TEST REPORT

Product Name : 4-gang WiFI Smart Switch
Model Number : 4CHR3

Prepared for	:	Shenzhen Sonoff Technologies Co.,Ltd.
Address	:	1001, BLDG8, Lianhua Industrial Park, shenzhen, GD, China
Prepared by	:	EMTEK (SHENZHEN) CO., LTD.
Address	:	Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Tel: (0755) 26954280 Fax: (0755) 26954282
Report Number	:	ES201229062W02
Date(s) of Tests	:	November 27, 2018 to July 18, 2019 January 11, 2021 to January 20, 2021
Date of issue	:	January 22, 2021

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1. TEST RESULT CERTIFICATION

Applicant	:	Shenzhen Sonoff Technologies Co.,Ltd.
Address	:	1001, BLDG8, Lianhua Industrial Park, shenzhen, GD, China
Manufacturer	:	Shenzhen Sonoff Technologies Co.,Ltd.
Address	:	1001, BLDG8, Lianhua Industrial Park, shenzhen, GD, China
Trade Mark	:	SONOFF
EUT	:	4-gang Wi-Fi Smart Switch
Model Number	:	4CHR3

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
EN IEC 62311:2020	PASS

The device described above is tested by EMTEK (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report shows the EUT to be technically compliant with the EN IEC 62311:2020 requirements. The test results are contained in this report and EMTEK (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK (Shenzhen) Co., Ltd.

Date of Test :	November 27, 2018 to July 18, 2019 January 11, 2021 to January 20, 2021
Prepared by :	Sewen Guo /Editor
Reviewer :	Mill Chen /Supervisor
Approved & Authorized Signer :	Lisa Wang/Manager

EMTEK (SHENZHEN) CO., LTD. TESTING

2. EUT DESCRIPTION

Product:	4-gang Wi-Fi Smart Switch
Model Number:	4CHR3
Sample Number:	2#
Modulation:	☒DSSS with DBPSK/DQPSK/CCK for 802.11b; ☒OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Frequency Range:	☒2412-2472MHz for WIFI2.4G
Max Transmit Power:	15.55 dBm
Antenna Type:	PCB antenna
Antenna Gain:	1.0 dBi
Test Voltage:	Input: AC100-240V 16A MAX Output: AC 100-240 10A/Gang 16A Total
Date of Received:	January 5, 2020
Temperature Range:	-20°C ~ +55°C

Note:
1) For more details, please refer to the User's manual of the EUT.
2) The same internal configuration, hardware and software design with the original tested model 4CHR3*, only update the standard based on the original report (ES181127023W02). Update Receiver Blocking and Spurious Domain test data; other the test data are quoted from the original report.*

Modified Information

Version	Report No.	Revision Date	Summary
Ver.1.0	ES201229062W02	\	Original Report

3. FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

Building 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

3.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

3.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description		
EMC Lab.	:	**Accredited by CNAS** The Certificate Registration Number is L2291. The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017) **Accredited by FCC** Designation Number: CN1204 Test Firm Registration Number: 882943 **Accredited by A2LA** The Certificate Number is 4321.01. **Accredited by Industry Canada** The Conformity Assessment Body Identifier is CN0008
Name of Firm	:	EMTEK (SHENZHEN) CO., LTD.
Site Location	:	Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

4. GENERAL PRODUCT INFORMATION

4.1 BASIC RESTRICTION

Reference Levels

Council Recommendation 99/519/EC Annex III
Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300GHz)

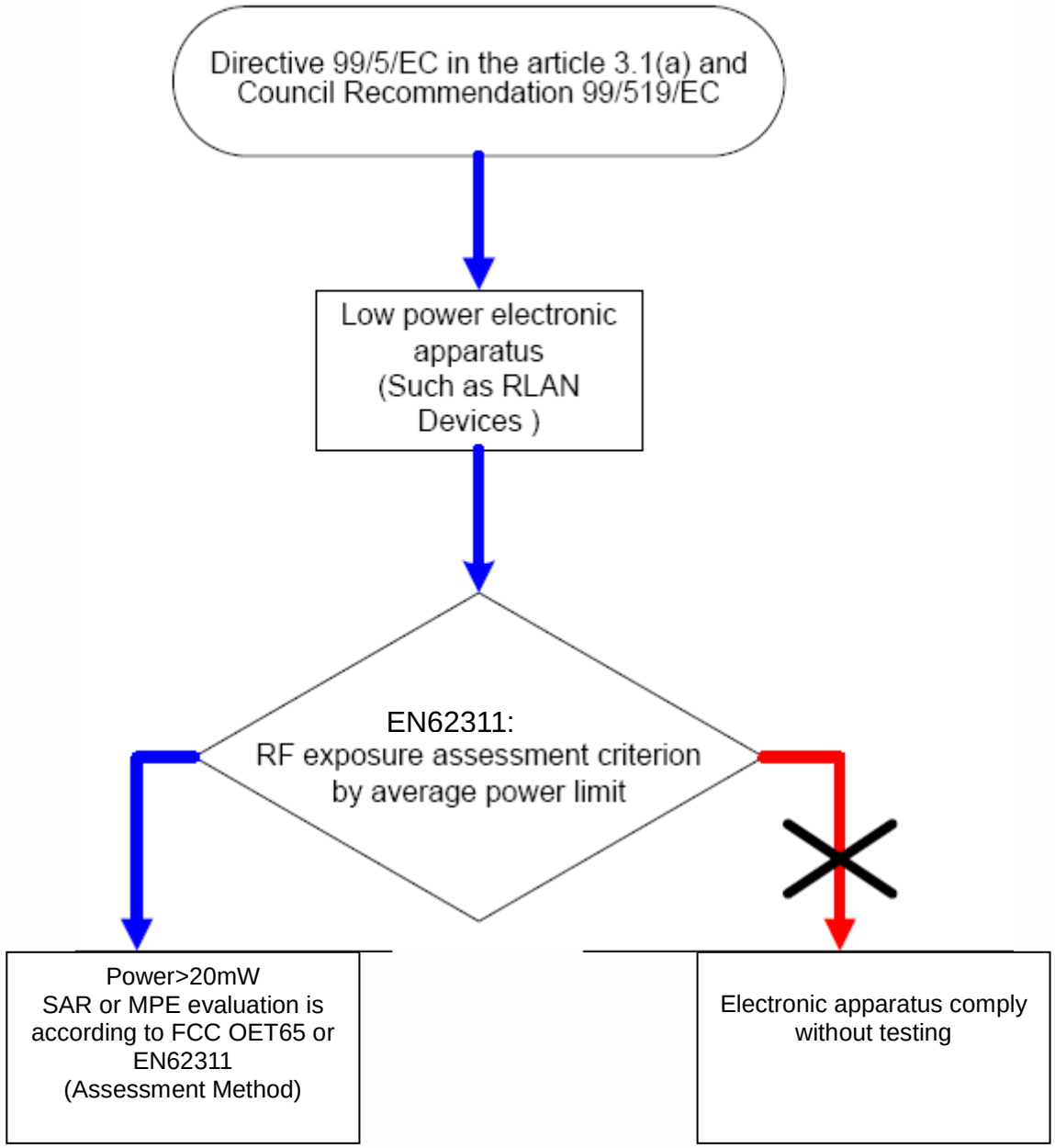
Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density Seq (W/m2)
0-1 Hz	-	3.2×10^4	4×10^4	-
1-8 Hz	10000	$3.2\times10^4/f^2$	$4\times10^4/f^2$	-
8-25 Hz	10000	4000/f	5000/f	-
0.025-0.8 kHz	250/f	4/f	5/f	-
0.8-3 kHz	250/f	5	6.25	-
3-150 kHz	87	5	6.25	-
0.15-1 MHz	87	0.73/f	0.92/f	-
1-10 MHz	$87/f^{1/2}$	0.73/f	0.92/f	-
10-400 MHz	28	0.073	0.095	2
400-2000 MHz	$1.375\ f^{1/2}$	$0.0037\ f^{1/2}$	$0.0046\ f^{1/2}$	f/200
2-300 GHz	61	0.16	0.2	10

Notes:

1. As indicated in the frequency range column.
2. For frequencies between 100kHz and 10 GHz, Seq, E2, H2 and B2 are to averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, Seq, E2, H2, and B2 are averaged over any 68/1.05-minute period(in GHz).
4. No E-field value is provided for frequencies<1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

4.2 EVALUATION ROUTINE

Low Power Electronic Apparatus for RF exposure evaluation routine



5. TEST RESULT

5.1 DETAILED RESULTS

5.1.1 Measurement of RF conducted Power

Band	EIRP Power
WiFi 2412-2472MHz	15.55 dBm

5.1.2 MPE Evaluation

$S = EIRP/ 4\pi R^2$

R = distance to the center of radiation of antenna (in meter) = 0.20 m

Note:
1) EIRP=P*G* Duty factor
2) P (Watts) = (10 ^ (dBm /10))/1000
3) G (Antenna gain in numeric) = 10^ (Antenna gain in dBi /10)
4) Duty factor
5) Π=3.142

Mode	Duty factor
WIFI	1

5.1.3 Summary of Results

The maximum power at a distance of 0.2 m for WIFI is shown as below:

Mode	EIRP Power (dBm)	EIRP Power (W)	Duty factor	Calculated RF Exposure (W/ m²)	Limit (W/ m²)
WIFI2.4G	15.55	0.036	1	0.0716	10

5.1.4 Measurement Uncertainty

Extended Uncertainty (k=2) 95% 0.5dB

END OF REPORT