Maximum Permissible Exposure Report
For
Shenzhen Qiyue Optronics Company Limited

Flat3,Tower 3, Excellence Meilin Center Plaza, Zhongkang Road 128, Shangmeilin, Futian District, Shenzhen, China

FCC ID: XOMIRTUOXOXX60XX

FCC Rule(s):	FCC 47CFR Part 2.019
Product Description:	**60” SMART 4K UHD TV**
Tested Model:	**D60A114-U-A-I RNSMU6036 XXXXXXXXXXXXXXXX60XXXXXXXXXX (Where "X"can be any alphanumeric of a-z, A-Z or 0-9 or blank &"-".)**
Report No.:	WTG19G01003938W-2
Sample Receipt Date:	January 19, 2019
Tested Date:	January 19 ~ February 26, 2019
Issued Date:	February 26, 2019
Tested By:	Jason Su / Engineer
Reviewed By:	Silin Chen / EMC Manager
Approved & Authorized By:	Jandy So / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information	
Applicant:	**Shenzhen Qiyue Optronics Company Limited**
Address of applicant:	Flat3,Tower 3, Excellence Meilin Center Plaza, Zhongkang Road 128, Shangmeilin, Futian District, Shenzhen, China
Manufacturer:	**SHENZHEN QIYUE OPTRONICS COMPANY LIMITED BRANCH**
Address of manufacturer:	SEIYU INDUSTRIAL PARK, DA SAN VILLAGE, DA SHUI KENG, GUANLAN TOWN, LONGHUA NEW DISTRICT, SHENZHEN, P.R.C

General Description of EUT	
Product Name:	60” SMART 4K UHD TV
Trade Name:	RCA SMARTVIRTUOSO
Model No.:	D60A114-U-A-I RNSMU6036 XXXXXXXXXXXXXXX60XXXXXXXXXX (Where "X"can be any alphanumeric of a-z, A-Z or 0-9 or blank &"-".)
Adding Model(s):	N/A
Rated Voltage:	Input: AC 100-120V, 60Hz, 98W Output: USB DC 5V, 500mA
Power Adapter Model:	N/A
Note: The test data is gathered from a production sample provided by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	IEEE 802.11b/ g / nHT20: 2412MHz~2462MHz IEEE802.11nHT40: 2422MHz~2452MHz
Modulation:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)

Quantity of Channels:	11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Type of Antenna:	Wi-Fi Antenna
Antenna Gain:	Antenna 1: 3 dBi Antenna 2: 3 dBi
	Note: 11b,g,n uses Antenna 1 / Antenna 2 11n uses MIMO

2. Maximum Permissible Exposure

2.1 Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times | E | 2 , | H | 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b)

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times | E | 2 , | H | 2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	842/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

3. MPE Calculation Method

E (V/m) = (30*P*G) 0.5/d Power Density: Pd (W/m2) = E2/377
E = Electric Field (V/m)
P = Peak RF output Power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to
Pd = (30*P*G) / (377*d2)
From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

4.Conducted Power Result

4.1 Antenna 1

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power （dBm）	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	15.77	37.8	15±1	3.0	2.0
	2437	15.53	35.7	15±1	3.0	2.0
	2462	15.59	36.2	15±1	3.0	2.0
IEEE 802.11g	2412	10.29	10.7	10±1	3.0	2.0
	2437	10.02	10.0	10±1	3.0	2.0
	2462	10.52	11.3	10±1	3.0	2.0
IEEE 802.11n HT20	2412	9.66	9.2	9±1	3.0	2.0
	2437	10.12	10.3	10±1	3.0	2.0
	2462	9.55	9.0	9±1	3.0	2.0
IEEE 802.11n HT40	2422	8.09	6.4	8±1	3.0	2.0
	2437	7.72	5.9	7±1	3.0	2.0
	2452	7.41	5.5	7±1	3.0	2.0

4.2 Antenna 2

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power （dBm）	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	15.07	32.1	15±1	3.0	2.0
	2437	14.82	30.3	14±1	3.0	2.0
	2462	15.02	31.8	15±1	3.0	2.0
IEEE 802.11g	2412	10.22	10.5	10±1	3.0	2.0
	2437	9.81	9.6	9±1	3.0	2.0
	2462	10.81	12.1	10±1	3.0	2.0
IEEE 802.11n HT20	2412	9.35	8.6	9±1	3.0	2.0
	2437	10.31	10.7	10±1	3.0	2.0
	2462	9.82	9.6	9±1	3.0	2.0
IEEE 802.11n HT40	2422	7.08	5.1	7±1	3.0	2.0
	2437	7.73	5.9	7±1	3.0	2.0
	2452	7.05	5.1	7±1	3.0	2.0

5. Calculated Result and Limit

5.1 Antenna 1

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
WiFi						
IEEE 802.11b	16	3.0	2.0	**0.0158**	1	Compiles
IEEE 802.11g	11	3.0	2.0	**0.0050**	1	Compiles
IEEE 802.11n HT20	11	3.0	2.0	**0.0050**	1	Compiles
IEEE 802.11n HT40	9	3.0	2.0	**0.0031**	1	Compiles

5.2 Antenna 2

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
WiFi						
IEEE 802.11b	16	3.0	2.0	**0.0158**	1	Compiles
IEEE 802.11g	11	3.0	2.0	**0.0050**	1	Compiles
IEEE 802.11n HT20	11	3.0	2.0	**0.0050**	1	Compiles
IEEE 802.11n HT40	8	3.0	2.0	**0.0025**	1	Compiles

5.3 Antenna 1+2

Mode	Power Density (S) (mW /cm2) Antenna 1	Power Density (S) (mW /cm2) Antenna 2	Power Density (S) (mW /cm2) Total	Limited of Power Density (S) (mW /cm2)	Test Result
WiFi					
IEEE 802.11n HT20	**0.0050**	**0.0050**	**0.0100**	1	Compiles
IEEE 802.11n HT40	**0.0031**	**0.0025**	**0.0056**	1	Compiles