

Date:1998-11-25
No.: HM1486/504

TEST REPORT

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APPLICANT: (CODE : 021564)

WAI KO ELECTRONICS LTD.
Flat 8-10, 16/F, Blk. A,
Hi-Tech Ind. Centre, 5-21 Pak Tin Par St.,
Tsuen Wan, Hong Kong.

DATE OF SAMPLES RECEIVED: 1998-11-12

DATE OF TESTING: 1998-11-19 & 1998-11-24

DESCRIPTION OF SAMPLE(S):

A sample of product said to be:

Product: AM/FM/Weather Band Clock Radio
Manufacturer: WAI KO ELECTRONICS LTD.
Band Combination: AM/FM/Weather
Model No.: CKW-3000
Brand Name: Emerson Research
Rating: 120Va.c., 30mA, 4W, 60Hz
Origin: China

INVESTIGATIONS REQUESTED:

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Radio Receiver.

RESULT/ REMARK: Please see attached sheet(s).

CONCLUSION:

From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirement for the relevant clauses of Federal Communication Commission Rules for Radio Receivers.

TEST EQUIPMENT AUDIT: Please see Appendix A

LAW MAN KIT

Testing Engineer

KITTY CHOY

Verify by

PATRICK WONG

Patrick Wong
for Managing Director

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TEST SUMMARY

- (A) Measurement of Radiated Emissions
(On FM & WEATHER BAND)

Result -- Satisfactory

Data -- See the attached data

- (B) Measurement of Line-Conducted Voltage
(On FM & WEATHER BAND)

Result -- Satisfactory

Data -- (The spectrum was checked from 450KHz to 30MHz. All emissions were too low to be measurable and they were all more than 20dB below the permitted limit.)

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FM BAND RADIO RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109

TEST CONDITION : Normal

TEST DATE : 1998-11-19

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μ V/m)	Field Strength (at 3m) μ V/m	FCC Limit @ μ V/m
88.3	99.0	Vertical	39.7	96.6	150
98.3	109.0	Vertical	40.5	105.9	150
108.3	119.0	Vertical	39.6	95.5	150

=====SUMMARY=====

All data is within limits

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Broad-band Antennas were used

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Remark: IF = 10.70 MHz

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WEATHER BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109

TEST CONDITION : WEATHER BAND RECEIVER (Build in Antenna)

TEST DATE : 1998-11-24

Freq. to which tuned	Freq. of the emission	Polarity	Meter Reading (including Antenna Factor) at 3m	Field Strength (at 3m)	FCC Limit @
MHz	MHz		dB(μ V/m)	μ V/m	μ V/m
162.4	151.70	Vertical	39.6	95.5	150
	303.40	Horizontal	38.8	87.1	200

=====SUMMARY=====

All data is within limits

=====

Broad-band Antennas were used

=====

Remark: IF = 10.70 MHz

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NOTES FOR THE RADIATION MEASUREMENT

(1) Test site facility:

Open field test site located at Taipo (Hong Kong) with a metal ground plane on filed with the FCC pursuant to section 15.38 of the FCC rules (old rule).

(2) Distance between the EUT and measuring antenna:

3 meters.

(3) Measuring instrumentations:

CISPR Quasi-peak type field strength meter (25MHz - 1000MHz) 6 dB bandwidth set at 120KHz.

(4) Measuring antenna:

Broad band antenna for the frequency range 25 - 1000 MHz, connected with 10 meters coaxial cable
Cable loss of the coaxial cable. included in the Antenna Factor for measurement data. The antenna are capable of measuring both horizontal and vertical polarization.

(5) Frequency range scanned:

The frequency range from 25 MHz to 1000 MHz had been searched. 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 ANSI C63.4:1992.

(8) Measuring Uncertainty:

The calculated uncertainty for measurement performed at 3M test distance are:-
30MHz to 200MHz = $\pm 3.7\text{dB}$, 300MHz to 1000MHz = $3.0\text{dB}/-2.7\text{dB}$.

NOTES FOR THE CONDUCTED POWER-LINE MEASUREMENT

(1) LISN (Line Impedance Stabilization Network) used :

50 μH LISN in accordance with Section of ANSI C63.4:1992.

(2) Measurement Instrumentations:

CISPR quasi-peak type radio noise meter (9 KHz - 30 MHz), 6 dB bandwidth set at 9 KHz for measurement between 150 KHz & 30MHz.

(3) Frequency range scanned :

The frequency range form 450 KHz to 30 MHz had been searched. Reading of the highest emissions relating to the limit were reported as above.

(4) Configuration of EUT

Connection of equipment and operation conditions were same as those in the Radiation measurement.

(5) Measurement procedure :

In accordance with the relevant sections of ANSI C63.4:1992 "FCC Methods of measurement of Radio Noise Emissions from Computing Devices".

(6) Measuring Uncertainty:

The calculated uncertainty for conducted power-line measurement = $\pm 2.3\text{dB}$.

Remark : Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC's Equipment Authorization Program. This test itself is not an Approval Test.

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