

# MPE Test Report

of

*Product Name*

**IP Phone 1140E**

*Model*

**NTYS05**

**(Brand:NORTEL)**

*Applied by:*

Wistron Corporation  
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*Test Performed by:*

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**Report Number: ISL-05LR023MPE**

**Issue Date:2005/10/12**

**HC LAB:**NVLAP:200234-0;VCCI: R-341,C-354;NEMKO:ELA 113a,113c;BSMI:SL2-IN-E-0037;SL2-R1-E-0037;CNLA:1178

**LT LAB:**NVLAP:200234-0;VCCI: R-1435,C-1440;NEMKO:ELA 113b,113d;BSMI:SL2-IN-E-0013;CNLA:0997

ISL-T10-R29-1

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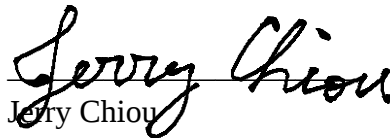
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## 1. General

### 1.1 Certification of Accuracy of Test Data

|                              |                                                                               |
|------------------------------|-------------------------------------------------------------------------------|
| <b>Standards:</b>            | CFR 47 Part 15 Subpart B Class B<br>CFR 47 Part 15 Subpart C (Section 15.247) |
| <b>Test Procedure:</b>       | ANSI C63.4:2003                                                               |
| <b>Equipment Tested:</b>     | IP Phone 1140E                                                                |
| <b>Model:</b>                | NTYS05                                                                        |
| <b>Applied by:</b>           | Wistron Corporation                                                           |
| <b>Sample received Date:</b> | 2005/09/09                                                                    |
| <b>Final test Date :</b>     | 2005/10/05                                                                    |
| <b>Test Result</b>           | PASS                                                                          |
| <b>Test Site:</b>            | Chamber 02, Conduction 02                                                     |
| <b>Temperature</b>           | Refer to each site test data                                                  |
| <b>Humidity:</b>             | Refer to each site test data                                                  |

**Test Engineer:**

  
Jerry Chiou

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Approve & Signature

  
Eddy Hsiung/Director

Test results given in this report apply only to the specific sample(s) tested under stated test conditions. This report shall not be reproduced other than in full without the explicit written consent of ISL. This report totally contains 8 pages, including 1 cover page, 1 contents page, and 6 pages for the test description. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

This test data shown below is traceable to NIST or national or international standard. International Standards Laboratory certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

## 2. Description of Equipment Under Test (EUT)

Description: IP Phone 1140E  
Condition: Pre-Production  
Model: NTYS05  
FCC ID: PU5IPNTYS05  
Brand Name: NORTEL  
Serial Number: N/A  
Frequency Range: 2402 ~ 2480 MHz  
Support channel: 79 Channels  
Modulation Skill: GFSK (1Mbps)  
Antennas Type: MULTILAYER CERAMIC Antenna ,  
made by Walsin Technology Corporation,  
Part No.: RFANT5220110A0T  
Antenna Connected: The antenna is mounted to the PCB of the  
main board. The user is not possible to  
change the antenna .  
Antenna peak Gain: 2.0 dBi  
Power Type of Bluetooth module: 3.3V DC from Notebook PC

The channels and the operation frequency have listed below:

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 00      | 2402           | 01      | 2403           |
| 02      | 2404           | 03      | 2405           |
| 04      | 2406           | 05      | 2407           |
| .....   |                |         |                |
| 75      | 2477           | 76      | 2478           |
| 77      | 2479           | 78      | 2480           |

AC-DC Adaptor: Model: FSP025-1AD207A  
RJ11 Port: two 4-pin  
RJ45 Port: two 8-pin  
Telephone transmitter: one  
Power Jack: one

EMI Noise Source:  
Crystal: 25MHz(X1), 25MHz(X2), 25MHz(X3).32.768 KHz(U14)

EMI Solution: N/A

## 2.1 General Test Conditions

1. During the test, the EUT was set in continuously transmitting mode with a duty cycle of 94% for bluetooth.

### 3. RF Exposure Measurement [Section 15.247(b)(4) & 1.1307(b)]

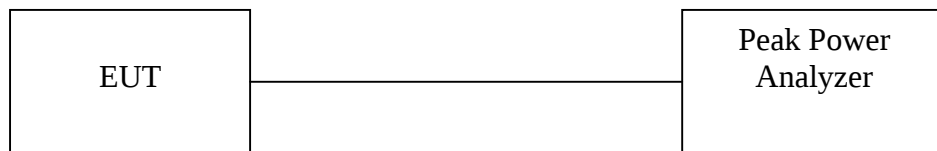
#### 3.1 Applied Standards

FCC PART 1.1307, 1.1310, 2.1091, 2.1093 RF EXPOSURE

#### 3.2 Test Procedure

The Transmitter output of EUT was connected to the Peak Power Analyzer

#### 3.3 Test Setup



#### 3.4 Calculation for Maximum Permissible Exposure (MPE)

From FCC 1.1310 Table 1B, the maximum permissible RF exposure for an uncontrolled environment is 1 mW/cm<sup>2</sup>. The actual power density for the EUT with the antenna is calculated as shown below.

$$S = (P \times G) / (4 \times \pi \times d^2)$$

where:

S = power density

P = transmitter conducted power in (W)

G = antenna numeric gain

d = distance to radiation center (m)

## Bluetooth

| Antenna                             | Antenna                          | Gain  | Numeric | Frequency | Power | Power  | Separation | Power   | Power    |
|-------------------------------------|----------------------------------|-------|---------|-----------|-------|--------|------------|---------|----------|
| Manufacturer                        | Type                             | (dBi) | Gain    | (MHz)     | (dBm) | (mW)   | Distance   | Density | Density  |
|                                     |                                  |       |         |           |       |        | ( cm)      | (W/m2)  | (mW/cm2) |
| Walsin Part No.:<br>RFANT5220110A0T | MULTILAYER<br>CERAMIC<br>Antenna | 2     | 1.5849  | 2402      | 0.34  | 1.0814 | 20         | 0.0034  | 0.00034  |
|                                     |                                  |       |         | 2441      | 1.51  | 1.4158 | 20         | 0.0045  | 0.00045  |
|                                     |                                  |       |         | 2480      | 1.96  | 1.5704 | 20         | 0.005   | 0.0005   |

## WARNING:

It is the responsibility of the installer to ensure that the EUT is a WLAN module and a specified antenna inside. Only the specified antennas listed above may be used. The use of any other antenna is expressly forbidden in accordance with FCC rules CFR 47 part 15.204.

## NOTICE:

### FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits for an uncontrolled environment when installed as directed. This equipment should be installed and operated with the specified antenna listed in this report.

## 4. Appendix: Test Equipment

### 4.1 Test Equipment List

| Location           | Equipment Name      | Brand | Model | S/N        | Last Cal.<br>Date | Next Cal.<br>Date |
|--------------------|---------------------|-------|-------|------------|-------------------|-------------------|
| Rad. Above<br>1Ghz | Peak Power Analyzer | HP    | 8990A | 3621A01269 | 01/02/2005        | 01/02/2006        |

Note: Calibration traceable to NIST or national or international standards.