FCC ID: 2AJ9T-10311

RF EXPOSURE EVALUATION

According to KDB 447498 D01 V06 and FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in part 2.1091

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

*f = frequency in MHz. * = Plane-wave equivalent power density.*

11.1 Friis transmission formula: Pd= (Pout*G)\ (4*pi*R^2)

Where

Pd= Power density in mW/cm^2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1416

R= distance between observation point and center of the radiator in cm

Pd the limit of MPE, 1mW/cm^2,If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

RF Exposure Information: The radiated output power of this device meets the limits of FCC/IC radio frequency exposure limits.This device should be operated with a minimum separation distance of 20cm (8 inches) between the equipment and a person's body.

11.2 Measurement Result

Wifi 2.4G Test Mode 11N20 Transmit Power Max: 16.42dBm
Antenna gain: 2.24dBi

Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
16.42	16 to 17	17	1.67	0.01670	1

RFID 125KHz, Antenna Gain: 0dBi

TransmitFrequency (KHz)	Mode	H-field Level@3m(dBuV/m)	H-fieldLevel@3m(V/m)	Field intensity limited V/m
125K	ASK	56.02	0.00063	614
NOTE 1: V/m=10* ($\frac{dB\mu V/_m - 120}{20}$)				

The imultaneous transmit:

Operating Band	The MPE ratio
WiFi 2.4G	0.01670
RFID 125KHz	0.00063

So the simultaneous transmitting antenna pairs as below:

WiFi 2.4G + RFID 125KHz + RFID 13.56MHz = 0.01670+0.00063=0.01733

For the max result: 0.01733≤ 1.0, No SAR is required.

*** End of Report ***