



**INSIDE TECHNOLOGIES TEST REPORT**

**FOR THE**

**RADIO FREQUENCY READER, ACCESSO**

**FCC PART 15 SUBPART C SECTIONS 15.207, 15.209 AND 15.225**

**COMPLIANCE**

**DATE OF ISSUE: SEPTEMBER 22, 2003**

**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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CKC Laboratories, Inc.  
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Mariposa, CA 95338

Date of test: September 16-17, 2003

**Report No.: FC03-061**

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## **ADMINISTRATIVE INFORMATION**

**DATE OF TEST:** September 16-17, 2003

**DATE OF RECEIPT:** September 16, 2003

**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.

**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, 15.209 and 15.225
- ANSI C63.4 (1992) method

**FCC Site No. 90473**

## CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

## APPROVALS

Steve Behm, Director of Engineering Services

### QUALITY ASSURANCE:

A handwritten signature in black ink, appearing to read "Joyce Walker".

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Joyce Walker, Quality Assurance Administrative Manager

### TEST PERSONNEL:

A handwritten signature in black ink, appearing to read "Stuart Yamamoto".

---

Stuart Yamamoto, EMC Engineer

**FCC 15.31(e) Voltage Variations**

No variation in power or frequency for the 85% and 115% of the rated power supply voltage.

**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: 9 kHz – 1000 MHz

**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 a production unit.

## **EQUIPMENT UNDER TEST**

### **Radio Frequency Reader**

Manuf: Inside Technologies  
Model: ACCESSO  
Serial: PIGE-A-03-07-EO  
FCC ID: Q45-ACCESSO (pending)

## **PERIPHERAL DEVICES**

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

### **Parallel Printer**

Manuf: Lexmark  
Model: 4098-012  
Serial: 03230287625  
FCC ID: DoC

### **Laptop Computer**

Manuf: Compaq Corporation  
Model: Presario X1000  
Serial: CND0334054F  
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: FCC 15.207 Six Highest Conducted Emission Levels**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V	SPEC LIMIT dB $\mu$ V	MARGIN dB	NOTES
		Lisn dB		Cable dB					
0.150727	52.4	0.0		0.0		52.4	56.0	-3.6	B
0.151454	52.4	0.0		0.0		52.4	55.9	-3.5	W
0.199450	46.3	0.0		0.0		46.3	53.6	-7.3	W
0.350707	40.4	0.0		0.0		40.4	48.9	-8.5	B
13.571430	46.0	0.0		0.3		46.3	50.0	-3.7	W
13.571430	44.1	0.0		0.3		44.4	50.0	-5.6	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:** The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. The antenna is replaced with a fifty ohm resistor. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

**Table 2: FCC 15.209 Six Highest Radiated Emission Levels**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB					
119.997	47.2	15.8	-28.3	2.2		36.9	43.5	-6.6	H
120.027	48.8	15.8	-28.3	2.2		38.5	43.5	-5.0	V
240.024	45.8	18.5	-28.3	3.0		39.0	46.0	-7.0	H
324.020	44.5	21.1	-28.3	3.5		40.8	46.0	-5.2	V
324.032	43.8	21.1	-28.3	3.5		40.1	46.0	-5.9	HQ
408.032	47.2	17.2	-28.2	4.0		40.2	46.0	-5.8	H

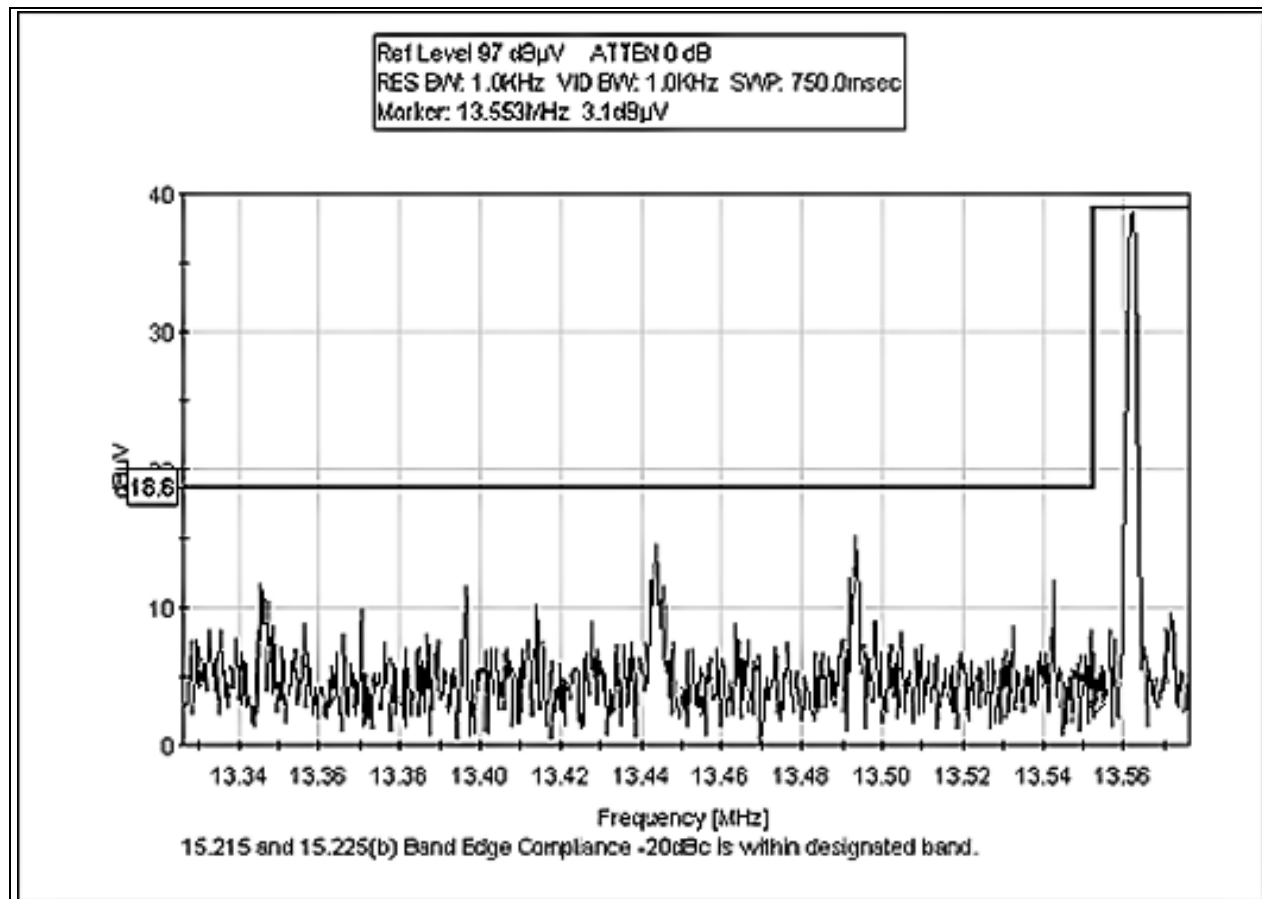
Test Method: ANSI C63.4 (1992)  
Spec Limit: FCC Part 15 Subpart C Section 15.209  
Test Distance: 3 Meters

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

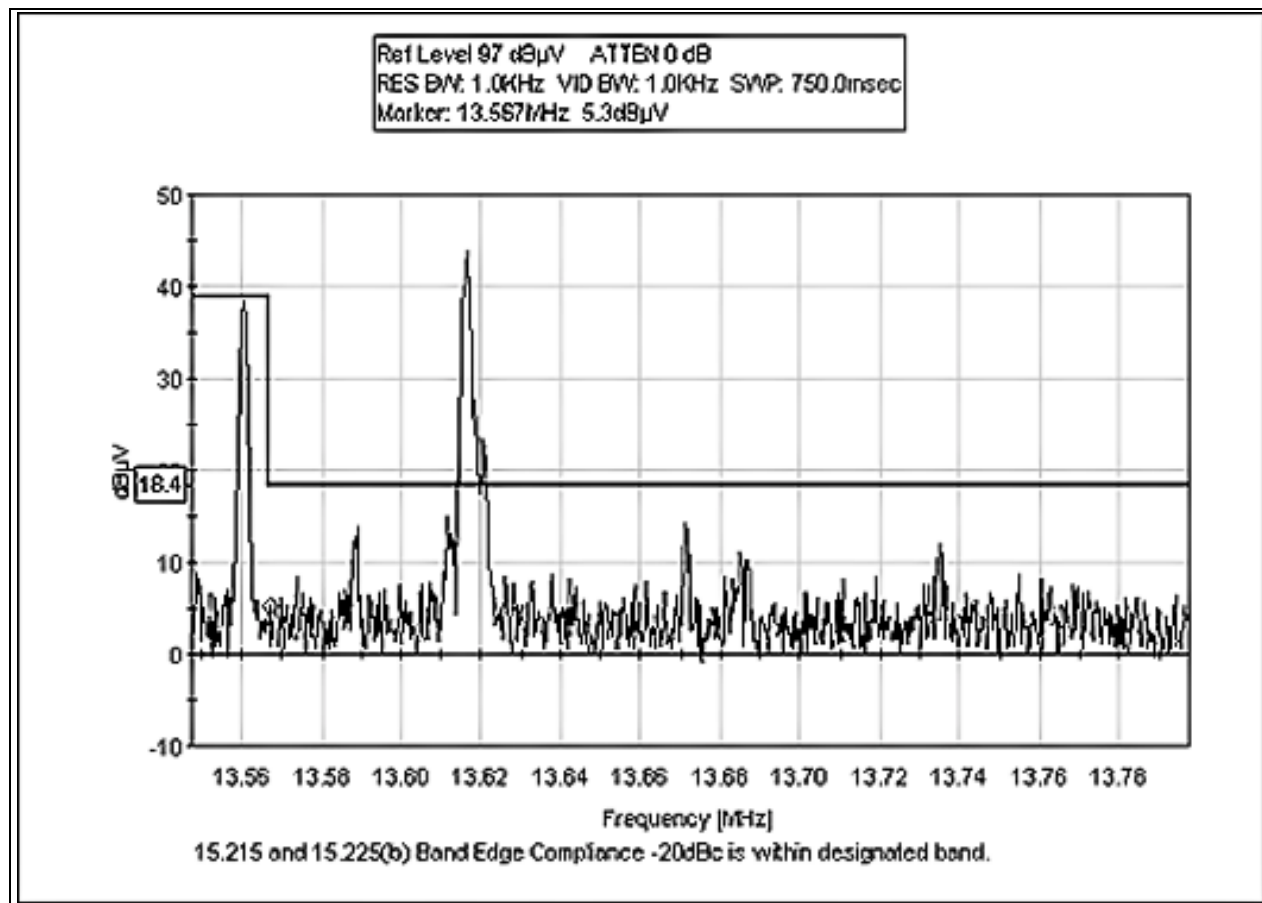
COMMENTS: The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.



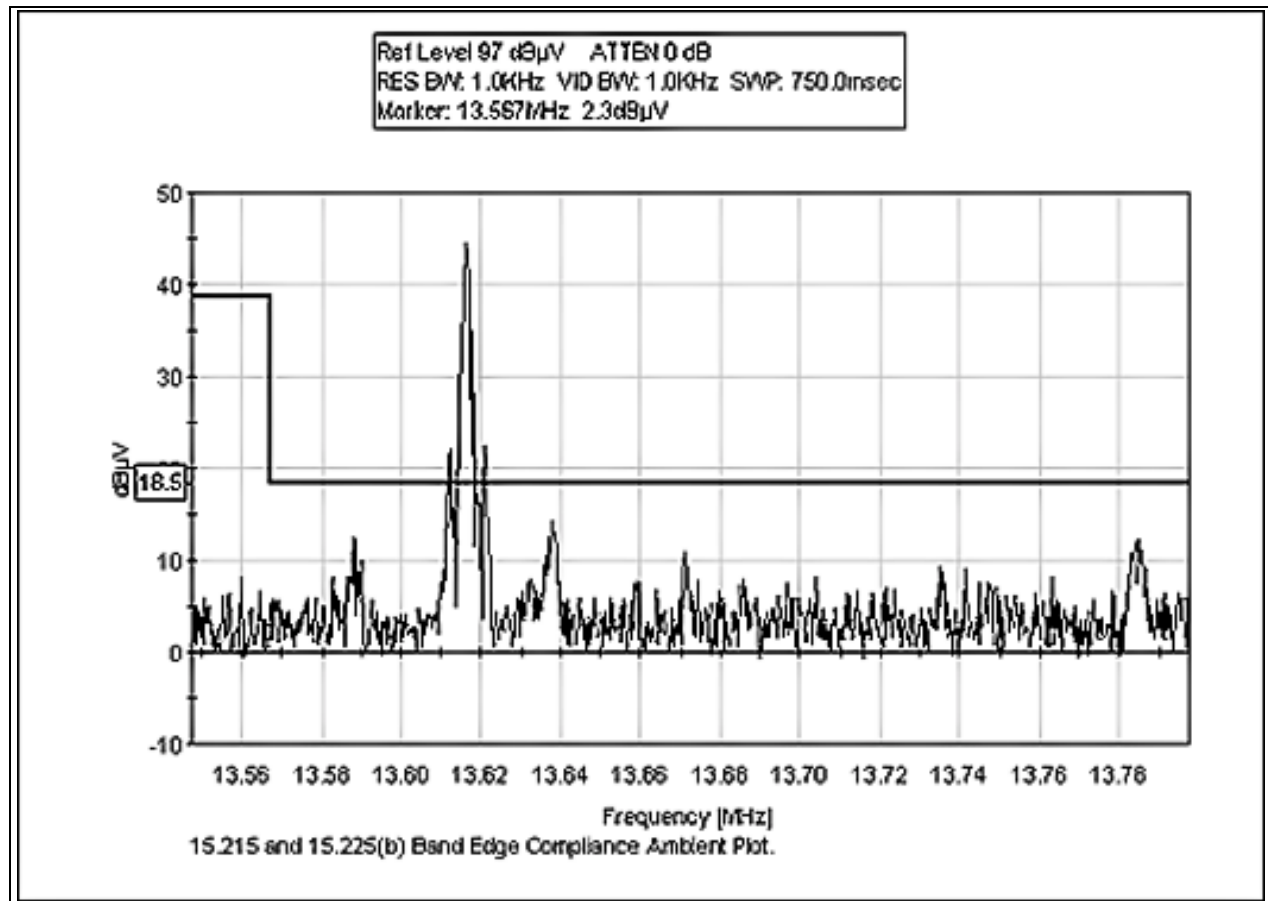
# FCC 15.215 and 15.225(b) BAND EDGE PLOT LOW



## FCC 15.215 and 15.225(b) BAND EDGE PLOT HIGH



# FCC 15.215 and 15.225(b) BAND EDGE PLOT HIGH AMBIENT



**Table 3: FCC 15.225(a) Fundamental Emission Levels**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB		Cable dB					
13.560	46.1	10.2		0.7		57.0	80.0	-23.0	N
13.560	46.1	10.2		0.7		57.0	80.0	-23.0	N
13.560	46.0	10.2		0.7		56.9	80.0	-23.1	N
13.588	46.0	10.2		0.7		56.9	80.0	-23.1	N
13.588	45.9	10.2		0.7		56.8	80.0	-23.2	N
13.588	45.9	10.2		0.7		56.8	80.0	-23.2	N

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

NOTES: N = No Polarization

COMMENTS: The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 20°C, 55%, 100kPa.

**Table 4: FCC 15.225(b) Six Highest Radiated Emission Levels**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB					
156.033	47.2	18.2	-28.4	2.4		39.4	43.5	-4.1	HQ
191.993	47.0	18.0	-28.4	2.7		39.3	43.5	-4.2	HQ
311.987	44.3	21.9	-28.3	3.5		41.4	46.0	-4.6	H
488.153	46.0	19.5	-28.1	4.4		41.8	46.0	-4.2	HQ
488.155	45.6	19.5	-28.1	4.4		41.4	46.0	-4.6	HQ
501.715	45.7	19.8	-28.1	4.5		41.9	46.0	-4.1	HQ

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

NOTES: H = Horizontal Polarization  
Q = Quasi Peak Reading

**COMMENTS:** The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

# FCC 15.225(c) Frequency Stability and Voltage Variation

Frequency Stability			
Customer:		Inside Technologies	
WO#:		81092	
Date:		22-Sep-03	
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 ( $\pm 15\%$ )			
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			

### 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 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 dB $\mu$ V/m, the spectrum analyzer reading in dB $\mu$ V 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	(dB $\mu$ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB $\mu$ V/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 dB $\mu$ V, 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  $\mu$ H/+50 ohms. Above 150 kHz, a 0.15  $\mu$ F 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**

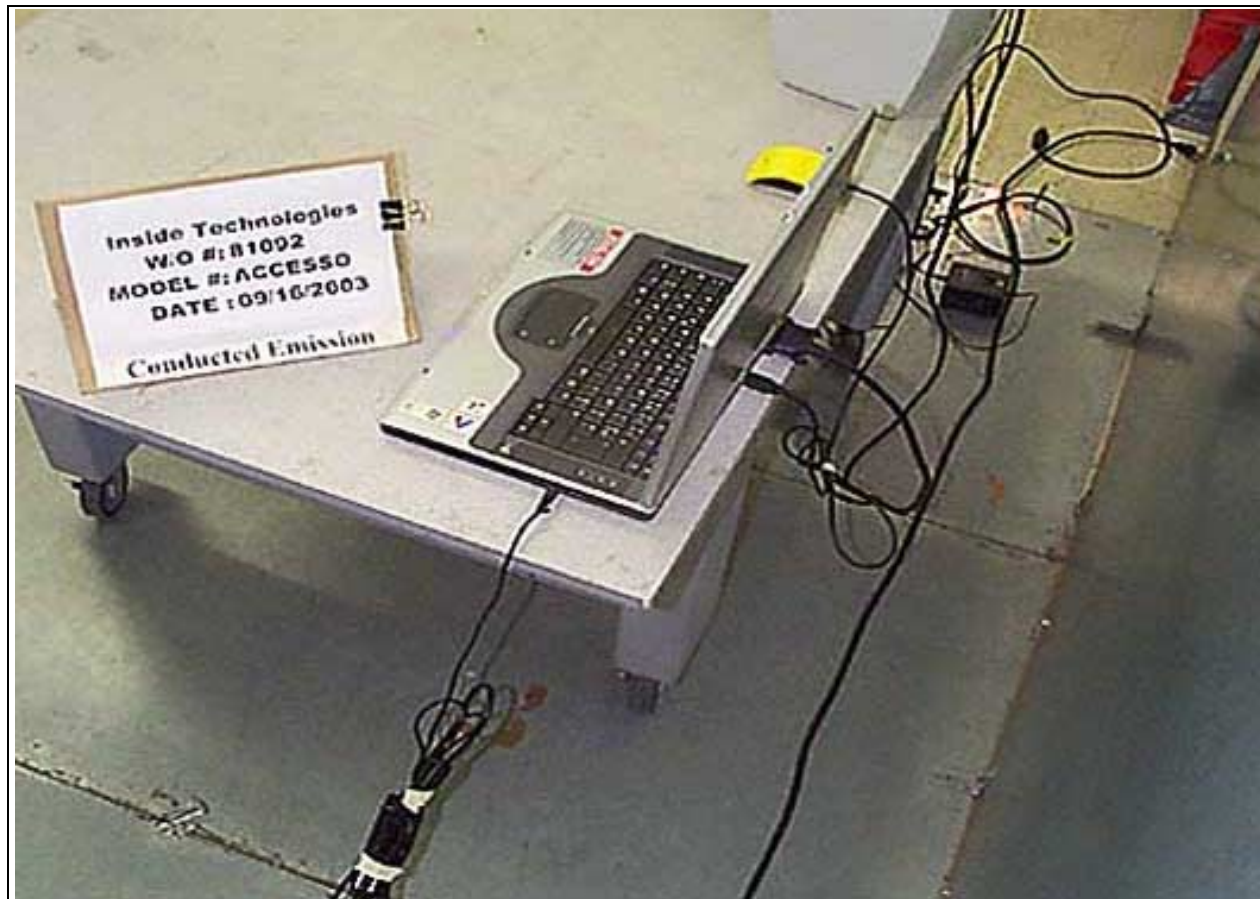
**TEST SETUP PHOTOGRAPHS**

**PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS**



Mains Conducted Emissions - Front View

**PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS**



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

#### Conducted Emissions

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	01865	HP	8566B	2532A02509	092702	092703
QP Adapter	01437	HP	85650A	3303A01884	092702	092703
LISN	02128	EMCO	3816/2NM	9809-1090	040403	040404
LISN	00847	EMCO	3816/2NM	1104	010403	010404
Coaxial Cable		Harbour Industries	M17/60-RG142	Cable #21	082302	082304

#### Radiated Emissions

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02472	HP	8568B	3001A18430	031103	031104
QP Adapter	01437	HP	85650A	3303A01884	092702	092703
Bicon Antenna	306	AH	SAS200/540	220	092302	092303
Log Periodic Antenna	300	AH	SAS 00/516	331	092302	092303
Pre-amp	00309	HP	8447D	1937A02548	082303	082304
Antenna cable	NA	NA	RG214	Cable#15	123002	123003
Pre-amp to SA cable	NA	Harbour	RG223/U	Cable#10	071403	071504
Loop Antenna	00314	EMCO	6502	2014	072302	072304



**APPENDIX C:**  
**MEASUREMENT DATA SHEETS**

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Inside Technologies**  
 Specification: **FCC 15.207 COND [AVE]**  
 Work Order #: **81092**  
 Test Type: **Conducted Emissions**  
 Equipment: **Radio Frequency Reader**  
 Manufacturer: Inside Technologies  
 Model: ACCESSO  
 S/N: PIGE-A-03-07-EO

Date: 09/16/2003  
 Time: 8:58:02 AM  
 Sequence#: 2  
 Tested By: Stuart Yamamoto  
 110V 60Hz

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

Function	Manufacturer	Model #	S/N
Radio Frequency Reader*	Inside Technologies	ACCESSO	PIGE-A-03-07-EO

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq Corporation	Presario X1000	CND0334054F
Parallel Printer	Lexmark	4098-012	03230287625

**Test Conditions / Notes:**

The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. The antenna is replaced with a fifty ohm resistor. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

**Transducer Legend:**

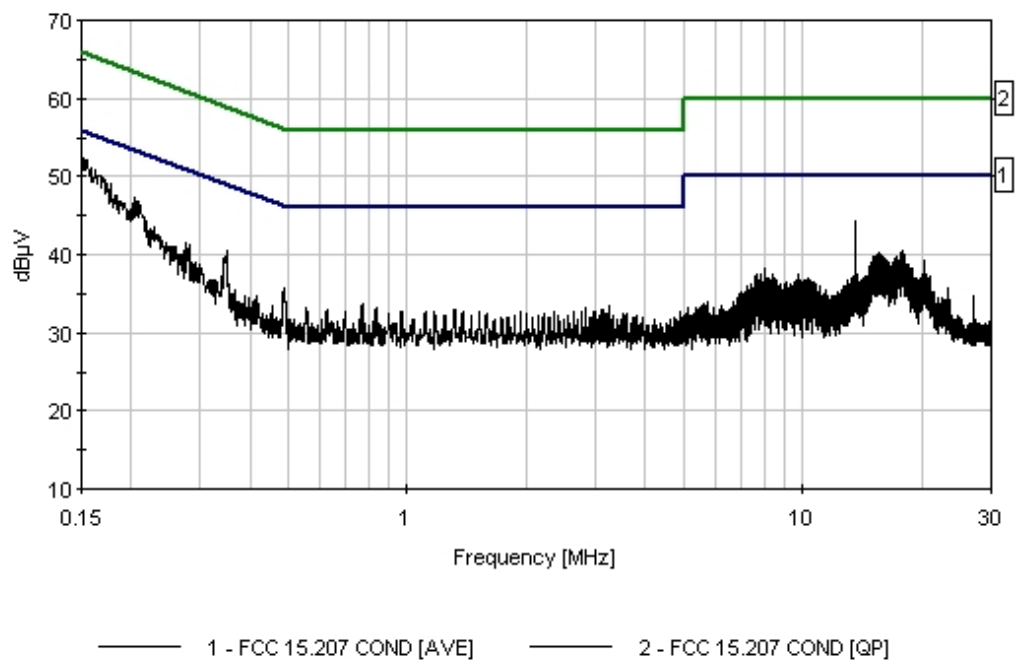
T1=Cable #21 BNC
------------------

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

#	Freq MHz	Rdng dB $\mu$ V	T1 dB				Dist Table	Corr dB $\mu$ V	Spec dB $\mu$ V	Margin dB	Polar Ant
1	150.727k	52.4	+0.0				+0.0	52.4	56.0	-3.6	Black
2	13.571M	44.1	+0.3				+0.0	44.4	50.0	-5.6	Black
3	350.707k	40.4	+0.0				+0.0	40.4	48.9	-8.5	Black
4	274.351k	41.5	+0.0				+0.0	41.5	51.0	-9.5	Black
5	280.896k	41.2	+0.0				+0.0	41.2	50.8	-9.6	Black
6	17.923M	40.1	+0.3				+0.0	40.4	50.0	-9.6	Black
7	15.625M	39.9	+0.3				+0.0	40.2	50.0	-9.8	Black
8	15.770M	39.7	+0.3				+0.0	40.0	50.0	-10.0	Black
9	15.346M	39.6	+0.3				+0.0	39.9	50.0	-10.1	Black

10	15.490M	39.6	+0.3	+0.0	39.9	50.0	-10.1	Black
11	18.058M	39.6	+0.3	+0.0	39.9	50.0	-10.1	Black
12	15.139M	39.5	+0.3	+0.0	39.8	50.0	-10.2	Black
13	15.283M	39.4	+0.3	+0.0	39.7	50.0	-10.3	Black
14	15.905M	39.4	+0.3	+0.0	39.7	50.0	-10.3	Black
15	490.330k	35.8	+0.0	+0.0	35.8	46.2	-10.4	Black
16	15.571M	39.3	+0.3	+0.0	39.6	50.0	-10.4	Black
17	16.121M	39.3	+0.3	+0.0	39.6	50.0	-10.4	Black
18	15.977M	39.1	+0.3	+0.0	39.4	50.0	-10.6	Black
19	17.013M	39.0	+0.3	+0.0	39.3	50.0	-10.7	Black
20	15.004M	38.9	+0.3	+0.0	39.2	50.0	-10.8	Black
21	15.418M	38.9	+0.3	+0.0	39.2	50.0	-10.8	Black
22	16.319M	38.9	+0.3	+0.0	39.2	50.0	-10.8	Black
23	20.355M	38.9	+0.3	+0.0	39.2	50.0	-10.8	Black
24	15.067M	38.8	+0.3	+0.0	39.1	50.0	-10.9	Black
25	16.391M	38.7	+0.3	+0.0	39.0	50.0	-11.0	Black
26	16.878M	38.7	+0.3	+0.0	39.0	50.0	-11.0	Black
27	14.869M	38.6	+0.3	+0.0	38.9	50.0	-11.1	Black
28	16.950M	38.6	+0.3	+0.0	38.9	50.0	-11.1	Black
29	16.598M	38.2	+0.3	+0.0	38.5	50.0	-11.5	Black
30	16.806M	38.2	+0.3	+0.0	38.5	50.0	-11.5	Black

CKC Laboratories, Inc. Date: 09/16/2003 Time: 8:58:02 AM Inside Technologies WVO#: 81092  
 FCC 15.207 COND [AVE] Test Lead: Black 110V 60Hz Sequence#: 2  
 Inside Technologies, ACCESSO



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Inside Technologies**  
 Specification: **FCC 15.207 COND [AVE]**  
 Work Order #: **81092**  
 Test Type: **Conducted Emissions**  
 Equipment: **Radio Frequency Reader**  
 Manufacturer: Inside Technologies  
 Model: ACCESSO  
 S/N: PIGE-A-03-07-EO

Date: 09/16/2003  
 Time: 9:02:14 AM  
 Sequence#: 3  
 Tested By: Stuart Yamamoto  
 110V 60Hz

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

Function	Manufacturer	Model #	S/N
Radio Frequency Reader*	Inside Technologies	ACCESSO	PIGE-A-03-07-EO

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq Corporation	Presario X1000	CND0334054F
Parallel Printer	Lexmark	4098-012	03230287625

**Test Conditions / Notes:**

The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. The antenna is replaced with a fifty ohm resistor. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

**Transducer Legend:**

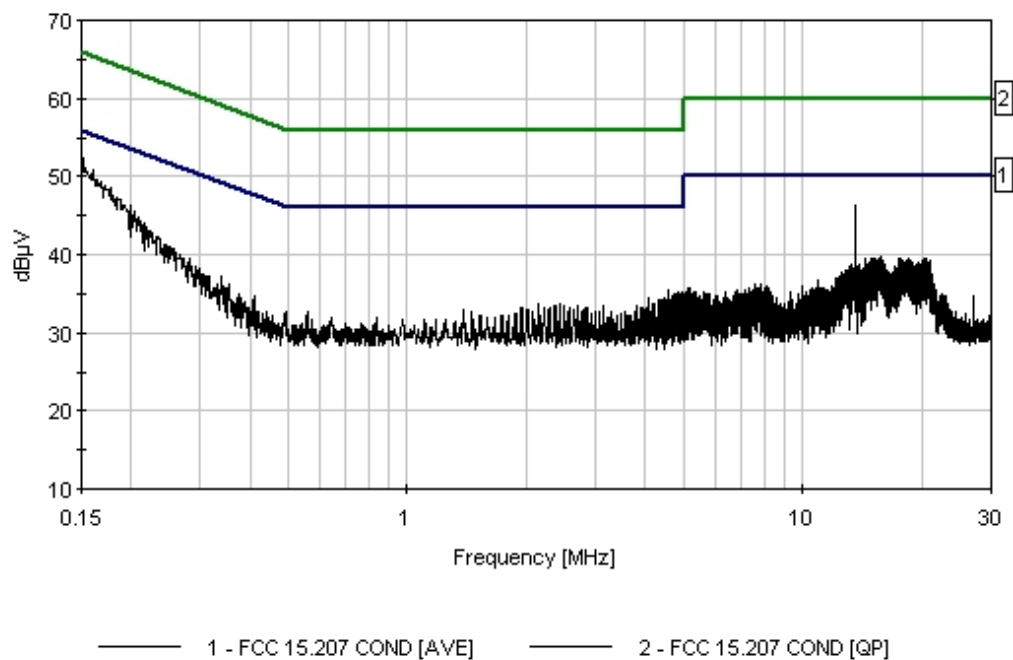
T1=Cable #21 BNC
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**Measurement Data:** Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	151.454k	52.4	+0.0				+0.0	52.4	55.9	-3.5	White
2	13.571M	46.0	+0.3				+0.0	46.3	50.0	-3.7	White
3	199.450k	46.3	+0.0				+0.0	46.3	53.6	-7.3	White
4	15.806M	39.4	+0.3				+0.0	39.7	50.0	-10.3	White
5	15.184M	39.3	+0.3				+0.0	39.6	50.0	-10.4	White
6	20.535M	39.3	+0.3				+0.0	39.6	50.0	-10.4	White
7	4.586M	35.4	+0.1				+0.0	35.5	46.0	-10.5	White
8	17.689M	39.2	+0.3				+0.0	39.5	50.0	-10.5	White
9	20.328M	39.2	+0.3				+0.0	39.5	50.0	-10.5	White

10	14.346M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
11	14.905M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
12	15.040M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
13	15.319M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
14	17.472M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
15	18.454M	39.1	+0.3	+0.0	39.4	50.0	-10.6	White
16	18.382M	39.0	+0.3	+0.0	39.3	50.0	-10.7	White
17	20.049M	39.0	+0.3	+0.0	39.3	50.0	-10.7	White
18	4.862M	35.1	+0.1	+0.0	35.2	46.0	-10.8	White
19	4.930M	35.1	+0.1	+0.0	35.2	46.0	-10.8	White
20	15.112M	38.9	+0.3	+0.0	39.2	50.0	-10.8	White
21	17.896M	38.9	+0.3	+0.0	39.2	50.0	-10.8	White
22	18.806M	38.9	+0.3	+0.0	39.2	50.0	-10.8	White
23	21.040M	38.9	+0.3	+0.0	39.2	50.0	-10.8	White
24	14.481M	38.8	+0.3	+0.0	39.1	50.0	-10.9	White
25	14.698M	38.8	+0.3	+0.0	39.1	50.0	-10.9	White
26	14.761M	38.8	+0.3	+0.0	39.1	50.0	-10.9	White
27	18.175M	38.8	+0.3	+0.0	39.1	50.0	-10.9	White
28	4.726M	34.9	+0.1	+0.0	35.0	46.0	-11.0	White
29	14.418M	38.7	+0.3	+0.0	39.0	50.0	-11.0	White
30	19.562M	38.7	+0.3	+0.0	39.0	50.0	-11.0	White

CKC Laboratories, Inc. Date: 09/16/2003 Time: 9:02:14 AM Inside Technologies WVO#: 81092  
 FCC 15.207 COND [AVE] Test Lead: White 110V 60Hz Sequence#: 3  
 Inside Technologies, ACCESSO



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Inside Technologies**  
 Specification: **FCC 15.209**  
 Work Order #: **81092** Date: 09/16/2003  
 Test Type: **Maximized emission** Time: 18:16:56  
 Equipment: **Radio Frequency Reader** Sequence#: 6  
 Manufacturer: Inside Technologies Tested By: Stuart Yamamoto  
 Model: ACCESSO  
 S/N: PIGE-A-03-07-EO

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

Function	Manufacturer	Model #	S/N
Radio Frequency Reader*	Inside Technologies	ACCESSO	PIGE-A-03-07-EO

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq Corporation	Presario X1000	CND0334054F
Parallel Printer	Lexmark	4098-012	03230287625

**Test Conditions / Notes:**

The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

**Transducer Legend:**

T1=Cable# 15 123003	T2=Cable #10 070804
T3=Log antenna, SN331 092303	T4=Bicon SN220 092303
T5=Preamp 8447D 082304	

**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	120.027M	48.8	+2.0 -28.3	+0.2	+0.0	+15.8	+0.0	38.5	43.5	-5.0	Vert
2	324.020M	44.5	+3.2 -28.3	+0.3	+21.1	+0.0	+0.0	40.8	46.0	-5.2	Vert
3	408.032M	47.2	+3.6 -28.2	+0.4	+17.2	+0.0	+0.0	40.2	46.0	-5.8	Horiz
4	324.032M	43.8	+3.2 -28.3	+0.3	+21.1	+0.0	+0.0	40.1	46.0	-5.9	Horiz
^	324.017M	50.3	+3.2 -28.3	+0.3	+21.1	+0.0	+0.0	46.6	46.0	+0.6	Horiz
6	119.997M	47.2	+2.0 -28.3	+0.2	+0.0	+15.8	+0.0	36.9	43.5	-6.6	Horiz
7	240.024M	45.8	+2.8 -28.3	+0.2	+0.0	+18.5	+0.0	39.0	46.0	-7.0	Horiz
8	408.068M	45.0	+3.6 -28.2	+0.4	+17.2	+0.0	+0.0	38.0	46.0	-8.0	Vert



9	240.017M	44.3	+2.8 -28.3	+0.2	+0.0	+18.5	+0.0	37.5	46.0	-8.5	Vert
10	240.008M	43.9	+2.8 -28.3	+0.2	+0.0	+18.5	+0.0	37.1	46.0	-8.9	Vert
11	168.007M	41.0	+2.3 -28.4	+0.2	+0.0	+18.4	+0.0	33.5	43.5	-10.0	Vert
12	108.009M	45.8	+1.9 -28.4	+0.2	+0.0	+13.7	+0.0	33.2	43.5	-10.3	Horiz
13	162.737M	40.1	+2.3 -28.4	+0.2	+0.0	+18.4	+0.0	32.6	43.5	-10.9	Horiz
14	108.010M	45.1	+1.9 -28.4	+0.2	+0.0	+13.7	+0.0	32.5	43.5	-11.0	Vert
15	276.021M	38.8	+3.0 -28.2	+0.3	+0.0	+21.0	+0.0	34.9	46.0	-11.1	Vert
16	263.989M	37.9	+2.9 -28.2	+0.3	+0.0	+20.0	+0.0	32.9	46.0	-13.1	Vert
17	162.741M	36.3	+2.3 -28.4	+0.2	+0.0	+18.4	+0.0	28.8	43.5	-14.7	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Inside Technologies**  
 Specification: **FCC 15.255(a) Field Strength of Fundamental**  
 Work Order #: **81092** Date: 09/16/2003  
 Test Type: **Maximized emission** Time: 09:52:07  
 Equipment: **Radio Frequency Reader** Sequence#: 4  
 Manufacturer: Inside Technologies Tested By: Stuart Yamamoto  
 Model: ACCESSO  
 S/N: PIGE-A-03-07-EO

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

Function	Manufacturer	Model #	S/N
Radio Frequency Reader*	Inside Technologies	ACCESSO	PIGE-A-03-07-EO

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq Corporation	Presario X1000	CND0334054F
Parallel Printer	Lexmark	4098-012	03230287625

**Test Conditions / Notes:**

The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 20°C, 55%, 100kPa.

**Transducer Legend:**

T1=Cable# 15 123003	T2=6502 Active Loop Antenna
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**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dB $\mu$ V	T1 dB	T2 dB	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	13.560M	46.1	+0.7	+10.2	+0.0	57.0	80.0	-23.0	None
							Perpendicular Antenna 110 Vac		
2	13.560M	46.1	+0.7	+10.2	+0.0	57.0	80.0	-23.0	None
							Perpendicular Antenna 126.5 Vac		
3	13.560M	46.0	+0.7	+10.2	+0.0	56.9	80.0	-23.1	None
							Perpendicular Antenna 93.5 Vac		
4	13.588M	46.0	+0.7	+10.2	+0.0	56.9	80.0	-23.1	None
							Normal Antenna 93.5 Vac		
5	13.588M	45.9	+0.7	+10.2	+0.0	56.8	80.0	-23.2	None
							Normal Antenna 126.5 Vac		
6	13.588M	45.9	+0.7	+10.2	+0.0	56.8	80.0	-23.2	None
							Normal Antenna 110 Vac		

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Inside Technologies**  
 Specification: **FCC15.225(b) Field Strength of Spurious**  
 Work Order #: **81092** Date: 09/16/2003  
 Test Type: **Maximized emission** Time: 18:16:56  
 Equipment: **Radio Frequency Reader** Sequence#: 5  
 Manufacturer: Inside Technologies Tested By: Stuart Yamamoto  
 Model: ACCESSO  
 S/N: PIGE-A-03-07-EO

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

Function	Manufacturer	Model #	S/N
Radio Frequency Reader*	Inside Technologies	ACCESSO	PIGE-A-03-07-EO

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop Computer	Compaq Corporation	Presario X1000	CND0334054F
Parallel Printer	Lexmark	4098-012	03230287625

**Test Conditions / Notes:**

The EUT and support laptop are placed on the wooden table. The EUT is connected to the USB port of the support laptop via two meter shielded cable. The host computer is running MX Test software to exercise the EUT. The EUT is in constant transmit mode sending data to the remote laptop. 9kHz to 150kHz: SA RBW=3kHz, QPA RBW=200Hz. 150kHz to 30MHz: SA RBW=100kHz, QPA RBW=9kHz. 30MHz to 1000MHz: SA RBW=1MHz, QPA RBW=120kHz. 5VDC (from USB). 21°C, 55%, 100kPa.

**Transducer Legend:**

T1=Cable# 15 123003	T2=6502 Active Loop Antenna
T3=Cable #10 070804	T4=Log antenna, SN331 092303
T5=Bicon SN220 092303	T6=Preamp 8447D 082304

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

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	T5	T6							
			dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	156.033M	47.2	+2.2	+0.0	+0.2	+0.0	+0.0	39.4	43.5	-4.1	Horiz
	QP		+18.2	-28.4							
^	156.011M	49.7	+2.2	+0.0	+0.2	+0.0	+0.0	41.9	43.5	-1.6	Horiz
			+18.2	-28.4							
3	501.715M	45.7	+4.1	+0.0	+0.4	+19.8	+0.0	41.9	46.0	-4.1	Horiz
	QP		+0.0	-28.1							
^	501.716M	48.1	+4.1	+0.0	+0.4	+19.8	+0.0	44.3	46.0	-1.7	Horiz
			+0.0	-28.1							
^	501.723M	44.7	+4.1	+0.0	+0.4	+19.8	+0.0	40.9	46.0	-5.1	Horiz
			+0.0	-28.1							
6	191.993M	47.0	+2.5	+0.0	+0.2	+0.0	+0.0	39.3	43.5	-4.2	Horiz
	QP		+18.0	-28.4							
^	191.995M	48.0	+2.5	+0.0	+0.2	+0.0	+0.0	40.3	43.5	-3.2	Horiz
			+18.0	-28.4							

8	488.153M	46.0	+4.0	+0.0	+0.4	+19.5	+0.0	41.8	46.0	-4.2	Horiz
	QP		+0.0	-28.1							
^	488.162M	50.1	+4.0	+0.0	+0.4	+19.5	+0.0	45.9	46.0	-0.1	Horiz
			+0.0	-28.1							
^	488.168M	47.2	+4.0	+0.0	+0.4	+19.5	+0.0	43.0	46.0	-3.0	Horiz
			+0.0	-28.1							
11	311.987M	44.3	+3.2	+0.0	+0.3	+21.9	+0.0	41.4	46.0	-4.6	Horiz
			+0.0	-28.3							
12	488.155M	45.6	+4.0	+0.0	+0.4	+19.5	+0.0	41.4	46.0	-4.6	Horiz
	QP		+0.0	-28.1							
13	542.386M	44.1	+4.4	+0.0	+0.5	+20.0	+0.0	41.1	46.0	-4.9	Horiz
			+0.0	-27.9							
14	336.024M	45.2	+3.3	+0.0	+0.4	+20.4	+0.0	41.0	46.0	-5.0	Horiz
			+0.0	-28.3							
15	720.112M	41.1	+5.1	+0.0	+0.5	+21.7	+0.0	41.0	46.0	-5.0	Horiz
			+0.0	-27.4							
16	120.027M	48.8	+2.0	+0.0	+0.2	+0.0	+0.0	38.5	43.5	-5.0	Vert
			+15.8	-28.3							
17	461.075M	46.2	+3.9	+0.0	+0.4	+18.7	+0.0	40.9	46.0	-5.1	Horiz
	QP		+0.0	-28.3							
^	461.025M	47.1	+3.9	+0.0	+0.4	+18.7	+0.0	41.8	46.0	-4.2	Horiz
			+0.0	-28.3							
19	324.020M	44.5	+3.2	+0.0	+0.3	+21.1	+0.0	40.8	46.0	-5.2	Vert
			+0.0	-28.3							
20	191.989M	45.9	+2.5	+0.0	+0.2	+0.0	+0.0	38.2	43.5	-5.3	Vert
	QP		+18.0	-28.4							
^	192.028M	50.4	+2.5	+0.0	+0.2	+0.0	+0.0	42.7	43.5	-0.8	Vert
			+18.0	-28.4							
^	192.033M	45.5	+2.5	+0.0	+0.2	+0.0	+0.0	37.8	43.5	-5.7	Vert
			+18.0	-28.4							
23	215.993M	45.6	+2.7	+0.0	+0.2	+0.0	+0.0	38.2	43.5	-5.3	Vert
			+18.0	-28.3							
24	372.011M	46.6	+3.5	+0.0	+0.4	+18.4	+0.0	40.6	46.0	-5.4	Horiz
			+0.0	-28.3							
25	912.135M	37.3	+5.9	+0.0	+0.7	+24.1	+0.0	40.6	46.0	-5.4	Horiz
			+0.0	-27.4							
26	816.090M	39.5	+5.5	+0.0	+0.6	+22.5	+0.0	40.6	46.0	-5.4	Horiz
			+0.0	-27.5							
27	515.284M	44.1	+4.2	+0.0	+0.4	+19.9	+0.0	40.6	46.0	-5.4	Horiz
			+0.0	-28.0							
28	542.421M	43.5	+4.4	+0.0	+0.5	+20.0	+0.0	40.5	46.0	-5.5	Vert
			+0.0	-27.9							
29	360.031M	45.8	+3.4	+0.0	+0.4	+19.0	+0.0	40.3	46.0	-5.7	Horiz
	QP		+0.0	-28.3							
^	360.017M	50.4	+3.4	+0.0	+0.4	+19.0	+0.0	44.9	46.0	-1.1	Horiz
			+0.0	-28.3							
31	492.049M	44.2	+4.1	+0.0	+0.4	+19.6	+0.0	40.2	46.0	-5.8	Vert
	QP		+0.0	-28.1							
^	492.063M	47.0	+4.1	+0.0	+0.4	+19.6	+0.0	43.0	46.0	-3.0	Vert
			+0.0	-28.1							

33	408.032M	47.2	+3.6 +0.0	+0.0 -28.2	+0.4	+17.2	+0.0	40.2	46.0	-5.8	Horiz
34	642.037M	41.6	+4.7 +0.0	+0.0 -27.5	+0.5	+20.8	+0.0	40.1	46.0	-5.9	Vert
35	912.164M	36.8	+5.9 +0.0	+0.0 -27.4	+0.7	+24.1	+0.0	40.1	46.0	-5.9	Vert
36	324.032M QP	43.8	+3.2 +0.0	+0.0 -28.3	+0.3	+21.1	+0.0	40.1	46.0	-5.9	Horiz
^	324.017M	50.3	+3.2 +0.0	+0.0 -28.3	+0.3	+21.1	+0.0	46.6	46.0	+0.6	Horiz
38	528.851M	43.4	+4.3 +0.0	+0.0 -28.0	+0.5	+19.9	+0.0	40.1	46.0	-5.9	Horiz
39	528.046M	43.3	+4.3 +0.0	+0.0 -28.0	+0.5	+19.9	+0.0	40.0	46.0	-6.0	Horiz
40	720.122M	39.9	+5.1 +0.0	+0.0 -27.4	+0.5	+21.7	+0.0	39.8	46.0	-6.2	Vert
41	816.115M	38.5	+5.5 +0.0	+0.0 -27.5	+0.6	+22.5	+0.0	39.6	46.0	-6.4	Vert
42	27.105M	33.3	+0.9	+8.8			+0.0	43.0	49.5	-6.5	None
43	119.997M	47.2	+2.0 +15.8	+0.0 -28.3	+0.2	+0.0	+0.0	36.9	43.5	-6.6	Horiz
44	444.059M	45.1	+3.8 +0.0	+0.0 -28.3	+0.4	+18.3	+0.0	39.3	46.0	-6.7	Vert
45	40.685M	45.5	+1.1 +15.1	+0.0 -28.5	+0.1	+0.0	+0.0	33.3	40.0	-6.7	Vert
46	240.024M	45.8	+2.8 +18.5	+0.0 -28.3	+0.2	+0.0	+0.0	39.0	46.0	-7.0	Horiz
47	623.781M	40.9	+4.6 +0.0	+0.0 -27.6	+0.5	+20.6	+0.0	39.0	46.0	-7.0	Vert
48	372.041M	44.9	+3.5 +0.0	+0.0 -28.3	+0.4	+18.4	+0.0	38.9	46.0	-7.1	Vert
49	432.032M	45.1	+3.7 +0.0	+0.0 -28.3	+0.4	+17.9	+0.0	38.8	46.0	-7.2	Horiz
50	96.008M	51.7	+1.8 +11.0	+0.0 -28.4	+0.2	+0.0	+0.0	36.3	43.5	-7.2	Vert
51	504.055M QP	42.5	+4.1 +0.0	+0.0 -28.1	+0.4	+19.8	+0.0	38.7	46.0	-7.3	Horiz
^	504.037M	46.1	+4.1 +0.0	+0.0 -28.1	+0.4	+19.8	+0.0	42.3	46.0	-3.7	Horiz
53	204.016M	43.9	+2.6 +17.8	+0.0 -28.4	+0.2	+0.0	+0.0	36.1	43.5	-7.4	Horiz
54	642.048M	40.0	+4.7 +0.0	+0.0 -27.5	+0.5	+20.8	+0.0	38.5	46.0	-7.5	Horiz
55	539.995M	41.4	+4.3 +0.0	+0.0 -27.9	+0.5	+20.0	+0.0	38.3	46.0	-7.7	Vert
56	27.114M	32.0	+0.9	+8.8			+0.0	41.7	49.5	-7.8	None
57	444.102M	43.9	+3.8 +0.0	+0.0 -28.3	+0.4	+18.3	+0.0	38.1	46.0	-7.9	Horiz

58	408.068M	45.0	+3.6 +0.0	+0.0 -28.2	+0.4	+17.2	+0.0	38.0	46.0	-8.0	Vert
59	180.024M	42.8	+2.4 +18.5	+0.0 -28.4	+0.2	+0.0	+0.0	35.5	43.5	-8.0	Vert
60	336.036M	42.1	+3.3 +0.0	+0.0 -28.3	+0.4	+20.4	+0.0	37.9	46.0	-8.1	Vert
61	360.015M	43.3	+3.4 +0.0	+0.0 -28.3	+0.4	+19.0	+0.0	37.8	46.0	-8.2	Vert
62	540.042M QP	40.9	+4.3 +0.0	+0.0 -27.9	+0.5	+20.0	+0.0	37.8	46.0	-8.2	Horiz
^	540.069M	45.7	+4.3 +0.0	+0.0 -27.9	+0.5	+20.0	+0.0	42.6	46.0	-3.4	Horiz
64	480.048M	42.1	+4.0 +0.0	+0.0 -28.2	+0.4	+19.3	+0.0	37.6	46.0	-8.4	Vert
65	396.022M	44.7	+3.6 +0.0	+0.0 -28.2	+0.4	+17.1	+0.0	37.6	46.0	-8.4	Horiz
66	240.017M	44.3	+2.8 +18.5	+0.0 -28.3	+0.2	+0.0	+0.0	37.5	46.0	-8.5	Vert
67	227.989M	44.6	+2.7 +18.3	+0.0 -28.3	+0.2	+0.0	+0.0	37.5	46.0	-8.5	Vert
68	488.151M	41.7	+4.0 +0.0	+0.0 -28.1	+0.4	+19.5	+0.0	37.5	46.0	-8.5	Vert
69	637.353M	39.0	+4.7 +0.0	+0.0 -27.5	+0.5	+20.7	+0.0	37.4	46.0	-8.6	Vert
70	501.707M	41.1	+4.1 +0.0	+0.0 -28.1	+0.4	+19.8	+0.0	37.3	46.0	-8.7	Vert
71	240.008M	43.9	+2.8 +18.5	+0.0 -28.3	+0.2	+0.0	+0.0	37.1	46.0	-8.9	Vert
72	228.008M	44.1	+2.7 +18.3	+0.0 -28.3	+0.2	+0.0	+0.0	37.0	46.0	-9.0	Horiz
73	180.008M	41.7	+2.4 +18.5	+0.0 -28.4	+0.2	+0.0	+0.0	34.4	43.5	-9.1	Vert
74	40.674M	43.1	+1.1 +15.1	+0.0 -28.5	+0.1	+0.0	+0.0	30.9	40.0	-9.1	Horiz
75	288.023M	39.6	+3.1 +22.0	+0.0 -28.3	+0.3	+0.0	+0.0	36.7	46.0	-9.3	Horiz
76	650.882M	38.0	+4.7 +0.0	+0.0 -27.5	+0.5	+20.9	+0.0	36.6	46.0	-9.4	Horiz
77	768.073M	36.0	+5.3 +0.0	+0.0 -27.5	+0.6	+22.0	+0.0	36.4	46.0	-9.6	Horiz
78	516.060M	39.8	+4.2 +0.0	+0.0 -28.0	+0.4	+19.9	+0.0	36.3	46.0	-9.7	Horiz
79	461.076M	41.4	+3.9 +0.0	+0.0 -28.3	+0.4	+18.7	+0.0	36.1	46.0	-9.9	Vert
80	145.580M	41.9	+2.2 +17.6	+0.0 -28.4	+0.2	+0.0	+0.0	33.5	43.5	-10.0	Vert
81	168.007M	41.0	+2.3 +18.4	+0.0 -28.4	+0.2	+0.0	+0.0	33.5	43.5	-10.0	Vert
82	352.552M	41.0	+3.4 +0.0	+0.0 -28.3	+0.4	+19.4	+0.0	35.9	46.0	-10.1	Horiz

83	504.068M	39.5	+4.1 +0.0	+0.0 -28.1	+0.4	+19.8	+0.0	35.7	46.0	-10.3	Vert
84	108.009M	45.8	+1.9 +13.7	+0.0 -28.4	+0.2	+0.0	+0.0	33.2	43.5	-10.3	Horiz
85	203.994M QP	40.9	+2.6 +17.8	+0.0 -28.4	+0.2	+0.0	+0.0	33.1	43.5	-10.4	Vert
^	204.024M	46.4	+2.6 +17.8	+0.0 -28.4	+0.2	+0.0	+0.0	38.6	43.5	-4.9	Vert
^	203.991M	43.0	+2.6 +17.8	+0.0 -28.4	+0.2	+0.0	+0.0	35.2	43.5	-8.3	Vert
88	456.003M	41.0	+3.8 +0.0	+0.0 -28.3	+0.4	+18.6	+0.0	35.5	46.0	-10.5	Vert
89	60.002M	47.0	+1.3 +9.0	+0.0 -28.4	+0.2	+0.0	+0.0	29.1	40.0	-10.9	Vert
90	155.987M QP	40.4	+2.2 +18.2	+0.0 -28.4	+0.2	+0.0	+0.0	32.6	43.5	-10.9	Vert
^	155.991M	49.9	+2.2 +18.2	+0.0 -28.4	+0.2	+0.0	+0.0	42.1	43.5	-1.4	Vert
92	162.737M	40.1	+2.3 +18.4	+0.0 -28.4	+0.2	+0.0	+0.0	32.6	43.5	-10.9	Horiz
93	108.010M	45.1	+1.9 +13.7	+0.0 -28.4	+0.2	+0.0	+0.0	32.5	43.5	-11.0	Vert
94	650.900M	36.4	+4.7 +0.0	+0.0 -27.5	+0.5	+20.9	+0.0	35.0	46.0	-11.0	Vert
95	276.021M	38.8	+3.0 +21.0	+0.0 -28.2	+0.3	+0.0	+0.0	34.9	46.0	-11.1	Vert
96	352.586M	40.0	+3.4 +0.0	+0.0 -28.3	+0.4	+19.4	+0.0	34.9	46.0	-11.1	Horiz
97	40.679M	41.1	+1.1 +15.1	+0.0 -28.5	+0.1	+0.0	+0.0	28.9	40.0	-11.1	Vert
98	650.879M	36.1	+4.7 +0.0	+0.0 -27.5	+0.5	+20.9	+0.0	34.7	46.0	-11.3	Horiz
99	65.501M	46.9	+1.4 +7.8	+0.0 -28.5	+0.2	+0.0	+0.0	27.8	40.0	-12.2	Vert
100	227.992M	40.4	+2.7 +18.3	+0.0 -28.3	+0.2	+0.0	+0.0	33.3	46.0	-12.7	Vert
101	288.017M	36.0	+3.1 +22.0	+0.0 -28.3	+0.3	+0.0	+0.0	33.1	46.0	-12.9	Vert
102	298.315M	35.2	+3.1 +22.8	+0.0 -28.3	+0.3	+0.0	+0.0	33.1	46.0	-12.9	Horiz
103	263.989M	37.9	+2.9 +20.0	+0.0 -28.2	+0.3	+0.0	+0.0	32.9	46.0	-13.1	Vert
104	54.239M	43.6	+1.2 +10.2	+0.0 -28.4	+0.2	+0.0	+0.0	26.8	40.0	-13.2	Vert
105	40.680M	38.8	+1.1 +15.1	+0.0 -28.5	+0.1	+0.0	+0.0	26.6	40.0	-13.4	Horiz
106	176.255M	37.4	+2.3 +18.5	+0.0 -28.4	+0.2	+0.0	+0.0	30.0	43.5	-13.5	Horiz

107	162.741M	36.3	+2.3 +18.4	+0.0 -28.4	+0.2	+0.0	+0.0	28.8	43.5	-14.7	Vert
108	81.337M	43.7	+1.6 +7.8	+0.0 -28.5	+0.2	+0.0	+0.0	24.8	40.0	-15.2	Vert
109	230.518M	36.6	+2.7 +18.3	+0.0 -28.3	+0.2	+0.0	+0.0	29.5	46.0	-16.5	Horiz
110	94.923M	37.1	+1.8 +10.7	+0.0 -28.4	+0.2	+0.0	+0.0	21.4	43.5	-22.1	Horiz