

abode systems, inc
2625 Middlefield Rd. #900 Palo Alto California 94306 United States

Federal Communications Commission
Authorization and Evaluation Division
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia, MD 21046

Applicant's declaration concerning RF Radiation Exposure

We hereby indicate that the product
Product description: abode iota
Model No: 104035/A

The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The integral antennas used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter within the host device.

A safety statement concerning minimum separation distances from enclosure of the Product: abode iota will be integrated in the user's manual to provide end-users with transmitter operating conditions for satisfying RF exposure compliance.

The appropriate information can be drawn from the test report no: W6M21808-18353-C-7, W6M21808-18353-P-247 and the accompanying calculations.

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Date: 2018-11-7



Signature



Registration number: W6M21808-18353-C-7

FCC ID: 2ARGFIOTA

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

Test exclusion = max. conducted output power

Test exclusion = 13.53 dBm

RESULT:

Test standard : FCC KDB Publication
447498 D01 General RF Exposure Guidance v06

3.3 RF Exposure Compliance Requirements

According to KDB447498 10 D01v06:

SAR evaluation, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The enclosure of the device provides ≥ 1.5 cm separation from the antenna elements to significant metal parts of the enclosure to minimize potential perturbations.

Frequency Band:2405-2480 MHz

Maximum Power fed to Antenna: 22.5424 mW

Separation distances:

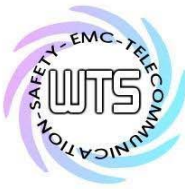
Antenna feed center to metal parts of enclosure: > 15 mm

Distance prescribed in user manual: > 15 mm

MHz	5	10	15	20	25	mm
2450	10	19	29	38	48	SAR Test Exclusion Threshold (mW)

MHz	30	35	40	45	50	mm
2450	57	67	77	86	96	SAR Test Exclusion Threshold (mW)

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	mW



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10 Maximum Permissible Exposure

10.1 RF Exposure Compliance Requirements

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

$$S = \frac{PG}{4\pi R^2}$$

- S – Power Density
- P – Output power ERP
- R – Distance
- D – Cable Loss
- AG – Antenna Gain

WCDMA Band 2			
Item	Unit	Value	Remarks
P	dBm/mW	22.69/185.7804	Peak value
D	dB		
AG	dBi	2.56	
G		1.8030	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0667	Calculated value

WCDMA Band 4			
Item	Unit	Value	Remarks
P	dBm/mW	23.10/204.1738	Peak value
D	dB		
AG	dBi	3.94	
G		2.4774	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.1006	Calculated value

WCDMA Band 5			
Item	Unit	Value	Remarks
P	dBm/mW	20.16/103.7528	Peak value
D	dB		
AG	dBi	1.75	
G		1.4962	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0309	Calculated value



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LTE Band 2			
Item	Unit	Value	Remarks
P	dBm/mW	22.59/181.5516	Peak value
D	dB		
AG	dB _i	2.56	
G		1.8030	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0651	Calculated value

LTE Band 4			
Item	Unit	Value	Remarks
P	dBm/mW	22.00/158.4893	Peak value
D	dB		
AG	dB _i	3.94	
G		2.4774	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0781	Calculated value

LTE Band 5			
Item	Unit	Value	Remarks
P	dBm/mW	20.98/125.3141	Peak value
D	dB		
AG	dB _i	1.75	
G		1.4962	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0373	Calculated value

LTE Band 12			
Item	Unit	Value	Remarks
P	dBm/mW	20.99/125.6030	Peak value
D	dB		
AG	dB _i	1.34	
G		1.3614	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0340	Calculated value

Limits:

Limit for General Population / Uncontrolled Exposure	
Frequency (MHz)	Power Density (mW/cm ²)
1500 – 100.000	1.0