




INTERNATIONAL ELECTRICAL CERTIFICATION CENTRE LTD.

F C C - TEST REPORT

REPORT NO.: 21341/9/400F

Units 602-605, 6/F., 31 Lok Yip Road, On Lok Tsuen, Fanling, N.T., Hong Kong
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FCC listed testlab
acc. to Section 2.948 of the FCC - Rules

in compliance with the requirements of
ANSI C63.4 - 1992

Product : Remote Control Transmitter -- 27
MHz Transmitter

Model : 47121

Applicant : ARTIN INDUSTRIAL CO LTD

Manufacturer : ARTIN INDUSTRIAL CO LTD



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LABORATORY - REPORT

APPLICANT: ARTIN INDUSTRIAL CO LTD
ADDRESS: 2/F, Lee Sum Factory Building
21-25 Sze Mei Street
San Po Kong, Kowloon
HONG KONG

DATE OF SAMPLE RECEIVED: 1999-12-15

DATE OF TESTING: 1999-12-16

DESCRIPTION OF SAMPLE:

Product: Remote Control Transmitter -- 27 MHz Transmitter
Manufacturer: ARTIN INDUSTRIAL CO LTD
Model number: 47121
Rating: DC 9V ('6F22' Size Battery x 1)
Country of Origin: P.R. CHINA


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.

Authorized Signature

Remark: 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

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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



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FCC – Test Report

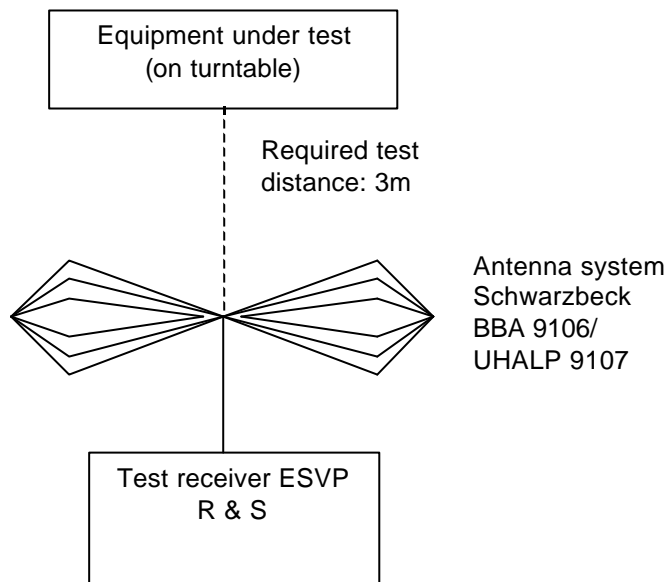
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TEST EQUIPMENT LIST

| Equipment | Manufacturer | Model | Serial No. | Remark |
|---------------------------------|-----------------|--------------------------|---------------------|-----------------------------------|
| Test Receiver | Rohde & Schwarz | ESH 3 | 863497/015 | 10KHz – 30MHz |
| Test Receiver | Rohde & Schwarz | ESVP | 860688/022 | 25MHz – 1,300 MHz |
| Artificial Mains Network (LISN) | Schwarzbeck | NSLK 8127 | -- | 2 x 10A, 50Ω, 50μH 10KHz-30MHz |
| Antenna System | Schwarzbeck | BBA 9106 / UHALP 9107 | -- | 30MHz – 1000MHz |
| Antenna Mast System | Schwarzbeck | AM9104 | -- | Max. 4 meters height |
| Spectrum Analyzer with Q. Peak | Tektronix | 2712 | B023006 | 9KHz – 1.8GHz |
| Interface for Spectrum 2712 | Tektronix | TD3F14A | -- | |
| Test Receiver | Rohde & Schwarz | ESH 3 | 892580/006 | 10KHz – 30MHz |
| Test Receiver | Rohde & Schwarz | ESVP | 863512/012 | 25MHz – 1,300 MHz |
| Impulse Limiter | Rohde & Schwarz | ESH-3-Z2 | -- | |
| Artificial Mains Network (LISN) | Schwarzbeck | NSLK 8127 | -- | 2 x 10A, 50Ω, 50μH 10KHz-30MHz |
| Antenna System | Schwarzbeck | BBA 9106 / UHALP 9107 | -- | 30MHz – 1000MHz |
| Signal Generator | Rohde & Schwarz | SWS 2 | 879113/42 | 100KHz – 1040 MHz |
| Digital Multimeter | Tektronix | DM2510G | DM- 2510GTW10555 | 10KHz – 30MHz |
| Turntable with Controller | Drehtisch | DT312 | -- | φ120 cm |

Radiated Emission Test Procedure



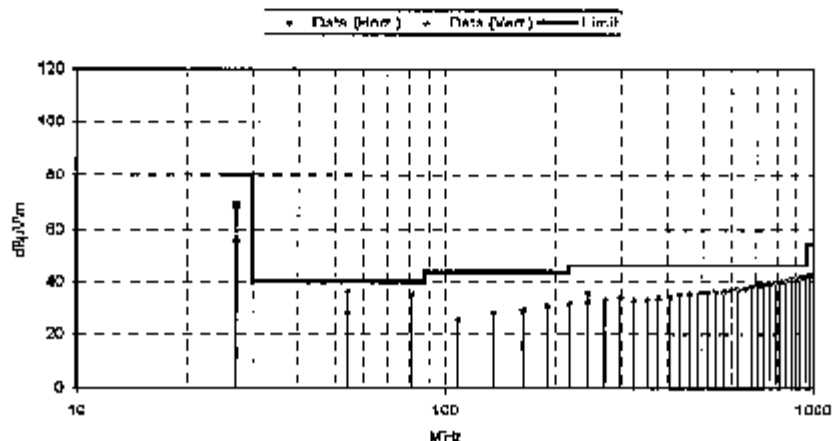
Interference Radiation


Measurement of Radiated Emissions (27MHz-1000MHz)
Acco: FCC Part 15 Subpart C

IECC Ref: 2134/S/400F
Model: 47121
Applicant: ARTIN INDUSTRIA, CO LTD
Ser.No.: 1
Set under test: Remote Control Transmitter
Connected sets:
Operating mode: Power "On"

Test Equipment
Receiver: ESVP Rohde & Schwarz
Antenna: Schwarzbeck BBA 01C8
and UFA/LP 2127

| | Frequency (MHz) | Horz. Reading dB(μV) | Vert. Reading dB(μV) | Antenna Factor (dB) | Horiz. Test Result (μV/m) | Vert. Test Result (μV/m) | Limit (μV/m) |
|----------|-----------------|----------------------|----------------------|---------------------|---------------------------|--------------------------|--------------|
| Peak | 27.12 | 42 | 55 | 15.1 | 712 | 3181 | 100,000 |
| Av. | 27.12 | 40.5 | 54 | 15.1 | 599 | 2835 | 10,000 |
| Harm. 2 | 54.24 | 22 | 30 | 6.3 | 26 | 66 | 100 |
| Harm. 3 | 81.36 | 30 | 30 | 5.2 | 58 | 58 | 100 |
| Harm. 4 | 108.48 | < 16 | < 16 | 8.5 | < 19 | < 19 | 150 |
| Harm. 5 | 135.6 | < 16 | < 16 | 12.2 | < 26 | < 26 | 150 |
| Harm. 6 | 162.72 | < 16 | < 16 | 13.6 | < 30 | < 30 | 150 |
| Harm. 7 | 189.84 | < 16 | < 16 | 14.8 | < 35 | < 35 | 150 |
| Harm. 8 | 216.96 | < 16 | < 16 | 15.7 | < 38 | < 38 | 200 |
| Harm. 9 | 244.08 | 18 | < 16 | 16.5 | 60 | < 42 | 200 |
| Harm. 10 | 271.2 | < 16 | < 16 | 17.3 | < 46 | < 46 | 200 |
| Harm. 11 | 298.32 | < 16 | < 16 | 18.0 | < 50 | < 50 | 200 |
| Harm. 12 | 325.44 | < 16 | < 16 | 16.8 | < 44 | < 44 | 200 |
| Harm. 13 | 352.56 | < 16 | < 16 | 17.4 | < 47 | < 47 | 200 |
| Harm. 14 | 379.68 | < 16 | < 16 | 17.8 | < 50 | < 50 | 200 |
| Harm. 15 | 406.8 | < 16 | < 16 | 18.4 | < 52 | < 52 | 200 |
| Harm. 16 | 433.92 | < 16 | < 16 | 18.6 | < 55 | < 55 | 200 |
| Harm. 17 | 461.04 | < 16 | < 16 | 19.2 | < 57 | < 57 | 200 |
| Harm. 18 | 488.16 | < 16 | < 16 | 19.5 | < 60 | < 60 | 200 |
| Harm. 19 | 515.28 | < 16 | < 16 | 19.9 | < 62 | < 62 | 200 |
| Harm. 20 | 542.4 | < 16 | < 16 | 20.1 | < 64 | < 64 | 200 |
| Harm. 21 | 569.52 | < 16 | < 16 | 20.5 | < 67 | < 67 | 200 |
| Harm. 22 | 596.64 | < 16 | < 16 | 20.9 | < 70 | < 70 | 200 |
| Harm. 23 | 623.76 | < 16 | < 16 | 21.2 | < 73 | < 73 | 200 |
| Harm. 24 | 650.88 | < 16 | < 16 | 21.8 | < 76 | < 76 | 200 |
| Harm. 25 | 678 | < 16 | < 16 | 22.1 | < 80 | < 80 | 200 |
| Harm. 26 | 705.12 | < 16 | < 16 | 22.5 | < 84 | < 84 | 200 |
| Harm. 27 | 732.24 | < 16 | < 16 | 22.8 | < 87 | < 87 | 200 |
| Harm. 28 | 759.36 | < 16 | < 16 | 23.2 | < 91 | < 91 | 200 |
| Harm. 29 | 786.48 | < 16 | < 16 | 23.5 | < 95 | < 95 | 200 |
| Harm. 30 | 813.6 | < 16 | < 16 | 23.9 | < 99 | < 99 | 200 |
| Harm. 31 | 840.72 | < 16 | < 16 | 24.2 | < 103 | < 103 | 200 |
| Harm. 32 | 867.84 | < 16 | < 16 | 24.6 | < 107 | < 107 | 200 |
| Harm. 33 | 894.96 | < 16 | < 16 | 24.9 | < 111 | < 111 | 200 |
| Harm. 34 | 922.08 | < 16 | < 16 | 25.3 | < 117 | < 117 | 200 |
| Harm. 35 | 949.2 | < 16 | < 16 | 25.8 | < 122 | < 122 | 200 |
| Harm. 36 | 976.32 | < 16 | < 16 | 26.2 | < 128 | < 128 | 500 |



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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.

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

5. Frequency range scanned:

The frequency range 30 - 5000 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.

7. Measuring Procedure:

In accordance with the relevant sections of the American National Standards Institute (ANSI) C63.4-1992 'Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz'.



Measurement of Emissions within band edges

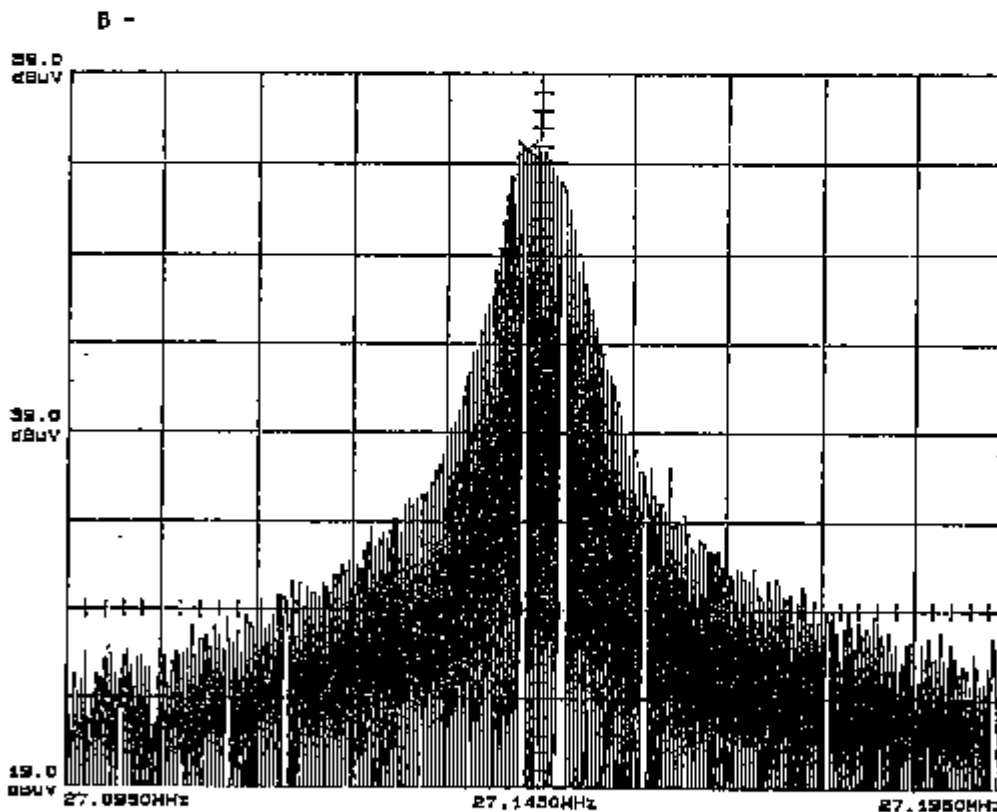
International Electrical Certification Centre Ltd.

Acc: FCC Part 15 Subpart C

IECC Ref: 21341/9/400F
 Model: 47121
 Applicant: ARTIN INDUSTRIAL CO LTD
 Ser. No.: 1
 Set under test: Remote Control Transmitter
 Connected sets: -
 Operating mode: Power "On"

Test Equipment
 Spectrum Analyzer:
 Tektronix 2712

Tek
 2712



27.1450MHz
 59.0dBuV PKT
 10.0kHz/
 9kHz RBW

ATTN 20dB
 VF 10kHz
 8 dB/
 M 27.1454MHz
 M 59.0dBuV

TIME: 100 ns/DIV

X — MARKER 4

MAX/MIN MODE


NOTE: HESSELS
 correspond to
 waveform 'B'

Test result:

☒ O.K.
☐ Not O.K.

Date: 16 DEC 199

Operator: CL

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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: Tektronix 2712

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 - 1992 'Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz'.