# RF Exposure Report (FCC)

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|---|---|
| **Report No.:** | WIR125986-FCC-ACT-RF Exposure |
| **Test Model:** | Splunk SPLKEH201GL |
| **Received Date:** | February 10, 2023 |
| **Test Date:** | March 14, 2023– April 24, 2023 |
| **Issued Date:** | July 15, 2023 |
| **Applicant:** | Actineon, Inc. |
| **Address:** | 2530 Zanker Road, San Jose, California 95131 |
| **Issued By:** | Eurofins Electrical and Electronic Testing NA, Inc. |
| **Lab Address:** | 3162 Belick St. Santa Clara CA, 95054 |


  

## 1. Certificate of Conformity

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|---|---|
| **Product:** | IOT EDGE HUB |
| **Brand:** | Actineon |
| **Test Model:** | Splunk SPLKEH201GL |
| **FCC ID:** | 2BBHWSPLKEH201GL |
| **Series Model:** | N/A |
| **Sample Status:** | Engineering Sample |
| **Applicant:** | Actineon, Inc. |
| **Test Date:** | March 14, 2023– April 24, 2023 |
| **Standard:** | FCC Part 2 (Section 2.1091)<br>KDB 447498 D01 General RF Exposure Guidance v06<br>IEEE C95.1-1992 |

Richard Dollente
Richard Dollente
Test Engineer, Wireless Laboratory

**Engineering Statement:** The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made.

Gary Chou
Gary Chou
Wireless Engineering Manager, Wireless Laboratory

| Revision | Report Date | Reason for Revision |
|---|---|---|
| ∅ | July 15, 2023 | Initial Issue. |

  

## 2. RF Exposure

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density ($mW/cm^2$) | Average Time (minutes) |
|---|---|---|---|---|
| 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 |
| 300-1500 | … | … | f/1500 | 30 |
| 1500-100,000 | … | … | 1.0 | 30 |

f = Frequency in MHz; *Plane-wave equivalent power density

### 2.1 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

Where

Pd = power density in $mW/cm^2$

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

  

## 2.2 Antenna Gain

WLAN/ BT/ BLE:
Antenna Manufacturer/ Model:
Quectel/ YF0026AA
Antenna Type: PCB Antenna
Antenna Gain:
2.4 GHz:3.2 dBi
5GHz: 5dBi

Cellular:
Antenna Manufacturer/ Model:
Quectel/ YE0007AA
Antenna Type: Dipole Antenna
680 MHz -960 MHz : 3.0 dBi
1710 MHz - 2170 MHz : 4.1 dBi
2170 MHz - 2690 MHz : 3.2 dBi
3300 MHz – 4000 MHz : 3.9 dBi

  

2.3 Calculation Result worst case of Maximum Conducted Power

| Type/ Band | Frequency Band (MHz) | Max Power (tune up) (dBm) | Max Power (tune up) (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|---|---|
| LTE-CAT-M | B2,B4,B5,B12,B13,B25,B26,B66,B85 | 25.00 | 316.227 | 4.1 | 20 | 0.161790 | 0.477 |
| Bluetooth LE/ BT | 2402-2480 | 4.6810 | 2.9383 | 3.2 | 20 | 0.001222 | 1 |
| WLAN 2.4GHz | 2412-2462 | 21.7753 | 150.4977 | 3.2 | 20 | 0.062586 | 1 |
| WLAN 5GHZ | 5180-5825 | 23.2401 | 210.8677 | 5 | 20 | 0.132727 | 1 |

**The maximum calculations of above situations are less than the limit.**
**The SAR evaluation is not required.**

Note:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 3. This device contains

| TYPE | Model No. | FCC ID | Note |
|---|---|---|---|
| - | - | - | - |

### 4. Conclusion

**Conclusion:**
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

**Worse case**
Total MPE Percentage for
LTE-CAT-M+2.4GHZ WLAN+BT/BLE = 0.40299039< 1
LTE-CAT-M+5GHz WLAN+BT/BLE = 0.47313139< 1

**Therefore, the maximum calculations of above situations are less than the "1" limit.**
**The SAR evaluation is not required.**

  