Curtis-Straus Test Report

Report No	EC0645-1
Client	Whistler 25 Industrial Ave. Chelmsford, MA 01824
Phone	(978)-244-1400
Fax	(978)-244-1491
FRN	0007659246
Models	DE1710 DE1730
FCC ID	HSXWH01
Equipment Type	Radar Detector
Equipment Code	CRD
Results	As detailed within this report
Prepared by	Evan Gould – Test Engineer
Authorized by	Michael Buchholz – EMC Manager
Issue Date	10-14-2002
Conditions of issue	This Test Report is issued subject to the conditions stated in 'terms and conditions' section of this report.

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Curtis-Straus LLC • 527 Great Road • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828

Summary

This report is an application for Certification of radar detectors operating pursuant to 47 CFR 15.109 as amended by ET Docket No. 01-278; FCC 02-211, published in the Federal Register Vol. 67, No. 145 on Monday July 29, 2002. This report is designed to demonstrate the compliance of the DE1710 and the DE1730 with the requirements outlined in Part 15 (using the methods outlined in Part 2) of 47 CFR. In order to comply with the rules, Whistler is implementing two different PCB rework options, in addition to a new PCB. This test report includes data on all three of these options. Three DE1730's were tested to represent each option, while only one DE1710 (Rework #1) was tested. The DE1730 is representative of the DE1710 in that it is a worst-case model.

Statement of Conformity

47 CFR 15.109(h) states that "*Radar detectors shall comply with the emissions limits...of* [section 15.109(a)] *over the frequency range of 11.7 – 12.2GHz."* The applicable limit being 500µV/m measured at a distance of 3m. The following Whistler models have been tested and found to comply with this requirement:

DE1710
DE1730

Test Methodology

Radiated emission testing was performed according to the procedures in ANSI C63.4 (2001). The testing was performed at a distance of 1 meter. The device's performance was investigated in the range 11.7-12.2GHz. The EUT's were powered by a R.O.C. SPN4025A 12VDC 400mA power supply. Since the devices are hand-held units, the emissions were maximized around the three orthogonal axes and the maximum reading was recorded. The integrated antenna cannot be maximized separately.

Test Equipment Used

Rev. 9/25/02

SPECTRUM ANALYZER

x	Analyzer	Model No.	Company	Serial No.	Calibration Due
X	**ORANGE** 9kHz-26.5GHz	E4407B	HP	US39440975	07-JUN-2003

OPEN AREA TEST SITE (OATS)

x	Site	FCC Code	IC Code	VCCI Code	Calibration Due
X	**"A"** Alaska	93448	IC 2762-A	R-903/ C-480	04-FEB-2004

ANTENNA

x	Antenna	Model No.	Company	Serial No.	Calibration Due
X	**YELLOW** Horn: 1-18GHz	3115	EMCO	9608-4898	08-MAY-2003

PREAMPLIFIER

x	Preamplifier	Model No.	Company	Serial No.	Calibration Due
X	**ORANGE-BLACK** 1-20GHz	SMC-12A	MITEQ	690639	27-AUG-2003

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

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Radiated Emissions Measurements

LIMIT

Average: 500µV/m = 54dBµV/m @ 3m [15.109(a)]

Note: If peak measurements meet the Average limit, then Average measurements are not required.

MEASUREMENTS

Radiated Emissions Table — *Curtis-Straus LLC*

Date: 20-Aug-02 **Company:** Whistler **Table:** 1

Engineer: Evan Gould **EUT Desc:** various models **Work Order:** C0645

Frequency Range: 11.7-12.2GHz **Measurement Distance:** 1 m

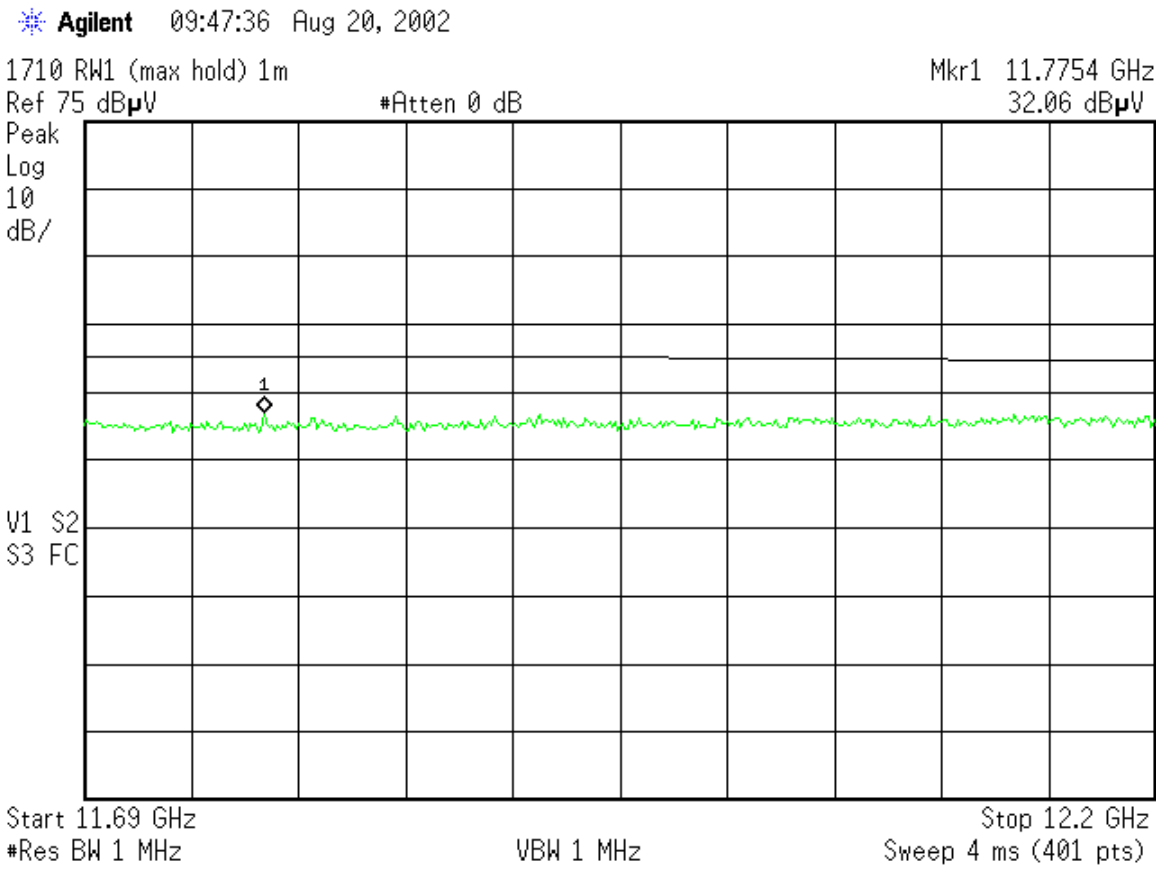
Notes: All measurements are noise floor max hold peak readings.

EUT Model	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Distance Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.109(a) Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
1730 (new PCB	12170.0	31.9	20.0	39.0	4.7	9.5	46.1	54.0	-7.9	Pass
1730 (rw #1)	12160.0	32.4	20.0	39.0	4.7	9.5	46.6	54.0	-7.4	Pass
1730 (rw #2)	12180.0	32.3	20.0	39.0	4.7	9.5	46.5	54.0	-7.5	Pass
1710 (rw #1)	11775.0	32.1	20.2	39.1	4.6	9.5	46.1	54.0	-7.9	Pass

Table Result: Pass by -7.4 dB ***Worst Freq:*** 12160.0 MHz

Test Site: "A" **Pre-Amp:** Or-Blk **Cable:** 3m Microflex **Analyzer:** Orange **Antenna:** Yellow Horn

SAMPLE ANALYZER PLOT



Terms And Conditions

Paragraph 1. SERVICES. LABORATORY will:

1.1 Use the degree of care and skill ordinarily exercised by and consistent with the standards of the profession.
1.2 Perform all technical services in substantial accordance with the generally accepted laboratory principles and practices.
1.3 Retain all pertinent records relating to the services performed for a period of three (3) years following submission of the report describing such services, during which period the records will be made available to CLIENT upon reasonable request.

Paragraph 2. CLIENT'S RESPONSIBILITIES. CLIENT or his authorized representative will:

2.1 Provide LABORATORY with all plans, schematics, specifications, addenda, change orders, drawings and other information for the proper performance of technical services.
2.2 Designate a person to act as CLIENT's representative with respect to LABORATORY's services to be performed on behalf of the CLIENT; such person or firm to have complete authority to transmit instructions, receive information and data, interpret and define CLIENT's policies and decisions with respect to the LABORATORY's work on behalf of the CLIENT and to order, at CLIENT's expense, such technical services as may be required.
2.3 Designate a person who is authorized to receive copies of LABORATORY's reports.
2.4 Undertake the following:
(a) Secure and deliver to LABORATORY, without cost to LABORATORY, preliminary representative samples of the equipment proposed to require technical services, together with any relevant data.
(b) Furnish such labor and equipment needed by LABORATORY to handle samples at the LABORATORY and to facilitate the specified technical services.

Paragraph 3. GENERAL CONDITIONS:

3.1 LABORATORY, by the performance of services covered hereunder, does not in any way assume any of those duties or responsibilities customarily vested in the CLIENT, its employees, or any other party, agency or authority.
3.2 LABORATORY shall not be responsible for acts of omissions of any other party or parties involved in the design, manufacture or maintenance of the equipment or the failure of any employee, contractor or subcontractor to undertake any aspect of equipment's design, manufacture or maintenance.
3.3 LABORATORY is not authorized to revoke, alter, release, enlarge or release any requirement of the equipment's design, manufacture or maintenance unless specifically authorized by CLIENT or his authorized representative.
3.4 THE ONLY WARRANTY MADE BY LABORATORY IN CONNECTION WITH ITS SERVICE PERFORMED HEREUNDER IS THAT IT WILL USE THAT DEGREE OF CARE AND SKILL AS SET FORTH IN PARAGRAPH 1 ABOVE. NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE OR INTENDED FOR SERVICES PROVIDED HEREUNDER.
3.5 Where the LABORATORY indicates that additional testing is advisable to obtain more valid or useful data, and where such testing has not been authorized, CLIENT agrees to view such test reports as inconclusive and preliminary.
3.6 The LABORATORY will supply technical service and prepare a report based solely on the sample submitted to the LABORATORY by the CLIENT. The CLIENT understands that application of the data to other devices is highly speculative and should be applied with extreme caution.
3.7 The LABORATORY agrees to exercise ordinary care in receiving, preserving and shipping (F.O.B. Littleton, MA) any sample to be tested, but assumes no responsibility for damages, either direct or consequential, which arise from loss, damage or destruction of the samples due to the act of examination, modification or testing, or technical services or circumstances beyond LABORATORY's control.
3.8 The LABORATORY will hold samples for thirty (30) days after tests are completed, or until the CLIENT's outstanding debts to the LABORATORY are satisfied, whichever is later.
3.9 The CLIENT recognizes that generally accepted error variances apply and agrees to consider such error variances in its use of test data.
3.10 It is agreed between LABORATORY and CLIENT that no distribution of any tests, reports or analysis other than that described below shall be made to any third party without the prior written consent of both parties unless such distribution is mandated by operation of law. It is agreed that tests, reports, or analysis results may be disclosed to third party auditors of the laboratory at the laboratory facility in the course of accreditation maintenance audits. No reference to reports or technical services of the LABORATORY shall be made in any advertising or promotional literature without the express written permission of the LABORATORY.
3.11 The CLIENT acknowledges that all employees of LABORATORY operate under employment contracts with the LABORATORY and CLIENT agrees not to solicit employment of such employees or to solicit information related to other clients from said employees.
3.12 In recognition of the relative risks and benefits of the project to both CLIENT and LABORATORY, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of the LABORATORY to the CLIENT for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorneys' fees and costs and expert witness fees and costs, so that the total aggregate liability of the LABORATORY to the CLIENT shall not exceed $100,000, or the LABORATORY'S total fee for services rendered on this project, whichever is greater. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

Paragraph 4. INSURANCE:

4.1 LABORATORY shall secure and maintain throughout the full period of the services provided to the CLIENT adequate insurance to protect it from claims under applicable Workmen's Compensation Acts and also shall maintain one million dollars of general liability coverage to cover claims for bodily injury, death or property damage as may arise from the performance of its services.
4.2 The CLIENT hereby warrants that it has sufficient insurance to protect its employees adequately under applicable Workmen's Compensation Acts and for bodily injury, death, or property damage.
4.3 No insurance of whatever kind or type, which may be carried by either party is to be considered as in any way limiting any other party's responsibility for damages resulting from their operations or for furnishing work and materials.

Paragraph 5. PAYMENT:

5.1 CLIENT shall pay to LABORATORY such fees for services as previously agreed, orally or in writing, within 30 days of presentment of a bill for such services performed. In the event CLIENT ordered, orally or in writing, services but such services were not assigned a rate for billing, such services shall be billed at the LABORATORY's reasonable and customary rate.
5.2 CLIENT shall be responsible for all shipping, customs and other expenses related to services provided by LABORATORY to the CLIENT, and shall fully insure any test sample or other equipment provided to LABORATORY by the CLIENT.
5.3 Amounts overdue from CLIENT to LABORATORY shall be charged interest at a rate of 1½% per month.

Paragraph 6. ISO/IEC GUIDE 17025 ADDITIONS:

6.1 CLIENT agrees that this test report will not be reproduced except in full, without written approval from the LABORATORY.
6.2 CLIENT agrees that this test report shall not be used to claim product endorsement by A2LA or ANSI or any agency of the U.S. Government.
6.3 CLIENT agrees that test results presented herein relate only to the sample tested by the LABORATORY.