



RF EXPOSURE Test Report

Report No.: MTi210419006-05E2

Date of issue: July 23, 2021

Applicant: Kingtec (vietnam) technologies
Co., Ltd.

Product name: WIFI Relocatable Power Taps

Model(s): 20617-33, 20617-13

FCC ID: 2AZKQ-20617

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.



TEST RESULT CERTIFICATION

Applicant's name.....:	Kingtec (vietnam) technologies Co., ltd.
Address.....:	HAISHAN INDUSTRIAL ZONE, PINGQIAN VILLAGE, HEXIA, DEHE COUNTY, Long An Province, Vietnam
Manufacturer's Name	Kingtec (vietnam) technologies Co., ltd.
Address.....:	HAISHAN INDUSTRIAL ZONE, PINGQIAN VILLAGE, HEXIA, DEHE COUNTY, Long An Province, Vietnam

Product description

Product name	WIFI Relocatable Power Taps
Trademark	JASCO, PHILIPS, CORDINATE, ATIVA, ULTRA PRO, POWERGEAR, UBER, ECOSURVIVOR Enbrighten and ProLink
Model Name	20617-33
Serial Model	20617-13
Standards.....:	N/A
Test procedure.....:	KDB 447498 D01 v06

Date of Test

Date (s) of performance of tests	June 15, 2021 ~ July 08, 2021
Test Result.....:	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 :

Danny Xu

(Danny Xu)

Technical Manager :

Leo Su

(Leo Su)

Authorized Signatory :

Tom Xue

(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 ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*300/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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
300-1,500			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/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

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

P_d the limit of MPE, 1mW/cm². 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,

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm²

Antenna Type: PCB Antenna;

WIFI antenna gain: 1.5dBi

R=20cm

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

antenna gain Numeric= $10^{(dBi/10)}=10^{(1.5/10)}=1.41$

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm ²)	(mW/cm ²)
		Ant A	Ant A	(dBm)	(mW)	Numeric		
2412	802.11b	13.43	13±1	14	25.118864	1.41	0.00705	1
2437		12.24	13±1	14	25.118864	1.41	0.00705	1
2462		12.56	13±1	14	25.118864	1.41	0.00705	1
2412	802.11g	12.91	12±1	13	19.952623	1.41	0.00560	1
2437		11.69	12±1	13	19.952623	1.41	0.00560	1
2462		11.92	12±1	13	19.952623	1.41	0.00560	1
2412	802.11n H20	12.69	12±1	13	19.952623	1.41	0.00560	1
2437		11.47	12±1	13	19.952623	1.41	0.00560	1
2462		11.71	12±1	13	19.952623	1.41	0.00560	1
2422	802.11n H40	11.52	11±1	12	15.848932	1.41	0.00445	1
2437		10.67	11±1	12	15.848932	1.41	0.00445	1
2452		10.84	11±1	12	15.848932	1.41	0.00445	1

Conclusion:

For the max result: $0.00705 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----