

FCCID: 2AINTAT-4200

RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v05

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

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

$f(\text{GHz})$ 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

$$\text{eirp} = \text{pt} \times \text{gt} = (\text{EXd})^{2/30}$$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10((\text{dBuV/m})/20)/106$

d = measurement distance in meters (m)---3m

$$\text{So pt} = (\text{EXd})^{2/30} \times \text{gt}$$

RF Exposure evaluation for AT-4200

Copied from the FCC test report:

Carrier Frequency (MHz)	Factual Level dBm (mW)
470.200	-0.1dBm(i.e.0.98 mW)
514.000	-0.3dBm(i.e.0.93 mW)
607.800	-0.3dBm(i.e 0.93 mW)

tune-up tolerance= ± 1 dB,

min. test separation distance = 5 mm, since the min distance from the antenna to the outer = 6.35 mm

Field strength = -0.1 dBm=0.98 mW in 470.200 MHz

Field strength = -0.3 dBm=0.93 mW in 514.000 MHz

Field strength = -0.3 dBm=0.93 mW in 607.800 MHz

Max. power of channel after included tune-up tolerance

Field strength = 0.9 dBm=1.23 mW in 470.200 MHz

Field strength = 0.7 dBm=1.17 mW in 514.000 MHz

Field strength = 0.7 dBm=1.17 mW in 607.800 MHz

So (1.23 mW)/5.0mm)x $\sqrt{0.470200 \text{ GHz}}$ = 0.0679 <3

So (1.17 mW)/5.0mm)x $\sqrt{0.514000 \text{ GHz}}$ = 0.0692 <3

So (1.17 mW)/5.0mm)x $\sqrt{0.607800 \text{ GHz}}$ = 0.0696 <3

Then SAR evaluation is not required