RF Exposure Evaluation Report

Product	:	Smart Wi-Fi Plug Mini
Trade mark	:	meross
Model/Type reference	:	MSS110,MSS110S
Serial Number	:	N/A
Report Number	:	EED32L00091802
FCC ID	:	2AMUU-MSS110V2
Date of Issue	:	Jun. 18, 2019
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 KDB 447498 D01v06
Test result	:	PASS

Prepared for:

Chengdu Meross Technology Co., Ltd.
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Prepared by:

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Date:	Jun. 18, 2019		Check No.:3757521338

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2 Version

Version No.	Date	Description
00	Jun. 18, 2019	Original

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4 General Information

4.1 Client Information

Applicant:	Chengdu Meross Technology Co., Ltd.
Address of Applicant:	No.1935, Floor 19, Unit 1, Building 7 No.1700 of Tianfu Avenue North, Gaoxin, Chengdu, China
Manufacturer:	Chengdu Meross Technology Co., Ltd.
Address of Manufacturer:	No.1935, Floor 19, Unit 1, Building 7 No.1700 of Tianfu Avenue North, Gaoxin, Chengdu, China
Factory:	CHENGDU XUGUANG TECHNOLOGY CO., LTD
Address of Factory:	2 Section of Park Road, Longquanyi, Chengdu, China

4.2 General Description of EUT

Product Name:	Smart Wi-Fi Plug Mini
Model No.(EUT):	MSS110,MSS110S
Test model	MSS110
Trade Mark:	meross
EUT Supports Radios application:	Wlan 2.4GHz 802.11b/g/n(HT20&HT40)

4.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)
Hardware Version of EUT:	(manufacturer declare)V2.0
Firmware version of EUT:	(manufacturer declare)mss110-us-v2-rc0112
Antenna Type:	PCB antenna
Antenna Gain:	1.5dBi
Test Voltage:	AC 120V, 60Hz
Max Conducted Peak Output Power:	17.96dBm The Max Conducted Peak Output Power data refer to the report EED32L00091801
Sample Received Date:	Apr. 23, 2019
Sample tested Date:	May. 23, 2019 to Jun. 17, 2019

Remark: The tested sample(s) and the sample information are provided by the client.

Model No：MSS110,MSS110S

Only the model MSS110 was tested,We the undersigned hereby confirm that any of our production units bearingthe following model numbers are identical in circuitry and electrical,mechanical and physical construction; the only differences are the appearance and model no.for trading purpose.

The above appearance is for pattern only.

4.4 Test Location

All tests were performed at:
Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.
FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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
(B) Limits for General Population/Uncontrolled Exposure				
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
1500–100,000	.....	.....	1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

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

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 1.5dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm^2)	Limit (mW/cm^2)	Result
Middle	2437	17.96	1.5	19.46	88.31	20	0.018	1.0	Pass

Note: Refer to report No. EED32L00091801 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00091801 for EUT external and internal photos.

*** End of Report ***