

FCC PART 15, SUBPART B and C
TEST REPORT
for
CORDLESS PHASING TESTER
MODEL: PD800W

Prepared for
BIERER & ASSOCIATES, INC.
183 ELTON WALKER ROAD
BLYTHEWOOD, SC 29016

Prepared by: _____

MICHAEL CHRISTENSEN

Approved by: _____

KIRIT RAMANI

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DATE: DECEMBER 12, 2003

	REPORT BODY	APPENDICES					TOTAL
		A	B	C	D	E	
PAGES	14	2	2	2	14	13	47

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1	Plot Map And Layout of 3 Meter Radiated Site
2	Plot Map And Layout of 10 Meter 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: Cordless Phasing Tester
Model: PD800W
S/N: N/A

Product Description: See Expository Statement

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

Manufacturer: Bierer & Associates, Inc.
183 Elton Walker Road
Blythewood, SC 29016

Test Dates: November 18 and December 1 and 2, 2003.

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

Test Procedure: ANSI C63.4: 2001

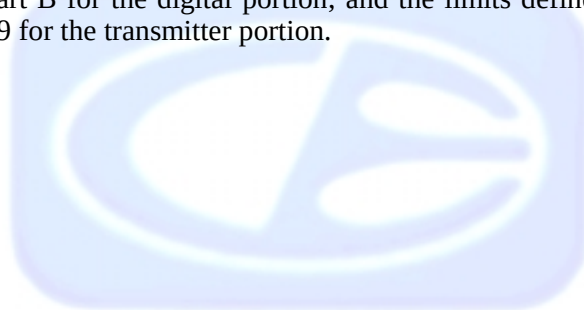
Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	This test was not performed because the EUT operates on DC power only and cannot be plugged into the AC public mains.
2	Radiated RF Emissions, 10 kHz - 9200 MHz (Transmitter Portion)	Complies with the limits of CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.
3	Radiated RF Emissions, 30 MHz - 1000 MHz (Digital Portion)	Complies with the Class A limits of CFR Title 47, Part 15, Subpart B.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Cordless Phasing Tester Model: PD800W. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2001. 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 A** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



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

Bierer & Associates, Inc.

Walter Bierer President

Compatible Electronics, Inc.

Kirit Ramani Test Engineer
Michael Christensen Sr. Test Engineer

2.4 Date Test Sample was Received

The test sample was received on November 17, 2003.

2.5 Disposition of the Test Sample

The sample has not yet been returned to Bierer & Associates, Inc. as of December 12, 2003.

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
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2001	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 Cordless Phasing Tester Model: PD800W (EUT) was tested as a stand alone device. During the test, the EUT was continuously transmitting. The EUT has an external antenna with a reverse SMA connector.

The final radiated data was taken in the mode above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

There are no external cables connected to the EUT.



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

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIALNUMBER	FCC ID
CORDLESS PHASING TESTER (EUT)	BIERER & ASSOCIATES, INC.	PD800W	N/A	RQD-PD800W

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiate Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 20, 2003	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22279	June 20, 2003	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 20, 2003	1 Year
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 25, 2003	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 25, 2003	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 24, 2003	1 Year
Preamplifier	Com Power	PA-102	1017	January 2, 2003	1 Year
Biconical Antenna	Com Power	AB-100	01548	October 8, 2003	1 Year
Log Periodic Antenna	Com Power	AL-100	16089	October 8, 2003	1 Year
Log Periodic Antenna	Com Power	AL-100	16202	February 3, 2003	1 Year
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	D6404A	US80640496	N/A	N/A
Monitor	Hewlett Packard	D5258A	DK74889708	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Loop Antenna	Com-Power	AL-130	17070	July 8, 2003	1 Year
Horn Antenna	Com-Power	AH-118	10073	January 21, 2002	2 Year
Microwave Preamplifier	Com-Power	PA-122	181917	October 31, 2003	1 Year

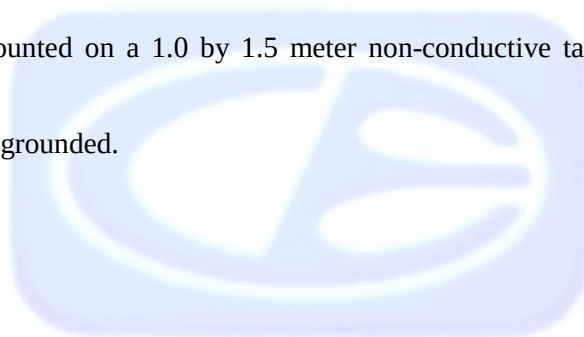
6. TEST SITE DESCRIPTION**6.1 Test Facility Description**

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 RF Emissions

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 Preamplifier 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 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 9.2 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: 2001. 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.

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 for the transmitter portion and at a 10 meter test distance for the digital portion. The final qualification data sheets are located in Appendix E.

8. CONCLUSIONS

The Cordless Phasing Tester Model: PD800W meets all of the **Class A** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



APPENDIX A

LABORATORY RECOGNITIONS

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

Agoura Division
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Agoura, CA 91301
(818) 597-0600

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

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

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)

APPENDIX B

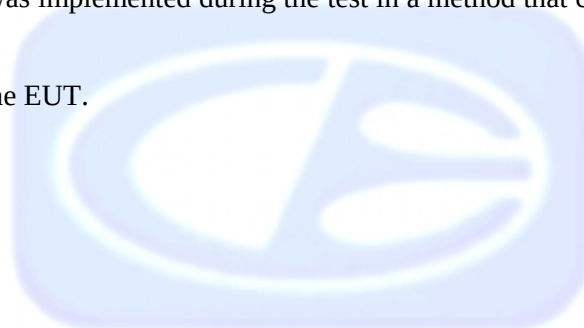
MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

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





APPENDIX C

***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Cordless Phasing Tester
Model: PD800W
S/N: N/A

There were no additional models covered under this report.

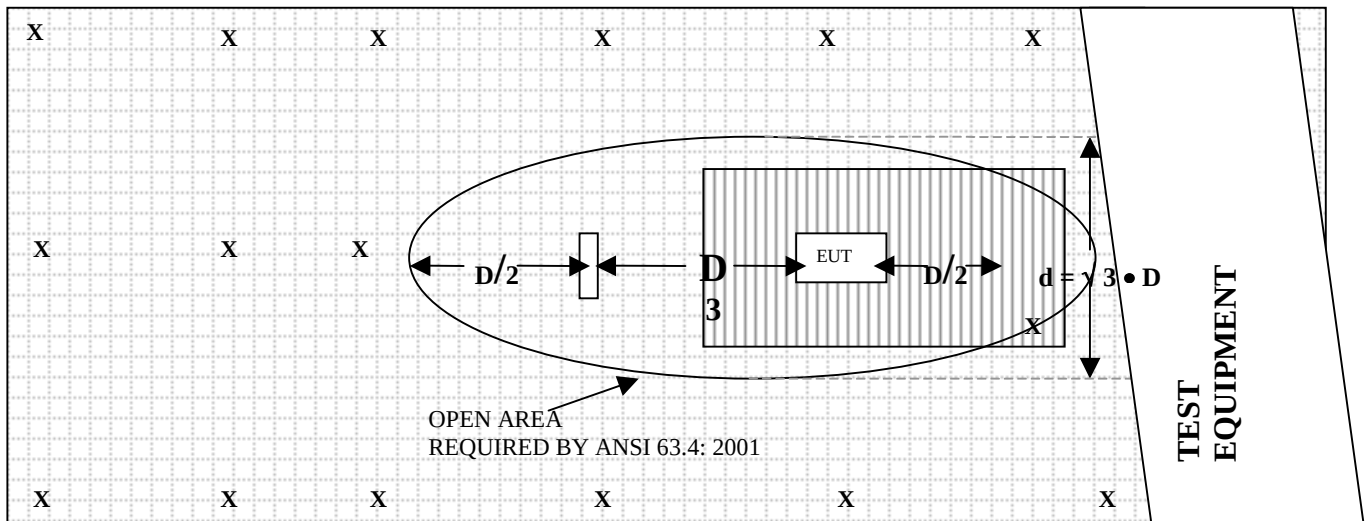


APPENDIX D***DIAGRAMS, CHARTS, AND PHOTOS***

FIGURE 1: PLOT MAP AND LAYOUT OF 3 METER RADIATED SITE

OPEN LAND > 15 METERS

OPEN LAND > 15 METERS



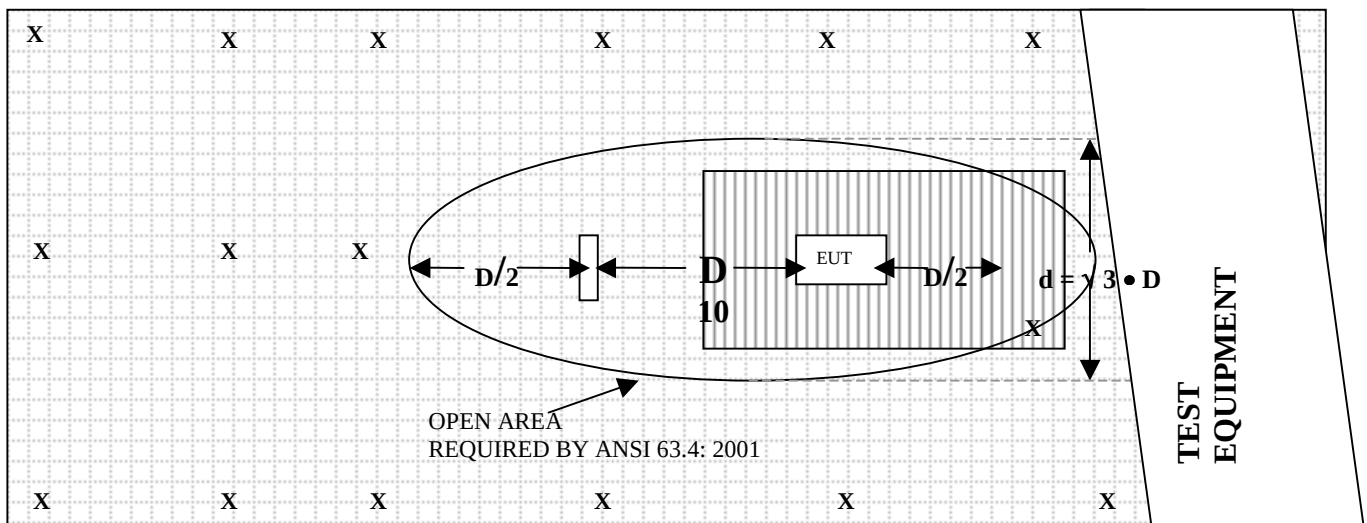
OPEN LAND > 15 METERS

X	= GROUND RODS		= GROUND SCREEN
D	= TEST DISTANCE (meters)		= WOOD COVER

FIGURE 2: PLOT MAP AND LAYOUT OF 10 METER RADIATED SITE

OPEN LAND > 15 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X	= GROUND RODS		= GROUND SCREEN
D	= TEST DISTANCE (meters)		= WOOD COVER

COM-POWER AB-100

BICONICAL ANTENNA

S/N: 01548

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.10	120	9.90
35	12.90	125	11.40
40	14.60	140	12.00
45	12.80	150	13.00
50	12.90	160	13.90
60	9.30	175	14.20
70	8.20	180	14.30
80	8.00	200	14.90
90	8.10	250	16.60
100	8.80	300	19.70

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16089

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.80	700	20.00
400	14.40	800	21.20
500	16.00	900	20.80
600	17.70	1000	21.70

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16202

CALIBRATION DATE: FEBRUARY 3, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.70	700	20.60
400	15.40	800	21.80
500	16.50	900	21.00
600	17.20	1000	21.50

COM-POWER PA-102**PREAMPLIFIER**

S/N: 1017

CALIBRATION DATE: JANUARY 2, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.4	300	38.3
40	38.4	350	38.3
50	38.3	400	38.3
60	38.4	450	37.9
70	38.4	500	38.1
80	38.4	550	38.2
90	38.4	600	38.1
100	38.3	650	37.9
125	38.4	700	37.9
150	38.4	750	37.7
175	38.2	800	37.4
200	38.4	850	37.6
225	38.2	900	37.4
250	38.3	950	36.7
275	38.5	1000	37.0

COM-POWER PA-122**MICROWAVE PREAMPLIFIER**

S/N: 181917

CALIBRATION DATE: OCTOBER 31, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	33.5	6.0	34.5
1.1	33.6	6.5	34.6
1.2	33.6	7.0	33.1
1.3	33.3	7.5	32.5
1.4	33.1	8.0	33.5
1.5	32.7	8.5	35.1
1.6	32.6	9.0	35.5
1.7	32.5	9.5	36.8
1.8	31.5	10.0	35.7
1.9	31.4	11.0	31.8
2.0	30.0	12.0	29.5
2.5	33.2	13.0	31.2
3.0	32.0	14.0	31.7
3.5	33.0	15.0	31.1
4.0	33.4	16.0	32.9
4.5	34.7	17.0	33.6
5.0	34.2	18.0	31.0
5.5	33.2		

COM-POWER AH-118**HORN ANTENNA****S/N: 10073****CALIBRATION DATE: JANUARY 21, 2002**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	26.6	10.0	41.8
1.5	29.2	10.5	40.4
2.0	32.4	11.0	37.5
2.5	32.3	11.5	42.2
3.0	31.4	12.0	40.4
3.5	31.8	12.5	43.6
4.0	31.1	13.0	44.2
4.5	32.0	13.5	41.8
5.0	33.9	14.0	43.3
5.5	32.0	14.5	47.0
6.0	37.8	15.0	49.4
6.5	36.8	15.5	49.9
7.0	42.4	16.0	49.9
7.5	39.5	16.5	48.2
8.0	41.3	17.0	44.0
8.5	40.3	17.5	44.8
9.0	39.5	18.0	44.7
9.5	41.4		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17070

CALIBRATION DATE: JULY 8, 2003

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.0	11.5
0.01	-40.1	11.4
0.02	-41.3	10.2
0.05	-41.7	9.8
0.07	-41.3	10.2
0.1	-41.5	10.0
0.2	-43.8	7.7
0.3	-41.4	10.1
0.5	-41.3	10.2
0.7	-41.2	10.3
1	-40.8	10.7
2	-40.3	11.2
3	-40.6	10.9
4	-40.7	10.8
5	-40.1	11.4
10	-40.5	11.0
15	-41.3	10.2
20	-41.1	10.4
25	-41.7	9.8
30	-43.1	8.4



FRONT VIEW

BIERER & ASSOCIATES, INC.
CORDLESS PHASING TESTER
MODEL: PD800W

FCC SUBPART C - RADIATED EMISSIONS – 11-18-03

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

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

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2337 Troutdale Drive
Agoura, CA 91301
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Silverado Division
19121 El Toro Road
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Lake Forest Division
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(949) 587-0400



REAR VIEW

BIERER & ASSOCIATES, INC.
CORDLESS PHASING TESTER
MODEL: PD800W

FCC SUBPART C - RADIATED EMISSIONS – 11-18-03

**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
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Silverado Division
19121 El Toro Road
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(949) 589-0700

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



FRONT VIEW

BIERER & ASSOCIATES, INC.
CORDLESS PHASING TESTER
MODEL: PD800W

FCC SUBPART B - RADIATED EMISSIONS – 12-1-03 and 12-2-03

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

Brea Division
114 Olinda Drive
Brea, CA 92823
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Agoura Division
2337 Troutdale Drive
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Silverado Division
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REAR VIEW

BIERER & ASSOCIATES, INC.
CORDLESS PHASING TESTER
MODEL: PD800W

FCC SUBPART B - RADIATED EMISSIONS – 12-1-03 and 12-2-03

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

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
916.4866	67.6	67.5 QP	H	1.0	180	X	LOW	21.1	5.2	0.0	0.0		93.7	-0.3	94.0	
916.4866	65.8	65.8 QP	H	2.0	270	Y	LOW	21.1	5.2	0.0	0.0		92.0	-2.0	94.0	
916.4866	62.8	QP	H	1.0	180	Z	LOW	21.1	5.2	0.0	0.0		89.0	-5.0	94.0	
916.4866	64.5	QP	V	1.5	180	X	LOW	21.1	5.2	0.0	0.0		90.7	-3.3	94.0	
916.4866	63.6	QP	V	1.0	0	Y	LOW	21.1	5.2	0.0	0.0		89.8	-4.2	94.0	
916.4866	66.6	66.6 QP	V	1.0	180	Z	LOW	21.1	5.2	0.0	0.0		92.8	-1.2	94.0	

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
1832.9732	50.2	47.3 A	H	2.0	90	X	LOW	31.3	6.1	31.5	0.0		53.3	-0.7	54.0	
1832.9732	50.1	47.1 A	H	2.0	90	Y	LOW	31.3	6.1	31.5	0.0		53.1	-0.9	54.0	
1832.9732	46.1	40.4 A	H	1.0	180	Z	LOW	31.3	6.1	31.5	0.0		46.4	-7.6	54.0	
1832.9732	49.1	45.4 A	V	1.0	180	X	LOW	31.3	6.1	31.5	0.0		51.4	-2.6	54.0	
1832.9732	49.3	45.7 A	V	1.0	0	Y	LOW	31.3	6.1	31.5	0.0		51.7	-2.3	54.0	
1832.9732	48.5	45.0 A	V	1.0	180	Z	LOW	31.3	6.1	31.5	0.0		51.0	-3.0	54.0	

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
2749.4598		A	H			X	LOW	31.9	5.1	32.6	0.0				54.0	NO EMISSION
2749.4598		A	H			Y	LOW	31.9	5.1	32.6	0.0				54.0	NO EMISSION
2749.4598		A	H			Z	LOW	31.9	5.1	32.6	0.0				54.0	NO EMISSION
2749.4598		A	V			X	LOW	31.9	5.1	32.6	0.0				54.0	NO EMISSION
2749.4598		A	V			Y	LOW	31.9	5.1	32.6	0.0				54.0	NO EMISSION
2749.4598	41.6	A	V	1.0	180	Z	LOW	31.9	5.1	32.6	0.0		45.9	-8.1	54.0	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
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RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
3665.9464		A	H			X	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION
3665.9464		A	H			Y	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION
3665.9464		A	H			Z	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION
3665.9464		A	V			X	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION
3665.9464		A	V			Y	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION
3665.9464		A	V			Z	LOW	31.6	6.9	33.1	0.0				54.0	NO EMISSION

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
4582.4330		A	H			X	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION
4582.4330		A	H			Y	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION
4582.4330		A	H			Z	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION
4582.4330		A	V			X	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION
4582.4330		A	V			Y	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION
4582.4330		A	V			Z	LOW	32.3	6.8	34.6	0.0				54.0	NO EMISSION

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
5498.9196		A	H			X	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION
5498.9196		A	H			Y	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION
5498.9196		A	H			Z	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION
5498.9196		A	V			X	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION
5498.9196		A	V			Y	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION
5498.9196		A	V			Z	LOW	32.0	7.5	33.2	0.0				54.0	NO EMISSION

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
6415.4062		A	H			X	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION
6415.4062		A	H			Y	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION
6415.4062		A	H			Z	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION
6415.4062		A	V			X	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION
6415.4062		A	V			Y	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION
6415.4062		A	V			Z	LOW	37.0	7.2	34.6	0.0				54.0	NO EMISSION

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
7331.8928		A	H			X	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION
7331.8928		A	H			Y	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION
7331.8928		A	H			Z	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION
7331.8928		A	V			X	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION
7331.8928		A	V			Y	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION
7331.8928		A	V			Z	LOW	40.5	8.3	32.7	0.0				54.0	NO EMISSION

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RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
8248.3794		A	H			X	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION
8248.3794		A	H			Y	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION
8248.3794		A	H			Z	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION
8248.3794		A	V			X	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION
8248.3794		A	V			Y	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION
8248.3794		A	V			Z	LOW	40.8	9.2	34.3	0.0				54.0	NO EMISSION

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

RADIATED EMISSIONS (FCC SECTION 15.209 AND 15.249)

COMPANY	BIERER & ASSOCIATES, INC.	DATE	11/18/03
EUT	CORDLESS PHASING TESTER	DUTY CYCLE	N/A %
MODEL	PD800W	PEAK TO AVG	N/A dB
S/N	9136	TEST DIST.	3 Meters
TEST ENGINEER	MICHAEL CHRISTENSEN	LAB	A

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
9164.8660		A	H			X	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION
9164.8660		A	H			Y	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION
9164.8660		A	H			Z	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION
9164.8660		A	V			X	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION
9164.8660		A	V			Y	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION
9164.8660		A	V			Z	LOW	40.1	10.2	35.9	0.0				54.0	NO EMISSION

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
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Test Location : Compatible Electronics **Page** : 1/1
Customer : BIERER AND ASSOCIATES **Date** : 12/02/2003
Manufacturer : BIERER AND ASSOCIATES **Time** : 15:11:09
Eut name : CORDLESS PHASING TESTER **Lab** : D
Model : PD800W **Test Distance** : 3
Serial # :
Specification : FCC Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : TESTED BY MICHAEL CHRISTENSEN
NO_SPURIOUS EMISSIONS FOUND FROM 10 KHz TO 30 MHz
OR FROM 1000 MHz TO 9200 MHz

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	480.505	38.50	4.25	15.71	38.02	20.44	46.00	-25.56
2V	480.599	39.60	4.25	15.72	38.02	21.54	46.00	-24.46
3H	902.196	45.50	5.61	20.82	37.37	34.57	46.00	-11.43
4V	902.237	42.40	5.61	20.82	37.37	31.47	46.00	-14.53
5V	930.859	39.80	5.79	21.09	36.96	29.71	46.00	-16.29
6H	930.863	41.10	5.79	21.09	36.96	31.01	46.00	-14.99

Test Location : Compatible Electronics **Page** : 1/1
Customer : BIERER AND ASSOCIATES **Date** : 12/01/2003
Manufacturer : BIERER AND ASSOCIATES **Time** : 10:18:40
Eut name : CORDLESS PHASING TESTER **Lab** : D
Model : PD800W **Test Distance** : 10
Serial # :
Specification : FCC Class A
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : TESTED BY MICHAEL CHRISTENSEN

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	170.072	45.70	3.23	14.10	38.24	24.79	43.50	-18.71
2H	240.111	47.10	3.79	16.29	38.26	28.92	46.40	-17.48
3H	250.069	51.70	3.90	16.60	38.30	33.90	46.40	-12.50
4H	260.068	54.50	3.94	17.27	38.38	37.33	46.40	-9.07
5H	270.069	55.40	3.98	17.91	38.46	38.83	46.40	-7.57
6V	270.070	45.20	3.98	17.91	38.46	28.63	46.40	-17.77
7H	280.070	57.40	4.04	18.53	38.46	41.52	46.40	-4.88
8V	280.078	47.80	4.04	18.53	38.46	31.92	46.40	-14.48
9H	290.068	53.30	4.12	19.13	38.38	38.17	46.40	-8.23
10V	290.070	43.60	4.12	19.13	38.38	28.47	46.40	-17.93
11H	300.062	60.30	4.20	12.80	38.30	39.00	46.40	-7.40
12V	300.067	52.70	4.20	12.80	38.30	31.40	46.40	-15.00
13H	310.063	58.90	4.26	12.98	38.30	37.85	46.40	-8.55
14V	310.114	48.70	4.26	12.98	38.30	27.65	46.40	-18.75
15H	320.073	59.60	4.33	13.16	38.30	38.79	46.40	-7.61
16V	320.079	51.70	4.33	13.16	38.30	30.89	46.40	-15.51
17H	330.070	55.40	4.39	13.33	38.30	34.82	46.40	-11.58
18V	340.054	47.10	4.44	13.50	38.30	26.74	46.40	-19.66
19H	340.070	56.50	4.44	13.50	38.30	36.14	46.40	-10.26
20H	350.116	51.80	4.50	13.66	38.30	31.66	46.40	-14.74
21H	360.074	52.20	4.56	13.82	38.30	32.28	46.40	-14.12
22V	360.116	44.50	4.56	13.82	38.30	24.58	46.40	-21.82
23H	370.103	47.30	4.63	13.97	38.30	27.59	46.40	-18.81
24H	380.109	48.80	4.69	14.12	38.30	29.30	46.40	-17.10
25H	390.120	46.40	4.74	14.26	38.30	27.10	46.40	-19.30
26H	530.114	44.50	5.41	16.55	38.16	28.29	46.40	-18.11