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RF EXPOSURE REPORT

REPORT NO.: SA131218D10

MODEL NO.: TL10IE1, TL10IE2, TL10Ixy

FCC ID: WL6-TLBC1IE1

RECEIVED: Dec. 18, 2013

TESTED: Jan. 8 ~ 17, 2014

ISSUED: Jan. 27, 2014

APPLICANT: Elitegroup Computer Systems Co., Ltd

ADDRESS: No. 239, Ti Ding Blvd., Sec. 2, Taipei, Taiwan
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ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA131218D10	Original release	Jan. 27, 2014



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1. CERTIFICATION

PRODUCT: Wireless Motherboard
BRAND NAME: ECS ELITEGROUP
MODEL NO.: TL10IE1, TL10IE2, TL10Ixy
(x=0~9, A~Z or blank or "-"; y=0~9, A~Z or blank or "-")
APPLICANT: Elitegroup Computer Systems Co., Ltd
TESTED: Jan. 8 ~ 17, 2014
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment has (model no.: TL10IE2) 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 : Annie Chang , **DATE:** Jan. 27, 2014
(Annie Chang / Supervisor)

APPROVED BY : Rex Lai , **DATE:** Jan. 27, 2014
(Rex Lai / Assistant 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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
2412 ~ 2462	22.89	2.51	20	0.0690	1.00
5180 ~ 5320	13.14	1.66	20	0.0060	1.00
5500 ~ 5700	12.86	1.66	20	0.0056	1.00
5745 ~ 5825	20.88	0.89	20	0.0299	1.00
2402 ~ 2480 (Bluetooth EDR)	5.39	2.51	20	0.0012	1.00
2402 ~ 2480 (Bluetooth LE4.0)	5.03	2.51	20	0.0011	1.00

CONCLUSION:

Both of the modules can transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$1. \text{ WLAN (2.4G) + BLUETOOTH} = 0.0690/1 + 0.0012/1 = 0.0702$$

$$2. \text{ WLAN (5.0G) + BLUETOOTH} = 0.0299/1 + 0.0012/1 = 0.0311$$

Therefore, the maximum calculation of this situation is 0.1013, which is less than the "1" limit.

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