

FCC RF EXPOSURE REPORT

La Crosse Technology Ltd.

POOL SENSOR

Model Number: LTV-POOLv2 (LTV-POOL, LTV-POOLv2-INT, LTV-POOLvx, LTV-POOLvx-INT, LTV-POOLxx-xxx, LTV-POOL-xx, LTV-POOL-xxx, LTV-POOL-xx-xxx (x can be 0~9 or A~Z or a~z, the difference for different version are the product shell color, and packaging upgrade version number, when upgrade a version the number progressed to next number. The hardware is the same. The software upgrade don't influence the RF characteristic.

All the models are electrically identical.) (These models have the same circuitry, electrical mechanical, PCB Layout and physical construction. The differences are model number, version are the product shell color and packaging upgrade version number due to marketing purpose.)

FCC ID: OMOLTV-POOLV2

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1. Applicable Standards

FCC Part 2(Section 2.1093)

FCC KDB 447498 D04 Interim General RF Exposure Guidance v01

2. Exposure Evaluation of Portable or Mobile Devices

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR. Evaluation of mobile devices, as defined by the FCC, may also be performed with respect to SAR limits, but in such cases it is usually simpler and more cost-effective to evaluate compliance with respect to field strength or power density limits. For certain devices that are designed to be used in both mobile and portable configurations similar to those described in 47 CFR §2.1091(d)(4), such as certain desktop phones and wireless modem modules, compliance for mobile configurations is also satisfied when the same device is evaluated for SAR compliance in portable configurations.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

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

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50	
	300	39	65	88	110	129	148	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

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 300 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

3. Calculated Result and Limit

For 915MHz SRD

Field strength = 81.39dBuV/m@3m

$$P = \{ [10^{(81.39/20)} / 10^6 * 3]^2 / 30 \} * 1000\text{mW} = 0.041049\text{mW} < 8\text{mW}$$

1. CWe choose 0.915GHz to calculate limit as lower frequency will have higher limits.

End of Test Report