FCC 47 CFR MPE REPORT

INMUSIC BRANDS INC

INTERNET RADIO PLAYER

Model Number: DN-350UI; DP28

FCC ID: Y4O-DP28

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Maximum Permissible Exposure

1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a)、Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times｜E｜2 , ｜H｜2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b)、Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times｜E｜2 , ｜H｜2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.o	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

2、MPE Calculation Method

E (V/m) = (30*P*G) 0.5/d Power Density: Pd (W/m2) = E2/377

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = (30*P*G) / (377*d2)

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

3、Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power（dBm）	Antenna gain	
					(dBi)	(Linear)
GFSK	2402	2.78	1.897	2±2	-0.5	0.891
	2441	2.33	1.710	2±2	-0.5	0.891
	2480	0.02	1.005	0±2	-0.5	0.891
8-DPSK	2402	4.74	2.979	4±2	-0.5	0.891
	2441	4.10	2.570	4±2	-0.5	0.891
	2480	1.85	1.531	1±2	-0.5	0.891
BLE	2402	3.05	2.018	3±2	-0.5	0.891
	2440	2.11	1.626	2±2	-0.5	0.891
	2480	-0.12	0.973	0±2	-0.5	0.891
IEEE 802.11b	2412	10.81	12.050	10±2	4.0	2.512
	2437	10.43	11.041	10±2	4.0	2.512
	2462	10.00	10.000	10±2	4.0	2.512
IEEE 802.11g	2412	10.94	12.417	10±2	4.0	2.512
	2437	10.65	11.614	10±2	4.0	2.512
	2462	9.32	8.551	9±2	4.0	2.512
IEEE 802.11n HT20	2412	11.01	12.618	11±2	4.0	2.512
	2437	10.97	12.503	10±2	4.0	2.512
	2462	9.49	8.892	9±2	4.0	2.512
IEEE 802.11n HT40	2422	9.98	9.954	9±2	4.0	2.512
	2437	9.51	8.933	9±2	4.0	2.512
	2452	8.64	7.311	8±2	4.0	2.512
IEEE 802.11a	5180	13.56	22.699	13±2	5.5	3.548
	5200	13.53	22.542	13±2	5.5	3.548
	5240	13.48	22.284	13±2	5.5	3.548
	5260	13.78	23.878	13±2	5.5	3.548
	5300	13.82	24.099	13±2	5.5	3.548
	5320	13.16	20.701	13±2	5.5	3.548
	5500	13.47	22.233	13±2	5.5	3.548
	5580	13.53	22.542	13±2	5.5	3.548
	5700	13.55	22.646	13±2	5.5	3.548
	5745	13.90	24.547	13±2	5.5	3.548
	5785	13.86	24.322	13±2	5.5	3.548
	5825	13.18	20.797	13±2	5.5	3.548

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power（dBm）	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11n HT20	5180	13.35	21.627	13±2	5.5	3.548
	5200	13.33	21.528	13±2	5.5	3.548
	5240	13.31	21.429	13±2	5.5	3.548
	5260	13.48	22.284	13±2	5.5	3.548
	5300	13.12	20.512	13±2	5.5	3.548
	5320	13.32	21.478	13±2	5.5	3.548
	5500	13.70	23.442	13±2	5.5	3.548
	5580	13.76	23.768	13±2	5.5	3.548
	5700	13.75	23.714	13±2	5.5	3.548
	5745	13.52	22.491	13±2	5.5	3.548
	5785	13.10	20.417	13±2	5.5	3.548
	5825	13.57	22.751	13±2	5.5	3.548
IEEE 802.11n HT40	5190	13.40	21.878	13±2	5.5	3.548
	5230	13.39	21.827	13±2	5.5	3.548
	5270	14.17	26.122	14±2	5.5	3.548
	5310	14.80	30.200	14±2	5.5	3.548
	5510	13.91	24.604	13±2	5.5	3.548
	5670	14.11	25.763	14±2	5.5	3.548
	5755	12.99	19.907	12±2	5.5	3.548
	5795	12.87	19.364	12±2	5.5	3.548

4、Calculated Result and Limit

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
2.4G Band						
GFSK	4	-0.5	0.891	**0.00045**	1	Compiles
8-DPSK	6	-0.5	0.891	**0.00071**	1	Compiles
BLE	5	-0.5	0.891	**0.00056**	1	Compiles
IEEE 802.11b	12	4.0	2.512	**0.00792**	1	Compiles
IEEE 802.11g	12	4.0	2.512	**0.00792**	1	Compiles
IEEE 802.11n HT20	13	4.0	2.512	**0.00997**	1	Compiles
IEEE 802.11n HT40	11	4.0	2.512	**0.00629**	1	Compiles
5G Band						
IEEE 802.11a	15	5.5	3.548	**0.02232**	1	Compiles
IEEE 802.11n HT20	15	5.5	3.548	**0.02232**	1	Compiles
IEEE 802.11n HT40	16	5.5	3.548	**0.02810**	1	Compiles

Note: 2.4 and 5GHz bands are share an antenna, Cann't both the 2.4 and 5 GHz bands operate simultaneously.