

RF EXPOSURE ANALYSIS

<u>Product</u>	<u>FCC ID</u>	<u>IC number</u>
WLAN module	QOQWF121	5123A-BGTWF121

WF121 is a general use IEEE 802.11 (Wi-Fi) transceiver module meant to provide wireless connectivity for various low complexity microcontroller platforms without capability of running the Wi-Fi stack. WF121 contains a microcontroller running the full Wi-Fi stack and provides customers with connectivity through serial port or USB with simple commands. WF121 can also be used to run simple customer applications on the module internal microcontroller.

WF121 supports the IEEE 802.11b/g/n wireless networking standards with a single spatial stream and 20MHz or 22MHz bandwidth, allowing bitrates of up to 72.2Mbps. Module can be operated with batteries or DC power supply.

Analysis for FCC

The equipment transmits in the 2 412 – 2 462 MHz frequency range and therefore the applicable threshold is calculated as stated in FCC document KDB 447498 by using the formula $\frac{60}{f}$ (where f is a highest frequency in used) $\frac{60}{2.462} = 24.37mW$

Output power considerations:

Max. E.I.R.P value: 21.17 dBm = 130.91 mW
 (Value is taken from the test report number: 266892-1. Value contains conducted output power and antenna gain.)

RF exposure evaluation:

$$S = \frac{P * G}{4\pi R^2} = \frac{E.I.R.P}{4\pi R^2}$$

E.I.R.P (dB)	E.I.P.R (mW)	Evaluation distance (cm)	S – power density (mW/cm ²)
21.17	130.91	20	0.026

Analysis for IC

According to standard RSS-102, RF exposure analysis is required for devices operating at or above 1.5 GHz if the maximum E.I.R.P. of the device is 5.0 W or more. Therefore RF exposure analysis is not required for this device.

Result:

Equipment complies with the FCC and IC limits for maximum permissible exposure