

RF Exposure Report

Report No.: SABHDI-WTW-P21060617

FCC ID: 2ARXKVHE10

Contains module FCC ID: 2ATM8EG25G

Test Model: VHE10

Series Model: VHE10XXXXX (X=A-Z, 0-9, blank or "-")

Received Date: Jun. 21, 2021

Date of Evaluation: Jul. 27, 2021

Issued Date: Jul. 30, 2021

Applicant: Veea Inc

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SABHDI-WTW-P21060617	Original Release	Jul. 30, 2021

1 Certificate of Conformity

Product: veeaHub

Brand:

veeaHub 

Test Model: VHE10

Series Model: VHE10XXXXX (X=A-Z, 0-9, blank or "-")

Sample Status: Engineering Sample

Applicant: Veea Inc

Date of Evaluation: Jul. 27, 2021

Standards: FCC Part 2 (Section 2.1091)

References Test Guidance : KDB 447498 D01 General RF Exposure Guidance v06

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 : , **Date:** Jul. 30, 2021
Lena Wang / Specialist

Approved by : , **Date:** Jul. 30, 2021
Dylan Chiou / Senior 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 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

2.2 MPE Calculation 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 = gain of antenna in linear scale

π = 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 33 cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN, CDD Mode					
2412-2462	27.02	6.21	33	0.1537	1
5180-5240	28.96	8.12	33	0.3730	1
5260-5320	23.88	8.12	33	0.1158	1
5500-5720	23.88	8.12	33	0.1158	1
5745-5825	29.70	8.12	33	0.4423	1
WLAN, Beamforming Mode					
5180-5240	27.77	8.12	33	0.1827	1
5260-5320	21.82	8.12	33	0.0721	1
5500-5720	21.83	8.12	33	0.0722	1
5745-5825	27.87	8.12	33	0.2902	1
Bluetooth LE					
2402-2480	-2.94	6.00	33	0.0001	1
Bluetooth EDR					
2402-2480	5.92	6.00	33	0.0011	1
Zigbee					
2405-2475	20.02	3.20	33	0.0153	1

WWAN (module model: EG25G MINPCIE)

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
GSM850	824-849	32.70	1.6	33	0.1967	0.55
PCS1900	1850-1910	28.70	1.5	33	0.0765	1.00
WCDMA II	1850-1910	23.57	1.5	33	0.0235	1.00
WCDMA IV	1710-1755	23.71	1.5	33	0.0243	1.00
WCDMA V	824-849	23.52	1.6	33	0.0238	0.55
LTE 2	1850-1910	22.11	1.5	33	0.0168	1.00
LTE 4	1710-1755	22.28	1.5	33	0.0174	1.00
LTE 5	824-849	24.08	1.6	33	0.0270	0.55
LTE 7	2500-2570	23.51	2.9	33	0.0320	1.00
LTE 12	699-716	24.50	1.6	33	0.0298	0.47
LTE 13	777-787	23.88	1.6	33	0.0258	0.52
LTE 25	1850-1915	22.93	1.5	33	0.0203	1.00
LTE 26	814-849	23.90	1.6	33	0.0259	0.54
LTE 38	2575-2610	23.83	2.9	33	0.0344	1.00
LTE 41	2496-2690	23.77	2.9	33	0.0339	1.00

Note:

1. This report is issued as a supplementary report to BV CPS report no. SA190514C12A. The difference compared with original report is is changing WWAN Module (EG25G MINPCIE) and series model name. Therefore, MPE value was re-calculated in this report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible
4. 2.4GHz: Directional Gain = 3.2dBi + 10log(2) = 6.21dBi
5. 5GHz: Directional Gain = 2.1dBi + 10log(4)= 8.12dBi

Conclusion:

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1$$

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5G + Bluetooth + Zigbee = $0.1537 / 1 + 0.4423 / 1 + 0.0011 / 1 + 0.0153 / 1 = 0.6214$
2. WLAN 2.4G + WLAN 5G + Bluetooth + Zigbee + WWAN = $0.1537 / 1 + 0.4423 / 1 + 0.0011 / 1 + 0.0153 / 1 + 0.1967 / 0.55 = 0.97$

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

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