



Test Report No.: FM180531N039-1

## RF EXPOSURE REPORT

Applicant	TCL Technoly Electronics(Huizhou) Co., Ltd.
Address	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guang Dong Province, China, 516006.

Manufacturer or Supplier	TCL Technoly Electronics(Huizhou) Co., Ltd.
Address	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guang Dong Province, China, 516006.
Product	Bluetooth Module
Brand Name	N/A
Test Model	TBM-A2823
Additional Model & Model Difference	N/A
Date of tests	May 31, 2018 ~ Jul. 18, 2018

**FCC Part 2 (Section 2.1091)**  
 **KDB 447498 D01**  
 **IEEE C95.1**

**CONCLUSION:** The submitted sample was found to COMPLY with the test requirement

Tested by Andy Zhu Project Engineer / EMC Department	Approved by Glyn He Supervisor / EMC Department

Date: Jul. 31, 2018

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM180531N039-1	Original release	Jul. 31, 2018

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## 1. CERTIFICATION

**PRODUCT:** Bluetooth Module

**BRAND NAME:** N/A

**TEST MODEL** TBM-A2823

**ADDITIONAL MODEL:** N/A

**FCC ID:** ZVA12

**TEST SAMPLE:** ENGINEERING SAMPLE

**APPLICANT:** TCL Technoly Electronics(Huizhou) Co., Ltd.

**TESTED DATE:** Jul. 18, 2018

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

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## 2. RF EXPOSURE LIMIT

### 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)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. 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

## 4. 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**.



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## 5. ANTENNA GAIN

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

Frequency Band	Transmitter Circuit	Peak Gain (dBi)	Antenna Type
2402-2480	Chain 0	2.0	PCB Antenna

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
GFSK	2402-2480	3	+1	2	4
8DPSK	2402-2480	2	+1	1	3
BT-LE(GFSK)	2402-2480	1	+1	0	2

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
GFSK	2441	3.37
8DPSK	2441	2.46
BT-LE (GFSK)	2440	1.55

FREQUENCY BAND (MHz)	MAX AVERAGE POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2402-2480	4	2	20	0.000792	1.0

--- END ---