



RF Exposure Evaluation

For

Shanghai Smart Control Co., Ltd.

Wireless zoom receiver

Test Model: WVRM

Additional Model No.: eZoom

Prepared for : Shanghai Smart Control Co., Ltd.
Address : 2088 Lane, Laifang Road, Songjiang District, Shanghai

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei,
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Date of receipt of test sample : January 20, 2026
Number of tested samples : 2
Sample No. : A260117032-1, A260117032-2
Serial number : Prototype
Date of Test : January 20, 2026 ~ April 07, 2026
Date of Report : April 08, 2026



**RF Exposure Evaluation****Report Reference No. : LCSA01156055EE**

Date of Issue..... : April 08, 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, ChinaTesting Location/ Procedure..... : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name..... : Shanghai Smart Control Co., Ltd.**

Address..... : 2088 Lane, Laifang Road, Songjiang District, Shanghai

Test SpecificationStandard : 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..... : Wireless zoom receiver

Trade Mark..... : N/A

Test Model : WVRM

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

Result : PASS**Compiled by:***Joker.Hu***Supervised by:***Kevin Huang***Approved by:***Gavin Liang*

Joker Hu/ Administrators

Kevin Huang/ RF Manager

Gavin Liang / Manager



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RF Exposure Evaluation

Test Report No. :	LCSA01156055EE	<u>April 08, 2026</u> Date of issue
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EUT.....	: Wireless zoom receiver
Test Model.....	: WVRM
Applicant.....	: Shanghai Smart Control Co., Ltd.
Address.....	: 2088 Lane, Laifang Road, Songjiang District, Shanghai
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Shanghai Smart Control Co., Ltd.
Address.....	: 2088 Lane, Laifang Road, Songjiang District, Shanghai
Telephone.....	: /
Fax.....	: /
Factory.....	: Shanghai Smart Control Co., Ltd.
Address.....	: 2088 Lane, Laifang Road, Songjiang District, Shanghai
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.



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Revision History

Report Version	Issue Date	Revision Content	Revised By
000	April 08, 2026	Initial Issue	--





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1. Product Information

EUT	: Wireless zoom receiver
Test Model	: WVRM
Additional Model No.	: eZoom
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Ratings	: DC 24V, 1000mA
Hardware Version	: /
Software Version	: /
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 channel 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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Ant1: PCB Antenna, 2.0dBi (Max.) Ant2: PCB Antenna, 2.0dBi (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 channel 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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Ant1: PCB Antenna, 2.0dBi (Max.) Ant2: PCB Antenna, 2.0dBi (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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM,





	QPSK, BPSK)
Antenna Description	: Ant1: PCB Antenna, 2.0dBi (Max.) Ant2: PCB Antenna, 2.0dBi (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 channel 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: PCB Antenna, 2.0dBi (Max.) Ant2: PCB Antenna, 2.0dBi (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.



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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	PCB Antenna 1	5000MHz ~ 6000MHz	5.2GWIFI: 2.0dBi 5.3GWIFI: 2.0dBi 5.5GWIFI: 2.0dBi 5.8GWIFI: 2.0dBi	WIFI Antenna
	PCB Antenna 2	5000MHz ~ 6000MHz	5.2GWIFI: 2.0dBi 5.3GWIFI: 2.0dBi 5.5GWIFI: 2.0dBi 5.8GWIFI: 2.0dBi	WIFI Antenna



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6. Conducted Power

[5.2G WIFI Max Conducted Power]

Mode	Channel	Frequency (MHz)	Ant1 Max Conducted Power(dBm)	Ant2 Max Conducted Power(dBm)
11A	36	5180	7.45	11.64
	40	5200	7.84	11.43
	48	5240	8.19	12.35
11N20 SISO	36	5180	6.83	11.95
	40	5200	7.26	12.15
	48	5240	8.07	12.58
11N40 SISO	38	5190	7.61	9.96
	46	5230	8.99	10.59
11AC20 SISO	36	5180	7.25	11.08
	40	5200	7.82	11.46
	48	5240	8.49	11.83
11AC40 SISO	38	5190	8.7	10.19
	46	5230	7.98	10.64
11AC80 SISO	42	5210	8.53	9.54
11AX20 SISO	36	5180	7.58	13.86
	40	5200	7.78	14.11
	48	5240	8.47	11.79
11AX40 SISO	38	5190	8.58	10.26
	46	5230	8.06	13.37
11AX80 SISO	42	5210	8.45	12.18

[5.3G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	52	5260	12.6	12.23
	60	5280	11.24	12.18
	64	5320	12.29	11.87
11N20 SISO	52	5260	14.17	12.56
	60	5280	14.18	12.43
	64	5320	13.86	12.11
11N40 SISO	54	5270	11.82	12.61
	62	5310	11.5	12.41
11AC20 SISO	52	5260	11.83	12.57
	60	5280	11.76	12.59
	64	5320	11.32	12.21
11AC40 SISO	54	5270	11.78	12.62
	62	5310	11.59	12.39
11AC80 SISO	58	5290	12.05	12.53
11AX20 SISO	52	5260	12.7	12.64



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11AX40 SISO	60	5280	12.96	12.69
	64	5320	12.55	12.35
	54	5270	12.82	12.61
	62	5310	9.9	12.41
11AX80 SISO	58	5290	10.34	12.5

[5.5G WIFI]

Mode	Channel	Frequency (MHz)	Ant 1 Max Conducted Power(dBm)	Ant 2 Max Conducted Power(dBm)
11A	100	5500	9.65	14.73
	116	5580	10.39	12.37
	140	5700	8.93	11.66
11N20 SISO	100	5500	10.42	12.35
	116	5580	10.7	12.72
	140	5700	9.44	11.89
11N40 SISO	102	5510	10.06	12.18
	110	5550	10.26	12.25
	134	5670	9.39	12.18
11AC20 SISO	100	5500	9.98	12.35
	116	5580	10.67	12.77
	140	5700	9.32	11.86
11AC40 SISO	102	5510	10.11	12.17
	110	5550	10.54	12.26
	134	5670	8.84	12.25
11AC80 SISO	106	5530	9.71	12.11
	122	5610	9.71	13.21
11AX20 SISO	100	5500	10.16	12.27
	116	5580	10.75	12.81
	140	5700	9.37	11.89
11AX40 SISO	102	5510	10.04	12.19
	110	5550	9.51	12.17
	134	5670	8.9	12.21
11AX80 SISO	106	5530	9.05	12.19
	122	5610	9.7	13.19

[5.8G WIFI Max Conducted Power]

Mode	Channel	Frequency (MHz)	Ant1 Max Conducted Power(dBm)	Ant2 Max Conducted Power(dBm)
11A	149	5745	11.67	11.43
	157	5785	11.78	11.48
	165	5825	12	11.56
11N20 SISO	149	5745	11.91	11.81
	157	5785	11.64	11.81



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	165	5825	13.06	11.95
11N40 SISO	151	5755	12.88	11.82
	159	5795	12.84	11.81
11AC20 SISO	149	5745	12.69	11.8
	157	5785	11.92	11.91
	165	5825	12.1	12
11AC40 SISO	151	5755	12.85	11.91
	159	5795	12.83	11.56
11AC80 SISO	155	5775	11.13	11.93
11AX20 SISO	149	5745	11.82	11.82
	157	5785	12.84	11.85
	165	5825	13.04	11.98
11AX40 SISO	151	5755	11.96	11.79
	159	5795	11.99	11.65
11AX80 SISO	155	5775	11.92	12.02

7. Manufacturing Tolerance

[5.2G WIFI Ant1]

11A(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	7.0	7.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	6.0	7.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	7.0	8.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	7.0	7.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	8.0	7.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80(Average)			
Channel	Channel 42		
Target (dBm)	8.0		
Tolerance $\pm$ (dB)	1.0		
11AX20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	7.0	7.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0



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11AX40(Average)		
Channel	Channel 38	Channel 46
Target (dBm)	8.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0
11AX80(Average)		
Channel	Channel 42	
Target (dBm)	8.0	
Tolerance $\pm$ (dB)	1.0	

[5.2G WIFI Ant2]			
11A(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 38		Channel 46
Target (dBm)	9.0		10.0
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)	10.0		10.0
Tolerance ±(dB)	1.0		1.0
11AC80(Average)			
Channel	Channel 42		
Target (dBm)	9.0		
Tolerance ±(dB)	1.0		
11AX20(Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	13.0	14.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11AX40(Average)			
Channel	Channe 38		Channel 46
Target (dBm)	10.0		13.0
Tolerance ±(dB)	1.0		1.0
11AX80(Average)			
Channel	Channel 42		
Target (dBm)	12.0		
Tolerance ±(dB)	1.0		





[5.3G WIFI Ant 1]

11A (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	11.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	14.0	14.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20(Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	11.0	11.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 58		
Target (dBm)	12.0		
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	9.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX80 (Average)			
Channel	Channel 58		
Target (dBm)	10.0		
Tolerance $\pm$ (dB)	1.0		



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[5.3G WIFI Ant 2]

11A (Average)			
Channel	Channel 52	Channel 60	Channel 64
Target (dBm)	12.0	12.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(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
11N40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	12.0	12.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20(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
11AC40(Average)			
Channel	Channel 54	Channel 62	
Target (dBm)	12.0	12.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 58		
Target (dBm)	12.0		
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	12.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX80 (Average)			
Channel	Channel 58		
Target (dBm)	12.0		
Tolerance $\pm$ (dB)	1.0		



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[5.5G WIFI Ant 1]

11A (Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	9.0	10.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	10.0	10.0	9.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	10.0	10.0	9.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	9.0	10.0	9.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	10.0	10.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC80 (Average)			
Channel	Channel 106	Channel 122	
Target (dBm)	9.0	9.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	10.0	10.0	9.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	10.0	9.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX80 (Average)			
Channel	Channel 106	Channel 122	
Target (dBm)	9.0	9.0	
Tolerance $\pm$ (dB)	1.0	1.0	



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[5.5G WIFI Ant 2]

11A (Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	14.0	12.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	12.0	12.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	12.0	12.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC80 (Average)			
Channel	Channel 106	Channel 122	
Target (dBm)	12.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX20(Average)			
Channel	Channel 100	Channel 116	Channel 140
Target (dBm)	12.0	12.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX40(Average)			
Channel	Channel 102	Channel 110	Channel 134
Target (dBm)	12.0	12.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX80 (Average)			
Channel	Channel 106	Channel 122	
Target (dBm)	12.0	13.0	
Tolerance $\pm$ (dB)	1.0	1.0	



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[5.8G WIFI Ant1]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	12.0	12.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	11.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	12.0	12.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 155		
Target (dBm)	11.0		
Tolerance $\pm$ (dB)	1.0		
11AX20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	12.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX80 (Average)			
Channel	Channel 155		
Target (dBm)	11.0		
Tolerance $\pm$ (dB)	1.0		



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[5.8G WIFI Ant2]

11A (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11N40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AC40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AC80 (Average)			
Channel	Channel 155		
Target (dBm)	11.0		
Tolerance $\pm$ (dB)	1.0		
11AX20(Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	11.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
11AX40(Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	11.0	11.0	
Tolerance $\pm$ (dB)	1.0	1.0	
11AX80 (Average)			
Channel	Channel 155		
Target (dBm)	12.0		
Tolerance $\pm$ (dB)	1.0		



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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.

[5.2G WIFI Ant1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11n HT20	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11n HT40	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ac VHT20	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ac VHT40	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ac VHT80	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ax HE20	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ax HE40	9.0	7.9433	2.0	1.5849	0.0025	1.0000
IEEE 802.11ax HE80	9.0	7.9433	2.0	1.5849	0.0025	1.0000

[5.2G WIFI Ant2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT40	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ac VHT20	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT40	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ac VHT80	10.0	10.0000	2.0	1.5849	0.0032	1.0000
IEEE 802.11ax HE20	15.0	31.6228	2.0	1.5849	0.0100	1.0000
IEEE 802.11ax HE40	14.0	25.1189	2.0	1.5849	0.0079	1.0000
IEEE 802.11ax HE80	13.0	19.9526	2.0	1.5849	0.0063	1.0000

[5.3G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT20	15.0	31.6228	2.0	1.5849	0.0100	1.0000
IEEE 802.11n HT40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT20	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT80	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE80	11.0	12.5893	2.0	1.5849	0.0040	1.0000



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[5.3G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT80	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE80	13.0	19.9526	2.0	1.5849	0.0063	1.0000

[5.5G WIFI Ant 1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11n HT20	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11n HT40	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ac VHT20	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ac VHT40	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ac VHT80	10.0	10.0000	2.0	1.5849	0.0032	1.0000
IEEE 802.11ax HE20	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ax HE40	11.0	12.5893	2.0	1.5849	0.0040	1.0000
IEEE 802.11ax HE80	10.0	10.0000	2.0	1.5849	0.0032	1.0000

[5.5G WIFI Ant 2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	15.0	31.6228	2.0	1.5849	0.0100	1.0000
IEEE 802.11n HT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT80	14.0	25.1189	2.0	1.5849	0.0079	1.0000
IEEE 802.11ax HE20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ax HE80	14.0	25.1189	2.0	1.5849	0.0079	1.0000



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[5.8G WIFI Ant1]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11n HT20	14.0	25.1189	2.0	1.5849	0.0079	1.0000
IEEE 802.11n HT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT40	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT80	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ax HE20	14.0	25.1189	2.0	1.5849	0.0079	1.0000
IEEE 802.11ax HE40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ax HE80	12.0	15.8489	2.0	1.5849	0.0050	1.0000

[5.8G WIFI Ant2]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11a	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11n HT20	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11n HT40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT20	13.0	19.9526	2.0	1.5849	0.0063	1.0000
IEEE 802.11ac VHT40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ac VHT80	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ax HE20	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ax HE40	12.0	15.8489	2.0	1.5849	0.0050	1.0000
IEEE 802.11ax HE80	13.0	19.9526	2.0	1.5849	0.0063	1.0000

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjusted 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 2T2R MIMO for WLAN, so need consider simultaneous transmission;

Simultaneous transmission MPE

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

$\sum$ of MPE ratios ≤ 1.0

5GWIFI-Ant 1	5GWIFI-Ant 2	$\sum$ MPE ratios	Limit	Results
0.0100	0.0100	0.0200	1.0	Pass

Remark:

1. Output power including tune-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer;
3. MPE values = $PG/4\pi R^2$

9. Conclusion

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



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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

5.2GWIFI/5.3GWIFI/5.5GWIFI/5.8GWIFI:

Test Item		Frequency Range	Uncertainty	Note
Output power	:	1GHz-40GHz	$\pm 0.57\text{dB}$	(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-----



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