The effective eirp for each additional radio operating in a band is determined by looking at the increase in total eirp within that band as the additional radio comes on-line. In the 5150-5250 MHz band the effective eirp of the additional radios is 0 since the output power is backed off on the existing radios to maintain the total power below 17dBm and eirp below 23dBm.

NII 3 = 5470-5725 MHz
NII 2 = 5250-5350 MHz
NII 1 = 5150-5250 MHz

EIRP per additional radio (mW) = Delta between the total EIRP for X number of radios and X-1 number of radios

Note - the power levels listed here were taken from the original testing. As these are equal to or higher than the power used in the XR2000, this represents a worse case calculation.

Radios operating in band	Band	Total EIRP (dBm)	Total EIRP (mW)	EIRP per additional radio	
1	NII 3	29.4	871	871	NII 3 (#1)
2	NII 3	30.0	1000	129	NII 3 (#2)
3	NII 3	30.0	1000	0	NII 3 (#3)
4	NII 3	30.0	1000	0	NII 3 (#4)
5	NII 3	30.0	1000	0	NII 3 (#5)
6	NII 3	30.0	1000	0	NII 3 (#6)
7	NII 3	30.0	1000	0	NII 3 (#7)
8	NII 3	30.0	1000	0	NII 3 (#8)
1	NII 2	29.8	955	955	NII 2 (#1)
2	NII 2	30.0	1000	45	NII 2 (#2)
3	NII 2	30.0	1000	0	NII 2 (#3)
4	NII 2	30.0	1000	0	NII 2 (#4)
1	NII 1	22.5	178	178	NII 1 (#1)
2	NII 1	23.0	200	22	NII 1 (#2)
3	NII 1	23.0	200	0	NII 1 (#3)
4	NII 1	23.0	200	0	NII 1 (#4)
1	5.7 DTS	35.9	3890	3890	5.7 DTS (#1)
2	5.7 DTS	36.0	3981	91	5.7 DTS (#2)
3	5.7 DTS	36.0	3981	0	5.7 DTS (#3)
4	5.7 DTS	36.0	3981	0	5.7 DTS (#4)
5	5.7 DTS	36.0	3981	0	5.7 DTS (#5)
1	2.4 DTS	31.0	1259	1259	2.4 DTS (#1)
2	2.4 DTS	34.0	2518	1259	2.4 DTS (#2)
3	2.4 DTS	35.8	3777	1259	2.4 DTS (#3)

As this application is requesting grant notes to allow multiple radio modules to be collocated the rf exposure calculation needs to account for multiple radios being operational simultaneously. The following page provides calculations for the power density 20cm from the host system with 4, 8, 12 and 16 co-located modules.
The calculations are conservative as they assume all radios would be transmitting at 100% duty cycle and does not consider the separation distance between the individual modules' antennas.

Listing the eirps in order of power, highest first, we can then determine the maximum eirp from the complete device with multiple radios operating. This allows the rf exposure hazard to be evaluated based on a maximum power density of 1mW/cm^2 allowed for devices operating in either 2.4GHz or 5GHz bands:

Band	EIRP	Ranking
5.7 DTS (#1)	3890	1
2.4 DTS (#3)	1259	2
2.4 DTS (#1)	1259	3
2.4 DTS (#2)	1259	3
NII 2 (#1)	955	5
NII 3 (#1)	871	6
NII 1 (#1)	178	7
NII 3 (#2)	129	8
5.7 DTS (#2)	91	9
NII 2 (#2)	45	10
NII 1 (#2)	22	11
NII 3 (#3)	0	12
NII 3 (#4)	0	12
NII 3 (#5)	0	12
NII 3 (#6)	0	12
NII 3 (#7)	0	12
NII 3 (#8)	0	12
NII 2 (#3)	0	12
NII 2 (#4)	0	12
NII 1 (#3)	0	12
NII 1 (#4)	0	12
5.7 DTS (#3)	0	12
5.7 DTS (#4)	0	12
5.7 DTS (#5)	0	12

Once there are a total of 11 radios operational the total eirp remains constant (i.e the maximum eirp per band has been reached)

For 4 radios operating simultaneously:

Total EIRP: 7667 mW

S @ 20cm: **1.53 mW/cm^2** 15.3 W/m^2

Minimum separation distance for 1mW/cm^2: **24.7 cm**

For 8 radios operating simultaneously:

Total EIRP: 9800 mW

S @ 20cm: **1.95 mW/cm^2** 19.5 W/m^2

Minimum separation distance for 1mW/cm^2: **27.9 cm**

For 12 radios operating simultaneously:

Total EIRP: 9957 mW

S @ 20cm: **1.98 mW/cm^2** 19.8 W/m^2

Minimum separation distance for 1mW/cm^2: **28.1 cm**

For 16 radios operating simultaneously:

Total EIRP: 9957 mW

S @ 20cm: **1.98 mW/cm^2** 19.8 W/m^2

Minimum separation distance for 1mW/cm^2: **28.1 cm**

Note: Power Density (S) is calculated from:

$S = \frac{EIRP}{4\pi d^2}$ where d is the distance from the device.