

APPENDIX C

HARDWARE TEST RESULTS

VIBRATION TEST DATA SHEET

Customer UNISYN Spec. EAC 2005 VVSG Vol. II Specimen OVI
Job No. T58650.01 Method Section 4.6.3 Part No. UNI150012 Specimen Temp. Ambient
GSI Yes No Procedure --- S/N --- Photo Yes No

Test Title Transportation Vibration

Date	Time	Axis	Temp (F)	SINUSOIDAL			RANDOM			TOTAL Accel. (grms)	Test Time (min)	COMMENTS	NAME
				Freq. (cps)	Disp. ("da)	Accel. (+g)	Freq. (cps)	PSD (g ² /Hz)	Slope (dB/Oct)				
11/17/11	12:05	Long	Amb				10-40	.015			Run#1 Basic Transportation	JA	
							500	.00015	1.04	30	Vibration		
11/17/11	13:44	Trans	Amb				10-40	.015			Run#2 Basic Transportation	JA	
							500	.00015	1.05	30	Vibration		
11/17/11	15:27	Vert	Amb				10-40	.015			Run#3 Basic Transportation	JA	
							500	.00015	1.05	30	Vibration		

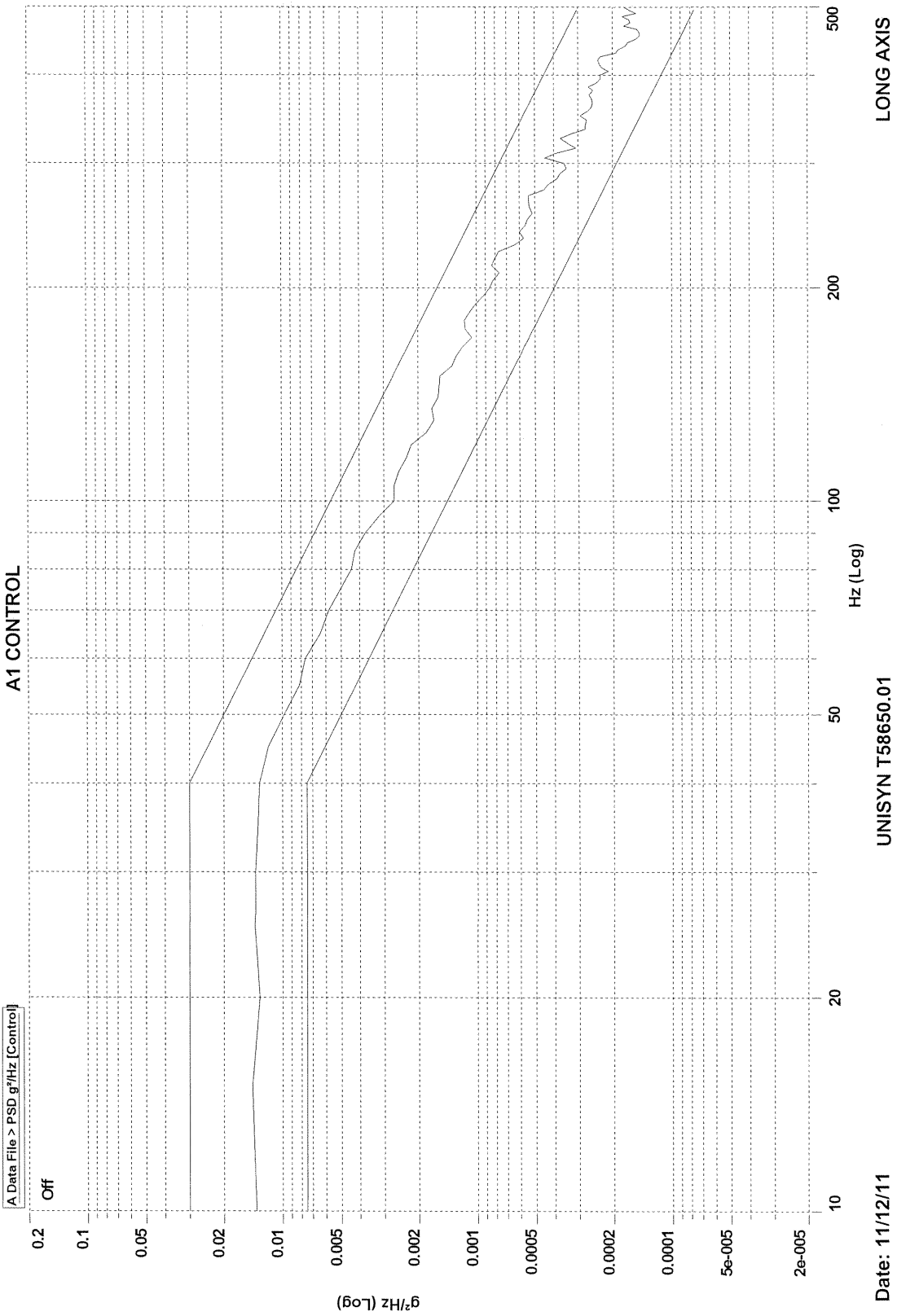
Job No. T58650.01
Report No. T58650.01-01
Date 11/17/11
Page 1 of 1

WH-1028A
Signed [Signature] 4/17/11
Approved [Signature] 11/17/11

Level Time: 0000:30:01

CTRL: 1.0551 g
Test Level: 0.0000 dB

RUN#1 BASIC TRANSPORTATION VIBRATION OVI & OVO WITH BALLOT BOX AMB TEMP



UNISYN T58650.01

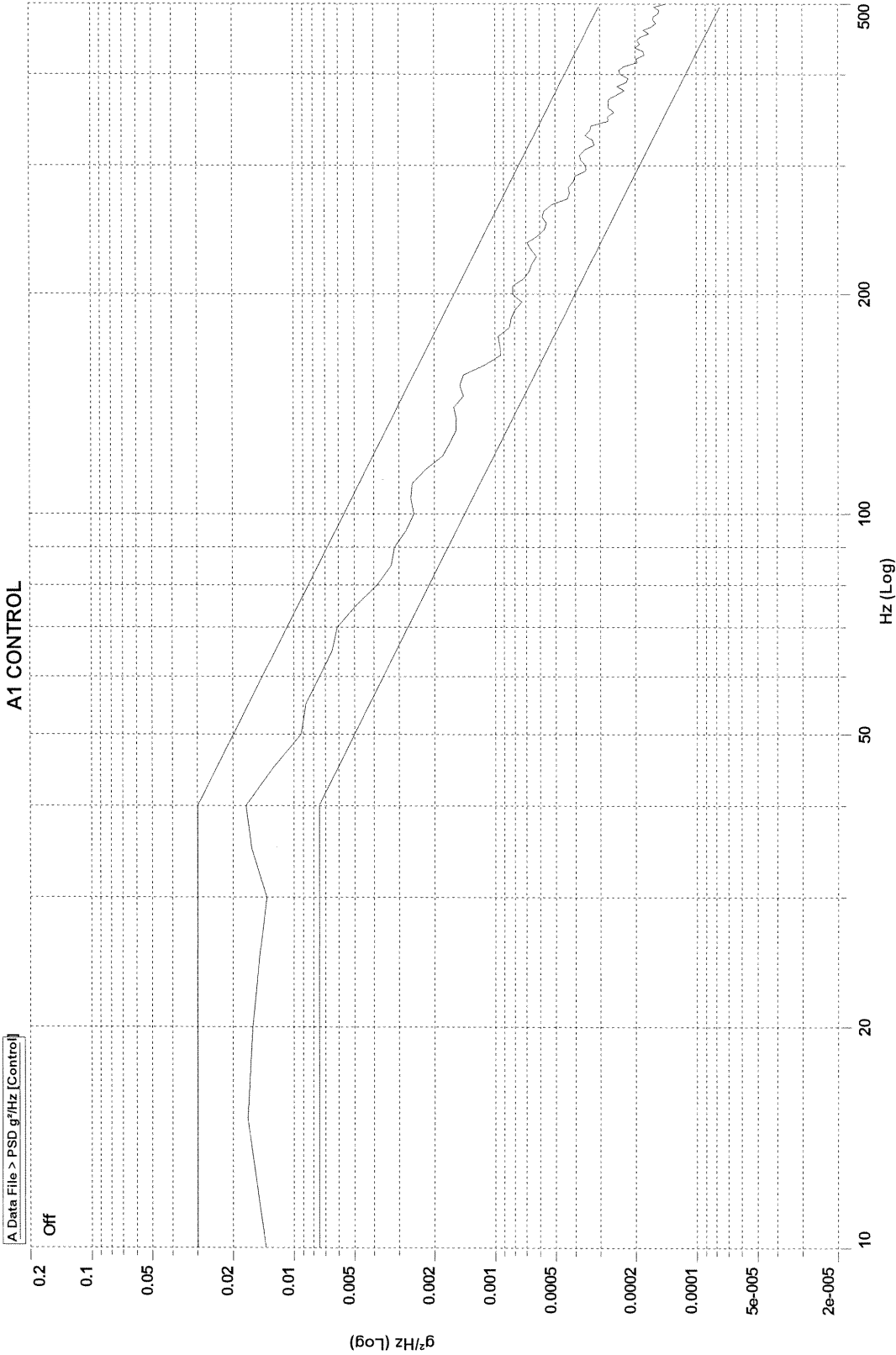
Date: 11/12/11



Level Time: 0000:30:01

CTRL: 1.0800 g
Test Level: 0.0000 dB

RUN#2 BASIC TRANSPORTATION VIBRATION OVI & OVO WITH BALLOT BOX AMB TEMP



TRANS AXIS

0000:30:01

UNISYN T58650.01

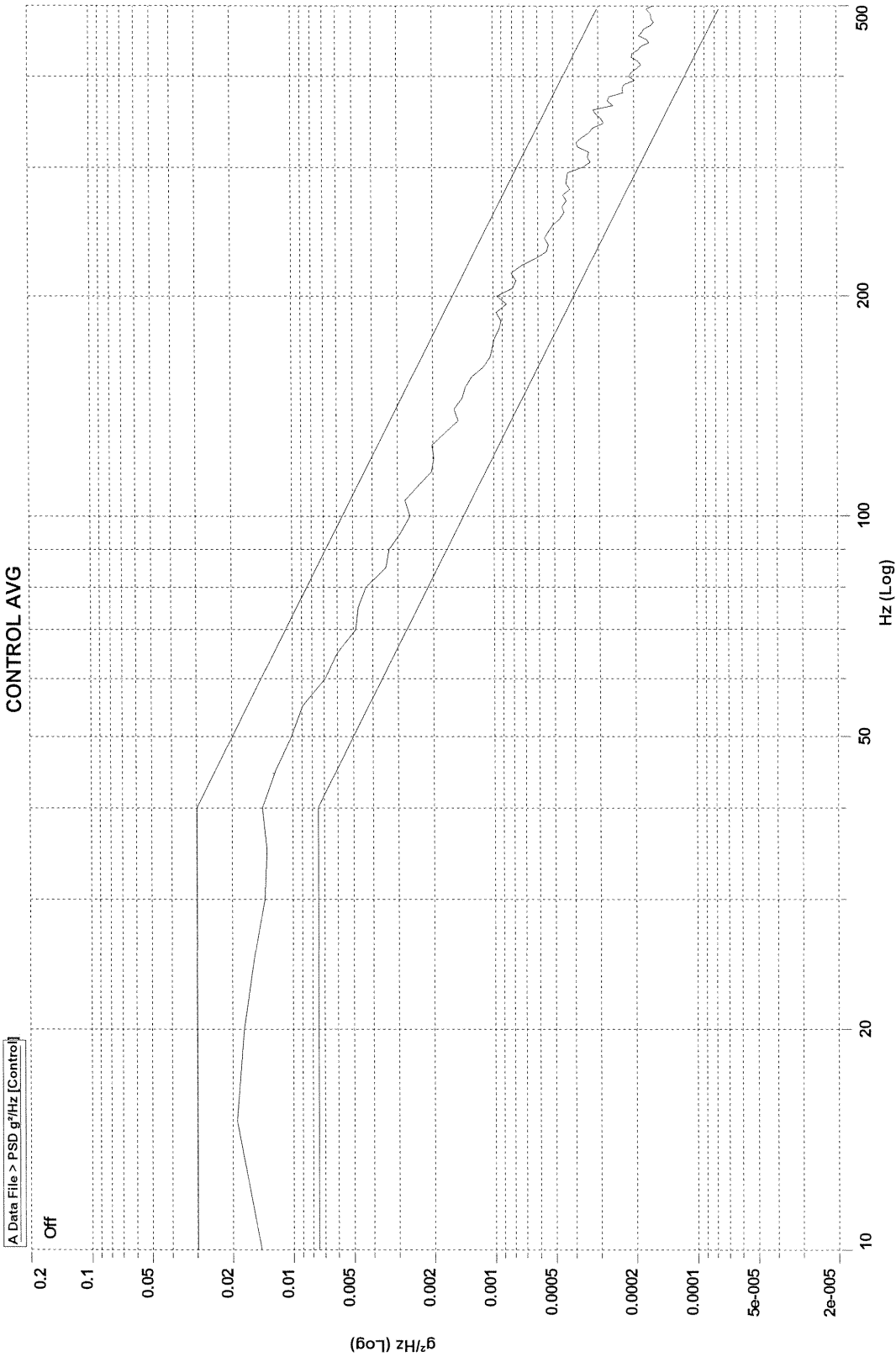
Date: 11/12/11



Level Time: 0000:30:01

CTRL: 1.0832 g
Test Level: 0.0000 dB

RUN#3 BASIC TRANSPORTATION VIBRATION OVI & OVO WITH BALLOT BOX AMB TEMP

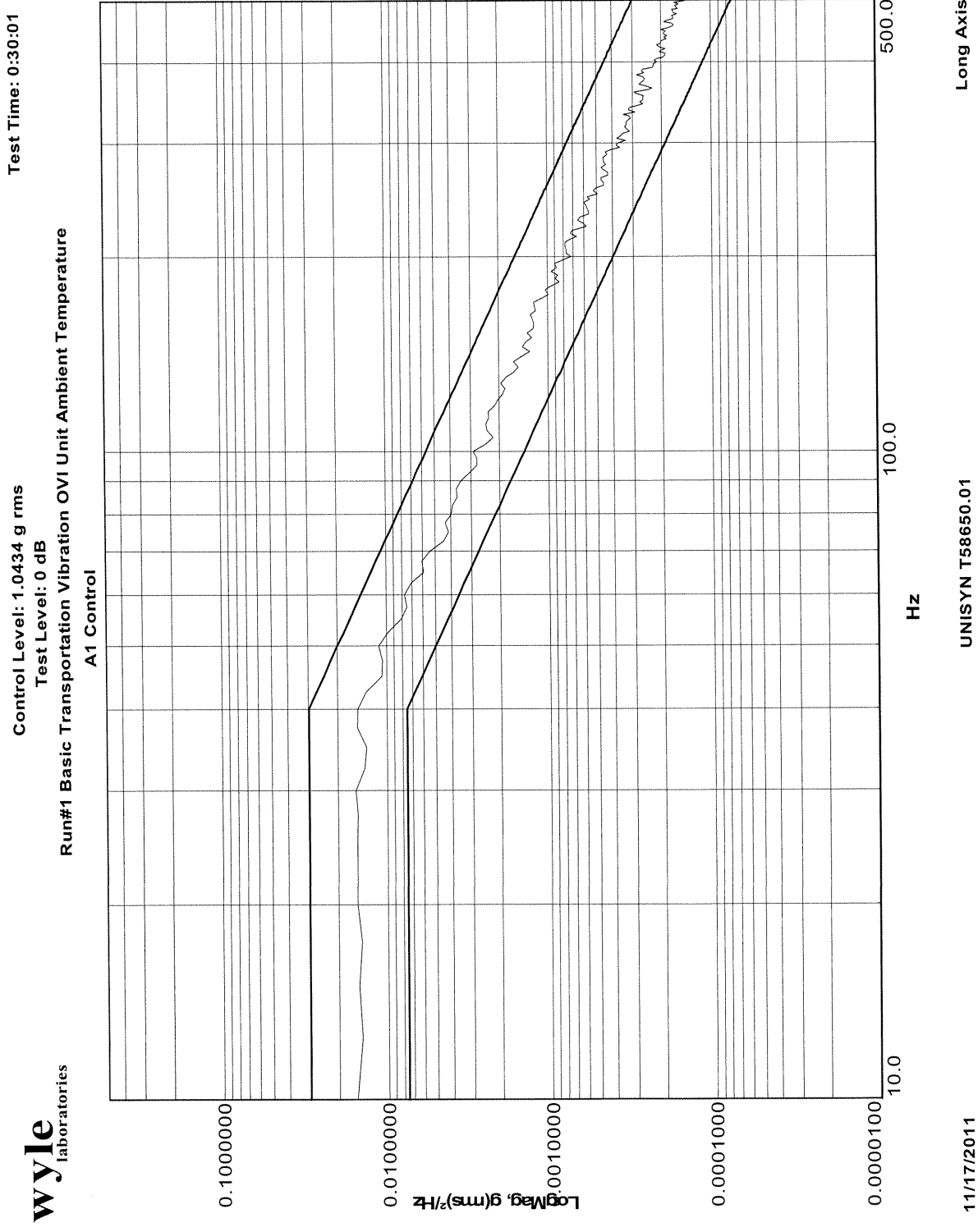


VERT AXIS

UNISYN T58650.01

Date: 11/12/11





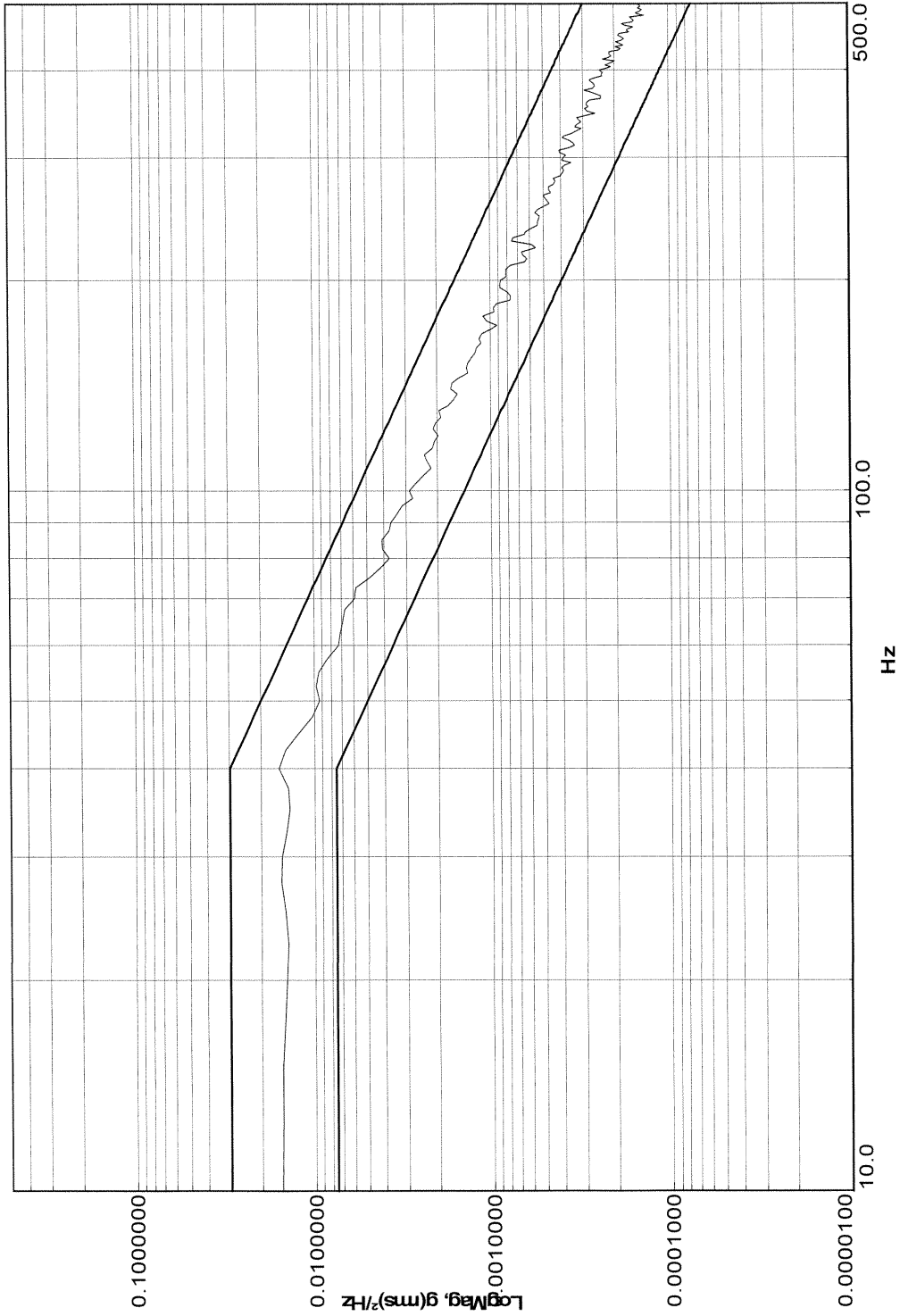
Test Time: 0:30:01

Control Level: 1.0560 g rms

Test Level: 0 dB

Run#2 Basic Transportation Vibration OVI Unit Ambient Temperature

A1 Control



Trans Axis

UNISYN T58650.01

11/17/2011

Test Time: 0:30:01

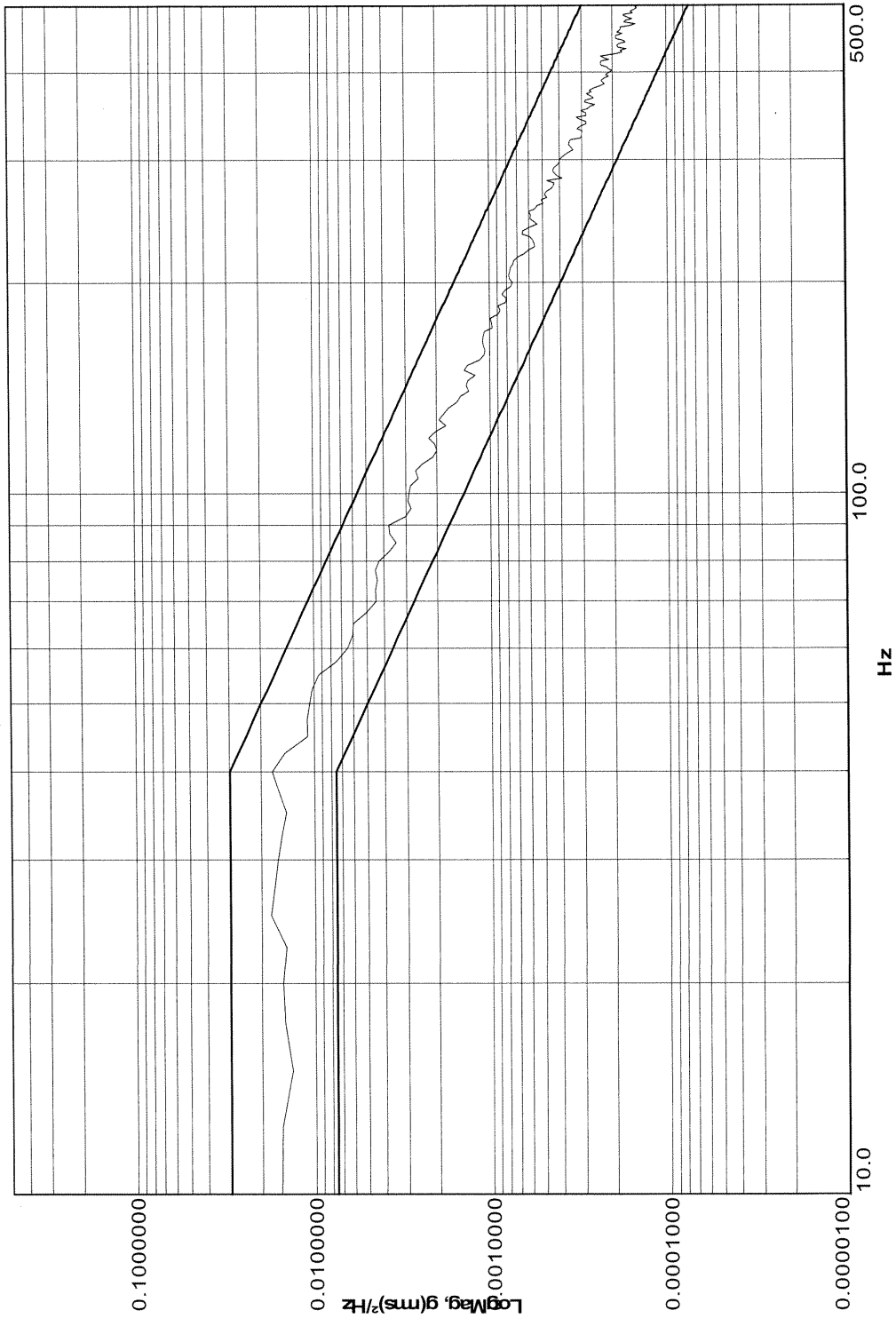
Control Level: 1.0592 g rms

Test Level: 0 dB

Run#3 Basic Transportation Vibration OVI Unit Ambient Temperature

A1 Control

wyle
laboratories



Vert Axis

Hz

UNISYN T58650.01

11/17/2011



DATA SHEET

Job No.: T58650.01
Start Date: 3 Nov 2011

Customer: <u>Unisyn Voting Solutions</u>	Temperature: <u>N/A</u>	Humidity: <u>N/A</u>
EUT: <u>OVI 15"</u>	Measurement Point: <u>EUT @ All Four Sides</u>	
Model No.: <u>OpenElect Voting Interface</u>	Interference Signal: <u>1Khz @ 80% AM</u>	
Serial No.: <u>UNI150012</u>	Frequency Range: <u>80Mhz to 1Ghz</u>	

Test Title Electromagnetic Susceptibility

Test Frequency ()kHz (X)MHz ()GHz	Meets Limit		Susceptibility Threshold Level ()A ()V ()kV (X)V/m ()Vrms ()dBµA ()dBµV ()dBµV/m ()dBpT	Maximum Signal Applied	Comments
	Yes	No			
80	X		>10	10	Vertical and Horizontal
↓	↓		↓	↓	↓
1,000	X		>10	10	Vertical and Horizontal

Notice of Anomaly: _____

Witness: _____

Tested By: Date: 11/4/11
Technician
 Approved: Date: 11/4/11
Project Engineer
 Page 1 of 1

WH-1432, Rev. Dec. 2004



DATA SHEET

Job No.: T58650.01
Start Date: 10 Nov 2011

Customer: Unisyn Voting Solutions Temperature: N/A Humidity: N/A
EUT: OVI 15" Measurement Point: See Comments Below
Model No.: OpenElect Voting Interface Interference Signal: 1Khz @ 80% AM
Serial No.: UNI150012 Frequency Range: 150Khz to 80Mhz

Test Title Conducted RF Immunity

Test Frequency ()kHz (X)MHz ()GHz	Meets Limit		Susceptibility Threshold Level ()A (X)V ()kV ()V/m ()Vrms ()dBμA ()dBμV ()dBμV/m ()dBpT	Maximum Signal Applied	Comments
	Yes	No			
.150	X		>10	10	AC Power Cable
↓	↓		↓	↓	↓
80	X		>10	10	AC Power Cable

Notice of Anomaly: _____
Witness: _____

Tested By: [Signature] Date: 11/10/11
Technician
Approved: [Signature] Date: 11/11/11
Project Engineer

WH-1432, Rev. Dec. 2004



DATA SHEET

Job No.: T58650.01
Start Date: 1/18/2011

Customer: Unisyn Temperature: 72°F Humidity: 41%
EUT: OVI 15" Measurement Point: See Test Points Below
Model No.: OpenElect Voting Interface Interference Signal: See Applied Signal
Serial No.: UNI150012 Frequency Range: N/A

Test Title Electrostatic Disruption

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
Horizontal Coupling Plane	X		±2, 4, 6, 8	Contact	10	Each Side of EUT
Vertical Coupling Plane	X		±2, 4, 6, 8	Contact	10	Each Side of EUT
Keyhole	X		±2, 4, 6, 8	Contact	10	
Right Side of OVI, Lower Chassis	X		±2, 4, 6, 8	Contact	10	
Left Side of OVI, Lower Chassis	X		±2, 4, 6, 8	Contact	10	
Back of OVI Right Screen Brace	X		±2, 4, 6, 8	Contact	10	
Back of OVI, Right Side, Rivet	X		±2, 4, 6, 8	Contact	10	
Back of OVI, Left Side, ATI Connector	X		±2, 4, 6, 8	Contact	10	
Right Side of OVI, Screen Brace	X		±2, 4, 6, 8	Contact	10	
Monitor AC Adapter Light	X		±2, 4, 8, 15	Air	10	
Monitor AC Adapter Cord Connector	X		±2, 4, 8, 15	Air	10	
Monitor AC Adapter Side	X		±2, 4, 8, 15	Air	10	
Monitor Upper Left Corner	X		±2, 4, 8, 15	Air	10	
Monitor Lower Left Corner	X		±2, 4, 8, 15	Air	10	
Monitor Center	X		±2, 4, 8, 15	Air	10	
Monitor Status Light	X		±2, 4, 8, 15	Air	10	
Monitor Lower Right Corner	X		±2, 4, 8, 15	Air	10	
Monitor Upper Right Corner	X		±2, 4, 8, 15	Air	10	
Monitor Power Button	X		±2, 4, 8, 15	Air	10	
Monitor Right Side	X		±2, 4, 8, 15	Air	10	

Notice of Anomaly: _____

Tested By: [Signature] Date: 11-22-11
Technician

Witness: _____

Approved: [Signature] Date: 11-22-11
Project Engineer



DATA SHEET

Job No.: T58650.01
 Start Date: 1/18/2011

Customer: Unisyn Temperature: 72°F Humidity: 41%
 EUT: OVI 15" Measurement Point: See Test Points Below
 Model No.: OpenElect Voting Interface Interference Signal: See Applied Signal
 Serial No.: UNI150012 Frequency Range: N/A

Test Title Electrostatic Disruption

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
Monitor Left Side	X		±2, 4, 8, 15	Air	10	
OVI Case Left of Printer	X		±2, 4, 8, 15	Air	10	
OVI Case Below Printer	X		±2, 4, 8, 15	Air	10	
OVI Case Front, Gasket	X		±2, 4, 8, 15	Air	10	
OVI Case Right Side, Gasket	X		±2, 4, 8, 15	Air	10	
Power Switch	X		±2, 4, 8, 15	Air	10	

Notice of Anomaly: _____
 Witness: _____

Tested By: [Signature] Technician Date: 11-22-11
 Approved: [Signature] Project Engineer Date: 11-22-11
 Page 2 of 2



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/11/2011 JOB NUMBER: T58650.01 TYPE OF TEST: VIBRATION
TECHNICIAN: D.MEDLEY CUSTOMER: UNISYN TEST AREA: DYN LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	ACCELEROMETER	ENDEVCO	7704A-50	12608	04868	50pC/g	±5%	7/27/2011	1/27/2012
2	ACCELEROMETER	ENDEVCO	7704A-50	12607	04869	50pC/g	±5%	7/27/2011	1/27/2012
3	CHARGE	ENDEVCO	2775A	EE30	112651	GAIN	1.5%	7/21/2011	1/17/2012
4	CHARGE	ENDEVCO	2775A	ED75	112653	GAIN	1.5%	7/21/2011	1/21/2012
5	DMM	KEITHLEY	179A	196804	101203	1200VDC	±.04%DC	2/4/2011	2/4/2012
6	VIB CONTROL	SPECTRAL DYNAL	2400	1657	116969	MFG	MFG	3/9/2011	3/9/2012

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

D. Medley 11/11/11

CHECKED & RECEIVED BY:

Wendy Owens 11/11/11

Q.A.:

Paul Smith 11/11/11



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/17/2011
TECHNICIAN: D.MEDLEY

JOB NUMBER: T58650.01
CUSTOMER: UNISYN

TYPE OF TEST: VIBRATION
TEST AREA: DYN LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	ACCELEROMETER	ENDEVCO	7704-50	13073	02600	50 pC/g / 20-5kF	±5%	7/27/2011	1/27/2012
2	ACCELEROMETER	ENDEVCO	7704A-50	12634	04866	50pC/g	±5%	10/11/2011	4/8/2012
3	CHARGE	ENDEVCO	2775A	EE31	112649	GAIN	±1.5%	6/9/2011	12/6/2011
4	CHARGE	ENDEVCO	2775A	EE24	112652	GAIN	1.5%	6/9/2011	12/6/2011
5	DMM	KEITHLEY	179A	196804	101203	1200VDC	±.04%DC	2/4/2011	2/4/2012
6	DYN SIG	DATA PHYSICS CC	70499	1000408	02760	MULTI	MFG	5/4/2011	5/3/2012

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

D. Medley 11/17/11

CHECKED & RECEIVED BY:

Ray Jones 11/17/2011

Q.A.:

Wyle 11/17/11

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Page 1 of 1



INSTRUMENTATION EQUIPMENT SHEET

DATE: 12/12/2011 JOB NUMBER: T58650.01 TYPE OF TEST: USABILITY ACCESSIBILITY
TECHNICIAN: C. MORFORD CUSTOMER: UNISYN/ILTS TEST AREA: VSTL LAB 4

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	MEASURE SET	MITUTOYO	DIGIMATIC	7179294/0214	108976	1"/6"	.0005"	11/4/2011	11/4/2013
2	PUSH-PULL GAGE	CHATILLON	DPP-50		101990	50 lbs	±0.5 lb	7/6/2011	7/6/2012
3	TAPE MEASURER	LUFKIN	HV1048CME	NSN	02710	26' 8meters	±1in / ±1mm	5/4/2011	5/4/2013

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: Byron Miller 12-12-11

CHECKED & RECEIVED BY: Wendy Owens 12/12/11

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Q.A.: Blonda New 12/12/11



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/18/2011 JOB NUMBER: T58650 TYPE OF TEST: VVS 4.1.2.8,ESD
TECHNICIAN: J.MCDERMOTT CUSTOMER: UNISYN TEST AREA: EMI LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	DATALOGGER	EXTECH	42280	9051859	04926	-4°F to 144°F/0-	±1°F / ±3%RH	2/10/2011	2/10/2012
2	DISCHARGE	EMC-PARTNER	ESD3000DMI	049	03229	150pF	MFG	12/17/2010	12/17/2011
3	ESD GUN	EMC-PARTNER	ESD3000	059	04446	16.5 KV	±10%	12/17/2010	12/17/2011
4	ESD TARGET	HAEFELY TRENCI	2520311	152461	110794	15KV	±5%	11/11/2011	11/21/2011
5	OSCILLOSCOPE	TEKTRONIX	TDS684C	B020598	116832	1GHz BW	<50ps@5GS/s	11/18/2011	11/28/2011

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

J. McDermott 11-19-2011

CHECKED & RECEIVED BY:

Ryan Fisher 11-18-2011

WH-1029A,REV,APR'99

Q.A.:

Revert *M. Cox* 11/18/11



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/21/2011 JOB NUMBER: T58650.01 TYPE OF TEST: FCC PART 15
TECHNICIAN: J. SMITH CUSTOMER: ILTS TEST AREA: OATS 2

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	ANTENNA	ELECTROMETRIC	EM-6917A-1	124116	114415	30MHZ - 3GHZ	SEE DATA	7/20/2011	7/20/2013
2	ATTEN	NARDA	776C-20	1711	02173	20dB	MFG	1/13/2011	1/13/2012
3	EMI TEST RCVR	ROHDE SCHWARZ	ESCI	100386	117803	MULTI	MFG	12/8/2010	12/8/2011
4	LISN	FISHER CC	FCC-LISN-50-15-1-01	02067	117145	10KHz to 100MI	±0.7dB	8/20/2010	8/20/2012
5	LISN	FISHER CC	FCC-LISN-50-15-1-01	02068	117146	10KHz to 100MI	±0.7dB	8/20/2010	8/20/2012
6	LISN	SOLAR	8028-50	956303	113693	10K-30MHZ	CERT	9/9/2010	9/9/2012
7	LISN	SOLAR	8028-50	968418	113694	10K-30MHZ	CERT	9/9/2010	9/9/2012
8	LISN	SOLAR	8028-50-TS-24-BNC	974623	113973	10K-100MHZ	CERT	9/9/2010	9/9/2012

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

J. Smith 11/28/11

CHECKED & RECEIVED BY:

Robert Hand 11/28/11

Q.A.:

[Signature] 11/28/11

WH-1029A,REV,APR'99



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/3/2011 JOB NUMBER: T58650 TYPE OF TEST VSG 4.1.2.10
TECHNICIAN: J. GALEONE CUSTOMER: UNISYN/ILTS TEST AREA: EMI LAB CHAMBER 1

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	AMPLIFIER	AMP RESEARCH	500W1000A	25361	03141	80MHz to 1GHz	NCR	8/10/2011	8/10/2012
2	ANTENNA	AR	AT6080	0330329	02247	80-6000MHz	NCR	3/28/2011	3/28/2020
3	DIR COUPLER	AMP RESEARCH	DC6080	21207	113788	80-1000MHZ	.5db	5/17/2011	5/17/2012
4	SIG GEN	MARCONI	2023	112224/092	L12224	9kHz-1.2GHz	±0.8dB	1/4/2011	1/4/2012
5	SPEC ANAL	AGILENT	E4446A	US42070108	110948	44 GHz	CERT	6/3/2011	6/3/2012
6	TAPE MEASURER	LUFKIN	HV1048CME	NSN	02710	26' 8meters	±1in / ±1mm	5/4/2011	5/4/2013

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

[Signature]
03 Nov 11

CHECKED & RECEIVED BY:

W. Bud 11/3/11

Q.A.:

[Signature] 11/3/11

WH-1029A,REV,APR'99



INSTRUMENTATION EQUIPMENT SHEET

DATE: 11/10/2011 JOB NUMBER: T58650 TYPE OF TEST: VVSG 4.1.2.11
TECHNICIAN: J. GALEONE CUSTOMER: UNISYN/ILTS TEST AREA: EMI LAB CHAMBER 1

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	AMPLIFIER	AR	2500A225	NSN	01308	MFG	NCR	8/11/2011	8/11/2013
2	ATTEN	BIRD	25-T-MN	0129	03142	50 OHMS 25 W.	MFG	5/23/2011	5/23/2012
3	ATTENUATOR	NARDA	769-6	03180	04860	DC to 6GHz	MFG	3/16/2011	3/16/2012
4	DIR COUPLER	AMP RESEARCH	DC3010	304022	117208	.01-1000MHz	±0.8dB	4/13/2011	4/13/2012
5	PASS IMP ADAPT	FISHER CC	FCC-801-150-50-CDT	9785	116853	150KHz-230MH	MFG	7/15/2011	7/15/2012
6	PASS IMP ADAPT	FISHER CC	FCC-801-150-50-CDT	9784	116854	150KHz-230MH	MFG	7/15/2011	7/15/2012
7	PASSIVE	FISHER CC	FCC-801-150-50-CDT	04049/04050	110405	150KHZ - 230M	MFG	7/15/2011	7/15/2012
8	SIG GEN	AEROFLEX	2023A	202306/068	R20230	9KHz-1.2GHz	MFG	10/4/2011	10/4/2012
9	SPEC ANAL	AGILENT	E4446A	US42070108	110948	44 GHz	CERT	6/3/2011	6/3/2012
10	SPEC ANAL	AGILENT	E4446A	MY46180335	R80335	MFG	MFG	7/25/2011	7/25/2013
11	TAPE MEASURER	LUFKIN	HV1048CME	NSN	02708	8meters	±1mm	4/14/2010	4/14/2012

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology

INSTRUMENTATION:

[Handwritten Signature]
050004

CHECKED & RECEIVED BY:

[Handwritten Signature] 11/10/11
[Handwritten Signature] 11/10/11

WH-1029A,REV,APR'99

Q.A.: