RF EXPOSURE EVALUATION METHOD

SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and \leq 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	SAR Test Exclusion
1900	11	22	33	44	54	Threshold (mW)
2450	10	19	29	38	48	1111 (1111 (1111)
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances \leq 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [$\sqrt{f(GHz)}$] \leq 3.0 for 1-g SAR and \leq 7.5 for 10-g extremity SAR,where f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation. The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2.4GWIFI

frequency	Maximum Peak	Max Antenna
	Conducted Output Power	Gain
GHz	dBm	dBi
2412	8.375	1.0
2437	8.519	1.0
2462	8.468	1.0

For BT mode

Field strength = 95.91dBuV/m @3m Ant gain =1.0dBi, so Ant numeric gain=1.26 So pt={ $[10^{(95.91/20)}/10^6$ x 3] $^2/30$ x1.26}x1000 mW =1.473mW So (1.473mW /5mm)x $\sqrt{2}$.402 = 0.456<3

IEEE 802.11b

max possible output power (PK,conducted): 8±1dbm

1.0dBi logarithmic terms convert to numeric result is nearly 1.26

9dbm=7.94mW

2412MHz

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation

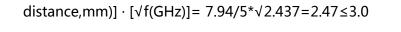
distance,mm)] $\cdot [\sqrt{f(GHz)}] = 7.94/5*\sqrt{2.412} = 2.46 \le 3.0$

Threshold at which no SAR required is 10mw and ≤ 3.0 for 1-g SAR, Separation

distance is 5mm.

2437MHz

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation



Threshold at which no SAR required is 10mw and \leq 3.0 for 1-g SAR, Separation distance is 5mm.

2462MHz

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance,mm)] \cdot [$\sqrt{f(GHz)}$] = 7.94/5* $\sqrt{2.462}$ = 2.49 \leq 3.0

Threshold at which no SAR required is 10mw and \leq 3.0 for 1-g SAR, Separation distance is 5mm.

IEEE 802.11a

max possible output power (PK,conducted): 6±1dbm

1.0dBi logarithmic terms convert to numeric result is nearly 1.26

7dbm=5.01mW

5745MHz

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation

distance,mm)] $\cdot [\sqrt{f(GHz)}] = 5.01/5*\sqrt{5.745} = 2.40 \le 3.0$

Threshold at which no SAR required is 10mw and ≤ 3.0 for 1-g SAR, Separation

2437MHz

distance is 5mm.

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation

distance,mm)] $\cdot [\sqrt{f(GHz)}] = 5.01/5*\sqrt{5.785} = 2.41 \le 3.0$

Threshold at which no SAR required is 10mw and \leq 3.0 for 1-g SAR, Separation distance is 5mm.

2462MHz

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation

distance,mm)] $\cdot [\sqrt{f(GHz)}] = 5.01/5*\sqrt{5.825} = 2.42 \le 3.0$

Threshold at which no SAR required is 10mw and \leq 3.0 for 1-g SAR, Separation					
distance is 5mm.					
Conclusion: No SAR is required.					