



## RF Exposure Report

FCC ID: 2AR2S-CDBBM2853C

Applicant: MMD Hong Kong Holding Limited

Address: Unit 1006, 10th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Manufacturer: CHINA DRAGON TECHNOLOGY LIMITED

Address: Room 1, 2 / f, B6 building, B4 building, Haosan No.1 industry, nanpu road, shangliao community, xinqiao street, baoan district, Shenzhen China

Product: BT Module

Brand: PHILIPS

Test Model(s): CDB-BM2853C-00

Series Model(s): N/A

Test Date: Jan. 05, 2022 ~ Jan. 13, 2022

Issued Date: Jan. 27, 2022

Issued By: Hwa-Hsing (Dongguan) Testing Co., Ltd.

Address: No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China

Test Firm Registration No.: 915896

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)  
ANSI C63.10:2013

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, 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 :

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Reviewed by :

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Approved by :

Harry Li/ Technical Director

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**Release control record**

Issue No.	Reason for change	Date issued
211227KH01-SE-US-01	Original Release	Jan. 27, 2022



## 1 General Information

### 1.1 General Description of EUT

Product	BT Module
Brand	PHILIPS
Test Model(s)	CDB-BM2853C-00
Series Model(s)	N/A
FCC ID	2AR2S-CDBBM2853C
Status of EUT	Engineering prototype
Power Supply Rating	DC 3V~5V / 28mA
Modulation Type	BT-LE: GFSK FHSS: GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate	BT-LE: 1 Mbps FHSS: 1 Mbps / 2 Mbps / 3 Mbps
Operating Frequency	2402 ~ 2480MHz
Number of Channel	BT-LE: 40 FHSS: 79
Maximum Output Power	BT-LE: -3.259dBm FHSS: -0.713 dBm
Antenna Type	PCB Antenna
Antenna Gain	2.56dBi Maximum peak Gain
Antenna Connector	N/A
Accessory Device	N/A
Cable Supplied	N/A

Note:

1. Please refer to the EUT photo document (Reference No.: 211227KH01-1&-2) for detailed product photo.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.



## 2 RF exposure limit

Limits for maximum permissible exposure (MPE)

Limits for general population / uncontrolled exposure				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Average time (minutes)
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

Note: F = Frequency in MHz

### 2.1 MPE calculation formula

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

Where:

Pd = power density in mW/cm<sup>2</sup>

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

#### **Classification:**

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.



### 3 Calculation result of maximum conducted power

The antennas provided to the EUT, please refer to the following table:

Function	Frequency Band	Antenna Gain (dBi)	Antenna Type	Transmit and Receive Chain	Maximum AVG Power(dBm)
FHSS	2400~2483.5MHz	2.56	PCB	1TX,1RX	-0.713
LE-DTS	2400~2483.5MHz	2.56	PCB	1TX,1RX	-3.259

Frequency band (MHz)	Max power (mW)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2400~2483.5MHz	0.8486	2.56	20	0.00030	1.0
2400~2483.5MHz	0.4722	2.56	20	0.00017	1.0

#### Conclusion:

Therefore, the worst-case situation is 0.00030mW/cm<sup>2</sup>, which is less than “1”. This confirmed that the device compliance with FCC 1.1310 MPE limit.



#### **Appendix – Information on the Testing Laboratories**

We, [Hwa-Hsing \(Dongguan\) Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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