



TEST REPORT EN IEC 62311:2020

Report Reference No.: HK2401170358-2EH

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Date of issue : 2024/02/20

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Applicant's name: EDA Technology Shanghai Co., Ltd.

Address : Building 29, No.1661 Jialuo Road, Jiading District, Shanghai, PRC

Test specification :

Standard : EN IEC 62311:2020

TRF Originator: Shenzhen HUAKE Testing Technology Co., Ltd.

Master TRF: Dated 2020-05

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Product Name : ED-HMI3020

Trade Mark : EDA

Product Model : ED-HMI3020-101C

Serial Model: ED-HMI3020-050C, ED-HMI3020-070C, ED-HMI3020-050R,
ED-HMI3020-070R, ED-HMI3020-101R

Hardware Version: V1.1

Software Version : V1.1

Ratings : DC 5.1V From Adapter

Result : Pass



TEST REPORT

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Product Name : ED-HMI3020

Product Model : ED-HMI3020-101C

Serial Model : ED-HMI3020-050C, ED-HMI3020-070C, ED-HMI3020-050R,
ED-HMI3020-070R, ED-HMI3020-101R

Applicant : EDA Technology Shanghai Co., Ltd.

Address : Building 29, No.1661 Jialuo Road, Jiading District, Shanghai, PRC

Manufacturer : EDA Technology Shanghai Co., Ltd.

Address : Building 29, No.1661 Jialuo Road, Jiading District, Shanghai, PRC



**** Modified History ****

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	2024/02/20	Jason Zhou



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1. GENERAL INFORMATION

1.1 GENERAL REMARKS

Date of receipt of test sample	:	2024/01/17
Testing commenced on	:	2024/01/17
Testing concluded on	:	2024/02/20

1.2 GENERAL DESCRIPTION OF EUT

Equipment	ED-HMI3020
Model Name	ED-HMI3020-101C
Serial Model	ED-HMI3020-050C, ED-HMI3020-070C, ED-HMI3020-050R, ED-HMI3020-070R, ED-HMI3020-101R
Difference description	The main difference between different models is that the size of the LCD screen is not the same, and the maximum size is tested.
Product Description	The EUT is ED-HMI3020.
	BT-BLE:
	Operation Frequency: 2402 MHz ~ 2480 MHz
	Modulation Type: GFSK
	Antenna Designation: Internal Antenna
	Antenna Gain(Peak) 3.5dBi
	BT-EDR
	Operation Frequency: 2402 MHz ~ 2480 MHz
	Modulation Type: GFSK, $\pi/4$ DQPSK, 8DPSK
	Antenna Designation: Internal Antenna
	Antenna Gain(Peak) 3.5dBi
	2.4G Wifi
	Operation Frequency: IEEE 802.11b/g/n20 2412-2472MHz IEEE 802.11 n40 2422-2462MHz
	Modulation Type: DSSS, OFDM
	Antenna Designation: Internal Antenna
	Antenna Gain(Peak) 3.5dBi

**5G 5180-5240:**

Operation Frequency:	IEEE 802.11a:5180MHz-5240MHz IEEE 802.11n HT20/IEEE 802.11ac HT20:5180MHz-5240MHz IEEE 802.11n HT40/IEEE 802.11ac HT40:5190MHz-5230MHz/IEEE 802.11ac HT80:5210MHz
Modulation Type:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT40: OFDM (256QAM, 64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT80: OFDM(256AQAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Designation:	Internal Antenna
Antenna Gain(Peak)	3.5dBi

5260-5320

Operation Frequency:	IEEE 802.11a:5260MHz-5320MHz IEEE 802.11n HT20/IEEE 802.11ac HT20:5260MHz-5320MHz IEEE 802.11n HT40/IEEE 802.11ac HT40:5270MHz-5310MHz/IEEE 802.11ac HT80:5290MHz
Modulation Type:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT80: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna Designation:	Internal Antenna
Antenna Gain(Peak)	3.5dBi

5500-5700

Operation Frequency:	IEEE 802.11a:5500MHz-5700MHz IEEE 802.11n HT20/IEEE 802.11ac HT20:5500MHz-5700MHz IEEE 802.11n HT40/IEEE 802.11ac HT40:5510-5670MHz/IEEE 802.11ac HT80:5530-5610MHz
Modulation Type:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT80: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna Designation:	Internal Antenna
Antenna Gain(Peak)	3.5dBi

The results shown
this document can

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	5745-5825
	Operation Frequency: IEEE 802.11a/ IEEE 802.11n HT20/802.11ac HT20:5745MHz-5825MHz IEEE 802.11n HT40/ IEEE 802.11ac n HT40:5755-5795MHz IEEE 802.11ac HT80:5775MHz
	Modulation Type: IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT40: OFDM (256QAM, 64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT80: OFDM (256QAM, 64QAM, 16QAM, QPSK,BPSK)
	Antenna Designation: Internal Antenna
	Antenna Gain(Peak) 3.5dBi
Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Channel List	Refer to below
Hardware Version	V1.1
Software Version	V1.1
Note:	For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



1.EN IEC 62311 REQUIREMENT

1.1 GENERAL INFORMATION

According to its specifications, the EUT must comply with the requirements of the following standards:

EN IEC 62311:2020[Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz)]

1.2 LIMIT

A. Typical usage, installation and the physical characteristics of equipment make it inherently compliant with the applicable EMF exposure levels such as those listed in the bibliography. This low-power equipment includes unintentional (or non-intentional) radiators, for example incandescent light bulbs and audio/visual (A/V) equipment, information technology equipment (ITE) and multimedia equipment (MME) that does not contain radio transmitters.

NOTE Equipment is described as A/V equipment, ITE or MME if its main use is playback/recording of music, voice or images, or processing of digital information.

B. The input power level to electrical or electronic components that are capable of radiating electromagnetic energy in the relevant frequency range is so low that the available antenna power and/or the average total radiated power cannot exceed the low-power exclusion level defined in 4.2.

C. The available antenna power and/or the average total radiated power are limited by product standards for transmitters to levels below the low-power exclusion level defined in 4.2.

D. Measurements or calculations show that the available antenna power and/or the average total radiated power are below the low-power exclusion level defined in 4.2.



3. RESULT

3.1 Summary of Results

Limit (W/ m ²)	Result (W/ m ²)	Verdict
10	0.165	passed

3.2 MPE Evaluation

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

P = Power input to antenna

G = Antenna Gain

R = distance to the center of radiation of antenna (in meter) = 0.2 m

$\pi=3.142$

The maximum power density at a distance of 0.2 m for EUT is shown as below:

Operation Mode	Max. EIRP (W)	R (m)	S (W/m ²)	Limit (W/m ²)	Conclusion
BT-BLE	0.005	0.2	0.010	10	PASS
BT-EDR	0.009	0.2	0.018	10	PASS
2.4GWifi	0.074	0.2	0.015	10	PASS
5180-5240	0.083	0.2	0.165	10	PASS
5260-5320	0.077	0.2	0.153	10	PASS
5500-5700	0.080	0.2	0.159	10	PASS
5745-5825	0.017	0.2	0.034	10	PASS

3.3 Measurement Uncertainty

Extended Uncertainty (k=2) 95% 0.5dB

.....End of Report.....