ADDENDUM TO FC03-061A

FOR THE

RADIO FREQUENCY READER, ACCESSO

FCC PART 15 SUBPART C SECTIONS 15.207 & 15.225

COMPLIANCE

DATE OF ISSUE: MAY 13, 2004

PREPARED FOR:

Inside Technologies
Bat 11A, Parc Club du Golf
ZAC de la Pichaury
13856 Aix En Provence, France

W.O. No.: 81092

PREPARED BY:

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Date of test: February 2-9, 2004

Report No.: FC03-061B

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	February 2-9, 2004
DATE OF RECEIPT:	February 2, 2004
PURPOSE OF TEST:	To demonstrate the compliance of the Radio Frequency Reader, ACCESSO with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.209 & 15.225 devices. **Addendum A** is to demonstrate the compliance of the Radio Frequency Reader, ACCESSO with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.209 and 15.225 devices after modifications. Changes made: Replaced 2 meter shielded cable with 1.5 meter unshielded cable. Replaced two 0 ohm resistor with Ferrite. **Addendum B** is to add a fundamental table, show a RSS 210 Bandwidth plot, add temperature testing and remove a statement from the conditions for compliance.
TEST METHOD:	ANSI C63.4 (1992)
MANUFACTURER:	Inside Technologies Bat 11A, Parc Club du Golf ZAC de la Pichaury 13856 Aix En Provence, France
REPRESENTATIVE:	Adel Hazma
TEST LOCATION:	CKC Laboratories, Inc. 110 Olinda Place Brea, CA 92621

SUMMARY OF RESULTS

As received, the Inside Technologies Radio Frequency Reader, ACCESSO was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 15 Subpart C Sections 15.207 & 15.225
- ANSI C63.4 (1992) method

FCC Site No. 100638

Canada

RSS-210 using:

- FCC Part 15 Subpart C Sections 15.207 & 15.225
- ANSI C63.4 (1992) method

Industry of Canada File No. IC 3172-D

CONDITIONS FOR COMPLIANCE

Fair-rite Eclipse Shielding, Inc., P/N CCF850355-B was installed approximately 1- 1/2" from the EUT.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:

Chuck Kendall, EMC Test Engineer

Stuart Yamamoto, EMC Engineer

Eddie Wong, EMC Engineer

FCC 15.31(m) Number Of Channels
This device operates on a single channel.

FCC 15.33(a) Frequency Ranges Tested
15.207 Conducted Emissions: 150 kHz – 30 MHz
15.209/15.225 Radiated Emissions: 1.7 MHz – 1000 MHz.

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	1.7 MHz	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.

FCC 15.205 Restricted Bands
The fundamental operating frequency lies outside the restricted bands and therefore complies with the requirements of Section 15.205 of the FCC rules. Any spurious emission coming from the EUT was investigated to determine if any portion lies inside the restricted band. If any portion of a spurious emissions signal was found to be within a restricted band, investigation was performed to ensure compliance with Section 15.209.

Eut Operating Frequency
The EUT was operating at 13.56 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%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

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

EQUIPMENT UNDER TEST

Radio Frequency Reader

Manuf:	Inside Technologies
Model:	ACCESSO
Serial:	P1GE-03-11-4AB
FCC ID:	Q45ACCESSO

PERIPHERAL DEVICES

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

Laptop Computer

Manuf:	Compaq
Model:	Presario X1000
Serial:	CND334054F
FCC ID:	DoC

REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the EUT. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

Table 1: Fundamental Emission Levels

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
13.561	37.6	10.2		0.6	-40.0	8.4	84.0	-75.6	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.225(a)
Test Distance: 3 Meters

NOTES: V = Vertical Polarization

COMMENTS: RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000) Stewards ferrite P/N: HFA163080-082 (2 wraps) was installed approximately 1" from the EUT. Frequencies investigated were from 0.09 MHz to 30 MHz. Unit is in transmit mode. Clocks are: 6 MHz and 13.56 MHz.

Table 2: FCC 15.207 Six Highest Conducted Emission Levels									
FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB	dB	Cable dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
13.561160	45.2	0.0		0.3		45.5	48.0	-2.5	B
13.570170	45.2	0.0		0.3		45.5	48.0	-2.5	W
21.119710	42.9	0.0		0.4		43.3	48.0	-4.7	B
21.209800	43.2	0.0		0.4		43.6	48.0	-4.4	B
21.209800	42.5	0.0		0.4		42.9	48.0	-5.1	W
23.984570	42.6	0.0		0.4		43.0	48.0	-5.0	B

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.207

NOTES: B = Black Lead
W = White Lead

COMMENTS: RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Frequencies investigated were from 0.15 MHz to 30 MHz. A 22 Ohm resistor is now substituted for the integral antenna in the EUT. Clocks are: 6 MHz (USB system in lap top). 13.56 MHz.

Table 3: FCC 15.209/15.225 Six Highest Radiated Emission Levels: 1.7-30 MHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
8.436	51.2	-29.7		0.5	-40.0	-18.0	29.5	-47.5	V
9.720	48.3	-29.7		0.5	-40.0	-20.9	29.5	-50.4	V
9.848	46.2	-29.7		0.5	-40.0	-23.0	29.5	-52.5	V
10.430	48.2	-29.7		0.5	-40.0	-21.0	29.5	-50.5	V
10.920	46.2	-29.7		0.5	-40.0	-23.0	29.5	-52.5	V
15.442	51.1	-29.8		0.7	-40.0	-18.0	29.5	-47.5	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Sections 15.209/15.225
Test Distance: 3 Meters

NOTES: V = Vertical Polarization

COMMENTS: RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Fair-rite Eclipse Shielding, Inc., P/N CCF850355-B was installed approximately 1- 1/2" from the EUT. Frequencies investigated were from 1.7 MHz to 30 MHz. Clocks are: 6 MHz. 13.56 MHz.

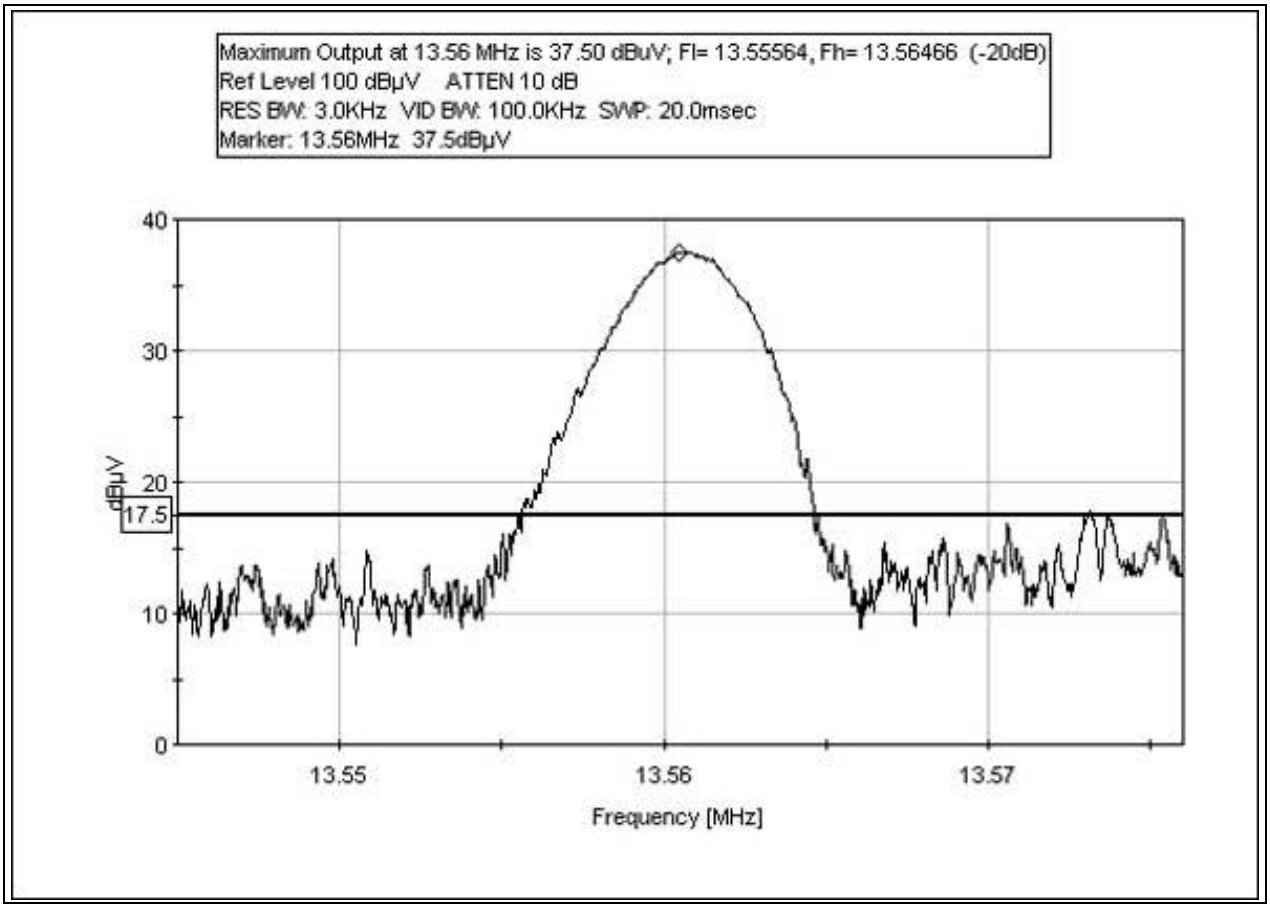
Table 4: FCC 15.209/15.225 Six Highest Radiated Emission Levels: 30-1000 MHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
47.982	44.4	10.3	-27.0	1.5	10.0	39.2	40.0	-0.8	VQ
47.983	43.2	10.3	-27.0	1.5	10.0	38.0	40.0	-2.0	H
311.998	35.4	21.4	-26.4	3.5	10.0	43.9	46.0	-2.1	VQ
323.995	35.9	20.6	-26.4	3.6	10.0	43.7	46.0	-2.3	VQ
336.004	37.4	19.9	-26.5	3.7	10.0	44.5	46.0	-1.5	HQ
348.009	38.9	19.2	-26.6	3.8	10.0	45.3	46.0	-0.7	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Sections 15.209/ 15.225
Test Distance: 10 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization
Q = Quasi Peak Reading

COMMENTS: RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Steward ferrite P/N: HFA163080-082 (2 wraps) was installed approximately 1" from the EUT. Frequencies investigated were from 30 MHz to 1000 MHz. Clocks are: 6 MHz. 13.56 MHz. 30 MHz-1000 MHz; RBW=120 kHz,VBW=120 kHz.

FCC 15.215/15.225(b) and RSS 210 BANDEDGE PLOT -20dB



20dB Bandwidth = 9.02 kHz

FCC 15.225(c) FREQUENCY STABILITY

Customer: Inside Technologies
WO#: 81092
Test Engineer: S. Yamamoto

Device Model #: ACCESSO
Operating Voltage: 110 **VAC**
Frequency Limit: 0.01 **%**

Temperature Variations

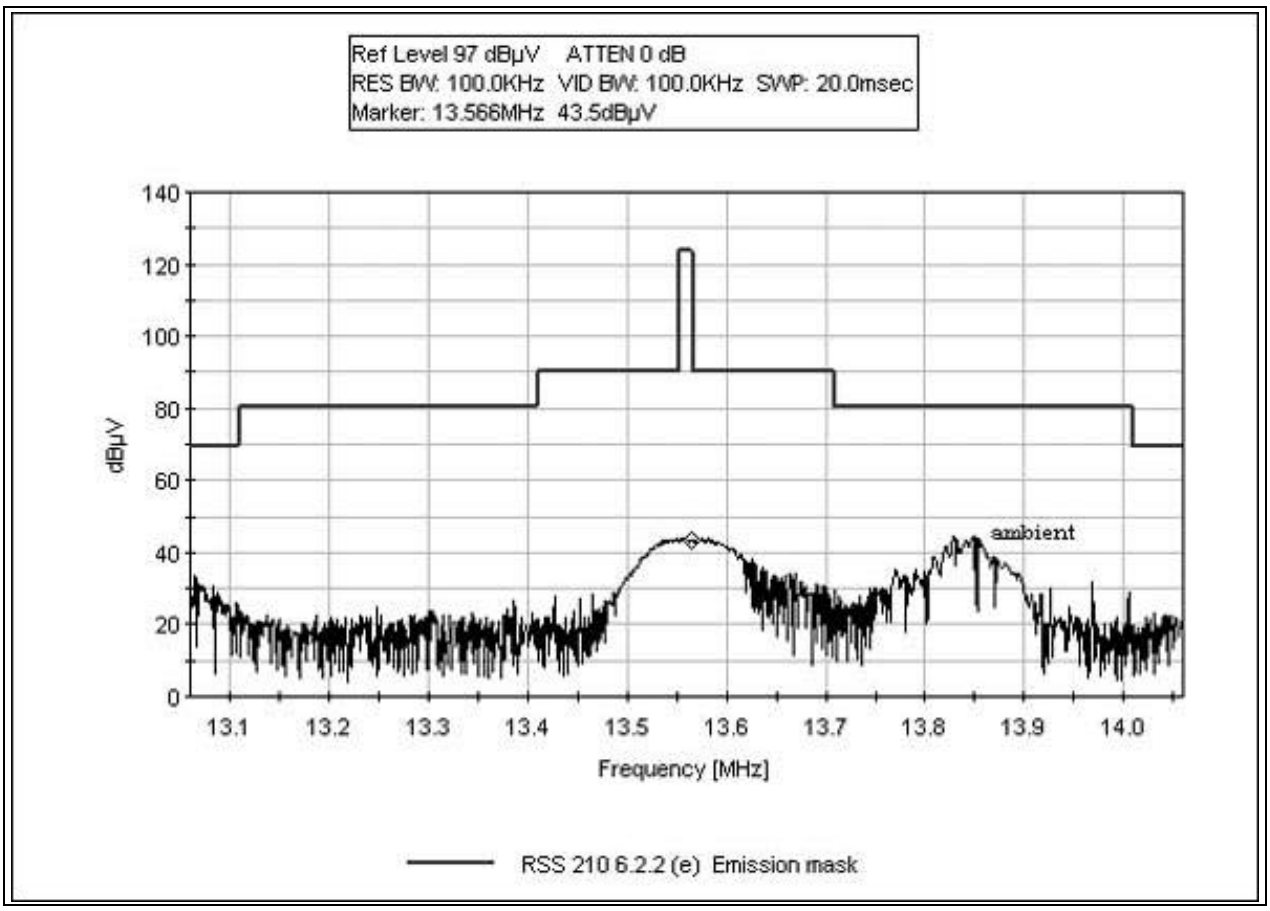
		Channel 1 (MHz)	**Dev. (MHz)**
Channel Frequency:		**13.56**	0.001356
Temp (C)	Voltage		
-20	110	13.560367	0.00037
-10	110	13.560407	0.00041
0	110	13.560428	0.00043
10	110	13.560428	0.00043
20	110	13.560412	0.00041
30	110	13.560400	0.00040
40	110	13.560398	0.00040
50	110	13.560400	0.00040

Voltage Variations (±15%)

20	93.5	13.560412	0.00041
20	110.0	13.560412	0.00041
20	126.5	13.560412	0.00041

Max Deviation (MHz)	**0.00043**
Max Deviation (%)	**0.00003**
	PASS

RSS 210 EMISSIONS MASK



MEASUREMENT UNCERTAINTY

TEST	HIGHEST UNCERTAINTY
Radiated Emissions	+/- 2.94 dB
Conducted Emissions	+/- 1.56 dB

Note: Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Statements of compliance are based on the nominal values only.

EUT SETUP

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

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

The radiated and conducted emissions data of the EUT was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

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

CORRECTION FACTORS

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

TABLE A: SAMPLE CALCULATIONS		
	Meter reading	(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 in Appendix B were used to collect both the radiated and conducted emissions data. For radiated measurements from 9 kHz to 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. Conducted emissions tests required the use of the FCC type LISNs.

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.

SPECTRUM ANALYZER DETECTOR FUNCTIONS

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

Peak

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

Quasi-Peak

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

Average

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

EUT TESTING

Mains Conducted Emissions

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 was 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.

The LISNs used were 50 µH-/+50 ohms. Above 150 kHz, a 0.15 µF series capacitor was added in-line prior to connecting the analyzer to restore the proper impedance for the range. A 30 to 50 second sweep time was used for automated measurements in the frequency bands of 150 kHz to 500 kHz, and 500 kHz to 30 MHz. All readings within 20 dB of the limit were recorded, and those within 6 dB of the limit were examined with additional measurements using a slower sweep time.

Radiated Emissions

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

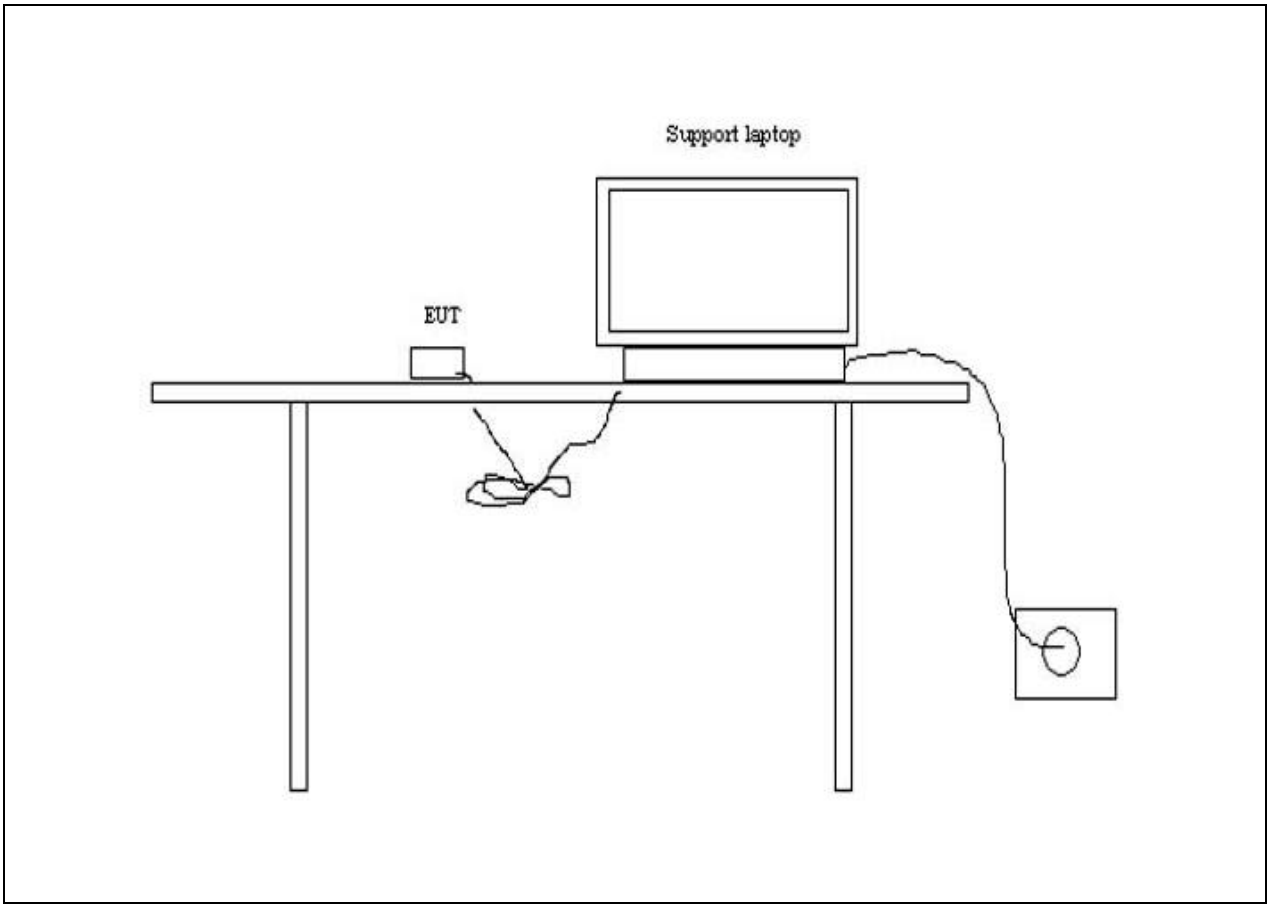
During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. The frequency range of 30 MHz to 88 MHz was scanned with the biconical antenna located about 1.5 meter above the ground plane in the vertical configuration. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. The frequency range of 100 to 300 MHz was then scanned in the same manner using the biconical antenna and the peaks recorded. Lastly, a scan of the FM band from 88 to 110 MHz was made, using a reduced resolution bandwidth and frequency span. The biconical antenna was changed to the horizontal polarity and the above steps were repeated. After changing to the log periodic antenna in the horizontal configuration, the frequency range of 300 to 1000 MHz was scanned. The log periodic antenna was changed to the vertical polarity and the frequency range of 300 to 1000 MHz was again scanned. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

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

APPENDIX A

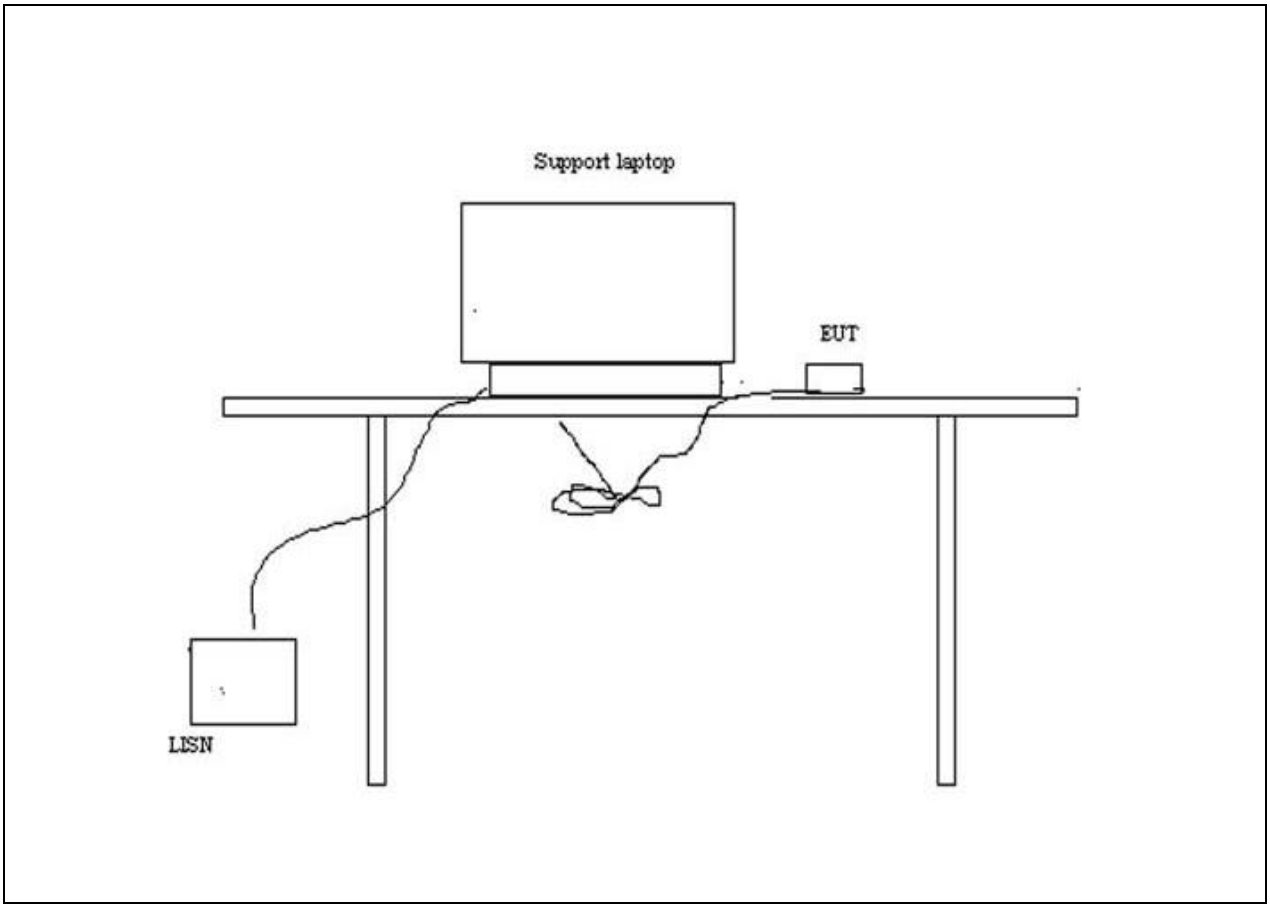
TEST SETUP DIAGRAMS AND PHOTOGRAPHS

CONDUCTED EMISSIONS EQUIPMENT TEST SETUP DIAGRAM



Mains Conducted Emissions - Front View

CONDUCTED EMISSIONS EQUIPMENT TEST SETUP DIAGRAM



Mains Conducted Emissions - Back View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Back View

PHOTOGRAPH SHOWING TEMPERATURE TESTING

APPENDIX B

TEST EQUIPMENT LIST

15.207

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	2049A1287/2106A02109	07/31/2002	07/31/2004	00312
LISN	3816	04/04/2003	04/04/2004	02128
Cable #8	8	07/28/2003	07/28/2004	N/A

15.225/15.209 <30 MHz

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable #22	N/A	10/06/2003	10/06/2004	N/A
Cable #19	00A1467845	09/11/2002	09/11/2004	N/A
Cable #19	00A1467845	09/11/2002	09/11/2004	N/A
Spectrum Analyzer	2049A1287/2106A02109	07/31/2002	07/31/2004	00312
6502 Active Loop Antenna	2014	07/23/2002	07/23/2004	00314

15.225/15.209 30-1000 MHz

Function	S/N	Calibration Date	Cal Due Date	Asset #
Cable #22	N/A	10/06/2003	10/06/2004	N/A
Cable #19	00A1467845	09/11/2002	09/11/2004	N/A
Cable #19	00A1467845	09/11/2002	09/11/2004	N/A
Spectrum Analyzer	2049A1287/2106A02109	07/31/2002	07/31/2004	00312
Pre-Amp	2727A05392	07/16/2002	07/16/2004	00010
Bicon Antenna	431	12/02/2002	12/02/2004	00565
Log Antenna	154	06/19/2002	06/19/2004	01330

APPENDIX C:

MEASUREMENT DATA SHEETS

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer:	**Inside Technologies**		
Specification:	**FCC 15.225(a) (30 Meters)**		
Work Order #:	**81092**	Date:	02/04/2004
Test Type:	**Maximized Emissions**	Time:	16:05:30
Equipment:	**RF Reader**	Sequence#:	15
Manufacturer:	Inside Technologies	Tested By:	Chuck Kendall
Model:	ACESSO		
S/N:	P1GE-03-11-4AB		

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

Function	Manufacturer	Model #	S/N
RF Reader*	Inside Technologies	ACESSO	P1GE-03-11-4AB

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq	Presario X1000	CND334054F

Test Conditions / Notes:

RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000) Stewards ferrite P/N: HFA163080-082 (2 wraps) was installed approximately 1" from the EUT. Frequencies investigated were from 0.09 MHz to 30 MHz. Unit is in transmit mode. Clocks are: 6 MHz 13.56 MHz

Transducer Legend:

T1=Cable Heliax #17 84ft(10 meter) T2=Cable #19 54ft Heliax 101304
T3=6502 Active Loop Antenna

Measurement Data: Reading listed by margin. Test Distance: 3 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	37.6	+0.3	+0.3	+10.2		-40.0	8.4	84.0	-75.6	Vert

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer:	**Inside Technologies**		
Specification:	**FCC 15.207**		
Work Order #:	**81092**	Date:	02/04/2004
Test Type:	**Conducted Emissions**	Time:	8:37:39 AM
Equipment:	**RF Reader**	Sequence#:	10
Manufacturer:	Inside Technologies	Tested By:	Chuck Kendall
Model:	ACCESSO		115V 60Hz
S/N:	P1GE-03-11-4A0		

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

Function	Manufacturer	Model #	S/N
RF Reader*	Inside Technologies	ACCESSO	P1GE-03-11-4A0

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq	Presario X1000	CND334054F

Test Conditions / Notes:

RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Frequencies investigated were from 0.15 MHz to 30 MHz. A 22 Ohm resistor is now substituted for the integral antenna in the EUT. Clocks are: 6 MHz (USB system in lap top). 13.56 MHz.

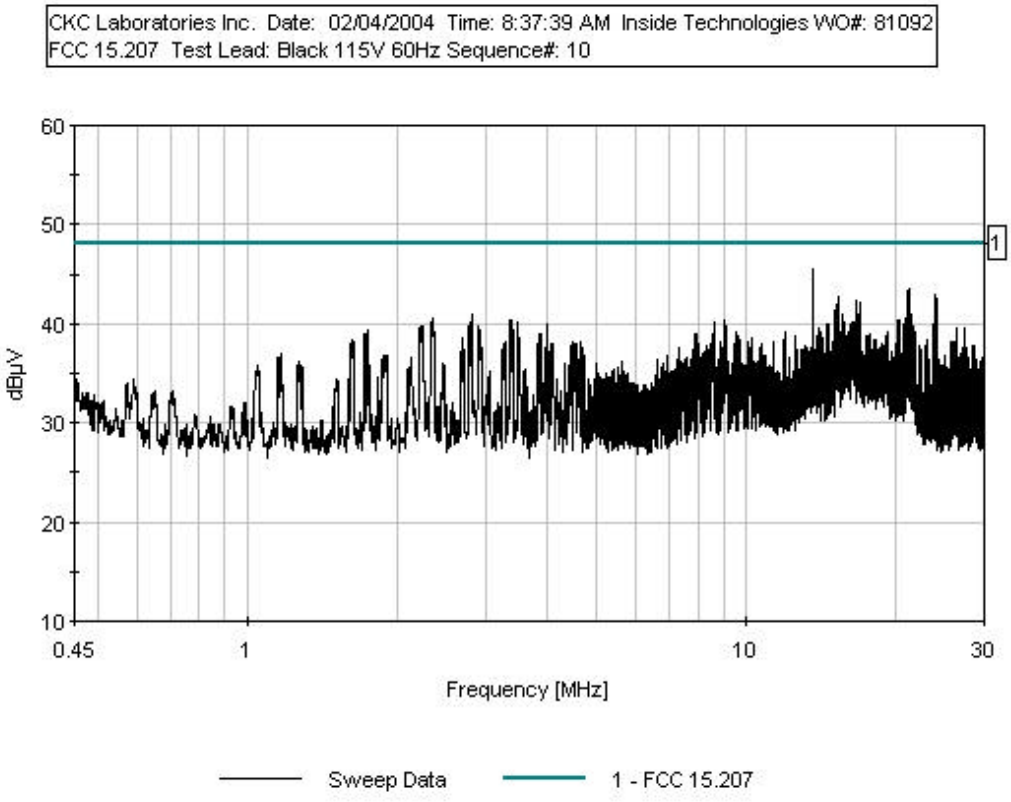
Transducer Legend:

T1=Cable #8 072804

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

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	13.561M	45.2	+0.3				+0.0	45.5	48.0	-2.5	Black
2	21.210M	43.2	+0.4				+0.0	43.6	48.0	-4.4	Black
3	21.120M	42.9	+0.4				+0.0	43.3	48.0	-4.7	Black
4	23.985M	42.6	+0.4				+0.0	43.0	48.0	-5.0	Black
5	15.246M	42.5	+0.3				+0.0	42.8	48.0	-5.2	Black
6	24.111M	42.1	+0.4				+0.0	42.5	48.0	-5.5	Black
7	16.570M	42.0	+0.3				+0.0	42.3	48.0	-5.7	Black
8	16.922M	41.9	+0.3				+0.0	42.2	48.0	-5.8	Black
9	21.237M	41.7	+0.4				+0.0	42.1	48.0	-5.9	Black
10	21.012M	41.3	+0.4				+0.0	41.7	48.0	-6.3	Black
11	15.102M	41.0	+0.3				+0.0	41.3	48.0	-6.7	Black

12	21.327M	40.9	+0.4	+0.0	41.3	48.0	-6.7	Black
13	20.976M	40.8	+0.4	+0.0	41.2	48.0	-6.8	Black
14	2.817M	40.9	+0.1	+0.0	41.0	48.0	-7.0	Black
15	15.138M	40.6	+0.3	+0.0	40.9	48.0	-7.1	Black
16	15.597M	40.6	+0.3	+0.0	40.9	48.0	-7.1	Black
17	16.795M	40.6	+0.3	+0.0	40.9	48.0	-7.1	Black
18	2.355M	40.4	+0.1	+0.0	40.5	48.0	-7.5	Black
19	20.786M	40.1	+0.4	+0.0	40.5	48.0	-7.5	Black
20	3.369M	40.3	+0.1	+0.0	40.4	48.0	-7.6	Black
21	3.397M	40.3	+0.1	+0.0	40.4	48.0	-7.6	Black
22	9.030M	40.2	+0.2	+0.0	40.4	48.0	-7.6	Black
23	20.201M	40.0	+0.4	+0.0	40.4	48.0	-7.6	Black
24	20.093M	39.9	+0.4	+0.0	40.3	48.0	-7.7	Black
25	20.174M	39.9	+0.4	+0.0	40.3	48.0	-7.7	Black
26	16.300M	39.9	+0.3	+0.0	40.2	48.0	-7.8	Black
27	16.417M	39.9	+0.3	+0.0	40.2	48.0	-7.8	Black
28	16.462M	39.9	+0.3	+0.0	40.2	48.0	-7.8	Black
29	16.525M	39.9	+0.3	+0.0	40.2	48.0	-7.8	Black
30	16.985M	39.9	+0.3	+0.0	40.2	48.0	-7.8	Black


CKC Laboratories Inc. Date: 02/04/2004 Time: 8:37:39 AM Inside Technologies WO#: 81092
FCC 15.207 Test Lead: Black 115V 60Hz Sequence#: 10
60
50
40
30
20
10
dBµV
0.45
1
10
30
Frequency [MHz]
1
Sweep Data
1 - FCC 15.207

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer:	**Inside Technologies**		
Specification:	**FCC 15.207**		
Work Order #:	**81092**	Date:	02/04/2004
Test Type:	**Conducted Emissions**	Time:	8:45:11 AM
Equipment:	**RF Reader**	Sequence#:	11
Manufacturer:	Inside Technologies	Tested By:	Chuck Kendall
Model:	ACCESSO		115V 60Hz
S/N:	P1GE-03-11-4A0		

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

Function	Manufacturer	Model #	S/N
RF Reader*	Inside Technologies	ACCESSO	P1GE-03-11-4A0

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq	Presario X1000	CND334054F

Test Conditions / Notes:

RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Frequencies investigated were from 0.15 MHz to 30 MHz. A 22 Ohm resistor is now substituted for the integral antenna in the EUT. Clocks are: 6 MHz (USB system in lap top)/ 13.56 MHz/

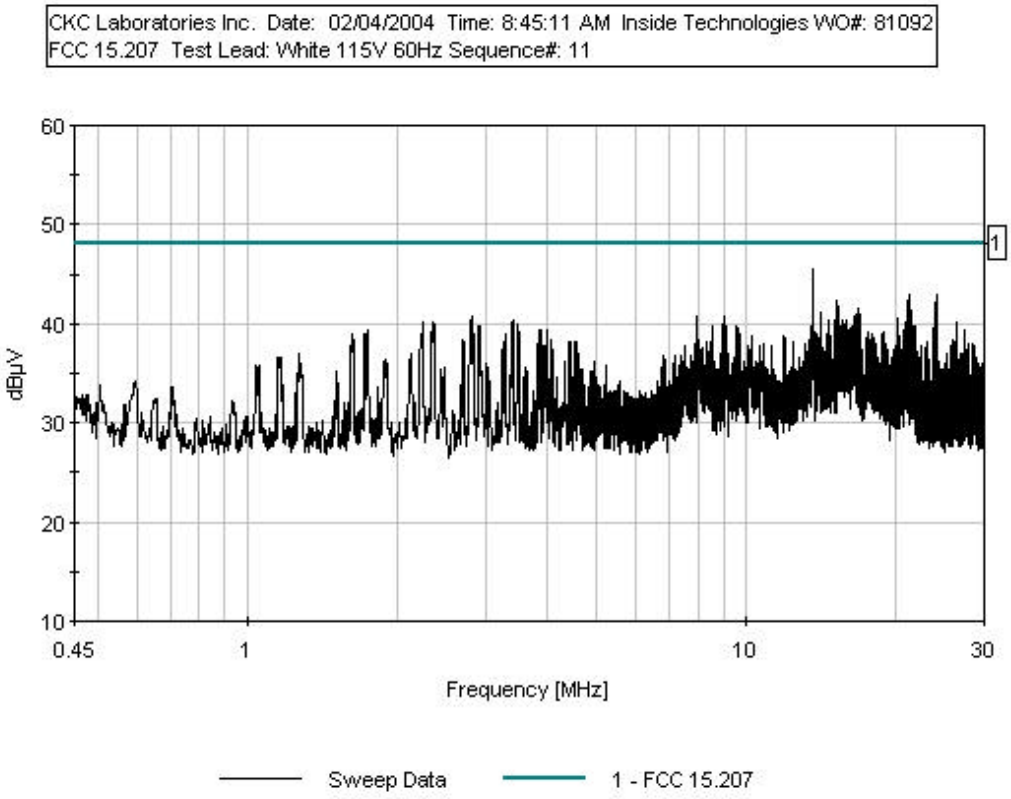
Transducer Legend:

T1=Cable #8 072804

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

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	13.570M	45.2	+0.3				+0.0	45.5	48.0	-2.5	White
2	21.210M	42.5	+0.4				+0.0	42.9	48.0	-5.1	White
3	24.111M	42.5	+0.4				+0.0	42.9	48.0	-5.1	White
4	15.138M	42.1	+0.3				+0.0	42.4	48.0	-5.6	White
5	21.120M	41.9	+0.4				+0.0	42.3	48.0	-5.7	White
6	23.994M	41.8	+0.4				+0.0	42.2	48.0	-5.8	White
7	21.327M	41.5	+0.4				+0.0	41.9	48.0	-6.1	White
8	15.246M	41.5	+0.3				+0.0	41.8	48.0	-6.2	White
9	16.759M	41.2	+0.3				+0.0	41.5	48.0	-6.5	White
10	14.075M	40.8	+0.3				+0.0	41.1	48.0	-6.9	White
11	21.012M	40.6	+0.4				+0.0	41.0	48.0	-7.0	White

12	16.687M	40.6	+0.3	+0.0	40.9	48.0	-7.1	White
13	16.931M	40.6	+0.3	+0.0	40.9	48.0	-7.1	White
14	7.949M	40.6	+0.2	+0.0	40.8	48.0	-7.2	White
15	2.828M	40.6	+0.1	+0.0	40.7	48.0	-7.3	White
16	9.030M	40.5	+0.2	+0.0	40.7	48.0	-7.3	White
17	16.417M	40.4	+0.3	+0.0	40.7	48.0	-7.3	White
18	20.174M	40.2	+0.4	+0.0	40.6	48.0	-7.4	White
19	3.402M	40.3	+0.1	+0.0	40.4	48.0	-7.6	White
20	14.642M	40.1	+0.3	+0.0	40.4	48.0	-7.6	White
21	15.102M	40.1	+0.3	+0.0	40.4	48.0	-7.6	White
22	15.831M	40.1	+0.3	+0.0	40.4	48.0	-7.6	White
23	16.462M	40.1	+0.3	+0.0	40.4	48.0	-7.6	White
24	2.795M	40.2	+0.1	+0.0	40.3	48.0	-7.7	White
25	15.570M	40.0	+0.3	+0.0	40.3	48.0	-7.7	White
26	20.093M	39.9	+0.4	+0.0	40.3	48.0	-7.7	White
27	2.343M	40.1	+0.1	+0.0	40.2	48.0	-7.8	White
28	20.786M	39.8	+0.4	+0.0	40.2	48.0	-7.8	White
29	26.347M	39.8	+0.4	+0.0	40.2	48.0	-7.8	White
30	2.249M	40.0	+0.1	+0.0	40.1	48.0	-7.9	White


CKC Laboratories Inc. Date: 02/04/2004 Time: 8:45:11 AM Inside Technologies WO#: 81092
FCC 15.207 Test Lead: White 115V 60Hz Sequence#: 11
60
50
40
30
20
10
dBµV
0.45
1
10
30
Frequency [MHz]
1
Sweep Data
1 - FCC 15.207

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Inside Technologies**
Specification: **FCC 15.225 / 15.209**
Work Order #: **81092** Date: 02/02/2004
Test Type: **Maximized Emissions** Time: 4:03:26 PM
Equipment: **RF Reader** Sequence#: 3
Manufacturer: Inside Technologies Tested By: Chuck Kendall
Model: ACCESSO
S/N: P1GE-03-11-4AB

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

Function	Manufacturer	Model #	S/N
RF Reader*	Inside Technologies	ACCESSO	P1GE-03-11-4AB

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq	Presario X1000	CND334054F

Test Conditions / Notes:

RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Fair-rite Eclipse Shielding, Inc., P/N CCF850355-B was installed approximately 1- 1/2" from the EUT. Frequencies investigated were from 1.7 MHz to 30 MHz. Clocks are: 6 MHz. 13.56 MHz.

Transducer Legend:

T1=Cable Heliax #17 84ft(10 meter)	T2=Cable #19 54ft Heliax 101304
T3=15.31 40dB/Dec Correction	T4=6502 Active Loop Antenna

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	8.436M	51.2	+0.3	+0.2	-40.0	+10.3	-40.0	-18.0	29.5	-47.5	Vert
2	15.442M	51.1	+0.4	+0.3	-40.0	+10.2	-40.0	-18.0	29.5	-47.5	Vert
3	9.720M	48.3	+0.3	+0.2	-40.0	+10.3	-40.0	-20.9	29.5	-50.4	Vert
4	10.430M	48.2	+0.3	+0.2	-40.0	+10.3	-40.0	-21.0	29.5	-50.5	Vert
5	9.848M	46.2	+0.3	+0.2	-40.0	+10.3	-40.0	-23.0	29.5	-52.5	Vert
6	10.920M	46.2	+0.3	+0.2	-40.0	+10.3	-40.0	-23.0	29.5	-52.5	Vert
7	9.089M	44.4	+0.3	+0.2	-40.0	+10.3	-40.0	-24.8	29.5	-54.3	Vert
8	9.507M	44.1	+0.3	+0.2	-40.0	+10.3	-40.0	-25.1	29.5	-54.6	Vert
9	6.087M	43.7	+0.2	+0.2	-40.0	+10.3	-40.0	-25.6	29.5	-55.1	Vert
10	11.739M	43.6	+0.3	+0.2	-40.0	+10.3	-40.0	-25.6	29.5	-55.1	Vert
11	13.820M	43.1	+0.3	+0.3	-40.0	+10.2	-40.0	-26.1	29.5	-55.6	Vert

12	11.613M	41.8	+0.3	+0.2	-40.0	+10.3	-40.0	-27.4	29.5	-56.9	Vert
13	14.334M	41.4	+0.4	+0.3	-40.0	+10.2	-40.0	-27.7	29.5	-57.2	Vert
14	5.838M	41.2	+0.2	+0.2	-40.0	+10.3	-40.0	-28.1	29.5	-57.6	Vert
15	7.300M	40.6	+0.3	+0.2	-40.0	+10.3	-40.0	-28.6	29.5	-58.1	Vert
16	8.705M	39.4	+0.3	+0.2	-40.0	+10.3	-40.0	-29.8	29.5	-59.3	Vert
17	11.865M	39.2	+0.3	+0.2	-40.0	+10.3	-40.0	-30.0	29.5	-59.5	Vert
18	15.009M	39.0	+0.4	+0.3	-40.0	+10.2	-40.0	-30.1	29.5	-59.6	Vert
19	7.471M	38.8	+0.3	+0.2	-40.0	+10.3	-40.0	-30.4	29.5	-59.9	Vert
20	4.017M	38.6	+0.2	+0.2	-40.0	+10.3	-40.0	-30.7	29.5	-60.2	Vert
21	27.091M	39.3	+0.5	+0.4	-40.0	+8.8	-40.0	-31.0	29.5	-60.5	Vert
22	9.607M	37.9	+0.3	+0.2	-40.0	+10.3	-40.0	-31.3	29.5	-60.8	Vert
23	10.004M	37.9	+0.3	+0.2	-40.0	+10.3	-40.0	-31.3	29.5	-60.8	Vert
24	11.019M	37.5	+0.3	+0.2	-40.0	+10.3	-40.0	-31.7	29.5	-61.2	Vert
25	10.962M	37.4	+0.3	+0.2	-40.0	+10.3	-40.0	-31.8	29.5	-61.3	Vert
26	8.514M	37.0	+0.3	+0.2	-40.0	+10.3	-40.0	-32.2	29.5	-61.7	Vert
27	5.973M	37.0	+0.2	+0.2	-40.0	+10.3	-40.0	-32.3	29.5	-61.8	Vert
28	8.549M	36.7	+0.3	+0.2	-40.0	+10.3	-40.0	-32.5	29.5	-62.0	Vert
29	11.225M	36.5	+0.3	+0.2	-40.0	+10.3	-40.0	-32.7	29.5	-62.2	Vert
30	4.292M	36.3	+0.2	+0.2	-40.0	+10.3	-40.0	-33.0	29.5	-62.5	Vert

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer:	**Inside Technologies**		
Specification:	**FCC 15.225/15.209**		
Work Order #:	**81092**	Date:	02/04/2004
Test Type:	**Maximized Emissions**	Time:	14:39:38
Equipment:	**RF Reader**	Sequence#:	3
Manufacturer:	Inside Technologies	Tested By:	Chuck Kendall
Model:	ACCESSO		
S/N:	P1GE-03-11-4AB		

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

Function	Manufacturer	Model #	S/N
RF Reader*	Inside Technologies	ACCESSO	P1GE-03-11-4AB

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq	Presario X1000	CND334054F

Test Conditions / Notes:

RF Reader is plugged into the USB port of the Compaq laptop computer (Presario X1000). Steward ferrite P/N: HFA163080-082 (2 wraps) was installed approximately 1" from the EUT. Frequencies investigated were from 30 MHz to 1000 MHz. Clocks are: 6 MHz. 13.56 MHz. 30 MHz-1000 MHz; RBW=120 kHz,VBW=120 kHz.

Transducer Legend:

T1=Log s/n 154	T2=Cable Heliax #17 84ft(10 meter)
T3=Pre Amp 8447D AN 0010_071604	T4=Cable#22 BNC (preamp to SA)
T5=Cable #19 54ft Heliax 101304	T6=Bicon AN00565

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

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	348.009M	38.9	+19.2 +1.3	+2.1 +0.0	-26.6	+0.4	+10.0	45.3	46.0	-0.7	Vert
2	47.982M QP	44.4	+0.0 +0.5	+0.8 +10.3	-27.0	+0.2	+10.0	39.2	40.0	-0.8	Vert
^	47.993M	47.5	+0.0 +0.5	+0.8 +10.3	-27.0	+0.2	+10.0	42.3	40.0	+2.3	Vert
4	336.004M QP	37.4	+19.9 +1.3	+2.0 +0.0	-26.5	+0.4	+10.0	44.5	46.0	-1.5	Horiz
^	336.019M	40.1	+19.9 +1.3	+2.0 +0.0	-26.5	+0.4	+10.0	47.2	46.0	+1.2	Horiz
6	47.983M	43.2	+0.0 +0.5	+0.8 +10.3	-27.0	+0.2	+10.0	38.0	40.0	-2.0	Horiz
7	311.998M QP	35.4	+21.4 +1.2	+1.9 +0.0	-26.4	+0.4	+10.0	43.9	46.0	-2.1	Vert
^	312.004M	40.8	+21.4 +1.2	+1.9 +0.0	-26.4	+0.4	+10.0	49.3	46.0	+3.3	Vert
9	323.995M QP	35.9	+20.6 +1.2	+2.0 +0.0	-26.4	+0.4	+10.0	43.7	46.0	-2.4	Vert
^	323.999M	37.6	+20.6 +1.2	+2.0 +0.0	-26.4	+0.4	+10.0	45.4	46.0	-0.6	Vert

11	324.020M	35.8	+20.6 +1.2	+2.0 +0.0	-26.4	+0.4	+10.0	43.6	46.0	-2.4	Horiz
12	540.009M QP	37.4	+18.5 +1.6	+2.6 +0.0	-27.7	+0.5	+10.0	42.9	46.0	-3.1	Horiz
^	540.051M	42.7	+18.5 +1.6	+2.6 +0.0	-27.7	+0.5	+10.0	48.2	46.0	+2.2	Horiz
14	443.922M	39.0	+17.1 +1.5	+2.3 +0.0	-27.4	+0.4	+10.0	42.9	46.0	-3.1	Horiz
15	35.965M	40.5	+0.0 +0.5	+0.7 +11.9	-27.0	+0.2	+10.0	36.8	40.0	-3.2	Vert
16	335.998M QP	35.3	+19.9 +1.3	+2.0 +0.0	-26.5	+0.4	+10.0	42.4	46.0	-3.6	Vert
^	336.002M	36.6	+19.9 +1.3	+2.0 +0.0	-26.5	+0.4	+10.0	43.7	46.0	-2.3	Vert
18	480.132M	37.7	+17.8 +1.5	+2.4 +0.0	-27.6	+0.4	+10.0	42.2	46.0	-3.8	Horiz
19	59.876M	41.7	+0.0 +0.6	+0.9 +9.8	-27.0	+0.2	+10.0	36.2	40.0	-3.8	Horiz
20	348.028M	35.7	+19.2 +1.3	+2.1 +0.0	-26.6	+0.4	+10.0	42.1	46.0	-3.9	Horiz
21	540.009M QP	36.5	+18.5 +1.6	+2.6 +0.0	-27.7	+0.5	+10.0	42.0	46.0	-4.0	Vert
^	540.041M	38.8	+18.5 +1.6	+2.6 +0.0	-27.7	+0.5	+10.0	44.3	46.0	-1.7	Vert
23	60.003M	41.4	+0.0 +0.6	+0.9 +9.8	-27.0	+0.2	+10.0	35.9	40.0	-4.1	Vert
24	144.003M	40.0	+0.0 +0.9	+1.4 +13.5	-26.7	+0.2	+10.0	39.3	43.5	-4.2	Vert
25	348.116M QP	34.9	+19.1 +1.3	+2.1 +0.0	-26.6	+0.4	+10.0	41.2	46.0	-4.9	Vert
26	312.001M QP	32.6	+21.4 +1.2	+1.9 +0.0	-26.4	+0.4	+10.0	41.1	46.0	-4.9	Horiz
^	312.070M	39.2	+21.4 +1.2	+1.9 +0.0	-26.4	+0.4	+10.0	47.7	46.0	+1.7	Horiz
28	492.008M QP	35.8	+18.0 +1.5	+2.4 +0.0	-27.6	+0.4	+10.0	40.5	46.0	-5.5	Horiz
^	491.998M	40.2	+18.0 +1.5	+2.4 +0.0	-27.6	+0.4	+10.0	44.9	46.0	-1.1	Horiz
30	359.999M QP	34.8	+18.5 +1.3	+2.1 +0.0	-26.7	+0.4	+10.0	40.4	46.0	-5.6	Vert
^	360.033M	39.0	+18.5 +1.3	+2.1 +0.0	-26.7	+0.4	+10.0	44.6	46.0	-1.4	Vert
32	167.995M	37.4	+0.0 +0.9	+1.4 +13.9	-26.6	+0.3	+10.0	37.3	43.5	-6.2	Vert
33	360.028M	34.2	+18.5 +1.3	+2.1 +0.0	-26.7	+0.4	+10.0	39.8	46.0	-6.2	Horiz
34	136.733M	38.6	+0.0 +0.8	+1.3 +13.1	-26.8	+0.2	+10.0	37.2	43.5	-6.3	Vert
35	480.090M	35.1	+17.8 +1.5	+2.4 +0.0	-27.6	+0.4	+10.0	39.6	46.0	-6.4	Vert

36	143.990M	37.6	+0.0	+1.4	-26.7	+0.2	+10.0	36.9	43.5	-6.6	Horiz
	QP		+0.9	+13.5							
^	144.018M	40.7	+0.0	+1.4	-26.7	+0.2	+10.0	40.0	43.5	-3.5	Horiz
			+0.9	+13.5							
38	492.046M	34.5	+18.0	+2.4	-27.6	+0.4	+10.0	39.2	46.0	-6.8	Vert
			+1.5	+0.0							
39	444.030M	35.3	+17.1	+2.3	-27.4	+0.4	+10.0	39.2	46.0	-6.8	Vert
			+1.5	+0.0							
40	287.993M	31.2	+0.0	+1.8	-26.3	+0.4	+10.0	39.0	46.0	-7.0	Vert
			+1.2	+20.7							
41	108.193M	40.6	+0.0	+1.1	-26.8	+0.2	+10.0	36.2	43.5	-7.3	Horiz
			+0.6	+10.5							
42	45.029M	37.5	+0.0	+0.8	-27.0	+0.2	+10.0	32.5	40.0	-7.5	Horiz
			+0.5	+10.5							
43	50.075M	37.9	+0.0	+0.8	-27.0	+0.2	+10.0	32.5	40.0	-7.5	Vert
			+0.5	+10.1							
44	108.190M	40.3	+0.0	+1.1	-26.8	+0.2	+10.0	35.8	43.5	-7.7	Vert
			+0.6	+10.4							
45	120.061M	38.7	+0.0	+1.2	-26.8	+0.2	+10.0	35.7	43.5	-7.8	Vert
			+0.7	+11.7							
46	167.886M	35.8	+0.0	+1.4	-26.6	+0.3	+10.0	35.7	43.5	-7.8	Horiz
			+0.9	+13.9							
47	50.431M	37.2	+0.0	+0.8	-27.0	+0.2	+10.0	31.8	40.0	-8.2	Horiz
			+0.5	+10.1							
48	215.987M	32.4	+0.0	+1.6	-26.4	+0.3	+10.0	35.0	43.5	-8.5	Vert
	QP		+1.0	+16.1							
^	215.983M	35.8	+0.0	+1.6	-26.4	+0.3	+10.0	38.4	43.5	-5.1	Vert
			+1.0	+16.1							
50	228.006M	34.0	+0.0	+1.6	-26.4	+0.3	+10.0	37.2	46.0	-8.8	Vert
			+1.0	+16.7							
51	216.132M	33.6	+0.0	+1.6	-26.4	+0.3	+10.0	36.2	46.0	-9.8	Horiz
			+1.0	+16.1							
52	204.001M	31.7	+0.0	+1.5	-26.5	+0.2	+10.0	33.3	43.5	-10.2	Vert
			+1.0	+15.4							
53	204.044M	30.5	+0.0	+1.5	-26.5	+0.2	+10.0	32.1	43.5	-11.4	Horiz
			+1.0	+15.4							
54	136.592M	32.3	+0.0	+1.3	-26.8	+0.2	+10.0	30.9	43.5	-12.6	Horiz
			+0.8	+13.1							
55	36.027M	30.8	+0.0	+0.7	-27.0	+0.2	+10.0	27.1	40.0	-12.9	Horiz
			+0.5	+11.9							
56	141.204M	30.7	+0.0	+1.3	-26.7	+0.2	+10.0	29.7	43.5	-13.8	Horiz
			+0.8	+13.4							
57	57.083M	29.5	+0.0	+0.9	-27.0	+0.2	+10.0	24.1	40.0	-15.9	Horiz
			+0.6	+9.9							
58	52.316M	29.0	+0.0	+0.8	-27.0	+0.2	+10.0	23.5	40.0	-16.5	Horiz
			+0.5	+10.0							
59	120.114M	28.9	+0.0	+1.2	-26.8	+0.2	+10.0	25.9	43.5	-17.6	Horiz
			+0.7	+11.7							