

# TEST REPORT

**Product Name** : MoerDuo Tango  
**Brand Mark** : N/A  
**Model No.** : AHA02  
**FCC ID** : 2A8MI-AHA02  
**Report Number** : BLA-EMC-202208-A9504  
**Date of Sample Receipt** : 2022/8/30  
**Date of Test** : 2022/8/30 to 2022/9/19  
**Date of Issue** : 2022/9/20  
**Test Standard** : 47 CFR Part 15, Part1.1307  
47 CFR Part 15, Part2.1093  
KDB447498D04 General RF Exposure  
Guidance v01  
**Test Result** : Pass

Prepared for:

**Nanjing Yixin Electronic Technology Co., LTD**  
**Room 2292, Fuying Building, No.99,Tuanjie Road, Nanjing, Jiangsu pilot**  
**free trade zone.**

Prepared by:

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Date: 2022/9/20



**REPORT REVISE RECORD**

<b>Version No.</b>	<b>Date</b>	<b>Description</b>
00	2022/9/20	Original

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## 1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
RF Exposure	47 CFR Part 1.1307, Part 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	PASS

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## 2 GENERAL INFORMATION

<b>Applicant</b>	Nanjing Yixin Electronic Technology Co., LTD
<b>Address</b>	Room 2292, Fuying Building, No.99,Tuanjie Road, Nanjing, Jiangsu pilot free trade zone.
<b>Manufacturer</b>	Nanjing Yixin Electronic Technology Co., LTD
<b>Address</b>	Room 2292, Fuying Building, No.99,Tuanjie Road, Nanjing, Jiangsu pilot free trade zone.
<b>Factory</b>	Rayson Technology (SZ )Co., Ltd.
<b>Address</b>	No.1,Tongfu 1st Road,The 2nd industrial Zone,Loucun,Guangming New District,Shenzhen,China
<b>Product Name</b>	MoerDuo Tango
<b>Test Model No.</b>	AHA02

## 3 GENERAL DESCRIPTION OF E.U.T.

<b>Hardware Version</b>	N/A
<b>Software Version</b>	N/A
BR/EDR	
<b>Operation Frequency:</b>	2402MHz-2480MHz
<b>Modulation Type:</b>	GFSK, pi/4DQPSK, 8DPSK
<b>Channel Spacing:</b>	1MHz
<b>Number of Channels:</b>	79
<b>Antenna Type:</b>	Ceramic Antenna
<b>Antenna Gain:</b>	2.28dBi(Provided by the customer)
BLE	
<b>Operation Frequency:</b>	2402MHz-2480MHz
<b>Modulation Type:</b>	GFSK
<b>Data Rata</b>	1Mbps; 2Mbps
<b>Channel Spacing:</b>	2MHz
<b>Number of Channels:</b>	40
<b>Antenna Type:</b>	Ceramic Antenna
<b>Antenna Gain:</b>	2.28dBi(Provided by the customer)

#### 4 LABORATORY LOCATION

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co., Ltd.

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No tests were sub-contracted.

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## 5 RF EXPOSURE COMPLIANCE REQUIREMENT

### Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

### Limits

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

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).

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	

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

$$EIRP = p_t \times g_t = (EXd)^2/30$$

where:

$p_t$  = transmitter output power in watts,

$g_t$  = numeric gain of the transmitting antenna (unitless),

$E$  = electric field strength in V/m, ---  $10((dBuV/m)/20)/106$

$d$  = measurement distance in meters (m)---3m

$$S_{opt} = (EXd)^2/30 \times g_t$$

$$\text{Ant gain} = 2.28 \text{ dBi}$$

$$\text{Max Output power} = 1.12 \text{ dBm} @ \text{BR} @ 2402 \text{ MHz}$$

$$\text{ERP} = 1.12 \text{ dBm} + 2.28 \text{ dBi} - 2.15 = 1.25 \text{ dBm}$$

So

worse case:

$$10^{0.125} = 1.33 \text{ mW} < 2.79 \text{ mW}$$

Then SAR evaluation is not required

**----END OF REPORT----**

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