



TEST REPORT

No. I19D00108-SAR01

For

Client : Shanghai Sunmi Technology Co.,Ltd.

Production : POS Base

Model Name : ND0A0

Brand Name: SUNMI

FCC ID: 2AH25ND0A0

Hardware Version: V1.1

Software Version: V1.0

Issued date: 2019-08-15

NOTE

1. The test results in this test report relate only to the devices specified in this report.
2. This report shall not be reproduced except in full without the written approval of East China Institute of Telecommunications.
3. For the test results, the uncertainty of measurement is not taken into account when judging the compliance with specification, and the results of measurement or the average value of measurement results are taken as the criterion of the compliance with specification directly.
4. It has been confirmed with the customer that the Highest Frame-Averaged Output Power and Antenna gain information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences will be borne by the customer.

Test Laboratory:

East China Institute of Telecommunications

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Revision Version

Report Number	Revision	Date	Memo
I19D00108-SAR01	00	2019-07-25	Initial creation of test report
I19D00108-SAR01	01	2019-08-15	Second creation of test report

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1. Test Laboratory

1.1. Testing Location

Company Name:	ECIT Shanghai, East China Institute of Telecommunications
Address:	7-8F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai, P. R. China
Postal Code:	200001
Telephone:	(+86)-021-63843300
Fax:	(+86)-021-63843301
FCC Registration NO.:	489729

1.2. Project Data

Project Leader:	Zhang Heng
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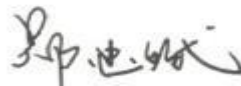
1.3. Signature



Yan Hang
(Prepared this test report)



Fu Erliang
(Reviewed this test report)



Zheng Zhongbin
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Shanghai Sunmi Technology Co.,Ltd.
Address: Room 605, Block 7, KIC Plaza, No.388 Song Hu Road Yang Pu District,
Shanghai, China
Telephone: N/A
Postal Code: N/A

2.2. Manufacturer Information

Company Name: Shanghai Sunmi Technology Co.,Ltd.
Address: Room 605, Block 7, KIC Plaza, No.388 Song Hu Road Yang Pu District,
Shanghai, China
Telephone: N/A
Postal Code: N/A

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	POS Base
Model name	ND0A0
WLAN 2.4G Frequency Band	b/g/n

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N01	N/A	V1.1	V1.0	2019-07-02

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
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*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents For FCC

4.1. Applicable Standards

The MPE report was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1091.

FCC CFR 47, Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

Section 1.1310 Radiofrequency radiation exposure limits

4.2. Test Limits

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

Limits for Occupational / Controlled Exposure

Frequency Range [MHz]	Electric Field Strength [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)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	F/300	6
1500 - 100000	--	--	5	6

Limits for General Population / Uncontrolled Exposure

Frequency Range [MHz]	Electric Field Strength [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)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	--	--	F/1500	30
1500 - 100000	--	--	1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

For the DUT, the limits for General Population / Uncontrolled Exposure are applicable.

5. Test Results

5.1. RF Power Output

Band	Max power(dBm)	Highest Frame-Averaged Output Power (dBm)	Antenna Gain (dBi)
WLAN 2.4G 802.11b	21.5	21.5	2.78
WLAN 2.4G 802.11g	18.5	18.5	2.78
WLAN 2.4G 802.11 n20	18.5	18.5	2.78
WLAN 2.4G 802.11 n40	17.5	17.5	2.78

5.2. Calculation Information

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 FCC KDB 447498 D01 and 47 CFR §2.1091, the DUT is evaluated as a mobile device.

$$\text{Given } S = \frac{P \times G}{4\pi d^2} \quad \text{Equation 1}$$

Where

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

5.3. Power density calculations

Band	Highest Output Power (dBm)	Antenna Gain (dBi)	Numeric antenna gain	Power density at 20cm	Limit mW/cm ²
WLAN 2.4G 802.11b	21.5	2.78	1.897	0.053	1.0
WLAN 2.4G 802.11g	18.5	2.78	1.897	0.027	1.0
WLAN 2.4G 802.11 n20	18.5	2.78	1.897	0.027	1.0
WLAN 2.4G 802.11 n40	17.5	2.78	1.897	0.021	1.0

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band

The product is under the MPE limits. All is pass.

*****END OF REPORT*****