TÜV AMERICA

MEASUREMENT AND TECHNICAL REPORT

DIRECTED ELECTRONICS INCORPORATED
1 Viper Way
Vista, CA 92083

DATE: 24 January 2005

This Report Concerns:	Original Grant:	Class II Change: X
Equipment Type:	Car Alarm Transmitter, Model 474P	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) **15.231(b)**

Report Prepared by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

TÜV AMERICA

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TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

1.0 GENERAL INFORMATION

1.1 Product Description

None

1.2 Related Submittal Grant

None

1.3 Tested System Details

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

None

1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

TEST	FCC CFR 47#	PASS/FAIL
Field Strength of Emissions	15.231(b)	Pass

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

1.5 Test Facility

The open area test site and conducted measurement data were tested by:

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The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Equipment Modifications

None

2.5 Configuration of Test System

See Test Setup Photos Exhibit

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3.0 FIELD STRENGTH OF EMISSIONS EQUIPMENT/DATA

Test Conditions: FIELD STRENGTH OF EMISSIONS: FCC Part 15.231(b)

The FIELD STRENGTH OF EMISSIONS measurements were performed at the San Diego Testing Facility:

☐ **- Test not applicable**

■ - Roof (Small Open Area Test Site)

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
HP8566B	744	Spectrum Analyzer	Hewlett Packard	2618A02913	01/04
AMF-5D-010180-35-10P	719	PreAmplifier	Miteq	549460	VBU*
Micropore 190	6787	High Freq. Coaxial Cable- 3 foot	United Microwave	AA-190-03.00.0	NCR**
AA-190-10.00.0	7490	10 ft 1-18GHz Cable	United Microwave	--	NCR**
AA-190-30.00.0	7491	30 ft 1-18GHz Cable	United Microwave	--	NCR**
3146	244	Antenna, Log Periodic Dipole	EMCO	1063	07/04
3115	251	Double Ridge Horn Antenna	EMCO	2495	01/04

Remarks: One year calibration cycle for all test equipment and sites. (*) Verified Before Use. (**) No Calibration Required.

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REPORT No: SC405585 TESTER: David Gray SPEC: FCC Part 15 para 15.231(b)

CUSTOMER: Directed Electronics TEST DIST: 3 Meters

E U T: Model 474P TEST SITE: Roof

EUT MODE: Continous Transmit BICONICAL: N/A

DATE: December 21, 2004 LOG: 244

NOTES: Duty Cycle= 50% OTHER: 251

above 1GHz: RBW & VBW 1 MHz for Pk; AVG = PK - 20LOG(Duty Cycle)

below 1GHz: RBW & VBW 100 kHz for Pk; AVG = PK - 20LOG(Duty Cycle)

CF = Antenna Factor + Cable Loss - Preamplifier Gain + Preselector Loss

FREQ (MHz)	VERT. (dBuv) pk	DCav	HORIZ (dBuv) pk	DCav	CF (dB/m)	MAX LEVEL (dBuV/m) pk	av	SPEC LIMIT (dBuV/m) pk	av	MARGIN (dB) pk	av
433.935	49.0	43.0	65.9	59.9	16.4	**82.3**	**76.3**	100.8	80.8	-18.5	-4.6
867.870	34.6	28.6	36.8	30.8	22.7	**59.5**	**53.5**	80.8	60.8	-21.3	-7.3
1301.805	64.0	58.0	71.1	65.1	-11.7	**59.4**	**53.4**	74.0	54.0	-14.6	-0.6
1735.740	50.5	44.5	64.4	58.4	-8.6	**55.8**	**49.7**	80.8	60.8	-25.1	-11.1
2169.675	61.0	55.0	63.0	57.0	-6.1	**56.9**	**50.9**	80.8	60.8	-23.9	-9.9
2603.610	50.9	44.9	47.2	41.2	-4.3	**46.6**	**40.6**	80.8	60.8	-34.2	-20.3
3037.545	60.3	54.3	57.1	51.1	-3.1	**57.2**	**51.2**	80.8	60.8	-23.6	-9.6
3471.480	59.0	53.0	59.4	53.4	-1.9	**57.5**	**51.5**	80.8	60.8	-23.3	-9.3
3905.415	53.5	47.5	56.2	50.2	-0.7	**55.5**	**49.4**	74.0	54.0	-18.5	-4.6
4339.350	53.0	47.0	51.2	45.2	-1.0	**52.0**	**45.9**	74.0	54.0	-22.0	-8.1

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4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, Part(s) 15.231(b)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) 15.231(b)

Testing Start Date: 21 December 2004

Testing End Date: 21 December 2004

- TÜV AMERICA, INC. -

Responsible Engineer:

Jim Owen
(EMC Manager)

Responsible Engineer:

David Gray
(EMC Engineer)

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