

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS**

for

UNINTENTIONAL RADIATOR

433.92 CAR ALARM RECEIVER

MODEL: ALA210

FCC ID NO: H5OR36

BRAND NAME: ADVANCE

REPORT NO: 02T1176-1

ISSUE DATE: FEBRUARY 20, 2002

Prepared for

ADVANCE SECURITY INC.

3F, 48 TA AN STREET

HSI-CHIH, TAIPEI HSIEN

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Prepared by

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d.b.a.

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME : ADVANCE SECURITY
3F, 48 TA AN STREET
HSI-CHIH, TAIPEI HSIEN, TAIWAN. R. O. C.
CONTACT PERSON : MICHAEL CHEN/PRESIDENT
TELEPHONE NO. : 02-8648-1688
EUT DESCRIPTION : 433.92 MHz CAR ALARM RECEIVER
MODEL NAME/NUMBER : ALA210
DATE TESTED : 02/15/2002
REPORT NUMBER : 02T1176-1

TYPE OF EQUIPMENT	SECURITY EQUIPMENT (UNINTENTIONAL RADIATOR)
EQUIPMENT TYPE	433.92 MHz SUPERREGENERATE RECEIVER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15.109

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in CFR 47, PART 15. This said equipment in the configuration described in this report shows that maximum emission levels emanating from equipment are within the compliance requirements.

Tested By:



CHIN PANG
EMC TECHNICIAN
COMPLIANCE CERTIFICATION SERVICES

Approved & Released By:



THU CHAN
SENIOR EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

PAGE NO: 1

2. PRODUCT DESCRIPTION

CLIFFORD ELECTRONICS, INC., Model H5OR36 is the receiving portion of a multi-purpose security device. The associated Transmitter is manufactured by Advance Security Inc., FCC ID: H5OT17.

3. TEST FACILITY

The 3 meter open area test site and conducted measurement facility used to collect the radiated data is located at 561F Monterey Road, Morgan Hill, California, U.S.A. A detailed description of the test facilities was submitted to the Commission on May 27, 1994.

The measuring instrument which was utilized in performing the tests documented herein has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment which is traceable to recognized national standards.

4. MEASUREMENT EQUIPMENT USED

TEST EQUIPMENTS LIST				
Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
Spectrum Analyzer	HP 0.1K - 1.5GHz	8568B	2732A03661	5/10/02
Spectrum Display	HP	85662A	2816A16696	5/4/02
Quasi Peak Adapter	HP 9K - 1GHz	85650A	2811A01155	5/4/02
Pre-Amplifier, 25 dB	HP 0.1 - 1300MHz	8447D (P5)	2944A06550	9/19/01
Antenna, LP	EMCO200 - 2000MHz	3146	9107-3163	8/10/01
Signal Generator	HP	8640B	2322A22402	4/10/02

5. TEST CONFIGURATION

Set frequency generator to 433.65 MHz, EUT receiving transmission continuously. All the wires are placed on the turn table to their maximum length to simulate the worse emission conditions.

6. TESTS CONDUCTED

CFR 47, 15.109 RADIATED EMISSION TESTS	CONDUCTED AT 3 METERS
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7. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80 cm above the ground screen. Antenna to EUT distance is 3 meters. During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

8. COHERENT TESTS

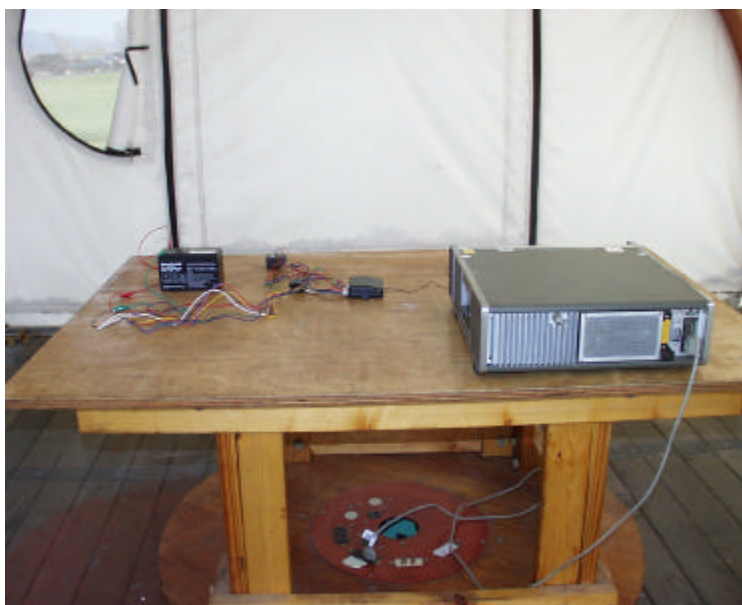
During Radiated Emission Tests, H.P. signal generator model no: 8640B (0.5-1024MHz) was used to radiate unmodulated CW signal to EUT at 433.65 MHz. Please refer to radiated emission data no: 020215C1 for six highest readings.

9. EQUIPMENT MODIFICATIONS

To achieve compliance to FCC section 15.109, the following change(s) were made during compliance testing:

NOT APPLICABLE

10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)





FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TÜV, BSMI, DHHS, NVLAP

561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 02T1175-1
Report #: 020215C1
Date & Time: 02/15/02 2:25 PM
Test Engr: Chin Pang

Company: Advance Security Inc
EUT Description: 433.92Mhz Car Alarm Receiver
Test Configuration : EUT only
Type of Test: FCC 15.109
Mode of Operation: Receiving

☐ A-Site ☐ B-Site ☒ C-Site ☐ F-Site

Freq.	Reading	AF	Closs	Pre-amp	Level	Limit	Margin	Pol	Az	Height	Mark
(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	FCC_B	(dB)	(H/V)	(Deg)	(Meter)	(P/Q/A)
433.05	49.40	16.51	3.15	27.55	41.50	46.00	-4.50	3mH	0.00	1.00	P
432.42	48.30	16.50	3.14	27.55	40.39	46.00	-5.61	3mH	0.00	1.00	P
431.79	48.00	16.48	3.14	27.54	40.08	46.00	-5.92	3mH	0.00	1.00	P
431.18	47.50	16.47	3.14	27.54	39.57	46.00	-6.43	3mH	0.00	1.00	P
430.54	47.70	16.46	3.13	27.54	39.75	46.00	-6.25	3mH	0.00	1.00	P
429.90	46.20	16.44	3.13	27.53	38.24	46.00	-7.76	3mH	0.00	1.00	P
429.28	47.90	16.43	3.13	27.53	39.93	46.00	-6.07	3mH	0.00	1.00	P
428.62	45.50	16.41	3.12	27.52	37.51	46.00	-8.49	3mH	0.00	1.00	P
428.00	46.00	16.40	3.12	27.52	38.00	46.00	-8.00	3mH	0.00	1.00	P
427.37	45.70	16.39	3.12	27.52	37.69	46.00	-8.31	3mH	0.00	1.00	P
434.30	47.90	16.54	3.15	27.56	40.03	46.00	-5.97	3mH	0.00	1.00	P
434.93	46.90	16.55	3.15	27.56	39.04	46.00	-6.96	3mH	0.00	1.00	P
435.56	47.50	16.57	3.16	27.57	39.66	46.00	-6.34	3mH	0.00	1.00	P
436.16	47.40	16.58	3.16	27.57	39.57	46.00	-6.43	3mH	0.00	1.00	P
436.86	47.10	16.59	3.16	27.57	39.28	46.00	-6.72	3mH	0.00	1.00	P
437.42	46.90	16.61	3.17	27.58	39.09	46.00	-6.91	3mH	0.00	1.00	P
438.10	48.30	16.62	3.17	27.58	40.51	46.00	-5.49	3mH	0.00	1.00	P
438.70	47.20	16.63	3.17	27.59	39.42	46.00	-6.58	3mH	0.00	1.00	P
439.31	46.10	16.65	3.17	27.59	38.33	46.00	-7.67	3mH	0.00	1.00	P
439.93	46.10	16.66	3.18	27.59	38.34	46.00	-7.66	3mH	0.00	1.00	P
440.58	46.00	16.67	3.18	27.60	38.26	46.00	-7.74	3mH	0.00	1.00	P
Total data #: 21											
V.2c											

COHERENCE TEST
HORIZONTAL