# RF EXPOSURE ANALYSIS

## EQUIPMENT

| | |
|---|---|
| Type of equipment: | WIFI Module |
| Brand name: | BlueGiga |
| Type / Model: | WF111-E |
| Manufacturer: | BlueGiga Technologies Oy |
| By request of: | Silicon Laboratories Finland Oy |

FCC ID: QOQWF111

IC Number: 5123A-BGTWF111

Operating range: 2412 – 2462 MHz

## REQUIREMENT

CFR 47 §1.1310
RSS-102 issue 5 (2014)

## CALCULATIONS

Highest output power to antenna is +19.15 dBm
With +2.2 dBi antenna gain EIRP is +21.35 dBm or 136.5 mW

The manual recommends that the operator is not closer than (r) 20 cm to the transmitter's antenna.

A worst case calculation is as follows:

$$S = \frac{EIRP}{4 \times \pi \times r^2}$$

Maximum power density is
S = 0.1365 / ( 4 x π x $0{,}2^2$ ) = 0.2716 W/$m^2$ = 0.0272 mW/$cm^2$

**Limit:**

CFR 47 §1.1310 (e) table 1 Limits for General Population/Uncontrolled Exposure: 1 $mW/cm^2$

RSS-102 section 2.5.2: states that at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2}$ $f^{0.6834}$ W (adjusted for tune-up tolerance), where $f$ is in MHz;
Maximum EIRP 136.46 mW < 2,68 W at 2412 MHz.

The requirements are fulfilled.

Intertek Semko AB, Radio& EMC

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Issued by: Daniel Nilsson