

## RF Exposure Report

**Report No.:** SA170824C11D

**FCC ID:** RID-LM513

**Test Model:** LM-513H

**Received Date:** Oct. 27, 2017

**Test Date:** Nov. 01 ~ Dec. 20, 2017

**Issued Date:** Feb. 23, 2018

**Applicant:** Globalsat Worldcom Corporation

**Address:** 16F., No.186, Jian 1st Rd., Zhonghe Dist., New Taipei City 235, Taiwan  
(R.O.C.)

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan  
(R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, TAIWAN (R.O.C.)

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



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### Release Control Record

| Issue No.    | Description      | Date Issued   |
|--------------|------------------|---------------|
| SA170824C11D | Original release | Feb. 23, 2018 |

## 1 Certificate of Conformity

**Product:** LoRa Module

**Brand:** GlobalSat

**Test Model:** LM-513H

**Sample Status:** Engineering sample

**Applicant:** GlobalSat WorldCom Corporation

**Test Date:** Nov. 01 ~ Dec. 20, 2017

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1

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 :**

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Alice Ho / Specialist

**Date:**

Feb. 23, 2018

**Approved by :**

Bruce Chen

Bruce Chen / Project Engineer

**Date:**

Feb. 23, 2018

## 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

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

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

| Mode                           | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|--------------------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| Hybrid Mode (125kHz Bandwidth) | 19.25           | 2.95               | 20            | 0.033                               | 0.601                       |
| Hybrid Mode (500kHz Bandwidth) | 19.32           | 2.95               | 20            | 0.034                               | 0.601                       |

Note: 125kHz & 500kHz bandwidth can't transmit simultaneously.

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