

US Tech Test Report:  
FCC ID:  
IC:  
Test Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 15/ RSS 247 Class 1 Permissive Change  
P2SL900M2  
4171B-L900M2  
18-0105  
June 28, 2018  
Neptune Technology Group Inc.  
L900

### Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e)

The following are MPE results for the L900 module with Neptune Technology Group, R900 wire antenna.

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S** as per the respective limits in Table 1 below, at a distance, d, of 20 cm (Mobile condition) from the EUT.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

Therefore, for:

#### MPE for 902 MHz – 928 MHz

Limit: 0.61 mW/cm<sup>2</sup>

Peak Power (Watts) = 1.0 W (Based on original submittal UST rpt 17-0479 dated January 25, 2018)

Gain of Transmit Antenna = 2.15 dBi = 1.64, numeric

d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG / 4\pi d^2) = \text{EIRP} / 4A = 1.0(1.64) / 4\pi * 0.2 * 0.2 \\ &= 1.64 / 0.5030 = 3.2604 \text{ W/m}^2 \\ &= (3.2604 \text{ W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.32604 \text{ mW/cm}^2 \end{aligned}$$

which is << less than S = 0.61 mW/cm<sup>2</sup>

US Tech Test Report:  
FCC ID:  
IC:  
Test Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 15/ RSS 247 Class 1 Permissive Change  
P2SL900M2  
4171B-L900M2  
18-0105  
June 28, 2018  
Neptune Technology Group Inc.  
L900

---

## RF Exposure Evaluation – IC

According to RSS-102, 2.5.2 Exemption Limits for Routine Evaluation

At or above 300 MHz and below 6 GHz and the source based time averaged maximum EIRP of the device is equal to or less than  $1.31 \times 10^{-2} \times f^{0.6834}$  in Watts (adjusted for tune up tolerance where applicable), where f= frequency in MHz

For 902-928 MHz Band:

$$\text{Limit} = 1.31 \times 10^{-2} \times 915^{0.6834} = 1.39 \text{ Watts}$$

$$\text{Max EIRP} = 30.0 \text{ dBm (1.0W)} + 2.15 \text{ dBi (0.0016)} = 1.0016 \text{ mW} \ll 1390 \text{ mW}$$