

# FCC §15.247 (I), §2.1091 - RF EXPOSURE

**FCC ID: 2A94YAY120B** 

# Applied procedures / limit

According to FCC §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines..

**Limits for Occupational / Controlled Exposure** 

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E ², H ²or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Note: *f* is frequency in MHz

### **Limits for General Population / Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E ², H ² or S (minutes)	
0.3-1.34	614	1.63	(100)*	30	
1.34-30	824/f	2.19/f	(180/f)*	30	
30-300	27.5	0.073	0.2	30	
300-1500			F/1500	30	
1500-100,000			1.0	30	

Note: f = frequency in MHz

#### **MPE Prediction**

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

<sup>\* =</sup> Power density limit is applicable at frequencies greater than 100 MHz

<sup>\* =</sup> Plane-wave equivalent power density



### **TEST RESULTS**

BT

1Mbps					
Test Channel	Frequency	Peak Output Power	Peak Output Power		
	(MHz)	(dBm)	(mW)		
CH00	2402	5.178	3.295		
CH39	2441	5.741	3.751		
CH78	2480	5.618	3.646		
2Mbps					
CH00	2402	5.580	3.614		
CH39	2441	6.036	4.014		
CH78	2480	5.962	3.946		
3Mbps					
CH00	2402	5.644	3.614		
CH39	2441	6.091	4.014		
CH78	2480	5.942	3.946		

# SRD 904-924MHz

Field strength = 76.65 dBuV/m @3m Ant gain =-1.0 dBi; so Ant numeric gain= 0.79 So pt={  $[10^{(76.65/20)}/10^6 \text{ x3}]^2/30\text{x0.79} }\text{x1000 mW} = 0.011 mW$ 

Mode	Frequency MHz	Peak Output Power (dBm)	Output power (mW)	Antenna Gain (numeric)	Power Density (S) (mW/ cm <sup>2</sup> )	Limit of Power Density (S) (mW/ cm <sup>2</sup> )	Result
ВТ	2441	6.091	4.07	2.74(1.88)	0.0015	1	Pass
SRD	904	-19.59	0.011	-1.0(0.79)	0.000002	1	Pass

NOTE: R =20cm

**BT** and **SRD** can't simultaneously transmission, maximum Power Density (S) is 0.0015(mW/ cm2) does not exceed Limit of Power Density (S) 1 (mW/ cm2).

Conclusion: No SAR is required.