RF EXPOSURE REPORT

REPORT NO.:	SA110128E05C
MODEL NO.:	WA4271, NA4271, WA4271-R, NA4271-R, WA4281, NA4281, WA4281-R, NA4281-R
FCC ID:	ZLP-WA4200

APPLICANT:	EtherWAN Systems
ADDRESS:	4F.-7, NO.79, SEC. 1, XINTAI 5TH RD., XIZHI DISTRICT, NEW TAIPEI CITY 221, TAIWAN (R.O.C.)

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA110128E05C	Original release	July 12, 2011

1. CERTIFICATION

PRODUCT:	Industrial Dual Radio Multi-function Wireless Device, Hardened Dual Radio Multi-function Wireless Device
BRAND NAME:	EtherWAN Systems
MODEL NO.:	WA4271, NA4271, WA4271-R, NA4271-R, WA4281, NA4281, WA4281-R, NA4281-R
TEST SAMPLE:	MASS-PRODUCTION
APPLICANT:	EtherWAN Systems
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: WA4281) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** July 12, 2011
(Midoli Peng, Specialist)

APPROVED BY : _____ , **DATE:** July 12, 2011
(May Chen, Deputy Manager)

2. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3. MPE CALCULATION FORMULA

Pd = (Pout*G) / (4*pi*r2)

where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	371.5	4.95	20	0.234	1.00

For 15.247(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745-5825	537.0	7.14	20	0.548	1.00

For 15.407(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180-5240	24.5	7.14	20	0.025	1.00

CONCLUSION:

Both of the 2.4GHz WLAN and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2$ + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.234 / 1 + 0.548 / 1= 0.782, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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