ADDENDUM TO TEST REPORT FC99-013

FOR THE

PROXPRO PLUS, 6030/8A (6030-300)

FCC PART 15 SUBPART C
SECTION 15.207/15.209

COMPLIANCE

DATE OF ISSUE: SEPTEMBER 19, 2000

PREPARED FOR:

HID Corporation
9292 Jeronimo
Irvine, CA 92618-1905

P.O. No: 007531
W.O. No: 70944

Report No: FC99-013A

PREPARED BY:

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Date of test: February 18 & 23, 1999

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	February 18 & 23, 1999
PURPOSE OF TEST:	To demonstrate the compliance of the ProxPro Plus, 6030/8A (6030-300), with the requirements for FCC Part 15 Subpart C Sections 15.207/15.209 devices. The addendum is to accommodate product name changes by the manufacturer.
MANUFACTURER:	HID Corporation 9292 Jeronimo Irvine, CA 92618-1905
REPRESENTATIVE:	Frank de Vall
TEST LOCATION:	CKC Laboratories, Inc. 5473A Clouds Rest Mariposa, CA 95338
TEST PERSONNEL:	Dustin Oaks
TEST METHOD:	ANSI C63.4 1992
FREQUENCY RANGE TESTED:	9 kHz - 1000 MHz
EQUIPMENT UNDER TEST:	**ProxPro Plus** Manuf: HID Corporation Model: 6030/8A (6030-300) Serial: N/A FCC ID: JQ6535Y (pending)

SUMMARY OF RESULTS

The HID Corporation ProxPro Plus, 6030/8A (6030-300), was tested in accordance with ANSI C63.4 1992 for compliance with FCC Part 15 Subpart C Sections 15.207/15.209.

As received, the above equipment was found to be fully compliant with the limits of FCC Part 15 Subpart C Sections 15.207/15.209. The results in this report apply only to the items tested, as identified herein.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

RFID Access Control Reader.

The following model has been tested by CKC Laboratories:

Proximity Reader, 6030/8B

The following additional model is identical electrically to the one, which was tested, or any differences between them do not affect their EMC characteristics, and therefore they comply with the level of testing equivalent to the tested models.

ProxPro Plus, 6030/8A (6030-300)

MEASUREMENT UNCERTAINTY

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

EUT OPERATING FREQUENCY

The EUT was operating at 125kHz.

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 tested with the following peripheral device(s):

Power Supply
Manuf: Sorensen
Model: DCR60 - 30B
Serial: 0176
FCC ID: N/A

Power Supply
Manuf: Topward Electronic Instruments
Model: 2306
Serial: 920035
FCC ID: N/A

REPORT OF MEASUREMENTS

The following tables report the six highest worst case levels recorded during the tests performed on the ProxPro Plus, 6030/8A (6030-300). 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 - 9kHz-30MHz

FREQUENCY	METER READING	CORRECTION FACTORS				CORRECTED READING	SPEC LIMIT	MARGIN	NOTES
		Mag	Cable	FCC 15.31	Dist				
MHz	DBµV	dB	dB	dB	dB	dBµV/m	dBµV/m	dB	
0.125	47.0	12.2	0.1	-40.0		19.3	25.7	-6.4	N
0.500	9.3	12.8	0.2	0.0		22.3	33.6	-11.3	N
0.625	10.3	11.6	0.2	0.0		22.1	31.7	-9.6	N
0.750	7.6	10.7	0.2	0.0		18.5	30.1	-11.6	N
0.875	9.4	10.0	0.2	0.0		19.6	28.7	-9.1	N
1.375	4.0	9.2	0.3	0.0		13.5	24.8	-11.3	N

Test Method: ANSI C63.4 1992
Spec Limit : FCC Part 15.209
Test Distance: 30 Meters

NOTES: N = No Polarization

COMMENTS: EUT operating in normal mode. No Proxcard in field. EUT receiving operating voltage of 24VDC via power supply. 40dB/Dec correction used in accordance with FCC Part 15.31.

Table 2: Six Highest Radiated Emission Levels - 30MHz-1000MHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Amp dB	Bicon dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
33.940	49.4	-27.3	12.6	1.0		35.7	40.0	-4.3	VQ
48.063	46.5	-27.2	11.0	1.3		31.6	40.0	-8.4	VQ
65.072	49.3	-27.2	8.9	1.4		32.4	40.0	-7.6	VQ
119.976	45.5	-27.2	13.8	2.0		34.1	43.5	-9.4	V
188.025	42.0	-26.8	16.7	2.6		34.5	43.5	-9.0	V
192.037	41.4	-26.8	17.1	2.6		34.3	43.5	-9.2	V

Test Method: ANSI C63.4 1992
Spec Limit : FCC Part 15.209
Test Distance: 3 Meters

NOTES: V = Vertical Polarization
Q = Quasi Peak Reading

COMMENTS: EUT operating in normal mode. No Proxcard in field. EUT receiving operating voltage of 24VDC via power supply.

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
9.373489	36.9	0.0				36.9	48.0	-11.1	W
9.495627	40.3	0.0				40.3	48.0	-7.7	W
10.000840	38.9	0.0				38.9	48.0	-9.1	W
10.627460	39.4	0.0				39.4	48.0	-8.6	W
10.884530	35.9	0.0				35.9	48.0	-12.1	B
12.009240	36.7	0.0				36.7	48.0	-11.3	B

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: EUT is operating in normal operating mode. No Proxcard located in field. EUT received operating voltage of 24VDC via power supply. Negative power lead from EUT tied to DC power supply chassis ground.

TABLE A

LIST OF TEST EQUIPMENT

1. Spectrum Analyzer, Hewlett Packard, Model No. 8566B, S/N 2209A01404. Calibration date: June 12, 1998. Calibration due date: June 12, 1999.

2. Preamp, Hewlett Packard, Model No. 8447D, S/N 1937A02604. Calibration date: April 10, 1998. Calibration due date: April 10, 1999.

3. Quasi-Peak Adapter, Hewlett Packard, Model No. 85650A, S/N 2811A01267. Calibration date: June 12, 1998. Calibration due date: June 12, 1999.

4. Biconical Antenna, A & H Systems, Model No. SAS-200/542, S/N 156. Calibration date: June 9, 1998. Calibration due date: June 9, 1999.

5. Log Periodic Antenna, A & H Systems, Model No. SAS-200/512, S/N 154. Calibration date: June 9, 1998. Calibration due date: June 9, 1999.

6. Magnetic Loop Antenna, EMCO, Model No. 6502, S/N 1074. Calibration date: May 11, 1998. Calibration due date: May 11, 1999.

7. LISN (FCC), Solar Electronics, S/N 855996, 992. Calibration date: May 28, 1998. Calibration due date: May 28, 1999.

EUT SETUP

The equipment under test (EUT) and the peripheral listed were set up in a manner that represented their normal use. Any special conditions required for the EUT to operate normally are identified in the comments that accompany Table 1-3 for radiated and conducted emissions. 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 wall mounted devices.

I/O cables were connected to the EUT and peripheral 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 ProxPro Plus, 6030/8A (6030-300). For frequencies below 30 MHz, the magnetic loop antenna was used. For radiated measurements below 300 MHz, the biconical antenna was used. For frequencies from 300 to 1000 MHz, the log periodic antenna was used. All antennas were located at a distance of 30 meters from the edge of the EUT while doing testing from 9kHz to 30 MHz, and 3 meters while doing testing from 30 MHz to 1 GHz. 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	450 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

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 ProxPro Plus, 6030/8A (6030-300).

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 are less than 30 MHz, 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 ProxPro Plus, 6030/8A (6030-300), 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 Sections 15.207/15.209 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. The frequency range of 9 kHz to 30 MHz was scanned with the magnetic loop antenna. 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. 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, antenna height and configuration of the peripherals and cables. 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.

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	Mag	FCC 15.31	Dist	Corr dBuV/m	Spec	Margin	Polar
	LISN											

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.
FCC 15.31 is 40dB/Dec correction used IAW 15.31.
Mag 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). 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.
LISN is the line impedance stabilization network factor in dB.

APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

INFORMATION ABOUT THE EQUIPMENT UNDER TEST	
Test Software/Firmware:	**None**
CRT was displaying:	**NA**
Power Supply Manufacturer:	**Customer Supplied**
Power Supply Part Number:	**NA**
AC Line Filter Manufacturer:	**NA**
AC Line Filter Part Number:	**NA**
Voltage used during testing:	**24VDC**

I/O PORTS	
Type	#
DC Power & Signals	1

CRYSTAL OSCILLATORS	
Type	Freq In MHz
Ceramic Resonator	4Mhz

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
All Electronics	Rev B	4 MHz	4	

CABLE INFORMATION

Cable #:		Cable(s) of this type:	
Cable Type:	Shielded	Shield Type:	Foil with Drain
Construction:	Multiconductor	Length In Meters:	152
Connected To End (1):	Reader	Connected To End (2):	DC Supply & Controller
Connector At End (1):	None	Connector At End (2):	None
Shield Grounded At (1):	Shield Ground	Shield Grounded At (2):	NC
Part Number:		Number of Conductors:	6 to 10
Notes:			

REQUIRED EUT CHANGES TO COMPLY:
None

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

PHOTOGRAPH SHOWING CONDUCTED EMISSIONS

Conducted Emissions - Front View

APPENDIX B

MEASUREMENT DATA SHEETS

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest Rd, Barn • Mariposa, CA 95338 • (800)-500-4EMC

Customer:	**HID Corporation**	Date:	Feb-18-99
Specification:	**FCC Part 15.209**	Time:	11:02
Test Type:	**Maximized Emissions**	Sequence#:	18
Equipment:	**Proximity Reader**		
Manufacturer:	HID	Tested By:	Dustin Oaks
Model:	6030/8B		
S/N:	N/A		

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

Function	Manufacturer	Model #	S/N
Proximity Reader*	HID	6030/8B	N/A

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Sorensen	DCR60 - 30B	0176

Test Conditions / Notes:

EUT operating in normal mode. No Proxcard in field. EUT receiving operating voltage of 24VDC via power supply. 40dB/Dec correction used in accordance with 15.31.

Measurement Data: Sorted by Margin Test Distance: 30 Meters

#	Freq	Rdng dBµV	Mag dB	Cable dB	FCC 15.31 Corr dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	124.970k	47.0	+12.2	+0.1	-40.0		+0.0	19.3	25.7	-6.4	None
2	874.994k	9.4	+10.0	+0.2	+0.0		+0.0	19.6	28.7	-9.1	None
3	624.994k	10.3	+11.6	+0.2	+0.0		+0.0	22.1	31.7	-9.6	None
4	1.375M	4.0	+9.2	+0.3	+0.0		+0.0	13.5	24.8	-11.3	None
5	499.994k	9.3	+12.8	+0.2	+0.0		+0.0	22.3	33.6	-11.3	None
6	749.994k	7.6	+10.7	+0.2	+0.0		+0.0	18.5	30.1	-11.6	None
7	374.994k	28.9	+14.3	+0.1	-40.0		+0.0	3.3	16.1	-12.8	None
8	249.982k	23.6	+14.7	+0.1	-40.0		+0.0	-1.6	19.6	-21.2	None

Test Location:	CKC Laboratories, Inc. • 5473A Clouds Rest Rd, Barn • Mariposa, CA 95338 • (800)-500-4EMC		
Customer:	**HID Corporation**	Date:	Feb-18-99
Specification:	**FCC Part 15.209**	Time:	14:54
Test Type:	**Maximized Emissions**	Sequence#:	23
Equipment:	**Proximity Reader**		
Manufacturer:	HID	Tested By:	Dustin Oaks
Model:	6030/8B		
S/N:	N/A		

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

Function	Manufacturer	Model #	S/N
Proximity Reader*	HID	6030/8B	N/A

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Sorensen	DCR60 - 30B	0176

Test Conditions / Notes:

EUT operating in normal mode. No Proxcard in field. EUT receiving operating voltage of 24VDC via power supply.

Measurement Data: Sorted by Margin Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Am dB	Bicon dB	dB	Cable dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	33.940 Quasi Peak	49.3	-27.3	+12.6		+1.0	+0.0	35.7	40.0	-4.3	Vert
^	33.905	54.3	-27.3	+12.6		+1.0	+0.0	40.6	40.0	+0.6	Vert
3	65.072 Quasi Peak	49.3	-27.2	+8.9		+1.4	+0.0	32.4	40.0	-7.6	Vert
^	65.070	51.8	-27.2	+8.9		+1.4	+0.0	34.9	40.0	-5.1	Vert
5	48.063 Quasi Peak	46.5	-27.2	+11.0		+1.3	+0.0	31.6	40.0	-8.4	Vert
^	48.054	50.7	-27.2	+11.0		+1.3	+0.0	35.8	40.0	-4.2	Vert
7	188.025	42.0	-26.8	+16.7		+2.6	+0.0	34.5	43.5	-9.0	Vert
8	192.036	41.4	-26.8	+17.1		+2.6	+0.0	34.3	43.5	-9.2	Vert
9	119.976	45.5	-27.2	+13.8		+2.0	+0.0	34.1	43.5	-9.4	Vert
10	168.043	42.0	-26.9	+14.8		+2.4	+0.0	32.3	43.5	-11.2	Vert
11	180.041	40.4	-26.9	+15.9		+2.5	+0.0	31.9	43.5	-11.6	Vert

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest Rd, Barn • Mariposa, CA 95338 • (800)-500-4EMC

Customer:	**HID Corporation**	Date:	Feb-23-99
Specification:	**FCC Part 15.207**	Time:	08:21
Test Type:	**Conducted Emissions**	Sequence#:	30
Equipment:	**Proximity Reader**		
Manufacturer:	HID	Tested By:	Dustin Oaks
Model:	6030/8B		
S/N:	N/A		

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

Function	Manufacturer	Model #	S/N
Proximity Reader*	HID	6030/8B	N/A

Support Devices:

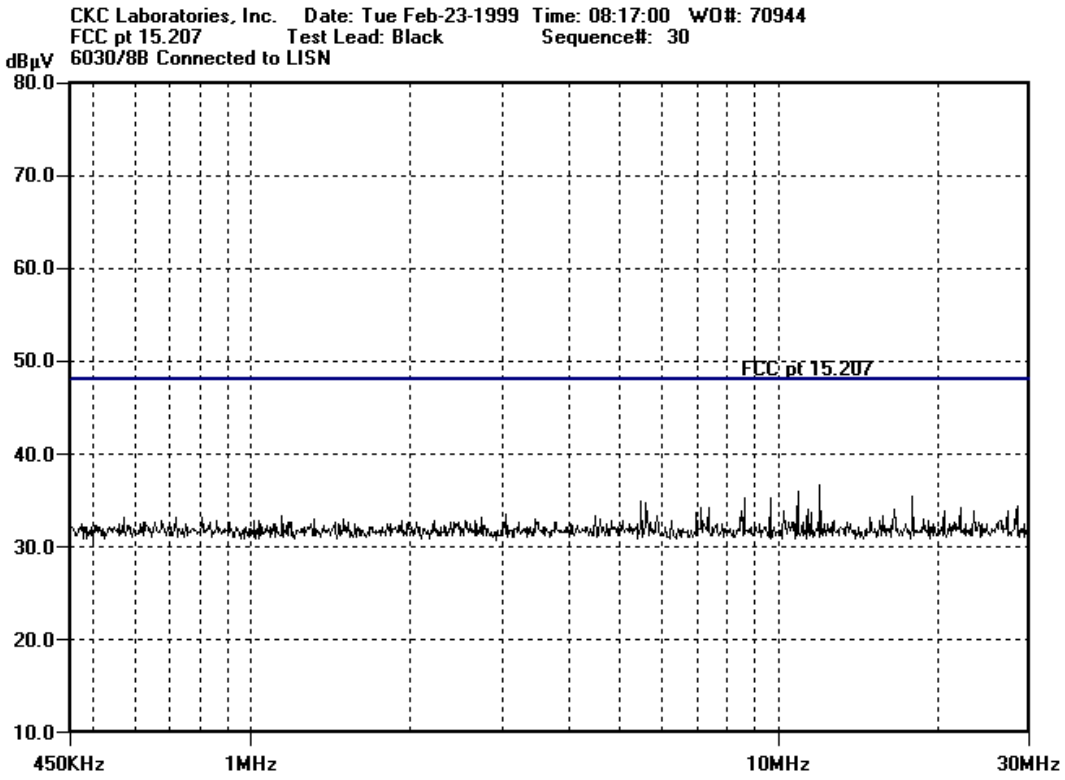
Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instruments	2306	920035

Test Conditions / Notes:

EUT is operating in normal operating mode. No Proxcard located in field. EUT received operating voltage of 24VDC via power supply. Negative power lead from EUT tied to DC power supply chassis ground.

Measurement Data: Sorted by Margin Test Lead: Black

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	12.009	36.7					+0.0	36.7	48.0	-11.3	Black
2	10.885	35.9					+0.0	35.9	48.0	-12.1	Black
3	18.009	35.4					+0.0	35.4	48.0	-12.6	Black
4	8.623	35.3					+0.0	35.3	48.0	-12.7	Black
5	9.647	35.2					+0.0	35.2	48.0	-12.8	Black
6	5.500	35.0					+0.0	35.0	48.0	-13.0	Black
7	5.622	34.7					+0.0	34.7	48.0	-13.3	Black
8	28.394	34.4					+0.0	34.4	48.0	-13.6	Black
9	22.193	34.3					+0.0	34.3	48.0	-13.7	Black
10	7.367	34.3					+0.0	34.3	48.0	-13.7	Black


CKC Laboratories, Inc. Date: Tue Feb-23-1999 Time: 08:17:00 WO#: 70944
FCC pt 15.207 Test Lead: Black Sequence#: 30
dBµV 6030/8B Connected to LISN
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC pt 15.207
450KHz
1MHz
10MHz
30MHz

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest Rd, Barn • Mariposa, CA 95338 • (800)-500-4EMC

Customer:	**HID Corporation**	Date:	Feb-23-99
Specification:	**FCC Part 15.207**	Time:	08:36
Test Type:	**Conducted Emissions**	Sequence#:	31
Equipment:	**Proximity Reader**		
Manufacturer:	HID	Tested By:	Dustin Oaks
Model:	6030/8B		
S/N:	N/A		

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

Function	Manufacturer	Model #	S/N
Proximity Reader*	HID	6030/8B	N/A

Support Devices:

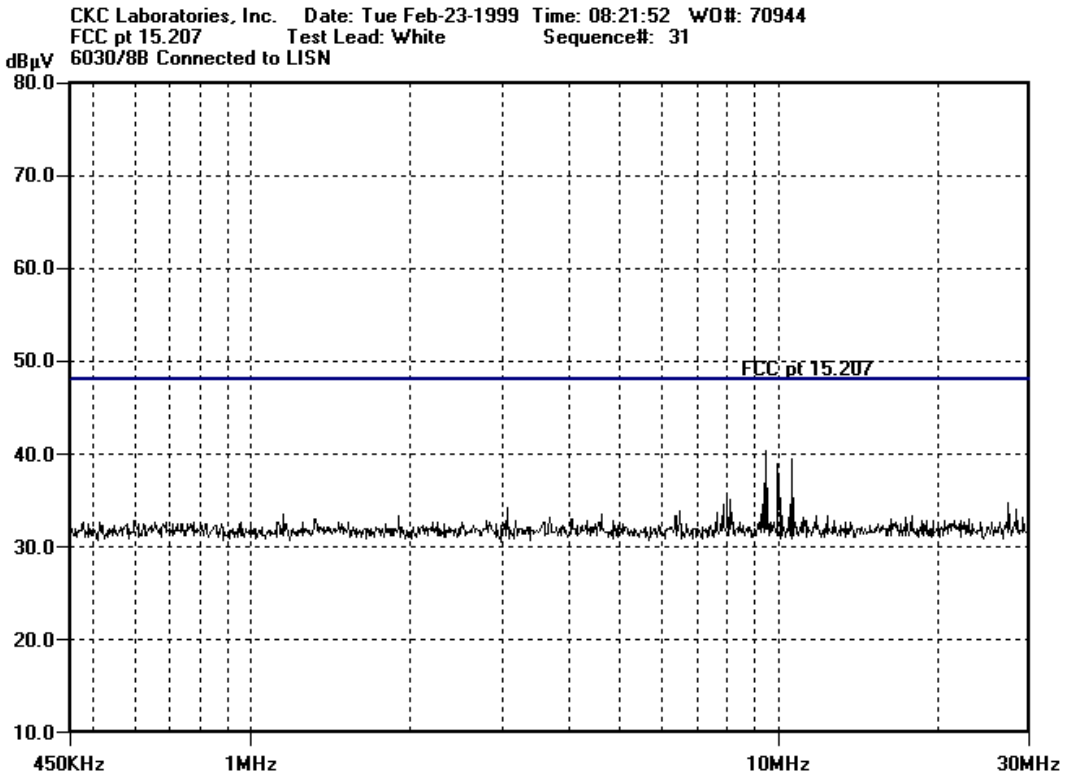
Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instruments	2306	920035

Test Conditions / Notes:

EUT is operating in normal operating mode. No Proxcard located in field. EUT received operating voltage of 24VDC via power supply. Negative power lead from EUT tied to DC power supply chassis ground.

Measurement Data: Sorted by Margin Test Lead: White

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	9.496	40.3					+0.0	40.3	48.0	-7.7	White
2	10.627	39.4					+0.0	39.4	48.0	-8.6	White
3	10.001	38.9					+0.0	38.9	48.0	-9.1	White
4	9.373	36.9					+0.0	36.9	48.0	-11.1	White
5	7.995	35.4					+0.0	35.4	48.0	-12.6	White
6	10.129	35.3					+0.0	35.3	48.0	-12.7	White
7	8.117	35.1					+0.0	35.1	48.0	-12.9	White
8	27.398	34.7					+0.0	34.7	48.0	-13.3	White
9	10.515	34.6					+0.0	34.6	48.0	-13.4	White
10	7.873	34.5					+0.0	34.5	48.0	-13.5	White


CKC Laboratories, Inc. Date: Tue Feb-23-1999 Time: 08:21:52 WO#: 70944
FCC pt 15.207 Test Lead: White Sequence#: 31
dBµV 6030/8B Connected to LISN
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC pt 15.207
450KHz
1MHz
10MHz
30MHz