Maximum Permissible Exposure (MPE) Calculation:

FCC ID: NEO43ID7D8C17C19A
IC: 8749A-43ID7817C19

Reference document:	**47 CFR & §1.1310 (B) & RSS 102**	
Test Requirements:	According to §1.1310 & & RSS 102 , the criteria listed in tab. 1 shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b). For equipment authorization purposes the term co-location refers to simultaneously transmitting (co-transmitting) antennas located within R-minimum (cm) of each other within a product. see table 3 below	
Limit	Frequency(MHz) PD(mW/cm2) 300 – 1500 S = f/1500 1550 – 100,000 S = 1	**Comply**
Calculation Result*:	Minimum distance in order to meet §1.1310,see table 3 below	

Combined Bands:

Four bands can be installed in each RUU-M unit. For example, USA uses all four bands shown in Table 1. All bands are combined in one PLEXER into one antenna port.
Because each band can transmit up to +43.75 dBm (23.714), all 4 bands can transmit 4 times the power, +49.75dBm (94.856W). When more than one operator operates the band, the power budget is divided between the operators automatically. For example, when two operators using same band (different frequencies), each operator has a maximum output power of +40.75dBm (+43.75dBm / 2 = +40.75dBm). A real example in US is the 1900 band (1930- 1995MHz, also known as PCS), Verizon, AT&T, T-Mobile and Sprint will transmit at the same PCS band at different frequencies. Anyway the EUT is professionally installed.

Table 1: List of all operation bands and frequencies

	DL Start [MHz]	DL Stop [MHz]	DL CF [MHz]	DL BW [MHz]	Power [dBm]
LTE 700	728	757	742.5	29	+43.75
CELL	862	894	878	32	+43.75
PCS	1930	1995	1962.5	65	+43.75
AWS_1	2110	2155	2132.5	45	+43.75

Parameters for calculation:

Pn-Maximum measured conducted power for each single path, +43.75 dBm =23,714 mW
G-Maximum antennas gain (w/o cable loss) =14dBi,11dBi,8dBi,5dBi
Gn- numeric gain of the antennas 13.617, 12.589, 6.309, 3.162 respectively as above
Sn- Power density limit [mW/cm2] per 47 CFR 1.1310 (B).
Rn- Minimum distance calculated

1) Minimum distance for single band

$$R_n = \sqrt{\frac{P_n G_n}{4\pi S_n}}$$

Table 2: Minimum distance for single band

Frequency Band (MHz)	Pn Output Power [mW]	Sn Power density Limit [mW/cm 2]	Rn Min Distance [cm] For Antenna Gain 14dBi	Rn Min Distance [cm] For Antenna Gain 11dBi	Rn Min Distance [cm] For Antenna Gain 8dBi	Rn Min Distance [cm] For Antenna Gain 5dBi
728	23,714	0.4853	312.52	221.25	156.63	110.89
862	23,714	0.5747	287.20	203.32	143.94	101.90
1930	23,714	1	217.72	154.13	109.12	77.25
2110	23,714	1	217.72	154.13	109.12	77.25

2) Minimum distances for multiple bands for several antennas

$$\sqrt{R_1^2 + R_2^2 + R_3^2 + \ldots + R_n^2} < R$$

Worst case scenario when all bands are active.

Table 3: Minimum distances for multiple bands for several antennas

Antenna Gain	14dBi	11dBi	8dBi	5dBi
R- minimum distance	524.37 cm	371.22 cm	262.80 cm	186.05 cm

Conclusion: Minimum distance to any human body to comply with the RF Exposure Limit is as shown in Table 3 above.