

## RF Exposure Report

**Report No.:** SABHAA-WTW-P21040837

**FCC ID:** JOYCW1011

**Test Model:** AL-T51A2-1

**Series Model:** AL-T52V1

**Received Date:** Apr. 28, 2021

**Test Date:** Apr. 29 ~ May 02, 2021

**Issued Date:** May 10, 2021

**Applicant:** Kyocera Corporation

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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 /** 788550 / TW0003

**Designation Number:**



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### Release Control Record

Issue No.	Description	Date Issued
SABHAA-WTW-P21040837	Original release.	May 10, 2021

## 1 Certificate of Conformity

**Product:** Telematics Module

**Brand:** Kyocera

**Test Model:** AL-T51A2-1

**Series Model:** AL-T52V1

**Sample Status:** Engineering Sample

**Applicant:** Kyocera Corporation

**Test Date:** Apr. 29 ~ May 02, 2021

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

**References Test Guidance :** KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.3 -2002

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 :** Gina Liu, **Date:** May 10, 2021  
Gina Liu / Specialist

**Approved by :** Dylan Chiou, **Date:** May 10, 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 <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

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

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 Power

Function	Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band 5	826.4~846.6	17.0	19.15	20	0.016	0.551
FCC Part 22: LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7~848.3	21.7	23.85	20	0.048	0.550
FCC Part 90: LTE Band 26 (Channel Bandwidth 1.4MHz)	814.7~823.3	23.1	25.25	20	0.067	0.543

Note: ERP=EIRP-2.15

Function	Frequency Band (MHz)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band 2	1852.4~1907.6	22.3	20	0.034	1
WCDMA Band 4	1712.4~1752.6	18.0	20	0.013	1
LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7~1909.3	27.2	20	0.104	1
LTE Band 4 (Channel Bandwidth 10MHz)	1715.0~1750.0	24.4	20	0.055	1
LTE Band 12 (Channel Bandwidth 1.4MHz)	699.7~715.3	23.6	20	0.046	1

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

Max.: WWAN 3G + WWAN 4G =  $0.034/1 + 0.104/1 = 0.034 + 0.104 = 0.138 < 1$

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