RF Exposure Evaluation

For

Wacebo USA INC

50 inch Capacitive Digital Signage Display

Test Model: T1B

Prepared for	:	Wacebo USA INC
Address	:	8 The Green Ste R Dover Delaware United States 19901
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	March 26, 2026
Number of tested samples	:	2
Sample No.	:	A260323103-1, A260323103-2
Serial number	:	Prototype
Date of Test	:	March 26, 2026 ~ April 17, 2026
Date of Report	:	April 20, 2026

RF Exposure Evaluation

Report Reference No.	**:**	**LCSA03256062EH**
Date of Issue.....	:	April 20, 2026
Testing Laboratory Name	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**:**	**Wacebo USA INC**
Address.....	:	8 The Green Ste R Dover Delaware United States 19901
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
Test Report Form No.	**:**	TRF-4-E-214 A/0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Shenzhen 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 Shenzhen LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Shenzhen 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.

EUT Description.	**:**	**50 inch Capacitive Digital Signage Display**
Trade Mark.....	:	DABLIU
Test Model	:	T1B
Ratings.....	:	Please Refer to Page 6
**Result ..... **	**:**	**PASS**

Compiled by:	**Supervised by:**	**Approved by:**
Vera Deng	Kevin Huang	Gavin Liang
Vera Deng/ Administrator	Kevin Huang/ RF Manager	Gavin Liang/ Manager

RF Exposure Evaluation

Test Report No. : **LCSA03256062EH**	April 20, 2026 Date of issue

EUT.....	: 50 inch Capacitive Digital Signage Display
Test Model.....	: T1B
Applicant.....	**: Wacebo USA INC**
Address.....	: 8 The Green Ste R Dover Delaware United States 19901
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: Wacebo USA INC**
Address.....	: 8 The Green Ste R Dover Delaware United States 19901
Telephone.....	: /
Fax.....	: /
Factory.....	**: Wacebo USA INC**
Address.....	: 8 The Green Ste R Dover Delaware United States 19901
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	April 20, 2026	Initial Issue	--

TABLE OF CONTENTS

Description **Page**

1. PRODUCT INFORMATION 6
2. EVALUATION METHOD 7
3. LIMIT 7
4. MPE CALCULATION METHOD 8
5. ANTENNA INFORMATION 9
6. CONDUCTED POWER 9
7. MANUFACTURING TOLERANCE 12
8. MEASUREMENT RESULTS 21
9. CONCLUSION 23
10. DESCRIPTION OF TEST FACILITY 23
11. MEASUREMENT UNCERTAINTY 24

1. Product Information

EUT	:	50 inch Capacitive Digital Signage Display
Test Model	:	T1B
Ratings	:	Input: 100-240V~, 50/60Hz, 2A, 200W
Hardware Version	:	/
Software Version	:	/
Bluetooth	:	
Frequency Range	:	2402MHz~2480MHz
Channel Number	:	79 channels for Bluetooth V5.2 (DSS) 40 channels for Bluetooth V5.2 (DTS)
Channel Spacing	:	1MHz for Bluetooth V5.2 (DSS) 2MHz for Bluetooth V5.2 (DTS)
Modulation Type	:	GFSK, π/4-DQPSK, 8-DPSK for Bluetooth V5.2 (DSS) GFSK for Bluetooth V5.2 (DTS)
Bluetooth Version	:	V5.2
Antenna Description	:	External Antenna, 2.06dBi(max.)
WIFI(2.4G Band)	:	
Frequency Range	:	2412MHz~2462MHz
Channel Spacing	:	5MHz
Channel Number	:	11 Channels for 20MHz bandwidth (2412~2462MHz) 7 Channels for 40MHz bandwidth (2422~2452MHz)
Modulation Type	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Description	:	Antenna1: External Antenna, 2.06dBi(Max.) Antenna2: External Antenna, 2.06dBi(Max.)
WIFI(5.2G Band)	:	
Frequency Range	:	5180MHz~5240MHz
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	:	Antenna1: External Antenna, 2.95dBi(Max.) Antenna2: External Antenna, 2.95dBi(Max.)
WIFI(5.3G Band)		
Frequency Range	:	5260MHz~5320MHz
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	:	Antenna1: External Antenna, 2.95dBi(Max.) Antenna2: External Antenna, 2.95dBi(Max.)
WIFI(5.5G Band)	:	
Frequency Range	:	5500MHz~5700MHz
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	:	Antenna1: External Antenna, 2.95dBi(Max.) Antenna2: External Antenna, 2.95dBi(Max.)
WIFI(5.8G Band)	:	
Frequency Range	:	5745MHz~5825MHz
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	:	Antenna1: External Antenna, 2.95dBi(Max.) Antenna2: External Antenna, 2.95dBi(Max.)
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. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Internal/ External Identification	Antenna type and antenna number	Operate frequency band	Maximum antenna gain	Notes
Internal	EXternal Antenna 0	2400MHz ~ 2500MHz	Bluetooth: 2.06dBi	Bluetooth Antenna
	EXternal Antenna 1	2400MHz ~ 2500MHz 5000MHz ~ 6000MHz	2.4GWIFI: 2.06dBi 5.2GWIFI: 2.95dBi 5.3GWIFI: 2.95dBi 5.5GWIFI: 2.95dBi 5.8GWIFI: 2.95dBi	WIFI Antenna
	External Antenna 2	2400MHz ~ 2500MHz 5000MHz ~ 6000MHz	2.4GWIFI: 2.06dBi 5.2GWIFI: 2.95dBi 5.3GWIFI: 2.95dBi 5.5GWIFI: 2.95dBi 5.8GWIFI: 2.95dBi	WIFI Antenna

6. Conducted Power

[BT]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
GFSK	0	2402	-1.82
	39	2441	1.03
	79	2480	0.22
π/4-DQPSK	0	2402	0.01
	39	2441	2.59
	79	2480	1.71
8-DPSK	0	2402	0.36
	39	2441	2.9
	79	2480	1.91

[BLE]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
BLE 1M	0	2402	-2.76
	19	2440	-0.24
	39	2480	-1.21
BLE 2M	0	2402	-2.88
	19	2440	-0.4
	39	2480	-1.43

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Ant1 Max Conducted Power(dBm)	Ant2 Max Conducted Power(dBm)
11B	1	2412	13.15	13.29
	6	2437	12.32	12.42
	11	2462	13.70	13.01
11G	1	2412	13.31	13.21
	6	2437	12.66	12.8
	11	2462	13.04	13.5
11N20 SISO	1	2412	13.53	13.53
	6	2437	12.90	13.33
	11	2462	12.60	13.93
11N40 SISO	3	2422	13.84	13.48
	6	2437	12.99	13.38
	9	2452	13.35	13.39

[5.2G WIFI Max Conducted Power]

Mode	Channel	Frequency (MHz)	Ant1 Max Conducted Power(dBm)	Ant2 Max Conducted Power(dBm)
11A	36	5180	11.44	12.08
	40	5200	11.52	10.98
	48	5240	11.61	10.94
11N20 SISO	36	5180	11.75	11.28
	40	5200	12.13	11.3
	48	5240	11.29	11.3
11N40 SISO	38	5190	13.45	11.27
	46	5230	12.93	11.3
11AC20 SISO	36	5180	11.93	11.3
	40	5200	12.03	11.25
	48	5240	12.27	11.26
11AC40 SISO	38	5190	12.59	11.23
	46	5230	12.23	11.13
11AC80 SISO	42	5210	12.61	10.54

[5.3G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	52	5260	12.19	12.11
	60	5280	12.01	12.09
	64	5320	11.58	11.66
11N20 SISO	52	5260	11.32	11.38
	60	5280	12.18	11.34
	64	5320	11.81	10.93
11N40 SISO	54	5270	12.12	12.19
	62	5310	11.97	11.87
11AC20 SISO	52	5260	12.23	11.37
	60	5280	12.07	11.32
	64	5320	11.77	10.9
11AC40 SISO	54	5270	11.99	12.17
	62	5310	11.74	11.77
11AC80 SISO	58	5290	12.23	12.24

[5.5G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	100	5500	12.22	13.45
	116	5580	12.51	13.06
	140	5700	11.85	12.6
11N20 SISO	100	5500	12.53	13.16
	116	5580	12.9	13.31
	140	5700	12.4	12.93
11N40 SISO	102	5510	11.87	13.08
	110	5550	11.78	13.43
	134	5670	11.71	13.39
11AC20 SISO	100	5500	12.64	12.99
	116	5580	12.95	13.05
	140	5700	12.19	12.68
11AC40 SISO	102	5510	11.88	13
	110	5550	11.94	12.86
	134	5670	11.74	13.27
11AC80 SISO	106	5530	12.9	14.39
	122	5610	13.57	14.06

[5.8G WIFI Max Conducted Power]

Mode	Channel	Frequency (MHz)	Ant1 Max Conducted Power(dBm)	Ant2 Max Conducted Power(dBm)
11A	149	5745	11.72	11.76
	157	5785	11.56	11.63
	165	5825	11.75	11.68
11N20 SISO	149	5745	12.05	12.14
	157	5785	11.91	11.96
	165	5825	12.01	12.09
11N40 SISO	151	5755	12.14	12
	159	5795	11.9	11.75
11AC20 SISO	149	5745	12.04	12.11
	157	5785	11.85	11.92
	165	5825	11.92	11.98
11AC40 SISO	151	5755	10.96	10.9
	159	5795	10.67	10.67
11AC80 SISO	155	5775	11	11.07

7. Manufacturing Tolerance

[BT]

GFSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	-1.0	1.0	0
Tolerance ±(dB)	1.0	1.0	1.0
π/4DQPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	0	2.0	1.0
Tolerance ±(dB)	1.0	1.0	1.0
8DPSK (Peak)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	0	2.0	1.0
Tolerance ±(dB)	1.0	1.0	1.0

[BLE 1M]

GFSK (Peak)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	-2.0	0	-1.0
Tolerance ±(dB)	1.0	1.0	1.0

[BLE 2M]

GFSK (Peak)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	-2.0	0	-1.0
Tolerance ±(dB)	1.0	1.0	1.0

[2.4G WIFI Ant1]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20 (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40 (Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0

[2.4G WIFI Ant2]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20 (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	13.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40 (Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	13.0	13.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0

[5.2G WIFI Ant1]

11A(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38		Channel 46
Target (dBm)	13.0		12.0
Tolerance ±(dB)	1.0		1.0

11AC20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channe 38		Channel 46
Target (dBm)	12.0		12.0
Tolerance ±(dB)	1.0		1.0
11AC80(Average)			
Channel	Channel 42		
Target (dBm)	12.0		
Tolerance ±(dB)	1.0		

[5.2G WIFI Ant2]

11A(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	12.0	10.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38		Channel 46
Target (dBm)	11.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channe 38		Channel 46
Target (dBm)	11.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC80(Average)			
Channel	Channel 42		
Target (dBm)	10.0		
Tolerance ±(dB)	1.0		

[5.3G WIFI Ant1]

11A (AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	11.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(AVG)			
Channel	Channel 54		Channel 62
Target (dBm)	12.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC20(AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(AVG)			
Channel	Channel 54		Channel 62
Target (dBm)	11.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC VHT80 (Average)			
Channel	Channel 58		
Target (dBm)	12.0		
Tolerance ± (dB)	1.0		

[5.3G WIFI Ant2]

11A (AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	11.0	11.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(AVG)			
Channel	Channel 54		Channel 62
Target (dBm)	12.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC20(AVG)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	11.0	11.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(AVG)			
Channel	Channel 54		Channel 62
Target (dBm)	12.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC VHT80 (Average)			
Channel	Channel 58		
Target (dBm)	12.0		
Tolerance ± (dB)	1.0		

[5.5G WIFI Ant1]

11A (AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(AVG)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC20(AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(AVG)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC VHT80 (Average)			
Channel	Channel 106		
Target (dBm)	13.0		
Tolerance ± (dB)	1.0		

[5.5G WIFI Ant2]

11A (AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	13.0	13.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	13.0	13.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(AVG)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	13.0	13.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC20(AVG)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	13.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(AVG)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	13.0	12.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC VHT80 (Average)			
Channel	Channel 106		
Target (dBm)	14.0		
Tolerance ± (dB)	1.0		

[5.8G WIFI Ant1]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	11.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151		Channel 159
Target (dBm)	12.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channe151		Channel 159
Target (dBm)	10.0		10.0
Tolerance ±(dB)	1.0		1.0
11AC80 (Average)			
Channel	Channel 155		
Target (dBm)	11.0		
Tolerance ±(dB)	1.0		

[5.8G WIFI Ant2]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	11.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151		Channel 159
Target (dBm)	12.0		11.0
Tolerance ±(dB)	1.0		1.0
11AC20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channe151		Channel 159
Target (dBm)	10.0		10.0
Tolerance ±(dB)	1.0		1.0
11AC80 (Average)			
Channel	Channel 155		
Target (dBm)	11.0		
Tolerance ±(dB)	1.0		

8. Measurement Results

8.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, 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/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
GFSK	2.0	1.5849	2.06	1.6069	0.0005	1.0000
π/4-DQPSK	3.0	1.9953	2.06	1.6069	0.0006	1.0000
8-DPSK	3.0	1.9953	2.06	1.6069	0.0006	1.0000

[BT LE]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
BT LE	1.0	1.2589	2.06	1.6069	0.0004	1.0000
BT 2LE	1.0	1.2589	2.06	1.6069	0.0004	1.0000

[2.4G WIFI Ant1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11b	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11g	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11n HT20	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11n HT40	14.0	25.1189	2.06	1.6069	0.0080	1.0000

[2.4G WIFI Ant2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11b	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11g	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11n HT20	14.0	25.1189	2.06	1.6069	0.0080	1.0000
IEEE 802.11n HT40	14.0	25.1189	2.06	1.6069	0.0080	1.0000

[5.2G WIFI Ant1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT40	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT40	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT80	13.0	19.9526	2.95	1.9724	0.0078	1.0000

[5.2G WIFI Ant2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT20	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11n HT40	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT20	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT40	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT80	11.0	12.5893	2.95	1.9724	0.0049	1.0000

[5.3G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT40	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT80	13.0	19.9526	2.95	1.9724	0.0078	1.0000

[5.3G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT20	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT20	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT40	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT80	13.0	19.9526	2.95	1.9724	0.0078	1.0000

[5.5G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT40	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT40	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11ac VHT80	14.0	25.1189	2.95	1.9724	0.0099	1.0000

[5.5G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11n HT20	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11n HT40	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11ac VHT20	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11ac VHT40	14.0	25.1189	2.95	1.9724	0.0099	1.0000
IEEE 802.11ac VHT80	15.0	31.6228	2.95	1.9724	0.0124	1.0000

[5.8G WIFI Ant1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	12.0	25.1189	15.8489	2.95	1.9724	1.0000
IEEE 802.11n HT20	13.0	25.1189	19.9526	2.95	1.9724	1.0000
IEEE 802.11n HT40	13.0	25.1189	19.9526	2.95	1.9724	1.0000
IEEE 802.11ac VHT20	13.0	25.1189	19.9526	2.95	1.9724	1.0000
IEEE 802.11ac VHT40	11.0	25.1189	12.5893	2.95	1.9724	1.0000
IEEE 802.11ac VHT80	12.0	19.9526	15.8489	2.95	1.9724	1.0000

[5.8G WIFI Ant2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11a	12.0	15.8489	2.95	1.9724	0.0062	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.95	1.9724	0.0078	1.0000
IEEE 802.11ac VHT40	11.0	12.5893	2.95	1.9724	0.0049	1.0000
IEEE 802.11ac VHT80	12.0	15.8489	2.95	1.9724	0.0062	1.0000

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 20cm from user manual provide by manufacturer.

8.2 Simultaneous Transmission MPE Evaluation

The sample support one BT&BLE and one 2.4GWIFI/5.2GWIFI/5.3GWIFI/5.5GWIFI/5.8GWIFI, another one 2.4GWIFI/5.2GWIFI/5.3GWIFI/5.5GWIFI/5.8GWIFI, so need consider simultaneous transmission;
Simultaneous transmission MPE
According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;
∑∑of MPE ratios ≤ 1.0

<the worst simultaneous transmission operations result-2.4GWIFI>

Bluetooth Antenna Max MPE ratios	2.4GWIFI-Ant 1	2.4GWIFI-Ant 2	∑ MPE ratios	Limit	Results
0.0006	0.0080	0.0080	0.0166	1.0	Pass

<the worst simultaneous transmission operations result-5GWIFI>

Bluetooth Antenna Max MPE ratios	5GWIFI-Ant 1	5GWIFI-Ant 2	∑ MPE ratios	Limit	Results
0.0006	0.0099	0.0124	0.0229	1.0	Pass

Remark:
1. Output power including tune-up tolerance;
2. BT/BLE/2.4G WIFI output power is burst peak power;
3. 5G WIFI output power is burst average power;
4. MPE evaluate distance is 20cm from user manual provide by manufacturer;
5. MPE values = $PG/4\pi R^2$
6. Both 2.4GWIFI and 5GWIFI cannot be transmitter simultaneously.

9. Conclusion

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

10. Description of Test Facility

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.
Test Firm Registration Number: 254912.

11. Measurement Uncertainty

BT/BLE/2.4GWIFI/5.2GWIFI/5.3GWIFI/5.5GWIFI/5.8GWIFI:

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