

VARIANT FCC TEST REPORT

(PART 22)

REPORT NO.: RF130814C33B
MODEL NO.: NeverLost® 6 Tablet
FCC ID: 2AA4L-HTZNLTABLET
RECEIVED: Jun. 09, 2014
TESTED: Jun. 20, 2014
ISSUED: Jul. 01, 2014

APPLICANT: MiTAC International Corp.

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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.

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RELEASE CONTROL RECORD

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

1 CERTIFICATION

PRODUCT: Automotive Navigation Device

MODEL: NeverLost® 6 Tablet

BRAND: Hertz

APPLICANT: MiTAC International Corp.

TESTED: Jun. 20, 2014

TEST SAMPLE: Production Unit

STANDARDS: FCC PART 22, Subpart H

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

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 22 & Part 2			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
2.1046 22.913 (a)	Effective radiated power	NA	Refer to Note
2.1055 22.355	Frequency Stability	NA	Refer to Note
2.1049	Occupied Bandwidth	NA	Refer to Note
22.917	Band Edge Measurements	NA	Refer to Note
2.1051 22.917	Conducted Spurious Emissions	NA	Refer to Note
2.1053 22.917	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -27.23dB at 44.04MHz.

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 ROHDE & SCHWARZ	ESCI	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Dec. 18, 2013	Dec. 17, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 26, 2014	Feb. 25, 2015
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Jan. 05, 2014	Jan. 04, 2015
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 26, 2013	Dec. 25, 2014
Preamplifier EMCI	EMC 184045	980116	Jan. 13, 2014	Jan. 12, 2015
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2013	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller 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	824.2MHz ~ 848.8MHz
	WCDMA	826.4MHz ~ 846.6MHz
MULTI-SLOTS CLASS	12	
WCDMA RELEASE VERSION	6	
ANTENNA TYPE	Fixed Internal Antenna with 1dBi gain	
I/O PORTS	Refer to users' manual	
DATA CABLE	Refer to NOTE as below	
ACCESSORY DEVICES	Refer to NOTE as below	

NOTE:

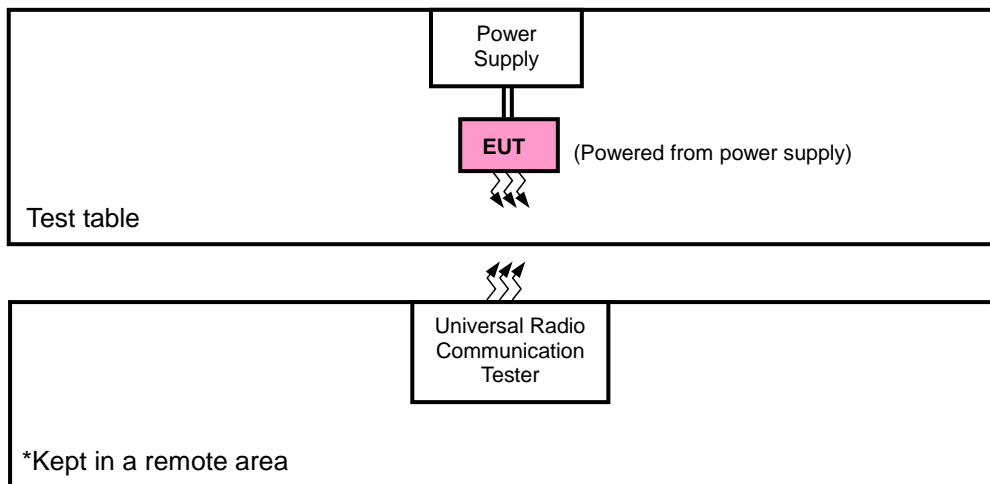
1. This report is issued as a supplementary report to BV ADT report no.:RF130814C33. The difference compared with original report is update Main board.
2. The EUT contains following accessory devices.

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 X-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	128 to 251	189	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 22

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

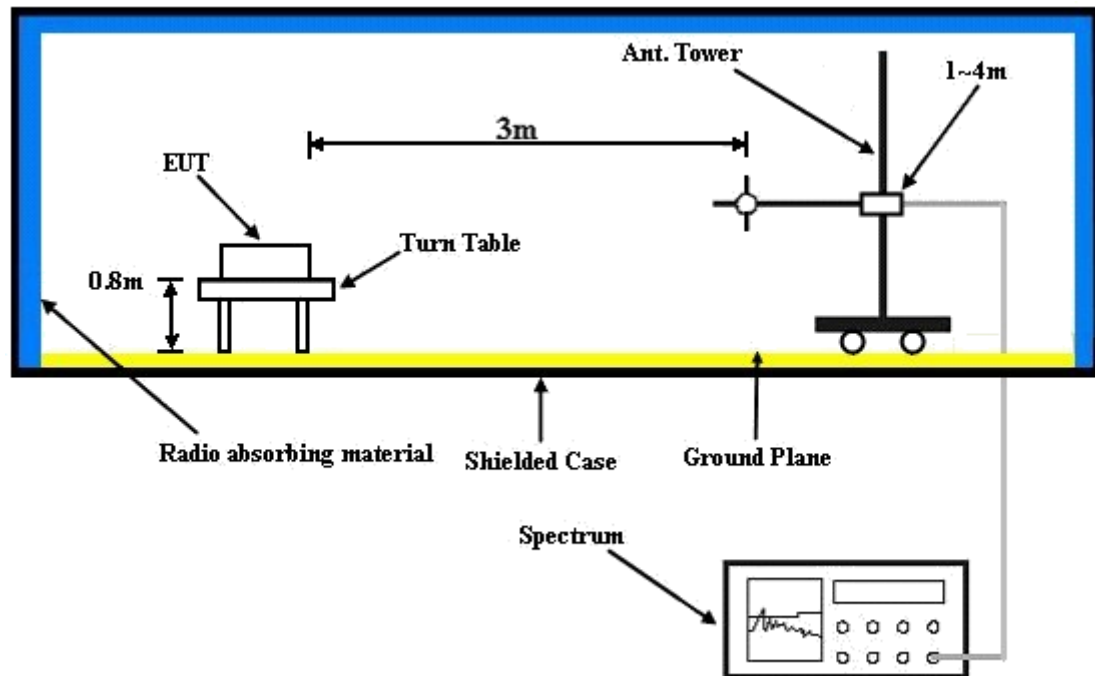
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}.$

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:

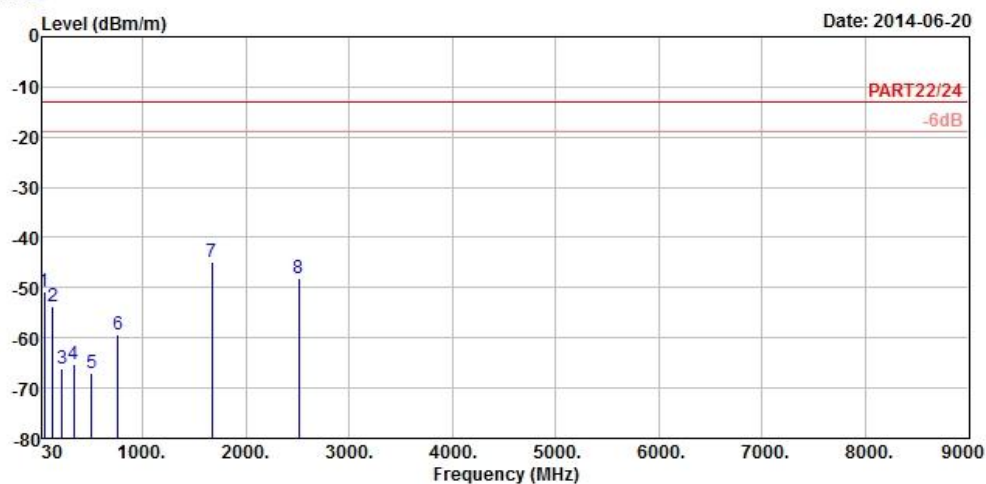


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Data: 9

Date: 2014-06-20



Site : 966 Chamber 5
Condition: PART22/24 3m HORIZONTAL
Remark : GPRS850 Link
Tested by: Anson Lin
Plane : X

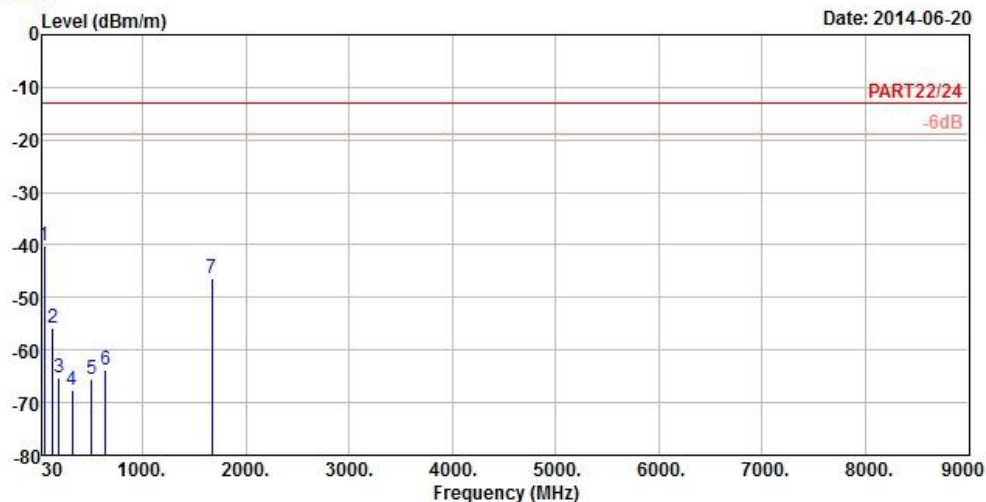
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	43.77	-50.90	-49.64	-13.00	-37.90	-1.26	Peak
2	133.41	-53.82	-46.60	-13.00	-40.82	-7.22	Peak
3	220.08	-66.19	-59.16	-13.00	-53.19	-7.03	Peak
4	330.10	-65.26	-59.10	-13.00	-52.26	-6.16	Peak
5	505.80	-67.04	-64.11	-13.00	-54.04	-2.93	Peak
6	757.80	-59.21	-61.05	-13.00	-46.21	1.84	Peak
7 pp	1672.80	-44.94	-31.10	-13.00	-31.94	-13.84	Peak
8	2509.20	-48.09	-38.10	-13.00	-35.09	-9.99	Peak



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Data: 10

Date: 2014-06-20



Site : 966 Chamber 5
Condition: PART22/24 3m VERTICAL
Remark : GPRS850 Link
Tested by: Anson Lin
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	44.04	-40.23	-38.97	-13.00	-27.23	-1.26	Peak
2	133.68	-55.82	-48.60	-13.00	-42.82	-7.22	Peak
3	189.03	-65.23	-58.53	-13.00	-52.23	-6.70	Peak
4	316.10	-67.46	-61.20	-13.00	-54.46	-6.26	Peak
5	506.50	-65.46	-62.53	-13.00	-52.46	-2.93	Peak
6	640.20	-63.62	-63.99	-13.00	-50.62	0.37	Peak
7	1672.80	-46.24	-32.40	-13.00	-33.24	-13.84	Peak



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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:

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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.



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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---