

# FCC RF Test Report

APPLICANT : NetComm Wireless Limited  
EQUIPMENT : AirCard Hub  
BRAND NAME : NetComm  
MODEL NAME / : NHD1W  
MARKETING NAME :  
FCC ID : XIA-NHD1W  
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E), 27  
CLASSIFICATION : PCS Licensed Transmitter (PCB)  
Tx/Rx FREQUENCY RANGE : GSM850 : 824.2 ~ 848.8 MHz /  
869.2 ~ 893.8 MHz  
GSM1900 : 1850.2 ~ 1909.8 MHz /  
1930.2 ~ 1989.8 MHz  
WCDMA Band V : 826.4 ~ 846.6 MHz /  
871.4 ~ 891.6 MHz  
WCDMA Band II : 1852.4 ~ 1907.6 MHz /  
1932.4 ~ 1987.6 MHz  
LTE Band 4 : 1710 MHz ~ 1755 MHz  
2110 MHz ~ 2155 MHz  
LTE Band 7 : 2500 MHz ~ 2570 MHz  
2620 MHz ~ 2690 MHz  
MAX. ERP/EIRP POWER : GSM850 GPRS 8 : 1.3335 W  
GSM850 GPRS 10 : 0.7499 W  
GSM1900 GPRS 8 : 1.3032 W  
GSM1900 GPRS 10 : 1.2445 W  
WCDMA Band V : 0.1754 W  
WCDMA Band II : 0.3162 W  
LTE Band 4 : 0.2489 W  
LTE Band 7 : 0.3963 W

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



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FCC ID : XIA-NHD1W

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Report Issued Date : Apr. 19, 2012

Report Version : Rev. 01



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### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG213125	Rev. 01	Initial issue of report	Apr. 19, 2012



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
2.1	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
2.1	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
錯誤! 找不到參照來源。	§27.50(c)(10) §27.50(d)(4)	RSS-139 (6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power	< 1 Watt	PASS	-



# **1 General Description**

## **1.1 Applicant**

**NetComm Wireless Limited**

Level 2, 18-20 Orion Road Lane Cove, NSW Australia

## **1.2 Manufacturer**

**NetComm Wireless Limited**

Level 2, 18-20 Orion Road Lane Cove, NSW Australia

### 1.3 Feature of Equipment Under Test

Product Feature & Specification	
DUT Type	AirCard Hub
Brand Name	NetComm
Model Name / Marketing Name	NHD1W
FCC ID	XIA-NHD1W
Integrated Module	Brand Name : Ralink Model Name : RT3352F
Tx Frequency	2412 MHz ~ 2462 MHz <supported plugged-in WWAN router> GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 4: 1710MHz ~ 1755 MHz LTE Band 7: 2500 MHz ~ 2570 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz
Rx Frequency	2412 MHz ~ 2462 MHz <supported plugged-in WWAN router> GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 4: 2110 MHz ~ 2155 MHz LTE Band 7: 2620 MHz ~ 2690 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz
Antenna Type	WWAN : External Antenna WLAN : PCB Antenna
Antenna Gain	WWAN: 850 Band: 1.00 dBi 1900 Band: 1.75 dBi LTE Band 4: 1.75 dBi LTE Band 7: 3.50 dBi 802.11b/g/n: 4.35 dBi
HW Version	V1.3
SW Version	V1.0.95.0
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM <supported plugged-in WWAN router> GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) LTE: QPSK / 16QAM (Uplink)
DUT Stage	Identical Prototype

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Emission Designator and Maximum ERP/EIRP Power

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP
Part 22	GSM850 GPRS 8	GMSK	1.3335 W
Part 22	GSM850 GPRS 10	GMSK	0.7499 W
Part 22	WCDMA Band V	QPSK	0.1754 W
Part 24	GSM1900 GPRS 8	GMSK	1.3032 W
Part 24	GSM1900 GPRS 10	GMSK	1.2445 W
Part 24	WCDMA Band II	QPSK	0.3162 W
Part 27	LTE Band 4	QPSK	0.2489 W
Part 27	LTE Band 7	QPSK	0.3963 W

## 1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ IC RSS-132 Issue 2
- ♦ IC RSS-133 Issue 5
- ♦ IC RSS-139 Issue 2

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Result

### 2.1 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

#### 2.1.1 Description of the ERP/EIRP Measurement

ERP/EIRP is measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts for GSM and WCDMA, and the EIRP of mobile transmitters are limited to 1 Watts for LTE.

#### 2.1.2 Test Result of ERP

Operation Band	Modulation	Conducted Power (dBm)	Antenna Gain (dBi)	ERP / EIRP (dBm)	ERP / EIRP (W)
GSM850 GPRS 8	GMSK	32.40	1.00	31.25	1.3335
GSM850 GPRS 10	GMSK	29.90	1.00	28.75	0.7499
GSM1900 GPRS 8	GMSK	29.40	1.75	31.15	1.3032
GSM1900 GPRS 10	GMSK	29.20	1.75	30.95	1.2445
WCDMA Band V	QPSK	23.59	1.00	22.44	0.1754
WCDMA Band II	QPSK	23.25	1.75	25.00	0.3162
LTE Band 4	QPSK	22.21	1.75	23.96	0.2489
LTE Band 7	QPSK	22.48	3.50	25.98	0.3963

\* ERP = Conducted Power (dBm) + Antenna Gain (dBi) – 2.15





## **Appendix A. Photographs of EUT**

Please refer to Sporton report number EP213125 as below.