# **Leap Devices**

**ADDENDUM TEST REPORT TO 94653-5** 

Camera Flash Trigger Model: Nano Tx

**Tested To The Following Standards:** 

FCC Part 15 Subpart C Sections 15.247
&
RSS-210 Issue 8

Report No.: 94653-5A

Date of issue: July 22, 2013



This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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### **ADMINISTRATIVE INFORMATION**

## **Test Report Information**

REPORT PREPARED FOR: REPORT PREPARED BY:

Leap Devices Morgan Tramontin
229 E Reserve Steet, Suite 102 CKC Laboratories, Inc.
Vancouver, WA 98661 5046 Sierra Pines Drive
Mariposa, CA 95338

Representative: Kevin King Project Number: 94653

**DATE OF EQUIPMENT RECEIPT:**DATE(S) OF TESTING:
July 8, 2013

July 8 - 9, 2013

### **Revision History**

Original: Testing of the Camera Flash Trigger, Nano Tx.

**Addendum A:** To insert corrected test procedure comments in RF Power Output, Radiated Spurious Emissions, Bandedge and Power Spectral Density sections. Reference to KDB 558074 added to summary table.

## **Report Authorization**

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

Steve Behm

Steve 2 B

Director of Quality Assurance & Engineering Services CKC Laboratories, Inc.

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# **Test Facility Information**



Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S): CKC Laboratories, Inc. 22116 23rd Drive S.E., Suite A Bothell, WA 98021-4413

### **Software Versions**

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14
Immunity	5.00.07

# **Site Registration & Accreditation Information**

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Bothell	US0081	SL2-IN-E-1145R	3082C-1	318736	A-0148

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### **SUMMARY OF RESULTS**

Standard / Specification: FCC Part 15 Subpart C & RSS-210 Issue 8

Description	Test Procedure/Method	Results
RF Power Output	FCC Part 15 Subpart C Section 15.247(b)(3) / KDB 558074	Pass
RSS-210 Occupied Bandwidth	FCC Part 15 Subpart C Section 15.247 / RSS-210 / KDB 558074	Pass
FCC Occupied Bandwidth	FCC Part 15 Subpart C Section 15.247(a)(2) / KDB 558074	Pass
Radiated Spurious Emissions & Bandedge	FCC Part 15 Subpart C Section 15.247(d) / RSS-210 / KDB 558074	Pass
Power Spectral Density	FCC Part 15 Subpart C 15.247(e)/ KDB 558074	Pass

# **Conditions During Testing**

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
None

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## **EQUIPMENT UNDER TEST (EUT)**

During testing, the EUT was identified as Nano TX (Rev2). Since the time of testing the manufacturer has chosen to use the following model name in its place. Any differences between the names does not affect their EMC characteristics and therefore meets the level of testing equivalent to the tested model name shown on the data sheets: Nano Tx

### **EQUIPMENT UNDER TEST**

### **Camera Flash Trigger**

Manuf: Leap Devices Model: Nano Tx Serial: None

#### **PERIPHERAL DEVICES**

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

<u>Digital Camera Flash Trigger</u>

Manuf: Pentax Manuf: Leap Devices
Model: K200D Model: Nano TX (Rev2)

Serial: 2947829 Serial: None

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# **FCC PART 15 SUBPART C**

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart C - Intentional Radiators.

## 15.247(b) (3) RF Power Output

	Low Channel	High Channel	Limit	Result
Conducted Power	10.6dBm	10.5dBm	30dBm	Pass
Peak EIRP	16.7dBi	16.5dBi	-	-
Average EIRP	15.7dBi	15.5dBi	-	-

#### **Test Data**

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: 15.247(b) Power Output (902-928 MHz DTS)

Work Order #: 94653 Date: 7/8/2013
Test Type: Conducted Emissions Time: 09:03:18
Equipment: Camera Flash Trigger Sequence#: 1

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2) 3V

S/N:

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01706	Attenuator-Factor @	8495B	1/11/2012	1/11/2014
		20dB (dB)			
T2	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
Т3	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015

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

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

Support Devices:

Function	Manufacturer	Model #	S/N
Camera Flash Trigger	Leap Devices	Nano TX (Rev2)	

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### Test Conditions / Notes:

The EUT is placed on the test bench. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

Freq: 903.75MHz, 908MHz

Firmware setting = 10dbm, 10dBm

Emission profile evaluated at the antenna port.

30MHz-1000 MHz; RBW=1MHz VBW=3MHz

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with FCC document: KDB 558074

Temperature: 21°C Pressure: 102.1kPa Humidity: 34%

Ext Attn: 0 dB

Measu	rement Data:	Re	eading lis	ted by ma	argin.			Test Lead	d: Antenna	l	
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dΒμV	dΒμV	dB	Ant
1	903.750M	96.4	+20.2	+1.0	+0.0		+0.0	117.6	137.0	-19.4	Anten
2	907.960M	96.3	+20.2	+1.0	+0.0		+0.0	117.5	137.0	-19.5	Anten

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Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: 15.247(b) Power Output (902-928 MHz DTS)

 Work Order #:
 94653
 Date: 7/9/2013

 Test Type:
 Maximized Emissions
 Time: 13:05:40

Equipment: Camera Flash Trigger Sequence#: 3

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

#### Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
T2	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T3	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T4	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T5	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
T6	AN02308	Preamp	8447D	4/3/2012	4/3/2014

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

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

#### Support Devices:

11				
Function	Manufacturer	Model #	S/N	
Digital Camera	Pentax	K200D	2947829	

#### Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate.

Average Readings taken while EUT is on excluding blanking time of the 90%

Frequency: 902-908MHz

Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm

RBW=1MHz=VBW

Vert & Horz; X, Y & Z-axis investigated. Only worst case recorded

15.31(e) compliance: a freshly charged battery is installed Test method in accordance with FCC document: KDB 558074

Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

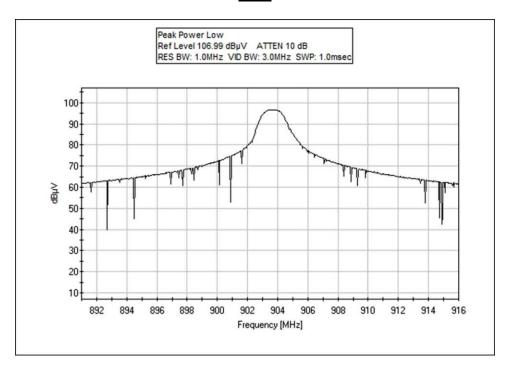
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Ext Attn: 0 dB

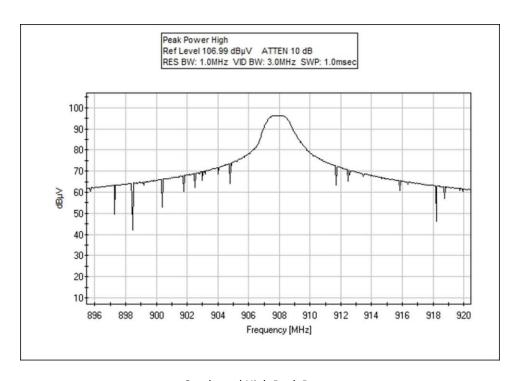
Measu	rement Data:	Re	eading list	ted by ma	argin.		Te	st Distance	ce: 3 Meters	S	
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6							
	MHz	dΒμV	dB	dB	dB	dB	Table	dΒμV	dΒμV	dB	Ant
1	907.730M	101.9	+1.0	+2.0	+2.3	+22.6	+9.5	111.9	137.0	-25.1	Horiz
			+0.0	-27.4			206		Peak Powe	er	110
2	903.665M	101.8	+1.0	+2.0	+2.3	+22.5	+9.5	111.7	137.0	-25.3	Horiz
			+0.0	-27.4			215		Peak Powe	er	125
3	907.755M	100.9	+1.0	+2.0	+2.3	+22.6	+9.5	110.9	137.0	-26.1	Horiz
			+0.0	-27.4			209		Average p	ower	113
4	903.665M	100.8	+1.0	+2.0	+2.3	+22.5	+9.5	110.7	137.0	-26.3	Horiz
			+0.0	-27.4			209		Average P	ower	113

### **Plots**

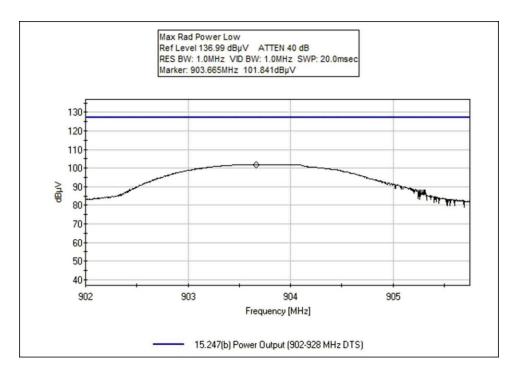


Conducted Low Peak Power



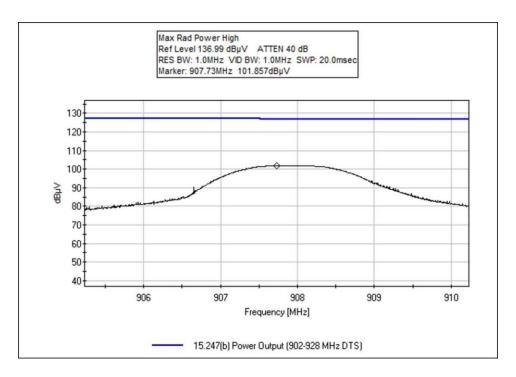


Conducted High Peak Power



Radiated Low Peak Power





Radiated High Peak Power



## Test Setup Photos



Conducted Overall Test Setup



X-Axis





Y-Axis



Z- Axis



### **RSS-210 Occupied Bandwidth**

#### Test Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices
Specification: RSS-210 OBW

Work Order #: 94653 Date: 7/9/2013
Test Type: Maximized Emissions Time: 10:01:23
Equipment: Camera Flash Trigger Sequence#: 2

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

Test Equipment:

I est Lyu	ipmem.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
	ANP05360	Cable	RG214	12/3/2012	12/3/2014
	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
	AN02308	Preamp	8447D	4/3/2012	4/3/2014

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

Support Devices:

Function	Manufacturer	Model #	S/N
Digital Camera	Pentax	K200D	2947829

#### Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate.

Frequency: 853MHz-958MHz Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm Measured Power= 4.7dBm & 4.9dBm

15.31(e) compliance: a freshly charged battery is installed.

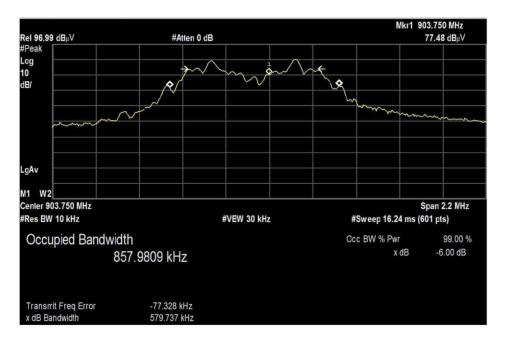
Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

	Low Channel	High Channel
RSS-210 6dB Bandwidth	579.7kHz	534.3kHz
RSS-GEN 99% Bandwidth	858.0kHz	851.5kHz

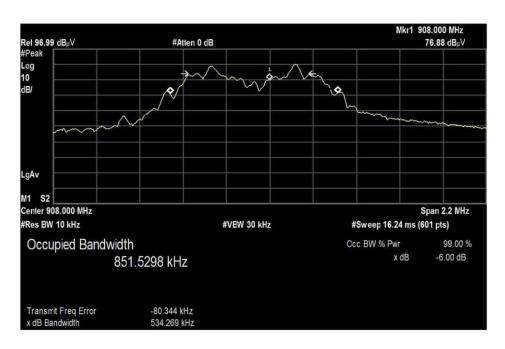
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### **Test Plots**



Low



High



## **Test Setup Photos**



X-Axis



Y-Axis





Z-Axis



## 15.247(a) (2) Occupied Bandwidth

#### **Test Data**

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices
Specification: FCC 15.247 OBW

Work Order #: 94653 Date: 7/9/2013
Test Type: Maximized Emissions Time: 10:01:23
Equipment: Camera Flash Trigger Sequence#: 2

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

Test Equipment:

1 cst Lqu	ipinent.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
	ANP05360	Cable	RG214	12/3/2012	12/3/2014
	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
	AN02308	Preamp	8447D	4/3/2012	4/3/2014

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

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

#### Support Devices:

Function	Manufacturer	Model #	S/N
Digital Camera	Pentax	K200D	2947829

#### Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate. Frequency: 853MHz-958MHz Freq: 902.75MHz & 908.00MHz,

Firmware setting = 10dbm, 10dBm Measured Power= 4.7dBm & 4.9dBm

15.31(e) compliance: a freshly charged battery is installed

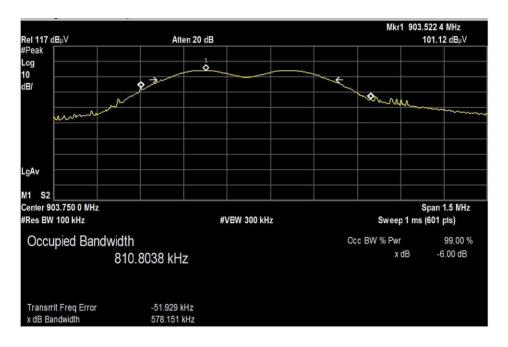
Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

	Low Channel	High Channel
FCC 6dB Bandwidth	578.2kHz	567.6kHz

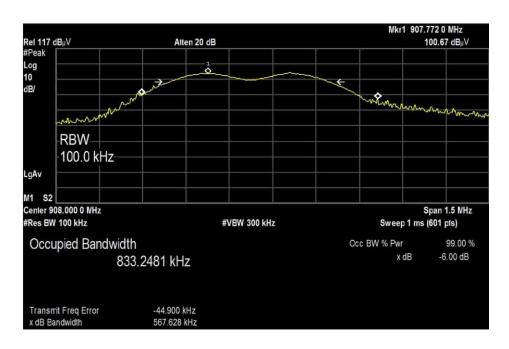
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### **Test Plots**



Low



High



## **Test Setup Photos**



X-Axis



Y-Axis





Z-Axis



# 15.247(d) / RSS-210 Radiated Spurious Emissions

### **Test Data Sheets**

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: RSS-210 Radiated Spurious Emissions

Work Order #: 94653 Date: 7/9/2013
Test Type: Maximized Emissions Time: 10:01:23
Equipment: Camera Flash Trigger Sequence#: 2

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

Test Equipment:

Test Equi	ртені.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T2	AN01467	Horn Antenna-ANSI	3115	10/19/2011	10/19/2013
		C63.5 Calibration			
Т3	AN03123	Cable	32026-2-29801-	10/14/2011	10/14/2013
			12		
T4	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
T5	ANP05965	Cable	Various	8/26/2011	8/26/2013
Т6	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
T7	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
T8	ANP05360	Cable	RG214	12/3/2012	12/3/2014
Т9	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T10	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T11	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
T12	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T13	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

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

	,			
Function	Manufacturer	Model #	S/N	
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)		

Support Devices:

E	Man Card man	M. 1.1.4	C/NI	
Function	Manufacturer	Model #	S/IN	
Digital Camera	Pentax	K200D	2947829	

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#### Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate.

Frequency: 9k-10GHz

Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm Measured Power= 4.7dBm & 4.9dBm Below 30MHz; CISPR Bandwidths 30MHz-1000 MHz; RBW=120kHz=VBW

1-10GHz; RBW=1MHz=VBW

High & Low channel; Vertical & Horizontal; X, Y & Z-axis investigated. Only worst case recorded

15.31(e) compliance: a freshly charged battery is installed

Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

Ext Attn: 0 dB

EXT F	Attn: U aB										
	rement Data:		eading lis					est Distanc	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	7264.417M	35.0	-28.2	+35.7	+0.5	+3.1	+0.0	50.0	54.0	-4.0	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0			High X-Ax	is	100
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	7264.417M	45.0	-28.2	+35.7	+0.5	+3.1	+0.0	60.0	54.0	+6.0	Horiz
			+3.6	+0.3	+0.0	+0.0	-15		High X-Ax	is	99
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
3	7261.833M	33.3	-28.2	+35.7	+0.5	+3.1	+0.0	48.3	54.0	-5.7	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	303		High X-Ax	is	116
			+0.0	+0.0	+0.0	+0.0			•		
			+0.0								
4	7264.750M	32.9	-28.2	+35.7	+0.5	+3.1	+0.0	47.9	54.0	-6.1	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	360		High Y-Ax	is	111
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
5	5421.133M	37.2	-30.2	+33.2	+0.5	+3.1	+0.0	47.0	54.0	-7.0	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0	283		Low X-Axi	is	151
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	5421.133M	46.1	-30.2	+33.2	+0.5	+3.1	+0.0	55.9	54.0	+1.9	Horiz
			+2.9	+0.3	+0.0	+0.0	220		Low X-Axi	is	102
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

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7 7264.767M	31.3	-28.2	+35.7	+0.5	+3.1	+0.0	46.3	54.0 -7.7	Horiz
Ave		+3.6	+0.3	+0.0	+0.0	-15		High X-Axis	165
		+0.0	+0.0	+0.0	+0.0				
A 70 (4 750) 5	42.7	+0.0	. 25.5	.0.5	. 0.1	.0.0		740 47	TT '
^ 7264.750M	43.5	-28.2	+35.7	+0.5	+3.1	+0.0	58.5	54.0 +4.5	Horiz
		+3.6	+0.3	+0.0	+0.0			High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0				
A 7064 767M	42.2	+0.0	.25.7	.0.5	. 2.1	.00	58.2	54.0 +4.2	II a mile
^ 7264.767M	43.2	-28.2 +3.6	+35.7 +0.3	$+0.5 \\ +0.0$	+3.1 +0.0	+0.0 360	36.2	54.0 +4.2	Horiz
		+0.0	+0.5 +0.0	+0.0	+0.0 +0.0	300		High X-Axis	114
		+0.0	+0.0	+0.0	+0.0				
10 4539.933M	39.9	-31.0	+31.3	+0.2	+2.7	+0.0	46.0	54.0 -8.0	Vert
10 4559.955WI	39.9	+2.6	+0.3	+0.2	+0.0	37	40.0	High X-Axis	107
		+0.0	+0.0	+0.0	+0.0	37		Ingli A TAIS	107
		+0.0	10.0	10.0	10.0				
11 9080.750M	27.9	-27.6	+36.7	+0.8	+3.5	+0.0	45.4	54.0 -8.6	Vert
Ave	_,.,	+3.9	+0.2	+0.0	+0.0	360		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0			.0	-10
		+0.0							
^ 9080.750M	36.8	-27.6	+36.7	+0.8	+3.5	+0.0	54.3	54.0 +0.3	Vert
		+3.9	+0.2	+0.0	+0.0	32		High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0			C	
		+0.0							
13 4519.233M	38.2	-31.0	+31.2	+0.3	+2.7	+0.0	44.3	54.0 -9.7	Vert
		+2.6	+0.3	+0.0	+0.0	360		Low Z-Axis	113
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
14 3615.633M	40.2	-30.9	+29.3	+0.4	+2.3	+0.0	43.8	54.0 -10.2	Vert
		+2.2	+0.3	+0.0	+0.0	341		Low Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
15 3632.333M	39.6	-30.9	+29.3	+0.4	+2.3	+0.0	43.1	54.0 -10.9	Vert
		+2.1	+0.3	+0.0	+0.0	289		High Y-Axis	117
		+0.0	+0.0	+0.0	+0.0				
16 7061 0003	27.7	+0.0	. 25. 5	.0.7	. 2 1	.00	40.7	540 112	<b>T7</b> ·
16 7261.800M	27.7	-28.2	+35.7	+0.5	+3.1	+0.0	42.7	54.0 -11.3	Vert
Ave		+3.6	+0.3	+0.0	+0.0			High Z-Axis	105
		+0.0 +0.0	+0.0	+0.0	+0.0				
^ 7261.800M	40.3	-28.2	+35.7	±0.5	+3.1	+0.0	55.3	54.0 +1.3	Vert
/ 201.800WI	40.3	-28.2 +3.6	+33.7	+0.5 +0.0	+3.1 +0.0	+0.0 360	33.3	High Z-Axis	105
		+0.0	+0.5	+0.0	+0.0	500		Ingli L-Axis	103
		+0.0	10.0	10.0	10.0				
18 7264.750M	27.4	-28.2	+35.7	+0.5	+3.1	+0.0	42.4	54.0 -11.6	Vert
Ave	21.7	+3.6	+0.3	+0.0	+0.0	360	12.7	High Y-Axis	99
11,0		+0.0	+0.0	+0.0	+0.0	200		111611 1 111110	,,
		+0.0	. 0.0	. 3.0					
^ 7264.783M	40.4	-28.2	+35.7	+0.5	+3.1	+0.0	55.4	54.0 +1.4	Vert
		+3.6	+0.3	+0.0	+0.0			High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0			<i>5</i>	
		+0.0							
		. 5.0							

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20 3614.200M	38.7	-30.9	+29.3	+0.4	+2.3	+0.0	42.3	54.0 -11.7	Vert
		+2.2	+0.3	+0.0	+0.0	360		Low Z-Axis	122
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
21 4540.030M	35.8	-31.0	+31.3	+0.2	+2.7	+0.0	41.9	54.0 -12.1	Horiz
		+2.6	+0.3	+0.0	+0.0	360		High Z-Axis	148
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
22 8172.750M	25.4	-28.1	+36.1	+0.8	+3.4	+0.0	41.5	54.0 -12.5	Horiz
Ave		+3.7	+0.2	+0.0	+0.0	360		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 8172.750M	36.3	-28.1	+36.1	+0.8	+3.4	+0.0	52.4	54.0 -1.6	Horiz
		+3.7	+0.2	+0.0	+0.0	130		High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0				
24 27 222 5	21.1	+0.0		0.0	0.2	0.0	27.1	40.0	***
24 37.930M	31.4	+0.0	+0.0	+0.0	+0.2	+0.0	27.4	40.0 -12.6	Vert
		+0.0	+0.0	+9.1	+0.4	347		Low X-Axis	134
		+0.2	+14.2	+0.0	-28.1				
25 2615 20235	27.2	+0.0	.20.2	. 0. 4	. 2. 2	. 0. 0	40.0	540 121	тт. '
25 3615.283M	37.3	-30.9	+29.3	+0.4	+2.3	+0.0	40.9	54.0 -13.1	Horiz
		+2.2	+0.3	+0.0	+0.0			Low Z-Axis	122
		+0.0	+0.0	+0.0	+0.0				
26 5420 00214	20.2	+0.0	. 22.2	.0.5	. 2 1	. 0. 0	40.1	54.0 12.0	XI
26 5420.983M	30.3	-30.2	+33.2	+0.5	+3.1	+0.0	40.1	54.0 -13.9	Vert
Ave		+2.9 +0.0	+0.3	$+0.0 \\ +0.0$	+0.0 +0.0			Low Z-Axis	116
		+0.0	+0.0	+0.0	+0.0				
27 5446.550M	30.4	-30.2	+33.2	+0.4	+3.1	+0.0	40.1	54.0 -13.9	Vert
Ave	30.4	+2.9	+0.3	+0.4	+0.0	360	40.1	High Y-Axis	99
Avc		+0.0	+0.0	+0.0	+0.0	300		High 1-Axis	22
		+0.0	+0.0	+0.0	+0.0				
^ 5446.550M	40.8	-30.2	+33.2	+0.4	+3.1	+0.0	50.5	54.0 -3.5	Vert
3440.330W	40.0	+2.9	+0.3	+0.4	+0.0	+0.0	30.3	High Y-Axis	99
		+0.0	+0.3	+0.0	+0.0 +0.0			IIIgii 1-Mais	77
		+0.0	10.0	10.0	10.0				
29 5446.250M	29.4	-30.2	+33.2	+0.4	+3.1	+0.0	39.1	54.0 -14.9	Vert
Ave	27.1	+2.9	+0.3	+0.0	+0.0		57.1	High Z-Axis	106
		+0.0	+0.0	+0.0	+0.0	200			200
		+0.0	. 0.0		. 0.0				
^ 5446.250M	42.3	-30.2	+33.2	+0.4	+3.1	+0.0	52.0	54.0 -2.0	Vert
5 . 10.25 0111	.2.0	+2.9	+0.3	+0.0	+0.0	347	22.0	High Z-Axis	106
		+0.0	+0.0	+0.0	+0.0	- · ·		.0 —	-00
		+0.0							
31 5448.800M	29.1	-30.2	+33.2	+0.4	+3.1	+0.0	38.8	54.0 -15.2	Horiz
Ave	- /-	+2.9	+0.3	+0.0	+0.0	360		High Y-Axis	139
		+0.0	+0.0	+0.0	+0.0	-		<i>5</i>	
		+0.0							
^ 5448.733M	43.4	-30.2	+33.2	+0.4	+3.1	+0.0	53.1	54.0 -0.9	Horiz
		+2.9	+0.3	+0.0	+0.0	360		High X-Axis	107
		+0.0	+0.0	+0.0	+0.0			<u> </u>	
		+0.0							
-									

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^	5448.800M	40.5	-30.2	+33.2	+0.4	+3.1	+0.0	50.2	54.0 -3.8	Horiz
			+2.9	+0.3	+0.0	+0.0	105		High Y-Axis	152
			+0.0	+0.0	+0.0	+0.0				
2.4	5 4 2 1 0 2 0 N #	20.0	+0.0	. 22.2	.0.5	, 2 1	.0.0	20.7	540 154	<b>17</b>
	5421.030M	28.8	-30.2	+33.2	+0.5	+3.1	+0.0	38.6	54.0 -15.4	Vert
	Ave		+2.9 +0.0	+0.3 +0.0	$^{+0.0}_{+0.0}$	+0.0 +0.0	360		Low Y-Axis	107
			+0.0	+0.0	+0.0	+0.0				
^	5420.983M	41.1	-30.2	+33.2	+0.5	+3.1	+0.0	50.9	54.0 -3.1	Vert
	3420.963W	71.1	+2.9	+0.3	+0.0	+0.0	360	30.9	Low Z-Axis	116
			+0.0	+0.0	+0.0	+0.0	300		LOW Z-AXIS	110
			+0.0	10.0	10.0	10.0				
^	5421.030M	39.8	-30.2	+33.2	+0.5	+3.1	+0.0	49.6	54.0 -4.4	Vert
	3 121.030111	37.0	+2.9	+0.3	+0.0	+0.0	10.0	17.0	Low Y-Axis	107
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
37	2711.533M	36.4	-30.2	+27.2	+0.5	+1.9	+0.0	38.2	54.0 -15.8	Horiz
			+2.1	+0.3	+0.0	+0.0	360		Low Z-Axis	122
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
38	2724.460M	36.4	-30.2	+27.2	+0.5	+1.9	+0.0	38.2	54.0 -15.8	Vert
			+2.1	+0.3	+0.0	+0.0			High Z-Axis	114
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
39	74.100M	35.1	+0.0	+0.0	+0.0	+0.3	+0.0	24.0	40.0 -16.0	Vert
			+0.0	+0.0	+9.2	+0.5			Low X-Axis	134
			+0.4	+6.5	+0.0	-28.0				
40	7.101.0003.f	27.0	+0.0	22.2	0.7		0.0	25.6	<b>7</b> 40 454	** .
	5421.030M	27.8	-30.2	+33.2	+0.5	+3.1	+0.0	37.6	54.0 -16.4	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0			Low Y-Axis	101
			+0.0	+0.0	+0.0	+0.0				
	5421.030M	38.1	+0.0	+33.2	+0.5	+3.1	+0.0	47.9	54.0 -6.1	Horiz
	3421.030M	36.1	-30.2 +2.9	+33.2	+0.3	+0.0	+0.0	47.9	Low Y-Axis	1011Z
			+2.9 +0.0	+0.3 +0.0	+0.0	+0.0 +0.0			LUW 1-AXIS	101
			+0.0	10.0	10.0	10.0				
42	73.980M	34.8	+0.0	+0.0	+0.0	+0.3	+0.0	23.6	40.0 -16.4	Vert
72	/3./00IVI	J- <b>T.</b> U	+0.0	+0.0	+9.2	+0.5	10.0	23.0	High Z-Axis	99
			+0.4	+6.4	+0.0	-28.0			-11011 - 1 11110	
			+0.0		. 3.0	_0.0				
43	74.450M	33.8	+0.0	+0.0	+0.0	+0.3	+0.0	22.7	40.0 -17.3	Vert
			+0.0	+0.0	+9.2	+0.5			High Y-Axis	99
			+0.4	+6.5	+0.0	-28.0			<u> </u>	
			+0.0							
44	73.980M	33.8	+0.0	+0.0	+0.0	+0.3	+0.0	22.6	40.0 -17.4	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Y-Axis	99
			+0.4	+6.4	+0.0	-28.0				
			+0.0							
	5446.400M	26.5	-30.2	+33.2	+0.4	+3.1	+0.0	36.2	54.0 -17.8	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0			High Z-Axis	113
			+0.0	+0.0	+0.0	+0.0				
			+0.0							

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<u></u>									
^ 5446.400M	39.4	-30.2	+33.2	+0.4	+3.1	+0.0	49.1	54.0 -4.9	Horiz
		+2.9	+0.3	+0.0	+0.0			High Z-Axis	113
		+0.0	+0.0	+0.0	+0.0				
47 74 24 43 5	22.0	+0.0	.00	.00	.0.2	. 0. 0	21.7	40.0 10.3	<b>T7</b> .
47 74.244M	32.8	+0.0	+0.0	+0.0	+0.3	+0.0	21.7	40.0 -18.3	Vert
QP		+0.0	+0.0	+9.2	+0.5	306		High X-Axis	100
		+0.4	+6.5	+0.0	-28.0				
48 3632.483M	22.1	+0.0	120.2	.0.4	+2.2	.00	35.6	540 104	II a ni n
	32.1	-30.9 +2.1	+29.3 +0.3	$+0.4 \\ +0.0$	+2.3 +0.0	+0.0 360	33.0	54.0 -18.4	Horiz
Ave		+2.1 +0.0	+0.5 +0.0	+0.0 +0.0	+0.0	300		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
^ 3632.483M	42.9	-30.9	+29.3	+0.4	+2.3	+0.0	46.4	54.0 -7.6	Horiz
3032.463WI	42.7	+2.1	+29.3	+0.4	+2.3	+0.0	40.4	High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0			Iligii I-Axis	113
		+0.0	10.0	10.0	10.0				
50 3615.440M	31.6	-30.9	+29.3	+0.4	+2.3	+0.0	35.2	54.0 -18.8	Horiz
Ave	51.0	+2.2	+0.3	+0.0	+0.0	360	33.2	Low Y-Axis	107
= 4. ¥		+0.0	+0.0	+0.0	+0.0	- 50		·= ·· = · • • • • •	
		+0.0							
^ 3615.440M	43.3	-30.9	+29.3	+0.4	+2.3	+0.0	46.9	54.0 -7.1	Horiz
		+2.2	+0.3	+0.0	+0.0			Low Y-Axis	107
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
52 3615.100M	28.5	-30.9	+29.3	+0.4	+2.3	+0.0	32.1	54.0 -21.9	Vert
Ave		+2.2	+0.3	+0.0	+0.0	360		Low Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
53 3632.030M	26.9	-30.9	+29.3	+0.4	+2.3	+0.0	30.4	54.0 -23.6	Vert
Ave		+2.1	+0.3	+0.0	+0.0			High Z-Axis	132
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 3632.083M	45.0	-30.9	+29.3	+0.4	+2.3	+0.0	48.5	54.0 -5.5	Vert
		+2.1	+0.3	+0.0	+0.0	356		High X-Axis	107
		+0.0	+0.0	+0.0	+0.0				
A 0.000 00005	40.4	+0.0	20.2	0.1			42.0	<b>740</b>	***
^ 3632.030M	40.4	-30.9	+29.3	+0.4	+2.3	+0.0	43.9	54.0 -10.1	Vert
		+2.1	+0.3	+0.0		360		High Z-Axis	132
		+0.0	+0.0	+0.0	+0.0				
56 001 070M	5/1 1	+0.0	+ΩΩ	+ O O	+1.0	ι Ο Ο	640	91.9 -27.9	Vert
56 901.970M	54.1	+0.0 +0.0	$+0.0 \\ +0.0$	+0.0 +9.6	$+1.0 \\ +2.0$	+0.0	64.0	91.9 -27.9 Low Y-Axis	vert 99
		+0.0	+0.0	+9.6 +0.0	+2.0 -27.4			LUW I-AXIS	77
		+2.3 +0.0	⊤∠∠ <b>.</b> 4	±0.0	-21.4				
57 7231.120M	44.6	-28.2	+35.7	+0.6	+3.0	+0.0	59.6	91.9 -32.3	Horiz
JI 12J1.12UWI	++.∪	+3.6	+0.3	+0.0	+0.0	265	33.0	Low Y-Axis	113
		+0.0	+0.0	+0.0	+0.0	203		LOW I TIAIS	113
		+0.0	. 0.0	. 5.0	. 0.0				
58 902.000M	47.5	+0.0	+0.0	+0.0	+1.0	+0.0	57.4	91.9 -34.5	Vert
50 702.000111	. 7.3	+0.0	+0.0	+9.6	+2.0	376	57.1	Low X-Axis	100
		+2.3	+22.4	+0.0	-27.4	270			100
		+0.0	··	. 5.0	_,				
		1 3.0							

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59	901.850M	45.8	+0.0	+0.0	+0.0	+1.0	+0.0	55.7	91.9 -36.2	Horiz
			+0.0	+0.0	+9.6	+2.0			Low Y-Axis	151
			+2.3	+22.4	+0.0	-27.4				
			+0.0							
60	7227.620M	40.5	-28.2	+35.7	+0.6	+3.0	+0.0	55.5	91.9 -36.4	Horiz
			+3.6	+0.3	+0.0	+0.0	360		Low Z-Axis	117
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
61	901.970M	44.7	+0.0	+0.0	+0.0	+1.0	+0.0	54.6	91.9 -37.3	Vert
			+0.0	+0.0	+9.6	+2.0			High Y-Axis	99
			+2.3	+22.4	+0.0	-27.4				
		44.5	+0.0	21.7	0.7	2.0			01.0	**
62	2 6356.467M	41.5	-29.0	+34.5	+0.5	+3.0	+0.0	54.2	91.9 -37.7	Vert
			+3.3	+0.4	+0.0	+0.0	267		High X-Axis	99
			+0.0	+0.0	+0.0	+0.0				
		26.7	+0.0	27.7	0.1	2.0			01.0	** .
63	3 7230.636M	36.5	-28.2	+35.7	+0.6	+3.0	+0.0	51.5	91.9 -40.4	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	301		Low X-Axis	107
			+0.0	+0.0	+0.0	+0.0				
L .	7220 (2.0)	44.5	+0.0	25.7	0.6	2.0	0.0	50.5	01.0 22.4	** '
′	7230.636M	44.5	-28.2	+35.7	+0.6	+3.0	+0.0	59.5	91.9 -32.4	Horiz
			+3.6	+0.3	+0.0	+0.0	360		Low X-Axis	136
			+0.0	+0.0	+0.0	+0.0				
		20.5	+0.0	24.5	0.5	2.0	0.0	51.0	01.0 40.7	** '
65	6356.517M	38.5	-29.0	+34.5	+0.5	+3.0	+0.0	51.2	91.9 -40.7	Horiz
			+3.3	+0.4	+0.0	+0.0	360		High Y-Axis	118
			+0.0	+0.0	+0.0	+0.0				
	. 001.070M	41.1	+0.0	+ O O	.00	+1.0	+ O O	<b>510</b>	01.0 40.0	<b>V</b> 74
66	901.970M	41.1	+0.0	+0.0	+0.0	+1.0	+0.0	51.0	91.9 -40.9	Vert
			+0.0	+0.0	+9.6	+2.0			High Z-Axis	153
			+2.3	+22.4	+0.0	-27.4				
	. (255 117N/	20.2	+0.0	1245	.0.5	+2.0	+ O O	50.9	91.9 -41.0	<b>V</b> 74
07	6355.117M	38.2	-29.0 +3.3	+34.5	+0.5	+3.0	+0.0	30.9		Vert 99
				+0.4	+0.0	+0.0			High Y-Axis	99
			+0.0 +0.0	+0.0	+0.0	+0.0				
68	2 001 070M	20 /		ι Ο Ο	ι Ο Ο	+1.0	+0.0	48.3	01.0 42.6	Hori-
08	901.970M	38.4	$+0.0 \\ +0.0$	$+0.0 \\ +0.0$	+0.0 +9.6	$+1.0 \\ +2.0$	+0.0	40.3	91.9 -43.6	Horiz 129
				+22.4					High Y-Axis	129
			+2.3 +0.0	±∠∠ <b>.4</b>	+0.0	-27.4				
69	901.970M	37.0	+0.0	+0.0	+0.0	+1.0	+0.0	46.9	91.9 -45.0	Horiz
05	701.7/UW	37.0	+0.0	+0.0	+0.0 +9.6	+2.0	±0.0	+0.7	High Z-Axis	153
			+2.3	+22.4	+9.0	-27.4			IIIgii L-Mais	133
			+0.0	1 44.4	10.0	-21. <del>4</del>				
70	868.710M	36.7	+0.0	+0.0	+0.0	+1.0	+0.0	46.4	91.9 -45.5	Vert
/(	, 000./101/1	50.7	+0.0	+0.0	+9.7	+2.0	+0.0 45	70.4	High X-Axis	100
			+2.2	+22.3	+0.0	-27.5	7.5		IIIgii A-AMS	100
			+0.0	1 44.3	10.0	21.3				
71	48.830M	53.7	+0.0	+0.0	+0.0	+0.2	+0.0	44.5	91.9 -47.4	Vert
/ 1	- TOTOTON	55.1	+0.0	+0.0 +0.0	+9.2	+0.2	360	++.5	High X-Axis	126
			+0.3	+8.7	+0.0	-28.0	300		111511 /1 /1/10	120
			+0.0	10.7	10.0	20.0				
<u> </u>			ru.U							

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	6326.836M	30.8	-29.1	+34.5	+0.5	+3.0	+0.0	43.4	91.9 -48.5	Horiz
	Ave		+3.3	+0.4	+0.0	+0.0			Low X-Axis	136
			+0.0	+0.0	+0.0	+0.0				
•	(22 ( 022) (	40.7	+0.0	24.5	0.5	2.0	0.0	55.0	01.0	TT .
^	6326.833M	42.7	-29.1	+34.5	+0.5	+3.0	+0.0	55.3	91.9 -36.6	Horiz
			+3.3	+0.4	+0.0	+0.0	344		Low X-Axis	151
			+0.0	+0.0	+0.0	+0.0				
74	797.780M	245	+0.0	+0.0	.00	.00	+0.0	43.2	91.9 -48.7	Vert
/4	797.780IVI	34.5	+0.0 +0.0	+0.0 +0.0	+0.0 +9.7	+0.9 +1.9	+0.0 360	43.2		100
			+2.1	+22.0	+9.7	-27.9	300		High X-Axis	100
			+0.0	122.0	10.0	-21.7				
75	881.850M	32.0	+0.0	+0.0	+0.0	+1.0	+0.0	41.7	91.9 -50.2	Vert
75	001.030W	32.0	+0.0	+0.0	+9.7	+2.0	376	71.7	High X-Axis	100
			+2.2	+22.3	+0.0	-27.5	370		Ingii II I Ini	100
			+0.0	122.3	10.0	27.5				
76	747.570M	33.9	+0.0	+0.0	+0.0	+0.9	+0.0	41.6	91.9 -50.3	Vert
. 0			+0.0	+0.0	+9.7	+1.8	360	0	High X-Axis	100
			+2.0	+21.3	+0.0	-28.0			8	
			+0.0							
77	892.520M	31.6	+0.0	+0.0	+0.0	+1.0	+0.0	41.5	91.9 -50.4	Vert
			+0.0	+0.0	+9.6	+2.0	264		Low Z-Axis	99
			+2.3	+22.4	+0.0	-27.4				
			+0.0							
78	695.610M	34.4	+0.0	+0.0	+0.0	+0.9	+0.0	41.1	91.9 -50.8	Vert
			+0.0	+0.0	+9.7	+1.7	360		High X-Axis	100
			+1.9	+20.7	+0.0	-28.2				
			+0.0							
79	881.550M	31.2	+0.0	+0.0	+0.0	+1.0	+0.0	40.9	91.9 -51.0	Vert
			+0.0	+0.0	+9.7	+2.0	376		High X-Axis	100
			+2.2	+22.3	+0.0	-27.5				
	100606716	12.0	+0.0	24.7	0.0	1.4	0.0	40.0	01.0 51.1	TT .
80	1806.867M	42.9	-30.6	+24.7	+0.3	+1.4	+0.0	40.8	91.9 -51.1	Horiz
			+1.6	+0.5	+0.0	+0.0	-16		Low X-Axis	102
			+0.0	+0.0	+0.0	+0.0				
01	1816.133M	42.7	+0.0	+24.8	+0.3	+1.4	+0.0	40.6	91.9 -51.3	Vert
01	1010.1331/1	42.1	-30.6 +1.6	+24.8	+0.3		+0.0 360	40.0	High Y-Axis	115
			+0.0	+0.4	+0.0	+0.0	500		IIIgii I-AAIS	113
			+0.0	10.0	10.0	10.0				
82	1807.783M	41.8	-30.6	+24.7	+0.3	+1.4	+0.0	39.6	91.9 -52.3	Horiz
02		.1.0	+1.6	+0.4	+0.0	+0.0	376	27.0	Low Z-Axis	110
			+0.0	+0.0	+0.0	+0.0			- ···	
			+0.0							
83	1816.333M	41.6	-30.6	+24.8	+0.3	+1.4	+0.0	39.5	91.9 -52.4	Horiz
			+1.6	+0.4	+0.0	+0.0			High Y-Axis	99
			+0.0	+0.0	+0.0	+0.0			-	
			+0.0							
84	1807.650M	41.5	-30.6	+24.7	+0.3	+1.4	+0.0	39.3	91.9 -52.6	Vert
			+1.6	+0.4	+0.0	+0.0	-16		Low Z-Axis	121
			+0.0	+0.0	+0.0	+0.0				
			+0.0							

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85	60.570M	51.4	+0.0	+0.0	+0.0	+0.3	+0.0	39.1	91.9 -52.8	Vert
			+0.0	+0.0	+9.2	+0.5	114		Low X-Axis	134
			+0.4	+5.3	+0.0	-28.0				
0.5	100 5 5 5 5 7 1	44.0	+0.0		0.0		0.0	20.0	01.0 50.0	
86	1806.667M	41.0	-30.6	+24.7	+0.3	+1.4	+0.0	38.9	91.9 -53.0	Horiz
			+1.6	+0.5	+0.0	+0.0			Low Y-Axis	99
			+0.0	+0.0	+0.0	+0.0				
97	1007 11714	40.0	+0.0	1247	+0.2	. 1 4	+0.0	20.0	91.9 -53.1	Mont
87	1807.117M	40.9	-30.6 +1.6	+24.7 +0.5	+0.3 +0.0	$+1.4 \\ +0.0$	+0.0 166	38.8	91.9 -53.1 Low X-Axis	Vert 102
			+0.0	+0.0	+0.0	+0.0	100		LOW A-AXIS	102
			+0.0	10.0	10.0	10.0				
88	1815.680M	40.9	-30.6	+24.8	+0.3	+1.4	+0.0	38.8	91.9 -53.1	Horiz
00	1013.000W	70.7	+1.6	+0.4	+0.0	+0.0	10.0	30.0	High Z-Axis	115
			+0.0	+0.0	+0.0	+0.0			111611 2 1 11115	110
			+0.0	. 0.0		. 0.0				
89	1816.460M	40.6	-30.6	+24.8	+0.3	+1.4	+0.0	38.5	91.9 -53.4	Vert
			+1.6	+0.4	+0.0	+0.0	360		High Z-Axis	114
			+0.0	+0.0	+0.0	+0.0			C	
			+0.0							
90	33.960M	40.1	+0.0	+0.0	+0.0	+0.2	+0.0	38.3	91.9 -53.6	Vert
			+0.0	+0.0	+9.1	+0.3	174		High X-Axis	100
			+0.2	+16.4	+0.0	-28.0				
			+0.0							
91	34.320M	40.3	+0.0	+0.0	+0.0	+0.2	+0.0	38.3	91.9 -53.6	Vert
			+0.0	+0.0	+9.1	+0.3			Low X-Axis	134
			+0.2	+16.2	+0.0	-28.0				
	<b>5</b> 00 0 <b>5</b> 03 <b>5</b>		+0.0	0.0	0.0	0.0	0.0	20.1	01.0 70.0	**
92	700.050M	31.4	+0.0	+0.0	+0.0	+0.9	+0.0	38.1	91.9 -53.8	Vert
			+0.0	+0.0	+9.7	+1.7	259		High X-Axis	100
			+1.9	+20.7	+0.0	-28.2				
02	1807.567M	40.3	+0.0	+24.7	+0.3	+1.4	+0.0	38.1	91.9 -53.8	Vert
93	1007.307WI	40.3	-30.0 +1.6	+24.7	+0.3	+0.0	<del>+0.0</del> 360	36.1	Low Y-Axis	108
			+0.0	+0.4	+0.0	+0.0 +0.0	300		LOW 1-WIS	100
			+0.0	10.0	10.0	10.0				
94	49.523M	47.6	+0.0	+0.0	+0.0	+0.2	+0.0	38.0	91.9 -53.9	Vert
	QP	. / . 0	+0.0	+0.0	+9.2	+0.4		20.0	High X-Axis	99
	_		+0.3	+8.3	+0.0	-28.0			6	
			+0.0		,					
95	33.500M	39.6	+0.0	+0.0	+0.0	+0.2	+0.0	38.0	91.9 -53.9	Vert
			+0.0	+0.0	+9.1	+0.3	360		Low Z-Axis	99
			+0.2	+16.6	+0.0	-28.0				
			+0.0							
96	33.970M	39.5	+0.0	+0.0	+0.0	+0.2	+0.0	37.7	91.9 -54.2	Horiz
			+0.0	+0.0	+9.1	+0.3			Low Y-Axis	151
			+0.2	+16.4	+0.0	-28.0				
			+0.0							
97	59.280M	49.7	+0.0	+0.0	+0.0	+0.3	+0.0	37.6	91.9 -54.3	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Z-Axis	99
			+0.4	+5.5	+0.0	-28.0				
			+0.0							

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98	59.870M	49.7	+0.0	+0.0	+0.0	+0.3	+0.0	37.4	91.9 -54.5	Vert
			+0.0	+0.0	+9.2	+0.5			High Y-Axis	99
			+0.4	+5.3	+0.0	-28.0				
			+0.0							
99	53.220M	48.2	+0.0	+0.0	+0.0	+0.2	+0.0	37.4	91.9 -54.5	Vert
			+0.0	+0.0	+9.2	+0.4			High Y-Axis	99
			+0.3	+7.1	+0.0	-28.0				
100			+0.0							
100	34.080M	39.1	+0.0	+0.0	+0.0	+0.2	+0.0	37.2	91.9 -54.7	Horiz
			+0.0	+0.0	+9.1	+0.3			High Y-Axis	250
			+0.2	+16.3	+0.0	-28.0				
101	60 570M	40.5	+0.0	. 0. 0	. 0. 0	.0.2	. 0. 0	27.2	01.0 54.7	X7 .
101	60.570M	49.5	+0.0	+0.0	+0.0	+0.3	+0.0	37.2	91.9 -54.7	Vert 99
			+0.0	+0.0	+9.2	+0.5			High Z-Axis	99
			+0.4	+5.3	+0.0	-28.0				
102	60.680M	49.4	+0.0	+ O O	+0.0	+0.2	+0.0	37.1	91.9 -54.8	Vert
102	00.080101	47.4	$+0.0 \\ +0.0$	$^{+0.0}_{+0.0}$	+0.0 +9.2	+0.3 +0.5	+0.0 360	3/.1	91.9 -54.8 Low Y-Axis	vert 99
			+0.0	+5.3	+0.0	-28.0	300		LOW 1-AXIS	77
			+0.4	⊤J.J	+0.0	-20.0				
103	33.620M	38.4	+0.0	+0.0	+0.0	+0.2	+0.0	36.8	91.9 -55.1	Horiz
103	33.020W	30.4	+0.0	+0.0	+9.1	+0.3	360	30.0	High Z-Axis	153
			+0.2	+16.6	+0.0	-28.0	300		Ingil 2 Tixis	133
			+0.0	. 10.0		20.0				
104	33.620M	38.3	+0.0	+0.0	+0.0	+0.2	+0.0	36.7	91.9 -55.2	Horiz
			+0.0	+0.0	+9.1	+0.3			Low Z-Axis	153
			+0.2	+16.6	+0.0	-28.0				
			+0.0							
105	33.500M	38.1	+0.0	+0.0	+0.0	+0.2	+0.0	36.5	91.9 -55.4	Horiz
			+0.0	+0.0	+9.1	+0.3			Low Z-Axis	134
			+0.2	+16.6	+0.0	-28.0				
			+0.0							
106	58.700M	48.0	+0.0	+0.0	+0.0	+0.3	+0.0	36.0	91.9 -55.9	Horiz
			+0.0	+0.0	+9.2	+0.5			Low Y-Axis	151
			+0.4	+5.6	+0.0	-28.0				
			+0.0							
107	58.700M	47.5	+0.0	+0.0	+0.0	+0.3	+0.0	35.5	91.9 -56.4	Horiz
			+0.0	+0.0	+9.2	+0.5			High Y-Axis	250
			+0.4	+5.6	+0.0	-28.0				
100	22.622.5	27.0	+0.0	. 0. 0	. 0. 0	.0.2	.0.0	25.4	01.0	<b>T7</b> .
108	33.620M	37.0	+0.0	+0.0	+0.0	+0.2	+0.0	35.4	91.9 -56.5	Vert
			+0.0	+0.0	+9.1	+0.3			High Y-Axis	99
			+0.2	+16.6	+0.0	-28.0				
100	22 620M	26.0	+0.0	+ O O	ΙΟ Ο	10.2	+0.0	25.0	01.0 56.7	Vont
109	33.620M	36.8	+0.0	+0.0	+0.0	+0.2	+0.0	35.2	91.9 -56.7	Vert 99
			$+0.0 \\ +0.2$	$+0.0 \\ +16.6$	+9.1 +0.0	+0.3 -28.0	360		Low Y-Axis	99
			+0.2 $+0.0$	±10.0	+0.0	-20.0				
110	33.730M	36.6	+0.0	+0.0	+0.0	+0.2	+0.0	34.9	91.9 -57.0	Vert
110	33.73UWI	50.0	+0.0 +0.0	+0.0 +0.0	+0.0 +9.1	+0.2	+0.0	34.9	High Z-Axis	99
			+0.0	+16.5	+0.0	-28.0			IIIgii Z-Axis	27
			+0.2	110.5	10.0	20.0				
			10.0							

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111	55.080M	45.5	+0.0	+0.0	+0.0	+0.2	+0.0	34.2	91.9 -57.7	Horiz
			+0.0	+0.0	+9.2	+0.4	360		High Z-Axis	153
			+0.3	+6.6	+0.0	-28.0				
112	52.0503.5	4 4 4	+0.0	. 0. 0	. 0. 0	.0.2	. 0. 0	24.0	01.0	<b>T7</b> ·
112	52.050M	44.4	+0.0	+0.0	+0.0	+0.2	+0.0	34.0	91.9 -57.9	Vert
			+0.0	+0.0	+9.2	+0.4			High Z-Axis	99
			+0.3 +0.0	+7.5	+0.0	-28.0				
113	54.970M	45.3	+0.0	+0.0	+0.0	+0.2	+0.0	34.0	91.9 -57.9	Horiz
113	34.970IVI	45.5	+0.0	+0.0	+9.2	+0.2	+0.0	34.0	High Y-Axis	250
			+0.3	+6.6	+0.0	-28.0			Iligii 1-Axis	230
			+0.0	10.0	10.0	20.0				
114	58.120M	45.3	+0.0	+0.0	+0.0	+0.3	+0.0	33.5	91.9 -58.4	Horiz
11.	30.12011	13.3	+0.0	+0.0	+9.2	+0.5	10.0	33.3	Low Z-Axis	134
			+0.4	+5.8	+0.0	-28.0				
			+0.0	. 5.0		_0.0				
115	55.430M	44.9	+0.0	+0.0	+0.0	+0.2	+0.0	33.5	91.9 -58.4	Horiz
	•	-	+0.0	+0.0	+9.2	+0.4			Low Y-Axis	151
			+0.3	+6.5	+0.0	-28.0				
			+0.0							
116	54.030M	44.4	+0.0	+0.0	+0.0	+0.2	+0.0	33.4	91.9 -58.5	Vert
			+0.0	+0.0	+9.2	+0.4	360		Low Z-Axis	99
			+0.3	+6.9	+0.0	-28.0				
			+0.0							
117	51.700M	42.7	+0.0	+0.0	+0.0	+0.2	+0.0	32.4	91.9 -59.5	Vert
			+0.0	+0.0	+9.2	+0.4	360		Low Y-Axis	99
			+0.3	+7.6	+0.0	-28.0				
410	<b>7</b> 0.0007.7	10.0	+0.0					22.1	04.0	
118	58.000M	43.9	+0.0	+0.0	+0.0	+0.3	+0.0	32.1	91.9 -59.8	Horiz
			+0.0	+0.0	+9.2	+0.5	360		High Z-Axis	153
			+0.4	+5.8	+0.0	-28.0				
110	54 150N/I	42.7	+0.0	100	ΙΟ Ο	10.2	100	21.7	01.0 (0.2	IIa:-
119	54.150M	42.7	+0.0	+0.0	+0.0	+0.2	+0.0	31.7	91.9 -60.2	Horiz
			+0.0 +0.3	+0.0 +6.9	+9.2 +0.0	+0.4 -28.0			Low Z-Axis	134
			+0.5 $+0.0$	+0.9	+0.0	-20.0				
120	463.620M	28.3	+0.0	+0.0	+0.0	+0.7	+0.0	30.8	91.9 -61.1	Vert
120	703.020111	20.3	+0.0 +0.0	+0.0	+9.7	+1.4		50.0	High X-Axis	100
			+1.5	+17.4	+0.0	-28.2	150		111611 11 111110	100
			+0.0	1 1 / 1 1	1 0.0	20.2				
121	51.700M	40.3	+0.0	+0.0	+0.0	+0.2	+0.0	30.0	91.9 -61.9	Horiz
	- ,		+0.0	+0.0	+9.2	+0.4			Low Y-Axis	151
			+0.3	+7.6	+0.0	-28.0			-	-
			+0.0							
122	67.220M	39.3	+0.0	+0.0	+0.0	+0.3	+0.0	27.4	91.9 -64.5	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Z-Axis	99
			+0.4	+5.7	+0.0	-28.0				
			+0.0							
123	300.320M	28.5	+0.0	+0.0	+0.0	+0.6	+0.0	27.0	91.9 -64.9	Vert
			+0.0	+0.0	+9.7	+1.1	246		Low Z-Axis	99
			+1.1	+13.1	+0.0	-27.1				
			+0.0							

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124	219.280M	29.7	+0.0	+0.0	+0.0	+0.5	+0.0	24.8	91.9 -67.1	Vert
			+0.0	+0.0	+9.6	+0.9	337		High X-Axis	100
			+0.9	+10.4	+0.0	-27.2				
107	71 7703 4	24.6	+0.0	. 0. 0	.0.0	.0.2	. 0. 0	22.1	01.0	TT. *
125	71.770M	34.6	+0.0	+0.0	+0.0	+0.3	+0.0	23.1	91.9 -68.8	Horiz
			$+0.0 \\ +0.4$	$+0.0 \\ +6.1$	+9.2 +0.0	+0.5 -28.0	360		High Z-Axis	153
			+0.4 +0.0	+0.1	+0.0	-28.0				
126	10.800M	19.5	+0.0	+0.0	+0.0	+0.1	-40.0	-10.5	91.9 -102.4	Perpe
120	10.6001	19.5	+0.0	+0.0	+0.0	+0.1	-40.0	-10.5	High X-Axis	134
			+0.0	+0.0	+0.0	+0.0			IIIgii A-Aais	134
			+9.8	10.0	10.0	10.0				
127	10.700M	17.4	+0.0	+0.0	+0.0	+0.1	-40.0	-12.6	91.9 -104.5	Perpe
127	10.700141	17	+0.1	+0.0	+0.0	+0.0	10.0	12.0	Low X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+9.8							
128	22.840M	18.1	+0.0	+0.0	+0.0	+0.2	-40.0	-14.9	91.9 -106.8	Paral
			+0.2	+0.0	+0.0	+0.0			Low Y-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.6							
129	23.080M	18.2	+0.0	+0.0	+0.0	+0.2	-40.0	-14.9	91.9 -106.8	Paral
			+0.2	+0.0	+0.0	+0.0	360		Low X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.5							
130	23.040M	18.1	+0.0	+0.0	+0.0	+0.2	-40.0	-15.0	91.9 -106.9	Paral
			+0.2	+0.0	+0.0	+0.0			High Z-Axis	134
			+0.0	+0.0	+0.0	+0.0				
101	22 0001 6	15.0	+6.5	0.0	0.0	0.0	40.0	1.5.5	01.0 107.6	
131	22.990M	17.3	+0.0	+0.0	+0.0	+0.2	-40.0	-15.7	91.9 -107.6	Paral
			+0.2	+0.0	+0.0	+0.0			High Y-Axis	134
			+0.0	+0.0	+0.0	+0.0				
122	22 2001/4	16.1	+6.6	+ O O	+0.0	+0.2	40.0	16.0	01.0 100.0	Domo1
132	22.890M	16.1	+0.0 +0.2	$^{+0.0}_{+0.0}$	$+0.0 \\ +0.0$	+0.2 +0.0	-40.0	-16.9	91.9 -108.8 Low Z-Axis	Paral 134
			+0.2	+0.0 +0.0	+0.0 +0.0	+0.0 +0.0			LUW L-AXIS	134
			+6.6	10.0	10.0	10.0				
133	13.700k	47.3	+0.0	+0.0	+0.0	+0.0	-80.0	-18.1	91.9 -110.0	Perpe
133	13.700K	71.3	+0.0	+0.0	+0.0	+0.0	360	10.1	High X-Axis	134
			+0.0	+0.0	+0.0	+0.0	230			101
			+14.6							
134	9.000k	45.9	+0.0	+0.0	+0.0	+0.0	-80.0	-18.6	91.9 -110.5	Paral
-			+0.0	+0.0	+0.0	+0.0			Low X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+15.5							
135	22.490M	13.0	+0.0	+0.0	+0.0	+0.2	-40.0	-19.9	91.9 -111.8	Paral
			+0.2	+0.0	+0.0	+0.0	343		High X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.7							
136	150.000k	50.4	+0.0	+0.0	+0.0	+0.0	-80.0	-20.1	91.9 -112.0	Perpe
			+0.0	+0.0	+0.0	+0.0			High X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+9.5							

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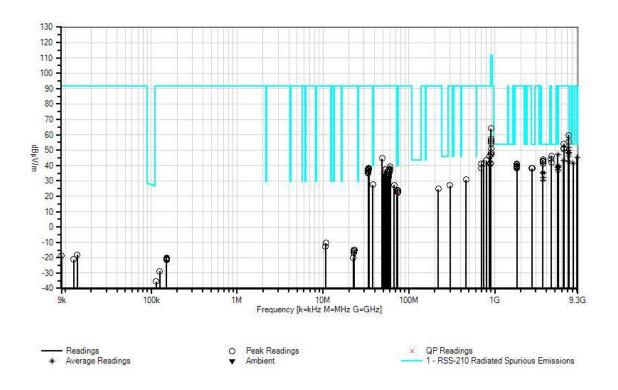


107	1.50.0001	<i>5</i> 0.2	. 0. 0	. 0. 0	. 0. 0	. 0. 0	00.0	20.2	01.0	110.1	D 1
137	150.000k	50.3	+0.0	+0.0	+0.0	+0.0	-80.0	-20.2	91.9	-112.1	Paral
			+0.0	+0.0	+0.0	+0.0			Low Z-Axis		134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
138	150.000k	49.9	+0.0	+0.0	+0.0	+0.0	-80.0	-20.6	91.9	-112.5	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low X-Ax	is	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
139	150.000k	49.4	+0.0	+0.0	+0.0	+0.0	-80.0	-21.1	91.9	-113.0	Perpe
			+0.0	+0.0	+0.0	+0.0			Low X-Ax	134	
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
140	12.520k	43.6	+0.0	+0.0	+0.0	+0.0	-80.0	-21.2	91.9	-113.1	Paral
			+0.0	+0.0	+0.0	+0.0			High X-A	xis	134
			+0.0	+0.0	+0.0	+0.0			_		
			+15.2								
141	150.000k	49.0	+0.0	+0.0	+0.0	+0.0	-80.0	-21.5	91.9	-113.4	Paral
			+0.0	+0.0	+0.0	+0.0	119		High X-Axis		134
			+0.0	+0.0	+0.0	+0.0			_		
			+9.5								
142	125.795k	41.6	+0.0	+0.0	+0.0	+0.0	-80.0	-28.9	91.9	-120.8	Perpe
			+0.0	+0.0	+0.0	+0.0			Low X-Ax	is	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
143	113.810k	35.1	+0.0	+0.0	+0.0	+0.0	-80.0	-35.4	91.9	-127.3	Paral
			+0.0	+0.0	+0.0	+0.0			High X-A	134	
			+0.0	+0.0	+0.0	+0.0			C		
			+9.5								

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CKC Laboratories, Inc. Date: 7/9/2013 Time: 10:01:23 Leap Devices WO#: 94653 Test Distance: 3 Meters Sequence#: 2 Horiz Leap Devices Camera Flash Trigger P/N: Nano TX (Rev2)





Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: 15.247(d) / 15.209 Radiated Band Edge Spurious Emissions

 Work Order #:
 94653
 Date:
 7/9/2013

 Test Type:
 Maximized Emissions
 Time:
 10:01:23

Equipment: Camera Flash Trigger Sequence#: 2

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

# Test Equipment:

1 est Equi	pmem.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T2	AN01467	Horn Antenna-ANSI	3115	10/19/2011	10/19/2013
		C63.5 Calibration			
Т3	AN03123	Cable	32026-2-29801-	10/14/2011	10/14/2013
			12		
T4	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
T5	ANP05965	Cable	Various	8/26/2011	8/26/2013
Т6	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
T7	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
Т8	ANP05360	Cable	RG214	12/3/2012	12/3/2014
Т9	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T10	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T11	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
T12	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T13	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

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

	,			
Function	Manufacturer	Model #	S/N	
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)		

# Support Devices:

Function	Manufacturer	Model #	S/N
Digital Camera	Pentax	K200D	2947829

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# Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate.

Frequency: 9k-10GHz

Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm Measured Power= 4.7dBm & 4.9dBm Below 30MHz; CISPR Bandwidths 30MHz-1000 MHz; RBW=120kHz=VBW

1-10GHz; RBW=1MHz=VBW

High & Low channel; Vert & Horz; X, Y & Z-axis investigated. Only worst case recorded

15.31(e) compliance: a freshly charged battery is installed Test method in accordance with FCC document: KDB 558074

Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

Ext Attn: 0 dB

	Attn: U dB										
Measi	irement Data:		eading lis		_				e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBμV/m	dB	Ant
1	7264.417M	35.0	-28.2	+35.7	+0.5	+3.1	+0.0	50.0	54.0	-4.0	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0			High X-Ax	is	100
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	7264.417M	45.0	-28.2	+35.7	+0.5	+3.1	+0.0	60.0	54.0	+6.0	Horiz
			+3.6	+0.3	+0.0	+0.0	-15		High X-Ax	is	99
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
3	7261.833M	33.3	-28.2	+35.7	+0.5	+3.1	+0.0	48.3	54.0	-5.7	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	303		High X-Ax	is	116
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
4	7264.750M	32.9	-28.2	+35.7	+0.5	+3.1	+0.0	47.9	54.0	-6.1	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	360		High Y-Ax	is	111
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
5	5421.133M	37.2	-30.2	+33.2	+0.5	+3.1	+0.0	47.0	54.0	-7.0	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0	283		Low X-Axi	S	151
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
٨	5421.133M	46.1	-30.2	+33.2	+0.5	+3.1	+0.0	55.9	54.0	+1.9	Horiz
			+2.9	+0.3	+0.0	+0.0	220		Low X-Axi	S	102
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
7	7264.767M	31.3	-28.2	+35.7	+0.5	+3.1	+0.0	46.3	54.0	-7.7	Horiz
	Ave		+3.6	+0.3	+0.0	+0.0	-15		High X-Ax	is	165
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

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^ 7264.75	0M 43.5		+35.7	+0.5	+3.1	+0.0	58.5	54.0 +4.5	Horiz
		+3.6	+0.3	+0.0	+0.0			High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0				
A 706476	714 42.2	+0.0	. 25.7	.0.5	. 2.1	. 0. 0	<b>50.3</b>	54.0 .4.2	TT
^ 7264.76	7M 43.2	-28.2	+35.7	+0.5	+3.1	+0.0	58.2	54.0 +4.2	Horiz
		+3.6 +0.0	+0.3 +0.0	$^{+0.0}_{+0.0}$	+0.0 +0.0	360		High X-Axis	114
		+0.0	+0.0	+0.0	+0.0				
10 4539.93	3M 39.9	-31.0	+31.3	+0.2	+2.7	+0.0	46.0	54.0 -8.0	Vert
10 4337.73	37.7	+2.6	+0.3	+0.0	+0.0	37	70.0	High X-Axis	107
		+0.0	+0.0	+0.0	+0.0	3,		ingii ii iimis	107
		+0.0							
11 9080.75	0M 27.9	-27.6	+36.7	+0.8	+3.5	+0.0	45.4	54.0 -8.6	Vert
Ave		+3.9	+0.2	+0.0	+0.0	360		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 9080.75	0M 36.8	-27.6	+36.7	+0.8	+3.5	+0.0	54.3	54.0 +0.3	Vert
		+3.9	+0.2	+0.0	+0.0	32		High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
13 4519.23	3M 38.2	-31.0	+31.2	+0.3	+2.7	+0.0	44.3	54.0 -9.7	Vert
		+2.6	+0.3	+0.0	+0.0	360		Low Z-Axis	113
		+0.0	+0.0	+0.0	+0.0				
11 2515 52	2) (	+0.0	20.2	0.4		0.0	12.0	<b>7.1.0</b> 10.0	**
14 3615.63	3M 40.2	-30.9	+29.3	+0.4	+2.3	+0.0	43.8	54.0 -10.2	Vert
		+2.2	+0.3	+0.0	+0.0	341		Low Y-Axis	99
		$^{+0.0}_{+0.0}$	+0.0	+0.0	+0.0				
15 3632.33	3M 39.6	-30.9	+29.3	+0.4	+2.3	+0.0	43.1	54.0 -10.9	Vert
13 3032.33	3N1 39.0	+2.1	+29.3	+0.4	+0.0	289	43.1	High Y-Axis	117
		+0.0	+0.0	+0.0	+0.0	207		Iligii I-Axis	11/
		+0.0	10.0	10.0	10.0				
16 7261.80	0M 27.7	-28.2	+35.7	+0.5	+3.1	+0.0	42.7	54.0 -11.3	Vert
Ave	27.17	+3.6	+0.3	+0.0	+0.0		,	High Z-Axis	105
		+0.0	+0.0	+0.0	+0.0			8	
		+0.0							
^ 7261.80	0M 40.3	-28.2	+35.7	+0.5	+3.1	+0.0	55.3	54.0 +1.3	Vert
		+3.6	+0.3	+0.0		360		High Z-Axis	105
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
18 7264.75	0M 27.4	-28.2	+35.7	+0.5	+3.1	+0.0	42.4	54.0 -11.6	Vert
Ave		+3.6	+0.3	+0.0	+0.0	360		High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
	0) ( ) :-	+0.0							
^ 7264.78	3M 40.4	-28.2	+35.7	+0.5	+3.1	+0.0	55.4	54.0 +1.4	Vert
		+3.6	+0.3	+0.0	+0.0			High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
20 2614.20	OM 20.7	+0.0	120.2	.0.4	. 2. 2	.0.0	10.2	540 117	<b>V</b> 74
20 3614.20	0M 38.7	-30.9	+29.3	+0.4	+2.3	+0.0	42.3	54.0 -11.7	Vert
		+2.2 +0.0	+0.3	+0.0	+0.0	360		Low Z-Axis	122
		+0.0 +0.0	+0.0	+0.0	+0.0				
		+0.0							

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21 4540.030M	35.8	-31.0	+31.3	+0.2	+2.7	+0.0	41.9	54.0 -12.1	Horiz
		+2.6	+0.3	+0.0	+0.0	360		High Z-Axis	148
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
22 8172.750M	25.4	-28.1	+36.1	+0.8	+3.4	+0.0	41.5	54.0 -12.5	Horiz
Ave		+3.7	+0.2	+0.0	+0.0	360		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
A 0170 750M	26.2	+0.0	. 26.1	. 0. 0	. 2. 4	. 0. 0	50.4	<b>540</b> 16	
^ 8172.750M	36.3	-28.1	+36.1	+0.8	+3.4	+0.0	52.4	54.0 -1.6	Horiz
		+3.7 +0.0	+0.2 +0.0	$^{+0.0}_{+0.0}$	+0.0 +0.0	130		High Y-Axis	111
		+0.0	+0.0	+0.0	+0.0				
24 37.930M	31.4	+0.0	+0.0	+0.0	+0.2	+0.0	27.4	40.0 -12.6	Vert
24 37.930WI	31.4	+0.0 +0.0	+0.0 +0.0	+0.0 +9.1	+0.2 $+0.4$	+0.0 347	27.4	40.0 -12.6 Low X-Axis	134
		+0.0	+14.2	+0.0	-28.1	347		LOW A-AXIS	134
		+0.2	T1 <b>4.</b> 2	+0.0	-20.1				
25 3615.283M	37.3	-30.9	+29.3	+0.4	+2.3	+0.0	40.9	54.0 -13.1	Horiz
23 3013.203141	31.3	+2.2	+29.3	+0.4	+0.0	10.0	+0.9	Low Z-Axis	122
		+0.0	+0.0	+0.0	+0.0			LOW Z TIAIS	122
		+0.0	10.0	10.0	10.0				
26 5420.983M	30.3	-30.2	+33.2	+0.5	+3.1	+0.0	40.1	54.0 -13.9	Vert
Ave	30.3	+2.9	+0.3	+0.0	+0.0	10.0	10.1	Low Z-Axis	116
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
27 5446.550M	30.4	-30.2	+33.2	+0.4	+3.1	+0.0	40.1	54.0 -13.9	Vert
Ave		+2.9	+0.3	+0.0	+0.0	360		High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 5446.550M	40.8	-30.2	+33.2	+0.4	+3.1	+0.0	50.5	54.0 -3.5	Vert
		+2.9	+0.3	+0.0	+0.0			High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
29 5446.250M	29.4	-30.2	+33.2	+0.4	+3.1	+0.0	39.1	54.0 -14.9	Vert
Ave		+2.9	+0.3	+0.0	+0.0	360		High Z-Axis	106
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 5446.250M	42.3	-30.2	+33.2	+0.4	+3.1	+0.0	52.0	54.0 -2.0	Vert
		+2.9	+0.3	+0.0	+0.0	347		High Z-Axis	106
		+0.0	+0.0	+0.0	+0.0				
21 5440 00035	20.1	+0.0	. 22.2	. 0. 4	. 2 1	.00	20.0	540 153	77. *
31 5448.800M	29.1	-30.2	+33.2	+0.4	+3.1	+0.0	38.8	54.0 -15.2	Horiz
Ave		+2.9	+0.3	+0.0	+0.0	360		High Y-Axis	139
		+0.0 +0.0	+0.0	+0.0	+0.0				
^ 5448.733M	43.4	-30.2	+33.2	+0.4	+3.1	+0.0	53.1	54.0 -0.9	Horiz
3448./33IVI	43.4	-30.2 +2.9	+33.2	+0.4	+3.1 +0.0	+0.0 360	33.1	High X-Axis	107
		+2.9	+0.3 +0.0	+0.0	+0.0 +0.0	300		Ingli A-AXIS	107
		+0.0	10.0	10.0	10.0				
^ 5448.800M	40.5	-30.2	+33.2	+0.4	+3.1	+0.0	50.2	54.0 -3.8	Horiz
J-70.0001VI	TU.J	+2.9	+0.3	+0.4	+0.0	105	50.2	High Y-Axis	152
		+0.0	+0.0	+0.0	+0.0	105		111611 1 111113	132
		+0.0	. 0.0	. 0.0	. 0.0				
		10.0							

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	5421.030M	28.8	-30.2	+33.2	+0.5	+3.1	+0.0	38.6	54.0 -15.4	Vert
	Ave		+2.9	+0.3	+0.0	+0.0	360		Low Y-Axis	107
			+0.0	+0.0	+0.0	+0.0				
	5 420 002 <b>3</b> 4	41.1	+0.0	. 22. 2	.0.5	. 2.1	. 0. 0	50.0	740 21	X7 .
	5420.983M	41.1	-30.2	+33.2	+0.5	+3.1	+0.0	50.9	54.0 -3.1	Vert
			+2.9	+0.3	+0.0	+0.0	360		Low Z-Axis	116
			+0.0 +0.0	+0.0	+0.0	+0.0				
	5421 020M	20.9	-30.2	122.2	.0.5	+3.1	+0.0	49.6	54.0 -4.4	Vert
	5421.030M	39.8	-30.2 +2.9	+33.2 +0.3	$+0.5 \\ +0.0$	+0.0	+0.0	49.0	Low Y-Axis	107
			+0.0	+0.5	+0.0	+0.0 +0.0			LOW 1-AXIS	107
			+0.0	+0.0	+0.0	+0.0				
37	2711.533M	36.4	-30.2	+27.2	+0.5	+1.9	+0.0	38.2	54.0 -15.8	Horiz
37	2/11.333WI	30.4	+2.1	+27.2	+0.0	+0.0	360	36.2	Low Z-Axis	122
			+0.0	+0.0	+0.0	+0.0	300		LOW Z-AXIS	122
			+0.0	10.0	10.0	10.0				
38	2724.460M	36.4	-30.2	+27.2	+0.5	+1.9	+0.0	38.2	54.0 -15.8	Vert
	2/21.100141	20.7	+2.1	+0.3	+0.0	+0.0	10.0	50.2	High Z-Axis	114
			+0.0	+0.0	+0.0	+0.0			Ingil 2 Tixis	111
1			+0.0	. 0.0	1 0.0	. 0.0				
39	74.100M	35.1	+0.0	+0.0	+0.0	+0.3	+0.0	24.0	40.0 -16.0	Vert
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		+0.0	+0.0	+9.2	+0.5			Low X-Axis	134
			+0.4	+6.5	+0.0	-28.0				
			+0.0							
40	5421.030M	27.8	-30.2	+33.2	+0.5	+3.1	+0.0	37.6	54.0 -16.4	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0			Low Y-Axis	101
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
٨	5421.030M	38.1	-30.2	+33.2	+0.5	+3.1	+0.0	47.9	54.0 -6.1	Horiz
			+2.9	+0.3	+0.0	+0.0			Low Y-Axis	101
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
42	73.980M	34.8	+0.0	+0.0	+0.0	+0.3	+0.0	23.6	40.0 -16.4	Vert
			+0.0	+0.0	+9.2	+0.5			High Z-Axis	99
			+0.4	+6.4	+0.0	-28.0				
			+0.0							
43	74.450M	33.8	+0.0	+0.0	+0.0	+0.3	+0.0	22.7	40.0 -17.3	Vert
			+0.0	+0.0	+9.2	+0.5			High Y-Axis	99
			+0.4	+6.5	+0.0	-28.0				
	<b>50</b> 0000	20.0	+0.0		6.0		0.0	22.5	10.0	**
44	73.980M	33.8	+0.0	+0.0	+0.0	+0.3	+0.0	22.6	40.0 -17.4	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Y-Axis	99
			+0.4	+6.4	+0.0	-28.0				
4.7	544C 4003 #	26.5	+0.0	. 22.2	.0.4	. 2. 1	.0.0	26.2	540 170	TT. *
	5446.400M	26.5	-30.2	+33.2	+0.4	+3.1	+0.0	36.2	54.0 -17.8	Horiz
	Ave		+2.9	+0.3	+0.0	+0.0			High Z-Axis	113
			+0.0	+0.0	+0.0	+0.0				
	E 4 4 C 4 O O D 4	20.4	+0.0	. 22.2	+0.4	, 2.1	.0.0	40.1	<i>540</i> 40	II.
	5446.400M	39.4	-30.2	+33.2	+0.4	+3.1	+0.0	49.1	54.0 -4.9	Horiz
			+2.9	+0.3	+0.0	+0.0			High Z-Axis	113
			+0.0	+0.0	+0.0	+0.0				
			+0.0							



47 74.244N	1 32.8	+0.0	+0.0	+0.0	+0.3	+0.0	21.7	40.0 -18.3	Vert
QP		+0.0	+0.0	+9.2	+0.5	306		High X-Axis	100
		+0.4	+6.5	+0.0	-28.0				
40. 2.42.40.2		+0.0							
48 3632.4831	M 32.1	-30.9	+29.3	+0.4	+2.3	+0.0	35.6	54.0 -18.4	Horiz
Ave		+2.1	+0.3	+0.0	+0.0	360		High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
A 2622 4021	<i>I</i> 42.0	+0.0	. 20. 2	. 0. 4	. 2. 2	. 0. 0	16.1	540 76	TT '
^ 3632.4831	M 42.9	-30.9	+29.3	+0.4	+2.3	+0.0	46.4	54.0 -7.6	Horiz
		$+2.1 \\ +0.0$	+0.3 +0.0	$+0.0 \\ +0.0$	+0.0 +0.0			High Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
50 3615.440N	M 31.6	-30.9	+29.3	+0.4	+2.3	+0.0	35.2	54.0 -18.8	Horiz
Ave	VI 31.0	-30.9 +2.2	+29.3	+0.4 +0.0	+2.3	+0.0 360	33.2	Low Y-Axis	107
Ave		+0.0	+0.0	+0.0	+0.0	300		LOW 1-AXIS	107
		+0.0	+0.0	+0.0	+0.0				
^ 3615.440N	M 43.3	-30.9	+29.3	+0.4	+2.3	+0.0	46.9	54.0 -7.1	Horiz
3013.7401	·1 TJ.J	+2.2	+0.3	+0.4	+0.0	10.0	70.7	Low Y-Axis	107
		+0.0	+0.0	+0.0	+0.0			Low 1 71AIS	107
		+0.0	10.0	10.0	10.0				
52 3615.100N	M 28.5	-30.9	+29.3	+0.4	+2.3	+0.0	32.1	54.0 -21.9	Vert
Ave	.1 20.5	+2.2	+0.3	+0.0	+0.0	360	32.1	Low Y-Axis	99
1110		+0.0	+0.0	+0.0	+0.0	200		2011 1 1 1 1 1 1 1	
		+0.0							
53 3632.0301	M 26.9	-30.9	+29.3	+0.4	+2.3	+0.0	30.4	54.0 -23.6	Vert
Ave		+2.1	+0.3	+0.0	+0.0			High Z-Axis	132
		+0.0	+0.0	+0.0	+0.0			C	
		+0.0							
^ 3632.0831	M 45.0	-30.9	+29.3	+0.4	+2.3	+0.0	48.5	54.0 -5.5	Vert
		+2.1	+0.3	+0.0	+0.0	356		High X-Axis	107
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 3632.0301	M 40.4	-30.9	+29.3	+0.4	+2.3	+0.0	43.9	54.0 -10.1	Vert
		+2.1	+0.3	+0.0	+0.0	360		High Z-Axis	132
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
56 901.970N	<i>I</i> 54.1	+0.0	+0.0	+0.0	+1.0	+0.0	64.0	91.9 -27.9	Vert
		+0.0	+0.0	+9.6	+2.0			Low Y-Axis	99
		+2.3	+22.4	+0.0	-27.4				
57 7001 1003	T 11 <	+0.0	. 25.5	.0.5	. 2. 0	.0.0	<b>50.</b> 6	01.0 22.2	TT '
57 7231.120N	M 44.6	-28.2	+35.7	+0.6	+3.0	+0.0	59.6		Horiz
		+3.6	+0.3	+0.0	+0.0	265		Low Y-Axis	113
		+0.0	+0.0	+0.0	+0.0				
59 002 0003	N 175	+0.0	ι Ο Ο	+ O O	+1.Ω	ΙΛΛ	57 A	01.0 24.5	Vart
58 902.000N	A 47.5	$+0.0 \\ +0.0$	$+0.0 \\ +0.0$	+0.0 +9.6	+1.0 +2.0	+0.0 376	57.4	91.9 -34.5 Low X-Axis	Vert 100
		+0.0	+22.4	+9.6 +0.0	+2.0 -27.4	3/0		LUW A-AXIS	100
		+2.3	⊤∠∠ <b>.4</b>	±0.0	-21. <del>4</del>				
59 901.850N	A 45.8	+0.0	+0.0	+0.0	+1.0	+0.0	55.7	91.9 -36.2	Horiz
37 901.0301	1 70.0	+0.0	+0.0		+2.0	10.0	55.1	Low Y-Axis	151
		+2.3	+22.4	+0.0	-27.4			LOW 1-DAIS	1.7.1
		+0.0	122.7	10.0	۷,,¬				
		10.0							

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60 7227.620M	40.5	-28.2	+35.7	+0.6	+3.0	+0.0	55.5	91.9 -36.4	Horiz
		+3.6	+0.3	+0.0	+0.0	360		Low Z-Axis	117
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
61 901.970M	44.7	+0.0	+0.0	+0.0	+1.0	+0.0	54.6	91.9 -37.3	Vert
		+0.0	+0.0	+9.6	+2.0			High Y-Axis	99
		+2.3	+22.4	+0.0	-27.4				
		+0.0							
62 6356.467M	41.5	-29.0	+34.5	+0.5	+3.0	+0.0	54.2	91.9 -37.7	Vert
		+3.3	+0.4	+0.0	+0.0	267		High X-Axis	99
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
63 7230.636M	36.5	-28.2	+35.7	+0.6	+3.0	+0.0	51.5	91.9 -40.4	Horiz
Ave		+3.6	+0.3	+0.0	+0.0	301		Low X-Axis	107
		+0.0	+0.0	+0.0	+0.0				
		+0.0							
^ 7230.636M	44.5	-28.2	+35.7	+0.6	+3.0	+0.0	59.5	91.9 -32.4	Horiz
		+3.6	+0.3	+0.0	+0.0	360		Low X-Axis	136
		+0.0	+0.0	+0.0	+0.0				
	20.7	+0.0	21.5	0.7	2.0	0.0		01.0	** .
65 6356.517M	38.5	-29.0	+34.5	+0.5	+3.0	+0.0	51.2	91.9 -40.7	Horiz
		+3.3	+0.4	+0.0	+0.0	360		High Y-Axis	118
		+0.0	+0.0	+0.0	+0.0				
66 001 07014	41.1	+0.0	. 0. 0	. 0. 0	. 1.0	. 0. 0	<b>71.0</b>	01.0 40.0	X7 .
66 901.970M	41.1	+0.0	+0.0	+0.0	+1.0	+0.0	51.0	91.9 -40.9	Vert
		+0.0	+0.0	+9.6	+2.0			High Z-Axis	153
		+2.3	+22.4	+0.0	-27.4				
67 6355.117M	20.2	+0.0	+34.5	٠,0,5	+2.0	+ O O	50.9	91.9 -41.0	Vont
0/ 0333.11/M	38.2	-29.0 +3.3	+34.3	$+0.5 \\ +0.0$	+3.0 +0.0	+0.0	30.9		Vert 99
		+0.0	+0.4 +0.0		+0.0 +0.0			High Y-Axis	99
		+0.0	+0.0	+0.0	+0.0				
68 901.970M	38.4	+0.0	+0.0	+0.0	+1.0	+0.0	48.3	91.9 -43.6	Horiz
08 901.970WI	30.4	+0.0	+0.0	+0.0 +9.6	+2.0	+0.0	46.3	High Y-Axis	129
		+2.3	+22.4	+0.0	-27.4			High 1-Axis	129
		+0.0	<i>⊤∠∠.</i> <b>4</b>	+0.0	-27.4				
69 901.970M	37.0	+0.0	+0.0	+0.0	+1.0	+0.0	46.9	91.9 -45.0	Horiz
07 701.770W	37.0	+0.0 +0.0	+0.0 +0.0	+0.0 +9.6	+1.0 +2.0	10.0	+0.7	High Z-Axis	153
		+2.3	+22.4	+0.0	-27.4			111511 2 111113	133
		+0.0	1 22.T	10.0	21.7				
70 868.710M	36.7	+0.0	+0.0	+0.0	+1.0	+0.0	46.4	91.9 -45.5	Vert
70 000.7101	50.7	+0.0	+0.0	+9.7	+2.0	45	70. <b>7</b>	High X-Axis	100
		+2.2	+22.3	+0.0	-27.5	1.5		111611 21 21710	100
		+0.0	1 44.3	10.0	21.5				
71 48.830M	53.7	+0.0	+0.0	+0.0	+0.2	+0.0	44.5	91.9 -47.4	Vert
, 1 10.030141	55.1	+0.0	+0.0	+9.2	+0.4	360	11.5	High X-Axis	126
		+0.3	+8.7	+0.0	-28.0	500		111611 21 21710	120
		+0.0	1 0.7	1 0.0	20.0				
72 6326.836M	30.8	-29.1	+34.5	+0.5	+3.0	+0.0	43.4	91.9 -48.5	Horiz
Ave	20.0	+3.3	+0.4	+0.0	+0.0	. 0.0	.5. 1	Low X-Axis	136
11.0		+0.0	+0.0	+0.0	+0.0			25 11 11 11 11 11 11 11 11 11 11 11 11 11	130
		+0.0	. 0.0	. 5.0	. 0.0				
<u> </u>		. 5.0							

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^	6326.833M	42.7	-29.1	+34.5	+0.5	+3.0	+0.0	55.3	91.9 -36.6	Horiz
			+3.3	+0.4	+0.0	+0.0	344		Low X-Axis	151
			+0.0	+0.0	+0.0	+0.0				
7.4	707 70014	24.5	+0.0	. 0. 0	. 0. 0	. 0. 0	. 0. 0	12.0	01.0 40.7	<b>T</b> 7 .
74	797.780M	34.5	+0.0	+0.0	+0.0	+0.9	+0.0	43.2	91.9 -48.7	Vert
			+0.0	+0.0	+9.7	+1.9	360		High X-Axis	100
			+2.1 +0.0	+22.0	+0.0	-27.9				
75	881.850M	32.0	+0.0	+0.0	+0.0	+1.0	+0.0	41.7	91.9 -50.2	Vert
13	881.830W	32.0	+0.0	+0.0	+9.7	+2.0	<sup>+0.0</sup>	41.7	High X-Axis	100
			+2.2	+22.3	+0.0	-27.5	370		High A-Axis	100
			+0.0	122.3	10.0	27.5				
76	747.570M	33.9	+0.0	+0.0	+0.0	+0.9	+0.0	41.6	91.9 -50.3	Vert
, ,	7 17.57 0111	33.7	+0.0	+0.0	+9.7	+1.8	360	11.0	High X-Axis	100
			+2.0	+21.3	+0.0	-28.0	500		Ingil II I I I I	100
			+0.0	1.0	. 0.0	20.0				
77	892.520M	31.6	+0.0	+0.0	+0.0	+1.0	+0.0	41.5	91.9 -50.4	Vert
	-		+0.0	+0.0	+9.6	+2.0	264		Low Z-Axis	99
			+2.3	+22.4	+0.0	-27.4				
			+0.0							
78	695.610M	34.4	+0.0	+0.0	+0.0	+0.9	+0.0	41.1	91.9 -50.8	Vert
			+0.0	+0.0	+9.7	+1.7	360		High X-Axis	100
			+1.9	+20.7	+0.0	-28.2				
			+0.0							
79	881.550M	31.2	+0.0	+0.0	+0.0	+1.0	+0.0	40.9	91.9 -51.0	Vert
			+0.0	+0.0	+9.7	+2.0	376		High X-Axis	100
			+2.2	+22.3	+0.0	-27.5				
			+0.0							
80	1806.867M	42.9	-30.6	+24.7	+0.3	+1.4	+0.0	40.8	91.9 -51.1	Horiz
			+1.6	+0.5	+0.0	+0.0	-16		Low X-Axis	102
			+0.0	+0.0	+0.0	+0.0				
0.1	1017 1221	10.7	+0.0	.24.0	.0.2	. 1 4	. 0. 0	10.6	01.0 51.2	<b>X7</b> 4
81	1816.133M	42.7	-30.6	+24.8	+0.3	+1.4	+0.0	40.6	91.9 -51.3	Vert
			+1.6 +0.0	$+0.4 \\ +0.0$	+0.0	$^{+0.0}_{+0.0}$	360		High Y-Axis	115
			+0.0 +0.0	+0.0	+0.0	+0.0				
82	1807.783M	41.8	-30.6	+24.7	+0.3	+1.4	+0.0	39.6	91.9 -52.3	Horiz
02	1007.705111	71.0	+1.6	+24.7	+0.5		+0.0 376	37.0	Low Z-Axis	110
			+0.0	+0.0	+0.0	+0.0	570		LOW LIAIS	110
			+0.0	10.0	. 5.0	. 0.0				
83	1816.333M	41.6	-30.6	+24.8	+0.3	+1.4	+0.0	39.5	91.9 -52.4	Horiz
		70	+1.6	+0.4	+0.0	+0.0			High Y-Axis	99
			+0.0	+0.0	+0.0	+0.0			<i>5</i>	
			+0.0							
84	1807.650M	41.5	-30.6	+24.7	+0.3	+1.4	+0.0	39.3	91.9 -52.6	Vert
			+1.6	+0.4	+0.0	+0.0	-16		Low Z-Axis	121
			+0.0	+0.0	+0.0	+0.0				
			+0.0							
85	60.570M	51.4	+0.0	+0.0	+0.0	+0.3	+0.0	39.1	91.9 -52.8	Vert
			+0.0	+0.0	+9.2	+0.5	114		Low X-Axis	134
			+0.4	+5.3	+0.0	-28.0				
			+0.0							

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86	1806.667M	41.0	-30.6	+24.7	+0.3	+1.4	+0.0	38.9	91.9 -53.0	Horiz
			+1.6	+0.5	+0.0	+0.0			Low Y-Axis	99
			+0.0	+0.0	+0.0	+0.0				
97	1807.117M	40.9	+0.0	1247	+0.2	+1.4	+0.0	38.8	91.9 -53.1	Vert
8/	1807.117M	40.9	-30.6	+24.7 +0.5	+0.3 +0.0	+1.4	+0.0 166	38.8		102
			+1.6 +0.0	+0.5 +0.0	+0.0 +0.0	$+0.0 \\ +0.0$	100		Low X-Axis	102
			+0.0	+0.0	+0.0	+0.0				
88	1815.680M	40.9	-30.6	+24.8	+0.3	+1.4	+0.0	38.8	91.9 -53.1	Horiz
00	1013.000W	70.7	+1.6	+0.4	+0.0	+0.0	10.0	30.0	High Z-Axis	115
			+0.0	+0.0	+0.0	+0.0			Ingil 2 Tixis	113
			+0.0	. 0.0		. 0.0				
89	1816.460M	40.6	-30.6	+24.8	+0.3	+1.4	+0.0	38.5	91.9 -53.4	Vert
-			+1.6	+0.4	+0.0	+0.0	360		High Z-Axis	114
			+0.0	+0.0	+0.0	+0.0			8	
			+0.0							
90	33.960M	40.1	+0.0	+0.0	+0.0	+0.2	+0.0	38.3	91.9 -53.6	Vert
			+0.0	+0.0	+9.1	+0.3	174		High X-Axis	100
			+0.2	+16.4	+0.0	-28.0				
			+0.0							
91	34.320M	40.3	+0.0	+0.0	+0.0	+0.2	+0.0	38.3	91.9 -53.6	Vert
			+0.0	+0.0	+9.1	+0.3			Low X-Axis	134
			+0.2	+16.2	+0.0	-28.0				
			+0.0							
92	700.050M	31.4	+0.0	+0.0	+0.0	+0.9	+0.0	38.1	91.9 -53.8	Vert
			+0.0	+0.0	+9.7	+1.7	259		High X-Axis	100
			+1.9	+20.7	+0.0	-28.2				
0.0	1005 7 (5) 7	40.0	+0.0	215	0.0		0.0	20.1	01.0 50.0	**
93	1807.567M	40.3	-30.6	+24.7	+0.3	+1.4	+0.0	38.1	91.9 -53.8	Vert
			+1.6	+0.4	+0.0	+0.0	360		Low Y-Axis	108
			+0.0	+0.0	+0.0	+0.0				
94	49.523M	47.6	+0.0	+0.0	+0.0	+0.2	+0.0	38.0	91.9 -53.9	Vert
		47.0	+0.0 +0.0	+0.0 +0.0	+0.0 +9.2	+0.2 +0.4	+0.0 340	38.0	High X-Axis	vert 99
	QP		+0.0	+8.3	+0.0	-28.0	340		nigii A-Axis	99
			+0.0	⊤0.5	+0.0	-20.0				
95	33.500M	39.6	+0.0	+0.0	+0.0	+0.2	+0.0	38.0	91.9 -53.9	Vert
)3	33.300WI	37.0	+0.0	+0.0	+9.1	+0.3		30.0	Low Z-Axis	99
			+0.2	+16.6	+0.0	-28.0	200		Low Z Times	
			+0.0	. 10.0		20.0				
96	33.970M	39.5	+0.0	+0.0	+0.0	+0.2	+0.0	37.7	91.9 -54.2	Horiz
-			+0.0	+0.0	+9.1	+0.3			Low Y-Axis	151
			+0.2	+16.4	+0.0	-28.0				
			+0.0							
97	59.280M	49.7	+0.0	+0.0	+0.0	+0.3	+0.0	37.6	91.9 -54.3	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Z-Axis	99
			+0.4	+5.5	+0.0	-28.0				
			+0.0							
98	59.870M	49.7	+0.0	+0.0	+0.0	+0.3	+0.0	37.4	91.9 -54.5	Vert
			+0.0	+0.0	+9.2	+0.5			High Y-Axis	99
			+0.4	+5.3	+0.0	-28.0				
			+0.0							

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99	53.220M	48.2	+0.0	+0.0	+0.0	+0.2	+0.0	37.4	91.9 -54.5	Vert
			+0.0	+0.0	+9.2	+0.4			High Y-Axis	99
			+0.3	+7.1	+0.0	-28.0				
			+0.0							
100	34.080M	39.1	+0.0	+0.0	+0.0	+0.2	+0.0	37.2	91.9 -54.7	Horiz
			+0.0	+0.0	+9.1	+0.3			High Y-Axis	250
			+0.2	+16.3	+0.0	-28.0				
			+0.0							
101	60.570M	49.5	+0.0	+0.0	+0.0	+0.3	+0.0	37.2	91.9 -54.7	Vert
			+0.0	+0.0	+9.2	+0.5			High Z-Axis	99
			+0.4	+5.3	+0.0	-28.0				
			+0.0							
102	60.680M	49.4	+0.0	+0.0	+0.0	+0.3	+0.0	37.1	91.9 -54.8	Vert
			+0.0	+0.0	+9.2	+0.5	360		Low Y-Axis	99
			+0.4	+5.3	+0.0	-28.0				
102	22 (20) (	20.4	+0.0	0.0		0.0		2.5.0	01.0	** .
103	33.620M	38.4	+0.0	+0.0	+0.0	+0.2	+0.0	36.8	91.9 -55.1	Horiz
			+0.0	+0.0	+9.1	+0.3	360		High Z-Axis	153
			+0.2	+16.6	+0.0	-28.0				
104	22 (20) (	20.2	+0.0	0.0	0.0	0.2	0.0	267	01.0 55.0	TT .
104	33.620M	38.3	+0.0	+0.0	+0.0	+0.2	+0.0	36.7	91.9 -55.2	Horiz
			+0.0	+0.0	+9.1	+0.3			Low Z-Axis	153
			+0.2	+16.6	+0.0	-28.0				
105	22.50014	20.1	+0.0	. 0. 0	. 0. 0	. 0. 2	. 0. 0	265	01.0 55.4	TT .
105	33.500M	38.1	+0.0	+0.0	+0.0	+0.2	+0.0	36.5	91.9 -55.4	Horiz 134
			+0.0	+0.0	+9.1	+0.3			Low Z-Axis	134
			+0.2 +0.0	+16.6	+0.0	-28.0				
106	58.700M	48.0	+0.0	+0.0	+0.0	+0.3	+0.0	36.0	91.9 -55.9	Horiz
100	38.700M	46.0	+0.0 +0.0	+0.0 +0.0	+0.0 +9.2	+0.5	+0.0	30.0	Low Y-Axis	151
			+0.0	+5.6	+9.2	-28.0			LOW I-AXIS	131
			+0.4 +0.0	+3.0	+0.0	-28.0				
107	58.700M	47.5	+0.0	+0.0	+0.0	+0.3	+0.0	35.5	91.9 -56.4	Horiz
107	36.700W	47.3	+0.0	+0.0	+9.2	+0.5	+0.0	33.3	High Y-Axis	250
			+0.0	+5.6	+0.0	-28.0			111gii 1 - MAIS	230
			+0.4	13.0	10.0	20.0				
108	33.620M	37.0	+0.0	+0.0	+0.0	+0.2	+0.0	35.4	91.9 -56.5	Vert
100	33.020W	31.0	+0.0	+0.0	+9.1	+0.2	10.0	JJ. <del>T</del>	High Y-Axis	99
			+0.2	+16.6	+0.0	-28.0				//
			+0.0	. 10.0	. 0.0	20.0				
109	33.620M	36.8	+0.0	+0.0	+0.0	+0.2	+0.0	35.2	91.9 -56.7	Vert
107	55.5201.1	23.0	+0.0	+0.0	+9.1	+0.3	360	22.2	Low Y-Axis	99
			+0.2	+16.6	+0.0	-28.0			, <u> </u>	
			+0.0							
110	33.730M	36.6	+0.0	+0.0	+0.0	+0.2	+0.0	34.9	91.9 -57.0	Vert
		2 2.0	+0.0	+0.0	+9.1	+0.3		,	High Z-Axis	99
			+0.2	+16.5	+0.0	-28.0			6	
			+0.0							
111	55.080M	45.5	+0.0	+0.0	+0.0	+0.2	+0.0	34.2	91.9 -57.7	Horiz
			+0.0	+0.0	+9.2	+0.4	360		High Z-Axis	153
			+0.3	+6.6	+0.0	-28.0			J	
			+0.0							
					. 3.0	_0.0				

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112	52.050M	44.4	+0.0	+0.0	+0.0	+0.2	+0.0	34.0	91.9 -57.9	Vert
			+0.0	+0.0	+9.2	+0.4			High Z-Axis	99
			+0.3	+7.5	+0.0	-28.0				
			+0.0							
113	54.970M	45.3	+0.0	+0.0	+0.0	+0.2	+0.0	34.0	91.9 -57.9	Horiz
			+0.0	+0.0	+9.2	+0.4			High Y-Axis	250
			+0.3	+6.6	+0.0	-28.0				
			+0.0							
114	58.120M	45.3	+0.0	+0.0	+0.0	+0.3	+0.0	33.5	91.9 -58.4	Horiz
			+0.0	+0.0	+9.2	+0.5			Low Z-Axis	134
			+0.4	+5.8	+0.0	-28.0				
			+0.0							
115	55.430M	44.9	+0.0	+0.0	+0.0	+0.2	+0.0	33.5	91.9 -58.4	Horiz
			+0.0	+0.0	+9.2	+0.4			Low Y-Axis	151
			+0.3	+6.5	+0.0	-28.0				
	<b>7</b> 40503.5	4	+0.0					22 /	04.0	**
116	54.030M	44.4	+0.0	+0.0	+0.0	+0.2	+0.0	33.4	91.9 -58.5	Vert
			+0.0	+0.0	+9.2	+0.4	360		Low Z-Axis	99
			+0.3	+6.9	+0.0	-28.0				
115	£1 #003 £	40.7	+0.0		0.0			22 /	01.0	*7
117	51.700M	42.7	+0.0	+0.0	+0.0	+0.2	+0.0	32.4	91.9 -59.5	Vert
			+0.0	+0.0	+9.2	+0.4	360		Low Y-Axis	99
			+0.3	+7.6	+0.0	-28.0				
110	<b>50.0003.5</b>	40.0	+0.0		0.0			22.1	01.0	** .
118	58.000M	43.9	+0.0	+0.0	+0.0	+0.3	+0.0	32.1	91.9 -59.8	Horiz
			+0.0	+0.0	+9.2	+0.5	360		High Z-Axis	153
			+0.4	+5.8	+0.0	-28.0				
110	5/1150N/I	42.7	+0.0	LO 0	100	10.2	100	21.7	01.0 (0.2	IIa!-
119	54.150M	42.7	+0.0	+0.0	+0.0	+0.2	+0.0	31.7	91.9 -60.2	Horiz
			+0.0	+0.0	+9.2	+0.4			Low Z-Axis	134
			+0.3	+6.9	+0.0	-28.0				
120	463.620M	20.2	+0.0	+ O O	10.0	10.7	+0.0	30.8	91.9 -61.1	Vert
120	403.02UM	28.3	$+0.0 \\ +0.0$	$^{+0.0}_{+0.0}$	+0.0 +9.7	$+0.7 \\ +1.4$	+0.0 130	30.8		100
			+0.0 +1.5	+0.0 +17.4	+9.7 +0.0	+1.4 -28.2	130		High X-Axis	100
			+1.5 +0.0	±1/.4	+0.0	-20.2				
121	51.700M	40.3	+0.0	+0.0	+0.0	+0.2	+0.0	30.0	91.9 -61.9	Horiz
121	31.700M	40.3	+0.0 +0.0	+0.0	+0.0 +9.2	+0.2 $+0.4$	+0.0	30.0	91.9 -61.9 Low Y-Axis	151
			+0.0	+0.0 +7.6	+9.2 +0.0	-28.0			LUW 1-AXIS	131
			+0.5	±7.0	+0.0	-20.0				
122	67.220M	39.3	+0.0	+0.0	+0.0	+0.3	+0.0	27.4	91.9 -64.5	Vert
122	07.44UIVI	37.3	+0.0 +0.0	+0.0 +0.0	+0.0 +9.2	+0.5	+0.0 360	41.4	Low Z-Axis	99
			+0.0	+5.7	+9.2	-28.0	500		LUW L-MAIS	77
			+0.4	1 3.1	10.0	-20.0				
123	300.320M	28.5	+0.0	+0.0	+0.0	+0.6	+0.0	27.0	91.9 -64.9	Vert
123	500.520IVI	20.3	+0.0	+0.0 +0.0	+0.0 +9.7	+0.0	+0.0 246	27.0	Low Z-Axis	99
			+0.0 +1.1	+13.1	+0.0	-27.1	∠ <del>+</del> 0		LUW L-MAIS	77
			+0.0	113.1	10.0	-4/.1				
124	219.280M	29.7	+0.0	+0.0	+0.0	+0.5	+0.0	24.8	91.9 -67.1	Vert
124	217.20UW	47.1	+0.0	+0.0 +0.0	+0.0 +9.6	+0.9	±0.0 337	24.0	High X-Axis	100
			+0.0	+10.4	+0.0	-27.2	331		High A-Axis	100
			+0.9	±10. <del>4</del>	+0.0	-21.2				
			+0.0							

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125	71.770M	34.6	+0.0	+0.0	+0.0	+0.3	+0.0	23.1	91.9 -68.8	Horiz
			+0.0	+0.0	+9.2	+0.5	360		High Z-Axis	153
			+0.4	+6.1	+0.0	-28.0				
127	10.0003.5	10.7	+0.0	.0.0	.0.0	.0.1	40.0	10.5	01.0 102.1	D.
126	10.800M	19.5	+0.0	+0.0	+0.0	+0.1	-40.0	-10.5	91.9 -102.4	Perpe
			$+0.1 \\ +0.0$	$+0.0 \\ +0.0$	$+0.0 \\ +0.0$	+0.0 +0.0			High X-Axis	134
			+0.0 +9.8	+0.0	+0.0	+0.0				
127	10.700M	17.4	+0.0	+0.0	+0.0	+0.1	-40.0	-12.6	91.9 -104.5	Perpe
127	10.700IVI	17.4	+0.0	+0.0	+0.0	+0.1	-40.0	-12.0	Low X-Axis	134
			+0.1	+0.0	+0.0	+0.0			LOW A-AAIS	134
			+9.8	10.0	10.0	10.0				
128	22.840M	18.1	+0.0	+0.0	+0.0	+0.2	-40.0	-14.9	91.9 -106.8	Paral
120	22.0 10111	10.1	+0.2	+0.0	+0.0	+0.0	10.0	1	Low Y-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.6							
129	23.080M	18.2	+0.0	+0.0	+0.0	+0.2	-40.0	-14.9	91.9 -106.8	Paral
			+0.2	+0.0	+0.0	+0.0	360		Low X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.5							
130	23.040M	18.1	+0.0	+0.0	+0.0	+0.2	-40.0	-15.0	91.9 -106.9	Paral
			+0.2	+0.0	+0.0	+0.0			High Z-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+6.5							
131	22.990M	17.3	+0.0	+0.0	+0.0	+0.2	-40.0	-15.7	91.9 -107.6	Paral
			+0.2	+0.0	+0.0	+0.0			High Y-Axis	134
			+0.0	+0.0	+0.0	+0.0				
122	22.00014	1.6.1	+6.6	.00	. 0. 0	.0.2	40.0	160	01.0 100.0	Da 1
132	22.890M	16.1	+0.0 +0.2	$+0.0 \\ +0.0$	$+0.0 \\ +0.0$	+0.2 +0.0	-40.0	-16.9	91.9 -108.8 Low Z-Axis	Paral 134
			+0.2	+0.0 +0.0	+0.0	+0.0 +0.0			LOW Z-AXIS	134
			+6.6	+0.0	+0.0	+0.0				
133	13.700k	47.3	+0.0	+0.0	+0.0	+0.0	-80.0	-18.1	91.9 -110.0	Perpe
133	13.700K	71.3	+0.0	+0.0	+0.0	+0.0	360	10.1	High X-Axis	134
			+0.0	+0.0	+0.0	+0.0	500			131
1			+14.6	. 3.0	. 3.0	. 0.0				
134	9.000k	45.9	+0.0	+0.0	+0.0	+0.0	-80.0	-18.6	91.9 -110.5	Paral
			+0.0	+0.0	+0.0	+0.0			Low X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+15.5							
135	22.490M	13.0	+0.0	+0.0	+0.0	+0.2	-40.0	-19.9	91.9 -111.8	Paral
			+0.2	+0.0	+0.0	+0.0	343		High X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
ļ			+6.7							
136	150.000k	50.4	+0.0	+0.0	+0.0	+0.0	-80.0	-20.1	91.9 -112.0	Perpe
			+0.0	+0.0	+0.0	+0.0			High X-Axis	134
			+0.0	+0.0	+0.0	+0.0				
127	150 0001	50.2	+9.5	.0.0	.0.0		00.0	20.2	01.0	D 1
137	150.000k	50.3	+0.0	+0.0	+0.0	+0.0	-80.0	-20.2	91.9 -112.1	Paral
			+0.0	+0.0	+0.0	+0.0			Low Z-Axis	134
			+0.0	+0.0	+0.0	+0.0				
			+9.5							

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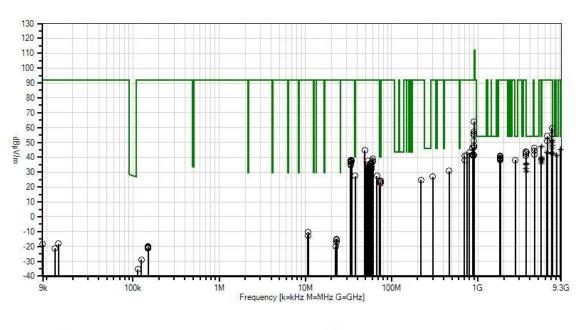


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138	150.000k	49.9	+0.0	+0.0	+0.0	+0.0	-80.0	-20.6	91.9	-112.5	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low X-Ax	cis	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
139	150.000k	49.4	+0.0	+0.0	+0.0	+0.0	-80.0	-21.1	91.9	-113.0	Perpe
			+0.0	+0.0	+0.0	+0.0			Low X-Ax	cis	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
140	12.520k	43.6	+0.0	+0.0	+0.0	+0.0	-80.0	-21.2	91.9	-113.1	Paral
			+0.0	+0.0	+0.0	+0.0			High X-A	xis	134
			+0.0	+0.0	+0.0	+0.0			· ·		
			+15.2								
141	150.000k	49.0	+0.0	+0.0	+0.0	+0.0	-80.0	-21.5	91.9	-113.4	Paral
			+0.0	+0.0	+0.0	+0.0	119		High X-A	xis	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
142	125.795k	41.6	+0.0	+0.0	+0.0	+0.0	-80.0	-28.9	91.9	-120.8	Perpe
			+0.0	+0.0	+0.0	+0.0			Low X-Ax	is	134
			+0.0	+0.0	+0.0	+0.0					
			+9.5								
143	113.810k	35.1	+0.0	+0.0	+0.0	+0.0	-80.0	-35.4	91.9	-127.3	Paral
			+0.0	+0.0	+0.0	+0.0			High X-A	xis	134
			+0.0	+0.0	+0.0	+0.0			J		
			+9.5								

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CKC Laboratories, Inc. Date: 7/9/2013 Time: 10:01:23 Leap Devices WO#: 94653 Test Distance: 3 Meters Sequence#: 2 Horiz Leap Devices Camera Flash Trigger P/N: Nano TX (Rev2)



Readings

× QP Readings

▼ Ambient

O Peak Readings

\* Average Readings

1 - 15.247(d) / 15.209 Radiated Band Edge Spurious Emissions



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: FCC 15.247 & RSS-210 Radiated Band Edge Emissions

 Work Order #:
 94653
 Date: 7/9/2013

 Test Type:
 Maximized Emissions
 Time: 14:29:44

Equipment: Camera Flash Trigger Sequence#: 2

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2)

S/N:

# Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
	ANP05360	Cable	RG214	12/3/2012	12/3/2014
	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015
	AN02308	Preamp	8447D	4/3/2012	4/3/2014

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

# Support Devices:

Function	Manufacturer	Model #	S/N
Digital Camera	Pentax	K200D	2947829

### Test Conditions / Notes:

The EUT is placed in the center of the turntable on an 80cm Styrofoam table. The EUT attached to a typical use digital camera. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

FSK Modulation 220 kbaud data rate.

Frequency: 853MHz-958MHz

Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm

RBW=100kHz, VBW=1MHz

15.31(e) compliance: a freshly charged battery is installed.

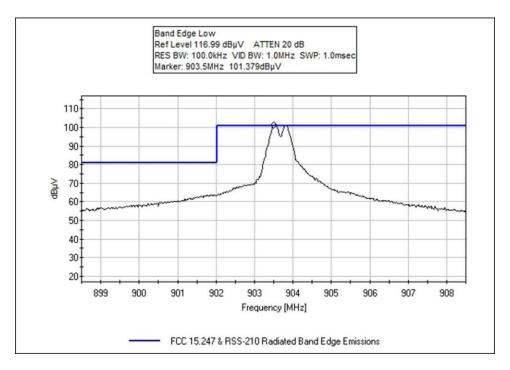
Test method in accordance with FCC document: KDB 558074

Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

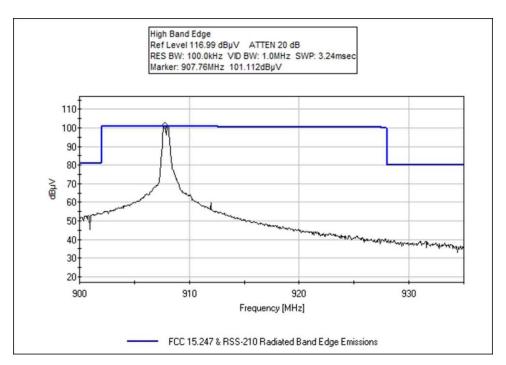
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# **Plots**



### Low



High



# **Test Setup Photos**



X-Axis



Y-Axis





Z-Axis



# 15.247(e) Power Spectral Density

### **Test Data**

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: Leap Devices

Specification: 15.247(e) Peak Power Spectral Density (902-928 MHz DTS)

Work Order #: 94653 Date: 7/9/2013

Test Type: Conducted Emissions Time: 16:01:21

Equipment: Camera Flash Trigger Sequence#: 1

Manufacturer: Leap Devices Tested By: Steven Pittsford

Model: Nano TX (Rev2) 3V

S/N:

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01706	Attenuator-Factor @	8495B	1/11/2012	1/11/2014
		20dB (dB)			
T2	AN03227	Cable	32026-29080-	3/29/2013	3/29/2015
			29080-84		
	AN02871	Spectrum Analyzer	E4440A	4/11/2013	4/11/2015

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Camera Flash Trigger*	Leap Devices	Nano TX (Rev2)	

Support Devices:

Function	Manufacturer	Model #	S/N
Camera Flash Trigger	Leap Devices	Nano TX (Rev2)	

# Test Conditions / Notes:

The EUT is placed on the test bench and a connector is soldered in place of the antenna. This connector is then attached to the spectrum analyzer through a variable attenuator. The EUT is set in EMI Test Mode that operates at 90% Duty Cycle.

Frequency: 902-928MHz

Freq: 903.75MHz & 908.00MHz, Firmware setting = 10dbm, 10dBm.

30MHz-1000 MHz; RBW=1MHz, VBW=3MHz

15.31(e) compliance: a freshly charged battery is installed Test method in accordance with FCC document: KDB 558074

Temperature: 23°C Pressure: 102.3kPa Humidity: 44%

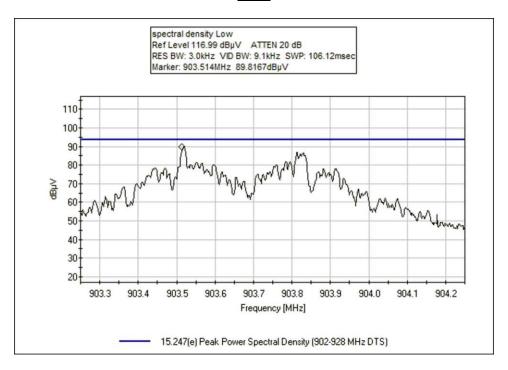
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Ext Attn: 0 dB

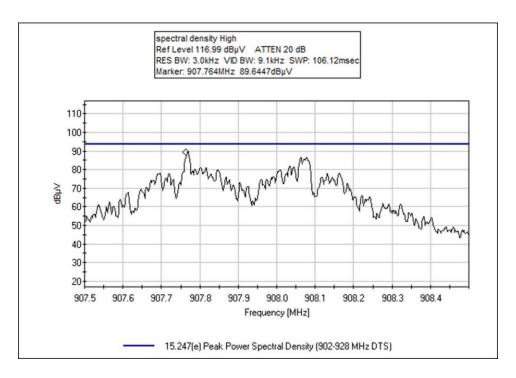
Measu	Measurement Data: Reading listed by margin.		Test Lead: Antenna								
#	Freq	Rdng	T1	T2			Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dΒμV	dΒμV	dB	Ant
1	903.514M	89.8	+20.2	+1.0			+0.0	111.0	115.0	-4.0	Anten
2	907.764M	89.6	+20.2	+1.0			+0.0	110.8	115.0	-4.2	Anten

# <u>Plots</u>



Low





High

# **Test Setup Photos**





# SUPPLEMENTAL INFORMATION

# **Measurement Uncertainty**

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

# **Emissions Test Details**

#### **TESTING PARAMETERS**

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. 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. This reading was then compared to the applicable specification limit.

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	SAMPLE CALCULATIONS									
Meter reading (dBμV)										
+	Antenna Factor	(dB)								
+	Cable Loss	(dB)								
-	Distance Correction	(dB)								
-	Preamplifier Gain	(dB)								
=	Corrected Reading	(dBμV/m)								

#### TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT 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	>1 GHz	1 MHz

### SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("A") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. 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 receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

#### **Quasi-Peak**

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

### **Average**

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.

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