



Fort Collins Hardware Test Center  
3404 East Harmony Road MS63  
Fort Collins, Colorado 80528

# TEST REPORT

WORKORDER NUMBER **4301**

TEST TYPE **Conducted Emissions (CE)**

TEST NAME **CISPR 11 Class B**

DATE TEST PERFORMED **03 Sep 2003**

CUSTOMER PROJECT ALIAS **EMCI**

HTC PROJECT NAME **[185] Percept Technology**

SECONDARY QUALS **NA**

MODEL NUMBER **ionCleanse**

SKU/UNIT# **NA**

EUT POWER **230V 50Hz**

QUANTITY TESTED **1**

CUSTOMER NAME **Chris Poore**

COMPANY NAME **ionCleanse**

COMPANY ADDRESS **11000 East Yale Avenue  
Aurora, CO 80015**

TECHNICIAN **Don Lighthart**

ENGINEER **Brian Annis**

REVIEWED BY **Steve Brauns**

APPROVED BY:

DATE: 5-Sep-03

Brian Annis



90633



TTI-P-G053/92-50



<b>SUMMARY:</b>	Passed
<b>COMMENTS:</b>	None
<b>DEVIATIONS FROM TEST METHOD:</b>	<i>Note: Describe deviation and reason; name of client authorizing deviation must also be included.</i> None

**TEST DATA** (CISPR 11 Class B Limits)

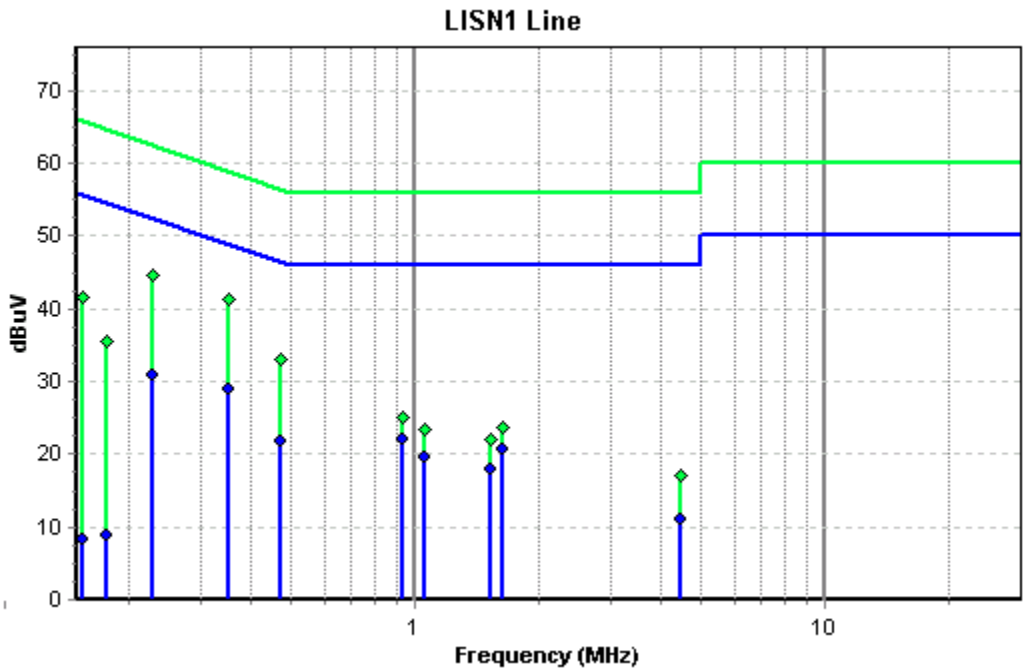
**Data for ionCleanse Electronic Detoxification System, LISN1 (Line)**

Signal Number	Freq [MHz]	Peak Reading (dBuV)	QP Reading (dBuV)	QP Limit (dBuV)	QP Margin (dB)	Avg Reading (dBuV)	Avg Limit (dBuV)	Avg Margin (dB)	P/F
1	.352	43.05	41.30	58.92	17.62	28.94	48.92	19.98	P
2	.231	46.64	44.59	62.41	17.82	30.83	52.41	21.58	P
3	.470	35.24	33.04	56.51	23.47	21.82	46.51	24.69	P
4	.157	49.12	41.56	65.63	24.07	8.24	55.63	47.39	P
5	.178	43.50	35.58	64.56	28.98	8.71	54.56	45.85	P
6	.941	29.06	25.16	56.00	30.84	22.02	46.00	23.98	P
7	1.646	27.91	23.60	56.00	32.40	20.66	46.00	25.34	P
8	1.057	27.69	23.33	56.00	32.67	19.67	46.00	26.33	P
9	1.529	27.00	21.99	56.00	34.01	18.09	46.00	27.91	P
10	4.473	22.10	17.97	56.00	38.03	11.64	46.00	34.36	P

17.6

20.0

Note: To account for test system losses and gains, a correction factor is added to the spectrum analyzer readings to produce the "corrected" signal levels. This correction factor is equal to the cable losses minus the preamplifier gain.



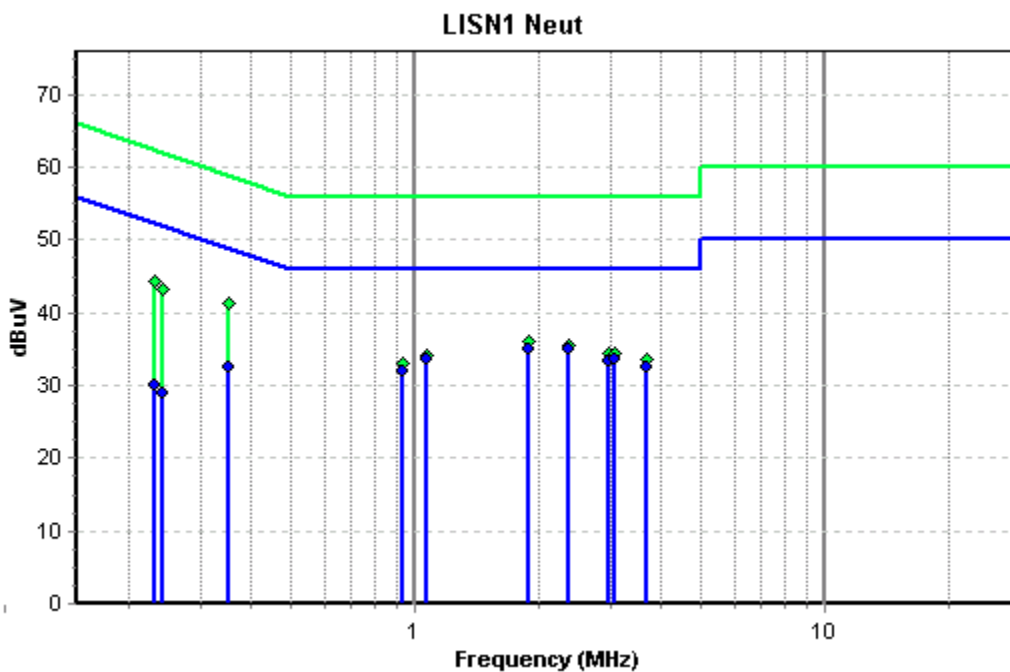
Data for ionCleanse Electronic Detoxification System, LISN1 (Neutral)

Signal Number	Freq [MHz]	Peak Reading (dBuV)	QP Reading (dBuV)	QP Limit (dBuV)	QP Margin (dB)	Avg Reading (dBuV)	Avg Limit (dBuV)	Avg Margin (dB)	P/F
1	.354	42.75	41.33	58.86	17.53	32.46	48.86	16.40	P
2	.232	46.14	44.41	62.37	17.96	29.96	52.37	22.41	P
3	.242	46.01	43.22	62.02	18.80	28.94	52.02	23.08	P
4	1.895	37.70	36.12	56.00	19.88	34.92	46.00	11.08	P
5	2.368	36.89	35.61	56.00	20.39	35.00	46.00	11.00	P
6	2.961	35.74	34.41	56.00	21.59	33.49	46.00	12.51	P
7	3.080	36.09	34.39	56.00	21.61	33.59	46.00	12.41	P
8	1.065	35.65	34.25	56.00	21.75	33.62	46.00	12.38	P
9	3.672	35.15	33.60	56.00	22.40	32.56	46.00	13.44	P
10	.947	34.97	33.40	56.00	22.60	32.72	46.00	13.28	P

17.5

11.0

Note: To account for test system losses and gains, a correction factor is added to the spectrum analyzer readings to produce the "corrected" signal levels. This correction factor is equal to the cable losses minus the preamplifier gain.



## EUT DESCRIPTION & SYSTEM CONFIGURATION

### *Equipment Under Test*

Part ID	Mfgr	Model	Description	SN	FCC/BSMI ID
	ionCleanse	ionCleanse	Qty=1; Electronic Detoxification System, Version 9.5	01302	None
	Meanwell	SPU50-5	Qty=1; AC Power Adapter with 6 Foot Unshielded Cable	01334128	None

### *Cables*

ID	Qty	Type	Mfgr	Model	Length	Shield	Description
408	1	Other	ionCleanse	None	1 Meter	No	Element Cable
223	1	Power	Generic	E131923	8 Foot	No	Standard 15A, 250V (Yellow) Power Cable

## PERFORMANCE CRITERIA

<b>Code</b>	N/A
<b>Description</b>	Not applicable for this test type.

## TEST ENVIRONMENT

<b>EUT Condition</b>	Functional and undamaged relative to test
<b>EUT Configuration/Function</b>	EUT, Power Cable
<b><sup>1,2</sup> EUT Power</b>	230V, 50Hz
<b>Environmental Conditions</b>	21 deg C, 45 %RH

<sup>1</sup> Unless otherwise noted, the 115VAC/60Hz power source is the Ft. Collins public power supply system, and the 230VAC/50Hz source is a variable-voltage 50Hz motor generator. These voltages are specified to within  $\pm 5\%$ , and frequency is specified within  $\pm 1\%$ .

<sup>2</sup> For BSMI qualification testing, emissions are also evaluated at 110V/60Hz and 220V/60Hz, using the Elgar power source.

## EUT SOFTWARE/FIRMWARE

Name	Rev	Functionality/Description
		Factory installed firmware

## TEST DESCRIPTION

For ISM equipment. Measurements are made from 150 KHz-30 MHz, using average and quasi-peak detectors on all active phases (and neutral, if applicable). The worst-case readings are reported (minimum of 6), and must pass CISPR 11 Class B limits.

## TEST PROCEDURE

TP004 - Conducted Emissions Test Procedure Rev 3.0

## TEST AUTOMATION SOFTWARE

Name	Revision
Test Manager	1.3
CE Tester	1.5
CE Func	1.2

## TEST AND MEASUREMENT EQUIPMENT

ID	Mfgr	Model	Description	Serial #	Last Cal	Int	Cal Due
409	Elgar	1751SX	Elgar (AC Power Source)	3140	12/20/2002	12	12/31/2003
452	Rhode & Swartz	ESH-2-Z5	LISN (Artificial Mains)	872094/044	9/23/2002	12	9/30/2003
544	Elgar	1751SX	Elgar (AC Power Source)	3138	12/20/2002	12	12/31/2003
695	EMCO	20AMPLISN	Custom 20A LISN	9709-2001	9/23/2002	12	9/30/2003
696	EMCO	20AMPLISN	Custom 20A LISN	9709-2002	9/23/2002	12	9/30/2003
698	EMCO	20AMPLISN	Custom 20A LISN	9709-2004	9/23/2002	12	9/30/2003
699	EMCO	20AMPLISN	Custom 20A LISN	9709-2005	9/23/2002	12	9/30/2003
700	EMCO	50AMPLISN	Custom 50A LISN	9709-2006	9/23/2002	12	9/30/2003
701	HP	EC4014	Switch Matrix & Cables	NA	9/23/2002	12	9/30/2003
775	HP	8657A	Signal Generator, 100kHz to 1040 MHz.	2919A00677	12/16/2002	12	12/31/2003
778	HP	85420E	RF Filter Section	3705A00202	10/30/2002	12	10/31/2003
779	HP	85422E	EMI Receiver 9KHz-2.9GHz	3746A00246	10/30/2002	12	10/31/2003
788	HP	3488A	Switch Controller	2719A14509	NA	NA	NA
810	Yew	2504	AC METER	2354	2/21/2003	12	2/28/2004
811	Yew	2514	Input Module for 2504	1244	2/21/2003	12	2/28/2004
831	Elgar	9012	Programmer	5469	12/20/2002	12	12/31/2003
869	Fischer Custom	FCC-TLISN-T8-02	T8-LISN	20136	5/8/2003	12	5/31/2004
875	Vaisala	HMI41	Temperature and Humidity Indicator	Y1220058	4/24/2003	12	4/30/2004

## REGULATORY STANDARDS

Where applicable, the test methods are compliant with the following regulatory standards:

EN 55022:1998	ICES-003:1997-11	CNS13803:na	CNS13438:1997
ANSI C63.4:1992	AS/NZS 3548:1995	FCC Part 15:1996	EN 55011:1998
CISPR 22:1997	CISPR 11:1997	IEC 61326-1 A1:1998	AS/NZS 2064:1997

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