HID GLOBAL CORPORATION TEST REPORT

FOR THE

6125BXN MULTICLASS RP40 READER

FCC PART 15 SUBPART C SECTIONS 15.207, 15.209 & 15.225 AND RSS-210

COMPLIANCE

DATE OF ISSUE: MARCH 14, 2007

PREPARED FOR:

HID Global Corporation
9292 Jeromino Road
Irvine, CA 92618-1905

P.O. No.: 11007580
W.O. No.: 85597

PREPARED BY:

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

Date of test: January 9-25, 2007

Report No.: FC07-007

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ADMINISTRATIVE INFORMATION

DATE OF TEST: January 9-25, 2007

DATE OF RECEIPT: January 9, 2007

MANUFACTURER: HID Global Corporation
9292 Jeromino Road
Irvine, CA 92618-1905

REPRESENTATIVE: Mat Aschenberg

TEST LOCATION: CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

TEST METHOD: FCC Part 15 Subpart C Sections 15.207, 15.209, 15.225, RSS-210 and RSS GEN

PURPOSE OF TEST: To demonstrate the compliance of the 6125BxN multiCLASS RP40 Reader with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.209, 15.225 and RSS-210 devices.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:

Mike Wilkinson, EMC Engineer/Lab Manager

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS 210	5.5	47CFR	15.203	Antenna Connector Requirements
RSS 210	6.2.1	47CFR	15.209	General Radiated Emissions Requirement
RSS 210	6.2.2(e)	47CFR	15.225(a)*	Fundamental Requirements
RSS 210	6.2.2(e)	NA	NA	±150kHz to ±450kHz Emissions Requirement
RSS 210	6.2.2(e)	47CFR	15.225(b)*	Out of band emissions
RSS 210	6.2.2(e)	47CFR	15.225(c)*	Carrier Stability
RSS 210	6.3	47CFR	15.205	Restricted Bands of Operation
RSS 210	6.4	47CFR	15.215(c)	Frequency Stability Recommendation
RSS 210	6.5	47CFR	15.35(c)	Pulsed Operation
RSS 210	6.6	47CFR	15.207	AC Mains Conducted Emissions Requirement
	IC 3082A-1		784962	Site File No.

* Indicates that FCC Requirements are more stringent than the Canadian Equivalent.

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

FCC 15.33(a) Frequency Ranges Tested

15.207 Conducted Emissions: 150 kHz – 30 MHz

15.209 Radiated Emissions: 9 kHz – 1 GHz

FCC SECTION 15.35:
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

FCC 15.203 Antenna Requirements

The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

EUT Operating Frequency

The EUT was operating at 13.56MHz & 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%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

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

The following model was tested by CKC Laboratories: **6125xxNxx iCLASS RP40**

(Since the time of testing the manufacturer has chosen to use the following model name in its place. Any differences between the names does not affect their EMC characteristics and therefore complies to the level of testing equivalent to the tested model name shown on the data sheets: **6125BxN multiCLASS RP40 Reader**

EQUIPMENT UNDER TEST

multiCLASS RP40 Reader

Manuf: HID Global Corporation
Model: 6125BxN
Serial: 010907
FCC ID: pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

DC Power Supply

Manuf: Topward Electric Instruments Co., Ltd.
Model: TPS-2000
Serial: 920035

REPORT OF EMISSIONS MEASUREMENTS

TESTING PARAMETERS

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 to determine compliance. 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 to determine compliance.

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.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

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 "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.

Peak

In this mode, the spectrum analyzer/receiver readings were 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

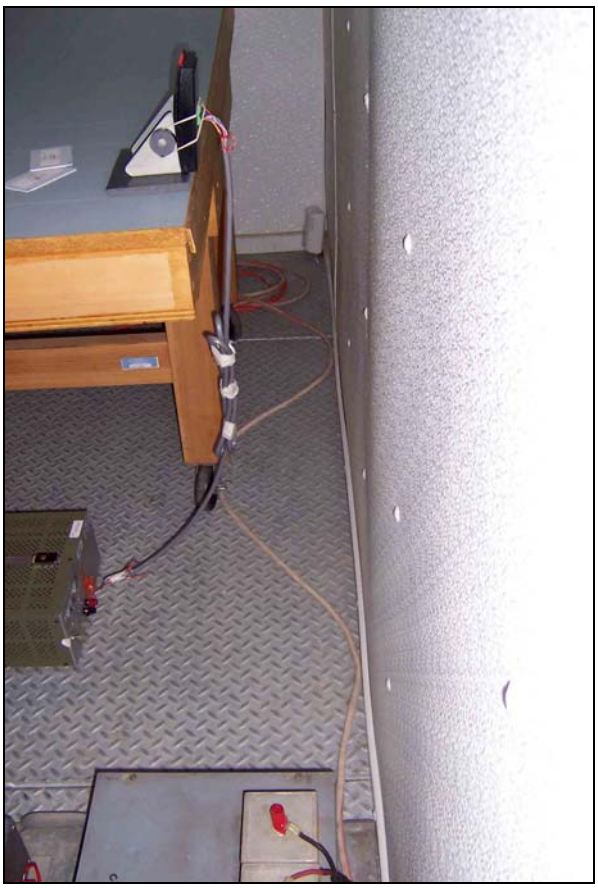
When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

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 15.207 CONDUCTED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer:	**HID Global Corporation**		
Specification:	**FCC 15.207 - AVE**		
Work Order #:	**85597**	Date:	1/10/2007
Test Type:	**Conducted Emissions**	Time:	16:31:48
Equipment:	**iCLASS Reader**	Sequence#:	10
Manufacturer:	HID Global Corporation	Tested By:	Mike Wilkinson
Model:	6125xxNxx iCLASS RP40		120V 60Hz
S/N:	010907		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
150kHz HP Filter TTE	G7754	03/09/2006	03/09/2008	02608
LISN, 8028-50-TS-24-BNC	8379276, 280	06/03/2005	06/03/2007	1248 & 1249

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

Function	Manufacturer	Model #	S/N
iCLASS Reader*	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz & 125kHz. The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Frequency Range Investigated: 150kHz - 30MHz. Temperature: 21ºC, Relative Humidity: 35%.

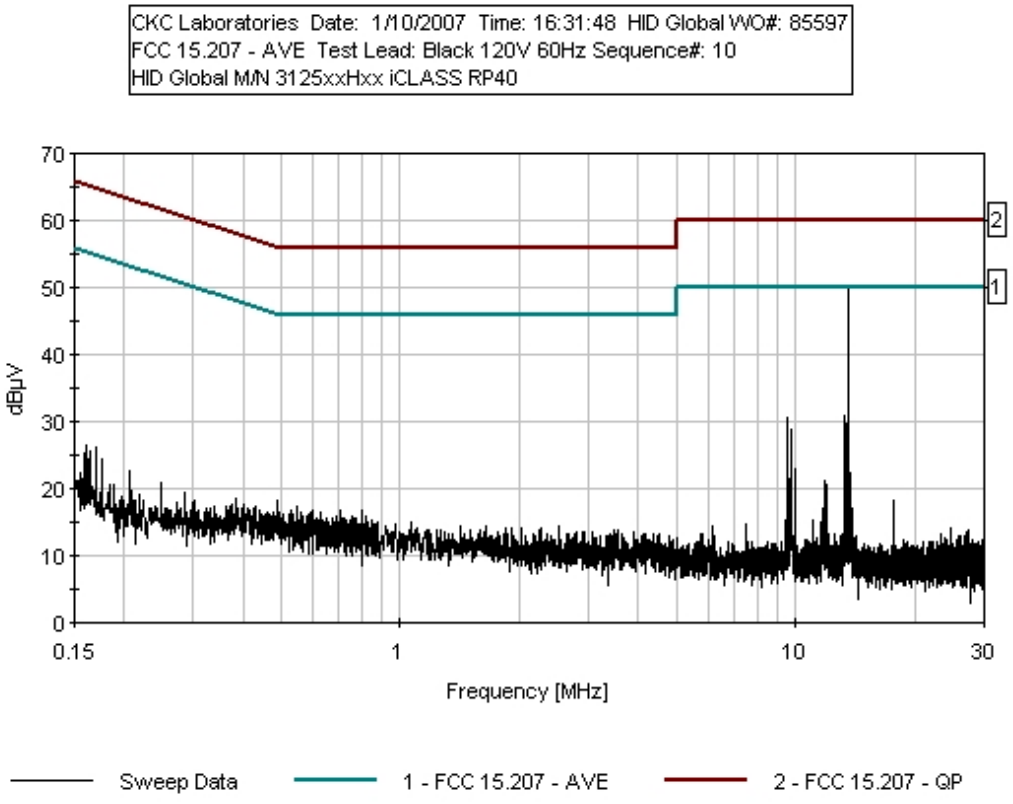
Transducer Legend:

T1=LISN Insertion Loss s/n276	T2=Filter 150kHz HP AN02608
T3=Cable - Site D LISN 100k-30M	

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	13.549M	20.3	+0.5	+0.1	+10.9		+0.0	31.8	50.0	-18.2	Black
2	13.572M	19.9	+0.5	+0.1	+10.9		+0.0	31.4	50.0	-18.6	Black
3	13.350M	19.5	+0.5	+0.1	+10.9		+0.0	31.0	50.0	-19.0	Black
4	13.354M	19.3	+0.5	+0.1	+10.9		+0.0	30.8	50.0	-19.2	Black
5	9.507M	19.1	+0.5	+0.1	+10.8		+0.0	30.5	50.0	-19.5	Black
6	13.429M	18.1	+0.5	+0.1	+10.9		+0.0	29.6	50.0	-20.4	Black
7	13.485M	18.0	+0.5	+0.1	+10.9		+0.0	29.5	50.0	-20.5	Black

8	13.577M	17.8	+0.5	+0.1	+10.9	+0.0	29.3	50.0	-20.7	Black
9	13.544M	17.6	+0.5	+0.1	+10.9	+0.0	29.1	50.0	-20.9	Black
10	13.434M	17.5	+0.5	+0.1	+10.9	+0.0	29.0	50.0	-21.0	Black
11	13.561M Ave	16.8	+0.5	+0.1	+10.9	+0.0	28.3	50.0	-21.7	Black
^	13.561M	38.7	+0.5	+0.1	+10.9	+0.0	50.2	50.0	+0.2	Black
^	13.565M	35.5	+0.5	+0.1	+10.9	+0.0	47.0	50.0	-3.0	Black
^	13.557M	32.7	+0.5	+0.1	+10.9	+0.0	44.2	50.0	-5.8	Black
^	13.569M	26.6	+0.5	+0.1	+10.9	+0.0	38.1	50.0	-11.9	Black
^	13.553M	24.8	+0.5	+0.1	+10.9	+0.0	36.3	50.0	-13.7	Black



Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **HID Global Corporation**
Specification: **FCC 15.207 - AVE**
Work Order #: **85597** Date: 1/10/2007
Test Type: **Conducted Emissions** Time: 4:27:23 PM
Equipment: **iCLASS Reader** Sequence#: 11
Manufacturer: HID Global Corporation Tested By: Mike Wilkinson
Model: 6125xxNxx iCLASS RP40 120V 60Hz
S/N: 010907

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
150kHz HP Filter TTE	G7754	03/09/2006	03/09/2008	02608
LISN, 8028-50-TS-24-BNC	8379276, 280	06/03/2005	06/03/2007	1248 & 1249

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

Function	Manufacturer	Model #	S/N
iCLASS Reader*	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz & 125kHz. The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Frequency Range Investigated: 150kHz - 30MHz. Temperature: 21ºC, Relative Humidity: 35%.

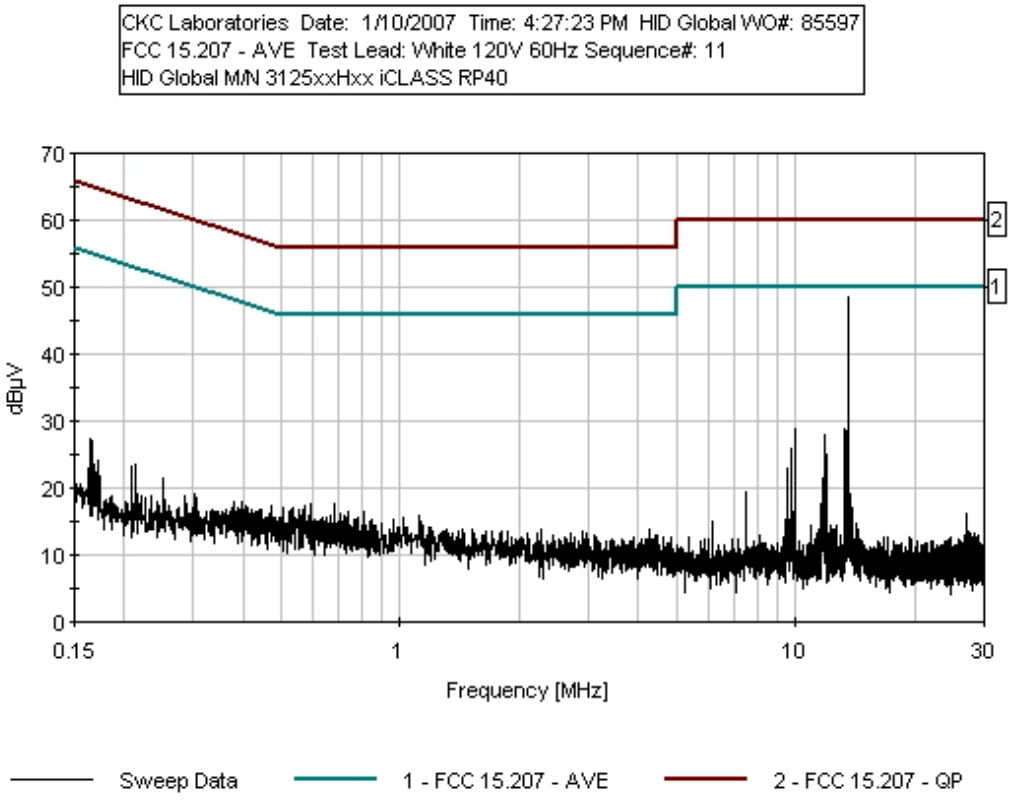
Transducer Legend:

T1=LISN Insertion Loss s/n280 T2=Filter 150kHz HP AN02608
T3=Cable - Site D LISN 100k-30M

Measurement Data: Reading listed by margin. Test Lead: White

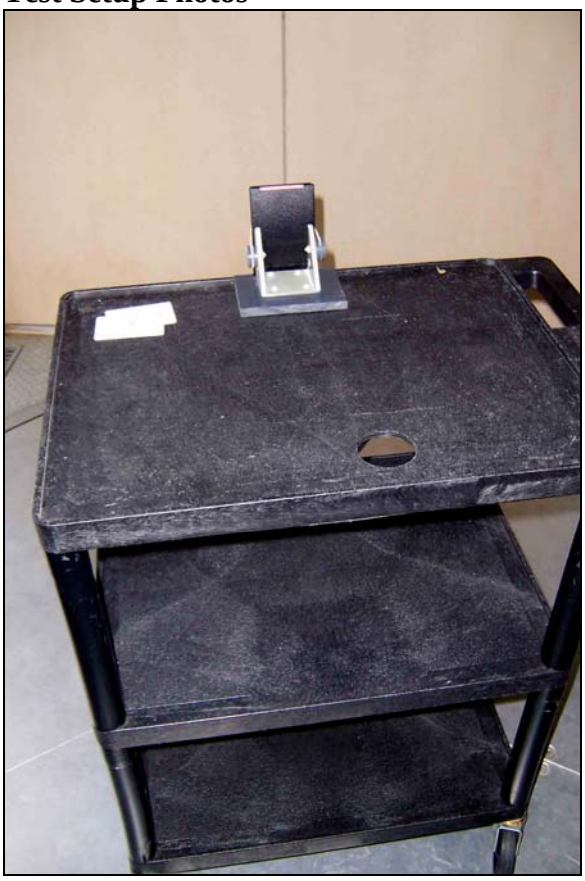
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	13.563M	37.1	+0.4	+0.1	+10.9		+0.0	48.5	50.0	-1.5	White
2	13.559M	36.4	+0.4	+0.1	+10.9		+0.0	47.8	50.0	-2.2	White
3	13.567M	31.3	+0.4	+0.1	+10.9		+0.0	42.7	50.0	-7.3	White
4	13.555M	28.5	+0.4	+0.1	+10.9		+0.0	39.9	50.0	-10.1	White
5	13.570M	21.1	+0.4	+0.1	+10.9		+0.0	32.5	50.0	-17.5	White
6	13.550M	21.0	+0.4	+0.1	+10.9		+0.0	32.4	50.0	-17.6	White
7	10.002M	17.5	+0.4	+0.1	+10.8		+0.0	28.8	50.0	-21.2	White

8	13.356M	17.4	+0.4	+0.1	+10.9	+0.0	28.8	50.0	-21.2	White
9	13.348M	17.3	+0.4	+0.1	+10.9	+0.0	28.7	50.0	-21.3	White
10	13.574M	17.1	+0.4	+0.1	+10.9	+0.0	28.5	50.0	-21.5	White
11	13.483M	17.0	+0.4	+0.1	+10.9	+0.0	28.4	50.0	-21.6	White
12	11.886M	16.6	+0.4	+0.1	+10.9	+0.0	28.0	50.0	-22.0	White
13	13.487M	16.6	+0.4	+0.1	+10.9	+0.0	28.0	50.0	-22.0	White
14	13.352M	16.5	+0.4	+0.1	+10.9	+0.0	27.9	50.0	-22.1	White
15	13.546M	16.5	+0.4	+0.1	+10.9	+0.0	27.9	50.0	-22.1	White



FCC 15.209 RADIATED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer:	**HID Global Corporation**		
Specification:	**FCC 15.209**		
Work Order #:	**85597**	Date:	1/16/2007
Test Type:	**Radiated Scan**	Time:	10:04:23
Equipment:	**iCLASS Reader**	Sequence#:	26
Manufacturer:	HID Global Corporation	Tested By:	Mike Wilkinson
Model:	6125xxNxx iCLASS RP40		
S/N:	010907		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
EMCO Loop Antenna	1074	05/13/2005	05/13/2007	00226

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

Function	Manufacturer	Model #	S/N
iCLASS Reader*	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz and 125kHz The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Test data is corrected for proper test distance using 40dB per decade correction factor in accordance with 15.31. Frequency Range Investigated: Carrier. Relative Humidity: 35%.

Transducer Legend:

T1=Cable - Site D 10m 9k-1G T2=Mag Loop - AN 00226 - 9kHz-30M
T3=15.31 10m 40dB/Dec Correction

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	125.282k	43.6	+0.2	+10.2	-60.0		+0.0	-6.0	25.6	-31.6	Vert
2	125.252k	36.7	+0.2	+10.2	-60.0		+0.0	-12.9	25.6	-38.5	Horiz

Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **HID Global Corporation**
Specification: **FCC 15.209**
Work Order #: **85597** Date: 1/16/2007
Test Type: **Radiated Scan** Time: 09:06:02
Equipment: **iCLASS Reader** Sequence#: 24
Manufacturer: HID Global Corporation Tested By: Mike Wilkinson
Model: 6125xxNxx iCLASS RP40
S/N: 010907

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
EMCO Loop Antenna	1074	05/13/2005	05/13/2007	00226

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

Function	Manufacturer	Model #	S/N
iCLASS Reader*	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz and 125kHz The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Test data is corrected for proper test distance using 40dB per decade correction factor in accordance with 15.31. Frequency Range Investigated: 9kHz to 30MHz. Relative Humidity: 35%.

Transducer Legend:

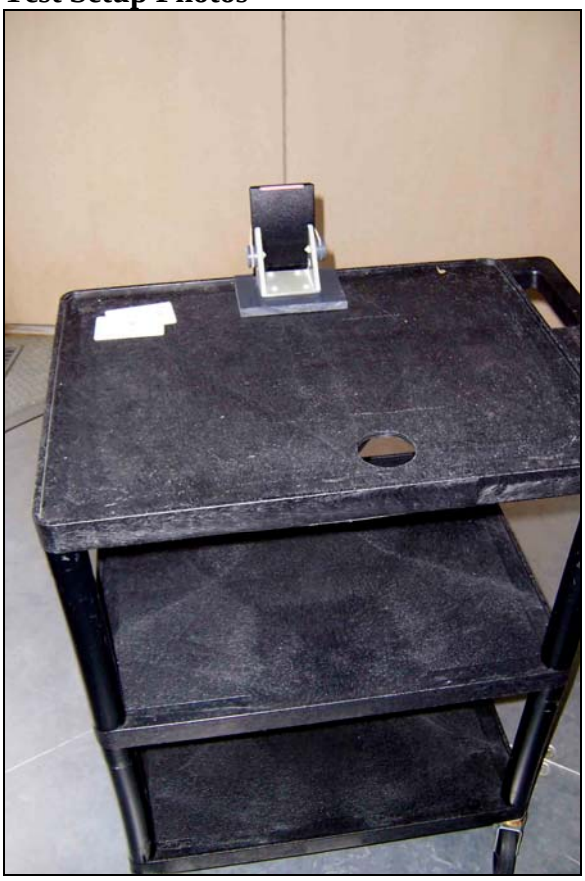
T1=Cable - Site D 10m 9k-1G T2=Mag Loop - AN 00226 - 9kHz-30M
T3=15.31 10m 40dB/Dec Correction

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	27.123M	22.4	+1.4	+6.6	-20.0		+0.0	10.4	29.5	-19.1	Horiz
2	250.198k	43.6	+0.2	+10.2	-60.0		+0.0	-6.0	19.6	-25.6	Vert
3	27.122M	14.8	+1.4	+6.6	-20.0		+0.0	2.8	29.5	-26.7	Vert
4	253.080k	38.5	+0.2	+10.2	-60.0		+0.0	-11.1	19.5	-30.6	Horiz

FCC 15.225 RADIATED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **HID Global Corporation**
Specification: **15.225/15.209**
Work Order #: **85597** Date: 1/10/2007
Test Type: **Radiated Scan** Time: 10:34:41
Equipment: **iCLASS Reader** Sequence#: 3
Manufacturer: HID Global Corporation Tested By: Mike Wilkinson
Model: 3135xxNxx iCLASS RPK40
S/N: 010907

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Chase CBL6111C Bilog	2456	06/07/2005	06/07/2007	01991
HP 8447D Preamp	1937A02604	03/11/2005	03/11/2007	00099

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

Function	Manufacturer	Model #	S/N
iCLASS Reader	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz & 125kHz. The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Frequency Range Investigated: 30-1000MHz. Temperature: 21ºC, Relative Humidity: 35%

Transducer Legend:

T1=Cable - Site D 10m 9k-1G T2=Amp - S/N 604
T3=Bilog Site D

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	40.692M	38.2	+1.7	-27.0	+12.0		+10.0	34.9	40.0	-5.1	Verti
2	176.301M QP	40.3	+3.9	-26.7	+8.4		+10.0	35.9	43.5	-7.6	Verti
^	176.301M	42.4	+3.9	-26.7	+8.4		+10.0	38.0	43.5	-5.5	Verti
4	311.893M	35.2	+5.5	-26.3	+13.2		+10.0	37.6	46.0	-8.4	Verti
5	54.252M	38.3	+2.0	-26.8	+7.3		+10.0	30.8	40.0	-9.2	Verti
6	81.372M	37.8	+2.5	-27.0	+6.9		+10.0	30.2	40.0	-9.8	Verti
7	339.020M	31.8	+5.6	-26.4	+13.9		+10.0	34.9	46.0	-11.1	Verti

8	325.467M	31.6	+5.6	-26.4	+13.5	+10.0	34.3	46.0	-11.7	Verti
9	122.052M	32.7	+3.3	-26.7	+11.0	+10.0	30.3	43.5	-13.2	Verti
10	108.492M	33.2	+3.0	-26.8	+10.1	+10.0	29.5	43.5	-14.0	Verti
11	230.548M	32.6	+4.7	-26.2	+10.7	+10.0	31.8	46.0	-14.2	Verti
12	216.988M	33.8	+4.4	-26.3	+9.7	+10.0	31.6	46.0	-14.4	Verti
13	216.962M	24.2	+4.4	-26.3	+9.6	+10.0	21.9	46.0	-24.1	Horiz

Test Location: CKC Laboratories •4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **HID Global Corporation**
Specification: **FCC 15.225(a)**
Work Order #: **85597** Date: 1/16/2007
Test Type: **Radiated Scan** Time: 09:41:50
Equipment: **iCLASS Reader** Sequence#: 25
Manufacturer: HID Global Corporation Tested By: Mike Wilkinson
Model: 6125xxNxx iCLASS RP40
S/N: 010907

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
EMCO Loop Antenna	1074	05/13/2005	05/13/2007	00226

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

Function	Manufacturer	Model #	S/N
iCLASS Reader*	HID Global Corporation	6125xxNxx iCLASS RP40	010907

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward Electric Instruments Co., Ltd.	TPS-2000	920035

Test Conditions / Notes:

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz and 125kHz The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground. Test data is corrected for proper test distance using 40dB per decade correction factor in accordance with 15.31. Frequency Range Investigated: Carrier. Relative Humidity: 35%.

Transducer Legend:

T1=Cable - Site D 10m 9k-1G T2=Mag Loop - AN 00226 - 9kHz-30M
T3=15.31 10m 40dB/Dec Correction

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	13.561M	50.4	+1.0	+9.6	-20.0		+0.0	41.0	84.0	-43.0	Vert
2	13.562M	47.7	+1.0	+9.6	-20.0		+0.0	38.3	84.0	-45.7	Horiz

FREQUENCY STABILITY

Test Equipment

Description	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	1406	HP	8564E	3623A00539	8/01/06	8/01/08
Temp Chamber	01879	Thermotron	S-1.2 MiniMax	11899	1/24/05	1/24/07
Thermometer	02242	Omega	HH-26K	T-202884	1/18/05	1/18/07
Multimeter	02369	Fluke	8520A		4/25/05	4/25/07

Test Conditions: EUT was placed inside the temperature chamber and was transmitting continuously. SA RBW =1.0 kHz, VBW = 10 kHz, Span = 5 kHz.

Test Setup Photos

Test Data

Customer:	HID Global	
WO#:	85597	
Date:	14-Mar-07	
Test Engineer:	Mike Wilkinson	
Operating Voltage:	12	**VDC**
Frequency Limit:	0.01	**%**

Temperature Variations

		6125BxxHxx iCLASS RP40	**Dev. (MHz)**
Channel Frequency:		13.561255	
Temp (C)	Voltage		
-20	12	13.561305	0.00005
-10	12	13.561300	0.00005
0	12	13.561270	0.00002
10	12	13.561266	0.00001
20	12	13.561255	0.00000
30	12	13.561105	0.00015
40	12	13.561050	0.00020
50	12	13.561040	0.00021

Voltage Variations (±15%)

20	10.2	13.561255	0.00000
20	12	13.561255	0.00000
20	13.8	13.561255	0.00000

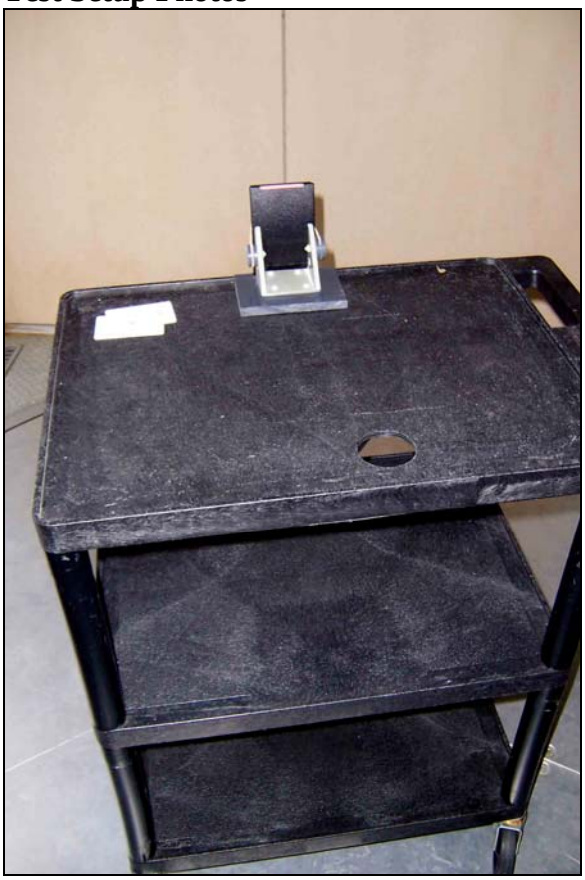
Max Deviation (MHz)		**0.00021**
Max Deviation (%)		**0.00159**
		PASS

OCCUPIED BANDWIDTH

Test Equipment

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
EMCO Loop Antenna	1074	05/13/2005	05/13/2007	00226

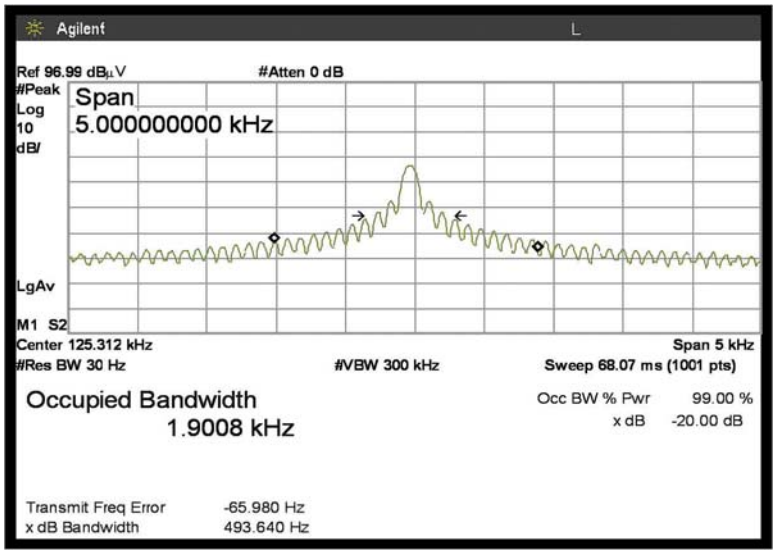
Test Setup Photos



Test Conditions

Equipment is an iCLASS Reader operating on a frequency of 13.56MHz and 125kHz. The EUT is mounted vertically on a support structure to simulate normal installation. DC power supply is bonded to ground.

OCCUPIED BANDWIDTH - 125kHz - 6125xxNxx iCLASS RP40



OCCUPIED BANDWIDTH - 13.56MHz - 6125xxNxx iCLASS RP40