

# RF EXPOSURE Test Report

**Report No.:** MTi241106023-01E2

**Date of issue:** 2024-12-12

**Applicant:** Feit Electric Company

**Product:** Smart outdoor outlet

**Model(s):** PLUG/WIFI/STK/WP (P)

**FCC ID:** SYW-PLUGSTKP

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:                | Feit Electric Company                                                                                      |
| Address:                  | 4901 Gregg Road, Pico Rivera, CA 90660, USA                                                                |
| Manufacturer:             | Kingtec Branch (Vietnam) Technologies Co., Ltd.                                                            |
| Address:                  | Lot 35, Street 3, Tan Duc Industrial Zone, Duc Hoa Ha Commune, Duc Hoa District, Long An Province, Vietnam |
| Product description       |                                                                                                            |
| Product name:             | Smart outdoor outlet                                                                                       |
| Trademark:                | FEIT ELECTRIC                                                                                              |
| Model name:               | PLUG/WIFI/STK/WP (P)                                                                                       |
| Serial Model:             | N/A                                                                                                        |
| Standards:                | Smart outdoor outlet                                                                                       |
| Test procedure:           | KDB 447498 D01 v06<br>FCC part 2.1091                                                                      |
| Date of Test              |                                                                                                            |
| Date of test:             | 2024-12-06 to 2024-12-12                                                                                   |
| Test result:              | Pass                                                                                                       |

Test Engineer :

Letter. Lan.

(Letter Lan)

Reviewed By :

David. Lee

(David Lee)

Approved By :

Leon Chen

(Leon Chen)



## 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                        | *900/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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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>

R=20cm

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

2.4G: gain Numeric= $10^{(dBi/0.04)}=10^{(3.2/0.04)}=1.01$



2.4GWiFi SISO:

ANT 1

| 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 <sup>2</sup> ) | (mW/cm <sup>2</sup> ) |
|                     |             |                 |               | (dBm)         | (mW)   | Numeric |                                    |                       |
| 2412                | 802.11b     | 12.53           | 12±1          | 13            | 19.953 | 1.01    | 0.00401                            | 1                     |
| 2437                |             | 12.39           | 12±1          | 13            | 19.953 | 1.01    | 0.00401                            | 1                     |
| 2462                |             | 12.56           | 12±1          | 13            | 19.953 | 1.01    | 0.00401                            | 1                     |
| 2412                | 802.11g     | 11.83           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |
| 2437                |             | 11.69           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |
| 2462                |             | 11.84           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |
| 2412                | 802.11n H20 | 11.68           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |
| 2437                |             | 11.44           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |
| 2462                |             | 11.62           | 11±1          | 12            | 15.849 | 1.01    | 0.00318                            | 1                     |

### Conclusion:

For the max result:  $0.00401 \leq 1.0$  SAR, No SAR is required.

----END OF REPORT----