# FCC RF EXPOSURE REPORT

# FCC ID: X4YVEK3600

**Project No.**    : 1812C201
**Equipment**     : Vektor 3600-AC Whole Home Mesh WiFi System
**Test Model**    : AEFME904U1
**Series Model**  : N/A
**Applicant**     : NEXXT SOLUTIONS
**Address**       : 3505 N.W 107TH AVE. MIAMI FLORIDA 33178 U.S.A

**According:**    : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091

# B T L   I N C .

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A2LA ACCREDITED

Certificate #5123.02

## 1. GENERAL SUMMARY

Equipment : Vektor 3600-AC Whole Home Mesh WiFi System
Brand Name : NEXXT
Test Model : AEFME904U1
Series Model : N/A
Applicant : NEXXT SOLUTIONS
Manufacturer : NEXXT SOLUTIONS
Address : 3505 N.W 107TH AVE. MIAMI FLORIDA 33178 U.S.A
Date of Test : Mar. 30, 2018 ~ Apr. 18, 2018
Test Sample : Engineering Sample No.: D180302743, D181212055
Standards : FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1812C201) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

## 2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:

S = power density
P = power input to the antenna
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

Table for Filed Antenna:

For WLAN 2.4G:

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|-------|-----------|--------------|-----------|-----------|
| 1 | N/A | N/A | Internal | N/A | 3 |
| 2 | N/A | N/A | Internal | N/A | 3 |

Note:
This EUT supports CDD, and all antennas have the same gain, so Directional gain=$G_{ANT}$+$A_{rray}$ Gain.
(1) For Non-Beamforming, for power spectral density measurements, Array Gain=$10\log(N_{ANT}/N_{SS})$ dB, that is Directional gain=$3+10\log(2/1)=6.01$. So, the power density limit is 8-6.01+6=7.99.
(2) Beamforming Gain: 3dBi, so Directional gain=3+3=6dBi.

For RLAN 5G:

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|-------|-----------|--------------|-----------|-----------|
| 1 | N/A | N/A | Internal | N/A | 3 |
| 2 | N/A | N/A | Internal | N/A | 3 |

Note:
This EUT supports CDD, and all antennas have the same gain, so Directional gain=$G_{ANT}$+Array Gain.
(1) For Non-Beamforming, for power spectral density measurements, Array Gain=$10\log(N_{ANT}/N_{SS})$ dB, that is Directional gain=$3+10\log(2/1)=6.01$. So, the UNII-1 power density limit is 17-6.01+6=16.99, the UNII-3 power density limit is 30-6.01+6=29.99.
(2) Beamforming Gain: 3dBi, so Directional gain=3+3=6dBi.

## 3. TEST RESULTS

WLAN 2.4G Non-Beamforming:

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.01 | 3.9902 | 27.76 | 597.0353 | 0.47419 | 1 | Complies |

WLAN 2.4G With Beamforming:

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.00 | 3.9811 | 27.58 | 572.7960 | 0.45389 | 1 | Complies |

RLAN 5G UNII-1 Non-Beamforming

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.01 | 3.9902 | 27.71 | 590.2011 | 0.46876 | 1 | Complies |

RLAN 5G UNII-3 Non-Beamforming

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.01 | 3.9902 | 27.67 | 584.7901 | 0.46446 | 1 | Complies |

RLAN 5G UNII-1 With Beamforming

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.00 | 3.9811 | 27.6 | 575.4399 | 0.45598 | 1 | Complies |

RLAN 5G UNII-3 With Beamforming

| Directional gain (dBi) | Directional gain (numeric) | Max Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm$^2$) | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.00 | 3.9811 | 27.55 | 568.8529 | 0.45077 | 1 | Complies |

**For the max simultaneous transmission MPE:**

| Power Density (S) (mW/cm$^2$) | Power Density (S) (mW/cm$^2$) | Total | Limit of Power Density (S) (mW/cm$^2$) | Test Result |
|---|---|---|---|---|
| 2.4G | 5G | | | |
| 0.47419 | 0.46876 | 0.94295 | 1 | Complies |

Note: the calculated distance is 20 cm.

**End of Test Report**