

TEST REPORT

Product Name : Machine entertainment system
Brand Mark : N/A
Model No. : ZH-DT6125-01
Extension model : SK8734012,SK8734010,SK8734011,
SV5734015,SV5734016,SV5734017,
MILA734002,MILA734001,MILA734003,
SK83B2,MILA734006
FCC ID : 2BACQMAXUS6125
Report Number : BLA-EMC-202303-A11907
Date of Sample Receipt : 2023/3/28
Date of Test : 2023/3/28 to 2023/4/28
Date of Issue : 2023/4/28
Test Standard : KDB447498D04 General RF Exposure
Guidance v01
Test Result : Pass

Prepared for:

China Satellite Navigation and Communication Co., Ltd
C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing,
100012 CN

Prepared by:

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Date: 2023/4/28



REPORT REVISE RECORD

Version No.	Date	Description
00	2023/4/28	Original

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TABLE OF CONTENTS

1 GENERAL INFORMATION	4
2 GENERAL DESCRIPTION OF E.U.T.	4
3 LABORATORY LOCATION	6
4 RF EXPOSURE COMPLIANCE REQUIREMENT	7
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	7
<i>Standard Requirement</i>	7
<i>Limits</i>	7

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1 GENERAL INFORMATION

Applicant	China Satellite Navigation and Communication Co., Ltd
Address	C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN
Manufacturer	China Satellite Navigation and Communication Co., Ltd
Address	C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN
Factory	China Satellite Navigation and Communication Co., Ltd
Address	C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN
Product Name	Machine entertainment system
Test Model No.	ZH-DT6125-01
Extension model	SK8734012,SK8734010,SK8734011,SV5734015,SV5734016,SV5734017, MILA734002,MILA734001,MILA734003,SK83B2,MILA734006
Remark	MILA734001, MILA734002,MILA734003, MILA734006,SK83B2Their electrical circuit design, layout, components used and internal wiring are identical,Only the item number and color are different.

2 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:	FPC Antenna
Antenna Gain:	5dBi(Provided by the customer)

2.4GWiFi:

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Antenna Type:	FPC Antenna
Antenna Gain:	5dBi(Provided by the customer)

5G WIFI:

Operation Frequency:	Band 1 : 5180MHz-5240MHz; Band 2:5260MHz~5320MHz Band 3: 5500MHz~5700MHz; Band 4 : 5745MHz-5825MHz
Channel numbers:	Band 1: 802.11a/802.11n(HT20)/802.11ac(HT20): 4, 802.11n(HT40)/802.11ac(HT40):2, 802.11ac(HT80): 1 Band 2: 802.11a/802.11n(HT20)/802.11ac(HT20): 4, 802.11n(HT40)/802.11ac(HT40):2, 802.11ac(HT80): 1 Band 3: 802.11a/802.11n(HT20)/802.11ac(HT20): 11, 802.11n(HT40)/802.11ac(HT40):5, 802.11ac(HT80): 3 Band 4: 802.11a/802.11(HT20)/802.11ac(HT20): 5, 802.11n(HT40)/802.11ac(HT40): 2, 802.11ac(HT80): 1
Channel separation:	802.11a/n/ac(HT20)/ : 20MHz, 802.11n/ac(HT40): 40MHz, 802.11ac(HT80)
Modulation technology: (IEEE 802.11a/n/ac)	BPSK, QPSK, 16-QAM, 64-QAM, 256QAM
Data speed(IEEE 802.11a)	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n/ac):	Up to 866.7Mbps
Antenna Type:	FPC Antenna
Antenna Gain:	5dBi(Provided by the customer)

3 LABORATORY LOCATION

All tests were performed at:

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

Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

No tests were sub-contracted.

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4 RF EXPOSURE COMPLIANCE REQUIREMENT

4.1 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

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

$$\text{Ant gain} = 5 \text{ dBi}$$

BT(1)

Max Output power =2.939dBm @ 2480MHz

$$ERP = 2.939dBm + 5dBi - 2.15 = 5.789dBm$$

BT(2)

Max Output power =3.806dBm @ 2480MHz

$$ERP = 3.806dBm + 5dBi - 2.15 = 6.656dBm$$

2.4GWIFI

Max Output power =14.009dBm @ 2412MHz

$$ERP = 14.009dBm + 5dBi - 2.15 = 16.859dBm$$

5GWIFI

Max Output power =12.993dBm @ 5500MHz

$$ERP = 12.993dBm + 5dBi - 2.15 = 15.843dBm$$

So

ERP is worse case

$$10^{1.686} = 48.518 \text{ mW} < 3060 \text{ mW}$$

Comply with RF exposure exemption limit.

----END OF REPORT----

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