



Certification Exhibit

FCC ID: R7PNG0R1S5

FCC Rule Part: 47 CFR Part 2.1091

Project Number: 721022545

**Manufacturer: Landis+Gyr Technology, Inc.
Model: N501**

RF Exposure

General Information:

Applicant: Landis+Gyr Technology, Inc.
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Purpose:

The purpose of this document is the RF exposure evaluation of the N501 model in accordance with FCC 47 CFR Part 2.1091.

Description:

The N501 is a radio within the Landis & Gyr inside series. It supports half-duplex operation in Sub-GHz band 902 MHz to 928MHz ISM band. It can be integrated into metering, sensor, and controller products, allowing a wide range of devices to communicate on the Landis & Gyr radio Network.

Technical Information:

Antenna Type: Airgain ET960NPMR2 Rigid Dipole
 Antenna Gain: 5.7dBi
 Maximum Transmitter Conducted Power: 29.89dBm, 974.99mW
 Maximum System EIRP: 29.89 dBm, 974.99 mW
 Exposure Conditions: Greater than 21.9 centimeters

RF Exposure Calculation**Table 1: Device Characteristics**

Technical Parameters	900 MHz Radio
Frequency (GHz)	0.9023
Frequency (MHz)	902.3
Separation Distance (cm)	20.00
Separation Distance (m)	0.2000
Antenna Gain (dBi)	5.70
ERP Easily Determined	YES
1-g body or 10-g extremity	Body
Conducted Power (dBm)	29.89
Conducted Power (mW)	974.99
Duty Factor (Source-Based) %	100.0
Maximum (Source-Based) Time-Averaged Conducted Power (mW)	974.99
Maximum (Source-Based) Time-Averaged ERP (mW)	2208.80
Maximum (Source-Based) Time-Averaged EIRP (mW)	3622.43
Maximum Output (mW)	2208.80

Table 2: 47 CFR 1.1307(b)(3)(i)(C) MPE – Based Exemption Pth (mW)

Technical Parameters	900 MHz radio
$\lambda / 2\pi$ (m)	0.053
$R \geq \lambda / 2\pi$	YES
Maximum (Source-Based) Time-Averaged ERP (W)	2.2088
ERP Threshold (W)	0.4620
Exemption	NO

MPE Calculation

The Power Density (W/m^2) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g., W/m^2)

P = power input to the antenna (in appropriate units, e.g., W)

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

R = distance to the center of radiation of the antenna (appropriate units, e.g., m)

Table 3: MPE Calculation

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/cm^2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
902.3	29.89	0.60	974.99	5.7	3.715	21.9	0.601

Conclusion

The power density calculation is within compliance as per FCC § 1.1310(e)(1).