

# RF Exposure Evaluation Declaration

Product Name : GPS Locator

Model No. : GV50VC

FCC ID: YQD-GV50VC

Applicant : Queclink Wireless Solutions Co.,Ltd

Address : Room 501, Building 9, No 99, TianZhou Road, Shanghai, China

Date of Receipt : 26-02-2016

Issued Date : 10-03-2016

Report No. : UL126 20160226 FCC002-5

Report Version : V1.0

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.

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Applicant : Queclink Wireless Solutions Co.,Ltd  
Address : Room 501, Building 9, No 99, TianZhou Road, Shanghai, China  
Manufacturer : Queclink Wireless Solutions Co.,Ltd.  
Address : Room 501, Building 9, No 99, TianZhou Road, Shanghai, China  
Model No. : GV50VC  
EUT Voltage : Extreme Low:6V,Normal:12V, Extreme High:16V  
Brand Name : Queclink  
Applicable Standard : FCC Rules(47 C.F.R.1.1310 and 2.1093)  
Test Result : Complied  
Performed Location : Unilab (Shanghai) Co.,Ltd.  
FCC 2.948 register number is 714465  
No.1350, Lianxi Road, Pudong New District, Shangha, China  
[TEL:+86-21-5027-5125](tel:+86-21-5027-5125)/[FAX:+86-21-5027-5126-876](tel:+86-21-5027-5126-876)

Documented By :

(Technical Engineer: Lam zhang)

Reviewed By :

(Senior Engineer: Forest Cao)

Approved By :

(Supervisor: Eva Wang)

## 1. EUT Description

Product Name:	GPS Locator
Model Name:	GPS Locator
Hardware Version:	1.02
Software Version:	A01V01
RF Exposure Environment:	Uncontrolled
<b>CDMA2000</b>	
Support Band:	CDMA2000 BC0/BC1
Tx Frequency Range:	CDMA2000 BC0: 824.70 MHz to 848.31MHz CDMA2000 BC1: 1851.25MHz to 1908.75MHz
Rx Frequency Range:	CDMA2000 BC0: 869.70 MHz to 893.31MHz CDMA2000 BC1: 1931.25MHz to 1988.75MHz
Type of modulation:	QPSK
Antenna Type:	soldered on PCB
Antenna Peak Gain:	CDMA2000 BC0: 0.5dBi CDMA2000 BC1: 1.5dBi

## 2. RF Exposure Evaluation

### 2.1 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 <sup>2</sup> )	Average Time (Minutes)
<b>(A)Limits for Occupation/Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
<b>(B)Limits for General Occupation/UnControlled Exposures</b>				
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/cm<sup>2</sup>

$P_{out}$  = 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/cm<sup>2</sup> . 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.

## 2.2.Test Result of RF Exposure Evaluation

This device is evaluated by mobile device with general population/uncontrolled exposure condition  
For this device, the calculation is using the most conservative values, and the results are as follows:

$$EIRP=ERP+2.15$$

Test Mode	ERP (dBm)	EIRP (dBm)	Peak EIRP (mW)	Calculated RF Exposure at d = 20cm (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
CDMA2000 BC0	22.34	24.49	281.19	0.056	0.56
CDMA2000 BC1	/	23.20	208.93	0.042	1.00

Test Mode	Antenna Gain (dBi)	Maximum Output Power (dBm)	Maximum Output Power From Antenna (mW)	Calculated RF Exposure at d = 20cm (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
CDMA2000 BC0	0.5	25	354.81	0.071	0.56
CDMA2000 BC1	1.5	25	446.68	0.089	1.00

This device can pass RF exposure limit.