TESTING
CERT #803.01, 803.02, 803.05, 803.06

ADDENDUM TO DAVIS INSTRUMENTS TEST REPORT FC09-045

FOR THE

WEATHER STATION TRANSMITTER, 06357

FCC PART 15 SUBPART B SECTION 15.109 CLASS B, SUBPART C SECTION 15.247 AND RSS-210 ISSUE 7

TESTING

DATE OF ISSUE: MAY 13, 2009

PREPARED FOR:

Davis Instruments
3465 Diablo Avenue
Hayward, CA 94545

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

P.O. No.: 67366
W.O. No.: 88539

Date of test: March 9-10, 2009

Report No.: FC09-045A

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ADMINISTRATIVE INFORMATION

DATE OF TEST: March 9-10, 2009

DATE OF RECEIPT: March 9, 2009

REPRESENTATIVE: Perry Dillon

MANUFACTURER:
Davis Instruments
3465 Diablo Avenue
Hayward, CA 94545

TEST LOCATION:
CKC Laboratories, Inc.
1120 Fulton Place
Fremont, CA 94539

TEST METHOD: ANSI C63.4 (2003), RSS-210 Issue 7 and RSS GEN Issue 2

PURPOSE OF TEST:
Original Report: To perform the testing of the Weather Station Transmitter, 06357 with the requirements for FCC Part 15 Subpart B Section 15.109 Class B, Subpart C Section 15.247 and RSS-210 devices.
Addendum A: To add an explanation of the calculation used for RF power output with no new testing.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Amrinder Brar, EMC Engineer/Lab Manager

TEST PERSONNEL:

Art Rice, Senior EMC Engineer

SUMMARY OF RESULTS

Test	Specification/Method	Results
Voltage Variation	FCC 15.31(e)	Pass
Radiated Emissions	FCC 15.109 Class B	Pass
20dB Bandwidth	FCC 15.247(a) RSS-210	Pass
Carrier Frequency Separation	FCC 15.247(a)(1)	Pass
Number of Hopping Channels	FCC 15.247(a)(1)	Pass
Average Time of Occupancy	FCC 15.247(a)(1)	Pass
RF Output Power	FCC 15.247(b)(2)	Pass
OATS Spurious Emissions	FCC 15.247(d)	Pass
Bandedge	FCC 15.247(d)	Pass
99% Bandwidth	RSS-210 Issue 7 and RSS GEN Issue 2	Pass
Site File No.	FCC 958979 IC 3082B-1	

CONDITIONS DURING TESTING

Added ferrite at PC USB port and AC adapter for PC (support equipment) to reduce signals proven to come from support equipment, not EUT.

FCC 15.31(m) Number Of Channels

This device was tested on three channels.

FCC 15.33(a) Frequency Ranges Tested

15.109 Radiated Emissions: 30 MHz – 1000 MHz
15.247 Radiated Emissions: 30 kHz – 9300 MHz

EUT Operating Frequency

The EUT was operating at 902 MHz – 928 MHz.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

EQUIPMENT UNDER TEST

Weather Station Transmitter
Manuf: Davis Instruments
Model: 06357
Serial: Davis-130-1
FCC ID: pending

PERIPHERAL DEVICES

The EUT was not tested with peripheral device(s).

MEASUREMENT UNCERTAINTIES

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

REPORT OF EMISSIONS MEASUREMENTS

TESTING PARAMETERS

TEMPERATURE AND HUMIDITY DURING TESTING

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

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. 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 dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

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

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. The following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. When conducted emissions testing was performed, a 10 dB external attenuator was used with internal offset correction in the analyzer.

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions 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 highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer/receiver readings recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the measuring device 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 quasi-peak detector.

Average

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

FCC 15.31(e) VOLTAGE VARIATIONS

Test Setup Photos

Channel Frequency	DC Voltage Applied	Resulting Field Strength dBuV/m
902.35	2.55	113.7
902.35	3.0	113.7
902.35	3.45	113.7
914.895	2.55	113.2
914.895	3.0	113.2
914.895	3.45	113.2
927.435	2.55	112.5
927.435	3.0	112.5
927.435	3.45	112.5

Test Data

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **FCC 15.247(b)(2) / 15.209 / 15.205**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Voltage Variation on Power** Time: 15:57:02
Equipment: **Weather Station Transmitter** Sequence#: 15
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300
Tenma Power Supply	0201714	10/06/2008	10/06/2010	P05574
DMM, Fluke 85	65380320	07/17/2008	07/17/2010	02361

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting continuously on selected channel, with hopping disabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

The transmitter ERP limit is based on stated 2dBi gain antenna with maximum conducted power of 1 watt or 30 dBm.

Discussion determined that the solar cell and boost circuit produce 3.3V to the regulator input, and will shut off if the solar cell output is too low. Therefore the battery was determined to be the determining factor if the solar cell and boost circuit are off. So we perform the voltage variation test at the battery input. The solar panel is covered with Duct tape to prevent operation.
Nominal=3.0V
-15%=2.55V
+15%=3.45V

RBW=100kHz, VBW=300kHz.
Radiated emissions 902-928 MHz.

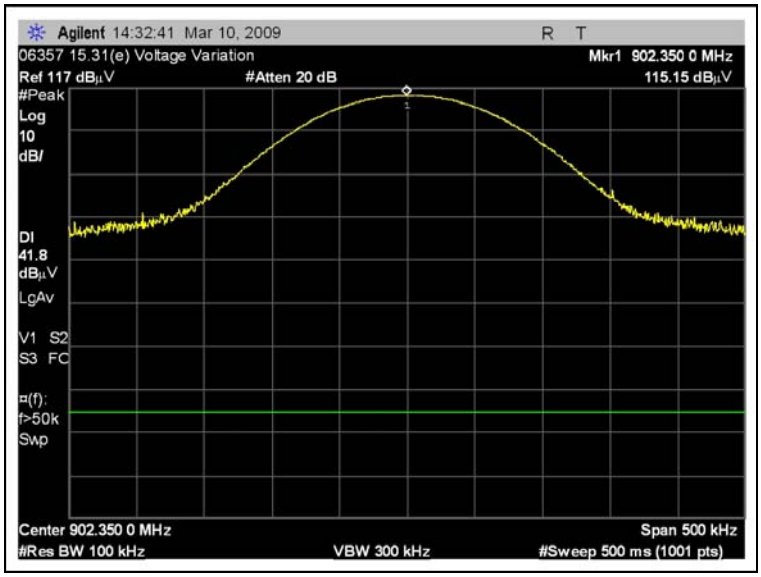
Transducer Legend:

T1=ANT AN00852 25-1000MHz	T2=Cable Calibration ANP05440
T3=AMP-AN00730-020909 .01-1000	T4=CAB-ANP05299-030609
T5=CAB-ANP05300-030609	

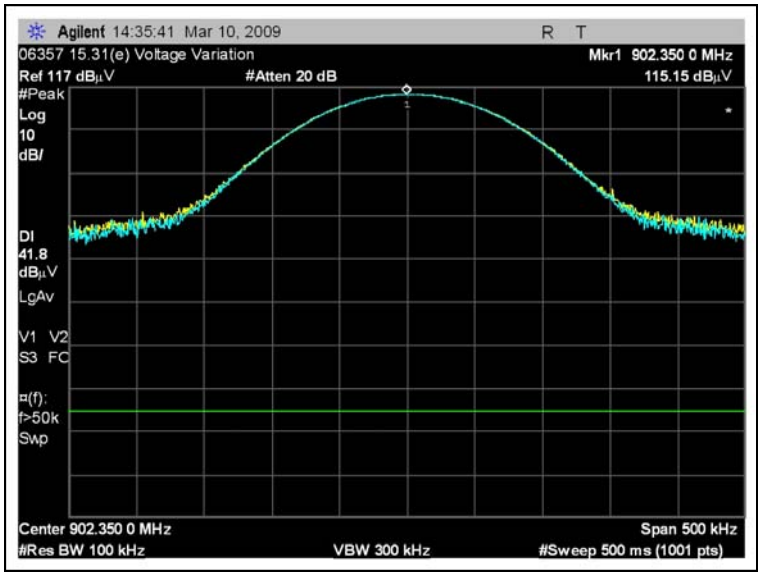
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5								
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	902.350M	115.1	+22.5	+1.9	-27.4	+0.3	+0.0	113.7	127.2	-13.5	Vert
			+1.3				350		Low ch, 3.45V		100
2	902.350M	115.1	+22.5	+1.9	-27.4	+0.3	+0.0	113.7	127.2	-13.5	Vert
			+1.3				350		Low ch, 3.0V		100
3	902.350M	115.1	+22.5	+1.9	-27.4	+0.3	+0.0	113.7	127.2	-13.5	Vert
			+1.3				350		Low ch, 2.55V		100
4	914.895M	114.5	+22.7	+1.9	-27.4	+0.3	+0.0	113.2	127.2	-14.0	Vert
			+1.2				350		Mid ch, 2.55V		100
5	914.895M	114.5	+22.7	+1.9	-27.4	+0.3	+0.0	113.2	127.2	-14.0	Vert
			+1.2				350		Mid ch, 3.0V		100
6	914.895M	114.5	+22.7	+1.9	-27.4	+0.3	+0.0	113.2	127.2	-14.0	Vert
			+1.2				350		Mid ch, 3.45V		100
7	927.435M	113.5	+23.0	+1.9	-27.5	+0.4	+0.0	112.5	127.2	-14.7	Vert
			+1.2				350		High ch, 3.45V		100
8	927.435M	113.5	+23.0	+1.9	-27.5	+0.4	+0.0	112.5	127.2	-14.7	Vert
			+1.2				350		High ch, 3.0V		100
9	927.435M	113.5	+23.0	+1.9	-27.5	+0.4	+0.0	112.5	127.2	-14.7	Vert
			+1.2				351		High ch, 2.55V		100

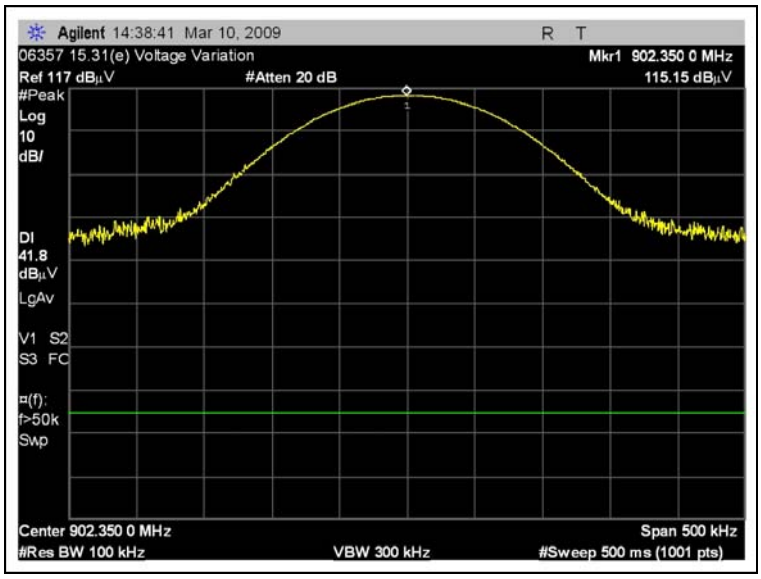
FCC 15.31(e) VOLTAGE VARIATION - LOW CHANNEL 2.55V



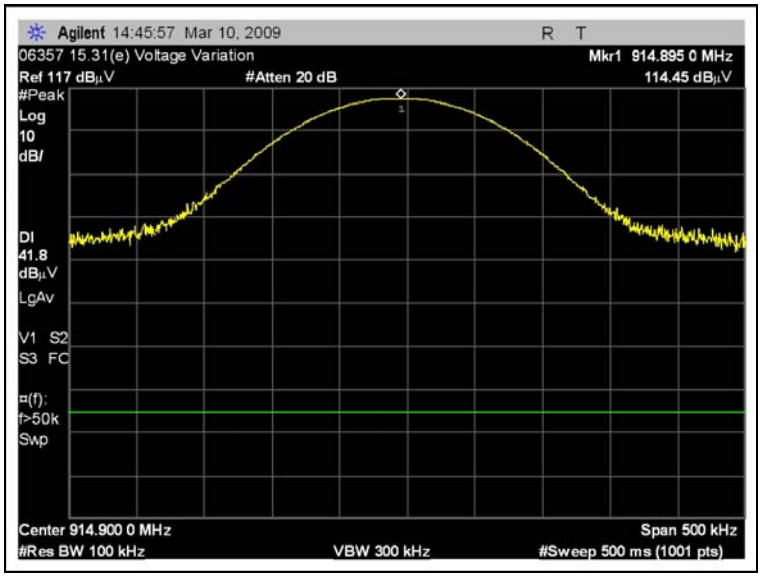
FCC 15.31(e) VOLTAGE VARIATION - LOW CHANNEL 3.0V



FCC 15.31(e) VOLTAGE VARIATION - LOW CHANNEL 3.45V



FCC 15.31(e) VOLTAGE VARIATION - MID CHANNEL 2.55V



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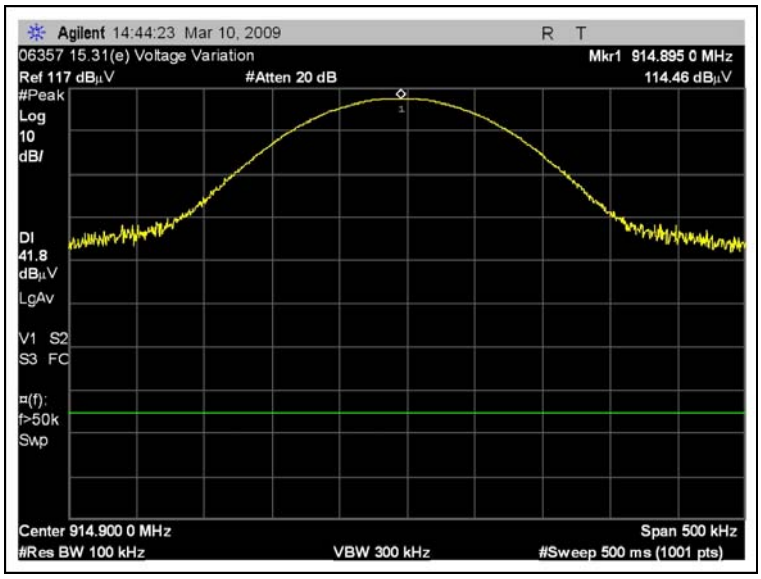
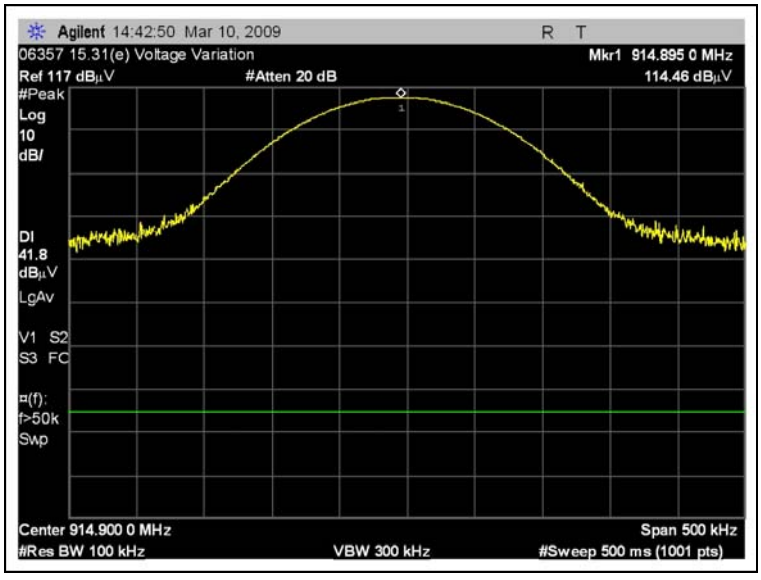
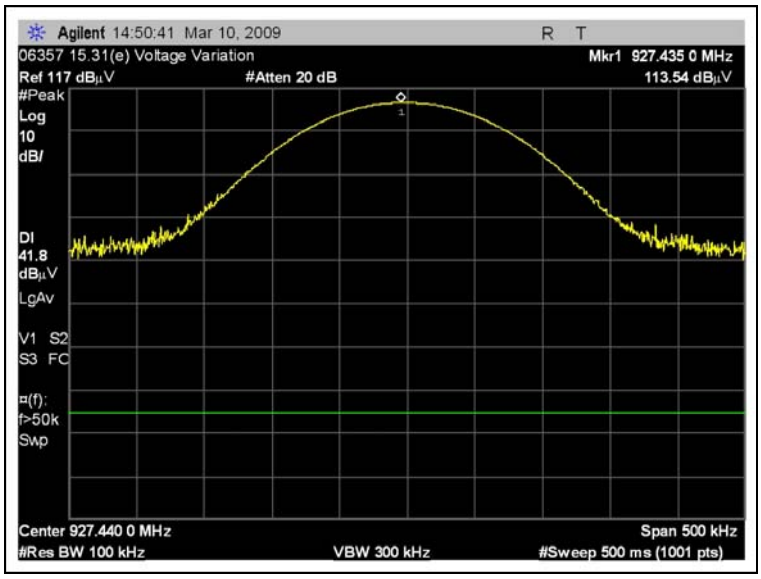


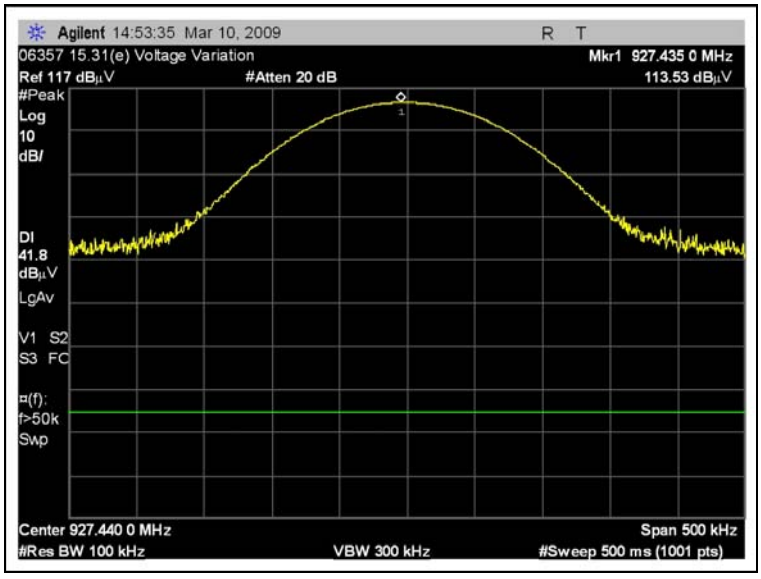
FCC 15.31(e) VOLTAGE VARIATION - MID CHANNEL 3.45V



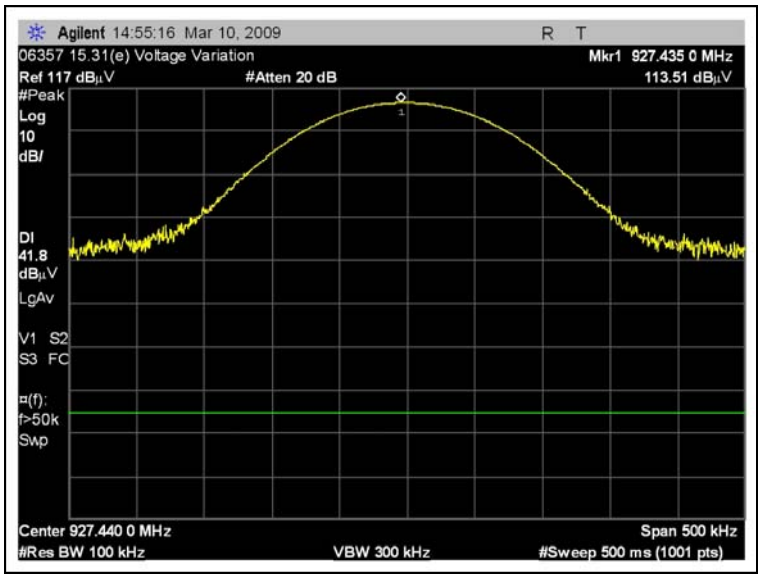
FCC 15.31(e) VOLTAGE VARIATION - HIGH CHANNEL 2.55V



FCC 15.31(e) VOLTAGE VARIATION - HIGH CHANNEL 3.0V



FCC 15.31(e) VOLTAGE VARIATION - HIGH CHANNEL 3.45V



FCC 15.109 RADIATED EMISSIONS

Test Setup Photos

Test Data Sheets

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **FCC 15.109 Class B Radiated 30-1000MHz**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Maximized Emissions** Time: 17:08:56
Equipment: **Weather Station Transmitter** Sequence#: 18
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Collecting weather data, never transmitting.

Radiated emissions 30-1000 MHz.

Transducer Legend:

T1=ANT AN00852 25-1000MHz	T2=Cable Calibration ANP05440
T3=AMP-AN00730-020909 .01-1000	T4=CAB-ANP05299-030609
T5=CAB-ANP05300-030609	

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	698.310M	33.7	+20.2 +0.9	+1.7	-27.0	+0.2	+0.0 321	29.7	46.0	-16.3	Vert 138
2	680.312M	32.8	+20.1 +0.9	+1.6	-27.0	+0.2	+0.0 92	28.6	46.0	-17.4	Vert 178
3	946.001M	29.1	+23.3 +1.1	+1.9	-27.5	+0.4	+0.0 2	28.3	46.0 Noise floor	-17.7	Horiz 130

4	943.592M	29.0	+23.2 +1.1	+1.9	-27.5	+0.4	+0.0	28.1	46.0 Noise floor	-17.9	Vert 138
5	948.857M	28.5	+23.3 +1.1	+1.9	-27.5	+0.4	+0.0	27.7	46.0 Noise floor	-18.3	Horiz 130
6	946.957M	27.5	+23.3 +1.1	+1.9	-27.5	+0.4	+0.0	26.7	46.0 Noise floor	-19.3	Vert 138

FCC PART 15.247(a)/RSS-210 20dB BANDWIDTH

Test Conditions

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer:	**Davis Instruments**		
Specification:	**FCC 15.247(a) 20 dB BW**		
Work Order #:	**88539**	Date:	3/9/2009
Test Type:	**Transmitter BW**	Time:	09:23:30
Equipment:	**Weather Station Transmitter**	Sequence#:	1
Manufacturer:	Davis Instruments	Tested By:	Art Rice
Model:	06357		
S/N:	Davis-130-1		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/02/2007	04/02/2009	P05299
Cable	None	04/05/2007	04/05/2009	P05300
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

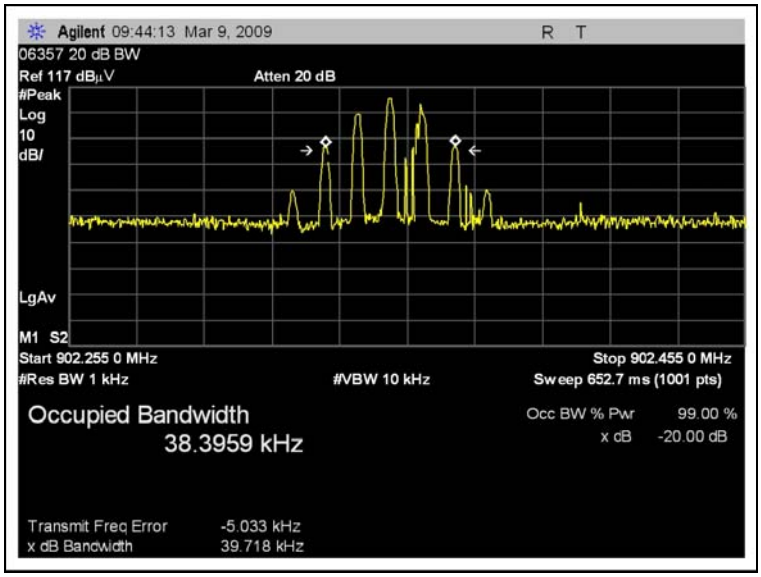
Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position. Transmitting continuously on selected channel, with hopping disabled. Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz
RBW=1kHz, VBW=10kHz.
Radiated emissions 902-928 MHz.

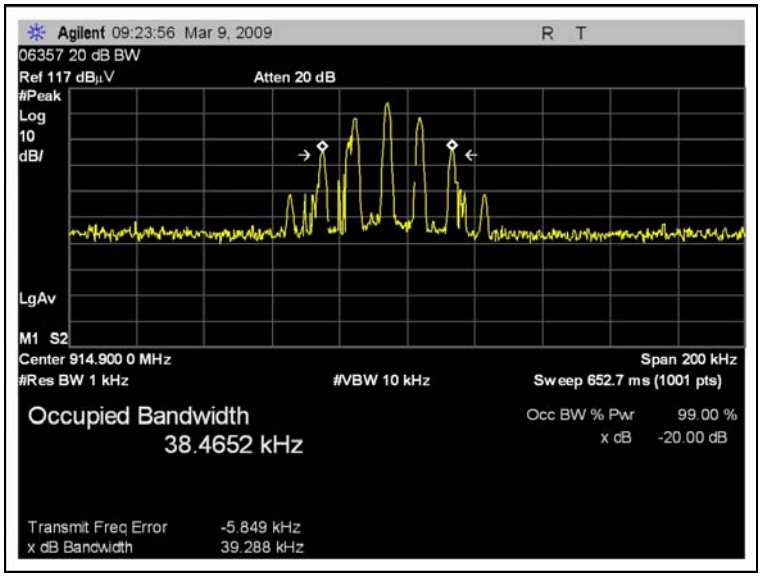
Test Setup Photos

Test Plots

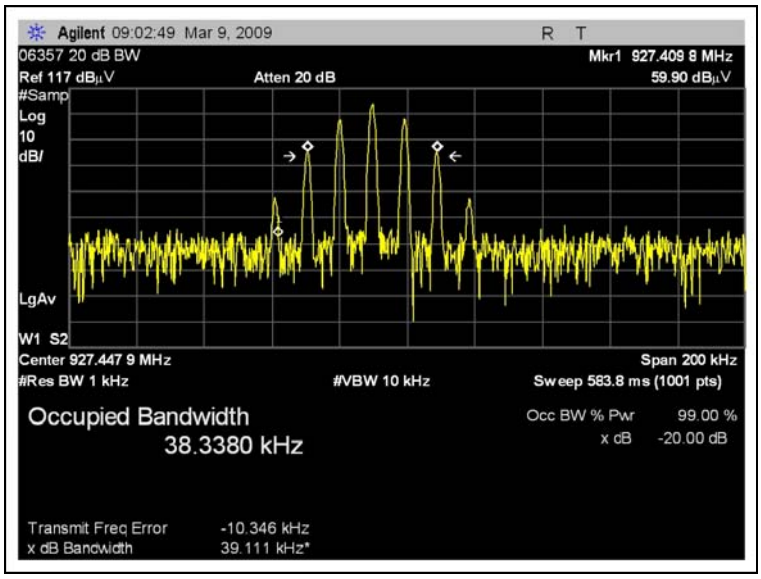
FCC 15.247(a) 20dB BANDWIDTH - LOW CHANNEL



FCC 15.247(a) 20dB BANDWIDTH - MID CHANNEL



FCC 15.247(a) 20dB BANDWIDTH - HIGH CHANNEL



FCC PART 15.247(a)(1) CARRIER FREQUENCY SEPARATION

Test Conditions

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **06357 FCC 15.247(d) spurious +15.205 bands Rad-dBuV 902-928MHz**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Frequency hopping tests** Time: 13:55:13
Equipment: **Weather Station Transmitter** Sequence#: 14
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting normally with "Fast FCC hop mode" enabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

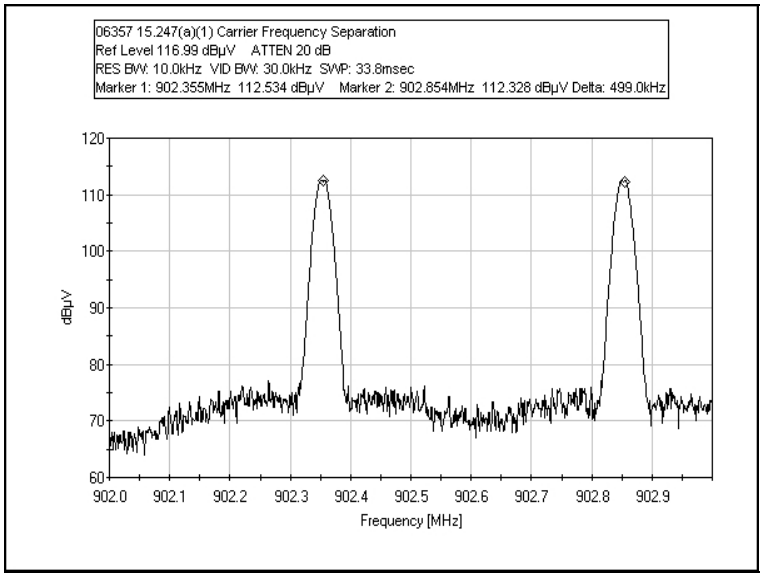
Note: For Time of occupancy testing (dwell time) the EUT was set for 0.5 seconds between channels in the pseudo-random hop table. Normal operation would be 2.625 seconds.

Radiated emissions 902-928 MHz.

Test Setup Photos

Test Plots

FCC 15.247(a)(1) CARRIER FREQUENCY SEPARATION



FCC PART 15.247(a)(1) NUMBER OF HOPPING CHANNELS

Test Conditions

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer:	**Davis Instruments**		
Specification:	**06357 FCC 15.247(d) spurious +15.205 bands Rad-dBuV 902-928MHz**		
Work Order #:	**88539**	Date:	3/10/2009
Test Type:	**Frequency hopping tests**	Time:	13:55:13
Equipment:	**Weather Station Transmitter**	Sequence#:	14
Manufacturer:	Davis Instruments	Tested By:	Art Rice
Model:	06357		
S/N:	Davis-130-1		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting normally with "Fast FCC hop mode" enabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

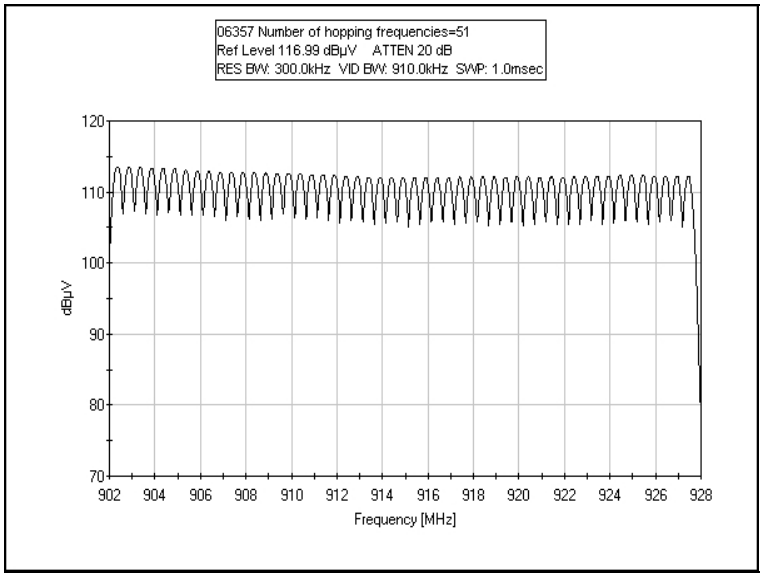
Note: For Time of occupancy testing (dwell time) the EUT was set for 0.5 seconds between channels in the pseudo-random hop table. Normal operation would be 2.625 seconds.

Radiated emissions 902-928 MHz.

Test Setup Photos

Test Plots

FCC 15.247(a)(1) NUMBER OF HOPPING FREQUENCIES



FCC PART 15.247(a)(1) AVERAGE TIME OF OCCUPANCY

Test Conditions

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **06357 FCC 15.247(d) spurious +15.205 bands Rad-dBuV 902-928MHz**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Frequency hopping tests** Time: 13:55:13
Equipment: **Weather Station Transmitter** Sequence#: 14
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting normally with "Fast FCC hop mode" enabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

Note: For Time of occupancy testing (dwell time) the EUT was set for 0.5 seconds between channels in the pseudo-random hop table. Normal operation would be 2.625 seconds.

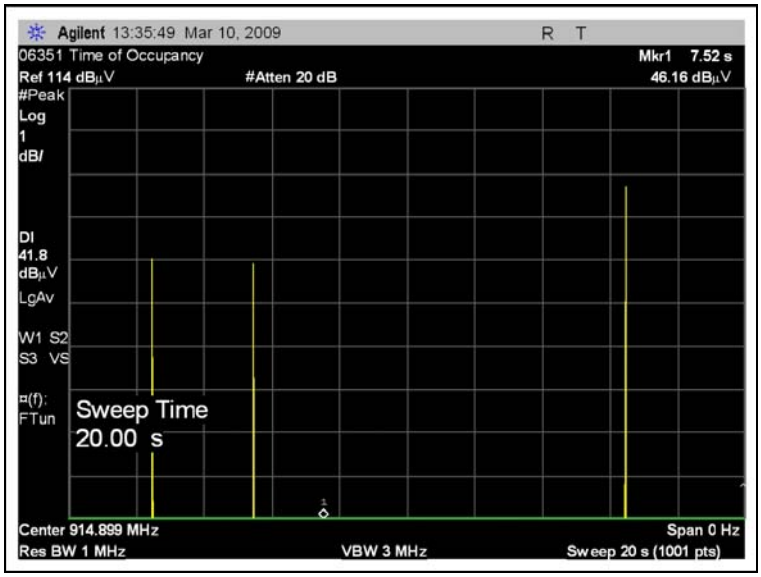
Radiated emissions 902-928 MHz.

Note: This was tested in “fast hopping mode” which has 0.5 sec delay between the channels in the pseudo-random hop table. In normal operation that value would be 2.625 seconds. The maximum number of full amplitude transmissions was 3 in a 20 second period. 3 x 7.52mS=22.56mS. The limit is 0.4 seconds, so the 06357 passes this test. Plot #10 is a representative sample.

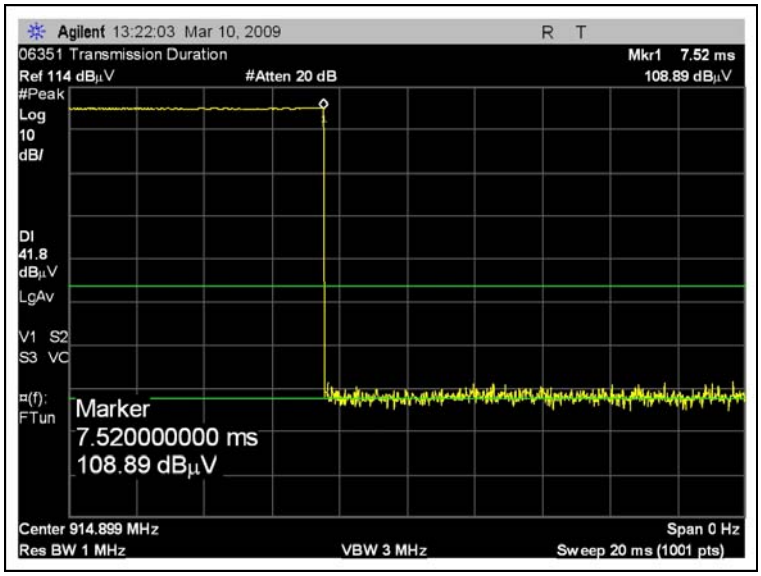
Test Setup Photos

Test Plots
Note: The model number on the following plots is incorrectly listed as 06351.
The actual model tested was 06357.

FCC 15.247(a)(1) AVERAGE TIME OF OCCUPANCY



FCC 15.247(a)(1) TRANSMISSION DURATION



FCC 15.247(b)(2) RF POWER OUTPUT

Test Setup Photos

Test Data

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer:	**Davis Instruments**		
Specification:	**FCC 15.247(b)(2) / 15.209 / 15.205**		
Work Order #:	**88539**	Date:	3/9/2009
Test Type:	**Transmitter ERP**	Time:	09:23:30
Equipment:	**Weather Station Transmitter**	Sequence#:	1
Manufacturer:	Davis Instruments	Tested By:	Art Rice
Model:	06357		
S/N:	Davis-130-1		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/02/2007	04/02/2009	P05299
Cable	None	04/05/2007	04/05/2009	P05300
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position. Transmitting continuously on selected channel, with hopping disabled. Using FSK modulation at maximum data rate. Low channel = 902.355835 MHz Mid channel = 914.899597 MHz High channel = 927.443359 MHz The transmitter ERP limit is based on stated 2dBi gain antenna with maximum conducted power of 1 watt or 30 dBm. RBW=100kHz, VBW=300kHz. Radiated emissions 902-928 MHz.

Test Calculations

The following calculation was used in accordance with DA 00-705 procedures in order to obtain the transmitter conducted output power:

P = (E*d)^2 / (30*G)

E: Is the field strength in V/m

G: Is the numeric gain of the transmitting antenna with reference to an isotropic radiator.

d: Is the distance at which the measurement is being executed.

The antenna gain used for this calculation was 2.0 dBi.

Frequency	dBm	Limit	Results
902.350	14.323	30	Pass
904.893	13.423	30	Pass
927.436	13.623	30	Pass

Antenna polarity: Vertical

FCC 15.247(d) OATS RADIATED SPURIOUS EMISSIONS

Test Setup Photos

Test Data Sheets

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **06357 FCC 15.247(d) spurious +15.205 bands Rad-dBuV 902-928MHz**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Spurious Emissions Maximized** Time: 10:35:39
Equipment: **Weather Station Transmitter** Sequence#: 12
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Horn - DRG-118A	1064	01/09/2009	01/09/2011	02061
HF Pre-Amp - 83051A	00323	02/05/2008	02/05/2010	02810
Cable - HF - 32022-2-29094K-24TC	n/a	02/04/2008	02/04/2010	03015
1.5GHz HP Filter	PN 84300-80037	04/01/2008	04/01/2010	P01415
Cable HF FSJ1P-50A-4	HOL-HF-025-06	05/06/2008	05/06/2010	P05138
Cable, HF	n/a	05/06/2008	05/06/2010	P04241
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting continuously on selected channel, with hopping disabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

RBW=100kHz except in restricted bands above 1 GHz RBW=1MHz
Transmitting on low, mid, or high channel.
Radiated emissions 30-9300 MHz.

Transducer Legend:

T1=ANT AN00852 25-1000MHz	T2=Cable Calibration ANP05440
T3=AMP-AN00730-020909 .01-1000	T4=AMP-AN02810-020508
T5=ANT AN02061 900MHz-18.5GHz	T6=CAB-AN03015-020408
T7=CAB-ANP04241-050608	T8=CAB-ANP05138-050608
T9=HPF AN01415 1.5GHz	T10=-22.5 dB Duty Cycle Correction Factor
T11=CAB-ANP05299-030609	T12=CAB-ANP05300-030609

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

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8 T12	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	5414.111M Ave	49.5	+0.0 +34.2 +0.2	+0.0 +0.8 -22.5	+0.0 +1.3	-26.2 +4.0	+0.0 21	41.3	54.0 RBW=1 MHz, low ch	-12.7	Horiz 112
^	5414.170M	51.8	+0.0 +34.2 +0.2	+0.0 +0.8 -22.5	+0.0 +1.3	-26.2 +4.0	+0.0 21	43.6	54.0 RBW=1 MHz, low ch	-10.4	Horiz 112
3	5414.103M Ave	49.3	+0.0 +34.2 +0.2	+0.0 +0.8 -22.5	+0.0 +1.3	-26.2 +4.0	+0.0 144	41.1	54.0 RBW=1 MHz, low ch	-12.9	Vert 100
^	5414.144M	50.8	+0.0 +34.2 +0.2	+0.0 +0.8 -22.5	+0.0 +1.3	-26.2 +4.0	+0.0 144	42.6	54.0 RBW=1 MHz, low ch	-11.4	Vert 100
^	5414.082M	50.2	+0.0 +34.2 +0.2	+0.0 +0.8 -22.5	+0.0 +1.3	-26.2 +4.0	+0.0 144	42.0	54.0 RBW=120kHz, low ch	-12.0	Vert 100
6	4637.220M	51.9	+0.0 +32.7 +0.2	+0.0 +0.6 -22.5	+0.0 +1.1	-26.7 +3.5	+0.0 112	40.8	54.0 RBW=1MHz, high ch	-13.2	Horiz 104
7	3709.785M	50.0	+0.0 +31.6 +0.2	+0.0 +0.6 -22.5	+0.0 +1.1	-26.0 +3.3	+0.0 218	38.3	54.0 RBW=1MHz, high ch	-15.7	Horiz 108
8	3659.628M	49.5	+0.0 +31.6 +0.2	+0.0 +0.6 -22.5	+0.0 +0.9	-25.9 +3.1	+0.0 227	37.5	54.0 RBW=1 MHz, Mid ch	-16.5	Horiz 110
9	4574.453M	46.6	+0.0 +32.5 +0.2	+0.0 +0.5 -22.5	+0.0 +1.0	-26.8 +3.5	+0.0 349	35.0	54.0 RBW=1MHz, mid ch	-19.0	Horiz 111
10	901.954M QP	72.9	+22.5 +0.0 +0.0	+1.9 +0.0 +0.0	-27.4 +0.0 +0.3	+0.0 +0.0 +1.3	+0.0 361	71.5	91.7 Low ch	-20.2	Vert 101
^	901.955M	87.6	+22.5 +0.0 +0.0	+1.9 +0.0 +0.0	-27.4 +0.0 +0.3	+0.0 +0.0 +1.3	+0.0	86.2	91.7 Low ch	-5.5	Vert 101

FCC PART 15.247(d) BANDEDGE

Test Setup Photos

Test Data

Test Location: CKC Laboratories, Inc. •1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Davis Instruments**
Specification: **06357 FCC 15.247(d) spurious +15.205 bands Rad-dBuV 902-928MHz**
Work Order #: **88539** Date: 3/10/2009
Test Type: **Band Edge Measurements** Time: 13:28:08
Equipment: **Weather Station Transmitter** Sequence#: 13
Manufacturer: Davis Instruments Tested By: Art Rice
Model: 06357
S/N: Davis-130-1

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable	None	04/21/2008	04/21/2010	P05440
Antenna	2630	12/22/2008	12/22/2010	00852
Preamp, HP8447D	2443A03707	02/09/2009	02/09/2011	00730
SA - Agilent E4446A	US44300438	07/23/2008	07/23/2010	02672
Cable	None	03/06/2009	03/06/2011	P05299
Cable	None	03/06/2009	03/06/2011	P05300

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

Function	Manufacturer	Model #	S/N
Weather Station Transmitter*	Davis Instruments	06357	Davis-130-1

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is mounted to a PVC pipe stand on top of the wooden test table. The EUT antenna is in the vertical position.
Transmitting continuously on selected channel, with hopping disabled.
Using FSK modulation at maximum data rate.
Low channel = 902.355835 MHz
Mid channel = 914.899597 MHz
High channel = 927.443359 MHz

Band edges checked in two modes per FCC DA 00-705:
1) Transmitting continuously on selected channel, with hopping disabled.
2) Transmitting while hopping: "Fast FCC hop mode" with 0.5 sec between hops.

RBW=30kHz, VBW=91kHz.

Frequency range investigated: 898-932 MHz.

Transducer Legend:

T1=ANT AN00852 25-1000MHz	T2=Cable Calibration ANP05440
T3=AMP-AN00730-020909 .01-1000	T4=CAB-ANP05299-030609
T5=CAB-ANP05300-030609	

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	902.360M	113.2	+22.5 +1.3	+1.9	-27.4	+0.3	+0.0 18	111.8	111.8 Low ch, hopping	+0.0	Vert 100
2	902.357M	113.1	+22.5 +1.3	+1.9	-27.4	+0.3	+0.0 18	111.7	111.7 Low ch, not hopping.	+0.0	Vert 100
3	927.430M	111.7	+23.0 +1.2	+1.9	-27.5	+0.4	+0.0 18	110.7	111.7 High ch, hopping	-1.0	Vert 100
4	927.445M	111.7	+23.0 +1.2	+1.9	-27.5	+0.4	+0.0 18	110.7	111.7 High ch, not hopping	-1.0	Vert 100
5	901.925M	73.6	+22.5 +1.3	+1.9	-27.4	+0.3	+0.0 18	72.2	91.7 Band Edge Low ch, hopping	-19.5	Vert 100
6	901.820M	73.0	+22.5 +1.3	+1.9	-27.4	+0.3	+0.0 18	71.6	91.7 Band Edge, low ch, not hopping	-20.1	Vert 100
7	928.220M	72.5	+23.0 +1.2	+1.9	-27.5	+0.4	+0.0 18	71.5	91.7 Band Edge High ch, hopping	-20.2	Vert 100
8	928.795M	67.1	+23.0 +1.2	+1.9	-27.5	+0.4	+0.0 18	66.1	91.7 Band Edge High ch, not hopping	-25.6	Vert 100