



## Shenzhen Huaxia Testing Technology Co., Ltd

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# RF Exposure Evaluation Report

**Report No.:** CQASZ20201001266E-02  
**Applicant:** Shenzhen Minew Technologies Co., Ltd  
**Address of Applicant:** 3rd Floor, I Bulding, Gangzhilong Science Park, Qinglong Road, Longhua District, Shenzhen City, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Electronic price tag  
**Model No.:** STag21, STag21R, STag21B, STag21Y  
**Teat Model No.:** STag21  
**Brand Name:** MINEW  
**FCC ID:** 2ABU6-STAG21  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-10-26  
**Date of Test:** 2020-10-26 to 2020-10-30  
**Date of Issue:** 2020-10-30  
**Test Result:** **PASS\***

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

**Tested By:**

*Martin Lee*

(Martin Lee)

**Reviewed By:**

*Sheek Luo*

(Sheek Luo)

**Approved By:**

*Jack Ai*

(Jack Ai)



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20201001266E-02	Rev.01	Initial report	2020-10-30

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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, Longhua District, Shenzhen City, China
Manufacturer:	Shenzhen Minew Technologies Co., Ltd
Address of Manufacturer:	3rd Floor, I Bulding, Gangzhilong Science Park, Qinglong Road, Longhua District, Shenzhen City, China
Factory:	Shenzhen Minew Technologies Co., Ltd
Address of Factory:	Building 3, Instrument World Industrial Park, No. 306, Guanlan Guiyue Road, Longhua District, Shenzhen

#### 3.2 General Description of EUT

Product Name:	Electronic price tag
Model No.:	STag21, STag21R, STag21B, STag21Y
Test Model No.:	STag21
Trade Mark:	MINEW
Hardware Version:	V1.X
Software Version:	V1.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:	Direct Test Mode Tool (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	-2.3dBi
EUT Power Supply:	Lithium Battery: DC 3V

Note:

Model No.: STag21, STag21R, STag21B, STag21Y

Only the model STag21 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.

## 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 (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.83	2.0±1	3.0	1.995
Middle(2440MHz)	3.6	3.0±1	4.0	2.512
Highest(2480MHz)	3.79	3.0±1	4.0	2.512
GFSK(2Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.81	2.0±1	3.0	1.995
Middle(2440MHz)	3.58	3.0±1	4.0	2.512
Highest(2480MHz)	3.72	3.0±1	4.0	2.512

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)	2.83	2.0±1	3.0	1.995	0.618	3.0
Middle (2440MHz)	3.6	3.0±1	4.0	2.512	0.785	
Highest (2480MHz)	3.79	3.0±1	4.0	2.512	0.791	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20201001266E-01

--THE END--