RADIO TEST REPORT

Report No: STS2201154H01

Issued for

SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.

No. 17, section 3, west section of Changjiang North Road,Lingang Economic Development Zone, YibinCity ,SICHUAN,PR.C

Product Name:	MACH6
Brand Name:	AEE
Model Name:	X100
Series Model:	N/A
FCC ID:	2AWQGX10001
Test Standard:	FCC 47CFR §2.1091

Shenzhen STS Test Services Co., Ltd.
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Test Report Certification

Applicant's Name ..... :	SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.
Address ..... :	No. 17, section 3, west section of Changjiang North Road,Lingang Economic Development Zone, YibinCity ,SICHUAN,PR.C
Manufacturer's Name ..... :	SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.
Address ..... :	No. 17, section 3, west section of Changjiang North Road,Lingang Economic Development Zone, YibinCity ,SICHUAN,PR.C

Product Description

Product Name..... :	MACH6
Brand Name ..... :	AEE
Model Name ..... :..	X100
Series Model..... :	N/A
Standards ..... :	FCC 47CFR §2.1091 447498 D04 Interim General RF Exposure Guidance v01

Date of Test .....:	
Date of receipt of test item .....:	19 Jan. 2022
Date (s) of performance of tests .....:	19 Jan. 2022 ~ 02 Aug. 2022
Date of Issue.....:	02 Aug. 2022
Test Result.....:	**Pass**

Testing Engineer : Chris Chen

(Chris Chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Bovey Yang

(Bovey Yang)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	02 Aug. 2022	STS2201154H01	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	MACH6
Brand Name	AEE
Model Name	X100
Series Model	N/A
Model Difference	N/A
Product Description	The EUT is MACH6 Operation Frequency: 2.4G: 2406-2466 MHz 5G: 5740-5830 MHz LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5:824~849MHz LTE Band 12:699~716MHz LTE Band 13:777~787MHz LTE Band 25:1850~1915MHz LTE Band 26:820~849MHz LTE Band 41:2555~2655MHz LTE Band 66:1710~1780MHz Modulation Type: 2.4G/5G: QPSK LTE: QPSK /16QAM Antenna gain: 2.4G: ANT A: 1.5dBi, ANT B: 1.5dBi MIMO: 4.51dBi 5G: ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi LTE: 5dBi Antenna Designation: 2.4G/5G: External Antenna LTE: Dipole Antenna
Adapter	Input: AC 100V~240V Output: 25.2V ~26.1V
Battery	Rated Voltage: 25.2V Capacity: 22000mAh
Hardware Version	V1.4
Software Version	X100_FC_V1.3.8_20211231

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

Follow the maximum permissible exposure (MPE) limits specified in 447498 D04 Interim General Radio Frequency Exposure Guidelines v01. The gain of the antenna used in the product was extracted from the supplied antenna data sheet and the maximum total power input to the antenna was also measured. Calculate the distance from the product to the MPE limit by the formula.

2.2 LIMIT

For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of Part 1.1307. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by:

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

Where

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

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

(C) Or using below table and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF Source frequency (MHz)	Threshold ERP(watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

For multiple RF sources: Multiple RF sources are exempt if:

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of Part 1.1307. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of Part 1.1307 for Pth, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of Part 1.1307 for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

Pi = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

Pth,i = the exemption threshold power (Pth) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERPj = the ERP of fixed, mobile, or portable RF source j.

ERPth,j = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of Part 1.1307.

Evaluatedk = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limitk = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from § 1.1310.

2.3 TEST RESULT

Turn up

Mode	Detector	Turn up Power
2.4G	AV	23±1dBm
5G	AV	0±1dBm
LTE Band 2	AV	23±1
LTE Band 4	AV	24±1
LTE Band 5	AV	25±1
LTE Band 12	AV	24±1
LTE Band 13	AV	22±1
LTE Band 25	AV	23±1
LTE Band 26	AV	24±1
LTE Band 41	AV	23±1
LTE Band 66	AV	23±1

Protocol	Fre. (GHz)	Separation distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Limit (mW)	Ratio	Result
2.4G	2.466	20	24	1.5	25..5	354.813	3060	0.1160	Pass
5G	5.740	20	1	2.5	3.5	2.2387	3060	0.0007	Pass
LTE Band 2	1.88	20	24	5	29	794.328	3060	0.2596	Pass
LTE Band 4	1.745	20	24	5	29	794.328	3060	0.2596	Pass
LTE Band 5	0.8365	20	26	5	31	1258.925	1706	0.7377	Pass
LTE Band 12	0.7110	20	25	5	30	1000.000	1450	0.6894	Pass
LTE Band 13	0.7820	20	23	5	28	630.957	1595	0.3955	Pass
LTE Band 25	1.9050	20	24	5	29	794.328	3886	0.2044	Pass
LTE Band 26	0.8315	20	25	5	30	1000.00	1696	0.5895	Pass
LTE Band 41	2.5930	20	24	5	29	794.3223	3060	0.2596	Pass
LTE Band 66	1.7450	20	24	5	29	794.328	3560	0.2231	Pass

Multiple transmission:

2.4G+LTE=0.1160+0.7377=0.8537＜1

Note: The Maxinum power is less than the limit, complies with the exemption requirements.

※※※※※END OF THE REPORT※※※※※