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## Maximum Permissive Exposure

FCC ID: Y9E-IAD-18001  
EUT: Smart Signboard  
M/N: IAD-18001

1. According to FCC CFR 47 §1.1310, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

Table 1 Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	---	---	f/300	6
1500-100,000	---	---	5.0	6
(B) Limits for General Population / Uncontrolled Exposures (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100,000	---	---	1.0	30



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## 2. MPE Calculation

**IAdea Corporation** declares that the product described above has been evaluated and found to comply with the RF exposure limits for humans, as specified based on ANSI/FCC recommendation.

RF Exposure Calculations:  $S = (P * G) / (4 * \pi * r^2)$  or  $r = \sqrt{(P * G) / (4 * \pi * S)}$

### 2.1. Estimation Result

#### DTS

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11b	2412	12.38	17.30	3.3	2.14	0.0074
	2437	12.69	18.58	3.3	2.14	0.0079
	2462	12.86	19.32	3.3	2.14	0.0082
11g	2412	12.79	19.01	3.3	2.14	0.0081
	2437	13.23	21.04	3.3	2.14	0.0090
	2462	13.49	22.34	3.3	2.14	<b>0.0095</b>
11n HT20	2412	12.78	18.97	3.3	2.14	0.0081
	2437	13.21	20.94	3.3	2.14	0.0089
	2462	13.40	21.88	3.3	2.14	0.0093

#### UNII-1

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11a	5180	9.46	8.83	2.3	1.70	0.0030
	5200	9.45	8.81	2.3	1.70	0.0030
	5240	9.72	9.38	2.3	1.70	<b>0.0032</b>
11n HT20	5180	9.03	8.00	2.3	1.70	0.0027
	5200	9.20	8.32	2.3	1.70	0.0028
	5240	9.31	8.53	2.3	1.70	0.0029
11n HT40	5190	8.99	7.93	2.3	1.70	0.0027
	5230	9.15	8.22	2.3	1.70	0.0028
11ac VHT20	5180	8.99	7.93	2.3	1.70	0.0027
	5200	9.05	8.04	2.3	1.70	0.0027
	5240	9.25	8.41	2.3	1.70	0.0028
11ac VHT40	5190	9.07	8.07	2.3	1.70	0.0027
	5230	9.19	8.30	2.3	1.70	0.0028
11ac VHT80	5210	8.66	7.35	2.3	1.70	0.0025



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### UNII-3

Mode	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	antenna Gain (dBi)	antenna Gain (linear)	MPE (mW/cm <sup>2</sup> )
11a	5745	9.61	9.14	1.9	1.55	<b>0.0028</b>
	5785	8.96	7.87	1.9	1.55	0.0024
	5825	7.94	6.22	1.9	1.55	0.0019
11n HT20	5745	9.26	8.43	1.9	1.55	0.0026
	5785	8.40	6.92	1.9	1.55	0.0021
	5825	7.54	5.68	1.9	1.55	0.0017
11n HT40	5755	9.20	8.32	1.9	1.55	0.0026
	5795	8.48	7.05	1.9	1.55	0.0022
11ac VHT20	5745	9.38	8.67	1.9	1.55	0.0027
	5785	8.78	7.55	1.9	1.55	0.0023
	5825	7.55	5.69	1.9	1.55	0.0018
11ac VHT40	5755	9.21	8.34	1.9	1.55	0.0026
	5795	8.56	7.18	1.9	1.55	0.0022
11ac VHT80	5775	8.38	6.89	1.9	1.55	0.0021

Based on safety distance (r) **20cm**, the antenna gain (G) is **2.14 Numerical**, and the highest power output (P) is **13.49mW**, the power density (S) is **0.0095mW/cm<sup>2</sup>**.