

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

FCC Part 15/IC RSS Certification  
2AKZ5-CDSVN210ISA  
19-0203  
June 3, 2019  
Control Data Systems  
VN210

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

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 2400 MHz – 2483.5 MHz for the Control Data Systems VN210 radio module:

Limit: 1.0 mW/cm<sup>2</sup>

Peak Power (dBm) = 10.71 dBm

Peak Power (Watts) = 0.012 W

Gain of Transmit Antenna = 2.5 dB<sub>i</sub> = 1.78 numeric

d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.012(1.78)/4*\pi*0.2*0.2 \\ &= 0.0214/0.5030 = 0.0425 \text{ W/m}^2 \\ &= (0.0425 \text{ W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.00425 \text{ mW/cm}^2 \end{aligned}$$

which is << less than S = 1.0 mW/cm<sup>2</sup>