CERTIFICATION TEST REPORT

FOR THE

INTEGRATED SENSOR SUITE, 6320W

FCC PART 15 SUBPART C

COMPLIANCE

DATE OF ISSUE: AUGUST 23, 1999

PREPARED FOR:

Davis Instruments
3465 Diablo Ave.
Hayward, CA 94545

P.O. No: 12542
W.O. No: 72312

Report No: **FC99-025**

PREPARED BY:

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Date of test: August 6, 9, 16, 1999

DOCUMENTATION CONTROL:

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APPROVED BY:

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	August 6, 9, 16, 1999
PURPOSE OF TEST:	To demonstrate the compliance of the Integrated Sensor Suite, 6320W, with the requirements FCC Part 15 Subpart C devices.
MANUFACTURER:	Davis Instruments 3465 Diablo Ave. Hayward, CA 94545
REPRESENTATIVE:	Brett Preston
TEST LOCATION:	CKC Laboratories, Inc. 5473A Clouds Rest Mariposa Ca 95338
TEST PERSONNEL:	Wes Norris & Dustin Oaks
TEST METHOD:	ANSI C63.4 1992
FREQUENCY RANGE TESTED:	9 kHz - 9200 MHz

EQUIPMENT UNDER TEST:

Integrated Sensor Suite

Manuf:	Davis Instruments
Model:	6320W
Serial:	Prototype
FCC ID:	IR2DWW6320 (pending)

Wind Vane and Anemometer

Manuf:	Davis Instruments
Model:	TBD
Serial:	Prototype
FCC ID:	

Rain Collector

Manuf:	Davis Instruments
Model:	TBD
Serial:	Prototype
FCC ID:	

AC Adaptor

Manuf:	Ablex
Model:	TBD
Serial:	N/A
FCC ID:	

SUMMARY OF RESULTS

The Davis Instruments Integrated Sensor Suite, 6320W, was tested in accordance with ANSI C63.4 1992 for compliance with FCC Part 15 Subpart C.

As received, the above equipment was found to be fully compliant with the limits of FCC Part 15 Subpart C. The results in this report apply only to the items tested, as identified herein.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

Device transmits every 2.5 seconds 6 bytes of data using OOK and <1mW of power at 916.5 MHz. Accessory for wired stations.

MEASUREMENT UNCERTAINTY

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

EUT OPERATING FREQUENCY

The EUT was operating at 916.5 MHz.

TEMPERATURE AND HUMIDITY DURING TESTING

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

PERIPHERAL DEVICES

The EUT was not tested with peripheral device.

REPORT OF MEASUREMENTS

The following tables report the six highest worst case levels recorded during the tests performed on the Integrated Sensor Suite, 6320W. All readings taken are peak readings unless otherwise noted by a "Q" or "A". The data sheets from which these tables were compiled are contained in Appendix B.

Table 1: Six Highest Radiated Emission Levels-Below One GHz

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
32.313	30.2	14.1	-26.7	0.8		18.4	40.0	-21.6	V
36.063	32.0	13.7	-26.7	0.8		19.8	40.0	-20.2	V
215.821	28.8	17.9	-26.1	2.1		22.7	43.5	-20.8	V
231.638	28.9	18.2	-26.0	2.2		23.3	46.0	-22.7	H
414.315	32.9	15.9	-26.9	3.0		24.9	46.0	-21.1	H
478.565	30.9	16.9	-27.4	3.3		23.7	46.0	-22.3	H

Test Method: ANSI C63.4 1992
Spec Limit : FCC Part 15.209/15.231(e)
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
N = No Polarization
D = Dipole Reading
Q = Quasi Peak Reading
A = Average Reading

COMMENTS: Testing to FCC Part 15 Subpart C, Section 15.209/15.231(c). The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Table 2: Six Highest Radiated Emission Levels - Above One GHz

FREQUENCY	METER READING	CORRECTION FACTORS				CORRECTED READING	SPEC LIMIT	MARGIN	NOTES
		Horn	Amp	P Factor	Cable				
MHz	dBµV	dB	dB	dB	dB	dBµV/m	dBµV/m	dB	
1833.000	70.9	26.5	-38.6	0.0	4.2	63.0	74.0	-11.0	H
2749.500	60.4	29.7	-37.6	-20.0	5.4	37.9	54.0	-16.1	H
3666.000	67.1	32.4	-38.9	-20.0	6.3	46.9	54.0	-7.1	H
4582.500	60.8	32.3	-39.7	-20.0	7.2	40.6	54.0	-13.4	H
8248.500	50.1	37.6	-40.2	-20.0	9.9	37.4	54.0	-16.6	V
9165.000	50.1	38.5	-39.0	-20.0	10.0	39.6	54.0	-14.4	V

Test Method: ANSI C63.4 1992
Spec Limit : FCC Part 15.209/15.231(e)
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
N = No Polarization
D = Dipole Reading
Q = Quasi Peak Reading
A = Average Reading

COMMENTS: Testing to FCC Part 15 Subpart C, Sections 15.209/15.231(c). The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Table 3: Six Highest Conducted Emission Levels									
FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB	dB	dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.574360	35.8	0.0				35.8	48.0	-12.2	W
1.013114	35.3	0.0				35.3	48.0	-12.7	B
1.124838	37.4	0.0				37.4	48.0	-10.6	W
3.791638	35.2	0.0				35.2	48.0	-12.8	W
6.163022	35.7	0.0				35.7	48.0	-12.3	B
7.663567	35.2	0.0				35.2	48.0	-12.8	W

Test Method: ANSI C63.4 1992
Spec Limit : FCC Part 15.207
Test Distance: No Distance

NOTES: Q = Quasi Peak Reading
A = Average Reading
B = Black Lead
W = White Lead

COMMENTS: Testing to FCC Part 15 Subpart C, Section 15.207. The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

TABLE A

LIST OF TEST EQUIPMENT

1. Spectrum Analyzer, Hewlett Packard, Model No. 85680A, S/N 2049A01408. Calibration date: April 9, 1999. Calibration due date: April 9, 2000.

2. Quasi Peak Adapter, Hewlett Packard, Model No. 85650A, S/N 2430A00541. Calibration date: March 3, 1999. Calibration due date: March 3, 2000.

3. Preamp, Hewlett Packard, Model No. 8447F, S/N 2944A03850. Calibration date: March 22, 1999. Calibration due date: March 22, 2000.

4. Biconical Antenna, Schwarzbeck, Model No. 3110, S/N 9205-1522. Calibration date: April 22, 1999. Calibration due date: April 22, 2000.

5. Log Periodic Antenna, A & H Systems, Model No. SAS-200/510, S/N 318. Calibration date: April 23, 1999. Calibration due date: April 23, 2000.

6. Horn Antenna, EMCO, Model No. 3115, S/N 9602-4660. Calibration date: September 16, 1998. Calibration due date: September 16, 1999.

7. Magloop Antenna, EMCO, Model 6502, S/N 2078. Calibration date June 1, 1998. Calibration due date: September 1, 1999.

8. LISN, Solar Electronics, Model No. 8028-50-TS-24-BNC, S/Ns 910489 & 910490. Calibration date: August 19, 1998. Calibration due date: August 19, 1999.

9. Hollister site A. Calibration date: February 12, 1997. Calibration due date: January 30, 2000.

10. Test software, EMI Test 2.91.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use. Any special conditions required for the EUT to operate normally are identified in the comments that accompany Tables 1 and 2 for radiated emissions and Table 3 for conducted characteristics. Additionally, a complete description of all the ports and I/O cables is included on the information sheets contained in Appendix A.

During radiated emissions testing, 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. This configuration is typical for radiated emissions testing of table top devices.

I/O cables were connected to the EUT in the manner required for normal operation of the system. Excess cabling was bundled in the center in a serpentine fashion using 30-40 centimeter lengths.

During conducted emissions testing, the EUT was located on a wooden table measuring approximately 80 cm high, 1 meter deep, and 1.5 meters in length. One wall of the room where the EUT is located has a minimum 2 meter by 2 meter conductive plane. The EUT was mounted on the wooden table 40 cm away from the conductive plane, and 80 cm from any other conductive surface.

The vertical metal plane used for conducted emissions was grounded to the earth. Power to the EUT was provided through a LISN. The LISN was grounded to the ground plane. All other objects were kept a minimum of 80 cm away from the EUT during the conducted test. Conducted emissions tests required the use of the LISN's listed in Table A.

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Table A were used to collect both the radiated and conducted emissions data for the Integrated Sensor Suite, 6320W. For frequencies below 30 MHz, the magloop antenna was used. For radiated measurements 30 - 300 MHz, the biconical antenna was used. For frequencies from 300 to 1000 MHz, the log periodic antenna was used. For frequencies above 1000 MHz the horn antenna was used. All antennas were located at a distance of 3 meters from the edge of the EUT. Conducted emissions tests required the use of the FCC type LISN's.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dBµV, and a vertical scale of 10 dB per division.

TABLE B : ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE

TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
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	1000 MHz	40 GHz	1 MHz

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in Tables 1, 2 and 3 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, 6320W.

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

When the frequencies exceed 1 GHz, 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.

TEST METHODS

The radiated and conducted emissions data of the Integrated Sensor Suite, 6320W, 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 the "Sample Calculations". The corrected data was then compared to the FCC Part 15, Subpart C emissions limits to determine compliance.

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

Radiated Emissions Testing

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode with the I/O cables and line cords facing the antenna. For frequencies below 30 MHz the magloop antenna was used. The frequency range of 30 MHz - 88 MHz was then 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 which were at or near the limit were recorded. The frequency range of 100 - 300 MHz was scanned with the biconical antenna in the same manner, and the peaks recorded. Lastly, a scan of the FM band from 88 - 110 MHz was made, using a reduced resolution bandwidth and a reduced 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 - 1000 MHz was scanned. The log periodic antenna was changed to the vertical polarity and the frequency range of 300 - 1000 MHz was again scanned. For frequencies above 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.

For the final radiated scan, the equipment was again positioned with its I/O and power cables facing the antenna. A thorough scan of all frequencies was manually made using a small frequency span, rotating the turntable as needed. Comparison with the previously recorded measurements was then made.

Using the peak readings from both scans as a guide, the test engineer then maximized the readings with respect to the table rotation and antenna height. Maximizing of the cables was achieved by monitoring the spectrum analyzer on a closed circuit television monitor while the EUT cables were being moved and rearranged on the EUT table for maximum emissions. Photographs showing the final worst case configuration of the EUT are contained in Appendix A.

Conducted Emissions Testing

For conducted emissions testing, a 30 to 50 second sweep time was used for automated measurements in the frequency bands of 450 kHz to 1.705 MHz, 1.705 MHz to 3 MHz, and 3 MHz to 30 MHz. All readings within 20 dB of the limit were recorded. At frequencies where the recorded emissions were close to the limit, further investigation was performed manually at a slower sweep rate.

FCC Part 15.215(c) - Occupied Bandwidth Measurements

In accordance with Part 15.215(c), the fundamental frequency was kept within the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

SAMPLE CALCULATIONS

The basic spectrum analyzer reading was converted using correction factors as shown in the emissions readings in Tables 1, 2 and 3. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula:

Meter reading (dBµV)
+ Antenna Factor (dB)
+ Cable Loss (dB)
- Distance Correction (dB)
- Pre-amplifier Gain (dB)

= Corrected Reading (dBµV/m)

This reading was then compared to the applicable specification limit to determine compliance.

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

#	Freq MHz	Rdng dBuV	Cable	Amp.	Bicon	Horn	Log	Dist	Corr dBuV/m	Spec	Margin	Polar

means reading number
Freq MHz is the frequency in MHz of the obtained reading.
Rdng dBuV is the reading obtained on the spectrum analyzer in dBµV.
Amp. is short for the preamplifier factor or gain in dB.
Bicon is the biconical antenna factor in dB.
Log is the log periodic antenna factor in dB.
Horn is the horn antenna factor in dB.
Cable is the cable loss in dB of the coaxial cable on the OATS.
P Factor is the correction factor in dB used for pulsed systems (FCC Part 15.35).
Dist is the distance factor (in dB). It is used when testing at a different test distance than the one stated in the spec.
Corr dBµV/m is the corrected reading which is now in dBµV/m (field strength).
Spec is the specification limit (dB) stated in the agency's 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.

APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

INFORMATION ABOUT THE EQUIPMENT UNDER TEST	
Test Software/Firmware:	**N/A**
CRT was displaying:	**N/A**
Power Supply Manufacturer:	**Ablex, Hong Kong 3VDC @ 200 ma**
Power Supply Part Number:	**118F-3-200D**
AC Line Filter Manufacturer:	**N/A**
AC Line Filter Part Number:	**N/A**
Line voltage used during testing:	**115 VAC**

I/O PORTS	
Type	#
Digital/Analog (Wind Speed/Dir)	1
Digital (Rain Collector)	2
Analog (Solar Radiation)	3
Analog (UV Radiation)	4

CRYSTAL OSCILLATORS	
Type	Freq. In MHz
Surface Mount Quartz	.076

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
Product is placed on roof or in yard and reads connected analog/digital sensors and transmits 6 byte data packets to console inside home.	6320W REV A	.072	2	Inside custom plastic housing.

REQUIRED EUT CHANGES TO COMPLY:
None.

CABLE INFORMATION

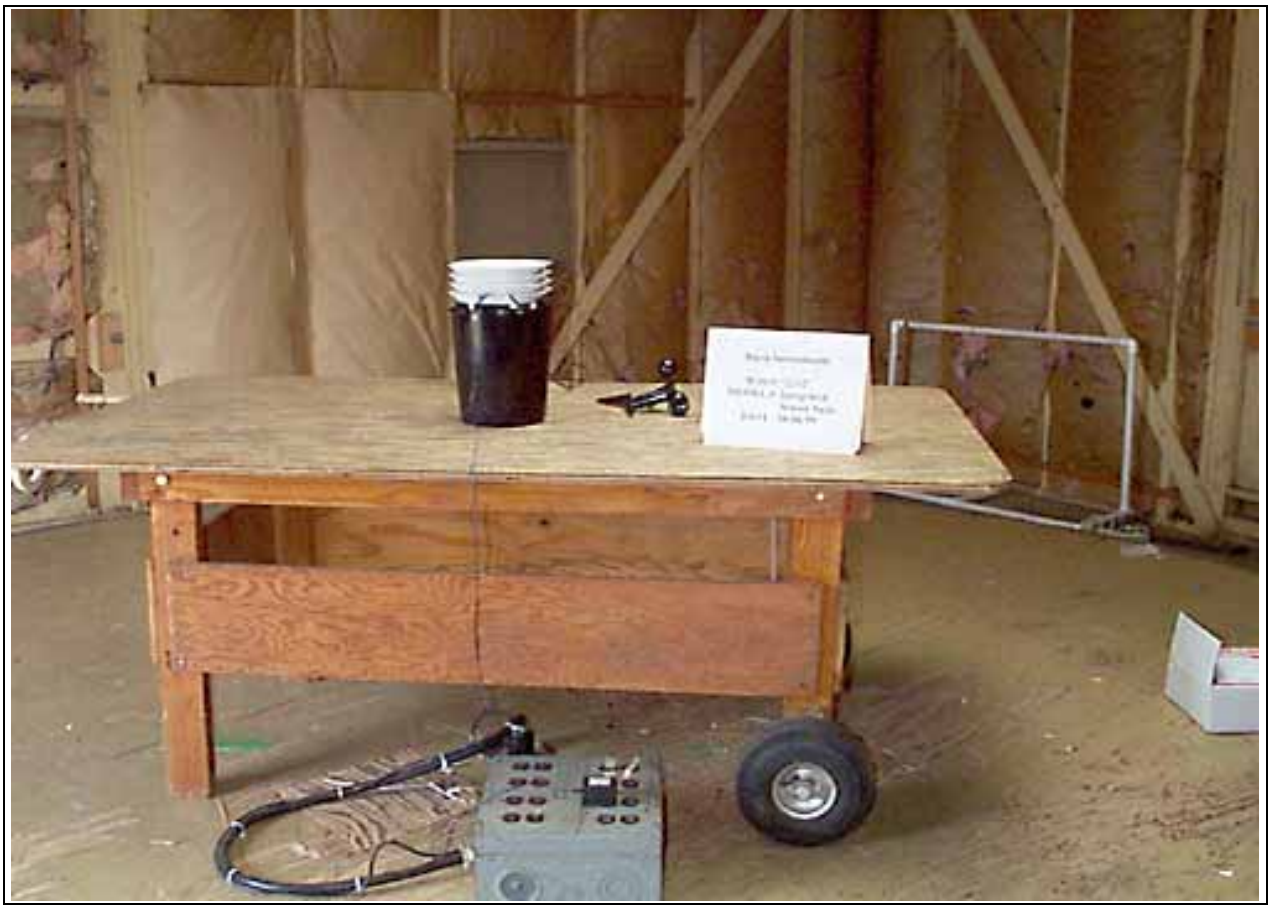
Cable #:	1	Cable(s) of this type:	1
Cable Type:	Standard Phone Wire	Shield Type:	None
Construction:		Length In Meters:	12
Connected To End (1):	Circuit Board	Connected To End (2):	Anemometer
Connector At End (1):	RJ11	Connector At End (2):	Soldered
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:	6410 for Anemometer	Number of Conductors:	4
Notes:	Magnet and Reed Switch for Speed. Pot for direction.		

Cable #:	2	Cable(s) of this type:	
Cable Type:	Standard Phone Wire	Shield Type:	None
Construction:		Length In Meters:	2
Connected To End (1):	Circuit Board	Connected To End (2):	Rain Collector
Connector At End (1):	RJ11	Connector At End (2):	Soldered
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:	6430 for Rain Collector	Number of Conductors:	4
Notes:	Magnet and Reed Switch Sensor		

Cable #:	3	Cable(s) of this type:	
Cable Type:	Standard Phone Wire	Shield Type:	None
Construction:		Length In Meters:	2
Connected To End (1):	Circuit Board	Connected To End (2):	Solar Radiation Sensor
Connector At End (1):	RJ11	Connector At End (2):	Soldered
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:	6450 for Solar Sensor	Number of Conductors:	4
Notes:	+5V Supply, 0 to 3V Output		

Cable #:	4	Cable(s) of this type:	
Cable Type:	Standard Phone Wire	Shield Type:	None
Construction:		Length In Meters:	2
Connected To End (1):	Circuit Board	Connected To End (2):	UV Radiation Sensor
Connector At End (1):	RJ11	Connector At End (2):	Soldered
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:	6490 for UV Radiation	Number of Conductors:	4
Notes:	+5V Supply, 0 to 3V Output		

PHOTOGRAPH SHOWING RADIATED EMISSIONS

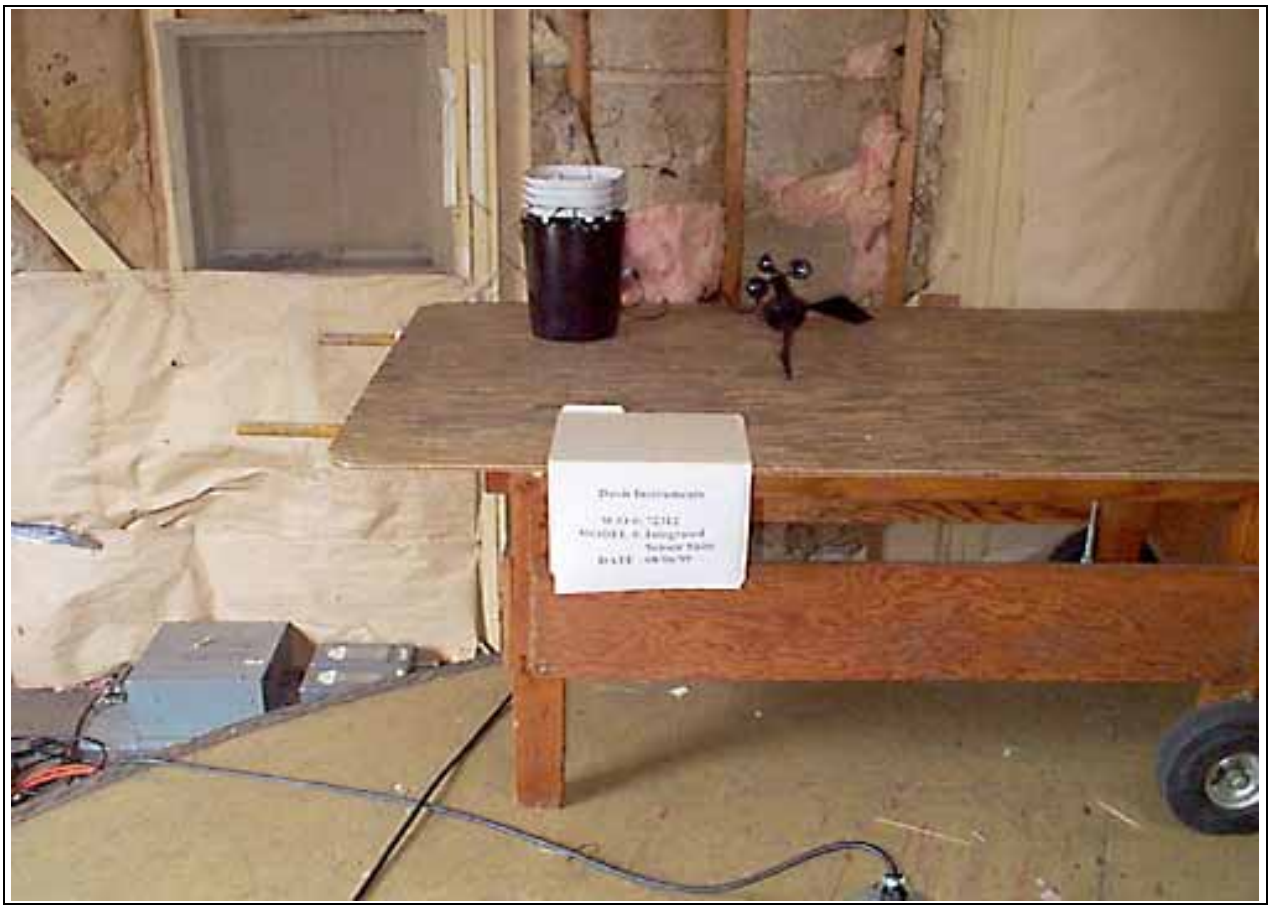


Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

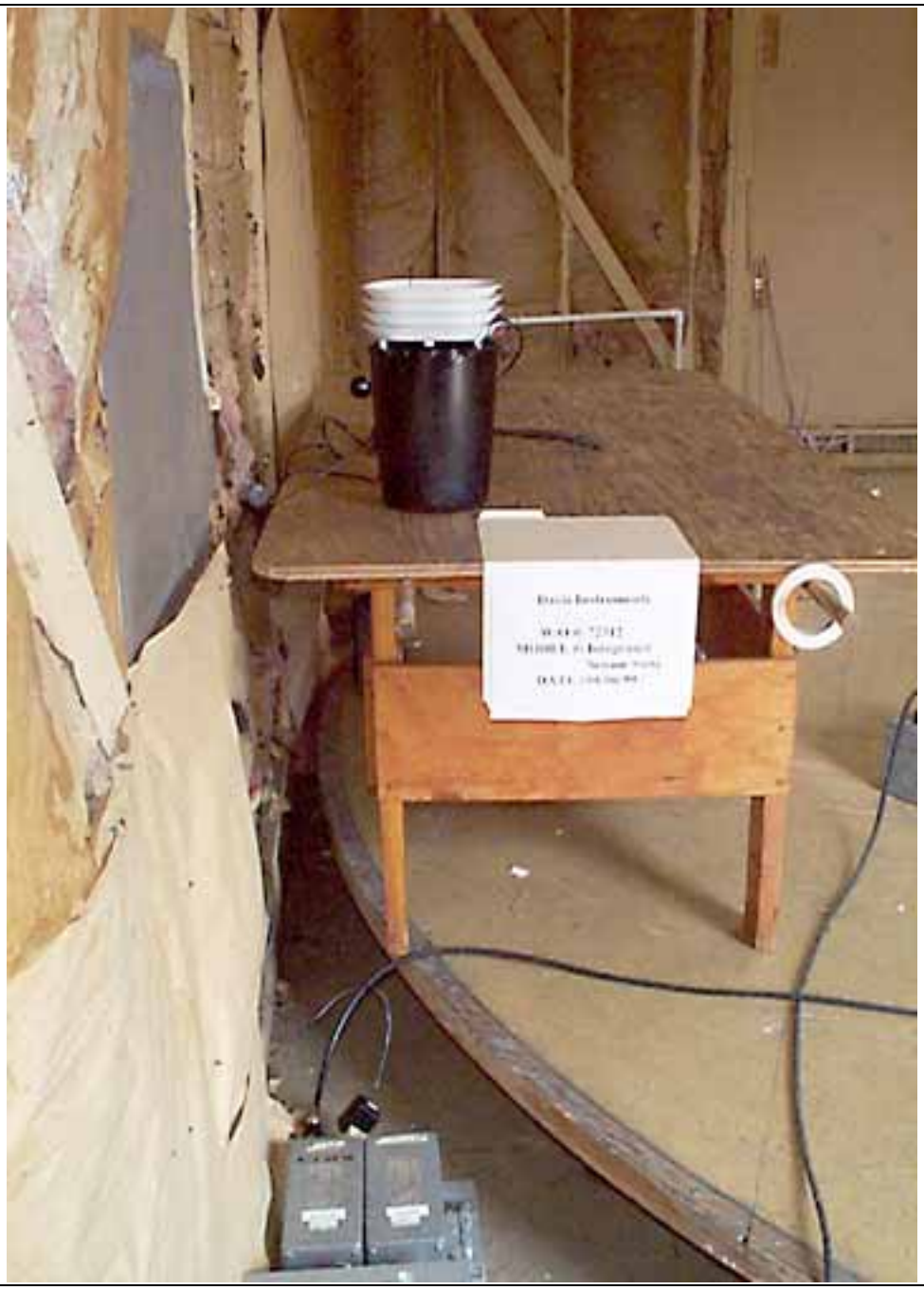
Radiated Emissions - Back View

PHOTOGRAPH SHOWING CONDUCTED EMISSIONS



Conducted Emissions - Front View

PHOTOGRAPH SHOWING CONDUCTED EMISSIONS

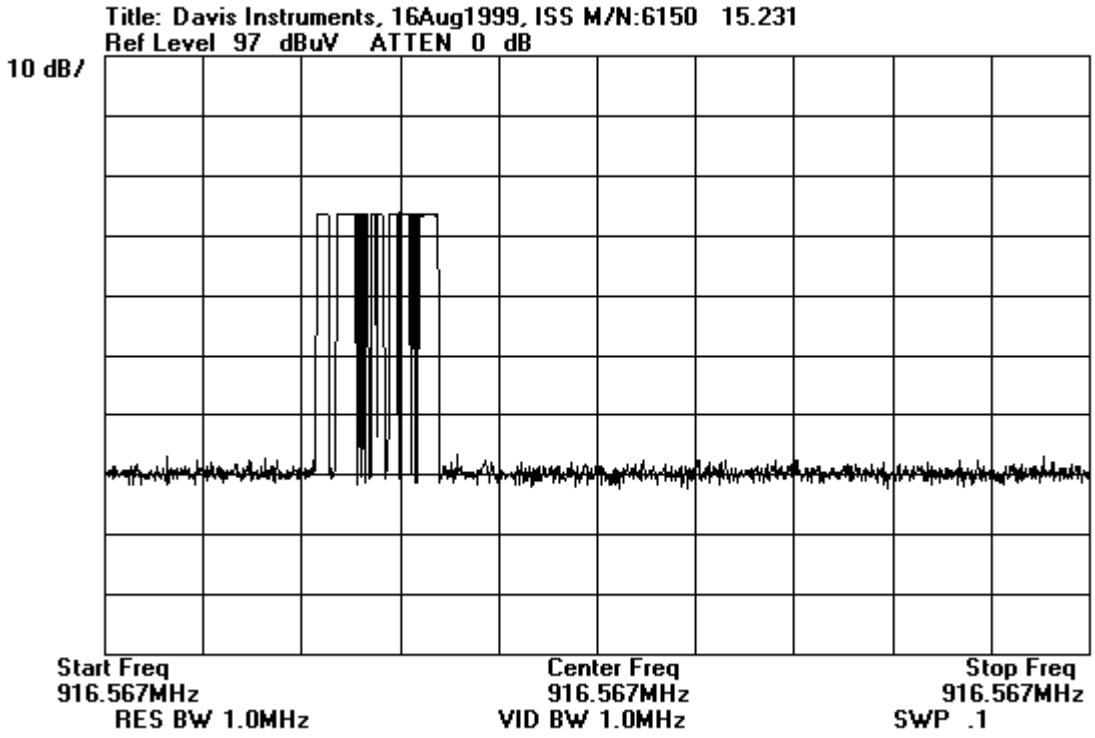


Conducted Emissions - Back View

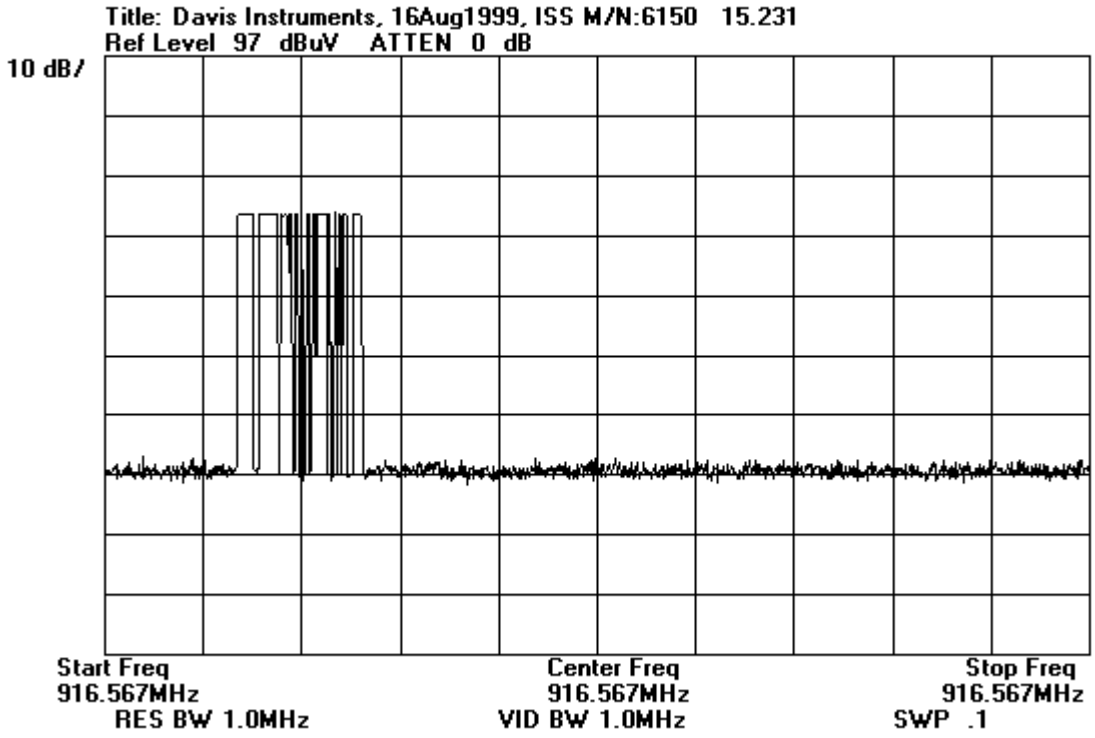
APPENDIX B

MEASUREMENT DATA SHEETS

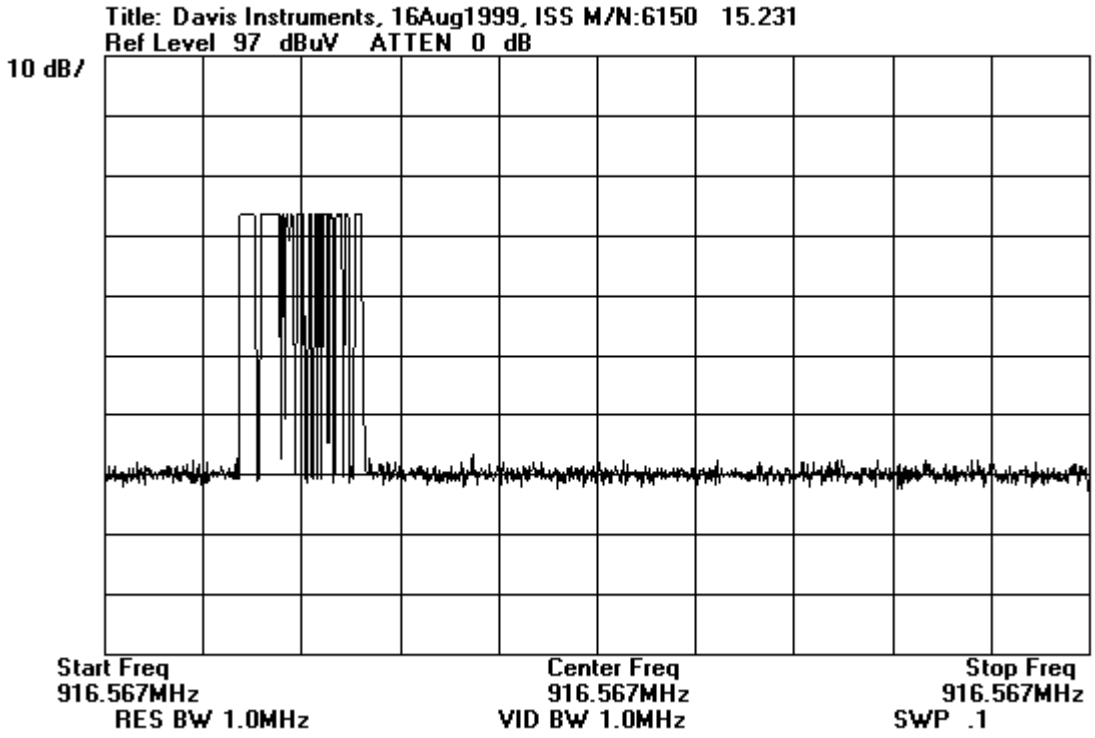
Averaging for Pulsed Modulated Systems



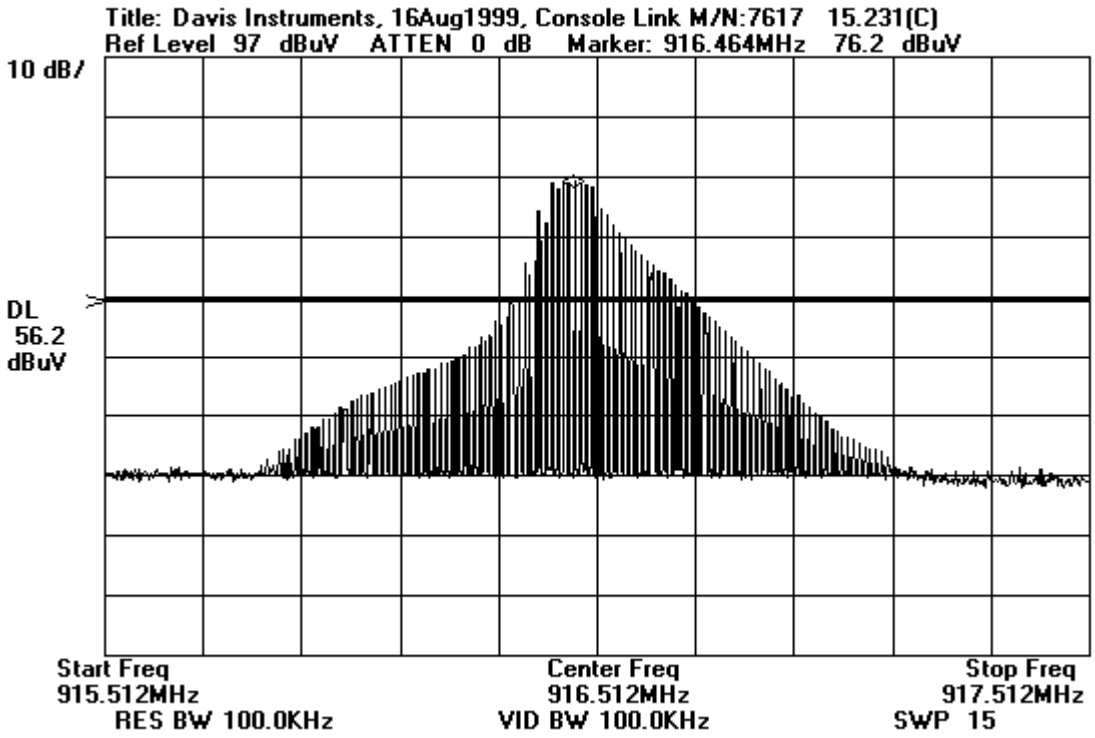
Averaging for Pulsed Modulated Systems



Averaging for Pulsed Modulated Systems



Occupied Bandwidth Plot



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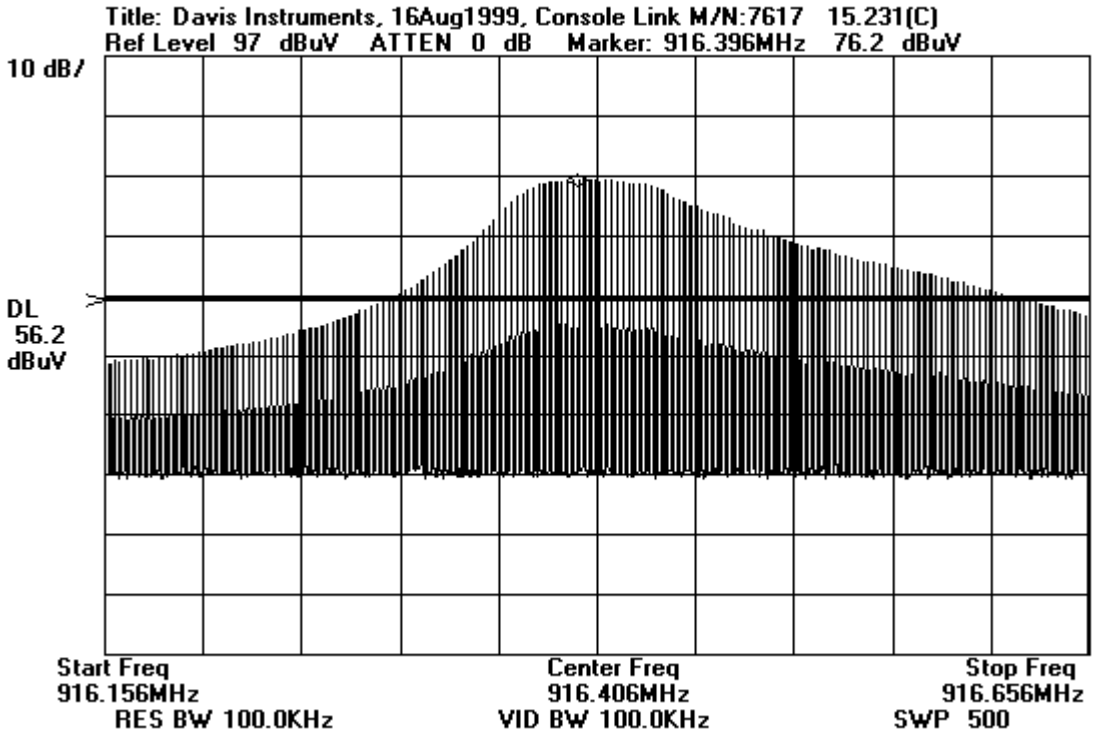

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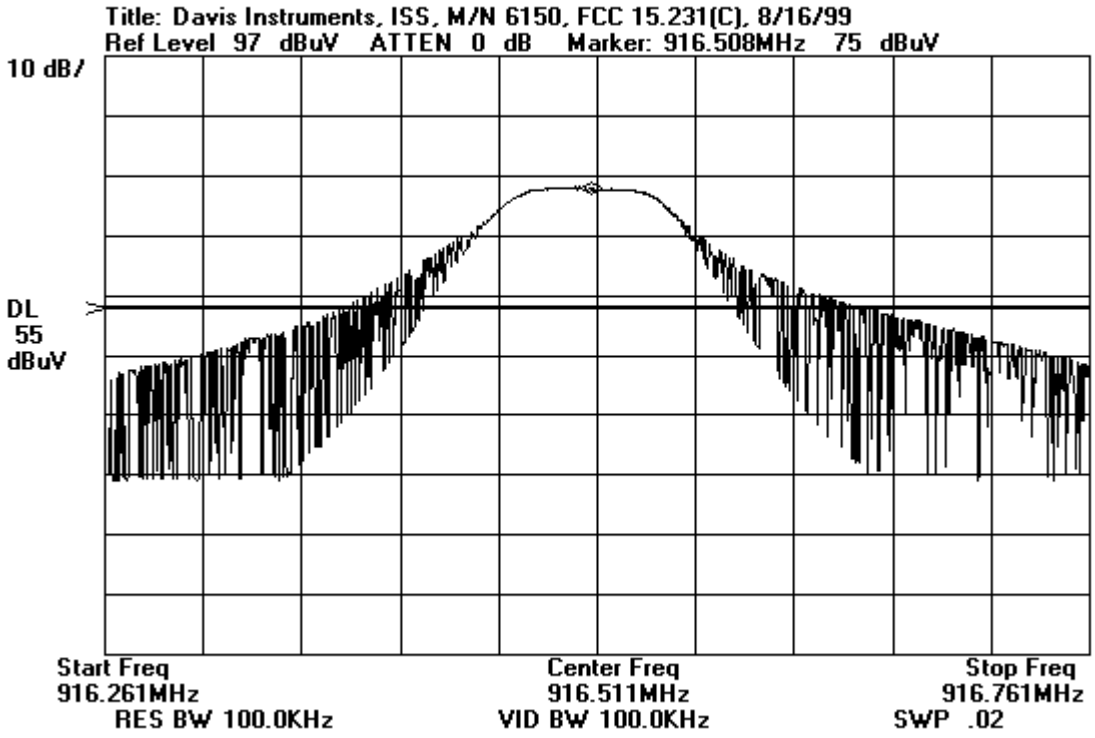
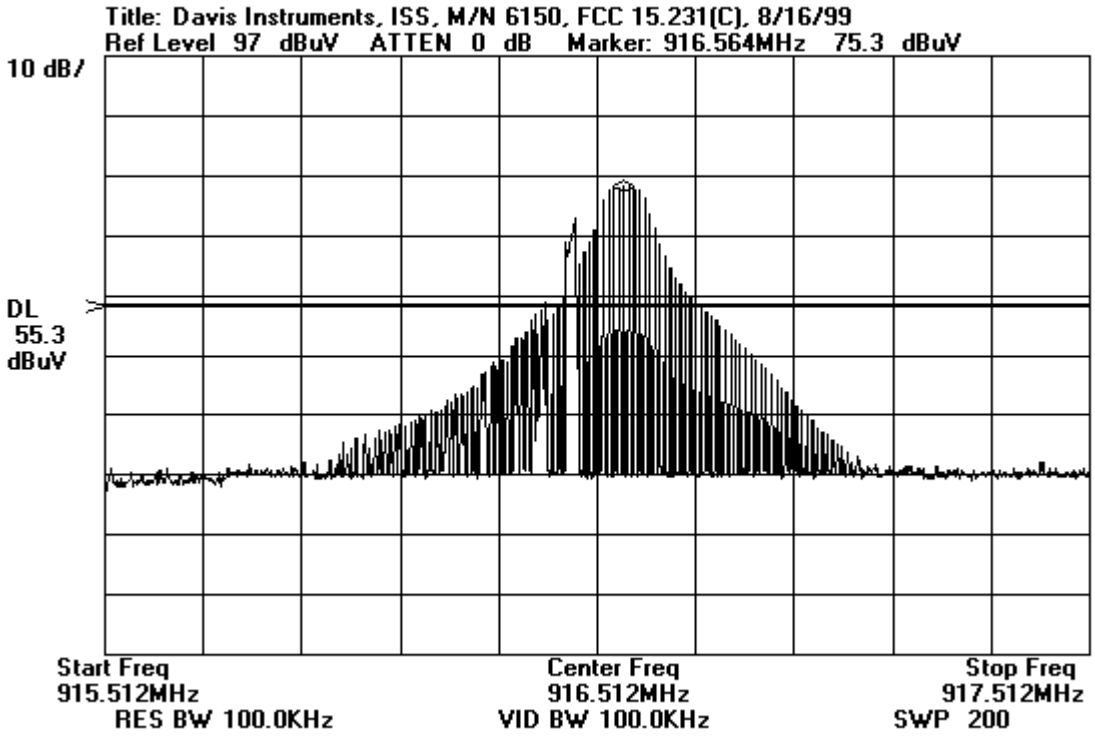


Occupied Bandwidth Plot



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

Customer:	**Davis Instruments**	Date:	Aug-06-99
Specification:	**FCC15.209/15.231(c)**	Time:	13:28
Test Type:	**Maximized Emissions**	Sequence#:	2
Equipment:	**Weather Data Telemetry**		
Manufacturer:	Davis Instruments	Tested By:	Wes Norris
Model:	6150		
S/N:	Prototype		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Weather Data Telemetry*	Davis Instruments	6150	Prototype
Wind Vane and Anemometer	Davis Instruments	TBD	Prototype
Rain Collector	Davis Instruments	TBD	Prototype
AC Adaptor	Davis Instruments	TBD	Prototype

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

Testing to FCC Part 15 Subpart C, Section 15.209/15.231(c). The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Measurement Data: Sorted by Margin Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Amp. dB	Log DB	Bicon dB	Cable dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	36.063	32.0	-26.7	+0.0	+13.7	+0.8	+0.0	19.8	40.0	-20.2	Vert
2	215.821	28.8	-26.1	+0.0	+17.9	+2.1	+0.0	22.7	43.5	-20.8	Vert
3	414.315	32.9	-26.9	+15.9	+0.0	+3.0	+0.0	24.9	46.0	-21.1	Horiz
4	32.313	30.2	-26.7	+0.0	+14.1	+0.8	+0.0	18.4	40.0	-21.6	Vert
5	414.340	32.2	-26.9	+15.9	+0.0	+3.0	+0.0	24.2	46.0	-21.8	Vert
6	478.565	30.9	-27.4	+16.9	+0.0	+3.3	+0.0	23.7	46.0	-22.3	Horiz
7	231.638	28.9	-26.0	+0.0	+18.2	+2.2	+0.0	23.3	46.0	-22.7	Horiz
8	32.070	28.9	-26.6	+0.0	+14.1	+0.8	+0.0	17.2	40.0	-22.8	Horiz
9	478.565	29.8	-27.4	+16.9	+0.0	+3.3	+0.0	22.6	46.0	-23.4	Vert
10	131.287	29.3	-26.4	+0.0	+14.1	+1.6	+0.0	18.6	43.5	-24.9	Vert

11	132.298	28.5	-26.4	+0.0	+14.2	+1.6	+0.0	17.9	43.5	-25.6	Horiz
12	82.070	27.7	-26.6	+0.0	+6.8	+1.1	+0.0	9.0	40.0	-31.0	Horiz

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

Customer:	**Davis Instruments**	Date:	Aug-09-99
Specification:	**FCC 15.209/15.321(c)**	Time:	14:33
Test Type:	**Maximized Emissions**	Sequence#:	2
Equipment:	**Weather Data Telemetry**		
Manufacturer:	Davis Instruments	Tested By:	Wes Norris
Model:	6150		
S/N:	Prototype		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Weather Data Telemetry*	Davis Instruments	6150	Prototype
Wind Vane and Anemometer	Davis Instruments	TBD	Prototype
Rain Collector	Davis Instruments	TBD	Prototype
AC Adaptor	Davis Instruments	TBD	Prototype

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

Testing to FCC Part 15, Subpart C, Sections 15.209 and 15.231(c). The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Measurement Data: Sorted by Margin Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Horn P Factor dB	Amp dB	Cable dB	Cable dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	3666.000	67.1	+32.4 -20.0	-38.9	+0.5	+5.8	+0.0	46.9	54.0	-7.1	Horiz
2	1833.000	70.9	+26.5 +0.0	-38.6	+0.3	+3.9	+0.0	63.0	74.0	-11.0	Horiz
3	4582.500	60.8	+32.3 -20.0	-39.7	+0.6	+6.6	+0.0	40.6	54.0	-13.4	Horiz
4	3666.000	60.3	+32.4 -20.0	-38.9	+0.5	+5.8	+0.0	40.1	54.0	-14.0	Vert
5	9165.000	50.1	+38.5 -20.0	-39.0	+0.6	+9.4	+0.0	39.6	54.0	-14.4	Vert
6	9165.100	49.2	+38.5 -20.0	-39.0	+0.6	+9.4	+0.0	38.7	54.0	-15.3	Horiz
7	2749.500	60.4	+29.7 -20.0	-37.6	+0.4	+5.0	+0.0	37.9	54.0	-16.1	Horiz
8	8248.500	50.1	+37.6 -20.0	-40.2	+0.8	+9.1	+0.0	37.4	54.0	-16.6	Vert
9	7332.000	51.0	+36.6 -20.0	-39.2	+0.3	+8.3	+0.0	37.0	54.0	-17.0	Horiz
10	8248.500	49.7	+37.6 -20.0	-40.2	+0.8	+9.1	+0.0	37.0	54.0	-17.1	Horiz

11	4582.500	57.1	+32.3 -20.0	-39.7	+0.6	+6.6	+0.0	36.9	54.0	-17.1	Vert
12	7332.000	50.6	+36.6 -20.0	-39.2	+0.3	+8.3	+0.0	36.6	54.0	-17.4	Vert
13	5499.000	53.5	+34.9 +0.0	-39.9	+0.4	+7.3	+0.0	56.2	74.0	-17.8	Horiz
14	1833.000	63.6	+26.5 +0.0	-38.6	+0.3	+3.9	+0.0	55.7	74.0	-18.3	Vert
15	6415.500	50.9	+35.4 +0.0	-40.3	+0.6	+7.9	+0.0	54.5	74.0	-19.5	Vert
16	6415.500	50.8	+35.4 +0.0	-40.3	+0.6	+7.9	+0.0	54.4	74.0	-19.6	Horiz
17	2749.500	55.6	+29.7 -20.0	-37.6	+0.4	+5.0	+0.0	33.1	54.0	-20.9	Vert
18	5499.000	49.5	+34.9 +0.0	-39.9	+0.4	+7.3	+0.0	52.2	74.0	-21.8	Vert

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

Customer:	**Davis Instruments**	Date:	Aug-06-99
Specification:	**FCC 15.207 COND**	Time:	16:48
Test Type:	**Conducted Emissions**	Sequence#:	5
Equipment:	**Weather Data Telemetry**		
Manufacturer:	Davis Instruments	Tested By:	Wes Norris
Model:	6150		
S/N:	Prototype		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Weather Data Telemetry*	Davis Instruments	6150	Prototype
Wind Vane and Anemometer	Davis Instruments	TBD	Prototype
Rain Collector	Davis Instruments	TBD	Prototype
AC Adaptor	Davis Instruments	TBD	Prototype

Support Devices:

Function	Manufacturer	Model #	S/N
None			

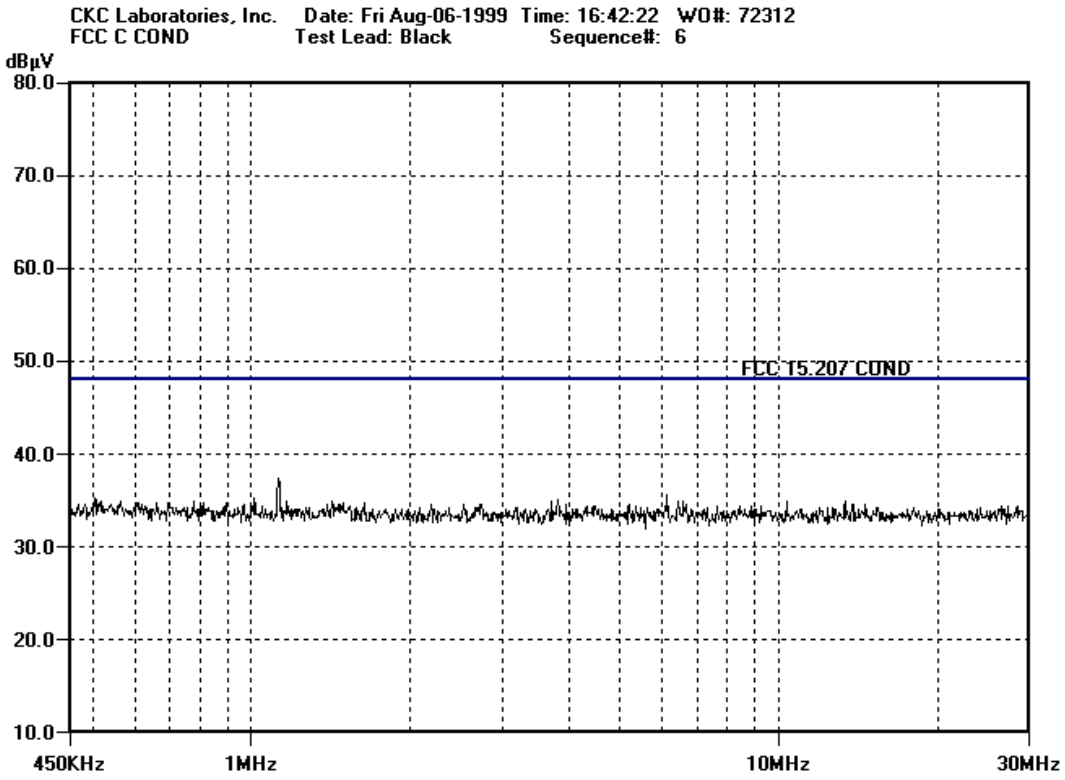
Test Conditions / Notes:

Testing to FCC Part 15 Subpart C, Section 15.207. The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Measurement Data: Sorted by Margin Test Lead: Black

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV	Spec DBµV	Margin dB	Polar
1	1.126M	37.4					+0.0	37.4	48.0	-10.6	Black
2	6.163M	35.7					+0.0	35.7	48.0	-12.3	Black
3	1.013M	35.3					+0.0	35.3	48.0	-12.7	Black
4	503.839k	35.2					+0.0	35.2	48.0	-12.8	Black
5	451.517k	35.2					+0.0	35.2	48.0	-12.8	Black
6	3.815M	35.1					+0.0	35.1	48.0	-12.9	Black
7	509.147k	35.1					+0.0	35.1	48.0	-12.9	Black
8	10.370M	35.0					+0.0	35.0	48.0	-13.0	Black
9	6.460M	35.0					+0.0	35.0	48.0	-13.0	Black
10	1.168M	35.0					+0.0	35.0	48.0	-13.0	Black

11	777.583k	35.0	+0.0	35.0	48.0	-13.0	Black
12	563.744k	35.0	+0.0	35.0	48.0	-13.0	Black
13	13.375M	34.9	+0.0	34.9	48.0	-13.1	Black
14	6.617M	34.9	+0.0	34.9	48.0	-13.1	Black
15	3.725M	34.9	+0.0	34.9	48.0	-13.1	Black
16	1.424M	34.9	+0.0	34.9	48.0	-13.1	Black
17	519.005k	34.9	+0.0	34.9	48.0	-13.1	Black
18	662.323k	34.7	+0.0	34.7	48.0	-13.3	Black
19	607.346k	34.7	+0.0	34.7	48.0	-13.3	Black
20	514.455k	34.7	+0.0	34.7	48.0	-13.3	Black


CKC Laboratories, Inc. Date: Fri Aug-06-1999 Time: 16:42:22 WO#: 72312
FCC C COND Test Lead: Black Sequence#: 6
dBµV
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC T5.207 COND
450KHz
1MHz
10MHz
30MHz

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

Customer:	**Davis Instruments**	Date:	Aug-06-99
Specification:	**FCC 15.207 COND**	Time:	16:53
Test Type:	**Conducted Emissions**	Sequence#:	6
Equipment:	**Weather Data Telemetry**		
Manufacturer:	Davis Instruments	Tested By:	Wes Norris
Model:	6150		
S/N:	Prototype		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Weather Data Telemetry*	Davis Instruments	6150	Prototype
Wind Vane and Anemometer	Davis Instruments	TBD	Prototype
Rain Collector	Davis Instruments	TBD	Prototype
AC Adaptor	Davis Instruments	TBD	Prototype

Support Devices:

Function	Manufacturer	Model #	S/N
None			

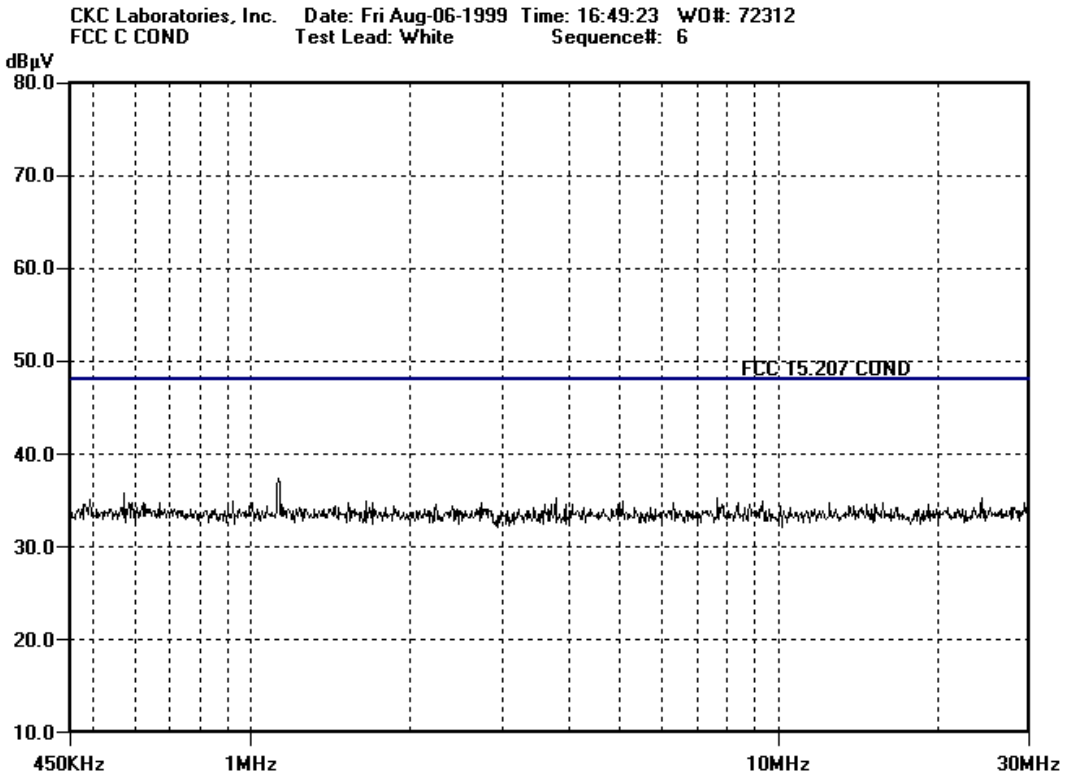
Test Conditions / Notes:

Testing to FCC Part 15 Subpart C, Section 15.207. The EUT is fully operational, with Wind Vane and Rain Collector connected. The EUT is transmitting continuously, at full power, in CW Mode. The EUT is receiving its power from the AC Adaptor, which is powered from a 115V/60Hz source.

Measurement Data: Sorted by Margin Test Lead: White

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV	Spec dBµV	Margin dB	Polar
1	1.125M	37.4					+0.0	37.4	48.0	-10.6	White
2	574.360k	35.8					+0.0	35.8	48.0	-12.2	White
3	24.409M	35.2					+0.0	35.2	48.0	-12.8	White
4	7.664M	35.2					+0.0	35.2	48.0	-12.8	White
5	3.792M	35.2					+0.0	35.2	48.0	-12.8	White
6	493.981k	35.1					+0.0	35.1	48.0	-12.9	White
7	9.347M	34.9					+0.0	34.9	48.0	-13.1	White
8	5.061M	34.9					+0.0	34.9	48.0	-13.1	White
9	1.647M	34.9					+0.0	34.9	48.0	-13.1	White
10	922.338k	34.9					+0.0	34.9	48.0	-13.1	White

11	29.365M	34.8	+0.0	34.8	48.0	-13.2	White
12	2.743M	34.8	+0.0	34.8	48.0	-13.2	White
13	1.699M	34.8	+0.0	34.8	48.0	-13.2	White
14	1.526M	34.8	+0.0	34.8	48.0	-13.2	White
15	1.003M	34.8	+0.0	34.8	48.0	-13.2	White
16	592.559k	34.8	+0.0	34.8	48.0	-13.2	White
17	994.959k	34.7	+0.0	34.7	48.0	-13.3	White
18	669.147k	34.7	+0.0	34.7	48.0	-13.3	White
19	621.375k	34.7	+0.0	34.7	48.0	-13.3	White
20	585.735k	34.7	+0.0	34.7	48.0	-13.3	White


CKC Laboratories, Inc. Date: Fri Aug-06-1999 Time: 16:49:23 WO#: 72312
FCC C COND Test Lead: White Sequence#: 6
dBµV
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC 15.207 COND
450KHz
1MHz
10MHz
30MHz