



RF Exposure Evaluation Declaration

FCC ID: TK4WLE600VX

APPLICANT: Compex Systems Pte Ltd

Application Type: Certification

Product: 802.11ac Dual Band Module

Model No.: WLE600VX, WLE600VX-I

Trademark: COMPEX

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (UNII)

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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	Note
1703RSU03004	Rev. 01	Initial report	05-24-2017	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	802.11ac Dual Band Module
Model No.	WLE600VX, WLE600VX-I
Brand Name	COMPEX
Wi-Fi Specification	802.11a/b/g/n/ac
Frequency Range	<u>2.4GHz:</u> For 802.11b/g/n-HT20: 2412 ~ 2462 MHz For 802.11n-HT40: 2422 ~ 2452 MHz <u>5GHz:</u> For 802.11a/n-HT20: 5180~5320MHz, 5500~5700MHz, 5745~5825MHz For 802.11ac-VHT20: 5180~5320MHz, 5500~5720MHz, 5745~5825MHz For 802.11n-HT40: 5190~5310MHz, 5510~5670MHz, 5755~5795MHz For 802.11ac-VHT40: 5190~5310MHz, 5510~5710MHz, 5755~5795MHz For 802.11ac-VHT80: 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz, 5775MHz
Type of Modulation	802.11b: DSSS 802.11g/a/n/ac: OFDM

1.2. Description of Available Antennas

Antenna Type	Frequency Band (MHz)	Model	Model	Max Peak Antenna Gain (dBi)
	5150 ~ 5875	MTI Wireless Edge Ltd.	MT-485001	18.0
	4900 ~ 5875	PENSON Wireless, Inc., Taiwan	OM24580703	7.0
	2412 ~ 2462	PENSON Wireless, Inc., Taiwan	OM24580703	5

Note: The device didn't support beam-forming technology and Cyclic Delay Diversity (CDD) technology, and the transmit signals are uncorrected, so no add array gain to the band power and band PSD.

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 ²)	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: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = 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

P_d is the limit of MPE, 1mW/cm². 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	802.11ac Dual Band Module
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to clause 1.2.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Limit of Power Density S(mW/cm ²)	Safety Distance (cm)
802.11b/g/n	2412 ~ 2462	23.86	1	7.82
802.11a/n/ac	5180 ~ 5320, 5500 ~ 5720, 5745 ~ 5825	22.80	1	30.93

CONCLUSION:

The Safety Distance of the **802.11ac Dual Band Module** was 30.93 cm.

_____ The End _____