RF Exposure Evaluation Report

Product	:	Smart Wi-Fi Outdoor Plug
Trade mark	:	meross
Model/Type reference	:	MSS620
Serial Number	:	N/A
Report Number	:	EED32L00157502
FCC ID	:	2AMUU-MSS620V3
Date of Issue	:	Sep. 16, 2019
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 KDB447498D01v06
Test result	:	PASS

Prepared for:

Chengdu Meross Technology Co.,Ltd.
Room 1312, Floor 13, Building 6-1, Zone E, TianFu Software Park,
GaoXin District, ChengDu, SiChuan, China.

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By:	Jay Zheng	Compiled by:	Alex Wu
	Jay Zheng		Alex Wu
Reviewed by:	Ware Xin	Approved by:	Kevin Yang
	Ware Xin		Kevin Yang
Date:	Sep. 16, 2019		Check No.: 4038879347

CENTRE TESTING INTERNATIONAL GROUP CO.,LTD. Report Seal

2 Version

Version No.	Date	Description
00	Sep. 16, 2019	Original

3 Contents

4 General Information

4.1 Client Information

Applicant:	Chengdu Meross Technology Co.,Ltd.
Address of Applicant:	Room 1312, Floor 13, Building 6-1, Zone E, TianFu Software Park, GaoXin District, ChengDu, SiChuan, China.
Manufacturer:	Chengdu Meross Technology Co.,Ltd.
Address of Manufacturer:	Room 1312, Floor 13, Building 6-1, Zone E, TianFu Software Park, GaoXin District, ChengDu, SiChuan, China.
Factory:	Shenzhen Shenan Yangguang Electronics Co.,Ltd.
Address of Factory:	Building 9, No.18 of Makan Rd, Xili, Nanshan, Shenzhen City, Guangdong Province 518055

4.2 General Description of EUT

Product Name:	Smart Wi-Fi Outdoor Plug
Model No.(EUT):	MSS620
Trade Mark:	meross
EUT Supports Radios application	WiFi IEEE 802.11 /b/g/n(HT20)(HT40) 2412MHz to 2462MHz

4.3 Product Specification subjective to this standard

Frequency Range:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	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)
Number of Channels:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Test Power Grade:	Refence Table 1 (manufacturer declare)
Test Software of EUT:	QATool_Dbg (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Specification	2.4GHz Antenna Gain : 1.50 dBi (Numeric gain: 1.41)
Maximum tune up power	IEEE 802.11b Mode: 16.00 dBm (39.811 mW) IEEE 802.11g Mode: 19.50 dBm (89.125 mW) IEEE 802.11n HT 20 Mode: 19.00 dBm (79.433 mW) IEEE 802.11n HT 40 Mode: 18.00 dBm (63.096 mW)
Power Supply:	AC120V/60Hz
Sample Received Date:	Jun 17, 2019
Sample tested Date:	Jun 17, 2019 to Sep 12, 2019
The tested sample(s) and the sample information are provided by the client.	

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

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm^2

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
6	2437	39.811	1.41	20	0.0112	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
6	2437	89.125	1.41	20	0.0250	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
6	2437	79.433	1.41	20	0.0223	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
1	2412	63.096	1.41	20	0.0177	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00157501 for EUT external and internal photos.

*** End of Report ***