# FCC TEST REPORT

# (PART 24)

| | |
|---|---|
| **REPORT NO.:** | RF130814C33B-1 |
| **MODEL NO.:** | NeverLost® 6 Tablet |
| **FCC ID:** | 2AA4L-HTZNLTABLET |
| **RECEIVED:** | Jun. 09, 2014 |
| **TESTED:** | Jun. 22, 2014 |
| **ISSUED:** | Jul. 01, 2014 |

| | |
|---|---|
| **APPLICANT:** | MiTAC International Corp. |
| **ADDRESS:** | Building B, No. 209, Sec. 1, Nan Gang Rd., Nan Gang Dist., Taipei 11568, Taiwan, R.O.C. |

| | |
|---|---|
| **ISSUED BY:** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch |
| **LAB ADDRESS:** | No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan ( R.O.C. ) |
| **TEST LOCATION:** | No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C. |

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Testing Laboratory 2021

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# RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|---|---|---|
| RF130814C33B-1 | Original release | Jul. 01, 2014 |

# 1 CERTIFICATION

| | |
|---|---|
| **PRODUCT:** | Automotive Navigation Device |
| **MODEL:** | NeverLost® 6 Tablet |
| **BRAND:** | Hertz |
| **APPLICANT:** | MiTAC International Corp. |
| **TESTED:** | Jun. 22, 2014 |
| **TEST SAMPLE:** | Production Unit |
| **STANDARDS:** | **FCC Part 24, Subpart E** |

This report is issued as a supplementary report to BV ADT report no.: RF130814C33-1.

This report shall be used by combining with its original report.

**PREPARED BY** : Gina Liu , **DATE :** Jul. 01, 2014

Gina Liu / Specialist

**APPROVED BY** : Sam chen , **DATE :** Jul. 01, 2014

Sam Chen / Senior Project Engineer

# 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 24 & Part 2 | | | |
|---|---|---|---|
| **STANDARD SECTION** | **TEST TYPE** | **RESULT** | **REMARK** |
| 2.1046<br>24.232 | Equivalent isotropically radiated power | NA | Refer to Note |
| 2.1055<br>24.235 | Frequency Stability | NA | Refer to Note |
| 2.1049<br>24.238(b) | Occupied Bandwidth | NA | Refer to Note |
| 24.232(d) | Peak to average ratio | NA | Refer to Note |
| 24.238(b) | Band Edge Measurements | NA | Refer to Note |
| 2.1051<br>24.238 | Conducted Spurious Emissions | NA | Refer to Note |
| 2.1053<br>24.238 | Radiated Spurious Emissions | PASS | Meet the requirement of limit. Minimum passing margin is -20.61dB at 9400MHz. |

**Note:** Only RSE test were performed for this addendum. Refer to original report for other test data.

## 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT | FREQUENCY | UNCERTAINTY |
|---|---|---|
| Conducted emissions | 150kHz~30MHz | 2.44 dB |
| Radiated emissions | 30MHz ~ 200MHz | 2.93 dB |
| | 200MHz ~1000MHz | 2.95 dB |
| | 1GHz ~ 18GHz | 2.26 dB |
| | 18GHz ~ 40GHz | 1.94 dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 2.2 TEST SITE AND INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| Test Receiver<br>ROHDE & SCHWARZ | ESCI | 100424 | Sep. 09, 2013 | Sep. 08, 2014 |
| Spectrum Analyzer<br>ROHDE & SCHWARZ | FSU 43 | 100115 | Dec. 18, 2013 | Dec. 17, 2014 |
| BILOG Antenna<br>SCHWARZBECK | VULB9168 | 9168-155 | Feb. 26, 2014 | Feb. 25, 2015 |
| HORN Antenna<br>SCHWARZBECK | BBHA 9120D | 9120D-404 | Jan. 05, 2014 | Jan. 04, 2015 |
| HORN Antenna<br>SCHWARZBECK | BBHA 9170 | 148 | Jul. 15, 2013 | Jul. 14, 2014 |
| Loop Antenna | HFH2-Z2 | 100070 | Mar. 06, 2014 | Mar. 05, 2016 |
| Preamplifier<br>EMCI | EMC 012645 | 980115 | Dec. 26, 2013 | Dec. 25, 2014 |
| Preamplifier<br>EMCI | EMC 184045 | 980116 | Jan. 13, 2014 | Jan. 12, 2015 |
| Preamplifier<br>EMCI | EMC 330H | 980112 | Dec. 27, 2013 | Dec. 26, 2014 |
| RF signal cable<br>HUBER+SUHNNER | SUCOFLEX 104 | 309219/4<br>2950114 | Oct. 18, 2013 | Oct. 17, 2014 |
| RF signal cable<br>HUBER+SUHNNER | SUCOFLEX 104 | 250130/4 | Oct. 18, 2013 | Oct. 17, 2014 |
| RF signal cable<br>Worken | RG-213 | NA | Nov. 07, 2013 | Nov. 06, 2014 |
| Software<br>BV ADT | E3<br>6.120103 | NA | NA | NA |
| Antenna Tower<br>MF | MFA-440H | NA | NA | NA |
| Turn Table<br>MF | MFT-201SS | NA | NA | NA |
| Antenna Tower &Turn Table Controller<br>MF | MF-7802 | NA | NA | NA |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 10.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 690701.

5. The IC Site Registration No. is IC 7450F-10.

# 3 GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

| | | |
|---|---|---|
| **EUT** | Automotive Navigation Device | |
| **MODEL NO.** | NeverLost® 6 Tablet | |
| **POWER SUPPLY** | 3.7Vdc (battery) | |
| **MODULATION TYPE** | **GSM/GPRS** | GMSK |
| | **EDGE** | 8PSK |
| | **WCDMA** | BPSK |
| **FREQUENCY RANGE** | **GSM/GPRS/EDGE** | 1850.2MHz ~ 1909.8MHz |
| | **WCDMA** | 1852.4MHz ~ 1907.6MHz |
| **MULTI-SLOTS CLASS** | 12 | |
| **WCDMA RELEASE VERSION** | 6 | |
| **ANTENNA TYPE** | Fixed Internal Antenna with 2.5dBi gain | |
| **I/O PORTS** | Refer to users' manual | |
| **DATA CABLE** | Refer to NOTE as below | |
| **ACCESSORY DEVICES** | Refer to NOTE as below | |

**NOTE:**

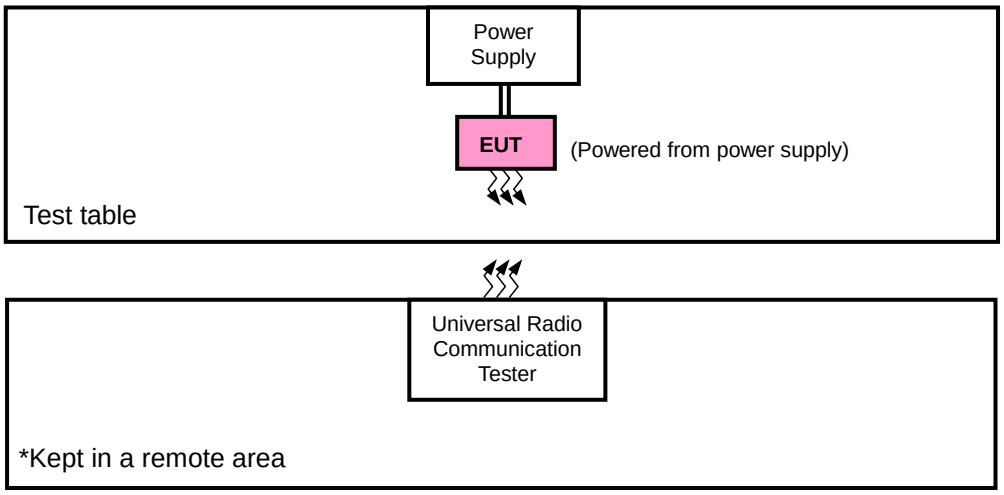
1. This report is issued as a supplementary report to BV ADT report no.:RF130814C33-1. The difference compared with original report is update Main board.
2. The EUT contains following accessory devices.

| ITEM | BRAND | MODEL | DESCRIPTION |
|---|---|---|---|
| Battery | Tian Yu | N425 | Rating: 3.7Vdc, 920mAh |
| WWAN Module | CINTERION | PHS8-P | -- |
| WLAN Module | nFore | NF3301 | -- |
| NFC Module | Jogtek | TM-007A | -- |
| BT Module | nFore | NF3301 | -- |

3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

## 3.2 CONFIGURATION OF SYSTEM UNDER TEST

**FOR RADIATION EMISSION TEST**




## 3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

## 3.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports The worst case was found when positioned on Z-plane for ERP and radiated emission. Following channel(s) was (were) selected for the final test as listed below:

**GSM MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | MODE |
|---|---|---|---|---|
| - | RADIATED EMISSION | 512 to 810 | 661 | GSM |

**TEST CONDITION:**

| TEST ITEM | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|---|---|---|---|
| RADIATED EMISSION | 25deg. C, 65%RH | 120Vac, 60Hz | Anson Lin |

## 3.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

## 3.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 24**

**ANSI/TIA/EIA-603-C 2004**

**NOTE:** All test items have been performed and recorded as per the above standards.

# 4 TEST TYPES AND RESULTS

## 4.1 RADIATED EMISSION MEASUREMENT

### 4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

### 4.1.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G

c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

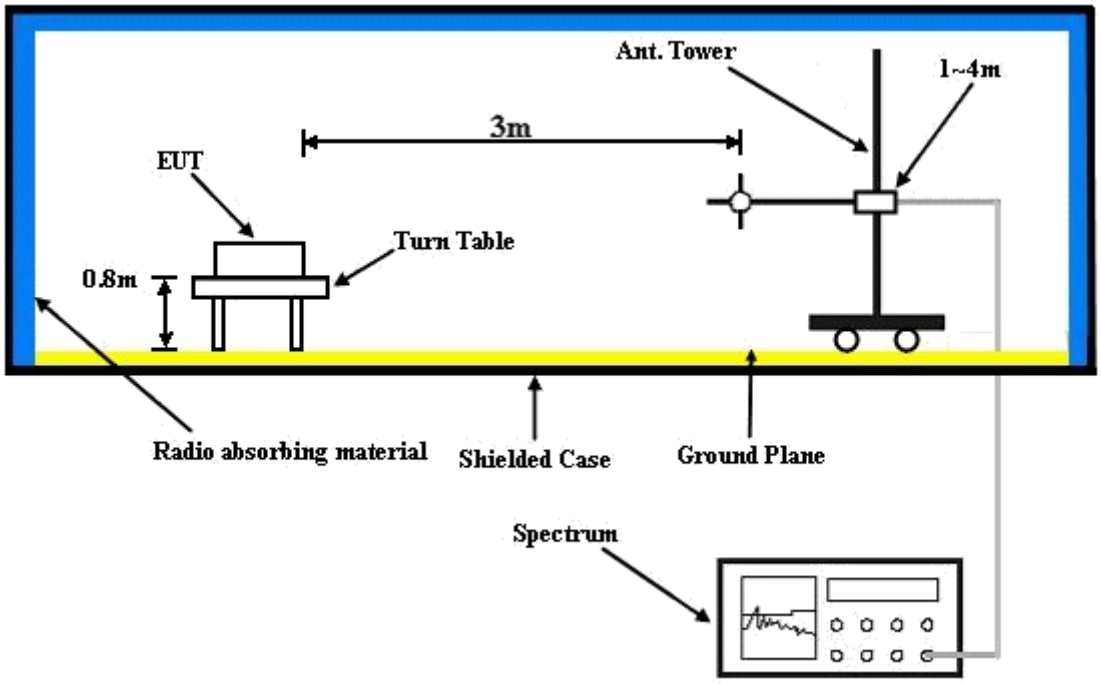
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation

### 4.1.4 TEST SETUP

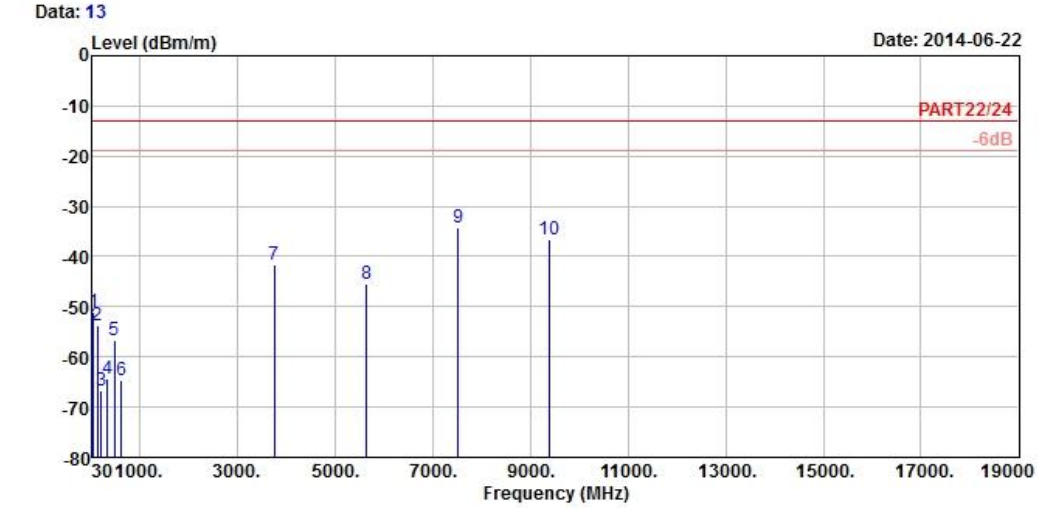



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 4.1.5 TEST RESULTS

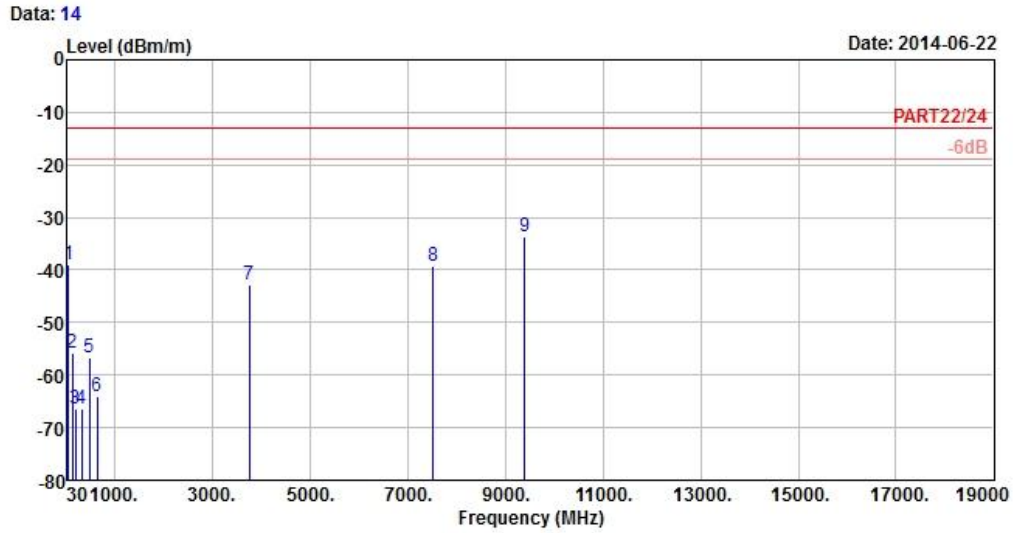
**GSM:**

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch




Site : 966 Chamber 5
Condition: PART22/24 3m HORIZONTAL
Remark : GPRS1900 Link
Tested by: Anson Lin
Plane : Z

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | |
| 1 | 43.50 | -51.15 | -49.89 | -13.00 | -38.15 | -1.26 | Peak |
| 2 | 133.14 | -53.60 | -46.12 | -13.00 | -40.60 | -7.48 | Peak |
| 3 | 214.68 | -66.65 | -59.35 | -13.00 | -53.65 | -7.30 | Peak |
| 4 | 330.10 | -64.43 | -58.27 | -13.00 | -51.43 | -6.16 | Peak |
| 5 | 486.90 | -56.80 | -53.37 | -13.00 | -43.80 | -3.43 | Peak |
| 6 | 630.40 | -64.64 | -64.83 | -13.00 | -51.64 | 0.19 | Peak |
| 7 | 3760.00 | -41.66 | -33.36 | -13.00 | -28.66 | -8.30 | Peak |
| 8 | 5640.00 | -45.40 | -43.50 | -13.00 | -32.40 | -1.90 | Peak |
| 9 pp | 7520.00 | -34.25 | -38.20 | -13.00 | -21.25 | 3.95 | Peak |
| 10 | 9400.00 | -36.73 | -43.16 | -13.00 | -23.73 | 6.43 | Peak |




Site : 966 Chamber 5
Condition: PART22/24 3m VERTICAL
Remark : GPRS1900 Link
Tested by: Anson Lin
Plane : Z

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | |
| 1 | 44.04 | -39.00 | -37.74 | -13.00 | -26.00 | -1.26 | Peak |
| 2 | 132.60 | -55.88 | -48.40 | -13.00 | -42.88 | -7.48 | Peak |
| 3 | 196.05 | -66.31 | -58.82 | -13.00 | -53.31 | -7.49 | Peak |
| 4 | 316.10 | -66.49 | -60.23 | -13.00 | -53.49 | -6.26 | Peak |
| 5 | 487.60 | -56.65 | -53.24 | -13.00 | -43.65 | -3.41 | Peak |
| 6 | 642.30 | -64.02 | -64.42 | -13.00 | -51.02 | 0.40 | Peak |
| 7 | 3760.00 | -42.93 | -34.63 | -13.00 | -29.93 | -8.30 | Peak |
| 8 | 7520.00 | -39.25 | -43.20 | -13.00 | -26.25 | 3.95 | Peak |
| 9 pp | 9400.00 | -33.61 | -40.04 | -13.00 | -20.61 | 6.43 | Peak |

# 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

# 6 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:


**Linko EMC/RF Lab**:
Tel: 886-2-26052180
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**Web Site**: www.bureauveritas-adt.com


The address and road map of all our labs can be found in our web site also.

# 7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications were made to the EUT by the lab during the test.

**---END---**