

Apparatus: POWERNODE Radio Module
FCC ID: QHKRTILPNCORE

RF Exposure Considerations for FCC ID: QHKRTILPNCORE

The Power Node Radio Module will be used in its final application in co-location with the Bluetooth module BLE112 from BlueGiga (FCC ID: QOQBLE112).
The calculation of the MPE is as following:

Prediction of MPE limit at a prediction distance:

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

S: Power density (mW/cm²)

P: Peak output power at antenna terminal (mW)

G: Numerical Antenna gain

R: Distance of radiation to antenna (cm)

MPE for RFID module (FCC ID: QHKRTILPNCORE)

F = 900MHz

E.I.R.P = 1740mW (32.4dBm)

R= 20cm

S=0.346mW/cm²

MPE limit for uncontrolled exposure: 0.600mW/cm²

→ Below MPE limit

MPE for Bluetooth module (FCC ID: QOQBLE112)

F = 2445MHz

E.I.R.P = 3.08mW (4.89dBm)

R= 20cm

S=0.00061mW/cm²

MPE limit for uncontrolled exposure: 1mW/cm²

→ Below MPE limit

MPE for summation of modules

$$\frac{0.346}{0.600} + \frac{0.00061}{1} = 0.578 < 1 \rightarrow \text{PASS}$$

When all the antennas are at least 20cm away from the user, but individual antennas can not be separated by 20cm from each other.

Therefore, the device complies with FCC's RF radiation exposure limit for general population for a mobile device.

COORDONNEES

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***Conclusion:** Therefore the device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.*

Certified By

Laurent CHAPUS (Agent for this device)

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Applicant for this device:

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