



**DAVIS INSTRUMENTS ADDENDUM TO TEST REPORTS:
FC99-025A AND FC00-102**

FOR THE
INTEGRATED SENSOR SUITE, 6320
AND
ANEMOMETER TRANSMITTER KIT, 6330

FCC PART 15 SUBPART C SECTIONS 15.249

COMPLIANCE

DATE OF ISSUE: AUGUST 7, 2001

PREPARED FOR:

Davis Instruments
3465 Diablo Avenue
Hayward, CA 94545

W.O. No.: 77339

PREPARED BY:

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CKC Laboratories, Inc.
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Mariposa, CA 95338

Date of test: July 24-August 3, 2001

Report No.: FC00-102A

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CKC Laboratories, Inc. has received Certificates of Accreditation from the following agencies:
A2LA (USA); DA Tech (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: July 24-August 3, 2001

DATE OF RECEIPT: July 24, 2001

PURPOSE OF TEST: To demonstrate the compliance of the Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330 with the requirements for FCC Part 15 Subpart C Sections 15.249 devices.
The addendum is to demonstrate continued compliance due to changes to the transmitter circuitry.

TEST METHOD: ANSI C63.4 (1992)

MANUFACTURER: Davis Instruments
3465 Diablo Avenue
Hayward, CA 94545

REPRESENTATIVE: Brett Preston

TEST LOCATION: CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

SUMMARY OF RESULTS

As received, the Davis Instruments Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330 was found to be fully compliant with the following standards and specifications:

United States

➤ FCC Part 15 Subpart C Sections 15.249
ANSI C63.4 (1992) method

Canada

RSS-210 using:
➤ FCC Part 15 Subpart C Section 15.249
ANSI C63.4 (1992) method

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

Test Overview

Section	Test Type	Results
15.33	Frequency Ranges	Pass
15.35	Bandwidth Settings	Pass
15.203	Antenna Requirements	Pass
15.205	Restricted Band	Pass
15.215(c)	Additional Provisions to the General Radiated Emissions Limitations (Bandwidth)	Pass
15.249(a)	Field Strength of Fundamental Frequency	Pass
15.249(c)/15.209	Field Strength of Radiated Spurious Emissions	Pass

MODIFICATIONS REQUIRED FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

QUALITY ASSURANCE:



Dennis Ward, Quality Manager

TEST PERSONNEL:



Randy Clark, EMC Engineer



Chuck Kendall, EMC/Lab Manager



EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit. The reason for the permissive change was due to the transmitter integrated circuit being discontinued and changed to a newer one made by the same manufacturer. The new transmitter is cleaner and has less harmonic noise than the old one as can be seen from the test data. Because the parts were not pin compatible, the circuit board was modified in order to accept the part. No other changes were made to the product, and it is functionally the same as the old one.

EQUIPMENT UNDER TEST

Integrated Sensor Suite

Manuf: Davis Instruments
Model: 6320
Serial: 003
FCC ID: IR2DWW6320

Anemometer Transmitter Kit

Manuf: Davis Instruments
Model: 6330
Serial: 001
FCC ID: IR2DWW6320

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

15.33 FREQUENCY RANGE TESTED

15.249/15.209 Radiated: 9 kHz – 10 GHz

EUT OPERATING FREQUENCY

The EUT was operating at 916 MHz in the 902-928 MHz operating frequency band.

TEMPERATURE AND HUMIDITY DURING TESTING

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

REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

Table 1: 15.249(a) - Fundamental Radiated Emission Levels

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
916.595	88.1	23.8	-27.3	6.7		91.3	93.9	-2.6	H-1-B
916.598	87.8	23.8	-27.3	6.7		91.0	93.9	-2.9	H-1-A
916.599	85.7	23.8	-27.3	6.7		88.9	93.9	-5.0	V-1-B
916.600	84.2	23.8	-27.3	6.7		87.4	93.9	-6.5	V-1-A
916.649	89.9	23.8	-27.3	6.7		93.1	93.9	-0.8	H-2-B
916.656	89.6	23.8	-27.3	6.7		92.8	93.9	-1.1	H-2-A

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.249(a)
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
1 – Sensor Suite
2 – Anemometer
A = AC Powered
B = Battery Powered

COMMENTS: The wireless integrated sensor suite is transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 902-928MHz.

The wireless anemometer station is transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 902-928MHz.

Table 2: 15.249/15.209 - Six Highest Radiated Emission Levels: 9kHz-1000MHz

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
180.040	30.6	16.4	-26.8	2.7		22.9	43.5	-20.6	V-1&2
324.010	30.8	19.8	-26.6	3.8		27.8	46.0	-18.2	H-1&2
465.102	31.7	17.1	-27.6	4.6		25.8	46.0	-20.2	H-1&2
498.858	31.1	17.8	-27.8	4.7		25.8	46.0	-20.2	V-1&2
576.178	30.7	19.0	-27.9	5.2		27.0	46.0	-19.0	H-1&2
619.746	31.3	19.7	-27.9	5.4		28.5	46.0	-17.5	H-1&2

Test Method: ANSI C63.4 (1992)
 Spec Limit: FCC Part 15 Subpart C Section 15.249/15.209
 Test Distance: 3 Meters

NOTES:
 H = Horizontal Polarization
 1 – Sensor Suite
 2 – Anemometer

COMMENTS: The wireless integrated sensor suite is transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 9kHz-1000MHz.

The wireless anemometer station is transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 9kHz-1000MHz.

No spurious emissions found below 30MHz.

Table 3: 15.249/15.209 - Highest Radiated Emission Levels: 1-10GHz

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
1833.010	50.3	27.8	-35.4	6.6		49.3	54.0	-4.7	H-1-A
1833.015	49.9	27.8	-35.4	6.6		48.9	54.0	-5.1	H-1-B
1833.032	50.4	27.8	-35.4	6.6		49.4	54.0	-4.6	V-1-A
1833.110	49.6	27.8	-35.4	6.6		48.6	54.0	-5.4	H-2-B
1833.131	48.3	27.8	-35.4	6.6		47.3	54.0	-6.7	V-1-A
1833.210	50.1	27.8	-35.4	6.6		49.1	54.0	-4.9	V-2-B

Test Method: ANSI C63.4 (1992)
 Spec Limit: FCC Part 15 Subpart C Section 15.249/15.209
 Test Distance: 3 Meters

NOTES:
 H = Horizontal Polarization
 V = Vertical Polarization
 1 – Sensor Suite
 2 – Anemometer
 A = AC Powered
 B = Battery Powered

COMMENTS: The wireless integrated sensor suite is transmitting continuously on 916MHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 1-10 GHz.

The wireless anemometer station is transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, solar and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 1-10 GHz



MEASUREMENT UNCERTAINTY

Associated with data in this report is a ± 4 dB measurement uncertainty.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The interval between different pieces of equipment was approximately 10 centimeters.

The radiated emissions data for the Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330, was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dB μ V/m, the spectrum analyzer reading in dB μ V was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS

Meter reading	(dB μ V)
+	Antenna Factor (dB)
+	Cable Loss (dB)
-	Distance Correction (dB)
-	Preamplifier Gain (dB)
=	Corrected Reading (dB μ V/m)

A typical data sheet will display the following in column format:

#	Freq	Rdng	Amp	Bicon	Log 1	Cable	Corr	Spec	Margin	Polar
			15.31	Horn	Loop					

means reading number.

Freq is the frequency in MHz of the obtained reading.

Rdng is the reading obtained on the spectrum analyzer in dB μ V.

Amp is the preamplifier factor or gain in dB.

Bicon is the biconical antenna factor in dB.

Log 1 is the log periodic antenna factor in dB.

Horn is the horn antenna factor in dB.

Loop is the magnetic loop antenna factor in dB.

Cable is the cable loss in dB of the coaxial cable on the OATS.

Dist is the distance factor in dB used when testing at a different test distance than the one stated in the spec.

Corr is the corrected reading in dB μ V/m (field strength).

Spec is the specification limit (dB) stated in the FCC regulations.

Margin is the closeness to the specified limit in dB; + is over and - is under the limit.

Polar is the polarity of the antenna with respect to earth.

15.31 is the distance correction factor for frequencies below 30 MHz in accordance with FCC Part 15.31.

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Appendix B were used to collect the radiated emissions data for the Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330. Testing below 30 MHz was performed using a magnetic loop antenna. For radiated measurements below 300 MHz, the biconical antenna was used. For frequencies from 300 to 1000 MHz, the log periodic antenna was used. The horn antenna was used for frequencies above 1000 MHz.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dB μ V, and a vertical scale of 10 dB per division.

FCC SECTION 15.35:

TABLE B: ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE

TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1 GHz	10 GHz	1 MHz

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data for the Integrated Sensor Suite, 6320 and Anemometer Transmitter Kit, 6330.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.



EUT TESTING

Radiated Emissions

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. The frequency range of 30 MHz to 88 MHz was scanned with the biconical antenna located about 1.5 meter above the ground plane in the vertical configuration. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. Testing below 30 MHz was performed using a magnetic loop antenna. The frequency range of 100 to 300 MHz was then scanned in the same manner using the biconical antenna and the peaks recorded. Lastly, a scan of the FM band from 88 to 110 MHz was made, using a reduced resolution bandwidth and frequency span. The biconical antenna was changed to the horizontal polarity and the above steps were repeated. After changing to the log periodic antenna in the horizontal configuration, the frequency range of 300 to 1000 MHz was scanned. The log periodic antenna was changed to the vertical polarity and the frequency range of 300 to 1000 MHz was again scanned. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable as needed. The test engineer maximized the readings with respect to the table rotation, antenna height, and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor. Photographs showing the final worst case configuration of the EUT are contained in Appendix A.



TRANSMITTER CHARACTERISTICS

15.203 Antenna Requirements

The external antenna for the EUT has a unique connector that mounts directly to the printed circuit board.

15.205 Restricted Bands

Operating frequency:

The fundamental operating frequency lies outside the restricted bands and therefore complies with the requirements of Section 15.205 of the FCC rules.

Any spurious emission coming from the EUT was investigated to determine if any portion lies inside the restricted band. If any portion of a spurious emissions signal was found to be within a restricted band, investigation was performed to ensure compliance with Section 15.209.

15.215 Additional Provisions to the General Radiated Emission Limitations

The fundamental frequency was kept within the central 80% of the permitted band in order to minimize the possibility of out-of-band operation. Refer to Appendix B for the test equipment used and Appendix C for the occupied bandwidth plot(s).



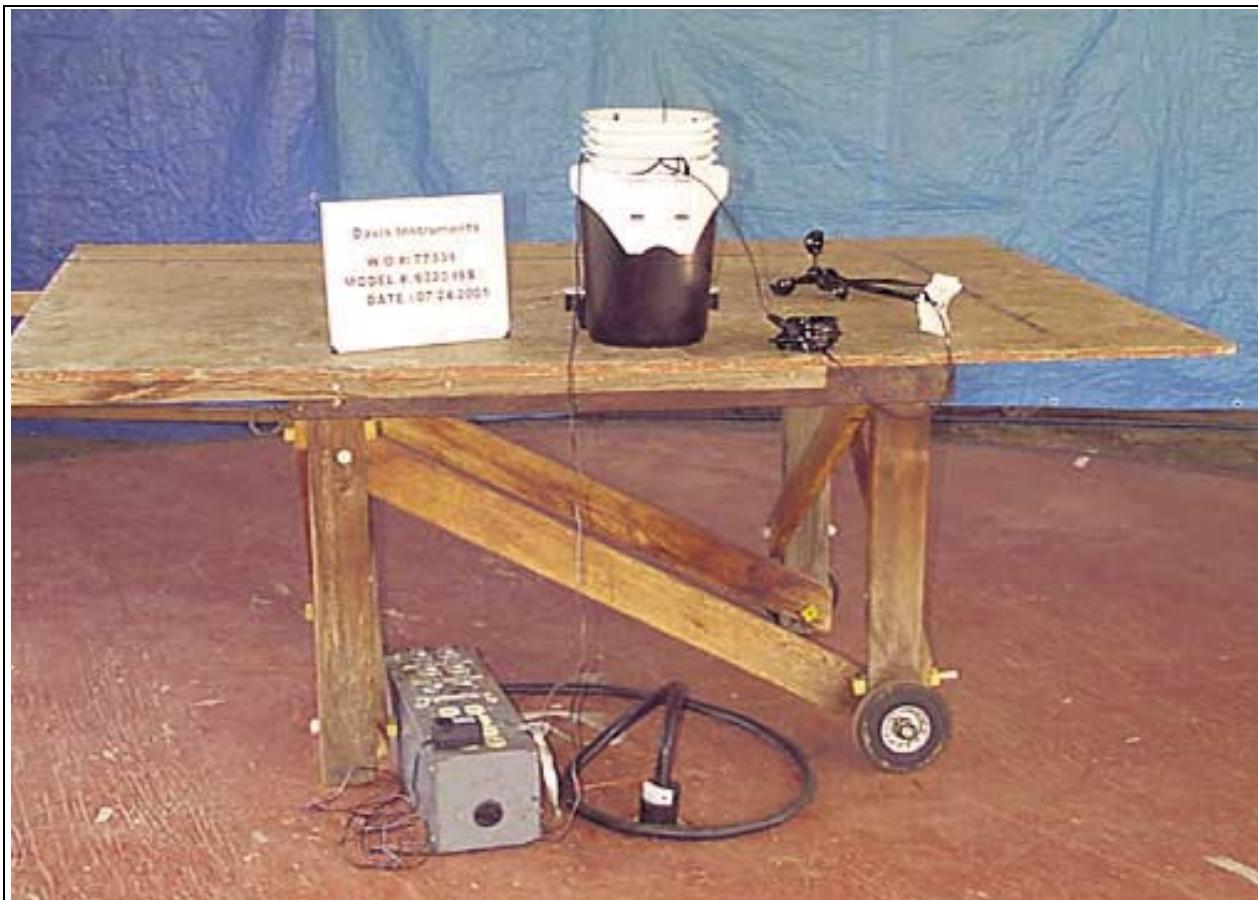
APPENDIX A
SETUP PHOTOGRAPHS

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View of Integrated Sensor Suite, 6320

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View of Integrated Sensor Suite, 6320

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View of Anemometer Transmitter Kit, 6330

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View of Anemometer Transmitter Kit, 6330

APPENDIX B

TEST EQUIPMENT LIST

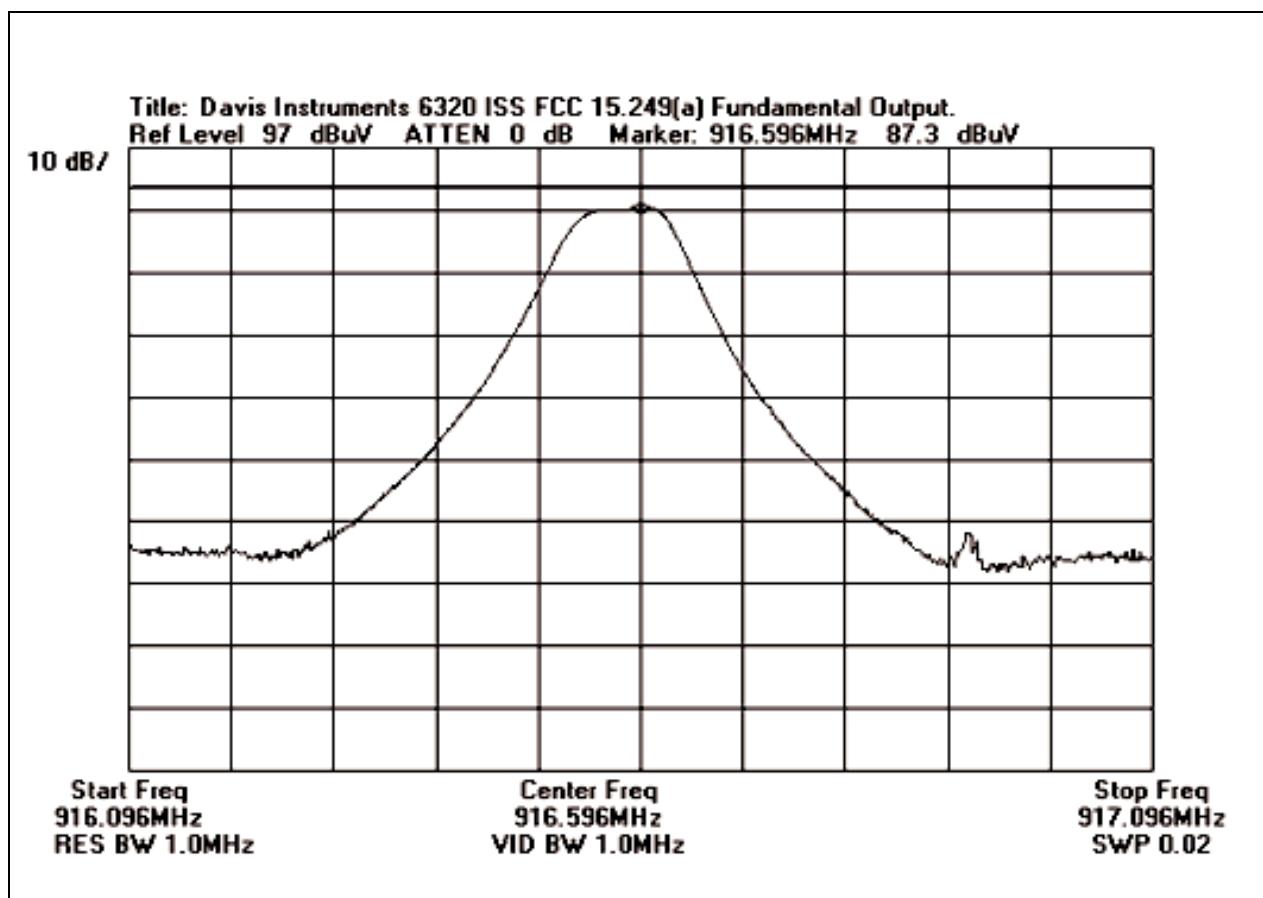
Industry of Canada File No. IC 3082-D

Equipment	Manufacturer	Model #	Serial #	Asset #	Cal Date	Cal Due
3/10 meter Cable	Andrews	Hardline	N/A	N/A	2/27/01	2/27/02
Bicon Antenna	A&H	SAS-200/542	156	00225	12/8/00	12/8/01
LISN Set	Solar	8028-50-TS-24-BNC	814493, 474	02056	5/22/01	5/22/02
Log Antenna	A&H	SAS-200/510	154	01330	5/07/01	5/7/02
Magnetic Loop	EMCO	6502	1074	00226	5/31/01	5/31/02
Preamp	HP	8447D	1937A02604	00099	3/29/01	3/29/02
Preamp	HP	8449B	3008A00301	02010	10/13/00	10/13/01
QP Adapter	HP	85650A	2811A01267	00478	11/03/00	11/3/01
S/A Display	HP	8566B	2403A08241	00489	11/3/00	11/3/01
Spectrum Analyzer	HP	8566B	2209A01404	00490	11/3/00	11/3/01
1-18GHz Horn Antenna	EMCO	3115	9307-4085	00656	2/28/01	2/28/02
Cable #2 (2')	Andrew	FSJ1-50A	N/A	N/A	4/16/01	4/16/02
Cable #4 (50')	Andrew	FSJ1-50A	N/A	N/A	4/16/01	4/16/02
Cable #7 (25')	Andrew	FSJ1-50A	N/A	N/A	4/16/01	4/16/02

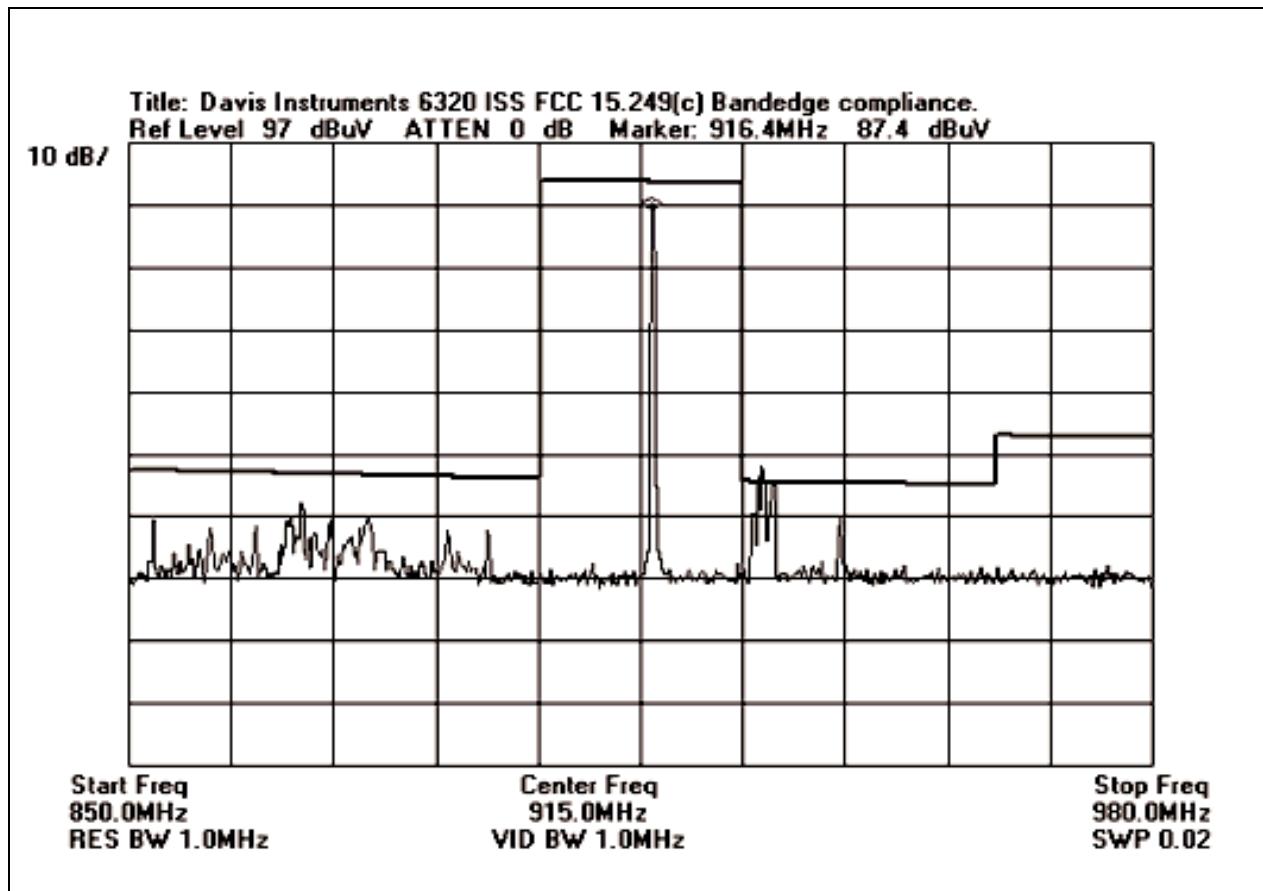


APPENDIX C
MEASUREMENT DATA SHEETS

FUNDAMENTAL OUTPUT PLOT - INTEGRATED SENSOR SUITE, 6320

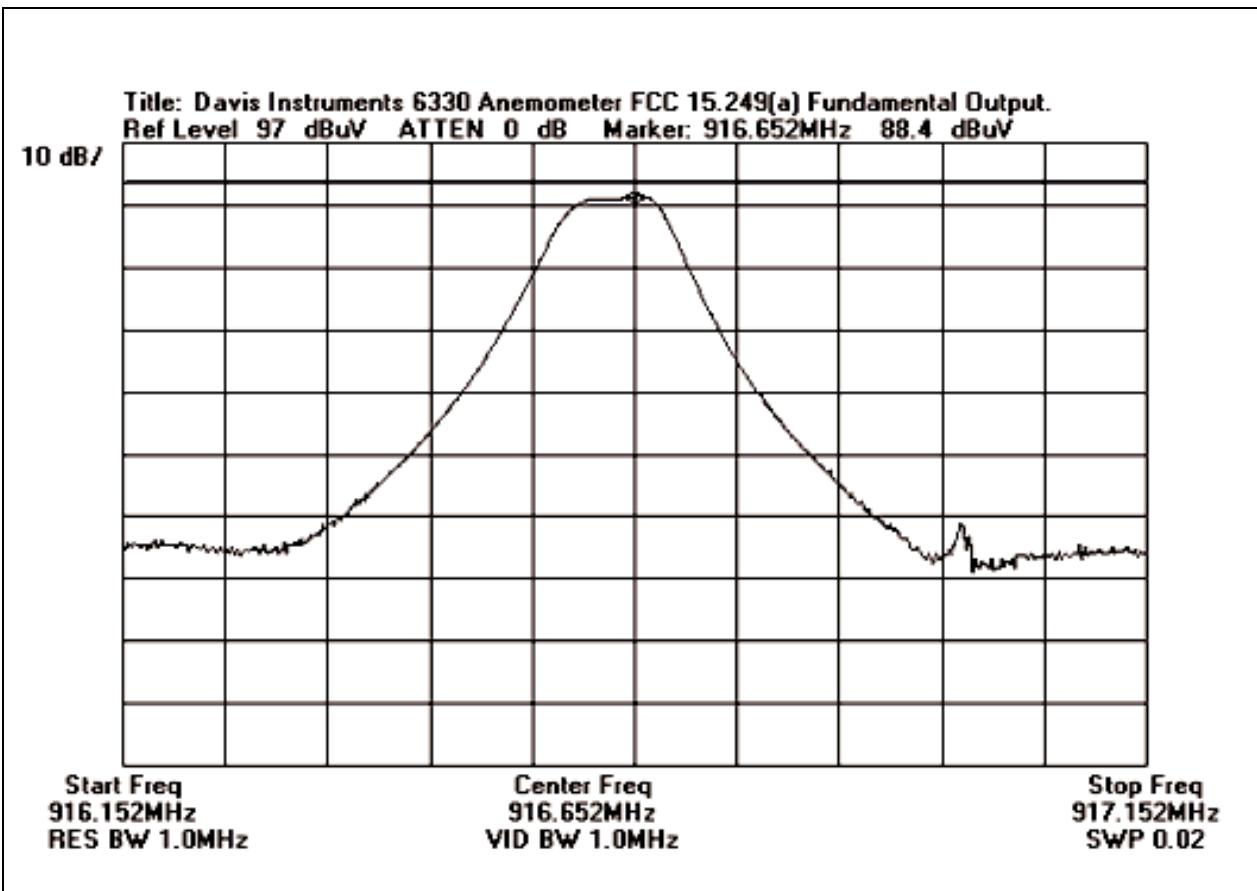


BANDEDGE PLOT - INTEGRATED SENSOR SUITE, 6320

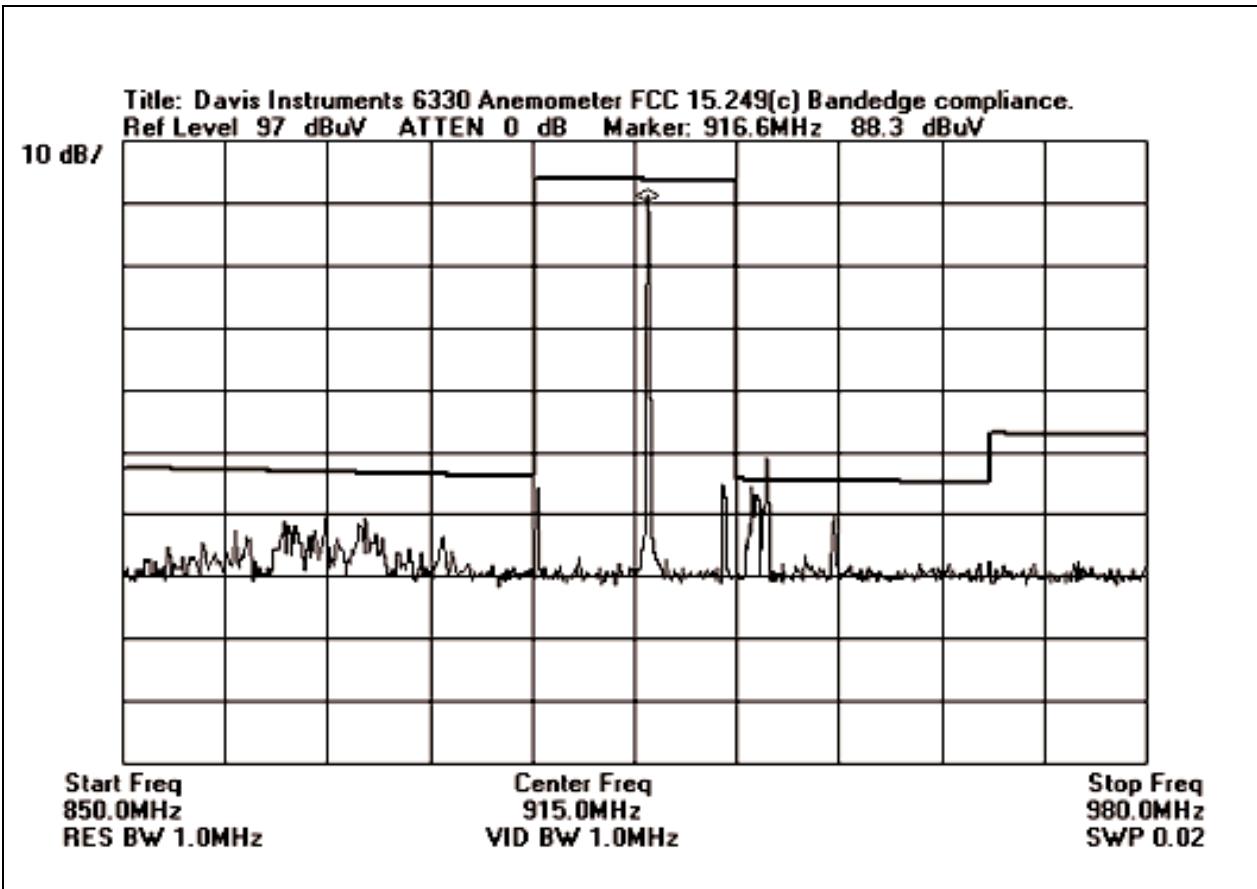


Note: Readings that appear over the spec limit line are ambient readings.

FUNDAMENTAL OUTPUT PLOT - ANEMOMETER TRANSMITTER KIT, 6330



BANDEDGE PLOT - ANEMOMETER TRANSMITTER KIT, 6330



Note: Readings that appear over the spec limit line are ambient readings.



TEST DATA SHEETS

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
Specification: **FCC 15.249(a)**
Work Order #: **77339** Date: 08/03/2001
Test Type: **Maximized Emissions** Time: 17:21:43
Equipment: **Integrated Sensor Suite** Sequence#: 1
Manufacturer: Davis Instruments Tested By: Randal Clark
Model: 6320
S/N: 003

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Integrated Sensor Suite*	Davis Instruments	6320	003

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

EUT is a wireless integrated sensor suite transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 902-928MHz.

Measurement Data:				Reading listed by margin.								Test Distance: 3 Meters			
#	Freq MHz	Rdng dB μ V	Amp	Bicon	Log 1	Cable	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar				
1	916.595M	88.1	-27.3	+0.0	+23.8	+6.7	+0.0	91.3	93.9	-2.6	Horiz	Battery powered			
2	916.598M	87.8	-27.3	+0.0	+23.8	+6.7	+0.0	91.0	93.9	-2.9	Horiz	AC powered			
3	916.599M	85.7	-27.3	+0.0	+23.8	+6.7	+0.0	88.9	93.9	-5.0	Vert	Battery powered			
4	916.600M	84.2	-27.3	+0.0	+23.8	+6.7	+0.0	87.4	93.9	-6.5	Vert	AC powered			



Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
 Specification: **FCC 15.249(a)**
 Work Order #: **77339** Date: 08/03/2001
 Test Type: **Maximized Emissions** Time: 17:17:10
 Equipment: **Anemometer** Sequence#: 6
 Manufacturer: Davis Instruments Tested By: Randal Clark
 Model: 6330
 S/N: 001

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Anemometer*	Davis Instruments	6330	001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

EUT is a wireless anemometer station transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery, and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 902-928MHz.

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

#	Freq MHz	Rdng dB μ V	Amp	Bicon	Log 1	Cable	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	916.649M	89.9	-27.3	+0.0	+23.8	+6.7	+0.0	93.1	93.9	-0.8	Horiz
Battery powered											
2	916.656M	89.6	-27.3	+0.0	+23.8	+6.7	+0.0	92.8	93.9	-1.1	Horiz
AC powered											
3	916.649M	82.7	-27.3	+0.0	+23.8	+6.7	+0.0	85.9	93.9	-8.0	Vert
AC powered											
4	916.650M	81.0	-27.3	+0.0	+23.8	+6.7	+0.0	84.2	93.9	-9.7	Vert
Battery powered											

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
 Specification: **FCC 15.249(C) / 15.209**
 Work Order #: **77339** Date: 07/25/2001
 Test Type: **Maximized Emissions** Time: 15:52:35
 Equipment: **Integrated Sensor Suite** Sequence#: 10
 Manufacturer: Davis Instruments Tested By: Randal Clark
 Model: 6320
 S/N: 003

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Integrated Sensor Suite*	Davis Instruments	6320	003

Support Devices:

Function	Manufacturer	Model #	S/N

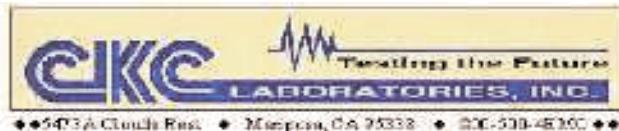
Test Conditions / Notes:

EUT is a wireless integrated sensor suite transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Data represents both AC and battery powered operation. Frequency Range Tested: 9kHz-1000MHz. **No spurious emissions found below 30 MHz.**

#	Freq MHz	Reading listed by margin.					Test Distance: 3 Meters				
		Amp dB μ V	Bicon dB	Log 1 dB	Cable dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant	
1	619.746M	31.3	-27.9	+0.0	+19.7	+5.4	+0.0	28.5	46.0	-17.5	Horiz
2	324.010M	30.8	-26.6	+0.0	+19.8	+3.8	+0.0	27.8	46.0	-18.2	Horiz
3	576.178M	30.7	-27.9	+0.0	+19.0	+5.2	+0.0	27.0	46.0	-19.0	Horiz
4	465.102M	31.7	-27.6	+0.0	+17.1	+4.6	+0.0	25.8	46.0	-20.2	Horiz
5	498.858M	31.1	-27.8	+0.0	+17.8	+4.7	+0.0	25.8	46.0	-20.2	Vert
6	180.040M	30.6	-26.8	+16.4	+0.0	+2.7	+0.0	22.9	43.5	-20.6	Vert
7	348.010M	29.6	-26.7	+0.0	+18.4	+3.9	+0.0	25.2	46.0	-20.8	Horiz
8	348.000M	29.4	-26.7	+0.0	+18.4	+3.9	+0.0	25.0	46.0	-21.0	Vert
9	86.382M	35.8	-27.1	+8.4	+0.0	+1.8	+0.0	18.9	40.0	-21.1	Horiz
10	444.048M	30.6	-27.5	+0.0	+16.7	+4.5	+0.0	24.3	46.0	-21.7	Vert
11	467.736M	29.9	-27.6	+0.0	+17.2	+4.6	+0.0	24.1	46.0	-21.9	Vert
12	250.362M	31.5	-26.6	+15.7	+0.0	+3.1	+0.0	23.7	46.0	-22.3	Horiz



13	260.608M	29.9	-26.5	+17.1	+0.0	+3.2	+0.0	23.7	46.0	-22.3	Horiz
14	240.040M	30.6	-26.6	+16.1	+0.0	+3.1	+0.0	23.2	46.0	-22.8	Horiz
15	420.038M	29.9	-27.3	+0.0	+16.2	+4.3	+0.0	23.1	46.0	-22.9	Vert
16	396.030M	30.0	-27.1	+0.0	+15.9	+4.1	+0.0	22.9	46.0	-23.1	Vert
17	124.990M	30.6	-27.0	+14.4	+0.0	+2.3	+0.0	20.3	43.5	-23.2	Horiz
18	240.014M	30.1	-26.6	+16.1	+0.0	+3.1	+0.0	22.7	46.0	-23.3	Vert
19	131.084M	30.4	-26.9	+13.9	+0.0	+2.3	+0.0	19.7	43.5	-23.8	Vert



Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
 Specification: **FCC 15.249(C) / 15.209**
 Work Order #: **77339** Date: **07/25/2001**
 Test Type: **Maximized Emissions** Time: **15:52:35**
 Equipment: **Anemometer** Sequence#: **11**
 Manufacturer: Davis Instruments Tested By: Randal Clark
 Model: 6330
 S/N: 001

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Anemometer*	Davis Instruments	6330	001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

EUT is a wireless anemometer station transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Data represents both AC and battery powered operation. Frequency Range Tested: 9kHz-1000MHz. **No spurious emissions found below 30 MHz.**

#	Freq MHz	Reading listed by margin.					Test Distance: 3 Meters				
		Amp dB μ V	Bicon dB	Log 1 dB	Cable dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant	
1	619.746M	31.3	-27.9	+0.0	+19.7	+5.4	+0.0	28.5	46.0	-17.5	Horiz
2	324.010M	30.8	-26.6	+0.0	+19.8	+3.8	+0.0	27.8	46.0	-18.2	Horiz
3	576.178M	30.7	-27.9	+0.0	+19.0	+5.2	+0.0	27.0	46.0	-19.0	Horiz
4	465.102M	31.7	-27.6	+0.0	+17.1	+4.6	+0.0	25.8	46.0	-20.2	Horiz
5	498.858M	31.1	-27.8	+0.0	+17.8	+4.7	+0.0	25.8	46.0	-20.2	Vert
6	180.040M	30.6	-26.8	+16.4	+0.0	+2.7	+0.0	22.9	43.5	-20.6	Vert
7	348.010M	29.6	-26.7	+0.0	+18.4	+3.9	+0.0	25.2	46.0	-20.8	Horiz
8	348.000M	29.4	-26.7	+0.0	+18.4	+3.9	+0.0	25.0	46.0	-21.0	Vert
9	86.382M	35.8	-27.1	+8.4	+0.0	+1.8	+0.0	18.9	40.0	-21.1	Horiz
10	444.048M	30.6	-27.5	+0.0	+16.7	+4.5	+0.0	24.3	46.0	-21.7	Vert
11	467.736M	29.9	-27.6	+0.0	+17.2	+4.6	+0.0	24.1	46.0	-21.9	Vert
12	250.362M	31.5	-26.6	+15.7	+0.0	+3.1	+0.0	23.7	46.0	-22.3	Horiz



13	260.608M	29.9	-26.5	+17.1	+0.0	+3.2	+0.0	23.7	46.0	-22.3	Horiz
14	240.040M	30.6	-26.6	+16.1	+0.0	+3.1	+0.0	23.2	46.0	-22.8	Horiz
15	420.038M	29.9	-27.3	+0.0	+16.2	+4.3	+0.0	23.1	46.0	-22.9	Vert
16	396.030M	30.0	-27.1	+0.0	+15.9	+4.1	+0.0	22.9	46.0	-23.1	Vert
17	124.990M	30.6	-27.0	+14.4	+0.0	+2.3	+0.0	20.3	43.5	-23.2	Horiz
18	240.014M	30.1	-26.6	+16.1	+0.0	+3.1	+0.0	22.7	46.0	-23.3	Vert
19	131.084M	30.4	-26.9	+13.9	+0.0	+2.3	+0.0	19.7	43.5	-23.8	Vert

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
 Specification: **FCC 15.249(C) / 15.209**
 Work Order #: **77339** Date: 08/06/2001
 Test Type: **Maximized Emissions** Time: 18:30:38
 Equipment: **Integrated Sensor Suite** Sequence#: 2
 Manufacturer: Davis Instruments Tested By: Randal Clark
 Model: 6320
 S/N: 003

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Integrated Sensor Suite*	Davis Instruments	6320	003

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

EUT is a wireless integrated sensor suite transmitting continuously on 916MHz. EUT is powered by battery and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 1-10 GHz.

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

#	Freq MHz	Rdng dB μ V	Amp Cable dB	Horn dB	Cable dB	Cable dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	1833.032M	50.4	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	49.4	54.0	-4.6	Vert Battery Powered
2	1833.010M	50.3	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	49.3	54.0	-4.7	Horiz AC Powered
3	1833.015M	49.9	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	48.9	54.0	-5.1	Horiz Battery Powered
4	1833.131M	48.3	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	47.3	54.0	-6.7	Vert AC Powered
5	2749.530M	43.6	-35.0 +3.1	+28.9	+0.9	+5.1	+0.0	46.6	54.0	-7.4	Horiz AC Powered
6	2749.436M	41.7	-35.0 +3.1	+28.9	+0.9	+5.1	+0.0	44.7	54.0	-9.3	Vert AC Powered
7	2749.543M	41.4	-35.0 +3.1	+28.9	+0.9	+5.1	+0.0	44.4	54.0	-9.6	Horiz Battery Powered
8	2749.536M	41.2	-35.0 +3.1	+28.9	+0.9	+5.1	+0.0	44.2	54.0	-9.8	Vert Battery Powered
9	3665.902M	37.6	-36.0 +3.1	+31.8	+0.3	+6.2	+0.0	43.0	54.0	-11.0	Vert AC Powered

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 800-500-4362

Customer: **Davis Instruments**
 Specification: **FCC 15.249(C) / 15.209**
 Work Order #: **77339** Date: 08/06/2001
 Test Type: **Maximized Emissions** Time: 18:23:21
 Equipment: **Anemometer** Sequence#: 3
 Manufacturer: Davis Instruments Tested By: Randal Clark
 Model: 6330
 S/N: 001

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Anemometer*	Davis Instruments	6330	001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

EUT is a wireless anemometer station transmitting continuously on 916MHz. RBW 120kHz VBW 120kHz. EUT is powered by battery and AC adapter. The solar panel is solely used as a charging device. AC adapter powered by 120VAC/60Hz. Frequency Range Tested: 1-10 GHz.

Measurement Data:		Reading listed by margin.					Test Distance: 3 Meters				
#	Freq MHz	Rdng dB μ V	Amp Cable dB	Horn dB	Cable dB	Cable dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	1833.210M	50.1	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	49.1	54.0	-4.9	Vert
											Battery Powered
2	1833.110M	49.6	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	48.6	54.0	-5.4	Horiz
											Battery Powered
3	1833.299M	48.0	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	47.0	54.0	-7.0	Horiz
											AC Powered
4	1833.060M	47.8	-35.4 +2.1	+27.8	+0.2	+4.3	+0.0	46.8	54.0	-7.2	Vert
											AC Powered
5	2749.653M	42.9	-35.0 +3.1	+28.8	+0.9	+5.1	+0.0	45.8	54.0	-8.2	Horiz
											AC Powered
6	3666.250M	31.7	-36.0 +3.1	+31.8	+0.3	+6.2	+0.0	37.1	54.0	-16.9	Vert
											AC Powered
7	2749.600M	32.7	-35.0 +3.1	+28.8	+0.9	+5.1	+0.0	35.6	54.0	-18.4	Vert
											AC Powered
8	3666.193M	23.9	-36.0 +3.1	+31.8	+0.3	+6.2	+0.0	29.3	54.0	-24.7	Horiz
											AC Powered