

## RF Exposure Report

**Report No.:** SA170824C11F

**FCC ID:** RID-LM513

**Test Model:** LM-513H

**Received Date:** Mar. 22, 2018

**Test Date:** Nov. 01 ~ Dec. 20, 2017 (For Hybrid Mode (125kHz Bandwidth, 64 channels) & Hybrid Mode (500kHz Bandwidth, 8 channels))  
May 14 ~ May 21, 2018 (For DTS Mode (500kHz Bandwidth, 42 channels))

**Issued Date:** May 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
SA170824C11F	Original release	May 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 (For Hybrid Mode (125kHz Bandwidth, 64 channels) & Hybrid Mode (500kHz Bandwidth, 8 channels))

May 14 ~ May 21, 2018 (For DTS Mode (500kHz Bandwidth, 42 channels))

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 :**



**Date:**

May 23, 2018

Pettie Chen / Senior Specialist

**Approved by :**



**Date:**

May 23, 2018

Bruce Chen / 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				
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

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

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, 64 channels)	19.25	2.95	20	0.033	0.601
Hybrid Mode (500kHz Bandwidth, 8 channels)	19.32	2.95	20	0.034	0.601
DTS Mode (500kHz Bandwidth, 42 channels)	17.69	2.95	20	0.023	0.601

Note: Hybrid Mode (125kHz bandwidth) & Hybrid Mode (500kHz bandwidth) & DTS Mode (500kHz bandwidth) can't transmit simultaneously.

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