

# VARIANT FCC TEST REPORT

## (PART 27)

Applicant:	Power Idea Technology (Shenzhen) Co., Ltd.
Address:	4th Floor, A Section, Languang Science&technology Building, No.7 Xinxi RD, Hi-Tech Industrial Park North, Nanshan District, ShenZhen, P.R.C.

Manufacturer or Supplier:	Power Idea Technology (Shenzhen) Co., Ltd.
Address:	4th Floor, A Section, Languang Science&technology Building, No.7 Xinxi RD, Hi-Tech Industrial Park North, Nanshan District, ShenZhen, P.R.C.
Product:	Smartphone
Brand Name:	RugGear
Model Name:	PSH02G
Marketing Name:	RG540
FCC ID:	ZLE-RG540
Date of tests:	Nov. 24, 2022 ~ Feb. 03, 2023

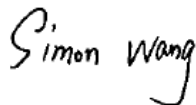
The tests have been carried out according to the requirements of the following standard:

- FCC Part 27     ANSI/TIA/EIA-603-D  
 FCC Part 2     ANSI/TIA/EIA-603-E     ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

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Engineer / Mobile Department

Approved by Luke Lu  
Manager / Mobile Department



Date: Mar. 14, 2023



Date: Mar. 14, 2023

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



## TABLE OF CONTENTS

<b>RELEASE CONTROL RECORD</b> .....	<b>4</b>
<b>1 SUMMARY OF TEST RESULTS</b> .....	<b>5</b>
1.1 MEASUREMENT UNCERTAINTY .....	7
1.2 TEST SITE AND INSTRUMENTS .....	8
<b>2 GENERAL INFORMATION</b> .....	<b>10</b>
2.1 GENERAL DESCRIPTION OF EUT .....	10
2.2 CONFIGURATION OF SYSTEM UNDER TEST .....	17
2.3 DESCRIPTION OF SUPPORT UNITS .....	18
2.4 TEST ITEM AND TEST CONFIGURATION .....	18
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS .....	26
<b>3 TEST TYPES AND RESULTS</b> .....	<b>27</b>
3.1 OUTPUT POWER MEASUREMENT .....	27
3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT .....	27
3.1.2 TEST PROCEDURES .....	27
3.1.3 TEST SETUP .....	28
3.1.4 TEST RESULTS .....	29
3.2 FREQUENCY STABILITY MEASUREMENT .....	57
3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT .....	57
3.2.2 TEST PROCEDURE .....	57
3.2.3 TEST SETUP .....	57
3.2.4 TEST RESULTS .....	58
3.3 OCCUPIED BANDWIDTH MEASUREMENT .....	62
3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT .....	62
3.3.2 TEST SETUP .....	62
3.3.3 TEST PROCEDURES .....	62
3.3.4 TEST RESULTS .....	63
3.4 BAND EDGE MEASUREMENT .....	64
3.4.1 LIMITS OF BAND EDGE MEASUREMENT .....	64
3.4.2 TEST SETUP .....	65
3.4.3 TEST PROCEDURES .....	66
3.4.4 TEST RESULTS .....	66
3.5 CONDUCTED SPURIOUS EMISSIONS .....	67
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT .....	67
3.5.2 TEST PROCEDURE .....	67
3.5.3 TEST SETUP .....	67
3.5.4 TEST RESULTS .....	68
3.6 RADIATED EMISSION MEASUREMENT .....	69
3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT .....	69
3.6.2 TEST PROCEDURES .....	69
3.6.3 DEVIATION FROM TEST STANDARD .....	69
3.6.4 TEST SETUP .....	70
3.6.5 TEST RESULTS .....	72
3.7 PEAK TO AVERAGE RATIO .....	142
3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT .....	142
3.7.2 TEST SETUP .....	142
3.7.3 TEST PROCEDURES .....	142
3.7.4 TEST RESULTS .....	143
<b>4 INFORMATION ON THE TESTING LABORATORIES</b> .....	<b>144</b>



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**Test Report No.: W7L-P23030016RF08**

**5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB. 145**

**6 APPENDIX ..... 146**

LTE BAND CA\_7C ..... 146

LTE BAND CA\_41C (INCLUDING LTE BAND CA\_38C)..... 186

LTE BAND CA\_42C ..... 236



Test Report No.: W7L-P23030016RF08

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P22110036RF08	Original release	Feb. 03, 2023
W7L-P23030016RF08	Based on the original product changing the model name and FCC ID, marketing name, brand name, applicant and manufacturer information and battery model.	Mar. 14, 2023



# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
§2.1046	Conducted Output Power	See Note	A
§27.50(h)(2) §27.50(k)(3)	Equivalent Isotropically Radiated Power (Band 7C) (Band 38C) (Band 41C) (Band 42C)	See Note	A
§2.1055 §27.54	Frequency Stability	See Note	A
§2.1049	Occupied Bandwidth	See Note	A
§2.1051 §27.53(m)(4)(6) §27.53(n)(2)	Conducted Band Edge Measurements (Band 7C) (Band 38C) (Band 41C) (Band 42C)	See Note	A
§2.1051 §27.53(m)(4)(6) §27.53(n)(2)	Conducted Spurious Emissions (Band 7C) (Band 38C) (Band 41C) (Band 42C)	See Note	A
§2.1051 §27.53(m)(4)(6) §27.53(n)(2)	Radiated Spurious Emissions (Band 7C) (Band 38C) (Band 41C) (Band 42C)	See Note	A/B
NA	Peak to average ratio	See Note	A

**NOTE:** Please refer to the original report W7L-P22110036RF08, FCC ID: 2AACZ-M540A01.



Test Report No.: W7L-P23030016RF08

**\*Test Lab Information Reference**

**Lab A:**

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

**Lab Address:**

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

**Accredited Test Lab Cert 3939.01**

**FCC Site Registration No. : 525120; Designation No. : CN1171;**

**Lab B:**

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

**Lab Address:**

Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

**Accredited Test Lab Cert 6613.01**

**The FCC Site Registration No. is 434559; The Designation No. is CN1325.**

## 1.1 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:

MEASUREMENT	UNCERTAINTY
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 21,22	Feb. 20,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.04,22	Sep.03,23
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Mar. 06,22	Mar. 05,23
Horn Antenna	ETS-LINDGRE N	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Aug. 24, 22	Aug. 23, 23
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 15,22	Feb. 14,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 21,22	Feb.20,23
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn- CT0001143-121 6	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 07,22	May. 06,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
Power Sensor	Anritsu	MA2411B	1339352	May. 07,22	May. 06,23
Temperature Chamber	ESPEC	SH-242	93000855	May. 12,22	May. 11,23
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 18,22	Feb. 17,23
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.12,22	May.11,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 24,22	Aug. 23,23

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
  2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
  3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.





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**Test Report No.: W7L-P23030016RF08**

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Vector Signal Generator	R&S	SMBV100B	102176	Feb.16,22	Feb.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.25,22	Feb.24,24
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Oct.01,22	Sep.30,24
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Oct.31,22	Apr.29,23
CABLE	R&S	W12.14	N/A	Oct.31,22	Apr.29,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.31,22	Apr.29,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.31,22	Apr.29,23
Temperature Chamber	votsch	VT4002	58566078100050	May.31,22	May.30,24

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
  2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
  3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Smartphone	
<b>BRAND NAME</b>	RugGear	
<b>MODEL NAME</b>	PSH02G	
<b>MARKETING NAME</b>	RG540	
<b>NOMINAL VOLTAGE</b>	5.0Vdc(adapter or host equipment) 3.7Vdc (Li-ion, battery)	
<b>MODULATION TECHNOLOGY</b>	<b>LTE</b>	QPSK, 16QAM, 64QAM
<b>FREQUENCY RANGE</b>	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	2505.5MHz ~ 2560MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	2507.5MHz ~ 2564.7MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	2507.8MHz ~ 2560MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	2510MHz ~ 2564.5MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	2510MHz ~ 2562.2MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	2510MHz ~ 2560MHz
	LTE Band CA_38C Channel Bandwidth: 15MHz+15MHz	2577.5MHz ~ 2612.5MHz
	LTE Band CA_38C Channel Bandwidth: 20MHz+20MHz	2580.5MHz ~ 2610MHz
	LTE Band CA_41C Channel Bandwidth: 5MHz+20MHz	2499.3MHz ~ 2680MHz
	LTE Band CA_41C Channel Bandwidth: 10MHz+15MHz	2501.3MHz ~ 2682.5MHz



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Test Report No.: W7L-P23030016RF08

<b>FREQUENCY RANGE</b>	LTE Band CA_41C Channel Bandwidth: 10MHz+20MHz	2501.5MHz ~ 2680MHz
	LTE Band CA_41C Channel Bandwidth: 15MHz+10MHz	2503.5MHz ~ 2684.7MHz
	LTE Band CA_41C Channel Bandwidth: 15MHz+15MHz	2496MHz ~ 2682.5MHz
	LTE Band CA_41C Channel Bandwidth: 15MHz+20MHz	2503.8MHz ~ 2680MHz
	LTE Band CA_41C Channel Bandwidth: 20MHz+5MHz	2506MHz ~ 2686.7MHz
	LTE Band CA_41C Channel Bandwidth: 20MHz+10MHz	2506MHz ~ 2684.5MHz
	LTE Band CA_41C Channel Bandwidth: 20MHz+15MHz	2506MHz ~ 2682.2MHz
	LTE Band CA_41C Channel Bandwidth: 20MHz+20MHz	2506MHz ~ 2680MHz
	LTE Band CA_42C Channel Bandwidth: 5MHz+20MHz	3453.3MHz ~ 3540MHz
	LTE Band CA_42C Channel Bandwidth: 20MHz +5MHz	3460MHz ~ 3546.7MHz
	LTE Band CA_42C Channel Bandwidth: 10MHz +20MHz	3455.5MHz ~ 3540MHz
	LTE Band CA_42C Channel Bandwidth: 20MHz +10MHz	3460MHz ~ 3544.5MHz
	LTE Band CA_42C Channel Bandwidth: 15MHz +20MHz	3457.8MHz ~ 3540MHz
	LTE Band CA_42C Channel Bandwidth: 20MHz +15MHz	3460MHz ~ 3542.2MHz
	LTE Band CA_42C Channel Bandwidth: 20MHz +20MHz	3460MHz ~ 3540MHz
	<b>MAX. EIRP or EPR POWER</b>	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz



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Test Report No.: W7L-P23030016RF08

<b>MAX. EIRP or EPR POWER</b>	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	144.88mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	147.57mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	149.62mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	149.28mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	152.41mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	153.11mW
	LTE Band CA_38C Channel Bandwidth: 15MHz+15MHz	133.05mW
	LTE Band CA_38C Channel Bandwidth: 20MHz+20MHz	135.21mW
	LTE Band CA_41C Channel Bandwidth: 5MHz+20MHz	129.72mW
	LTE Band CA_41C Channel Bandwidth: 20MHz+5MHz	130.32mW
	LTE Band CA_41C Channel Bandwidth: 10MHz+15MHz	129.72mW
	LTE Band CA_41C Channel Bandwidth: 15MHz+10MHz	131.52mW
	LTE Band CA_41C Channel Bandwidth: 15MHz+15MHz	130.62mW
	LTE Band CA_41C Channel Bandwidth: 10MHz+20MHz	130.02mW
	LTE Band CA_41C Channel Bandwidth: 20MHz+10MHz	130.62mW
	LTE Band CA_41C Channel Bandwidth: 15MHz+20MHz	129.72mW



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VERITAS**

Test Report No.: W7L-P23030016RF08

<b>MAX. EIRP or EPR POWER</b>	LTE Band CA_41C Channel Bandwidth: 20MHz+15MHz	131.22mW
	LTE Band CA_41C Channel Bandwidth: 20MHz+20MHz	132.13mW
	LTE Band CA_42C Channel Bandwidth: 5MHz+20MHz	135.52mW
	LTE Band CA_42C Channel Bandwidth: 20MHz +5MHz	134.28mW
	LTE Band CA_42C Channel Bandwidth: 10MHz +20MHz	135.52mW
	LTE Band CA_42C Channel Bandwidth: 20MHz +10MHz	135.21mW
	LTE Band CA_42C Channel Bandwidth: 15MHz +20MHz	133.97mW
	LTE Band CA_42C Channel Bandwidth: 20MHz +15MHz	134.59mW
	LTE Band CA_42C Channel Bandwidth: 20MHz +20MHz	137.09mW
	<b>EMISSION DESIGNATOR</b>	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz
16QAM: 28M0W7D		
64QAM: 28M0W7D		
LTE Band CA_7C Channel Bandwidth: 15MHz +10MHz		QPSK: 23M5G7D
		16QAM: 23M5W7D
		64QAM: 23M5W7D
LTE Band CA_7C Channel Bandwidth: 15MHz +15MHz		QPSK: 28M6G7D
		16QAM: 28M7W7D
		64QAM: 28M6W7D
LTE Band CA_7C Channel Bandwidth: 15MHz +20MHz		QPSK: 32M9G7D
		16QAM: 33M0W7D
		64QAM: 33M0W7D
LTE Band CA_7C Channel Bandwidth: 20MHz +10MHz	QPSK: 28M1G7D	
	16QAM: 28M1W7D	
	64QAM: 28M1W7D	

<b>EMISSION DESIGNATOR</b>	LTE Band CA_7C Channel Bandwidth: 20MHz +15MHz	QPSK: 32M9G7D
		16QAM: 32M9W7D
		64QAM: 32M9W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +20MHz	QPSK: 37M7G7D
		16QAM: 37M7W7D
		64QAM: 37M7W7D
	LTE Band CA_41C Channel Bandwidth: 5MHz+20MHz	QPSK: 22M7G7D
		16QAM: 22M7W7D
		64QAM: 22M7W7D
	LTE Band CA_41C Channel Bandwidth: 20MHz+5MHz	QPSK: 22M9G7D
		16QAM: 22M9W7D
		64QAM: 22M9W7D
	LTE Band CA_41C Channel Bandwidth: 10MHz+15MHz	QPSK: 23M0G7D
		16QAM: 23M0W7D
		64QAM: 23M0W7D
	LTE Band CA_41C Channel Bandwidth: 15MHz+10MHz	QPSK: 23M1G7D
		16QAM: 23M1W7D
		64QAM: 23M1W7D
	LTE Band CA_41C Channel Bandwidth: 15MHz+15MHz	QPSK: 28M2G7D
		16QAM: 28M2W7D
		64QAM: 28M3W7D
	LTE Band CA_41C Channel Bandwidth: 10MHz+20MHz	QPSK: 27M6G7D
		16QAM: 27M6W7D
		64QAM: 27M6W7D

<b>EMISSION DESIGNATOR</b>	LTE Band CA_41C Channel Bandwidth: 20MHz+10MHz	QPSK: 27M7G7D
		16QAM: 27M7W7D
		64QAM: 27M7W7D
	LTE Band CA_41C Channel Bandwidth: 15MHz+20MHz	QPSK: 32M5G7D
		16QAM: 32M5W7D
		64QAM: 32M5W7D
	LTE Band CA_41C Channel Bandwidth: 20MHz+15MHz	QPSK: 32M6G7D
		16QAM: 32M6W7D
		64QAM: 32M6W7D
	LTE Band CA_41C Channel Bandwidth: 20MHz+20MHz	QPSK: 37M4G7D
		16QAM: 37M7W7D
		64QAM: 37M4W7D
	LTE Band CA_42C Channel Bandwidth: 5MHz+20MHz	QPSK: 22M6G7D
		16QAM: 22M7W7D
		64QAM: 22M6W7D
	LTE Band CA_42C Channel Bandwidth: 20MHz +5MHz	QPSK: 22M9G7D
		16QAM: 22M9W7D
		64QAM: 22M9W7D
	LTE Band CA_42C Channel Bandwidth: 10MHz +20MHz	QPSK: 27M5G7D
		16QAM: 27M5W7D
		64QAM: 27M5W7D
	LTE Band CA_42C Channel Bandwidth: 20MHz +10MHz	QPSK: 27M7G7D
		16QAM: 27M7W7D
		64QAM: 27M7W7D
LTE Band CA_42C Channel Bandwidth: 15MHz +20MHz	QPSK: 32M4G7D	
	16QAM: 32M4W7D	
	64QAM: 32M4W7D	
LTE Band CA_42C Channel Bandwidth: 20MHz +15MHz	QPSK: 32M5G7D	
	16QAM: 32M5W7D	
	64QAM: 32M5W7D	
LTE Band CA_42C Channel Bandwidth: 20MHz +20MHz	QPSK: 37M4G7D	
	16QAM: 37M3W7D	
	64QAM: 37M3W7D	

<b>ANTENNA TYPE</b>	PIFA Antenna with -1.5dBi gain for LTE7C PIFA Antenna with -1.5dBi gain for LTE38C PIFA Antenna with -1.5dBi gain for LTE41C PIFA Antenna with -1.3dBi gain for LTE42C
<b>HW VERSION</b>	V02
<b>SW VERSION</b>	IS540_ROW_00.00_1_20221017
<b>I/O PORTS</b>	Refer to user's manual
<b>CABLE SUPPLIED</b>	USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter
<b>EXTREME TEMPERATURE</b>	-10-50 °C
<b>EXTREME VOLTAGE</b>	3.6V - 4.2V

**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

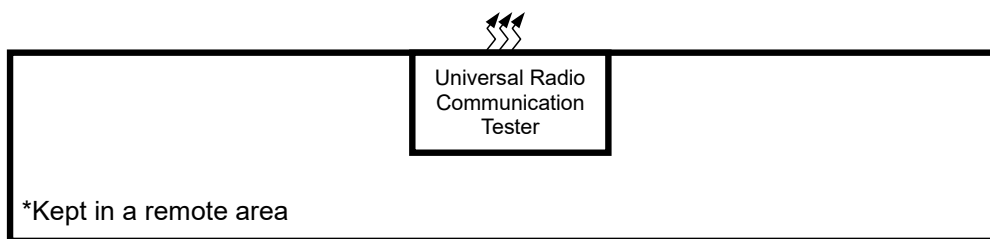
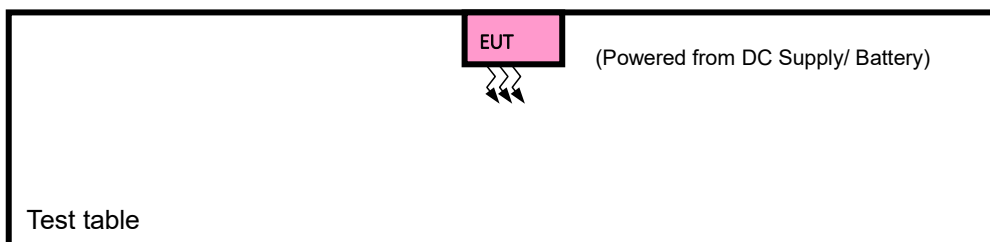
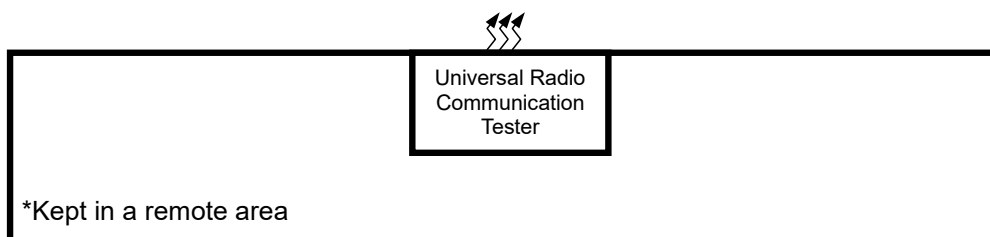
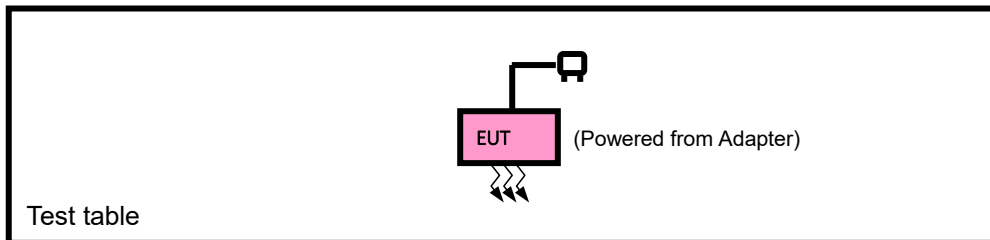
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. For Band Edge and Emission Mask: The all BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.
5. For Out of Band Emissions: The all combination was tested. The highest power RB combination was selected as worst case.

**List of Accessory:**

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	N/A	FPR Connectivity Technology Inc.	BL440ACP	Capacity: 3.7Vdc, 4400mAh
AC Adapter	N/A	SHENZHEN SHI YINGYUAN POWER SUPPLY TECHNOLOGY CO., LTD.	ICP12-050-2000B	I/P: 100-240Vac, 0.3A, O/P: 5.0Vdc, 2A
USB Cable 1	N/A	Winpower Technology Co., LTD	PROTECTOR 2.0	Signal Line, 1.0meter
USB Cable 2	N/A	Winpower Technology Co., LTD	USB2.0	Signal Line, 1.0meter



## 2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION TEST





### 2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

### 2.4 TEST ITEM AND TEST CONFIGURATION

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. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with LTE link
B	EUT + DC Supply with LTE link



Test Report No.: W7L-P23030016RF08

LTE BAND CA\_7C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	20805 to 21206	20949 to 21350	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		20825 to 21277	20945 to 21397	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20825 to 21225	20975 to 21375	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20828 to 21179	20999 to 21350	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		20850 to 21251	20994 to 21395	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21201	21201 to 21372	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	20805 to 21206	20949 to 21350	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB Offset	100RB/ 0RB Offset
		20825 to 21277	20945 to 21397	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	50RB/ 0RB Offset
		20825 to 21225	20975 to 21375	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	75RB/ 0RB Offset
		20828 to 21179	20999 to 21350	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	100RB/ 0RB Offset
		20850 to 21251	20994 to 21395	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	50RB/ 0RB Offset
		20850 to 21201	21201 to 21372	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	75RB/ 0RB Offset
		20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	20850 to 21152	21048 to 21350	Low	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
				High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDCUDE TED EMISSION	20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 99RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	20805 to 21206	20949 to 21350	Middle	10MHz+20MHz	QPSK	1RB/ 49RB Offset	1RB/ 0RB Offset
		20825 to 21277	20945 to 21397	Middle	15MHz+10MHz	QPSK	1RB/ 74RB Offset	1RB/ 0RB Offset
		20825 to 21225	20975 to 21375	Middle	15MHz+15MHz	QPSK	1RB/ 74RB Offset	1RB/ 0RB Offset
		20828 to 21179	20999 to 21350	Middle	15MHz+20MHz	QPSK	1RB/ 74RB Offset	1RB/ 0RB Offset
		20850 to 21251	20994 to 21395	Middle	20MHz+10MHz	QPSK	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21201	21201 to 21372	Middle	20MHz+15MHz	QPSK	1RB/ 99RB Offset	1RB/ 0RB Offset
		20850 to 21152	21048 to 21350	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 99RB Offset	1RB/ 0RB Offset



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Test Report No.: W7L-P23030016RF08

**Note:** 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND CA\_38C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABL E PCC CHANNEL	AVAILABL E SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	37825 to 38025	37975 to 38175	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		37850 to 37952	38048 to 38150	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset

**Note:** 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 38C are covered by LTE Band 41C, Because it is a subset of LTE Band 41C with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 41C

**LTE BAND CA\_41C MODE**

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	39750 to 41341	39921 to 41512	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		39728 to 41319	39899 to 41490	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		39750 to 41391	39894 to 41535	Low, Middle, High	20MHz+ 10MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		39705 to 41346	39849 to 41490	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		39725 to 41365	39875 to 41515	Low, Middle, High	15MHz +15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		39725 to 41417	39845 to 41537	Low, Middle, High	15MHz +10MHz	QPSK, 16QAM, 64QAM	1RB / 74RB Offset	1RB / 0RB Offset
		39703 to 41395	39823 to 41515	Low, Middle, High	10MHz +15MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		39750 to 41440	39867 to 41557	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		39683 to 41373	39800 to 41490	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		39750 to 41292	39948 to 41490	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM, 64QAM	1RB / 99RB Offset 1RB / 0RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	39750 to 41341	39921 to 41512	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	75RB/ 0RB Offset
		39728 to 41319	39899 to 41490	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	100RB/ 0RB Offset
		39750 to 41391	39894 to 41535	Low, Middle, High	20MHz+ 10MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	50RB/ 0RB Offset
		39705 to 41346	39849 to 41490	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB Offset	100RB/ 0RB Offset
		39725 to 41365	39875 to 41515	Low, Middle, High	15MHz +15MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	75RB/ 0RB Offset
		39725 to 41417	39845 to 41537	Low, Middle, High	15MHz +10MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	50RB/ 0RB Offset
		39703 to 41395	39823 to 41515	Low, Middle, High	10MHz +15MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB Offset	75RB/ 0RB Offset
		39750 to 41440	39867 to 41557	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	25RB/ 0RB Offset
		39683 to 41373	39800 to 41490	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM	25RB/ 0RB Offset	100RB/ 0RB Offset



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Test Report No.: W7L-P23030016RF08

A	OCCUPIED BANDWIDTH	39750 to 41292	39948 to 41490	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	39750 to 41292	39948 to 41490	Low	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
				High	20MHz+20MHz		1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDCUDED EMISSION	39750 to 41292	39948 to 41490	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	39750 to 41341	39921 to 41512	Middle	20MHz+15MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		39728 to 41319	39899 to 41490	Middle,	15MHz+20MHz	QPSK,	1RB/ 74RB Offset	1RB/ 0RB Offset
		39750 to 41391	39894 to 41535	Middle	20MHz+10MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		39705 to 41346	39849 to 41490	Middle	10MHz+20MHz	QPSK,	1RB/ 49RB Offset	1RB/ 0RB Offset
		39725 to 41365	39875 to 41515	Middle,	15MHz +15MHz	QPSK,	1RB/ 74RB Offset	1RB/ 0RB Offset
		39725 to 41417	39845 to 41537	Middle	15MHz +10MHz	QPSK,	1RB / 74RB Offset	1RB / 0RB Offset
		39703 to 41395	39823 to 41515	Middle	10MHz +15MHz	QPSK,	1RB/ 49RB Offset	1RB/ 0RB Offset
		39750 to 41440	39867 to 41557	Middle,	20MHz +5MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		39683 to 41373	39800 to 41490	Low, Middle, High	5MHz +20MHz	QPSK,	1RB/ 24RB Offset	1RB/ 0RB Offset
		39750 to 41341	39921 to 41512	Middle	20MHz+15MHz	QPSK,	1RB / 99RB Offset	1RB/ 0RB Offset
		39750 to 41292	39948 to 41490	Middle	20MHz+20MHz	QPSK,	1RB / 99RB Offset	1RB/ 0RB Offset

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



Test Report No.: W7L-P23030016RF08

LTE BAND CA\_42C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	41690 to 43341	41861 to 43512	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		41668 to 43319	41839 to 43490	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		41690 to 43391	41834 to 43535	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		41645 to 43346	41789 to 43490	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		41690 to 43440	41807 to 43557	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		41623 to 43373	41740 to 43490	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM	1RB / 24RB Offset	1RB / 0RB Offset
		41690 to 43292	41888 to 43490	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	41690 to 43341	41861 to 43512	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	75RB/ 0RB Offset
		41668 to 43319	41839 to 43490	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB Offset	100RB/ 0RB Offset
		41690 to 43391	41834 to 43535	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	50RB/ 0RB Offset
		41645 to 43346	41789 to 43490	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB Offset	100RB/ 0RB Offset
		41690 to 43440	41807 to 43557	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	50RB/ 0RB Offset
		41623 to 43373	41740 to 43490	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB Offset	100RB/ 0RB Offset
		41690 to 43292	41888 to 43490	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	41690 to 43292	41888 to 43490	Low	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
				High	20MHz+20MHz		1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDCUDED EMISSION	41690 to 43292	41888 to 43490	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB / 99RB Offset 1RB / 0RB Offset	1RB/ 0RB Offset



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Test Report No.: W7L-P23030016RF08

A	RADIATED EMISSION	41690 to 43341	41861 to 43512	Middle	20MHz+15MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		41668 to 43319	41839 to 43490	Low, Middle, High,	15MHz+20MHz	QPSK,	1RB/ 74RB Offset	1RB/ 0RB Offset
		41690 to 43391	41834 to 43535	Middle	20MHz+10MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		41645 to 43346	41789 to 43490	Middle	10MHz+20MHz	QPSK,	1RB/ 49RB Offset	1RB/ 0RB Offset
		41690 to 43440	41807 to 43557	Middle,	20MHz +5MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		41623 to 43373	41740 to 43490	Middle	5MHz +20MHz	QPSK,	1RB/ 24RB Offset	1RB/ 0RB Offset
		41690 to 43292	41888 to 43490	Middle,	20MHz+20MHz	QPSK,	1RB / 99RB Offset 1RB / 0RB Offset	1RB/ 0RB Offset

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.





Test Report No.: W7L-P23030016RF08

**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC5V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.6V/3.7V/4.2V By DC Supply	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC5V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC5V By Adapter	James Fu
CONDCUDEDED EMISSION	23deg. C, 70%RH	DC5V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC5V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC5V By Adapter	James Fu



Test Report No.: W7L-P23030016RF08

## 2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 27**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-D**

**ANSI/TIA/EIA-603-E**

**ANSI C63.26-2015**

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



### 3 TEST TYPES AND RESULTS

#### 3.1 OUTPUT POWER MEASUREMENT

##### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

According to the specific rule Part 27.50 (k)(3) Mobile devices are limited to 1Watt (30 dBm) EIRP, Mobile devices operating inl these bands must employ a means for limiting power to the minimum necessary for successful communications

##### 3.1.2 TEST PROCEDURES

###### **EIRP MEASUREMENT:**

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:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively  
(expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

$P_{\text{Meas}}$  = measured transmitter output power or PSD, in dBm or dBW;

$G_{\text{T}}$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_{\text{C}}$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

###### **CONDUCTED POWER MEASUREMENT:**

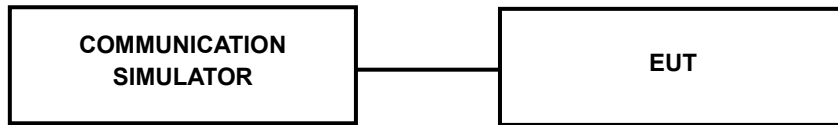
- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.



Test Report No.: W7L-P23030016RF08

### 3.1.3 TEST SETUP

#### CONDUCTED POWER MEASUREMENT:



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



Test Report No.: W7L-P23030016RF08

### 3.1.4 TEST RESULTS

#### AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band CA\_7C

CA_7C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20805	21048	QPSK	1	99	0	0	1	23.26
		16QAM	1	99	0	0	1	22.51
		64QAM	1	99	0	0	1	21.34
21100	21298	QPSK	1	99	0	0	1	23.27
		16QAM	1	99	0	0	1	22.36
		64QAM	1	99	0	0	1	21.48
21350	21152	QPSK	1	99	0	0	1	23.17
		16QAM	1	99	0	0	1	22.35
		64QAM	1	99	0	0	1	21.28

LTE Band CA\_38C

CA_38C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	0	0	0	1	22.81
		16QAM	1	0	0	0	1	22.08
		64QAM	1	0	0	0	1	20.77
37901	38099	QPSK	1	0	0	0	1	22.66
		16QAM	1	0	0	0	1	21.82
		64QAM	1	0	0	0	1	20.53
38150	37952	QPSK	1	0	0	0	1	22.51
		16QAM	1	0	0	0	1	21.70
		64QAM	1	0	0	0	1	20.68



Test Report No.: W7L-P23030016RF08

LTE Band CA\_41C

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	0	0	0	1	22.71
		16QAM	1	0	0	0	1	21.84
		64QAM	1	0	0	0	1	20.37
40620	40818	QPSK	1	0	0	0	1	22.51
		16QAM	1	0	0	0	1	21.73
		64QAM	1	0	0	0	1	20.17
41490	41292	QPSK	1	0	0	0	1	21.99
		16QAM	1	0	0	0	1	21.15
		64QAM	1	0	0	0	1	19.69

LTE Band CA\_42C

CA_42C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	0	0	0	1	22.50
		16QAM	1	0	0	0	1	21.73
		64QAM	1	0	0	0	1	20.21
42590	42392	QPSK	1	0	0	0	1	22.63
		16QAM	1	0	0	0	1	21.71
		64QAM	1	0	0	0	1	20.09
42990	42792	QPSK	1	0	0	0	1	22.51
		16QAM	1	0	0	0	1	21.69
		64QAM	1	0	0	0	1	20.14



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VERITAS**

Test Report No.: W7L-P23030016RF08

ERP/EIRP  
LTE BAND CA\_7C

CHANNEL BANDWIDTH: 10MHz+20MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20805	2505.5	20949	2519.9	23.13	-1.5	21.63	145.55	2
21006	2525.6	21150	2540.0	23.21	-1.5	21.71	148.25	2
21206	2545.6	21350	2560.0	23.13	-1.5	21.63	145.55	2

CHANNEL BANDWIDTH: 10MHz+20MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20805	2505.5	20949	2519.9	22.31	-1.5	20.81	120.50	2
21006	2525.6	21150	2540.0	22.2	-1.5	20.70	117.49	2
21206	2545.6	21350	2560.0	22.1	-1.5	20.60	114.82	2

CHANNEL BANDWIDTH: 10MHz+20MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20805	2505.5	20949	2519.9	21.17	-1.5	19.67	92.68	2
21006	2525.6	21150	2540.0	21.33	-1.5	19.83	96.16	2
21206	2545.6	21350	2560.0	21.19	-1.5	19.69	93.11	2



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VERITAS

Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 15MHz+10MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	23.04	-1.5	21.54	142.56	2
21051	2530.1	21171	2542.1	23.11	-1.5	21.61	144.88	2
21227	2552.7	21397	2564.7	23.07	-1.5	21.57	143.55	2

**CHANNEL BANDWIDTH: 15MHz+10MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	22.23	-1.5	20.73	118.30	2
21051	2530.1	21171	2542.1	22.16	-1.5	20.66	116.41	2
21227	2552.7	21397	2564.7	22.06	-1.5	20.56	113.76	2

**CHANNEL BANDWIDTH: 15MHz+10MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	21.13	-1.5	19.63	91.83	2
21051	2530.1	21171	2542.1	21.17	-1.5	19.67	92.68	2
21227	2552.7	21397	2564.7	21.07	-1.5	19.57	90.57	2





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VERITAS

Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20975	2522.5	23.06	-1.5	21.56	143.22	2
21025	2527.5	21175	2542.5	23.19	-1.5	21.69	147.57	2
21225	2547.5	21375	2562.5	23.1	-1.5	21.60	144.54	2

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20975	2522.5	22.29	-1.5	20.79	119.95	2
21025	2527.5	21175	2542.5	22.18	-1.5	20.68	116.95	2
21225	2547.5	21375	2562.5	22.08	-1.5	20.58	114.29	2

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20975	2522.5	21.15	-1.5	19.65	92.26	2
21025	2527.5	21175	2542.5	21.25	-1.5	19.75	94.41	2
21225	2547.5	21375	2562.5	21.13	-1.5	19.63	91.83	2



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VERITAS

Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 15MHz+20MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20999	2524.9	23.22	-1.5	21.72	148.59	2
21003	2525.3	21174	2542.4	23.25	-1.5	21.75	149.62	2
21179	2542.9	21350	2560.0	23.15	-1.5	21.65	146.22	2

**CHANNEL BANDWIDTH: 15MHz+20MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20999	2524.9	22.38	-1.5	20.88	122.46	2
21003	2525.3	21174	2542.4	22.27	-1.5	20.77	119.40	2
21179	2542.9	21350	2560.0	22.22	-1.5	20.72	118.03	2

**CHANNEL BANDWIDTH: 15MHz+20MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20999	2524.9	21.27	-1.5	19.77	94.84	2
21003	2525.3	21174	2542.4	21.41	-1.5	19.91	97.95	2
21179	2542.9	21350	2560.0	21.23	-1.5	19.73	93.97	2



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Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 20MHz+10MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	23.21	-1.5	21.71	148.25	2
21051	2530.1	21195	2544.5	23.24	-1.5	21.74	149.28	2
21251	2550.1	21395	2564.5	23.14	-1.5	21.64	145.88	2

**CHANNEL BANDWIDTH: 20MHz+10MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	22.33	-1.5	20.83	121.06	2
21051	2530.1	21195	2544.5	22.22	-1.5	20.72	118.03	2
21251	2550.1	21395	2564.5	22.15	-1.5	20.65	116.14	2

**CHANNEL BANDWIDTH: 20MHz+10MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	21.25	-1.5	19.75	94.41	2
21051	2530.1	21195	2544.5	21.39	-1.5	19.89	97.50	2
21251	2550.1	21395	2564.5	21.2	-1.5	19.70	93.33	2



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VERITAS

Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 20MHz+15MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>C</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	23.24	-1.5	21.74	149.28	2
21026	2527.6	21197	2544.7	23.33	-1.5	21.83	152.41	2
21201	2545.1	21372	2562.2	23.2	-1.5	21.70	147.91	2

**CHANNEL BANDWIDTH: 20MHz+15MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>C</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	22.43	-1.5	20.93	123.88	2
21026	2527.6	21197	2544.7	22.33	-1.5	20.83	121.06	2
21201	2545.1	21372	2562.2	22.29	-1.5	20.79	119.95	2

**CHANNEL BANDWIDTH: 20MHz+15MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>C</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	21.29	-1.5	19.79	95.28	2
21026	2527.6	21197	2544.7	21.43	-1.5	19.93	98.40	2
21201	2545.1	21372	2562.2	21.28	-1.5	19.78	95.06	2



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VERITAS**

Test Report No.: W7L-P23030016RF08

**CHANNEL BANDWIDTH: 20MHz+20MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	23.26	-1.5	21.76	149.97	2
21001	2525.1	21199	2544.9	23.35	-1.5	21.85	153.11	2
21206	2540.2	21350	2560.0	23.22	-1.5	21.72	148.59	2

**CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	22.51	-1.5	21.01	126.18	2
21001	2525.1	21199	2544.9	22.41	-1.5	20.91	123.31	2
21206	2540.2	21350	2560.0	22.37	-1.5	20.87	122.18	2

**CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	21.34	-1.5	19.84	96.38	2
21001	2525.1	21199	2544.9	21.49	-1.5	19.99	99.77	2
21206	2540.2	21350	2560.0	21.33	-1.5	19.83	96.16	2



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VERITAS**

Test Report No.: W7L-P23030016RF08

**LTE BAND CA\_38C**

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	22.74	-1.5	21.24	133.05	2
37925	2587.5	38075	2602.5	22.62	-1.5	21.12	129.42	2
38025	2597.5	38175	2612.5	22.49	-1.5	20.99	125.60	2

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	22	-1.5	20.50	112.20	2
37925	2587.5	38075	2602.5	21.74	-1.5	20.24	105.68	2
38025	2597.5	38175	2612.5	21.62	-1.5	20.12	102.80	2

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	20.69	-1.5	19.19	82.99	2
37925	2587.5	38075	2602.5	20.48	-1.5	18.98	79.07	2
38025	2597.5	38175	2612.5	20.65	-1.5	19.15	82.22	2