

## RF Exposure Report

**Report No.:** SA191211C28 R1

**FCC ID:** 2AE0S110LTEWIFI

**Test Model:** SD-WAN 110-LTE-WiFi

**Received Date:** Dec. 11, 2019

**Date of Evaluation:** Feb. 27, 2020

**Issued Date:** Mar. 02, 2020

**Applicant:** CITRIX SYSTEMS, INC

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

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

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

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



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### Release Control Record

Issue No.	Description	Date Issued
SA191211C28	Original Release	Feb. 03, 2020
SA191211C28 R1	<ol style="list-style-type: none"><li>1. Add FCC ID of WLAN module</li><li>2. Remove WLAN 5GHz Band 2 &amp; 3</li><li>3. Update WWAN antenna gain</li><li>4. Update WLAN power &amp; recalculate MPE</li></ol>	Mar. 02, 2020

## 1 Certificate of Conformity

**Product:** Networking device

**Brand:** 

**Test Model:** SD-WAN 110-LTE-WiFi

**Sample Status:** Engineering Sample

**Applicant:** CITRIX SYSTEMS, INC

**Date of Evaluation:** Feb. 27, 2020

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

**References Test Guidance :** KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.3 -2002

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 :** Rona Chen, **Date:** Mar. 02, 2020

Rona Chen / Specialist

**Approved by :** Dylan Chiou, **Date:** Mar. 02, 2020

Dylan Chiou / Senior 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<sub>d</sub> = power density in mW/cm<sup>2</sup>

P<sub>out</sub> = 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**.

The WWAN module (Brand: Quectel, Model: EG25-G, EG25-G MINIPCIE) was installed in EUT.

## 2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Average Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA II	1850-1910	25.00	4.5	20	0.177	1.00
WCDMA IV	1710-1755	25.00	4.5	20	0.177	1.00
WCDMA V	824-849	25.00	1.5	20	0.089	0.55
LTE 2	1850-1910	25.00	4.5	20	0.177	1.00
LTE 4	1710-1755	25.00	4.5	20	0.177	1.00
LTE 5	824-849	25.00	1.5	20	0.089	0.55
LTE 7	2500-2570	25.00	4	20	0.158	1.00
LTE 12	699-716	25.00	2.6	20	0.114	0.47
LTE 13	777-787	25.00	2.6	20	0.114	0.52
LTE 25	1850-1915	25.00	4.5	20	0.177	1.00
LTE 26	814-849	25.00	1.5	20	0.089	0.54
LTE 38	2570-2620	25.00	4	20	0.158	1.00
LTE 41	2496-2690	25.00	4	20	0.158	1.00
The End-product has a WLAN module						
WLAN	2412-2462	21.99	5.61	20	0.114	1.00
	5180-5240	21.71	8.01	20	0.187	1.00
	5745-5825	24.33	8.01	20	0.341	1.00

Note:

1. WLAN 2.4GHz and WLAN 5GHz Band cannot transmit simultaneously.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. 2.4GHz: Directional gain = 2.6 dBi + 10log(2) = 5.61 dBi  
 5.0GHz: Directional gain = 5.0 dBi + 10log(2) = 8.01 dBi

**Conclusion:**

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WWAN + WLAN 2.4G} = 0.114 / 0.47 + 0.114 / 1.00 = 0.358$$

$$\text{WWAN + WLAN 5G} = 0.114 / 0.47 + 0.341 / 1.00 = 0.585$$

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

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