

RF Exposure Evaluation
FOR
SingularXYZ Intelligent Technology Ltd.
GNSS Receiver
Test Model: Xbase
Additional Model No.: Qbase, EBase

Prepared for : SingularXYZ Intelligent Technology Ltd.
Address : Floor 2, Building A, No. 599 Gaojing Road, Shanghai, China

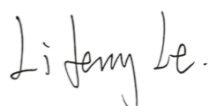
Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.
Address : No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou,
Guangdong, China
Tel : (+86) 020-39166689
Fax : (+86) 020-39166619
Web : www.LCS-cert.com
Mail : webmaster@LCS-cert.com

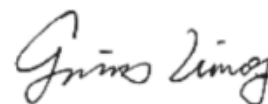
Date of receipt of test sample : July 08, 2026
Number of tested samples : 2
Sample No. : C260629007-1, C260629007-2
Serial number : Prototype
Date of Test : July 08, 2026 ~ September 18, 2026
Date of Report : September 20, 2026

RF Exposure Evaluation

Report Reference No. : LCSC05256009EJ
Date of Issue..... : September 20, 2026
Testing Laboratory Name : Guangzhou LCS Compliance Testing Laboratory Ltd.
Address..... : No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China
Testing Location/ Procedure : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □
Applicant's Name : SingularXYZ Intelligent Technology Ltd.
Address..... : Floor 2, Building A, No. 599 Gaojing Road, Shanghai, China
Test Specification
Standard : FCC KDB publication 447498 D01 General RF Exposure Guidance v06
FCC CFR 47 part1 1.1310
FCC CFR 47 part2 2.1091
TRF Originator : Guangzhou LCS Compliance Testing Laboratory Ltd.
Master TRF : Dated 2011-03
Guangzhou LCS Compliance Testing Laboratory Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Guangzhou LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Guangzhou LCS Compliance Testing Laboratory Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test Item Description..... : GNSS Receiver
Trade Mark : SingularXYZ
Test Model..... : Xbase
Ratings..... : Please Refer to Page 6
Result : Pass
Compiled by:

Supervised by:

Approved by:


Lifeng Le / Administrator

Justin Zhu/ Technique Director

Gavin Liang/ Manager

RF Exposure Evaluation

Test Report No. : LCSC05256009EJ	<u>September 20, 2026</u> Date of issue
---	--

EUT.....	: GNSS Receiver
Test Model.....	: Xbase
Applicant.....	: SingularXYZ Intelligent Technology Ltd.
Address.....	: Floor 2, Building A, No. 599 Gaojing Road, Shanghai, China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: SingularXYZ Intelligent Technology Ltd.
Address.....	: Floor 2, Building A, No. 599 Gaojing Road, Shanghai, China
Telephone.....	: /
Fax.....	: /
Factory.....	: SingularXYZ Intelligent Technology Ltd.
Address.....	: Floor 2, Building A, No. 599 Gaojing Road, Shanghai, China
Telephone.....	: /
Fax.....	: /

Test Result	Pass
--------------------	-------------

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	September 20, 2026	Initial Issue	---

TABLE OF CONTENTS

Description	Page
1. Product Information	6
2. Evaluation Method.....	8
3. Limit.....	8
4. MPE Calculation Method	9
5. Conducted Power	9
6. Manufacturing Tolerance	11
7. Measurement Results	15
8. Conclusion.....	17
9. Description of Test Facility	17
10.Measurement Uncertainty.....	17

1. Product Information

EUT	: GNSS Receiver
Test Model	: Xbase
Additional Model No.	: Qbase, EBase
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Ratings	: Input: DC 9-24V Nominal Voltage: 7.2V Nominal Capacity: 13.2Ah/95.04Wh Rated Capacity: 12.8Ah/92.16Wh
Hardware Version	: /
Software Version	: /
Bluetooth	:
Frequency Range	: 2402MHz~2480MHz
Channel Number	: 79 channels for Bluetooth V4.0 (DSS)
Channel Spacing	: 1MHz for Bluetooth V4.0 (DSS)
Modulation Type	: GFSK, $\pi/4$ -DQPSK, 8-DPSK for Bluetooth V4.0 (DSS)
Bluetooth Version	: V4.0
Antenna Description	: Internal Antenna, 3.7dBi(Max.)
WIFI(5.2G Band)	:
Frequency Range	: 5150MHz~5250MHz
Channel Number	: 4 Channels for 20MHz bandwidth(5180MHz~5240MHz) 2 channels for 40MHz bandwidth(5190MHz~5230MHz) 1 channels for 80MHz bandwidth(5210MHz)
Modulation Type	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Internal Antenna, 4.2dBi(Max.)
WIFI(5.3G Band)	:
Frequency Range	: 5250MHz~5350MHz
Channel Number	: 4 Channels for 20MHz bandwidth(5260MHz~5320MHz) 2 channels for 40MHz bandwidth(5270MHz~5310MHz) 1 channels for 80MHz bandwidth(5290MHz)
Modulation Type	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Internal Antenna, 4.2dBi(Max.)
WIFI(5.5G Band)	:
Frequency Range	: 5470MHz~5725MHz
Channel Number	: 11 Channels for 20MHz bandwidth(5500MHz~5700MHz) 5 Channels for 40MHz bandwidth(5510MHz~5670MHz) 2 Channels for 80MHz bandwidth(5530MHz, 5610MHz)
Modulation Type	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Internal Antenna, 2.3dBi(Max.)
WIFI(5.8G Band)	:
Frequency Range	: 5725MHz~5850MHz
Channel Number	: 5 channels for 20MHz bandwidth(5745MHz~5825MHz) 2 channels for 40MHz bandwidth(5755MHz~5795MHz) 1 channels for 80MHz bandwidth(5775MHz)
Modulation Type	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)

IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
 IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
 Antenna Description : Internal Antenna, 1.5dBi(Max.)

PMR

Operating Frequency : 410~470MHz
 Channel Separation : 12.5KHz
 Modulation Type : GMSK
 Emission Designator : 7K60G1D for GMSK Modulation at 12.5KHz Channel Separation
 Antenna Type : External Antenna
 Antenna Gain : 2.15dBi(max.) for PMR

2G

Support Band : ☒ GSM 850 (U.S.-Band) ☒ PCS 1900 (U.S.-Band)
 Release Version : R99
 GPRS Class : Class 12
 EGPRS Class : Class 12
 Type Of Modulation : GMSK for GPRS; GMSK/8PSK for EGPRS
 Antenna Description : Internal Antenna
 0.5dBi (max.) For GSM 850
 -0.4dBi (max.) For PCS 1900

3G

Support Band : ☒ WCDMA Band II (U.S.-Band)
☒ WCDMA Band IV (U.S.-Band)
☒ WCDMA Band V (U.S.-Band)
 Release Version : R7&R8
 Type Of Modulation : QPSK/16QAM
 Antenna Description : Internal Antenna
 -0.4dBi (max.) For WCDMA Band II
 4.7dBi (max.) For WCDMA Band IV
 0.5dBi (max.) For WCDMA Band V

LTE

Support Band : ☒ E-UTRA Band 2(U.S.-Band)
☒ E-UTRA Band 4(U.S.-Band)
☒ E-UTRA Band 5(U.S.-Band)
☒ E-UTRA Band 7(U.S.-Band)
☒ E-UTRA Band 12(U.S.-Band)
☒ E-UTRA Band 13(U.S.-Band)
☒ E-UTRA Band 25(U.S.-Band)
☒ E-UTRA Band 26(U.S.-Band)
☒ E-UTRA Band 38(U.S.-Band)
☒ E-UTRA Band 41(U.S.-Band)
 LTE Release Version : R11
 Type Of Modulation : QPSK/16QAM
 Antenna Description : Internal Antenna
 -0.4dBi (max.) For E-UTRA Band 2
 4.7dBi (max.) For E-UTRA Band 4
 0.5dBi (max.) For E-UTRA Band 5
 1.1dBi (max.) For E-UTRA Band 7
 -1.6dBi (max.) For E-UTRA Band 12
 -1.6dBi (max.) For E-UTRA Band 13
 -0.4dBi (max.) For E-UTRA Band 25
 0.5dBi (max.) For E-UTRA Band 26
 -1.9dBi (max.) For E-UTRA Band 38
 1.2dBi (max.) For E-UTRA Band 41

Power Class : Class 3

GPS Function : Support and only RX

Extreme temp. Tolerance : -30°C to +65°C

Extreme vol. Limits : 6.12VDC to 8.28VDC (nominal: 7.2VDC)

Exposure category : General population/uncontrolled environment

EUT Type : Production Unit

Device Type : Mobile Device

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.

2. Evaluation Method

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is ≤ 1.0 . The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

3. Limit

3.1 Refer Evaluation Method

[ANSI C95.1-2019](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz

[FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06](#): Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1091](#): Radiofrequency radiation exposure evaluation: mobile devices.

3.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Uncontrolled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f ²)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

*=Plane-wave equivalent power density

4. MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=PG/4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

5. Conducted Power

[BT]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
GFSK	0	2402	0.81
	39	2441	0.84
	78	2480	0.58
$\pi/4$ -DQPSK	0	2402	1.41
	39	2441	1.45
	78	2480	1.29
8DPSK	0	2402	1.71
	39	2441	1.78
	78	2480	1.56

[5.2G WIFI]

Mode	Channel	Frequency (MHz)	Max Conducted Power(dBm)
11A	36	5180	15.34
	40	5200	15.35
	48	5240	15.33
11N20 SISO	36	5180	15.34
	40	5200	15.48
	48	5240	15.3
11N40 SISO	38	5190	15.28
	46	5230	15.14
11AC20 SISO	36	5180	15.31
	40	5200	15.4
	48	5240	15.12
11AC40 SISO	38	5190	15.19
	46	5230	15.28
11AC80 SISO	42	5210	15.29

[5.3G WIFI]

Mode	Channel	Frequency (MHz)	Max Conducted Power(dBm)
11A	52	5260	15.14
	60	5280	15.03
	64	5320	14.83
11N20 SISO	52	5260	15.15

TRF-4-E-214 A/0

Guangzhou LCS Compliance Testing Laboratory Ltd.

Add: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

Tel: +(86) 020-39166689 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

	60	5280	15.22
	64	5320	15.15
11N40 SISO	54	5270	15.28
	62	5310	15.04
11AC20 SISO	52	5260	15.67
	60	5280	15.39
	64	5320	15.11
11AC40 SISO	54	5270	15.39
	62	5310	15.16
11AC80 SISO	58	5290	15.30

[5.5G WIFI]

Mode	Channel	Frequency (MHz)	Max Conducted Power(dBm)
11A	100	5500	15.67
	116	5580	13.31
	140	5700	12.36
11N20 SISO	100	5500	14.64
	116	5580	13.50
	140	5700	12.58
11N40 SISO	102	5510	14.68
	110	5550	13.71
	134	5670	12.62
11AC20 SISO	100	5500	14.81
	116	5580	13.51
	140	5700	12.51
11AC40 SISO	102	5510	14.70
	110	5550	13.81
	134	5670	12.74
11AC80 SISO	106	5530	14.67
	122	5610	13.18

[5.8G WIFI]

Mode	Channel	Frequency (MHz)	Max Conducted Power(dBm)
11A	149	5745	15.57
	157	5785	15.72
	165	5825	15.56
11N20 SISO	149	5745	15.39
	157	5785	15.48
	165	5825	15.48
11N40 SISO	151	5755	15.30
	159	5795	15.32
11AC20 SISO	149	5745	15.61
	157	5785	15.40
	165	5825	15.47
11AC40 SISO	151	5755	15.45
	159	5795	15.48
11AC80 SISO	155	5775	15.51

6. Manufacturing Tolerance

[BT]

GFSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	0	0	0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
$\pi/4$ -DQPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	1.0	1.0	1.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
8DPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	1.0	1.0	1.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

[5.2G WIFI]

11A (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40 (Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40 (Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 42		
Target (dBm)	15.0		
Tolerance $\pm$ (dB)	1.0		

[5.3G WIFI]

11A (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	15.0	15.0	14.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N HT20 (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N HT40 (Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC VHT20 (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC VHT40 (Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC VHT80 (Average)			
Channel	Channel 58		
Target (dBm)	15.0		
Tolerance $\pm$ (dB)	1.0		

[5.5G WIFI]

11A (Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	15.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N HT20 (Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	14.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N HT40 (Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	14.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC VHT20 (Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	14.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC HT40 (Average)			

Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	14.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC VHT80 (Average)			
Channel	Channel 106	Channel 122	
Target (dBm)	14.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	

[5.8G WIFI]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	15.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	15.0	15.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 155		
Target (dBm)	15.0		
Tolerance $\pm$ (dB)	1.0		

<PMR>

Test Mode		Frequency(MHz)	Max Conducted Peak Power(dBm)	Tune Up Power (dBm)
GMSK	12.5KHz	410.125	36.695	36.0 $\pm$ 1.0
		439.625	36.699	36.0 $\pm$ 1.0
		469.625	36.651	36.0 $\pm$ 1.0

[GSM Max Average Power]

Test Mode	Channel	Frequency (MHz)	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
GSM 850	LCH	824.2	32.39	32.0±1.0
	MCH	836.6	32.38	32.0±1.0
	HCH	848.8	32.39	32.0±1.0
PCS 1900	LCH	1850.2	29.40	29.0±1.0
	MCH	1880.0	29.43	29.0±1.0
	HCH	1909.8	29.39	29.0±1.0

[WCDMA Max Average Power]

Test Mode	Channel	Frequency (MHz)	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
WCDMA Band II	Low	1852.4	23.33	23.0±1.0
	Middle	1880	23.40	23.0±1.0
	High	1907.6	23.19	23.0±1.0
WCDMA Band IV	Low	1712.4	23.06	23.0±1.0
	Middle	1732.6	23.30	23.0±1.0
	High	1752.6	23.13	23.0±1.0
WCDMA Band V	Low	826.4	23.22	23.0±1.0
	Middle	836.4	23.39	23.0±1.0
	High	846.6	23.21	23.0±1.0

[LTE Max Average Power]

Test Mode		Channel	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
LTE	Band 2	LCH	23.38	23.0±1.0
		MCH	23.44	23.0±1.0
		HCH	23.31	23.0±1.0
	Band 4	LCH	23.22	23.0±1.0
		MCH	23.41	23.0±1.0
		HCH	23.36	23.0±1.0
	Band 5	LCH	25.38	25.0±1.0
		MCH	25.6	25.0±1.0
		HCH	25.44	25.0±1.0
	Band 7	LCH	23.94	23.0±1.0
		MCH	23.94	23.0±1.0
		HCH	23.85	23.0±1.0
	Band 12	LCH	25.16	25.0±1.0
		MCH	24.9	24.0±1.0
		HCH	24.86	24.0±1.0
	Band 13	LCH	25.28	25.0±1.0
		MCH	25.3	25.0±1.0
		HCH	25.57	25.0±1.0
	Band 25	LCH	23.09	23.0±1.0
		MCH	23.61	23.0±1.0
		HCH	23.35	23.0±1.0
	Band 26-1	LCH	25.07	25.0±1.0
		MCH	25.27	25.0±1.0
		HCH	25.04	25.0±1.0
	Band 26-2	LCH	24.87	24.0±1.0
		MCH	24.95	24.0±1.0
		HCH	24.88	24.0±1.0

	Band 38	LCH	23.89	23.0±1.0
		MCH	23.99	23.0±1.0
		HCH	23.79	23.0±1.0
	Band 41	LCH	23.61	23.0±1.0
		MCH	24.2	24.0±1.0
		HCH	23.67	23.0±1.0

7. Measurement Results

7.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 50 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 50$ cm, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[BT]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios ¹
	dBm	mW					
GFSK	1.0	1.2589	3.7	2.3442	0.0001	1.0000	0.0001
$\pi/4$ -DQPSK	2.0	1.5849	3.7	2.3442	0.0001	1.0000	0.0001
8-DPSK	2.0	1.5849	3.7	2.3442	0.0001	1.0000	0.0001

[5.2G WIFI]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios ¹
	dBm	mW					
IEEE 802.11a	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023
IEEE 802.11n HT20	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023
IEEE 802.11n HT40	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023
IEEE 802.11ac VHT20	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023
IEEE 802.11ac VHT40	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023
IEEE 802.11ac VHT80	16.0	39.8107	4.2	2.6303	0.0023	1.0000	0.0023

[5.3G WIFI]

Band/Mode	RF output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios ¹
	dBm	mW					
IEEE 802.11a	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023
IEEE 802.11n HT20	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023
IEEE 802.11n HT40	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023
IEEE 802.11ac VHT20	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023
IEEE 802.11ac VHT40	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023
IEEE 802.11ac VHT80	16.0	39.8107	4.2	2.6303	0.0208	1.0000	0.0023

[5.5G WIFI]

Band/Mode	RF output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios1
	dBm	mW					
IEEE 802.11a	16.0	39.8107	2.3	1.6982	0.0015	1.0000	0.0015
IEEE 802.11n HT20	15.0	31.6228	2.3	1.6982	0.0012	1.0000	0.0012
IEEE 802.11n HT40	15.0	31.6228	2.3	1.6982	0.0012	1.0000	0.0012
IEEE 802.11ac VHT20	15.0	31.6228	2.3	1.6982	0.0012	1.0000	0.0012
IEEE 802.11ac VHT40	15.0	31.6228	2.3	1.6982	0.0012	1.0000	0.0012
IEEE 802.11ac VHT80	15.0	31.6228	2.3	1.6982	0.0012	1.0000	0.0012

[5.8G WIFI]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios1
	dBm	mW					
IEEE 802.11a	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014
IEEE 802.11n HT20	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014
IEEE 802.11n HT40	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014
IEEE 802.11ac VHT20	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014
IEEE 802.11ac VHT40	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014
IEEE 802.11ac VHT80	16.0	39.8107	1.5	1.4125	0.0012	1.0000	0.0014

<PMR>

Band/Mode	RF output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios2
	dBm	mW					
GMSK	37	5011.8723	2.15	1.6406	0.1818	0.2734	0.6650

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios3
	dBm	mW					
GSM 850	23.97	249.4595	0.5	1.1220	0.0062	0.5493	0.0113
PCS 1900	20.97	125.0259	-0.4	0.9120	0.0025	1.0000	0.0025
WCDMA Band II	24.0	251.1886	-0.4	0.9120	0.0051	1.0000	0.0051
WCDMA Band IV	24.0	251.1886	4.7	2.9512	0.0164	1.0000	0.0164
WCDMA Band V	24.0	251.1886	0.5	1.1220	0.0062	0.5493	0.0113
LTE Band 2	24.0	251.1886	-0.4	0.9120	0.0051	1.0000	0.0051
LTE Band 4	24.0	251.1886	4.7	2.9512	0.0164	1.0000	0.0164
LTE Band 5	26.0	398.1072	0.5	1.1220	0.0099	0.5493	0.0180
LTE Band 7	24.0	251.1886	1.1	1.2882	0.0072	1.0000	0.0072
LTE Band 12	26.0	398.1072	-1.6	0.6918	0.0061	0.466	0.0131
LTE Band 13	26.0	398.1072	-1.6	0.6918	0.0061	0.518	0.0118
LTE Band 25	24.0	251.1886	-0.4	0.9120	0.0051	1.0000	0.0051
LTE Band 26	26.0	398.1072	0.5	1.1220	0.0099	0.466	0.0212
LTE Band 38	24.0	251.1886	-1.9	0.6457	0.0036	0.518	0.0069
LTE Band 41	25.0	316.2278	1.2	1.3183	0.0092	1.0000	0.0092

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 60 cm from user manual provide by manufacturer.
4. For GSM, Duty cycle=1/8.

7.2 Simultaneous Transmission MPE Evaluation

The sample support one BT& &5.2GWLAN&5.3GWLAN &5.5GWLAN &5.8GWLAN, PMR, another one GSM&WCDMA<E transmit antenna, so need consider simultaneous transmission; Bluetooth and WIFI cannot transmit simultaneously.

Simultaneous transmission MPE

According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

$$TER = \sum_{k=1}^{N_S} \left(\frac{SAR_k}{SAR_{lim}} \right) + \sum_{k=1}^{N_f} \left(\frac{MPE_{field,k}}{MPE_{field,lim}} \right)^2 + \sum_{k=1}^{N_{PD}} \left(\frac{MPE_{PD,k}}{MPE_{PD,lim}} \right)$$

$\sum$ of MPE ratios ≤ 1.0

Max MPE ratios1	Max MPE ratios2	Max MPE ratios3	$\sum$ MPE ratios	Limit	Results
0.0023	0.6650	0.0212	0.6885	1.000	Pass

8. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

9. Description of Test Facility

CNAS Registration Number is L11555

A2LA Certificate Number: 5099.01

FCC Designation Number is CN1379

Test Firm Registration Number: 729882

10.Measurement Uncertainty

BT&5.2GWLAN&5.3GWLAN&5.5GWLAN&5.8GWLAN/PMR/GSM/WCDMA/LTE:

Test Item	Frequency Range	Uncertainty	Note
Output power	1GHz-40GHz	± 0.57 dB	(1)

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

-----THE END OF REPORT-----