

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

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

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

FCC Registration / Designation Number: 788550 / TW0003



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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 ²)	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 ²)*	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/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 ²)	Limit (mW/cm ²)
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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