

RF Exposure

Applicant : KONKA GROUP CO., LTD.
15-24F, Konka R&D Building, No. 28 Keji South 12th
Address : Road, Science and Technology Park, Yuehai Subdistrict,
Nanshan District, Shenzhen , Guangdong, China
Product Name : 32" HD SMART TV
Brand Mark : KONKA/RCA
Model : KDL32VE684UN
Series model : KVL32VE684UN, KDL32VE684UN, KVL32VE684UN
Pro, KDL32VE684UN Pro, 32684PRO, A1HT3200SB
Report Number : BLA-EMC-202509-A3705
FCC ID : 2AQX732VE684UN00
Date of Receipt : Sept. 11, 2025
Date of Test : Sept. 11, 2025 to Sept. 27, 2025
47 CFR Part 15, Part1.1307
Test Standard : 47 CFR Part 15, Part2.1093
KDB447498D04 General RF Exposure Guidance v01
Test Result : Pass

Compiled by:

charlie

Review by:

Xavier

Approved by:

13th Mr. Zheng

Issued Date:

Sept. 22, 2025



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Revise Record

Version No.	Date	Description
01	Sept. 27, 2025	Original

1 General information

1.1 General information

Applicant	KONKA GROUP CO., LTD.
Address	15-24F, Konka R&D Building, No. 28 Keji South 12th Road, Science and Technology Park, Yuehai Subdistrict, Nanshan District, Shenzhen , Guangdong, China
Manufacturer	KONKA GROUP CO., LTD.
Address	15-24F, Konka R&D Building, No. 28 Keji South 12th Road, Science and Technology Park, Yuehai Subdistrict, Nanshan District, Shenzhen , Guangdong, China
Factory ¹	Dongguan Konka Electronic Co.,Ltd
Address	Konka Road, Fenggang Town Dongguan City Guangdong China
Factory ²	AMTEC ELECTRONICS CORPORATION
Address	Plot A, Number 10A, Street 1, Hiep Phuoc Industrial Park, Hiep Phuoc Commune, Ho Chi Minh City

1.2 General description of EUT

Product name	32" HD SMART TV
Model no.	KDL32VE684UN
Series model	KVL32VE684UN, KDL32VE684UN, KVL32VE684UN Pro, KDL32VE684UN Pro, 32684PRO, A1HT3200SB
Differences of Series model	Their appearances, electrical circuit design, layout, components used and internal wiring are identical. And only difference is the model and trademark.
Power supply or adapter information	AC 100~240V
Hardware version	N/A
Software version	N/A
Engineer sample no.	BLA-EMC-202509-A37
<i>Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.</i>	

For BT

Operation Frequency	2402MHz-2480MHz
Modulation Type	GFSK, π /4DQPSK, 8DPSK
Channel Spacing	1MHz
Number of Channels	79
Antenna Type	FPC antenna
Antenna Gain	2.28dBi(Provided by customer)

For 2.4GWIFI

Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Nominal Bandwidth	20MHz&40MHz
Channel Spacing	5MHz
Number of Channels	802.11b/g/n(HT20): 11 802.11n(HT40): 7
Antenna Type	FPC antenna
Antenna Gain	WIFI ANT 0: 2.28dBi WIFI ANT 1: 2.28dBi
Function	☒ SISO ☒ 2x2 MIMO ☐ TPC

For 5GWIFI

Operating Frequency	Band1: 5180MHz~5240MHz; Band4: 5745MHz~5825MHz
Channel numbers	Band 1: 802.11a/802.11n(HT20)/802.11ac(HT20): 4, 802.11n(HT40)/802.11ac(HT40): 2, 802.11ac(HT80): 1 Band 4: 802.11a/802.11n(HT20)/802.11ac(HT20): 5, 802.11n(HT40)/802.11ac(HT40): 2, 802.11ac(HT80): 1
Modulation Type	OFDM
Nominal Bandwidth	20MHz&40MHz&80MHz
Channel Spacing	10MHz
Antenna Type	FPC antenna
Antenna Gain	Antenna 0: 3dBi (Provided by customer) Antenna 1: 3dBi (Provided by customer)
Function	☒ SISO ☒ 2x2 MIMO ☐ TPC

2 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Address:	Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
ISED CAB identifier No.:	CN0028
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

3 RF Exposure Compliance Requirement

3.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

3.2 Limits

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

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

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50	
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

3.3 Result

Calculated Result and Limit (WORSE CASE IS AS BELOW)

WIFI0:2.4GWIFI2.28dBi/5GWIFI3dBi

WIFI1:2.4GWIFI2.28dBi/5GWIFI3dBi

BT:2.28dBi

2.4GWIFI Directional gain=2.28+10log2=5.29dBi

5GWIFI Directional gain=3+10log2=6.01dBi

worse case is 16.533 dBm gain is 6.01

Mode	Frequency (MHz)	Max Output power(dBm)	Max Output power(mW)	Ant gain (dBi)	Evaluation ERP(dBm)	Evaluation ERP(mW)	Limit of Pth(mW)	Result
1-DH1	2402	11.33	13.58	2.28	11.46	14.00	3060.00	Pass
2.4G WIFI:n20 (Sum)	2437	16.533	45.01	5.29	19.673	92.75	3060.00	Pass
5G WIFI:802.11N40 (Sum)	5230	13.986	25.04	6.01	17.846	60.90	3060.00	Pass

ERP=Max Output power+Ant gain-2.15

Simultaneous emission:

$\sum_{i=1}^a \frac{P_i}{P_{th,i}}$	$=(11.33+16.533+13.986)/3060=0.014<1$
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$\sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}}$	$=(11.46+19.673+17.846)/3060 =0.016<1$
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Comply with RF exposure exemption limit.

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