

## RF Exposure Report

**Report No.:** MFBFKV-WTW-P23050559

**FCC ID:** L6AITH100-1

**Test Model:** ITH100-1

**Received Date:** May 23, 2023

**Date of Evaluation:** May 29 ~ Jun. 07, 2023

**Issued Date:** Jul. 07, 2023

**Applicant:** BlackBerry Limited

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

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

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



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### Release Control Record

Issue No.	Description	Date Issued
MFBFKV-WTW-P23050559	Original Release	Jul. 07, 2023

## 1 Certificate of Conformity

**Product:** Radar H2M IS

**Brand:** BlackBerry

**Test Model:** ITH100-1

**Sample Status:** Engineering Sample

**Applicant:** BlackBerry Limited

**Date of Evaluation:** May 29 ~ Jun. 07, 2023

**FCC Rule Part:** FCC Part 2 (Section 2.1091)

**Standards:** 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 :** Pettie Chen , **Date:** Jul. 07, 2023  
Pettie Chen / Senior Specialist

**Approved by :** Jeremy Lin , **Date:** Jul. 07, 2023  
Jeremy Lin / 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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/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

Band	Max ERP Power (dBm)	Max EIRP Power (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Cat-M1 Band 2	-	26.63	20	0.092	1.00
Cat-M1 Band 4	-	26.06	20	0.080	1.00
Cat-M1 Band 5	23.24	25.39	20	0.069	0.55
Cat-M1 Band 12	20.57	22.72	20	0.037	0.46
Cat-M1 Band 13	21.82	23.97	20	0.050	0.52
Cat-M1 Band 25	-	26.29	20	0.085	1.00
Cat-M1 Band 26 (Part 22)	22.84	24.99	20	0.063	0.54
Cat-M1 Band 26 (Part 90)	22.74	24.89	20	0.061	0.54
Cat-M1 Band 66	-	27.40	20	0.109	1.00
Cat-M1 Band 85	20.96	23.11	20	0.041	0.46

Band	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2405-2480MHz	11.74	4.63	20	0.009	1
904-926MHz	16.90	2	20	0.015	0.603

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. EIRP = ERP + 2.15dB
3. Detail antenna specification please refer to antenna datasheet or an antenna gain measurement report.

#### 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

$$2405\sim 2480\text{MHz} + \text{Cat-M1 Band} = 0.009 / 1 + 0.069 / 0.55 = 0.134$$

$$904\sim 926\text{MHz} + \text{Cat-M1 Band} = 0.015 / 0.603 + 0.069 / 0.55 = 0.150$$

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

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