



## 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)

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# RF Exposure Evaluation Report

**Report No. :** CQASZ20200300128E-02  
**Applicant:** Shenzhen Minew Technologies co., Ltd  
**Address of Applicant:** 3rd Floor, I Building, Gangzhilong Science Park, Qinglong Road, Longhua District, Shenzhen City, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Digital Broadcasting Device(iBeacon and Eddystone)  
**Mode No.:** C10  
**Brand Name:** N/A  
**FCC ID:** 2ABU6-C10  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-03-09  
**Date of Test:** 2020-03-09 to 2020-03-13  
**Date of Issue:** 2020-03-13  
**Test Result :** **PASS\***

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

**Tested By:**

*Tom Chen*

(Tom Chen)

**Reviewed By:**

*Aaron Ma*

(Aaron Ma)

**Approved By:**

*Jack Ai*

(Jack Ai)



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200300128E-02	Rev.01	Initial report	2020-03-13

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### 3 General Information

#### 3.1 Client Information

Applicant:	Shenzhen Minew Technologies co., Ltd
Address of Applicant:	3rd Floor, I Bulding, Gangzhilong Science Park, Qinglong Road, LonghuaDistrict, Shenzhen City, China
Manufacturer:	Shenzhen Minew Technologies co., Ltd
Address of Manufacturer:	3rd Floor, I Bulding, Gangzhilong Science Park, Qinglong Road, LonghuaDistrict, Shenzhen City, China

#### 3.2 General Description of EUT

Product Name:	Digital Broadcating Device(iBeacon and Eddystone)
Model No.:	C10
Trade Mark:	N/A
Hardware Version:	V1.X
Software Version:	V2.X.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:	-1.12dBi
EUT Power Supply:	lithium battery:DC3.0V

## 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:

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

$f(\text{GHz})$  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

For BLE

#### Measurement Data

GFSK(1Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.3	-1.0±1	0	1.000
Middle(2440MHz)	-0.42	-1.0±1	0	1.000
Highest(2480MHz)	-0.16	-1.0±1	0	1.000
GFSK(2Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.55	-1.0±1	0	1.000
Middle(2440MHz)	-0.64	-1.0±1	0	1.000
Highest(2480MHz)	-0.33	-1.0±1	0	1.000

Worst case: GFSK(1Mbps)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.3	-1.0±1	0	1.000	0.310	3.0
Middle (2440MHz)	-0.42	-1.0±1	0	1.000	0.312	
Highest (2480MHz)	-0.16	-1.0±1	0	1.000	0.315	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200300128E-01.