



FCC ID: 2AJ7M-SQ1  
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Rev.: 01

**KDB 447498 D03**  
**47 C.F.R. Part 1, Subpart I, Section 1.1310**  
**47 C.F.R. Part 2, Subpart J, Section 2.1091**

## **RF EXPOSURE REPORT**

**For**

**Sequoia**

**Model:**  
**SQ1P**

**Trade Name: Molekule**

Issued to

**Molekule Inc.**  
**1301 Folsom St. San Francisco California 94103 United States**

Issued by

**Compliance Certification Services Inc.**  
**Wugu Laboratory**  
**No.11, Wugong 6th Rd., Wugu Dist.,**  
**New Taipei City, Taiwan. (R.O.C.)**  
**Issue Date: September 30, 2020**

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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## Revision History

| Rev. | Issue Date         | Revisions                       | Effect Page                                       | Revised By |
|------|--------------------|---------------------------------|---------------------------------------------------|------------|
| 00   | September 24, 2020 | Initial Issue                   | ALL                                               | Mita Wu    |
| 01   | September 30, 2020 | See the following note Rev.(01) | P.4, P.5, P.11, P.34,<br>P.45, P.47,<br>P.77-P.78 | Mita Wu    |

### **Rev.(01)**

1. Added Chain 2 Power and revised Antenna Gain.



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## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

| APPLICABLE STANDARDS                                                                                                                                |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| STANDARD                                                                                                                                            | TEST RESULT             |
| KDB 447498 D03<br>47 C.F.R. Part 1, Subpart I, Section 1.1310<br>47 C.F.R. Part 2, Subpart J, Section 2.1091                                        | No non-compliance noted |
| Statements of Conformity                                                                                                                            |                         |
| Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty. |                         |

Approved by:




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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

## **2. LIMIT**

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

### 3. EUT SPECIFICATION

|                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT</b>                               | Sequoia                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Model</b>                             | SQ1P                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Model Discrepancy</b>                 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Frequency band (Operating)</b>        | <input type="checkbox"/> Bluetooth: 2402MHz-2480MHz<br><input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462 MHz<br><input type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz<br><input type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5745MHz ~ 5825MHz<br><input type="checkbox"/> 802.11n HT40: 5190MHz ~ 5230MHz / 5755MHz ~ 5795MHz<br><input type="checkbox"/> 802.11ac VHT80: 5210MHz / 5775MHz<br><input type="checkbox"/> Others |
| <b>Device category</b>                   | <input type="checkbox"/> Portable (<20cm separation)<br><input checked="" type="checkbox"/> Mobile (>20cm separation)<br><input type="checkbox"/> Others                                                                                                                                                                                                                                                                                                       |
| <b>Exposure classification</b>           | <input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> )<br><input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )                                                                                                                                                                                                                                                                  |
| <b>Antenna Specification</b>             | PCB Antenna<br>IEEE 802.11 b / g / n20 mode:<br>Chain 1: 5.1 dBi<br>Chain 2: 6.4 dBi<br><br>Chain 1    Gain :    5.10 dBi    (Numeric gain: 3.24)<br>Chain 2    Gain :    6.40 dBi    (Numeric gain: 4.37)                                                                                                                                                                                                                                                     |
| <b>Maximum Measurement Average Power</b> | Chain 1:<br>2.4GHz<br>IEEE 802.11b Mode:                    20.55 dBm    (113.501 mW)<br>IEEE 802.11g Mode:                    16.92 dBm    (49.204 mW)<br>IEEE 802.11n HT 20 Mode:            17.76 dBm    (59.704 mW)<br>Chain 2:<br>2.4GHz<br>IEEE 802.11b Mode:                    18.40 dBm    (69.183 mW)<br>IEEE 802.11g Mode:                    17.36 dBm    (54.450 mW)<br>IEEE 802.11n HT 20 Mode:            18.22 dBm    (66.374 mW)              |



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|                          |                                                                                                                                                                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum<br>tune up power | Chain 1:<br>2.4GHz<br>IEEE 802.11b Mode: 20.55 dBm (113.501 mW)<br>IEEE 802.11g Mode: 16.92 dBm (49.204 mW)<br>IEEE 802.11n HT 20 Mode: 17.76 dBm (59.704 mW)<br>Chain 2:<br>2.4GHz<br>IEEE 802.11b Mode: 18.40 dBm (69.183 mW)<br>IEEE 802.11g Mode: 17.36 dBm (54.450 mW)<br>IEEE 802.11n HT 20 Mode: 18.22 dBm (66.374 mW) |
| Evaluation applied       | <input checked="" type="checkbox"/> MPE Evaluation*<br><input type="checkbox"/> SAR Evaluation<br><input type="checkbox"/> N/A                                                                                                                                                                                                |

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## 4. TEST RESULTS

**No non-compliance noted.**

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm<sup>2</sup>

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## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

### Chain 1

#### IEEE 802.11b mode:

| Ch. | Frq.(MHz) | P (mW)  | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|---------|-------------|--------|---------------------------------------|----------------|
| 6   | 2437      | 113.501 | 5.1         | 20     | 0.1152                                | 1              |

#### IEEE 802.11g mode:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|
| 6   | 2437      | 49.204 | 5.1         | 20     | 0.0499                                | 1              |

#### IEEE 802.11n HT20 mode:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|
| 6   | 2437      | 59.704 | 5.1         | 20     | 0.0606                                | 1              |

### Chain 2

#### IEEE 802.11b mode:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|
| 1   | 2412      | 69.183 | 6.4         | 20     | 0.0881                                | 1              |

#### IEEE 802.11g mode:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|
| 6   | 2437      | 54.45  | 6.4         | 20     | 0.0693                                | 1              |

#### IEEE 802.11n HT20 mode:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|
| 6   | 2437      | 66.374 | 6.4         | 20     | 0.0845                                | 1              |

--End of Report--