

MPE REPORT

FCC ID:SYW-PLUGWIFIG21

Date of issue: Aug. 12, 2020

Report number: MTi20061208-4E2

Sample description: Wifi Relocatable Power Taps

Model(s): POWERSTRIP/WIFI

Applicant: Feit Electric Company

Address: 4901 Gregg Road, Pico Rivera, CA90660, USA

Date of test: July 25, 2020 to Aug. 01, 2020

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

This test report is valid for the tested samples only. It cannot be reproduced except in full without prior written consent of Shenzhen Microtest Co., Ltd.

Tel:(86-755)88850135

Fax: (86-755) 88850136

Web: <http://www.mtitest.com>

E-mail: mti@51mti.com

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China.



| TEST RESULT CERTIFICATION | |
|----------------------------------|--|
| Applicant's name: | Feit Electric Company |
| Address: | 4901 Gregg Road, Pico Rivera, CA90660, USA |
| Manufacture's name: | Kingtec (vietnam) technologies Co., Ltd. |
| Address: | HAISHAN INDUSTRIAL ZONE, PINGQIAN VILLAGE, HEXIA, DEHE COUNTY, Long An Province, Vietnam |
| Product name: | Wifi Relocatable Power Taps |
| Trademark: | FEIT |
| Model and/or type reference: | POWERSTRIP/WIFI |
| Serial model: | N/A |
| RF exposure procedures: | KDB 447498 D01 v06 |

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.

Tested by:

Danny Xu

Aug. 01, 2020

Reviewed by:

Leo Su

Aug. 12, 2020

Approved by:

Tom Xue

Aug. 12, 2020



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

WIFI:

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

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm²

Antenna Type: Wifi Antenna: PCB Antenna;

WIFI antenna gain: 1.5dBi

R=20cm

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

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

| Channel Freq. (MHz) | modulation | conducted power (dBm) | Tune-up power (dBm) | Max | | Antenna Gain Numeric | Evaluation result at 20cm Power density(mW/cm ²) | Power density Limits (mW/cm ²) |
|---------------------|-------------|-----------------------|---------------------|---------------|-------|----------------------|--|--|
| | | | | tune-up power | | | | |
| | | | | (dBm) | (dBm) | (dBm) | (mW) | Ant A |
| 2412 | 802.11b | 13.42 | 14±1 | 15 | 31.62 | 1.41 | 0.00887 | 1 |
| 2437 | | 14.04 | 14±1 | 15 | 31.62 | 1.41 | 0.00887 | 1 |
| 2462 | | 14.13 | 14±1 | 15 | 31.62 | 1.41 | 0.00887 | 1 |
| 2412 | 802.11g | 13.24 | 13±1 | 14 | 25.12 | 1.41 | 0.00705 | 1 |
| 2437 | | 13.12 | 13±1 | 14 | 25.12 | 1.41 | 0.00705 | 1 |
| 2462 | | 13.98 | 13±1 | 14 | 25.12 | 1.41 | 0.00705 | 1 |
| 2412 | 802.11n H20 | 12.11 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |
| 2437 | | 11.96 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |
| 2462 | | 12.86 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |
| 2422 | 802.11n H40 | 11.57 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |
| 2437 | | 11.84 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |
| 2452 | | 12.59 | 12±1 | 13 | 19.95 | 1.41 | 0.00560 | 1 |

Conclusion:

For the max result: $0.00887 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----