FCC TEST REPORT

Product Name:	Mobile Phone
Trade Mark:	BLU
Model No.:	VIVO ONE PLUS 2019
Report Number:	180814012RFM-3
Test Standards:	FCC 47 CFR Part 27 FCC 47 CFR Part 2
FCC ID:	YHLBLUVOONEPS19
Test Result:	PASS
Date of Issue:	October 15, 2018

Prepared for:

BLU Products, Inc.
10814 NW 33rd St#100 Doral, FL33172

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd.
16/F, Block A, Building 6, Baoneng Science and Technology Park,
Qingxiang Road No.1, Longhua New District, Shenzhen, China
TEL: +86-755-2823 0888
FAX: +86-755-2823 0886

Tested by: _____ Reviewed by: _____

Henry Lu
Project Engineer

Kevin Liang
Assistant Manager

Approved by: _____ Date: October 15, 2018

Billy Li
Technical Director

UnionTrust Laboratories * Certified *

Version

Version No.	Date	Description
V1.0	October 15, 2018	Original

CONTENTS

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	BLU Products, Inc.
Address of Applicant:	10814 NW 33rd St#100 Doral, FL33172
Manufacturer:	BLU Products, Inc.
Address of Manufacturer:	10814 NW 33rd St#100 Doral, FL33172

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Mobile Phone		
Model No.:	VIVO ONE PLUS 2019		
Add. Model No.:	N/A		
Trade Mark:	BLU		
DUT Stage:	Identical Prototype		
EUT Supports Function:	GSM Bands:	GSM850/1900	
	UTRA Bands:	Band II/ Band IV/ Band V	
	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 7/ Band 12/ Band 17	
	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
		Bluetooth V4.0	
	RNSS Bands:	1559 MHz to 1610 MHz	GPS
Sample Received Date:	August 15, 2018		
Sample Tested Date:	August 15, 2018 to September 12, 2018		

1.2.2 Description of Accessories

Adapter	
Trade Mark:	BLU
Model No.:	US-ZC-1500
Input:	100-240 V~50/60 Hz 0.3 A
Output:	5.0 V ⎓ 1.5 A
AC Cable:	N/A
DC Cable:	N/A

Battery	
Trade Mark:	BLU
Model No.:	C876444300L
Battery Type:	Lithium-ion Rechargeable Battery
Rated Voltage:	3.8 Vdc
Rated Capacity:	3000 mAh

Cable	
Description:	USB Micro-B Plug Cable
Cable Type:	Shielded without ferrite
Length:	1 Meter

Earphone	
Description:	3.5 mm AUX
Cable Type:	Unshielded without ferrite
Length:	1.2 Meter

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Support Networks:	WCDMA, HSDPA, HSUPA, LTE	
Type of Modulation:	WCDMA Band IV	BPSK
	HSDPA Band IV:	QPSK
	HSUPA Band IV:	QPSK
	LTE Band 4/7/12/17:	QPSK, 16QAM
IEMI:	Radiation: 351812051133984, 35181051133985	
	Conducted: 351812051133976, 35181051133977	
Antenna Type:	FPCB Antenna	
Antenna Gain:	WCDMA Band IV:	4.24 dBi
	LTE Band 4:	4.25 dBi
	LTE Band 7:	4.16 dBi
	LTE Band 12:	1.33 dBi
	LTE Band 17:	1.28 dBi
Normal Test Voltage:	3.8 Vdc	
Extreme Test Voltage:	3.5 to 4.35Vdc	
Extreme Test Temperature:	-30 °C to +50 °C	

Summary of Results:

Band	BW (MHz)	Frequency Range (MHz)	Max RF Output Power (dBm)		Type of Emission		
			Conducted (Average)	ERP/EIRP (Average)	QPSK	16QAM	64QAM
WCDMA Band IV	N/A	1712.4-1752.6	21.62	25.86	4M23F9W	N/A	N/A
LTE Band 4	1.4	1710.7-1754.3	21.53	25.78	1M10G7D	1M10W7D	N/A
	3	1711.5-1753.5	21.49	25.74	2M69G7D	2M69W7D	N/A
	5	1712.5-1752.5	21.59	25.84	4M53G7D	4M54W7D	N/A
	10	1715-1750	21.48	25.73	9M01G7D	9M01W7D	N/A
	15	1717.5-1747.5	21.57	25.82	13M5G7D	13M5W7D	N/A
	20	1720-1745	21.63	25.88	18M1G7D	18M1W7D	N/A
LTE Band 7	5	2502.5-2567.5	21.02	25.18	4M55G7D	4M54W7D	N/A
	10	2505-2565	21.00	25.16	9M03G7D	9M03W7D	N/A
	15	2507.5-2562.5	20.93	25.09	13M5G7D	13M5W7D	N/A
	20	2510-2560	21.07	25.23	18M0G7D	18M0W7D	N/A
LTE Band 12	1.4	699.7-715.3	21.84	21.02	1M09G7D	1M10W7D	N/A
	3	700.5-714.5	21.92	21.10	2M70G7D	2M69W7D	N/A
	5	701.5-713.5	21.90	21.08	4M54G7D	4M54W7D	N/A
	10	704-711	21.97	21.15	9M02G7D	9M03W7D	N/A
LTE Band 17	5	706.5-713.5	21.80	20.93	4M54G7D	4M54W7D	N/A
	10	709-711	21.88	21.01	9M03G7D	9M02W7D	N/A

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
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2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.30 Meter	UnionTrust

1.5 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

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/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

IC-Registration No.: 21600-1
The 3m Semi-anechoic chamber of Shenzhen UnionTrust Quality and Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 21600-1.

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: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

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 emission 9KHz-150KHz	±3.8 dB
2	Conducted emission 150KHz-30MHz	±3.4 dB
3	Radiated emission 9KHz-30MHz	±4.9 dB
4	Radiated emission 30MHz-1GHz	±4.7 dB
5	Radiated emission 1GHz-18GHz	±5.1 dB
6	Radiated emission 18GHz-26GHz	±5.2 dB
7	Radiated emission 26GHz-40GHz	±5.2 dB

2. TEST SUMMARY

FCC 47 CFR Part 27 Test Cases (WCDMA Band IV & LTE Band 4)			
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/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI/TIA-603-E-2016 & 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/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(h)(1)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 7)			
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(h)(2)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2)	ANSI/TIA-603-E-2016 & 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)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(m)(4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(m)(4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(m)(4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 12 & Band 17)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI/TIA-603-E-2016 & 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(g)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(g)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(g)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(g)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☑	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 20, 2015	Dec. 19, 2018
☑	Receiver	R&S	ESIB26	100114	Dec. 10, 2017	Dec. 10, 2018
☑	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Dec.10, 2017	Dec. 10, 2018
☑	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Dec. 17, 2017	Dec. 17, 2018
☑	Preamplifier	HP	8447F	2805A02960	Dec. 10, 2017	Dec. 10, 2018
☑	Broadband Antenna (Pre-amplifier)	ETS-LINDGREN	3142E-PA	00201891	May 19, 2018	May 19, 2019
☑	Horn Antenna	ETS-LINDGREN	3117	00164202	Dec. 17, 2017	Dec. 17, 2018
☑	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	May 22, 2018	May 22, 2019
☑	Horn Antenna	ETS-LINDGREN	3116C	00200180	May 20, 2018	May 20, 2019
☑	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Dec. 17, 2017	Dec. 17, 2018
☑	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☑	Test Software	Audix	e3	Software Version: 9.160323		

2/3/4G RF Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☑	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Dec. 10, 2017	Dec. 10, 2018
☑	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Dec.10, 2017	Dec. 10, 2018
☑	Wideband Radio Communication Tester	R&S	CMW500	116254	June 07, 2018	June 07, 2019
☐	Universal Radio Communication Tester	R&S	CMU200	114713	Dec. 10, 2017	Dec. 10, 2018
☑	DC Source	KIKUSUI	PWR400L	LK003024	Sep. 14, 2017	Sep. 13, 2018
☐	Temp & Humidity chamber	Espec	GL(U)04KA(W)	16921H201P3	Sep. 14, 2017	Sep. 13, 2018
☑	Temp & Humidity chamber	Votisch	VT4002	58566133290 020	June 05, 2018	June 05, 2019
☐	Test Software	ECIT	AutomationTestSystem		Software Version: 2.170530	

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Normal or Extreme Test Conditions

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

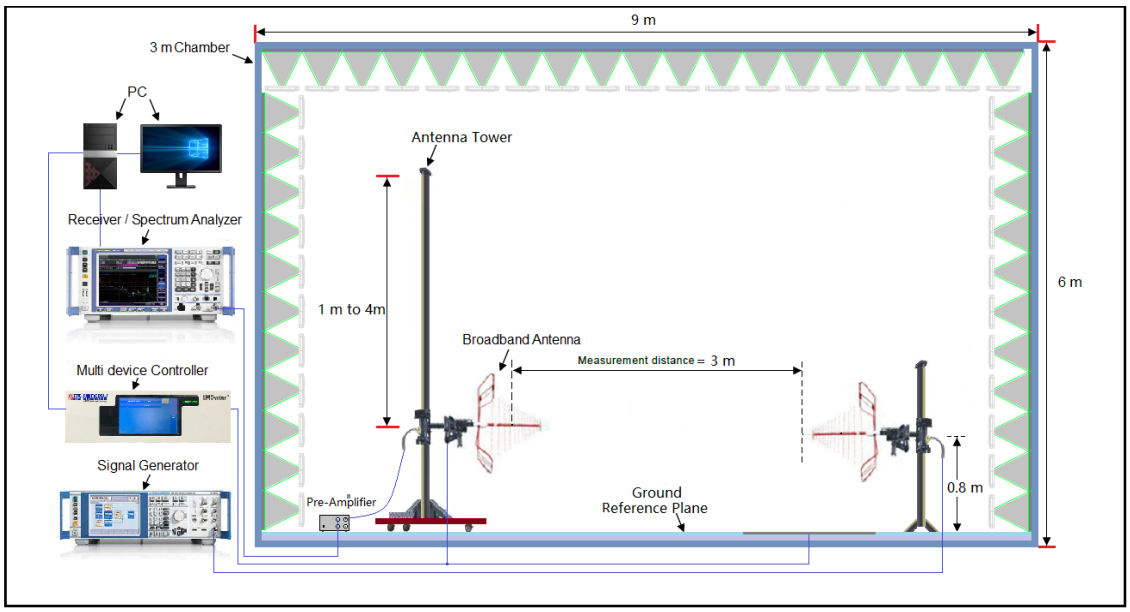
Remark:

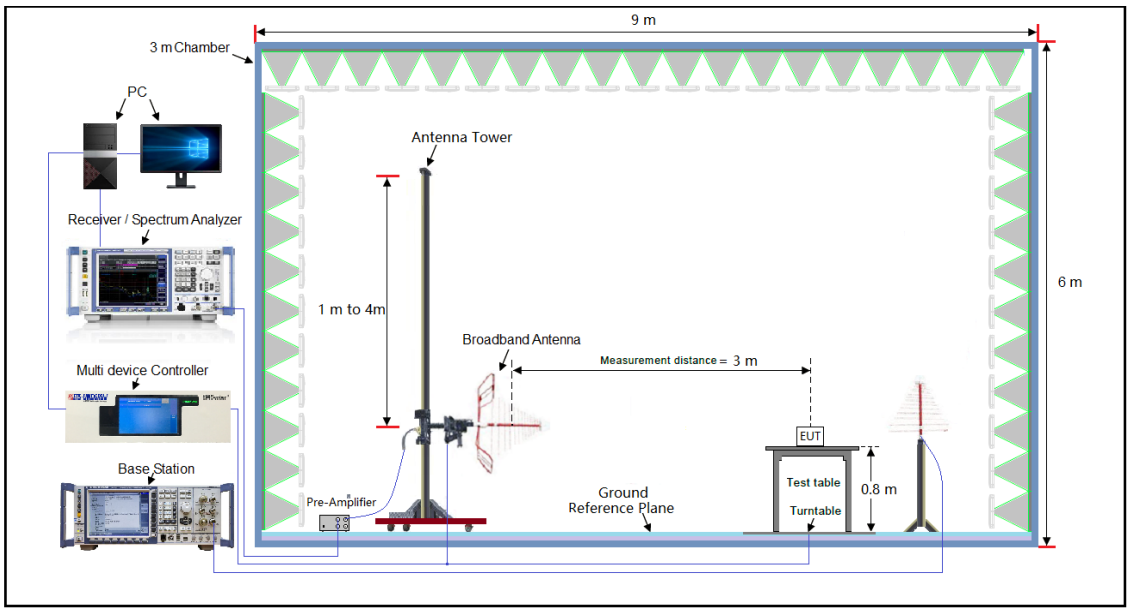
1) The EUT just work in such extreme temperature of -30 °C to +50 °C and the extreme voltage of 3.5 V to 4.35 V, so here the EUT is tested in the temperature of -30 °C to +50 °C and the voltage of 3.5 V to 4.35 V.
2) VN: Normal Voltage; TN: Normal Temperature;
TL: Low Extreme Test Temperature; TH: High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

4.2 TEST SETUP

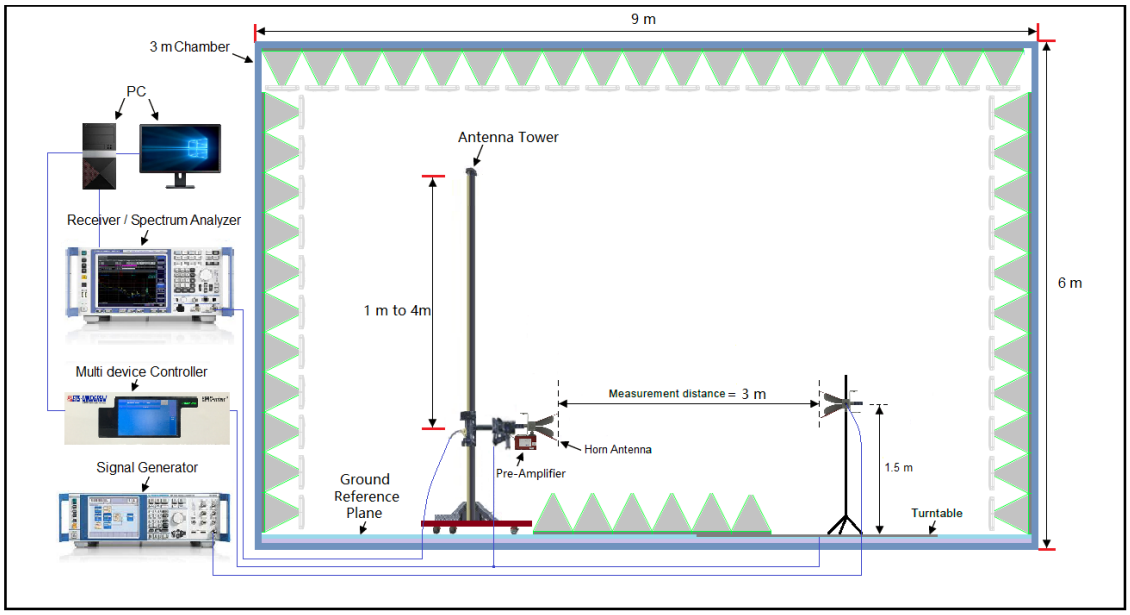
4.2.1 For Radiated Emissions test setup

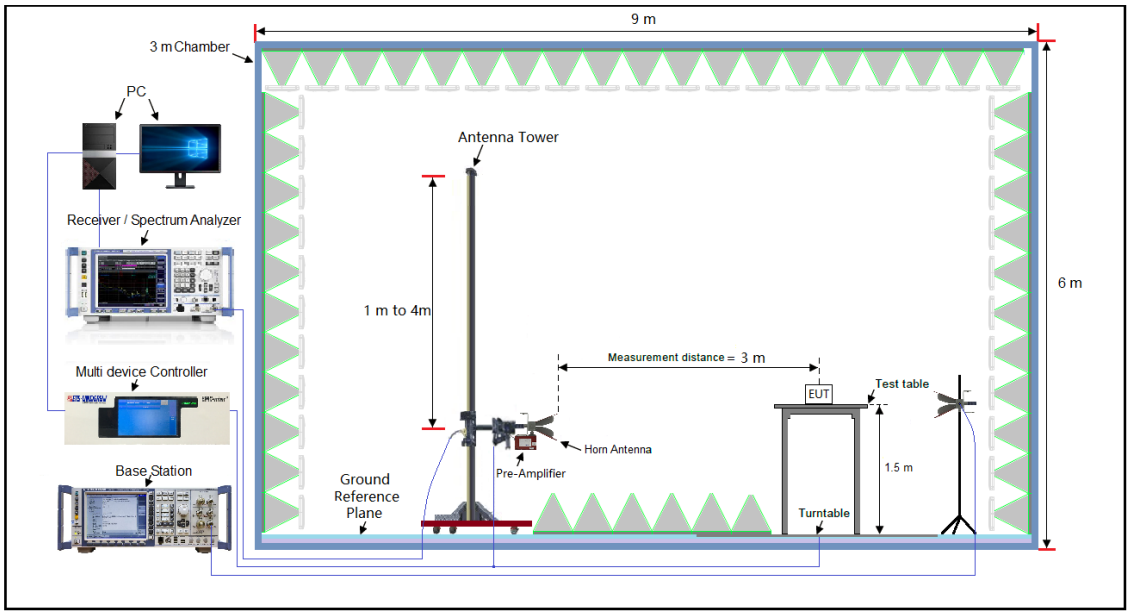
Setup - 1_ERP Test setup



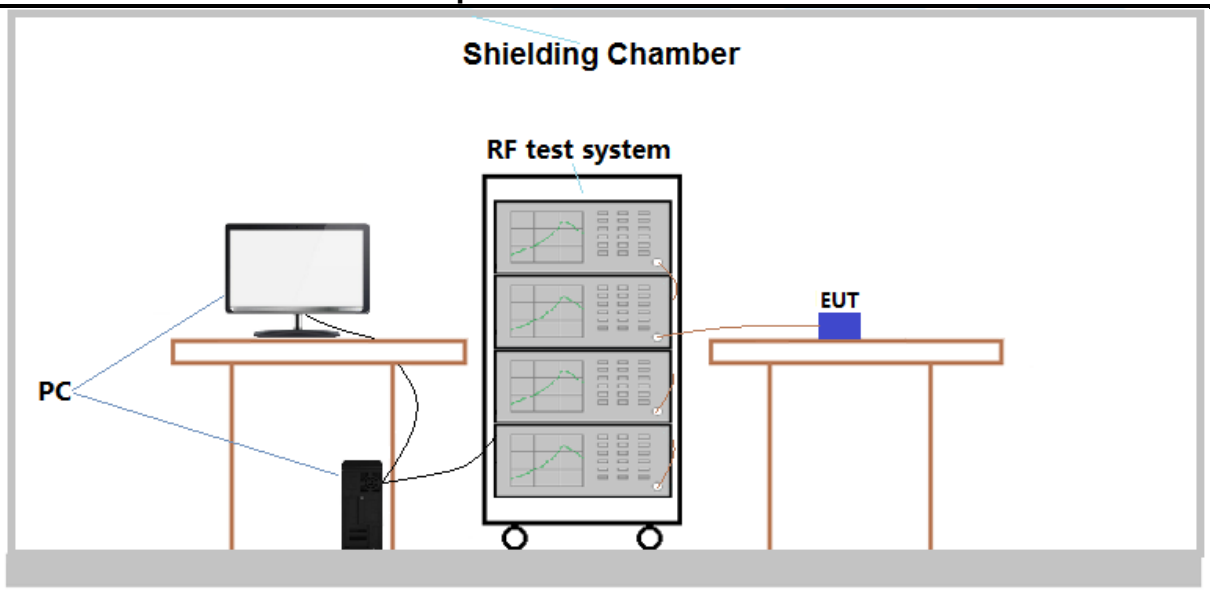


Setup - 2_EIRP Test setup

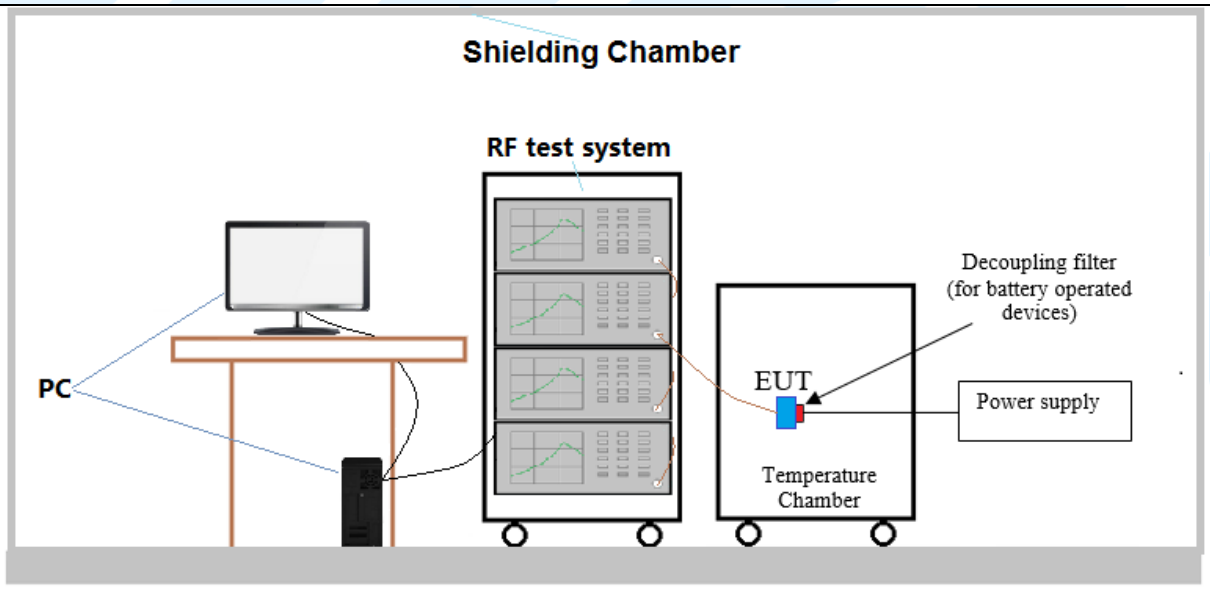




4.2.2 For Conducted RF test setup



Normal Environment



Extreme Environment

4.3 TEST CHANNELS

Band	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

Band	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink (MHz)
LTE Band 4 TX:1710-1755MHz	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Middle Range	1.4/3/5/10/ 15/20	20175	1732.5
	High Range	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE Band 7 TX:2500-2570MHz	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
	Middle Range	5/10/15/20	21100	2535
	High Range	5	21425	2567.5
		10	21400	2565
		15	21375	2562.5
		20	21350	2560
LTE Band 12 TX:699-716MHz	Low Range	1.4	23017	699.7
		3	23025	700.5
		5	23035	701.5
		10	23060	704
	Middle Range	1.4/3/5/10	23095	707.5
	High Range	1.4	23173	715.3
		3	23165	714.5
		5	23155	713.5
		10	23130	711
LTE Band 17 TX:704-716MHz	Low Range	5	23755	706.5
		10	23780	709
	Middle Range	5/10	23790	710
	High Range	5	23825	713.5
		10	23800	711

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 3.8V 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.
The worst case was found when positioned as the table below.

Band	Mode	Antenna Port	Worst-case axis positioning
WCDMA Band IV	1TX	Chain 0	Y axis
LTE Band 4	1TX	Chain 0	Y axis
LTE Band 7	1TX	Chain 0	Y axis
LTE Band 12	1TX	Chain 0	Y axis
LTE Band 17	1TX	Chain 0	Y axis

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.

WCDMA Band IV

WCDMA Band IV Maximum Average Power (dBm)			
Channel	**1312**	**1412**	**1513**
Frequency(MHz)	**1712.4 MHz**	**1732.4 MHz**	**1752.6 MHz**
RMC 12.2K	21.44	**21.62**	21.60
HSDPA Subtest-1	20.47	20.55	20.65
HSDPA Subtest-2	20.42	20.41	20.43
HSDPA Subtest-3	19.96	20.02	20.18
HSDPA Subtest-4	19.95	19.88	19.97
HSUPA Subtest-1	20.45	20.46	20.49
HSUPA Subtest-2	18.47	18.45	18.51
HSUPA Subtest-3	19.48	19.51	19.54
HSUPA Subtest-4	18.02	18.03	18.07
HSUPA Subtest-5	20.54	20.54	20.54
DC-HSDPA Subtest-1	20.39	20.51	20.60
DC-HSDPA Subtest-2	20.39	20.35	20.41
DC-HSDPA Subtest-3	19.94	19.95	20.13
DC-HSDPA Subtest-4	19.89	19.80	19.95

LTE Band 4

LTE Band 4 Maximum Average Power (dBm)										
Modulation	**RB**		**Test Channel**			**RB**		**Test Channel**		
	Size	**Offset**	**Low**	**Mid**	**High**	**Size**	**Offset**	**Low**	**Mid**	**High**
	Channel Bandwidth: 1.4 MHz					**Channel Bandwidth: 3 MHz**				
QPSK	1	0	20.89	21.04	21.07	1	0	20.88	20.96	21.04
	1	2	21.44	**21.53**	21.53	1	7	21.37	**21.49**	21.46
	1	5	21.10	20.99	21.16	1	14	21.04	21.00	21.10
	3	0	21.33	21.22	21.41	8	0	20.22	20.19	20.30
	3	1	21.33	21.28	21.45	8	3	20.31	20.24	20.38
	3	3	21.44	21.30	21.39	8	7	20.39	20.38	20.53
	6	0	20.17	20.32	20.45	15	0	20.22	20.40	20.45
16QAM	1	0	20.32	20.45	20.32	1	0	20.44	20.33	20.22
	1	2	20.87	20.72	20.74	1	7	20.88	20.78	20.85
	1	5	20.59	20.37	20.68	1	14	20.46	20.39	20.53
	3	0	20.31	20.31	20.35	8	0	19.30	19.21	19.35
	3	1	20.29	20.33	20.41	8	3	19.24	19.23	19.41
	3	3	20.24	20.23	20.37	8	7	19.44	19.26	19.42
	6	0	19.30	19.33	19.27	15	0	19.28	19.32	19.37

LTE Band 4 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	20.92	20.94	21.16	1	0	20.97	20.88	21.03
	1	12	21.39	21.44	**21.59**	1	24	21.29	21.41	**21.48**
	1	24	21.14	21.00	21.22	1	49	21.00	21.01	21.09
	12	0	20.18	20.20	20.33	25	0	20.16	20.23	20.34
	12	6	20.33	20.33	20.33	25	12	20.26	20.19	20.47
	12	13	20.42	20.38	20.47	25	25	20.27	20.37	20.58
	25	0	20.27	20.34	20.37	50	0	20.25	20.36	20.50
16QAM	1	0	20.37	20.35	20.22	1	0	20.33	20.37	20.25
	1	12	20.89	20.81	20.77	1	24	20.83	20.67	20.70
	1	24	20.44	20.46	20.53	1	49	20.46	20.39	20.54
	12	0	19.27	19.31	19.23	25	0	19.33	19.21	19.38
	12	6	19.32	19.27	19.36	25	12	19.28	19.26	19.30
	12	13	19.36	19.29	19.27	25	25	19.42	19.31	19.43
	25	0	19.30	19.27	19.26	50	0	19.46	19.19	19.37
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	20.93	21.01	21.03	1	0	21.01	21.06	21.17
	1	37	21.30	21.42	**21.57**	1	50	21.45	21.60	**21.63**
	1	74	21.04	21.05	21.22	1	99	21.17	21.14	21.26
	37	0	20.22	20.28	20.40	50	0	20.35	20.37	20.49
	37	19	20.25	20.32	20.38	50	25	20.34	20.38	20.51
	37	39	20.42	20.42	20.42	50	50	20.44	20.42	20.58
	75	0	20.34	20.24	20.31	100	0	20.36	20.40	20.51
16QAM	1	0	20.50	20.38	20.38	1	0	20.51	20.51	20.41
	1	37	20.91	20.79	20.73	1	50	20.98	20.84	20.86
	1	74	20.55	20.46	20.54	1	99	20.60	20.53	20.71
	37	0	19.37	19.24	19.30	50	0	19.39	19.34	19.43
	37	19	19.24	19.36	19.26	50	25	19.38	19.40	19.45
	37	39	19.24	19.32	19.44	50	50	19.44	19.42	19.46
	75	0	19.41	19.15	19.43	100	0	19.46	19.35	19.45

LTE Band 7

LTE Band 7 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	20.66	20.44	20.59	1	0	20.71	20.59	20.53
	1	12	**21.02**	21.00	20.94	1	24	**21.00**	20.93	20.89
	1	24	20.62	20.59	20.38	1	49	20.50	20.60	20.44
	12	0	19.68	19.82	19.92	25	0	19.70	19.81	19.92
	12	6	19.85	19.95	19.79	25	12	19.79	19.82	19.90
	12	13	19.81	19.84	19.74	25	25	19.71	19.90	19.81
	25	0	19.66	19.78	19.77	50	0	19.64	19.73	19.74
16QAM	1	0	19.98	19.97	19.79	1	0	19.95	20.03	19.93
	1	12	20.26	20.41	20.28	1	24	20.23	20.38	20.33
	1	24	19.94	19.94	19.84	1	49	19.86	20.03	19.79
	12	0	18.60	18.85	18.92	25	0	18.66	18.80	18.91
	12	6	18.81	18.75	18.87	25	12	18.85	18.78	18.70
	12	13	18.64	18.82	18.81	25	25	18.70	18.84	18.83
	25	0	18.75	18.75	18.76	50	0	18.61	18.83	18.81
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	20.61	20.62	20.60	1	0	20.74	20.63	20.61
	1	37	20.92	**20.93**	20.84	1	50	21.06	**21.07**	20.97
	1	74	20.53	20.42	20.34	1	99	20.63	20.61	20.54
	37	0	19.78	19.80	19.73	50	0	19.84	19.83	19.92
	37	19	19.88	19.80	19.84	50	25	19.91	19.99	19.91
	37	39	19.81	19.93	19.75	50	50	19.84	19.98	19.84
	75	0	19.74	19.69	19.66	100	0	19.79	19.87	19.86
16QAM	1	0	19.93	19.91	19.87	1	0	20.00	20.06	19.98
	1	37	20.22	20.42	20.39	1	50	20.38	20.48	20.40
	1	74	19.95	19.96	19.81	1	99	20.02	20.06	19.96
	37	0	18.63	18.84	18.86	50	0	18.77	18.87	18.98
	37	19	18.83	18.80	18.79	50	25	18.85	18.91	18.89
	37	39	18.72	18.77	18.81	50	50	18.77	18.97	18.84
	75	0	18.74	18.82	18.91	100	0	18.79	18.93	18.94

LTE Band 12

LTE Band 12 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
	Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
QPSK	1	0	21.70	21.52	21.58	1	0	21.58	21.51	21.57
	1	2	**21.84**	21.75	21.83	1	7	21.74	21.66	**21.92**
	1	5	21.65	21.60	21.72	1	14	21.76	21.66	21.76
	3	0	21.73	21.84	21.79	8	0	20.65	20.71	20.76
	3	1	21.62	21.71	21.67	8	3	20.61	20.64	20.75
	3	3	21.58	21.80	21.67	8	7	20.58	20.78	20.72
	6	0	20.71	20.65	20.80	15	0	20.71	20.73	20.74
16QAM	1	0	20.96	20.56	20.59	1	0	20.91	20.53	20.55
	1	2	21.07	20.67	20.60	1	7	21.10	20.80	20.69
	1	5	20.95	20.54	20.54	1	14	20.99	20.50	20.42
	3	0	20.76	20.80	20.94	8	0	19.78	19.91	19.84
	3	1	20.73	20.93	20.86	8	3	19.89	19.83	19.82
	3	3	20.75	20.93	20.75	8	7	19.89	19.81	19.87
	6	0	19.78	19.81	19.88	15	0	19.85	19.89	19.80
	Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
QPSK	1	0	21.55	21.54	21.67	1	0	21.75	21.70	21.73
	1	12	21.88	21.71	**21.90**	1	24	21.93	21.78	**21.97**
	1	24	21.67	21.55	21.75	1	49	21.79	21.71	21.81
	12	0	20.65	20.79	20.71	25	0	20.80	20.86	20.89
	12	6	20.70	20.78	20.79	25	12	20.79	20.79	20.82
	12	13	20.65	20.68	20.63	25	25	20.78	20.85	20.82
	25	0	20.61	20.62	20.75	50	0	20.74	20.77	20.86
16QAM	1	0	21.03	20.61	20.53	1	0	21.09	20.65	20.60
	1	12	20.99	20.83	20.64	1	24	21.14	20.86	20.75
	1	24	21.07	20.51	20.51	1	49	21.11	20.67	20.54
	12	0	19.80	19.95	19.86	25	0	19.80	19.98	19.97
	12	6	19.82	19.88	19.83	25	12	19.90	20.01	19.94
	12	13	19.90	19.93	19.86	25	25	19.91	20.00	19.92
	25	0	19.73	19.76	19.88	50	0	19.86	19.90	19.91

LTE Band 17

LTE Band 17 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
	Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
QPSK	1	0	21.74	21.68	21.63	1	0	21.77	21.78	21.74
	1	12	21.69	21.71	**21.80**	1	24	21.83	**21.88**	21.84
	1	24	21.60	21.72	21.67	1	49	21.78	21.79	21.73
	12	0	20.79	20.83	20.70	25	0	20.90	20.97	20.85
	12	6	20.73	20.85	20.65	25	12	20.85	20.86	20.84
	12	13	20.66	20.73	20.63	25	25	20.86	20.86	20.83
	25	0	20.81	20.76	20.68	50	0	20.87	20.88	20.81
16QAM	1	0	20.54	21.01	20.72	1	0	20.60	21.08	20.77
	1	12	20.68	21.14	20.80	1	24	20.75	21.26	20.82
	1	24	20.48	20.87	20.43	1	49	20.53	20.95	20.63
	12	0	19.88	19.88	19.84	25	0	19.97	20.00	20.03
	12	6	19.76	19.85	19.85	25	12	19.92	19.97	20.01
	12	13	19.87	19.86	19.81	25	25	19.98	19.97	19.97
	25	0	19.83	19.85	19.96	50	0	19.93	19.97	19.97

Pre-scan all bandwidth and RB, find worse case mode are chosen to the report, the worse mode applicability and tested channel detail as below:

Band	Radiated	Conducted
WCDMA Band IV	RMC 12.2Kbps Link	RMC 12.2Kbps Link

LTE worse case mode applicability and tested channel detail as below:

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
ERP/EIRP	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
Conducted output power	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☒	☒	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☒	☒	☒	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☒	☒	☒	☒	☒	☒
99%&26dB Bandwidth	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☐	☐	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☐	☐	☒	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☐	☐	☒	☒	☒	☒
peak-to-average ratio	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☐	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☒	☐	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☒	☒
Band Edge at antenna terminals	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☐	☒	☒	☐	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☒	☐	☒	☒	☐	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☐	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☐	☒
Spurious emissions at antenna terminals	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
Field	4	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☐	☐	☐	☒	☐

strength of spurious radiation	7	-	-	☒	☒	☒	☒	☒	☐	☐	☒	☐	☐	☐	☒	☐
	12	☒	☒	☒	☒	-	-	☒	☐	☐	☒	☐	☐	☐	☒	☐
	17	-	-	☒	☒	-	-	☒	☐	☐	☒	☐	☐	☐	☒	☐
Frequency stability	4	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	7	-	-	☒	☒	☒	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	12	☒	☒	☒	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	17	-	-	☒	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
Remark: The mark "☒" means is chosen for testing; The mark "☐" means is not chosen for testing; The mark "-" means is not supported bandwidth																

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2 Subpart J	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 27	Miscellaneous Wireless Communications Services
3	ANSI/TIA-603-E-2016	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
4	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01

5.2 ERP OR EIRP

Test Requirement: FCC 47 CFR Part 2.1046(a)
WCDMA Band IV & LTE Band 4: FCC 47 CFR Part 27.50(d)(4)
LTE Band 7: FCC 47 CFR Part 27.50(h)(2)
LTE Band 12 & Band 17: FCC 47 CFR Part 27.50(c)(10)

Test Method: KDB 971168 D01v03r01 & ANSI/TIA-603-E-2016

Limit:

FCC 47 CFR Part 27.50(c)(10): Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

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.

FCC 47 CFR Part 27.50(h)(2): Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure:

Test procedure as below:

1) The EUT was powered ON and placed on a 0.8/1.5m high table at a 3 meter semi/fully Anechoic Chamber. The antenna of the transmitter was extended to its maximum length. Modulation mode and the measuring receiver shall be tuned to the frequency of the transmitter under test.
2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
4) Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
5) The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
6) A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions.
7) The output power into the substitution antenna was then measured.
8) Steps 6) and 7) were repeated with both antennas polarized.
9) Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)
EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)
EIRP=ERP+2.15dB

where:
Pg is the generator output power into the substitution antenna.

10) Test the EUT in the lowest channel, the middle channel the Highest channel
11) The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode, and found the Y axis positioning which it is worse case.
12) Repeat above procedures until all frequencies measured was complete.

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark

30MHz-1GHz	Peak	100kHz	300kHz	Peak
Above 1GHz	Peak	1MHz	3MHz	Peak

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

WCDMA Band IV

Channel	WCDMA Maximum EIRP (dBm)	Limit (dBm)	Result
Lowest	25.68	30.00	Pass
Middle	25.86	30.00	Pass
Highest	25.84	30.00	Pass

LTE Band 4

Maximum EIRP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 1.4MHz					
Lowest	25.69	25.12	N/A	30.00	Pass
Middle	25.78	24.97	N/A	30.00	Pass
Highest	25.78	24.99	N/A	30.00	Pass
Channel Bandwidth: 3MHz					
Lowest	25.62	25.13	N/A	30.00	Pass
Middle	25.74	25.03	N/A	30.00	Pass
Highest	25.71	25.10	N/A	30.00	Pass
Channel Bandwidth: 5MHz					
Lowest	25.64	25.14	N/A	30.00	Pass
Middle	25.69	25.06	N/A	30.00	Pass
Highest	25.84	25.02	N/A	30.00	Pass
Channel Bandwidth: 10MHz					
Lowest	25.54	25.08	N/A	30.00	Pass
Middle	25.66	24.92	N/A	30.00	Pass
Highest	25.73	24.95	N/A	30.00	Pass
Channel Bandwidth: 15MHz					
Lowest	25.55	25.16	N/A	30.00	Pass
Middle	25.67	25.04	N/A	30.00	Pass
Highest	25.82	24.98	N/A	30.00	Pass
Channel Bandwidth: 20MHz					
Lowest	25.70	25.23	N/A	30.00	Pass
Middle	25.85	25.09	N/A	30.00	Pass
Highest	25.88	25.11	N/A	30.00	Pass

LTE Band 7

Maximum EIRP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 5MHz					
Lowest	25.18	24.42	N/A	33.01	Pass
Middle	25.16	24.57	N/A	33.01	Pass
Highest	25.10	24.44	N/A	33.01	Pass
Channel Bandwidth: 10MHz					
Lowest	25.16	24.39	N/A	33.01	Pass
Middle	25.09	24.54	N/A	33.01	Pass
Highest	25.05	24.49	N/A	33.01	Pass
Channel Bandwidth: 15MHz					
Lowest	25.08	24.38	N/A	33.01	Pass
Middle	25.09	24.58	N/A	33.01	Pass
Highest	25.00	24.55	N/A	33.01	Pass
Channel Bandwidth: 20MHz					
Lowest	25.22	24.54	N/A	33.01	Pass
Middle	25.23	24.64	N/A	33.01	Pass
Highest	25.13	24.56	N/A	33.01	Pass

LTE Band 12

Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 1.4MHz					
Lowest	21.02	20.25	N/A	34.77	Pass
Middle	20.98	20.11	N/A	34.77	Pass
Highest	21.01	20.12	N/A	34.77	Pass
Channel Bandwidth: 3MHz					
Lowest	20.94	20.28	N/A	34.77	Pass
Middle	20.84	19.98	N/A	34.77	Pass
Highest	21.10	19.87	N/A	34.77	Pass
Channel Bandwidth: 5MHz					
Lowest	21.06	20.25	N/A	34.77	Pass
Middle	20.89	20.01	N/A	34.77	Pass
Highest	21.08	19.82	N/A	34.77	Pass
Channel Bandwidth: 10MHz					
Lowest	21.11	20.32	N/A	34.77	Pass
Middle	20.96	20.04	N/A	34.77	Pass
Highest	21.15	19.93	N/A	34.77	Pass

LTE Band 17

Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 5MHz					
Lowest	20.87	19.81	N/A	34.77	Pass
Middle	20.85	20.27	N/A	34.77	Pass
Highest	20.93	19.93	N/A	34.77	Pass
Channel Bandwidth: 10MHz					
Lowest	20.96	19.88	N/A	34.77	Pass
Middle	21.01	20.39	N/A	34.77	Pass
Highest	20.97	19.95	N/A	34.77	Pass

5.3 CONDUCTED OUTPUT POWER

Test Requirement: FCC 47 CFR Part 2.1046(a)
WCDMA Band IV & LTE Band 4: FCC 47 CFR Part 27.50(d)(4)
LTE Band 7: FCC 47 CFR Part 27.50(h)(2)
LTE Band 12 & Band 17: FCC 47 CFR Part 27.50(c)(10)

Test Method: KDB 971168 D01v03r01 & ANSI/TIA-603-E-2016

Limit:

FCC 47 CFR Part 27.50(c)(10): Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

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.

FCC 47 CFR Part 27.50(h)(2): Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure:

The EUT was set up for the maximum power with WCDMA 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:	**WCDMA Band IV & LTE Band 4:** FCC 47 CFR Part 27.50(d)(5) **LTE Band 7:** FCC 47 CFR Part 27.50(d)(5) **LTE Band 12 & Band 17:** FCC 47 CFR Part 27.50(d)(5)
Test Method:	KDB 971168 D01v03r01
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 ≥ 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

WCDMA Band IV

Channel	WCDMA RMC 12.2Kbps	HSDPA	HSUPA	Limit (dBm)	Result
Lowest	3.04	3.74	3.36	13	Pass
Middle	1.86	2.38	2.58	13	Pass
Highest	2.93	3.22	3.45	13	Pass

The test plot as follows:

WCDMA RMC 12.2Kbps	HSDPA
Lowest Channel	
	

Middle Channel

Date: 30.AUG.2018 22:59:02

Date: 30.AUG.2018 23:03:11

Highest Channel

Date: 30.AUG.2018 22:59:51

Date: 30.AUG.2018 23:03:47

HSUPA	
Lowest Channel	**Middle Channel**
 Date: 30.AUG.2018 23:07:59	 Date: 30.AUG.2018 23:12:19
Highest Channel	
 Date: 6.SEP.2018 20:54:18	N/A

LTE Band 4

Peak-to-average ratio (dB)						
Channel	RB Configuration	Channel Bandwidth: 20 MHz			Limit (dB)	Result
		QPSK	16QAM	64QAM		
Lowest	1 RB	5.28	5.80	N/A	13	Pass
	Full RB	4.06	5.77	N/A	13	Pass
Middle	1 RB	3.33	4.35	N/A	13	Pass
	Full RB	3.59	5.36	N/A	13	Pass
Highest	1 RB	3.59	4.43	N/A	13	Pass
	Full RB	3.74	5.51	N/A	13	Pass

LTE Band 4 / 20MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 4 / 20MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 7

Peak-to-average ratio (dB)						
Channel	RB Configuration	Channel Bandwidth: 20 MHz			Limit (dB)	Result
		QPSK	16QAM	64QAM		
Lowest	1 RB	4.09	5.28	N/A	13	Pass
	Full RB	3.97	5.74	N/A	13	Pass
Middle	1 RB	4.46	5.25	N/A	13	Pass
	Full RB	4.09	5.86	N/A	13	Pass
Highest	1 RB	5.30	6.09	N/A	13	Pass
	Full RB	4.29	5.97	N/A	13	Pass