# F C C -

# TEST REPORT

REPORT NO.: 42813A-1/5/400F

# FCC listed testlab
# acc. to Section 2.948 of the FCC - Rules

## in compliance with the requirements of
## ANSI C63.4 - 2003

| | | |
|---|---|---|
| **Product** | : | RF-830 RF Wireless Stereo Transmitter |
| **Product Class** | : | Low Power Communication Device Transmitter |
| **Brand Name** | : | Pro-Luxe |
| **Model** | : | RF-830 |
| **Applicant** | : | FUJIKON INDUSTRIAL CO., LTD. |

## TABLE OF CONTENTS

1. **Cover sheet**
2. **Introduction**
3. **Table of Contents**
4. **Laboratory Report**
5. **Summary of Testresults**
6. **Test Equipment List**
7. **Radiated Emission Testprocedure (> 30MHz)**
8. **Radiated Emission Testprocedure (9kHz-30MHz)**
9. **Interference Radiation (Datasheet)**
10. **Notes for Radiation Measurement (acc. to ANSI C63.4 - 2003)**
11. **Measurement of Emissions within Band Edges (Band Edges Plot)**
12. **Notes for Measurement of Emissions within Band Edges**

# LABORATORY - REPORT

| | |
|---|---|
| **APPLICANT:** | FUJIKON INDUSTRIAL CO., LTD. |
| **ADDRESS:** | 16/F., Tower 1, Grand Central Plaza<br>138 Shatin Rural Committee Road<br>Shatin, NT<br>HONG KONG |
| **DATE OF SAMPLE RECEIVED:** | 2005-07-12 |
| **DATE OF TESTING:** | 2005-08-10 |

**DESCRIPTION OF SAMPLE:**

| | |
|---|---|
| Product: | RF-830 RF Wireless Stereo Transmitter |
| Product class: | Low Power Communication Device Transmitter |
| Model number: | RF-830 |
| Brand name: | Pro-Luxe |
| Rating: | DC 3V ('CR2' Size Battery x 1) |

| | |
|---|---|
| **INVESTIGATIONS REQUESTED:** | Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Intentional Radiators |
| **RESULTS:** | See the attached test sheets |
| **CONCLUSIONS** | From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirements for the relevant clauses of Federal Communications Commission Rules as specified above. |

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Authorized Signature

**Remark**: 1. Purpose of those tests in this report is to provide the applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under the FCC Equipment Authorization Program. The tests themselves are not Approval Tests.

2. The conducted emissions test (if applicable) has considered the limits in Sections 15.107 and 15.207 adopted under FCC 02-157 (ETDocket 98-80). The product may be marketed after July 11, 2005, and is not affected by the 15.37(j) transition provisions.

# Summary of Test Results

**Interference Radiation:**

**Test result:** O.K.
**Test data:** See attached data sheet

**Interference Voltage:**

**Test result:** N.A.
**Test data:** N.A.

**Measurement of Emissions within Band Edges**

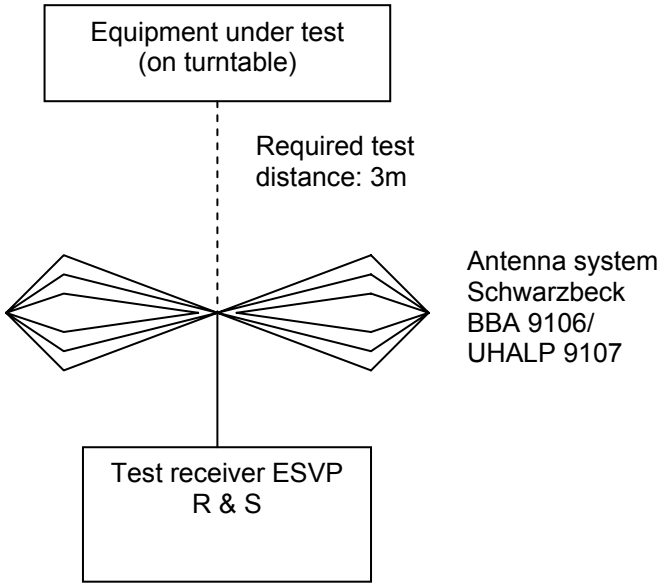
**Test result:** O.K.
**Test data:** See attached data sheet

**PHOTOGRAPH OF THE SAMPLE**

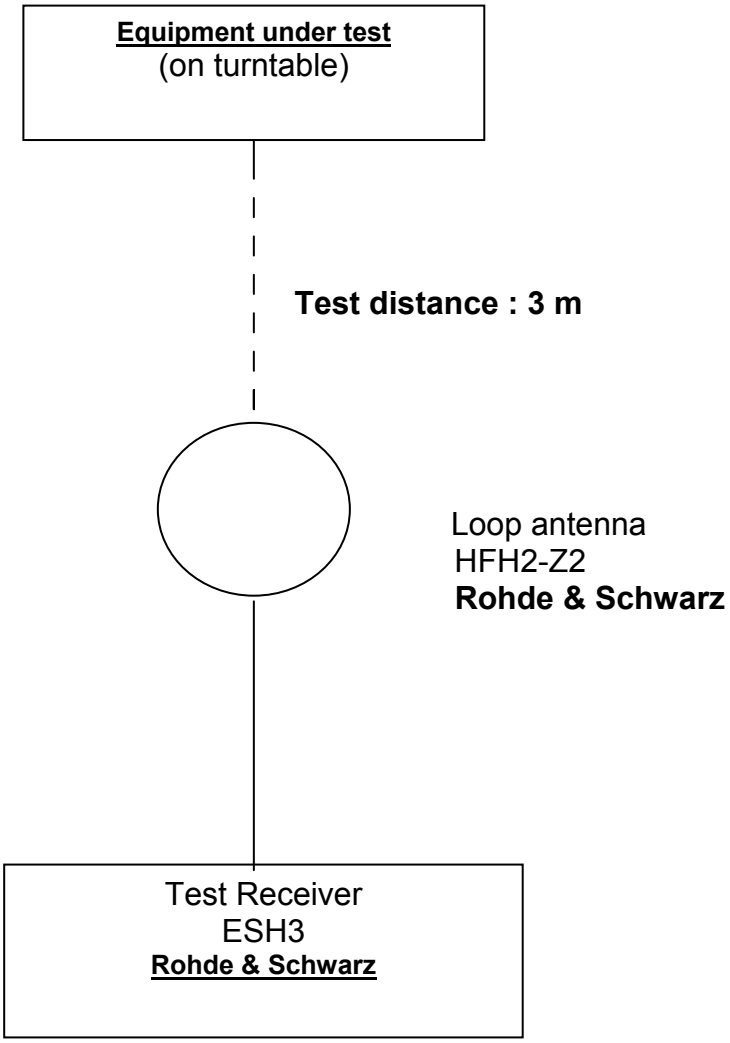
# TEST EQUIPMENT LIST

| Equipment | Manufacturer | Model | Serial No. | Remark |
|---|---|---|---|---|
| Test Receiver | Rohde & Schwarz | ESH 3 | 863497/015 | 150KHz – 30MHz |
| Test Receiver | Rohde & Schwarz | ESH 3 | 892580/006 | 9KHz – 30MHz |
| Test Receiver | Rohde & Schwarz | ESVP | 860688/022 | 25MHz – 1,000 MHz |
| Test Receiver | Rohde & Schwarz | ESVP | 863512/012 | 25MHz – 1,000 MHz |
| Test Receiver | Rohde & Schwarz | ESHS30 | 839667/002 | 9KHz – 30MHz |
| Test Receiver | Rohde & Schwarz | ESVS30 | 828525/006 | 25MHz – 1000MHz |
| Spectrum Analyzer with Q. Peak | Advantest | R3132 | 140101852 | 9KHz – 3GHz |
| Spectrum Analyzer with Q. Peak | Tektronix | 2712 | B023006 | 0.15MHz – 1000MHz |
| Interface for Spectrum 2712 | Tektronix | TD3F14A | -- | -- |
| Impulse Limiter | Rohde & Schwarz | ESH-3-Z2 | -- | -- |
| Artificial Mains Network (LISN) | Schwarzbeck | NSLK 8127 | 8127312 | 2 x 10A, 50Ω, 50μH 9KHz-30MHz |
| Artificial Mains Network (LISN) | Schwarzbeck | NSLK 8127 | 8127309 | 2 x 10A, 50Ω, 50μH 9KHz-30MHz |
| Antenna System | Schwarzbeck | BBA 9106 / UHALP 9107 | -- | 30MHz – 1000MHz |
| Antenna Mast System | Schwarzbeck | AM9104 | -- | Max. 4 meters height |
| Loop Antenna | Rohde & Schwarz | HFH2-Z2 | 871336/48 | 9KHz-30MHz |
| Turntable with Controller | Drehtisch | DT312 | -- | ϕ120 cm |

**Radiated Emission Test Procedure (> 30MHz)**



**Radiated Emission Test Procedure ( 9kHz – 30MHz)**



# Intentional Radiators



Measurement of Radiated Emissions (30MHz-1000MHz)
Acc: FCC Part 15 Subpart C (15.239)

**IECC Ref:** 42813A-1/5/400F
**Model:** RF-830
**Applicant:** FUJIKON INDUSTRIAL CO., LTD.

**Sample No.:** 1

**Set under test:** RF-830 RF Wireless Stereo Transmitter
**Connected sets:** -
**Operating mode:** Operate

Test Equipment
Receiver: ESVP Rohde & Schwarz
Antenna: Schwarzbeck BBA 9106 and UHALP 9107

**Radiation Measurement (at operation frequency 88.3MHz - selected from 88.1MHz, 88.3MHz, 88.5MHz & 88.7MHz)**

a. Fundamental Frequency

| Frequency (MHz) | Maximum Test Result (dB(μV/m)) | | FCC Limit (dB(μV/m)) | |
|---|---|---|---|---|
| | Peak | Average | Peak | Average |
| 88.3 | 38.5 | 38.0 | 68 | 48 |

b. Other Frequencies

| Frequency (MHz) | Horz. Reading dB(μV) | Vert. Reading dB(μV) | Antenna Factor (dB) | Horiz. Test Result dB(μV/m) | Vert. Test Result dB(μV/m) | Limit dB(μV/m) |
|---|---|---|---|---|---|---|
| 30 | < 16 | < 16 | 18.4 | < 34.4 | < 34.4 | 40.0 |
| 176.6 | < 16 | < 16 | 16.0 | < 32.0 | < 32.0 | 43.5 |
| 264.9 | < 16 | < 16 | 18.2 | < 34.2 | < 34.2 | 46.0 |
| 353.2 | < 16 | < 16 | 17.5 | < 33.5 | < 33.5 | 46.0 |
| 441.5 | < 16 | < 16 | 18.9 | < 34.9 | < 34.9 | 46.0 |
| 529.8 | < 16 | < 16 | 20.0 | < 36.0 | < 36.0 | 46.0 |
| 618.1 | < 16 | < 16 | 21.2 | < 37.2 | < 37.2 | 46.0 |
| 706.4 | < 16 | < 16 | 22.5 | < 38.5 | < 38.5 | 46.0 |
| 794.7 | < 16 | < 16 | 23.6 | < 39.6 | < 39.6 | 46.0 |
| 883 | < 16 | < 16 | 24.8 | < 40.8 | < 40.8 | 46.0 |
| 971.3 | < 16 | < 16 | 26.1 | < 42.1 | < 42.1 | 54.0 |
| 1000 | < 16 | < 16 | 26.5 | < 42.5 | < 42.5 | 54.0 |

**Remark:** All frequencies in the required range have been scanned and only those significant and representative readings are reported above.
All emissions not reported above are all well below the limit.

The measurement is conducted with the sample placed on the turntable in 3 orthogonal planes.

# Notes for Radiation Measurement

1. **Measurement facility:**
   Measurement facility located at Fanling (Hong Kong), placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules.

2. **Distance between the EUT and measuring antenna:**
   3 meters.

3. **Measuring instrumentations:**
   Rohde & Schwarz ESVP Test Receiver ( 20 - 1300 MHz ) with a CISPR weighting QP detector, 6 dB bandwidth set at 120 KHz.
   In the frequency range above 1000 MHz Spectrum Analyzer FMSM26 and Analyzer Display Unit FSA-D are used, bandwidth set at 100 kHz.

4. **Measuring antenna:**
   Broad-band antenna for the frequency range 30 - 300 MHz and frequency range 300 - 1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antennas are capable of measuring both horizontal and vertical polarizations.

   Loop antenna for the frequency range 9KHz – 30MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the measurement data. The center of the loop 1 m above the ground plane, positioned with its plane vertical at the specified distance and rotated about its vertical axis and placed horizontal for maximum response at each azimuth about the EUT.

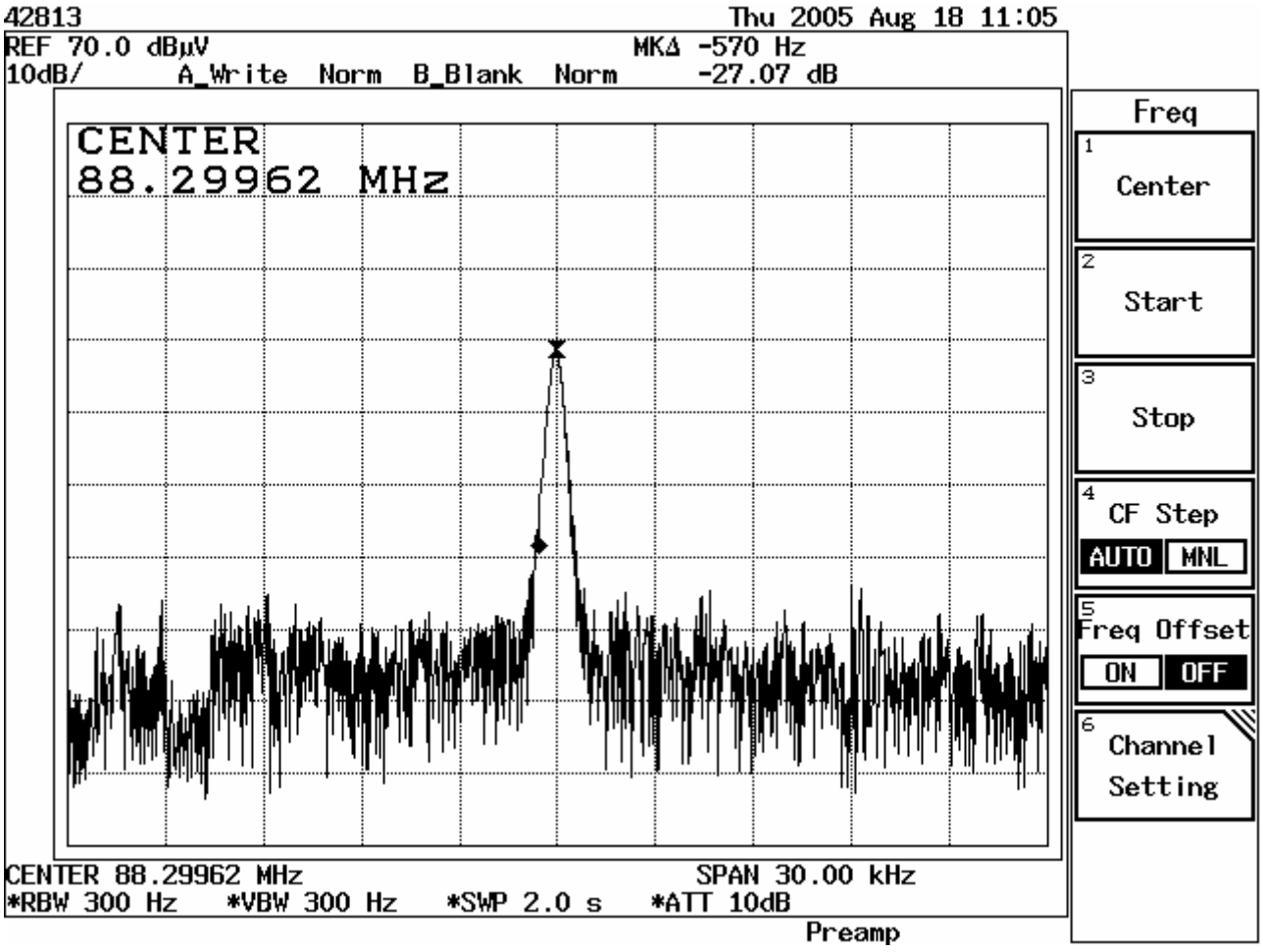
   In the frequnecy range above 1 GHz horn-antenna RGA 50/60 is used.

5. **Frequency range scanned:**
   The frequency range 30 - 1000 MHz has been scanned. Readings of the highest emissions relating to the limit were reported as above.

6. **Arrangement of EUT:**
   During the test, the sample was operated at rated supply voltage and arranged for maximum emissions. To find the maximum emission (30MHz – 1000MHz), the antenna was raised from 1 to 4 meters and was stopped at the maximum emission point.

7. **Measuring Procedure:**
   In accordance with the relevant sections of the American National Standards Institute (ANSI) C63.4-2003 ‘Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz’.

# Measurement Data of Emissions within Band Edges




Result : The field strength of any emission within the operation band did not exceed 48 dB(µV/m) for average value or 68 dB(µV/m) for peak value. Refer to page 9 for the recorded value for the emission at the fundamental frequency.

# Notes for Measurement of Emissions within Band Edges

1. **Measurement facility:**
   Measurement facility located at Fanling (Hong Kong) placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules.

2. **Measuring instrumentations:**
   Spectrum Analyzer: Advantest R3132

3. **Frequency range scanned:**
   The frequency range acc. to FCC rules and regulations part 15 subpart C - Intentional Radiators.

4. **Arrangement of EUT:**
   During the test, the sample was operated.

5. **Measuring Procedure:**
   In accordance with the relevant sections of American National Standards Institute (ANSI) C63.4 - 2003 'Methods of Measurement od Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz'.