



FCC CLASS B COMPLIANCE REPORT

for

UNINTENTIONAL RADIATOR

of

CAR ALARM RECEIVER

Trade Name : Advance Security Inc.
Model Number : RX50
Agency Series : N/A
Report Number : 40517411-RP
Date : June 21, 2004

Prepared for :

Advance Security Inc.
3F, 48 Ta An Street, Hsi Chih,
Taipei Hsien, Taiwan, R. O. C.

Prepared by :

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME : Advance Security Inc.
3F, 48 Ta An Street, Hsi Chih, Taipei Hsien, Taiwan, R. O. C.

CONTACT PERSON : Michael Chen / President

TELEPHONE NO. : (886-2) 8648-1688

EUT DESCRIPTION : CAR ALARM RECEIVER

MODEL NAME/NUMBER : RX50

DATE TESTED : May 24, 2004

REPORT NUMBER : 40517411-RP

TYPE OF EQUIPMENT	SECURITY EQUIPMENT (UNINTENTIONAL RADIATOR)
EQUIPMENT TYPE	433.92 MHz CAR ALARM RECEIVERS
MEASUREMENT PROCEDURE	ANSI 63.4 / 2001
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15.109 / CFR 47, PART 15.107

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in the FCC CFR 47, PART 15. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties. **Warning:** This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Engineering Services, Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services Inc. will constitute fraud and shall nullify the document.

Approved by:

David Wang
Manager
Compliance Certification Services Inc.

Reviewed by:

Rick Yeo
Manager
Compliance Certification Services Inc.



2. PRODUCT DESCRIPTION

Advance Security Inc., Model No: RX50 is the receiving portion of a multi-purpose security device. The associated transmitter is manufactured by Advance Security Inc., FCC ID: **H5OT21**.

3. TEST FACILITY

The open area test sites and conducted measurement facilities used to collect the radiated data are located at No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang, Taoyuan Hsien, Taiwan, R.O.C.. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

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

Open Area Test Site # 4				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Advantest	R3132	91700456	N.C.R
EMI Test Receiver	R&S	ESVS10	846285/016	04/25/2005
Bilog Antenna	Sunol Sciences	JB1	A111203	01/09/2005
Turn Table	Chance Most	N/A	N/A	N.C.R
Antenna Tower	Chance Most	N/A	N/A	N.C.R
Controller	Chance Most	N/A	N/A	N.C.R
RF Switch	Anritsu	MP59B	M51067	N.C.R
Site NSA	CCS	N/A	N/A	08/08/2004
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/10/2005
Spectrum Analyzer	HP	8566B	2937A06102	06/25/2005
Horn Antenna	EMCO	3115	5761	02/02/2005
Pre-Amplifier	HP	8449B	3008A01266	02/15/2005



5. TEST CONFIGURATION

Set frequency generator to 433.92 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, use a transmitter to emit a frequency of 433.92 MHz to touch off the EUT. Then take down the 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 RESULTS

Below 1 GHz

Operation Mode: RX / Normal Mode **Test Date:** May 24, 2004
Temperature: 28°C **Humidity:** 74 % RH
Tested by: Jason Lee

Freq. (MHz)	EUT Axis X/Y/Z	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
433.93	X	V	Peak	60.30	-5.03	55.27	---	---
429.66	X	V	Peak	34.80	-5.23	29.57	46.00	-16.43
429.86	X	V	Peak	34.50	-5.24	29.26	46.00	-16.74
430.95	X	V	Peak	40.50	-5.19	35.31	46.00	-10.69
433.51	Z	V	Peak	34.30	-5.06	29.24	46.00	-16.76
435.79	X	V	Peak	33.60	-5.02	28.58	46.00	-17.42
436.25	Y	V	Peak	34.10	-5.02	29.08	46.00	-16.92
433.96	Y	H	Peak	50.00	-5.03	44.97	---	---
429.65	Y	H	Peak	36.10	-5.23	30.87	46.00	-15.13
431.23	Y	H	Peak	33.30	-5.17	28.13	46.00	-17.87
432.25	X	H	Peak	32.40	-5.12	27.28	46.00	-18.72
434.31	Z	H	Peak	33.10	-5.02	28.08	46.00	-17.92
437.38	X	H	Peak	32.90	-5.00	27.90	46.00	-18.10
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Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.



Above 1 GHz

Operation Mode: RX / Normal Mode **Test Date:** May 24, 2004
Temperature: 28°C **Humidity:** 74 % RH
Tested by: Jason Lee

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
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* No Any Emissions Were Found Within 20dB Below Limits From 1 GHz To 2 GHz.										

Notes:

1. Measuring frequencies from 1 GHz to 2 GHz.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
5. Spectrum AV Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



APPENDIX 1

TEST CONFIGURATION PHOTOS

RADIATED EMISSION TEST - X-axis



RADIATED EMISSION TEST - Y-axis





RADIATED EMISSION TEST - Z-axis

