

RF EXPOSURE EVALUATION METHOD

RF EXPOSURE EVALUATION METHOD- KDB 447498 D01V06

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	SAR Test Exclusion Threshold (mW)
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	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

Note: 10-g Extremity SAR Test Exclusion Power Thresholds are 2.5 times higher than the 1-g SAR Test Exclusion Thresholds indicated above. These thresholds do not apply, by extrapolation or other means, to occupational exposure limits.

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:

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

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 \leq 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.

BT

Mode	Frequency:2402 – 2480 MHz
Detector	PEAK
GFSK(1Mbps)	3±1dBm
$\pi/4$ -DQPSK(2Mbps)	2±1dBm
8DPSK(3Mbps)	3±1dBm

Mode	frequency (GHz)	Maximum Peak Conducted Output Power (dBm)	Tune up Power (dBm)	Tune up Power (mW)	Result	Limit
GFSK(1Mbps)	2.441	3.5	4	2.512	0.785	3
$\pi/4$ -DQPSK(2Mbps)	2.441	2.7	3	1.995	0.623	3
8DPSK(3Mbps)	2.402	2.85	4	2.512	0.779	3

BLE

Mode	2402-2480MHz
Detector	PEAK
BLE 1Mbps	4±1dBm
BLE 2Mbps	4±1dBm

Mode	frequency (GHz)	Maximum Peak Conducted Output Power (dBm)	Tune up Power (dBm)	Tune up Power (mW)	Result	Limit
BLE 1Mbps	2.402	4.42	5	3.162	0.980	3
BLE 2Mbps	2.402	4.42	5	3.162	0.980	3

Remark:

Threshold at which no SAR required is $\text{Max.} 0.98 \leq 3.0$ for 1-g SAR, Separation distance is 5mm.