

## FCC RF Exposure Report

**Report No.:** FCC\_RF\_SL20012301-XIR-002\_MPE Rev\_2.0

**FCC ID:** GKM-XT2500

**Test Model:** XT2500

**Series Model:** N/A

**Received Date:** 04/28/2020

**Test Date:** 04/29/2020-04/30/2020

**Issued Date:** 06/22/2020

**Applicant:** Xirgo Technologies

**Address:** 188 Camino Ruiz, Camarillo, CA 93012

**Manufacturer:** BCM Corporation

**Address:** Plot 21, Jalan Hi-Tech 4, Kulim Hi-Tech Park, Phase 1, 09090 Kulim, Kedah, MALAYSIA

**Issued By:** Bureau Veritas Consumer Products Services, Inc.

**Lab Address:** 775 Montague Expressway, Milpitas, CA 95035

**Test Location (1):** 775 Montague Expressway, Milpitas, CA 95035

**FCC Registration /  
Designation Number:** 540430



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### Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20012301-XIR-002_MPE	Initial Release	05/04/2020
FCC_RF_SL20012301-XIR-002_MPE Rev_1.0	Update FCC ID and add LTE calculate	05/13/2020
FCC_RF_SL20012301-XIR-002_MPE Rev_2.0	Update Product Name	06/22/2020

## 1 Certificate of Conformity

**Product:** XT2500

**Brand:** Xirgo Technologies

**Test Model:** XT2500

**Sample Status:** Engineering sample

**Applicant:** Xirgo Technologies

**Test Date:** 04/29/2020-04/30/2020

**Standards:** FCC Part 2 (Section 2.1093)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas 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:**

06/22/2020

Deon Dai / Test Engineer

**Approved by :**



**Date:**

06/22/2020

Chen Ge / Engineer Reviewer

## 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

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

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

### 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.

### 2.4 Antenna Gain

The antenna type is Chip Antenna with 1.5 dBi peak gain.

## 2.5 Calculation Result of Maximum Conducted Power

Type	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
BLE	4.48	2.81	± 1dB	1.5	20	0.000992	1
LTE Band 2	23.93	247.17	± 1dB	2.5	20	0.11	1
LTE Band 4	22.42	174.58	± 1dB	3.0	20	0.087	1
LTE Band 5	23.81	240.44	± 1dB	4.0	20	0.151	0.549
LTE Band 12	23.67	232.81	± 1dB	0.0	20	0.058	0.466
LTE Band 13	23.87	243.78	± 1dB	4.0	20	0.153	0.518

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Calculate MPE thresholds from condition "1" formulas.
3. BT BLE antenna type is Chip antenna with 1.5 dBi gain.
4. Simultaneous Transmission with cellular module, FCC ID: XMR201707BG96

## 3 Conclusion

### 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 Co-location mode = BLE + LTE B13 =  $(0.000992/1 + 0.153/0.518) = 0.2953 < 1$

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

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