

RF EXPOSURE TEST

FCC ID: 2AHR2SP3178-BK6

RF EXPOSURE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

- P :power input to the antenna in Mw
- EIRP :Equivalent(effective) isotropic radiated power.
- S :power density mW/ cm²
- G ;numeric gain of antenna relative to isotropic radiator
- R :distance to centre of radiation in cm

FCC radio frequency exposure limits may be exceeded at distances closer than r cm from the antenna of this device

$$r = \sqrt{\frac{PG}{4\pi S}} = \sqrt{\frac{EIRP}{4\pi S}}$$

EIRP=10^(Antenna Gain+Peak Output Power/10)

Note:

1. s=1.0 mW /cm² for limits for General Population/Uncontrolled Exposures.
2. The time averaged power over 30 minutes will be equaled Output Power.
3. The Power Density at a distance of 20cm calculated from the formula is far below the limit of 1MW/ cm²

Tune-up power:

1Mbps: 7+-1dBm, Max:8dbm

2Mbps: 6+-1dBm, Max:7dbm

3Mbps: 6+-1dBm, Max:7dbm

Output power Max (PK)(dBm)	Output power to antenna (mW)	Antenna Gain (numeric)	Power Density (S) (mW/ cm ²)	Limit of Power Density (S) (mW/ cm ²)	Result
8	6.30	1.26(1dBi)	0.0016	1	Pass

R=20cm

NOTE: (For mobile or fixed location transmitters, the maximum power density is 1.0mW/cm² .even if the calculation indicates that the power density would be larger)