

RF Exposure Report

Report No.: SA190618D07A

FCC ID: TK4WLE900VX

Test Model: WLE900VX

Received Date: Aug. 7, 2019

Test Date: Aug. 19 to Sep. 2, 2019

Issued Date: Oct. 2, 2019

Applicant: Compex Systems Pte Ltd

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

| Issue No. | Description | Date Issued |
|--------------|-------------------|--------------|
| SA190618D07A | Original release. | Oct. 2, 2019 |

1 Certificate of Conformity

Product: 802.11ac Dual Band Module

Brand: COMPEX

Test Model: WLE900VX

Sample Status: Engineering sample

Applicant: Compex Systems Pte Ltd

Test Date: Aug. 19 to Sep. 2, 2019

Standards: FCC Part 2 (Section 2.1091)

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 : *Celia Chen* , **Date:** Oct. 2, 2019

Celia Chen / Supervisor

Approved by : *Rex Lai* , **Date:** Oct. 2, 2019

Rex Lai / Associate Technical Manager

2 General Information

2.1 General Description of EUT

| | |
|---------------------|--|
| Product | 802.11ac Dual Band Module |
| Brand | COMPEX |
| Test Model | WLE900VX |
| Status of EUT | Engineering sample |
| Operating Frequency | 2412 ~ 2462MHz, 5180 ~ 5240MHz, 5745 ~ 5825MHz |
| Output Power | 2412 ~ 2462MHz: 209.152mW 5180 ~ 5240MHz: 139.657mW 5745 ~ 5825MHz: 254.153mW |
| Antenna Type | Refer to note as below |
| Antenna Connector | Reverse SMA |
| Accessory Device | N/A |
| Data Cable Supplied | N/A |

Note:

1. The difference compared with original test report is adding antenna source.
2. The antenna information is listed as below:

| Antenna Type | Dipole Antenna | Dipole Antenna |
|--------------------|--|--|
| Maximum Gain (dBi) | 2412-2462MHz: 2.0 5180-5825MHz: 2.0 | 2412-2462MHz: 2.22 5180-5825MHz: 4.29 |
| Remark | Original Approved | Additional |

For new antenna source, the EUT is authorized for use frequency bands: 2412-2462MHz, 5180-5240MHz and 5745-5825MHz only.

3. The EUT provides 3 completed transmitters and 3 receivers.

| Modulation Mode | TX FUNCTION |
|------------------|-------------|
| 802.11a | 1TX |
| 802.11b | 1TX |
| 802.11g | 1TX |
| 802.11n (20MHz) | 3TX |
| 802.11n (40MHz) | 3TX |
| 802.11ac (20MHz) | 3TX |
| 802.11ac (40MHz) | 3TX |
| 802.11ac (80MHz) | 3TX |

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3 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 Calculation Result of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462 | 23.20 | 6.99 | 20 | 0.2078 | 1 |
| 5180-5240 | 21.45 | 9.06 | 20 | 0.2237 | 1 |
| 5745~5825 | 24.05 | 9.06 | 20 | 0.4071 | 1 |

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: Directional gain = $2.22\text{dBi} + 10\log(3) = 6.99\text{dBi}$
5.0GHz: Directional gain = $4.29\text{dBi} + 10\log(3) = 9.06\text{dBi}$

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