



No.:
FCCSZ2025-0031-H

TEST REPORT

FCC ID : 2AV2J-DBOX04

NAME OF SAMPLE : Smart Projector

APPLICANT : Shenzhen Dangs Science and Technology Co.,Ltd

CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant	Name: Shenzhen Dangs Science and Technology Co.,Ltd Address: 1301, Block D1, Chuangzhi Yuncheng, Liuxian Avenue, Nanshan District, Shenzhen, Guangdong Province		
Manufacturer	Name: Shenzhen Dangs Science and Technology Co.,Ltd Address: 1301, Block D1, Chuangzhi Yuncheng, Liuxian Avenue, Nanshan District, Shenzhen, Guangdong Province		
Equipment Under Test	Product Name: Smart Projector Model Name: DBOX04 Additional Model Name: See section 2.1 Brand Name: Dangbei Serial NO.: N/A Sample NO.: 4-1		
Date of Receipt.	Apr. 11, 2025	Date of Testing	Apr. 11, 2025 ~ May. 09, 2025
Test Specification		Test Result	
FCC Part 2 (Section 2.1091) KDB 447498 D04 v01 IEEE C95.1		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied.		
Seal of CVC Issue Date: May. 09, 2025			
Compiled by: Zhu Yulin Name Signature	Reviewed by: Mo Xianbiao Name Signature	Approved by: Dong Sanbi Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed		Fail = failed	N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2024-0030-H	Original release	May. 09, 2025



1. GENERAL PRODUCT INFORMATION

PRODUCT NAME	Smart Projector	
BRAND NAME	Dangbei	
MODEL NAME	DBOX04	
ADDITIONAL MODEL NAME (Remark 6)	DB*****("**"can be 0-9,A-Z,a-z,or blank)	
POWER SUPPLY	DC 19V From Adapter(Input: 100-240V~50/60Hz)	
MODULATION TYPE	BT	GFSK, $\pi/4$ DQPSK, 8DPSK for FHSS GFSK for DTS
	WiFi	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
OPERATING FREQUENCY	BT	2402 ~ 2480MHz
	WiFi	2412MHz ~ 2462MHz, 5180MHz ~ 5240MHz, 5260MHz ~ 5320MHz, 5500MHz ~ 5720MHz, 5745MHz ~ 5825MHz, 5955MHz ~ 6415MHz, 6435MHz ~ 6515MHz, 6535MHz ~ 6855MHz, 6875MHz ~ 7095MHz
PEAK OUTPUT POWER	BT: 8.60dBm 26.44dBm for 2412MHz ~ 2462MHz, 15.89dBm for 5180MHz ~ 5240MHz, 16.03dBm for 5260MHz ~ 5320MHz, 16.43dBm for 5500MHz ~ 5720MHz, 15.78dBm for 5745MHz ~ 5825MHz, 13.24dBm for 5955MHz ~ 6415MHz, 12.86dBm for 6435MHz ~ 6515MHz, 12.01dBm for 6535MHz ~ 6855MHz, 11.37dBm for 6875MHz ~ 7095MHz	
ANTENNA TYPE (Remark 5)	BT: PCB Antenna, with 5.1dBi gain	
	WiFi 2.4G:	ANT1: FPC Antenna, with 5.5dBi gain ANT2: FPC Antenna, with 5.1dBi gain
	WiFi 5G:	ANT1: FPC Antenna, with 3.93dBi gain
	WiFi 6G:	ANT1: FPC Antenna, with 2.92dBi gain ANT2: FPC Antenna, with 2.68dBi gain
I/O PORTS	Refer to User's Manual	
CABLE SUPPLIED	N/A	

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. EUT photo refer to the report (Report NO.: FCCSZ2024-0030-EUT).
4. Please refer to the antenna report.
5. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
6. For marketing purposes, only the model names on the nameplates are labeled differently in different markets, with no safety issues.



2. RF EXPOSURE LIMIT

(Option B) According to FCC Part2.1091 and FCC Part1.1307b, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where:

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz;

and

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to §1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source Frequency (MHz)	Threshold ERP (W)
0.3 - 1.34	$1920R^2$
1.34 - 30	$3450R^2/f^2$
30 - 300	$3.38R^2$
300 - 1500	$0.0128R^2/f^2$
1500 - 100000	$19.2R^2$



For multiple RF sources: Multiple RF sources are exempt if:

- a) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).
- b) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th} , including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i .

ERP_j = the ERP of fixed, mobile, or portable RF source j .

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source j , at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

$Evaluated_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

$Exposure\ Limit_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k , as applicable from § 1.1310 of this chapter.

3. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.



4. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The measured Conducted Power

Option	Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
B	BT	2402 ~ 2480	9	+/-1	8	10
	2.4G WiFi MIMO	2412 ~ 2462	26	+/-1	25	27
	5G WiFi MIMO	5180 ~ 5240	16	+/-1	15	17
		5260 ~ 5320	16	+/-1	15	17
		5500 ~ 5720	16	+/-1	15	17
		5745 ~ 5825	16	+/-1	15	17

The measured EIRP

Option	Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
B	6G WiFi MIMO	5955 ~ 6415	13	+/-1	12	14
		6435 ~ 6515	13	+/-1	12	14
		6535 ~ 6855	12	+/-1	11	13
		6875 ~ 7095	11	+/-1	10	12

5. MAXIMUM PERMISSIBLE EXPOSURE

Mode	Frequency (MHz)	Maximum tune up power(dBm)	Maximum Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Part1.1307b Threshold (mW)	Ratio
BT	2402 ~ 2480	10	5.10	15.1	12.95	19.72	3060	0.006
2.4G WiFi MIMO	2412 ~ 2462	27	5.50	32.5	30.35	1083.93	3060	0.354
5G WiFi MIMO	5180 ~ 5240	17	3.93	20.93	18.78	75.51	3060	0.025
	5260 ~ 5320	17	3.93	20.93	18.78	75.51	3060	0.025
	5500 ~ 5720	17	3.93	20.93	18.78	75.51	3060	0.025
	5745 ~ 5825	17	3.93	20.93	18.78	75.51	3060	0.025
6G WiFi MIMO	5955 ~ 6415	--	--	14	11.85	15.31	3060	0.005
	6435 ~ 6515	--	--	14	11.85	15.31	3060	0.005
	6535 ~ 6855	--	--	13	10.85	12.16	3060	0.004
	6875 ~ 7095	--	--	12	9.85	9.66	3060	0.003

Remark: 2.4G WiFi, 5G WiFi and 6G WiFi cannot transmit simultaneously

CONCLUSION:

This EUT can operate simultaneously in BT and WiFi;

Max: BT + WiFi: $0.008 + 0.354 = 0.362 < 1$, which is less than the "1" limit. So is compliant with the RF exposure requirements.

----- End of the Report -----



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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