

RF Exposure Evaluation Declaration

Product Name : Bluetooth Multi-mode AV Adapter

Model No. : BTAV201

FCC ID : TQ6BTAV201

Applicant : Shanghai Flaircomm Technologies Inc.

Address : No.5, Bibo Road, Keyuan Building 4F, Zhangjiang
Hi-Tech Park, Shanghai 201203 P.R.China

Date of Receipt : 2007/09/10

Issued Date : 2008/01/23

Report No. : 079S037-RF-US

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 CNLA, NVLAP, NIST or any agency of the Government.

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Test Report Certification

Issued Date : 2007/01/23
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Product Name : Bluetooth Multi-mode AV Adapter
Applicant : Shanghai Flaircomm Technologies Inc.
Address : No.5, Bibo Road, Keyuan Building 4F, Zhangjiang
Hi-Tech Park, Shanghai 201203 P.R.China
Manufacturer : Shanghai Flaircomm Technologies Inc.
Model No. : BTAV201
FCC ID : TQ6BTAV201
Rated Voltage : AC 120V/60Hz
EUT Voltage : AC 100-240 V / 50-60 Hz
Trade Name : ZDC
Applicable Standard : FCC OET 65
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

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Laboratory Information

We , **QuietTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TÜV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from QuietTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>

The address and introduction of QuietTek 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:

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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	:	Bluetooth Multi-mode AV Adapter
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Antenna Gain:

Antenna Gain: The maximum Gain measured in fully anechoic chamber is -3.5dBi or 0.45 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
00	2402.00	56.2341	0.004997
39	2441.00	34.9945	0.003110
78	2480.00	18.8799	0.001678

Note:

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.