

TEST REPORT

Product Name : Portable Music Player
Brand Mark : SHANLING
Model No. : M6 Ultra
Extension Model : M5x; M5 Ultra; XM1; M3X; M3 Ultra; M7;
M7 Pro; M7 Ultra; EM7; M1s; M0; M0 Pro;
Q1; M6(21); M6 Pro(21); EM5; EA5 Plus;
M3X; M9s; M9Pro; M10
FCC ID : 2A7WM-PM6
Report Number : BLA-EMC-202207-A4303
Date of Sample Receipt : 2022/8/10
Date of Test : 2022/8/10 to 2022/8/15
Date of Issue : 2022/8/15
Test Standard : 47 CFR Part 1.1307, Part 2.1093, KDB
447498
Test Result : Pass

Prepared for:

Shenzhen Shanling Digital Technology Development Co.,Ltd.
No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China.

Prepared by:

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Date:

2022/8/15



REPORT REVISE RECORD

Version No.	Date	Description
00	2022/8/15	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

2 GENERAL INFORMATION

Applicant	Shenzhen Shanling Digital Technology Development Co.,Ltd.
Address	No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China.
Manufacturer	Shenzhen Shanling Digital Technology Development Co.,Ltd.
Address	No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China.
Factory	Shenzhen Shanling Digital Technology Development Co.,Ltd.
Address	No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China.
Product Name	Portable Music Player
Test Model No.	M6 Ultra
Extension Model	M5x; M5 Ultra; XM1; M3X; M3 Ultra; M7; M7 Pro; M7 Ultra; EM7; M1s; M0; M0 Pro; Q1; M6(21); M6 Pro(21); EM5; EA5 Plus; M3X; M9s; M9Pro; M10
Rmark	All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are model name for commercial purpose.

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A
Software Version	N/A
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Channel Spacing:	1MHz
Number of Channels:	79
Antenna Type:	FPC Antenna
Antenna Gain:	-0.3dBi (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

5.1 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

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

$$\text{Ant gain} = -0.3 \text{ dBi}$$

$$\text{Max Output power} = -0.159 \text{ dBm @ } 2480 \text{ MHz}$$

$$\text{ERP} = -0.159 \text{ dBm} - 0.3 \text{ dBi} - 2.15 = -2.609 \text{ dBm}$$

So

Worse case

$$10^{-0.0159} = 0.964 \text{ mW} < 2.72 \text{ mW}$$

Then SAR evaluation is not required

----END OF REPORT----

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