



## Shenzhen Huaxia Testing Technology Co., Ltd

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640  
Fax: +86-755-26648637  
Website: [www.cqa-cert.com](http://www.cqa-cert.com)

Report Template Version: V04  
Report Template Revision Date: 2018-07-06

# RF Exposure Evaluation Report

**Report No.:** CQASZ20200600556E-02  
**Applicant:** Kontakt Micro-Location Sp. z o.o.  
**Address of Applicant:** Stoczniewcow 3, 30-709 Krakow, Poland  
**Equipment Under Test (EUT):**  
**EUT Name:** Puck Beacon  
**Model No.:** KHWPO900F001  
**Brand Name:** Puck Beacon  
**FCC ID:** 2ADAO-KHWPO900F001  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-06-16  
**Date of Test:** 2020-06-16 to 2020-06-28  
**Date of Issue:** 2020-06-28  
**Test Result:** **PASS\***

\*In the configuration tested, the EUT complied with the standards specified above

**Tested By:**

*Tom Chen*

(Tom Chen)

**Reviewed By:**

*Sheek Luo*

(Sheek Luo)

**Approved By:**

*Jack Ai*  
(Jack Ai)



## 1 Version

### Revision History Of Report

| Report No.           | Version | Description    | Issue Date |
|----------------------|---------|----------------|------------|
| CQASZ20200600556E-02 | Rev.01  | Initial report | 2020-06-28 |

## 2 Contents

|                                             | Page |
|---------------------------------------------|------|
| 1 VERSION.....                              | 2    |
| 2 CONTENTS.....                             | 3    |
| 3 GENERAL INFORMATION.....                  | 4    |
| 3.1 CLIENT INFORMATION.....                 | 4    |
| 3.2 GENERAL DESCRIPTION OF EUT.....         | 4    |
| 4 SAR EVALUATION.....                       | 5    |
| 4.1 RF EXPOSURE COMPLIANCE REQUIREMENT..... | 5    |
| 4.1.1 <i>Standard Requirement</i> .....     | 5    |
| 4.1.2 <i>Limits</i> .....                   | 5    |
| 4.1.3 <i>EUT RF Exposure</i> .....          | 6    |

### 3 General Information

#### 3.1 Client Information

|                          |                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| Applicant:               | Kontakt Micro-Location Sp. z o.o.                                                                                 |
| Address of Applicant:    | Stoczniewcow 3, 30-709 Krakow, Poland                                                                             |
| Manufacturer:            | Shenzhen Minew Technologies Co., Ltd                                                                              |
| Address of Manufacturer: | Floor 2-4, Building 3, Instrument World Industrial Park, No. 306, Guanlan Guiyue Road, Longhua District, Shenzhen |
| Factory:                 | Shenzhen Minew Technologies Co., Ltd                                                                              |
| Address of Factory:      | Floor 2-4, Building 3, Instrument World Industrial Park, No. 306, Guanlan Guiyue Road, Longhua District, Shenzhen |

#### 3.2 General Description of EUT

|                       |                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| Product Name:         | Puck Beacon                                                                                                        |
| Model No.:            | KHWPO900F001                                                                                                       |
| Trade Mark:           | Puck Beacon                                                                                                        |
| Hardware Version:     | V2.X                                                                                                               |
| Software Version:     | V1.X                                                                                                               |
| Operation Frequency:  | 2402MHz~2480MHz                                                                                                    |
| Bluetooth Version:    | V5.0                                                                                                               |
| Modulation Type:      | GFSK                                                                                                               |
| Transfer Rate:        | 1Mbps, 2Mbps                                                                                                       |
| Number of Channel:    | 40                                                                                                                 |
| Product Type:         | <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location |
| Test Software of EUT: | nRFgo Studio (manufacturer declare )                                                                               |
| Antenna Type:         | PCB antenna                                                                                                        |
| Antenna Gain:         | 0.05dBi                                                                                                            |
| EUT Power Supply:     | Lithium Battery: DC 3.6V                                                                                           |

## 4 SAR Evaluation

### 4.1 RF Exposure Compliance Requirement

#### 4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion

#### 4.1.3 EUT RF Exposure

##### 1) For BLE

##### Measurement Data

| GFSK(1Mbps) mode |                            |                            |                       |       |
|------------------|----------------------------|----------------------------|-----------------------|-------|
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance<br>(dBm) | Maximum tune-up Power |       |
|                  |                            |                            | (dBm)                 | (mW)  |
| Lowest(2402MHz)  | -1.73                      | -2.5±1                     | -1.5                  | 0.708 |
| Middle(2440MHz)  | -2.47                      | -3.0±1                     | -2.0                  | 0.631 |
| Highest(2480MHz) | -2.62                      | -3.5±1                     | -2.5                  | 0.562 |
| GFSK(2Mbps) mode |                            |                            |                       |       |
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance<br>(dBm) | Maximum tune-up Power |       |
|                  |                            |                            | (dBm)                 | (mW)  |
| Lowest(2402MHz)  | -1.65                      | -2.5±1                     | -1.5                  | 0.708 |
| Middle(2440MHz)  | -2.39                      | -3.0±1                     | -2.0                  | 0.631 |
| Highest(2480MHz) | -2.57                      | -3.5±1                     | -2.5                  | 0.562 |

| Worst case: GFSK(2Mbps)                                 |                                                    |                               |                           |       |                     |                        |
|---------------------------------------------------------|----------------------------------------------------|-------------------------------|---------------------------|-------|---------------------|------------------------|
| Channel                                                 | Maximum Peak<br>Conducted<br>Output Power<br>(dBm) | Tune up<br>tolerance<br>(dBm) | Maximum tune-<br>up Power |       | Calculated<br>value | Exclusion<br>threshold |
|                                                         |                                                    |                               | (dBm)                     | (mW)  |                     |                        |
| Lowest<br>(2402MHz)                                     | -1.65                                              | -2.5±1                        | -1.5                      | 0.708 | 0.219               | 3.0                    |
| Middle<br>(2440MHz)                                     | -2.39                                              | -3.0±1                        | -2.0                      | 0.631 | 0.197               |                        |
| Highest<br>(2480MHz)                                    | -2.57                                              | -3.5±1                        | -2.5                      | 0.562 | 0.177               |                        |
| Conclusion: the calculated value ≤3.0, SAR is exempted. |                                                    |                               |                           |       |                     |                        |

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200600556E-01

--THE END--