REGULATORY COMPLIANCE REPORT

TITLE: FCC & IC MPE Test Report for 15.247 & RSS-210 Frequency Hopping Device 100WPhase3_5
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REV	CCO	DESCRIPTION OF CHANGE	DATE	APPROVALS	
001		INITIAL RELEASE		Engineering	
				Regulatory	

REVISION HISTORY

A				Engineering	
				Regulatory	
b		updated per questions asked	27nov11	Engineering	
				Regulatory	
				Engineering	
				Regulatory	

1.1310 & 2.1091(mobile) or 2.1093(portable) / RSS-102 Sec 4.2-Canada Safety Code 6; Table 5

Maximum Permissible Exposure (MPE)

Radiofrequency radiation exposure limits. - The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

1.1307 (b) In addition to the actions listed in paragraph (a) of this section, Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the preparation of an Environmental Assessment (EA) if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency radiation in excess of the limits in §§1.1310 and 2.1093 of this chapter.

unit 46550128 Field strength (dbuV/m)	EIRP (dbm)	unit 46550592 conducted power (dbm)	conducted power (watts)	antenna gain (dbi)	antenna gain numeric
124.4	30.35	27.13	0.516	3.22	2.099

Determine the maximum power density for the general / uncontrolled population minimum separation distance of 20 cm. (f_{MHz} / 1500 mW/cm^2 == f_{MHz} / 150 W/M^2)
The power density is calculated as:

P_d = power density in *mW/cm^2*

P_t = transmit power in milliwatts

$$P_d = \frac{P_t \times G}{4 \times \pi \times r^2}$$

G = numeric antenna gain
r = distance between body and transmitter in centimeters.

FCC Limits: 926.8MHz / 1500 = 0.618 mW / cm^2 @ 20cm
IC Limits: 926.8MHz / 150 = 6.18 W / M^2 (@ 0.2M)

Power level 3
Max antenna gain = 3.22 dBi = 02.099 numeric
Max TX power = 27.13 dBm = .516 milliwatts
results: P_D = (516 x 2.099) / (4 x pi x 20cm^2) = 0.215 mW / cm^2 @ 20 cm
W/m2 = 10 times mW/cm^2 = 2.15 *W/M^2* @ 0.2 M