# FCC PART 15 SUBPART C

# EMI MEASUREMENT AND TEST REPORT

For

## Shenzhen Baoan Hantong Electronics Factory

Block 11&12, Jinbi Industrial Area, Hwang Tian,
Baoan, Shenzhen, China

## FCC ID: OK839280HT02

July 31, 2002

| This Report Concerns: | Equipment Type: |
|---|---|
| ☒ Original Report | 900MHz Filtered Sound with 40 Channel Auto-scan Cordless Telephone |

| | |
|---|---|
| **Test Engineer:** | Benjamin Jing |
| **Report No.:** | S0207228 |
| **Test Date:** | February 22, 2002 |
| **Reviewed By:** | Jeff Lee |
| **Prepared By:** | Bay Area Compliance Laboratory Corporation<br>230 Commercial Street<br>Sunnyvale, CA 94085<br>Tel (408) 732-9162<br>Fax (408) 732-9164 |

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# 1 - GENERAL INFORMATION

## 1.1 Product Description for Equipment Under Test (EUT)

| | |
|---|---|
| Applicant: | Shenzhen Baoan Hantong Electronics Factory |
| Product: | 900MHz filtered sound with 40 channel auto-scan cordless telephone |
| Model: | 39280 |
| Dimension: | Base: 5.5”L x 3.1”W x 3.0”H |
| | Handset: 7.0” L x 2.0” W x 1.75”H |
| Power Supply: | Bell South AC/DC power adapter, M/N: 41120OO3CO, S/N: E82456 |

** 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 C63.4-2000.

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)

The device was originally granted on 03/04/02 on behalf of Lionda Technology Co., Ltd. Please refer to BACL report R0202611, FCC ID: O63MH9002LD02. The applicant was fully authorized by the Lionda Technology Co., Ltd. to use its desired FCC ID to sell the device on the market.

## 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 Data |
|---|---|---|---|---|
| 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.

## 1.7 Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number | FCC ID |
|---|---|---|---|---|
| TELTONE CORP. | Simulator | TLS-3B-01 | 80071 | DOC |
| PANASONIC | Telephone | KX-T3175 | 6IBTB142741 | ACJMLA-75986-MT-E |

## 1.8 External I/O Cabling List and Details

| Cable Description | Length (M) | Port/From | To |
|---|---|---|---|
| Unshielded RJ 11 telephone cable | 2.0 | Simulator RJ 11 Port | EUT |
| Unshielded RJ 11 telephone cable | 2.0 | Simulator RJ 11 Port | Telephone |

# 2 - SYSTEM TEST CONFIGURATION

## 2.1 Description of Test Configuration

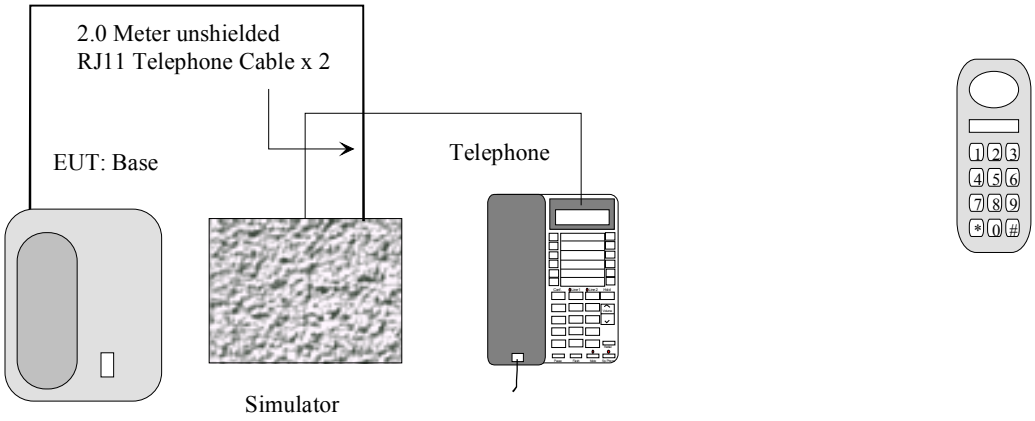
The EUT was configured for testing in a typical fashion (as normally used by a typical user).

Handset being tested: The Handset unit was placed on the wooden table and tested in three orthogonal axis. The handset was connected to the headset via its headset port. 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 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 2.3.

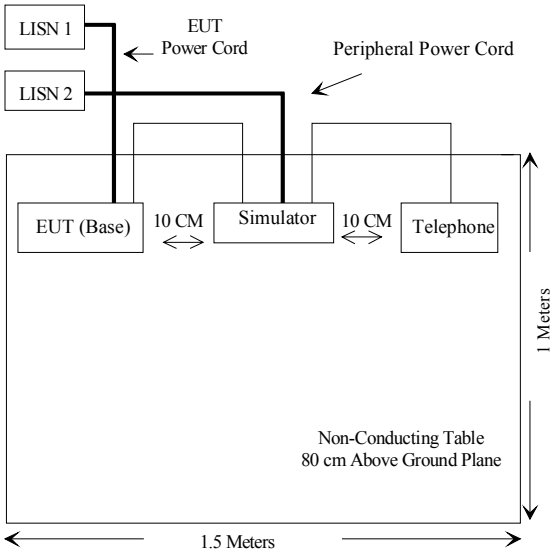
Base being tested: The Base unit was placed on the wooden table. The Low, middle, and high channels were tested. The base was connected to the line simulator and an AC adapter via its Tel Line and power ports, respectively. The base was transmitting and receiving from the Handset. The conducted as well 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 2.2.

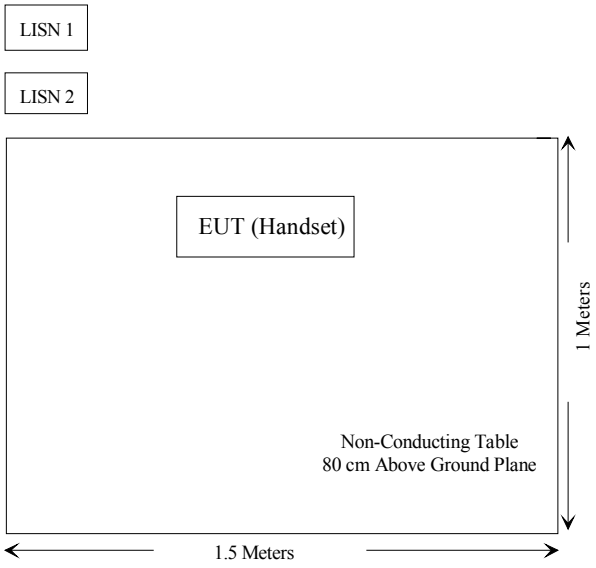
## 2.2 Configuration of Test System (Base)

Base Handset




## 2.3 Test Setup Block Diagram




## 2.4 Equipment Modifications

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

# 3 - CONDUCTED EMISSIONS

## 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 BACL is ±2.4 dB.

## 3.2 EUT Setup

The measurement was performed at the **O**pen **A**rea **T**est **S**ite, using the same setup per ANSI C63.4-2000 measurement procedure. Specification used was with the FCC Class B limits.

The Base unit of EUT was connected to a 120Vac/60Hz power source and it was placed center and the back edge of the test table. The simulator was placed on one side of the EUT base, and the telephone was placed on the other side the EUT base. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.

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.

## 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. 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 ICES-003 of the Canadian Interference-Causing Equipment Regulations, with the *worst* margin reading of:

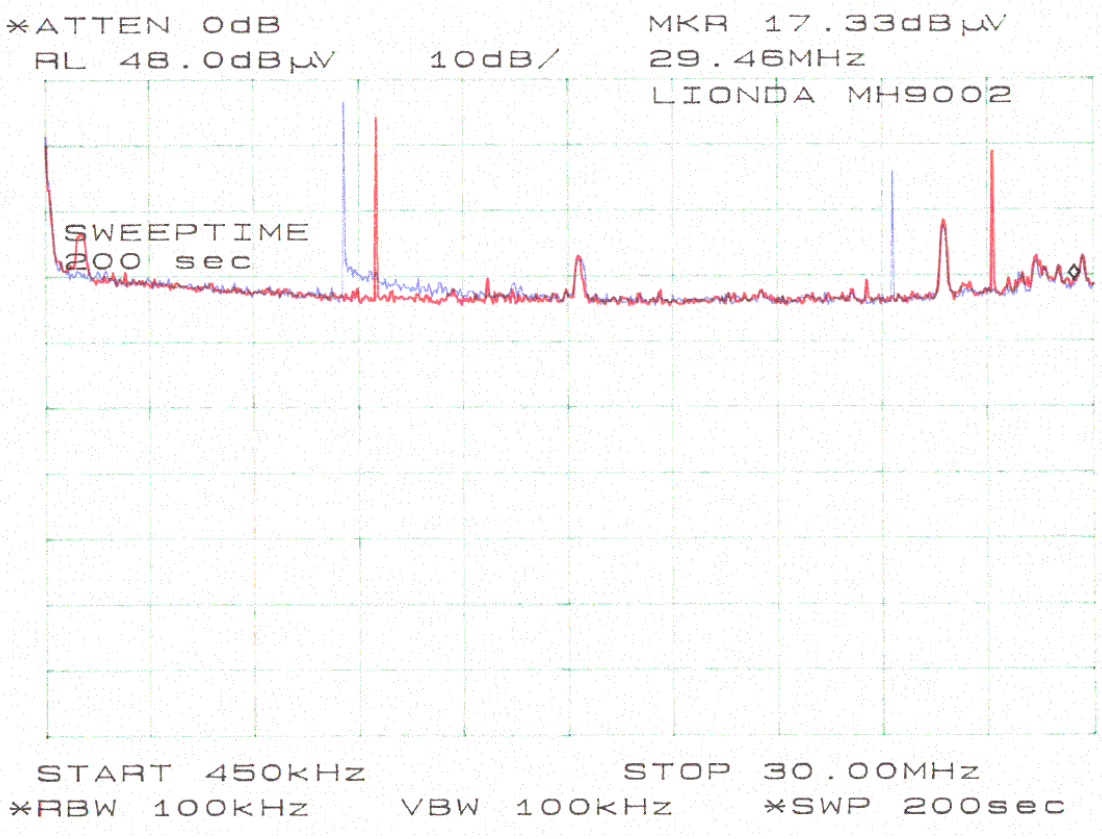
-4.4dBμV at 8.380MHz in the Line mode

## 3.6 Conducted Emissions Test Data

| LINE CONDUCTED EMISSIONS | | | | FCC CLASS B | |
|---|---|---|---|---|---|
| Frequency MHz | Amplitude dBμV | Detector Qp/Ave/Peak | Phase Line/Neutral | Limit dBμV | Margin dB |
| 8.380 | 43.6 | QP | Line | 48 | -4.4 |
| 10.150 | 42.5 | QP | Neutral | 48 | -5.5 |
| 24.390 | 39.2 | QP | Line | 48 | -8.8 |
| 27.390 | 36.8 | QP | Neutral | 48 | -11.2 |
| 25.860 | 28.2 | QP | Line | 48 | -19.8 |
| 15.570 | 19.2 | QP | Neutral | 48 | -28.8 |

## 3.7 Plot of Conducted Emissions Test Data

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



# 4 - RADIATED EMISSIONS

## 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 BACL is $\pm$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.

The Base of EUT was connected to a 120Vac/60Hz power source and it was placed center and the back edge of the test table. The simulator was placed on one side of the EUT base, and the telephone was placed on the other side the EUT base. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.

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:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

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

Margin = Corr. Ampl. – Class B 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 $10^{th}$ harmonics as required by FCC and had the worst margin of:

*Base, 30MHz to 10GHz, 3 meters*

-13.4 dBμV (Avg.) at 1804.46 MHz in the Vertical polarization at Low Frequency
-6.3 dBμV (Avg.) at 1805.38 MHz in the Vertical polarization at Middle Frequency
-7.0 dBμV (Avg.) at 1806.46 MHz in the Vertical polarization at High Frequency

*Handset, 30MHz to 10GHz, 3 meters*

-14.7 dBμV (Avg.) at 2706.36 MHz in the Horizontal polarization at Low Frequency
-6.8 dBμV (Avg.) at 2779.98 MHz in the Horizontal polarization at Middle Frequency
-7.8 dBμV (Avg.) at 2781.87 MHz in the Vertical polarization at High Frequency

## 4.7 Radiated Emissions Test Result Data

### Base, 30 MHz to 10 GHz, 3 meters

| INDICATED | | | TABLE | ANTENNA | | CORRECTION FACTOR | | | CORRECTED AMPLITUDE | FCC 15 Subpart C | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency MHz | Ampl. dBμV/m | Comments | Angle Degree | Height Meter | Polar H/ V | Antenna dBμV/m | Cable DB | Amp. dB | Corr. Ampl. dBμV/m | Limit dBμV/m | Margin dB |
| Low Channel | | | | | | | | | | | |
| 902.12 | 76.3 | Fund. | 180 | 1.0 | H | 24.8 | 3.0 | 30.0 | 74.1 | 94 | -19.1 |
| 902.12 | 74.9 | Fund. | 180 | 1.5 | V | 24.8 | 3.0 | 30.0 | 72.7 | 94 | -21.3 |
| 1804.24 | 42.7 | Avg. | 360 | 1.0 | V | 25.3 | 2.6 | 30.0 | 40.6 | 54 | -13.4 |
| 1804.24 | 41.5 | Avg. | 180 | 1.9 | H | 25.3 | 2.6 | 30.0 | 39.4 | 54 | -14.6 |
| 2706.36 | 33.2 | Avg. | 45 | 1.0 | V | 29.0 | 3.7 | 30.0 | 35.9 | 54 | -18.1 |
| 2706.36 | 30.3 | Avg. | 180 | 1.3 | H | 29.0 | 3.7 | 30.0 | 33.0 | 54 | -21.0 |
| Mid Channel | | | | | | | | | | | |
| 902.69 | 73.8 | Fund. | 90 | 1.0 | H | 24.8 | 3.0 | 30.0 | 71.6 | 94 | -22.4 |
| 902.69 | 71.9 | Fund. | 330 | 1.0 | V | 24.8 | 3.0 | 30.0 | 69.7 | 94 | 24.3 |
| 1805.38 | 49.8 | Avg. | 270 | 1.5 | V | 25.3 | 2.6 | 30.0 | 47.7 | 54 | -6.3 |
| 1805.38 | 48.3 | Avg. | 135 | 1.4 | H | 25.3 | 2.6 | 30.0 | 46.2 | 54 | -7.8 |
| 2708.07 | 36.4 | Avg. | 135 | 1.8 | H | 29.0 | 3.7 | 30.0 | 39.1 | 54 | -14.9 |
| 2708.07 | 32.2 | Avg. | 180 | 1.0 | V | 29.0 | 3.7 | 30.0 | 34.9 | 54 | -19.1 |
| High Channel | | | | | | | | | | | |
| 903.23 | 75.2 | Fund. | 360 | 1.5 | V | 24.8 | 3.0 | 30.0 | 73.0 | 94 | -21.0 |
| 903.23 | 73.40 | Fund. | 135 | 1.6 | H | 24.8 | 3.0 | 30.0 | 71.2 | 94 | -22.8 |
| 1806.46 | 49.10 | Avg. | 315 | 1.2 | V | 25.3 | 2.6 | 30.0 | 47.0 | 54 | -7.0 |
| 1806.46 | 42.7 | Avg. | 180 | 2.0 | H | 25.3 | 2.6 | 30.0 | 40.6 | 54 | -13.4 |
| 2709.69 | 37.3 | Avg. | 180 | 1.5 | V | 29.0 | 3.7 | 30.0 | 40.0 | 54 | -14.0 |
| 2709.69 | 35.9 | Avg. | 180 | 1.8 | H | 29.0 | 3.7 | 30.0 | 38.6 | 54 | -15.4 |
| Unintentional Emission | | | | | | | | | | | |
| 75.00 | 47.8 | / | 135 | 1.3 | V | 9.5 | 1.6 | 25.0 | 33.9 | 40 | -6.1 |
| 652.56 | 36.3 | / | 360 | 1.8 | H | 20.7 | 3.4 | 25.0 | 35.4 | 46 | -10.6 |
| 127.55 | 43.5 | / | 360 | 1.0 | V | 12.3 | 1.8 | 25.0 | 32.6 | 43.5 | -10.9 |
| 233.86 | 46.2 | / | 90 | 1.9 | H | 12.0 | 1.2 | 25.0 | 34.4 | 46 | -11.6 |
| 146.70 | 40.5 | / | 270 | 1.0 | V | 13.4 | 1.6 | 25.0 | 30.5 | 43.5 | -13.0 |
| 185.75 | 37.2 | / | 225 | 1.0 | V | 13.8 | 3.9 | 25.0 | 29.9 | 43.5 | -13.6 |
| 263.46 | 39.2 | / | 45 | 1.0 | H | 13.3 | 4.9 | 25.0 | 32.4 | 46 | -13.6 |
| 421.26 | 34.7 | / | 0 | 1.0 | H | 17.2 | 3.0 | 25.0 | 29.9 | 46 | -16.1 |
| 421.33 | 33.3 | / | 45 | 2.1 | H | 17.2 | 3.0 | 25.0 | 28.5 | 46 | -17.5 |
| 359.99 | 33.2 | / | 315 | 1.5 | H | 15.5 | 4.3 | 25.0 | 28.0 | 46 | -18.0 |
| 397.80 | 31.2 | / | 45 | 2.0 | H | 16.5 | 2.8 | 25.0 | 25.5 | 46 | -20.5 |

**Handset, 30 MHz to 10 GHz, 3 meters**

| INDICATED | | | TABLE | ANTENNA | | CORRECTION FACTOR | | | CORRECTED AMPLITUDE | FCC 15 SUBPART C | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency MHz | Ampl. dBμV/m | Comments | Angle Degree | Height Meter | Polar H/ V | Antenna dBμV/m | Cable dB | Amp. dB | Corr. Ampl. dBμV/m | Limit dBμV/m | Margin dB |
| Low Channel | | | | | | | | | | | |
| 926.12 | 75.7 | Fund. | 180 | 2.0 | H | 24.7 | 4.4 | 30.0 | 74.8 | 94 | -19.2 |
| 926.12 | 73.9 | Fund. | 270 | 1.5 | V | 24.7 | 4.4 | 30.0 | 73.0 | 94 | -21.0 |
| 2706.36 | 36.6 | Avg. | 90 | 1.0 | H | 29.0 | 3.7 | 30.0 | 39.3 | 54 | -14.7 |
| 1852.24 | 41.2 | Avg. | 330 | 2.5 | V | 25.3 | 2.6 | 30.0 | 39.1 | 54 | -14.9 |
| 1852.24 | 39.0 | Avg. | 330 | 1.0 | H | 25.3 | 2.6 | 30.0 | 36.9 | 54 | -17.1 |
| 2706.36 | 32.4 | Avg. | 180 | 1.5 | V | 29.0 | 3.7 | 30.0 | 35.1 | 54 | -18.9 |
| Mid Channel | | | | | | | | | | | |
| 926.66 | 77.2 | Fund. | 360 | 1.0 | V | 24.7 | 4.4 | 30.0 | 76.3 | 94 | -17.7 |
| 926.66 | 75.8 | Fund. | 180 | 1.0 | H | 24.7 | 4.4 | 30.0 | 74.9 | 94 | -19.1 |
| 2779.98 | 44.6 | Avg. | 135 | 1.8 | H | 29.0 | 3.7 | 30.0 | 47.2 | 54 | -6.8 |
| 2779.98 | 42.3 | Avg. | 180 | 1.0 | V | 29.0 | 3.7 | 30.0 | 45.0 | 54 | -9.0 |
| 1853.32 | 37.3 | Avg. | 270 | 1.5 | V | 25.3 | 2.6 | 30.0 | 35.2 | 54 | -18.8 |
| 1853.32 | 35.0 | Avg. | 135 | 1.4 | H | 25.3 | 2.6 | 30.0 | 32.9 | 54 | -21.1 |
| High Channel | | | | | | | | | | | |
| 927.29 | 78.30 | Fund. | 90 | 1.5 | H | 24.7 | 4.4 | 30.0 | 77.4 | 94 | -16.6 |
| 927.29 | 77.6 | Fund. | 360 | 1.5 | V | 24.7 | 4.4 | 30.0 | 76.7 | 94 | -17.3 |
| 2781.87 | 43.5 | Avg. | 0 | 2.5 | H | 29.0 | 3.7 | 30.0 | 46.2 | 54 | -7.8 |
| 2781.87 | 41.2 | Avg. | 270 | 1.5 | V | 29.0 | 3.7 | 30.0 | 43.9 | 54 | -10.1 |
| 1854.58 | 37.90 | Avg. | 180 | 2.0 | V | 25.3 | 2.6 | 30.0 | 35.8 | 54 | -18.2 |
| 1854.58 | 35.8 | Avg. | 90 | 1.0 | H | 25.3 | 2.6 | 30.0 | 33.7 | 54 | -20.3 |
| Unintentional Emission | | | | | | | | | | | |
| 58.56 | 49.8 | / | 180 | 1.0 | V | 10.0 | 0.6 | 25.0 | 35.4 | 40 | -4.6 |
| 733.83 | 35.7 | / | 330 | 1.5 | H | 22.5 | 3.4 | 25.0 | 36.6 | 46 | -9.4 |
| 356.47 | 40.8 | / | 45 | 1.0 | H | 15.5 | 4.3 | 25.0 | 35.6 | 46 | -10.4 |
| 92.17 | 46.2 | / | 360 | 2.0 | V | 10.0 | 1.2 | 25.0 | 32.4 | 43.5 | -11.1 |
| 450.24 | 37.9 | / | 90 | 2.5 | H | 17.8 | 3.2 | 25.0 | 33.9 | 46 | -12.1 |
| 149.52 | 41.1 | / | 270 | 2.0 | V | 13.4 | 1.6 | 25.0 | 31.1 | 43.5 | -12.4 |
| 276.62 | 38.9 | / | 225 | 1.5 | V | 13.9 | 5.2 | 25.0 | 33.0 | 46 | -13.0 |
| 567.73 | 30.2 | / | 360 | 1.0 | H | 19.6 | 3.5 | 25.0 | 28.3 | 46 | -17.7 |
| 235.26 | 36.3 | / | 45 | 2.0 | H | 12.0 | 1.2 | 25.0 | 24.5 | 46 | -21.5 |

*Note: No more apparent emission found after the third harmonics for base and handset unit.*

# 5 - BAND EDGES

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

The antenna was removed and a low loss RF cable was connected to the transmitter output. The other end of cable was connected to a spectrum analyzer with the START and STOP frequencies set to the operation band. Transmitter output was read off the spectrum analyzer in dBm. The power output at the transmitter was determined by adding the value of the attenuator to the spectrum analyzer reading.

The test was performed for handset and the base respectively.

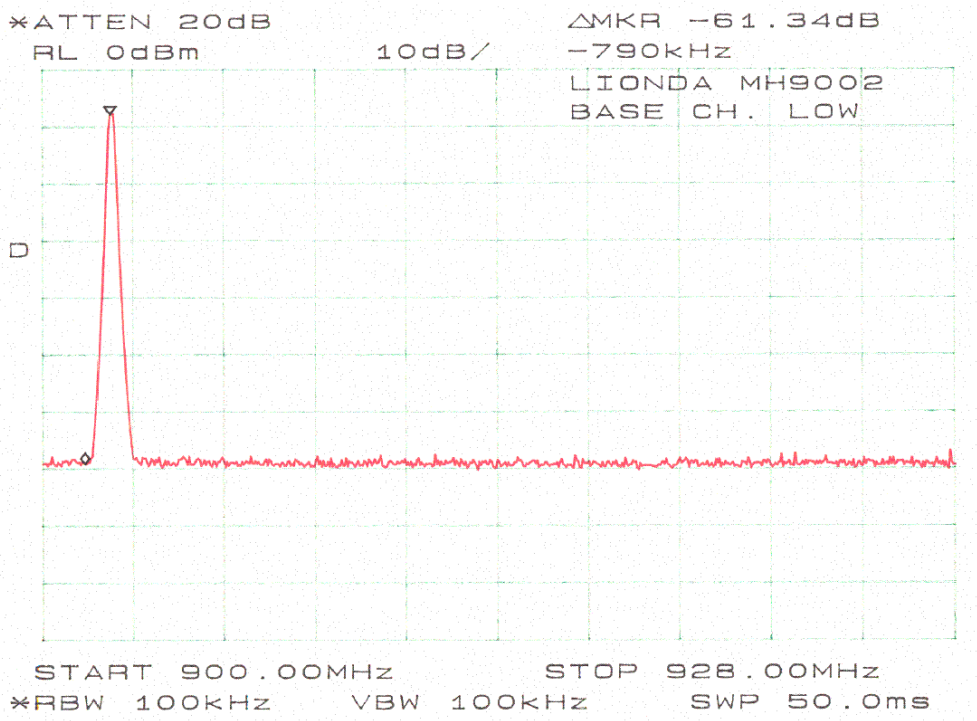
## 5.2 Test Equipment

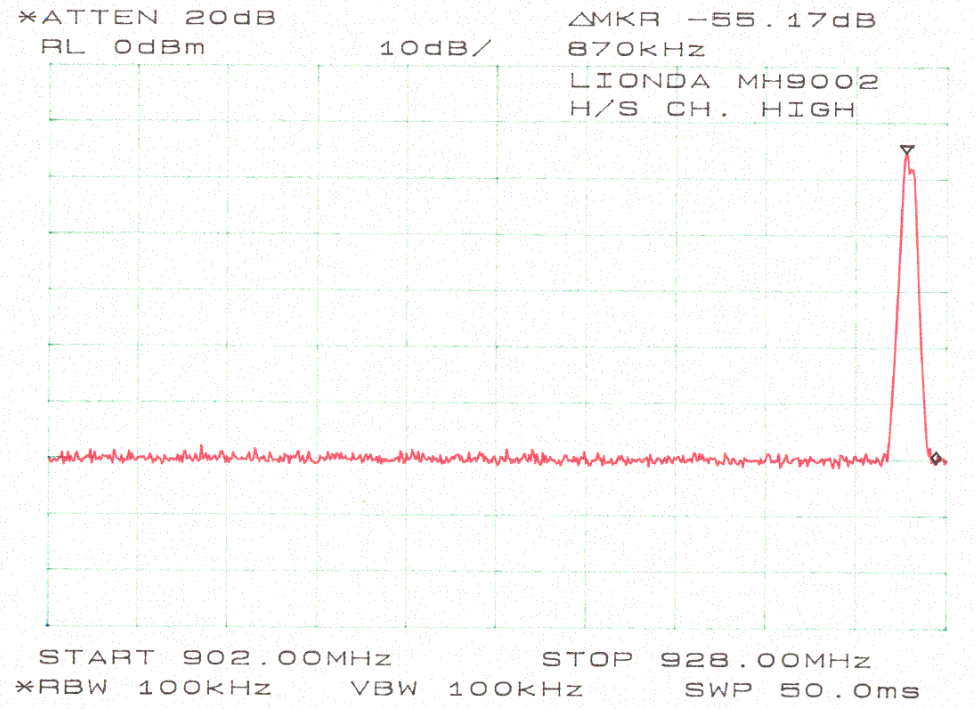
HP 8566B Spectrum Analyzer
HP 7470A Plotter

## 5.3 Test Results

Refer to the attached plots.

Base - Low Frequency
Handset - High Frequency


*ATTEN 20dB
RL 0dBm
10dB/
△MKR -61.34dB
-790kHz
LIONDA MH9002
BASE CH. LOW
D
START 900.00MHz
STOP 928.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms


*ATTEN 20dB
RL 0dBm
10dB/
△MKR -55.17dB
870kHz
LIONDA MH9002
H/S CH. HIGH
START 902.00MHz
STOP 928.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms