

Date:1999-05-27

TEST REPORT

Page 1 of 7

No.: HM100582

APPLICANT:

RadioShack, A Division of Tandy Corporation
100 Throckmorton St., Suite 1300,
Forth Worth, Texas 76102-2802, USA

DATE OF SAMPLES RECEIVED: 1999-03-30

DATE OF TESTING: 1999-04-08 to 1999-05-13

DESCRIPTION OF SAMPLE(S):

A sample of product said to be:

Product: MULTI-BAND PORTABLE RADIO (AM/FM/TV1/TV2)
Manufacturer: Solar Electronics Corp. Ltd.
Band Combination: AM/FM/TV1/TV2
Model Number: 12-687
Brand Name: RADIO SHACK
Rating: 120Va.c., 6W, 60Hz
6Vd.c. ("C" size battery × 4) for battery compartment
Origin : CHINA

INVESTIGATIONS REQUESTED:

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart B -
Unintentional Radiators.

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

CONCLUSION:

From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirement after modification by customer 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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Date: 1999-05-27
No.: HM100582

TEST REPORT

Page 2 of 7

TEST SUMMARY

- (A) Measurement of Radiated Emissions
(On FM, TV1 & TV2 BAND)

Result -- Satisfactory

Data -- See the attached data

- (B) Measurement of Line-Conducted Voltage
(On FM, TV1 & TV2 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.)

Date: 1999-05-27

No.: HM100582

TEST REPORT

Page 3 of 7

FM BAND RADIO RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109

TEST CONDITION : FM Broadcast Receiver

TEST DATE : 1999-04-16

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
88.3	99.0	Vertical	38.0	79.4	150
98.3	109.0	Vertical	40.1	101.2	150
108.3	119.0	Vertical	39.0	89.1	150

=====SUMMARY=====

All Data is within limit

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Broad-band Antennas were used

=====

Remark: IF = 10.70 MHz

Date: 1999-05-27

No.: HM100582

TEST REPORT

Page 4 of 7

TV 1 BAND RADIO RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109

TEST CONDITION : TV 1 BAND RECEIVER

TEST DATE : 1999-05-13

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
59.75	49.05	Vertical	35.3	58.2	100
65.75	55.05	Vertical	35.0	56.2	100
71.75	61.05	Vertical	32.1	40.3	100
81.75	71.05	Horizontal	28.1	25.4	100
87.75	77.05	Horizontal	29.8	30.9	100

=====SUMMARY=====

All data is within limit

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Broad-band Antennas were used

=====

Remark: IF = 10.70 MHz

Date: 1999-05-27

No.: HM100582

TEST REPORT

Page 5 of 7

TV 2 BAND RADIO RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109

TEST CONDITION : TV 2 BAND RECEIVER

TEST DATE : 1999-05-13

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
179.75	190.45	Horizontal	39.2	91.2	150
185.75	196.45	Horizontal	38.5	84.1	150
191.75	202.45	Horizontal	38.8	87.1	150
197.75	208.45	Horizontal	37.6	75.9	150
203.75	214.45	Horizontal	38.6	85.1	150
209.75	220.45	Vertical	39.5	94.4	200
215.75	226.45	Horizontal	40.1	101.2	200

=====SUMMARY=====

All data is within limit

=====

Broad-band Antennas were used

=====

Remark: IF = 10.70 MHz

Date: 1999-05-27

TEST REPORT

Page 6 of 7

No.: HM100582

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 15.109 of the FCC rules.

(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 300MHz = $\pm 3.7\text{dB}$, 300MHz to 1000MHz + 3.0dB/-2.7dB.

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 Equipment Authorization Program. This test itself is not an Approval Test.

Date: 1999-05-27

TEST REPORT

Page 7 of 7

No.: HM100582

NOTES FOR THE CONDUCTED POWER-LINE MEASUREMENT

- (1) LISN (Line Impedance Stabilization Network) used :
50 μ H 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 from 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 is = ± 2.3 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 Equipment Authorization Program. This test itself is not an Approval Test.

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