



ADDENDUM TO FC03-035

FOR THE

CREATIVE WIRELESS MP3 RECEIVER, DAP-WL0001/DAA-RF0001

FCC PART 15 SUBPART C SECTIONS 15.207, 15.209, 15.247 & 15.249 AND RSS 210

COMPLIANCE

DATE OF ISSUE: AUGUST 21, 2003

PREPARED FOR:

Creative Labs Inc. 1901 McCarthy Blvd. Milpitas, CA 95035 PREPARED BY:

Mary Ellen Clayton CKC Laboratories, Inc. 5473A Clouds Rest Mariposa, CA 95338

W.O. No.: 80429

Date of test: June 3-23, 2003

Report No.: FC03-035A

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	June 3-23, 2003
DATE OF RECEIPT:	June 3, 2003
PURPOSE OF TEST:	To demonstrate the compliance of the Creative Wireless MP3 Receiver, DAP- WL0001/ DAP-RF0001, with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.209, 15.247 & 15.249 and RSS 210 devices. Addendum A is to change the remote model number to DAA-RF0001.
TEST METHOD:	ANSI C63.4 (1992) and RSS 210
MANUFACTURER:	Creative Technology Ltd. 31 International Business Park Creative Resources Singapore 609921
REPRESENTATIVE:	Alvin Auyeung
TEST LOCATION:	CKC Laboratories, Inc. 5473A Clouds Rest Mariposa, CA 95338



SUMMARY OF RESULTS

As received, the Creative Labs Inc. Creative Wireless MP3 Receiver, DAP-WL0001/DAA-RF0001 was found to be fully compliant with the following standards and specifications:

United States	Canada
PART 15.247/15.249	RSS 210
15.209	6.2.1
15.247(a)(1)	6.2.2(o)(a1)
15.247(a)(1)(i)	6.2.2(o)(a2)
15.247(b)(2)	
15.247(a)(1)(ii)	6.2.2(o)(a3)
15.247(a)(1)(iii)	
15.247(b)(1)	
15.247(b)(3)	
15.247(b)(3)(i)	
15.247(b)(3)(ii)	
15.247(b)(3)(iii)	
15.247(d)	
15.247(b)(1)	6.2.2(o)(b)
15.247(b)(3)	
15.247(b)(3)(i)	
15.247(b)(3)(ii)	
15.247(b)(3)(iii)	
15.247(d)	
15.247(e)	
15.247(f)	6.2.2(o)(c)
15.247(c)	6.2.2(o)(e)(1)
15.203	6.2.2(o)(e)(2)
15.247(a)(2)	NA
15.247(b)(4)	NA
15.249(a)	6.2.2(m2)(1)
15.249(b)	NA
15.249(c)	6.2.2(m2)(2)
15.249(d)	6.2.2(m2)(3)
15.249(e)	6.2.2(m2)(4)
15.249(f)	NA
15.207	6.6
ANSI C63.4 (1992) method	RSS 212 test method
	Industry of Canada File No. IC 3082-B



CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

QUALITY ASSURANCE:

TEST PERSONNEL:

Steve 7 B

Steve Behm, Director of Engineering Services and Quality Assurance

Joyce Walker, Quality Assurance Administrative Manager

while Wies

Mike Wilkinson, Lab Manager

Henita Brandle

Monika Brandle, EMC Test Engineer



EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit. The EUT is a radio frequency remote control unit.

FCC 15.31(e) Voltage Variations

Customer:	Creative Technology
WO#:	80429
Date:	17-Jun-03
Test Engineer:	Monika Brandle

Device Model #:	DAP	-WL0001/DAP-RF0001
Operating Voltage:	120	VDC/VAC

		Channel 1 (MHz)	Dev. (MHz)	Channel 2 (MHz)	Dev. (MHz)	Channel 3 (MHz)	Dev. (MHz)
Channel		2412		2437		2462	
Frequence	cy:						
20	102.0	2412.01000	0.01000	2437.13000	0.13000	2462.13000	9.87000
20	120.0	2411.99800	0.00200	2437.12999	0.12999	2462.12999	9.87001
20	138.0	2412.00000	0.00000	2437.13000	0.13000	2462.13000	9.87000

Voltage Variations (±15%) for 15.247

Note: For the remote, new batteries were used

Voltage Variations (±15%) for 15.249

		Channel 1 (MHz)	Dev. (MHz)	Channel 2 (MHz)	Dev. (MHz)	Channel 3 (MHz)	Dev. (MHz)
Channel		906		910		924	
Frequen	cy:						
20	102.0	905.96100	0.03900	909.70000	0.30000	924.01200	0.01200
20	120.0	905.99200	0.00800	910.01200	0.01200	924.01100	0.01100
20	138.0	906.99200	0.99200	910.70001	0.70001	924.01100	0.01100

Note: For the remote, new batteries were used

Test Equipment

Description	Manufacturer	Model #	Serial #	Asset #	Cal Date	Cal Due
Digital Multimeter	Radio Shack	22-183	NA	01241	9/3/02	9/3/03
Spectrum Analyzer	HP	8593EM	3624A00159	02111	5/12/03	5/12/05
Variac	Superior Electronics	126	N/A	02037	5/1/03	5/1/04



FCC 15.31(m) Number Of Channels

Each transmitter was tested on three channels.

FCC 15.33(a) Frequency Ranges Tested

15.207 Conducted: 150 kHz – 30 MHz 15.249/15.247/15.209/15.205/15.109 Radiated: 9 kHz – 24 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	
RADIATED EMISSIONS	1000 MHz	24 GHz	1 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.

Mode Of Operation

The EUT was configured by the manufacturer to operate in a continuous transmit mode for testing purposes.

EUT Operating Frequency

The EUT was operating at 2412 MHz, 2437 MHz and 2462 MHz for 15.247 and 906 MHz, 910 MHz & 924 MHz for 15.249 during testing.

The EUT is a direct sequencing device operating in the 902 - 928 MHz and 2400 - 2483.5 MHz band.



The following models were tested by CKC Laboratories: **DAP-WL0001/DAP-RF0001** Since the time of testing the manufacturer has chosen to use the following model names 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: **DAP-WL0001/DAA-RF0001**

EQUIPMENT UNDER TEST

Creative Wireless MP3 Receiver

Manuf:	Creative Technology Ltd.
Model:	DAP-WL0001/DAA-RF0001
Serial:	06032003-001
FCC ID:	IBADAPWLRF01/IBADAPWLRF02

PERIPHERAL DEVICES

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

Magic LAN	AP Wireless LAN Access Point	Mouse	
Manuf:	Samsung	Manuf:	HP
Model:	SWL-33	Model:	4D Browser Up Mouse
Serial:	APEUOB-116000475	Serial:	B00000960
FCC ID:	DoC	FCC ID:	DoC
<u>Speakers</u>		<u>Monitor</u>	
Manuf:	Creative/Cambridge Sound Works	Manuf:	NEC
Model:	GCS300/SBS36	Model:	Multisync 50
Serial:	SW00361192000071	Serial:	8450030YA
FCC ID:	DoC	FCC ID:	DoC
<u>Keyboard</u>		Host PC	
Manuf:	HP	Manuf:	HP (Home Products
Model:	N00905033 Rev 2.0		Division)
Serial:	5183-9980	Model:	00-1065 PRO
FCC ID:	DoC	Serial:	Creative Labs Tahiti ULA
			M/B2
		FCC ID:	DoC



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.



REPORT OF MEASUREMENTS

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

Table 1: FCC 15.207 Six Highest Conducted Emission Levels										
FREQUENCY MHz	METER READING dBµV	COR Lisn dB	RECTIO dB	ON FACT Cable dB	CORS dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES	
0.440883	36.1	0.4		0.1		36.6	47.0	-10.4	В	
0.440883	35.7	0.3		0.1		36.1	47.0	-10.9	W	
0.504513	36.8	0.3		0.1		37.2	46.0	-8.8	В	
0.549963	40.1	0.2		0.1		40.4	46.0	-5.6	W	
1.472690	37.2	0.3		0.0		37.5	46.0	-8.5	W	
1.817561	36.2	0.3		0.0		36.5	46.0	-9.5	WA	
Test Method:	ANSI C63 A	(1002)				NOTES	$\Lambda = \Lambda vor$	age Reading		

			~ .
Spec	Li	mit	:

ANSI C63.4 (1992) FCC Part 15 Subpart C Section 15.207 NOTES:

A = Average Reading B = Black Lead W = White Lead

COMMENTS: EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on 906MHz and 2437MHz.



Table 2: FCC 15.247(b)(3) Fundamental Emission Levels										
FREQUENCY MHz	METER READING dBµV	COR Ant dB	RECTIC Amp dB	ON FACT Cable dB	CORS Corr. dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES	
2409.630	89.8	28.3	-35.0	11.0	5.2	99.3	127.0	-27.7	V	
2412.000	93.5	28.3	-35.0	11.0	5.2	103.0	127.0	-24.0	Н	
2437.130	99.5	28.4	-35.0	11.0	5.2	109.1	127.0	-17.9	V	
2439.880	92.4	28.4	-35.0	11.0	5.2	102.0	127.0	-25.0	Н	
2459.250	93.1	28.4	-35.0	11.1	5.2	102.8	127.0	-24.2	Н	
2462.130	95.4	28.4	-35.0	11.2	5.2	105.2	127.0	-21.8	V	

Test Method: Spec Limit: Test Distance: ANSI C63.4 (1992) FCC Part 15 Subpart C Section 15.247(b)(3) 3 Meters

NOTES:

H = Horizontal Polarization V = Vertical Polarization

COMMENTS: EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (2412MHz), Middle (2437MHz), and High (2462MHz) Channels. Signal is not capable of being unmodulated. BW Correction (dB) = 10*LOG(10MHz/3MHz) = 10*LOG(3.3333) = 10*.522878745 = 5.229dB. Spectrum Analyzer Settings: RBW/VBW = 3MHz, Span = 50MHz, Sweep Time = 20msec, Reference Level = 107dBuV, Internal Attenuation = 10dB, External Attenuation = 6dB.



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	Table 3: FO	CC 15.24	7(c)/15.2	209/15.1()9 Six Hi	ghest Radiated E	mission Le	vels	
FREQUENCY MHz	METER READING dBµV	COR Ant dB	RECTIC Amp dB	ON FACT Cable dB	CORS dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
220.148	52.2	10.7	-26.5	2.5		38.9	46.0	-7.1	Н
237.080	51.5	11.9	-26.5	2.6		39.5	46.0	-6.5	HQ
242.728	54.3	12.3	-26.5	2.6		42.7	46.0	-3.3	HQ
256.838	51.6	12.8	-26.5	2.7		40.6	46.0	-5.4	HQ
360.007	51.2	14.8	-26.9	3.5		42.6	46.0	-3.4	HQ
2736.500	41.2	29.6	-35.0	11.9		47.7	54.0	-6.3	Н

Test Method:	ANSI C63.4 (1992)
Spec Limit:	FCC Part 15 Subpart C Sections 15.247(c)/15.209/15.109
Test Distance:	3 Meters

H = Horizontal Polarization Q = Quasi Peak Reading

COMMENTS: EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (2412MHz), Middle (2437MHz), and High (2462MHz) Channels. Signal is not capable of being unmodulated. Worst case emissions were reported. Tested with the 906MHz transmitter. Frequency Range 9kHz-24GHz.



FCC 15.247(a)(2) - BANDWIDTH PLOT LOW CHANNEL 2412





FCC 15.247(a)(2) - BANDWIDTH PLOT MID CHANNEL 2437





FCC 15.247(a)(2) - BANDWIDTH PLOT HIGH CHANNEL 2462





FCC 15.247(c) - BANDEDGE COMPLIANCE LOW CHANNEL 2412





FCC 15.247(c) - BANDEDGE COMPLIANCE HIGH CHANNEL 2462





FCC 15.247(d) - POWER SPECTRAL DENSITY LOW CHANNEL 2412





FCC 15.247(d) - POWER SPECTRAL DENSITY MID CHANNEL 2437





FCC 15.247(d) - POWER SPECTRAL DENSITY HIGH CHANNEL 2462





FCC 2.1091/2.1093 MPE CALCULATIONS FOR 15.247

Maximum Permissible Exposure Calculations

Date of Report: June 23, 2003

Calculations prepared for:

Calculations prepared by:

Creative Technology	
1901 McCarthy Blvd.	
Milpitas, CA 95035	

Monika Brandle CKC Laboratories, Inc. 5473A Clouds Rest Road Mariposa, CA 95338

Model Number: DAP-WL0001/DAP-RF-0001

Fundamental Operating Frequency: 2412MHz-2472MHz

Maximum Rated Output Power:.0149W (ERP)Measured Output Power:.01449W (ERP)Antenna Gain: EUT has an integral antenna – ERP calculated withreference to a half wave dipole antenna.

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

MPE Limit = 1

EIRP (mW)	Distance (Centimeters)	Power Density (mW/cm^2)	Result
24.39368473	1.393618438	1	Pass

Note: Worse case power reported.

 $PowerDensity(mW/cm^{2}) = \frac{EIRP}{4\pi d^{2}}$

Given: **EIRP** in *mW* and **d** in *cm*

Under normal operating conditions, the antenna is designed to maintain a separation distance of less than 20cm from all persons. As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of less than 20cm and at a output power of .014W(ERP).



RSS 210 5.9.1 EMISSIONS BANDWIDTH LOW CHANNEL 2412





RSS 210 5.9.1 EMISSIONS BANDWIDTH HIGH CHANNEL 2462





Table 4: FCC 15.249(a) Fundamental Emission Levels										
FREQUENCY MHz	METER READING dBµV	COR Ant dB	RECTIC Amp dB	ON FACT Cable dB	CORS dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES	
905.960	88.8	22.9	-27.3	6.2		90.6	93.9	-3.3	Н	
905.993	84.4	22.9	-27.3	6.2		86.2	93.9	-7.7	VQ	
909.700	83.0	22.9	-27.3	6.2		84.8	93.9	-9.1	Н	
910.010	77.8	22.9	-27.3	6.2		79.6	93.9	-14.3	V	
924.010	73.0	23.1	-27.3	6.2		75.0	93.9	-18.9	Н	
924.110	68.2	23.1	-27.3	6.2		70.2	93.9	-23.7	V	

Test Method: Spec Limit: Test Distance:

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ANSI C63.4 (1992) FCC Part 15 Subpart C Section 15.249(a) 3 Meters

NOTES:

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

COMMENTS: EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (906MHz), Middle (910MHz), and High (924MHz) Channels.



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Table 5	Table 5: FCC 15.249(a)/15.249(d)/15.249(e)/15.209/15.109 Six Highest Radiated Emission Levels									
FREQUENCY MHz	METER READING dBµV	COR Ant dB	RECTIO Amp dB	ON FACT Cable dB	TORS Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES	
220.148	52.2	10.7	-26.5	2.5		38.9	46.0	-7.1	Н	
237.080	51.5	11.9	-26.5	2.6		39.5	46.0	-6.5	HQ	
242.725	56.0	12.3	-26.5	2.6		44.4	46.0	-1.6	HQ	
256.838	51.6	12.8	-26.5	2.7		40.6	46.0	-5.4	HQ	
360.007	51.2	14.8	-26.9	3.5		42.6	46.0	-3.4	HQ	
1468.000	47.6	25.8	-35.5	8.5		46.4	54.0	-7.6	Н	

 Test Method:
 ANSI C63.4 (1992)

 Spec Limit:
 FCC Part 15 Subpart C Sections

 15.249(a)/15.249(d)/15.249(e)/15.209/15.109

 Test Distance:
 3 Meters

H = Horizontal Polarization Q = Quasi Peak Reading

COMMENTS: EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on low (906MHz), middle (910MHz) and high (924MHz) channels. Worst case emissions reported. Frequency Range 9kHz-10GHz.



FCC 15.249(d) - BANDEDGE COMPLIANCE LOW CHANNEL 906 MHz





FCC 15.249(d) - BANDEDGE COMPLIANCE HIGH CHANNEL 924 MHz





FCC 2.1091/2.1093 MPE CALCULATIONS FOR 15.249

Maximum Permissible Exposure Calculations

Date of Report: June 23, 2003

Calculations prepared for:

Calculations prepared by:

Creative Technology
1901 McCarthy Blvd.
Milpitas, CA 95035

Monika Brandle CKC Laboratories, Inc. 5473A Clouds Rest Road Mariposa, CA 95338

Model Number: DAP-WL0001/DAP-RF-0001

Fundamental Operating Frequency: 906MHz-924MHz

Maximum Rated Output Power: .00021W (ERP) Measured Output Power: .00021W (ERP) Antenna Gain: EUT has an integral antenna – ERP calculated with reference to a half wave dipole antenna.

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

MPE Limit = .604

EIRP (mW)	Distance (Centimeters)	Power Density (mW/cm ²)	Result
.344569955	.213120592	.604	Pass

Note: Worse case power reported.

 $PowerDensity(mW/cm^{2}) = \frac{EIRP}{4\pi d^{2}}$

Given: **EIRP** in *mW* and **d** in *cm*

Under normal operating conditions, the antenna is designed to maintain a separation distance of less than 20cm from all persons. As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of less than 20cm and at a output power of .002W(ERP).



RSS 210 5.9.1 EMISSION BANDEDGE LOW CHANNEL 906 MHz





RSS 210 5.9.1 EMISSION BANDEDGE HIGH CHANNEL 924 MHz





TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within $+15^{\circ}$ C and $+35^{\circ}$ C. The relative humidity was between 20% and 75%.

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 $dB\mu V/m$, 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	(dBµV)	
+	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 Table A were used to collect both the radiated and conducted emissions data for the EUT. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. For frequencies from 30 to 1000 MHz, the biconilog antenna was used. The horn antenna was used for frequencies above 1000 MHz. All antennas were located at a distance of 3 meters from the edge of the EUT. 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 μ 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.

<u>Quasi-Peak</u>

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.

<u>Average</u>

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 μ H-/+50 ohms. Above 150 kHz, a 0.15 μ 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 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 to 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. 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 and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor.



APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

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INFORMATION ABOUT THE EQUIPMENT UNDER TEST			
Test Software/Firmware:	AP Manager		
CRT was displaying:	Data/Text		
Power Supply Manufacturer:	Creative		
Power Supply Part Number:	MAE060150UA0		
AC Line Filter Manufacturer:	N/A		
AC Line Filter Part Number:	N/A		

I/O PORTS		
Туре	#	
USB	1	
Audio (RCA)	1	
Optical Out	1	

CRYSTAL OSCILLATORS			
Туре	Freq In MHz		
DAC	10.00MHz		
Audio	10.245MHz		

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
Wireless MP3 receiver	PD0390 Rev. N/A	10.00MHz & 10.245MHz	4	Center

CABLE INFORMATION

Cable #:	1	Cable(s) of this type:	1
Cable Type:	Audio (RCA)	Shield Type:	None
Construction:	Round	Length In Meters:	1m
Connected To End (1):	EUT	Connected To End (2):	Speaker
Connector At End (1):	Plastic	Connector At End (2):	Plastic
Shield Grounded At (1):	N/A	Shield Grounded At (2):	N/A
Part Number:		Number of Conductors:	1
Notes and/or description:			



Cable #:	2	Cable(s) of this type:	1
Cable Type:	Optical Out	Shield Type:	N/A
Construction:	Round	Length In Meters:	.50m
Connected To End (1):	EUT	Connected To End (2):	Digital Speaker
Connector At End (1):	Plastic	Connector At End (2):	Plastic
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:		Number of Conductors:	1
Notes and/or description:			

Cable #:	1	Cable(s) of this type:	1
Cable Type:	USB	Shield Type:	Braid
Construction:	Round	Length In Meters:	1m
Connected To End (1):	EUT	Connected To End (2):	Host PC
Connector At End (1):	Plastic	Connector At End (2):	Plastic
Shield Grounded At (1):	None	Shield Grounded At (2):	None
Part Number:		Number of Conductors:	4
Notes and/or description:	This port is used for firmware UPDATE ONLY, Not supports data		
	transferring (Upload)		



PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS



Mains Conducted Emissions - Front View



PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS



Mains Conducted Emissions - Side View



PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View



PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View



APPENDIX B

TEST EQUIPMENT LIST

FCC 15.207				
Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM Spectrum Analyzer	3624A00159	05/12/2003	05/12/2005	2111
8028-50-TS-24-BNC LISN	8379276, 280	06/05/2003	06/05/2005	1248
15.247(b)(3)				
Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM Spectrum Analyzer	3624A00159	05/12/2003	05/12/2005	2111
EMCO 3115 Horn Antenna	9006-3413	11/25/2002	11/25/2003	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2003	2010
15.247(c)/15.209/15.205/15.109				
Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8447D Preamp	1937A02604	03/07/2003	03/07/2004	99
Chase CBL6111C Bilog	2456	12/13/2002	12/13/2004	1991
HP 8593EM Spectrum Analyzer	3624A00159	05/12/2003	05/12/2005	2111
EMCO 3115 Horn Antenna	9006-3413	11/25/2002	11/25/2003	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2003	2010
ARA MWH-1826/B Horn Antenna	1005	06/28/2002	06/28/2003	2046
EMCO Loop Antenna	2078	08/23/2002	08/23/2003	432
FCC 15.249(a)				
Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM Spectrum Analyzer	3624A00159	05/12/2003	05/12/2005	2111
Chase CBL6111C Bilog	2456	12/13/2002	12/13/2004	1991
HP 8447D Preamp	1937A02604	03/07/2003	03/07/2004	99
FCC 15.249(a)/15.249(d)/15.249(e)	/15.209/15.109			
Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8447D Preamp	1937A02604	03/07/2003	03/07/2004	99
Chase CBL6111C Bilog	2456	12/13/2002	12/13/2004	1991
HP 8593EM Spectrum Analyzer	3624A00159	05/12/2003	05/12/2005	2111
EMCO 3115 Horn Antenna	9006-3413	11/25/2002	11/25/2003	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2003	2010
EMCO Loop Antenna	2078	08/23/2002	08/23/2003	432



APPENDIX C MEASUREMENT DATA SHEETS

Page 43 of 66 Report No: FC03-035A



Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, Ca 95338 • (209) 966-5240

Customer:	Creative Technology Ltd.		
Specification:	FCC 15.207 - AVE		
Work Order #:	80429	Date:	06/13/2003
Test Type:	Conducted Emissions	Time:	17:10:58
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	9
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		120V 60Hz
S/N:	06032003-001		

Equipment Under Test (* = EUT):

	===;.		
Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP-	06032003-001
Receiver*		RF0001	
Support Devices:			
Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless	Samsung	SWL-33	APEUOB-116000475
LAN Assage Doint			

Monitor	NEC	Multisync 50	8450030YA
	Division)		M/B2
Host PC	HP (Home Products	00-1065 PRO	Creative Labs Tahiti ULA
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Mouse	HP	4D Browser Up Mouse	B00000960
	Works		
Speakers	Creative/Cambridge Sound	GCS300/SBS36	SW00361192000071
LAN ACCESS FOIII			

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on 906MHz and 2437MHz.

Transducer Legend: T1=Cable & Cap (Bench)

T2=

T2=LISN Insertion Loss s/n276

Measur	rement Data:	Re	eading lis	ted by ma	argin.			Test Lea	d: Black		
#	Freq	Rdng	T1	T2			Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	504.513k	36.8	+0.1	+0.3			+0.0	37.2	46.0	-8.8	Black
2	440.883k	36.1	+0.1	+0.4			+0.0	36.6	47.0	-10.4	Black
3	537.237k	34.5	+0.1	+0.3			+0.0	34.9	46.0	-11.1	Black
4	608.140k	34.0	+0.1	+0.3			+0.0	34.4	46.0	-11.6	Black
5	19.987M	36.6	+0.2	+0.4			+0.0	37.2	50.0	-12.8	Black
6	662.680k	32.3	+0.1	+0.3			+0.0	32.7	46.0	-13.3	Black
7	649.954k	30.8	+0.1	+0.3			+0.0	31.2	46.0	-14.8	Black



8	719.039k	30.7	+0.0	+0.3	+0.0	31.0	46.0	-15.0	Black
9	775.397k	30.8	+0.0	+0.2	+0.0	31.0	46.0	-15.0	Black
10	931.340k	30.5	+0.0	+0.3	+0.0	30.8	46.0	-15.2	Black
11	829.937k	30.1	+0.0	+0.2	+0.0	30.3	46.0	-15.7	Black
12	384.524k	31.1	+0.1	+0.4	+0.0	31.6	48.2	-16.6	Black
13	877.205k	28.3	+0.0	+0.3	+0.0	28.6	46.0	-17.4	Black
14	328.166k	31.3	+0.1	+0.3	+0.0	31.7	49.5	-17.8	Black
15	985.475k	27.7	+0.0	+0.3	+0.0	28.0	46.0	-18.0	Black
16	1.040M	26.6	+0.0	+0.3	+0.0	26.9	46.0	-19.1	Black
17	15.431M	30.0	+0.2	+0.4	+0.0	30.6	50.0	-19.4	Black
18	1.094M	26.1	+0.0	+0.3	+0.0	26.4	46.0	-19.6	Black
19	497.241k Ave	24.8	+0.1	+0.3	+0.0	25.2	46.0	-20.8	Black
^	497.241k	42.3	+0.1	+0.3	+0.0	42.7	46.0	-3.3	Black
21	551.781k Ave	24.7	+0.1	+0.3	+0.0	25.1	46.0	-20.9	Black
^	551.781k	41.2	+0.1	+0.3	+0.0	41.6	46.0	-4.4	Black





CKC Laboratories_Date:_06/13/2003_Time: 17:10:58_Creative Techology Ltd. WO#: 80429 FCC 15.207 - AVE_Test Lead: Black 120V 60Hz Sequence#: 9



Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, Ca 95338 • (209) 966-5240

Customer:	Creative Technology Ltd.		
Specification:	FCC 15.207 - AVE		
Work Order #:	80429	Date:	06/13/2003
Test Type:	Conducted Emissions	Time:	16:55:21
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	8
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		120V 60Hz
S/N:	06032003-001		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP-	06032003-001
Receiver*		RF0001	

Support Devices:

Support Devices.			
Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless	Samsung	SWL-33	APEUOB-116000475
LAN Access Point			
Speakers	Creative/Cambridge Sound	GCS300/SBS36	SW00361192000071
	Works		
Mouse	HP	4D Browser Up Mouse	B00000960
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Host PC	HP (Home Products	00-1065 PRO	Creative Labs Tahiti ULA
	Division)		M/B2
Monitor	NEC	Multisync 50	8450030YA

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on 906MHz and 2437MHz.

Transducer Legend:

T1=Cable & Cap (Bench)

T2=LISN Insertion Loss s/n280

Measu	easurement Data: Reading listed by margin.					Test Lead: White					
#	Freq	Rdng	T1	T2			Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	549.963k	40.1	+0.1	+0.2			+0.0	40.4	46.0	-5.6	White
2	1.473M	37.2	+0.0	+0.3			+0.0	37.5	46.0	-8.5	White
3	1.818M	36.2	+0.0	+0.3			+0.0	36.5	46.0	-9.5	White
	Ave										
^	1.818M	50.7	+0.0	+0.3			+0.0	51.0	46.0	+5.0	White
5	440.883k	35.7	+0.1	+0.3			+0.0	36.1	47.0	-10.9	White
6	608.140k	33.3	+0.1	+0.2			+0.0	33.6	46.0	-12.4	White
7	662.680k	33.3	+0.1	+0.2			+0.0	33.6	46.0	-12.4	White



8	19.996M	36.8	+0.2	+0.4	+0.0	37.4	50.0	-12.6	White
9	931.340k	32.1	+0.0	+0.2	+0.0	32.3	46.0	-13.7	White
10	771.761k	31.9	+0.0	+0.2	+0.0	32.1	46.0	-13.9	White
11	15.322M	35.3	+0.2	+0.4	+0.0	35.9	50.0	-14.1	White
12	720.856k	31.3	+0.0	+0.2	+0.0	31.5	46.0	-14.5	White
13	2.411M	31.1	+0.1	+0.3	+0.0	31.5	46.0	-14.5	White
14	877.205k	31.2	+0.0	+0.2	+0.0	31.4	46.0	-14.6	White
15	531.783k	30.9	+0.1	+0.3	+0.0	31.3	46.0	-14.7	White
16	1.040M	30.9	+0.0	+0.3	+0.0	31.2	46.0	-14.8	White
17	985.475k	30.1	+0.0	+0.3	+0.0	30.4	46.0	-15.6	White
18	3.928M Ave	27.6	+0.1	+0.4	+0.0	28.1	46.0	-17.9	White
٨	3.927M	51.0	+0.1	+0.4	+0.0	51.5	46.0	+5.5	White
20	3.324M Ave	25.8	+0.1	+0.3	+0.0	26.2	46.0	-19.8	White
٨	3.324M	49.3	+0.1	+0.3	+0.0	49.7	46.0	+3.7	White
22	495.000k Ave	19.6	+0.1	+0.3	+0.0	20.0	46.1	-26.1	White
^	495.000k	42.8	+0.1	+0.3	+0.0	43.2	46.1	-2.9	White
24	1.545M Ave	13.8	+0.0	+0.3	+0.0	14.1	46.0	-31.9	White
٨	1.545M	40.4	+0.0	+0.3	+0.0	40.7	46.0	-5.3	White





CKC Laboratories_Date:_06/13/2003_Time: 16:55:21_Creative Techology Ltd. WO#: 80429 FCC 15.207 - AVE_Test Lead: White 120V 60Hz Sequence#: 8



Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, Ca 95338 • (209) 966-5240

Customer: Specification:	Creative Technology Ltd. 15.247(b)(3)		
Work Order #:	80429	Date:	06/19/2003
Test Type:	Maximized Emissions	Time:	09:45:09
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	1
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		
S/N:	06032003-001		

Equipment Under Test (* = EUT):

	===),		
Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP-	06032003-001
Receiver*		RF0001	
Support Devices:			
Ennetien	Manufaataan	Madal #	CAI

Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless	Samsung	SWL-33	APEUOB-116000475
LAN Access Point	-		
Speakers	Creative/Cambridge Sound	GCS300/SBS36	SW00361192000071
	Works		
Mouse	HP	4D Browser Up Mouse	B00000960
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Host PC	HP (Home Products	00-1065 PRO	Creative Labs Tahiti ULA
	Division)		M/B2
Monitor	NEC	Multisync 50	8450030YA

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (2412MHz), Middle (2437MHz), and High (2462MHz) Channels. Signal is not capable of being unmodulated. BW Correction (dB) = 10*LOG(10MHz/3MHz) = 10*LOG(3.3333) = 10*.522878745 = 5.229dB. Spectrum Analyzer Settings: RBW/VBW = 3MHz, Span = 50MHz, Sweep Time = 20msec, Reference Level = 107dBuV, Internal Attenuation = 10dB, External Attenuation = 6dB.

Transducer Legend:

T1=Amp - S/N 301 T3=Cable HF P01527 T5=WL Gore SN 1065 AN P004301 T7=BW Correction Factor T2=Horn AN 00327 1-18GHz T4=Cable 35' Blue SMA CKC P1352 T6=Cable 25' blue SMA ANP01353

Measu	rement Data:	Reading listed by margin.				Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7						
	MHz	dBµV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2437.130M	99.5	-35.0	+28.4	+0.4	+5.2	+0.0	109.1	127.0	-17.9	Vert
			+0.6	+4.8	+5.2						
2	2462.130M	95.4	-35.0	+28.4	+0.4	+5.3	+0.0	105.2	127.0	-21.8	Vert
			+0.6	+4.9	+5.2						
3	2412.000M	93.5	-35.0	+28.3	+0.4	+5.2	+0.0	103.0	127.0	-24.0	Horiz
			+0.6	+4.8	+5.2						



4 2459.250M	93.1	-35.0	+28.4	+0.4	+5.2	+0.0	102.8	127.0	-24.2	Horiz
		+0.6	+4.9	+5.2						
5 2439.880M	92.4	-35.0	+28.4	+0.4	+5.2	+0.0	102.0	127.0	-25.0	Horiz
		+0.6	+4.8	+5.2						
6 2409.630M	89.8	-35.0	+28.3	+0.4	+5.2	+0.0	99.3	127.0	-27.7	Vert
		+0.6	+4.8	+5.2						



Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, Ca 95338 • (209) 966-5240

Customer:	Creative Technology Ltd.		
Specification:	FCC 15.247 (c) / 15.209 / 15.109		
Work Order #:	80429	Date:	06/23/2003
Test Type:	Maximized Emissions	Time:	13:54:07
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	6
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		
S/N:	06032003-001		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP- PE0001	06032003-001
Receiver .		KF0001	

Support Devices:

Support Devices.			
Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless LAN Access Point	Samsung	SWL-33	APEUOB-116000475
Speakers	Creative/Cambridge Sound Works	GCS300/SBS36	SW00361192000071
Mouse	HP	4D Browser Up Mouse	B00000960
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Host PC	HP (Home Products Division)	00-1065 PRO	Creative Labs Tahiti ULA M/B2
Monitor	NEC	Multisync 50	8450030YA

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (2412MHz), Middle (2437MHz), and High (2462MHz) Channels. Signal is not capable of being unmodulated. Worst case emissions were reported. Tested with the 906MHz transmitter. Frequency Range 9kHz-24GHz.

Transducer Legend:

T1=Cable - 10 Meter	T2=Amp - S/N 604
T3=Bilog B	T4=Amp - S/N 301
T5=Cable 35' Blue SMA CKC P1352	T6=Cable 25' blue SMA ANP01353
T7=Horn AN 00327 1-18GHz	T8=Cable HF P01527
T9=WL Gore SN 1065 AN P004301	T10=HPF 1.5GHz

Meası	rement Data:	R	eading lis	ted by ma	argin.	Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10							
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	$dB\mu V/m$	dB	Ant
1	242.728M	54.3	+2.6	-26.5	+12.3	+0.0	+0.0	42.7	46.0	-3.3	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	242.720M	57.0	+2.6	-26.5	+12.3	+0.0	+0.0	45.4	46.0	-0.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

3	360.007M	51.2	+3.5	-26.9	+14.8	+0.0	+0.0	42.6	46.0	-3.4	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
	-		+0.0	+0.0							
^	360.007M	35.1	+3.5	-26.9	+14.8	+0.0	+0.0	26.5	46.0	-19.5	Horiz
	2001007112	0011	+0.0	+0.0	+0.0	+0.0		2010		1710	
			+0.0	+0.0							
5	256 838M	51.6	+2.7	-26.5	+12.8	+0.0	+0.0	40.6	46.0	-5.4	Horiz
5	OP	51.0	± 0.0	-20.5	+12.0	+0.0	10.0	+0.0	+0.0	-5.4	TIOUTZ
	QI		+0.0	+0.0	± 0.0	± 0.0					
	256 94914	52.0	+0.0	+0.0	. 10.0	.0.0	.0.0	41.0	16.0	4.0	II!
~	256.848M	52.8	+2.7	-26.5	+12.8	+0.0	+0.0	41.8	46.0	-4.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
7	2736.500M	41.2	+0.0	+0.0	+0.0	-35.0	+0.0	47.7	54.0	-6.3	Horiz
			+5.6	+5.2	+29.3	+0.4					
			+0.7	+0.3							
8	237.080M	51.5	+2.6	-26.5	+11.9	+0.0	+0.0	39.5	46.0	-6.5	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	237.078M	53.0	+2.6	-26.5	+11.9	+0.0	+0.0	41.0	46.0	-5.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
10	220.148M	52.2	+2.5	-26.5	+10.7	+0.0	+0.0	38.9	46.0	-7.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
11	1468.000M	47.6	+0.0	+0.0	+0.0	-35.5	+0.0	46.4	54.0	-7.6	Horiz
			+4.0	+3.7	+24.9	+0.3					
			+0.5	+0.9							
12	231.426M	50.4	+2.6	-26.5	+11.6	+0.0	+0.0	38.1	46.0	-7.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
13	262.481M	48.6	+2.8	-26.5	+12.8	+0.0	+0.0	37.7	46.0	-8.3	Horiz
10	2021101111	1010	+0.0	+0.0	+0.0	+0.0		0111		0.0	
			+0.0	+0.0	10.0	10.0					
14	213 736M	18.0	+2.5	26.6	+10.3	+0.0	+0.0	35.1	13.5	8 /	Horiz
14	215.750101	40.9	± 0.0	-20.0	+10.3	+0.0	± 0.0	55.1	45.5	-0.4	TIOUTZ
			+0.0	+0.0	± 0.0	± 0.0					
15	1912 100M	12 6		+0.0		25.2		44.0	54.0	0.1	Homia
15	1012.1001	45.0	+0.0	+0.0	+0.0	-55.5	+0.0	44.9	54.0	-9.1	HOUL
			+4.4	+4.1	+20.4	+0.3					
16	76 20614	40.9	+0.0	+0.0	16.0	.0.0		20.0	40.0	0.2	Mant
10	/0.200M	49.8	+1.4	-27.2	+0.8	+0.0	+0.0	30.8	40.0	-9.2	vert
	QP		+0.0	+0.0	+0.0	+0.0					
•	76 10614	50.0	+0.0	+0.0	. ()	.0.0	.0.0	10.0	10.0	.0.0	X <i>T</i> (
A	/6.196M	59.2	+1.4	-27.2	+6.8	+0.0	+0.0	40.2	40.0	+0.2	Vert
			+0.0	+0.0	+0.0	+0.0					
- 10		10.7	+0.0	+0.0					10.7		
18	208.866M	48.5	+2.4	-26.6	+9.9	+0.0	+0.0	34.2	43.5	-9.3	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
19	251.193M	47.4	+2.7	-26.5	+12.8	+0.0	+0.0	36.4	46.0	-9.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

20 245.543M	47.3	+2.7	-26.5	+12.5	+0.0	+0.0	36.0	46.0	-10.0	Horiz
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
21 719.998M	37.7	+5.3	-27.8	+20.8	+0.0	+0.0	36.0	46.0	-10.0	Horiz
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
22 232 201M	48.1	+2.6	-26.5	+11.6	+0.0	+0.0	35.8	46.0	-10.2	Horiz
22 232.201101	10.1	+0.0	± 0.0	+0.0	+0.0	10.0	55.0	10.0	10.2	110112
		+0.0	+0.0	10.0	10.0					
23 135 472M	47.0	+1.8	_27.1	⊥ 11 5	+0.0	+0.0	33.2	13.5	-10.3	Horiz
25 155.472101	÷7.0	+1.0	-27.1 ±0.0	+11.5	+0.0	10.0	55.2	чJ.J	-10.5	TIONZ
		+0.0	+0.0	10.0	10.0					
24_1700.000M	13 /			+0.0	35 /		13 7	54.0	10.3	Uoriz
24 1700.000101	45.4	+0.0	+0.0	+0.0	-33.4	± 0.0	43.7	54.0	-10.5	HOHZ
		+4.5	+4.0	723.9	± 0.5					
25 248 363M	167	+0.3	26.5	127		+0.0	35.6	46.0	10.4	Uoriz
25 240.505WI	40.7	+2.7	-20.5	+12.7	+0.0	± 0.0	55.0	40.0	-10.4	HOHZ
		+0.0	+0.0	+0.0	+0.0					
26 2220 000M	20.2	+0.0	+0.0		25.1		12 5	54.0	10.5	Vort
20 2559.000101	39.3	+0.0	+0.0	+0.0	-55.1	+0.0	43.3	54.0	-10.5	ven
		+3.1	+4.7	+20.1	+0.4					
27 221 41514	47.0	+0.0	+0.4	11.0	.0.0	.0.0	25.5	46.0	10.5	Maria
27 231.415M	47.8	+2.6	-26.5	+11.6	+0.0	+0.0	35.5	46.0	-10.5	Vert
		+0.0	+0.0	+0.0	+0.0					
20 210 5 (1) (17.0	+0.0	+0.0	10.0	0.0	0.0	22.0	10.5	10 7	
28 210.564M	47.0	+2.4	-26.6	+10.0	+0.0	+0.0	32.8	43.5	-10.7	Horiz
		+0.0	+0.0	+0.0	+0.0					
20 212 0513 5	1.5.5	+0.0	+0.0	10.0	0.0	0.0	22.0	10.5	10 5	* *
29 213.851M	46.6	+2.5	-26.6	+10.3	+0.0	+0.0	32.8	43.5	-10.7	Vert
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
30 214.985M	46.3	+2.5	-26.6	+10.4	+0.0	+0.0	32.6	43.5	-10.9	Vert
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
31 208.866M	46.7	+2.4	-26.6	+9.9	+0.0	+0.0	32.4	43.5	-11.1	Vert
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
32 1962.000M	40.6	+0.0	+0.0	+0.0	-35.2	+0.0	42.7	54.0	-11.3	Vert
		+4.6	+4.3	+27.0	+0.4					
		+0.6	+0.4							
33 215.577M	45.7	+2.5	-26.6	+10.4	+0.0	+0.0	32.0	43.5	-11.5	Horiz
QP		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
^ 215.547M	51.4	+2.5	-26.6	+10.4	+0.0	+0.0	37.7	43.5	-5.8	Horiz
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							
35 1469.200M	43.6	+0.0	+0.0	+0.0	-35.5	+0.0	42.4	54.0	-11.6	Vert
		+4.0	+3.7	+24.9	+0.3					
		+0.5	+0.9							
36 215.747M	45.2	+2.5	-26.6	+10.4	+0.0	+0.0	31.5	43.5	-12.1	Vert
		+0.0	+0.0	+0.0	+0.0					
		+0.0	+0.0							

37	214.501M	45.2	+2.5	-26.6	+10.3	+0.0	+0.0	31.4	43.5	-12.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
38	70.561M	47.7	+1.3	-27.2	+6.1	+0.0	+0.0	27.9	40.0	-12.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
39	1622.100M	42.1	+0.0	+0.0	+0.0	-35.4	+0.0	41.7	54.0	-12.3	Horiz
			+4.2	+3.9	+25.5	+0.3					
			+0.5	+0.6							
40	270.003M	44.5	+2.8	-26.5	+12.8	+0.0	+0.0	33.6	46.0	-12.4	Horiz
-			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
41	213.500M	44.8	+2.5	-26.6	+10.3	+0.0	+0.0	31.0	43.5	-12.5	Vert
	2101000111		+0.0	+0.0	+0.0	+0.0		0110		1210	
			+0.0	+0.0							
42	229.673M	45.9	+2.5	-26.5	+11.4	+0.0	+0.0	33.3	46.0	-12.7	Vert
			+0.0	+0.0	+0.0	+0.0		0010			
			+0.0	+0.0		1010					
43	244 784M	44.6	+2.7	-26.5	+12.5	+0.0	+0.0	33.3	46.0	-12.8	Horiz
15	211.70111	11.0	+0.0	+0.0	+0.0	+0.0	10.0	00.0	10.0	12.0	110112
			+0.0	+0.0	10.0	10.0					
44	519 323M	37.4	+4.6	-27.8	+19.0	+0.0	+0.0	33.2	46.0	-12.8	Vert
	517.525141	57.4	+0.0	± 0.0	+0.0	+0.0	10.0	55.2	40.0	12.0	Vert
			+0.0	+0.0	10.0	10.0					
45	237 093M	45.2	+2.6	-26.5	⊥ 11 9	+0.0	+0.0	33.2	46.0	-12.8	Vert
-15	237.07514	43.2	+0.0	± 0.0	+0.0	+0.0	10.0	55.2	40.0	12.0	Vert
			+0.0	+0.0	10.0	10.0					
46	242 730M	44.6	+2.6	-26.5	+12.3	+0.0	+0.0	33.0	46.0	-13.0	Vert
10	212.750101	11.0	+0.0	+0.0	+0.0	+0.0	10.0	22.0	10.0	15.0	vert
			+0.0	+0.0	10.0	10.0					
47	209 928M	44 7	+2.4	-26.6	+10.0	+0.0	+0.0	30.5	43 5	-13.0	Vert
.,	207.720111	,	+0.0	+0.0	+0.0	+0.0	10.0	20.2	10.0	15.0	vert
			+0.0	+0.0	10.0	10.0					
48	1093.000M	45.5	+0.0	+0.0	+0.0	-36.0	+0.0	40.9	54.0	-13.1	Vert
-10	1075.0000	45.5	+3.3	+3.0	+24.4	+0.2	10.0	40.7	54.0	13.1	Vert
			+0.4	+0.0	121.1	10.2					
49	220.156M	46.1	+2.5	-26.5	+10.7	+0.0	+0.0	32.8	46.0	-13.2	Vert
77	220.150101	40.1	+0.0	± 0.0	+0.0	+0.0	10.0	52.0	40.0	13.2	Vert
			+0.0	+0.0	10.0	10.0					
50	200 399M	45.4	+2.4	-26.7	+9.2	+0.0	+0.0	30.3	43.5	-13.2	Horiz
50	200.37710	10.1	+0.0	± 0.0	+0.0	+0.0	10.0	50.5	15.5	15.2	HOLL
			+0.0	+0.0	10.0	10.0					
51	216 230M	46.4	+2.5	-26.6	+10.5	+0.0	+0.0	32.8	46.0	-133	Horiz
51	210.250101	10.1	+0.0	± 0.0	+0.0	+0.0	10.0	52.0	10.0	15.5	HOLL
			+0.0	+0.0	10.0	10.0					
52	462 010M	38 /	+ 1 1	_27.6	+17.8	+0.0	+0.0	32.7	46.0	-133	Horiz
52	+02.01000	50.4	+0.0	-27.0 +0.0	+0.0	+0.0	10.0	54.1	-0.0	-13.5	TIOUT
			+0.0	+0.0	10.0	10.0					
53	146 768M	42.0	+1.0	_27.0	+12.3	+0.0	+0.0	30.1	43.5	-13/	Vert
55	1-0.700101	72.7	+1.2	-27.0 +0.0	+0.0	+0.0	10.0	50.1	-5.5	-13.4	vert
			+0.0	+0.0	± 0.0	± 0.0					
L			± 0.0	+0.0							

54	224.927M	45.5	+2.5	-26.5	+11.1	+0.0	+0.0	32.6	46.0	-13.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
55	227.804M	45.0	+2.5	-26.5	+11.3	+0.0	+0.0	32.3	46.0	-13.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
56	201.475M	44.8	+2.4	-26.7	+9.3	+0.0	+0.0	29.8	43.5	-13.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
57	240.001M	44.1	+2.6	-26.5	+12.1	+0.0	+0.0	32.3	46.0	-13.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
58	519.320M	36.4	+4.6	-27.8	+19.0	+0.0	+0.0	32.2	46.0	-13.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
59	225.784M	44.9	+2.5	-26.5	+11.2	+0.0	+0.0	32.1	46.0	-13.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
60	210.648M	43.7	+2.4	-26.6	+10.0	+0.0	+0.0	29.5	43.5	-14.0	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
61	59.753M	46.7	+1.1	-27.3	+5.5	+0.0	+0.0	26.0	40.0	-14.0	Vert
01	0,,,,001,1	1017	+0.0	+0.0	+0.0	+0.0		2010		1.110	
			+0.0	+0.0							
62	197.576M	44.5	+2.4	-26.7	+9.2	+0.0	+0.0	29.4	43.5	-14.1	Horiz
			+0.0	+0.0	+0.0	+0.0		_,			
			+0.0	+0.0							
63	233.760M	44.0	+2.6	-26.5	+11.7	+0.0	+0.0	31.8	46.0	-14.2	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
64	254.010M	42.8	+2.7	-26.5	+12.8	+0.0	+0.0	31.8	46.0	-14.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
65	124.180M	43.0	+1.7	-27.2	+11.6	+0.0	+0.0	29.1	43.5	-14.4	Horiz
00	12		+0.0	+0.0	+0.0	+0.0				1	
			+0.0	+0.0							
66	238.135M	43.5	+2.6	-26.5	+12.0	+0.0	+0.0	31.6	46.0	-14.5	Horiz
00	2001100111		+0.0	+0.0	+0.0	+0.0		0110		1 110	
			+0.0	+0.0							
67	1702.000M	39.2	+0.0	+0.0	+0.0	-35.4	+0.0	39.5	54.0	-14.5	Vert
			+4.3	+4.0	+25.9	+0.3					
			+0.5	+0.7							
68	468.516M	36.8	+4.2	-27.6	+18.0	+0.0	+0.0	31.4	46.0	-14.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
69	240.005M	43.2	+2.6	-26.5	+12.1	+0.0	+0.0	31.4	46.0	-14.6	Vert
			+0.0	+0.0	+0.0	+0.0		•			
			+0.0	+0.0							
70	491.093M	35.8	+4.4	-27.7	+18.7	+0.0	+0.0	31.2	46.0	-14.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
J											

71	270.000M	41.9	+2.8	-26.5	+12.8	+0.0	+0.0	31.0	46.0	-15.0	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
72	239.980M	42.5	+2.6	-26.5	+12.1	+0.0	+0.0	30.7	46.0	-15.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
73	60.093M	45.3	+1.1	-27.3	+5.4	+0.0	+0.0	24.5	40.0	-15.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0				.			
74	226.751M	43.2	+2.5	-26.5	+11.2	+0.0	+0.0	30.4	46.0	-15.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
7.5	205.0(0)/	41.1	+0.0	+0.0	. 10.0	. 0. 0	.0.0	20.4	16.0	15.0	X 7 4
/5	285.060M	41.1	+2.9	-26.5	+12.9	+0.0	+0.0	30.4	46.0	-15.6	vert
			+0.0	+0.0	+0.0	+0.0					
76	1000 000M	12.8	+0.0	+0.0		36.1		38.0	54.0	16.0	Uoriz
/0	1090.000101	42.0	+0.0	+0.0 +3.1	± 24.3	-30.1	± 0.0	38.0	54.0	-10.0	HOHZ
			+0.4	+0.0	124.5	10.2					
77	143 940M	40.4	+1.9	-27.0	+11.9	+0.0	+0.0	27.2	43.5	-163	Horiz
,,	115.91000	10.1	+0.0	+0.0	+0.0	+0.0	10.0	27.2	10.0	10.5	HOHE
			+0.0	+0.0	10.0	10.0					
78	59.754M	44.3	+1.1	-27.3	+5.5	+0.0	+0.0	23.6	40.0	-16.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
79	230.571M	42.1	+2.5	-26.5	+11.5	+0.0	+0.0	29.6	46.0	-16.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
80	212.630M	40.7	+2.5	-26.6	+10.2	+0.0	+0.0	26.8	43.5	-16.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
81	227.549M	41.7	+2.5	-26.5	+11.3	+0.0	+0.0	29.0	46.0	-17.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
	225 2003 4	41.0	+0.0	+0.0	11.0	0.0	0.0	20.5	16.0	17.5	
82	225.789M	41.3	+2.5	-26.5	+11.2	+0.0	+0.0	28.5	46.0	-17.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
92	159 060M	20.5	+0.0	+0.0	+11.1			25.7	12 5	17.0	Vort
65	138.000101	39.3	+2.0 ± 0.0	-20.9 ±0.0	+11.1 ± 0.0	+0.0	+0.0	23.7	43.3	-17.0	ven
			+0.0	+0.0	10.0	10.0					
84	2487 820M	28.5	+0.0	+0.0	+0.0	-35.0	+0.0	33.5	54.0	-20.5	Horiz
01	Ave	20.5	+5.3	+4.9	+28.5	+0.4	10.0	5515	2110	20.5	HOHE
	11,0		+0.6	+0.3	12010						
^	2487.820M	50.9	+0.0	+0.0	+0.0	-35.0	+0.0	55.9	54.0	+1.9	Horiz
			+5.3	+4.9	+28.5	+0.4					
			+0.6	+0.3							
86	200.393M	37.8	+2.4	-26.7	+9.2	+0.0	+0.0	22.7	43.5	-20.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
						-		-		-	

87 2491.458M	26.9	+0.0	+0.0	+0.0	-35.0	+0.0	31.9	54.0	-22.1	Horiz
Ave		+5.3	+4.9	+28.5	+0.4					
		+0.6	+0.3							
^ 2491.458M	57.4	+0.0	+0.0	+0.0	-35.0	+0.0	62.4	54.0	+8.4	Horiz
		+5.3	+4.9	+28.5	+0.4					
		+0.6	+0.3							
89 2486.912M	26.8	+0.0	+0.0	+0.0	-35.0	+0.0	31.8	54.0	-22.3	Vert
Ave		+5.3	+4.9	+28.5	+0.4					
		+0.6	+0.3							
^ 2486.912M	46.6	+0.0	+0.0	+0.0	-35.0	+0.0	51.6	54.0	-2.4	Vert
		+5.3	+4.9	+28.5	+0.4					
		+0.6	+0.3							
91 2375.880M	27.2	+0.0	+0.0	+0.0	-35.0	+0.0	31.7	54.0	-22.3	Vert
Ave		+5.1	+4.8	+28.2	+0.4					
		+0.6	+0.4							
92 2490.000M	26.6	+0.0	+0.0	+0.0	-35.0	+0.0	31.6	54.0	-22.4	Vert
Ave		+5.3	+4.9	+28.5	+0.4					
A 2400.00014	560	+0.6	+0.3	0.0	25.0	0.0	(1.0	54.0		X 7 .
^ 2490.000M	56.8	+0.0	+0.0	+0.0	-35.0	+0.0	61.8	54.0	+7.8	Vert
		+5.3	+4.9	+28.5	+0.4					
04 000 (100) (0	+0.6	+0.3	0.0	25.0	0.0	21.2	54.0	22.0	X 7 .
94 2386.130M	26.6	+0.0	+0.0	+0.0	-35.0	+0.0	31.2	54.0	-22.8	Vert
Ave		+5.2	+4.8	+28.2	+0.4					
A 2296 120M	517	+0.0	+0.4	.0.0	25.0	.0.0	50.2	54.0	. 5. 2	V
^ 2386.130M	54.7	+0.0	+0.0	+0.0	-35.0	+0.0	59.3	54.0	+5.5	vert
		+3.2	+4.0	+28.2	+0.4					
A 2386 130M	40.3	+0.0	+0.4		35.0	+0.0	53.0	54.0	0.1	Vort
2380.130101	49.5	+0.0	+0.0	± 28.2	-33.0	± 0.0	55.9	54.0	-0.1	Vert
		+0.6	+4.0	720.2	⊤0.4					
97 2787 000M	22.0	+0.0	+0.4	+0.0	-35.0	+0.0	29.0	54.0	-25.0	Vert
	22.0	+5.7	+5.3	±29.5	-35.0 ±0.4	10.0	29.0	54.0	-25.0	Vert
Ave		+0.7	+0.4	127.5	10.4					
^ 2787.000M	15.6	+0.0	+0.0	+0.0	-35.0	+0.0	52.6	54.0	_1 /	Vert
2707.000141	ч <i>э</i> .0	+5.0	+5.3	+29.5	+0.4	10.0	52.0	54.0	-1.4	ven
		+0.7	+0.4	127.5	10.4					
99 2730 850M	21.8	+0.0	+0.0	+0.0	-35.0	+0.0	28.3	54.0	-25.7	Horiz
Ave	21.0	+5.6	+5.2	+29.3	+0.4	10.0	20.5	51.0	23.1	HOHZ
		+0.7	+0.3	/						
^ 2730.850M	43.0	+0.0	+0.0	+0.0	-35.0	+0.0	49.5	54.0	-4.5	Horiz
		+5.6	+5.2	+29.3	+0.4					
		+0.7	+0.3	, .,						
101 2781.882M	21.1	+0.0	+0.0	+0.0	-35.0	+0.0	28.0	54.0	-26.0	Vert
Ave		+5.7	+5.3	+29.4	+0.4					
		+0.7	+0.4							
k										



102 1030.062M	32.7	+0.0	+0.0	+0.0	-36.1	+0.0	27.7	54.0	-26.4	Vert
Ave		+3.2	+3.0	+24.3	+0.2					
		+0.4	+0.0							
^ 1030.062M	61.1	+0.0	+0.0	+0.0	-36.1	+0.0	56.1	54.0	+2.1	Vert
		+3.2	+3.0	+24.3	+0.2					
		+0.4	+0.0							
104 1089.700M	31.2	+0.0	+0.0	+0.0	-36.1	+0.0	26.4	54.0	-27.6	Vert
Ave		+3.3	+3.1	+24.3	+0.2					
		+0.4	+0.0							
^ 1089.700M	69.7	+0.0	+0.0	+0.0	-36.1	+0.0	64.9	54.0	+10.9	Vert
		+3.3	+3.1	+24.3	+0.2					
		+0.4	+0.0							



Test Location:	CKC Laboratories •5473A Clouds Rest •	Mariposa, Ca 95338	• (209) 966-5240
Customer:	Creative Technology Ltd.		
Specification:	FCC 15.249 (a)		
Work Order #:	80429	Date:	06/03/2003
Test Type:	Maximized Emissions	Time:	12:11:25
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	1
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		
S/N:	06032003-001		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP-	06032003-001
Receiver*		RF0001	

Support Devices:

Support Devices.			
Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless	Samsung	SWL-33	APEUOB-116000475
LAN Access Point			
Speakers	Creative/Cambridge Sound	GCS300/SBS36	SW00361192000071
	Works		
Mouse	HP	4D Browser Up Mouse	B00000960
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Host PC	HP (Home Products Division)	00-1065 PRO	Creative Labs Tahiti
			ULA M/B2
Monitor	NEC	Multisync 50	8450030YA

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on Low (906MHz), Middle (910MHz), and High (924MHz) Channels.

Transducer Legend:

T1=Cable - 10 Meter	
T3=Bilog B	

T2=Amp - S/N 604

Measu	rement Data:	Re	Reading listed by margin.				Test Distance: 3 Meters				
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	905.960M	88.8	+6.2	-27.3	+22.9		+0.0	90.6	93.9	-3.3	Horiz
2	905.993M	84.4	+6.2	-27.3	+22.9		+0.0	86.2	93.9	-7.7	Vert
	QP										
^	905.988M	80.4	+6.2	-27.3	+22.9		+0.0	82.2	93.9	-11.7	Vert
4	909.700M	83.0	+6.2	-27.3	+22.9		+0.0	84.8	93.9	-9.1	Horiz
5	910.010M	77.8	+6.2	-27.3	+22.9		+0.0	79.6	93.9	-14.3	Vert
6	924.010M	73.0	+6.2	-27.3	+23.1		+0.0	75.0	93.9	-18.9	Horiz
7	924.110M	68.2	+6.2	-27.3	+23.1		+0.0	70.2	93.9	-23.7	Vert



Test Location:	CKC Laboratories	•5473A Clouds Rest •	Mariposa, Ca 95338 •	(209) 966-5240
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Customer: Specification:	Creative Technology Ltd. FCC 15.249(a)/15.249(d)/15.249(e)/15.209/1	5.109	
Work Order #:	80429	Date:	06/23/2003
Test Type:	Maximized Emissions	Time:	13:10:25
Equipment:	Creative Wireless MP3 Receiver	Sequence#:	6
Manufacturer:	Creative Technology Ltd.	Tested By:	Monika Brandle
Model:	DAP-WL0001/DAP-RF0001		
S/N:	06032003-001		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Creative Wireless MP3	Creative Technology Ltd.	DAP-WL0001/DAP-	06032003-001
Receiver*		RF0001	

Support Devices:

Support Devices.			
Function	Manufacturer	Model #	S/N
Magic LAN AP Wireless	Samsung	SWL-33	APEUOB-116000475
LAN Access Point			
Speakers	Creative/Cambridge Sound	GCS300/SBS36	SW00361192000071
	Works		
Mouse	HP	4D Browser Up Mouse	B00000960
Keyboard	HP	N00905033 Rev 2.0	5183-9980
Host PC	HP (Home Products	00-1065 PRO	Creative Labs Tahiti ULA
	Division)		M/B2
Monitor	NEC	Multisync 50	8450030YA

Test Conditions / Notes:

EUT is continuously transmitting and receiving FSK modulated data to control main unit (PD0390). The maximum amount of data is being transmitted to produce worst case emissions. Transmitting on low (906MHz), middle (910MHz) and high (924MHz) channels. Worst case emissions reported. Frequency Range 9kHz-10GHz

Transducer Legend:

T1=Cable - 10 Meter	T2=Amp - S/N 604
T3=Bilog B	T4=Amp - S/N 301
T5=Cable 35' Blue SMA CKC P1352	T6=Cable 25' blue SMA ANP01353
T7=Horn AN 00327 1-18GHz	T8=Cable HF P01527
T9=WL Gore SN 1065 AN P004301	T10=HPF 1.5GHz

Measu	rement Data:	Re	Reading listed by margin.			Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10							
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	242.725M	56.0	+2.6	-26.5	+12.3	+0.0	+0.0	44.4	46.0	-1.6	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	242.720M	57.0	+2.6	-26.5	+12.3	+0.0	+0.0	45.4	46.0	-0.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

3	360.007M	51.2	+3.5	-26.9	+14.8	+0.0	+0.0	42.6	46.0	-3.4	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	360.007M	31.7	+3.5	-26.9	+14.8	+0.0	+0.0	23.1	46.0	-22.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
5	256.838M	51.6	+2.7	-26.5	+12.8	+0.0	+0.0	40.6	46.0	-5.4	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
	-		+0.0	+0.0							
^	256.848M	52.8	+2.7	-26.5	+12.8	+0.0	+0.0	41.8	46.0	-4.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
7	237.080M	51.5	+2.6	-26.5	+11.9	+0.0	+0.0	39.5	46.0	-6.5	Horiz
	OP		+0.0	+0.0	+0.0	+0.0					
	C C		+0.0	+0.0							
^	237.078M	53.0	+2.6	-26.5	+11.9	+0.0	+0.0	41.0	46.0	-5.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
9	220.148M	52.2	+2.5	-26.5	+10.7	+0.0	+0.0	38.9	46.0	-7.1	Horiz
-		0 2.12	+0.0	+0.0	+0.0	+0.0		000		/11	110112
			+0.0	+0.0							
10	1468 000M	47.6	+0.0	+0.0	+0.0	-35 5	+0.0	46.4	54.0	-7.6	Horiz
10	1400.000101	77.0	+4.0	+3.7	+24.9	+0.3	10.0	-10.4	54.0	7.0	HOHL
			+0.5	+0.9	121.7	10.5					
11	231 426M	50.4	+2.6	-26.5	⊥ 11.6	+0.0	+0.0	38.1	46.0	_7.9	Horiz
11	231.420101	50.4	+0.0	+0.0	+0.0	+0.0	10.0	50.1	+0.0	-1.)	TIONZ
			+0.0	+0.0	10.0	10.0					
12	262 481M	48.6	+2.8	-26.5	+12.8	+0.0	+0.0	37.7	46.0	-83	Horiz
12	202.40111	40.0	+0.0	± 0.0	+0.0	+0.0	10.0	57.7	+0.0	0.5	HOLL
			+0.0	+0.0	10.0	10.0					
13	213 736M	48.9	+2.5	-26.6	+10.3	+0.0	+0.0	35.1	43.5	-8.4	Horiz
15	215.75000	10.9	+0.0	± 0.0	+0.0	+0.0	10.0	55.1	15.5	0.1	HOLL
			+0.0	+0.0	10.0	10.0					
14	1812 100M	13.6	+0.0	+0.0	+0.0	-35.3	+0.0	11 9	54.0	-9.1	Horiz
17	1012.1001	+J.0	+4.4	+4.1	+26.4	+0.3	10.0)	54.0	-7.1	HOHZ
			+0.6	+0.8	120.4	10.5					
15	76 206M	/0.8	+1.4	27.2	+6.8	+0.0	+0.0	30.8	40.0	0.2	Vort
15	OP	49.0	+1. 4 +0.0	-27.2 ±0.0	+0.8 +0.0	+0.0	± 0.0	50.8	40.0	-9.2	VCIT
	χ.		+0.0	+0.0	10.0	10.0					
^	76 196M	59.2	+1.4	_27.2	⊥6 8	+0.0	+0.0	40.2	40.0	±0.2	Vert
	/0.1/01/1	57.2	+1.+	-27.2 ±0.0	+0.0	+0.0	10.0	40.2	+0.0	10.2	VCIT
			+0.0	+0.0	10.0	10.0					
17	208 866M	18 5	+2.4	26.6	+0.0	+0.0	+0.0	34.2	13.5	03	Horiz
17	200.0001	40.5	+2.4	-20.0	+9.9 ⊥0.0	+0.0	± 0.0	54.2	45.5	-9.5	TIOUTZ
			+0.0	+0.0	10.0	10.0					
10	251 102M	17 1	±2.7	_26.5	±12 Q	.±0.0	±0.0	36 /	16.0	0.6	Horiz
10	2J1.173WI	+/.4	+∠./ ⊥0.0	-20.3 _10.0	±12.0 ⊥0.0	+0.0	± 0.0	50.4	+0.0	-7.0	TIOUZ
			+0.0 +0.0	+0.0 +0.0	± 0.0	± 0.0					
10	245 542M	17 2	± 0.0	26.5	±12.5	+0.0	+0.0	36.0	16.0	10.0	Horiz
19	243.343101	+1.5	±0.0	-20.5 ±0.0	±0.0	+0.0 +0.0	± 0.0	50.0	+0.0	-10.0	TIOUZ
			+0.0	+0.0	± 0.0	± 0.0					
L			± 0.0	± 0.0							

20	719.998M	37.7	+5.3	-27.8	+20.8	+0.0	+0.0	36.0	46.0	-10.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
21	232.201M	48.1	+2.6	-26.5	+11.6	+0.0	+0.0	35.8	46.0	-10.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
22	135.472M	47.0	+1.8	-27.1	+11.5	+0.0	+0.0	33.2	43.5	-10.3	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
23	1700.000M	43.4	+0.0	+0.0	+0.0	-35.4	+0.0	43.7	54.0	-10.3	Horiz
_			+4.3	+4.0	+25.9	+0.3					
			+0.5	+0.7							
24	248.363M	46.7	+2.7	-26.5	+12.7	+0.0	+0.0	35.6	46.0	-10.4	Horiz
	2101000111		+0.0	+0.0	+0.0	+0.0		0010		1011	
			+0.0	+0.0							
25	2339.000M	39.3	+0.0	+0.0	+0.0	-35.1	+0.0	43.5	54.0	-10.5	Vert
	20071000111	0,10	+5.1	+4.7	+28.1	+0.4			0.110	1010	
			+0.6	+0.4							
26	231 415M	47.8	+2.6	-26.5	+11.6	+0.0	+0.0	35.5	46.0	-10.5	Vert
20	2011110101	17.0	+0.0	+0.0	+0.0	+0.0	10.0	55.5	10.0	10.0	vert
			+0.0	+0.0	10.0	10.0					
27	210 564M	47.0	+2.4	-26.6	+10.0	+0.0	+0.0	32.8	43.5	-10.7	Horiz
27	210.304101	77.0	+2.+	+0.0	+0.0	+0.0	10.0	52.0	ч <i>э</i> .5	-10.7	TIOUTZ
			+0.0	+0.0	10.0	10.0					
28	213 851M	16.6	+2.5	26.6	+10.3	+0.0	+0.0	32.8	13.5	10.7	Vort
20	215.651101	40.0	+2.3	-20.0 ±0.0	+10.5	+0.0	± 0.0	52.0	45.5	-10.7	ven
			+0.0	+0.0	10.0	10.0					
20	21/ 085M	16.3	+2.5	26.6	+10.4	+0.0	+0.0	32.6	13.5	10.0	Vort
2)	214.905101	+0.5	± 0.0	-20.0	+10.4	+0.0	10.0	52.0	чэ.э	-10.7	VCIT
			+0.0	+0.0	10.0	10.0					
30	208 866M	467	+0.0	26.6	+0.0	+0.0	+0.0	32.4	13.5	11.1	Vort
50	200.000101	40.7	+2.4	-20.0	+9.9 ⊥0.0	+0.0	± 0.0	52.4	45.5	-11.1	ven
			+0.0	+0.0	± 0.0	± 0.0					
31	1062 000M	40.6			+0.0	35.2		127	54.0	11.2	Vort
51	1902.000101	40.0	+0.0	+0.0	+0.0 +27.0	-33.2	± 0.0	42.7	54.0	-11.5	ven
			+ 4 .0 ⊥0.6	+ 4 .5	+27.0	±0.4					
32	215 577M	15 7	+2.5	26.6	+10.4	+0.0	10.0	32.0	13.5	11.5	Uoriz
52	OP	43.7	+2.3	-20.0	+10.4	+0.0	± 0.0	32.0	45.5	-11.5	HOHZ
	QI		+0.0	+0.0	10.0	10.0					
^	215 547M	51.4	+2.5	26.6	+10.4	+0.0	+0.0	37 7	13.5	5.8	Horiz
	213.347101	51.4	+2.3	-20.0	+10.4	+0.0	± 0.0	51.1	45.5	-5.0	TIONZ
			+0.0	+0.0	± 0.0	± 0.0					
34	1460 200M	13.6			+0.0	35.5	10.0	12.4	54.0	11.6	Vort
54	1409.200101	43.0	+0.0	+0.0	+0.0	-55.5	± 0.0	42.4	54.0	-11.0	ven
			++.0 ⊥0 5	1.0 T	⊤ ∠ 1 .7	± 0.5					
25	215 74714	15 0	+0.5	+0.9 04 4	+ 10.4			21 5	12 5	10.1	Vort
35	213.747IVI	43.2	+2.3	-20.0	+10.4	+0.0	+0.0	51.5	43.3	-12.1	vert
			+0.0	+0.0	± 0.0	± 0.0					
26	214 501M	15 0	+0.0	+0.0	+ 10.2			21.4	12 5	10.1	Ucria
30	214.3011 VI	43.2	+2.3	-20.0	+10.5	+0.0	+0.0	51.4	43.3	-12.1	HOLIZ
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

37	70.561M	47.7	+1.3	-27.2	+6.1	+0.0	+0.0	27.9	40.0	-12.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
38	1622.100M	42.1	+0.0	+0.0	+0.0	-35.4	+0.0	41.7	54.0	-12.3	Horiz
			+4.2	+3.9	+25.5	+0.3					
			+0.5	+0.6							
39	270.003M	44.5	+2.8	-26.5	+12.8	+0.0	+0.0	33.6	46.0	-12.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
40	213.500M	44.8	+2.5	-26.6	+10.3	+0.0	+0.0	31.0	43.5	-12.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
41	229.673M	45.9	+2.5	-26.5	+11.4	+0.0	+0.0	33.3	46.0	-12.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
42	244.784M	44.6	+2.7	-26.5	+12.5	+0.0	+0.0	33.3	46.0	-12.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
43	519.323M	37.4	+4.6	-27.8	+19.0	+0.0	+0.0	33.2	46.0	-12.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
44	237.093M	45.2	+2.6	-26.5	+11.9	+0.0	+0.0	33.2	46.0	-12.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
45	242.730M	44.6	+2.6	-26.5	+12.3	+0.0	+0.0	33.0	46.0	-13.0	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
46	209.928M	44.7	+2.4	-26.6	+10.0	+0.0	+0.0	30.5	43.5	-13.0	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
47	220.156M	46.1	+2.5	-26.5	+10.7	+0.0	+0.0	32.8	46.0	-13.2	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
48	200.399M	45.4	+2.4	-26.7	+9.2	+0.0	+0.0	30.3	43.5	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
49	216.230M	46.4	+2.5	-26.6	+10.5	+0.0	+0.0	32.8	46.0	-13.3	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
50	462.010M	38.4	+4.1	-27.6	+17.8	+0.0	+0.0	32.7	46.0	-13.3	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
51	146.768M	42.9	+1.9	-27.0	+12.3	+0.0	+0.0	30.1	43.5	-13.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
52	224.927M	45.5	+2.5	-26.5	+11.1	+0.0	+0.0	32.6	46.0	-13.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
53	227.804M	45.0	+2.5	-26.5	+11.3	+0.0	+0.0	32.3	46.0	-13.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
		-									

54	201.475M	44.8	+2.4	-26.7	+9.3	+0.0	+0.0	29.8	43.5	-13.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
55	240.001M	44.1	+2.6	-26.5	+12.1	+0.0	+0.0	32.3	46.0	-13.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
56	519.320M	36.4	+4.6	-27.8	+19.0	+0.0	+0.0	32.2	46.0	-13.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
57	225 784M	44 9	+2.5	-26.5	+11.2	+0.0	+0.0	32.1	46.0	-139	Horiz
57	223.70 111	11.2	+0.0	+0.0	+0.0	+0.0	10.0	52.1	10.0	15.5	110112
			+0.0	+0.0							
58	210 648M	437	+2.4	-26.6	+10.0	+0.0	+0.0	29.5	43.5	-14.0	Vert
50	210.040101	43.7	+0.0	± 0.0	+0.0	+0.0	10.0	27.5	45.5	14.0	Vert
			+0.0	+0.0	10.0	10.0					
59	59 753M	467	+1.1	_27.3	+5.5	+0.0	+0.0	26.0	40.0	-14.0	Vert
57	57.755141	40.7	+0.0	± 0.0	+0.0	+0.0	10.0	20.0	40.0	14.0	Vert
			+0.0	+0.0	10.0	10.0					
60	197 576M	44.5	+2.4	-26.7	<u>⊥9</u> 2	+0.0	+0.0	29.4	13.5	-1/ 1	Horiz
00	177.570101	5	+0.0	-20.7	+0.0	+0.0	10.0	27.4	чJ.J	-14.1	TIOUTZ
			+0.0	+0.0	10.0	10.0					
61	233 760M	44.0	10.0	26.5	117			31.8	46.0	14.2	Vort
01	255.700M	44.0	+2.0	-20.5	+11.7	+0.0	+0.0	51.0	40.0	-14.2	ven
			+0.0	+0.0	± 0.0	± 0.0					
62	254 010M	12.0	+0.0	+0.0	12.0			21.0	16.0	14.2	Homia
02	234.010M	42.8	+2.7	-20.3	+12.8	+0.0	+0.0	51.8	40.0	-14.2	HOLIZ
			+0.0	+0.0	+0.0	+0.0					
62	124 1901	42.0	+0.0	+0.0	116	+0.0		20.1	12 5	14.4	Homia
05	124.160101	45.0	+1.7	-27.2	+11.0	+0.0	+0.0	29.1	45.5	-14.4	HOLIZ
			+0.0	+0.0	+0.0	+0.0					
61	242 72214	42.0	+0.0	+0.0	+ 10.2	+0.0		21.6	16.0	14.4	Vort
04	242.723IVI	43.2	+2.0	-20.5	+12.5	+0.0	+0.0	51.0	40.0	-14.4	ven
			+0.0	+0.0	+0.0	+0.0					
(5	220 125M	12 5	+0.0	+0.0	12.0	10.0		21.6	46.0	145	Haria
03	238.155W	45.5	+2.0	-20.3	+12.0	+0.0	+0.0	51.0	40.0	-14.3	HOLIZ
			+0.0	+0.0	+0.0	+0.0					
66	1702 0001	20.2	+0.0	+0.0		25 4		20.5	54.0	145	Vort
00	1702.000101	39.2	+0.0	+0.0	+0.0	-55.4	+0.0	39.3	54.0	-14.3	ven
			+4.5	+4.0	+23.9	+0.3					
67	169 516M	26.9	+0.3	+0.7	120			21.4	46.0	14.6	Horiz
07	408.31010	50.8	+4.2	-27.0	+18.0	+0.0	+0.0	51.4	40.0	-14.0	HOLIZ
			+0.0	+0.0	+0.0	+0.0					
60	240.00514	42.0	+0.0	+0.0	+ 12.1	+0.0		21.4	16.0	116	Vort
08	240.005M	45.2	+2.0	-20.5	+12.1	+0.0	+0.0	51.4	46.0	-14.0	vert
			+0.0	+0.0	+0.0	+0.0					
<u> </u>	401 0023 4	25.0	+0.0	+0.0	107	.0.0	.0.0	21.0	100	140	TT'
69	491.093M	55.8	+4.4	-21.1	+18.7	+0.0	+0.0	51.2	46.0	-14.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
70	270.00014	41.0	+0.0	+0.0	12.0	.0.0	.0.0	21.0	100	150	V.
/0	270.000M	41.9	+2.8	-26.5	+12.8	+0.0	+0.0	51.0	46.0	-15.0	vert
			+0.0	+0.0	+0.0	+0.0					
ļ			+0.0	+0.0							

71	239.980M	42.5	+2.6	-26.5	+12.1	+0.0	+0.0	30.7	46.0	-15.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
72	60.093M	45.3	+1.1	-27.3	+5.4	+0.0	+0.0	24.5	40.0	-15.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
73	226.751M	43.2	+2.5	-26.5	+11.2	+0.0	+0.0	30.4	46.0	-15.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
74	285.060M	41.1	+2.9	-26.5	+12.9	+0.0	+0.0	30.4	46.0	-15.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
75	143.940M	40.4	+1.9	-27.0	+11.9	+0.0	+0.0	27.2	43.5	-16.3	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
76	59.754M	44.3	+1.1	-27.3	+5.5	+0.0	+0.0	23.6	40.0	-16.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
77	230.571M	42.1	+2.5	-26.5	+11.5	+0.0	+0.0	29.6	46.0	-16.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
78	212.630M	40.7	+2.5	-26.6	+10.2	+0.0	+0.0	26.8	43.5	-16.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
79	227.549M	41.7	+2.5	-26.5	+11.3	+0.0	+0.0	29.0	46.0	-17.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
80	158.060M	39.5	+2.0	-26.9	+11.1	+0.0	+0.0	25.7	43.5	-17.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
81	214.518M	39.4	+2.5	-26.6	+10.3	+0.0	+0.0	25.6	43.5	-18.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
82	200.393M	37.8	+2.4	-26.7	+9.2	+0.0	+0.0	22.7	43.5	-20.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							