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Maximum Permissible Exposure Evaluation

The RF exposure calculation for the co-locating of the following two (2) FCC Certified module/devices:

1. FCC ID: SM6-CCOM-AC, ArKion Systems Collector (CCOM) Unit
2. FCC ID: AU792U03G23720, Multi-Tech MTMMC-G-F2 GSM/GPRS Modem Module

Based on the FCC OET Bulletin 65, Edition 97-01, the following formula is used to calculate RF exposure at a distance of 20cm from the transmitting antenna:

$$\mathbf{S = PG/4\pi R^2}$$

Where:
S = Power Density (mW/cm^2)
P = Power output to the antenna
G = Antenna Numeric Gain
R = Distance from the transmitting antenna (cm)

Note: The RF transmit power used is from the original test reports submitted to the FCC for certification.

One Transmitter			
Frequency	902.5	MHz	
Limit	0.602	mW/cm^2	
Distance (cm), R =	20	cm	
Power (dBm), P =	29.9	dBm	
TX Ant Gain (dBi), G =	2.5	dB	
Power Density:	0.35	mW/cm^2	**Separation<20 cm**
Minimum Distance:	**15.2**	cm	
Second Transmitter			
Frequency	824.2	MHz	
Limit	0.549	mW/cm^2	
Distance (cm), R =	20	cm	
Power (dBm), P =	32.2	dBm	
TX Ant Gain (dB), G =	2	dB	
Power Density:	0.52	mW/cm^2	**Separation<20 cm**
Minimum Distance:	**19.5**	cm	
Multiple Transmitter Summary			
Power Density:	1.53	mW/cm^2	**Separation>20 cm**
Minimum Distance:	**34.7**	cm	**Sum of the Distances**

Conclusion: The minimum MPE distance is 34.7cm for these co-located antennas. This unit will be a fixed device.

$dBi = 10 \log_{10}(\mathbf{G})$