



Industrial Internet Innovation Center (Shanghai) Co.,Ltd.

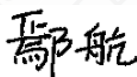
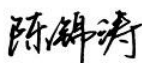
MPE REPORT

PRODUCT	POS System
BRAND	SUNMI
MODEL	L15A2,L15B2
FCC ID	2AH25T3PRO
APPLICANT	Shanghai Sunmi Technology Co.,Ltd.
ISSUE DATE	December 17, 2024
STANDARD(S)	FCC 47 CFR Part 2 §2.1091

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1 Summary of Test Report

1.1 Test Standard (s)

No.	Test Standard(s)	Title	Version
1	FCC 47 CFR Part 2 §2.1091	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS. Section 2.1091 Radiofrequency radiation exposure evaluation: mobile devices	N/A
NOTE: The standard of FCC 47 CFR Part 2 §2.1091 has not been accredited by A2LA.			

1.2 Reference Documents

No.	Reference Document(s)	Title	Version
1	KDB 447498	Interim General RF Exposure Guidance	D04 v01

1.3 Data Provided by Applicant

No.	Item(s)	Data
1	Maximum tune-up power	Antenna 1: Wi-Fi 2.4G: 20.5 dBm BT: 18.5 dBm Wi-Fi 5G U-NII-1: 15.0 dBm Wi-Fi 5G U-NII-2A/2C/3: 18.0 dBm Wi-Fi 6G U-NII-5/6/7: 12.0 dBm Wi-Fi 6G U-NII-8: 10.0 dBm Antenna 2: Wi-Fi 2.4G: 20.5 dBm Wi-Fi 5G U-NII-1: 15.0 dBm Wi-Fi 5G U-NII-2A/2C/3: 18.0 dBm Wi-Fi 6G U-NII-5/6/7/8: 12.0 dBm
2	Maximum antenna gain	Antenna 1: Wi-Fi 2.4G: 2.6 dBi BT: 2.6 dBi Wi-Fi 5G U-NII-1/2A/2C/3/5/6/7/8: 3.5 dBi Antenna 2: Wi-Fi 2.4G: 2.6 dBi Wi-Fi 5G U-NII-1/2A/2C/3/5/6/7/8: 3.5 dBi
NOTE1: The data of Maximum tune-up power and Maximum antenna gain are provided by the customer may affect the validity of the test results in this report, and the impact and consequences of this shall be undertaken by the customer. NOTE2: For Wi-Fi SISO and MIMO mode, the higher values in Antenna Gain and Directional Antenna Gain are used for conservative calculation. The conservative higher value is Directional Antenna Gain.		

2 General Information of The Laboratory

2.1 Testing Laboratory

Lab Name	Industrial Internet Innovation Center (Shanghai) Co.,Ltd.
Address	Building 4, No. 766, Jingang Road, Pudong, Shanghai, China
Telephone	021-68866880
FCC Registration No.	708870
FCC Designation No.	CN1364

2.2 Laboratory Environmental Requirements

Temperature	18°C~25°C
Relative Humidity	25%RH~75%RH

2.3 Project Information

Project Manager	Gao Hongning
Test Date	N/A

3 General Information of The Customer

3.1 Applicant

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Telephone	+86 17302160204

3.2 Manufacturer

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Telephone	+86 17302160204

4 General Information of The Product

4.1 Product Description for Equipment under Test (EUT)

Product	POS System
Model	L15A2,L15B2
Date of Receipt	N/A
EUT ID*	N/A
SN/IMEI	N/A
Supported Radio Technology and Bands	Wi-Fi 2.4G Wi-Fi 5G U-NII-1/2A/2C/3 Wi-Fi 6G U-NII-5/6/7/8 BT, NFC
Tx Frequency	2412 MHz-2462 MHz (Wi-Fi 2.4G) 5180 MHz-5250 MHz (Wi-Fi 5G U-NII-1) 5250 MHz-5320 MHz (Wi-Fi 5G U-NII-2A) 5500 MHz-5700 MHz (Wi-Fi 5G U-NII-2C) 5745 MHz-5825 MHz (Wi-Fi 5G U-NII-3) 5955 MHz-6415 MHz (Wi-Fi 6G U-NII-5) 6435 MHz-6525 MHz (Wi-Fi 6G U-NII-6) 6525 MHz-6875 MHz (Wi-Fi 6G U-NII-7) 6875 MHz-7115 MHz (Wi-Fi 6G U-NII-8) 2402 MHz-2480 MHz (BT) 13.56 MHz (NFC)
Hardware Version	6490Coreboard_MB_V3.0
Software Version	3.0.0
NOTE1: EUT ID is the internal identification code of the laboratory. NOTE2: Samples in the test report are provided by the customer. The test results are only applicable to the samples received by the laboratory.	

4.2 Description for Auxiliary Equipment (AE)

AE ID*	Description	Model	SN/Remark
N/A	N/A	N/A	N/A
NOTE: AE ID is the internal identification code of the laboratory.			

5 General Description

5.1 Evaluation Distance

Evaluation distance 20cm as a distance between the equipment and the operator or user when it is used normally. The distance used for the assessment had be specified by the manufacturer and be onsistent with the intended usage of the equipment.

5.2 Evaluation Method

For conservative evaluation consideration, only maximum power of each frequency band based on the tighter limits respectively are used to calculate the boundary power density.

Based on the KDB447498 D01 and FCC 47 CFR Part 2 § 2.1091, the DUT is evaluated as a mobile device.

$$S = \frac{P \times G}{4\pi d^2}$$

Where

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

6 Assessment Results

6.1 Standalone Evaluation

6.1.1 Limit/Criterion

Table 6.1.1-1: Limits for Occupational / Controlled Exposure

Limits for Occupational / Controlled Exposure				
Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1824/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1	6
300 – 1500	--	--	f/300	6
1500 - 100000	--	--	5	6
Limits for General Population / Uncontrolled Exposure				
Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3 – 1.34	614	1.63	(100)*	30
1.34 – 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 - 100000	--	--	1	30
NOTE: f = frequency in MHz; * Plane-wave equivalent power density. For the DUT, the limits for General Population / Uncontrolled Exposure are applicable.				

6.1.2 Standalone Evaluation

Table 6.1.2-1: Standalone Evaluation

Antenna	Band	Maximum Tune Up Power(dBm)	Highest Output Power (dBm)	Highest Output Power (mW)	Antenna Gain(dBi)	Numeric antenna gain	Power density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power density /Limit
Antenna 1	Wi-Fi 2.4G	20.50	20.50	112.20	2.60	1.82	0.041	1.000	0.041
Antenna 1	BT	18.50	18.50	70.79	2.60	1.82	0.026	1.000	0.026
Antenna 1	Wi-Fi 5G U-NII-1	15.00	15.00	31.62	3.50	2.24	0.014	1.000	0.014
Antenna 1	Wi-Fi 5G U-NII-2A	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 1	Wi-Fi 5G U-NII-2C	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 1	Wi-Fi 5G U-NII-3	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 1	Wi-Fi 6G U-NII-5	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 1	Wi-Fi 6G U-NII-6	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 1	Wi-Fi 6G U-NII-7	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 1	Wi-Fi 6G U-NII-8	10.00	10.00	10.00	3.50	2.24	0.004	1.000	0.004
Antenna 2	Wi-Fi 2.4G	20.50	20.50	112.20	2.60	1.82	0.041	1.000	0.041
Antenna 2	Wi-Fi 5G U-NII-1	15.00	15.00	31.62	3.50	2.24	0.014	1.000	0.014
Antenna 2	Wi-Fi 5G U-NII-2A	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 2	Wi-Fi 5G U-NII-2C	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 2	Wi-Fi 5G U-NII-3	18.00	18.00	63.10	3.50	2.24	0.028	1.000	0.028
Antenna 2	Wi-Fi 6G U-NII-5	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 2	Wi-Fi 6G U-NII-6	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 2	Wi-Fi 6G U-NII-7	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007
Antenna 2	Wi-Fi 6G U-NII-8	12.00	12.00	15.85	3.50	2.24	0.007	1.000	0.007

According to KDB 447498 D04, a single RF source is exempt RF device if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless

of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it can not be applied in conjunction with any other test exemption.

Table 6.1.2-2: NFC Evaluation

Frequency (MHz)	dB μ V/m @3m	EIRP(dBm)	Tune up tolerance(dBm)	Maximum Tune up(dBm)	Maximum Tune up(mW)	Exclusion Thresholds (mW)
13.56	48.206	-47.022	-47.00 $\pm$ 1	-46.00	0.00003	1.00
Note: EIRP(dBm)=Radiated field strength(dB μ V/m)+20Log(d)-104.77, d is the measurement distance, in 3 m.						

Conclusion: Base on the above table, the maximum output power of NFC is below the exemption thresholds, NFC can be exempted.

6.2 Simultaneous transmission Evaluation

Table 6.2-1: Simultaneous transmission Evaluation

Antenna	Frequency range	Worst case ratios: (Power density/Limit, Maximum Tune up/Thresholds)	Sum of Ratios	Limit of Ratios
ANT 1	BT	0.026	0.067	1.000
ANT 2	Wi-Fi 2.4G	0.041		
NFC	NFC	0.00003		
ANT 1	Wi-Fi 2.4G	0.041	0.082	1.000
ANT 2	Wi-Fi 2.4G	0.041		
NFC	NFC	0.00003		

Conclusion: The aggregated (Power density/ Limit, Maximum Tune up/ Thresholds) is smaller than 1, and MPE collocated transmitters is compliant.

Annex A: Revised History

Version	Revised Content
V0	Initial

Annex B: Accreditation Certificate



END OF REPORT