



12. Maximum Permissible Exposure

12.1 Test Procedure

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR §1.1310 titled “Radiofrequency radiation exposure limits”, generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as “a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter’s radiating structure(s) and the body of the user or nearby persons. ” This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: “IMPORTANT: To meet the FCC’s RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna”. Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a “mobile device” as defined in section § 2.1091 paragraph (b).



12.2 Test Result

EUT parameter (data from the separate report)	
Antenna gain (G)	ANT-915CPS-A 5.70 dBi
	ANT-2010CP 5.59 dBi
	ANT-915CPS-C 4.70 dBi

Exposure evaluation
Equation from page 18 of OET Bulletin 65, Edition 97-01
$S = \frac{PG}{4\pi R^2}$
Where
S: power density
P: power input to the antenna
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.

ANT-915CPS-A

Frequency (MHz)	Limit (mw)	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	Power+Ant Gain (W) [TP]	Power Density (mw) [S]	Min. distance (cm)
902.75	0.602	20	24.89	5.7	1.146	0.228	20

ANT-2010CP

Frequency (MHz)	Limit (mw)	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	Power+Ant Gain (W) [TP]	Power Density (mw) [S]	Min. distance (cm)
902.75	0.602	20	24.89	5.59	1.117	0.222	20

ANT-915CPS

Frequency (MHz)	Limit (mw)	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	Power+Ant Gain (W) [TP]	Power Density (mw) [S]	Min. distance (cm)
902.75	0.602	20	24.89	4.70	0.910	0.181	20