FCC ID : 2AEOD-1400004B00101

RF EXPOSURE EVALUATION

According to 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 §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	**--**	**--**	**F/300**	**6**
1500-100000	**--**	**--**	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	**--**	**--**	**F/1500**	**6**
1500-100000	**--**	**--**	**1**	**30**

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.

11.2 Measurement Result

BT DSS for antenna A

Bandwidth 1：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	544.00	27.356	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	559.50	27.478	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	580.50	27.638	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 2：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	539.26	27.318	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	554.50	27.439	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	570.95	27.566	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 3：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	568.33	27.546	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	539.14	27.317	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	570.95	27.566	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 4：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	535.18	27.285	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	552.71	27.425	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	568.33	27.546	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 5：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	540.75	27.330	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	554.63	27.440	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	573.85	27.588	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 6：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	541.63	27.337	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	558.21	27.468	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	575.57	27.601	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 7：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	538.64	27.313	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	554.24	27.437	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	573.19	27.583	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 8：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	540.26	27.326	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	562.21	27.499	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	573.72	27.587	26dBm to 28dBm	28	1.78	0.22462	1

Bandwidth 9：

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	524.20	27.195	26dBm to 28dBm	28	1.78	0.22462	1
Mid	FSK	545.00	27.364	26dBm to 28dBm	28	1.78	0.22462	1
High	FSK	544.25	27.358	26dBm to 28dBm	28	1.78	0.22462	1

BT DSS for antenna B

Bandwidth 1:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.58	5.54	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.80	4.47	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.09	3.21	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 2:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.63	5.60	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.82	4.51	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.11	3.25	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 3:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.66	5.64	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.84	4.54	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.13	3.28	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 4:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.76	5.75	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.98	4.74	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.22	3.46	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 5:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.72	5.70	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.98	4.74	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.22	3.46	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 6:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.66	5.63	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.90	4.62	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.47	3.92	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 7:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.58	5.54	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.80	4.47	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.09	3.21	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 8:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	3.66	5.64	4dBm to 6dBm	6	1.51	0.00120	1
Mid	FSK	2.90	4.63	3dBm to 5dBm	5	1.51	0.00096	1
High	FSK	2.16	3.35	3dBm to 5dBm	5	1.51	0.00096	1

Bandwidth 9:

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
Low	FSK	0.58	-2.364	-3dBm to -1dBm	-1	1.51	0.00024	1
Mid	FSK	0.73	-1.394	-2dBm to 0dBm	0	1.51	0.00030	1
High	FSK	0.90	-0.463	-2dBm to 0dBm	0	1.51	0.00030	1

BT DTS for antenna A

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
903.2	FSK	518.44	27.147	26dBm to 28dBm	28	1.78	0.22462	1
915.2	FSK	527.23	27.220	26dBm to 28dBm	28	1.78	0.22462	1
926.4	FSK	538.89	27.315	26dBm to 28dBm	28	1.78	0.22462	1

BT DTS for antenna B

Channel Freq. (MHz)	modulation	conducted power (mW)	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
903.2	FSK	0.62	-2.082	-3dBm to -1dBm	-1	1.51	0.00024	1
915.2	FSK	0.78	-1.097	-2dBm to 0dBm	0	1.51	0.00030	1
926.4	FSK	0.95	-0.214	-2dBm to 0dBm	0	1.51	0.00030	1