

ADDENDUM TO TEST REPORT FC01-052

FOR THE

REFLEX LOCATION DEVICE, @CTIVEFIND

FCC PART 24 SUBPART D AND

FCC PART 15 SUBPART B SECTION 15.109 CLASS B

COMPLIANCE

DATE OF ISSUE: SEPTEMBER 4, 2001

PREPARED FOR:

Glenayre Electronics, Inc.
1570 Kootenay Street
Vancouver, BC, V5K 5B8

P.O. No.: 13286
W.O. No.: 76569

PREPARED BY:

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Date of test: May 14-22, 2001

Report No.: FC01-052A

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CKC Laboratories, Inc. has received Certificates of Accreditation from the following agencies:

A2LA (USA); DATech (Germany); BSMI (Taiwan); Nemko (Norway); and GOST (Russia).

CKC Laboratories, Inc. has received test site Registration Acceptance from the following agencies:

FCC (USA); VCCI (Japan); and Industry Canada.

CKC Laboratories, Inc. has received Letters of Acceptance through an MRA for the following agencies:

ACA/NATA (Australia); SABS (South Africa); SWEDAC (Sweden); Radio Communications Agency (RA); HOKLAS (Hong Kong); Bakom (Swiss); BIPT (Belgium); Denmark Teletyrelsen; RvA (Netherlands); SEE (Luxembourg) SITTEL (Bolivia); and UKAS (UK).

ADMINISTRATIVE INFORMATION

DATE OF TEST: May 14-22, 2001

DATE OF RECEIPT: May 14, 2001

PURPOSE OF TEST: To demonstrate the compliance of the ReFLEX Location Device, @ctiveFind with the requirements for FCC Part 24 Subpart D and Part 15 Subpart B Section 15.109 Class B devices. This addendum is to add the calculations used for power output and to remove the engineering GPS receiver data that is not required per the specifications.

TEST METHOD: FCC Parts 2, 15 & 24, ANSI C63.4 (1992)

MANUFACTURER: Glenayre Electronics, Inc.
1570 Kootenay Street
Vancouver, BC, V5K 5B8

REPRESENTATIVE: Rick Hiebert

TEST LOCATION: CKC Laboratories, Inc.
1653 Los Viboras Road
Hollister, CA 95023

SUMMARY OF RESULTS

As received, the Glenayre Electronics, Inc. ReFLEX Location Device, @ctiveFind was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 24 Subpart D
- FCC Part 15 Subpart B Section 15.109 Class B
ANSI C63.4 (1992) method

Canada

- RSS-134 using:
- FCC Part 24 Subpart D
 - FCC Part 15 Subpart B Section 15.109 Class B
ANSI C63.4 (1992) method

The results in this report apply only to the items tested, as identified herein.

MODIFICATIONS REQUIRED FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

QUALITY ASSURANCE:

A handwritten signature in cursive script, reading "Dennis Ward".

Dennis Ward, Quality Manager

A handwritten signature in cursive script, reading "Christine Nicklas".

Christine Nicklas, EMC/Lab Manager

TEST PERSONNEL:

A handwritten signature in cursive script, reading "Conan T. Boyle".

Conan T. Boyle, EMC Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit. During testing “FF3” was used on the data sheets to indicate the RF board revision. The product is going to be marketed and sold using the product name of ReFLEX Location Device and the model name of @ctiveFind.

The @ctiveFind is a 2-way ReFLEX device with integrated GPS location functionality. This device is intended to provide location data on a periodic basis. The RF protocol is based on 2-way Reflex standards. The device contains 2 integrated antennas (ReFLEX & GPS) and is powered off of a disposable AA Alkaline battery and an internal Ni-Cd battery. The device is targeted for both the consumer user (attached to a person) and the commercial user (attached to an asset).

EQUIPMENT UNDER TEST

ReFLEX Location Device

Manuf:	Glenayre Electronics
Model:	@ctiveFind
RF Module:	FF3-136
Baseband Module:	XC14
Serial:	050138
FCC ID:	K3N 8000 (pending)

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

2.1033(c)(3) USER'S MANUAL

The necessary information is contained in a separate document.

2.1033(c)(4) TYPE OF EMISSIONS

The emission designator is 10K0F1D.

2.1033(c)(5) FREQUENCY RANGE

The device operates in the frequency range of 901-902 MHz.

2.1033(c)(6) OPERATING POWER

The ERP is 0.267 watts.

2.1033(c)(7) MAXIMUM POWER RATING

Per FCC Part 24.132(a) stations transmitting in the 901-902 MHz band are limited to 7 watts E.R.P.

2.1033(c)(8) DC VOLTAGES

The ReFLEX Location Device, @ctiveFind operates at 1.25 VDC using AA alkaline batteries.

2.1033(c)(9) TUNE-UP PROCEDURE

There is no tune-up procedure for the output power as it is fixed to the maximum output power supplied by the final RF power amplifier stage. There is no means provided for variation of the operating power.

2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION

The necessary information is contained in a separate confidential document.

2.1033(c)(11) LABEL AND PLACEMENT

The necessary information is contained in a separate document.

2.1033(c)(12) SUBMITTAL PHOTOS

The necessary information is contained in a separate document.

2.1033(c)(13) MODULATION INFORMATION

The necessary information is contained in a separate confidential document.

2.1033(c)(14)/2.1046/24.132(a) - RF POWER OUTPUT & 2.1033(c)(14)/2.1049(i)/ 24.132(a)

Spec Limit Calculation for Maximum Allowable Transmitter Power

$$\text{ERP} = (\text{Ed})^2 / 30 \quad \text{ERP} = 7 \text{ watts} \quad d = 3 \text{ meters}$$

$$(\text{Ed})^2 = (\text{ERP} * 30)^{.5}$$

$$E = (\text{ERP} * 30)^{.5} / d$$

$$E = (7 * 30)^{.5} / 3$$

$$E = (210)^{.5} / 3$$

$$E = (14.49) / 3$$

$$E = 4.83 \text{ V/m}$$

$$E = 4,830,000 \mu\text{V/m}$$

$$20 \log(4,830,000) = 133.7 \text{ dB}\mu\text{V/m}$$

133.7 dB μ V/m = specification limit used on CKC data sheets to calculate margin.

Power Calculation

Maximum transmit level power measured = 121.1 dB μ V/m

Conversion to linear V/m:

$$[\text{invlog}(\text{Reading in dB}\mu\text{V/m} / 20)] * .000001 = \text{V/m}$$

$$\text{invlog}(121.1 / 20) * .000001 = 1.13501 \text{ V/m}$$

Calculation for ERP:

$$\text{ERP} = (\text{Ed})^2 / 30 \quad E = 1.13501 \text{ V/m} \quad d = 3 \text{ meters}$$

$$(1.13501 * 3)^2 / 30 * 1$$

$$\text{Power} = .386 \text{ W} \quad (7 \text{ watts maximum is allowable in Part 24})$$

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485

Customer: **Glenayre Electronics, Inc.**

Specification: **FCC Pt. 2.1046/24.132(a)**

Work Order #: **76569**

Date: 05/15/2001

Test Type: **Maximized Emissions**

Time: 15:20:35

Equipment: **ReFLEX Location Device**

Sequence#: 13

Manufacturer: Glenayre Electronics

Tested By: Conan T. Boyle

Model: FF3

S/N: 050138

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Log Periodic, A.H. SAS200/510	318	05/22/2000	05/22/2001	0
Cable, 3m	cabl 3m Hol A 01	01/04/2001	01/04/2002	0
HP 85650A QP Adaptor	2043A00231	04/10/2001	04/10/2002	445
HP-8567A	2541A00127	03/23/2001	03/23/2002	2053
HP-85662A	2542A10733	03/23/2001	03/23/2002	2052

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
ReFLEX Location Device*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

EUT is a battery-powered, 2-way ReFLEX device with an integrated GPS locator transmitting at 901.50MHz. The unit is operating in CW mode, 100% duty cycle, and is standing upright. The EUT is placed on a wooden table .8 meters above the ground plane and the test measurement antenna was maximized in height in vertical and horizontal polarities to obtain the highest reading, which was one meter above the ground plane. Vertical polarity was determined to be worst case. Tested to FCC Part 2.1046, equivalent Part 24.132(a). Power out measured .267W (7 watts maximum is allowable in Part 24). See "spur emissions-21053-901_5mhz-ff3.xls" for formulas and computations.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Log31 dB	dB	cabl dB	8447F dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	901.501M	119.5			+4.8	-27.2	+0.0	121.1	133.7	-12.6	Vert
			+24.0								

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485
 Customer: **Glenayre Electronics, Inc.**
 Specification: **FCC 24.132 TX Limit**
 Work Order #: **76569** Date: 05/15/2001
 Test Type: **Maximized Emissions** Time: 12:22:40
 Equipment: **FF3** Sequence#: 14
 Manufacturer: Glenayre Electronics Tested By: Conan T. Boyle
 Model: FF3
 S/N: 050138

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
FF3*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Horizontal

Measurement Data:		Reading listed by margin.				Test Distance: 3 Meters					
#	Freq MHz	Rdng dBμV	Log31 dB		cabl dB	8447F dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	901.501M	118.6			+4.8	-27.2	+0.0	120.2	133.7	-13.5	Horiz
			+24.0								

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485
 Customer: **Glenayre Electronics, Inc.**
 Specification: **FCC 24.132 TX Limit**
 Work Order #: **76569** Date: 05/15/2001
 Test Type: **Maximized Emissions** Time: 12:23:59
 Equipment: **FF3** Sequence#: 15
 Manufacturer: Glenayre Electronics Tested By: Conan T. Boyle
 Model: FF3
 S/N: 050138

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
FF3*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

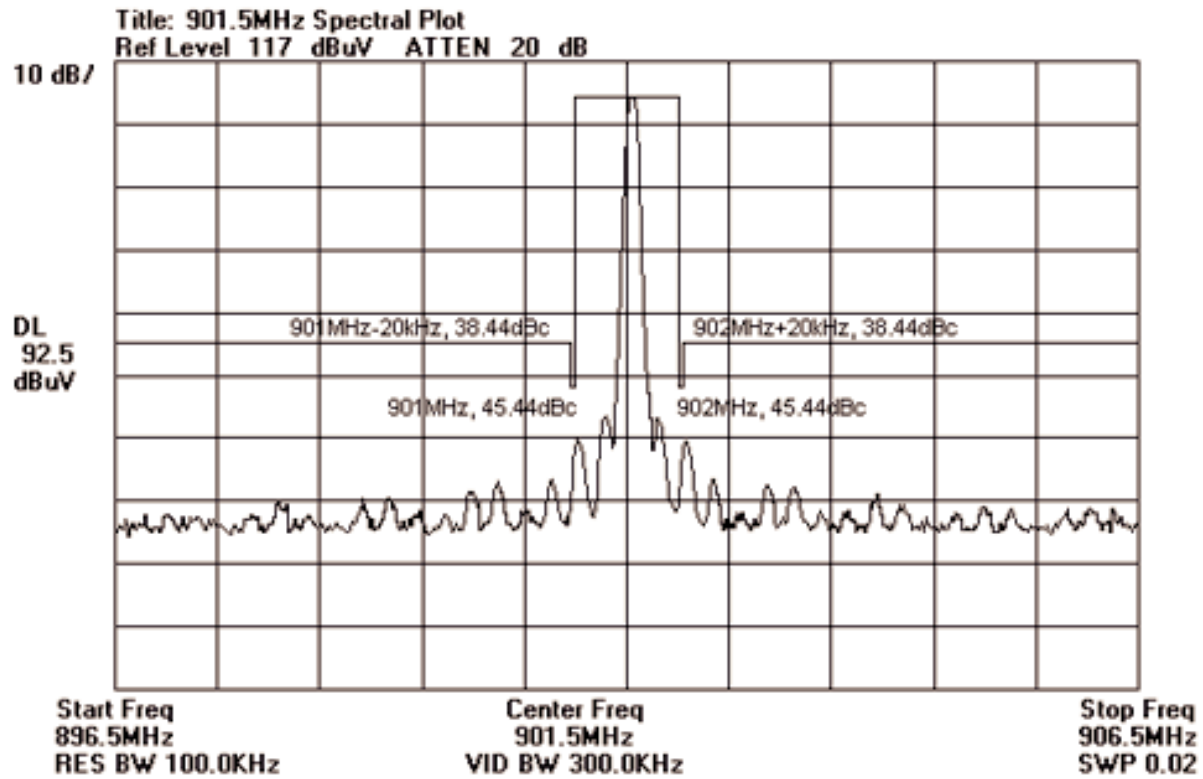
Flat

Measurement Data:		Reading listed by margin.				Test Distance: 3 Meters					
#	Freq MHz	Rdng dBμV	Log31 dB		cabl dB	8447F dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	901.501M	118.6			+4.8	-27.2	+0.0	120.2	133.7	-13.5	Horiz
			+24.0								

SET-UP PHOTOS SHOWING ALL ORTHAGONALS TESTED



SPECTRAL PLOT



**2.1033(c)(14)/2.1047(a)/24.131 - MODULATION CHARACTERISTICS - AUDIO
FREQUENCY RESPONSE**

This section has been provided to the FCC per a separate file due to confidentiality reasons.

**2.1033(c)(14)/2.1047(b)/24.131 MODULATION CHARACTERISTICS – Modulation
Limiting Response**

This section has been provided to the FCC per a separate file due to confidentiality reasons.

2.1033(c)(14)/2.1049(i)/24.131- OCCUPIED BANDWIDTH

Customer supplied data to be uploaded to the FCC in separate files.

2.1033(c)(14)/2.1051/N/A - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Measurements were not taken at the antenna terminal because the 2-way pager has a permanently attached integral antenna and there was no means of modifying the antenna for direct measurements.

2.1033(c)(14)/2.1053/24.133 - FIELD STRENGTH OF SPURIOUS RADIATION

FCC CFR 47 Part 2.1053 & 24.133										
Wireless Access model: FF3										
CFR 47 Part 2.1053 & 24.133 Measurements required: Field strength of spurious radiation, emission mask I.										
Operating Channel - 901.5MHz										
Polarity	Freq (MHz)	Reading in dBuV	PreAmp Factor	Cable Factor	Horn Antenna	Corrected E (dBuV/m)	V/m	ERP (Watts)	Spec Limit Watts	Pass or Fail
Vertical	1803.00	81.70	-38.40	11.50	26.00	80.80	0.010964782	0.000036068	0.000050000	Pass
Horizontal	1803.00	72.90	-38.40	11.50	26.00	72.00	0.003981072	0.000004755	0.000050000	Pass
Horizontal	5409.00	60.20	-36.50	18.50	29.30	71.50	0.003758374	0.000004238	0.000050000	Pass
Vertical	5409.00	57.20	-36.50	18.50	29.30	68.50	0.002660725	0.000002124	0.000050000	Pass
Horizontal	2704.50	65.30	-38.10	13.60	27.20	68.00	0.002511886	0.000001893	0.000050000	Pass
Vertical	6311.67	51.30	-37.10	23.70	29.30	67.20	0.002290868	0.000001574	0.000050000	Pass
Notes: Frequency range investigated was from 1 MHz to 10 GHz. All spurious and harmonic emissions were investigated. The six highest emissions detected that were less than 20dB below the permissible value were reported. CKC data sheet file name is fcse26a-21053-max-gig-901-5-ff3.dat. Data taken from worst case orthogonal (see fundamental data for worst case).										
CALCULATIONS										
Note: The data taken is the radiated power of each spurious emission with reference to the unmodulated carrier effective radiated power of the transmitter.										
The 43+10log(P) dB "out-of-band" attenuation equates to a 50 uW limit for any P. The following equations establish this amplitude limit for spurious emissions.										
Spurious Emissions Limit (dBW) = 10logP - (43+10logP) = -43 dBW.										
Spurious Emissions Limit (W) = 10 [^] (-43/10) = 50 * 10 ⁻⁶ W.										
P Calculations										
						Conversion of dBuV/m to V/m				
ERP = (Ed) ² /30			E = V/m			[invlog(Reading in dBuV/m/20)]*.000001 = V/m				
(1.13501*3) ² /30*1			d= distance			invlog(121.1/20)*.000001 = 1.13501V/m				
= .386W			(7 watts maximum is allowable in Part 24)							

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A00283	05/04/2001	05/14/2002	785
Horn Ant, 1-18GHz	9901-5655	10/20/2000	10/20/2001	2157
Cable, 25 ft Andrews FSJ1P-50A-4A	hol-hf-025-06	09/29/2001	09/29/2002	0
Cable, 100 ft Andrews FSJ1P-50A-4A	hol-hf-100-09	09/29/2001	09/29/2002	0
HP 85650A QP Adaptor	2043A00231	04/10/2001	04/10/2002	445
HP-85662A	2542A10733	03/23/2001	03/23/2002	2052
HP-8567A	2541A00127	03/23/2001	03/23/2002	2053
HP 8447F Preamp	2944A03850	04/09/2001	04/09/2002	501
Bicon, Emco 3110	9205-1522	10/30/2000	10/30/2001	503
Log Periodic, A.H. SAS200/510	318	05/22/2000	05/22/2001	0
Mag Loop Ant	2078	08/17/2000	08/17/2001	432
Cable, 3m	cabl 3m Hol A 01	01/04/2001	01/04/2002	0
Cable, 30m	cabl 30m Hol A 01	01/03/2001	01/03/2002	0

Bandwidth Settings

Frequency Range	Signal Analyzer Setting
1 MHz – 30 MHz	9 kHz
30 MHz – 1000 MHz	120 kHz
1 GHz – 10 GHz	1MHz

SET-UP PHOTOS SHOWING WORST CASE ORTHOGONALS TESTED



2.1033(c)(14)/2.1055/24.131 - FREQUENCY STABILITY

Customer supplied data to be uploaded to the FCC in separate files.

15.109 – RADIATED EMISSIONS

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485
 Customer: **Glenayre Electronics**
 Specification: **FCC B RADIATED**
 Work Order #: **76569** Date: 05/16/2001
 Test Type: **Radiated Scan** Time: 16:46:41
 Equipment: **FF3** Sequence#: 1
 Manufacturer: Glenayre Electronics Tested By: Conan T. Boyle
 Model: FF3
 S/N: 050138

EMI Meters:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bicon, Emco 3110	9205-1522	10/30/2000	10/30/2001	503
HP 8447F Preamp	2944A03850	04/09/2001	04/09/2002	501
HP 85650A QP Adaptor	2043A00231	04/10/2001	04/10/2002	445
HP-85662A	2542A10733	03/23/2001	03/23/2002	2052
HP-8567A	2541A00127	03/23/2001	03/23/2002	2053
Cable, 3m	cabl 3m Hol A 01	01/04/2001	01/04/2002	0
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Horn Ant, 1-18GHz	9901-5655	10/20/2000	10/20/2001	2157
Cable, 25 ft Andrews FSJ1P-50A-4A	hol-hf-025-06	09/29/2001	09/29/2002	0
Cable, 100 ft Andrews FSJ1P-50A-4A	hol-hf-100-09	09/29/2001	09/29/2002	0
Preamp, HP83017A	3123A00283	05/14/2001	05/14/2002	785
Log Periodic, A.H. SAS200/510	464	10/11/2000	10/11/2001	2

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
FF3*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

EUT is a 2-way ReFLEX device with an integrated GPS locator. The unit is operating in receive mode and is standing upright.

Measurement Data:			Reading listed by margin.				Test Distance: 3 Meters				
#	Freq MHz	Rdng dBμV	Bicon Amp_2 dB	Log31 hol-h dB	8447F hol-h dB	cabl Horn dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	980.013M	34.0	+0.0	+24.8	-27.2	+5.2	+0.0	36.8	54.0	-17.2	Horiz
			+0.0	+0.0	+0.0	+0.0			EUT Emission		
2	40.000M	32.0	+15.3	+0.0	-26.8	+0.8	+0.0	21.3	40.0	-18.7	Vert
			+0.0	+0.0	+0.0	+0.0					
3	30.000M	28.3	+18.3	+0.0	-26.8	+0.7	+0.0	20.5	40.0	-19.5	Vert
			+0.0	+0.0	+0.0	+0.0					
4	980.031M	30.9	+0.0	+24.8	-27.2	+5.2	+0.0	33.7	54.0	-20.3	Vert
			+0.0	+0.0	+0.0	+0.0			EUT Emission		

5	55.296M	34.1	+10.1 +0.0	+0.0 +0.0	-26.8 +0.0	+0.9 +0.0	+0.0	18.3	40.0	-21.7	Horiz
6	30.000M	25.8	+18.3 +0.0	+0.0 +0.0	-26.8 +0.0	+0.7 +0.0	+0.0	18.0	40.0	-22.0	Horiz
7	33.178M	26.5	+17.1 +0.0	+0.0 +0.0	-26.8 +0.0	+0.7 +0.0	+0.0	17.5	40.0	-22.5	Horiz
8	33.178M	26.1	+17.1 +0.0	+0.0 +0.0	-26.8 +0.0	+0.7 +0.0	+0.0	17.1	40.0	-22.9	Vert

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485
 Customer: **Glenayre Electronics**
 Specification: **FCC B RADIATED**
 Work Order #: **76569** Date: 05/14/2001
 Test Type: **Radiated Scan** Time: 17:13:02
 Equipment: **FF3** Sequence#: 4
 Manufacturer: Glenayre Electronics Tested By: Conan T. Boyle
 Model: FF3
 S/N: 050138

EMI Meters:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bicon, Emco 3110	9205-1522	10/30/2000	10/30/2001	503
HP 8447F Preamp	2944A03850	04/09/2001	04/09/2002	501
HP 85650A QP Adaptor	2043A00231	04/10/2001	04/10/2002	445
HP-85662A	2542A10733	03/23/2001	03/23/2002	2052
HP-8567A	2541A00127	03/23/2001	03/23/2002	2053
Cable, 3m	cabl 3m Hol A 01	01/04/2001	01/04/2002	0
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Horn Ant, 1-18GHz	9901-5655	10/20/2000	10/20/2001	2157
Cable, 25 ft Andrews FSJ1P-50A-4A	hol-hf-025-06	09/29/2001	09/29/2002	0
Cable, 100 ft Andrews FSJ1P-50A-4A	hol-hf-100-09	09/29/2001	09/29/2002	0
Preamp, HP83017A	3123A00283	05/14/2001	05/14/2002	785

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
FF3*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

EUT is a 2-way ReFLEX device with an integrated GPS locator. The unit is operating in receive mode and is mounted horizontally with the side opposite the battery on the table surface.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon dB	Log31 dB	8447F dB	cabl dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	980.027M	34.0	+0.0	+24.8	-27.2	+5.2	+0.0	36.8	54.0	-17.2	Vert
2	30.000M	30.2	+18.3	+0.0	-26.8	+0.7	+0.0	22.4	40.0	-17.6	Vert
3	40.000M	32.1	+15.3	+0.0	-26.8	+0.8	+0.0	21.4	40.0	-18.6	Vert
4	980.033M	31.9	+0.0	+24.8	-27.2	+5.2	+0.0	34.7	54.0	-19.3	Horiz
5	30.000M	26.9	+18.3	+0.0	-26.8	+0.7	+0.0	19.1	40.0	-20.9	Horiz
6	33.178M	27.3	+17.1	+0.0	-26.8	+0.7	+0.0	18.3	40.0	-21.7	Vert
7	40.000M	28.9	+15.3	+0.0	-26.8	+0.8	+0.0	18.2	40.0	-21.8	Horiz
8	33.178M	26.9	+17.1	+0.0	-26.8	+0.7	+0.0	17.9	40.0	-22.1	Horiz

9	55.296M	33.1	+10.1	+0.0	-26.8	+0.9	+0.0	17.3	40.0	-22.7	Horiz
10	55.296M	29.4	+10.1	+0.0	-26.8	+0.9	+0.0	13.6	40.0	-26.4	Vert

Test Location: CKC Laboratories, Inc. • 1653 Los Viboras Rd., Site A • Hollister, Ca 95023 • (831) 637-0485
 Customer: **Glenayre Electronics**
 Specification: **FCC B RADIATED**
 Work Order #: **76569** Date: 05/14/2001
 Test Type: **Radiated Scan** Time: 17:26:28
 Equipment: **FF3** Sequence#: 6
 Manufacturer: Glenayre Electronics Tested By: Conan T. Boyle
 Model: FF3
 S/N: 050138

EMI Meters:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bicon, Emco 3110	9205-1522	10/30/2000	10/30/2001	503
HP 8447F Preamp	2944A03850	04/09/2001	04/09/2002	501
HP 85650A QP Adaptor	2043A00231	04/10/2001	04/10/2002	445
HP-85662A	2542A10733	03/23/2001	03/23/2002	2052
HP-8567A	2541A00127	03/23/2001	03/23/2002	2053
Cable, 3m	cabl 3m Hol A 01	01/04/2001	01/04/2002	0
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Horn Ant, 1-18GHz	9901-5655	10/20/2000	10/20/2001	2157
Cable, 25 ft Andrews FSJ1P-50A-4A	hol-hf-025-06	09/29/2001	09/29/2002	0
Cable, 100 ft Andrews FSJ1P-50A-4A	hol-hf-100-09	09/29/2001	09/29/2002	0
Preamp, HP83017A	3123A00283	05/14/2001	05/14/2002	785

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
FF3*	Glenayre Electronics	FF3	050138

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

EUT is a a 2-way ReFLEX device with an integrated GPS locator. The unit is operating in receive mode and is laying flat with the display side up.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon dB	Log31 dB	8447F dB	cabl dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	979.983M	33.6	+0.0	+24.8	-27.2	+5.2	+0.0	36.4	54.0	-17.6	Vert
2	30.000M	29.7	+18.3	+0.0	-26.8	+0.7	+0.0	21.9	40.0	-18.1	Vert
3	40.000M	31.6	+15.3	+0.0	-26.8	+0.8	+0.0	20.9	40.0	-19.1	Vert
4	980.018M	30.8	+0.0	+24.8	-27.2	+5.2	+0.0	33.6	54.0	-20.4	Horiz
5	30.000M	27.2	+18.3	+0.0	-26.8	+0.7	+0.0	19.4	40.0	-20.6	Horiz
6	33.178M	26.6	+17.1	+0.0	-26.8	+0.7	+0.0	17.6	40.0	-22.4	Vert
7	40.000M	28.0	+15.3	+0.0	-26.8	+0.8	+0.0	17.3	40.0	-22.7	Horiz
8	33.178M	26.3	+17.1	+0.0	-26.8	+0.7	+0.0	17.3	40.0	-22.7	Horiz

9	55.296M	32.2	+10.1	+0.0	-26.8	+0.9	+0.0	16.4	40.0	-23.6	Horiz
10	55.296M	30.5	+10.1	+0.0	-26.8	+0.9	+0.0	14.7	40.0	-25.3	Vert

Bandwidth Settings

Frequency Range	Signal Analyzer Setting
1 MHz – 30 MHz	9 kHz
30 MHz – 1000 MHz	120 kHz
1 GHz – 10 GHz	1MHz

SET-UP PHOTOS SHOWING WORST CASE ORTHOGONALS TESTED

