



## 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)

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( Robin Wu )

Approved By : Marlin Chen  
( Marlin Chen )



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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

## 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:  $Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

Pd = power density in mW/cm<sup>2</sup>

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

Pd 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

### CONCLUSION:

The Safety Distance of this equipment was 51.49 cm.

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