

## RF Exposure Report

**Report No.:** SA160719C17E

**FCC ID:** 2ADYF-K40

**Model:** K40

**Received Date:** Jul. 19, 2016

**Test Date:** Jul. 20 ~ Oct. 06, 2016

**Issued Date:** Feb. 07, 2017

**Applicant:** KodaCloud, Inc.

**Address:** 1901 South Bascom Ave, Suite 1300, Campbell, CA USA 95008

**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.)



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**Release Control Record**

Issue No.	Description	Date Issued
SA160719C17E	Original release	Feb. 07, 2017

## 1 Certificate of Conformity

**Product:** 802.11 abgn/ac Multi Access AP

**Brand:** KodaCloud

**Model:** K40

**Sample Status:** Engineering sample

**Applicant:** KodaCloud, Inc.

**Test Date:** Jul. 20 ~ Oct. 06, 2016

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03 (January 17, 2014)  
IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Feb. 07, 2017  
Pettie Chen / Senior Specialist

**Approved by :**  , **Date:** Feb. 07, 2017  
Ken Liu / Senior Manager

## 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

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

where

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

$P_{out}$  = output power to antenna in mW

$G$  = 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 20cm 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 2.4GHz: CDD mode					
2412-2462	23.44	7.01	20	0.221	1
WLAN 2.4GHz: Beamforming mode					
2412-2462	21.48	7.01	20	0.141	1
WLAN 5GHz: CDD mode					
5180-5240	23.05	8.87	20	0.310	1
5745-5825	22.92	8.87	20	0.300	1
WLAN 5GHz: Beamforming mode					
5180-5240	22.86	8.87	20	0.296	1
5745-5825	23.12	8.87	20	0.315	1
BT LE					
2402-2480	2.95	3.51	20	0.001	1
Zigbee					
2405-2480	3.25	3.51	20	0.001	1

Note:

2.4GHz Band: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.01 \text{ dBi}$

5GHz Band: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.87 \text{ dBi}$

Frequency Band	Max Power (dBm)			Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE	Zigbee		
2.4GHz	23.44	2.95	-	23.48	30
2.4GHz	23.44	-	3.25	23.48	30

#### Conclusion:

2.4GHz & 5GHz & BT LE or 2.4GHz & 5GHz & Zigbee technology can transmit at same time.

BT LE and Zigbee cannot transmit simultaneously.

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. WALN 2.4GHz + WALN 5GHz + BT LE

=  $0.221 + 0.315 + 0.001 = 0.537$

2. WALN 2.4GHz + WALN 5GHz + Zigbee

=  $0.221 + 0.315 + 0.001 = 0.537$

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

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