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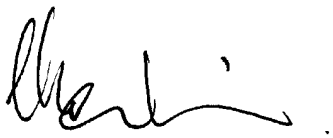
Attention: Reviewing Engineer

The HZB-S58-GX1 radio is designed for fixed-mount point-to-point applications. The following table lists the RF exposure Power Density for all types and sizes of antennas intended to be used with the device. The power density calculation shows compliance to the limit for General Population/ Uncontrolled environment as specified in rule 1.1310.

Please contact the undersigned for any questions.



Caroline Yu

Regulatory Compliance Manager
Proxim Corporation

Power Density Calculation

	G (dB)	D (m)	OD (m)	A (m^2)	P (W)*	$S_{surface}$ (w/m2)	$R_{nf\ (m)}$	S_{nfmax} (w/m^2)	$R_{ff\ (m)}$	$S_{t\ max}$ (w/m^2)	S_{ff} (w/m^2)
1' Panel	23.5	0.4310		0.0929	0.600	13.6097	0.8978	16.4594	2.1547	7.3885	2.3035
2' Panel	28.0	0.8620		0.3715	0.600	3.4024	3.5912	4.1148	8.6188	4.1148	0.4058
2' parabolic	28.5	0.6096		0.2917	0.600	4.3330	1.7961	8.2272	4.3107	7.3885	1.8200
4' parabolic	34.0	1.2192		1.1669	0.600	1.0832	7.1845	2.0568	17.2428	2.0568	0.4036
6' parabolic	38.0	1.8288		2.6254	0.600	0.4814	16.1651	0.9141	38.7963	0.9141	0.2003
8' parabolic	40.0	2.4384		4.6674	0.600	0.2708	28.7380	0.5142	68.9712	0.5142	0.1004

Where:

G: antenna gain

D: antenna diameter in meters, for panel antenna, D = 1.414x the side length of the antenna; with omni antenna D represent the height of the antenna D = h

P: radio output power fed into the antenna, P_{max} = 10log955=29.8dBm minimum connectors and cable loss is 2dB, P =29.8 -2=27.8dBm= 0.6W

A: physical area of the aperture antenna

$S_{surface}$: maximum power density at the antenna surface, $S_{surface} = 4P/A$

R_{nf}: extent of near field, $R_{nf} = D^2/4\lambda$, where λ is wavelength, at 5.8GHz, λ=0.052m;

With omni antenna, Rnf is where $S_{nf}=S_{ff}$; Rnf=Gh/2, where G is the antenna gain

S_{nfmax}: maximum near field power density, $S_{nf} = 16\eta P/\pi D^2$; for worst case situation, η is assmumed to be 1

R_{ff}: distance to beginning of far field; $R_{ff}= 0.6D^2/\lambda$

$S_{t\ max}$: maximum powre density in the transition region; $S_{t\ max}=S_{nf} * R_{nf}/R_{min}$; where R_{min} = min (2m, R_{nf})

S_{ff}: far field power density (on axis); $S_{ff} = PG/4\pi R^2$

Note: Power density beyond 2m from the center of antenna must be within $10W/m^2$ or $1mW/cm^2$

Created by: Caroline Yu
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