

RF Exposure Report

Report No.: SA181120C09A

FCC ID: XPY2AGQN4NNN

Test Model: SARA-R410M

Received Date: Nov. 20, 2018

Test Date: Jan. 15, 2019

Issued Date: Feb. 15, 2019

Applicant: u-blox-AG

Address: Zuercherstrasse 68 8800 Thalwil, Switzerland

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

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Taiwan R.O.C.

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
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**FCC Registration /
Designation Number:** 723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA181120C09A	Original release.	Feb. 15, 2019

1 Certificate of Conformity

Product: LTE CAT-M1 modem

Brand: u-blox-AG

Test Model: SARA-R410M

Sample Status: ENGINEERING SAMPLE

Applicant: U-blox-AG

Test Date: Jan. 15, 2019

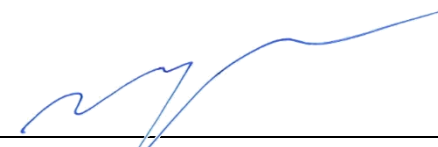
Standards: FCC Part 2 (Section 2.1091)

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 EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** Feb. 15, 2019
Claire Kuan / Specialist

Approved by :  , **Date:** Feb. 15, 2019
May Chen / Manager

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

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

where

Pd = power density in mW/cm²

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

Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length
2.69	777-787MHz	PIFA	i-pex(MHF)	84 mm

2.5 Calculation Result

Frequency Band (MHz)	Max. ERP Power (dBm)	Max. EIRP Power (dBm)	Max. EIRP Power (mW)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
779.5 ~ 784.5	26.24	28.39	690.24	20	0.13732	0.523

Note: Limit of Power Density = F/1500

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