

Transcore E6V3 RF Exposure Exhibit

Uncontrolled / Public Environment

HVIN: E6V3 / PMN: E6, E6

47CFR 1.1307, RSS-102 Issue 6

				Antenna Gain (dBi)	14.0												
			dBd + 2.17 = dBi	dBi to dBd	2.2												
Tx Frequency (MHz)	915	Peak Power (Watts)	2.0606	Antenna Gain (dBd)	11.83												
		Peak Power (mW)	2060.6	Antenna Gain (numeric)	25.1												
Cable Loss (dB)	0.0	(dBm)	33.1	Antenna minus cable (dBi)	14.0												
		Max Duty Cycle (%)	100.0%														
		Adjusted Power (mW)	2060.6														
		Adjusted Power (dBm)	33.1														
Calculated ERP (mw)	31404.631		EIRP = Po(dBM) + Gain (dB)														
Calculated EIRP (mw)	51759.932		Radiated (EIRP) dBm	47.140													
Power density (S) EIRP ----- = mW/cm^2 4 p r^2 r (cm) EIRP (mW)			ERP = EIRP - 2.17 dB	Radiated (ERP) dBm	44.970												
FCC radio frequency radiation exposure limits per 1.1310																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Frequency (MHz)</th> <th>Occupational Limit W/m²</th> <th>Public Limit W/m²</th> </tr> </thead> <tbody> <tr> <td>300-1,500</td> <td>f/30</td> <td>f/150</td> </tr> <tr> <td>1,500-100,000</td> <td>50</td> <td>10</td> </tr> <tr> <td>915.0</td> <td>30.5</td> <td>6.1</td> </tr> </tbody> </table>						Frequency (MHz)	Occupational Limit W/m ²	Public Limit W/m ²	300-1,500	f/30	f/150	1,500-100,000	50	10	915.0	30.5	6.1
Frequency (MHz)	Occupational Limit W/m ²	Public Limit W/m ²															
300-1,500	f/30	f/150															
1,500-100,000	50	10															
915.0	30.5	6.1															

IC radio frequency radiation exposure limits per RSS-102, Issue 6 Field Reference Level FRL Limit (W/m ²)					
Frequency (MHz)	Uncontrolled		Frequency (MHz)	Controlled	
10-20	2.0	2.0	10-20	10.0	10.0
20-48	8.944/ $f^{0.5}$	0.3	20-48	44.72/ $f^{0.5}$	1.5
48-300	1.291	1.291	48-100	6.455	6.455
300-6,000	0.02619* $f^{0.6834}$	2.8	100-6,000	0.6455* $f^{0.5}$	19.5
6,000-15,000	5.0	10.0	6,000-15,000	50.0	50.0
15,000-150,000	10	10.0	15,000-150,000	50.0	50.0
150,000-300,000	6.67*(10 ⁻⁵)* f	0.1	150,000-300,000	3.33*(10 ⁻⁴)* f	0.3

f = Transmit Frequency (MHz)	f (MHz) =	915.0	FCC	915.0	MHz
P _T = Power Input to Antenna (mW)	P _T (mW) =	2,060.6		2,060.6	mW
Duty cycle (percentage of operation)	% =	100.0%		100.0%	%
P _A = Adjusted Power due to Duty cycle or Cable Loss (mW)	P _A (mW) =	2,060.60		2,060.60	mW
G _N = Numeric Gain of the Antenna	GN (numeric) =	25.12		25.12	numeric
S ₂₀ = Power Density of device at 20cm (mW/m ²)	S ₂₀ =(P _A G _N)/(4πR ₂₀) ²	10.30		10.30	mW/m ²
S ₂₀ = Power Density of device at 20cm (W/m ²)	S ₂₀ =(P _A G _N)/(4πR ₂₀) ²	102.97		102.97	W/m ²
S _L = Power Density Limit (W/m ²)	S _L (W/m ²)=	6.10		2.77	W/m ²
R _C = Minimum distance to the Radiating Element for Compliance (R _C =√(P _A G _N /4πS _L)	R _C (cm) =	83.2		123.0	cm
S _C = Power Density of the device at the Compliance Distance R _C (\ S _C =(P _A G _N)/(4πR _C) ²	S _C (W/m ²) =	5.95		2.72	W/m ²
R ₂₀ = 20cm	R20=	20		20	cm
For Compliance with Canada General Population Limits, User Manual must indicate a minimum separation distance of			123.0	cm	
Or in Meters for Compliance with Canada General Population Limits, a minimum separation distance of			1.23	Meters	

								Compliance Distance
Tx Duty Cycle (%)		Tx Frequency (MHz)	Power Total (mW)	Antenna Gain (Numeric)	S _L (W/m ²)	S ₂₀ (W/m ²)	R _C (cm)	S _C (W/m ²)
FCC	100.0%	915	2,060.6	25.12	6.1	102.97	83.2	5.95
Canada	100.0%	915	2,060.6	25.12	2.77	102.97	123.0	2.72