



RF Exposure Evaluation Report

Application No.: DNT2409120062R1673-02713
Applicant: Jiangxi Gao Su Da Digital Technology Co.,Ltd
Address of Applicant: Luxi Industry park , Pingxiang City , Jiangxi Province ,China
EUT Description: LED TV
Model No.: TV-240SD, TV-320SD, TV-130SD, TV-170SD, TV-190SD
FCC ID: 2BK66-G001
Power supply AC 100-240V 50/60Hz & DC12V (3.5A) Compatibility
Trade Mark: AUDIOBOX
Standards: 47 CFR Part 2.1091
FCC KDB 447498 D01 v06
Date of Receipt: 2024/9/21
Date of Test: 2024/9/22 to 2024/9/27
Date of Issue: 2024/10/9
Test Result: **PASS**

Prepared By: Wayne Lin (Testing Engineer)

Reviewed By: Pengfei Chen (Project Engineer)

Approved By: Yousef Chen (Manager)



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Oct.9, 2024	Valid	Original Report



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1 General Information

1.1 Test Location

Company:	Dongguan DN Testing Co., Ltd
Address:	No. 1, West Fourth Street, South Xinfu Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China
Test engineer:	Wayne Lin

1.2 General Description of EUT

Manufacturer:	Jiangxi Gao Su Da Digital Technology Co.,Ltd
Address of Manufacturer:	Luxi Industry park , Pingxiang City , Jiangxi Province ,China
EUT Description::	LED TV
Test Model No.:	TV-240SD
Additional Model(s):	TV-320SD, TV-130SD, TV-170SD, TV-190SD
Chip Type:	RTL8822CU
Serial Number	PR2409120062R1673
Power Supply	AC 100-240V 50/60Hz & DC12V (3.5A) Compatibility
Trade Mark:	AUDIOBOX
Hardware Version:	V1.0
Software Version:	V1.0
Sample Type:	☐ Portable Device, ☐ Module, ☒ Mobile Device
Antenna Type:	☐ External, ☒ Integrated
Antenna Gain:	☒ Provided by applicant
	2.4G:2dBi; 5G:1.93dBi

Remark:

*All models are just color differences, motherboard, PCB circuit board, chip, electronic components, appearance is all the same.

*Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information , DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.



2 RF Exposure Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Limits

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d 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.



2.1.2 Test Procedure

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

2.1.3 EUT RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.0 / 2.0 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

Test Mode	Antenna	Freq(MHz)	Power [dBm]
GFSK	Ant0	2402	4.84
		2441	4.75
		2480	5.05
$\pi/4$ DQPSK	Ant0	2402	7.41
		2441	7.95
		2480	8.22
8-DPSK	Ant0	2402	8.69
		2441	8.34
		2480	9.33
BLE 1M	Ant0	2402	6.01
		2440	6.19
		2480	6.33
BLE 2M	Ant0	2402	6.05
		2440	6.29
		2480	6.51
11B	Ant1	2412	19.23
		2437	18.18
		2462	17.75
11G	Ant1	2412	19.37
		2437	19.62
		2462	19.91
11N20	Ant1	2412	19.54
		2437	20.12
		2462	20.12
11N40	Ant1	2422	20.49
		2437	19.7
		2452	19.86



11A	Ant1	5180	10.84
		5200	9.99
		5240	10.6
11N20	Ant1	5180	10.12
		5200	10.66
		5240	11.37
11N40	Ant1	5190	9.44
		5230	11.68

The Worst Mode	Antenna	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm ²)	Limited of Power Density (S) (mW /cm ²)	Test Result
					(dBi)	(Linear)			
8-DPSK	Ant0	9.33	9±1	10	2	1.5849	0.0032	1	Complies
BLE	Ant0	6.51	6±1	7	2	1.5849	0.0016	1	Complies
IEEE 802.11b	Ant1	19.23	19±1	20	2	1.5849	0.0315	1	Complies
IEEE 802.11g	Ant1	19.91	19±1	20	2	1.5849	0.0315	1	Complies
IEEE 802.11n HT20	Ant1	20.12	20±1	21	2	1.5849	0.0397	1	Complies
IEEE 802.11n HT40	Ant1	20.49	20±1	21	2	1.5849	0.0397	1	Complies
IEEE 802.11a	Ant1	10.84	10±1	11	1.93	1.5596	0.0039	1	Complies
IEEE 802.11n HT20	Ant1	11.37	11±1	12	1.93	1.5596	0.0049	1	Complies
IEEE 802.11n HT40	Ant1	11.68	11±1	12	1.93	1.5596	0.0049	1	Complies

Antenna 0+1

MAX Power Density (S) (mW/cm ²) ANT 0	MAX Power Density (S) (mW/cm ²) ANT 1	Total Ratio	Limit Ratio	Test Result
0.0032	0.0397	0.0429	1	Complies

The End Report