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Report No.: 1408RSU00102  
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## RF Exposure Evaluation Declaration

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**FCC ID:** TK4WLE600V5-27ESD

**APPLICANT:** Compex Systems Pte Ltd

**Application Type:** Certification

**Product:** WIRELESS-AC 2X2 27DBM NETWORK MINI PCIE  
ADAPTER

**Model No.:** WLE600V5-27ESD

**Brand Name:** COMPEX

**FCC Classification:** Unlicensed National Information Infrastructure (UNII)

Reviewed By :

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( Robin Wu )

Approved By :

*Marlin Chen*

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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### Revision History

Report No.	Version	Description	Issue Date
1408RSU00102	Rev. 01	Initial report	09-30-2014

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	WIRELESS-AC 2X2 27DBM NETWORK MINI PCIE ADAPTER
Model No.	WLE600V5-27ESD
Frequency Range	802.11a/n/ac: 5150 ~ 5250MHz 5725 ~ 5850MHz
Type of Modulation	802.11a/n: OFDM
Maximum Average Output Power	802.11a: 28.98dBm 802.11n-HT20: 29.13dBm 802.11n-HT40: 29.02dBm 802.11ac-VHT20: 29.04dBm 802.11ac-VHT40: 29.01dBm 802.11ac-VHT80: 28.75dBm

## 2. RF Exposure Evaluation

### 2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### 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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

Product	WIRELESS-AC 2X2 27DBM NETWORK MINI PCIE ADAPTER
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 25dBi for 5GHz in logarithm scale.

### For 5G UNII Band:

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Limit of Power Density S(mW/cm <sup>2</sup> )	Safety Distance (cm)
802.11a	5180 ~ 5240	12.76	1	1.19
	5745 ~ 5825	28.98	1	49.74
802.11n-HT20	5180 ~ 5240	14.49	1	1.77
	5745 ~ 5825	29.13	1	51.49
802.11n-HT40	5190 ~ 5230	14.02	1	1.44
	5755 ~ 5795	29.02	1	41.49
802.11ac-VHT20	5180 ~ 5240	15.05	1	2.01
	5745 ~ 5825	29.04	1	50.43
802.11ac-VHT40	5190 ~ 5230	13.81	1	1.51
	5755 ~ 5795	29.01	1	50.09
802.11ac-VHT80	5210 ~ 5210	13.52	1	1.28
	5775 ~ 5775	28.75	1	38.99

### CONCULISON:

The Safety Distance of this equipment was 51.49 cm.

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