



Certification Exhibit

FCC ID: HSW-500M

FCC Rule Part: 47 CFR Part 2.1091

Project Number: 72170058

Manufacturer: Murata Electronics North America
Model: 500M

RF Exposure

General Information:

Applicant: Murata Electronics North America.
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Technical Information (High Power Mode – FCC 15.247):

Antenna Type: WP WPANT30182-R1A-OMNI Antenna
 Antenna Gains: 2dBi
 Maximum Transmitter Conducted Power: 27.53dBm, 566.24mW
 Maximum System EIRP: 29.53dBm, 897.43mW
 Exposure Conditions: 20 centimeters

Technical Information (Low Power mode – FCC 15.249):

Antenna Type: WP WPANT30182-R1A-OMNI Antenna
 Antenna Gains: 2dBi
 Maximum System EIRP: -0.03dBm, 0.99mW
 Exposure Conditions: 20 centimeters

*EIRP calculated from field strength using $EIRP (dBm) = E (dBuV/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

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

Where:

- S = power density (in appropriate units, e.g. mW/cm²)
- P = power input to the antenna (in appropriate units, e.g., mW)
- 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., cm)

Table 1: MPE Calculation (High Power Mode)

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)
915.2	27.53	0.61	566.24	2	1.585	20	0.179

Table 2: MPE Calculation (Low Power Mode)

Transmit Frequency (MHz)	Radio Power EIRP (dBm)	Power Density Limit (mW/cm ²)	Radio Power EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)
903.0	-2.03	0.60	0.63	20	0.0001