Maximum Permissible Exposure (MPE) Calculation

Reference document:	**47 CFR §15.247(i) & §1.1310**	
Test Requirements:	According to §1.1310, the criteria listed in tab. 1 shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b). For equipment authorization purposes the term co-location refers to simultaneously transmitting (co-transmitting) antennas located within 20cm of each other within a product.	
Limit	1mW/cm^2	**Comply**
Calculation Result*:	**Power Density = 0.0116 mW/cm2** on a 20cm radius sphere.	

The Vehicle AGPS-Tag-V1 SA91004201 device is capable of operating in the range 905.0-917.14 MHz with a maximum conducted power of 58.48 mW into a 0dBi Antenna.
The maximum exposure level in this scenario is 0.0116 mW/cm^2 at a distance of 20 cm.

* Equation (3) given in OET Bulletin 65 is used to estimate the MPE distance.

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

S=power density, in mW/cm^2
P=power input to the antenna, in mW
G=numeric gain of the antenna,
R= distance to the center of the antenna, in cm

Frequency Band (GHz)	MPE Distance [cm]	Output Power per chain [mW]	Antenna Gain [dBi]	Aggregate Power density [mW/cm^2]	Limit [mW/cm^2]	Margin [mW/cm^2]
905.0- 917.14 MHz	20	58.48	0	0.0116	1	0.9884