

RF Exposure Report

FCC ID: ARS-10BDL3351T

Applicant: Top Victory Electronics (Taiwan) Co Ltd

Address: 10F., No.230, Liancheng Rd., Zhonghe Dist., New Taipei City, 23553 Taiwan

Manufacturer: MMD(Shanghai)Electronics Technology Co Ltd

Address: Room 5060A No 2 Building 555 Dong Chan Road, Min Hang District,
SHANGHAI 200241, CHINA

Product: Colour Monitor

Brand(s): Philips

Test Model(s): 10BDL3351T

Series Model(s): See section 2.1

Test Date: Mar. 13, 2024 ~ Apr. 02, 2024

Issued Date: Apr. 03, 2024

Issued By: Hwa-Hsing (Dongguan) Testing Co., Ltd.

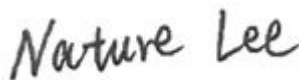
Address: No.101, Building N1, Yuyuan 2 Road, Yuyuan Industrial Park, HuangJiang
Town, Dongguan City, People's Republic of China

Test Firm Registration No.: 915896

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.1

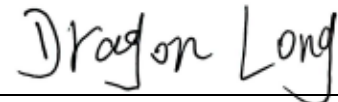
The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



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Reviewed by :



Dragon Long

Approved by :



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Release control record

Issue No.	Reason for change	Date issued
23122202-02-SE-US-01	Original Release	Apr. 03, 2024

1 General Information

1.1 General Description of EUT

Product(s)	Colour Monitor
Test Model(s)	10BDL3351T
Sample No.	HS2403020002; HS2403020003
Series Model(s)	10BDL***** The "*" could be any alphanumeric character including blank for marketing differentiation.
Status of EUT	Engineering Prototype
Power Supply Rating	DC 12V from Adapter or DC 48V from POE
Modulation Type	WiFi: CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM Bluetooth: GFSK, $\pi/4$ DQPSK
Modulation Technology	WiFi 2.4GHz: DSSS; OFDM WiFi 5GHz: OFDM Bluetooth: FHSS, DTS
Transfer Rate	Wi-Fi 2.4GHz: 802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7 Wi-Fi 5GHz: 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7 802.11ac: up to MCS9 Bluetooth: 1Mbps/2 Mbps/3 Mbps
Operating Frequency	Wi-Fi 5GHz: 5180MHz ~ 5240MHz; 5745MHz ~ 5825MHz Bluetooth: 2402MHz ~ 2480 MHz WIFI2.4G: 2412MHz ~ 2462 MHz
Output Power(AVG)	Wi-Fi 5GHz: 11.04dBm for 5180 ~ 5240MHz 11.22dBm for 5745 ~ 5825MHz Wi-Fi 2.4GHz: 13.99dBm Bluetooth: 4.08dBm
Antenna Type	PIFA Antenna
Antenna Gain	Wi-Fi 2.4GHz: 2.2dBi Wi-Fi 5G: 2.69dBi for 5150 ~ 5250MHz 2.91dBi for 5725 ~ 5850MHz Bluetooth: 2.2dBi
Antenna Connector	I-PEX
Accessory Device	N/A
Cable Supplied	Adapter Cable: Unshielded, 180cm

Note:

1. Please refer to the EUT photo document (Reference No.: 23122202-02-01&-02) for detailed product photo.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.
3. For the test results, the EUT had been tested with all power supply type, and only the worst case was shown in the test report.
4. Model difference: These models are only different from model name for trade purpose.

2 RF exposure limit

Limits for maximum permissible exposure (MPE)

Limits for general population / uncontrolled exposure				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Average time (minutes)
300-1500	F/1500	30
1500-100,000	1.0	30

Note: F = Frequency in MHz

2.1 MPE calculation formula

$$Pd = (Pout * G) / (4 * pi * r^2)$$

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

Classification:

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

3 Calculation result of maximum conducted power

The antennas provided to the EUT, please refer to the following table:

Function	Frequency Band	Antenna Gain (dBi)	Antenna Type	Transmit and Receive Chain	Maximum AVG Power(dBm)
Bluetooth	2400~2483.5MHz	2.2	PIFA	1TX,1RX	4.08
WiFi 2.4GHz	2400~2483.5MHz	2.2	PIFA	1TX,1RX	13.99
WiFi 5.1GHz	5150 ~ 5250MHz	2.69	PIFA	1TX,1RX	11.04
WiFi 5.8GHz	5725 ~ 5850MHz	2.91	PIFA	1TX,1RX	11.22

Function	Max power (mW)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
Bluetooth	2.5586	2.2	20	0.000845	1.0
WiFi 2.4GHz	25.0611	2.2	20	0.008274	1.0
WiFi 5.1GHz	12.7057	2.69	20	0.004696	1.0
WiFi 5.8GHz	13.2434	2.91	20	0.005149	1.0

CALCULATION FOR SIMULTANEOUS TRANSMISSION

WIFI and BT can transmit simultaneously, the formula of calculated the worst exposure is:

$$(CPD1/LPD1)+(CPD1/LPD1)+...etc.<1$$

CEF=Calculation Power Density

LEF=Limit of Power Density

Worst situation is $(0.000845/1)+(0.008274/1)= 0.009119<1$, which is less than the "1" limit.

Appendix – Information on the Testing Laboratories

We, [Hwa-Hsing \(Dongguan\) Testing Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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