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# RF Exposure Evaluation Report

**Report No.:** CQASZ20201101428E-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):**  
**Product:** Digital Broadcasting Device  
**Model No.:** D93  
**Brand Name:** MINEW  
**FCC ID:** 2ABU6-D93  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-11-30  
**Date of Test:** 2020-11-30 to 2020-12-08  
**Date of Issue:** 2020-12-08  
**Test Result:** **PASS\***

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

**Tested By:**

*Tiny You*

(Tiny You)

**Reviewed By:**

*Sheek Luo*

(Sheek Luo)

**Approved By:**

*Jack Ai*

(Jack Ai)



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20201101428E-02	Rev.01	Initial report	2020-12-08

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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:	Digital Broadcasting Device
Model No.:	D93
Trade Mark:	MINEW
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:	Direct Test Mode Tool (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	1.43dBi
EUT Power Supply:	Button battery: DC 3V

## 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)	2.95	2.5±1	3.5	2.239
Middle(2440MHz)	3.81	4.0±1	5.0	3.162
Highest(2480MHz)	4.25	4.0±1	5.0	3.162
GFSK(2Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.97	2.5±1	3.5	2.239
Middle(2440MHz)	3.81	4.0±1	5.0	3.162
Highest(2480MHz)	4.27	4.0±1	5.0	3.162

Worst case: GFSK(2Mbps)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	2.97	2.5±1	3.5	2.239	0.694	3.0
Middle (2440MHz)	3.81	4.0±1	5.0	3.162	0.988	
Highest (2480MHz)	4.27	4.0±1	5.0	3.162	0.996	

Conclusion: the calculated value ≤3.0, SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20201101428E-01

--THE END--