



December 06, 2013

TUV SUD BABT
Octagon House, Concorde Way
Segensworth Rd N, Fareham
PO15 5RL

Attention: Director of Certification

RE: Analysis of RF Exposure/SAR Exemption for FCC and Industry Canada compliance purposes

FCC ID: EF4-00115
IC: 1078A-00115

FCC

Portable Exposure SAR Exemption

Per FCC KDB 447498 D01 RF Exposure v05r01

Maximum power = 414.1uW e.i.r.p.
 $f_{\text{(GHz)}} = 0.9084$
min. test separation distance = 5mm

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$$

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation¹⁷
 - The result is rounded to one decimal place for comparison
- [Ref: Clause 4.3.1.1]

$$[(0.0004141\text{mW})/(5, \text{mm})] \cdot [\sqrt{0.9084_{\text{(GHz)}}}] \leq 3.0$$
$$0.00008 \leq 3.0$$

Therefore, the device meets the FCC SAR exemption requirements.

RF Exposure Categorical Exclusion

Per 47CFR Rule Part 2.1091

Maximum power = 414.1uW e.i.r.p.
 $f_{\text{(GHz)}} = 0.9084$

This device operates below 1.5GHz and has an effective radiated power of 0.00025mW (less than 1.5W) and is therefore categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use.



America

MPE Compliance Information using the Power Density formula:

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to isotropic

R = distance to the center of radiation of the antenna

Measured radiated level @ 3 meters:	91.4	(dB μ V/m)
Measured radiated level converted to V/m:	0.037	(V/m)
Maximum peak output power –Radiated:	0.0004141	(Watt)
Antenna gain (typical):	-3.85	(dBi)
Maximum antenna gain:	0.41	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	908.42	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.606	(mW/cm ²)
Power density at prediction frequency:	0.00003395	(mW/cm ²)
Power density at prediction frequency:	0.0003395	(W/m ²)
Margin of Compliance:	-24.4	(dB)

Per RSS-102 Issue 4 March 2010

Industry Canada

Portable Exposure SAR Exemption

Per RSS-102 Issue 4 Clause 2.5.1

Maximum power = 414.1uW e.i.r.p.

f_(GHz) = 0.9084

SAR evaluation is required if the separation distance between the user and the radiating element of the device is less than or equal to 20 cm, except when the device operates as follows:

from 3 kHz up to 1 GHz inclusively, and with output power (i.e. the higher of the conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power) that is less than or equal to 200 mW for general public use and 1000 mW for controlled use;

This device operates below 200mW for general public use and therefore meets the IC SAR exemption requirements.



America

RF Exposure Exemption

Per RSS-102 Issue 4 Clause 2.5.2

Maximum power = 414.1uW e.i.r.p.

$f_{(GHz)} = 0.9084$

RF exposure evaluation is required if the separation distance between the user and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 1.5 GHz and the maximum e.i.r.p. of the device is equal to or less than 2.5 W;

This device operates below 1.5 GHz and has a maximum e.i.r.p of 414.uW and therefore meets the IC SAR exemption requirements.

Sincerely,

A handwritten signature in blue ink that reads "Alex Chang". The signature is fluid and cursive, with the first letters of the first and last names being capitalized.

Alex Chang

Name

Authorized Signatory

Title: EMC/Wireless Test Engineer