

# MPE/RF EXPOSURE EVALUATION REPORT



Evaluation of: Silver Spring Networks Milli Arduino Shield Board  
to

To: FCC CFR 47 Part 15 RF Exposure requirements

Test Report Serial No.: SSNT138 MPE Rev A

This report supersedes: NONE

Applicant: Silver Spring Networks  
230 W Tasman Dr  
San Jose, California 95134  
USA

Product Function: 900 MHz Radio Device

Issue Date: 28<sup>th</sup> April 2017

## **This Test Report is Issued Under the Authority of:**

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## 1. MAXIMUM PERMISSABLE EXPOSURE

### Calculations for Maximum Permissible Exposure Levels

Power Density =  $P_d$  ( $\text{mW}/\text{cm}^2$ ) =  $\text{EIRP}/(4 \cdot \pi \cdot d^2)$

$\text{EIRP} = P \cdot G$

$P$  = Peak output power (mW)

$G$  = Antenna numeric gain (numeric)

$d$  = Separation distance (cm)

Numeric Gain =  $10^{(G \text{ (dBi)}/10)}$

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is  $0.6 \text{ mW}/\text{cm}^2$

These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ $0.6 \text{ mW}/\text{cm}^2$	Calculated Power Density @ 20cm	Minimum Separation Distance (cm)
902.0 – 928.0	1.00	1.26	23.77	238.23	6.31	0.06	20.0

**Note:** for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

### Specification

#### Maximum Permissible Exposure Limits

**FCC §1.1310** Limit =  $f/1500$  from 1.310 Table 1 for devices operating in the 900 MHz band, where  $f$  = frequency in MHz



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