RF Exposure Evaluation declaration

Product Name	：	GPRS Module / POS
Model No.	：	H50-CM02, H50-4
FCC ID	：	UWJH50CM02

Applicant	：	BLUE BAMBOO (HK) LIMITED
Address	：	Unit 1001, Lucky Building, No.39 Wellington Street, Central, Hong Kong

Date of Receipt	：	2007/01/04
Issued Date	：	2007/03/20
Report No.	：	071S004-HP-US

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/cm2)	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: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2

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

Pd id 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℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	GPRS Module / POS
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-3
Test Mode	:	Mode 1: GPRS 850

Antenna Gain:

Antenna Gain: The maximum Gain measured in fully anechoic chamber is -4dBd or 0.4 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/cm2)
128	824.20	1995.2623	0.1580
189	836.40	1905.4607	0.1509
251	848.80	1819.7009	0.1441

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.

Product	:	GPRS Module / POS
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-3
Test Mode	:	Mode 2: GPRS 1900

Antenna Gain:

Antenna Gain: The maximum Gain measured in fully anechoic chamber is -3dBi or 0.5 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/cm2)
512	1850.20	855.0667	0.0853
661	1880.00	781.6278	0.0779
810	1909.80	824.1381	0.0822

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.