

RadioShack, A Division of Tandy Corporation

Application
For
Certification
(FCC ID: AAO2101803)

September 18, 1998

WO# 9807539
CKL/at
September 18, 1998

- The test results reported in this report shall refer only to the sample actually tested and shall not refer or be deemed a refer to bulk from which such a sample may be said to have been obtained
- This report shall not be reproduced except in full without prior authorization from Intertek Testing Services Hong Kong Limited.

FCC ID: AAO2101803

INTERTEK TESTING SERVICES

SUMMARY OF CONTENTS

LIST OF EXHIBITS

<i>EXHIBIT 1:</i>	General Description
<i>EXHIBIT 2:</i>	System Test Configuration
<i>EXHIBIT 3:</i>	RF Power Output
<i>EXHIBIT 4:</i>	Modulation Characteristics
<i>EXHIBIT 5:</i>	Occupied Bandwidth
<i>EXHIBIT 6:</i>	Emission Spurious
<i>EXHIBIT 7:</i>	Frequency Stability
<i>EXHIBIT 8:</i>	Technical Specifications
<i>EXHIBIT 9:</i>	Product Labelling
<i>EXHIBIT 10:</i>	Photographs
<i>EXHIBIT 11:</i>	Instruction Manual

INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

Application: RadioShack, A Division of Tandy Corporation
Trade Name: RadioShack
Model No.: 21-1803
Date: September 18, 1998

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: Family Radio Service, FRS

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

C. K. Lam
Intertek Testing Services.
2/F., Garment Centre,
576 Castle Peak Road,
Kowloon, Hong Kong.
Phone: 852-2746-8211
Fax: 852-2785-5487

INTERTEK TESTING SERVICES

Table of Contents

1.0 General Description	6
1.1 Product Description	2
1.2 Related Submittal(s) Grants	3
1.3 Test Methodology	3
1.4 Test Facility	3
2.0 System Test Configuration	5
2.1 Justification	9
2.2 EUT Exercising Software	10
2.3 Special Accessories	10
2.4 Equipment Modification	10
3.0 RF Output Power (Section 95.639(d))	8
4.0 Modulation Characteristics (Section 95.637(a))	16
4.1 Modulation Frequency Response	14
4.2 Modulation Limiting Characteristic	16
5.0 Occupied Bandwidth (Section 95.633(c))	21
6.0 Spurious Emission (Section 95.635(b))	24
6.1 Field Strength of Spurious Radiation	27
7.0 Frequency Stability (Section 95.627)	34
7.1 Frequency Tolerance	35
7.2 Voltage Extreme Condition	38
7.3 Temperature Extreme Condition	42
8.0 Technical Specifications	45
8.1 Block Diagram	46
8.2 Schematic Diagram	47

INTERTEK TESTING SERVICES

List of attached file

Exhibit type	Filename
Test Report	report.doc
Test Setup Photo	radiated.jpg
External Photo	ophoto1.jpg & ophoto3.jpg
Internal Photo	ipphoto1.jpg & ipphoto11.jpg
Block Diagram	block.pdf
Schematics	circuit.pdf
ID Label	label.pdf
ID Location	location.pdf
User Manual	manual.pdf
Test Report	bw.pdf
Cover Letter	letter.pdf
Circuit Description	descri.pdf
Test Report	spuriou.pdf
Test Report	modfr.pdf
Test Report	modlimit.pdf

INTERTEK TESTING SERVICES

EXHIBIT 1

GENERAL DESCRIPTION

INTERTEK TESTING SERVICES

1.0 **General Description**

1.1 Product Description

The 21-1803 is a Single Channel Family Radio Service (FRS) transceiver. The unit is powered from 6.0 Vdc, (4 x “AAA” batteries).

Transmitter portion:

- i) Type of emission: F3E
- ii) Frequency Range: 462.5625 MHz
- iii) Maximum Power Rating: 0.06 Watt

Receiver Portion:

- i) Type of Receiver: Superheterodyne receiver
- ii) Tuning Frequency: 462.5625 MHz
- iii) Local oscillator: 73.527 MHz to 20.945 MHz
- iv) IF: 0.455 MHz

The device transmits CTCSS subaudible tone (50 Hz to 300 Hz) which is used to identify user group to avoid unwanted signal interference continuously only while the user is talking, an audible ringer tone (more than 300 Hz) will be transmitted less than 5 second for the paging function in the group.

The brief circuit description is saved with filename: descri.pdf

INTERTEK TESTING SERVICES

1.2 Related Submittal(s) Grants

This is an Application for Certification of the transmitter portion of a FRS Transceiver. The receiver section of the FRS Transceiver is subject to verification process.

1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (1992). All measurement were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. For each scan, the procedure of maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna the EUT distance of 3 meters, unless stated otherwise in the **“Justification Section”** of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. The test facility and site measurement data have been fully placed on file with the FCC.

INTERTEK TESTING SERVICES

EXHIBIT 2

SYSTEM TEST CONFIGURATION

INTERTEK TESTING SERVICES

2.0 **System Test Configuration**

2.1 Justification

The device was configured for testing in a typical fashion (as a customer would normally use it). The device was mounted to a cardboard box, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes. When the radiated emissions are measured.

The device was powered by four fully charged 1.5V “AAA” batteries (6.0Vdc).

The frequency range from 30 MHz to 10th harmonics was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

INTERTEK TESTING SERVICES

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered on, a signal is transmitted.

2.3 Special Accessories

A special headset is provided by client for compliance of this device.

2.4 Equipment Modification

Any modification installed previous to testing by RadioShack, A Division of Tandy Corporation will be incorporated in each production model sold/leased in the United States.

No modification were installed by Intertek Testing Services.

Confirmed by:

*C. K. Lam
Assistant Manager
Intertek Testing Services
Agent for RadioShack, A Division of Tandy Corporation*



_____ Signature

September 18, 1998 _____ Date

INTERTEK TESTING SERVICES

EXHIBIT 3

RF POWER OUTPUT

INTERTEK TESTING SERVICES

3.0 **RF Power Output (Section 2.985(a))**

A. Equipment Used

Equipment	Brand Name	Model No.
Biconical Antenna	CDI	B300
Test receiver	Rohde & Schwarz	ESVS30
RF Filter	Tailithic	3VF
Tuned Dipole Antenna	CDI	Robert Antenna 4
Signal Generator	Maconi	2024

B. Testing Procedure

1. On a test site, the EUT shall be placed at 1.5m height on a turn table, and in the position closest to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarisation located 3m from EUT to correspond to the frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the quasi-peak detector is used for the measurement.
4. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.

INTERTEK TESTING SERVICES

6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a tuned dipole (substitution antenna).
10. The substitution antenna shall be orientated for vertical polarisation and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarisation.
17. The measure of the effective radiated power is the larger of the two levels recorded, at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.

INTERTEK TESTING SERVICES

Table 1

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803**

Transmission Power

Channel	Frequency (M Hz)	Effectived Radiated Power (W)	Limit (W)	Margin (W)
1	462.5625	0.0589	0.5	-0.4411

Notes: Negative sign in the margin column shows the value below limits.

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

EXHIBIT 4

MODULATION CHARACTERISTICS

INTERTEK TESTING SERVICES

4.0 **Modulation Characteristics**

In order to satisfy the 95.637(a) requirement, Modulation Frequency Response and Modulation Limit Characteristics are attached in Exhibit 4.1 & 4.2.

Plots for each tests are saved with filename: Modfr.pdf and Modlimit.pdf

INTERTEK TESTING SERVICES

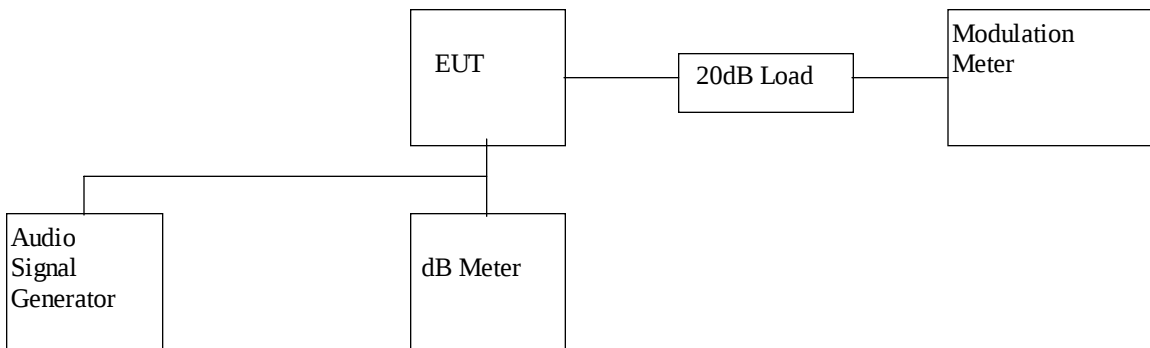
4.1 Modulation Frequency Response

A. Test Equipment

Equipment	Brand Name	Model No.
Audio Signal Generator	Leader	LFG-1300S
dB meter	Leader	LMV-182A
20 dB RF Load	Bird	8304-200-N
Modulation Meter	Marconi Instrument	2945

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Set the audio signal generator frequency to the sound pressure level 97.0dB SPL at the microphone of the EUT.
- 3) The frequency of the audio signal generator is changed from 300Hz to 4kHz.
- 4) Record the frequency deviation.

INTERTEK TESTING SERVICES

C. Test Result

Table 2

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803**

Modulation Frequency Response

Test Channel : 1

Input level = 97.0dB SPL

Modulation Frequency (Hz)	Frequency deviation (kHz)	Modulation index (%)
300	0.17	56.67
400	0.35	87.50
500	0.52	104.00
600	0.77	128.33
700	1.18	168.57
800	1.08	135.00
900	1.32	146.67
1000	1.74	174.00
1250	1.60	128.00
1500	1.42	94.67
1750	1.33	76.00
2000	1.26	63.00
2250	1.23	54.67
2500	1.17	46.80
2750	1.01	36.73
3000	0.89	29.67
3125	0.77	24.64
3250	0.69	20.62
3500	0.50	14.29
4000	0.38	9.50
5000	0.22	4.40

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

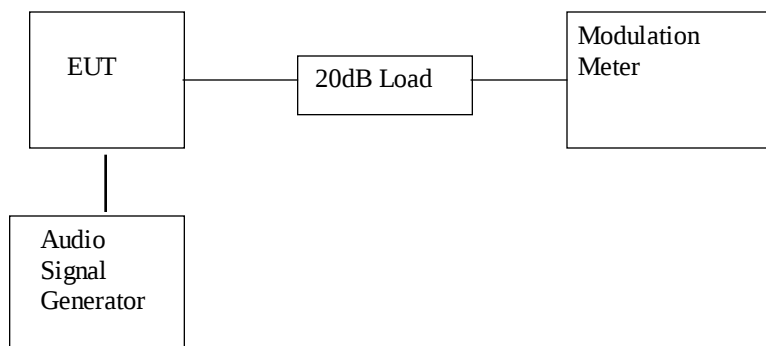
4.2 Modulation Limiting Characteristics (Section 2.987(b))

A. Test Equipment

Equipment	Brand Name	Model No.
Audio Signal Generator	Leader	LFG-1300S
20 dB RF Load	Bird	8304-200-N
Modulation Meter	Marconi	2950

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Set the frequency of the audio signal generator to 500Hz and adjust the level from 57dBSPL to 117dBSPL.
- 3) Record the maximum value of plus or minus peak frequency deviation.
- 4) Repeat the above procedure with frequency 1000Hz, 2500Hz & 3125Hz.

INTERTEK TESTING SERVICES

C. Test Result

Table 3

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803**

Modulation Limiting Characteristics

Test Channel : 1

Modulation Input (dBSPL)	Peak Frequency deviation (kHz) at 500Hz	Peak Frequency deviation (kHz) at 1000Hz	Peak Frequency deviation (kHz) at 2500Hz	Peak Frequency deviation (kHz) at 3125Hz
57	0.09	0.10	0.11	0.08
67	0.09	0.11	0.22	0.12
77	0.11	0.24	0.58	0.23
87	0.21	0.57	1.15	0.59
97	0.55	1.75	1.17	0.77
107	1.71	1.90	1.16	0.77
117	2.32	1.91	1.17	0.78

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

EXHIBIT 5

OCCUPIED BANDWIDTH

INTERTEK TESTING SERVICES

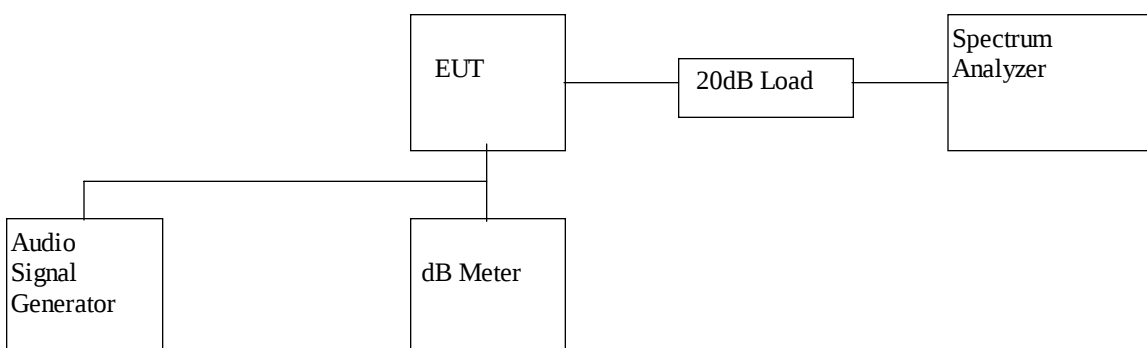
5.0 Occupied Bandwidth (Section 95.633(c))

A. Test Equipment

Equipment	Brand Name	Model No.
Audio Signal Generator	Leader	LFG-1300S
dB meter	Leader	LMV-182A
20 dB RF Load	Bird	8304-200-N
Spectrum Analyzer	Hewlett Packard	8951EM

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Set the level of audio signal generator to obtain 16 dB greater than required for 50% modulation.
- 3) The occupied bandwidth is measured with the spectrum analyzer set at 5kHz/div scan and 10dB/div.

C. Test Result

The occupied Bandwidth is measured to be 5.8 kHz.

For the electronic filing, the bandwidth plot is saved with filename: bw.pdf

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

EXHIBIT 6

SPURIOUS EMISSION

INTERTEK TESTING SERVICES

6.0 **Spurious Emission (Section 95.635)**

In order to satisfy the 95.635 requirement, the spurious emission from the EUT are measured and shown in the Exhibit 6.1.

INTERTEK TESTING SERVICES

6.2 Field Strength of Spurious Radiation (Section 95.635)

A. Test Equipment

Equipment	Brand Name	Model No.
Antenna	CDI	B100,B200,B300, Horn
Test receiver	Rohde & Schwarz	ESVS30
RF Filter	Tailithic	3VF

B. Testing Procedure

Radiated emission measurements were performed according to the procedures in ANSI C63.4(1992). All measurements were performed in Open Area Test Sites located at Roof Top of Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.

INTERTEK TESTING SERVICES

C. Radiated Emission Configuration Photograph

Worst Case Radiated Emission

For electronic filing, the radiated emission configurations photograph is saved with filename:
radiated.pdf

INTERTEK TESTING SERVICES

C. Test Result

RadioShack, A Division of Tandy Corporation
RadioShack 21-1803

Table 4(a)

1. Unwanted emission from CARRIER $\pm 6.25\text{kHz}$ to Carrier $\pm 31.25\text{kHz}$ (Refer to the plots)
(Refer to the plots which is saved with filename: spuriou.pdf)

Region	Unwanted emission	
	Channel 4	Channel 11
CARRIER $\pm 6.25\text{kHz}$ to $\pm 12.5\text{kHz}$	<25dB	<25dB
CARRIER $\pm 12.5\text{kHz}$ to $\pm 31.25\text{kHz}$	<35dB	<35dB

INTERTEK TESTING SERVICES

Table 4(b): Channel 1

O r i e n t a t i o n	F r e q u e n c y (M H z)	R e a d i n g (d B μ V)	P r e - A m p (d B)	A n t e n n a F a c t o r (d B)	C a l c u l a t e d N e t a t 3 m (d B μ V / m)	C a l c u l a t e d L i m i t a t 3 m * (d B μ V / m)	M a r g i n (d B)
V	77.098	37.5	16	6.0	27.5	82.2	-54.7
H	154.196	27.3	16	14.0	25.3	82.2	-56.9
H	231.293	29.2	16	18.0	31.2	82.2	-51.0
H	308.389	38.8	16	23.0	45.8	82.2	-36.4
V	385.488	46.1	16	24.0	54.1	82.2	-28.1
V	539.686	35.8	16	28.0	47.8	82.2	-34.4
V	616.784	29.7	16	29.0	42.7	82.2	-39.5
V	925.174	57.7	16	33.0	74.7	82.2	-7.5
V	1002.272	55.0	34	25.5	46.5	82.2	-35.7
V	1079.372	58.7	34	25.5	50.2	82.2	-32.0
V	1156.471	56.3	34	25.5	47.8	82.2	-34.4
V	1233.568	41.0	34	25.5	32.5	82.2	-49.7
V	1378.764	83.3	34	25.5	74.8	82.2	-7.4
V	1464.862	54.8	34	25.5	46.3	82.2	-35.9

- Remark:
1. Quasi-peak data for emission below 1000MHz.
 2. ‘-’ sign in margin column shows the value below the limits.
 3. Any emissions and any other harmonics which are attenuated more than 20dB below the permissible value need not be recorded.
 4. Horn Antenna and average detector is used for emission over 1000MHz.

$$\begin{aligned}
 * \text{ Calculated limit} &= 10 \log_{10} (\text{TP(W)}) - 43 - 10 \log_{10} (\text{TP}) \\
 &= -43\text{dBW} \\
 &= 82.2\text{dB}\mu\text{V/m at 3m}
 \end{aligned}$$

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

Table 4(b): Channel 1 (Cont'd)

Orientation	Frequency (MHz)	Reading (dBμV)	Pre-Amp (dB)	Antenna Factor (dB)	Calculated Net at 3m (dBμV/m)	Calculated Limit at 3m * (dBμV/m)	Margin (dB)
V	1541.961	54.2	34	26.5	46.7	82.2	-35.5
H	1850.348	79.7	34	26.5	72.2	82.2	-10.0
H	2312.935	79.3	34	29.1	74.4	82.2	-7.8
V	2775.522	71.1	34	29.1	66.2	82.2	-16.0
H	3238.109	64.2	34	31.4	61.6	82.2	-20.6
H	3700.696	66.4	34	32.8	65.2	82.2	-17.0
H	4163.283	62.5	34	34.2	62.7	82.2	-19.5
H	4625.870	55.7	34	34.0	55.7	82.2	-26.5
V	5088.457	54.0	34	35.2	55.2	82.2	-27.0
H	5551.044	57.1	34	36.0	59.1	82.2	-23.1
V	6013.631	56.2	34	36.5	58.7	82.2	-23.5
V	6476.218	49.7	34	36.5	52.2	82.2	-30.0
H	6938.805	47.7	34	36.4	50.1	82.2	-32.1

- Remark:
1. Quasi-peak data for emission below 1000MHz.
 2. '-' sign in margin column shows the value below the limits.
 3. Any emissions and any other harmonics which are attenuated more than 20dB below the permissible value need not be recorded.
 4. Horn Antenna and average detector is used for emission over 1000MHz.

$$\begin{aligned}
 * \text{ Calculated limit} &= 10 \log_{10} (\text{TP(W)}) - 43 - 10 \log_{10} (\text{TP}) \\
 &= -43\text{dBW} \\
 &= 82.2\text{dB}\mu\text{V/m at 3m}
 \end{aligned}$$

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

EXHIBIT 7

FREQUENCY STABILITY

INTERTEK TESTING SERVICES

7.0 **Frequency Stability**

The frequency tolerance was tested in normal condition & over extreme ambient conditions with respect to voltage and temperature variation.

INTERTEK TESTING SERVICES

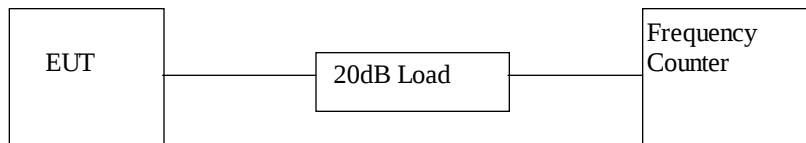
7.1 Frequency Tolerance (Section 95.625)

A. Test Equipment

Equipment	Brand Name	Model No.
Regulated Power Supply	PAD	30-35L
20 dB RF Load	Bird	8304-200-N
Frequency Counter	Phillips	PM6668

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Measure all transmit channel frequencies in MHz.

INTERTEK TESTING SERVICES

C. Test Result

Table 5

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803
Frequency Tolerance**

Channel	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (%)
1	462.5625	462.562309	-0.000041

INTERTEK TESTING SERVICES

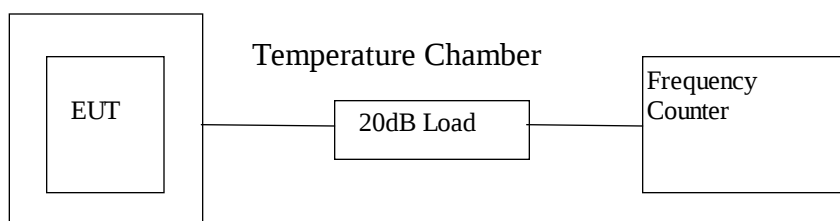
7.2 Frequency Stability - Temperature (Section 2.995)

A. Test Equipment

Equipment	Brand Name	Model No.
20 dB RF Load	Bird	8304-200-N
Frequency Counter	Phillips	PM6668

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Set the Temperature Chamber to -20°C and stabilize the EUT temperature for one hour. Set transmitter ON for two minutes.
- 3) Measure the channel frequency of channel 4, 11 in MHz.
- 4) Turn the EUT OFF
- 5) Repeat the above procedure with -20°C, 25°C, 50°C

INTERTEK TESTING SERVICES

C. Test Result

Table 6(a)

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803**

Frequency Deviation with Temperature Variation

Channel : 1

Temperature (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	% Deviation
-20	462.5625	No transmission	No transmission
25	462.5625	462.562309	-0.000041
50	462.5625	462.561750	-0.000162

Test Engineer: Wilson S. K. Loke

Date of Test: August 24, 1998

INTERTEK TESTING SERVICES

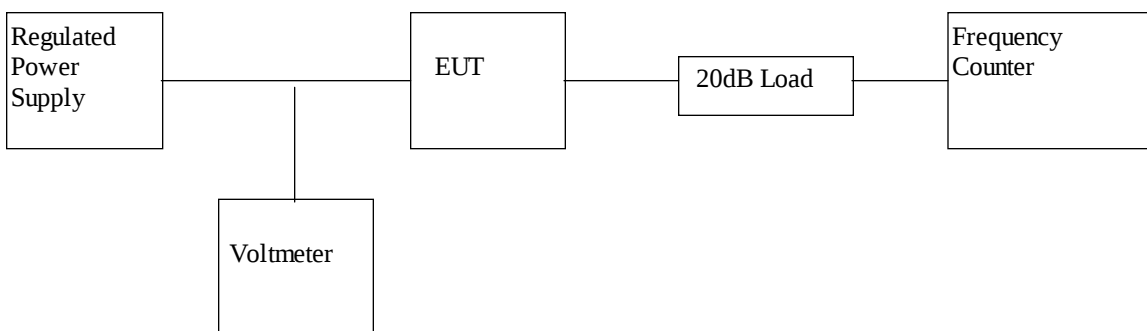
7.3 Frequency Stability - Voltage (Section 2.995)

A. Test Equipment

Equipment	Brand Name	Model No.
Regulated Power Supply	PAD	30-35L
20 dB RF Load	Bird	8304-200-N
Voltage meter	Fluke	87
Frequency Counter	Phillips	PM6668

B. Testing Procedure

- 1) Set-up the test equipment in the following configuration:



- 2) Vary the level of regulated power supply to **the manufacturer specified battery end point** of the EUT.
- 3) Measure the channel frequency of channel 4 & 11 in MHz.

INTERTEK TESTING SERVICES

C. Test Result

Table 7

**RadioShack, A Division of Tandy Corporation
RadioShack 21-1803**

Frequency Deviation with Voltage Variation

The manufacturer specified battery end point 4.1V

Channel : 1

Voltage (V)	Assigned Frequency (MHz)	Measured Frequency (MHz)	% Deviation
4.1	462.5625	462.561750	-0.000162

INTERTEK TESTING SERVICES

EXHIBIT 8

TECHNICAL SPECIFICATIONS

INTERTEK TESTING SERVICES

8.0 Technical Specifications

INTERTEK TESTING SERVICES

8.1 Block Diagram

For electronic filing, the block diagram of the CB radio station is saved with filename: block.pdf

Figure 8.1 Block Diagram

8.2 Schematic Diagram

For electronic filing, the schematic diagram of the CB radio station is saved with filename: circuit.pdf

Figure 8.2 Schematic Diagram

INTERTEK TESTING SERVICES

EXHIBIT 9

PRODUCT LABELLING

9.0 **Product Labelling**

INTERTEK TESTING SERVICES

9.1 Label Artwork

Figure 9.1 Label

An engineering drawing of the label which will be permanently affixed to the unit. For electronic filing, the label artwork is saved with filename: label.pdf

9.2 Label Location

Figure 9.2 Label Location

For electronic filing, the label location is saved with filename: location.pdf

INTERTEK TESTING SERVICES

EXHIBIT 10

PHOTOGRAPHS

INTERTEK TESTING SERVICES

10.0 **Equipment Photographs**

For electronic filing, photographs of the tested EUT are saved with filename: ophoto1.jpg to ophoto4.jpg and iphoto1.jpg to iphoto11.jpg

INTERTEK TESTING SERVICES

EXHIBIT 11 INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

11.0 **Instruction Manual**

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf

Please note that the required FCC Information to the User can be found at the front of this manual.

This manual will be provided to the end-user with each unit sold/leased in the United States.