

APPENDIX B. MAXIMUM PERMISSIBLE EXPOSURE

REPORT NO.: SA130111E10B

MODEL NO.: TC8706-T, TC8705-D

FCC ID: RSE-TC8706T

RECEIVED: May 03, 2013

TESTED: May 23 to 27, 2013

ISSUED: June 20, 2013

APPLICANT: Technicolor Delivery Technologies Belgium

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130111E10B	Original release	June 20, 2013

1. CERTIFICATION

PRODUCT: Cable Modem
BRAND NAME: technicolor
MODEL NO.: TC8706-T, TC8705-D
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Technicolor Delivery Technologies Belgium
TESTED DATE: May 23 to 27, 2013
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: TC8706-T) 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.

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(Phoenix Huang, Specialist)

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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

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	371.23	4.24	20	0.19605	1

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	347.573	5.52	20	0.24648	1

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	48.529	4.52	20	0.02737	1

CONCLUSION:

Both of the 2.4GHz 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 $0.19605 / 1 + 0.24648 / 1 = 0.443$, which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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