



RF Exposure Evaluation

For

SHENZHEN TENDA TECHNOLOGY CO., LTD.

AX3000 Indoor/Outdoor Wi-Fi Access Point

Test Model: OAP3000

Prepared for : SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : July 31, 2025
Number of tested samples : 2
Sample No. : A250725074-1, A250725074-2
Serial number : Prototype
Date of Test : July 31, 2025 ~ November 26, 2025
Date of Report : November 27, 2025



**RF Exposure Evaluation****Report Reference No. : LCSA07255060EF**

Date of Issue..... : November 27, 2025

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, ChinaTesting Location/ Procedure..... : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name..... : SHENZHEN TENDA TECHNOLOGY CO., LTD.**Address..... : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District,
Shenzhen, China. 518052**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

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EUT Description..... : AX3000 Indoor/Outdoor Wi-Fi Access Point

Trade Mark..... : Tenda

Test Model..... : OAP3000

Ratings..... : Please Refer to Page 6

Result : PASS**Compiled by:**

Diamond Lu/ Administrator

Supervised by:

Jack Liu/ Technique principal

Approved by:

Gavin Liang/ Manager





RF Exposure Evaluation

Test Report No. : LCSA07255060EF	November 27, 2025 Date of issue
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EUT.....	: AX3000 Indoor/Outdoor Wi-Fi Access Point
Test Model.....	: OAP3000
Applicant.....	: SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address.....	: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Telephone.....	: /
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Manufacturer.....	: SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address.....	: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Telephone.....	: /
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Factory.....	: /
Address.....	: /
Telephone.....	: /
Fax.....	: /

Test Result:	PASS
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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	November 27, 2025	Initial Issue	---





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1. Product Information

EUT	:	AX3000 Indoor/Outdoor Wi-Fi Access Point
Test Model	:	OAP3000
Ratings	:	Input: 48V $\Rightarrow$ 800mA For Adapter Input: 100-240V~ 50/60Hz 1.0A Output: 48V $\Rightarrow$ 800mA
Hardware Version	:	/
Software Version	:	/
WIFI(2.4G Band)		
Frequency Range	:	2412MHz~2462MHz
Channel Number	:	11 Channels for 20MHz bandwidth (2412~2462MHz) 7 Channels for 40MHz bandwidth (2422~2452MHz)
Channel Spacing	:	5MHz
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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	:	Ant1: Dipole Antenna, 4.22dBi(Max.) Ant2: Dipole Antenna, 4.22dBi(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) 1 channels for 160MHz bandwidth(5250MHz)
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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	:	Ant1: Dipole Antenna, 4.94dBi(Max.) Ant2: Dipole Antenna, 4.94dBi(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) 1 channels for 160MHz bandwidth(5250MHz)
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)



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	IEEE 802.11ax: OFDM,OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Ant1: Dipole Antenna, 4.94dBi(Max.) Ant2: Dipole Antenna, 4.94dBi(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) IEEE 802.11ax: OFDM,OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Ant1: Dipole Antenna, 5.02dBi(Max.) Ant2: Dipole Antenna, 5.02dBi(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



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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	Dipole Antenna	2400MHz ~ 2500MHz 5000MHz ~ 6000MHz	2.4GWIFI:4.2dBi(Max) 5.2GWIFI:4.94dBi(Max) 5.3GWIFI:4.94dBi(Max) 5.8GWIFI:5.02dBi(Max)	WIFI Antenna 1
	Dipole Antenna	2400MHz ~ 2500MHz 5000MHz ~ 6000MHz	2.4GWIFI:4.22dBi(Max) 5.2GWIFI:4.94dBi(Max) 5.3GWIFI:4.94dBi(Max) 5.8GWIFI:5.02dBi(Max)	WIFI Antenna 2

6. Conducted Power

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11B	1	2412	18.24	18.76
	6	2437	18.63	18.10
	11	2462	18.63	18.08
11G	1	2412	17.31	16.86
	6	2437	16.64	16.25
	11	2462	16.85	16.11
11N20 SISO	1	2412	17.59	17.04
	6	2437	14.15	13.37
	11	2462	18.85	18.22
11N40 SISO	3	2422	17.89	17.46
	6	2437	17.09	16.60
	9	2452	17.72	17.15
11ax20 SISO	1	2412	18.46	17.88
	6	2437	17.92	17.38
	11	2462	17.84	17.31
11ax40 SISO	3	2422	18.88	18.51
	6	2437	18.07	17.57
	9	2452	18.59	17.99



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[5.2G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	36	5180	15.41	15.48
	40	5200	16.02	15.63
	48	5240	15.62	15.40
11N20 SISO	36	5180	15.54	13.96
	40	5200	16.17	14.52
	48	5240	15.09	13.90
11N40 SISO	38	5190	14.00	15.00
	46	5230	13.36	13.73
11ac20 SISO	36	5180	15.85	13.93
	40	5200	16.09	14.50
	48	5240	15.44	13.76
11ac40 SISO	38	5190	14.85	14.03
	46	5230	11.43	13.82
11ac80 SISO	42	5210	13.06	13.63
11ac160 SISO	50	5250	16.97	14.37
11ax20 SISO	36	5180	14.30	14.39
	40	5200	14.45	13.94
	48	5240	13.87	13.87
11ax40 SISO	38	5190	13.90	13.98
	46	5230	13.43	13.27
11ax80 SISO	42	5210	12.47	12.39
11ax160 SISO	50	5250	18.37	17.02

[5.3G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	52	5260	14.39	14.97
	60	5280	15.10	15.77
	64	5320	15.31	15.82
11N20 SISO	52	5260	14.67	14.43
	60	5280	15.12	15.23
	64	5320	15.39	14.87
11N40 SISO	54	5270	12.95	13.16
	62	5310	13.81	13.88
11ac20 SISO	52	5260	14.69	12.79
	60	5280	15.07	13.67
	64	5320	15.10	13.80
11ac40 SISO	54	5270	14.57	12.09
	62	5310	13.87	12.82
11ac80 SISO	58	5290	13.55	13.62
11ac160 SISO	50	5250	16.97	14.37
11ax20 SISO	52	5260	13.19	12.05
	60	5280	13.97	12.53
	64	5320	13.66	12.72
11ax40 SISO	54	5270	13.05	12.67
	62	5310	13.86	13.36
11ax80 SISO	58	5290	13.60	13.02
11ax160 SISO	50	5250	18.37	17.02



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[5.8G WIFI Max Conducted Power]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	149	5745	17.15	17.14
	157	5785	17.77	17.27
	165	5825	17.70	17.21
11N20 SISO	149	5745	17.03	16.44
	157	5785	16.60	16.16
	165	5825	16.57	16.61
11N40 SISO	151	5755	16.53	16.5
	159	5795	17.18	17.02
11ac20 SISO	149	5745	16.99	16.47
	157	5785	16.61	16.13
	165	5825	16.46	17.07
11ac40 SISO	151	5755	16.52	16.45
	159	5795	16.59	17.12
11ac80 SISO	155	5775	16.68	16.77
11ax20 SISO	149	5745	16.57	16.44
	157	5785	17.08	17.0
	165	5825	17.00	17.03
11ax40 SISO	151	5755	16.37	16.47
	159	5795	17.16	17.08
11ax80 SISO	155	5775	15.69	16.75

7. Manufacturing Tolerance

[2.4G WIFI Ant 1]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	18.0	18.0	18.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	17.0	16.0	16.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	17.0	14.0	18.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	17.0	17.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax20(Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	18.0	17.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax40(Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	18.0	18.0	18.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0



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[2.4G WIFI Ant2]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	18.0	18.0	18.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	17.0	13.0	18.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	17.0	16.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax20(Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	17.0	17.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax40(Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	18.0	17.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

[5.2G WIFI Ant1]

11A(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	16.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	16.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	14.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	15.0	16.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	14.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	



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11ac80(Average)			
Channel	Channel 42		
Target (dBm)	13.0		
Tolerance ±(dB)	1.0		
11 ac160(Average)			
Channel	Channel 50		
Target (dBm)	16.0		
Tolerance ±(dB)	1.0		
11ax20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	14.0	14.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11ax40(Average)			
Channel	Channe 38	Channel 46	
Target (dBm)	13.0	13.0	
Tolerance ±(dB)	1.0	1.0	
11ax80(Average)			
Channel	Channel 42		
Target (dBm)	12.0		
Tolerance ±(dB)	1.0		
11ax160(Average)			
Channel	Channel 50		
Target (dBm)	18.0		
Tolerance ±(dB)	1.0		

[5.2G WIFI Ant2]

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)	13.0	14.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	15.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	13.0	14.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	14.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ac80(Average)			



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Channel	Channel 42		
Target (dBm)	13.0		
Tolerance $\pm$ (dB)	1.0		
11ac160(Average)			
Channel	Channel 50		
Target (dBm)	14.0		
Tolerance $\pm$ (dB)	1.0		
11ax20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	14.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	13.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ax80(Average)			
Channel	Channel 42		
Target (dBm)	12.0		
Tolerance $\pm$ (dB)	1.0		
11ax160(Average)			
Channel	Channel 50		
Target (dBm)	17.0		
Tolerance $\pm$ (dB)	1.0		

[5.3G WIFI Ant 1]

11A (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	12.0	13.0	
Tolerance ±(dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	14.0	13.0	
Tolerance ±(dB)	1.0	1.0	
11ac80 (Average)			
Channel	Channel 58		



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Target (dBm)	13.0		
Tolerance $\pm$ (dB)	1.0		
11ac160 (Average)			
Channel	Channel 50		
Target (dBm)	16.0		
Tolerance $\pm$ (dB)	1.0		
11ax20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	13.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	13.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ax80 (Average)			
Channel	Channel 58		
Target (dBm)	13.0		
Tolerance $\pm$ (dB)	1.0		
11ax160 (Average)			
Channel	Channel 50		
Target (dBm)	18.0		
Tolerance $\pm$ (dB)	1.0		

[5.3G WIFI Ant 2]

11A (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	15.0	14.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	13.0	13.0	
Tolerance ±(dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	13.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	12.0	12.0	
Tolerance ±(dB)	1.0	1.0	
11ac80 (Average)			
Channel	Channel 58		
Target (dBm)	13.0		
Tolerance ± (dB)	1.0		
11ac160 (Average)			



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Channel	Channel 50		
Target (dBm)	14.0		
Tolerance $\pm$ (dB)	1.0		
11ax20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	12.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11ax40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	12.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11ax80 (Average)			
Channel	Channel 58		
Target (dBm)	13.0		
Tolerance $\pm$ (dB)	1.0		
11ax160 (Average)			
Channel	Channel 50		
Target (dBm)	17.0		
Tolerance $\pm$ (dB)	1.0		

[5.8G WIFI Ant 1]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	17.0	17.0	
Tolerance ±(dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channe151	Channel 159	
Target (dBm)	17.0	17.0	
Tolerance ±(dB)	1.0	1.0	
11ac80 (Average)			
Channel	Channel 155		
Target (dBm)	16.0		
Tolerance ±(dB)	1.0		
11ax20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0



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11ax40(Average)		
Channel	Channel 151	Channel 159
Target (dBm)	17.0	17.0
Tolerance $\pm$ (dB)	1.0	1.0
11ax80 (Average)		
Channel	Channel 155	
Target (dBm)	16.0	
Tolerance $\pm$ (dB)	1.0	

[5.8G WIFI Ant 2]			
11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	17.0	17.0	
Tolerance ±(dB)	1.0	1.0	
11ac20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11ac40(Average)			
Channel	Channe151	Channel 159	
Target (dBm)	17.0	17.0	
Tolerance ±(dB)	1.0	1.0	
11ac80 (Average)			
Channel	Channel 155		
Target (dBm)	16.0		
Tolerance ±(dB)	1.0		
11ax20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	17.0	17.0	17.0
Tolerance ±(dB)	1.0	1.0	1.0
11ax40(Average)			
Channel	Channe151	Channel 159	
Target (dBm)	17.0	17.0	
Tolerance ±(dB)	1.0	1.0	
11ax80 (Average)			
Channel	Channel 155		
Target (dBm)	16.0		
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, $r=20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[2.4G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11b	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418
IEEE 802.11g	18.0	63.0957	4.22	2.6424	0.0332	1.0000	0.0332
IEEE 802.11n HT20	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418
IEEE 802.11n HT40	18.0	63.0957	4.22	2.6424	0.0332	1.0000	0.0332
IEEE 802.11ax HE20	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418
IEEE 802.11ax HE40	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418

[2.4G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11b	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418
IEEE 802.11g	17.0	50.1187	4.22	2.6424	0.0263	1.0000	0.0263
IEEE 802.11n HT20	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418
IEEE 802.11n HT40	18.0	63.0957	4.22	2.6424	0.0332	1.0000	0.0332
IEEE 802.11ax HE20	18.0	63.0957	4.22	2.6424	0.0332	1.0000	0.0332
IEEE 802.11ax HE40	19.0	79.4328	4.22	2.6424	0.0418	1.0000	0.0418

[5.2G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	17.0	50.1187	4.94	3.1189	0.0311	1.0000	0.0311
IEEE 802.11n HT20	17.0	50.1187	4.94	3.1189	0.0311	1.0000	0.0311
IEEE 802.11n HT40	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ac VHT20	17.0	50.1187	4.94	3.1189	0.0311	1.0000	0.0311
IEEE 802.11ac VHT40	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ac VHT80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT160	17.0	50.1187	4.94	3.1189	0.0311	1.0000	0.0311
IEEE 802.11ax HE20	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ax HE40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE80	13.0	19.9526	4.94	3.1189	0.0124	1.0000	0.0124
IEEE 802.11ax HE160	19.0	79.4328	4.94	3.1189	0.0493	1.0000	0.0493

[5.2G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11n HT20	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11n HT40	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11ac VHT20	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ac VHT40	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ac VHT80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT160	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ax HE20	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ax HE40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156



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IEEE 802.11ax HE80	13.0	19.9526	4.94	3.1189	0.0124	1.0000	0.0124
IEEE 802.11ax HE160	18.0	63.0957	4.94	3.1189	0.0391	1.0000	0.0391

[5.3G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11n HT20	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11n HT40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT20	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11ac VHT40	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ac VHT80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT160	17.0	50.1187	4.94	3.1189	0.0311	1.0000	0.0311
IEEE 802.11ax HE20	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE160	19.0	79.4328	4.94	3.1189	0.0493	1.0000	0.0493

[5.3G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11n HT20	16.0	39.8107	4.94	3.1189	0.0247	1.0000	0.0247
IEEE 802.11n HT40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT20	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT40	13.0	19.9526	4.94	3.1189	0.0124	1.0000	0.0124
IEEE 802.11ac VHT80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ac VHT160	15.0	31.6228	4.94	3.1189	0.0196	1.0000	0.0196
IEEE 802.11ax HE20	13.0	19.9526	4.94	3.1189	0.0124	1.0000	0.0124
IEEE 802.11ax HE40	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE80	14.0	25.1189	4.94	3.1189	0.0156	1.0000	0.0156
IEEE 802.11ax HE160	18.0	63.0957	4.94	3.1189	0.0391	1.0000	0.0391

[5.8G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	17.0	50.1187	5.02	3.1769	0.0317	1.0000	0.0317
IEEE 802.11n HT20	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11n HT40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ac VHT20	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ac VHT40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ac VHT80	17.0	50.1187	5.02	3.1769	0.0317	1.0000	0.0317
IEEE 802.11ax HE20	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ax HE40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ax HE80	17.0	50.1187	5.02	3.1769	0.0317	1.0000	0.0317

[5.8G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios
	dBm	mW					
IEEE 802.11a	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11n HT20	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11n HT40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ac	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399



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VHT20							
IEEE 802.11ac VHT40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ac VHT80	17.0	50.1187	5.02	3.1769	0.0317	1.0000	0.0317
IEEE 802.11ax HE20	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ax HE40	18.0	63.0957	5.02	3.1769	0.0399	1.0000	0.0399
IEEE 802.11ax HE80	17.0	50.1187	5.02	3.1769	0.0317	1.0000	0.0317

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 2.4GWLAN&5.2G WLAN&5.3G WLAN &5.8G WLAN, another one 2.4GWLAN&5.2G WLAN&5.3G WLAN &5.8G WLAN, so need consider simultaneous transmission;
According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;
 $\sum \sum$ of MPE ratios ≤ 1.0

<the worst simultaneous transmission operations result- 2.4GWIFI>

2.4GWIFI-Ant 1	2.4GWIFI-Ant 2	$\sum$ MPE ratios	Limit	Results
0.0418	0.0418	0.0836	1.0	Pass

<the worst simultaneous transmission operations result- 5GWIFI>

5GWIFI-Ant 1	5GWIFI-Ant 2	$\sum$ MPE ratios	Limit	Results
0.0493	0.0399	0.0892	1.0	Pass

Remark:

1. Output power including turn-up tolerance;
2. 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

2.4GWIFI/5.2GWIFI/5.3GWIFI/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.

