

FCC PART 15 Subpart C
EMI MEASUREMENT AND TEST REPORT

For

VTech Telecommunications Ltd.

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57 Ting Kok Road, Tai Po NT, Hong Kong

FCC ID: EW780-1005-00

July 11, 2002

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| This Report Concerns: <input checked="" type="checkbox"/> Original Report | Equipment Type: Cordless Phone |
| Test Engineer: Benjamin Jing | |
| Report No.: R0206111 | |
| Test Date: June 15, 2002 | |
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Note: This test report is specially limited to the above client company and the product model only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

The *VTech Telecommunications Ltd.*'s product, model name: Companion II Cordless 8009 or "EUT" as referred to in this report is an email device using wireless communication between terminal and base. The terminal unit measures approximately 12.0"L x 8.1"W x 5.9"H. The base unit measures approximately 6.00"L x 5.45"W x 6.00"H.

The EUT designs for the whole family to access email for their friends or relatives at home with one touch operation. Besides, it provides organizer functions, address book for their daily uses.

The CIIc supports up to 5 users while each one will be identified by his own password. In other words, each user will has his own mail box and organizer.

The EUT was powered by 3.6V rechargeable battery. A 320x140 dots (53 characters x 14 lines) with 2 color LCD displays with full-size keyboard provides comfortable working and display area. One cartridge system acts as an expansion of memory for email storage.

Besides, print functions enable users to print out their own files.

** The test data was good for test sample only. It may have deviation for other product samples.*

1.2 Objective

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the EUT. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4-2002.

The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined by FCC Title 47, Part 15, Subpart C, section 15.205, 15.207, and 15.249.

1.3 Related Submittal(s)/Grant(s)

No related submittal(s)/grant(s).

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2000, 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.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.5 Test Facility

The Open Area Test site used by Bay Area Compliance Laboratory Corporation to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at Bay Area Compliance Laboratory Corporation has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2000.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratory Corporation is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (NVLAP). The scope of the accreditation covers the FCC Method - 47 CFR Part 15 - Digital Devices, IEC/CISPR 22: 1998, and AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment test methods under NVLAP Lab Code 200167-0.

1.6 Test Equipment List

| Manufacturer | Description | Model | Serial Number | Cal. Due Date |
|-------------------|----------------------|------------------|---------------|---------------|
| HP | Spectrum Analyzer | 8564E | 08303 | 12/6/2002 |
| HP | Spectrum Analyzer | 8593B | 2919A00242 | 12/20/2002 |
| HP | Amplifier | 8349B | 2644A02662 | 12/20/2002 |
| HP | Quasi-Peak Adapter | 85650A | 917059 | 12/6/2002 |
| HP | Amplifier | 8447E | 1937A01046 | 12/6/2002 |
| A.H. System | Horn Antenna | SAS0200/571 | 261 | 12/27/2002 |
| Com-Power | Log Periodic Antenna | AL-100 | 16005 | 11/2/2002 |
| Com-Power | Biconical Antenna | AB-100 | 14012 | 11/2/2002 |
| Solar Electronics | LISN | 8012-50-R-24-BNC | 968447 | 12/28/2002 |
| Com-Power | LISN | LI-200 | 12208 | 12/20/2002 |
| Com-Power | LISN | LI-200 | 12005 | 12/20/2002 |
| BACL | Data Entry Software | DES1 | 0001 | 12/20/2002 |

***Statement of Traceability: Bay Area Compliance Laboratory Corp.** Certifies that all calibration has been performed using suitable standards traceable to the NATIONAL INSTITUTE of STANDARDS and TECHNOLOGY.

1.8 Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number | FCC ID |
|---------------|-------------|----------------|---------------|--------------|
| Base | | | | |
| HP | PC System | Pavillion 6830 | MX10606093 | DOC |
| Microsoft | KB | NC-2000 | A00G003112 | KGXNIE-2000 |
| Compaq | Mouse | X03-48591 | 6818005-00000 | C3KKMPS |
| Sony | Monitor | P81501M | Q664908112 | GSS21002 |
| South Telecom | Phone Set | None | None | DOC |
| VTech | Tester | None | None | DOC |
| Terminal | | | | |
| HP | PC System | Pavillion 6830 | MX10606093 | DOC |
| Microsoft | KB | NC-2000 | A00G003112 | KGXNIE-2000 |
| Compaq | Mouse | X03-48591 | 6818005-00000 | C3KKMPS |
| Sony | Monitor | P81501M | Q664908112 | GSS21002 |
| Citizen | Printer | LSP-10 | 5047999-82 | DLK66TLSP-10 |
| VTech | Tester | None | None | DOC |

1.9 External I/O Cabling List and Details

| Cable Description | Length (M) | Port/From | To |
|-------------------------|------------|------------------------|-----------|
| Base | | | |
| Shielded KB Cable | 1.6 | PS/2 KB Port/PC | KB |
| Shielded Mouse Cable | 1.8 | PS/2 Mouse Port/PC | Mouse |
| Shielded Video Cable | 2.0 | VGA Port/PC | Monitor |
| Shielded RJ232 Cable | 1.0 | RS232 Port/Tester | PC |
| Shielded RS232 Cable | 0.5 | RS232 Port/Tester | Base |
| Unshielded RJ11 Cable | 20.0 | RJ11 Port/Base | Phone Set |
| Terminal | | | |
| Shielded KB Cable | 1.6 | PS/2 KB Port/PC | KB |
| Shielded Mouse Cable | 1.8 | PS/2 Mouse Port/PC | Mouse |
| Shielded Video Cable | 2.0 | VGA Port/PC | Monitor |
| Shielded Parallel Cable | 2.0 | Parallel Port/Terminal | Printer |
| Shielded RJ232 Cable | 1.0 | RS232 Port/Tester | PC |
| Shielded RS232 Cable | 0.5 | RS232 Port/Tester | Terminal |

2 - SYSTEM TEST CONFIGURATION

2.1 Description of Test Configuration

The EUT was configured for testing in a typical fashion (as normally used by a typical user).

Terminal being tested: The Handset unit was placed on the wooden table and tested in three orthogonal axis. The Low, middle, and high channels were tested. The handset was transmitting to and receiving from the Base unit. The EUT was investigated for emissions while off hook. The conducted as well as radiated data was taken in this mode of operation. All initial and final investigations were performed with the EMI receiver in manual mode scanning the frequency range continuously. The cables were bundled and routed as shown in the 2.4.

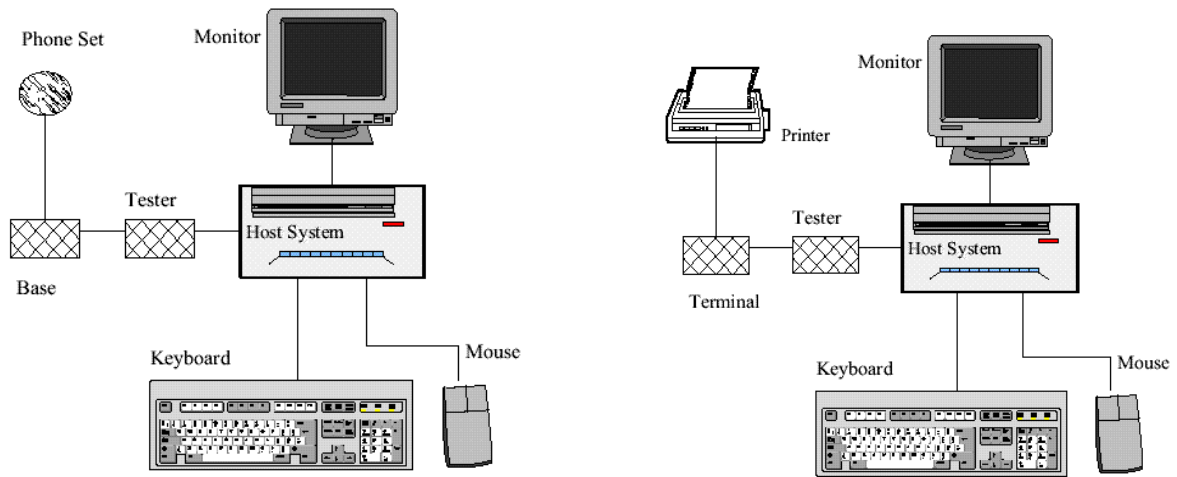
Base being tested: The Base unit was placed on the wooden table. The Low, middle, and high channels were tested. The base was connected to the line simulator and an AC adapter via its Tel Line and power ports, respectively. The base was transmitting and receiving from the Handset. The conducted as well as radiated data was taken in this mode of operation. All initial and final investigations were performed with the EMI receiver in manual mode scanning the frequency range continuously. The cables were bundled and routed as shown in the 2.4.

The base and terminal used VTech AC/DC power adapter, M/N: U090030D12 and 280603003C0.

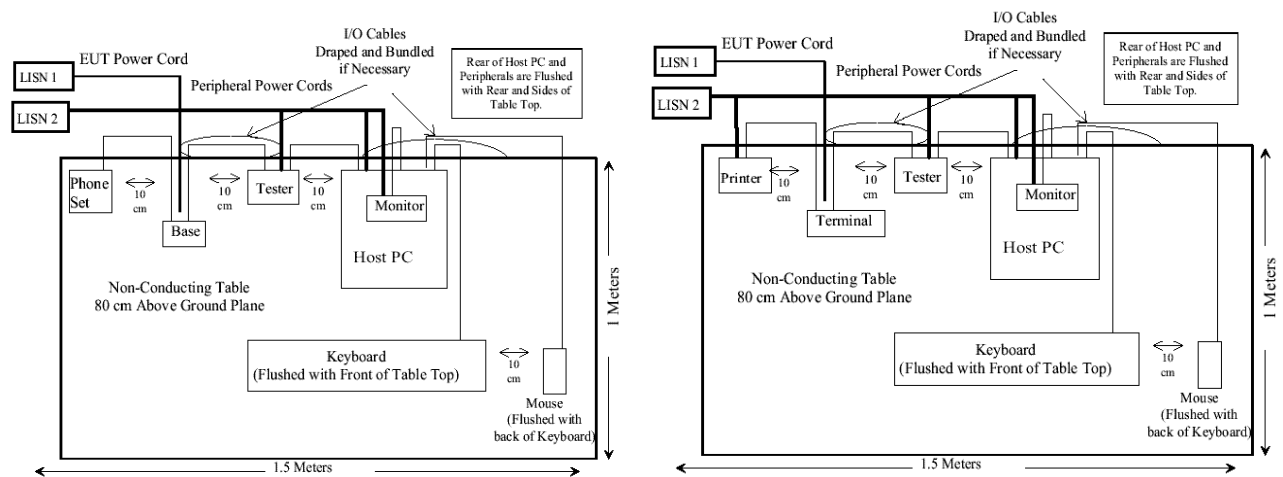
2.2 Equipment Modifications

No modification(s) to the EUT were made by BACL to comply with the applicable limits.

2.3 Configuration of Test System



2.4 Test Setup Block Diagram



3 - CONDUCTED EMISSION

3.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BAEL is ± 2.4 dB.

3.2 EUT Setup

The measurement was performed at the **Open Area Test Site**, using the same setup per ANSI C63.4-2000 measurement procedure. Specification used was with the FCC Class B limits.

Base configuration

The base utilized 120Vac/60Hz power source. The PC was put on the center back edge of the test table with the monitor on the top. The tester, the EUT and the phone set were placed along with the PC in order. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop. The keyboard was put directly in front of the PC. The mouse was put next to the keyboard and flushed with the rear of the keyboard.

Terminal configuration

The terminal utilized 120Vac/60Hz power source. The PC was put on the center back edge of the test table with the monitor on the top. The tester, the EUT and the printer were placed along with the PC in order. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop. The keyboard was put directly in front of the PC. The mouse was put next to the keyboard and flushed with the rear of the keyboard.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped over edge of the test table and bundle when necessary.

3.3 Spectrum Analyzer Setup

The spectrum analyzer was set with the following configurations during the conducted emission test:

| | |
|------------------------------------|---------|
| Start Frequency..... | 450 kHz |
| Stop Frequency..... | 30 MHz |
| Sweep Speed..... | Auto |
| IF Bandwidth..... | 10 kHz |
| Video Bandwidth..... | 10 kHz |
| Quasi-Peak Adapter Bandwidth | 9 kHz |
| Quasi-Peak Adapter Mode..... | Normal |

3.4 Test Procedure

During the conducted emission test, the EUT power cord was connected to the auxiliary outlet of the first LISN with all support equipment power cords connected to the second.

The EUT was tested to represent worst-case results for the final qualification test. Therefore, these results were used for final test data recorded in the table listed under section 3.6 of this report.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination. All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dB of specification limit). Quasi-peak readings are distinguished with a "Qp".

3.5 Summary of Test Results

According to the data in section 3.6, the EUT complied with the FCC Conducted margin for a Class B device and these test results is deemed satisfactory evidence of compliance with RSS-210 of the Canadian Interference-Causing Equipment Regulations, with the *worst* margin reading of:

-17.2 dB μ V at 0.45 MHz in the Neutral mode, Base unit

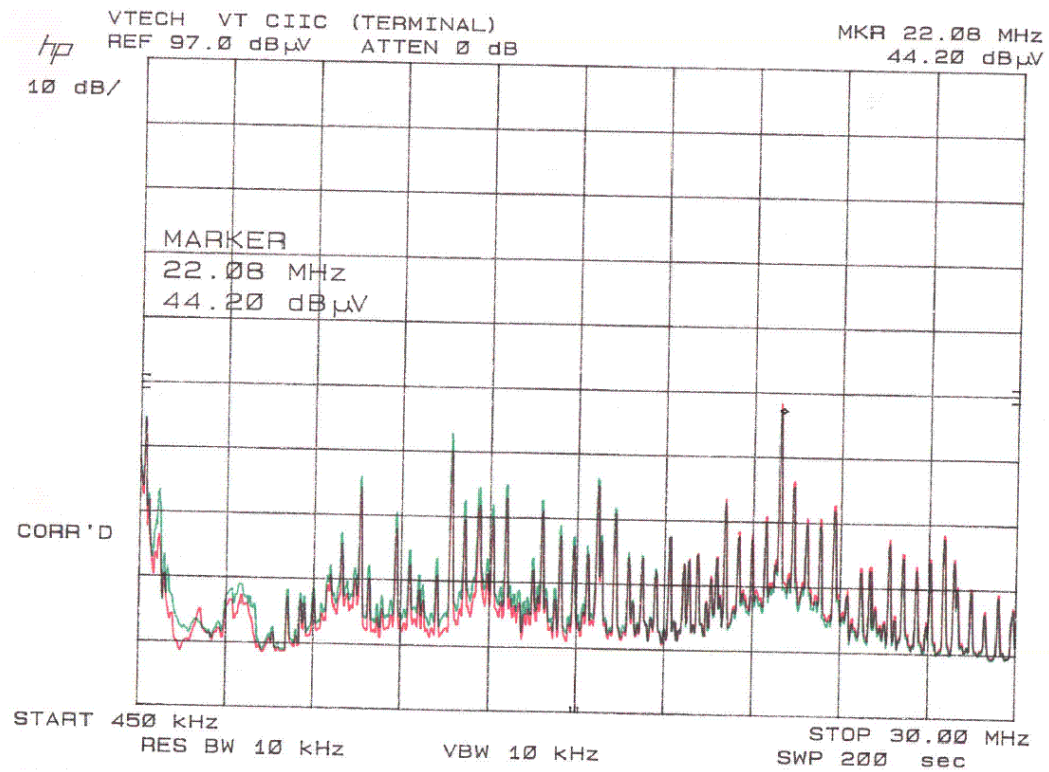
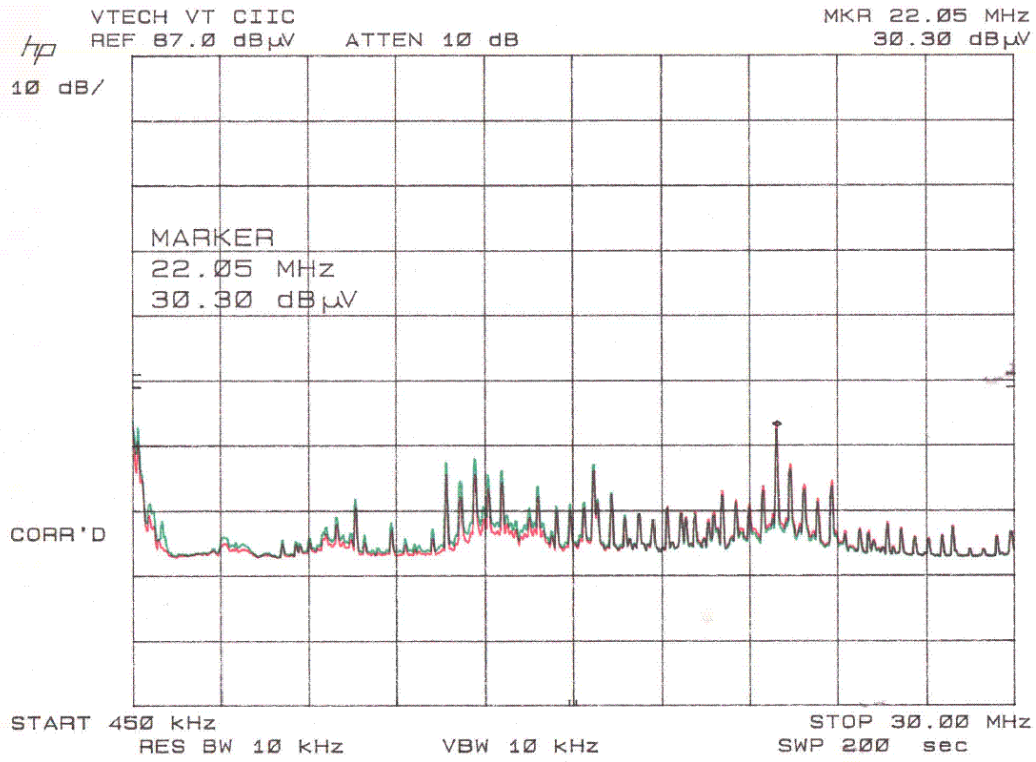
-2.7 dB μ V at 22.12 MHz in the Line mode, Terminal unit

3.6 Conducted Emissions Test Data

| LINE CONDUCTED EMISSIONS | | | | FCC CLASS B | |
|--------------------------|-------------------------|-------------------------|-----------------------|---------------------|--------------|
| Frequency MHz | Amplitude dB μ V | Detector Qp/Ave/Peak | Phase Line/Neutral | Limit dB μ V | Margin dB |
| Base | | | | | |
| 0.45 | 30.8 | QP | Neutral | 48 | -17.2 |
| 22.05 | 30.3 | QP | Line | 48 | -17.7 |
| 0.62 | 29.9 | QP | Neutral | 48 | -18.1 |
| 0.45 | 29.7 | QP | Line | 48 | -18.3 |
| 22.08 | 29.3 | QP | Neutral | 48 | -18.7 |
| 0.63 | 27.7 | QP | Line | 48 | -20.3 |
| Terminal | | | | | |
| 22.12 | 45.3 | QP | Line | 48 | -2.7 |
| 22.08 | 43.2 | QP | Neutral | 48 | -4.8 |
| 0.65 | 41.5 | QP | Line | 48 | -6.5 |
| 0.63 | 40.4 | QP | Neutral | 48 | -7.6 |
| 11.05 | 40.1 | QP | Line | 48 | -7.9 |
| 11.20 | 35.9 | QP | Neutral | 48 | -12.1 |

3.7 Plot of Conducted Emissions Test Data

Plot of Conducted Emissions test data was presented hereinafter as reference.



4 - RADIATED EMISSION

4.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BAEL is ± 4.0 dB.

4.2 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with the ANSI C63.4-2000. The specification used was the FCC 15 Subpart C limits.

Base configuration

The base utilized 120Vac/60Hz power source. The PC was put on the center back edge of the test table with the monitor on the top. The tester, the EUT and the phone set were placed along with the PC in order. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop. The keyboard was put directly in front of the PC. The mouse was put next to the keyboard and flushed with the rear of the keyboard.

Terminal configuration

The terminal utilized 120Vac/60Hz power source. The PC was put on the center back edge of the test table with the monitor on the top. The tester, the EUT and the printer were placed along with the PC in order. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop. The keyboard was put directly in front of the PC. The mouse was put next to the keyboard and flushed with the rear of the keyboard.

The spacing between the peripherals was 10 centimeters.

The external I/O cables were draped over edge of the test table and bundle when necessary.

4.3 Spectrum Analyzer Setup

According to FCC Rules, 47 CFR 15.33 (a) (1), the system was tested to 10GHz.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

| | |
|-----------------------------------|---------|
| Start Frequency | 30 MHz |
| Stop Frequency | 10GHz |
| Sweep Speed | Auto |
| IF Bandwidth | 1 MHz |
| Video Bandwidth | 1 MHz |
| Quasi-Peak Adapter Bandwidth..... | 120 kHz |
| Quasi-Peak Adapter Mode | Normal |
| Resolution Bandwidth..... | 1MHz |

4.4 Test Procedure

For the radiated emissions test, both the EUT and all support equipment power cords were connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "Qp" in the data table.

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB μ V means the emission is 7dB μ V below the maximum limit for applicable limits. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Applicable Limit}$$

4.6 Summary of Test Results

According to the data in section 4.7, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207, and 15.249 after tested to 10th harmonics as required by FCC and had the worst margin of:

Base, 30MHz to 10GHz, 3 Meters

- 3.5 dB μ V (Fund.) at 902.30 MHz in the Horizontal polarization at Low Frequency
- 3.2 dB μ V (Un.) at 938.00 MHz in the Vertical polarization at Middle Frequency
- 3.5 dB μ V (Un.) at 935.30 MHz in the Vertical polarization at High Frequency

Terminal 30MHz to 10GHz, 3 Meters

- 3.1 dB μ V (Fund.) at 923.10 MHz in the Vertical polarization at Low Frequency
- 3.0 dB μ V (Fund.) at 925.20 MHz in the Vertical polarization at Middle Frequency
- 1.2 dB μ V (Fund.) at 927.75 MHz in the Vertical polarization at High Frequency

4.7 Radiated Emissions Test Result Data**Base Unit, 30 MHz to 10GHz, 3 meters**

| Frequency MHz | Indicated | | Table Height Meter | Antenna | | Correction Factor | | | FCC 15 Subpart C | | | |
|------------------|-----------------------|---------------------|--------------------------|--------------|-------------------------|-------------------------------|------------|--------------------------------|-----------------------|--------------|-------|--|
| | Ampl. dB μ V/m | Direction Degree | | Polar H/V | Antenna dB μ V/m | Cable Loss dB μ V/m | Amp. dB | Corr. Ampl. dB μ V/m | Limit dB μ V/m | Margin dB | Mode | |
| Low Channel | | | | | | | | | | | | |
| 902.30 | 87.7 | 0 | 1.2 | H | 24.8 | 3.0 | 25.0 | 90.5 | 94.0 | -3.5 | Fund. | |
| 935.75 | 38.3 | 180 | 1.0 | H | 24.6 | 3.7 | 25.0 | 41.6 | 46.0 | -4.4 | Un. | |
| 902.30 | 86.0 | 330 | 1.2 | V | 24.8 | 3.0 | 25.0 | 88.8 | 94.0 | -5.2 | Fund. | |
| 1804.60 | 49.8 | 90 | 1.0 | V | 25.3 | 2.6 | 30.0 | 47.7 | 54.0 | -6.3 | Avg. | |
| 1804.60 | 45.1 | 60 | 1.0 | H | 25.3 | 2.6 | 30.0 | 43.0 | 54.0 | -11.0 | Avg. | |
| 935.75 | 31.2 | 0 | 1.0 | V | 24.6 | 3.7 | 25.0 | 34.5 | 46.0 | -11.5 | Un. | |
| 272.05 | 39.7 | 0 | 1.2 | H | 13.9 | 5.2 | 25.0 | 33.8 | 46 | -12.2 | Un. | |
| 2706.90 | 36.8 | 270 | 1.2 | H | 29.0 | 3.7 | 30.0 | 39.5 | 54.0 | -14.5 | Avg. | |
| 2706.90 | 35.6 | 210 | 1.2 | V | 29.0 | 3.7 | 30.0 | 38.3 | 54.0 | -15.7 | Avg. | |
| 272.05 | 34.8 | 45 | 1.2 | V | 13.9 | 5.2 | 25.0 | 28.9 | 46.0 | -17.1 | Un. | |
| Middle Channel | | | | | | | | | | | | |
| 938.00 | 39.5 | 90 | 1.2 | V | 24.6 | 3.7 | 25.0 | 42.8 | 46.0 | -3.2 | Un. | |
| 904.85 | 85.9 | 30 | 1.5 | V | 24.8 | 3.0 | 25.0 | 88.7 | 94.0 | -5.3 | Fund. | |
| 1809.70 | 47.9 | 330 | 1.2 | V | 25.3 | 2.6 | 30.0 | 45.8 | 54.0 | -8.2 | Avg. | |
| 938.00 | 33.4 | 120 | 1.2 | H | 24.6 | 3.7 | 25.0 | 36.7 | 46.0 | -9.3 | Un. | |
| 904.85 | 81.6 | 210 | 1.2 | H | 24.8 | 3.0 | 25.0 | 84.4 | 94.0 | -9.6 | Fund. | |
| 1809.70 | 45.8 | 330 | 1.0 | H | 25.3 | 2.6 | 30.0 | 43.7 | 54.0 | -10.3 | Avg. | |
| 392.62 | 41.2 | 270 | 1.0 | H | 16.5 | 2.8 | 25.0 | 35.5 | 46.0 | -10.5 | Un. | |
| 2714.55 | 38.3 | 90 | 1.0 | V | 29.0 | 3.7 | 30.0 | 41.0 | 54.0 | -13.0 | Avg. | |
| 2714.55 | 36.9 | 110 | 1.0 | H | 29.0 | 3.7 | 30.0 | 39.6 | 54.0 | -14.4 | Avg. | |
| 392.62 | 36.5 | 90 | 1.2 | V | 16.5 | 2.8 | 25.0 | 30.8 | 46.0 | -15.2 | Un. | |
| High Channel | | | | | | | | | | | | |
| 935.30 | 39.2 | 60 | 1.5 | V | 24.6 | 3.7 | 25.0 | 42.5 | 46.0 | -3.5 | Un. | |
| 1813.30 | 49.3 | 270 | 1.5 | V | 25.3 | 2.6 | 30.0 | 47.2 | 54.0 | -6.8 | Avg. | |
| 906.65 | 84.0 | 330 | 1.2 | H | 24.8 | 3.0 | 25.0 | 86.8 | 94.0 | -7.2 | Fund. | |
| 906.65 | 83.1 | 45 | 1.2 | V | 24.8 | 3.0 | 25.0 | 85.9 | 94.0 | -8.1 | Fund. | |
| 1813.30 | 47.2 | 180 | 1.5 | H | 25.3 | 2.6 | 30.0 | 45.1 | 54.0 | -8.9 | Avg. | |
| 935.30 | 32.7 | 0 | 1.5 | H | 24.6 | 3.7 | 25.0 | 36.0 | 46.0 | -10.0 | Un. | |
| 488.47 | 39.5 | 30 | 1.2 | H | 18.7 | 2.5 | 25.0 | 35.7 | 46.0 | -10.3 | Un. | |
| 488.47 | 39.0 | 45 | 1.0 | V | 18.7 | 2.5 | 25.0 | 35.2 | 46.0 | -10.8 | Un. | |
| 2719.95 | 38.5 | 120 | 1.5 | V | 29.0 | 3.7 | 30.0 | 41.2 | 54.0 | -12.8 | Avg. | |
| 2719.95 | 37.1 | 150 | 1.2 | H | 29.0 | 3.7 | 30.0 | 39.8 | 54.0 | -14.2 | Avg. | |

Fund. : Fundamental

Avg.: Average

Un.: Unintentional

Note: There was no apparent emission found after the third harmonics.

Terminal Unit, 30 MHz to 10GHz, 3 meters

| Frequency MHz | Indicated | | Table Height Meter | Antenna | | Correction Factor | | | FCC 15 Subpart C | | |
|------------------|-----------------------|---------------------|--------------------------|--------------|-------------------------|-------------------------------|------------|--------------------------------|-----------------------|--------------|-------|
| | Ampl. dB μ V/m | Direction Degree | | Polar H/V | Antenna dB μ V/m | Cable Loss dB μ V/m | Amp. dB | Corr. Ampl. dB μ V/m | Limit dB μ V/m | Margin dB | Mode |
| Low Channel | | | | | | | | | | | |
| 923.10 | 86.8 | 0 | 1.5 | V | 24.7 | 4.4 | 25.0 | 90.9 | 94.0 | -3.1 | Fund. |
| 894.45 | 39.2 | 0 | 1.2 | V | 24.8 | 2.7 | 25.0 | 41.7 | 46.0 | -4.3 | Un. |
| 923.10 | 83.9 | 30 | 1.2 | H | 24.7 | 4.4 | 25.0 | 88.0 | 94.0 | -6.0 | Fund. |
| 1846.20 | 48.6 | 180 | 1.2 | V | 25.3 | 2.6 | 30.0 | 46.5 | 54.0 | -7.5 | Avg. |
| 894.45 | 34.1 | 50 | 1.2 | H | 24.8 | 2.7 | 25.0 | 36.6 | 46.0 | -9.4 | Un. |
| 1846.20 | 43.5 | 160 | 1.0 | H | 25.3 | 2.6 | 30.0 | 41.4 | 54.0 | -12.6 | Avg. |
| 271.66 | 38.9 | 30 | 1.5 | H | 13.9 | 5.2 | 25.0 | 33.0 | 46 | -13.0 | Un. |
| 2769.30 | 37.1 | 230 | 1.2 | H | 29.0 | 3.7 | 30.0 | 39.8 | 54.0 | -14.2 | Avg. |
| 271.66 | 35.4 | 60 | 1.5 | V | 13.9 | 5.2 | 25.0 | 29.5 | 46.0 | -16.5 | Un. |
| 2769.30 | 34.5 | 210 | 1.0 | V | 29.0 | 3.7 | 30.0 | 37.2 | 54.0 | -16.8 | Avg. |
| Middle Channel | | | | | | | | | | | |
| 925.20 | 86.9 | 250 | 2.0 | V | 24.7 | 4.4 | 25.0 | 91.0 | 94.0 | -3.0 | Fund. |
| 891.75 | 39.3 | 0 | 1.0 | V | 24.8 | 2.7 | 25.0 | 41.8 | 46.0 | -4.2 | Un. |
| 1850.40 | 49.6 | 70 | 1.2 | V | 25.3 | 2.6 | 30.0 | 47.5 | 54.0 | -6.5 | Avg. |
| 925.20 | 82.4 | 270 | 1.5 | H | 24.7 | 4.4 | 25.0 | 86.5 | 94.0 | -7.5 | Fund. |
| 391.13 | 40.5 | 210 | 1.0 | H | 16.5 | 2.8 | 25.0 | 34.8 | 46.0 | -11.2 | Un. |
| 2775.60 | 38.7 | 110 | 1.5 | V | 29.0 | 3.7 | 30.0 | 41.4 | 54.0 | -12.6 | Avg. |
| 891.75 | 30.7 | 45 | 1.0 | H | 24.8 | 2.7 | 25.0 | 33.2 | 46.0 | -12.8 | Un. |
| 1850.40 | 41.5 | 90 | 1.2 | H | 25.3 | 2.6 | 30.0 | 39.4 | 54.0 | -14.6 | Avg. |
| 391.13 | 36.6 | 230 | 1.2 | V | 16.5 | 2.8 | 25.0 | 30.9 | 46.0 | -15.1 | Un. |
| 2775.60 | 35.4 | 130 | 1.2 | H | 29.0 | 3.7 | 30.0 | 38.1 | 54.0 | -15.9 | Avg. |
| High Channel | | | | | | | | | | | |
| 927.75 | 85.7 | 250 | 1.2 | V | 24.7 | 4.4 | 25.0 | 89.8 | 94.0 | -4.2 | Fund. |
| 894.30 | 38.6 | 270 | 1.2 | V | 24.8 | 2.7 | 25.0 | 41.1 | 46.0 | -4.9 | Un. |
| 927.75 | 84.3 | 210 | 1.5 | H | 24.7 | 4.4 | 25.0 | 88.4 | 94.0 | -5.6 | Fund. |
| 1855.50 | 48.5 | 0 | 1.2 | H | 25.3 | 2.6 | 30.0 | 46.4 | 54.0 | -7.6 | Avg. |
| 894.30 | 35.1 | 240 | 1.2 | H | 24.8 | 2.7 | 25.0 | 37.6 | 46.0 | -8.4 | Un. |
| 2783.25 | 39.9 | 110 | 1.5 | V | 29.0 | 3.7 | 30.0 | 42.6 | 54.0 | -11.4 | Avg. |
| 480.55 | 36.6 | 45 | 1.2 | H | 18.7 | 2.5 | 25.0 | 32.8 | 46.0 | -13.2 | Un. |
| 1855.50 | 42.4 | 30 | 1.2 | V | 25.3 | 2.6 | 30.0 | 40.3 | 54.0 | -13.7 | Avg. |
| 2783.25 | 36.8 | 140 | 1.5 | H | 29.0 | 3.7 | 30.0 | 39.5 | 54.0 | -14.5 | Avg. |
| 480.55 | 32.7 | 0 | 1.0 | V | 18.7 | 2.5 | 25.0 | 28.9 | 46.0 | -17.1 | Un. |

Fund. : Fundamental

Avg.: Average

Un.: Unintentional

Note: There was no apparent emission found after the third harmonics.

5 - BAND EDGES TESTING

Requirements: FCC 15.249 (c), the emission power at the START and STOP frequencies shall be at least 50 dB below the level of the fundamental or to the general radiated emission limits in FCC 15.209, whichever is the lesser attenuation.

5.1 Test Procedure

With the EUT's antenna attached, the EUT's radiated emission power was received by the test antenna which was connected to the spectrum analyzer with the START and STOP frequencies set to the EUT's operation band.

5.2 Test Equipment

HP 8566B Spectrum Analyzer
HP 7470A Plotter

5.3 Test Results

Refer to the attached plots.

Base - Low Frequency
Terminal - High Frequency

