



MPE ESTIMATION

FCC ID: 2ALPX-OPYNKEYPAD

1, According to §1.1310, Limit for General Population/ Uncontrolled

Exposures

Frequency	Power density (mW/ cm ²)	Averaging time(minutes)
1.34M---30M	*(180/F ²)	30
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Note: F= Frequency in MHz

2, Estimation Result

	Frequency (MHz)	Max PK Output power (dBm)	Tune Up Power (dBm)	Max Tune Up power(mW)	Antenna Gain(dBi)	Antenna Gain (numerical)	MPE (mW/cm ²)	Limit (mW/cm ²)	Ratios
BLE	2480	-1.00	-1±1(0)	1	2.79	1.90	0.00038	1.0	0.00038
NFC	13.56	-79.27	-79±1(-78)	0.0000000158	1	1.26	0.00000000000397	0.98	0.00000000004053

Note: Max PK Output power(dBm)= 15.93(dBuV/m) - 95.2 = -4.83(dBm)

$$Pd = \frac{Pout * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power in mW.

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna in cm

Conducted power see the test report **HK2607100712-1E/2E**, BT antenna gain=2.79dBi, NFC antenna gain=1dBi

Simultaneously MPE Ratios: BLE+NFC=0.00038+0.00000000004053=0.000380000004053

When the minimum test separation distance is >20 cm, a distance of 20 cm is applied to determine RF Exposure test exclusion. The test exclusion threshold is 0.000380000004053 which is < 1, RF Exposure testing is not required.

-----The End-----