RF EXPOSURE REPORT

REPORT NO.: SA120221E06

MODEL NO.: EFT-H1

FCC ID: NKREFT-H1

RECEIVED: Feb. 21, 2012

TESTED: Mar. 15, 2012

ISSUED: Mar. 20, 2012

APPLICANT: Wistron NeWeb Corp.

ADDRESS: 20 Park Avenue II, Hsinchu Science Park,Hsinchu 308, Taiwan, R.O.C.

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

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120221E06	Original release	Mar. 20, 2012

1. CERTIFICATION

PRODUCT:	Home Gateway
BRAND NAME:	SONY
MODEL NO.:	EFT-H1
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Wistron NeWeb Corp.
TESTED DATE:	Mar. 15, 2012
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: EFT-H1) 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: _Mar. 20, 2012_
(Elsie Hsu, Specialist)

APPROVED BY : _____ , DATE: _Mar. 20, 2012_
(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*r^2)

where

Pd = power density in mW/cm^2

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 WiFi

802.11b:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412 ~ 2462	112.5	8.72	20	0.167	1.00

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$
Effective Legacy Gain (dBi) = 8.72

802.11g:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412 ~ 2462	492.1	8.72	20	0.729	1.00

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$
Effective Legacy Gain (dBi) = 8.72

802.11n(20MHz):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412 ~ 2462	508.2	6.29	20	0.430	1.00

802.11n(40MHz):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2422 ~ 2452	385.5	6.29	20	0.326	1.00

For ZigBee

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2405 ~ 2470	107.2	2.27	20	0.036	1.00

CONCLUSION:

Both of the WiFi(2.4GHz) and ZigBee can transmit simultaneously, the formula of calculated the exposure 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 0.729 / 1 + 0.036 / 1= 0.765, which is less than the "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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