

# FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

 ${\sf KONKA\,GROUP\,CO.,\,LTD.}$ 

LED TV

Model Number: 32RR683TC

Additional Model: TC-LE32K-AN2401

FCC ID: 2AQX732RR683UN00

| 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                     |  |  |  |  |  |
|   |  |  |  |  |  |  |
| Prepared By:  | EST Technology Co., Ltd.                                 |  |  |  |  |  |
| Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China |  |  |  |  |  |  |
| Tel: 86-769-83081888-808  |  |  |  |  |  |  |

| Report Number:  | ESTE-R2403108-1               |  |  |
|-----------------|-------------------------------|--|--|
| Date of Test:   | May. 15, 2024 ~ Jun. 11, 2024 |  |  |
| Date of Report: | Jun. 21, 2024                 |  |  |



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| Applicant:<br>Address:    | KONKA GROUP CO., LTD. 15-24F, Konka R&D Building, No. 28 Keji South 12th Road, Science and Technology Park, Yuehai Subdistrict, Nanshan District, Shenzhen, Guangdong ,China   |   |                                  |  |  |  |
|---------------------------|--|---|----------------------------------|--|--|--|
| Manufacturer:<br>Address: | 15-24F, Konka R&D Bu<br>Science and Technolog  | KONKA GROUP CO., LTD.  15-24F, Konka R&D Building, No. 28 Keji South 12th Road, Science and Technology Park, Yuehai Subdistrict, Nanshan District, Shenzhen, Guangdong, China   |                                  |  |  |  |
| Factory:<br>Address:      | Dongguan Konka Elec<br>Konka Road, Fenggan   |   | an City Guangdong China          |  |  |  |
| E.U.T:                    | LED TV   |   |                                  |  |  |  |
| Model Number:             | 32RR683TC  | andysta state of a mean order when the second state of the second |                                  |  |  |  |
| Additional Model:         | TC-LE32K-AN2401<br>Note: They are identicated  | al except model   | name.                            |  |  |  |
| Power Supply:             | AC 100-240V, 50/60Hz   |   |                                  |  |  |  |
| Trade Name:               | KONKA, RCA   | Serial No.:   |                                  |  |  |  |
| Date of Receipt:          | May. 15, 2024  | Date of Test:   | May. 15, 2024 ~<br>Jun. 11, 2024 |  |  |  |
| Test Specification:       | FCC Part 15 Subpart C (15.247) ANSI C63.10:2013 FCC KDB 558074 D01 15.247 Meas Guidance v05r02   |   |                                  |  |  |  |
| Test Result:              | The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements.  This report applies to above tested sample only and shall not be |   |                                  |  |  |  |
|                           | reproduced in part without written approval of EST Technology Co., Ltd.  Date: Jun. 21, 2024   |   |                                  |  |  |  |
| Prepared by:              | Reviewed by  | <b>y</b> :  | Approved by:                     |  |  |  |
| Zephyr Zhu                | Jun 1  |   |                                  |  |  |  |
| Zonbur Zhu / Aggistant    | Savan Mana / F   | nginoor   | Icomon Hill Managar              |  |  |  |

Zephyr Zhu / Assistant

Seven Wang / Engineer

Iceman Hu / Manager

Other Aspects: This report base on the previous report with report number: ESTE-R2403108. Add the screen to this report, so just re-tested Conducted Emissions and Radiated Emissions (30-1000Mhz), other test item needn't re-tested.

Abbreviations: OK/P=passed

fail/F=failed

n.a/N=not applicable

E.U.T=equipment under tested

This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.



### **1.GENERAL INFORMATION**

#### 1.1.Description of Device (EUT)

| Product Name            | : | LED TV   |
|-------------------------|---|--|
| Model Number            | : | 32RR683TC  |
| Software Version        |   | N/A  |
| Hardware Version        | : | N/A  |
| Operation frequency     | : | 2402MHz~2480MHz  |
| Number of channel       | : | 79   |
| Max Output Power (PEAK) | : | 9.27dBm  |
| Modulation Type         | : | BT BDR(1Mbps): GFSK<br>BT EDR(2Mbps): π/4-DQPSK<br>BT EDR(3Mbps): 8-DPSK |
| Sample Type             | : | Prototype production   |

Note: For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

#### 1.2.Antenna Information

| Ant N | o. Brand | Model Name | Antenna Type | Connector | Gain (dBi) |
|-------|----------|------------|--------------|-----------|------------|
| 1     | -        | -          | Internal     | -         | 3.21       |
|       |          |            |              |           |            |

#### Note:

- 1. The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.
- 2. The test results of this report only apply to the sample as received.

#### 1.3.Information of RF Cable

| Cable Loss(dB) | Provided by           |  |
|----------------|-----------------------|--|
| 1.0            | KONKA GROUP CO., LTD. |  |

#### Note:

- 1. The customer declared the loss value of the RF Cable. and the test results of this report only apply to the sample as received.
- 2. The laboratory is not responsible for the accuracy of the cable loss.



# 2.SUMMARY OF TEST

# 2.1.Summary of test result

| No. | Description of Test Item                  | FCC Standard Section          | Results |
|-----|---|-------------------------------|---------|
| 1   | Maximum Peak Output Power                 | 15.247(a)(1)                  | N/A     |
| 2   | 20dB Bandwidth                            | 15.247(a)(1)                  | N/A     |
| 3   | Carrier Frequency Separation              | 15.247(a)(1)                  | N/A     |
| 4   | Number Of Hopping Channel                 | 15.247(a)(1)(iii)             | N/A     |
| 5   | Dwell Time                                | 15.247(a)(1)(iii)             | N/A     |
| 6   | Conducted Band Edge                       | 15.247(d)                     | N/A     |
| 7   | Conducted Spurious Emissions              | 15.247(d)                     | N/A     |
| 8   | Radiated Spurious Emissions and Band Edge | 15.205<br>15.209<br>15.247(d) | PASS    |
| 9   | AC Power Line Conducted Emissions         | 15.207                        | PASS    |
| 10  | Antenna Requirement                       | 15.203                        | N/A     |

Note: "N/A" denotes test is not applicable in this test report.



#### 2.2.Test Facilities

EMC Lab : Accredited by CNAS, CHINA

Registration No.: L5288

This Accreditation is valid until: November 12, 2029

Recognized by FCC, USA Designation Number: CN1215

This Recognition is valid until: January 31, 2026

Accredited by A2LA, USA Registration No.: 4366.01

This Accreditation is valid until: January 31, 2026

Recognized by Industry Canada CAB identifier No.: CN0035

This Recognition is valid until: January 31, 2026

Recognized by VCCI, Japan

Registration No.: C-14103; T-20073; R-13663;

R-20103; G-20097

Date of registration: Apr. 20, 2020

This Recognition is valid until: Apr. 19, 2026

Recognized by TUV Rheinland, Germany Registration No.: UA 50413872 0001 Date of registration: July 31, 2018

Recognized by Intertek

Registration No.: 2011-RTL-L2-64

Date of registration: November 08, 2018

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,

Guangdong, China



## 2.3. Measurement uncertainty

| Test Item   | Uncertainty           |  |
|---|-----------------------|--|
| Uncertainty for Conduction emission test                | ±3.48dB               |  |
| Uncertainty for spurious emissions test (Below 30MHz)   | ±1.62 dB              |  |
| Uncertainty for spurious emissions test                 | ±4.60 dB(Polarize: H) |  |
| (30MHz-1GHz)  | ±4.68 dB(Polarize: V) |  |
| Uncertainty for spurious emissions test (1GHz to 25GHz) | ±4.96dB               |  |
| Uncertainty for radio frequency                         | 7×10 <sup>-8</sup>    |  |
| Uncertainty for conducted RF Power                      | 1.08dB                |  |
| Uncertainty for Power density test                      | 0.26dB                |  |

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

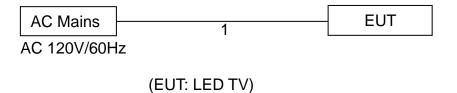
### 2.4. Assistant equipment used for test

| Item | Equipment | Brand | Model Name/Type No. | FCC ID | Series No. |
|------|-----------|-------|---------------------|--------|------------|
| -    | -         | -     | -                   | -      | -          |

| Item | Shielded Type | Ferrite Core | Length | Note     |
|------|---------------|--------------|--------|----------|
| 1    | NO            | NO           | 1.5m   | AC Cable |

### 2.5.Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 (or 1.5) meter high above ground. EUT was beset into Bluetooth test mode by software before test.





#### 2.6.Test mode

Combining all the rates, modulations, and packet types, the Pre-scans had been carried out. The worst case test mode was selected for the final test as listed below.

| Test Item                                     | Modulation<br>Type        | Operating Mode | Packet<br>Type | Test Channel    |
|---|---------------------------|----------------|----------------|-----------------|
| Radiated Spurious<br>Emissions(Below<br>1GHz) | GFSK&8-DPSK<br>&π/4-DQPSK | Non Hopping    | DH5            | Low/Middle/High |
| AC Power Line Conducted Emissions             | GFSK&8-DPSK<br>&π/4-DQPSK | Non Hopping    | DH5            | Low/Middle/High |

Note: In radiated measurement, the EUT had been pre-scan on the positioned of each 3 axis(X,Y,Z), the worst case was found when positioned on **X-plane**.



# 2.7.Channel List

| Channel<br>No. | Frequency<br>(MHz) | Channel<br>No. | Frequenc<br>y<br>(MHz) | Channe<br>I<br>No. | Frequenc<br>y<br>(MHz) | Channel<br>No. | Frequenc<br>y<br>(MHz) |
|----------------|--------------------|----------------|------------------------|--------------------|------------------------|----------------|------------------------|
| 0              | 2402               | 1              | 2403                   | 2                  | 2404                   | 3              | 2405                   |
| 4              | 2406               | 5              | 2407                   | 6                  | 2408                   | 7              | 2409                   |
| 8              | 2410               | 9              | 2411                   | 10                 | 2412                   | 11             | 2413                   |
| 12             | 2414               | 13             | 2415                   | 14                 | 2416                   | 15             | 2417                   |
| 16             | 2418               | 17             | 2419                   | 18                 | 2420                   | 19             | 2421                   |
| 20             | 2422               | 21             | 2423                   | 22                 | 2424                   | 23             | 2425                   |
| 24             | 2426               | 25             | 2427                   | 26                 | 2428                   | 27             | 2429                   |
| 28             | 2430               | 29             | 2431                   | 30                 | 2432                   | 31             | 2433                   |
| 32             | 2434               | 33             | 2435                   | 34                 | 2436                   | 35             | 2437                   |
| 36             | 2438               | 37             | 2439                   | 38                 | 2440                   | 39             | 2441                   |
| 40             | 2442               | 41             | 2443                   | 42                 | 2444                   | 43             | 2445                   |
| 44             | 2446               | 45             | 2447                   | 46                 | 2448                   | 47             | 2449                   |
| 48             | 2450               | 49             | 2451                   | 50                 | 2452                   | 51             | 2453                   |
| 52             | 2454               | 53             | 2455                   | 54                 | 2456                   | 55             | 2457                   |
| 56             | 2458               | 57             | 2459                   | 58                 | 2460                   | 59             | 2461                   |
| 60             | 2462               | 61             | 2463                   | 62                 | 2464                   | 63             | 2465                   |
| 64             | 2466               | 65             | 2467                   | 66                 | 2468                   | 67             | 2469                   |
| 68             | 2470               | 69             | 2471                   | 70                 | 2472                   | 71             | 2473                   |
| 72             | 2474               | 73             | 2475                   | 74                 | 2476                   | 75             | 2477                   |
| 76             | 2478               | 77             | 2479                   | 78                 | 2480                   | -              | -                      |

# 2.8. Power Setting of Test Software

| Software Name            | RTLBTAPP |         |         |  |
|--------------------------|----------|---------|---------|--|
| Frequency(MHz)           | 2402     | 2441    | 2480    |  |
| GFSK(1Mbps) Setting      | Default  | Default | Default |  |
| π/4-DQPSK(1Mbps) Setting | Default  | Default | Default |  |
| 8-DPSK(3Mbps) Setting    | Default  | Default | Default |  |

Note: This information is provided by the applicant.



# 2.9.Test Equipment

| For conducted emission test |                    |              |            |                     |            |           |  |  |
|-----------------------------|--------------------|--------------|------------|---------------------|------------|-----------|--|--|
| Equipment                   | Manufacturer       | Model No.    | Serial No. | Calibration<br>Body | Last Cal.  | Next Cal. |  |  |
| EMI Test Receiver           | Rohde<br>& Schwarz | ESHS30       | EST-E001   | LISAI               | June 12,23 | 1 Year    |  |  |
| Artificial Mains Network    | Rohde<br>& Schwarz | ENV216       | EST-E002   | LISAI               | June 12,23 | 1 Year    |  |  |
| Pulse Limiter               | Rohde<br>& Schwarz | ESH3-Z2      | EST-E078   | LISAI               | June 12,23 | 1 Year    |  |  |
| Test Software               | Audix              | e3-6.111221a | N/A        | N/A                 | N/A        | N/A       |  |  |

| For radiated emission test(9 kHz-30MHz)  |                    |              |          |       |            |        |  |  |
|--|--------------------|--------------|----------|-------|------------|--------|--|--|
| Equipment Manufacturer Model No. Serial No. Calibration Body Last Cal. Next Cal. |                    |              |          |       |            |        |  |  |
| EMI Test<br>Receiver   | Rohde<br>& Schwarz | ESR7         | EST-E047 | LISAI | June 12,23 | 1 Year |  |  |
| Active Loop Antenna  | SCHWAREBE<br>CK    | FMZB 1519B   | EST-E054 | LISAI | June 12,23 | 1 Year |  |  |
| Test Software  | Audix              | e3-6.111221a | N/A      | N/A   | N/A        | N/A    |  |  |
| 9kHz-30MHz Cable   | N/A                | EST-001      | N/A      | N/A   | N/A        | N/A    |  |  |

| For radiated emissions test (30-1000MHz)   |                    |              |          |       |            |        |  |  |
|--|--------------------|--------------|----------|-------|------------|--------|--|--|
| Equipment Manufacturer Model No. Serial No. Calibration Body Last Cal. Next Cal. |                    |              |          |       |            |        |  |  |
| EMI Test<br>Receiver   | Rohde<br>& Schwarz | ESR7         | EST-E047 | LISAI | June 12,23 | 1 Year |  |  |
| Bilog Antenna  | Teseq              | CBL 6111D    | EST-E034 | LISAI | June 12,23 | 1 Year |  |  |
| Test Software  | Audix              | e3-6.111221a | N/A      | N/A   | N/A        | N/A    |  |  |
| 30-1000MHz Cable   | N/A                | EST-002      | N/A      | N/A   | N/A        | N/A    |  |  |



### 3. RADIATED SPURIOUS EMISSIONS AND BAND EDGE

#### 3.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 15.205 Restricted frequency band

| MHz                        | MHz                   | MHz             | GHz           |
|----------------------------|-----------------------|-----------------|---------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15    |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46   |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75   |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5   |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2     |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5     |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7   |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4  |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5  |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2  |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4   |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12 |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0   |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8   |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5  |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | (2)           |

#### 15.209 Limit

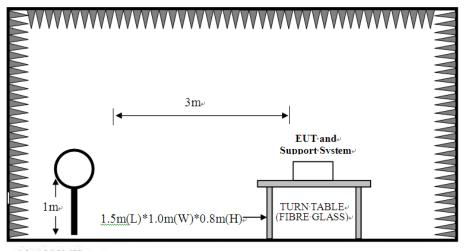
| 10.200 2111111  |                      |             |
|-----------------|----------------------|-------------|
| Frequency (MHz) | Field Strength(µV/m) | Distance(m) |
| 0.009-0.490     | 2400/F(kHz)          | 300         |
| 0.490-1.705     | 24000/F(kHz)         | 30          |
| 1.705-30        | 30                   | 30          |
| 30-88           | 100                  | 3           |
| 88-216          | 150                  | 3           |
| 216-960         | 200                  | 3           |
| Above 960       | 500                  | 3           |

#### Note:

- (1) Emission level  $dB\mu V = 20 \log Emission level \mu V/m$ .
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

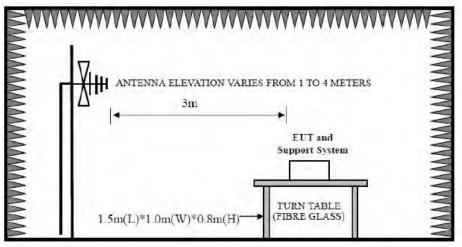
## 3.2. Test Setup

9kHz~30MHz4

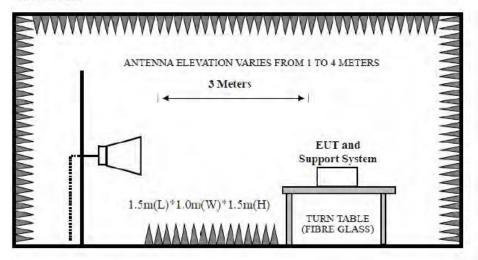


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30~1000MHz



Above 1GHz





# 3.3. Spectrum Analyzer Setting

#### For 9KHz-150KHz

| Spectrum<br>Parameters | Setting                                 |
|------------------------|---|
| RBW                    | 300Hz(for Peak&AVG)/CISPR 200Hz(for QP) |
| VBW                    | 300Hz(for Peak&AVG)/CISPR 200Hz(for QP) |
| Start frequency        | 9KHz                                    |
| Stop frequency         | 150KHz                                  |
| Sweep Time             | Auto                                    |
| Detector               | PEAK/QP/AVG                             |
| Trace Mode             | Max Hold                                |

#### For 150KHz-30MHz

| Spectrum<br>Parameters | Setting  |
|------------------------|----------|
| RBW                    | 9KHz     |
| VBW                    | 9KHz     |
| Start frequency        | 150KHz   |
| Stop frequency         | 30MHz    |
| Sweep Time             | Auto     |
| Detector               | QP       |
| Trace Mode             | Max Hold |

#### For 30MHz-1GHz

| Spectrum<br>Parameters | Setting  |
|------------------------|----------|
| RBW                    | 120KHz   |
| VBW                    | 300KHz   |
| Start frequency        | 30MHz    |
| Stop frequency         | 1GHz     |
| Sweep Time             | Auto     |
| Detector               | QP       |
| Trace Mode             | Max Hold |

# For Above 1GHz

| Spectrum<br>Parameters | Setting          |                         |  |  |
|------------------------|------------------|-------------------------|--|--|
| RBW                    | 1                | MHz                     |  |  |
|                        | PEAK Measurement | AVG Measurement         |  |  |
| VBW                    |                  | Duty cycle≥98%,VBW=10Hz |  |  |
|                        | 3MHz             | Duty cycle<98%,VBW≥1/T  |  |  |
| Start frequency        | 1GHz             |                         |  |  |
| Stop frequency         | 25               | 5GHz                    |  |  |
| Sweep Time             | Auto             |                         |  |  |
| Detector               | PEAK             |                         |  |  |
| Trace Mode             | Ma               | x Hold                  |  |  |



#### 3.4. Test Procedure

- a. EUT was placed on a turn table, which is 0.8 meter high above ground for below 1GHz test, and which is 1.5 meter high above ground for above 1GHz test.
- b. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower.
- c. Set the EUT transmit continuously with maximum output power.
- d. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
- e. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.
- f. Spectrum analyzer setting parameters in accordance with section 10.3.
- g. Repeat above procedures until all channels and test modes were measured.
- h. Record the results in the test report.

#### Note:

- 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
- 2. The frequency 2402MHz ,2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.



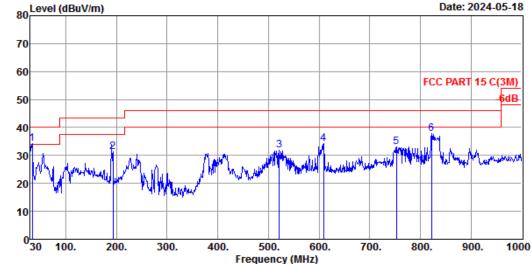
#### 3.5. Test Result

#### **Radiated Emissions Below 1GHz**

## EST Technology

Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China Tel:+86-769-83081888 Fax:+86-769-83081878





: 2# 966 chamber Site no. Data no. : 17 Ant. pol. : VERTICAL Dis. / Ant. : 3m 47018

Limit : FCC PART 15 C(3M)

Env. / Ins. : Temp:22°C; Humi:49%; Press:101.52kPa

Engineer : LST EUT : LED TV : AC 120V/50Hz Power M/N : 32RR683TC Test Mode : TX Mode

|   |                | ANT           | Cable        |                   | Emission          |                   |                |        |
|---|----------------|---------------|--------------|-------------------|-------------------|-------------------|----------------|--------|
|   | Freq.<br>(MHz) | Factor (dB/m) | Loss<br>(dB) | Reading<br>(dBuV) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
| 1 | 33.88          | 15.90         | 0.61         | 17.59             | 34.10             | 40.00             | 5.90           | QP     |
| 2 | 192.96         | 9.14          | 1.70         | 20.44             | 31.28             | 43.50             | 12.22          | QP     |
| 3 | 521.79         | 18.94         | 3.00         | 9.98              | 31.92             | 46.00             | 14.08          | QP     |
| 4 | 609.09         | 20.58         | 3.33         | 10.46             | 34.37             | 46.00             | 11.63          | QP     |
| 5 | 752.65         | 22.38         | 3.76         | 6.88              | 33.02             | 46.00             | 12.98          | QP     |
| 6 | 822.49         | 23.63         | 3.97         | 10.25             | 37.85             | 46.00             | 8.15           | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

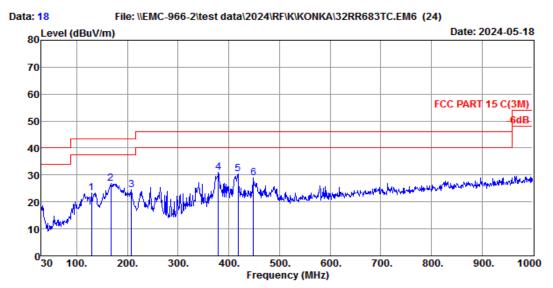
2. Margin= Limit - Emission Level.

3. The emission levels that are 20dB below the official limit are not reported.



### EST Technology

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Site no. : 2# 966 chamber Data no. : 18
Dis. / Ant. : 3m 47018 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 C(3M)

Env. / Ins. : Temp:22°C;Humi:49%;Press:101.52kPa

Engineer : LST
EUT : LED TV
Power : AC 120V/50Hz
M/N : 32RR683TC
Test Mode : TX Mode

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 128.94         | 12.06                   | 1.63                  | 9.69              | 23.38                         | 43.50             | 20.12          | QP     |
| 2 | 166.77         | 10.54                   | 1.57                  | 14.62             | 26.73                         | 43.50             | 16.77          | QP     |
| 3 | 207.51         | 9.05                    | 1.76                  | 13.63             | 24.44                         | 43.50             | 19.06          | QP     |
| 4 | 379.20         | 16.09                   | 2.53                  | 12.41             | 31.03                         | 46.00             | 14.97          | QP     |
| 5 | 418.00         | 16.92                   | 2.64                  | 10.79             | 30.35                         | 46.00             | 15.65          | QP     |
| 6 | 449.04         | 17.29                   | 2.75                  | 8.85              | 28.89                         | 46.00             | 17.11          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. Margin= Limit - Emission Level.

3. The emission levels that are 20dB below the official limit are not reported.

#### Note:

- 1. The amplitude of 9KHz to 30MHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
- 2. All test mode had been pre-test, only the worst case was reported.



### **4.AC POWER LINE CONDUCTED EMISSIONS**

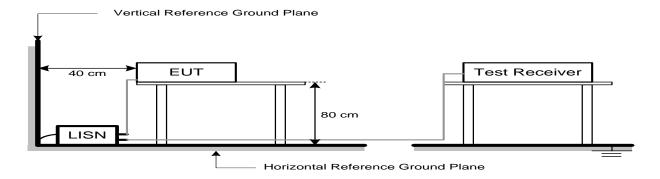
#### 4.1. Limit

|        |                 |       | Maximum RF Line Voltage |               |  |  |  |
|--------|-----------------|-------|-------------------------|---------------|--|--|--|
| Fred   | que             | ency  | Quasi-Peak Level        | Average Level |  |  |  |
|        |                 |       | dB(μV)                  | dB(μV)        |  |  |  |
| 150kHz | 150kHz ~ 500kHz |       | 66 ~ 56*                | 56 ~ 46*      |  |  |  |
| 500kHz | 500kHz ~ 5MHz   |       | 56                      | 46            |  |  |  |
| 5MHz   | ~               | 30MHz | 60                      | 50            |  |  |  |

#### Note:

- 1. \* Decreasing linearly with logarithm of frequency.
- 2. The lower limit shall apply at the transition frequencies.

#### 4.2. Test Setup



### 4.3. Spectrum Analyzer Setting

| Spectrum<br>Parameters | Setting  |  |  |  |  |
|------------------------|----------|--|--|--|--|
| RBW                    | 9KHz     |  |  |  |  |
| VBW                    | 9KHz     |  |  |  |  |
| Start frequency        | 150KHz   |  |  |  |  |
| Stop frequency         | 30MHz    |  |  |  |  |
| Sweep Time             | Auto     |  |  |  |  |
| Detector               | QP/AVG   |  |  |  |  |
| Trace Mode             | Max Hold |  |  |  |  |

#### 4.4. Test Procedure

- a. The EUT was placed on a non-metallic table, 80cm above the ground plane.
- b. The EUT Power connected to the power mains through a line impedance stabilization network.
- c. Provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs).
- d. Set the EUT transmit continuously with maximum output power.
- e. Spectrum analyzer setting parameters in accordance with section 11.3.
- f. The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.
- g. Record the results in the test report.

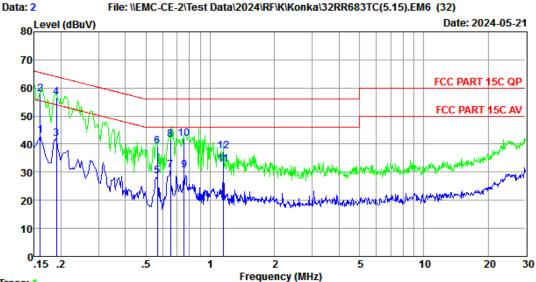


#### 4.5. Test Result

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Trace: 1 Site no

: 2#CE Shield Room Data no.

Env. / Ins. : Temp:22.8°C Humi:49% Press:101.40kPa LINE Phase : NEUTRAL

Limit : FCC PART 15C QP

Engineer : ZSX
EUT : LED TV
Power : AC 120V/60Hz
M/N : 32RR683TC
Test Mode : TX Mode

|    | Freq. | LISN<br>Factor<br>(db) | Cable<br>Loss<br>(db) | Reading<br>dBuV) | Emission<br>Level<br>(dBuv) | Limits<br>(dBuv) | Margin<br>(dB) | Remark  |
|----|-------|------------------------|-----------------------|------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.16  | 10.22                  | 9.89                  | 22.92            | 43.03                       | 55.47            | 12.44          | Average |
| 2  | 0.16  | 10.22                  | 9.89                  | 37.63            | 57.74                       | 65.47            | 7.73           | QP      |
| 3  | 0.19  | 10.14                  | 9.93                  | 21.86            | 41.93                       | 54.02            | 12.09          | Average |
| 4  | 0.19  | 10.14                  | 9.93                  | 36.64            | 56.71                       | 64.02            | 7.31           | QP      |
| 5  | 0.56  | 10.00                  | 9.96                  | 8.68             | 28.64                       | 46.00            | 17.36          | Average |
| 6  | 0.56  | 10.00                  | 9.96                  | 19.32            | 39.28                       | 56.00            | 16.72          | QP      |
| 7  | 0.65  | 10.01                  | 9.98                  | 10.78            | 30.77                       | 46.00            | 15.23          | Average |
| 8  | 0.65  | 10.01                  | 9.98                  | 21.63            | 41.62                       | 56.00            | 14.38          | QP      |
| 9  | 0.75  | 10.01                  | 10.00                 | 10.81            | 30.82                       | 46.00            | 15.18          | Average |
| 10 | 0.75  | 10.01                  | 10.00                 | 21.94            | 41.95                       | 56.00            | 14.05          | QP      |
| 11 | 1.15  | 9.99                   | 10.04                 | 12.81            | 32.84                       | 46.00            | 13.16          | Average |
| 12 | 1.15  | 9.99                   | 10.04                 | 17.53            | 37.56                       | 56.00            | 18.44          | QP      |

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

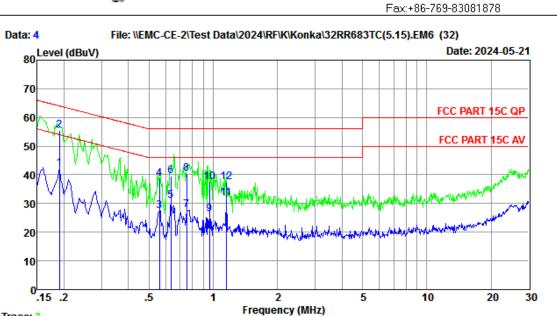
<sup>2.</sup> Margin= Limit - Emission Level.

If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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: 2#CE Shield Room

Site no Data no. Env. / Ins. : Temp:22.8°C Humi:49% Press:101.40kPa LINE Phase : LINE

: FCC PART 15C QP Limit

Engineer : ZSX EUT : LED TV : AC 120V/60Hz Power : 32RR683TC M/N Test Mode : TX Mode

|    | Freq. | LISN<br>Factor<br>(db) | Cable<br>Loss<br>(db) | Reading<br>dBuV) | Emission<br>Level<br>(dBuv) | Limits<br>(dBuv) | Margin<br>(dB) | Remark  |
|----|-------|------------------------|-----------------------|------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.19  | 10.16                  | 9.93                  | 21.98            | 42.07                       | 54.02            | 11.95          | Average |
| 2  | 0.19  | 10.16                  | 9.93                  | 35.53            | 55.62                       | 64.02            | 8.40           | QP      |
| 3  | 0.56  | 10.06                  | 9.95                  | 7.58             | 27.59                       | 46.00            | 18.41          | Average |
| 4  | 0.56  | 10.06                  | 9.95                  | 18.53            | 38.54                       | 56.00            | 17.46          | QP      |
| 5  | 0.63  | 10.04                  | 9.98                  | 10.93            | 30.95                       | 46.00            | 15.05          | Average |
| 6  | 0.63  | 10.04                  | 9.98                  | 19.63            | 39.65                       | 56.00            | 16.35          | QP      |
| 7  | 0.75  | 10.01                  | 10.00                 | 7.70             | 27.71                       | 46.00            | 18.29          | Average |
| 8  | 0.75  | 10.01                  | 10.00                 | 20.53            | 40.54                       | 56.00            | 15.46          | QP      |
| 9  | 0.96  | 9.98                   | 10.04                 | 6.19             | 26.21                       | 46.00            | 19.79          | Average |
| 10 | 0.96  | 9.98                   | 10.04                 | 17.51            | 37.53                       | 56.00            | 18.47          | QP      |
| 11 | 1.15  | 9.97                   | 10.04                 | 11.98            | 31.99                       | 46.00            | 14.01          | Average |
| 12 | 1.15  | 9.97                   | 10.04                 | 17.53            | 37.54                       | 56.00            | 18.46          | QP      |

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

2. Margin= Limit - Emission Level.

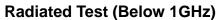
<sup>3.</sup> If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

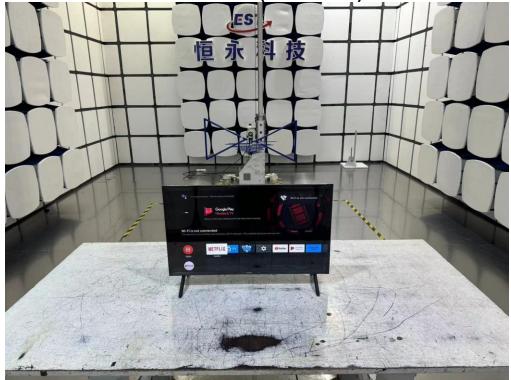


# 5. TEST SETUP PHOTO











# 6. EUT PHOTO

















#### External Photos M/N: 32RR683TC







#### Internal Photos M/N: 32RR683TC







#### Internal Photos M/N: 32RR683TC



Screen No.: HV320WHB-F70





Bluetooth Connector Antenna

#### **Internal Photos**

M/N: 32RR683TC



Wi-Fi 1 Connector Antenna

Wi-Fi 2 Connector Antenna





#### **Internal Photos**







#### Internal Photos M/N: 32RR683TC



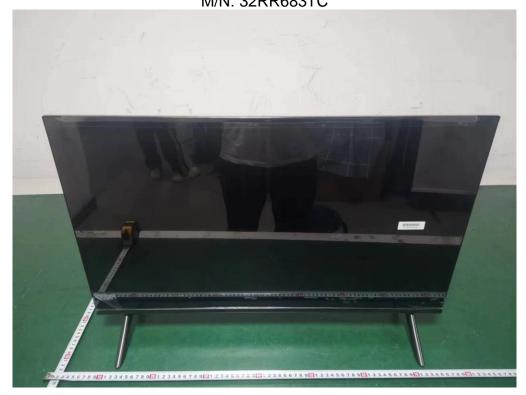


Screen No.: HV320WHB-F56



#### **New Photos**

#### External Photos M/N: 32RR683TC













#### Internal Photos M/N: 32RR683TC

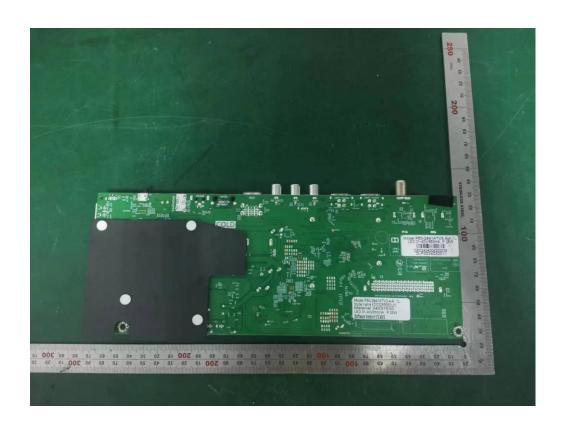




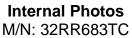


#### Internal Photos M/N: 32RR683TC











## **End of Test Report**