



RF Exposure Evaluation Declaration

Product Name : Q TV Engine
Model No. : QP-168
FCC ID : 2AA45-QP168

Applicant : Q-Point Technology Inc
Address : 6F.-17, No.73, Sec. 2, Xinsheng N. Rd.,
Zhongshan Dist., Taipei City 104, Taiwan

Date of Receipt : 13/09/2013
Issued Date : 11/10/2013
Report No. : 136S041R-RF-US-P20V01
Report Version : V 1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, CNAS or any agency of the Government.

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Test Report Certification

Issued Date : 11/10/2013

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Product Name : Q TV Engine

Applicant : Q-Point Technology Inc

Address : 6F.-17, No.73, Sec. 2, Xinsheng N. Rd., Zhongshan Dist.,
Taipei City 104, Taiwan

Manufacturer : Kunshan Heisei Electronics Co., Ltd.

Address : No.758 Zhenchuan East Rd.,Kunshan City, China

Model No. : QP-168

FCC ID : 2AA45-QP168

EUT Voltage : 5V $\Rightarrow$ 2A

Brand Name : Q-Point

Applicable Standard : FCC OET 65
IEEE Std. 1528-2003; 47CFR § 2.1093

Test Result : Complied

Performed Location : Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park Loufeng
Hi-Tech Development Zone., Suzhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

Documented By : Alice Ni

Reviewed By : Jackzhong

Approved By : Jame yuan

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC, TAF
Germany	:	TUV Rheinland
Norway	:	Nemko, DNV
USA	:	FCC
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site :<http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site :
<http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

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Linkou Testing Laboratory :

No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

Suzhou Testing Laboratory :

No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China
TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

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

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Q TV Engine
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Gain:

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.23dBi in logarithm scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Frequency Band (MHz)	Maximum Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
2402 - 2480 MHz	7.4473	0.002476
2412-2462 MHz	117.4898	0.039060
2422-2452 MHz	66.3743	0.022066

Note:

1. The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm².
2. The function BT and WLAN can work at the same time, the power density is [0.002476 + 0.039060=0.041536], far below the limit of 1 mW/cm².

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