



Test Report No.: SA180817W003-1



RF EXPOSURE REPORT

Product: 402546 module

Model Name: MP7-ARGON

FCC ID: OMC402546

Applicant: Icon Health & Fitness

Address: 1500 South 1000 West 435-786-5915 Logan, UT 84321, United States

Manufacturer: Icon Health & Fitness

Address: 1500 South 1000 West 435-786-5915 Logan, UT 84321, United States

Prepared by: BV 7Layers Communications Technology (Shenzhen) Co. Ltd

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Test Date: Aug. 20, 2018 ~ Sep. 04, 2018

Issued Date: Sep. 05, 2018

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA180817W003-1	Original release	Sep. 05, 2018



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1 CERTIFICATION

PRODUCT: 402546 module
BRAND NAME: N/A
MODEL NAME: MP7-ARGON
APPLICANT: Icon Health & Fitness
TESTED: Jul. 30, 2018 ~ Aug. 28, 2018
TEST SAMPLE: Production Unit
STANDARDS: **FCC Part 2 (Section 2.1091)**
FCC OET Bulletin 65, Supplement C (01-01)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.1

The above equipment has been tested by **BV 7Layers Communications Technology (Shenzhen) Co. Ltd** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : , **DATE:** Sep. 05, 2018
(Roger Li/ Engineer)

APPROVED BY : , **DATE:** Sep. 05, 2018
(Sam Tung / Manager)



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	402546 module	
MODEL NAME	MP7-ARGON	
NOMINAL VOLTAGE	12Vdc (adapter or host equipment)	
OPERATING TEMPERATURE RANGE	0 ~ 40°C	
MODULATION TYPE	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	BT_LE	BT-LE(GFSK) for DTS
	Bluetooth	GFSK, $\pi/4$ -DQPSK, 8DPSK
OPERATING FREQUENCY	WLAN	2412 ~ 2462MHz for 11b/g/n(HT20) 5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5805MHz for 11a/n(HT20)/n(HT40)
	Bluetooth/BT_LE	2402MHz ~ 2480MHz
ANTENNA TYPE	PIFA Antenna	
ANTENNA GAIN	3.38dBi for BT/2.4G WLAN 3.15dBi for 5180 ~ 5240MHz 3.3dBi for 5260 ~ 5320MHz 4.05dBi for 5500 ~ 5700MHz 4.13dBi for 5745 ~ 5805MHz	
HW VERSION	A184C V2.0	
SW VERSION	Model number J1002	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3 RF EXPOSURE

3.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm ²)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

3.2 MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

3.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3.4 CONDUCTED POWER

Bluetooth

GFSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	6.26	N/A
39	2441	6.23	N/A
78	2480	5.61	N/A

$\pi/4$ DQPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.81	N/A
39	2441	3.72	N/A
78	2480	3.16	N/A

8DPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.80	N/A
39	2441	3.69	N/A
78	2480	3.08	N/A

BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	-0.80	N/A
19	2440	-0.86	N/A
39	2480	-1.58	N/A



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WIFI 2.4G

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	15.16	N/A
6	2437	15.26	N/A
11	2462	15.12	N/A

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	14.07	N/A
6	2437	14.05	N/A
11	2462	14.14	N/A

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	13.08	N/A
6	2437	13.02	N/A
11	2462	13.43	N/A



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WIFI 5G

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
36	5180	14.26	PASS
40	5200	14.15	PASS
48	5240	14.12	PASS
52	5260	14.19	PASS
60	5300	14.17	PASS
64	5320	14.10	PASS
100	5500	14.14	PASS
116	5580	14.18	PASS
140	5700	14.05	PASS
149	5745	14.08	PASS
157	5785	14.06	PASS
161	5805	14.09	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
36	5180	13.22	PASS
40	5200	13.17	PASS
48	5240	13.08	PASS
52	5260	13.05	PASS
60	5300	13.22	PASS
64	5320	13.29	PASS
100	5500	13.31	PASS
116	5580	13.16	PASS
140	5700	13.27	PASS
149	5745	13.14	PASS
157	5785	13.23	PASS
161	5805	13.16	PASS



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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
38	5190	13.11	PASS
46	5230	13.23	PASS
54	5270	13.11	PASS
62	5310	13.26	PASS
102	5510	13.30	PASS
110	5550	13.29	PASS
134	5670	13.34	PASS
151	5755	13.17	PASS
159	5795	13.20	PASS

3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

TUNE-UP POWER TABLE

Band	Frequency (MHz)	Operating Mode	Tune-Up Power And Tolerance (dBm)
Bluetooth	2402	GFSK	6.0 ± 0.5
WIFI 2.4G	2437	11b	15.0 ± 0.5
WIFI 5G B1	5180	11a	14.0 ± 0.5
WIFI 5G B2	5260	11a	14.0 ± 0.5
WIFI 5G B3	5580	11a	14.0 ± 0.5
WIFI 5G B4	5805	11a	14.0 ± 0.5

WIFI

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Tune-up Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm ²)	limit (mW/cm ²)	PASS / FAIL
Bluetooth	2402	GFSK	3.38	6.5	0.316	0.000	1.00	PASS
WIFI 2.4G	2437	11b	3.38	15.5	77.268	0.015	1.00	PASS
WIFI 5G B1	5180	11a	3.15	14.5	58.210	0.012	1.00	PASS
WIFI 5G B2	5260	11a	3.30	14.5	60.256	0.012	1.00	PASS
WIFI 5G B3	5580	11a	4.05	14.5	71.614	0.014	1.00	PASS
WIFI 5G B4	5805	11a	4.13	14.5	72.946	0.015	1.00	PASS

--END--