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

RF Exposure Evaluation Report

Report No.:	CQASZ20201001242E-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:	Digital Broadcating Device(iBeacon and Eddystone)
Model No.:	D90
Brand Name:	MINEW
FCC ID:	2ABU6-D90
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 2020-10-28
Date of Issue:	2020-10-29
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)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20201001242E-02	Rev.01	Initial report	2020-10-29

2 Contents

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 Broadcating Device(iBeacon and Eddystone)
Model No.:	D90
Trade Mark:	MINEW
Hardware Version:	V2.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:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	Direct Test Mode Tool (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	-0.06dBi
EUT Power Supply:	Lithium 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 ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 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[17]
The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 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)	1.43	0.5±1	1.5	1.413
Middle(2440MHz)	2.03	1.5±1	2.5	1.778
Highest(2480MHz)	1.76	1.0±1	2.0	1.585
GFSK(2Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.46	0.5±1	1.5	1.413
Middle(2440MHz)	2.05	1.5±1	2.5	1.778
Highest(2480MHz)	1.82	1.0±1	2.0	1.585

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)	1.46	0.5±1	1.5	1.413	0.438	3.0
Middle (2440MHz)	2.05	1.5±1	2.5	1.778	0.556	
Highest (2480MHz)	1.82	1.0±1	2.0	1.585	0.499	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20201001242E-01

--THE END--