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ELECTROMAGNETIC COMPATIBILITY TEST REPORT

ACCORDING TO 47 CFR PART 15, SUBPART B

for
CTP Systems Ltd.

EQUIPMENT UNDER TEST:
Unified Base Station of the CT Phone 1900

Prepared by: Mr. D. Salamah
Mr. D. Salamah, technical writer
Hermon Labs

Approved by: Mr. A. Usoskin
Mr. A. Usoskin, QA manager
Hermon Labs

Approved by: Dr. E. Usoskin
Dr. E. Usoskin, C.E.O.
Hermon Labs

Approved by: Mr. Amihud Rothman
Mr. Amihud Rothman, manager, QA department
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of Hermon Laboratories Ltd.***



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Description of equipment under test

| | |
|----------------|--|
| Test items | Wireless PBX |
| Manufacturer | CTP Systems Ltd. |
| Brand mark | CTP Systems Ltd. |
| Types (Models) | CT Phone 1900, Unified Base Station (1900-UBS) |
| Serial number | B24D03 |
| Receipt date | August 20, 1998 |

Applicant information

| | |
|--------------------------------|--|
| Applicant's representative | Mr. Amihud Rothman, manager, QA department |
| Applicant's responsible person | Mr. Amihud Rothman, manager, QA department |
| Company | CTP Systems Ltd. |
| Address | 16 Bazel Street |
| PO Box | 10097 |
| Postal code | 49001 |
| City | Petach Tikva |
| Country | Israel |
| Telephone number | +972-(0)3-9260000 |
| Telefax number | +972-(0)3-9241496 |

Test performance

| | |
|-----------------------|--|
| Project Number: | 13032 |
| Location | Hermon Laboratories |
| Test started | August 20, 1998 |
| Test completed | September 14, 1998 |
| Purpose of test | Apparatus verification in accordance with FCC part 15 requirements |
| Test specification(s) | FCC part 15 subpart B (15109 (b),(c) 15.33 15.35) Radiated Emissions class A. |

Through this report a point is used as the decimal separator and the thousands are counted with a comma.
This report is in conformity with EN 45001 and ISO GUIDE 25.
The test results relate only to the items tested.



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Table of Contents

| | | |
|---|---|-----------|
| 1 | General Information | 5 |
| 1.1 | Abbreviations and Acronyms | 5 |
| 1.2 | Specification References | 5 |
| 1.3 | EUT Description supplied by customer | 5 |
| 1.4 | EUT Test Configuration | 6 |
| 1.5 | EUT Verification. Labeling Requirements (CFR 47, FCC part 15, Sections 15.19, 15.109) | 7 |
| 1.6 | Statement of Manufacturer | 9 |
| 2 | Test Facility Description | 10 |
| 2.1 | General | 10 |
| 2.2 | Equipment Calibration | 10 |
| 2.2.1 | <i>Uncertainty in Hermon Labs measurements</i> | 10 |
| 2.3 | Laboratory Personnel | 11 |
| 2.4 | Statement of Qualification | 11 |
| 3 | Conducted Emission Measurements | 12 |
| 3.1 | Conducted Emission Measurements, General | 12 |
| 3.2 | Conducted Emission Measurements, Test Procedure | 12 |
| 3.3 | Conducted Emission Measurements, Test Results | 13 |
| 4 | Radiated Emission Measurements | 21 |
| 4.1 | Radiated Emission Measurements, General | 21 |
| 4.2 | Radiated Emission Measurements, Test Procedure | 21 |
| 4.3 | Radiated Emission Measurements, Test Results | 22 |
| 5 | Summary and Signatures | 32 |
| APPENDIX A - Test equipment and ancillaries used for tests | | 33 |
| APPENDIX B - Test Equipment Correction Factors | | 34 |



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1 General Information

1.1 Abbreviations and Acronyms

The following abbreviations and acronyms are applicable to this test report:

| | |
|----------|---|
| AC | Alternating current |
| AVRG | Average (Detector) |
| dB | decibel |
| dBm | decibel referred to one milliwatt |
| dB(µV) | decibel referred to one microvolt |
| dB(µV/m) | decibel referred to one microvolt per meter |
| cm | centimeter |
| DC | Direct Current |
| EMC | Electromagnetic Compatibility |
| EUT | Equipment Under Test |
| GHz | Gigahertz |
| H | Height |
| HP | Hewlett Packard |
| Hz | hertz |
| kHz | kilohertz |
| kV | kilovolt |
| L | length |
| m | meter |
| MHz | megahertz |
| NA | Not Applicable |
| QP | Quasi-Peak (Detector) |
| RE | Radiated Emission |
| RMS | Root-mean-square |
| sec | second |
| V | Volt |
| W | Width |
| PC | Personal Computer |

1.2 Specification References

CFR 47 part 15 subpart B: Radio Frequency Devices, Subpart B.
10/1997

ANSI C63.2:06/1987 American National Standard for Instrumentation-
Electromagnetic Noise and Field Strength, 10 kHz to
40 GHz-Specifications.

ANSI C63.4:1992 American National Standard for Methods of
Measurement of Radio-Noise Emissions from Low-
Voltage Electrical and Electronic Equipment in the
Range of 9 kHz to 40 GHz.

1.3 EUT Description supplied by customer

The CTPhone 1900 family of products add wireless phone services to existing
Private Branch Exchange (PBX), Centrex services, or key systems. The CTPhone
1900 system operates in both single building and campus environments.
Components of the CTPhone 1900 are base stations, handsets, and a CTPhone
controller.



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1.4 EUT Test Configuration

The Unified Base Station has two power supply options, remote power and local power.

The equipment was tested with and without the external antenna.

The local power is a transformer 120 VAC to 5 VDC.

The remote power is 48 VDC from the E1 line.

Test configuration is given in Figure 1.1.

EUT Support/Test Equipment

| Description | Model number | Serial number |
|-----------------|--------------|---------------|
| Unified Handset | 1900-HS | 7605 |

EUT Ports and Lines

| Port Type | Port Description | Quantity | Cable Type Description | Cable Length | Connected to |
|-----------|------------------|----------|------------------------|---------------|------------------|
| RJ11 | E1 | 2 | Unshielded | Max 1 km | BSIA |
| SMA | External Antenna | 1 | RG58 | Max 30 meters | External antenna |
| DC jack | DC supply | 1 | Unshielded | 2 meters | AC power supply |

A ferrite s/n 0443161151 was added on AC power supply cable during conducted emissions testing.



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1.5 EUT Verification. Labeling Requirements (CFR 47, FCC part 15, Sections 15.19, 15.109)

A device subject to verification shall bear the following label in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

For a Class A digital device the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

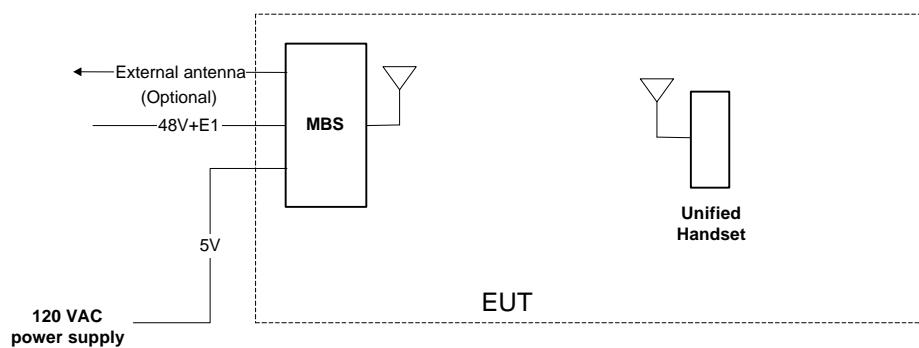
For a Class A and Class B digital device the instructions furnished the user shall include the following caution:

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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Figure 1.1
EUT Test configuration





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1.6 Statement of Manufacturer

I, Amihud Rothman, manager, QA department of CTP Systems Ltd. declare that Unified Base Station of the CT Phone 1900 was tested on August 20th to September 14th, 1998 by Hermon Laboratories and which this test report applies to is identical to the equipment that will be marketed.

The term identical means identical within the variations that can be expected to arise as a result of quantity production technique.

Mr. Amihud Rothman, manager, QA department
CTP Systems Ltd.

Signature: Amihud .R

Date: _____



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2 Test Facility Description

2.1 General

Tests were performed at Hermon Laboratories, which is a fully independent, private EMC, Safety and Telecommunication testing facility. Hermon Laboratories is listed by the Federal Communications Commission (USA) for all parts of Code of Federal Regulations 47 (CFR 47), recognized by VDE (Germany) for witness test, certified by VCCI Registration No. R-263, C-266 (Japan), assessed by NMI Certin B.V. (Netherlands) for a number of EMC, Telecommunications and Safety standards, recognized by TUV Sudwest (Germany) for safety testing, and Assessed by AMTAC (UK) for safety of Medical Devices. The laboratory is accredited by American Association for Laboratory Accreditation (USA) according to ISO GUIDE 25/EN 45001 for EMC, Telecommunications and Product Safety Information Technology Equipment (Certificate No. 839.01).

Address: PO Box 23, Binyamina 30550, Israel.
Telephone: +972-(0)6-628-8001
Fax: +972-(0)6-628-8277

Person for contact: Mr. Alex Usoskin, Testing and QA Manager.

2.2 Equipment Calibration

The test equipment has been calibrated according to its recommended procedures and is within the manufacturer's published limit of error. The standards and instruments used in the calibration system conform to the present requirements of MIL-STD-45662A.

The laboratory standards are calibrated by the third party (traceable to NIST, USA) on a regular basis according to equipment manufacturer requirements.

2.2.1 Uncertainty in Hermon Labs measurements.

| | |
|---|--|
| Conducted Emissions (95% Confidence) | 9 KHz to 150 KHz : ± 2.18 dB Expanded uncertainty : ± 1.09 dB Combined standard uncertainty 150 KHz to 30 MHz : ± 2.42 dB Expanded uncertainty : ± 1.21 dB Combined standard uncertainty |
| Radiated Emissions (95% Confidence) | Biconical Antenna: 3m measuring distance : + 4.06 dB Expanded uncertainty : - 3.98 dB Expanded uncertainty : + 2.032 dB Combined standard uncertainty : - 1.99 dB Combined standard uncertainty 10m measuring distance : + 3.98 dB Expanded uncertainty : - 4.08 dB Expanded uncertainty : + 1.99 dB Combined standard uncertainty : - 2.04 dB Combined standard uncertainty Log periodic Antenna: 3m measuring distance : + 4.74 dB Expanded uncertainty : - 3.26 dB Expanded uncertainty : + 2.37 dB Combined standard uncertainty : - 1.63 dB Combined standard uncertainty 10m measuring distance : + 3.06 dB Expanded uncertainty : - 3.00 dB Expanded uncertainty |



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2.3 Laboratory Personnel

The four people of Hermon Laboratories that have participated in measurements and documentation preparation are: Dr. Edward Usoskin - C.E.O., Mr. Michael Feldman - test technician, Mr. Igor Silberstein - test technician and Mr. David Salamah - technical writer. Dr. E. Usoskin is an EMC Specialist certified by the National Association of Radio and Telecommunications Engineers (NARTE, USA.). The Hermon Laboratories' personnel that participated in this project have more than 85 years combined experience time in EMC measurements and electronic products design.

2.4 Statement of Qualification

The test measurement data supplied in this test measurement report having been received by me, is hereby duly certified. The following is a statement of my qualifications.
I am a Technician, have obtained 29 years experience in electronics and measurements.
I have been with Hermon Laboratories since 1995.

Name: Mr. Michael Feldman
Position: test technician

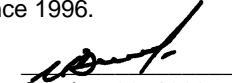
Signature:
Date:


October 26, 1998

The test measurement data supplied in this test measurement report having been received by me, is hereby duly certified. The following is a statement of my qualifications.
I am a Radio Technician graduated from technical college in 1979 and have obtained 18 years experience in electronics and have been with Hermon Laboratories since 1996.

Name: Igor Silberstein
Position: test technician

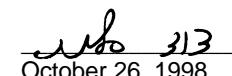
Signature:
Date:


October 26, 1998

I hereby certify that this test measurement report was prepared by me and is hereby duly certified. The following is a statement of my qualifications.
I have learned in the Netherlands for six years and I have a high collective college school diploma and I have learned for two years in a technical college.
I have been with Hermon Laboratories since November 1996.

Name: Mr. David Salamah
Position: technical writer

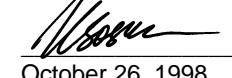
Signature:
Date:


October 26, 1998

I hereby certify that this test measurement report was prepared under my direction and that to the best of my knowledge and belief, the facts set in the report and accompanying technical data are true and correct.
The following is a statement of my qualifications.
I have a Ph.D. degree in electronics, have obtained more than 40 years of experience in EMC measurements and electronic product design.
Also, I am an EMC engineer certified by the National Association of Radio and Telecommunications Engineers, Inc. (USA). The certificate no. is EMC-000623-NE, senior member. I have been with Hermon Laboratories since 1986.

Name: Dr. Edward Usoskin
Position: C.E.O.

Signature:
Date:


October 26, 1998



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3 Conducted Emission Measurements

3.1 Conducted Emission Measurements, General

Conducted emission measurements specification limits are given in Table 3.1 below

Table 3.1 Limits for mains terminal radio interference voltage

| Frequency, MHz | Class A equipment limit, dB(μ V) | Frequency, MHz | Class B equipment limit, dB(μ V) |
|-------------------|--|-------------------|--|
| 0.45 - 1.705 | 60 | 0.45 - 30 | 48 |
| 1.705 - 30 | 69.5 | | |

3.2 Conducted Emission Measurements, Test Procedure

The EUT was tested in full configuration. For test configuration refer to Figure 1.1. The EUT was set up as shown in Figure 3.1 and Photographs 3.1 and 3.2. The EUT was tested with and without an external antenna (as described in paragraph 1.4). The worst case test results are given for the configuration with the external antenna).

The frequency range from 450 kHz to 30 MHz was investigated.

The measurements were performed on the 120 V AC 60 Hz power lines (both neutral and phase) by means of the LISN, connected to the spectrum analyzer. All unused 50 Ω connectors of the LISN were resistively terminated in 50 Ω when not connected to the measuring instrument. The position of the EUT cables was varied to determine maximum emission level. Quasi peak detector (resolution bandwidth = 9 kHz) was used.

The test results were recorded in Table 3.2 and shown in Plots 3.1 to 3.4.

Reference numbers of test equipment used

| | | | |
|---------|---------|---------|---------|
| HL 0026 | HL 0163 | HL 0466 | HL 0521 |
|---------|---------|---------|---------|

Full description is in Appendix A.



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3.3 Conducted Emission Measurements, Test Results

Table 3.2 Conducted emission measurements on EUT power lines

Frequency range : 450 kHz - 30 MHz
Detector : quasi peak

TEST SPECIFICATION: FCC part 15 subpart B Class B
COMPANY: CTP Systems Ltd.
EUT: Unified Base Station of the CT Phone 1900
DATE: October 14, 1998
RELATIVE HUMIDITY: 50%
AMBIENT TEMPERATURE: 21°C

| Frequency (MHz) | Line ID | Measured Conducted Emissions dB (μ V) | Spec. QP Limit dB (μ V) | QP Limit Margins dB | Pass/ Fail |
|-----------------|---------|--|------------------------------|---------------------|------------|
| 9.605 | Ph | 42.57 | 48.0 | 5.4 | Pass |
| 5.630 | Ph | 40.68 | 48.0 | 7.3 | Pass |
| 11.900 | Ph | 38.71 | 48.0 | 9.3 | Pass |
| 9.853 | N | 42.56 | 48.0 | 5.4 | Pass |
| 9.605 | N | 41.41 | 48.0 | 6.6 | Pass |
| 11.901 | N | 38.98 | 48.0 | 9.0 | Pass |

Test parameters:

Detector type = QP (quasi peak).
Resolution bandwidth = 9 kHz.

Table calculations and abbreviations:

Conducted emission = EMI meter reading (dB μ V) + Cable Loss (dB) + LISN correction factor (dB). (For LISN correction factor refer to Appendix B).
Spec. limit = specification limit.
Spec. margin = dB below (negative if above) specification limit.
Line ID = Line Identification (Ph - phase, N - neutral).

Test performed by:
Mr. Igor Silberstein - test technician


Hermon Labs

Customer representative person:
Mr. Amihud Rothman, manager, QA department

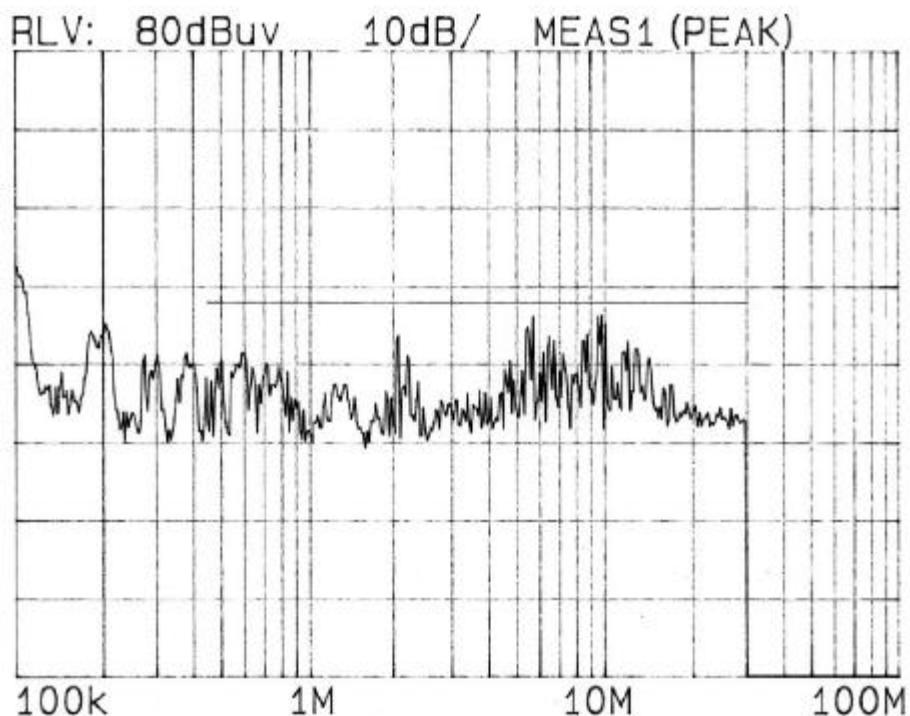

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Plot 3.1

Test specification: FCC part 15 subpart B class A
Conducted emission measurements on power line
Frequency range: 450 kHz-30 MHz
Line: phase
Detector: PEAK
EUT: Unified Base Station of the CT Phone 1900

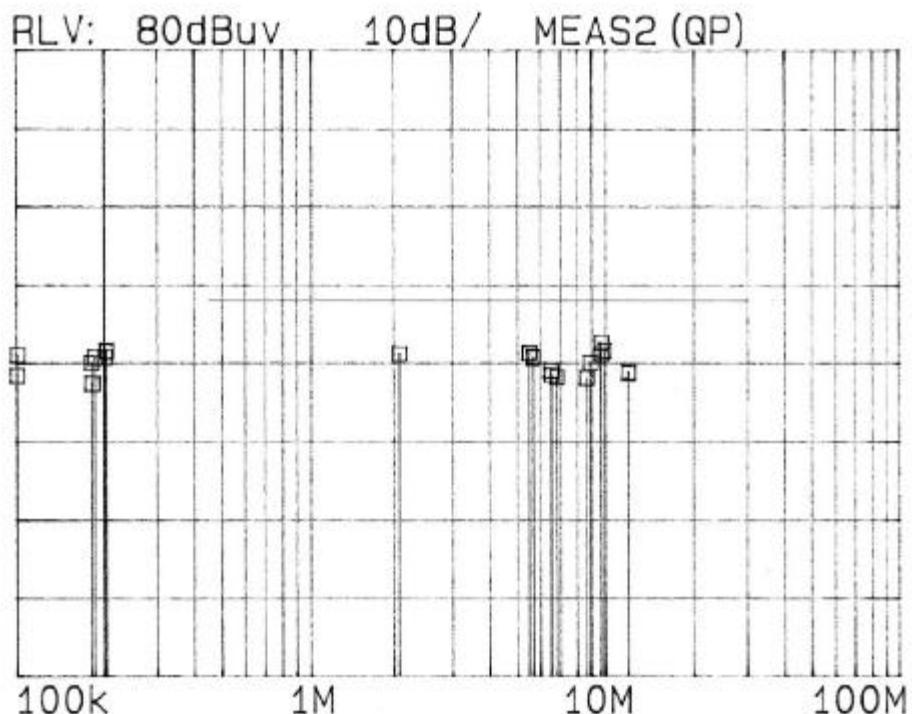




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Plot 3.2

Test specification: FCC part 15 subpart B class A
Conducted emission measurements on power line
Frequency range: 450 kHz-30 MHz
Line: phase
Detector: PEAK
EUT: Unified Base Station of the CT Phone 1900

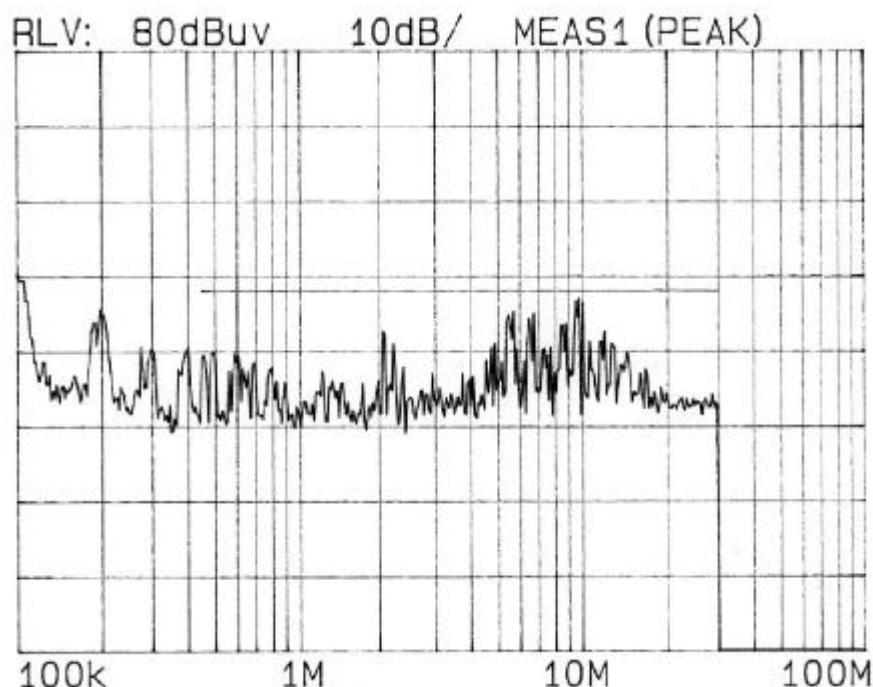




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Plot 3.3

Test specification: FCC part 15 subpart B class A
Conducted emission measurements on power line
Frequency range: 450 kHz-30 MHz
Line: neutral
Detector: PEAK
EUT: Unified Base Station of the CT Phone 1900

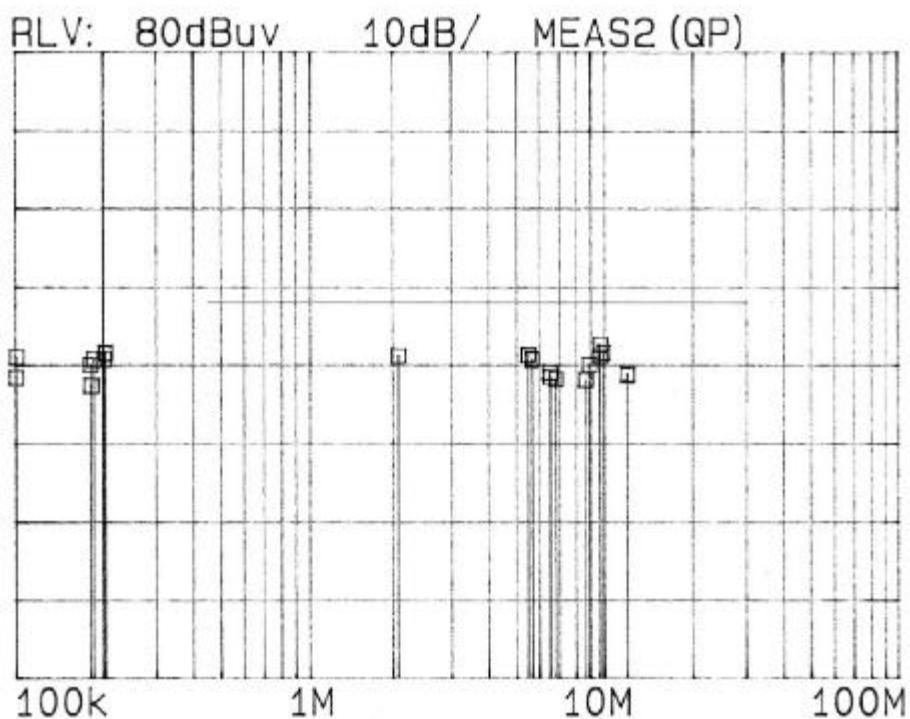




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Plot 3.4

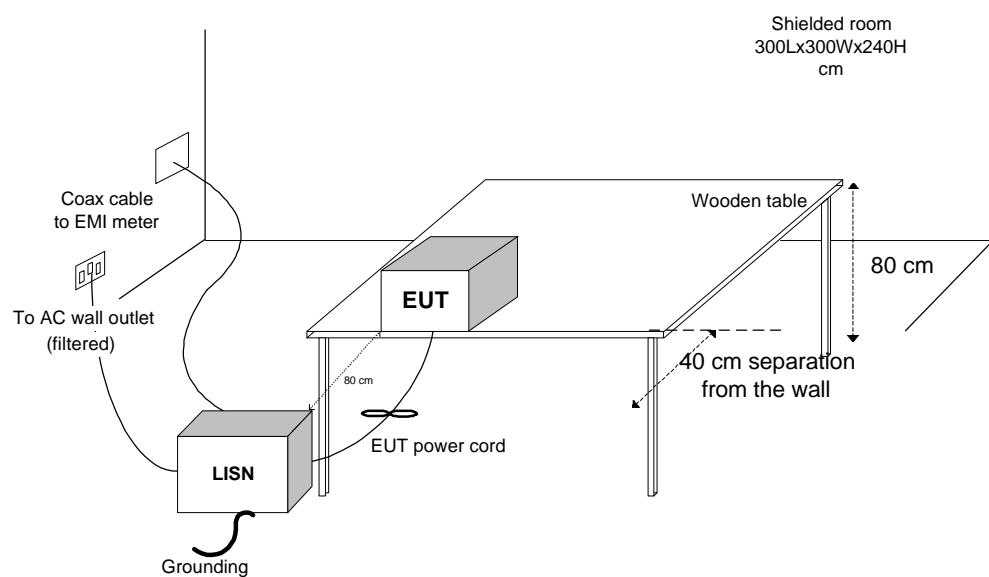
Test specification: FCC part 15 subpart B class A
Conducted emission measurements on power line
Frequency range: 450 kHz-30 MHz
Line: neutral
Detector: QP
EUT: Unified Base Station of the CT Phone 1900





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Figure 3.1
Setup for conducted emissions test





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Photograph 3.1
Setup for conducted emissions measurements (with External Antenna)





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Photograph 3.2
Setup for conducted emissions measurements (with External Antenna)





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4 Radiated Emission Measurements

4.1 Radiated Emission Measurements, General

Radiated emission measurements specification limits are given in Table 4.1 below:

Table 4.1 Limits for Electric field strength at 3 meters distance

| Frequency MHz | Detector | Class A Equipment dB(μ V/m) |
|------------------|--------------|-------------------------------------|
| 30 - 88 | Quasi-peak | 49.5 |
| 88 - 216 | Quasi-peak | 54.0 |
| 216 - 960 | Quasi-peak | 56.4 |
| 960 - 1000 | Quasi-peak | 59.5* |
| Above 1000 | Average/Peak | 59.5 (AVG)/79.5 (Peak) |

4.2 Radiated Emission Measurements, Test Procedure

The EUT was tested in full configuration as shown in Figure 1.1. The test was performed at the Hermon Labs anechoic chamber. The EUT was set up as shown in Figure 4.1 and Photographs 4.1 to 4.3. The EUT was tested with and without an external antenna (as described in paragraph 1.4). The worst case test results are given for the configuration with the external antenna).

Biconilog and Double Ridged Guide Horn antennas were used. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, the EUT cables were moved and the antennas polarization was changed from vertical to horizontal.

The EUT was tested in local power mode and remote power mode.

The frequency range from 30 MHz to 10 GHz was investigated. From 30 MHz to 1 GHz peak and quasi-peak detectors were used. Above 1 GHz a peak detector was used.

The test results are recorded in Table 4.2 and shown in Plots 4.1 to 4.5.

Above 1 GHz no signals due to incorporated digital device were found – manual scan with reduced video bandwidth was also performed. The measurement noise floor was at least 10 dB below the average limit required by the standard (and at least 30 dB below the peak limit).

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HL 0038 | HL 0275 | HL 0287 | HL 0465 | HL 0521 | HL 0604 | HL 0041 | HL 0792 |
|---------|---------|---------|---------|---------|---------|---------|---------|

Full description is in Appendix A.



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4.3 Radiated Emission Measurements, Test Results

**Table 4.2 Radiated emission measurements test results
(Electric field, frequency range 30 MHz - 10 GHz)**

TEST SPECIFICATION: FCC part 15 subpart B Class A
COMPANY: CTP Systems Ltd.
EUT: Unified Base Station of the CT Phone 1900
DATE: August 20, 1998
RELATIVE HUMIDITY: 50%
AMBIENT TEMPERATURE: 21°C

MEASUREMENTS PERFORMED AT 3 METERS DISTANCE

| Frequency MHz | Ant. Type | Ant. Pol. | Ant. Hgt. | TT Pos. (°) | Radiated Measured Result dB (μ V) | Correction Factor dB (1/m) | Radiated Emissions dB (μ V/m) | Spec. Limit dB (μ V/m) | Spec. Margin dB | Pass/ Fail |
|------------------|--------------|--------------|--------------|-------------------|---|----------------------------------|--|-----------------------------------|-----------------------|---------------|
| 115.23613 | BL | H | 1.7 | 321 | 28.17 | 10.06 | 39.23 | 54.0 | 14.77 | Pass |

Test parameters:

Detector type = QP (quasi peak) in 30 MHz – 1 GHz, Peak above 1 GHz.
Resolution bandwidth = 120 kHz in 30 MHz – 1 GHz, 1 MHz above 1 GHz.

Table calculations and abbreviations:

Radiated emission dB(μ V/m) = measured results dB(μ V) + correction factor dB(1/m).
Correction factor = antenna factor + cable loss (for antenna factor and cable loss refer to Appendix B).

Ant. type = antenna type (BL - biconilog).
Ant. pol. = antenna polarization (V-vertical, H-horizontal).
Ant. hgt. = antenna height.
TT pos. = turntable position in degrees, (EUT front panel = 0°).
Spec. margin = specification margins = dB below (negative if above) specification limit.

Test performed by:
Mr. Michael Feldman, test technician


Hermon Labs

Customer representative person:
Mr. Amihud Rothman, manager, QA department


CTP Systems Ltd.

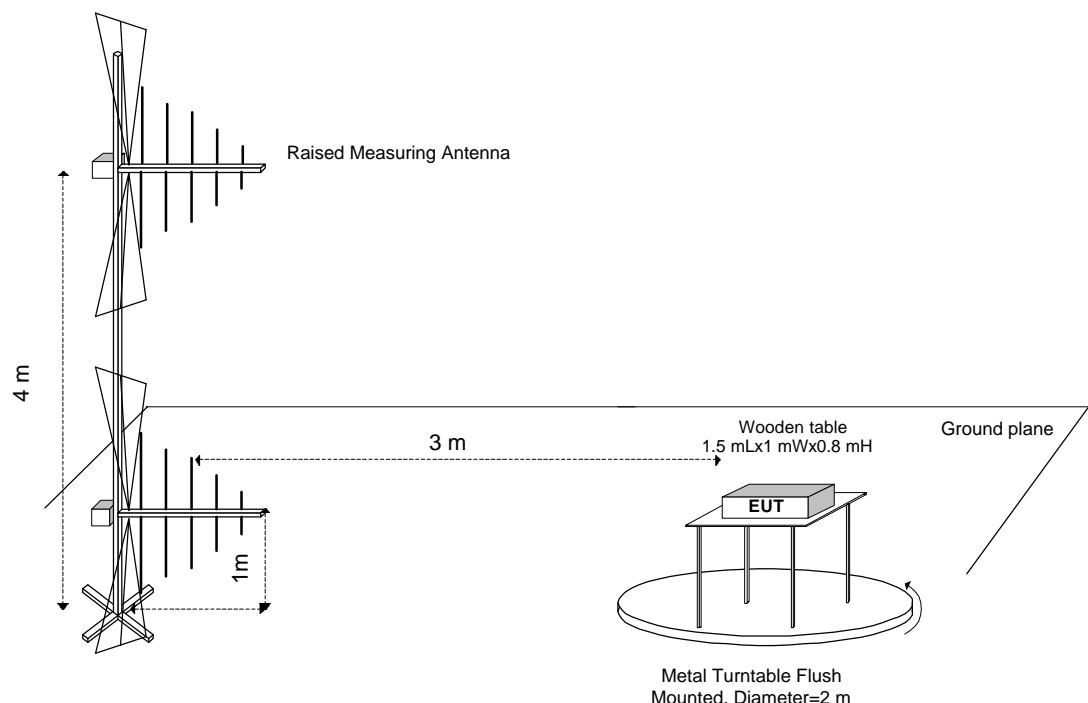
**Figure 4.1
Setup for Radiated emissions test**



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Anechoic Chamber

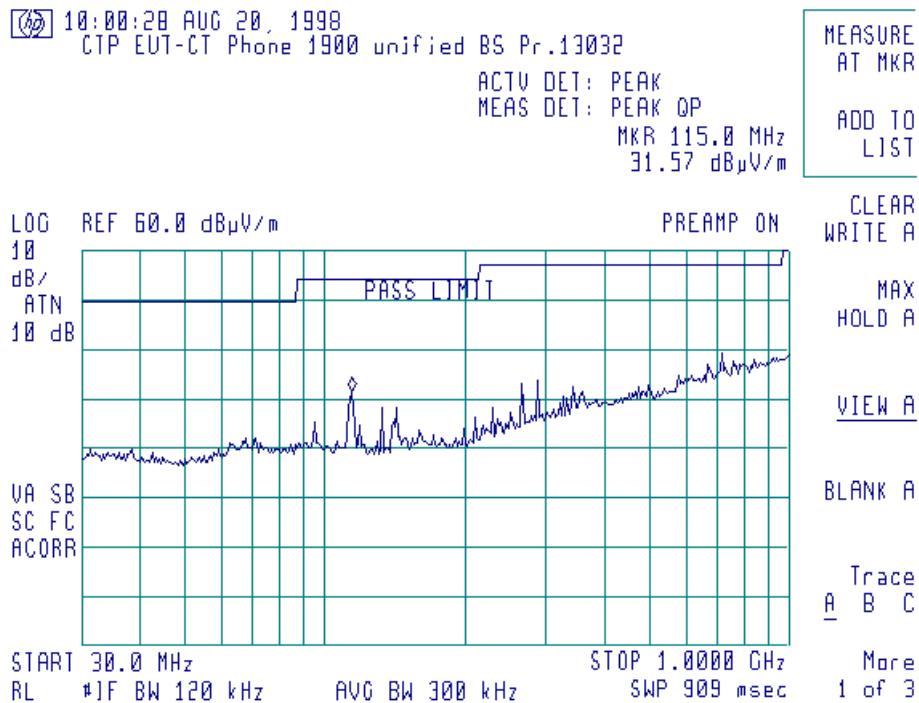
Plastic Antenna Mast





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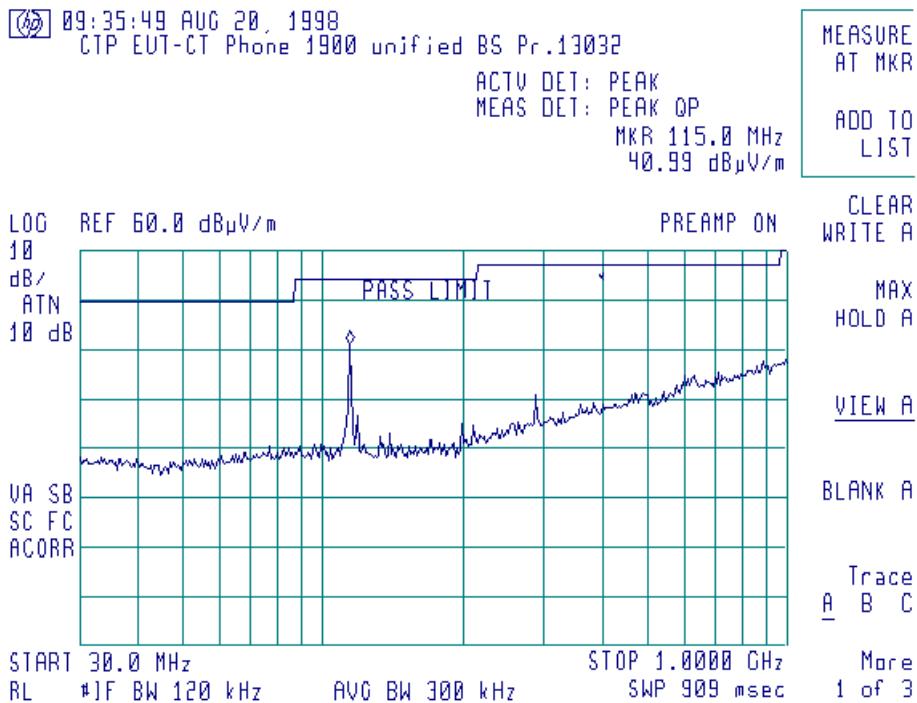
Plot 4.1
Mini Base Station
Local power





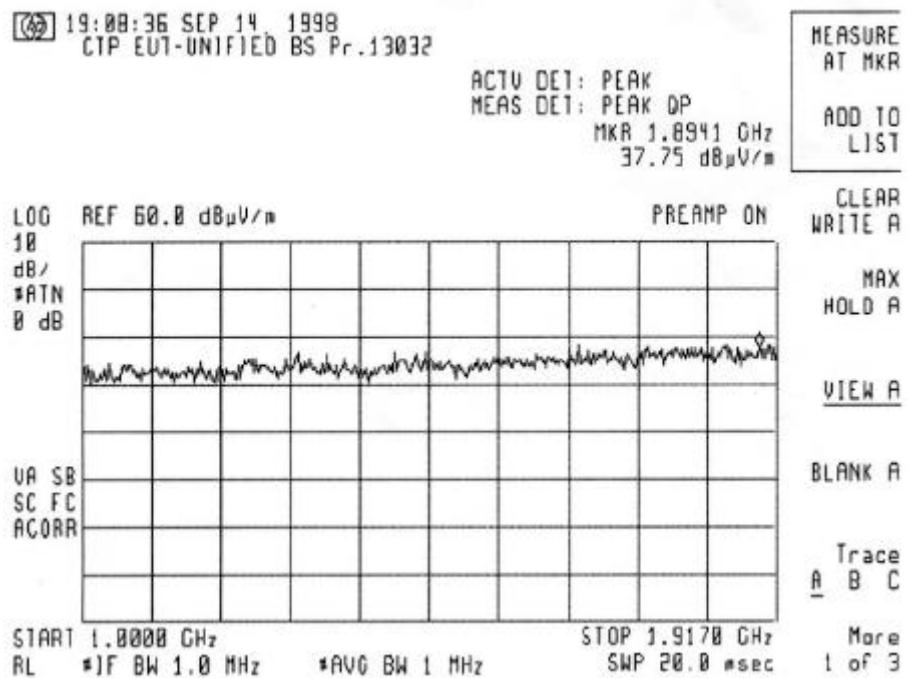
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Plot 4.2
Mini Base Station
Remote power





Plot 4.3 Mini Base Station Local power







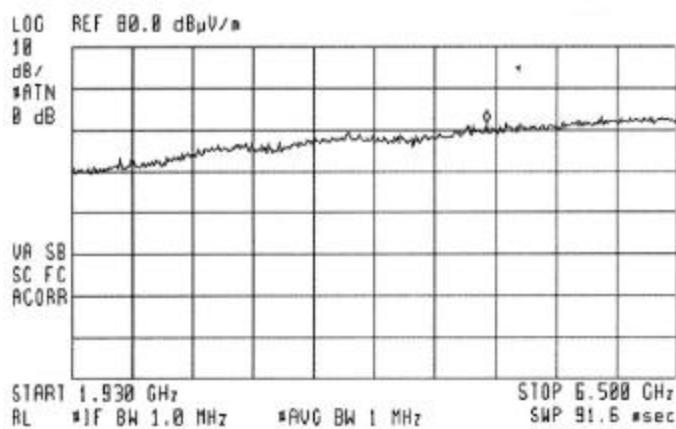
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Plot 4.4
Mini Base Station
Local power

19:21:52 SEP 14, 1998
CTP EUT-UNIFIED BS Pr.13032

ACTV DET: PEAK
MEAS DET: PEAK QP
MKR 5.059 GHz
61.49 dB μ V/m

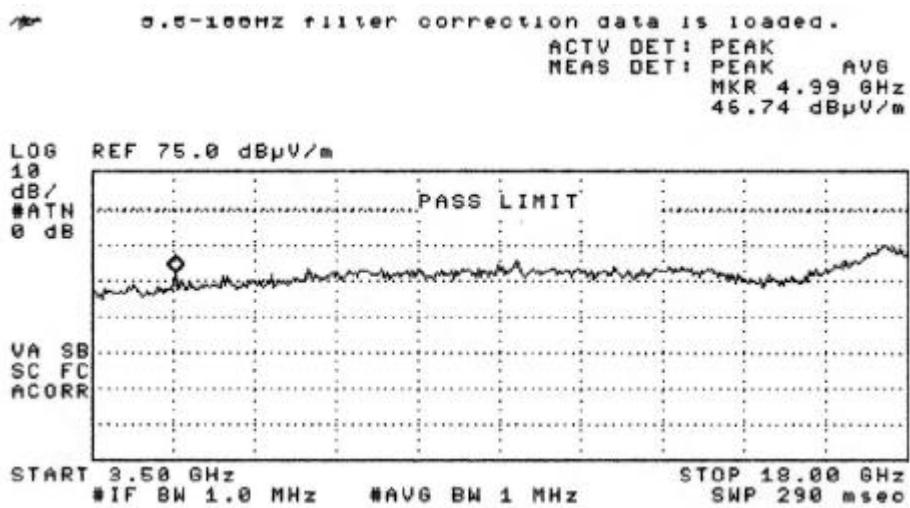
MEASURE AT MKR
ADD TO LIST
CLEAR WRITE A
MAX HOLD A
VIEW A
BLANK A
Trace A B C
More 1 of 3





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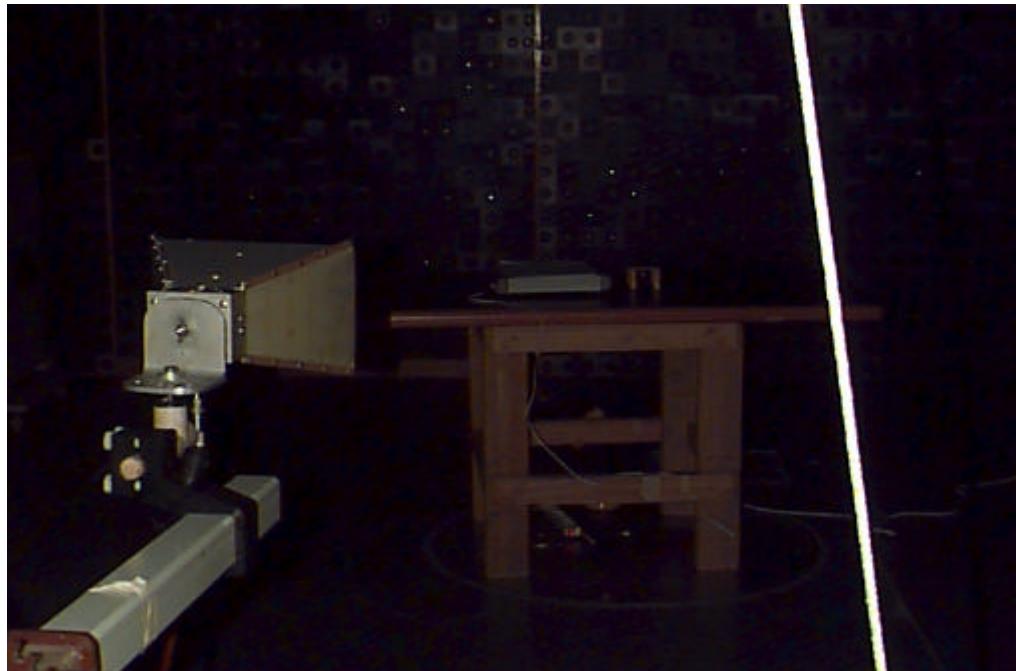
Plot 4.5
Mini Base Station
Local power





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Photograph 4.1
Setup for radiated emissions measurements (with External Antenna)





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Photograph 4.2
Setup for radiated emissions measurements (with External Antenna)





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Photograph 4.3
Setup for radiated emissions measurements (with External Antenna)





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5 Summary and Signatures

The EUT, Unified Base Station of the CT Phone 1900, was found to be in compliance with the requirements of FCC part 15 subpart B class A.

Test performed by:

Mr. Michael Feldman, test technician

Mr. Igor Silberstein, test technician

Approved by:

Dr. Edward Usoskin, C.E.O.

**Responsible Person from
CTP Systems Ltd.**

Mr. Amihud Rothman, manager, QA department



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APPENDIX A - Test equipment and ancillaries used for tests

| HL Serial No. | Serial No. | Description | Manufacturer | Model No. | Due Calibr. |
|---------------------|---------------|---|--------------------|-------------------|----------------|
| 0026 | 3460 | Spectrum Analyzer, 100 Hz-2.2 GHz | Anritsu | MS 2601A | 8/99 |
| 0038 | 0038 | Antenna Mast, 1-4 m | Hermon Labs | NA | NA |
| 0041 | 2811 | Antenna, Horn, Ridged Guide , 1 - 18 GHz | Electro-Metrics | RGA 50/60 | 8/00 |
| 0163 | 1314 | LISN, 9kHz-100MHz | Electro-Metrics | ANS-25/2 | 11/98 |
| 0185 | 1765 | Graphics Plotter | Hewlett Packard | 7475A | NA |
| 0275 | 0275 | Wooden Table, 1.5 x 1.0 x 0.8 | Hermon Labs | NA | 3/99 |
| 0287 | 0287 | Metal Turntable Flush Mounted | Hermon Labs | NA | 4/99 |
| 0447 | 447 | LISN, 16/2, 300 V RMS | Hermon Labs | NA | 2/99 |
| 0465 | 0465 | Anechoic Chamber 9 mL x 6.5 mW x 5.5 mH | Hermon Labs | NA | 10/99 |
| 0466 | 0466 | Shielded Room 3 mL x 3 mW x 2.4 mH | Hermon Labs | NA | 5/99 |
| 0521 | 0319 | Spectrum Analyzer with RF filter section (EMI Receiver 9 kHz - 6.5 GHz) | Hewlett Packard | 8546A | 7/99 |
| 0604 | 1011 | Antenna Log-Periodic/T Bow-Tie, 26 - 2000 MHz | EMCO | 3141 BICONILOG | 12/98 |
| 0792 | 2006 | Series Microwave EMI Measurement System, 1 - 26.5 GHz | Hewlett Packard | HP 84125 | 8/99 |



HERMON LABORATORIES

APPENDIX B - Test Equipment Correction Factors

Correction Factor
Line Impedance Stabilization Network
Model ANS-25/2
Electro-Metrics

| Frequency, kHz | Correction Factor |
|----------------|-------------------|
| 10 | 4.9 |
| 15 | 2.86 |
| 20 | 1.83 |
| 25 | 1.25 |
| 30 | 0.91 |
| 35 | 0.69 |
| 40 | 0.53 |
| 50 | 0.35 |
| 60 | 0.25 |
| 70 | 0.18 |
| 80 | 0.14 |
| 90 | 0.11 |
| 100 | 0.09 |
| 125 | 0.06 |
| 150 | 0.04 |

The correction factor dB is to be added to the meter readings (dB/ μ V) of the interference analyzer or spectrum analyzer.



HERMON LABORATORIES

**Antenna Factor at 3m calibration
Biconilog Antenna EMCO Model 3141
Ser.No.1011**

| Frequency, MHz | Antenna Factor, dB(1/m) | Frequency, MHz | Antenna Factor, dB(1/m) |
|----------------|-------------------------|----------------|-------------------------|
| 26 | 7.8 | 940 | 24.0 |
| 28 | 7.8 | 960 | 24.1 |
| 30 | 7.8 | 980 | 24.5 |
| 40 | 7.2 | 1000 | 24.9 |
| 60 | 7.1 | 1020 | 25.0 |
| 70 | 8.5 | 1040 | 25.2 |
| 80 | 9.4 | 1060 | 25.4 |
| 90 | 9.8 | 1080 | 25.6 |
| 100 | 9.7 | 1100 | 25.7 |
| 110 | 9.3 | 1120 | 26.0 |
| 120 | 8.8 | 1140 | 26.4 |
| 130 | 8.7 | 1160 | 27.0 |
| 140 | 9.2 | 1180 | 27.0 |
| 150 | 9.8 | 1200 | 26.7 |
| 160 | 10.2 | 1220 | 26.5 |
| 170 | 10.4 | 1240 | 26.5 |
| 180 | 10.4 | 1260 | 26.5 |
| 190 | 10.3 | 1280 | 26.6 |
| 200 | 10.6 | 1300 | 27.0 |
| 220 | 11.6 | 1320 | 27.8 |
| 240 | 12.4 | 1340 | 28.3 |
| 260 | 12.8 | 1360 | 28.2 |
| 280 | 13.7 | 1380 | 27.9 |
| 300 | 14.7 | 1400 | 27.9 |
| 320 | 15.2 | 1420 | 27.9 |
| 340 | 15.4 | 1440 | 27.8 |
| 360 | 16.1 | 1460 | 27.8 |
| 380 | 16.4 | 1480 | 28.0 |
| 400 | 16.6 | 1500 | 28.5 |
| 420 | 16.7 | 1520 | 28.9 |
| 440 | 17.0 | 1540 | 29.6 |
| 460 | 17.7 | 1560 | 29.8 |
| 480 | 18.1 | 1580 | 29.6 |
| 500 | 18.5 | 1600 | 29.5 |
| 520 | 19.1 | 1620 | 29.3 |
| 540 | 19.5 | 1640 | 29.2 |
| 560 | 19.8 | 1660 | 29.4 |
| 580 | 20.6 | 1680 | 29.6 |
| 600 | 21.3 | 1700 | 29.8 |
| 620 | 21.5 | 1720 | 30.3 |
| 640 | 21.2 | 1740 | 30.8 |
| 660 | 21.4 | 1760 | 31.1 |
| 680 | 21.9 | 1780 | 31.0 |
| 700 | 22.2 | 1800 | 30.9 |
| 720 | 22.2 | 1820 | 30.7 |
| 740 | 22.1 | 1840 | 30.6 |
| 760 | 22.3 | 1860 | 30.6 |
| 780 | 22.6 | 1880 | 30.6 |
| 800 | 22.7 | 1900 | 30.6 |
| 820 | 22.9 | 1920 | 30.7 |
| 840 | 23.1 | 1940 | 30.9 |
| 860 | 23.4 | 1960 | 31.2 |
| 880 | 23.8 | 1980 | 31.6 |
| 900 | 24.1 | 2000 | 32.0 |
| 920 | 24.1 | | |

Antenna factor is to be added to receiver meter reading in dB(μ V) to convert to field intensity in dB(μ V/meter).



HERMON LABORATORIES

**Antenna Factor
Double Ridged Guide Antenna
Model RGA-50/60
S/N 2811**

| Frequency, MHz | Antenna Factor, dB |
|----------------|--------------------|
| 1000 | 24.3 |
| 1500 | 25.4 |
| 2000 | 28.4 |
| 2500 | 29.2 |
| 3000 | 30.5 |
| 3500 | 31.6 |
| 4000 | 33.7 |
| 4500 | 32.2 |
| 5000 | 34.5 |
| 5500 | 34.5 |
| 6000 | 34.6 |
| 6500 | 35.3 |
| 7000 | 35.5 |
| 7500 | 35.9 |
| 8000 | 36.6 |
| 8500 | 37.3 |
| 9000 | 37.7 |
| 9500 | 37.7 |
| 10000 | 38.2 |
| 10500 | 38.5 |
| 11000 | 39.0 |
| 11500 | 40.1 |
| 12000 | 40.2 |
| 12500 | 39.3 |
| 13000 | 39.9 |
| 13500 | 40.6 |
| 14000 | 41.1 |
| 14500 | 40.5 |
| 15000 | 39.9 |
| 15500 | 37.8 |
| 16000 | 39.1 |
| 16500 | 41.1 |
| 17000 | 41.7 |
| 17500 | 45.1 |
| 18000 | 44.3 |

Antenna factor is to be added to receiver meter reading in dB(μ V) to convert to field intensity in dB(μ V)/meter