



# RF EXPOSURE Test Report

**Report No.:** MTi230612014-02E2

**Date of issue:** 2023-06-27

**Applicant:** Kingtec Branch (Vietnam) Technologies Co., Ltd.

**Product:** Smart outlets

**Model(s):** CCRCOWF2PK, CURCOWF2PK, RCOWF2PK,  
SURCOWF2PK, UTRCOWF2PK

**FCC ID:** 2BBU7-40201

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

# Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory;
2. The test results of this report are only responsible for the samples submitted;
3. This report is invalid without the seal and signature of the laboratory;
4. This report is invalid if transferred, altered or tampered with in any form without authorization;
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.



<b>TEST RESULT CERTIFICATION</b>	
<b>Applicant's name</b> .....:	<b>Kingtec Branch (Vietnam) Technologies Co., Ltd.</b>
<b>Address</b> .....	Lot 35, Street 3, Tan Duc Industrial Zone, Duc Hoa Ha Commune, Duc Hoa District, Long An Province, Vietnam
<b>Manufacturer's Name</b> .....	<b>Kingtec Branch (Vietnam) Technologies Co., Ltd.</b>
<b>Address</b> .....	Lot 35, Street 3, Tan Duc Industrial Zone, Duc Hoa Ha Commune, Duc Hoa District, Long An Province, Vietnam
<b>Product description</b>	
<b>Product name</b> .....	Smart outlets
<b>Trademark</b> .....	prime
<b>Model Name</b> .....	CCRCOWF2PK
<b>Serial Model</b> .....	CURCOWF2PK, RCOWF2PK, SURCOWF2PK, UTRCOWF2PK
<b>Standards</b> .....:	N/A
<b>Test procedure</b> .....	KDB 447498 D01 v06
<b>Date of Test</b>	
<b>Date (s) of performance of tests</b> .....:	2022-07-28 ~ 2023-06-27
<b>Test Result</b> .....:	Pass
This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.	

**Testing Engineer**

:

*Letter Lan*

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(Letter Lan)

**Technical Manager**

:

*Leon Chen*

\_\_\_\_\_  
(Leon Chen)

**Authorized Signatory**

:

*Tom Xue*

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(Tom Xue)

## RF EXPOSURE EVALUATION

According to FCC 1.1310: 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 §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*300/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

### MPE Calculation Method

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

$\pi$  = 3.1415926

R = distance between observation point and center of the radiator in cm (20cm)

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## Measurement Result

### 2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

Power density limited: 1mW/ cm<sup>2</sup>

Antenna Type: PCB Antenna;

WIFI antenna gain: 0.04dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}=10^{(0.04/10)}=1.01$

### 2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna Gain Numeric	Evaluation result at 20cm Power density(mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
				tune-up power				
				(dBm)	(dBm)	(dBm)	(mW)	Ant A
2412	802.11b	12.03	12±1	13	19.953	1.01	0.0040	1
2437		12.08	12±1	13	19.953	1.01	0.0040	1
2462		12.38	12±1	13	19.953	1.01	0.0040	1
2412	802.11g	12.18	12±1	13	19.953	1.01	0.0040	1
2437		12.26	12±1	13	19.953	1.01	0.0040	1
2462		12.43	12±1	13	19.953	1.01	0.0040	1
2412	802.11n H20	12.44	12±1	13	19.953	1.01	0.0040	1
2437		12	12±1	13	19.953	1.01	0.0040	1
2462		12.45	12±1	13	19.953	1.01	0.0040	1

### Conclusion:

For the max result:  $0.0040 \leq 1.0$  SAR, No SAR is required.

----END OF REPORT----