Japan Specified Radio Test Report

Report No.	:	**1813C60166412502**
Applicant	:	**Makeblock Co., Ltd.**
Address	:	**Floor 4, Building C3, Nanshan iPark, No.1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong Province, 518000, China**
Product Name	:	**xTool Apparel Printer Plus**
Report Date	:	**2026-06-30**

Shenzhen Anbotek Compliance Laboratory Limited

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複製禁止

TEST REPORT

Applicant	:	Makeblock Co., Ltd.
Manufacturer	:	Makeblock Co., Ltd.
Product Name	:	xTool Apparel Printer Plus
Model No.	:	MDT-K004-110
Trade Mark	:	xTool
Rating(s)	:	Input: 100V-120V~, 50/60Hz, 110W
Test Standard(s)	:	**MIC Notice No.88 Appendix No.43 Article 2, paragraph 1, item 19**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the MIC Notice No.88 Appendix No.43 and Certificate regulation article 2, paragraph 1, item 19 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt	2026-04-28
Date of Test	2026-04-28 to 2026-06-04
Prepared By	Cecilia Chen (Cecilia Chen)
Approved & Authorized Signer	Jules Guo (Jules Guo)

Revision History

Report Version	Description	Issued Date
R00	Original Issue.	2026-06-30

複製禁止

1. General Information

1.1. Client Information

Applicant	:	Makeblock Co., Ltd.
Address	:	Floor 4, Building C3, Nanshan iPark, No.1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong Province, 518000, China
Manufacturer	:	Makeblock Co., Ltd.
Address	:	Floor 4, Building C3, Nanshan iPark, No.1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong Province, 518000, China

1.2. Description of Device (EUT)

Product Name	:	xTool Apparel Printer Plus
Model No.	:	MDT-K004-110 (Note: The product has two different prototypes, and the difference lies in the power supply: Low Power Supply: 100W; High Power Supply: 150W. The differences will not not affect RF, so we prepare "High Power Supply" for test only.)
Trade Mark	:	xTool
Test Power Supply	:	AC 100V
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Hardware Version	:	DT003_HighSpeed_V1_0_D
Software Version	:	40.102.004.00.ht10
Accessory	:	Product Name: xTool Internal Humidity Module for Apparel Printer Model: MDT-P030-001 Manufacturer: Makeblock Co., Ltd.
RF Specification		
Operation Mode	:	☒ 802.11b ☒ 802.11g ☒ 802.11n(HT20) ☒ 802.11n(HT40) ☒ 802.11ax(HEW20) ☒ 802.11ax(HEW40)
Operation Frequency	:	2412~2472MHz
Number of Channel	:	13 Channel for 20MHz bandwidth (2412~2472MHz) 9 channels for 40MHz bandwidth (2422~2462MHz)
Modulation Type	:	☒ 802.11b: DSSS (CCK, DQPSK, DBPSK) ☒ 802.11g: OFDM (BPSK, QPSK, 16QAM, 64QAM) ☒ 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) ☒ 802.11ax(HEW20 and HEW40): OFDMA (BPSK, QPSK, 16QAM,

		64QAM, 256QAM,1024QAM)
Antenna Type	:	FPC Antenna
Antenna Gain(Peak)	:	3.5dBi
Rated output Power	:	802.11b: 3mW/MHz Max. 802.11g: 2mW/MHz Max. 802.11n(HT20) 2mW/MHz Max. 802.11n(HT40) 2mW/MHz Max. 802.11ax(HEW20) 2mW/MHz Max. 802.11ax(HEW40) 2mW/MHz Max.
Remark: (1) All of the RF specification are provided by customer. (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
/	/	/	/

1.4. Description of Test Configuration

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	**2412**	05	2432	09	2452	**13**	**2472**
02	2417	06	2437	10	2457		
03	**2422**	**07**	**2442**	**11**	**2462**		
04	2427	08	2447	12	2467		

Note:
For 802.11b, 802.11g, 802.11n(HT20) and 802.11ax(HEW20) modes were test with channel 1, 7, 13.
For 802.11n(HT40) and 802.11ax(HEW40) modes were test with channel 3, 7, 11.
802.11ax mode only support full resource unit size.

1.5. Test Conditions

	Normal Test Conditions
Temperature	15°C - 35°C
Relative Humidity	45% - 75%
Pressure Range	86-106kPa

1.6. Test Voltage

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input To EUT	AC 100.00V	AC 110.00V	AC 90.00V
Output To RF Module	DC 3.30V	DC 3.30V	DC 3.30V
Voltage Variation (%)	--	0.00%	0.00%

Note: Voltage Variation (%)=(Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100

For extreme voltage test, we have tested the relationship between the external power supply and RF IC power supply. Base on the test results, only the normal voltage was selected to perform all items.

1.7. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Last Cal.	Cal.Due Date
1	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	2025-12-29	2026-12-28
2	MXA Spectrum Analysis	KEYSIGHT	N9020A	2025-12-29	2026-12-28
3	MXG RF Vector Signal Generator	Agilent	N5182A	2025-12-29	2026-12-28
Note: The above test equipment is calibrated by Guangzhou LiSai Metrology & Test Co.,Ltd. Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)					
4	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-HWHS80B	2025-08-29	2026-08-28
Note: The test equipment is calibrated by GUANGZHOU NEM METROLOGY&TEST TECHNOLOGY CO.,LTD Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)					
5	DC Power Supply	IVYTECH	IV3605	2025-09-05	2026-09-04
Note: The test equipment is calibrated by Centre Testing International Group Co., Ltd. (CTI) Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)					
6	Oscilloscope	Tektronix	MDO3012	2025-09-30	2026-09-29
Note: The test equipment is calibrated by Ti Testing & Certification Group Co., Ltd. Shenzhen Branch Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)					
Remark: (a) Callbration conducted by the National institute of infommation and Communications Technology (NiCT)in Japan (hereinafter referred to as "NICT") or a designated calbration agency under Article 102-18paragraph (1) in JRL. (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act(Act No. 51 of 1992). (c) Calilbration conducted in countries except Japan, which shall be equivalent to the calibration conductedby the NiCT or a designated calibration agency under Article 102-18 paragraph (1). (d) Calibration, etc, conducted by using measuring instruments and other equipment listed in the rightcolumn of appended table No. 3, which shall have been given any type of calbration, etc. listed abovefrom (a)1o (c) From JRL Article 24 .2, paragraph 4, Item 2					

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 279531

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 279531.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

1.10. Measurement Uncertainty

Parameter	Uncertainty
Occupied Bandwidth	552Hz
Conducted Output Power	0.84dB
Conducted Spurious Emission	1.24dB
Frequency tolerance	58Hz
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2. Summary of Test Results

Test Standard	Description of Test	Result
MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	Frequency Tolerance	Complies
	Antenna power	Complies
	EIRP	Complies*
	Antenna Power Tolerance	Complies
	Occupied Bandwidth	Complies
	Spread Bandwidth	N/A
	Spurious Emissions	Complies
	Carrier sensing function 1	N/A**
	Carrier sensing function 2	P***
	Interference prevention function	Complies
	Secondary Radiated Emissions	Complies
	Transmission Radiated Angle Width (3dB Beam Bandwidth)	N/A****
	Antenna Absolute Gain	Complies

Note:

(1) N/A is an abbreviation for Not Applicable.

(2) This device have more than 1 subcarrier in 1MHz, compliance with the requirement.

**: Application to Antenna Gain more than 2.14dBi.*

***: Application to transmitting devices which EIRP is less than (2.14dBi + antenna power limit) and the shortage of EIRP is compensated by the antenna power. Not applicable to this product.*

****: Application to transmitting devices with OFDM modulation and the occupied bandwidth greater than 26MHz.*

*****: Application to EIRP more than 12.14dBm/MHz.*

3. Frequency Tolerance Test

3.1. Test Limit

Test Limit	±50 ppm

3.2. Test Setup

3.3. Test Procedure

Test Frequency= test channel
RBW=VBW=10kHz
Span=1MHz
Sweep time=Auto
Detector mode=Positive peak
Indication mode=Max hold

3.4. Test Data

PASS

Please refer to Appendix A of the Appendix Test Data.

4. Antenna Power Test

4.1. Test Limit

No.	Modulation Method	Frequency Range	Antenna Power	E.I.R.P
1.	FHSS(Compound method with DSSS or OFDM) (OBW within 83.5MHz)	2427-2470.75 MHz	3mW/MHz or less	6.91-16.91dBm/MHz
		2400-2483.5 MHz (except 2427-2470.75MHz)	10mW/MHz or less	12.14-22.14dBm/MHz
2.	DSSS (OBW within 26MHz)	2400 - 2483.5 MHz	10mW/MHz or less	12.14-22.14dBm/MHz
3.	OFDM (OBW within 26MHz)		10mW/MHz or less	12.14- - 22.14dBm/MHz
4.	OFDM (OBW 26-40MHz)		5mW/MHz or less	9.13-19.13dBm/MHz
5.	Other Digital methods (OBW within 26MHz)		10mW or less	12.14-22.14dBm
6.	Tolerance	+20%		

4.2. Test Setup

4.3. Test Configuration

1. Search Frequency of Peak Power
   Test Frequency: test channel,
   RBW=VBW=1MHz, Span=40MHz for 20MHz bandwidth, Span=80MHz for 40MHz bandwidth, Sweep time=Auto, Detector mode =Positive peak
2. Measure of average burst power
   Test Frequency: frequency of peak power
   RBW=VBW=1MHz, Span=0Hz, Sweep time=Auto, Detector mode=RMS
3. Antenna power= average burst power

4.4. Test Data

Pass

Please refer to Appendix B of the Appendix Test Data.

5. Occupied Bandwidth (99%) Test

5.1. Test Limit

Modulation type	Limit
FH:	83.5MHz or less
FH + DS:	83.5MHz or less
FH + OFDM:	83.5MHz or less
OFDM:	With 20M Bandwidth: 26MHz or less With 40M Bandwidth: 26-40MHz
Others:	26MHz or less

5.2. Test Setup

5.3. Test Procedure

Test Frequency= test channel
RBW=VBW=300kHz
20M:Span=40MHz
40M:Span=80MHz
Sweep time=Auto
Detector mode=Positive peak
Indication mode=Max hold

5.4. Test Data

PASS

Please refer to Appendix C of the Appendix Test Data.

6. Spurious Emissions Intensity Test

6.1. Test Limit

Frequency Range	Test Limit
≤2387MHz	≤2.5μW/MHz (-26dBm/MHz)
2387MHz to 2400MHz	≤25μW/MHz (-16dBm/MHz)
2483.5MHz to 2496.5MHz	≤25μW/MHz (-16dBm/MHz)
≥2496.5MHz	≤2.5μW/MHz (-26dBm/MHz)

6.2. Test Setup

6.3. Test Procedure

Step 1:
Test Frequency: test channel,
RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Positive peak
Step 2:
Test Frequency: spurious frequency
RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Sample, Span=0Hz

6.4. Test Data

Pass

Please refer to Appendix D of the Appendix Test Data.

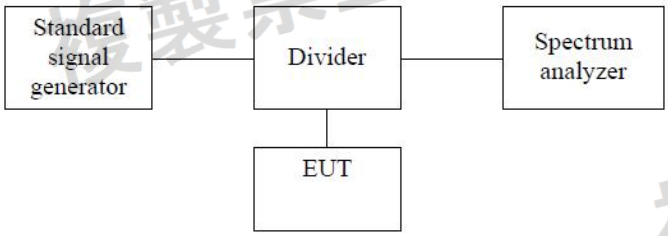
Note: SA set to from 2.4965GHz to 13GHz, plot shows from 2.497GHz to 13GHz as of SA's default format.

7. Carrier Sensing Function 2

7.1. Test Limit

Test Limit	EUT doesn't transmit when the radio wave of 100mV/m is coming to EUT.

7.2. Test Setup



7.3. Test Configuration

1. SSG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SSG and power level is (On 22.79+Gr-20*log(f)[dBm] (Gr: dBi; f: MHz). Then turn off the RF signal of SSG.
2. EUT have transmitted the maximum modulation signal and fixed channelize.
3. Setting of SA is following as: RB:1MHz / VB:1MHz / SPAN: 50MHz / AT: 10dB /Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak.
4. SSG RF Signal On.
5. EUT shall be stop the transmitted any signal and SSG RF Signal Off. Then EUT will be continuous transmitted signal.

7.4. Test Data

Pass

Note: Radio interference prevention capability was conformed. This test only for OFDM modulation and occupied bandwidth greater than 26MHz.

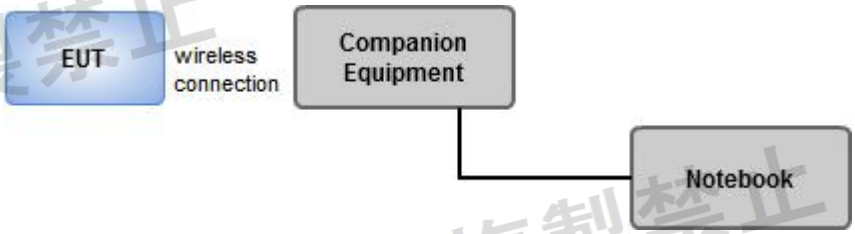
Type	Test channel	Result
802.11n(HT40)	CH_L, CH_M, CH_H	Acceptance
802.11ax(HEW40)	CH_L, CH_M, CH_H	Acceptance

8. Interference Prevention Function

8.1. Test Limit

Test Limit	The identification code shall be 48 bits long.

8.2. Test Setup



8.3. Test Configuration

1. Set EUT under operating mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Record the max. reading.
4. Confirm the MAC address of EUT

8.4. Test Data

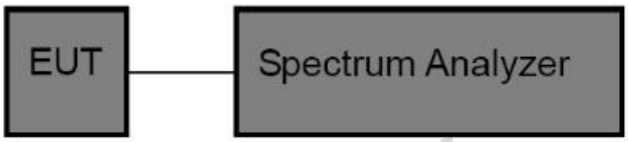
Test Mode	ID Code	Test Results
WiFi 2.4G	47:5A:7F:70:9C:C4	Complies

9. Secondary Radiated Emissions Test

9.1. Test Limit

Frequency Range	Test Limit
30~ 1000MHz	≤4.0nW (-54dBm)
1000~ 12500MHz	≤20nW (-47dBm)

9.2. Test Setup



9.3. Test Configuration

Test Frequency: test channel,
Below 1GHz, RBW=VBW=100kHz;
Above 1GHz, RBW=VBW=1MHz,
Sweep time=Auto, Detector mode=Positive peak

Adjust the spectrum analyzer configuration during final testing:Set the spectrum analyzer at the secondary launch measurement as follows.Center frequency secondary firing frequency Sweep frequency width span = 0Hz. If the resolution bandwidth is less than 1 GHz, it is 100 kHz and 1 MHz for 1 GHz or more Same as video bandwidth resolution bandwidth Minimum time guaranteed sweep time measurement accuracy Sweep mode single sweep Detection mode samples or RMS
Any emissions identified during the sweeps exceeds 1/10 of applicable limit, shall be individually measured using RMS detector and compared to the limits

9.4. Test Data

Pass

Please refer to Appendix E of the Appendix Test Data.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

---------- End of Report ----------