



## Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

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### 5.5 99%&26DB BANDWIDTH

**Test Requirement:** FCC 47 CFR Part 2.1049(h),  
 FCC 47 CFR Part 22.917(b),  
 FCC 47 CFR Part 24.238(b),  
 FCC 47 CFR Part 27.53(h)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 4

**Limit:** No Limit, for reporting purposes only.

**Test Procedure:**  
 The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

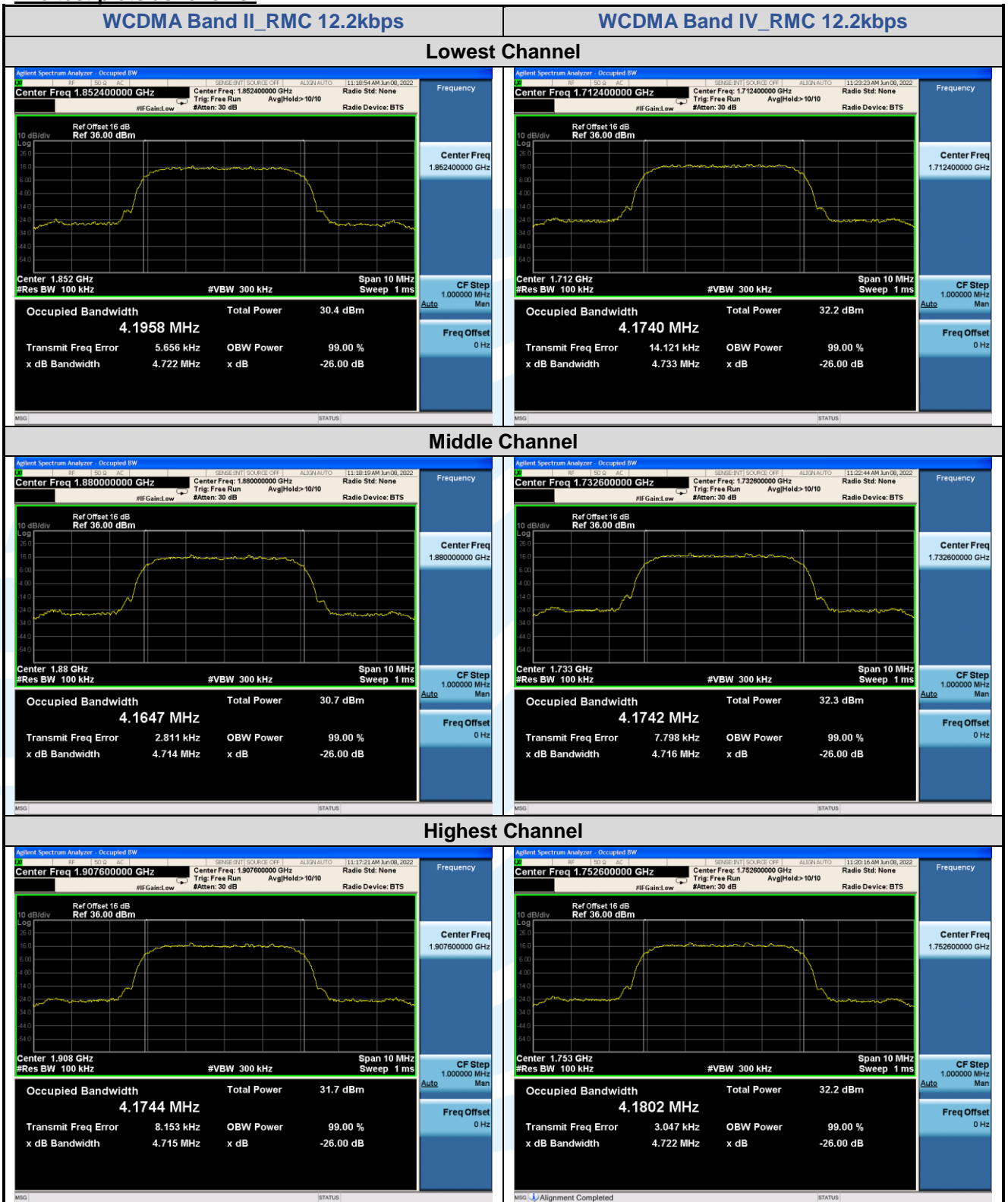
**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** See table below

Bands	Modulation	Channel	Frequency (MHz)	99% BW (MHz)	26 dB BW (MHz)
WCDMA Band II	RMC 12.2kbps	9262	1852.4	4.1958	4.722
		9400	1880.0	4.1647	4.714
		9538	1907.6	4.1744	4.715
WCDMA Band IV	RMC 12.2kbps	1312	1712.4	4.1740	4.733
		1412	1732.4	4.1742	4.716
		1513	1752.6	4.1802	4.722
WCDMA Band V	RMC 12.2kbps	4132	826.4	4.1800	4.743
		4182	836.4	4.1844	4.736
		4233	846.6	4.1811	4.723

The test plots as follows:



## Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

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## 5.6 BAND EDGE AT ANTENNA TERMINALS

**Test Requirement:** FCC 47 CFR Part 2.1051,  
FCC 47 CFR Part 22.917(a),  
FCC 47 CFR Part 24.238(a),  
FCC 47 CFR Part 27.53(h)(1)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**Test Procedure:**

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

For each band edge measurement:

- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

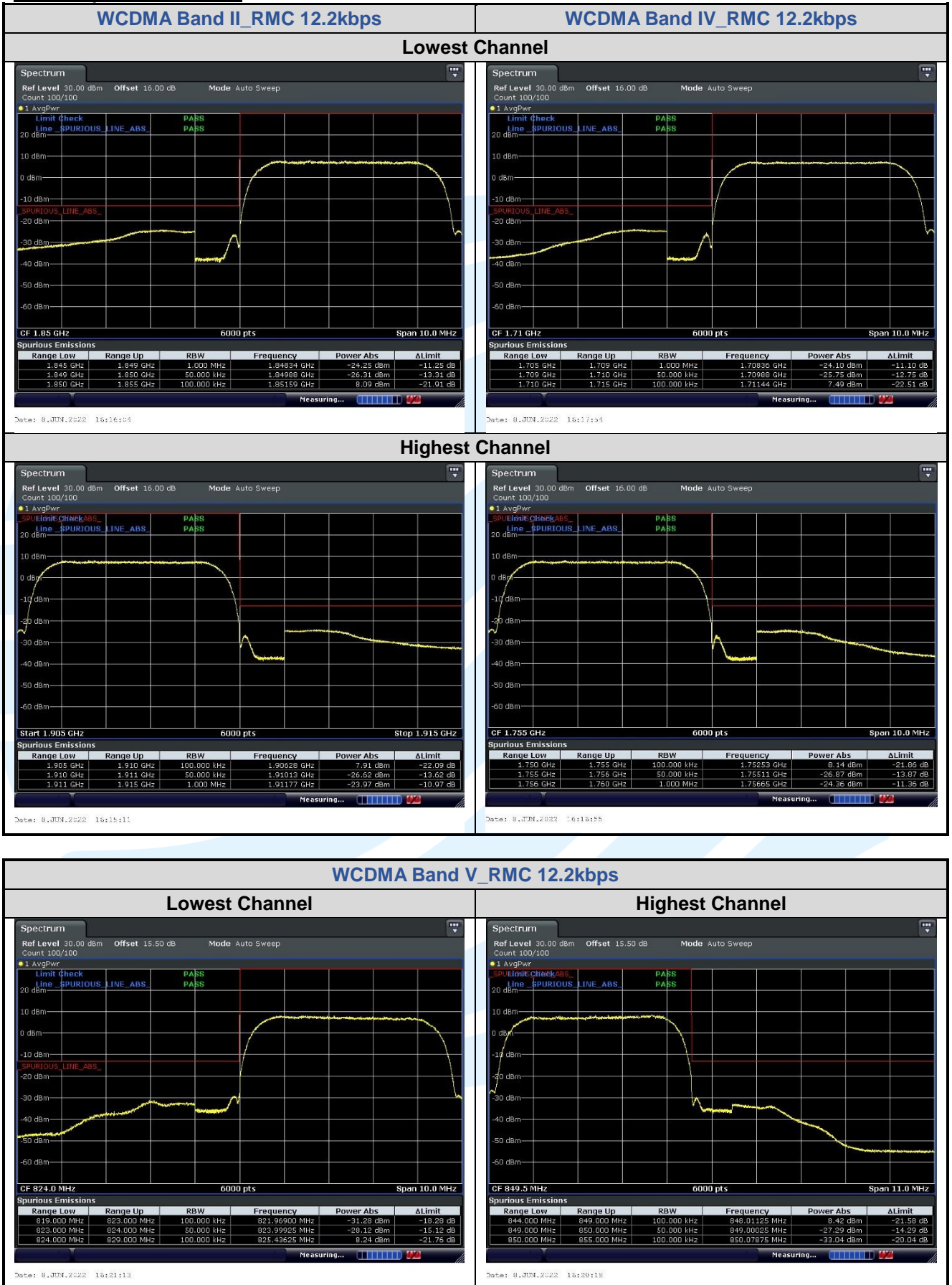
**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

The test plots as follows:



## 5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Test Requirement:** FCC 47 CFR Part 2.1051,  
FCC 47 CFR Part 22.917(a)(b),  
FCC 47 CFR Part 24.238(a)(b),  
FCC 47 CFR Part 27.53(h)(1)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**Test Procedure:**

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 to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

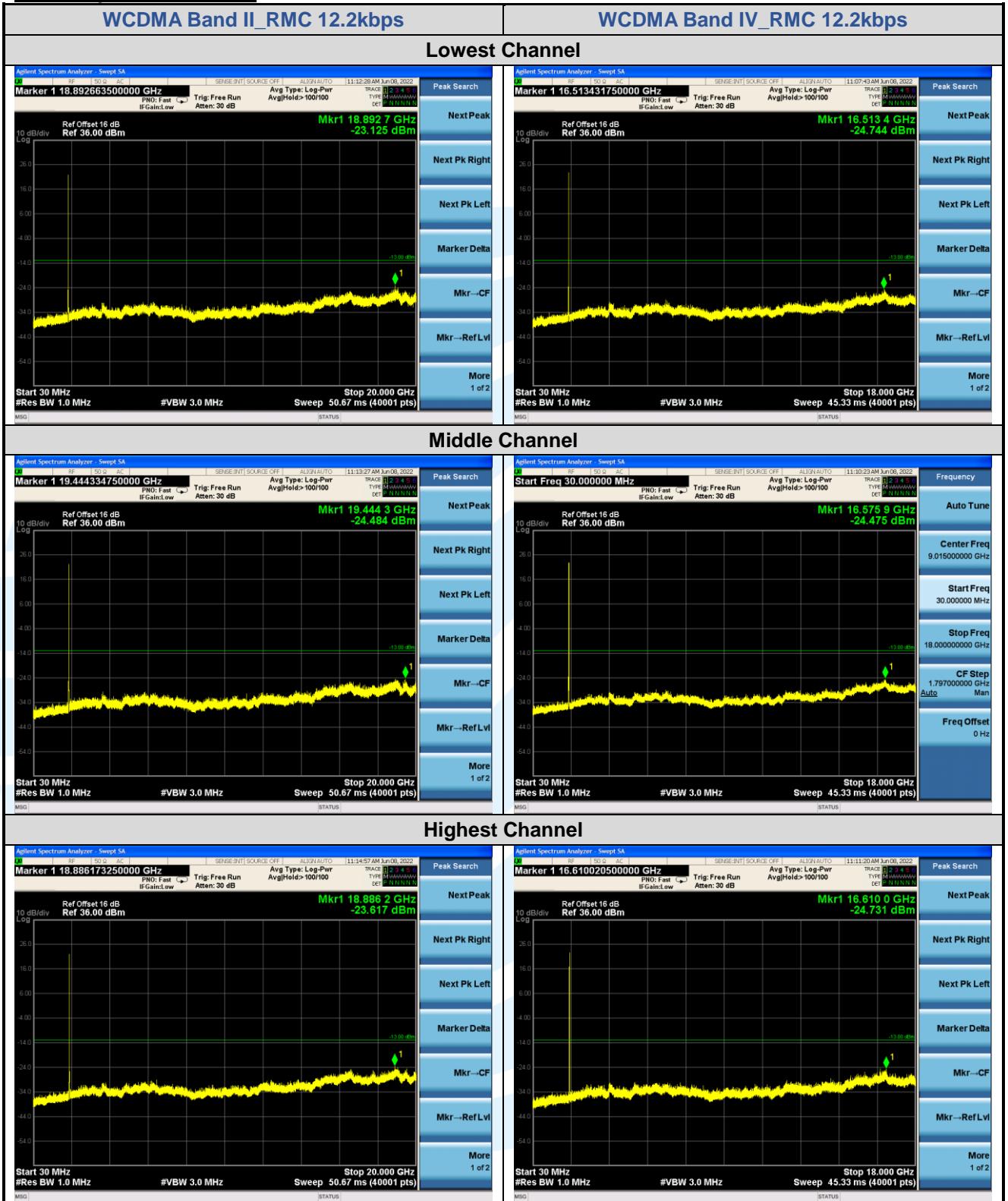
**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass



The test plots as follows:



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Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

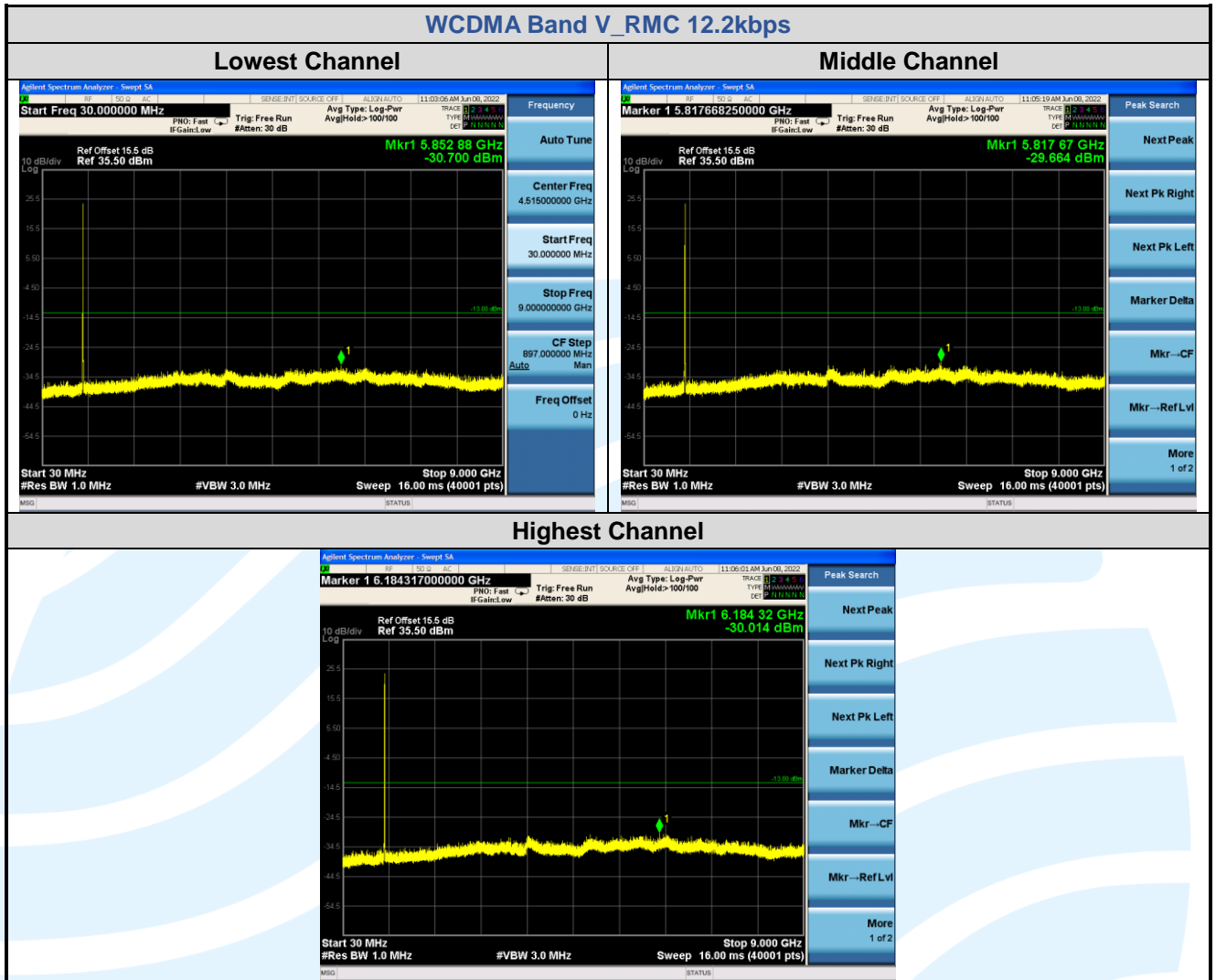
Fax: +86-755-28230886

E-mail: info@uttlab.com

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## 5.8 FIELD STRENGTH OF SPURIOUS RADIATION

**Test Requirement:** FCC 47 CFR Part 2.1053,  
FCC 47 CFR Part 22.917(a)(b),  
FCC 47 CFR Part 24.238(a)(b),  
FCC 47 CFR Part 27.53(h)(1)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 7

**Limits:**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**Test Setup:** Refer to section 4.2.1 for details.

**Test Procedures:** KDB 971168 D01v03r01 Section 7

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

**The measurement data as follows:**

WCDMA Band II							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>RMC 12.2kbps_ Lowest Channel</b>							
1	47.703	-70.6	-3.5	-74.0	-13.0	-61.0	Horizontal
2	862.802	-80.4	13.1	-67.3	-13.0	-54.3	Horizontal
3	938.714	-80.9	14.2	-66.8	-13.0	-53.8	Horizontal
4	3704.8	-62.6	7.6	-55.0	-13.0	-42.0	Horizontal
5	5557.2	-63.2	11.8	-51.5	-13.0	-38.5	Horizontal
6	34.045	-79.1	4.6	-74.5	-13.0	-61.5	Vertical
7	723.793	-80.4	11.4	-69.1	-13.0	-56.1	Vertical
8	952	-81.1	14.3	-66.8	-13.0	-53.8	Vertical
9	3704.8	-58.8	7.6	-51.2	-13.0	-38.2	Vertical
10	5557.2	-55.4	11.8	-43.7	-13.0	-30.7	Vertical
<b>RMC 12.2kbps_ Middle Channel</b>							
1	461.631	-80.6	6.0	-74.7	-13.0	-61.7	Horizontal
2	708.694	-81.7	11.1	-70.6	-13.0	-57.6	Horizontal
3	875.013	-81.8	13.5	-68.4	-13.0	-55.4	Horizontal
4	3760	-63.3	7.8	-55.5	-13.0	-42.5	Horizontal
5	5640	-60.8	11.6	-49.2	-13.0	-36.2	Horizontal
6	461.631	-80.1	6.0	-74.1	-13.0	-61.1	Vertical
7	749.676	-81.4	11.5	-70.0	-13.0	-57.0	Vertical
8	912.695	-82.1	14.0	-68.2	-13.0	-55.2	Vertical
9	3760	-62.7	7.8	-54.9	-13.0	-41.9	Vertical
10	5640	-63.9	11.6	-52.3	-13.0	-39.3	Vertical
<b>RMC 12.2kbps_ Highest Channel</b>							
1	47.703	-72.3	-3.5	-75.7	-13.0	-62.7	Horizontal
2	689.051	-81.1	10.8	-70.2	-13.0	-57.2	Horizontal
3	804.252	-81.7	12.2	-69.5	-13.0	-56.5	Horizontal
4	3815.2	-59.7	8.0	-51.7	-13.0	-38.7	Horizontal
5	5722.8	-63.4	11.4	-52.1	-13.0	-39.1	Horizontal
6	31.513	-79.5	4.9	-74.5	-13.0	-61.5	Vertical
7	850.76	-80.8	13.0	-67.9	-13.0	-54.9	Vertical
8	932.141	-81.3	14.1	-67.2	-13.0	-54.2	Vertical
9	3815.2	-61.6	8.0	-53.6	-13.0	-40.6	Vertical
10	5722.8	-57.2	11.4	-45.8	-13.0	-32.8	Vertical

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Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

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WCDMA Band IV							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>RMC 12.2kbps_ Lowest Channel</b>							
1	33.807	-79.2	4.6	-74.5	-13.0	-61.5	Horizontal
2	47.703	-72.1	-3.5	-75.5	-13.0	-62.5	Horizontal
3	958.714	-82.4	14.3	-68.1	-13.0	-55.1	Horizontal
4	3424.8	-58.0	6.5	-51.5	-13.0	-38.5	Horizontal
5	5137.2	-65.3	10.0	-55.3	-13.0	-42.3	Horizontal
6	744.427	-81.4	11.5	-69.9	-13.0	-56.9	Vertical
7	862.802	-81.3	13.1	-68.2	-13.0	-55.2	Vertical
8	952	-82.4	14.3	-68.1	-13.0	-55.1	Vertical
9	3424.8	-56.3	6.5	-49.8	-13.0	-36.8	Vertical
10	5137.2	-65.8	10.0	-55.8	-13.0	-42.8	Vertical
<b>RMC 12.2kbps_ Middle Channel</b>							
1	651.383	-81.1	10.0	-71.1	-13.0	-58.1	Horizontal
2	703.731	-81.4	11.1	-70.3	-13.0	-57.3	Horizontal
3	912.695	-81.8	14.0	-67.9	-13.0	-54.9	Horizontal
4	3464.8	-60.6	6.6	-54.0	-13.0	-41.0	Horizontal
5	5197.2	-56.7	10.2	-46.5	-13.0	-33.5	Horizontal
6	35.511	-79.8	4.7	-75.1	-13.0	-62.1	Vertical
7	781.961	-81.6	11.6	-70.0	-13.0	-57.0	Vertical
8	899.958	-81.7	13.9	-67.8	-13.0	-54.8	Vertical
9	3464.8	-60.3	6.6	-53.7	-13.0	-40.7	Vertical
10	5197.2	-60.5	10.2	-50.2	-13.0	-37.2	Vertical
<b>RMC 12.2kbps_ Highest Channel</b>							
1	43.845	-73.3	-0.8	-74.1	-13.0	-61.1	Horizontal
2	698.804	-81.4	11.0	-70.5	-13.0	-57.5	Horizontal
3	925.613	-82.6	14.1	-68.5	-13.0	-55.5	Horizontal
4	3505.2	-63.8	6.8	-57.0	-13.0	-44.0	Horizontal
5	5257.8	-64.8	10.6	-54.2	-13.0	-41.2	Horizontal
6	31.292	-80.2	5.0	-75.2	-13.0	-62.2	Vertical
7	34.527	-80.6	5.0	-75.6	-13.0	-62.6	Vertical
8	833.013	-81.4	12.6	-68.9	-13.0	-55.9	Vertical
9	3505.2	-63.3	6.8	-56.5	-13.0	-43.5	Vertical
10	5257.8	-64.7	10.6	-54.1	-13.0	-41.1	Vertical

WCDMA Band V							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>RMC 12.2kbps_ Lowest Channel</b>							
1	35.511	-90.5	33.5	-57.0	-13.0	-44.0	Horizontal
2	734.037	-89.0	40.7	-48.3	-13.0	-35.3	Horizontal
3	972.283	-86.9	43.1	-43.9	-13.0	-30.9	Horizontal
4	1652.8	-57.1	0.2	-56.9	-13.0	-43.9	Horizontal
5	2479.2	-54.6	3.6	-51.0	-13.0	-38.0	Horizontal
6	35.762	-90.5	33.3	-57.3	-13.0	-44.3	Vertical
7	718.725	-88.7	40.7	-48.0	-13.0	-35.0	Vertical
8	932.141	-88.2	42.9	-45.3	-13.0	-32.3	Vertical
9	1652.8	-61.1	0.2	-60.9	-13.0	-47.9	Vertical
10	2479.2	-52.1	3.6	-48.5	-13.0	-35.5	Vertical
<b>RMC 12.2kbps_ Middle Channel</b>							
1	33.807	-91.4	33.5	-57.9	-13.0	-44.9	Horizontal
2	646.822	-88.7	39.4	-49.3	-13.0	-36.3	Horizontal
3	887.398	-88.4	42.6	-45.7	-13.0	-32.7	Horizontal
4	1672.8	-59.3	0.4	-58.9	-13.0	-45.9	Horizontal
5	2509.2	-55.8	3.7	-52.1	-13.0	-39.1	Horizontal
6	34.77	-91.9	34.0	-58.0	-13.0	-45.0	Vertical
7	389.987	-90.8	33.4	-57.4	-13.0	-44.4	Vertical
8	899.958	-88.6	42.8	-45.9	-13.0	-32.9	Vertical
9	1672.8	-59.4	0.4	-59.0	-13.0	-46.0	Vertical
10	2509.2	-60.8	3.7	-57.1	-13.0	-44.1	Vertical
<b>RMC 12.2kbps_ Highest Channel</b>							
1	32.411	-93.8	33.6	-60.2	-13.0	-47.2	Horizontal
2	322.59	-89.5	31.9	-57.7	-13.0	-44.7	Horizontal
3	938.714	-88.5	42.9	-45.6	-13.0	-32.6	Horizontal
4	1693.2	-58.6	0.5	-58.1	-13.0	-45.1	Horizontal
5	2539.8	-60.2	3.8	-56.4	-13.0	-43.4	Horizontal
6	33.101	-88.7	33.6	-55.2	-13.0	-42.2	Vertical
7	186.468	-87.8	27.6	-60.2	-13.0	-47.2	Vertical
8	986.044	-87.3	43.3	-44.1	-13.0	-31.1	Vertical
9	1693.2	-63.5	0.5	-63.0	-13.0	-50.0	Vertical
10	2539.8	-61.7	3.8	-57.9	-13.0	-44.9	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC23G-V1.1

### 5.9 FREQUENCY STABILITY

**Test Requirement:** FCC 47 CFR Part 2.1055 &  
 FCC 47 CFR Part 22.355 &  
 FCC 47 CFR Part 24.235 &  
 FCC 47 CFR Part 27.54

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limits:**

**FCC 47 CFR Part 22.355,**

The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations.

**FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54**

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

**Test Setup:** Refer to section 4.2.2 for details.

**Test Procedures:**

- 1) Use CMW 500 with Frequency Error measurement capability.
  - a) Temp. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$
  - b) Voltage = low voltage, 3.5 Vdc, Normal, 3.8 Vdc and High voltage, 4.35 Vdc.
- 2) Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to  $20^{\circ}\text{C}$  and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}\text{C}$  is reached.

- 3) Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	( $^{\circ}\text{C}$ )	(Hz)	(ppm)	(ppm)	
<b>WCDMA II RMC 12.2Kbps</b>							
BPSK	9400 / 1880.0	VL	TN	-12	-0.0064	N/A	Pass
		VN		-12	-0.0064		Pass
		VH		-10	-0.0053		Pass
		VN	50	-11	-0.0059		Pass
			40	-14	-0.0074		Pass
			30	-12	-0.0064		Pass
			20	-13	-0.0069		Pass
			10	-12	-0.0064		Pass
			0	-11	-0.0059		Pass
			-10	-11	-0.0059		Pass
			-20	-12	-0.0064		Pass
			-30	-11	-0.0059		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>WCDMA IV RMC 12.2Kbps</b>							
BPSK	1412 / 1732.4	VL	TN	-15	-0.0087	N/A	Pass
		VN		-16	-0.0092		Pass
		VH		-15	-0.0087		Pass
		VN	50	-17	-0.0098		Pass
			40	-16	-0.0092		Pass
			30	-16	-0.0092		Pass
			20	-18	-0.0104		Pass
			10	-14	-0.0081		Pass
			0	-18	-0.0104		Pass
			-10	-16	-0.0092		Pass
			-20	-15	-0.0087		Pass
			-30	-17	-0.0098		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>WCDMA V RMC 12.2Kbps</b>							
BPSK	4182 / 836.4	VL	TN	-13	-0.0155	± 2.5	Pass
		VN		-14	-0.0167	± 2.5	Pass
		VH		-13	-0.0155	± 2.5	Pass
		VN	50	-11	-0.0132	± 2.5	Pass
			40	-14	-0.0167	± 2.5	Pass
			30	-12	-0.0143	± 2.5	Pass
			20	-15	-0.0179	± 2.5	Pass
			10	-13	-0.0155	± 2.5	Pass
			0	-12	-0.0143	± 2.5	Pass
			-10	-15	-0.0179	± 2.5	Pass
			-20	-14	-0.0167	± 2.5	Pass
			-30	-13	-0.0155	± 2.5	Pass



## APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

## APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

\*\*\* End of Report \*\*\*

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