



Test Report No.: SA180724W005



# RF EXPOSURE REPORT

**Product:** 402547 module

**Model Name:** MP10-ARGON

**FCC ID:** OMC402547

**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

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**Report No.:** SA180724W005

**Received Date:** Jul. 24, 2018

**Test Date:** Jul. 30, 2018 ~ Aug. 28, 2018

**Issued Date:** Aug. 29, 2018

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA180724W005	Original release	Aug. 29, 2018





## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	402547 module	
<b>MODEL NAME</b>	MP10-ARGON	
<b>NOMINAL VOLTAGE</b>	12Vdc (adapter or host equipment)	
<b>OPERATING TEMPERATURE RANGE</b>	0 ~ 40°C	
<b>MODULATION TYPE</b>	<b>WLAN</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	<b>BT_LE</b>	BT-LE(GFSK) for DTS
	<b>Bluetooth</b>	GFSK, $\pi/4$ -DQPSK, 8DPSK
<b>OPERATING FREQUENCY</b>	<b>WLAN</b>	2412 ~ 2462MHz for 11b/g/n(HT20) 5150 ~ 5250MHz, 5250 ~ 5350MHz, 5470 ~ 5725MHz, 5725 ~ 5825MHz for 11a/n(HT20)/n(HT40)
	<b>Bluetooth/BT_LE</b>	2402MHz ~ 2480MHz
<b>ANTENNA TYPE</b>	PIFA Antenna	
<b>ANTENNA GAIN</b>	2.91dBi for BT/2.4G WLAN 2.94dBi for 5G WLAN	
<b>HW VERSION</b>	A184C V2.0	
<b>SW VERSION</b>	Model number J1002	
<b>I/O PORTS</b>	Refer to user's manual	
<b>CABLE SUPPLIED</b>	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 <sup>2</sup> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
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/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 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	6.90	N/A
39	2441	6.38	N/A
78	2480	5.83	N/A

##### $\pi/4$ DQPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	4.14	N/A
39	2441	3.58	N/A
78	2480	3.19	N/A

##### 8DPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	4.05	N/A
39	2441	3.60	N/A
78	2480	3.05	N/A

#### BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	-0.51	N/A
19	2440	-0.91	N/A
39	2480	-1.66	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	15.41	N/A
11	2462	15.26	N/A

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	14.31	N/A
6	2437	14.34	N/A
11	2462	13.08	N/A

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	12.34	N/A
6	2437	13.60	N/A
11	2462	12.25	N/A





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WIFI 5G

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
36	5180	14.35	PASS
40	5200	14.20	PASS
48	5240	14.38	PASS
52	5260	14.47	PASS
60	5300	14.21	PASS
64	5320	14.18	PASS
100	5500	14.20	PASS
116	5580	14.46	PASS
140	5700	14.48	PASS
149	5745	14.10	PASS
157	5785	14.08	PASS
161	5805	14.06	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
36	5180	13.32	PASS
40	5200	13.21	PASS
48	5240	13.27	PASS
52	5260	13.17	PASS
60	5300	13.12	PASS
64	5320	13.07	PASS
100	5500	13.05	PASS
116	5580	13.11	PASS
140	5700	13.22	PASS
149	5745	13.41	PASS
157	5785	13.02	PASS
161	5805	13.30	PASS



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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
38	5190	12.16	PASS
46	5230	13.14	PASS
54	5270	13.05	PASS
62	5310	9.62	PASS
102	5510	10.28	PASS
110	5550	13.24	PASS
134	5670	13.34	PASS
151	5755	13.20	PASS
161	5805	13.08	PASS

### 3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

#### TUNE-UP POWER TABLE

Band	Frequency (MHz)	Operating Mode	Tune-Up Power And Tolerance (dBm)
<b>Bluetooth</b>	2402	GFSK	6.5 ± 0.5
<b>WIFI 2.4G</b>	2437	11b	15.0 ± 0.5
<b>WIFI 5G B1</b>	5240	11a	14.0 ± 0.5
<b>WIFI 5G B2</b>	5260	11a	14.0 ± 0.5
<b>WIFI 5G B3</b>	5700	11a	14.0 ± 0.5
<b>WIFI 5G B4</b>	5745	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 <sup>2</sup> )	limit (mW/cm <sup>2</sup> )	PASS / FAIL
<b>Bluetooth</b>	2402	GFSK	2.91	7.0	0.316	0.000	1.00	PASS
<b>WIFI 2.4G</b>	2437	11b	2.91	15.5	69.343	0.014	1.00	PASS
<b>WIFI 5G B1</b>	5240	11a	2.94	14.5	55.463	0.011	1.00	PASS
<b>WIFI 5G B2</b>	5260	11a	2.94	14.5	55.463	0.011	1.00	PASS
<b>WIFI 5G B3</b>	5700	11a	2.94	14.5	55.463	0.011	1.00	PASS
<b>WIFI 5G B4</b>	5745	11a	2.94	14.5	55.463	0.011	1.00	PASS

--END--