

mPower Electronics, Inc.

SAR COMPLIANCE REPORT

Report Type:
FCC SAR assessment report

Model:
MP420

REPORT NUMBER:
210101553SHA-002

ISSUE DATE:
April 22, 2021

DOCUMENT CONTROL NUMBER:
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TEST REPORT

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Report no.: 210101553SHA-002

Applicant: mPower Electronics, Inc.
3046 Scott Blvd. Santa Clara, CA 95054

Manufacturer: mPower Electronics, Inc.
3046 Scott Blvd. Santa Clara, CA 95054

FCC ID: **2AUXFMP420**

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB 447498 D01 General RF Exposure Guidance v06

FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:

Project Engineer
Erick Liu

REVIEWED BY:

Reviewer
Daniel Zhao

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TEST REPORT**Revision History**

| Report No. | Version | Description | Issued Date |
|------------------|---------|-------------------------|----------------|
| 210101553SHA-002 | Rev. 01 | Initial issue of report | April 22, 2021 |
| | | | |
| | | | |

TEST REPORT**1 GENERAL INFORMATION****1.1 Description of Equipment Under Test (EUT)**

| | |
|-----------------------|---|
| Product name: | Muti Gas Detector MUNI |
| Type/Model: | MP420 |
| Description of EUT: | The EUT is a compact and lightweight 4-gas detector, it has BLE function. |
| Rating: | 3.7V Battery Adapter: input: 100-240V~, 50/60Hz, 1.5A output:6.0V DC, 2.0A |
| EUT type: | <input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing |
| Software Version: | / |
| Hardware Version: | / |
| Sample received date: | January 15, 2021 |
| Date of test: | January 16, 2021– April 22, 2021 |

1.2 Technical Specification

| | |
|----------------------|--------------------|
| Frequency Range: | 2402MHz to 2480MHz |
| Type of Modulation: | GFSK |
| Channel Number: | 40 |
| Channel Separation: | 2MHz |
| Antenna Information: | 0dBi, PCB antenna |

TEST REPORT**1.3 Description of Test Facility**

| | |
|------------|--|
| Name: | Intertek Testing Services Shanghai |
| Address: | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China |
| Telephone: | 86 21 61278200 |
| Telefax: | 86 21 54262353 |

| | |
|---|---|
| The test facility is recognized, certified, or accredited by these organizations: | CNAS Accreditation Lab Registration No. CNAS L0139 |
| | FCC Accredited Lab Designation Number: CN1175 |
| | IC Registration Lab CAB identifier.: CN0051 |
| | VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252 |
| | A2LA Accreditation Lab Certificate Number: 3309.02 |

TEST REPORT

2 SAR Assessment

Test result: Pass

2.1 SAR Test Exclusion Limit

 100 MHz – 6 GHz and ≤ 50 mm

| MHz | 5 | 10 | 15 | 20 | 25 | mm |
|------|-----|-----|-----|-----|-----|--|
| 150 | 39 | 77 | 116 | 155 | 194 | <i>SAR Test Exclusion Threshold (mW)</i> |
| 300 | 27 | 55 | 82 | 110 | 137 | |
| 450 | 22 | 45 | 67 | 89 | 112 | |
| 835 | 16 | 33 | 49 | 66 | 82 | |
| 900 | 16 | 32 | 47 | 63 | 79 | |
| 1500 | 12 | 24 | 37 | 49 | 61 | |
| 1900 | 11 | 22 | 33 | 44 | 54 | |
| 2450 | 10 | 19 | 29 | 38 | 48 | |
| 3600 | 8 | 16 | 24 | 32 | 40 | |
| 5200 | 7 | 13 | 20 | 26 | 33 | |
| 5400 | 6 | 13 | 19 | 26 | 32 | |
| 5800 | 6 | 12 | 19 | 25 | 31 | |
| MHz | 30 | 35 | 40 | 45 | 50 | mm |
| 150 | 232 | 271 | 310 | 349 | 387 | <i>SAR Test Exclusion Threshold (mW)</i> |
| 300 | 164 | 192 | 219 | 246 | 274 | |
| 450 | 134 | 157 | 179 | 201 | 224 | |
| 835 | 98 | 115 | 131 | 148 | 164 | |
| 900 | 95 | 111 | 126 | 142 | 158 | |
| 1500 | 73 | 86 | 98 | 110 | 122 | |
| 1900 | 65 | 76 | 87 | 98 | 109 | |
| 2450 | 57 | 67 | 77 | 86 | 96 | |
| 3600 | 47 | 55 | 63 | 71 | 79 | |
| 5200 | 39 | 46 | 53 | 59 | 66 | |
| 5400 | 39 | 45 | 52 | 58 | 65 | |
| 5800 | 37 | 44 | 50 | 56 | 62 | |

TEST REPORT
100 MHz – 6 GHz and > 50 mm

| MHz | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | mm |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|----|
| 100 | 474 | 481 | 487 | 494 | 501 | 507 | 514 | 521 | 527 | 534 | 541 | 547 | 554 | 561 | 567 | mW |
| 150 | 387 | 397 | 407 | 417 | 427 | 437 | 447 | 457 | 467 | 477 | 487 | 497 | 507 | 517 | 527 | |
| 300 | 274 | 294 | 314 | 334 | 354 | 374 | 394 | 414 | 434 | 454 | 474 | 494 | 514 | 534 | 554 | |
| 450 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | |
| 835 | 164 | 220 | 275 | 331 | 387 | 442 | 498 | 554 | 609 | 665 | 721 | 776 | 832 | 888 | 943 | |
| 900 | 158 | 218 | 278 | 338 | 398 | 458 | 518 | 578 | 638 | 698 | 758 | 818 | 878 | 938 | 998 | |
| 1500 | 122 | 222 | 322 | 422 | 522 | 622 | 722 | 822 | 922 | 1022 | 1122 | 1222 | 1322 | 1422 | 1522 | |
| 1900 | 109 | 209 | 309 | 409 | 509 | 609 | 709 | 809 | 909 | 1009 | 1109 | 1209 | 1309 | 1409 | 1509 | |
| 2450 | 96 | 196 | 296 | 396 | 496 | 596 | 696 | 796 | 896 | 996 | 1096 | 1196 | 1296 | 1396 | 1496 | |
| 3600 | 79 | 179 | 279 | 379 | 479 | 579 | 679 | 779 | 879 | 979 | 1079 | 1179 | 1279 | 1379 | 1479 | |
| 5200 | 66 | 166 | 266 | 366 | 466 | 566 | 666 | 766 | 866 | 966 | 1066 | 1166 | 1266 | 1366 | 1466 | |
| 5400 | 65 | 165 | 265 | 365 | 465 | 565 | 665 | 765 | 865 | 965 | 1065 | 1165 | 1265 | 1365 | 1465 | |
| 5800 | 62 | 162 | 262 | 362 | 462 | 562 | 662 | 762 | 862 | 962 | 1062 | 1162 | 1262 | 1362 | 1462 | |

< 100 MHz and < 200 mm

| MHz | < 50 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | mm |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| 100 | 237 | 474 | 481 | 487 | 494 | 501 | 507 | 514 | 521 | 527 | 534 | 541 | 547 | 554 | 561 | 567 | mW |
| 50 | 308 | 617 | 625 | 634 | 643 | 651 | 660 | 669 | 677 | 686 | 695 | 703 | 712 | 721 | 729 | 738 | |
| 10 | 474 | 948 | 961 | 975 | 988 | 1001 | 1015 | 1028 | 1041 | 1055 | 1068 | 1081 | 1095 | 1108 | 1121 | 1135 | |
| 1 | 711 | 1422 | 1442 | 1462 | 1482 | 1502 | 1522 | 1542 | 1562 | 1582 | 1602 | 1622 | 1642 | 1662 | 1682 | 1702 | |
| 0.1 | 948 | 1896 | 1923 | 1949 | 1976 | 2003 | 2029 | 2056 | 2083 | 2109 | 2136 | 2163 | 2189 | 2216 | 2243 | 2269 | |
| 0.05 | 1019 | 2039 | 2067 | 2096 | 2125 | 2153 | 2182 | 2211 | 2239 | 2268 | 2297 | 2325 | 2354 | 2383 | 2411 | 2440 | |
| 0.01 | 1185 | 2370 | 2403 | 2437 | 2470 | 2503 | 2537 | 2570 | 2603 | 2637 | 2670 | 2703 | 2737 | 2770 | 2803 | 2837 | |

TEST REPORT**2.2 Assessment Results**

The highest EIRP adjusted with tune-up tolerance is 2.68dBm = 1.85mW < 10mW (Test Exclusion Thresholds of 2450MHz at 5mm). Therefore, the SAR requirement is deemed to be satisfied without test.

***** END *****