Israel Testing Laboratories

ACCREDITED
Cert. No. 1152.01
Electrical (EMC)

DATE: 02 June 2009

I.T.L. (PRODUCT TESTING) LTD.

FCC Radio Test Report

for

Home Skinovations Ltd.

Equipment under test:

Hair Removal Device

SensEpil

Written by: _____
D. Shidlowsky, Documentation

Approved by: _____
A. Sharabi, Test Engineer

Approved by: _____
I. Raz, EMC Laboratory Manager

Cert. No. 1152.01
Electrical (EMC)

Measurement/Technical Report for

Home Skinovations Ltd.

Hair Removal Device

SensEpil

FCC ID: XFQSENSEPIL

This report concerns: Original Grant: x
Class I change:
Class II change:

Equipment type: Part 15 Low Power Communication Device Transmitter

47CFR15 Section 15.225 (a-d)

Measurement procedure used is ANSI C63.4-2003.

Application for Certification prepared by:
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Applicant for this device:
(different from "prepared by")
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1. General Information

1.1 Administrative Information

Manufacturer:	Home Skinovations Ltd.
Manufacturer's Address:	Apollo Building Yokneam Gate P.O.B 533 Yokneam 20692 Israel Tel: +972-4-909-7470 Fax: +972-4-909-7471
Manufacturer's Representative:	Emil Uklisty Benzion Levi Gabi Lavi
Equipment Under Test (E.U.T):	Hair Removal Device
Equipment Model No.:	SensEpil
Equipment Serial No.:	Not Designated
Date of Receipt of E.U.T:	24.03.09
Start of Test:	24.03.09
End of Test:	26.03.09
Test Laboratory Location:	I.T.L (Product Testing) Ltd. Kfar Bin Nun, ISRAEL 99780
Test Specifications:	FCC Part 15 Sub-part C

1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), Registration No. 90715.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-1350, R-1285.
5. Industry Canada (Canada), IC File No.: 46405-4025; Site No. IC 4025B-1.
6. TUV Product Services, England, ASLLAS No. 97201.
7. Nemko (Norway), Authorization No. ELA 207.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 Product Description

The SensEpil™ device is a personal home use hair removal device that can contribute to long-term hair reduction.

SensEpil™ is based on well-established Photo-Epilation technology. The term Photo-Epilation describes the use of a pulse of light to remove unwanted hairs.

SensEpil™ removes hair by emitting a pulse of light that is absorbed by pigment in the hair shaft beneath the skin surface. This disables the hair follicle and delays hair growth.

The SensEpil™ Photo-Epilation device may be used by individuals with unwanted body hairs whose skin is not tanned. SensEpil™ works better on skin areas with naturally brown or black hair. Lower results may be expected as hairs become lighter. The ideal areas for SensEpil™ use include the underarms, bikini line, arms and legs.

Silk'n™ SensEpil comes with a built-in Skin Color Sensor that is designed to measure the complexion of the applied surface and enable application only on suitable skin complexions. This unique safety feature will not let you treat where your skin is too dark or too tanned.

Skin color sensor is mounted that perform measurement prior to the first pulse and at each 20th pulse.

On the first pulse only when the safety touch switch and the trigger button on the applicator are both pushed, and skin color measurement is positive, a signal is sent to the controller and a pulse of light is generated at the energy level determined by the user preset. This will replete every 20 pulse. In between the 20 pulses only when the safety touch switch and the trigger button on the applicator are both pushed a signal is sent to the controller and a pulse of light is generated at the energy level determined by the user preset.

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The radiated emissions tests were performed at I.T.L.'s testing facility at Kfar Bin-Nun, Israel. This site is a FCC listed test laboratory (FCC Registration No. 90715, date of listing August 22, 2006).
I.T.L.'s EMC Laboratory is also accredited by A2LA, certificate No. 1152.01.

1.6 Measurement Uncertainty

Conducted Emission

The uncertainty for this test is ±2 dB.

Radiated Emission

The Open Site complies with the ±4 dB Normalized Site Attenuation requirements of ANSI C63.4-2003. In accordance with Paragraph 5.4.6.1 of this standard, this tolerance includes instrumentation calibration errors, measurement technique errors, and errors due to site anomalies.

2. System Test Configuration

2.1 Justification

The Silk'n SensEpil was configured for testing in its maximum pulse rate (as a customer can use it). The EUT was powered from the wall outlet and was activate to fire light pulse every3.5 sec, it was found to be the worst case operating mode.

2.2 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

The parameter software, contained on RFID tag, was update so the limitation of no of pulses that cartridge can provide was disabled (the limitation is 750 pulses), this change enable the test to be preformed continuously.

The program sequentially exercises each system component in turn. The sequence used is: 1) Charging the Flash Capacitors, 2) provide light pulse, 3) Read/write the RFID, and 4) self testing. The complete cycle takes about 3.5 seconds and is repeated continuously. The Trigger button is constantly pressed.

2.3 Special Accessories

No special accessories were needed.

2.4 Equipment Modifications

1. The ground plate inside the unit was disconnected.
2. The software was changed to enable continuous control of the lamp driver instead of intermittent control.

2.5 Configuration of Tested System

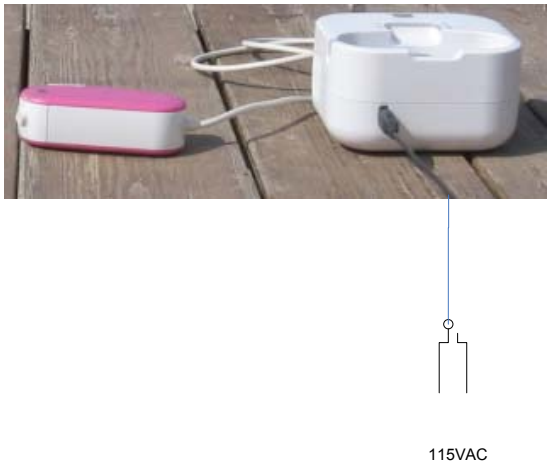

Figure 1. Configuration of Tested System

3. Conducted and Radiated Measurement Test Set-up Photo

Figure 2. Conducted Emission Test

Figure 3. Radiated Emission Test

4. Conducted Emission Data

4.1 Test Specification

F.C.C., Part 15, Subpart C

4.2 Test Procedure

The E.U.T operation mode and test set-up are as described in Section 3.1. In order to minimize background noise interference, the conducted emission testing was performed inside a shielded room, with the E.U.T placed on an 0.8 meter high wooden table, 0.4 meter from the room's vertical wall.

The E.U.T was powered from 115 V AC / 60 Hz via a 50 Ohm / 50 µHn Line Impedance Stabilization Network (LISN) on the phase and neutral lines. The LISN's were grounded to the shielded room ground plane (floor), and were kept at least 0.8 meters from the nearest boundary of the E.U.T

The center of the E.U.T AC cable was folded back and forth, in order to form a bundle less than 0.40 meters and a total cable length of 1 meter.

The emission voltages at the LISN's outputs were measured using a computerized receiver, complying with CISPR 16 requirements. The specification limits are loaded to the receiver via a 3.5" floppy disk and are displayed on the receiver's spectrum display.

A frequency scan between 0.15 and 30 MHz was performed at 9 kHz I.F. band width, and using peak detection.

The spectral components having the highest level on each line were measured using a quasi-peak and average detector.

4.3 Measured Data

JUDGEMENT: Passed by 17.6 dB

The margin between the emission levels and the specification limit is, in the worst case, 21.4 dB for the phase line at 0.41 MHz and 17.6 dB at 0.17 MHz for the neutral line.

The EUT met the F.C.C. Part 15, Subpart C specification requirements.

The details of the highest emissions are given in *Figure 4* to *Figure 7*.

TEST PERSONNEL:

Tester Signature: _____ Date: 04.06.09

Typed/Printed Name: A. Sharabi

Conducted Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average

Signal Number	Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Delta L 1 (dB)	Avg (dBuV)	Av Delta L 2 (dB)	Corr (dB)
1	0.179200	50.8	42.8	-21.7	25.8	-28.8	0.0
2	0.272840	42.9	34.8	-26.3	26.4	-24.7	0.0
3	0.405449	36.5	36.4	-21.4	20.7	-27.0	0.0
4	0.723552	35.9	33.0	-23.0	17.8	-28.2	0.0
5	3.341647	27.6	22.3	-33.7	11.2	-34.8	0.0
6	25.944781	38.1	32.1	-27.9	24.9	-25.1	0.0

Figure 4. Detectors: Peak, Quasi-peak, AVERAGE .

Note: QP Delta/Av Delta refer to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average

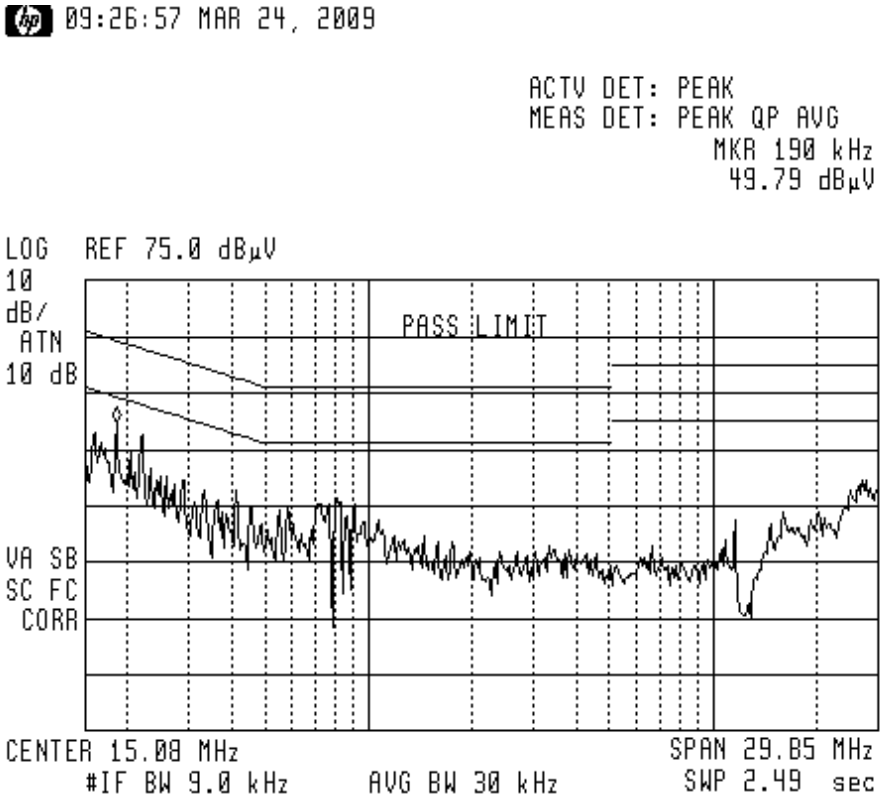

Figure 5. Detectors: Peak, Quasi-peak, Average

Conducted Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average

Signal Number	Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Delta L 1 (dB)	Avg (dBuV)	Av Delta L 2 (dB)	Corr (dB)
1	0.170623	48.9	43.3	-21.7	37.4	-17.6	0.0
2	0.246826	36.7	36.3	-25.5	20.4	-31.5	0.0
3	0.764508	32.1	28.8	-27.2	18.6	-27.4	0.0
4	9.361219	31.6	25.0	-35.0	14.9	-35.1	0.0
5	16.005314	36.4	28.9	-31.1	20.9	-29.1	0.0
6	27.725002	45.3	36.4	-23.6	27.2	-22.8	0.0

Figure 6. Detectors: Peak, Quasi-peak, AVERAGE

Note: QP Delta/Av Delta refer to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average

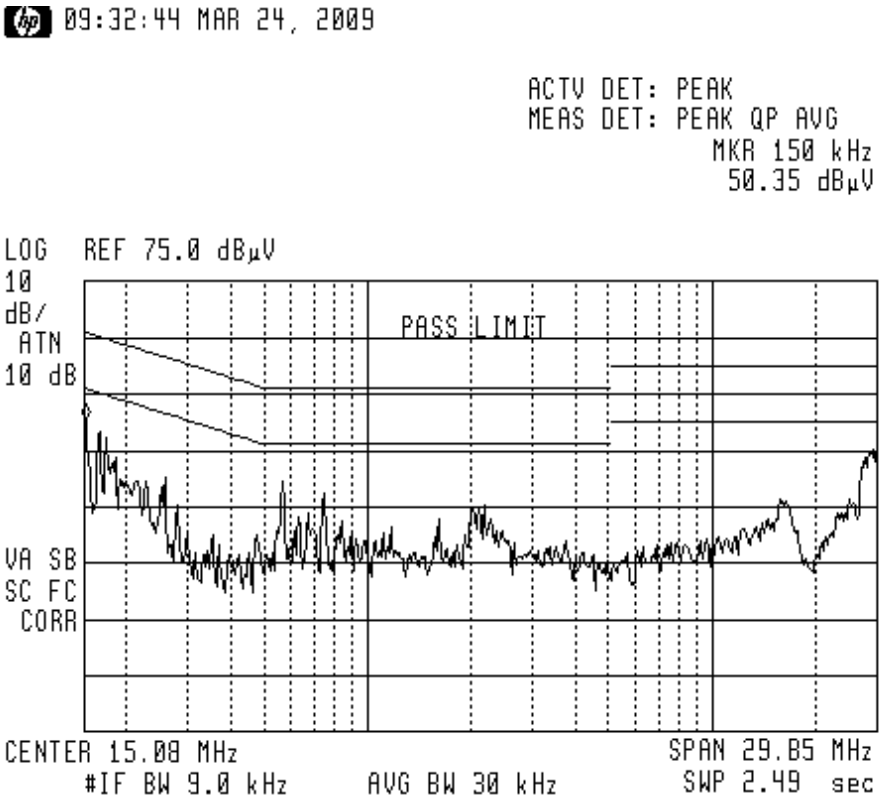

Figure 7 Conducted Emission: NEUTRAL
Detectors: Peak, Quasi-peak, Average

4.4 Test Instrumentation Used, Conducted Measurement

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Period
LISN	Fischer	FCC-LISN-2A	127	March 3, 2009	1 Year
LISN	Fischer	FCC-LISN-2A	128	March 3, 2009	1 Year
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1Year
RF Filter Section	HP	85420E	3705A00248	November 16, 2008	1Year
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

5. Field Strength of Fundamental

5.1 Test Specification

F.C.C., Part 15, Subpart C, Section 15.225(a)

5.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

The E.U.T. was placed on a non-conductive table, 0.8 meters above the O.A.T.S. ground plane.
The EMI receiver was set to the E.U.T. Fundamental Frequency (13.56 MHz) and Peak Detection.
The distance between the E.U.T. and test antenna was 3 meters.

The turntable and antenna were adjusted for maximum level reading on the EMI receiver. The loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter.

The average result is:

Peak Level(dBμV/m) + E.U.T. Duty Cycle Factor, in 100msec time window (dB)

5.3 Measured Data

JUDGEMENT: Passed by 77.71 dB

The EUT met the FCC Part 15, Subpart C, Section 15.225(a) specification requirements.

The details of the highest emissions are given in Figure 8.

TEST PERSONNEL:

Tester Signature: _____ Date: 04.06.09

Typed/Printed Name: A. Sharabi

Field Strength of Fundamental

E.U.T Description	Hair Removal Device
Model Number	SensEpil
Serial Number:	Not Designated

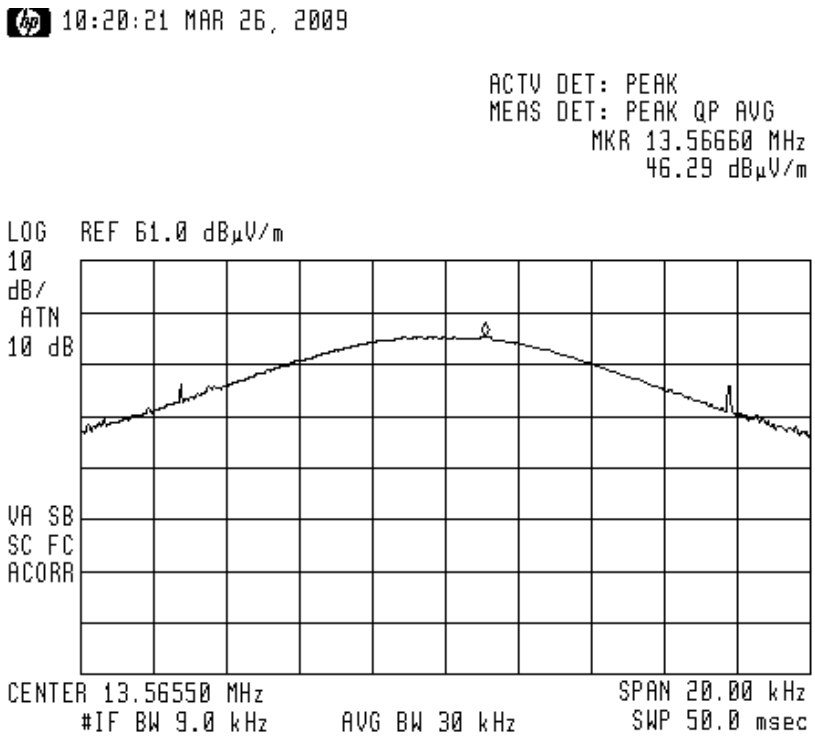

Figure 8. Field Strength of Fundamental
Detector: Peak

$$L_{im30m} = 15848.00\ \mu V/m$$

$$L_{im3m} = 40\ dB\mu V/m + 84.0\ dB\mu V/m = 124.0 dB\mu V/m$$

5.4 Test Instrumentation Used, Field Strength of Fundamental

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 15, 2008	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

6. Emission Mask

6.1 Test Specification

F.C.C., Part 15, Subpart C, Section 15.225(c)

6.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

The E.U.T. was placed on a non-conductive table, 0.8 meters above the O.A.T.S. ground plane.
The EMI receiver was set to the E.U.T. Fundamental Frequency (13.56 MHz) and Peak Detection.
The distance between the E.U.T. and test antenna was 3 meters.

The turntable and antenna were adjusted for maximum level reading on the EMI receiver. The loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter.

According to Section 15.225(c), the limit is 80.5 dB µV/m at a distance of 3 meters.

The maximum peak level for the fundamental is 46.3 dB µV/m, which is lower than the minimum mask level by 36.9 dB.

6.3 Measured Data

JUDGEMENT: Passed by 34.2 dB

The EUT met the FCC Part 15, Subpart C, Section 15.225(c) specification requirements.

The details of the highest emissions are given in Figure 8.

TEST PERSONNEL:

Tester Signature: _____ Date: 04.06.09

Typed/Printed Name: A. Sharabi

Emission Mask

E.U.T Description	Hair Removal Device
Model Number	SensEpil
Serial Number:	Not Designated

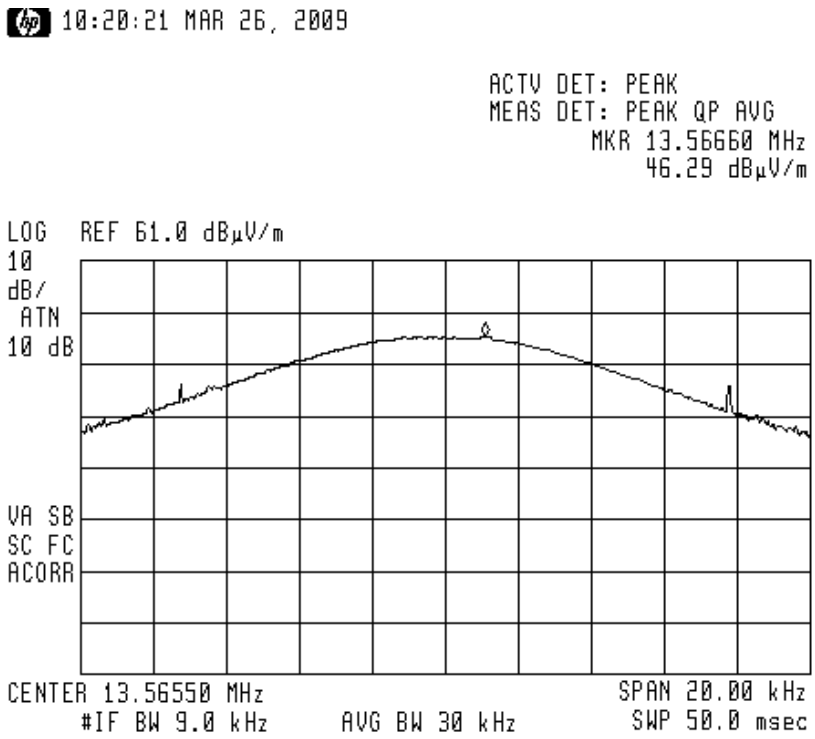

Figure 9. Emission Mask
Detector: Peak

$$L_{im30m} = 106.00\ \mu V/m$$

$$L_{im3m} = 20 \log 0.0106\ V/m + 120 = 80.5\ dB\mu V/m$$

6.4 Test Instrumentation Used, Field Strength of Fundamental

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 15, 2008	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

7. Spurious Radiated Emission

7.1 Test Specification

9 kHz - 1000 MHz, F.C.C., Part 15, Subpart C Section 15.225(d)

7.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.
See Section 3.1 Justification of the System Test Configuration concerning the E.U.T. orientation for this test.
A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The configuration tested is shown in Figure 1.
The signals from the list of the highest emissions were verified and the list was updated accordingly.
The levels of the emissions within the frequency ranges of the restricted bands (Section 15.205 of FCC Part 15) were compared to the limits of the table in Section 15.209 (a), General Requirements.

The frequency range 9 kHz-1000 MHz was scanned.

The emissions were measured using a computerized EMI receiver complying to CISPR 16 requirements. The specification limits and applicable correction factors are loaded to the receiver via a 3.5" floppy disk.

In the frequency range 9 kHz-30MHz, the loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter at a distance of 3 meters.

The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.
Verification of the E.U.T emissions was based on the following methods:

Turning the E.U.T on and off.
Using a frequency span less than 10 MHz.
Observation of the signal level during turntable rotation. Background noise is not affected by the rotation of the E.U.T.

The emissions were measured at a distance of 3 meters.

7.3 Test Data

JUDGEMENT: Passed by 9.0 dB

The EUT met the requirements of the F.C.C. Part 15, Subpart C, specification. The margin between the emission level and the specification limit is 9.0 dB in the worst case at the frequency of 40.96 MHz, vertical polarization.

The details of the highest emissions are given in *Figure 10* to *Figure 13*.

TEST PERSONNEL:

Tester Signature: _____ Date: 04.06.09

Typed/Printed Name: A. Sharabi

Radiated Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal
Antenna: 3 meters distance

Frequency range: 30 MHz to 1000 MHz
Detectors: Peak, Quasi-peak

Signal Number	Frequency (MHz)	Peak dBuV/m	QP dBuV/m	QP Delta L 1 (dB)	Avg dBuV/m	Av Delta L 2 (dB)	Corr (dB)
1	32.103900	28.6	23.5	-16.5	10.6		15.4
2	39.985000	23.9	15.4	-24.6	11.4		13.3
3	43.575050	25.8	15.8	-24.2	12.7		12.7
4	74.282150	33.2	28.3	-11.7	23.3		10.3
5	79.860800	30.3	26.0	-14.0	21.1		10.5
6	81.173700	30.1	25.7	-14.3	20.1		10.6

Figure 10. Radiated Emission. Antenna Polarization: HORIZONTAL. Detectors: Peak, Quasi-peak

Note: QP Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Radiated Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal
Antenna: 3 meters distance

Frequency range: 30 MHz to 1000 MHz
Detectors: Peak, Quasi-peak

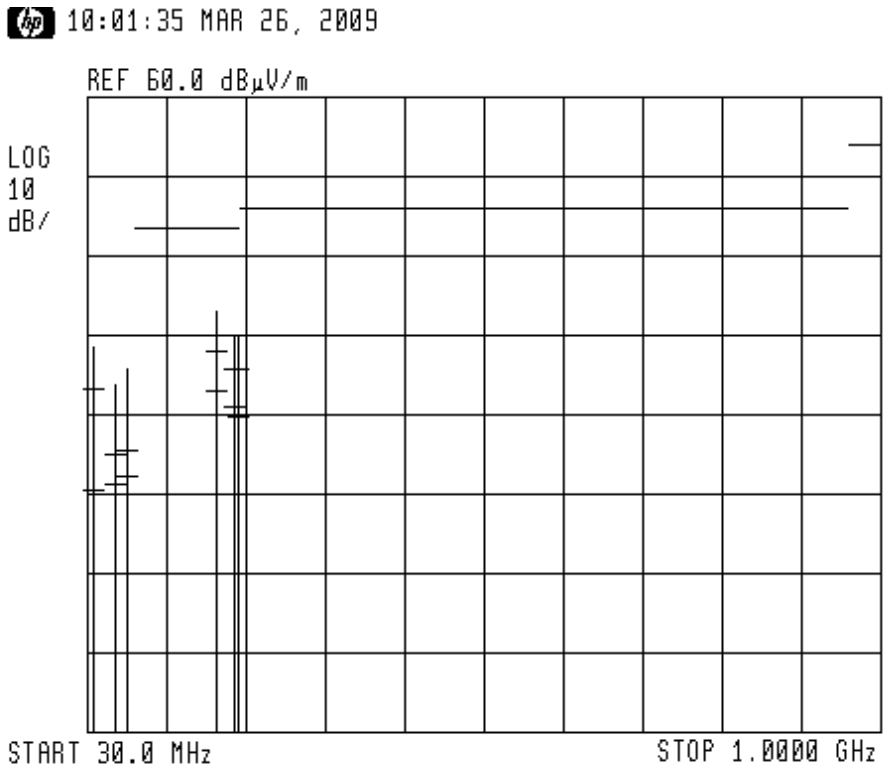

Figure 11. Radiated Emission. Antenna Polarization: HORIZONTAL Detectors: Peak, Quasi-peak

Notes:

1. *Horizontal axis shows logarithmic frequency scale.*
2. *The vertical axis shows amplitude (in dB µV/m).*
3. *Peak detection is designated by the top of each vertical line.*
4. *Quasi-peak detection is designated by the first dash mark (from the top) of each vertical line.*

Radiated Emission

E.U.T Description Hair Removal Device
Type SensEpil
Serial Number: Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Vertical Frequency range: 30 MHz to 1000 MHz
Antenna: 3 meters distance Detectors: Peak, Quasi-peak

Signal Number	Frequency (MHz)	Peak dBuV/m	QP dBuV/m	QP Delta L 1 (dB)	Avg dBuV/m	Av Delta L 2 (dB)	Corr (dB)
1	31.667800	41.2	30.1	-9.9	13.7		15.5
2	40.964300	41.8	31.0	-9.0	15.4		13.1
3	45.622450	38.3	26.4	-13.6	18.3		12.3
4	50.005550	44.4	29.9	-10.1	21.5		11.6
5	55.180150	34.2	23.8	-16.2	18.9		11.0
6	79.037750	35.0	30.7	-9.3	26.1		10.5

Figure 12. Radiated Emission. Antenna Polarization: VERTICAL. Detectors: Peak, Quasi-peak

Note: QP Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Radiated Emission

E.U.T Description	Hair Removal Device
Type	SensEpil
Serial Number:	Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Vertical
Antenna: 3 meters distance

Frequency range: 30 MHz to 1000 MHz
Detectors: Peak, Quasi-peak

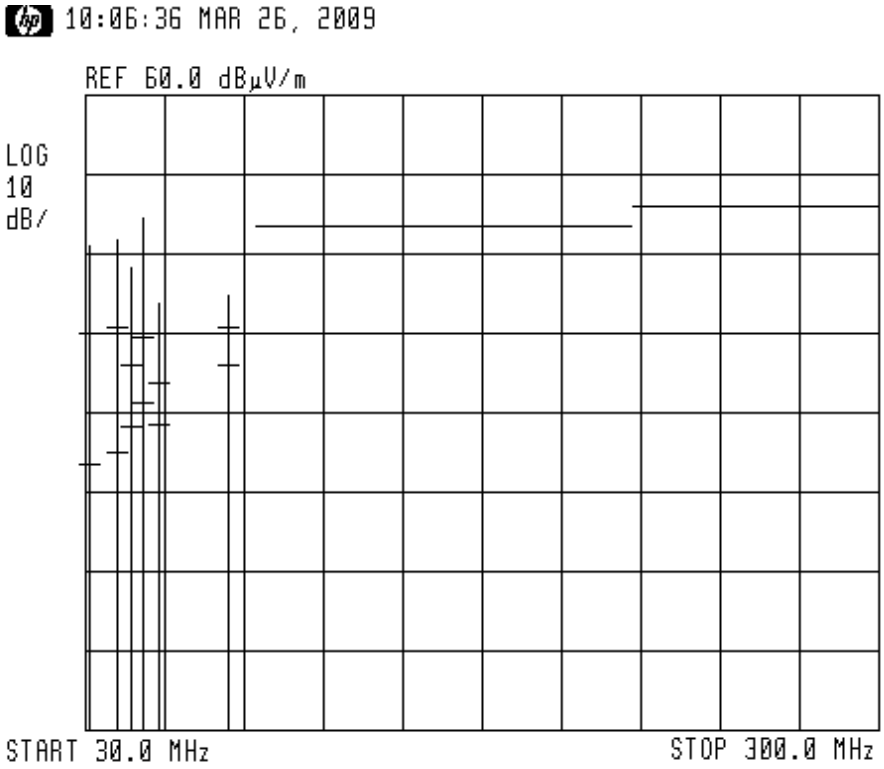

Figure 13. Radiated Emission. Antenna Polarization: VERTICAL. Detectors: Peak, Quasi-peak

Note:

1. *Horizontal axis shows logarithmic frequency scale.*
2. *The vertical axis shows amplitude (in dB µV/m).*
3. *Peak detection is designated by the top of each vertical line.*
4. *Quasi-peak detection is designated by the first dash mark (from the top) of each vertical line.*

7.4 Field Strength Calculation

The field strength is calculated directly by the EMI Receiver software, and a "Correction Factors" data disk, using the following equation:

$$[dB\mu v/m]\ FS = RA + AF + CF$$

FS:	Field Strength [dBμv/m]
RA:	Receiver Amplitude [dBμv]
AF:	Receiving Antenna Correction Factor [dB/m]
CF:	Cable Attenuation Factor [dB]

Example: FS = 30.7 dBμV (RA) + 14.0 dB (AF) + 0.9 dB (CF) = 45.6 dBμV

No external pre-amplifiers are used.

7.5 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 15, 2008	1 year
Antenna Bioconical	ARA	BCD 235/B	1041	March 25, 2009	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 06, 2008	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

8. Frequency Tolerance 13.56 MHz Transmitter

8.1 Test Specification

Part 15 Sub-part C Section 15.225(e)

8.2 Test Procedure

The E.U.T operation mode and test setup are as described in Section 3.

The E.U.T. was placed in a test fixture enabling coupling from the E.U.T. to the spectrum analyzer.

The E.U.T. and test fixture were placed inside a temperature chamber. The E.U.T. was operated from 115 VAC at normal temperature (23°C).

The chamber temperature was set to +24°C.

The spectrum analyzer was set to 50.0 kHz span and 1.0 kHz resolution B.W.

The carrier frequency was measured and recorded.

The carrier frequency measurement was repeated for:

(a). 0°C and 90 VAC

(b). 0°C and 130 VAC

(c). +35°C and 90 VAC

(d). +35°C and 130 VAC

The carrier frequency was measured and recorded after at least 10 minutes of exposing the E.U.T. to the temperature.

8.3 Test Results

The E.U.T met the requirements of Part 15 Sub-part C, Section 225(e) specification.

The E.U.T. does not operate below 0°C and above 35°C.

The frequency offset between the frequency measured under extreme conditions and the nominal carrier frequency measured under normal test conditions, is in the worst case, 1 kHz at -10 °C (spec: +/-1.356 kHz).

The details of the results are given in *Figure 14* to *Figure 19*.

TEST PERSONNEL:

Tester Signature: _____ Date: 04.06.09

Typed/Printed Name: A. Sharabi

Frequency Tolerance

E.U.T Description Hair Removal Device
Type SensEpil
Serial Number: Not Designated

Specification: FCC Part 15 Sub-part C Section 15.225(e)

Temperature (°C)	Voltage (VAC)	Measured Carrier Frequency (MHz)	Nominal Carrier Frequency (MHz)	Δ (kHz)	Specification (kHz)	Pass/Fail
+24	115	13.565550	-	-	-	Pass
0	90	13.565275	13.565550	-0.275	+/-1.356	Pass
0	130	13.565438	13.565550	-0.112	+/-1.356	Pass
+35	90	13.565438	13.565550	-0.112	+/-1.356	Pass
+35	130	13.565488	13.565550	-0.062	+/-1.356	Pass

Figure 14. Frequency Tolerance

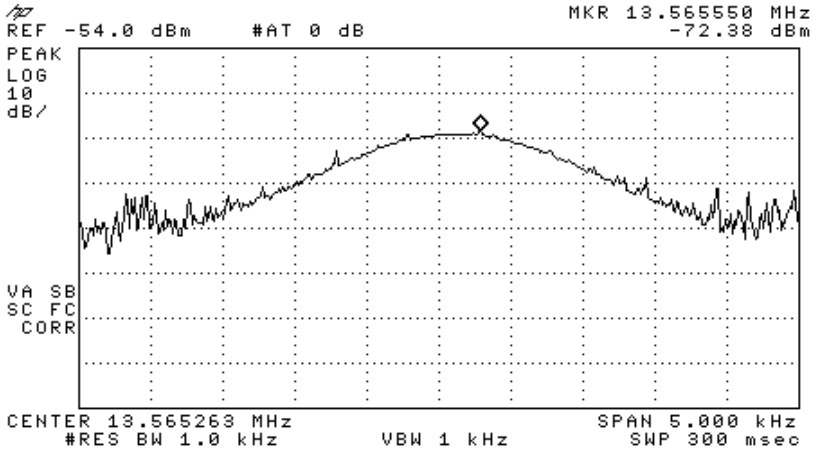

Figure 15. +24 °C and 115 VAC

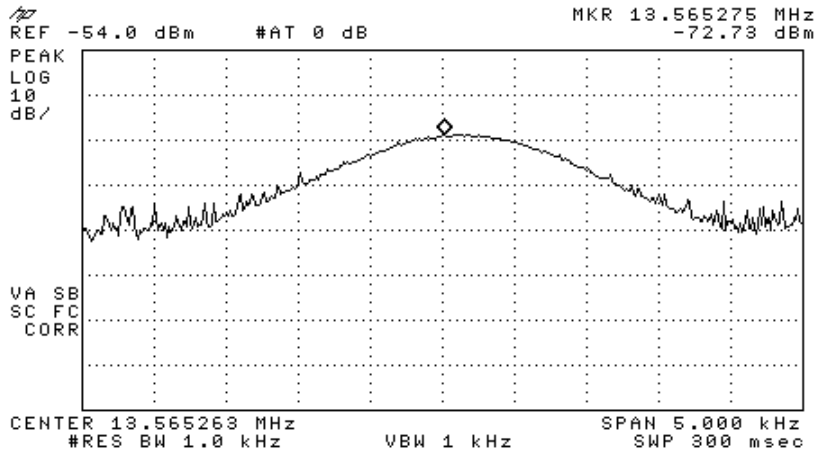

Figure 16. 0°C and 90 VAC

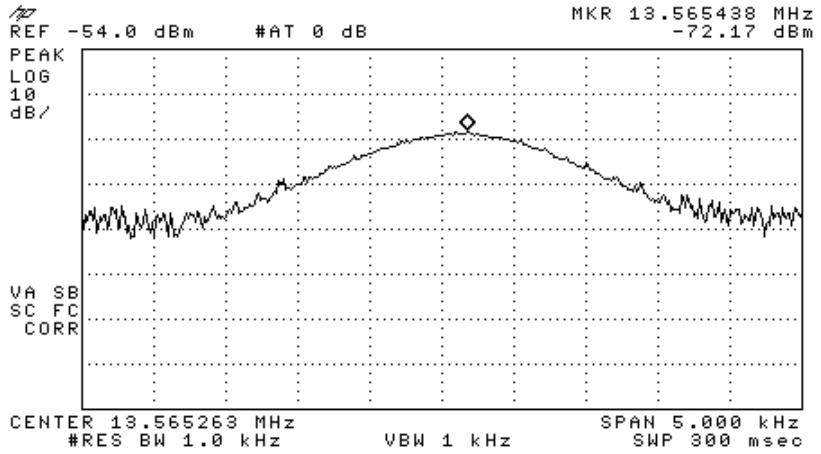

Figure 17. 0 °C and 130 VAC

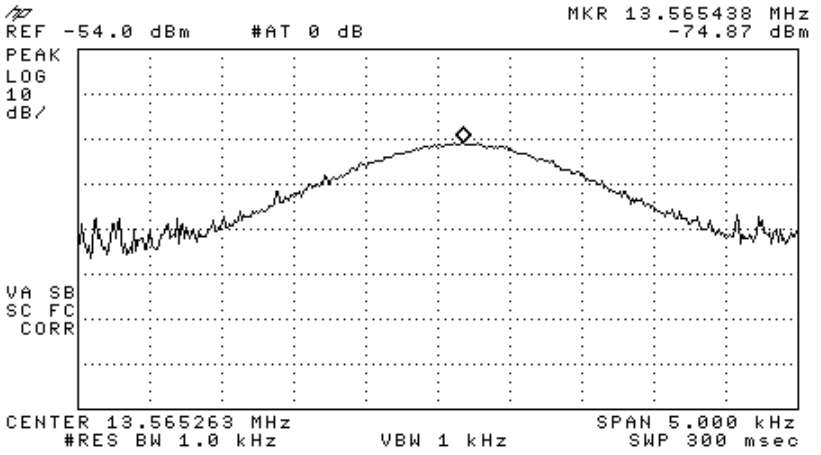

Figure 18. +35 °C and 90 VAC

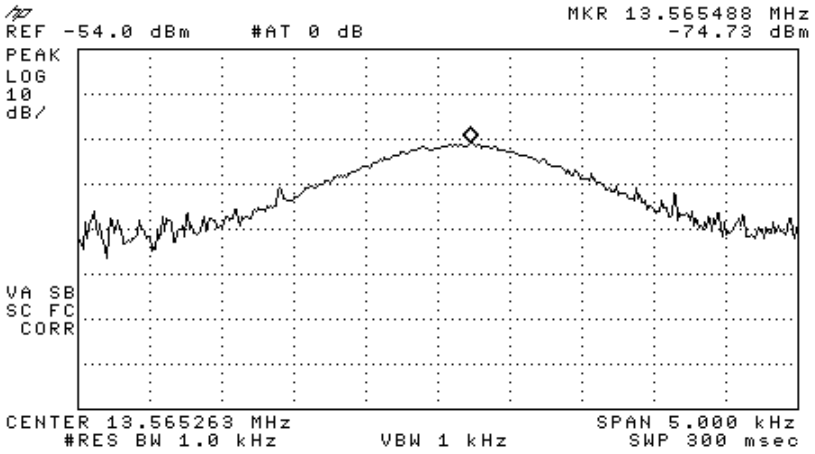

Figure 19. +35 °C and 130 VAC

8.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Environmental Chamber	THERMOTRON CORP	SM 32C Mini Max	25-1030	March 04, 2009	1 Year
Digital Thermometer	Fluke	Hydra 2635	692300	December 4, 2008	2 years
Digital Temperature Indicator	Fluke	JF52	4015014	December 1, 2008	2 years
EMC Analyzer	HP	8593EM	3536A00120	July 14, 2008	1 year

9. 11. APPENDIX A - CORRECTION FACTORS

9.1 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3
20.0	0.6
30.0	0.8
40.0	0.9
50.0	1.1
60.0	1.2
70.0	1.3
80.0	1.4
90.0	1.6
100.0	1.7
150.0	2.0
200.0	2.3
250.0	2.7
300.0	3.1
350.0	3.4
400.0	3.7
450.0	4.0
500.0	4.3
600.0	4.7
700.0	5.3
800.0	5.9
900.0	6.3
1000.0	6.7

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
1200.0	7.3
1400.0	7.8
1600.0	8.4
1800.0	9.1
2000.0	9.9
2300.0	11.2
2600.0	12.2
2900.0	13.0

NOTES:

1. The cable type is RG-214.

2. The overall length of the cable is 27 meters.

3. The above data is located in file 27MO3MO.CBL on the disk marked "Radiated Emission Tests EMI Receiver".

9.2 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.2
2.0	1.6
3.0	2.0
4.0	2.4
5.0	3.0
6.0	3.4
7.0	3.8
8.0	4.2
9.0	4.6
10.0	5.0
12.0	5.8

NOTES:

1. The cable type is RG-8.

2. The overall length of the cable is 10 meters.

12.6 Correction factors for LOG PERIODIC ANTENNA

Type LPD 2010/A
at 3 and 10 meter ranges.

Distance of 3 meters

FREQUENCY (MHz)	AFE (dB/m)
200.0	9.1
250.0	10.2
300.0	12.5
400.0	15.4
500.0	16.1
600.0	19.2
700.0	19.4
800.0	19.9
900.0	21.2
1000.0	23.5

Distance of 10 meters

FREQUENCY (MHz)	AFE (dB/m)
200.0	9.0
250.0	10.1
300.0	11.8
400.0	15.3
500.0	15.6
600.0	18.7
700.0	19.1
800.0	20.2
900.0	21.1
1000.0	23.2

NOTES:

1. *Antenna serial number is 1038.*
2. *The above lists are located in file number 38M3O.ANT for a 3 meter range, and file number 38M100.ANT for a 10 meter range.*
3. *The files mentioned above are located on the disk marked "Radiated Emission Test EMI Receiver".*

9.3 Correction factors for BICONICAL ANTENNA

Type BCD-235/B,
at 3 meter range

FREQUENCY (MHz)	AFE (dB/m)
20.0	19.4
30.0	14.8
40.0	11.9
50.0	10.2
60.0	9.1
70.0	8.5
80.0	8.9
90.0	9.6
100.0	10.3
110.0	11.0
120.0	11.5
130.0	11.7
140.0	12.1
150.0	12.6
160.0	12.8
170.0	13.0
180.0	13.5
190.0	14.0
200.0	14.8
210.0	15.3
220.0	15.8
230.0	16.2
240.0	16.6
250.0	17.6
260.0	18.2
270.0	18.4
280.0	18.7
290.0	19.2
300.0	19.9
310	20.7
320	21.9
330	23.4
340	25.1
350	27.0

NOTES:

1. Antenna serial number is 1041.

2. The above list is located in file 19BC10M1.ANT on the disk marked "Radiated Emissions Tests EMI Receiver".

9.4 Correction factors for ACTIVE LOOP ANTENNA

Model 6502
S/N 9506-2950

FREQUENCY	Magnetic Antenna Factor	Electric Antenna Factor
(MHz)	(dB)	(dB)
.009	-35.1	16.4
.010	-35.7	15.8
.020	-38.5	13.0
.050	-39.6	11.9
.075	-39.8	11.8
.100	-40.0	11.6
.150	-40.0	11.5
.250	-40.0	11.6
.500	-40.0	11.5
.750	-40.1	11.5
1.000	-39.9	11.7
2.000	-39.5	12.0
3.000	-39.4	12.1
4.000	-39.7	11.9
5.000	-39.7	11.8
10.000	40.2	11.3
15.000	-40.7	10.8
20.000	-40.5	11.0
25.000	-41.3	10.2
30.000	42.3	9.2