



Evaluation of RF Exposure

Part Number: 173-0406-00
 Description: NIC 451-0101
 Frequency: 902 - 928 MHz FHSS

Date: 11/20/2013
 FCC ID: OWS-NIC451

900 MHz
 Max RF Power 30 dBm
 Tx Antenna -1.18 dBi
 EIRP 28.82 dBm
 EIRP 762.07901 mW
 EIRP 0.76207901 W
 MPE dist 20 cm

Equation 1 -
$$S = \frac{EIRP}{4\pi R^2}$$

Equation 2 -
$$R = \sqrt{\frac{EIRP}{4\pi S}}$$

OET Bulletin No. 65, Supplement C

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields.

Appendix A: FCC Exposure Criteria, FCC Limits for Maximum Permissible Exposure (MPE)

Radio	F(MHz)	Actual F, MHz	Limit		Calculated			
			$S_{max, occupational}$	$S_{max, general public}$	$S, mW/cm^2$	$S, mW/cm^2$	$R_{min, occupational}$	$R_{min, general public}$
			Controlled, Ave 6 min	Uncontrolled, Ave 30 min	@ 20cm dist	@ 20 cm dist		
			mW/cm ²	mW/cm ²	mW/cm ²	mW/cm ²	cm	cm
	0.3-1.34*	--	100	100	--	--	--	--
	1.34-30	--	$900/f^2$	$180/f^2$	--	--	--	--
	30-300	--	1	0.2	--	--	--	--
900FHSS	300-1500	902	3.006666667	0.601333333	0.151610802	0.151610802	4.491096911	10.04239799
	1500-100,000		5	1	--	--	--	--

* upper frequency range is 3 MHz for occupational limit

NOTE: For mobile or fixed location transmitters, minimum separation distance for FCC compliance is 20 cm, even if calculations indicate MPE distance is less



Evaluation of RF Exposure

Part Number: 173-0406-00
 Description: NIC 451-0102
 Frequency: 902 - 928 MHz FHSS

Date: 11/20/2013
 FCC ID: OWS-NIC451

900 MHz

Max RF Power	30 dBm
Tx Antenna	1.2 dBi
EIRP	31.2 dBm
EIRP	1318.256739 mW
EIRP	1.318256739 W
MPE dist	20 cm

Equation 1 -
$$S = \frac{EIRP}{4\pi R^2}$$

Equation 2 -
$$R = \sqrt{\frac{EIRP}{4\pi S}}$$

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			$S_{max, occupational}$	$S_{max, general public}$	$S, mW/cm^2$	$S, mW/cm^2$	$R_{min, occupational}$	$R_{min, general public}$
			Controlled, Ave 6 min	Uncontrolled, Ave 30 min	@ 20cm dist	@ 20 cm dist		
			mW/cm ²	mW/cm ²	mW/cm ²	mW/cm ²	cm	cm
	0.3-1.34*	--	100	100	--	--	--	--
	1.34-30	--	$900/f^2$	$180/f^2$	--	--	--	--
	30-300	--	1	0.2	--	--	--	--
900FHSS	300-1500	902	3.006666667	0.601333333	0.262258845	0.262258845	5.906802181	13.20801121
	1500-100,000		5	1	--	--	--	--

* upper frequency range is 3 MHz for occupational limit

NOTE: For mobile or fixed location transmitters, minimum separation distance for FCC compliance is 20 cm, even if calculations indicate MPE distance is less