

VX-4101/4201-D0-10 RF Exposure Calculations

1) Calculation/10 W

A:	Frequency Band	150 MHz
B:	RF Exposure Limit	$0.2 \text{ mW/cm}^2 = 2 \text{ W/m}^2$
C:	RF Power Output	10 W
D:	Antenna Gain	0 dBd (numeric gain of 1.64)
E:	Duty Cycle	50 % = 0.5

$$\begin{aligned}\text{Safe Distance} &= \text{SQRT} (C \times D \times E / 4\pi \times B) \\ (\text{@ Above condition}) &= \text{SQRT} (10 \times 1 \times 0.5 / 4\pi \times 2) = 0.57 \text{ m}\end{aligned}$$

2) Safe Distance (@ VX-4204-D0-50 (50W), Test Report [MFA p0340005, d0350004])

F:	Safe Distance	= 0.6 m
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3) RF Exposure (@ F, 0.6 m)

$$\begin{aligned}G: \quad \text{RF Exposure} &= C \times D \times E / 4\pi \times F^2 \\ &= 10 \times 1.64 \times 0.5 / 4\pi \times 0.6^2 = 1.11 \text{ W/m}^2 \\ &= 0.18 \text{ mW/cm}^2\end{aligned}$$

Therefore, $G < B$