

TEST REPORT

FCC ID: 2AWRTSB-3705

Product: Personal CD Player with FM Stereo Radio and Wireless FM

Transmission

Model No.: SB3705

Additional Model No.: SB3705PB, SB3705BW, SB3705XXXXX (where the XXXXX denote any printable characters in the ASCII Standard Character Table to represent variances in cosmetics or buyers)

Trade Mark: Studehaker

Report No.: TCT200628E024 Issued Date: Jul. 06, 2020

Issued for:

HUIZHOU HUIYANG YAJIALI ELECTRONICS CO., LTD Loujiao, Xintang Village, Qiuchang Town, Huiyang District, Huizhou, Guangdong, China

Issued By:

Shenzhen Tongce Testing Lab.

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TABLE OF CONTENTS

| 1. | Test Certification | | 3 |
|----------|-------------------------------------|-------|----|
| 2. | Test Result Summary | ••••• | 4 |
| 3. | EUT Description | | 5 |
| 4. | General Information | | 6 |
| | 4.1. Test Environment and Mode | | 6 |
| | 4.2. Description of Support Units | | 6 |
| 5. | Facilities and Accreditations | | 7 |
| | 5.1. Facilities | | 7 |
| | 5.2. Location | | |
| | 5.3. Measurement Uncertainty | | 7 |
| 6. | Test Results and Measurement Data | ••••• | 8 |
| | 6.1. Antenna Requirement | | 8 |
| | 6.2. Conducted Emission | | 8 |
| | 6.3. Radiated Emission Measurement | ••••• | 14 |
| | 6.4. Occupied Bandwidth | | 25 |
| Аp | pendix A: Photographs of Test Setup | | |
| Аp | pendix B: Photographs of EUT | | |
| <u> </u> | | | |



1. Test Certification

Report No.: TCT200628E024

|) | Product: | Personal CD Player with FM Stereo Radio and Wireless FM Transmission |
|---|--------------------------|---|
| | Model No.: | SB3705 |
| | Additional Model No.: | SB3705PB, SB3705BW, SB3705XXXXX (where the XXXXX denote any printable characters in the ASCII Standard Character Table to represent variances in cosmetics or buyers) |
| | Trade Mark: | Studehaker |
| Applicant: HUIZHOU HUIYANG YAJIALI ELECTRONICS CO., LTD | | HUIZHOU HUIYANG YAJIALI ELECTRONICS CO., LTD |
| Address: Loujiao, Xintang Village, Qiuchang Town, Huiyang Distr Guangdong, China | | Loujiao, Xintang Village, Qiuchang Town, Huiyang District, Huizhou, Guangdong, China |
| | Manufacturer: | HUIZHOU HUIYANG YAJIALI ELECTRONICS CO., LTD |
| | Address: | Loujiao, Xintang Village, Qiuchang Town, Huiyang District, Huizhou, Guangdong, China |
| | Date of Test: | Jun. 29, 2020 – Jul. 03, 2020 |
| | Applicable Standards: | FCC CFR Title 47 Part 15 Subpart C Section 15.239 |
| | | |

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By: Byand, Der

Date: Jul. 03, 2020

Brave Zeng

Reviewed By:

Date:

Jul. 06, 2020

Approved By:

Date:

Jul. 06, 2020



2. Test Result Summary

| Requirement | CFR 47 Section IC Paragraph | Result |
|--|--------------------------------|--------|
| Antenna requirement | §15.203 | PASS |
| AC Power Line Conducted Emission | §15.207 | PASS |
| Field strength of the fundamental signal | §15.239 (b) | PASS |
| Spurious emissions | §15.239 (b) (c)/ §15.209 | PASS |
| Occupied Bandwidth | §15.215 (c)/ §15.239 (a) | PASS |

Note:

- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.





3. EUT Description

| Report N | 0 101 | 2000201 | _024 |
|----------|-------|---------|------|
| | | | |
| | | | |

| Product: | Personal CD Player with FM Stereo Radio and Wireless FM Transmission |
|---------------------------|---|
| Model No.: | SB3705 |
| Additional Model No.: | SB3705PB, SB3705BW, SB3705XXXXX (where the XXXXX denote any printable characters in the ASCII Standard Character Table to represent variances in cosmetics or buyers) |
| Trade Mark: | Studehaker |
| Operation Frequency: | 88.1MHz – 107.9MHz |
| Channel Separation: | 200 kHz |
| Number of Channel: | 100CH |
| Modulation Technology: | FSK |
| Antenna Type: | Internal Antenna |
| Antenna Gain: | 0dBi |
| Power Supply: | DC 4.5V or USB 5V or Battery (2 X 'AA' size) |
| | |

Operation Frequency Each of Channel

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 1 | 88.1 MHz | 49 | 97.7 MHz | 98 | 107.5 MHz |
| 2 | 88.3 MHz | 50 | 97.9 MHz | 99 | 107.7 MHz |
| 3 | 88.5 MHz | 51 | 98.1 MHz | 100 | 107.9 MHz |
| | | | | | |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| Channel | Frequency |
|---------------------|-----------|
| The lowest channel | 88.1 MHz |
| The middle channel | 98.1 MHz |
| The Highest channel | 107.9 MHz |



4. General Information

4.1. Test Environment and Mode

| Operating Environment: | | | | | |
|------------------------|---|--|--|--|--|
| Temperature: | 24.0 °C | | | | |
| Humidity: | 54 % RH | | | | |
| Atmospheric Pressure: | 1010 mbar | | | | |
| Test Mode: | | | | | |
| Operation mode: | Keep the EUT in continuous transmitting with modulation | | | | |

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Equipment | Model No. | Serial No. | FCC ID/DOC | Trade Name |
|-----------|-----------|------------|------------|------------|
| | 1 | 1 | | |

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

Page 6 of 36

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TESTING CENTRE TECHNOLOGY Report No.: TCT200628E024

5. Facilities and Accreditations

5.1. Facilities

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

• FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

• IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District,

Shenzhen, Guangdong, China

Tel: 86-755-27673339

5.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

| No. | Item | MU |
|-----|-------------------------------|---------|
| 1 | Conducted Emission | ±2.56dB |
| 2 | RF power, conducted | ±0.12dB |
| 3 | Spurious emissions, conducted | ±0.11dB |
| 4 | All emissions, radiated(<1G) | ±3.92dB |
| 5 | All emissions, radiated(>1G) | ±4.28dB |
| 6 | Temperature | ±0.1°C |
| 7 | Humidity | ±1.0% |

Page 7 of 36



6. Test Results and Measurement Data

6.1. Antenna Requirement

Standard requirement:

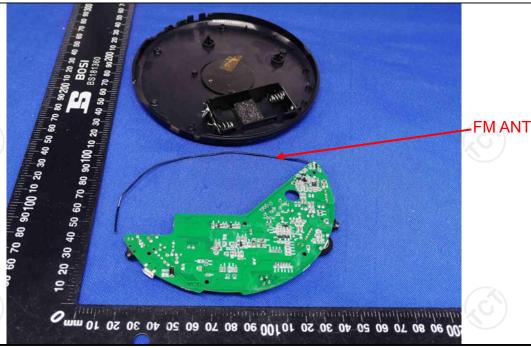
FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

E.U.T Antenna:

The FM antenna is internal antenna which permanently attached, and the best case gain of the antenna is 0dBi.



6.2. Conducted Emission

6.2.1. Test Specification

| Test Requirement: | FCC Part15 C Section 15.207 | (c) |
|-------------------|-----------------------------|-----|
|-------------------|-----------------------------|-----|



| TESTING CENTRE TECHNOL | LOGY | Re | eport No.: TCT200628E0 | |
|------------------------|---|--|------------------------|--|
| Test Method: | ANSI C63.10:2013 | | | |
| Frequency Range: | 150 kHz to 30 MHz | 150 kHz to 30 MHz | | |
| Receiver setup: | RBW=9 kHz, VBW=30 | RBW=9 kHz, VBW=30 kHz, Sweep time=auto | | |
| | Frequency range | Limit (d | dBuV) | |
| | (MHz) | Quasi-peak | Average | |
| imits: | 0.15-0.5 | 66 to 56* | 56 to 46* | |
| Lillits. | 0.5-5 | 56 | 46 | |
| | 5-30 | 60 | 50 | |
| | Refere | nce Plane | | |
| Test Setup: Adapter | | | ter — AC power | |
| Test Mode: | Charging + Transmittir | Charging + Transmitting Mode | | |
| Test Procedure: | impedance stabilize provides a 50ohm/stabilize provides a 50ohm/stabilize provides a 50ohm/stabilize provides a Landau coupling impedance refer to the block photographs). 3. Both sides of A.C. conducted interfered emission, the relative | The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to | | |
| Test Result: | PASS | | | |

6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)



| Equipment | Manufacturer | Model | Serial Number | Calibration Due | | | | |
|----------------------------|-----------------------|-----------|---------------|-----------------|--|--|--|--|
| Test Receiver | R&S | ESPI | 101402 | Jul. 29, 2020 | | | | |
| LISN | Schwarzbeck | NSLK 8126 | 8126453 | Sep. 11, 2020 | | | | |
| Coax cable (9KHz-30MHz) | TCT | CE-05 | N/A | Sep. 08, 2020 | | | | |
| EMI Test Software | Shurple Technology | EZ-EMC | N/A | N/A | | | | |

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



Page 10 of 36

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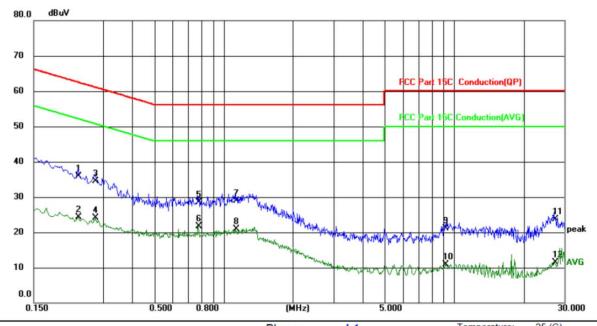


6.2.3. Test data

Report No.: TCT200628E024

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site Phase: L1 Temperature: 25 (C)
Limit: FCC Part 15C Conduction(QP) Power: Humidity: 55 %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | |
|-----|-----|---------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.2340 | 25.76 | 10.13 | 35.89 | 62.31 | -26.42 | QP | |
| 2 | | 0.2340 | 14.22 | 10.13 | 24.35 | 52.31 | -27.96 | AVG | |
| 3 | | 0.2779 | 24.40 | 10.13 | 34.53 | 60.88 | -26.35 | QP | |
| 4 | | 0.2779 | 13.94 | 10.13 | 24.07 | 50.88 | -26.81 | AVG | |
| 5 | | 0.7780 | 18.42 | 10.12 | 28.54 | 56.00 | -27.46 | QP | |
| 6 | * | 0.7780 | 11.59 | 10.12 | 21.71 | 46.00 | -24.29 | AVG | |
| 7 | | 1.1340 | 18.88 | 10.12 | 29.00 | 56.00 | -27.00 | QP | |
| 8 | | 1.1340 | 10.83 | 10.12 | 20.95 | 46.00 | -25.05 | AVG | |
| 9 | | 9.1860 | 10.91 | 10.15 | 21.06 | 60.00 | -38.94 | QP | |
| 10 | | 9.1860 | 0.70 | 10.15 | 10.85 | 50.00 | -39.15 | AVG | |
| 11 | | 27.3100 | 13.46 | 10.24 | 23.70 | 60.00 | -36.30 | QP | |
| 12 | | 27.3100 | 1.26 | 10.24 | 11.50 | 50.00 | -38.50 | AVG | |

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement ($dB\mu V$) = Reading level ($dB\mu V$) + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

Q.P. =Quasi-Peak

Page 11 of 36

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AVG =average



Page 12 of 36

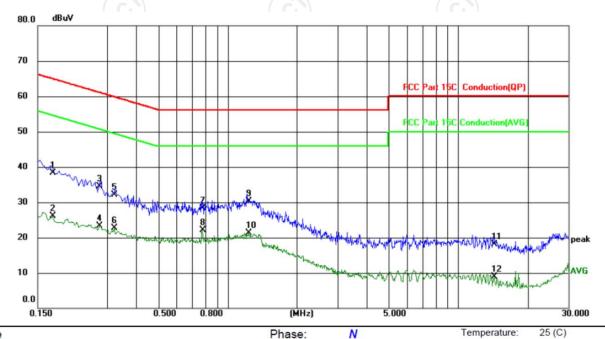
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TCT通测检测 TESTING CENTRE TECHNOLOGY

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site Phase: N Temperature: 25 (Conduction(QP) Power: Humidity: 55 %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | | |
|-----|-----|---------|------------------|-------------------|------------------|-------|--------|----------|---------|--|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment | |
| 1 | | 0.1740 | 28.27 | 10.12 | 38.39 | 64.77 | -26.38 | QP | | |
| 2 | | 0.1740 | 15.97 | 10.12 | 26.09 | 54.77 | -28.68 | AVG | | |
| 3 | | 0.2779 | 24.32 | 10.13 | 34.45 | 60.88 | -26.43 | QP | | |
| 4 | | 0.2779 | 13.20 | 10.13 | 23.33 | 50.88 | -27.55 | AVG | | |
| 5 | | 0.3220 | 21.90 | 10.13 | 32.03 | 59.66 | -27.63 | QP | | |
| 6 | | 0.3220 | 12.57 | 10.13 | 22.70 | 49.66 | -26.96 | AVG | | |
| 7 | | 0.7780 | 18.11 | 10.12 | 28.23 | 56.00 | -27.77 | QP | | |
| 8 | * | 0.7780 | 11.97 | 10.12 | 22.09 | 46.00 | -23.91 | AVG | | |
| 9 | | 1.2300 | 20.12 | 10.12 | 30.24 | 56.00 | -25.76 | QP | | |
| 10 | | 1.2300 | 11.12 | 10.12 | 21.24 | 46.00 | -24.76 | AVG | | |
| 11 | | 14.3460 | 7.96 | 10.17 | 18.13 | 60.00 | -41.87 | QP | | |
| 12 | | 14.3460 | -1.36 | 10.17 | 8.81 | 50.00 | -41.19 | AVG | | |

Note1:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

Q.P. =Quasi-Peak

AVG =average

^{*} is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.



6.3. Radiated Emission Measurement

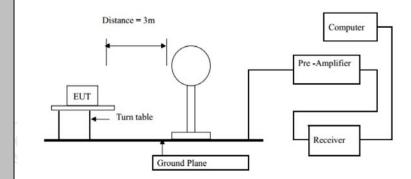
6.3.1. Test Specification

| Test Requirement: | FCC Part15 | C Section | 15.209 | | | |
|--|--|---|--|---|--|--|
| Test Method: | ANSI C63.10 | 0: 2013 | | | | |
| Frequency Range: | 9 kHz to 1 G | Hz | | | | |
| Measurement Distance: | 3 m | | | | | |
| Antenna Polarization: | Horizontal & | Vertical | | | | |
| Receiver Setup: | Frequency 9kHz- 150kHz 150kHz- | Detector Quasi-peak Quasi-peak | | VBW 1kHz 30kHz | Remark Quasi-peak Value Quasi-peak Value | |
| | 30MHz 30MHz-1GHz | Quasi-peak | 120KHz | 300KHz | Quasi-peak Value | |
| | Frequer | | Limit (dE @3r | | Remark | |
| | 88-108M | 1Hz | 48 68 | | Average Value Peak Value | |
| Limit(Field strength of the fundamental signal): | the per microvol paragrap employir | mitted 200 ts/meter at oh is base | kHz bar 3 meters. ed on me ge detecto | nd shall The em easuremei r. The pro | ny emissions within not exceed 250 ission limit in this nt instrumentation ovisions in Section | |
| Limit(Spurious Emissions): | Frequer 30MHz-88 88MHz-210 216MHz-96 960MHz-1 | 6MHz 6MHz 60MHz | 40.0 43.9 46.0 54.0 | 5 0 | Remark Quasi-peak Value Quasi-peak Value Quasi-peak Value Quasi-peak Value | |
| Limit (band edge) : | bands, exce least 50 dB l general rad | pt for harr below the iated emi | nonics, s level of th ssion lim | hall be a ne funda nits in S | cified frequency attenuated by at mental or to the Section 15.209, | |
| Test Procedure: | general radiated emission limits in Section 15.209 whichever is the lesser attenuation. 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber in below 1GHz, 1.5m above the ground in above 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to fou meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make | | | | | |

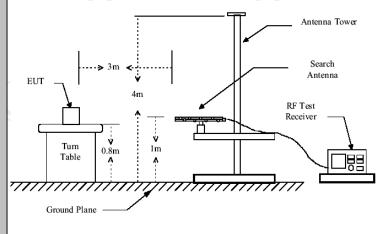
the measurement.

- 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

For radiated emissions below 30MHz



Test setup:



Test Mode: Refer to section 4.1 for details

Test results: PASS





6.3.2. Test Instruments

| | <u> </u> | | | |
|----------------------------|--|------------------|------------------|-----------------|
| | Radiated Em | ission Test Site | (966) | |
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Test Receiver | ROHDE&SCHW ARZ | ESIB7 | 100197 | Jul. 29, 2020 |
| Spectrum Analyzer | ROHDE&SCHW ARZ | FSQ40 | 200061 | Sep. 11, 2020 |
| Pre-amplifier | EM Electronics Corporation CO.,LTD | EM30265 | 07032613 | Sep. 08, 2020 |
| Pre-amplifier | HP | 8447D | 2727A05017 | Sep. 08, 2020 |
| Loop antenna | ZHINAN | ZN30900A | 12024 | Sep. 11, 2020 |
| Broadband Antenna | Schwarzbeck | VULB9163 | 340 | Sep. 06, 2020 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | 631 | Sep. 06, 2020 |
| Horn Antenna | A-INFO | LB-180400-KF | J211020657 | Sep. 06, 2020 |
| Antenna Mast | Keleto | RE-AM | N/A | N/A |
| Coax cable (9KHz-40GHz) | тст | RE-high-02 | N/A | Sep. 08, 2020 |
| Coax cable (9KHz-40GHz) | тст | RE-high-04 | N/A | Sep. 08, 2020 |
| EMI Test Software | Shurple Technology | EZ-EMC | N/A | N/A |

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



6.3.3. Test Data

Field Strength of Fundamental

| Frequency (MHz) | Emission PK/AV (dBuV/m) | Horizontal /Vertical | Limits PK/AV (dBuV/m) | Margin (dB) |
|--------------------|----------------------------|-------------------------|--------------------------|----------------|
| 88.1 | 35.48 (AV) | Н | 48 | -12.52 |
| 88.1 | 37.58 (PK) | Н | 68 | -30.42 |
| 88.1 | 35.55 (AV) | V | 48 | -12.45 |
| 88.1 | 38.39 (PK) | V | 68 | -29.61 |

| Frequency (MHz) | Emission PK/AV (dBuV/m) | Horizontal /Vertical | Limits PK/AV (dBuV/m) | Margin (dB) |
|--------------------|----------------------------|-------------------------|--------------------------|----------------|
| 98.1 | 35.71 (AV) | Н | 48 | -12.29 |
| 98.1 | 37.41 (PK) | Н | 68 | -30.59 |
| 98.1 | 35.68 (AV) | V | 48 | -12.32 |
| 98.1 | 37.31 (PK) | V | 68 | -30.69 |

| Frequency (MHz) | Emission PK/AV (dBuV/m) | Horizontal /Vertical | Limits PK/AV (dBuV/m) | Margin (dB) |
|--------------------|----------------------------|-------------------------|--------------------------|----------------|
| 107.9 | 34.41 (AV) | Н | 48 | -13.59 |
| 107.9 | 36.95 (PK) | Н | 68 | -31.05 |
| 107.9 | 35.26 (AV) | V | 48 | -12.74 |
| 107.9 | 37.67 (PK) | V | 68 | -30.33 |

Spurious Emissions

Frequency Range (9 kHz-30MHz)

| Frequency (MHz) | Level@3m (dBµV/m) | Limit@3m (dBµV/m) |
|-----------------|-------------------|-------------------|
| | | |
| | | |
| (-) | | <u> </u> |
| (0) | <u>(2</u>) | (0) |

Note: 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement

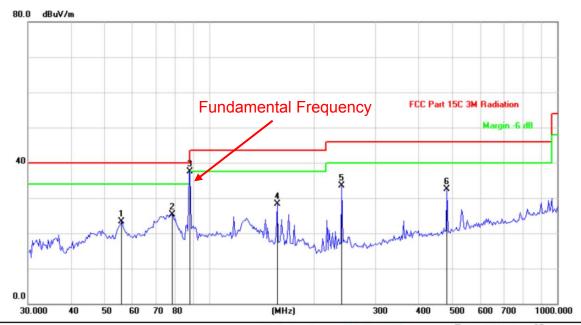
Page 17 of 36



Frequency Range (30MHz-1GHz)

Horizontal:

88.1 MHz



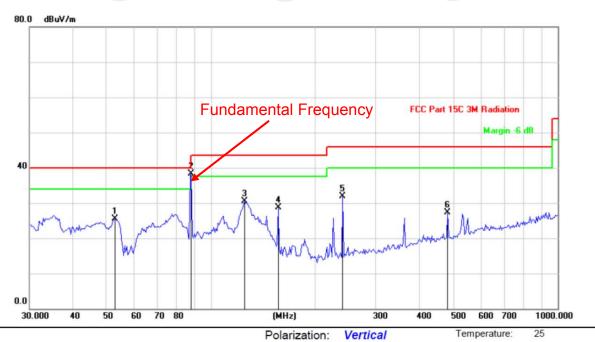
Site Polarization: Horizontal Temperature: 25
Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|----------------|-----|-----|----------|------------------|-------------------|------------------|-------|--------|----------|
| - | | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| <u> </u> | 1 | | 55.6781 | 34.74 | -11.35 | 23.39 | 40.00 | -16.61 | peak |
| - ر | 2 | | 78.0143 | 41.73 | -16.49 | 25.24 | 40.00 | -14.76 | peak |
| | 3 | * | 88.1136 | 49.29 | -11.71 | 37.58 | 40.00 | -2.42 | peak |
| | 4 | | 156.4259 | 44.21 | -15.96 | 28.25 | 43.50 | -15.25 | peak |
| | 5 | | 240.1442 | 46.26 | -12.85 | 33.41 | 46.00 | -12.59 | peak |
| _ | 6 | 4 | 481.5111 | 40.32 | -7.74 | 32.58 | 46.00 | -13.42 | peak |



Vertical:

88.1 MHz



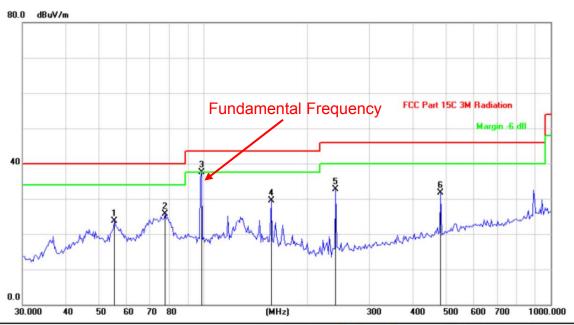
Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|-------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| 1 | | 53.0056 | 36.18 | -10.72 | 25.46 | 40.00 | -14.54 | peak |
| 2 | * | 88.1136 | 50.10 | -11.71 | 38.39 | 40.00 | -1.61 | peak |
| 3 | | 124.9248 | 43.97 | -13.45 | 30.52 | 43.50 | -12.98 | peak |
| 4 | | 156.4259 | 44.64 | -15.96 | 28.68 | 43.50 | -14.82 | peak |
| 5 | | 240.1442 | 44.83 | -12.85 | 31.98 | 46.00 | -14.02 | peak |
| 6 | | 481.5110 | 35.05 | -7.74 | 27.31 | 46.00 | -18.69 | peak |



Horizontal:

98.1 MHz



Site Polarization: Horizontal Temperature: 25

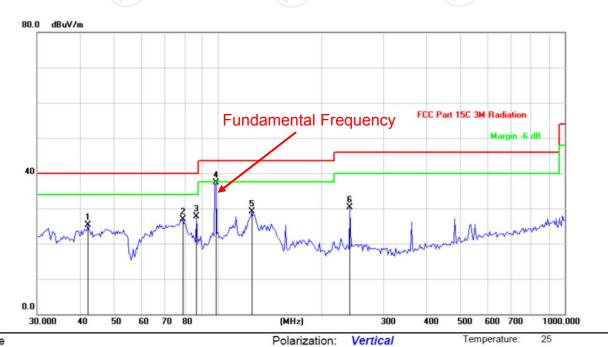
Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-----|-----|----------|------------------|-------------------|------------------|-------|--------|----------|
| _ | | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| 5 | 1 | | 55.2882 | 35.04 | -11.27 | 23.77 | 40.00 | -16.23 | peak |
| | 2 | | 77.4680 | 42.22 | -16.43 | 25.79 | 40.00 | -14.21 | peak |
| _ | 3 | * | 98.3752 | 45.82 | -8.40 | 37.42 | 43.50 | -6.08 | peak |
| _ | 4 | | 156.4259 | 45.37 | -15.96 | 29.41 | 43.50 | -14.09 | peak |
| _ | 5 | | 240.1442 | 45.58 | -12.85 | 32.73 | 46.00 | -13.27 | peak |
| X | 6 | 4 | 481.5110 | 39.52 | -7.74 | 31.78 | 46.00 | -14.22 | peak |



Vertical:

98.1 MHz



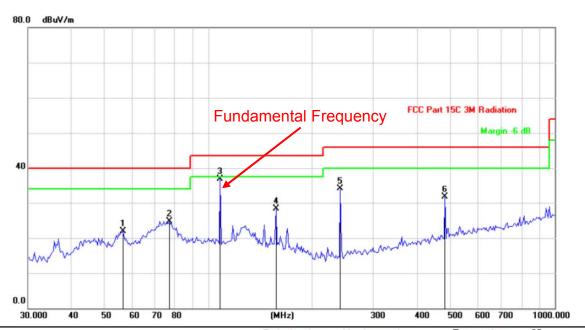
Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|--------|-----|-----|----------|------------------|-------------------|------------------|-------|--------|----------|
| | | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| 5 | 1 | | 42.0349 | 36.16 | -10.85 | 25.31 | 40.00 | -14.69 | peak |
| | 2 | | 79.1183 | 43.41 | -16.60 | 26.81 | 40.00 | -13.19 | peak |
| | 3 | | 86.6867 | 40.10 | -12.49 | 27.61 | 40.00 | -12.39 | peak |
| _ | 4 | * | 98.3752 | 45.71 | -8.40 | 37.31 | 43.50 | -6.19 | peak |
| _ | 5 | | 124.9248 | 42.51 | -13.45 | 29.06 | 43.50 | -14.44 | peak |
| \ \ | 6 | | 240.1442 | 43.12 | -12.85 | 30.27 | 46.00 | -15.73 | peak |



Horizontal:

107.9 MHz



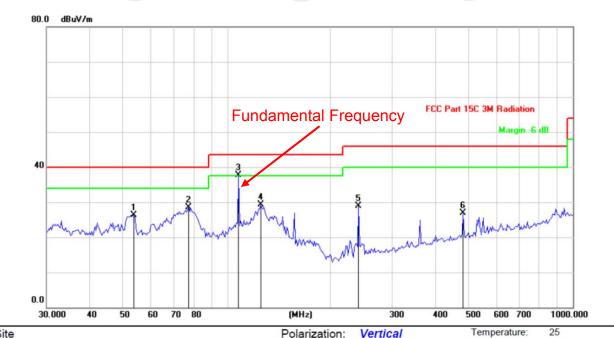
Site Polarization: Horizontal Temperature: 25
Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---------|-----|-----|----------|------------------|-------------------|------------------|-------|--------|----------|
| | | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| 5 | 1 | | 56.4662 | 33.46 | -11.53 | 21.93 | 40.00 | -18.07 | peak |
| _ | 2 | | 76.9256 | 41.10 | -16.38 | 24.72 | 40.00 | -15.28 | peak |
| - | 3 | * | 107.9253 | 45.62 | -8.67 | 36.95 | 43.50 | -6.55 | peak |
| - | 4 | | 156.4259 | 44.18 | -15.96 | 28.22 | 43.50 | -15.28 | peak |
| | 5 | | 240.1442 | 47.00 | -12.85 | 34.15 | 46.00 | -11.85 | peak |
| ` `\ | 6 | | 481.5110 | 39.53 | -7.74 | 31.79 | 46.00 | -14.21 | peak |



Vertical:

107.9 MHz



Limit: FCC Part 15C 3M Radiation Power: Humidity: 55 %

| | No. | Mk | . Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|---|-----|----|----------|------------------|-------------------|------------------|-------|--------|----------|
| | | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| , | 1 | | 53.7558 | 37.28 | -10.90 | 26.38 | 40.00 | -13.62 | peak |
| _ | 2 | | 77.4680 | 44.89 | -16.43 | 28.46 | 40.00 | -11.54 | peak |
| | 3 | * | 107.9253 | 46.34 | -8.67 | 37.67 | 43.50 | -5.83 | peak |
| | 4 | | 124.9248 | 42.79 | -13.45 | 29.34 | 43.50 | -14.16 | peak |
| | 5 | | 240.1442 | 41.78 | -12.85 | 28.93 | 46.00 | -17.07 | peak |
| × | 6 | | 481.5110 | 34.72 | -7.74 | 26.98 | 46.00 | -19.02 | peak |

Note: 1) QP= Quasi-peak

- 2) Emission Level = Reading Level + Antenna Factor + Cable Loss.
- 3)Measurements were conducted in all three channels (high, middle, low) and the worst case Mode (low channel) was submitted only.



Above 1GHz

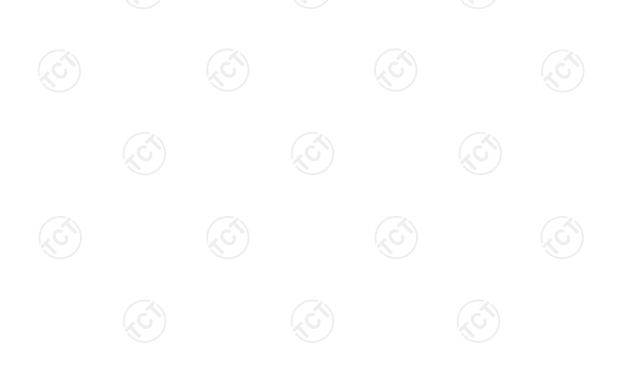
| | Low channel: 88.1 MHz | | | | | | | | | |
|---|-----------------------|---------|-------------------|-------------------|------------|---------------|--------------|------------|----------------------|----------------|
|) | Frequency | Ant Pol | Peak | AV | Correction | | | Peak limit | AV limit (dBµV/m) | Margin (dB) |
| | (MHz) | H/V | reading (dBµV) | reading (dBuV) | | Peak (dBµV/m) | AV (dRu\//m) | | | |
| | 4057.0 | | \ 1 / | (abar) | , , | · , , | (αΒμ ۷/111) | 7.4 | 5 4 | 40.55 |
| | 1057.2 | Н | 38.65 | | -4.2 | 34.45 | | 74 | 54 | -19.55 |
| | 1057.2 | V | 36.87 | 2. | -4.2 | 32.67 | | 74 | 54 | -21.33 |
| | (, c' | | | | | | (-2-) | | (. c | |

| Middle channel: 98.1 MHz | | | | | | | | | | | |
|--------------------------|-----------------|---------|---------|---------|------------|----------|------------------------|------------|------------|----------------|--|
| | Fraguena | Ant Dol | Peak | AV | Correction | Emissio | n Level | Peak limit | Λ\ / limit | Morgin | |
| | Frequency (MHz) | H/V | reading | reading | Factor | Peak | AV | (dBµV/m) | (dBµV/m) | Margin (dB) | |
| | (IVITIZ) | ⊓/ V | (dBµV) | (dBµV) | (dB/m) | (dBµV/m) | (dBµV/m) ⁽ | | | (ub) | |
| | 1078.0 | Н | 38.71 | | -3.98 | 34.73 | | 74 | 54 | -19.27 | |
| | 1078.0 | V | 37.65 | | -3.98 | 33.67 | | 74 | 54 | -20.33 | |
| | | | | | | | | | | | |

| High channel: 107.9 MHz | | | | | | | | | |
|-------------------------|-----------|--------------------|----------------|---------------|------------------|----------------|-------------------|----------|--------|
| Frequency | Ant. Pol. | Peak | | Correction | | | Peak | AV limit | Margin |
| (MHz) | H/V | reading (dBµV) | reading (dBµV) | Factor (dB/m) | Peak (dBµV/m) | AV (dBµV/m) | limit (dBµV/m) | (dBµV/m) | |
| 1079.0 | Н | 37.57 | | -3.98 | 33.59 | | 74 | 54 | -20.41 |
| 1079.0 | V | 36.69 | | -3.98 | 32.71 | | 74 | 54 | -21.29 |
| | | (,C ,) | | (, 0 | | | (C) |) | |

Note:

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. $Margin (dB) = Emission Level (Peak) (dB\mu V/m)-Average limit (dB\mu V/m)$
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.





6.4. Occupied Bandwidth

6.4.1. Test Specification

| Test Requirement: | FCC Part15 C Section 15.215(c) |
|-------------------|---|
| Test Method: | ANSI C63.10: 2013 |
| Limit: | 200kHz |
| Test Procedure: | According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. Set to the maximum power setting and enable the EUT transmit continuously. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW ≥ 1% of the 20 dB bandwidth; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold. Measure and record the results in the test report. |
| Test setup: | Spectrum Analyzer EUT |
| Test Mode: | Refer to section 4.1 for details |
| Test results: | PASS |

6.4.2. Test Instruments

| Equipment | Manufacturer | Model | Serial Number | Calibration Due | |
|-------------------|--------------|-------|---------------|-----------------|--|
| Spectrum Analyzer | R&S | FSU | 200054 | Sep. 11, 2020 | |

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

Page 25 of 36

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



6.4.3. Test data

| | | | <u> </u> | |
|--------------|---------|--------------------------------|-------------|------------|
| Test Channel | | 20dB Occupy Bandwidth (kHz) | Limit (kHz) | Conclusion |
| | Lowest | 39.58 | 200 | PASS |
| | Middle | 39.58 | 200 | PASS |
| | Highest | 39.42 | 200 | PASS |

Test plots as follows:

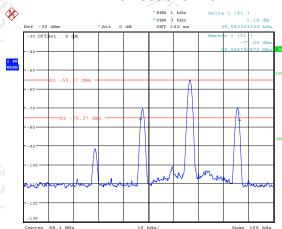


Page 26 of 36

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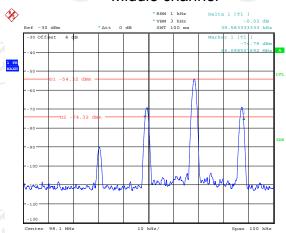


Lowest channel



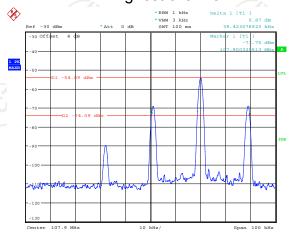
Date: 30.JUN.2020 16:43:10

Middle channel



Date: 30.JUN.2020 16:45:32

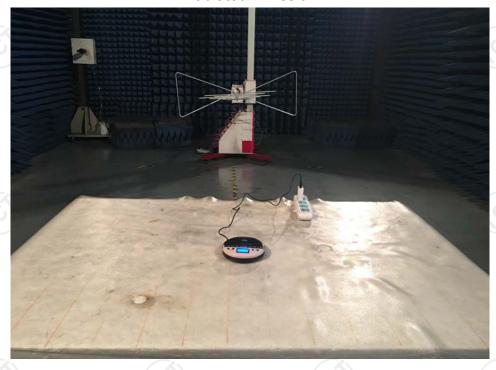
Highest channel



Date: 30.JUN.2020 16:47:30



Appendix A: Photographs of Test Setup
Product: Personal CD Player with FM Stereo Radio and Wireless FM Transmission Model: SB3705 Radiated Emission







CE



















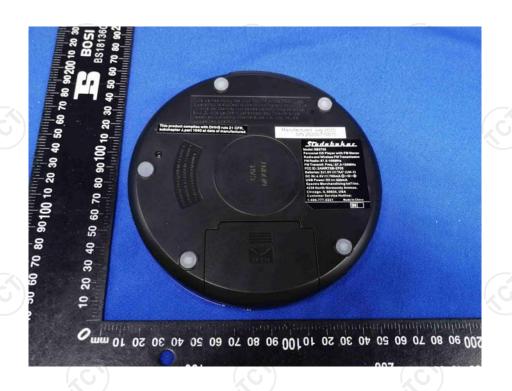
Appendix B: Photographs of EUT

Product: Personal CD Player with FM Stereo Radio and Wireless FM Transmission Model: SB3705
External Photos











TCT通测检测 TESTING CENTRE TECHNOLOGY

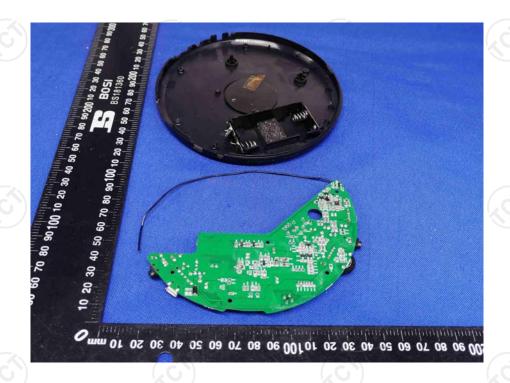




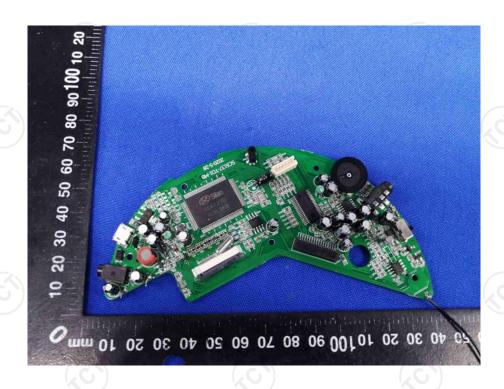


Product: Personal CD Player with FM Stereo Radio and Wireless FM Transmission Model: SB3705
Internal Photos











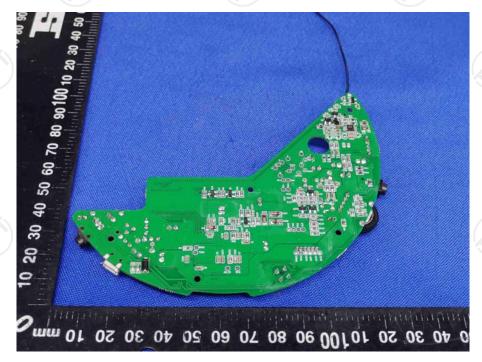












*****END OF REPORT*****