Maximum Permissible Exposure Evaluation

FCC ID: 2AL8K-ONESCREEN-6

1. Client Information

Applicant	:	NZS Inc. DBA Clary Icon
Addres	:	8168 Miramar Road, San Diego CA 92126, United States
Manufacturer	:	Shenzhen Konka E-display Co.,Ltd
Address	:	22A,KONKA Building,South Technology Road No.12th,High-tech Industrial Park,Nanshan,Shenzhen China

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

2. General Description of EUT

EUT Name		Interactive Touch Screen/ Interactive Flat Panel	
Models No.		OneScreen 6, OneScreen * (* stands for 0-9,or A-Z,or a-z,or blank)	
Model Different		All these models are the same PCB, layout and electrical circuit, the only different is model name.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz U-NII-1: 5180MHz~5240MHz U-NII-3: 5745MHz~5825MHz BLE:2402MHz-2480MHz
		Antenna Gain:	5dBi Reverse SMA Antenna
Power Supply	:	Input: AC 100-240V, 50/60Hz	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.	

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MPE Calculations for WIFI

1. Antenna Gain:

Reverse SMA Antenna: 5.0dBi.

2. EUT Operation Condition:

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

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

4. Test Result:

2.4G WIFI

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]
802.11b	15.51	15±1	16	5	20	0.025046
802.11g	14.90	14±1	15	5	20	0.019893
802.11n (HT20)	13.49	13±1	14	5	20	0.015803
802.11n (HT40)	12.52	13±1	14	5	20	0.015803

BLE

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]
GFSK	-0.156	0±1	1	5	20	0.000792

5G WiFi U-NII 1:

Worst Maximum MPE Result												
Mode	Conducted Power(max) (dBm) [P]		Tune up Power (dB)	Max tune up power (dBm) [P]		ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]			Power Density Limit (mW/ cm^2)	Result
	Ant 0	Ant 1		Ant 0	Ant 1			Ant 0	Ant 1	Sum		
802.11a	15.733	15.742	±1	16.733	16.742	5	20	0.030	0.030	---	1.000	PASS
802.11n (HT20)	14.729	14.761	±1	15.729	15.761	5	20	0.024	0.024	0.048		
802.11n (HT40)	13.881	13.928	±1	14.881	14.928	5	20	0.019	0.020	0.039		
802.11ac (VHT20)	14.749	14.679	±1	15.749	15.679	5	20	0.024	0.023	0.047		
802.11ac (VHT40)	13.626	13.603	±1	14.626	14.603	5	20	0.018	0.018	0.036		
Note: (1) RF Output power specifies that Maximum Conducted Peak Output Power.												

5G WiFi U-NII 3:

Worst Maximum MPE Result												
Mode	Conducted Power(max) (dBm) [P]		Tune up Power (dB)	Max tune up power (dBm) [P]		ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]			Power Density Limit (mW/ cm^2)	Result
	Ant 0	Ant 1		Ant 0	Ant 1			Ant 0	Ant 1	Sum		
802.11a	15.910	15.519	±1	16.910	16.519	5	20	0.031	0.028	---	1.000	PASS
802.11n (HT20)	14.640	14.665	±1	15.640	15.665	5	20	0.023	0.023	0.046		
802.11n (HT40)	13.587	13.407	±1	14.587	14.407	5	20	0.018	0.017	0.035		
802.11ac (VHT20)	14.681	14.785	±1	15.681	15.785	5	20	0.023	0.024	0.047		
802.11ac (VHT40)	13.899	13.250	±1	14.899	14.250	5	20	0.019	0.017	0.036		
Note: (1) RF Output power specifies that Maximum Conducted Peak Output Power.												

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/cm^2)
300-1,500	F/1500
1,500-100,000	1.0

Power density Limits (mW/cm2) 2.4G WIFI	Power density Limits (mW/cm2) 2.4G BLE	Power density Limits (mW/cm2) 5G WIFI	Calculate Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
0.025046	0.000792	0.048	0.073828	1.0

For 802.11b/g/n:2412~2462 MHz
For BLE: 2402MHz~2480MHz
For U-NII-1: 5180MHz~5240MHz
For U-NII-3: 5745MHz~5825MHz

MPE limit S: 1mW/ cm^2
The MPE is calculated as ***0.073828mW / cm^2 < limit 1mW / cm^2***. So, the device compliance the RF Exposure requirement.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

-----END OF REPORT-----