

## **TEST RESULT SUMMARY**

# UNITED STATES STANDARD 47 CFR PART 15, SUBPART B

MANUFACTURER NAME DIRECTED ELECTRONICS, INC.

NAME OF EQUIPMENT 429 Module\*

MODEL NUMBER 429

MANUFACTURER ADDRESS 2560 Progress Street

Vista, CA 92083

TEST REPORT NUMBER \$8330-06

TEST DATE 02 July 1998

According to testing performed at TÜV Product Service, Inc., the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in United States Standard 47 CFR Part 15, Subpart B, Paragraphs 15.107(a) and 15.109(a).

TÜV Product Service reports apply only to the specific sample tested under stated test conditions. It is the manufacturer's responsibility to assure the continued compliance of production units of this model. TÜV Product Service, Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service, Inc. issued reports.

As the responsible EMC Project/Division Managers, we hereby declare that the equipment tested at TÜV Product Service, Inc. as specified above conforms to the requirements of United States Standard 47 CFR Part 15, Radio Frequency Devices, Subpart B, Unintentional Radiators.

Date: 06 July 1998

Location: San Diego, California

USA

Jim Owen

Responsible Engineer

Floyd R. Fleury

EMC Manager, EIC

(\*) FCC ID: EZSDEI429

Not Transferable



## EMC EMISSION - TEST REPORT UNITED STATES STANDARD 47 CFR PART 15, SUBPART B

Test Report File No.	:	S8330-06	Date of Issue:	02 July 1998	
Model / Serial No.	<u>:</u>	429 / Sample #	2	7%,	
Product Type	<u>:</u>	429 Module*			
Applicant	<u>:</u>	DIRECTED EL	ECTRONICS, INC	D	
Manufacturer	<u>:</u>	DIRECTED EL	ECTRONICS, INC	O	
License holder	:	DIRECTED EL	ECTRONICS, INC	<b>C</b> .	
Address	:	2560 Progress	Street		
	:	Vista, CA 9208	33		
Test Result	:	■ Positive	☐ Negative		
Test Project Number Reference(s)	:	S201833001-0	6_		
Total pages - Test Report	:	12			
(*) FCC ID: EZSDEI429					

TÜV Product Service, Inc. is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001.

TÜV Product Service reports apply only to the specific sample tested under stated test conditions. It is the manufacturer's responsibility to assure the continued compliance of production units of this model. TÜV Product Service, Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service, Inc. issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TUV Product Service, Inc. and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI



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#### **EMISSIONS TEST REGULATIONS:**

The emissions tes	sts were perform	ed according to t	he following regulations:		
□ - EN 50081-1 / 1	991				
□ - EN 55011 / 199	91		☐ - Group 1 ☐ - Class A	□ - Group 2 □ - Class B	
□ - EN 55013 / 199	90		LI - Class A	Li - Olass D	
□ - EN 55014 / 198	37		<ul><li>☐ - Household appliances and similar</li><li>☐ - Portable tools</li><li>☐ - Semiconductor devices</li></ul>		
□ - EN 55014 / A2:	:1990				
□ - EN 55014 / 199	93		<ul><li>☐ - Household appliances and similar</li><li>☐ - Portable tools</li><li>☐ - Semiconductor devices</li></ul>		
□ - EN 55015 / 198 □ - EN 55015 / A1: □ - EN 55015 / 199	:1990				
□ - EN 55022 / 198	37		☐ - Class A	□ - Class B	
□ - EN 55022 / 199	94		□ - Class A	□ - Class B	
□ - BS □ - VCCI			□ - Class A ITE	☐ - Class B ITE	
■ - 47 CFR Part 15	5, Subpart B				
□ - 107(b) ■ - 107(a) □ - 107(e)	🗆 - Class A	□ - Class B			
□ - 109(b) ■ - 109(a) □ - 109(g)	□ - Class A	□ - Class B			
□ - AS/NZS 3548:	1995		□ - Class A	□ - Class B	
□ - CISPR 11 (199	90)		□ - Group 1 □ - Class A	□ - Group 2 □ - Class B	
☐ - CISPR 22 (199	93)		□ - Class A	□ - Class B	



#### **Environmental Conditions In The Laboratory:**

<u>Actual</u>

Temperature: : 23 °C
Relative Humidity: : 50 %
Atmospheric Pressure: : 100.0 kPa

#### **Power Supply Utilized:**

Power supply system : Battery

#### **Symbol Definitions:**

■ - Applicable

□ - Not Applicable



#### **Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)**

The CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE) measurements were performed at the following test location:

#### ■ - Test not performed - see remarks

- □ SR-2, Shielded Room, 12' x 24' x 10', Metal Chamber
- ☐ SR-3, Shielded Room, 12' x 20' x 8', Metal Chamber
- □ SR-4, Shielded Room, 10' x 17' x 8', Copper Screen Chamber
- □ SR-5, Shielded Room, 16' x 28' x 15', Metal, Semi-Anechoic Chamber
- □ CSR-1, Shielded Room, 10' x 7' x 7', Metal Chamber

#### **Test Equipment Used:**

	Model No.	Prop. No.	Description	Manufacturer	Serial No.
□ -	NM-7A, NM-17/27, NM-37/57, NM-67, CCA-7, &	156, 162-166	Automated RFI Measurement System (ARMS), NO. 1	Eaton/Ailtech	(multiple)
□ -	H/P 9836 HP-1B Computer NM-17/27, NM-37/57, CA-7, and H/P 9826 Computer	168, 170, 177, 178	Automated RFI Measurement System (ARMS), NO. 2	Eaton/Ailtech	(multiple)
<u> </u>	•	187, 188	Automated RFI Measurement System (ARMS)	Various	(multiple)
□ -	LISN-3, 50 A	262-263	Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F	Fischer Custom Communications, Inc.	3-4
□ -	LISN-3, 50 A	264, 265	Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F	Fischer Custom Communications, Inc.	5-6
□ -	LISN-2, 25 A	413	Power Mains Network (LISN), 50 μH/250 μH/50 Ω/0.25 μF	Fischer Custom Communications, Inc.	7
<u> </u>	LISN-2, 25 A		Power Mains Network (LISN), 50 μH/250 μH/50 Ω/0.25 μF	Fischer Custom Communications, Inc.	7
□ -	FCC-LISN-50-25-2	553	Power Mains Network (LISN), 50 μH/250 μH/50 $\Omega$ /0.25 μF	Fischer Custom Communications, Inc.	112
	FCC-LISN-50-25-2	552	Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F	Fischer Custom Communications, Inc.	113
П-	8012-50-R-12-BNC	266	LISN, 50 μH/50 Ω/0.1 μF	Solar Electronics Co.	
	9252-50-R-24-BNC	458	LISN, 50 μH /250 μH/50 Ω/ 0.25 μF	Solar Electronics Co.	941719
	9252-50-R-24-BNC	457	LISN, 50 μH /250 μH/50 Ω/ 0.25 μF	Solar Electronics Co.	941720
□ -	MDS-21	277	Absorbing Clamp	Rohde & Schwarz	821023
	ESHS 20	428	EMI Test Receiver	Rohde & Schwarz	837055/00 1
	ESHS 30	459	EMI Test Receiver	Rohde & Schwarz	832354/00 4
<u> </u>	CAT-20	598	20 dB Attenuator	Mini-Circuits	
<u> </u>	CAT-20	615	20 dB Attenuator	Mini-Circuits	

Remarks: EUT battery operated.



#### **Emissions Test Conditions: RADIATED EMISSIONS (Magnetic Field)**

The RADIATED EMISSIONS (MAGNETIC FIELD) measurements were performed at the following test location:

- T4	7			
■ - Test not applicable				
□ - SR-2, Shielded Room, 12' x 24' x □ - SR-3, Shielded Room, 12' x 20' x □ - SR-4, Shielded Room, 10' x 17' x □ - SR-5, Shielded Room, 16' x 28' x □ - TR-1, Shielded Room, 16.5' x 10' □ - CSR-1, Shielded Room, 10' x 7' x	: 8', Metal Cha : 8', Copper S : 15', Metal, S ! x 7.5', Coppe < 7', Metal Ch	amber Screen Chamber Semi-Anechoic Chamber er Screen Chamber		
Testing was performed at a test dis	stance of :			
☐ - 3 meters ☐ - 30 meters			, -	
· · · · · · · · · · · · · · · · · · ·	1111 11 / / 1	1/ 11 U		
Test Equipment Used:	<i>IN</i> リンコ			
Test Equipment Used:	Arob. No.	Description	Manufacturer	Serial No.
Model No.  □ - NM-7A, NM-1747, NM-37/57, NM-37/57, CCA-7, arca H if 9836	100. No.	Description Automated RFI Measurement System (ARMS), NO. 1	Manufacturer Eaton/Ailtech	Serial No. (multiple)
Model No.  - NM-7A, NM-17/27, NM-37/57, NM-27, CCA-7, a NA-18 P9836 HP-1B Ctrial 14 - NM-17/27, NM-37/57, CA-7,	168, 170,	Automated RFI Measurement System (ARMS), NO. 1 Automated RFI Measurement		
Model No.  □ - NM-7A, NM-1747, NM-37/57, NM-37, CCA-7, a to H IP 9836 HP-1B Ctrivate	56 62 <b>16</b> 6	Automated RFI Measurement System (ARMS), NO. 1 Automated RFI Measurement System (ARMS), NO. 2	Eaton/Ailtech Eaton/Ailtech	(multiple) (multiple)
Model No.  - NM-7A, NM-17/27, NM-37/57, NM-27, CCA-7, a NA-18 P9836 HP-1B Ctrial 14 - NM-17/27, NM-37/57, CA-7,	168, 170, 177, 178 201	Automated RFI Measurement System (ARMS), NO. 1 Automated RFI Measurement System (ARMS), NO. 2 Loop Antenna	Eaton/Ailtech Eaton/Ailtech	(multiple) (multiple) 64090
Model No.  □ - NM-7A, NM-17/47, NM-37/57 NM-17/7, CCA-7, and H IP 9836 HP-1B Canada □ - NM-17/27 NM-37/67 CA-7, & H/P 9876 Campater	168, 170, 177, 178	Automated RFI Measurement System (ARMS), NO. 1 Automated RFI Measurement System (ARMS), NO. 2	Eaton/Ailtech Eaton/Ailtech	(multiple) (multiple)



#### **Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)**

The RADIATED EMISSIONS (ELECTRIC FIELD) measurements, in the frequency range of 30 MHz-1000 MHz, were tested in a horizontal and vertical polarization at the following test location:

П	_	Test	not	applicable
		100		applicable

- ☐ Roof (Small Open Area Test Site)
- ☐ Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego
- - Canyon #2 (3- and 10-Meter Open Area Test Site), Carroll Canyon, San Diego

#### Testing was performed at a test distance of :

- - 3 meters
- ☐ 10 meters
- □ 30 meters

Test Equipment Used:

CC - NN CC - HF - 31 - 94 - 31 - CE - CE	M-37/57A CA-7 M-37/57 CA-7 FH 2-Z2 104 110 4455-1 110B BL6111	970 Prop. No.  420 373 171 172 208 235 451 231 491 460	OATS measurement set (Roof)  OATS measurement set (Canyon)  Antenna, Loop Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical	Eaton/Ailtech  Eaton/Ailtech  Rohde & Schwarz  EMCO  EMCO  Eaton/Ailtech  EMCO	0561-09261 0773-03117 0709-82078 0187-0322 880 3031 1378 0811 9508-2
□ - NM CC □ - HF □ - 31 □ - 94 ■ - 31 □ - CE □ - CE	M-37/57 CA-7 FH 2-Z2 104 110 4455-1 110B BL6111	171 172 208 235 451 231 491	Antenna, Loop Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical	Rohde & Schwarz EMCO EMCO Eaton/Ailtech	0709-82078 0187-0322 880 3031 1378 0811
CCC - HF - 31 - 31 - 94 - 31 - CE	CA-7 FH 2-Z2 104 110 4455-1 110B BL6111	172 208 235 451 231 491	Antenna, Loop Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical	Rohde & Schwarz EMCO EMCO Eaton/Ailtech	0187-0322 880 3031 1378 0811
□ - HF □ - 31 □ - 31 □ - 94 ■ - 31 □ - CE □ - CE	FH 2-Z2 104 110 4455-1 110B BL6111	208 235 451 231 491	Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical	EMCO EMCO Eaton/Ailtech	880 3031 1378 0811
□ - 31 □ - 31 □ - 94 ■ - 31 □ - CE	104 110 4455-1 110B BL6111	235 451 231 491	Antenna, Biconical Antenna, Biconical Antenna, Biconical Antenna, Biconical	EMCO EMCO Eaton/Ailtech	3031 1378 0811
□ - 31 □ - 94 ■ - 31 □ - CE □ - CE	110 4455-1 110B BL6111	451 231 491	Antenna, Biconical Antenna, Biconical Antenna, Biconical	EMCO Eaton/Ailtech	1378 0811
□ - 94 ■ - 31 □ - CE □ - CE	4455-1 110B BL6111	231 491	Antenna, Biconical Antenna, Biconical	Eaton/Ailtech	0811
■ - 31 □ - CE □ - CE	110B BL6111	491	Antenna, Biconical		
□ - CE □ - CE	BL6111		•	EMCO	9508-2
□ - CE		460	• . B::		
	DLO444		Antenna, Bilog	Chase	1013
□ 04	BL6111	461	Antenna, Bilog	Chase	1291
□ - 31	146	242	Antenna, Log Periodic Dipole	EMCO	1597
□ - 31	146	243	Antenna, Log Periodic Dipole	EMCO	106X
<b>■</b> - 31	146	244	Antenna, Log Periodic Dipole	EMCO	1063
□ - 74	405	570	Loop Probes	EMCO	9104-1959
□ - 85	566B	404	Spectrum Analyzer	Hewlett Packard	2311A02209
□ - 85	5662B	406	Spectrum Analyzer Display	Hewlett Packard	2309A04682
□ - ES	SVS 30	427	EMI Test Receiver	Rohde & Schwarz	830350/006
■ - ES	SVS 30	466	EMI Test Receiver	Rohde & Schwarz	833825/003



#### **Emissions Test Conditions: INTERFERENCE POWER**

The INTERFERENCE POWER measurements were performed by using the absorbing clamp on the mains and interface cables in the frequency range 30 MHz - 300 MHz at the following test location:

·····		¬			
<b>-</b>	Test not applicable	_			
  	SR-2, Shielded Room, 12' x 24' x SR-3, Shielded Room, 12' x 20' x SR-4, Shielded Room, 10' x 17' x SR-5, Shielded Room, 16' x 28' x CSR-1, Shielded Room, 10' x 7' x	: 8', Metal Cham : 8', Copper Scre : 15', Metal, Sen	bber een Chamber ni-Anechoic Chambe		
Tes	t Equipment Used :				
	Model No.	Prop. No.	plascription 12/11	Maharacturer	Serial No.
□ - □ -	MDS-21 NM-7A, NM-17/27, NM-37/57, NM-67, CCA-7, & H/P 9836 HP-1B Computer	277 1.55 1.66 1.10	Automated RFI Measurement System (ARMS), NO. 1	Rohde & Schwarz Eaton/Ailtech	821023 (multiple)
□ -	NM-17/27, NM-17/57, CA-7, & H/P 9826 Computer	168 170, 178	Automated RFI Measurement System (ARMS), NO. 2	Eaton/Ailtech	(multiple)
□ -		1 188	Automated RFI Measurement System (ARMS)	Hewlett Packard	2304A04531 2304A02500 2811A01325
□ -		427	EMI Test Receiver	Rohde & Schwarz	830350/006
□ -	ESVS 30	466	EMI Test Receiver	Rohde & Schwarz	830350/003
Rem	narks:			****	



#### **Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)**

The Equivalent Radiated Emissions measurements in the frequency range 1 GHz - 18 GHz were performed in a horizontal and vertical polarization at the following test location:

-	Test	not	appi	licable	•

- ☐ Roof (Small Open Area Test Site)
- □ Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego
- □ Canyon #2 (3- and 10-Meter Open Area Test Site), Carroll Canyon, San Diego

#### Testing was performed at a test distance of:

- ☐ 1 meters
- ☐ 3 meters
- ☐ 10 meters

#### Test Equipment Used:

	Model No.	Prop. No.	Description	Manufacturer	Serial No.
<u> </u>	8566B	407	Spectrum Analyzer	Hewlett Packard	2311A02209
□ -	85662B	406	Spectrum Analyzer Display	Hewlett Packard	2309A04682
	3115	453	Antenna, Double Ridge Guide	EMCO	9412-4363
□ -	3115	251	Antenna, Double Ridge Guide	EMCO	2495
	AFD3-0102-13-ST	366	Pre-Amplifier (38 dB gain), 1 to 2 GHz	Miteq, Inc.	16429
□ -	AFD3-0208-40-ST	367	Pre-Amplifier (30 dB gain), 2 to 8 GHz	Miteq, Inc.	155382
	AFS4-08001800-70-10P-4	368	Pre-Amplifier (22 dB gain), 8 to 18 GHz	Miteq, Inc.	167
□ -	91888-2	252	Horn Antenna (1 to 2 GHz)	Eaton	101
□ -	91889-2	253	Horn Antenna (2 to 3.6 GHz)	Eaton	101
□ -	91892-1	254	Reflector Antenna (3.6 to 18 GHz)	Eaton	
□ -	94613-1	255	Horn Antenna (3.6 to 7.6 GHz)	Eaton	
	91891-2	256	Horn Antenna (7.3 to 12 GHz)	Eaton	
□ -	94614-1	257	Horn Antenna (12 to 18 GHz)	Eaton	

Remarks: No emissions detected at 0.5 meter distance above 1 GHz.



## **Equipment Under Test (EUT) Test Operation Mode - Emissions Tests:**

The equipment under test was op	erated under the following conditions during emissions testing.
□ - Standby	
□ - Test Program (H - Pattern)	
☐ - Test Program (Color Bar)	
☐ - Test Program (Customer Specif	ied)
☐ - Practice Operation	
☐ - Normal Operating Mode	
■ - Normal with receive signal pres	ent
Configuration of the equipment u	
☐ - See Constructional Data Form i	n Appendix B - Page B2
■ - See Product Information Form(s	) in Appendix B - Page B2
The following peripheral devices	and interface cables were connected during the testing:
■ - Power Supply	Type: Hewlett Packard, Model E3611A
■ - Signal Generator	Type: Hewlett Packard, Model 8648C, ID 573
<b>D</b> -	
	_
□	Type :
	<del></del>
- unshielded power cable	
■ - unshielded cables	
☐ - shielded cables	MPS.No.:
☐ - customer specific cables	



#### **Emissions Test Results:**

Conducted Emissions, 10/150/450 kł	lz - 30 MHz				
🗆 - PASS	🗆 - FAIL	■ - 1	NOT APPLI	CABLE	
Minimum limit margin		dB	at	MHz	
Maximum limit exceeding		dB	at	MHz	
Remarks: EUT battery operated.					
			· · · · · · · · · · · · · · · · · · ·		
Radiated Emissions (Magnetic Field)	10 1/12 20 84112				
□ - PASS		■ - ١	OT APPLI	CABLE	
Minimum limit margin			at		
Maximum limit exceeding			at	<del> </del>	
Remarks:					
			······································		
Radiated Emissions (Electric Field),					
■ - PASS	□ - FAIL	□ - N	NOT APPLI	CABLE	
Minimum limit margin	_	1.6 dB	at4	132.99 MHz	
Maximum limit exceeding		dB	at	MHz	
Remarks:					
Interference Power at the Mains and I	nterface Cables, 30	MHz - 300 MHz	Z		
🗆 - PASS	🗆 - FAIL	<b>■</b> - N	IOT APPLI	CABLE	
Minimum limit margin	_	dB	at	MHz	
Maximum limit exceeding	_	dB	at	MHz	
Remarks:					
Equivalent Radiated Emissions, 1 GH					
□ - PASS	🗆 - FAIL	■ - N	IOT APPLI	CABLE	
Minimum limit margin	_	dB	at	MHz	
Maximum limit exceeding		dB	at	MHz	
Remarks: No emissions detected at 0	5 meter distance abo	ove 1 GHz.			

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#### **GENERAL REMARKS:**

FCC ID: EZSDEI429

(\*) Conducted Emissions - EUT battery operated.
Radiated Emissions, Electric Field - No emissions detected at 0.5 meter distance above 1 GHz.

#### SUMMARY:

All tests according to the regulations cited on page 3 were

- ☐ Performed
- - Not Performed\*

The Equipment Under Test

Equipment Received Date:

- - Fulfills the general approval requirements cited on page 3.
- □ **Does not** fulfill the general approval requirements cited on page 3.

#### **Statement of Measurement Uncertainty**

The data and results referenced in this document are true and accurate. There may be some degree or level of measurement uncertainty. As EN 45001 does not allow recommendations to be included in the test report, the reader is encouraged to request a copy of the TÜV policy concerning pass or fail judgment with respect to possible measurement uncertainties.

Testing Start Date:	02 July 1998
Testing End Date:	02 July 1998
- TÜV PRODUCT SERVICE, INC	
Responsible Engineer:	Responsible Test Engineer:
Jim Owen (EMC Engineer)	Dave Bernardin (Senior EMC Engineer)

02 July 1998

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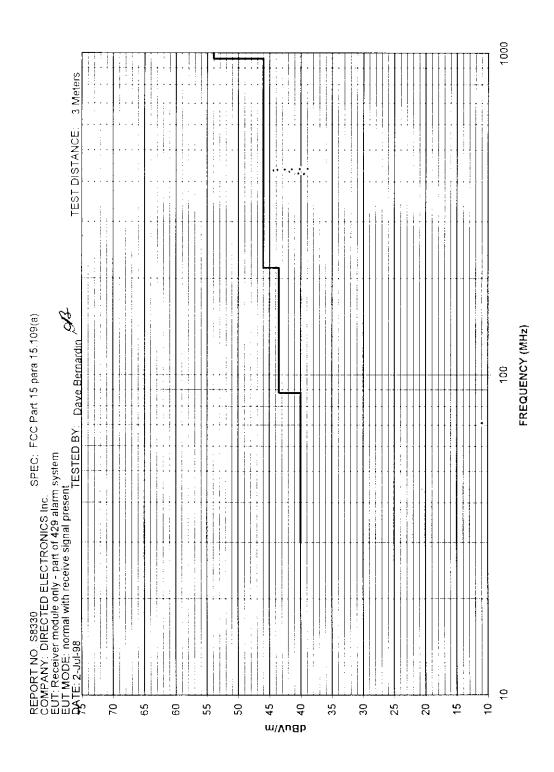


#### **Technical Documentation**

Test Data Sheets and

Test Setup Drawing(s)





Page TD2 of TD4 Rev.No 1.0



REPORT No: S8330 SPEC: FCC Part 15 para 15.109(a)

CUSTOMER: DIRECTED ELECTRONICS Inc. TEST DIST: 3 Meters

E U T: Receiver module only - part of 429 alarm system TEST SITE: 2

EUT MODE: normal with receive signal present BICONICAL: 491

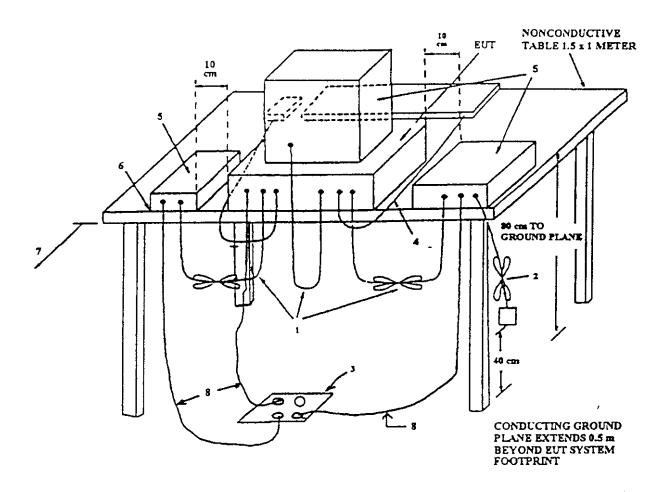
DATE 2-Jul-98 TESTED BY: Dave Bernardin AD LOG PERIODIC: 244

NOTES: Quasi-Peak with 120 KHz measurement bandwidth. RCVR:

CUT MADOIN	-1.6	dB at 432.99 h	ALI				VOY	1.6
EUT MARGIN	VERTICAL	·	CORRECTION	MAXIMUM	SPECIFIED	EUT	EUT	ANTENNA
FREQUENCY	measured	measured	FACTOR	CORRECTED	LIMIT	MARGIN	ROTATION	HEIGHT
(MHz)	(dBuv)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(degrees)	(meters)
71.10	0	-2	11.0	11.0	40	-29.0	0	1
422.80	14.1	17.5	22.0	39.5	46	<b>-</b> 6.5	315	1
423.74	14.6	18.4	22.1	40.5	46	-5.5	315	1
424.66	15.1	19	22.1	41.1	46	-4.9	315	1
425.60	15.3	19.3	22.2	41.5	46	-4.5	315	1
426.50	15.4	19.4	22.2	41.6	46	-4.4	315	1
427.45	15.3	19.6	22.2	41.8	46	-4.2	315	1
428.36	15.2	19.4	22.3	41.7	46	-4.3	315	1
429.30	14.9	19.5	22.3	41.8	46	-4.2	315	1
430.23	14.2	19.5	22.4	41.9	46	-4.1	45	1
431,15	14.4	20.3	22.4	42.7	46	-3.3	45	1
432.01	14.8	21.3	22.4	43.7	46	-2.3	45	1
432.99	15.1	21.9	22.5	44.4	46	-1.6	45	1
434.84	15.6	21.2	22.6	43.8	<b>4</b> 6	-2.2	45	1
435.77	15.4	20	22.6	42.6	46	-3.4	45	1
436.69	14.4	18.8	22.7	41.5	46	-4.5	45	1
437.60	13.4	17.5	22.7	40.2	46	-5.8	45	1
438.56	12.5	16.2	22.7	38.9	46	-7.1	45	1
				-	-			
			1					
								_
						1		
	<u> </u>		I	<u> </u>				<u> </u>



#### Radiated Emission Test Setup, 30 to 1,000 MHz



#### LEGEND:

- 1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 to 40 cm long, hanging approximately in the middle between ground plane and table.
- 2. I/O cables that are connected to a peripheral shall be bundled in center. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.
- 3. If LISNs are kept in the test setup for radiated emissions, it is preferred that they be installed under the ground plane with the receptacle flush with the ground plane.
- 4. Cables of hand-operated devices, such as keyboards, mouses, etc., have to be placed as close as possible to the controller.
- 5. Non-EUT components of EUT system being tested.
- 6. The rear of all components of the system under test shall be located flush with the rear of the table.
- 7. No vertical conducting wall used.
- 8. Power cords drape to the floor and are routed over to receptacle.

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#### Appendix A

Test Setups (Photographs)



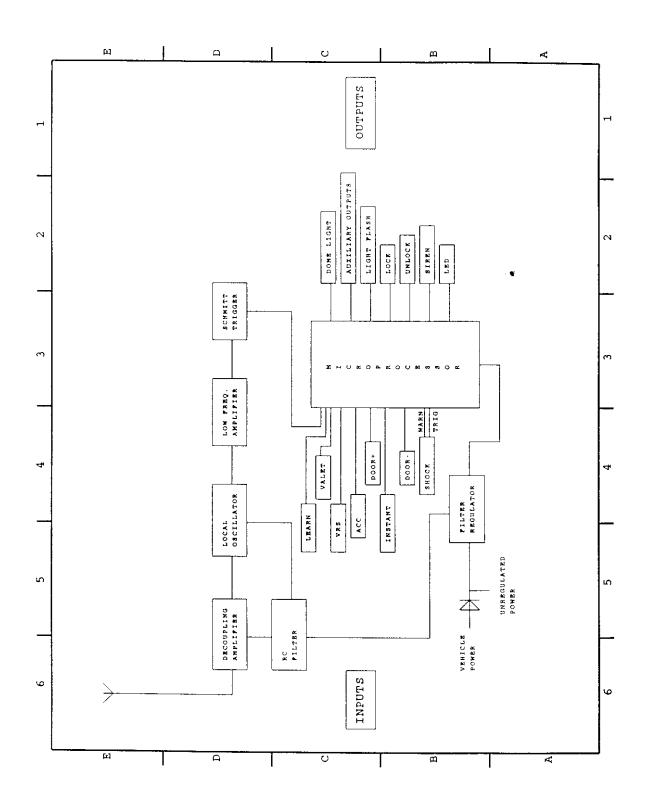
#### Appendix B

Product Information Form(s)



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CUSTOMER INFORMATION												
COMPANY NAME:				ECTED E			ICS, IN	<u>C</u>				
COMPANY ADDRESS:			2560 Progress Street									
			Vista, CA 92083									
PHONE NUMBER:				599 1366								
FAX NUMBER/E-MAIL	ADD	RESS:	760	599 1380	; mart	ing@	directe	d.com				
CUSTOMER CONTACT	T:			in Gonzai								
			PRO	DUCT DE	SCR	PTIC	NC	-				
NAME, MODEL, SERIA	L # (	OF EUT:	429	Module, N	/lodel	429						
DESCRIPTION OF EUT			Auto	mobile se	curity	syste	em mod	lule				
DESCRIPTION OF EUT: Automobile security system module  Components of EUT												
Description		Model Nun							ID Numbe	 er		
N/A		771000111011										<u></u>
OPERATING MODE(S)			Pow	er on: nor	mal o	perat	ina mod	de		l .		
01 210(111(0 )11(022(0)	•		, , , , ,	I/O CA			9					
CONNECTION	√a	let switch		II O OA			CTION		LED			
SHIELD	va	ict switch			⊸—	ELD						
CONNECTORS	+ ==						CTORS	:	2-pir	າ		
TERMINATION TYPE	2-r	vin.					IATION		PII	<u> </u>		
LENGTH	-				<b>→</b>	IGTH			1 me			
<u> </u>	Ye	neter					ABLE		•	elei		
REMOVABLE					I REI	VIOV	ADLE					
CONNECTION	+	in harness			┦							
SHIELD	ļ											
CONNECTORS					┦							
TERMINATION TYPE		-pin										, s
LENGTH		neter			<u> </u>							
REMOVABLE Yes												
POWER CORDS		N/A										
			PC	OWER IN	TERF.	ACE						
FREQUENCY/AC/DC V	OLT.	AGE:	Batte	ery, 12.6 v	/dc au	tomo	tive typ	е				
PHASES/CURRENT:												
		C	SCIL	LATOR F	REQU	JENO	CIES					
FREQUENCY EUT			LOC	ATION		DESCRIPTION OF USE						
433.92 MHz												
POWER SUPPLY												
DESCRIPTION	MAN	IUFACTURER MODEL#							/LINEAR F	REQ.		
		notive type										
Dattory 12 100 [7	10101	indure type	PO'	WER LIN	E FIL	TERS	5					
MANUFACTURER MODEL NO.					QT			10	CATI	ON O	N EUT	
N/A MOD			JEE NO.		3	<u> </u>						
14/7			PITIC	AL EMIC	OMP	ONE	NTS					
CRITICAL EMI COMPONENTS  DESCRIPTION MANUFACTURER PART # OR VALUE QTY. LOCATION ON EUT							Г					
DESCRIPTION MANUFACTURER N/A				AIII # U	· · · ·	UL	Q(11.	+		J/ \	ZIN OIN LO	
DESCRIPTION OF ENCLOSURE: ABS plastic  INTERFACING AND/OR SIMULATORS PERIPHERAL EQUIPMENT:												
<u> </u>	IEK						FUCKA			N I .	FCC	10
DESCRIPTION		MANUFAC	TURE	:11	MODI	_L #		SER	IAL#		700	טו
N/A												
BLOCK DIAGRAM:			See	page B3.								





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Ap	pen	dix	C
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Change History

Not Applicable



## Appendix D

Supplemental Information