

RF Exposure

Applicant: Creations Un Limited
FCC ID: 2BDTL-airori001
Model: air0-ori-001

RF Exposure Compliance Requirement

Standard Requirement

According to FCC KDB 447498 D04V01- SAR-Based Exemption

This method shall only be used at separation distances from 0.5cm to 40cm and at frequencies from 0.3GHz to 6GHz(inclusive).P_{th} is given by Formula.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is separation distance(cm), and ERP_{20cm} is per Formula.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

The example values shown as below are for illustration only.

Frequency (MHz)	Distance(mm)										
		5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	147	166	184	201	217	
450	22	44	67	89	112	135	158	180	203	226	
835	9	25	44	66	90	116	145	175	207	240	
1900	3	12	26	44	66	92	122	157	195	236	
2450	3	10	22	38	59	83	111	143	179	219	
3600	2	8	18	32	49	71	96	125	158	195	
5800	1	6	14	25	40	58	80	106	136	169	

Test result

Mode	Frequency Band (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	EIRP (mW)	FCC SAR Test Exclusion Threshold (mW)
BLE	2402~2480	-0.358	0.92	0	0.92	3

So, this device can complies the SAR test exclusion.

--END--