RF Exposure Evaluation Declaration

Product Name	:	Computer BOX
Model No.	:	ESY00I4
FCC ID	:	RBWESY00I4SV

Applicant	:	Elo Touch Solutions, Inc
Address	:	670 N. McCarthy Blvd., Suite 100, Milpitas, CA 95035, USA.

Date of Receipt	:	May. 30, 2022
Issued Date	:	Oct. 12, 2022
Report No.	:	2250810R-RF-US-P20V01
Report Version	:	V1.1

The test results presented in this report relate only to the object tested.
The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
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Test Report Certification

Issued Date: Oct. 12, 2022
Report No.: 2250810R-RF-US-P20V01

Product Name	:	Computer BOX
Applicant	:	Elo Touch Solutions, Inc
Address	:	670 N. McCarthy Blvd., Suite 100, Milpitas, CA 95035, USA.
Manufacturer	:	Elo Touch Solutions, Inc
Address	:	670 N. McCarthy Blvd., Suite 100, Milpitas, CA 95035, USA.
Model No.	:	ESY00I4
Brand	:	Elo
FCC ID	:	RBWESY00I4SV
Applicable Standard	:	KDB 447498D01V06 FCC Part1.1310
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification (Suzhou) Co., Ltd. No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Designation Number: CN1199

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(Project Engineer: Tim Cao)

Approved By : Jack Zhang

(Supervisor: Jack Zhang)

1. RF Exposure Evaluation

1.1. 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/cm2)	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

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

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

Pd is the limit of MPE, 1 mW/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.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Computer BOX
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

BLUETOOTH:

Antenna model / type number .. :	N/A			
Antenna serial number ..... :	N/A			
Antenna Delivery ..... :	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:……		
Antenna technology ..... :	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type ..... :	☒	External	☒	Dipole
			☐	Sectorized
	☐	Internal	☐	PIFA
			☐	PCB
			☐	Dipole
			☐	Others……..
Antenna Gain ..... :	2 dBi			

WLAN 2.4GHz:

Antenna model / type number .. :		N/A			
Antenna serial number ..... :		N/A			
Antenna Delivery ..... :		☒	1TX + 1RX		
		☒	2TX + 2RX		
		☐	Others:……		
Antenna technology ..... :		☒	SISO		
		☒	MIMO	☒	CDD
				☐	Beam-forming
Antenna Type..... :		☒	External	☒	Dipole
				☐	Sectorized
		☐	Internal	☐	PIFA
				☐	PCB
				☐	Metal Antenna
				☐	Others……..
SISO	Antenna 1 Gain	2 dBi			
	Antenna 2 Gain.....	2 dBi			
CDD		2 dBi for Power; 5.01 dBi for PSD			

WLAN 5GHz:

Antenna model / type number .. :	N/A				
Antenna serial number ..... :	N/A				
Antenna Delivery ..... :	☒	1TX + 1RX			
	☒	2TX + 2RX			
	☐	Others:……			
Antenna technology ..... :	☒	SISO			
	☒	MIMO	☒	CDD	
			☐	Beam-forming	
Antenna Type..... :	☒	External	☒	Dipole	
			☐	Sectorized	
	☐	Internal	☐	PIFA	
			☐	PCB	
			☐	Metal Antenna	
			☐	Others……..	
SISO	Antenna 1 Gain	3 dBi			
	Antenna 2 Gain.....	3 dBi			
CDD		3 dBi for Power; 6.01 dBi for PSD			

Power Density

Standalone modes:

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20 cm (mW/cm^2)	Power Density Limit at R = 20 cm (mW/cm^2)
Bluetooth	2400 ~ 2483.5	7.85	0.001	1.0
802.11b/g/n	2400 ~ 2483.5	23.86	0.048	1.0
802.11a/n/ac	5150 ~ 5350 5470 ~ 5725 5725 ~ 5850	20.14	0.021	1.0

Simultaneous transmission:

Wireless Configuration	Maximum EIRP (dBm)		Limit of Power Density S(mW/cm^2)	Power Density S at R = 20 cm (mW/cm^2)		Rate	Limit
	BT	WIFI		BT	WIFI		
BT +2.4G WIFI	7.85	23.86	1.0	0.001	0.048	0.050	1
BT + 5G WIFI	7.85	20.14	1.0	0.001	0.021	0.022	1

The EUT support simultaneously transmit with BT + 2.4G WIFI and BT +5G WIFI.

The worst combination should be shown in the report. The simultaneously safety distance is 20cm for installed for Computer BOX without any other radio equipment.

The End