

# **RF Exposure Evaluation**

**Test report  
On Behalf of  
Everex Electronics Ltd  
For  
0.9 inch Alarm Clock Digital PLL FM Radio with Wireless**

**Model No.: MCR41808, MCR41808A, MCR41808B, MCR41808C, MCR41808D,  
MCR41808E, MCR41808F, MCR41808G**

**FCC ID: 2ABWOMCR418NX**


**Prepared for : Everex Electronics Ltd  
Unit01, 19/F.,Block A, Kailey Industrial Centre, 12 Fung Yip  
Street, Chai Wan, Hong Kong**

**Prepared By : Shenzhen HUAK Testing Technology Co., Ltd.  
1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park,  
Fuhai Street, Bao'an District, Shenzhen City, China**

**Date of Test: Nov. 22, 2019 ~ Dec. 13, 2019**

**Date of Report: Dec. 14, 2019**

## 1 General Description of EUT

Product Name:	0.9 inch Alarm Clock Digital PLL FM Radio with Wireless
Model/Type reference:	MCR41808
Serial Model:	MCR41808A, MCR41808B, MCR41808C, MCR41808D, MCR41808E, MCR41808F, MCR41808G
Model Difference:	All model's the function, software and electric circuit are the same, only with a product outward and model named different. Test sample model: MCR41808
Trade Mark	
FCC ID	2ABWOMCR418NX
Hardware Version:	KS-049BT_V1.0
Software Version:	V4.2.30
Version:	Supported EDR
Modulation:	GFSK, $\pi/4$ DQPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	0 dBi
Power supply:	DC 5V from Adapter/DC 3.0V from AA*2 battery

## 2 RF Exposure Compliance Requirement

### 2.1 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.

### 2.2 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:

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

$f(\text{GHz})$  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

### 3 EUT RF Exposure

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	0.701	1 ± 1	2	1.585	0.491	3.0
Middle (2441MHz)	1.101	1 ± 1	2	1.585	0.495	
Highest (2480MHz)	1.258	1 ± 1	2	1.585	0.499	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

π/4DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	1.410	1 ± 1	2	1.585	0.491	3.0
Middle (2441MHz)	1.791	1 ± 1	2	1.585	0.495	
Highest (2480MHz)	1.946	1 ± 1	2	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.: HK1912063126-E