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# RF Exposure Evaluation Report

**Report No. :** CQASZ20181200052E-02

**Applicant:** Altigo Inc

**Address of Applicant:** 6905 S. 1300 E #186, Cottonwood Heights, Utah, United States, 84047

**Manufacturer:** Altigo Inc

**Address of Manufacturer:** 6905 S. 1300 E #186, Cottonwood Heights, Utah, United States, 84047

**Factory:** DONGGUAN LINPA ACOUSTIC TECHNOLOGY CO.,LTD

**Address of Factory:** 2A NO.60, Lizhong Road, Dali, Qingxi Town, Dongguan City, Guangdong Province, China

**Equipment Under Test (EUT):**

**Product:** Altigo Neckband Earbud

**Model No.:** AIEATN15

**Brand Name:** Altigo

**FCC ID:** 2AQRJ-AAILATNI

**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06

**Date of Test:** 2018-12-20 to 2019-01-08

**Date of Issue:** 2019-01-08

**Test Result :** **PASS\***

**Tested By:**

(Daisy Qin)

**Reviewed By:**

(Aaron Ma)

**Approved By:**

(Jack Ai)



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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20181200052E-02	Rev.01	Initial report	2019-01-07

## 2 Contents

	Page
1 VERSION .....	2
2 CONTENTS .....	3
3 GENERAL INFORMATION .....	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF EUT .....	4
4 SAR EVALUATION .....	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT .....	5
4.1.1 <i>Standard Requirement</i> .....	5
4.1.2 <i>Limits</i> .....	5
4.1.3 <i>EUT RF Exposure</i> .....	6

### 3 General Information

#### 3.1 Client Information

Applicant:	Altigo Inc
Address of Applicant:	6905 S. 1300 E #186, Cottonwood Heights, Utah, United States, 84047
Manufacturer:	Altigo Inc
Address of Manufacturer:	6905 S. 1300 E #186, Cottonwood Heights, Utah, United States, 84047
Factory:	DONGGUAN LINPA ACOUSTIC TECHNOLOGY CO.,LTD
Address of Factory:	2A NO.60, Lizhong Road, Dali, Qingxi Town, Dongguan City, Guangdong Province, China

#### 3.2 General Description of EUT

Product Name:	Altigo Neckband Earbud
All Model No.:	AIEATN15
Trade Mark:	Altigo
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	Blue test3 (manufacturer declare )
Antenna Type:	Ceramic antenna
Antenna Gain:	3.09dBi
Power Supply:	lithium battery:DC3.7V, Charge by USB

## 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

$f(\text{GHz})$  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

#### Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	0.07	0±0.5	0.5	1.122
Middle(2441MHz)	2.36	2.0±0.5	2.5	1.778
Highest(2480MHz)	3.93	3.5±0.5	4	2.512
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.88	-1.5±0.5	-1.0	0.794
Middle(2441MHz)	1.61	1.5±0.5	2.0	1.585
Highest(2480MHz)	3.30	3.0±0.5	3.5	2.239
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.58	-1.5±0.5	-1.0	0.794
Middle(2441MHz)	1.75	1.5±0.5	2.0	1.585
Highest(2480MHz)	3.41	3.0±0.5	3.5	2.239

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	0.07	0±0.5	0.5	1.122	0.35	3.0
Middle (2441MHz)	2.36	2.0±0.5	2.5	1.778	0.56	
Highest (2480MHz)	3.93	3.5±0.5	4	2.512	0.79	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20181200052E-01