

*FCC PART 15, SUBPART B and C
TEST REPORT*

for

**DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A**

Prepared for

CAPITAL AVIONICS, INC.
3248 CAPITAL CIRCLE S.W.
TALLAHASSEE REGIONAL AIRPORT
TALLAHASSEE, FLORIDA 32310

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DATE: APRIL 11, 2006

	REPORT BODY	APPENDICES					TOTAL
		A	B	C	D	E	
PAGES	16	2	2	15	15	52	

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TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	4
SUMMARY OF TEST RESULTS	4
1. PURPOSE	5
2. ADMINISTRATIVE DATA	6
2.1 Location of Testing	6
2.2 Traceability Statement	6
2.3 Cognizant Personnel	6
2.4 Date Test Sample was Received	6
2.5 Disposition of the Test Sample	6
2.6 Abbreviations and Acronyms	6
3. APPLICABLE DOCUMENTS	7
4. DESCRIPTION OF TEST CONFIGURATION	8
4.1 Description Of Test Configuration - EMI	8
4.1.1 Cable Construction and Termination	9
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	10
5.1 EUT and Accessory List	10
5.2 EMI Test Equipment	11
6. TEST SITE DESCRIPTION	12
6.1 Test Facility Description	12
6.2 EUT Mounting, Bonding and Grounding	12
7. TEST PROCEDURES	13
7.1 Conducted Emissions Test	13
7.2 Radiated Emissions (Spurious and Harmonics) Test	14
7.3 Radiated Emissions (Spurious and Harmonics) Test (continued)	15
8. CONCLUSIONS	16

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams, Charts, and Photos <ul style="list-style-type: none"> • Test Setup Diagrams • Radiated Emissions Photos • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Radiated Site

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 without the written permission of Compatible Electronics, unless done so in full.

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

Device Tested: Digital Compass Transmitter
 Model: CA-320A
 S/N: N/A

Product Description: See Expository Statement

Modifications: The EUT was not modified in order to meet the specifications.

Manufacturer: Capital Avionics, Inc.
 3248 Capital Circle S.W.
 Tallahassee Regional Airport
 Tallahassee, Florida 32310

Test Date: March 6, 2006

Test Specifications: EMI requirements
 CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.207, 15.209 and 15.249

Test Procedure: ANSI C63.4

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.207.
2	Radiated RF Emissions, 10 kHz - 9300 MHz	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Digital Compass Transmitter Model: CA-320A . The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. 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 **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, 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

Capital Avionics, Inc.

Al Ingle President

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Lab Manager

2.4 Date Test Sample was Received

The test sample was received on March 1, 2006

2.5 Disposition of the Test Sample

The sample was returned to Capital Avionics, Inc. on March 7, 2006.

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

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
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	American National Standard for 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

For Radiated Emissions Testing (Compass Mode): The Digital Compass Transmitter Model: CA-320A (EUT) was mounted to a test fixture that simulated the way the EUT would normally be mounted on an aircraft. The EUT was tested as a stand alone unit. The EUT was continuously transmitting. The EUT has a reverse polarity SMA connector used for the antenna connection.

For Radiated Emissions Testing (Laser Mode): The Digital Compass Transmitter Model: CA-320A (EUT) was mounted to a test fixture that simulated the way the EUT would normally be mounted on an aircraft. The EUT was tested as a stand alone unit. The EUT was continuously sending out a laser beam. Note: The EUT does not transmit in this mode.

For Conducted Emissions Testing: The Digital Compass Transmitter Model: CA-320A (EUT) was connected to an AC Adapter via its charge port. The AC Adapter was charging the EUT's batteries on a continuous basis. Note: The EUT does not transmit in this mode.

Note: The AC Adapter is only used to charge the batteries of the EUT.

The EUT uses FSK (Frequency Shift Keying) modulation.

The final radiated as well as the conducted data were taken in the mode above. For the radiated data, it was determined the worst case mode was the compass mode. Please see Appendix E for the data sheets.

4.1.1 **Cable Construction and Termination**

Cable 1

This is a 1.5 meter unshielded cable connecting the EUT to the AC Adapter. It has a 6 pin LEMO connector at the EUT end and is hard wired into the AC Adapter. The cable was bundled to a length of 1 meter.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT**5.1 EUT and Accessory List**

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
DIGITAL COMPASS TRANSMITTER (EUT)	CAPITAL AVIONICS, INC.	CA-320A	N/A	SKKCA320A1
AC ADAPTER	CAPITAL AVIONICS, INC.	CA-320	P/N: 071-0106-00	N/A



5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 10, 2005	June 10, 2006
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22279	June 10, 2005	June 10, 2006
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 11, 2005	June 11, 2006
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100172	October 28, 2004	October 28, 2006
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Preamplifier	Com Power	PA-103	1582	January 19, 2006	Jan. 19, 2007
Biconical Antenna	Com Power	AB-900	15250	March 11, 2005	March 11, 2006
Log Periodic Antenna	Com Power	AL-100	16247	August 22, 2005	Aug. 22, 2006
Loop Antenna	Com Power	AL-130	17089	September 21, 2005	Sept. 21, 2006
Horn Antenna	Com Power	AH-118	10067	July 27, 2004	July 27, 2006
Microwave Preamplifier	Com Power	PA-122	181917	January 20, 2006	Jan. 20, 2007
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
LISN	Com Power	LI-215	12090	September 1, 2005	Sept.1, 2006
LISN	Com Power	LI-215	12076	September 1, 2005	Sept. 1, 2006
Transient Limiter	Seaward	252A910	K39-0220	August 17, 2005	Aug. 17, 2006

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6. TEST SITE DESCRIPTION

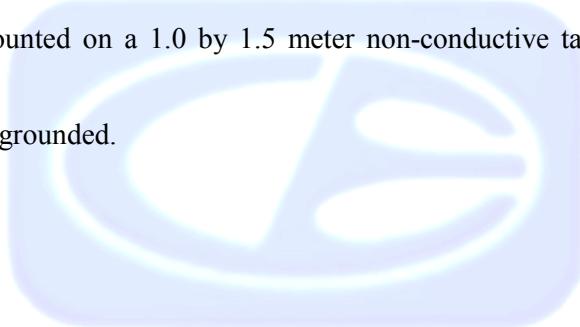
6.1 Test Facility Description

Please refer to section 2.1 and 7.1 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 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the “Max Hold” feature activated. The quasi-peak was used only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.207 for conducted emissions.

7.2
Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were 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 Preamplifier Model: PA-122 was used for frequencies from 1 GHz to 9.3 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer or EMI Receiver records the highest measured reading over all the sweeps.

For the peak readings below 1000 MHz that were within 3 dB of the spec limit or higher, the quasi-peak adapter was used to quasi-peak the readings.

For the peak readings above 1000 MHz that were within 3 dB of the spec limit or higher, the readings were averaged manually by narrowing the video filter down to 10 Hz and slowing the sweep time to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 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. 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 loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

7.3**Radiated Emissions (Spurious and Harmonics) Test (continued)**

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. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.

8. CONCLUSIONS

The Digital Compass Transmitter Model: CA-320A meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.249.



APPENDIX A

LABORATORY RECOGNITIONS

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LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

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APPENDIX B

MODIFICATIONS TO THE EUT

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MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 or FCC Class B 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.

No modifications were made during testing.



APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

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ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Digital Compass Transmitter
Model: CA-320A
S/N: N/A

There were no additional models covered under this report.



APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

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FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

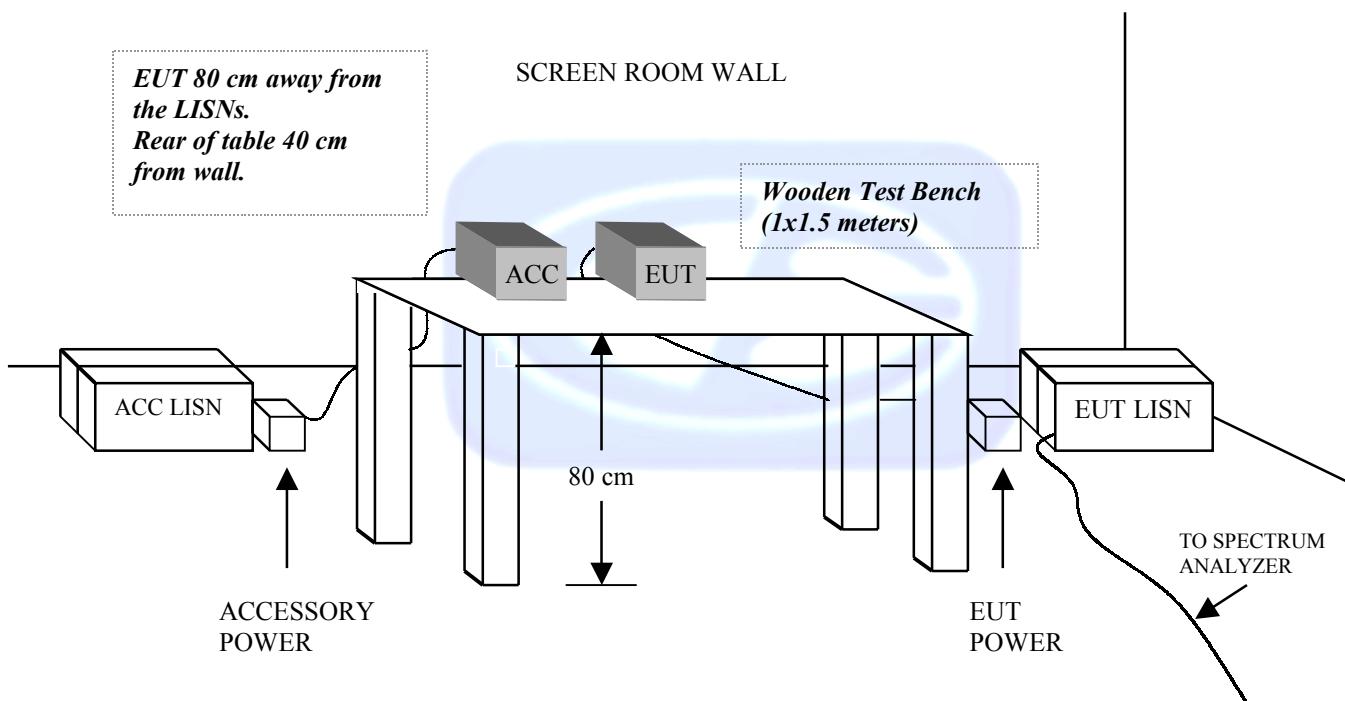
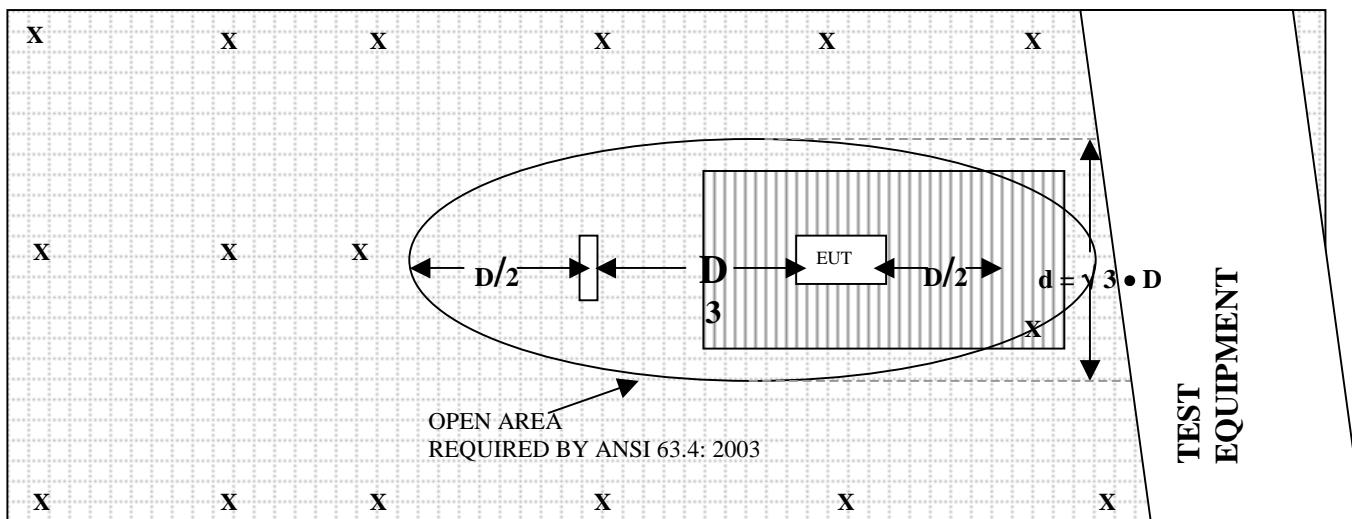


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE
OPEN LAND > 15 METERS

OPEN LAND > 15 METERS
X = GROUND RODS

 = GROUND SCREEN

D = TEST DISTANCE (meters)

 = WOOD COVER

COM-POWER AB-900
BICONICAL ANTENNA
S/N: 15250
CALIBRATION DATE: MARCH 11, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	10.90	120	13.10
35	10.90	125	12.40
40	10.90	140	11.90
45	10.30	150	11.80
50	11.40	160	13.30
60	10.40	175	15.40
70	7.40	180	14.60
80	6.20	200	15.70
90	8.20	250	16.50
100	10.10	300	19.20

COM-POWER AL-100**LOG PERIODIC ANTENNA****S/N: 16247****CALIBRATION DATE: AUGUST 22, 2005**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.70	700	19.72
400	13.19	800	20.59
500	14.99	900	21.10
600	15.95	1000	24.35

COM-POWER PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: JANUARY 19, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.7	300	32.4
40	32.6	350	32.4
50	32.6	400	32.1
60	32.8	450	32.1
70	32.7	500	31.8
80	32.7	550	31.8
90	32.7	600	32.0
100	32.6	650	31.9
125	32.6	700	31.5
150	32.5	750	31.7
175	32.4	800	31.4
200	32.5	850	31.6
225	32.5	900	30.8
250	32.3	950	31.1
275	32.4	1000	30.9

COM-POWER PA-122

PREAMPLIFIER

S/N: 181917

CALIBRATION DATE: JANUARY 20, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	34.697	10.0	36.558
1.5	33.817	10.5	35.048
2.0	33.587	11.0	33.258
2.5	33.804	11.5	32.960
3.0	33.850	12.0	33.312
3.5	33.943	12.5	33.836
4.0	34.399	13.0	34.178
4.5	34.847	13.5	34.197
5.0	35.172	14.0	33.769
5.5	35.383	14.5	33.392
6.0	35.539	15.0	33.387
6.5	34.802	15.5	34.038
7.0	33.793	16.0	34.884
7.5	33.511	16.5	35.740
8.0	33.910	17.0	35.341
8.5	34.907	17.5	34.729
9.0	36.036	18.0	33.760
9.5	36.661		

COM POWER AH-118
HORN ANTENNA
S/N: 10067
CALIBRATION DATE: JULY 27, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.0	10.0	37.8
1.5	27.9	10.5	39.4
2.0	31.5	11.0	39.4
2.5	31.1	11.5	40.6
3.0	30.6	12.0	40.8
3.5	30.5	12.5	40.5
4.0	30.6	13.0	41.2
4.5	31.4	13.5	42.0
5.0	33.7	14.0	43.1
5.5	33.8	14.5	43.4
6.0	34.7	15.0	39.2
6.5	35.0	15.5	38.8
7.0	35.9	16.0	40.1
7.5	38.1	16.5	40.2
8.0	38.2	17.0	43.4
8.5	37.7	17.5	46.6
9.0	37.7	18.0	45.8
9.5	38.4		

COM-POWER AL-130
LOOP ANTENNA
S/N: 17089
CALIBRATION DATE: SEPTEMBER 21, 2005

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.84	8.66
0.01	-41.93	9.57
0.02	-41.29	10.21
0.05	-42.37	9.13
0.07	-41.8	9.7
0.1	-41.83	9.67
0.2	-44.13	7.37
0.3	-41.73	9.77
0.5	-41.8	9.7
0.7	-41.53	9.97
1	-41.46	10.04
2	-41.14	10.36
3	-41.26	10.24
4	-41.46	10.04
5	-41.10	10.40
10	-40.83	10.67
15	-41.47	10.03
20	-35.44	16.06
25	-42.37	9.13
30	-42.94	8.56

**FRONT VIEW**

CAPITAL AVIONICS, INC.
DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A

FCC SUBPART B AND FCC SUBPART C - RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

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**REAR VIEW**

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DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A
FCC SUBPART B AND FCC SUBPART C - RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
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FRONT VIEW

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MODEL: CA-320A

FCC SUBPART B AND FCC SUBPART C - RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

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**REAR VIEW**

CAPITAL AVIONICS, INC.
DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A
FCC SUBPART B AND FCC SUBPART C - RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



FRONT VIEW

CAPITAL AVIONICS, INC.
DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A
FCC SUBPART B AND FCC SUBPART C - CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division
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**REAR VIEW**

CAPITAL AVIONICS, INC.
DIGITAL COMPASS TRANSMITTER
MODEL: CA-320A
FCC SUBPART B AND FCC SUBPART C - CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

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Agoura Division
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Lake Forest Division
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Lake Forest, CA 92630
(949) 587-0400

APPENDIX E

DATA SHEETS

Brea Division
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Brea, CA 92823
(714) 579-0500

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Agoura, CA 91301
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RADIATED EMISSIONS
DATA SHEETS

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Lake Forest Division
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(949) 587-0400

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous Trans

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous T

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

Configuration -- Continuous Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.37	83.81	H	94	-10.19	Peak	1.75	90	
1806.74	43.94	H	54	-10.06	Peak	1.43	135	
2710.11	41.31	H	54	-12.69	Peak	1.62	135	
3613.48	47.71	H	54	-6.29	Peak	1.99	135	
4516.85	39.48	H	54	-14.52	Peak	2.14	135	
5420.22		H	54	-54	Peak			NO EMISSION FOUND
6323.59		H	54	-54	Peak			NO EMISSION FOUND
7226.96		H	54	-54	Peak			NO EMISSION FOUND
8130.33		H	54	-54	Peak			NO EMISSION FOUND
9033.7		H	54	-54	Peak			NO EMISSION FOUND

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous T

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

Configuration -- Continuous Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
912.37	76.42	H	94	-17.58	Peak	1.25	90	
1824.74	47.7	H	54	-6.3	Peak	1.28	135	
2737.11	40.65	H	54	-13.35	Peak	1.57	135	
3649.48	47.98	H	54	-6.02	Peak	3.11	135	
4561.85	42.48	H	54	-11.52	Peak	2.19	225	
5474.22		H	54	-54	Peak			NO EMISSION FOUND
6386.59		H	54	-54	Peak			NO EMISSION FOUND
7298.96		H	54	-54	Peak			NO EMISSION FOUND
8211.33		H	54	-54	Peak			NO EMISSION FOUND
9123.7		H	54	-54	Peak			NO EMISSION FOUND

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous T

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

Configuration -- Continuous Transmit Mode

FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous T

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

Configuration -- Continuous Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
921.3	81.2	H	94	-12.8	Peak	1.5	90	
1842.74	41.04	H	54	-12.96	Peak	1.45	225	
2764.11	44.02	H	54	-9.98	Peak	2.28	135	
3685.48	47.05	H	54	-6.95	Peak	1.72	135	
4606.85	41.55	H	54	-12.45	Peak	1.99	180	
5528.22		H	54	-54	Peak			NO EMISSION FOUND
6449.59		H	54	-54	Peak			NO EMISSION FOUND
7370.96		H	54	-54	Peak			NO EMISSION FOUND
8292.33		H	54	-54	Peak			NO EMISSION FOUND
9213.7		H	54	-54	Peak			NO EMISSION FOUND

FCC Class B and FCC 15.249

Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
S/N: N/A
Configuration -- Continuous Transmit Mode

Date: 03/06/06
Lab: B
Tested By: Kyle Fujimoto

Digital Portion - 10 kHz to 9.3 GHz

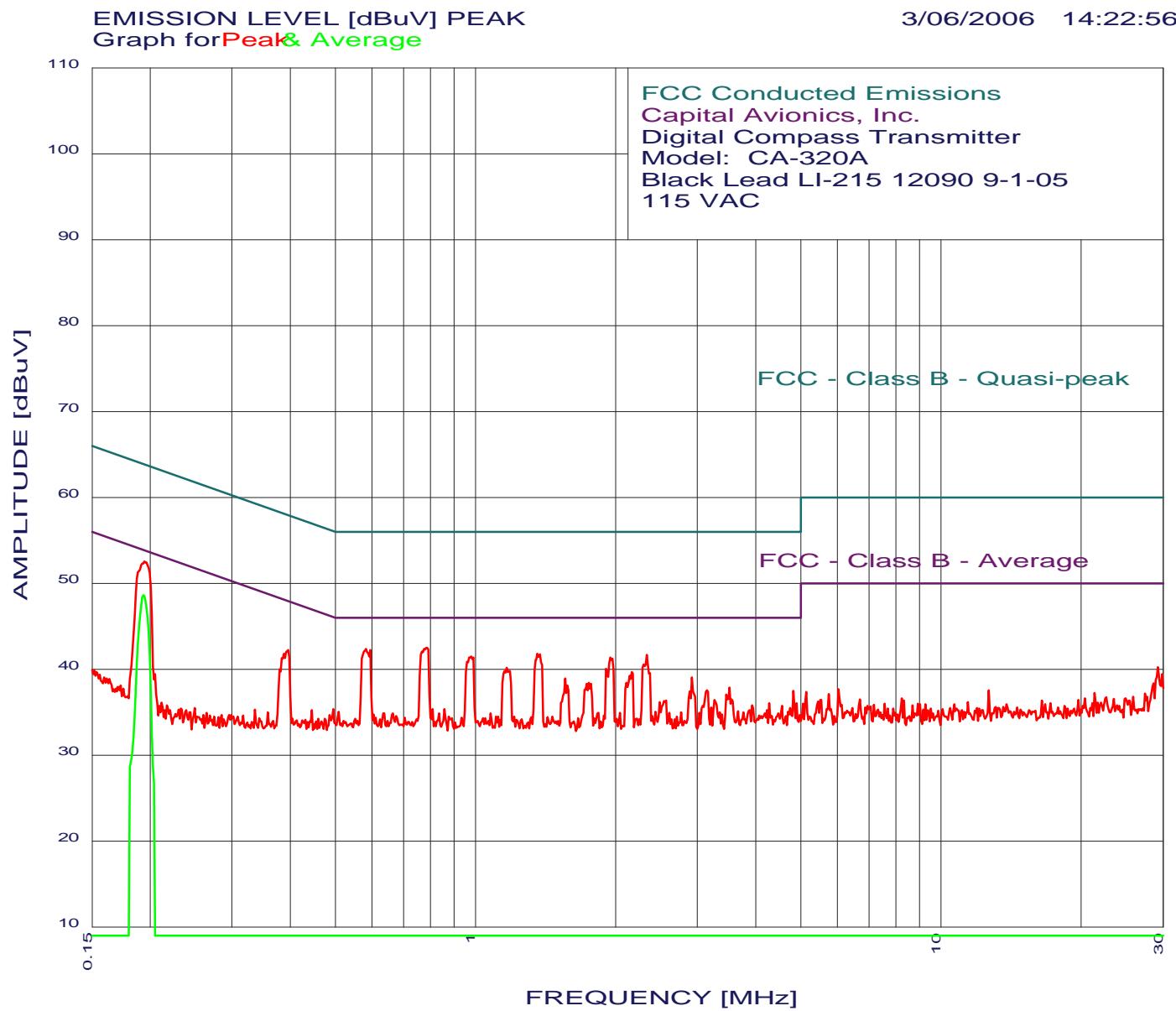
CONDUCTED EMISSIONS
DATA SHEETS

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Capital Avionics, Inc.
 Digital Compass Transmitter
 Model: CA-320A
 Black Lead - 115 VAC
 TEST ENGINEER : Kyle Fujimoto

49 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak# Freq(MHz)Amp(dBuV)Limit(dB) Delta(dB)

1	0.195	52.51	53.84	-1.33*
2	0.788	42.46	46.00	-3.54
3	0.583	42.34	46.00	-3.66
4	1.359	41.79	46.00	-4.21
5	2.334	41.65	46.00	-4.35
6	0.979	41.47	46.00	-4.53
7	1.950	41.32	46.00	-4.68
8	0.396	42.20	47.95	-5.75
9	1.166	40.18	46.00	-5.82
10	2.168	39.64	46.00	-6.36
11	2.916	39.00	46.00	-7.00
12	1.560	38.90	46.00	-7.10
13	1.754	38.41	46.00	-7.59
14	3.511	37.86	46.00	-8.14
15	3.141	37.52	46.00	-8.48
16	4.825	37.45	46.00	-8.55
17	3.260	36.43	46.00	-9.57
18	2.568	36.37	46.00	-9.63
19	29.233	40.24	50.00	-9.76
20	2.488	36.17	46.00	-9.83
21	4.902	36.05	46.00	-9.95
22	4.272	36.02	46.00	-9.98
23	3.924	35.79	46.00	-10.21
24	4.552	35.73	46.00	-10.27
25	3.209	35.53	46.00	-10.47
26	29.851	39.43	50.00	-10.57
27	0.858	35.36	46.00	-10.64
28	0.809	35.36	46.00	-10.64
29	0.494	35.34	46.09	-10.76
30	4.227	35.22	46.00	-10.78
31	3.882	35.19	46.00	-10.81
32	3.663	35.07	46.00	-10.93
33	2.436	35.06	46.00	-10.94
34	0.508	35.04	46.00	-10.96
35	2.766	34.99	46.00	-11.01
36	3.761	34.98	46.00	-11.02
37	2.044	34.93	46.00	-11.07
38	1.840	34.91	46.00	-11.09
39	3.027	34.91	46.00	-11.09
40	2.610	34.88	46.00	-11.12
41	1.077	34.87	46.00	-11.13
42	0.835	34.86	46.00	-11.14
43	0.665	34.85	46.00	-11.15
44	0.637	34.85	46.00	-11.15
45	3.383	34.74	46.00	-11.26
46	1.464	34.49	46.00	-11.51
47	2.707	34.49	46.00	-11.51
48	1.118	34.47	46.00	-11.53

* Please See the Average Readings on the Next Page and on the Plot



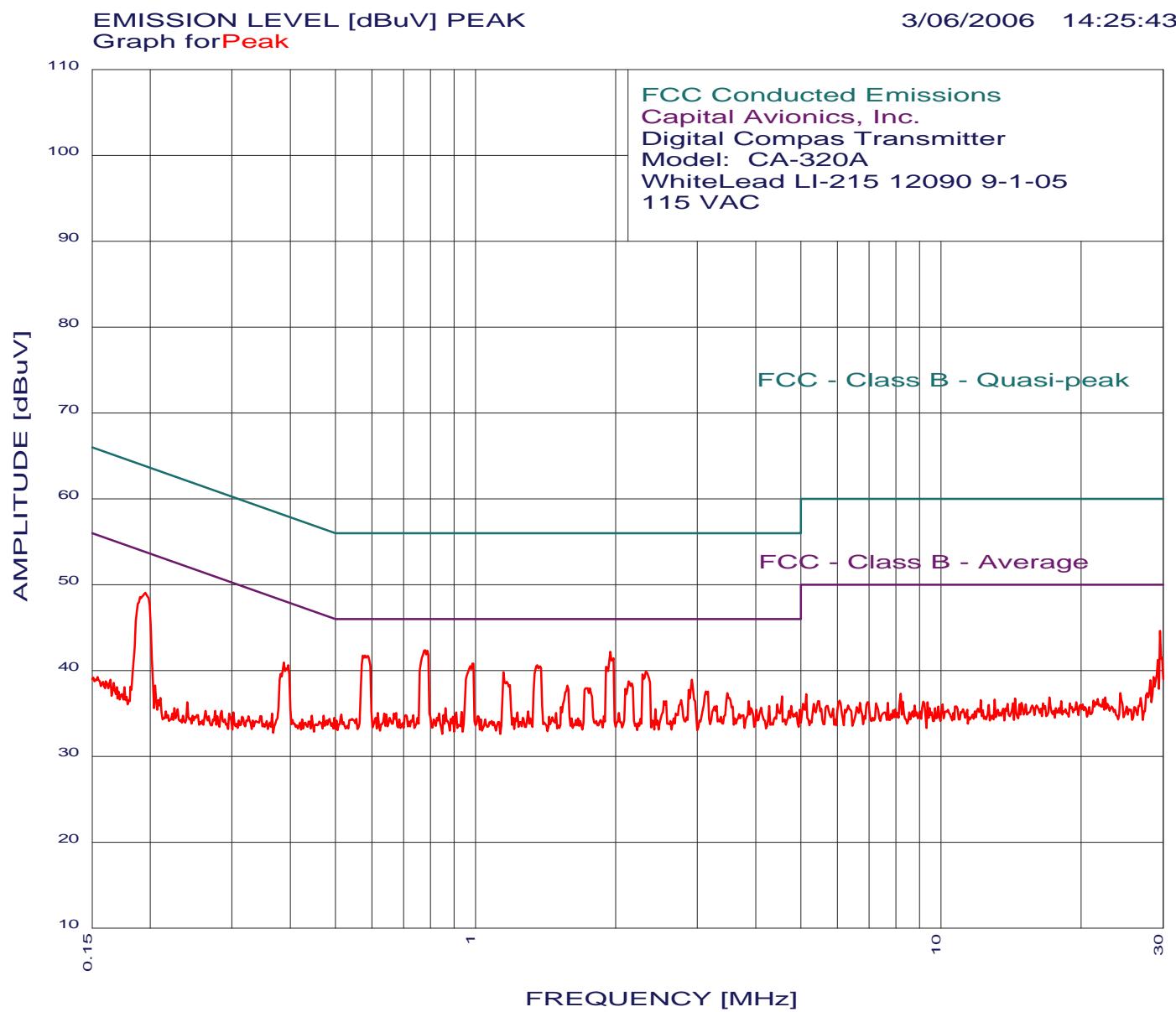
**COMPATIBLE
ELECTRONICS**

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Capital Avionics, Inc.
Digital Compass Transmitter
Model: CA-320A
Black Lead - 115 VAC
TEST ENGINEER : Kyle Fujimoto

1 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 0.10 dB, Curve : Average
Peak# Freq(MHz)Amp(dBuV)Limit(dB) Delta(dB)
1 0.194 48.61 53.88 -5.28





Capital Avionics, Inc.
 Digital Compass Transmitter
 Model: CA-320A
 White Lead - 115 VAC
 TEST ENGINEER : Kyle Fujimoto

49 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak# Freq(MHz)Amp(dBuV)Limit(dB) Delta(dB)

1	0.779	42.36	46.00	-3.64
2	1.950	42.13	46.00	-3.87
3	0.580	41.75	46.00	-4.25
4	0.196	49.01	53.80	-4.79
5	0.990	40.77	46.00	-5.23
6	1.359	40.59	46.00	-5.41
7	29.542	44.58	50.00	-5.42
8	2.322	39.86	46.00	-6.14
9	1.148	39.78	46.00	-6.22
10	2.916	38.92	46.00	-7.08
11	0.387	40.90	48.12	-7.22
12	2.134	38.75	46.00	-7.25
13	1.577	38.21	46.00	-7.79
14	1.763	37.92	46.00	-8.08
15	3.158	37.54	46.00	-8.46
16	3.474	37.37	46.00	-8.63
17	29.233	41.20	50.00	-8.80
18	4.552	36.96	46.00	-9.04
19	2.766	36.51	46.00	-9.49
20	3.862	36.41	46.00	-9.59
21	2.568	36.39	46.00	-9.61
22	4.456	36.06	46.00	-9.94
23	4.774	35.87	46.00	-10.13
24	3.294	35.86	46.00	-10.14
25	4.272	35.84	46.00	-10.16
26	4.114	35.63	46.00	-10.37
27	0.862	35.56	46.00	-10.44
28	2.436	35.48	46.00	-10.52
29	4.008	35.42	46.00	-10.58
30	4.980	35.39	46.00	-10.61
31	28.615	39.25	50.00	-10.75
32	1.297	35.19	46.00	-10.81
33	0.934	35.17	46.00	-10.83
34	1.230	35.09	46.00	-10.91
35	0.909	35.07	46.00	-10.93
36	0.676	35.05	46.00	-10.95
37	0.618	35.05	46.00	-10.95
38	2.034	35.04	46.00	-10.96
39	1.488	35.00	46.00	-11.00
40	0.835	34.96	46.00	-11.04
41	0.637	34.95	46.00	-11.05
42	3.683	34.89	46.00	-11.11
43	0.644	34.85	46.00	-11.15
44	0.516	34.84	46.00	-11.16
45	28.152	38.83	50.00	-11.17
46	0.735	34.76	46.00	-11.24
47	0.709	34.75	46.00	-11.25
48	1.011	34.67	46.00	-11.33
49	0.895	34.57	46.00	-11.43