Engineering and Testing for EMC and Safety Compliance

TYPE II PERMISSIVE CHANGE REPORT
FCC PART 15.121 AND INDUSTRY CANADA RSS-215

Test Lab:	Applicant:
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FCC ID:	PH3DJ-S40T	**GRANTEE FRN:**	0005-1920-83
PLAT FORM:	N/A	**RTL WORK ORDER #:**	2003079
MODEL(S):	DJ-S40T	**RTL QUOTE #:**	QRTL03-769
DATE OF TEST REPORT:	May 21, 2003		

American National Standard Institute:	ANSI/TIA/EIA603 and ANSI/TIA/EIA 603-1
FCC Classification:	CSR – Scanning Receiver
FCC Rule Part(s):	Part 15.121: Scanning receivers and frequency converters used with scanning receivers
Industry Canada Standard:	RSS-215; Issue 1 (Provisional): Analogue Scanner Receivers
Digital Interface Information	Digital Interface was found to be compliant
Receiver Information	Receiver was found to be compliant

Frequency Range (MHz)	Output Power (W) EIRP	Frequency Tolerance	Emission Designator
400.0 – 430.0	N/A	N/A	N/A
440.0 - 479.995	N/A	N/A	N/A

We, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards.

Furthermore, there was no deviation from, additions to, or exclusions from, the FCC Part 2, FCC Part 15, Industry Canada RSS-215, ANSI C63.4, ANSI/TIA/EIA603 and ANSI/TIA/EIA 603-1.

Signature: _____ Date: May 21, 2003

Typed/Printed Name: Desmond A. Fraser Position: President

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1 GENERAL INFORMATION

The following report of a Class II Permissive Change application is prepared on behalf of Alinco Incorporated; Electronics Division, in accordance with Part 2, and Part 15, Subparts A and B of the Federal Communications Commission rules and regulations and Industry Canada RSS-215. The Equipment Under Test (EUT) was Model DJ-S40T, FCC ID: PH3DJ-S40T, VHF/UHF FM Handheld Transceiver. The test results reported in this document relate only to this model.

All measurements contained in this application were conducted in accordance with ANSI C63.4 Methods of Measurement of Radio Noise Emissions, 1992. The instrumentation utilized for the measurements conforms to the ANSI C63.4 standard for EMI and Field Strength Instrumentation. Some accessories are used to increase sensitivity and prevent overloading of the measuring instrument. These are explained in the appendix of this report. Calibration checks are performed regularly on the instruments, and all accessories including the high pass filter, preamplifier and cables.

All radiated and conducted emissions measurements were performed manually at Rhein Tech Laboratories, Inc. The radiated emissions measurements required by the rules were performed on the (three/ten) meter open field test range. Complete description and site attenuation measurement data has been placed on file with the Federal Communications Commission. The power line conducted emission measurements were performed in a shielded enclosure. Rhein Tech Laboratories is accepted by the FCC as a facility available to do measurement work for others on a contract basis.

Note: Rhein Tech Laboratories, Inc. has implemented procedures to minimize errors that occur from test instruments, calibration, procedures, and test setups. Test instrument and calibration errors are documented from the manufacturer or calibration lab. Other errors have been defined and calculated in the Rhein Tech Quality Manual, Section 6.1. Rhein Tech implements the following procedures to minimize errors that may occur: yearly as well as daily calibration methods, technician training, and emphasis to employees on avoiding errors.

1.1 MODIFICATIONS

No modifications were made during testing.

1.2 RELATED SUBMITTAL(S)/GRANT(S)

This is a Class II Permissive Change report for the original application for FCC ID: PH3DJ-S40T, granted on 11/21/01.

1.3 DESCRIPTION OF CHANGE IN DEVICE

The circuit board, power amplifier, and a few other components were changed. The changed components are listed in Appendix A of this report. No functional changes nor specification changes were made.

1.4 TEST METHODOLOGY

Radiated testing was performed according to the procedures in ANSI C63.4 2000. Radiated testing was performed at an antenna- to-EUT distance of 3 meters.

2 SYSTEM TEST CONFIGURATION

2.1 JUSTIFICATION

To complete the test configuration required by the FCC, the receiver was connected to an external antenna, which receives a signal from a signal generator output. With the antenna installed, the receiver indicator was used to determine optimal reception. The EUT's Intermediate Frequencies (IF), Local Oscillators (LO), 2nd Local Oscillators (LO), crystal oscillators and harmonics of each were investigated. Conducted emission was measured from the AC port of the charger. All modes were investigated and tested including standby mode and scanning mode. The final radiated data was taken with the EUT locked to a set frequency.

2.2 EXERCISING THE EUT

The DJ-S40T is a receiver designed to function at the following frequency range: 400.000 MHz – 479.995 MHz. The following channel frequencies were tested: 400.000 MHz, 440.000 MHz, 479.995 MHz. Each receiver frequency was measured independently. In order to activate the receiver circuitry; a signal was transmitted from a signal generator. This allowed the EUT to function in its typical state throughout the course of all testing.

2.3 TEST SYSTEM DETAILS

The FCC Identifiers for all equipment, plus descriptions of all cables used in the tested system are:

TABLE 1: EQUIPMENT UNDER TEST (EUT)

PART	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID	CABLE DESCRIPTION	RTL BAR CODE
UHF FM TRANSCEIVER	ALINCO	DJ-S40T	M500402	PH3 DJ-S40T	N/A	015210
NI MH BATTERY	ALINCO	EBP-53N	N/A	N/A	N/A	015211
ANTENNA	ALINCO	WHIP ANTENNA	N/A	N/A	N/A	015212

TABLE 2: EXTERNAL COMPONENTS IN TEST CONFIGURATION

PART	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID	CABLE DESCRIPTION	RTL BAR CODE
SIGNAL GENERATOR	HEWLETT PACKARD	8648C	3537A01741	N/A	SHIELDED POWER	900917
AC ADAPTOR	ALINCO	EDC-93	N/A	N/A	192 CM UNSHIELDED POWER CABLE	14886
SPEAKER MICROPHONE	ALINCO	EMS-47	N/A	N/A	76 CM UNSHIELDED COILED CABLE	012009

2.4 CONFIGURATION OF TESTED SYSTEM

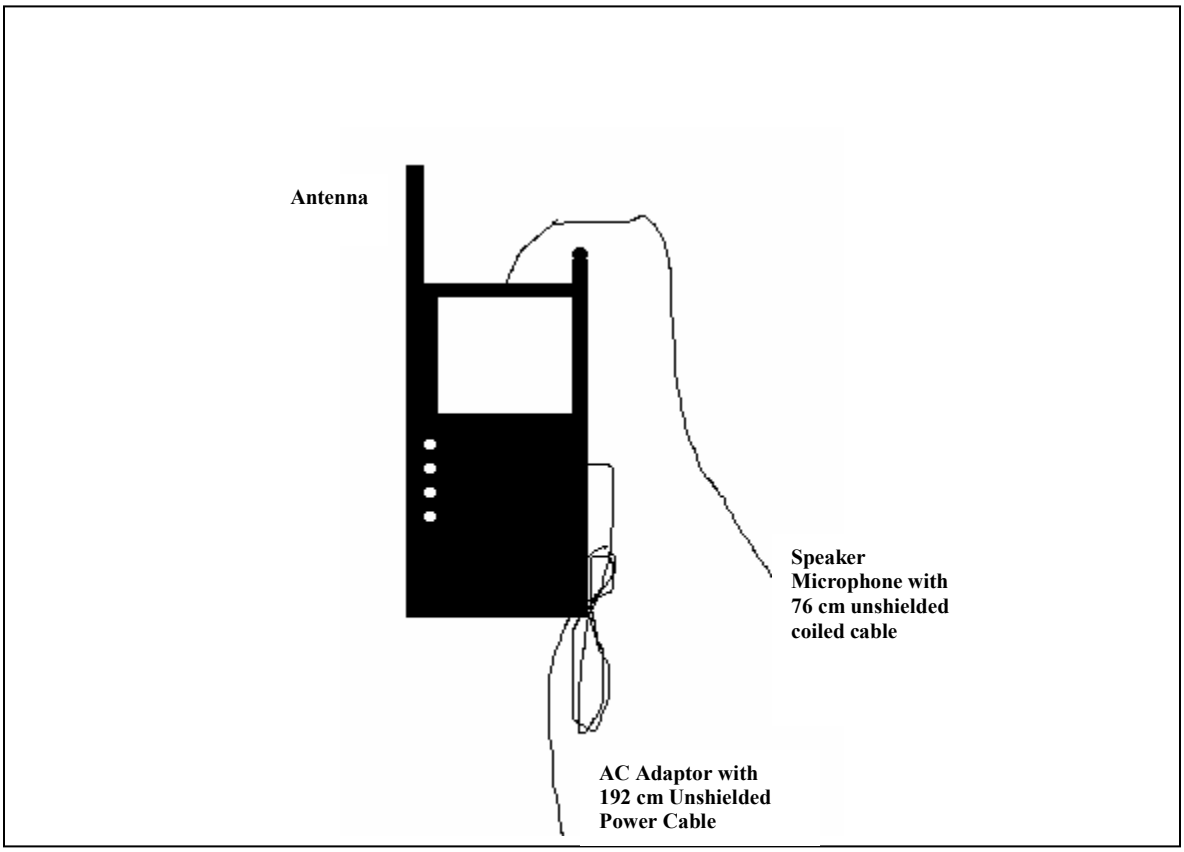


Figure 1: Configuration of Tested System

3 CONDUCTED EMISSIONS

3.1 TEST METHODOLOGY FOR CONDUCTED EMISSIONS MEASUREMENTS

The power line conducted emission measurements were performed in a Series 81 type shielded enclosure manufactured by Rayproof. The EUT was assembled on a wooden table 80 centimeters high. Power was fed to the EUT through a 50 ohm / 50 microhenry Line Impedance Stabilization Network (EUT LISN). The EUT LISN was fed power through an A.C. filter box on the outside of the shielded enclosure. The filter box and EUT LISN housing are bonded to the ground plane of the shielded enclosure. A second LISN, the peripheral LISN, provides isolation for the EUT test peripherals. This peripheral LISN was also fed A.C. power. A metal power outlet box, which is bonded to the ground plane and electrically connected to the peripheral LISN, powers the EUT host peripherals.

The spectrum analyzer was connected to the A.C. line through an isolation transformer. The 50-ohm output of the EUT LISN was connected to the spectrum analyzer input through a Solar 400 kHz high-pass filter. The filter is used to prevent overload of the spectrum analyzer from noise below 400 kHz. Conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. No video filter less than 10 times the resolution bandwidth was used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, and by increasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150/450 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in this report.

3.2 CONDUCTED EMISSIONS TEST

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emissions exceed the limit with the instrument set to the quasi-peak mode, then measurements are made in the average mode. If the quasi-peak measurement is at least 6dB higher than the amplitude in the average mode, the level measured in the quasi-peak mode may be reduced by 13dB before comparing it to the limit.

The conducted test was performed with the EUT exercise program loaded, and the emissions were scanned between 450 kHz to 30 MHz on the NEUTRAL SIDE and PHASE SIDE.

3.3 CONDUCTED EMISSIONS TEST DATA

TABLE 3: CONDUCTED EMISSIONS TEST (NEUTRAL SIDE) (400.000 MHZ)

Temperature: 58°F Humidity: 93%						
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**
0.494	Pk	40.8	0.7	41.5	48.0	-6.5
0.642	Pk	44.5	0.7	45.2	48.0	-2.8
0.867	Pk	41.7	0.7	42.4	48.0	-5.6
1.104	Pk	37.9	0.8	38.7	48.0	-9.3
5.050	Pk	22.0	1.6	23.6	48.0	-24.4
16.630	Pk	18.2	2.8	21.0	48.0	-27.0
22.500	Pk	17.4	3.2	20.6	48.0	-27.4

TABLE 4: CONDUCTED EMISSIONS TEST (PHASE SIDE) (400.000 MHZ)

Temperature: 58°F Humidity: 93%						
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**
0.489	Pk	34.1	0.7	34.8	48.0	-13.2
0.621	Pk	28.2	0.7	28.9	48.0	-19.1
0.872	Pk	31.5	0.7	32.2	48.0	-15.8
1.104	Pk	31.6	0.8	32.4	48.0	-15.6
6.610	Pk	17.8	1.9	19.7	48.0	-28.3
13.460	Pk	17.9	2.1	20.0	48.0	-28.0
29.810	Pk	17.7	3.6	21.3	48.0	-26.7

(1)Pk = Peak; QP = Quasi-Peak; Av = Average

TEST PERSONNEL:

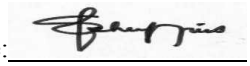
Signature:  Date: May 16, 2003 Typed Name: Franck Schuppius

TABLE 5: CONDUCTED EMISSIONS TEST (NEUTRAL SIDE) (440.000 MHZ)

Temperature: 58°F Humidity: 93%							
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**	**Pass/ Fail**
0.497	Pk	40.8	0.7	41.5	48.0	-6.5	Pass
0.651	Pk	44.1	0.7	44.8	48.0	-3.2	Pass
0.763	Pk	38.7	0.7	39.4	48.0	-8.6	Pass
0.878	Pk	41.0	0.7	41.7	48.0	-6.3	Pass
1.112	Pk	37.7	0.8	38.5	48.0	-9.5	Pass
5.500	Pk	21.6	1.6	23.2	48.0	-24.8	Pass
10.340	Pk	18.5	2.1	20.6	48.0	-27.4	Pass
23.880	Pk	18.2	3.3	21.5	48.0	-26.5	Pass

TABLE 6: CONDUCTED EMISSIONS TEST (PHASE SIDE) (440.000 MHZ)

Temperature: 58°F Humidity: 93%							
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**	**Pass/ Fail**
0.491	Pk	34.1	0.7	34.8	48.0	-13.2	Pass
0.628	Pk	29.9	0.7	30.6	48.0	-17.4	Pass
0.876	Pk	31.2	0.7	31.9	48.0	-16.1	Pass
1.092	Pk	31.3	0.8	32.1	48.0	-15.9	Pass
5.260	Pk	19.1	1.7	20.8	48.0	-27.2	Pass
11.040	Pk	17.5	2.3	19.8	48.0	-28.2	Pass
17.790	Pk	17.5	2.9	20.4	48.0	-27.6	Pass
26.070	Pk	17.4	3.4	20.8	48.0	-27.2	Pass

[1]Pk = Peak; QP = Quasi-Peak; Av = Average

TEST PERSONNEL:

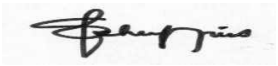
Signature:  Date: May 16, 2003 Typed Name: Franck Schuppius

TABLE 7: CONDUCTED EMISSIONS TEST (NEUTRAL SIDE) (479.995 MHZ)

Temperature: 58°F Humidity: 93%							
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**	**Pass/ Fail**
0.498	Pk	39.9	0.7	40.6	48.0	-7.4	Pass
0.649	Pk	44.3	0.7	45.0	48.0	-3.0	Pass
0.875	Pk	41.2	0.7	41.9	48.0	-6.1	Pass
1.120	Pk	37.8	0.8	38.6	48.0	-9.4	Pass
5.060	Pk	21.4	1.6	23.0	48.0	-25.0	Pass
16.940	Pk	18.1	2.8	20.9	48.0	-27.1	Pass
21.050	Pk	18.2	3.2	21.4	48.0	-26.6	Pass

TABLE 8: CONDUCTED EMISSIONS TEST (PHASE SIDE) (479.995 MHZ)

Temperature: 58°F Humidity: 93%							
Emission Frequency (MHz)	**Test Detector**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB)**	**Emission Level (dBuV)**	**FCC B Limit (dBuV)**	**FCC B Margin (dBuV)**	**Pass/ Fail**
0.495	Pk	34.0	0.7	34.7	48.0	-13.3	Pass
0.639	Pk	27.9	0.7	28.6	48.0	-19.4	Pass
0.875	Pk	31.8	0.7	32.5	48.0	-15.5	Pass
1.120	Pk	31.8	0.8	32.6	48.0	-15.4	Pass
6.225	Pk	19.0	1.8	20.8	48.0	-27.2	Pass
12.380	Pk	18.2	2.5	20.7	48.0	-27.3	Pass
21.260	Pk	17.9	3.2	21.1	48.0	-26.9	Pass

(1)Pk = Peak; QP = Quasi-Peak; Av = Average

TEST PERSONNEL:

Signature:  Date: May 16, 2003 Typed Name: Franck Schuppius

TABLE 9: EQUIPMENT USED FOR TESTING

Conducted Emissions					
RTL Asset #	**Manufacturer**	**Model**	**Part Type**	**Serial Number**	**Calibration Due Date**
900897	Hewlett Packard	85650A	Spectrum Analyzer (10 kHz – 1.5 GHz)	N/A	11/09/03
900339	Hewlett Packard	N/A	Quasi-Peak Adapter	N/A	11/09/03
901084	AFJ	LS16	LISN	N/A	11/09/03

4 RADIATED EMISSIONS

4.1 TEST METHODOLOGY FOR RADIATED EMISSIONS MEASUREMENTS

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one meter and three meter distances, in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three-meter, open-field test site. The EUT was placed on a nonconductive turntable approximately 0.8 meters above the ground plane. The spectrum was examined from 30 MHz to 1000 MHz using a spectrum analyzer, a quasi-peak adapter, and EMCO log periodic and biconical antenna. In order to gain sensitivity, a preamplifier was connected in series between the antenna and the input of the spectrum analyzer.

At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters in order to determine the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarizations. The spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. No video filter less than 10 times the resolution bandwidth was used. The second harmonic of the highest LO was tested. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

4.2 RADIATED EMISSION DATA

TABLE 10: RADIATED EMISSIONS: (INPUT FREQUENCY: 400.000 MHZ)

Temperature: 60°F Humidity: 72%									
Emission Frequency (MHz)	**Test Detector**	**Antenna Polarity (H/V)**	**Turntable Azimuth (deg)**	**Antenna Height (m)**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB/m)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**
127.500	Qp	V	145	1.0	40.7	-16.2	24.5	43.5	-19.0
212.500	Qp	V	145	1.0	36.5	-18.8	17.7	43.5	-25.8
378.305	Qp	H	0	1.0	46.2	-12.6	33.6	46.0	-12.4
459.200	Qp	V	0	1.0	36.5	-10.6	25.9	46.0	-20.1
462.500	Qp	V	145	1.0	35.9	-10.6	25.3	46.0	-20.7
756.610	Qp	V	180	1.5	40.4	-6.0	34.4	46.0	-11.6
1134.896	Av	V	2	.0	44.6	-1.8	42.8	54.0	-11.2
1513.201	Av	V	145	1.5	38.2	2.7	40.9	54.0	-13.1
1891.506	Av	V	145	1.0	30.3	7.4	37.7	54.0	-16.3

1st IF = 21.7 MHz, 2nd IF = 450 KHz, 1st LO = 378.305 MHz, 2nd Harmonic of 1st LO = 756.610 MHz, Harmonics of 21.25 MHz and 3.6864 MHz clock oscillators
**All readings are quasi-peak, unless stated otherwise.*

TABLE 11: RADIATED EMISSIONS: (INPUT FREQUENCY: 440.000 MHZ)

Temperature: 60°F Humidity: 72%									
Emission Frequency (MHz)	**Test Detector**	**Antenna Polarity (H/V)**	**Turntable Azimuth (deg)**	**Antenna Height (m)**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB/m)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**
110.580	Qp	V	145	1.0	38.3	-16.3	22.0	43.5	-21.5
127.500	Qp	V	145	1.0	36.5	-16.2	20.3	43.5	-23.2
212.500	Qp	V	180	1.0	35.5	-18.8	16.7	43.5	-26.8
418.300	Qp	H	180	1.4	46.3	-10.8	35.5	46.0	-10.5
425.000	Qp	V	145	1.0	34.6	-11.2	23.4	46.0	-22.6
836.600	Qp	V	180	1.5	39.7	-5.5	34.2	46.0	-11.8
1254.900	Av	V	0	1.5	43.3	-0.9	42.4	54.0	-11.6
1673.200	Av	V	145	1.0	39.8	3.6	43.4	54.0	-10.6
2091.500	Av	V	180	1.0	22.3	20.7	43.0	54.0	-11.0

1st IF = 21.7 MHz, 2nd IF = 450 KHz, 1st LO = 418.300 MHz, 2nd Harmonic of 1st LO = 836.600 MHz, Harmonics of 21.25 MHz and 3.6864 MHz clock oscillators
**All readings are quasi-peak, unless stated otherwise.*

TABLE 12: RADIATED EMISSIONS: (INPUT FREQUENCY: 479.995 MHZ)

Temperature: 60°F Humidity: 72%									
Emission Frequency (MHz)	**Test Detector**	**Antenna Polarity (H/V)**	**Turntable Azimuth (deg)**	**Antenna Height (m)**	**Analyzer Reading (dBuV)**	**Site Correction Factor (dB/m)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**
458.295	Qp	V	270	1.2	53.4	-10.6	42.8	46.0	-3.2
916.590	Qp	V	270	1.0	41.9	-4.5	37.4	46.0	-8.6
1374.885	Av	V	180	1.0	48.3	1.4	49.7	54.0	-4.3
1833.180	Av	H	45	1.0	36.6	6.9	43.5	54.0	-10.5
2291.475	Av	H	145	1.0	29.5	19.3	48.8	54.0	-5.2
2749.770	Av	H	145	1.0	21.5	23.2	44.7	54.0	-9.3

1st IF = 21.7 MHz, 2nd IF = 450 KHz, 1st LO = 458.295 MHz, 2nd Harmonic of 1st LO = 916.590 MHz, Harmonics of 21.25 MHz and 3.6864 MHz clock oscillators
**All readings are quasi-peak, unless stated otherwise.*

TEST PERSONNEL:

Signature:  Date: May 19, 2003 Typed Name: Franck Schuppius

TABLE 13: EQUIPMENT USED FOR TESTING

Radiated Emissions					
RTL Asset #	**Manufacturer**	**Model**	**Part Type**	**Serial Number**	**Calibration Due Date**
900897	Hewlett Packard	8565A	Spectrum Analyzer (10kHz – 1.5 GHz)	N/A	03/27/03
901053	Schaffner & Chase	CBL6112B	Bilog antenna (20 MHz - 2 GHz)	2648	05/24/03
900905	Rhein Tech Laboratories, Inc.	PR-1040	Pre Amplifier 40dB (10MHz – 2 GHz)	1006	N/A
900099	Marconi instruments	52022-910	Signal generator	119044/189	N/A

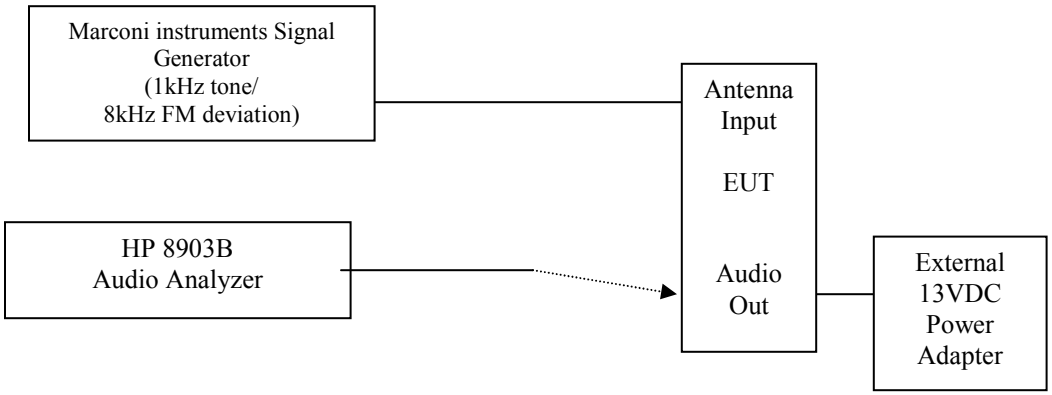
* Note: The preamplifier's gain is included in the site correction factor.

5 38DB REJECTION TEST

A signal generator was connected to the receiver under test, and the output of the receiver was connected to an audio analyzer.

An FM signal was applied to the receiver antenna input with a 1 kHz tone modulated at 8 kHz deviation, and adjusted with the audio analyzer to produce a 12 dB SINAD. This was done across the receiver bands to determine a reference level. The reference level used was that with the highest sensitivity in all of the bands.

The output of the signal generator was then adjusted to a level 40 dB above the reference level established and set to a low, medium and high frequency in both the mobile and base cellular bands: mobile = 824.04 MHz - 848.97 MHz; base = 869.04 MHz - 893.97 MHz. The squelch of the receiver was then set to a minimum threshold level and scanning begun from the lowest to the highest channel. Whenever the receiver stopped and "un-squelched", that frequency was noted as a response. After all the frequencies of responses were noted, the signal generator was set to measure the sensitivity at each of these response frequencies. This measurement was the reference sensitivity for the particular received frequency measured. The audio analyzer measurement was used to measure the 12 dB SINAD and that is the spurious value. The difference between the reference sensitivity and the spurious value is the rejection ratio and must be at least 38 dB.



Frequencies used on the Signal Generator were 824.04 MHz, 836.50 MHz, and 848.97 MHz for the mobile, and 869.04 MHz, 881.50 MHz, and 893.97 MHz for the base.

The DJ-S40T unit reference level used was –60.8 dBm from the signal generator. The DJ-S40T unit was scanned from 30 - 960 MHz for all channels (manufacturers spec.). Signals that were noted as responses were checked with the signal generator off. If they were still present, they were determined as ambient signals and removed from the response list. There was no signal available for the 38 dB rejection test requirements.

5.1 38DB REJECTION TEST DATA FOR BASE BAND (869.040-893.970 MHZ)

TABLE 14: 38DB REJECTION {FREQUENCY INJECTED: 869.040 MHZ} (CELLULAR BAND)

Frequency Injected: 869.040 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 869.040 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

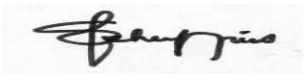
TABLE 15: 38DB REJECTION {FREQUENCY INJECTED: 881.500 MHZ} (CELLULAR BAND)

Frequency Injected: 881.500 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 881.500 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

TABLE 16: 38DB REJECTION {FREQUENCY INJECTED: 893.970 MHZ} (CELLULAR BAND)

Frequency Injected: 893.970 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 893.970 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

TEST PERSONNEL:

Signature:  Date: May 20, 2003 Typed Name: Franck Schuppius

5.2 38DB REJECTION TEST DATA FOR MOBILE BAND (824.040-848.970 MHZ)

TABLE 17: 38DB REJECTION {FREQUENCY INJECTED: 824.040 MHZ} (MOBILE BAND)

Frequency Injected: 824.040 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 824.040 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

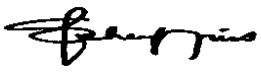
TABLE 18: 38DB REJECTION {FREQUENCY INJECTED: 836.500 MHZ} (MOBILE BAND)

Frequency Injected: 836.500 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 836.500 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

TABLE 19: 38DB REJECTION {FREQUENCY INJECTED: 848.970 MHZ} (MOBILE BAND)

Frequency Injected: 848.970 MHz		**Temperature: 74°F; Humidity: 45%**		
Frequency Detected (MHz)	**Level 12dB SINAD at 848.970 MHz**	**Level 12dB at frequency detected**	**Rejection**	**Margin**
No Frequencies Detected	N/A	N/A	N/A	N/A

TEST PERSONNEL:

Signature:  Date: May 20, 2003 Typed Name: Franck Schuppius

6 CONCLUSION

The data in this Type II Permissive Change report shows that the Alinco Incorporated, Model DJ-S40T, FCC ID: PH3DJ-S40T, VHF/UHF FM Handheld Transceiver, complies with all the requirements of Parts 2 and 15.121 of the FCC Rules and Industry Canada RSS-215, Issue 1.