

Kangtai Electric Co., Ltd.

SAR COMPLIANCE REPORT

Report Type:
FCC SAR assessment report

Model:
50123USA, 20020USA, SN20012USA, SN20016USA

REPORT NUMBER:
220901272SHA-002

ISSUE DATE:
October 18, 2022

DOCUMENT CONTROL NUMBER:
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Applicant: Kangtai Electric Co., Ltd.
No.5, Kangtai Rd., Huanghua Industrial District, Yueqing, Zhejiang,
P.R.China

Manufacturer: Kangtai Electric Co., Ltd.
No.5, Kangtai Rd., Huanghua Industrial District, Yueqing, Zhejiang,
P.R.China

Factory: Kangtai Electric Co., Ltd.
No.5, Kangtai Rd., Huanghua Industrial District, Yueqing, Zhejiang,
P.R.China

FCC ID: RHT020

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v07
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:



Project Engineer
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REVIEWED BY:



Reviewer
Eric Li

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Revision History

Report No.	Version	Description	Issued Date
220901272SHA-002	Rev. 01	Initial issue of report	October 18, 2022

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product Name:	Transmitter
Model:	50123USA, 20020USA, SN20012USA, SN20016USA
Description of EUT:	The product is a transmitter. It works at 433.92MHz Frequency. There are four models, they are same except the model name. We test 50123USA and list the result in this report.
Rating:	3Vdc, 10mA
Category of EUT:	Class B
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample number:	0220925-15-001
Sample received date:	September 26, 2022
Date of test:	September 26, 2022 ~ September 30, 2022

1.2 Technical Specification

Operation Frequency:	433.92MHz
Type of Modulation:	ASK
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Channel Number:	1
Antenna Designation:	PCB antenna

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 SAR Assessment

Test result: Pass

2.1 SAR Test Exclusion Limit

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

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

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

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

The example values shown in 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	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

2.2 Assessment Results

As we can see from the test report 220802983SHA-001:

The highest EIRP adjusted with tune-up tolerance is: 80.9-95.3 = -14.4dBm=0.036mW
 0.036mW < 22mW (Test Exclusion Thresholds of 450MHz at 5mm). Therefore, the SAR requirement is deemed to be satisfied without test.

***** END *****