DESCRIPTION	PART NUMBER	REV
UL PTN78000 CON RAD	81-40270	1C

EMC
Test Report

PTN78000 Product Family

Part numbers covered by this report:
PTN78000WAx PTN78000AAx
PTN78000HAx (x=H, S, Z)

Test Report Prepared by:
Mike Ehas – Underwriters Laboratories, Inc.

Testing Performed by:
Mike Ehas – Underwriters Laboratories, Inc.

Rev	ECO #	Description of Change	Originator	Date
1A	6459	Initial Release	James A. Killion	8/23/2004
1B	6650	Change PTH78XXX to PTN78XXX	James A. Killion	10/26/2004
1C	6991	Add PTN78000A Data	James A. Killion	3/29/2004

TEXAS INSTRUMENTS
27715 Diehl Rd
Warrenville, IL 60555

CONFIDENTIAL

Originator	Date
James Killion	3/29/2005
Reliability Manager	Date
Joseph R Pullo	4/5/05
Product Designer	Date
	4/6/05

UL International EMC Services
333 Pfingsten Road
Northbrook, Illinois 60062-2096
(800) 873-8536
Fax No. (847) 272-8864
http://www.ul.com/emc/

July 29, 2004

Texas Instruments Inc.
Attn: Mr. James Killion
27715 Diehl Road
Warrenville, IL 60555

UL Reference: File MC1850, Project 04NK19056

Subject: EMC Test and Measurement Report for
Model PTH78000WAH Integrated Circuits

Dear Mr. Killion:

We have provided with this letter your EMC Test Report for the above referenced model. The product was determined to comply with the requirements noted in the report.

Please review the attached report and direct any questions or comments to me.

We appreciate your interest in UL's EMC Services, and encourage you to contact us in the future should you need EMC test services. This closes Project 04NK19056.

Best regards,

Mike Ehas (Ext 42351)
EMC Sr. Engineering Associate
International EMC Services

Reviewed by:

Jack Steiner
Engineering Group Leader
International EMC Services

EMC – TEST REPORT

Issue Date: July 29, 2004

Ö **EMISSIONS**

IMMUNITY

Test Report File No.	:	MC1850
Project No.	:	04NK19056
Model / Type	:	PTH78000WAH (Lot Code 0424EW11)
Kind of Product	:	Integrated Circuits
Applicant	:	Texas Instruments Inc.
License Holder	:	Texas Instruments Inc.
Address	:	27715 Diehl Road
	:	Warrenville, IL 60555
	:	
Manufacturer	:	Same as Applicant
	:	
	:	
	:	
Test Result	:	**COMPLIANT**

This report without appendices consists of 9 pages. Appendix A contains test photos, and Appendix B contains original test data. The data contained in this report reflects only the items tested in the configurations and mode of operations described. An attempt has been made to arrange the EUT, with the equipment provided, into a test configuration which maximizes the observed emissions of the EUT while simulating, as close as practical, a typical end-use installation.

Underwriters Laboratories Inc. 333 Pfingsten Rd. Northbrook, IL 60062
Fax: (847) 272-8864

REPORT DIRECTORY

1.0 GENERAL PRODUCT DESCRIPTION

The Equipment Under Test (EUT) are component integrated circuits.

1.0.1 Equipment Mobility:

Table-top

1.0.2 Test Voltage and Frequency:

Voltage (V)	Frequency (Hz)
24	DC

1.1 MODEL DIFFERENCES

Any other model(s) represented by the models tested in this investigation will be documented by the manufacturer.

1.2 ENVIRONMENTAL CONDITIONS IN TEST LAB

Temperature:	**20-25 °C**
Relative Humidity:	**30-60% RH**
Atmospheric Pressure:	**860-1060 mbar**

1.3 CALIBRATION OF EQUIPMENT USED FOR MEASUREMENT

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST), therefore, all test data recorded in this report is traceable to NIST.

1.4 EUT CONFIGURATION(s)

See Appendix A for individual set-up configuration(s). In addition to the EUT, the following peripheral devices and/or cables were connected during the measurement:

Device	Manufacturer	Model	Serial #	FCC ID
N/A				

Cable	Manufacturer	Length	Type	Shield Type	Shield Termination
N/A					

1.5 EUT OPERATING MODE(s)

The equipment under test was operated during the measurements under the following conditions:

Continuous operation.

Part Number	Vout	Iout	Rload
PTH78000WAH	12	1.5 amps	8 ohms

1.6 DEVICE MODIFICATIONS

The following modifications were necessary for compliance:

None.

2.0 EMISSIONS TEST REGULATIONS

The EUT was considered to be a Class B device.

Emissions testing was performed according to the following regulations:

Manufacturer's specified test program. (EUT is a component)

Radiated Emissions Only

Conducted Emissions data is provided for engineering purposes.

EN 55022 : 98 + A1: 2000 + A2 : 2003

CONDUCTED VOLTAGE EMISSIONS

Test Location

Ground Plane (Test Station 3)

UL Procedure

3014ANBK-LPG-001

Test Instruments

Spectrum Analyzer / Quasi-peak Adapter

Hewlett Packard Model 8564A Spectrum Analyzer PMC0349
Model 85640A Preselector PMC0348

Line Impedance Stabilization Networks (LISNs)

SOLAR Model 8602-50-TS-50-N	S/N 963903	No. EMC4064
SOLAR Model 8602-50-TS-50-N	S/N 887824	No. EMC4052

Voltage Probe

SOLAR Type 8614-1, EMC4174
Tegam Model 8614-1, s/n 11089

Frequency Range on each line

150 kHz to 30MHz

Test Results

Conducted Emissions data is provided for engineering purposes only.

Remarks

See App. B for complete test results.

RADIATED ELECTRIC FIELD EMISSIONS

Test Location

10 Meter Semi-Anechoic Chamber

UL Procedure

3014ANBK-LPG-002

Test Instruments

Spectrum Analyzer / Quasi-peak Adapter / Preamplifier / Preselector

Hewlett Packard Model 8566B Spectrum Analyzer
Model 85650A Quasi-peak Adapter
Miteq AM-3A-000110-N Preamp No. FCA4003, EMC4016, EMC4151
Model 85685A RF Preselector No. EMC4015

Antennas

Chase EMC Ltd., Biconical Antenna Model VBA6106A	S/N 1246
Chase EMC Ltd., Log Periodic Antenna Model UPA6108	S/N 1120

Frequency Range of Measurement
30MHz-1000MHz

Measurement Distance

10 meters

Test Results

The requirements are:
MET

Remarks

See App. B for complete test results.

3.0 IMMUNITY TEST REGULATIONS

Immunity testing was not performed per the manufacturers request.

4.0 GENERAL REMARKS

Sample Receipt Date : July 27, 2004

Test Dates

Start : July 27, 2004
End : July 27, 2004

4.1 SUMMARY

The requirements according to the technical regulations are:

MET

Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062 USA

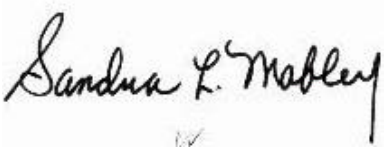
Test Engineer:

Mike Ehas (Ext 42351)
EMC Sr. Engineering Associate
International EMC Services

Reviewed by:

Jack Steiner
Engineering Group Leader
International EMC Services

Report writer:



Sandra L. Mobley
Project Handler III
International EMC Services

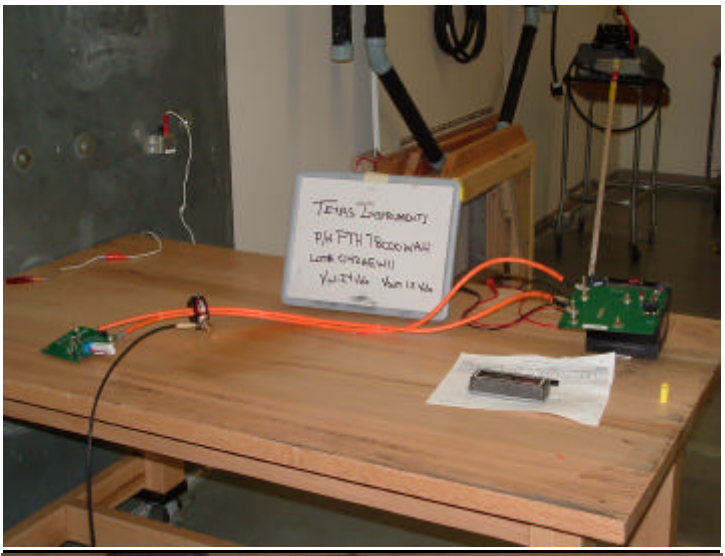
APPENDIX A

Model PTH78000WAH

PHOTOS

EMISSIONS

Conducted Voltage	Fig. 1
Radiated Emissions	Fig. 2
EUT	Fig. 3

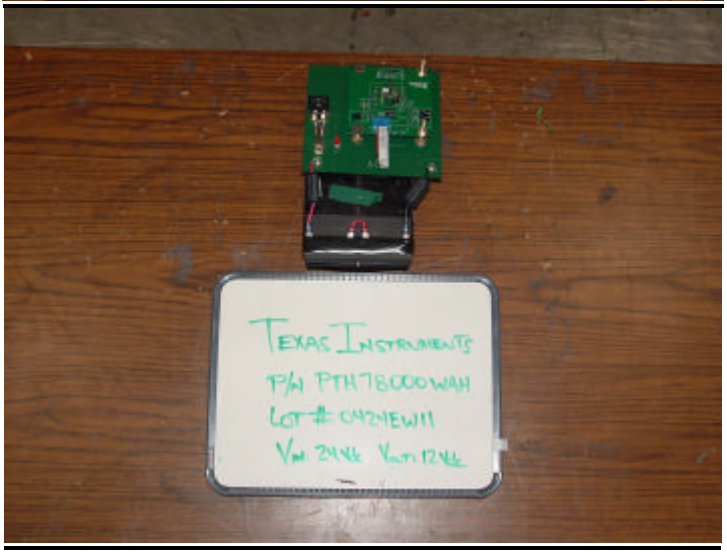


CONDUCTED VOLTAGE

FIG. 1

RADIATED EMISSIONS

FIG. 2



EUT

Fig. 3

APPENDIX B

Model PTH78000WAH

TEST DATA

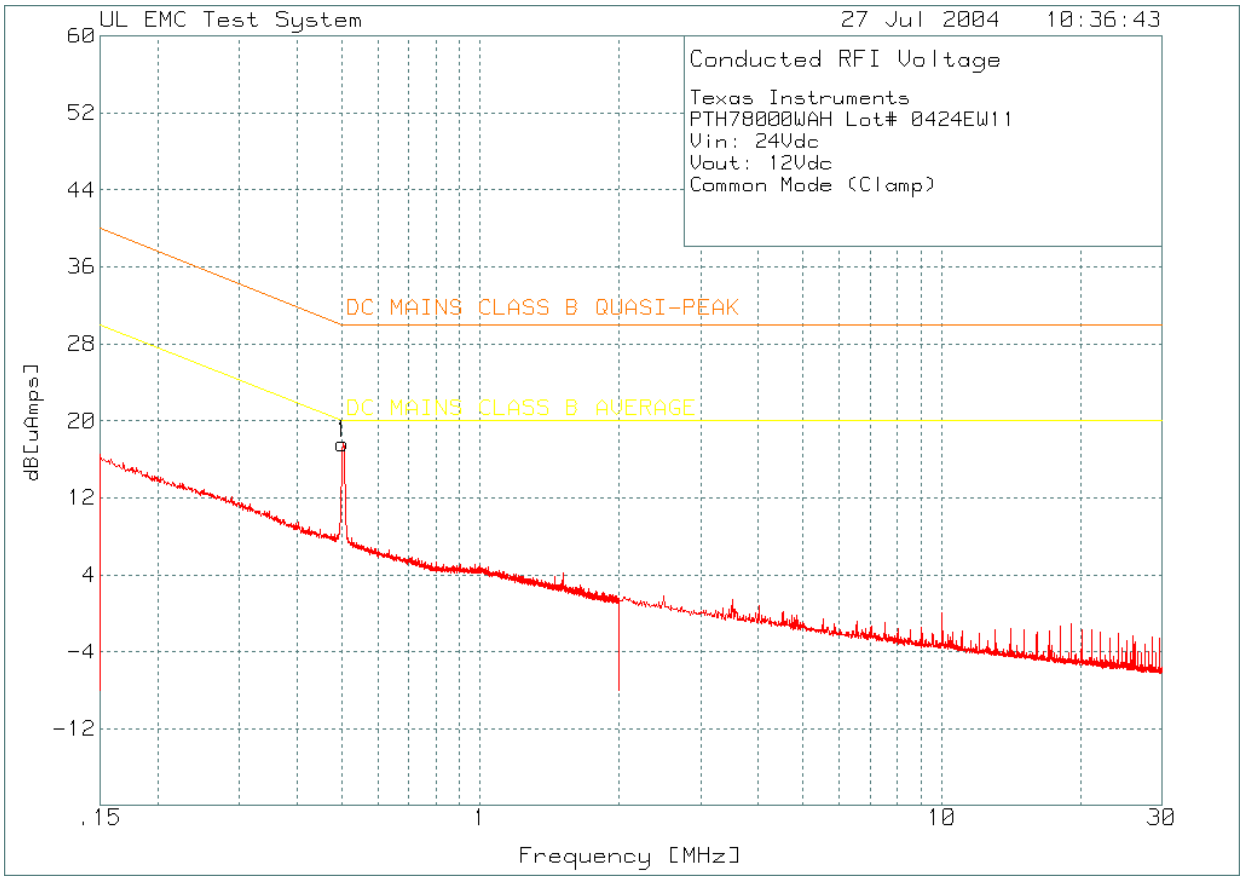
EMISSIONS

Conducted Voltage
Radiated Electric Field Emissions

UNDERWRITERS LABORATORIES INC.
Conducted Emissions

Date Tested: 27 July 2004

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PT78000WAH**
Requirement	:	**Engineering purposes only (Clamp)**
Detection Mode	:	Quasi-peak (qp) or Peak (pk) or Average (ave)
Bandwidth	:	200 Hz for measurements 9 kHz to 150 kHz 9 kHz for measurements 150 kHz to 30 MHz
Line	:	Common Mode



Texas Instruments
PTH78000WAH Lot# 0424EW11
Vin: 24Vdc
Vout: 12Vdc
Common Mode (Clamp)

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uAmps]	Limit:1	2
Line - L1 .15 - 2MHz							
1	.50297	16.73 pk	0	.9	17.63	30	20
				Margin [dB]		-12.37	-2.37

LIMIT 1: DC MAINS CLASS B QUASI-PEAK
LIMIT 2: DC MAINS CLASS B AVERAGE

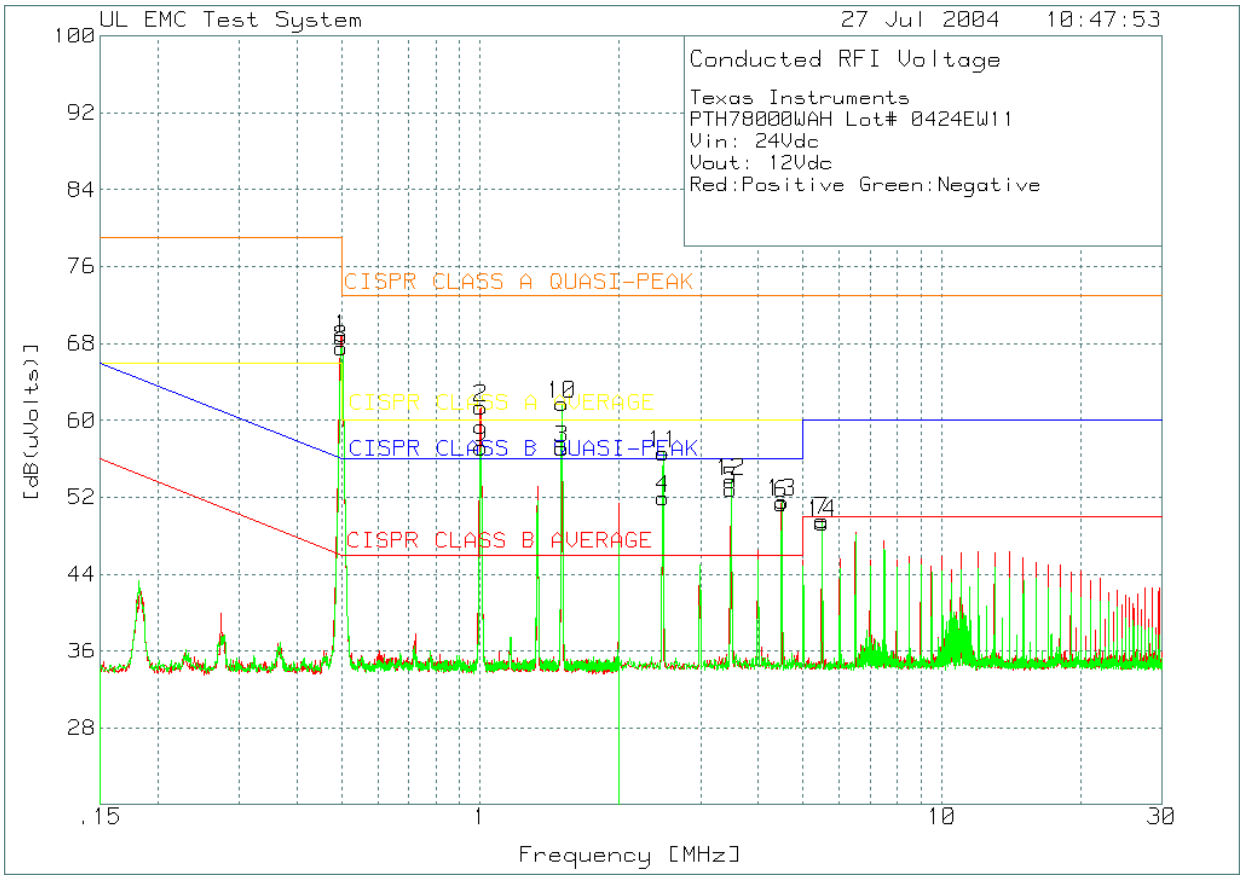
pk - Peak detector

File: pth78000wah_cv_clamp.TXT

UNDERWRITERS LABORATORIES INC.
Conducted Emissions

Date Tested: 27 July 2004

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PTH78000WAH**
Requirement	:	**Engineering purposes only (Voltage Probe)**
Detection Mode	:	Quasi-peak (qp) or Peak (pk) or Average (ave)
Bandwidth	:	200 Hz for measurements 9 kHz to 150 kHz 9 kHz for measurements 150 kHz to 30 MHz
Line	:	Line & Neutral



Texas Instruments
PTH78000WAH Lot# 0424EW11
Vin: 24Vdc
Vout: 12Vdc
Red:Positive Green:Negative

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line - L1 .15 - 2MHz									
1	.49951	38.68 pk	0	30	68.68	79	66	56	46
				Margin [dB]		-10.32	2.68	12.68	22.68
2	1.00128	31.33 pk	0	30	61.33	73	60	56	46
				Margin [dB]		-11.67	1.33	5.33	15.33
3	1.50113	27.1 pk	0	30	57.1	73	60	56	46
				Margin [dB]		-15.9	-2.9	1.1	11.1
Line - L1 2 - 30MHz									
4	2.48896	21.93 pk	0	30	51.93	73	60	56	46
				Margin [dB]		-21.07	-8.07	-4.07	5.93
5	3.49018	22.82 pk	0	30	52.82	73	60	56	46
				Margin [dB]		-20.18	-7.18	-3.18	6.82
6	4.49139	21.39 pk	0	30	51.39	73	60	56	46
				Margin [dB]		-21.61	-8.61	-4.61	5.39
7	5.50424	19.61 pk	0	30	49.61	73	60	60	50
				Margin [dB]		-23.39	-10.39	-10.39	-.39
Line - L2 .15 - 2MHz									
8	.4999	37.54 pk	0	30	67.54	79	66	56	46
				Margin [dB]		-11.46	1.54	11.54	21.54
9	1.00205	27.17 pk	0	30	57.17	73	60	56	46
				Margin [dB]		-15.83	-2.83	1.17	11.17
10	1.5019	31.73 pk	0	30	61.73	73	60	56	46
				Margin [dB]		-11.27	1.73	5.73	15.73
Line - L2 2 - 30MHz									
11	2.48896	26.61 pk	0	30	56.61	73	60	56	46
				Margin [dB]		-16.39	-3.39	.61	10.61
12	3.49018	23.71 pk	0	30	53.71	73	60	56	46
				Margin [dB]		-19.29	-6.29	-2.29	7.71
13	4.50303	21.53 pk	0	30	51.53	73	60	56	46
				Margin [dB]		-21.47	-8.47	-4.47	5.53
14	5.50424	19.33 pk	0	30	49.33	73	60	60	50
				Margin [dB]		-23.67	-10.67	-10.67	-.67

LIMIT 1: CISPR CLASS A QUASI-PEAK
LIMIT 2: CISPR CLASS A AVERAGE
LIMIT 3: CISPR CLASS B QUASI-PEAK
LIMIT 4: CISPR CLASS B AVERAGE

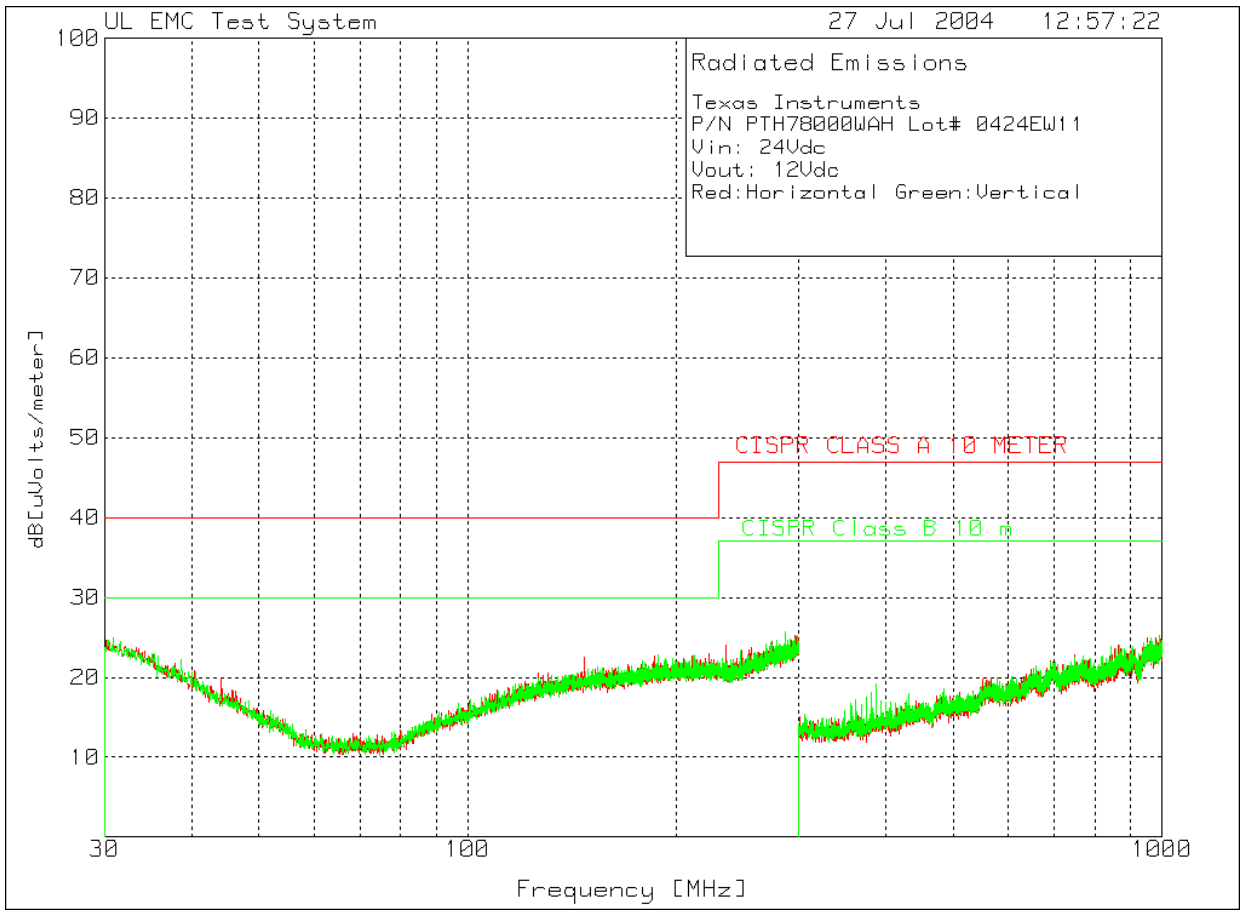
pk - Peak detector

File: pth78000wah_cv_probe.TXT

UNDERWRITERS LABORATORIES INC.
Radiated Emissions

Date Tested: 27 July 2004

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PTH78000WAH**
Requirement	:	**CISPR Class B**
Detection Mode	:	Quasi-peak (qp)
Bandwidth	:	120 kHz
Measurement Distance	:	10 meter
Antenna Type	:	**30 - 300 MHz, Biconical** **300 - 1000 MHz, Log-Periodic**



```
 Texas Instruments
 P/N PTH78000WAH Lot# 0424EW11
 Vin: 24Vdc
 Vout: 12Vdc
 Red:Horizontal Green:Vertical
      Test     Meter     Gain/Loss  Transducer  Level  Limit:1      2
No. Frequency  Reading    Factor     Factor  dB[uVolts/meter]
     [MHz]     [dB(uV)]     [dB]      [dB]
================================================================================
Range: 1 30 - 300MHz -------------------------------------------------------
2  147.0915     34.4 pk      -26.6     14.7      22.5    40       30
   Azimuth:34    Height:400 Horz     Margin [dB]          -17.5    -7.5
3  235.3148     34.3 pk      -26       15.7      24      47       37
   Azimuth:216   Height:200 Horz     Margin [dB]          -23      -13

Range: 2 30 - 300MHz -------------------------------------------------------
1  38.7009      33.5 pk      -26.9     15.6      22.2    40       30
   Azimuth:109   Height:200 Vert     Margin [dB]          -17.8    -7.8

Range: 4 300 - 1000MHz -----------------------------------------------------
4  362.2534     34.3 pk      -32.5     15.4      17.2    47       37
   Azimuth:233   Height:199 Vert     Margin [dB]          -29.8    -19.8
5  387.7842     35.7 pk      -32.3     15.7      19.1    47       37
   Azimuth:336   Height:299 Vert     Margin [dB]          -27.9    -17.9

LIMIT 1: CISPR CLASS A 10 METER
LIMIT 2: CISPR Class B 10 m

pk - Peak detector
```

Frequency MHz	Measurement dBuV	CISPR A dBuV	CISPR B dBuV
147.0915	22.5	40	30

UL International EMC Services
333 Pfingsten Road
Northbrook, Illinois 60062-2096
(800) 873-8536
Fax No. (847) 272-8864
http://www.ul.com/emc/

March 17, 2005

Texas Instruments Inc.
Attn: Mr. James Killion
27715 Diehl Road
Warrenville, IL 60555

UL Reference: File MC1850, Project 05NK08147

Subject: EMC Test and Measurement Report for
Model PTN78000AAH Integrated Circuits

Dear Mr. Killion:

We have provided with this letter your EMC Test Report for the above referenced model. The product was determined to comply with the requirements noted in the report.

Please review the attached report and direct any questions or comments to me.

We appreciate your interest in UL's EMC Services, and encourage you to contact us in the future should you need EMC test services. This closes Project 05NK08147.

Best regards,

Mike Ehas (Ext 42351)
Lead Engineering Associate
International EMC Services

Reviewed by:

Lou Madjarov
Senior Project Engineer
International EMC Services

EMC – TEST REPORT

Issue Date: March 16, 2005

Ö **EMISSIONS**

IMMUNITY

Test Report File No.	:	MC1850
Project No.	:	05NK08147
Model / Type	:	PTN78000AAH (Lot Code 0503E904)
Kind of Product	:	Integrated Circuits
Applicant	:	Texas Instruments Inc.
License Holder	:	Texas Instruments Inc.
Address	:	27715 Diehl Road
	:	Warrenville, IL 60555
	:	
Manufacturer	:	Same as Applicant
	:	
	:	
	:	
Test Result	:	**COMPLIANT**

This report without appendices consists of 9 pages. Appendix A contains test photos, and Appendix B contains original test data. The data contained in this report reflects only the items tested in the configurations and mode of operations described. An attempt has been made to arrange the EUT, with the equipment provided, into a test configuration which maximizes the observed emissions of the EUT while simulating, as close as practical, a typical end-use installation.

Underwriters Laboratories Inc. 333 Pfingsten Rd. Northbrook, IL 60062
Fax: (847) 272-8864

REPORT DIRECTORY

1.0 GENERAL PRODUCT DESCRIPTION

The Equipment Under Test (EUT) are component integrated circuits.

1.0.1 Equipment Mobility:

Table-top

1.0.2 Test Voltage and Frequency:

Voltage (V)	Frequency (Hz)
12	DC

1.1 MODEL DIFFERENCES

Any other model(s) represented by the models tested in this investigation will be documented by the manufacturer.

1.2 ENVIRONMENTAL CONDITIONS IN TEST LAB

Temperature:	**20-25 °C**
Relative Humidity:	**30-60% RH**
Atmospheric Pressure:	**860-1060 mbar**

1.3 CALIBRATION OF EQUIPMENT USED FOR MEASUREMENT

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST), therefore, all test data recorded in this report is traceable to NIST.

1.4 EUT CONFIGURATION(s)

See Appendix A for individual set-up configuration(s). In addition to the EUT, the following peripheral devices and/or cables were connected during the measurement:

Device	Manufacturer	Model	Serial #	FCC ID
N/A				

Cable	Manufacturer	Length	Type	Shield Type	Shield Termination
N/A					

1.5 EUT OPERATING MODE(s)

The equipment under test was operated during the measurements under the following conditions:

Continuous operation.

Part Number	Vout	Iout	Rload
PTN78000AAH	-15	0.6 amps	25 ohms

1.6 DEVICE MODIFICATIONS

The following modifications were necessary for compliance:

None.

2.0 EMISSIONS TEST REGULATIONS

The EUT was considered to be a Class B device.

Emissions testing was performed according to the following regulations:

Manufacturer's specified test program. (EUT is a component)

Radiated Emissions Only

Conducted Emissions data is provided for engineering purposes.

EN 55022 : 98 + A1: 2000 + A2 : 2003

CONDUCTED VOLTAGE EMISSIONS

Test Location

Ground Plane (Test Station 3)

UL Procedure

3014ANBK-LPG-001

Test Instruments

Spectrum Analyzer / Quasi-peak Adapter

Advantest Model R3361D Spectrum Analyzer S/N 81720342
Model R3551 Preselector S/N 82970023

Line Impedance Stabilization Networks (LISNs)

SOLAR Model 8602-50-TS-50-N	S/N 963903	No. EMC4064
SOLAR Model 8602-50-TS-50-N	S/N 887824	No. EMC4052

Voltage Probe

Solar Model 8614-1, EMC4147

Current Clamp

Tegam Model 94430-6, p/n 11089 EMC4047

Frequency Range on each line

150 kHz to 30MHz

Test Results

Conducted Emissions data is provided for engineering purposes only.

Remarks

See App. B for complete test results.

RADIATED ELECTRIC FIELD EMISSIONS

Test Location

10 Meter Semi-Anechoic Chamber

UL Procedure

3014ANBK-LPG-002

Test Instruments

Spectrum Analyzer / Quasi-peak Adapter / Preamplifier / Preselector

Hewlett Packard Model 8566B Spectrum Analyzer
Model 85650A Quasi-peak Adapter
Miteq AM-3A-000110-N Preamp No. FCA4003, EMC4016, EMC4151
Model 85685A RF Preselector No. EMC4015

Antennas

Chase EMC Ltd., Biconical Antenna Model VBA6106A	S/N 1246
Chase EMC Ltd., Log Periodic Antenna Model UPA6108	S/N 1120

Frequency Range of Measurement
30MHz-1000MHz

Measurement Distance

10 meters

Test Results

The requirements are:
MET

Remarks

See App. B for complete test results.

3.0 IMMUNITY TEST REGULATIONS

Immunity testing was not performed per the manufacturers request.

4.0 GENERAL REMARKS

Sample Receipt Date : March 15, 2005

Test Dates

Start : March 15, 2005
End : March 16, 2005

4.1 SUMMARY

The requirements according to the technical regulations are:

MET

Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062 USA

Test Engineer:

Mike Ehas (Ext 42351)
Lead Engineering Associate
International EMC Services

Reviewed by:

Lou Madjarov
Senior Project Engineer
International EMC Services

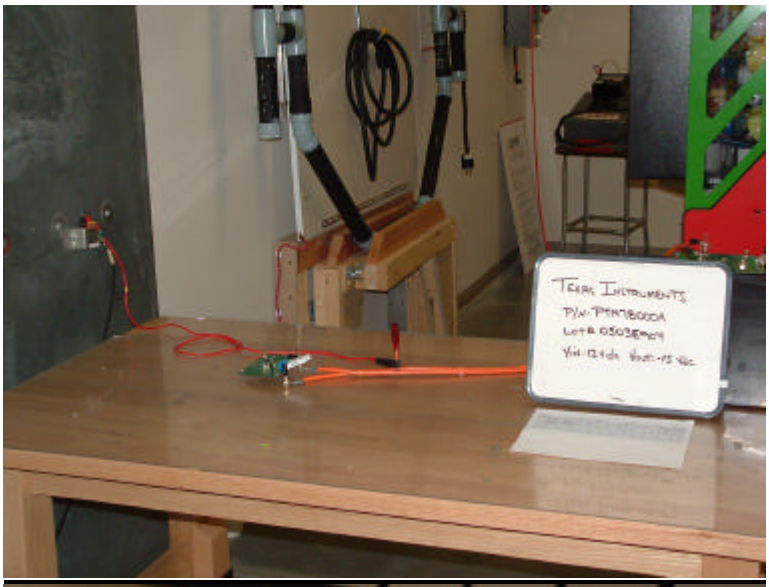
APPENDIX A

Model PTN78000AAH

PHOTOS

EMISSIONS

Conducted Voltage	Fig. 1
Radiated Emissions	Fig. 2
EUT	Fig. 3



CONDUCTED VOLTAGE

FIG. 1

RADIATED EMISSIONS

FIG. 2

EUT

Fig. 3

APPENDIX B

Model PTN78000AAH

TEST DATA

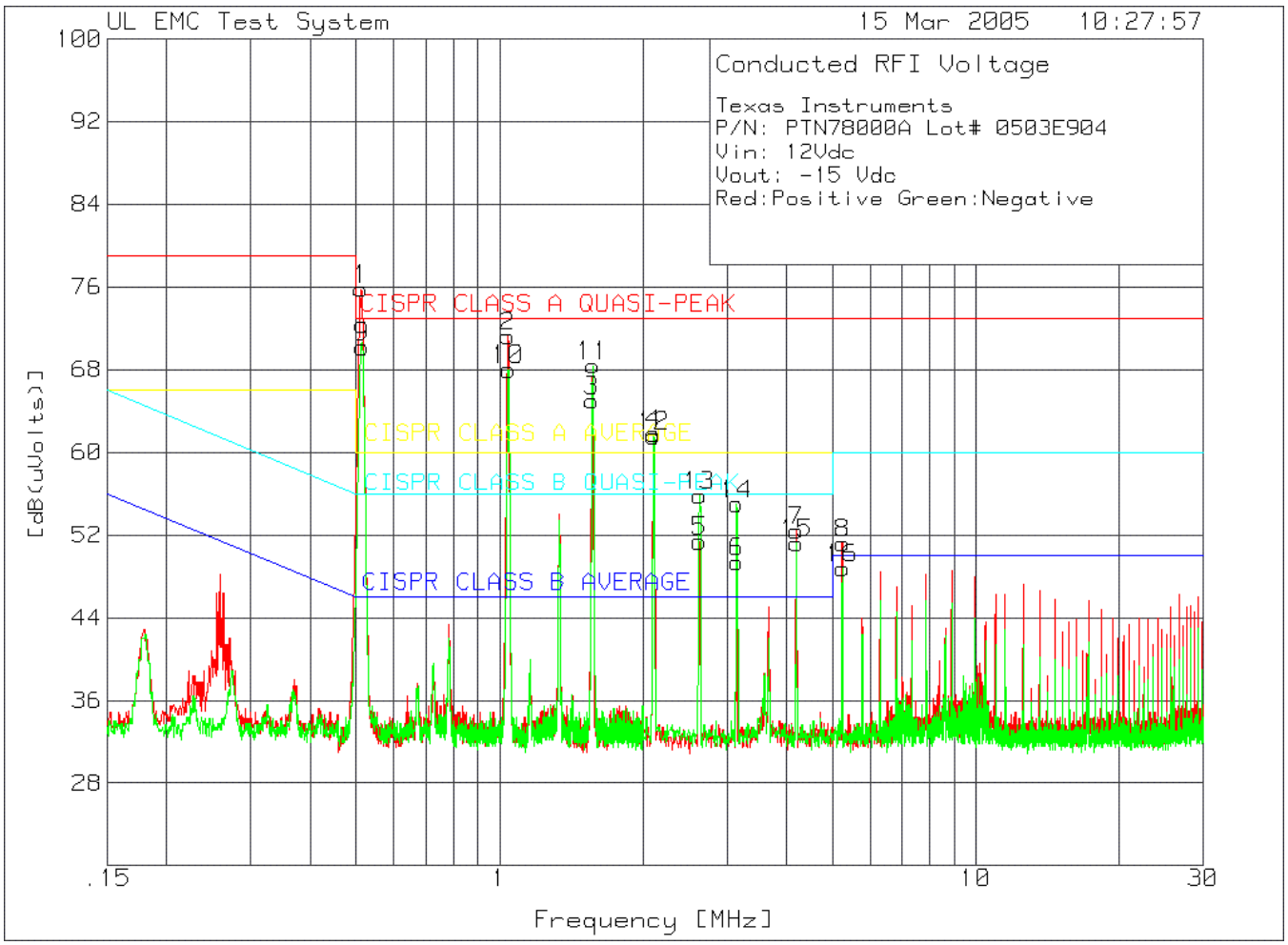
EMISSIONS

Conducted Voltage
Radiated Electric Field Emissions

UNDERWRITERS LABORATORIES INC.
Conducted Emissions

Date Tested: 15 March 2005

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PTN78000AAH**
Requirement	:	**Engineering purposes only (Voltage Probe)**
Detection Mode	:	Quasi-peak (qp) or Peak (pk) or Average (ave)
Bandwidth	:	200 Hz for measurements 9 kHz to 150 kHz 9 kHz for measurements 150 kHz to 30 MHz
Line	:	**Red:** Positive **Green:** Negative



Texas Instruments
P/N: PTN78000A Lot# 0503E904
Vin: 12Vdc
Vout: -15 Vdc
Red:Positive Green:Negative

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
Line - L1 .15 - 2MHz											
1	.51124	45.8 pk	0	30	75.8	73	60	56	46	-	-
				Margin [dB]		2.8	15.8	19.8	29.8	-	-
2	1.04166	41.2 pk	0	30	71.2	73	60	56	46	-	-
				Margin [dB]		-1.8	11.2	15.2	25.2	-	-
3	1.56196	34.9 pk	.1	30	65	73	60	56	46	-	-
				Margin [dB]		-8	5	9	19	-	-
Line - L1 2 - 30MHz											
4	2.10654	31.7 pk	.1	30	61.8	73	60	56	46	-	-
				Margin [dB]		-11.2	1.8	5.8	15.8	-	-
5	2.62592	21.3 pk	.1	30	51.4	73	60	56	46	-	-
				Margin [dB]		-21.6	-8.6	-4.6	5.4	-	-
6	3.1453	19.3 pk	.1	30	49.4	73	60	56	46	-	-
				Margin [dB]		-23.6	-10.6	-6.6	3.4	-	-
7	4.19071	22.3 pk	.1	30	52.4	73	60	56	46	-	-
				Margin [dB]		-20.6	-7.6	-3.6	6.4	-	-
8	5.23946	21 pk	.2	30	51.2	73	60	60	50	-	-
				Margin [dB]		-21.8	-8.8	-8.8	1.2	-	-
Line - L2 .15 - 2MHz											
9	.5152	40.2 pk	0	30	70.2	73	60	56	46	-	-
				Margin [dB]		-2.8	10.2	14.2	24.2	-	-
10	1.04342	38 pk	0	30	68	73	60	56	46	-	-
				Margin [dB]		-5	8	12	22	-	-
11	1.5701	38.4 pk	0	30	68.4	73	60	56	46	-	-
				Margin [dB]		-4.6	8.4	12.4	22.4	-	-
Line - L2 2 - 30MHz											
12	2.10654	31.6 pk	0	30	61.6	73	60	56	46	-	-
				Margin [dB]		-11.4	1.6	5.6	15.6	-	-
13	2.62592	25.8 pk	0	30	55.8	73	60	56	46	-	-
				Margin [dB]		-17.2	-4.2	-.2	9.8	-	-
14	3.1453	25 pk	0	30	55	73	60	56	46	-	-
				Margin [dB]		-18	-5	-1	9	-	-
15	4.19737	21.2 pk	0	30	51.2	73	60	56	46	-	-
				Margin [dB]		-21.8	-8.8	-4.8	5.2	-	-
16	5.24279	18.8 pk	0	30	48.8	73	60	60	50	-	-
				Margin [dB]		-24.2	-11.2	-11.2	-1.2	-	-

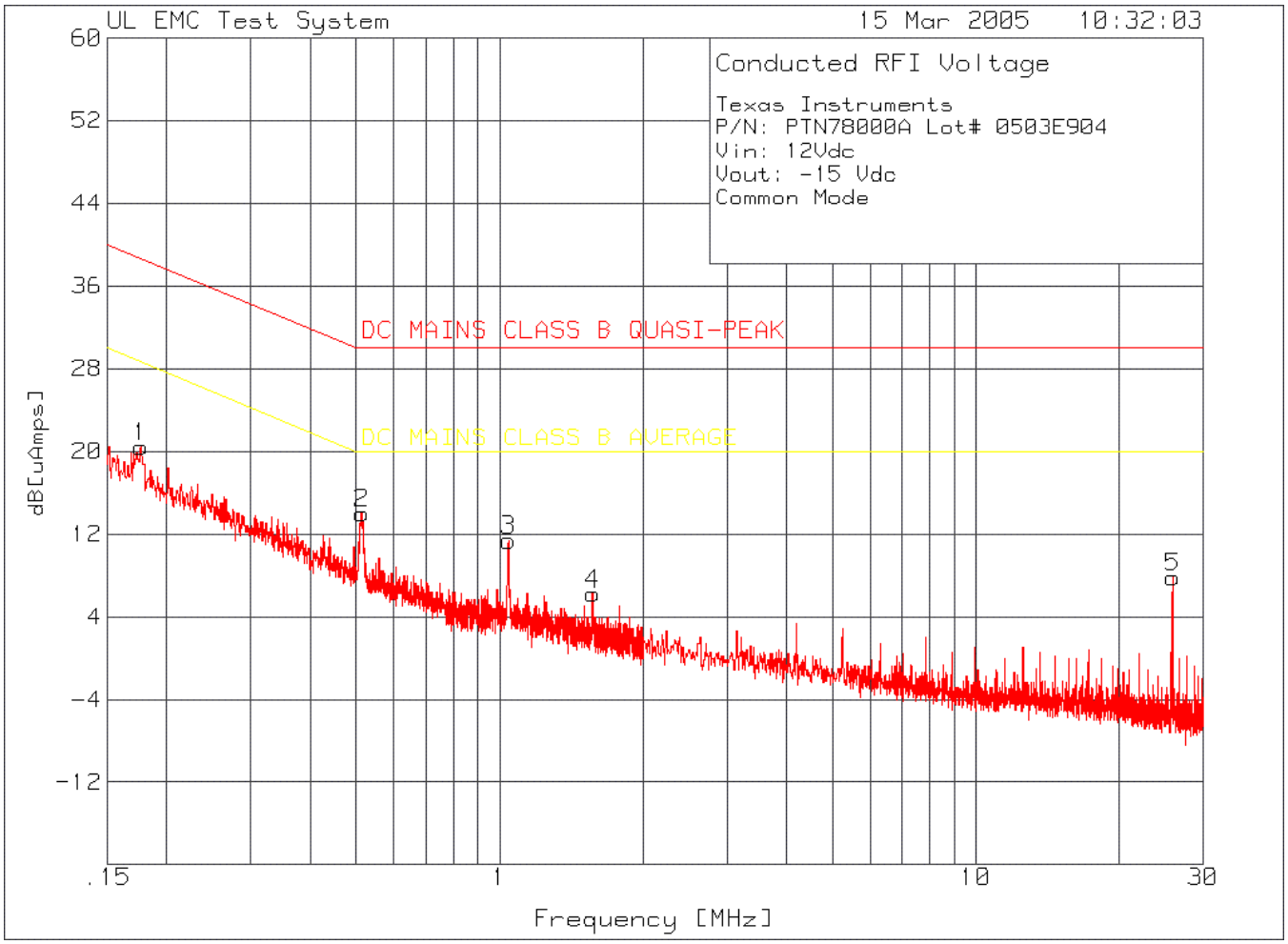
LIMIT 1: CISPR CLASS A QUASI-PEAK
LIMIT 2: CISPR CLASS A AVERAGE
LIMIT 3: CISPR CLASS B QUASI-PEAK
LIMIT 4: CISPR CLASS B AVERAGE

pk - Peak detector

UNDERWRITERS LABORATORIES INC.
Conducted Emissions

Date Tested: 15 March 2005

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PTN78000AAH**
Requirement	:	**Engineering purposes only (Clamp)**
Detection Mode	:	Quasi-peak (qp) or Peak (pk) or Average (ave)
Bandwidth	:	200 Hz for measurements 9 kHz to 150 kHz 9 kHz for measurements 150 kHz to 30 MHz
Line	:	Positive & Negative (Common Mode)



Texas Instruments
P/N: PTN78000A Lot# 0503E904
Vin: 12Vdc
Vout: -15 Vdc
Common Mode

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uAmps]	Limit:1	2	3	4	5	6
Line - L1 .15 - 2MHz											
1	.17662	12.2 pk	0	8.2	20.4	38.6	28.6	-	-	-	-
				Margin [dB]		-18.2	-8.2	-	-	-	-
2	.51322	13.3 pk	0	.7	14	30	20	-	-	-	-
				Margin [dB]		-16	-6	-	-	-	-
3	1.04276	13.8 pk	0	-2.4	11.4	30	20	-	-	-	-
				Margin [dB]		-18.6	-8.6	-	-	-	-
4	1.56746	10.5 pk	0	-4.3	6.2	30	20	-	-	-	-
				Margin [dB]		-23.8	-13.8	-	-	-	-
Line - L1 2 - 30MHz											
5	25.83815	20.4 pk	0	-12.6	7.8	30	20	-	-	-	-
				Margin [dB]		-22.2	-12.2	-	-	-	-

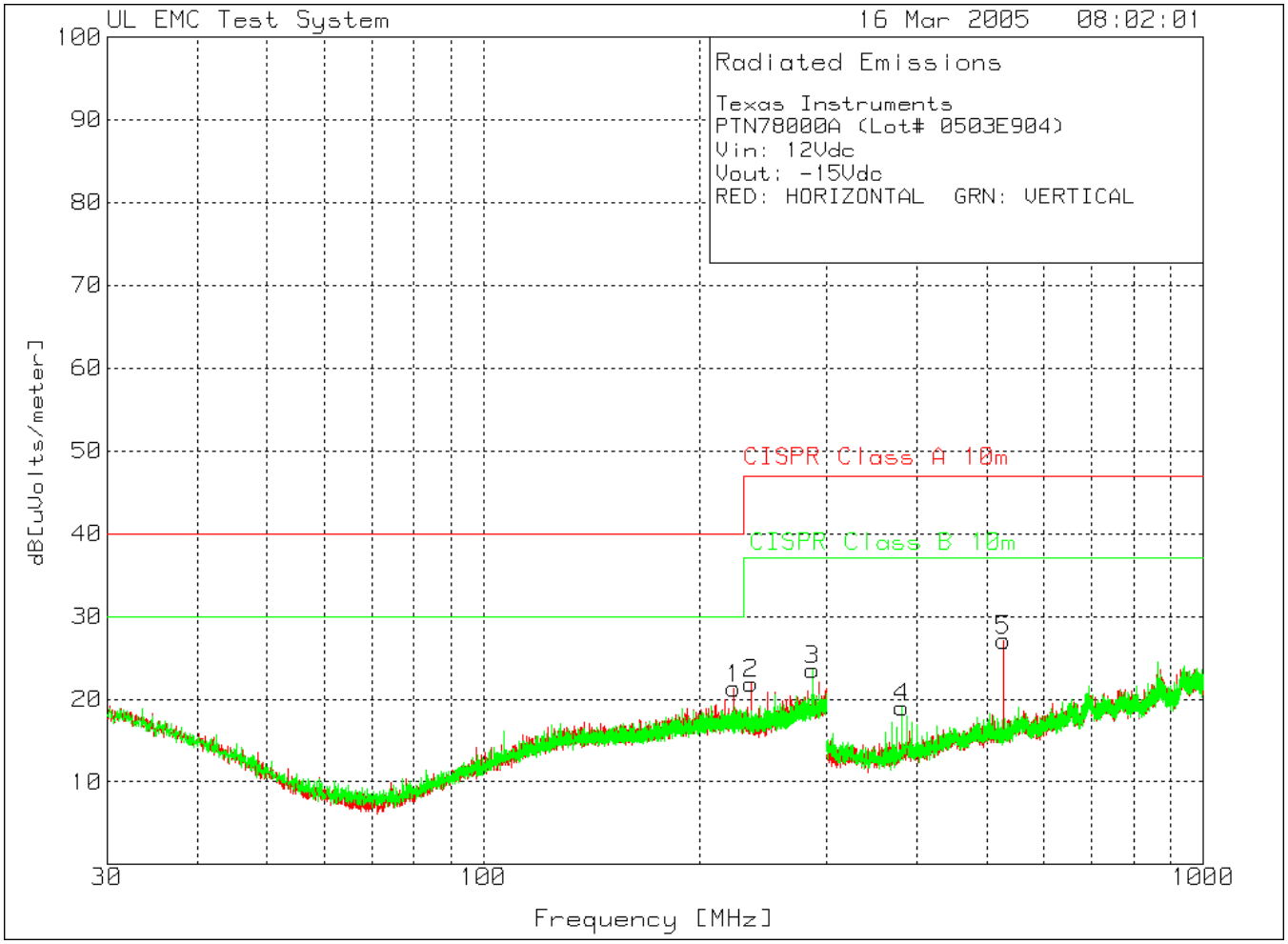
LIMIT 1: DC MAINS CLASS B QUASI-PEAK
LIMIT 2: DC MAINS CLASS B AVERAGE

pk - Peak detector

UNDERWRITERS LABORATORIES INC.
Radiated Emissions

Date Tested: 16 March 2005

Manufacturer	:	**Texas Instruments Inc.**
Equipment Under Test	:	**PTN78000AAH**
Requirement	:	**CISPR Class B**
Detection Mode	:	Quasi-peak (qp)
Bandwidth	:	120 kHz
Measurement Distance	:	10 meter
Antenna Type	:	**30 - 300 MHz, Biconical**
		300 - 1000 MHz, Log-Periodic



Texas Instruments
PTN78000A (Lot# 0503E904)
Vin: 12Vdc
Vout: -15Vdc
RED: HORIZONTAL GRN: VERTICAL

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Range 1 30 - 300MHz											
1	222.9053	34.6 pk	-29.5	16.2	21.3	40	30	-	-	-	-
	Azimuth:266	Height:200 Horz		Margin [dB]		-18.7	-8.7	-	-	-	-
2	235.1811	35.8 pk	-29.7	15.8	21.9	47	37	-	-	-	-
	Azimuth:17	Height:101 Horz		Margin [dB]		-25.1	-15.1	-	-	-	-
Range 2 30 - 300MHz											
3	286.2403	35 pk	-29.4	17.9	23.5	47	37	-	-	-	-
	Azimuth:266	Height:199 Vert		Margin [dB]		-23.5	-13.5	-	-	-	-
Range 3 300 - 1000MHz											
5	528.2038	40.8 pk	-31.6	17.9	27.1	47	37	-	-	-	-
	Azimuth:331	Height:299 Horz		Margin [dB]		-19.9	-9.9	-	-	-	-
Range 4 300 - 1000MHz											
4	381.4889	35.9 pk	-32.2	15.3	19	47	37	-	-	-	-
	Azimuth:106	Height:199 Vert		Margin [dB]		-28	-18	-	-	-	-

LIMIT 1: CISPR Class A 10m
LIMIT 2: CISPR Class B 10m

pk - Peak detector

Frequency MHz	Measurement dBuV	CISPR A dBuV	CISPR B dBuV
222.9053	**21.3 (peak)**	40	30
No Quasi-Peak Measurements Required.		40	30