

## RF Exposure Report

**Report No.:** SA190514C12

**FCC ID:** 2ARXKVHE10

**Contains module FCC ID:** 2ATM8EC25A

2ATM8EC25V

**Test Model:** VHE10

**Series Model:** VHE10XXX (X=A-Z, 0-9, blank or "-")

**Received Date:** May 14, 2019

**Test Date:** Jun. 13 ~ Jul. 20, 2019

**Issued Date:** Jul. 26, 2019

**Applicant:** Veea Inc

**Address:** 164 E 83rd Street, New York NY, 10028, USA

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /  
Designation Number:** 788550 / TW0003



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Calculation Result of Maximum Conducted Power</b> .....	<b>6</b>

### Release Control Record

Issue No.	Description	Date Issued
SA190514C12	Original release	Jul. 26, 2019

## 1 Certificate of Conformity

**Product:** veeaHub

**Brand:** 

**Test Model:** VHE10

**Series Model:** VHE10XXX (X=A-Z, 0-9, blank or "-")

**Sample Status:** Engineering sample

**Applicant:** Veea Inc

**Test Date:** Jun. 13 ~ Jul. 20, 2019

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.3 -2002

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Celine Chou , **Date:** Jul. 26, 2019  
Celine Chou / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Jul. 26, 2019  
Bruce Chen / Project Engineer

## 2 RF Exposure

### 2.1 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> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 28cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN, CDD Mode					
2412-2462	27.02	6.21	28	0.2135	1
5180-5240	28.96	8.12	28	0.5182	1
5745-5825	29.70	8.12	28	0.6144	1
WLAN, Beamforming Mode					
5180-5240	27.77	8.12	28	0.3940	1
5745-5825	27.87	8.12	28	0.4032	1
Bluetooth LE					
2402-2480	-2.94	6.00	28	0.0002	1
Bluetooth EDR					
2402-2480	5.92	6.00	28	0.0016	1
Zigbee					
2405-2475	20.02	3.20	28	0.0213	1
WWAN (module model: EC25-A)					
WCDMA Band 2 1850.2-1909.8MHz	23.50	1.50	28	0.0321	1
WCDMA Band 4 1712.4-1752.6MHz	23.50	1.50	28	0.0321	1
WCDMA Band 5 826.4-846.6MHz	23.50	-1.60	28	0.0157	0.549
LTE Band 2 1850.7-1909.3MHz	24.00	1.50	28	0.0360	1
LTE Band 4 1710.7-1754.3MHz	24.00	1.50	28	0.0360	1
LTE Band 12 699.7-715.3MHz	24.00	-1.60	28	0.0176	0.466
WWAN (module model: EC25-V)					
LTE Band 4 1710.7-1754.3MHz	23.50	1.50	28	0.0321	1
LTE Band 13 779.5-784.5MHz	23.50	-1.60	28	0.0157	0.521

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

2.4GHz: Directional Gain = 3.2dBi + 10log(2) = 6.21dBi

5GHz: Directional Gain = 2.1dBi + 10log(4)= 8.12dBi

**Conclusion:**

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5G + Bluetooth + Zigbee =  $0.2135 / 1 + 0.6144 / 1 + 0.0016 / 1 + 0.0213 / 1 = 0.8508$
2. WLAN 2.4G + WLAN 5G + Bluetooth + Zigbee + WWAN (module model: EC25-A) =  $0.2135 / 1 + 0.6144 / 1 + 0.0016 / 1 + 0.0213 / 1 + 0.0176 / 0.466 = 0.889$
3. WLAN 2.4G + WLAN 5G + Bluetooth + Zigbee + WWAN (module model: EC25-V) =  $0.2135 / 1 + 0.6144 / 1 + 0.0016 / 1 + 0.0213 / 1 + 0.0321 / 1 = 0.883$

Therefore the maximum calculations of above situations are less than the "1" limit.

---END---