

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:

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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

Version No.	Date	Description
00	2022/9/20	Original

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5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	错误！未定义书签。
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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

2 GENERAL INFORMATION

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

3 GENERAL DESCRIPTION OF E.U.T.

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

4 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province,
China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

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

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

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

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

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

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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