	Model:	AA3562	Test Number:	211001			
MPE Calculator	RF Exposure uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.						
	dBi = dB gain compared to an isotropic radiator.						
	S = power density in mW/cm^2						
		Transmitter Output power (mW)	1.4				
		Transmitter Output power (W)	0.001				
Output Power for % duty Cycle operation (Watts)	100		0.001		Antenna Gain (dBi)	-2	
		Output Power for 100% duty Cycle operation (Watts)	0.001		Antenna Gain (Numeric)	0.63	
Tx Frequency (MHz)	2442	Calcualtion power (Watts)	0.001	dBd + 2.17 = dBi	dBi to dBd	2.2	
					Antenna Gain (dBd)	-4.17	
Cable Loss (dB)	0.0	Adjusted Power (dBm)	1.35		Antenna minus cable (dBi)	-2.00	
					Antenna Gain (Numeric)	0.63	
	Calculated ERP (mw)	0.522			EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	0.861			Radiated (EIRP) dBm	-0.650	
					ERP = EIRP - 2.17 dB		
					Radiated (ERP) dBm	-2.820	

Power density (S) mW/cm² = EIRP / 4 p r^2

r (cm) EIRP (mW)

		FCC radio frequency radiation exposure limits per 1.1310		
	Occupational Limit	Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm²)
5	mW/cm²	30-300	1	0.2
50	W/m²	300-1,500	f/300	f/1500
	General Public Limit	1,500-10,000	5	1
1	mW/cm²			
10	W/m²			

		IC radio frequency radiation exposure limits per RSS-102		
	Occupational Limit	Frequency (MHz)	Occupational Limit (W/m²)	Public Limit (W/m²)
$0.6455 f^{0.5}$	W/m²	100-6,000	$0.6455 f^{0.5}$	
39.7	W/m²	6,000-15,000	50	
	General Public Limit	48-300		1.291
$0.02619 f^{0.6834}$	W/m²	300-6,000		$0.02619 f^{0.6834}$
5.4	W/m²	6,000-15,000	50	10

Definition	Formula	Parameter	Value	Unit
f = Transmit Frequecny (MHz)		f (MHz) =	2442	MHz
P_T = Power Input to Antenna (mW)		P_T (mW) =	1.3646	mW
Duty cycle (percentage of operation)		% =	100	%
P_A = Adjusted Power due to Duty cycle or Cable Loss (mW)		P_A (mW) =	1.36	mW
G_N = Numeric Gain of the Antenna		GN (numeric) =	0.63	numeric
S_{20} = Power Density of device at 20cm (mW/m²)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (mW/m²) =	0.00	mW/m²
S_{20} = Power Density of device at 20cm (W/m²)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (W/m²) =	0.00	W/m²
S_L = Power Density Limit (W/m²)		S_L (W/m²)=	5.412	W/m²
R_C = Minimum distance to the Radiating Element for Compliance (cm)	$R_C=\sqrt{(P_A G_N/4\pi S_L)}$	R_C (cm) =	0.4	cm
S_C = Power Density of the device at the Compliance Distance R_C (W/m²)	$S_C=(P_A G_N)/(4\pi R_C)^2$	S_C (W/m²) =	5.41	W/m²
R_{20} = 20cm		R20=	20	cm

For Complaince with Canada General Population Limits, User Manual must indicate a minimum seperation distance of 0.4 cm

Or in Meters for Complaince with Canada General Population Limits, a minimum seperation distance of 0.00 Meters

Summary: Standalone MPE Calculations and Summary								
Band (MHZ)	Tx Duty Cycle (%)	Tx Frequeny (MHz)	Power Total (mW)	Antenna Gain (numeric)	S_L (W/m²)	S_{20} (W/m²)	R_C (cm)	S_C (W/m²)
2402-2480	100	2442	1	0.63	5.412	0.00	0.4	5.41
Band (MHZ)	Tx Duty Cycle (%)	Tx Frequeny (MHz)	Power Total (mW)	Antenna Gain (dBi)	SL (W/m2)	S20 (W/m2)	RC (cm)	SC (W/m2)
2412-2462	100	2437	32.21	0.59	5.404	0.04	1.7	5.40

Simlutaneous MPE Calculation		
	Transmitter 1	Transmitter 2
Tx Frequeny (MHz)	2442	2437
S_{20} (W/m²)	0.00	0.04
S_L (W/m²)	5.412	5.404
Power Ratio (S_L / S_{20})	0.000	0.007
Sum of Power Ratios at 20cm (Tx1 + Tx2)		0.007
Requirement = Σ of MPE Ratio ≤ 1		

	Model:	AA3562	Test Number: 211001			
MPE Calculator	RF Exposure uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.					
	dBi = dB gain compared to an isotropic radiator.					
	S = power density in mW/cm^2					
		Transmitter Output power (mW)	32.2			
		Transmitter Output power (W)	0.032			
Output Power for % duty Cycle operation (Watts)		100	0.032		Antenna Gain (dBi)	-2.3
		Output Power for 100% duty Cycle operation (Watts)	0.032		Antenna Gain (Numeric)	0.59
Tx Frequency (MHz)	2437	Calcualtion power (Watts)	0.032	dBd + 2.17 = dBi	dBi to dBd	2.2
					Antenna Gain (dBd)	-4.47
Cable Loss (dB)	0.0	Adjusted Power (dBm)	15.08		Antenna minus cable (dBi)	-2.30
					Antenna Gain (Numeric)	0.59
	Calculated ERP (mw)	11.508			EIRP = Po(dBM) + Gain (dB)	
	Calculated EIRP (mw)	18.967			Radiated (EIRP) dBm	12.780
					ERP = EIRP - 2.17 dB	
					Radiated (ERP) dBm	10.610

Power density (S) mW/cm² = EIRP / 4 p r^2

r (cm) EIRP (mW)

	Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310		
5	mW/cm²	Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm²)
50	W/m²	30-300	1	0.2
	General Public Limit	300-1,500	f/300	f/1500
1	mW/cm²	1,500-10,000	5	1
10	W/m²			

	Occupational Limit			
$0.6455f^{0.5}$	W/m²	IC radio frequency radiation exposure limits per RSS-102		
39.7	W/m²	Frequency (MHz)	Occupational Limit (W/m²)	Public Limit (W/m²)
	General Public Limit	100-6,000	$0.6455f^{0.5}$	
$0.02619f^{0.6834}$	W/m²	6,000-15,000	50	
5.4	W/m²	48-300		1.291
		300-6,000		$0.02619f^{0.6834}$
		6,000-15,000	50	10

f = Transmit Frequecny (MHz)		f (MHz) =	2437	MHz
P_T = Power Input to Antenna (mW)		P_T (mW) =	32.2107	mW
Duty cycle (percentage of operation)		% =	100	%
P_A = Adjusted Power due to Duty cycle or Cable Loss (mW)		P_A (mW) =	32.21	mW
G_N = Numeric Gain of the Antenna		GN (numeric) =	0.59	numeric
S_{20} = Power Density of device at 20cm (mW/m²)	$S_{20}=(P_AG_N)/(4\pi R_{20})^2$	S_{20} (mW/m²) =	0.00	mW/m²
S_{20} = Power Density of device at 20cm (W/m²)	$S_{20}=(P_AG_N)/(4\pi R_{20})^2$	S_{20} (W/m²) =	0.04	W/m²
S_L = Power Density Limit (W/m²)		S_L (W/m²)=	5.404	W/m²
R_C = Minimum distance to the Radiating Element for Compliance (cm)	$R_C=\sqrt{(P_AG_N/4\pi S_L)}$	R_C (cm) =	1.7	cm
S_C = Power Density of the device at the Compliance Distance R_C (W/m²)	$S_C=(P_AG_N)/(4\pi R_C)^2$	S_C (W/m²) =	5.40	W/m²
R_{20} = 20cm		R20=	20	cm

For Complaince with Canada General Population Limits, User Manual must indicate a minimum seperation distance of 1.7 cm

Or in Meters for Complaince with Canada General Population Limits, a minimum seperation distance of 0.02 Meters