FCC PART 15, SUBPART C
TEST METHOD: ANSI C63.4-1992

for

POS TERMINAL

Model: FXI 01

Prepared for

HYPERCOM CORPORATION
2851 WEST KATHLEEN ROAD
PHOENIX, ARIZONA 85053

Prepared by: Kyle Fujimoto

KYLE FUJIMOTO

Approved by: Scott McCutchan

SCOTT McCUTCHAN

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: OCTOBER 30, 1998

	REPORT BODY	APPENDICES				TOTAL
		A	*B*	*C*	*D*	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full with the written permission of Compatible Electronics.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:	POS Terminal Model: FXI 01 S/N: N/A
Product Description:	The EUT is a point of sale terminal.
Modifications:	The EUT was modified in order to meet the specifications. Please see list located in Appendix A.
Manufacturer:	Hypercom Corporation 2851 West Kathleen Road Phoenix, Arizona 85053
Test Date:	October 29, 1998
Test Specifications:	EMI requirements FCC Title 47, Part 15 Subpart C, Sections 15.205, 15.207 and 15.249
Test Procedure:	ANSI C63.4: 1992
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 450 kHz - 30 MHz	This test was not performed because the EUT runs off a four volt battery only and cannot be powered by any device that runs off of the AC public mains.
2	Radiated RF Emissions, 10 kHz - 9300 MHz	Complies with the of FCC Title 47, Part 15 Subpart C, sections 15.205 and 15.249

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the POS Terminal Model: FXI 01. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined by FCC Title 47, Part 15, Subpart C, sections 15.205, 15.207, and 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Hypercom Corporation

Robert "Bob" Lindy Electronic Engineer, Hypercom POS Development

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
Scott McCutchan Lab Manager

2.4 Date Test Sample was Received

The test sample was received on October 29, 1998

2.5 Disposition of the Test Sample

The test sample was returned to Hypercom Corporation on October 29, 1998.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC Title 47, Subpart C.	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators.
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The POS Terminal Model: FXI 01 (EUT) was tested as a stand alone unit and tested in two different orthogonal axis. The EUT was continuously transmitting during the test. The RJ-11 port is for diagnostic purposes only and the 60 pin expansion port will have a plastic cover that is welded into place.

4.1.1 Cable Construction and Termination

There were no cables attached to the EUT

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
POS TERMINAL (EUT)	HYPERCOM CORPORATION	FXI 01	N/A	NVA030232-001

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Spectrum Analyzer	Hewlett Packard	8566B	3701A22262	Dec. 9, 1997	Dec. 9, 1998
Preamplifier	Com Power	PA-102	1017	Feb. 16, 1998	Feb. 16, 1999
Quasi-Peak Adapter	Hewlett Packard	85650A	3303A01688	June 23, 1998	June 23, 1999
RF Attenuator	Com-Power	A-410	1602	Nov. 25, 1998	Nov. 25, 1999
LISN	Com Power	LI-200	1764	Jan. 3, 1998	Jan. 3, 1999
LISN	Com Power	LI-200	1771	Jan. 3, 1998	Jan. 3, 1999
LISN	Com Power	LI-200	1775	Jan. 3, 1998	Jan. 3, 1999
LISN	Com Power	LI-200	1780	Jan. 3, 1998	Jan. 3, 1999
Biconical Antenna	Com Power	AB-100	1548	Oct. 15, 1998	Oct. 15, 1999
Log Periodic Antenna	Com Power	AL-100	1117	Oct. 15, 1998	Oct. 15, 1999
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Hewlett Packard	HP98561A	2522A05178	N/A	N/A
Printer	Hewlett Packard	2225A	2925S33268	N/A	N/A
Plotter	Hewlett Packard	7440A	8726K38417	N/A	N/A
Microwave Amplifier	Com-Power	PA-122	25321	Oct. 13, 1998	Oct. 13, 1999
Horn Antenna	Antenna Research	DRG-118/A	1053	Dec. 8, 1995	N/A
Loop Antenna	Com-Power	AL-130	25309	Feb. 5, 1998	Feb. 5, 1999

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1.1 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com Power Microwave Amplifier Model: PA-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps. The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets. The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data.

8. CONCLUSIONS

The POS Terminal Model: FXI 01 meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.207, and 15.249.

APPENDIX A

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

Modifications:

1) Added a C-R-C pi filter to the VCC line to the transmitter module. (C8, R6, C16)

2) Added a C-R-C pi filter to the Data In line to the transmitter module. (C17, R7, C18)

3) Added a 3 dB pad to the output of the transmitter module. (R8, R9, R10)

4) Added cooper tape to shield the transmitter module. Production units will incorporate a formed metal shield.

HYPERCOM CORPORATION

2851 West Kathleen Rd.
Phoenix, Arizona 85023
Tel: (602) 504-5000 Fax: (602) 866-5380

HYPERCOM®

MODIFICATIONS TO THE E.U.T

The modifications listed below were made to the EUT to pass the FCC specifications.

All rework described below was implemented during the test in a method that could be reproduced by the manufacturer.

These exact modifications have already been incorporated into the Schematic and Printed Circuit Artwork as of 3 Nov 98 and will be contained in production devices when the product is released.

Modifications:

1) Added C-R-C pi filter to the VCC line to the transmitter module.(C8,R6,C16)

2) Added C-R-C pi filter to the Data In line to the transmitter module. (C17,R7,C18)

3) Added 3dB pad to the output of the transmitter module. (R8,R9,R10)

4) Added copper tape shielding over the transmitter module. Production units will incorporate a formed metal shield.

Signature

William A. Dowlin
Printed Name

President, Hypercom Manufacturing
Title

APPENDIX B

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	POS Terminal Model: FXI 01 S/N: N/A

There were no additional models covered under this report.

APPENDIX C

DIAGRAMS, CHARTS AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

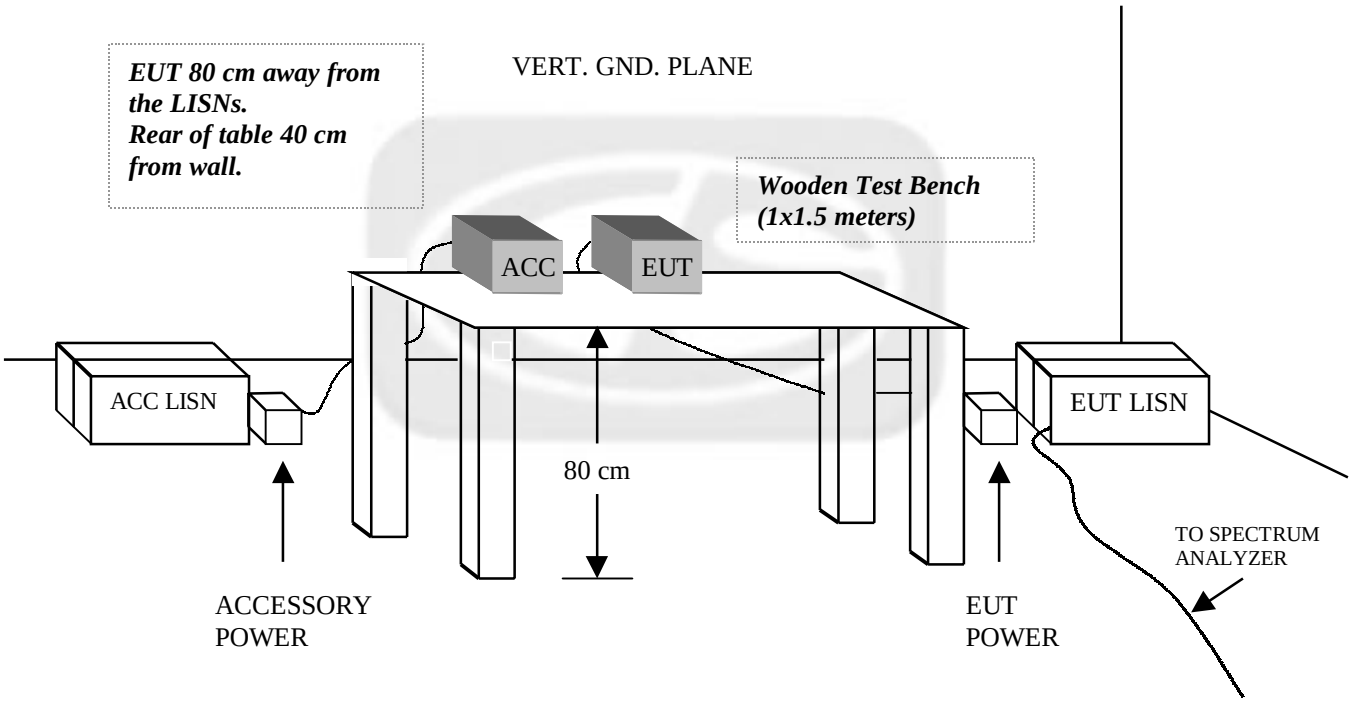
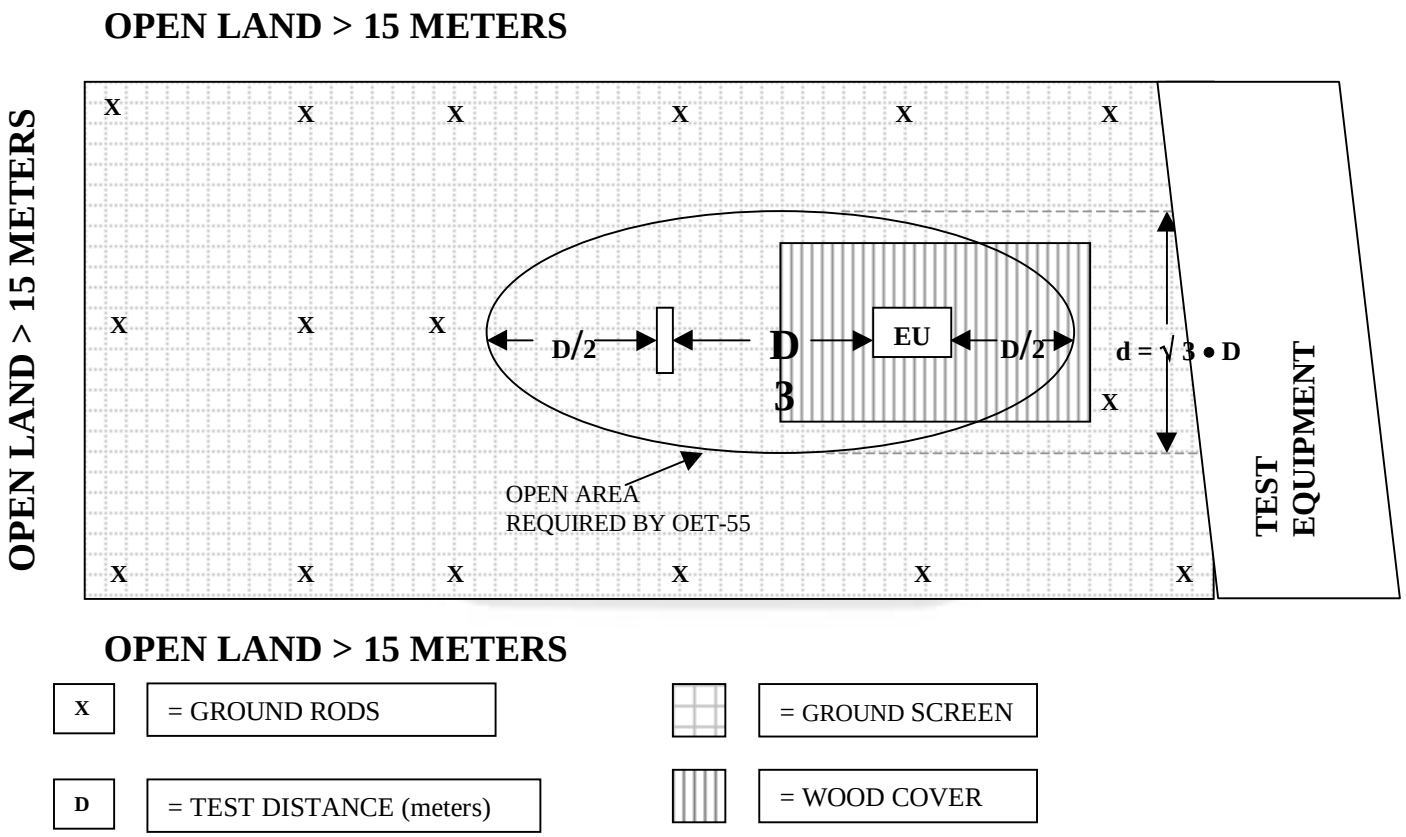
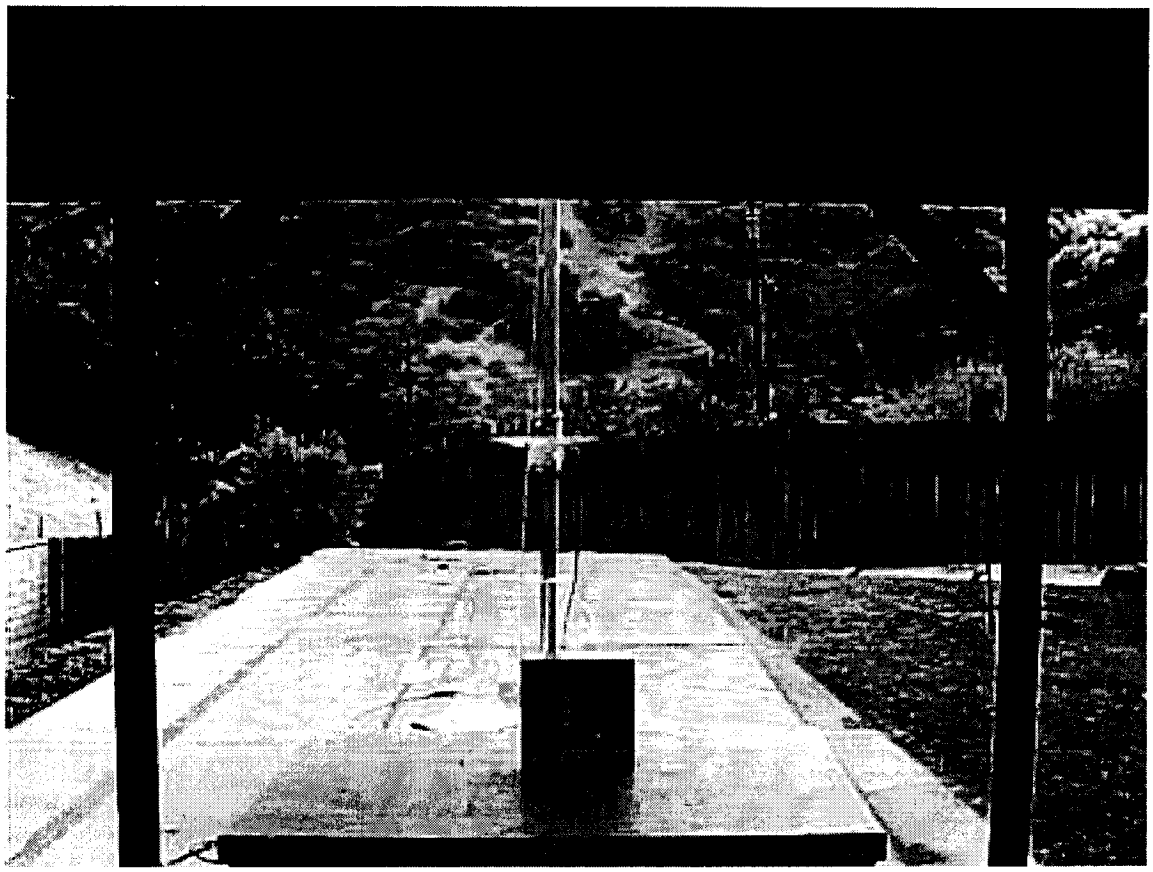


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE

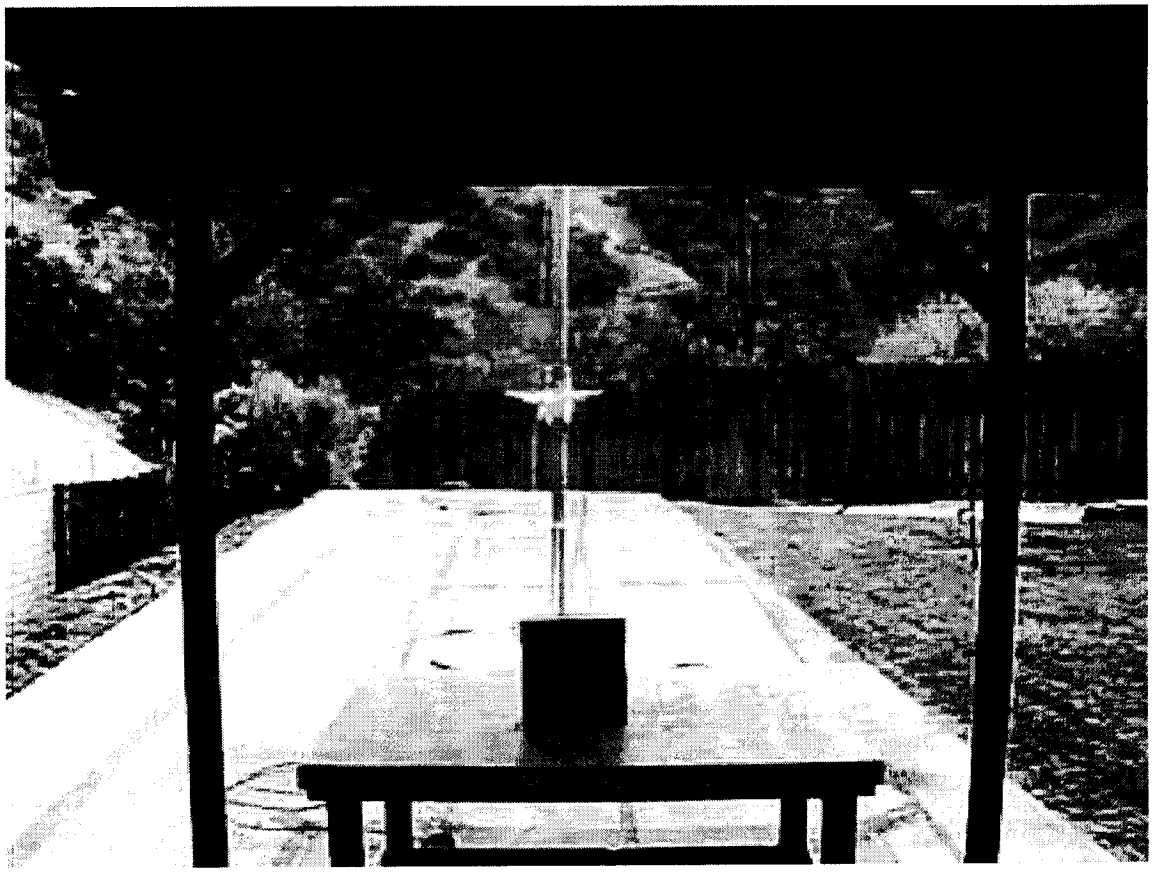




FRONT VIEW

HYPERCOM CORPORATION
POS TERMINAL
Model: FXI 01
FCC SUBPART C - RADIATED EMISSIONS – 10-29-98

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

HYPERCOM CORPORATION
POS TERMINAL
Model: FXI 01
FCC SUBPART C - RADIATED EMISSIONS – 10-29-98

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25132

CALIBRATION DATE: OCTOBER 13, 1998

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	33.7	8.0	32.9
1.1	33.5	8.5	32.7
1.2	33.5	9.0	33.2
1.3	33.6	9.5	33.7
1.4	33.5	10.0	34.6
1.5	33.0	10.5	32.7
1.6	33.4	11.0	30.8
1.7	33.5	11.5	32.1
1.8	33.6	12.0	31.7
1.9	33.5	12.5	32.9
2.0	33.9	13.0	27.8
2.5	33.9	13.5	30.7
3.0	33.6	14.0	30.4
3.5	33.5	14.5	31.7
4.0	33.4	15.0	32.2
4.5	32.9	15.5	34.0
5.0	32.4	16.0	31.6
5.5	32.7	16.5	32.7
6.0	33.6	17.0	31.7
6.5	32.5	17.5	31.2
7.0	33.0	18.0	30.2
7.5	33.7		

Com-Power Corporation

(714) 587-9800

Antenna Calibration

Antenna Type:	Loop Antenna
Model:	AL-130
Serial Number:	25309
Calibration Date:	2/5/98

Frequency MHz	Magnetic (dB/m)	Electric dB/m
0.01	-40.5	11.0
0.02	-41.6	9.9
0.03	-40.0	11.5
0.04	-40.3	11.2
0.05	-41.6	9.9
0.06	-41.1	10.4
0.07	-41.3	10.2
0.08	-41.6	9.9
0.09	-41.7	9.8
0.1	-41.8	9.7
0.2	-44.0	7.5
0.3	-41.6	9.9
0.4	-41.7	9.8
0.5	-41.7	9.8
0.6	-41.5	10.0
0.7	-41.5	10.0
0.8	-41.6	9.9
0.9	-41.6	9.9
1	-41.1	10.4
2	-40.7	10.8
3	-40.7	10.8
4	-40.9	10.6
5	-40.1	11.4
6	-40.0	11.5
7	-40.3	11.2
8	-39.8	11.7
9	-38.8	12.7
10	-40.8	10.7
12	-41.4	10.1
14	-41.4	10.1
15	-40.9	10.6
16	-40.8	10.7
18	-41.5	10.0
20	-41.5	10.0
25	-41.2	10.3
30	-41.4	10.1

Trans. Antenna Height	2 meter
Receiving Antenna Height	2 meter

ANTENNA RESEARCH ASSOCIATES, INC.
11317 Frederick Avenue, Beltsville, MD 20705

E-FIELD ANTENNA FACTOR CALIBRATION

E(dB V/m) = Vo(dB V) + AFE(dB/m)

Model number : DRG-118/A

Frequency GHz	AFE dB/m	Gain dBi
1	22.3	8.0
2	26.7	9.5
3	29.7	10.1
4	29.5	12.8
5	32.3	12.0
6	32.4	13.4
7	36.1	11.0
8	37.4	10.9
9	36.8	12.5
10	39.5	10.7
11	39.6	11.5
12	39.8	12.0
13	39.7	12.8
14	41.8	11.3
15	41.9	11.9
16	38.1	16.3
17	41.0	13.9
18	46.5	8.9

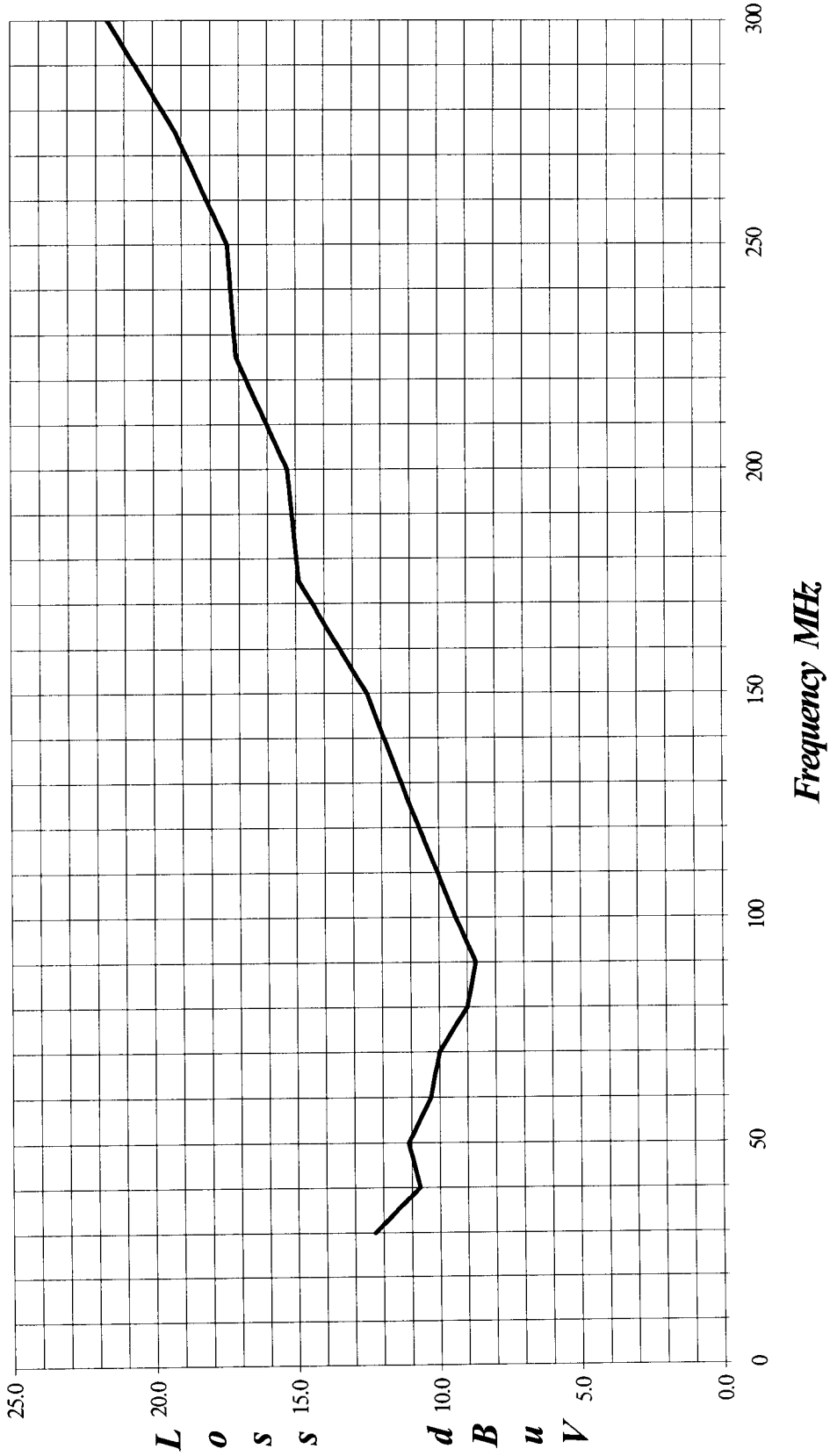
Serial number : 1053
Job number : 96-092
Remarks : 3 meter calibration
Standards : LPD-118/A, TE-1000

Temperature : 72° F
Humidity : 56 %
Traceability : A01887
Date : December 08, 1995

Calibrated By

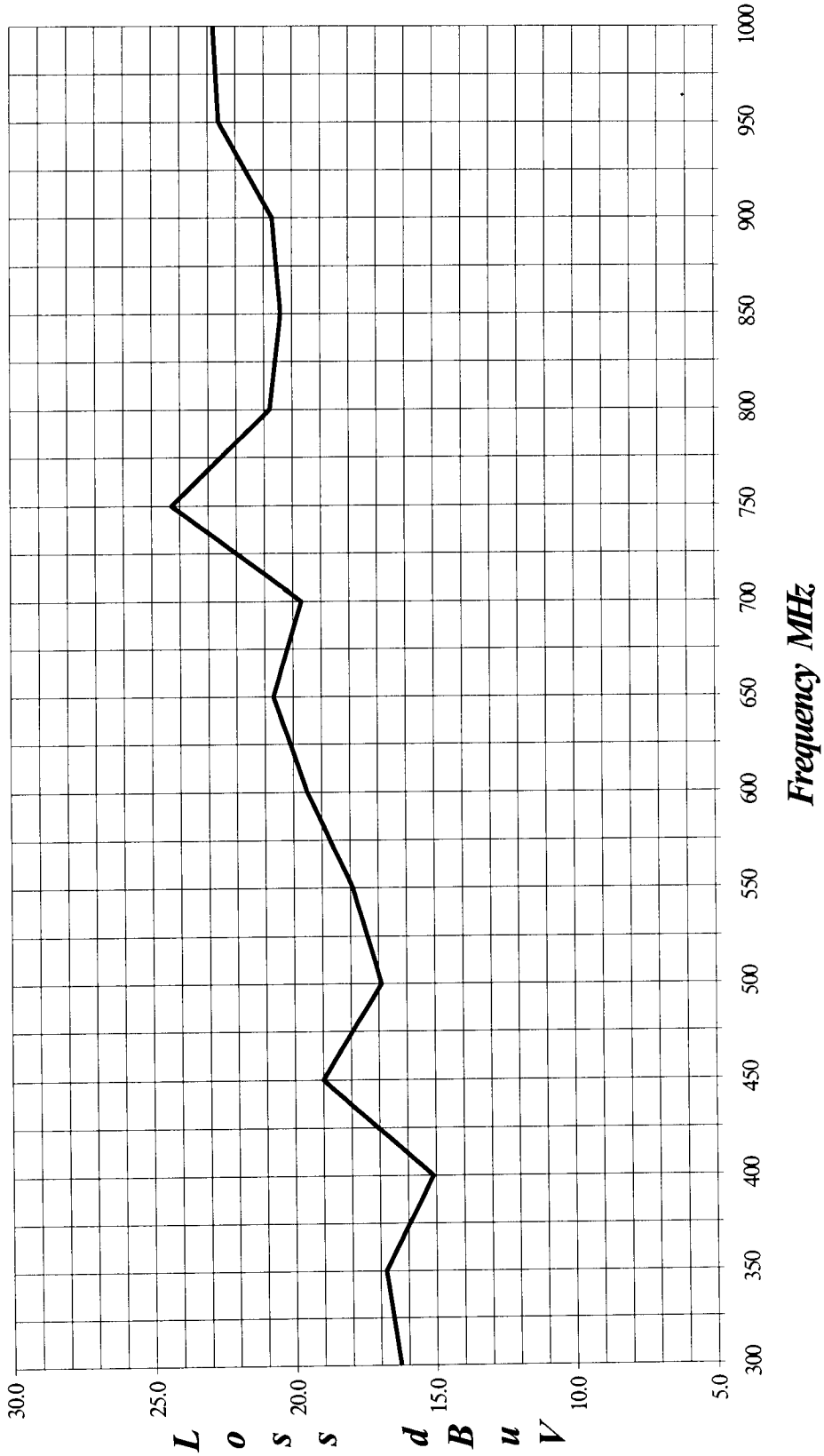
Cal: 10/15/98

LAB "D" BICONICAL ANTENNA AB-100 S/N 01548



Cal: 10/15/98

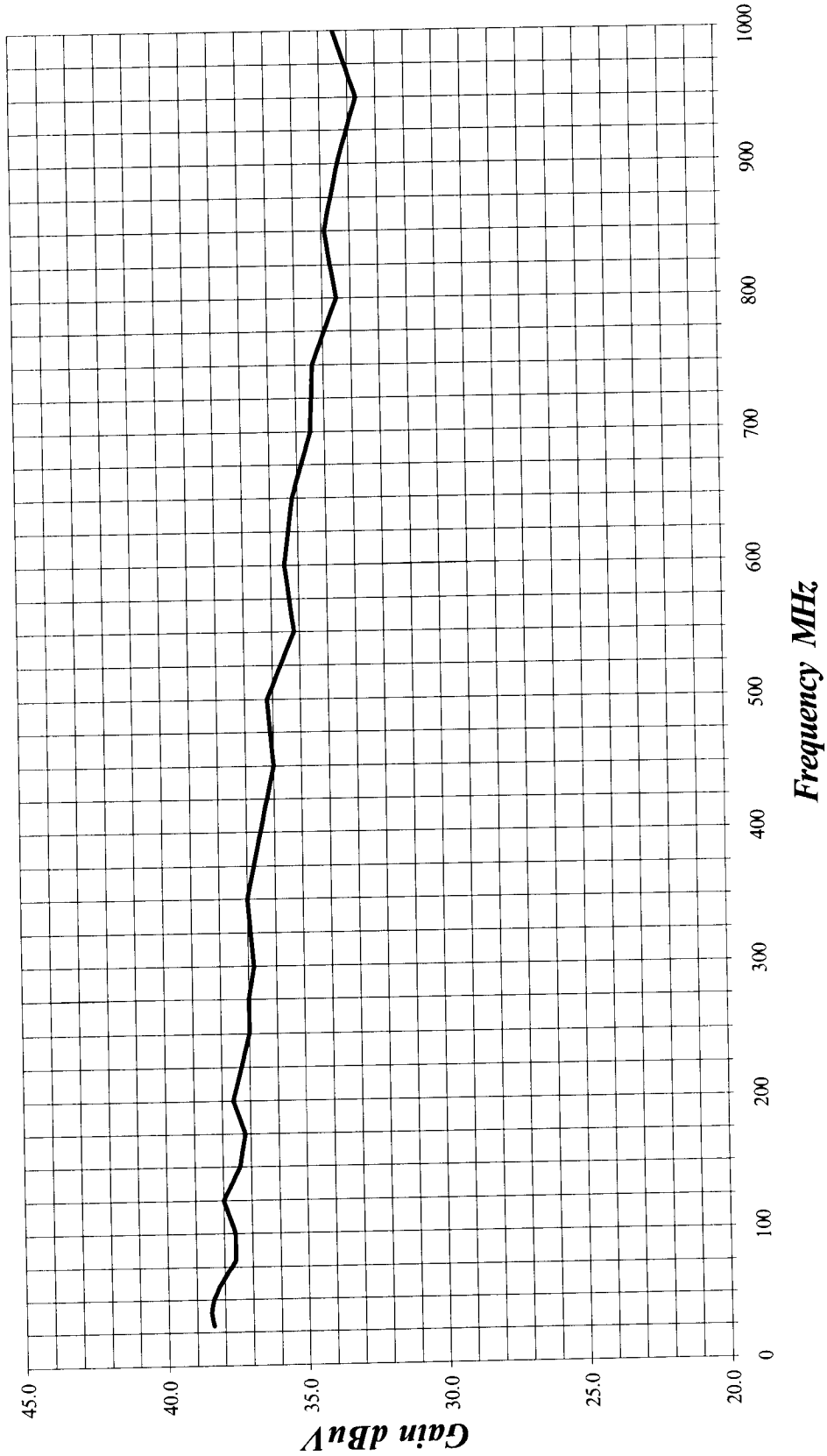
LAB "D" LOG PERIODIC ANTENNA AL-100 S/N 01012



Lab "D" Effective: 2/16/98

Effective Gain = Preamplifier Gain – Cable Loss

PREAMPLIFIER EFFECTIVE GAIN AT 3 METERS PA-102 S/N: 1017



APPENDIX D

DATA SHEETS

COMPATIBLE ELECTRONICS

RADIATED EMISSIONS

COMPANY NAME: HYPERCOM CORPORATION **DATE:** 10-29-98

EUT: POS TERMINAL **EUT S/N:**

EUT MODEL: FXI 01 **LOCATION:** ■ BREA ☐ SILVERADO ☐ AGOURA

SPECIFICATION: FCC 15.249 **CLASS:** **TEST DISTANCE:** 3M **LAB:** D

ANTENNA: ☐ LOOP ☐ BICONICAL ■ LOG ■ HORN **POLARIZATION:** ■ VERT ☐ HORIZ

■ QUALIFICATION ☐ ENGINEERING ☐ MFG. AUDIT **ENGINEER:** KYLE F.

NOTES: 50% DUTY CYCLE

Frequency (GHz)	Peak Reading (dBuV) [redacted]	Average Reading (dBuV) [redacted]	Antenna Height (meters)	Azimuth (degrees)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	* Corrected Reading (dBuV) [redacted]	Delta ** (dB)	Spec Limit (dBuV) [redacted]
.916	100.0	–	1.0	90	21.3	6.2	37.3	90.2	-3.8	94.0
1.833	53.7	47.7	1.0	90	24.5	5.9	33.6	44.5	-9.5	54.0
2.749	50.1	44.1	3.5	180	26.7	4.8	33.9	41.7	-12.3	54.0
3.666	50.6	44.6	2.0	180	29.6	6.9	33.5	47.6	-6.4	54.0
4.583	45.7	39.7	3.0	180	30.9	8.6	32.9	46.3	-7.7	54.0
5.499	43.9	37.9	1.0	0	32.4	9.2	32.7	46.8	-7.2	54.0
6.416	41.2	35.2	1.0	0	34.3	10.3	32.5	47.3	-6.7	54.0
7.332	36.0	30.0	1.0	90	36.8	11.4	33.7	44.5	-9.5	54.0
8.249	42.0	36.0	1.0	90	37.1	12.5	32.7	52.9	-1.1	54.0
9.166	36.0	30.0	1.0	180	36.8	12.4	33.2	46.2	-7.8	54.0

*** CORRECTED READING** = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

**** DELTA** = CORRECTED READING - SPECIFICATION LIMIT

COMPATIBLE ELECTRONICS

RADIATED EMISSIONS

COMPANY NAME: HYPERCOM CORPORATION **DATE:** 10-29-98

EUT: POS TERMINAL **EUT S/N:**

EUT MODEL: FXI 01 **LOCATION:** ■ BREA ☐ SILVERADO ☐ AGOURA

SPECIFICATION: FCC 15.249 **CLASS:** **TEST DISTANCE:** 3M **LAB:** D

ANTENNA: ☐ LOOP ☐ BICONICAL ■ LOG ■ HORN **POLARIZATION:** ☐ VERT ■ HORIZ

■ QUALIFICATION ☐ ENGINEERING ☐ MFG. AUDIT **ENGINEER:** KYLE F.

NOTES: 50% DUTY CYCLE

Frequency (GHz)	Peak Reading (dBuV) [redacted]	Average Reading (dBuV) [redacted]	Antenna Height (meters)	Azimuth (degrees)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	* Corrected Reading (dBuV) [redacted]	Delta ** (dB)	Spec Limit (dBuV) [redacted]
.916	102.1	—	1.0	90	21.3	6.2	37.3	92.3	-1.7	94.0
1.833	52.4	46.4	3.0	0	24.5	5.9	33.6	43.2	-10.8	54.0
2.749	44.5	38.5	2.5	0	26.7	4.8	33.9	36.1	-17.9	54.0
3.666	45.6	39.6	2.0	180	29.6	6.9	33.5	42.6	-11.4	54.0
4.582	44.4	38.4	1.0	90	30.9	8.6	32.9	45.0	-9.0	54.0
5.499	42.2	36.2	1.0	0	32.4	9.2	32.7	45.1	-8.9	54.0
6.416	43.6	37.6	1.5	180	34.3	10.3	32.5	49.7	-4.3	54.0
7.332	36.5	30.5	1.0	90	36.8	11.4	33.7	45.0	-9.0	54.0
8.249	37.4	31.4	1.0	90	37.4	13.1	32.9	49.0	-5.0	54.0
9.166	36.8	30.8	1.0	180	36.8	12.4	33.2	46.8	-7.2	54.0

*** CORRECTED READING** = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

**** DELTA** = CORRECTED READING - SPECIFICATION LIMIT

Test location: Compatible Electronics
Customer : HYPERCOM, INC.
Manufacturer : HYPERCOM, INC.
EUT name : POS TERMINAL
Specification: Fcc-B Test distance: 10.0 mtrs
Distance correction factor(20*log(test/spec)) : 0.00
Test Mode :
TEMPERATURE 65 DEGREES F.
RELATIVE HUMIDITY 78%
TEST BY: Kyle Fujimoto
KYLE FUJIMOTO

Date : 10/29/1998
Time : 10.54
Model: FXI 01
Lab: D

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
1V	30.76	55.30	1.11	12.18	38.91	29.68	40.00	-10.32
2V	36.79	57.20	1.17	11.21	38.97	30.61	40.00	-9.39
3V	37.52	58.40	1.18	11.10	38.98	31.70	40.00	-8.30
4V	41.50	54.30	1.23	10.76	39.00	27.29	40.00	-12.71
5V	54.48	59.70	1.44	10.74	38.96	32.93	40.00	-7.07
6V	68.91	53.10	1.59	10.03	38.63	26.09	40.00	-13.91
7V	84.50	46.70	1.60	8.86	38.35	18.82	40.00	-21.18
8V	100.60	48.10	1.70	9.44	38.51	20.73	43.50	-22.77
9V	108.24	49.40	1.77	9.93	38.66	22.43	43.50	-21.07
10V	137.74	48.60	2.05	11.76	38.80	23.62	43.50	-19.88
11V	171.71	42.20	2.37	14.58	38.60	20.56	43.50	-22.94
12V	206.57	45.40	2.70	15.77	38.92	24.95	43.50	-18,55
13V	476.93	41.70	4.05	17.87	38.47	25.15	46.00	-20.85

Test location: Compatible Electronics
Customer : HYPERCOM, INC.
Manufacturer : HYPERCOM, INC.
EUT name : POS TERMINAL
Specification: Fcc_B Test distance: 3.0 mtrs
Distance correction factor(20*log(test/spec)) :
Test Mode :
TEMPERATURE 65 DEGREES F.
RELATIVE HUMIDITY 78%
TESTED BY: Kyle Fujimoto
KYLE FUJIMOTO

Date : 10/29/1998
Time : 11.21
Model: FXI 01
Lab: D
: 0.00

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
1H	39.66	45.70	0.50	10.75	39.00	17.96	40.00	-22.04
2H	53.99	54.00	0.64	10.78	38.96	26.46	40.00	-13.54
3H	70.79	42.60	0.70	9.92	38.58	14.64	40.00	-25.36
4H	84.49	39.80	0.74	8.87	38.34	11.07	40.00	-28.93
5H	121.89	40.00	0.99	10.80	38.94	12.85	43.50	-30.65
6H	250.74	43.90	1.60	17.45	38.60	24.35	46.00	-21.65
7H	423.51	36.30	2.09	16.93	38.36	16.97	46.00	-29.03
8H	602.68	49.40	3.02	19.56	38.51	33.48	46.00	-12.52
9H	717.08	35.90	3.60	21.27	38.07	22.71	46.00	-23.29

COMPATIBLE ELECTRONICS

RADIATED EMISSIONS

COMPANY NAME: HYPERCOM CORPORATION **DATE:** 10-29-98

EUT: POS TERMINAL **EUT S/N:**

EUT MODEL: FXI 01 **LOCATION:** ■ BREA ☐ SILVERADO ☐ AGOURA

SPECIFICATION: FCC 15.249 **CLASS:** **TEST DISTANCE:** 3M **LAB:** D

ANTENNA: ■ LOOP ☐ BICONICAL ☐ LOG ☐ HORN **POLARIZATION:** ■ VERT ■ HORIZ

■ QUALIFICATION ☐ ENGINEERING ☐ MFG. AUDIT **ENGINEER:** KYLE F.

NOTES:

Frequency (kHz)	Peak Reading (dBuV)	Avg. ☐ Q.P. ☐ (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Gain (dB)	* Corrected Reading (dBuV)	Delta ** (dB)	Spec Limit (dBuV)
			NO	EMISSIONS	FOUND	BETWEEN			
			10KHZ	AND	30	MHZ.			

* **CORRECTED READING** = METER READING - DISTANCE FACTOR - ANTENNA GAIN

** **DELTA** = CORRECTED READING - SPECIFICATION LIMIT

BREA (714) 579-0500 SILVERADO (714) 589-0700 AGOURA (818) 597-0600