

APPLICATION FOR CERTIFICATION
On Behalf of
GoodWe Technologies Co., Ltd.
Smart Dongle

Model No. : WiFi Kit-20
Brand : GOODWE
FCC ID : 2AU7J-WIFIKIT20

Prepared for

GoodWe Technologies Co., Ltd.
No.90 Zijin Rd., New District, Suzhou, 215011, China

Prepared by

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Report Number : ACWE-F2308016
Date of Test : May 10, 2024
Date of Report : May 31, 2024

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TEST REPORT CERTIFICATION

Applicant : GoodWe Technologies Co., Ltd.
 Manufacturer : GoodWe Technologies Co., Ltd.
 EUT Description : Smart Dongle
 FCC ID : 2AU7J-WIFIKIT20
 (A) Model No. : WiFi Kit-20
 (B) Brand : GOODWE
 (C) Test Voltage : DC 5V

The measurement results are contained in this test report and Audix Technology (Wujiang) Co., Ltd. EMC Dept. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this test report shows that the EUT to be technically compliant with the FCC limits.

This test report applies to above tested sample only. This test report shall not be reproduced in part without written approval of Audix Technology (Wujiang) Co., Ltd. EMC Dept.

Date of Test: May 10, 2024

Date of Report: May 31, 2024

Prepared by :

Emma Hu
(Emma Hu/Assistant Administrator)

Approved & Authorized Signer :

K.M Tong
(K.M Tong/Assistant Manager)



1. DESCRIPTION OF VERSION

Edition No.	Date of Rev.	Summary	Report No.
0	May 31, 2024	Original Report.	ACWE-F2308016

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description : Smart Dongle
 Model No. : WiFi Kit-20
 FCC ID : 2AU7J-WIFIKIT20
 Brand : GOODWE
 Applicant : GoodWe Technologies Co., Ltd.
 No.90 Zijin Rd., New District, Suzhou, 215011, China
 Manufacturer : GoodWe Technologies Co., Ltd.
 No.90 Zijin Rd., New District, Suzhou, 215011, China
 I/O Ports : USB port*1
 Date of Receipt of Sample : Aug.01, 2023

2.2. Antenna Information

Type	Frequency (MHz)	Gain(dBi)
PCB Antenna	2400-2500	3.76

2.3. EUT Specification Assessed in Current Report

Mode	Fundamental Range (MHz)	Channel Number	Modulation
802.11b	2412-2462	11	DSSS (DBPSK/DQPSK/CCK)
802.11g	2412-2462	11	OFDM (BPSK/QPSK/16QAM/64QAM)
802.11n-HT20			
BLE-1M	2402-2480	40	GFSK
Remark: The information of test software, fixture and antenna gain is provided by customer.			

2.4. Description of Test Facility

Name of Firm	:	Audix Technology (Wujiang) Co., Ltd. EMC Dept.
Site Location	:	No. 1289 Jiangxing East Road, the Eastern Part of Wujiang Economic Development Zone Jiangsu China 215200
Test Facilities	:	RF Fully Chamber
NVLAP Lab Code	:	200786-0 Valid until on Sep.30, 2024 (NVLAP is a signatory member of ILAC MRA) Remark: This report shall not be imply endorsement, certification or approval by NVLAP, NIST, or any agency of the U.S. Federal Government.

2.5. Measurement Uncertainty

Test Item	Uncertainty
RF Output Power	y(dBm) \pm U=y(dBm) \pm 0.73

Remark: Uncertainty = $k u_c(y)$

The standards listed in this report only require the uncertainty to be listed, and the measurement uncertainty is not required to be calculated in the measurement results. Therefore, the conformity judgment results are in accordance with the quality document TMC-205, and the test results in this report meet the requirements of the standards listed in this report.

3. SUMMARY OF STADARDS AND RESULTS

3.1. Specification Limits

According to FCC CFR 47 §1.1310, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	...	...	f/300	6
1500-100,000	...	...	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

NOTE: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

3.2. MPE Calculator Method

$$S = PG/(4 \pi R^2)$$

$$R = [PG/(4 \pi S)]^{0.5}$$

where: S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW) (the measured power value see Report: F12124 Section 6.6)

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

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

3.3. Calculated Result

For WIFI

Based on safety distance (r)=	20cm
Highest Power Output (P)=	15.23dBm = 33.34mW
Antenna Gain (G)=	3.76dBi =2.38Numerical
MPE (S) = (P*G) / (4*π*r ²) =	= (33.34*2.38)/(4*π*20 ²)=0.016mW/cm ²
Conclusion: PASS	

For BLE

Based on safety distance (r)=	20cm
Highest Power Output (P)=	4.52dBm = 2.83mW
Antenna Gain (G)=	3.76dBi =2.38Numerical
MPE (S) = (P*G) / (4*π*r ²) =	= (2.83*2.38)/(4*π*20 ²)=0.001mW/cm ²
Conclusion: PASS	

Calculation for Simultaneous transmission:

$$\text{WLAN 2.4GHz + BLE} = (0.016/1) + (0.001/1) = 0.017$$

Therefore the maximum calculations of above situations are less than the “1” limit.

-----The End-----