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RF Exposure Evaluation Report

Report No.: CQASZ20200700671E-02
Applicant: Tinylogics Ltd
Address of Applicant: St John's Innovation Centre, Cowley Road, Cambridge, United Kingdom
CB4 0WS, Cambridge, United Kingdom
Equipment Under Test (EUT):
EUT Name: FOCI
Model No.: M1605, M1606
Test Model No.: M1605
Brand Name: FOCI
FCC ID: 2AH3P-M1605
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-07-09
Date of Test: 2020-07-10 to 2021-07-14
Date of Issue: 2021-09-06
Test Result: **PASS***

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

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Rock Huang
(Rock Huang)

Approved By: Jack ai
(Jack ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200700671E-02	Rev.01	Initial report	2021-09-06

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3 General Information

3.1 Client Information

Applicant:	Tinylogics Ltd
Address of Applicant:	St John's Innovation Centre, Cowley Road, Cambridge, United Kingdom CB4 0WS, Cambridge, United Kingdom
Manufacturer:	Tinylogics Ltd
Address of Manufacturer:	St John's Innovation Centre, Cowley Road, Cambridge, United Kingdom CB4 0WS, Cambridge, United Kingdom
Factory:	Holesh Ltd
Address of Factory:	Building 10, Song Gang Bi Tou Industrial District 2, Bao' An District, Shenzhen

3.2 General Description of EUT

Product Name:	FOCI
Model No.:	M1605, M1606
Test Model No.:	M1605
Trade Mark:	FOCI
Hardware Version:	V6
Software Version:	0.11.7.9.81
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	smartsnippets toolbox (manufacturer declare)
Antenna Type:	Ceramic antenna
Antenna Gain:	4.9 dBi
EUT Power Supply:	lithium battery: DC3.7V, 40mAh Charge by DC5V

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:

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

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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 mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-6.39	-6.5±1	-5.5	0.282
Middle(2440MHz)	-5.69	-6.0±1	-5.0	0.316
Highest(2480MHz)	-5.50	-6.0±1	-5.0	0.316

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)	-6.39	-6.5±1	-5.5	0.282	0.087	3.0
Middle (2440MHz)	-5.69	-6.0±1	-5.0	0.316	0.099	
Highest (2480MHz)	-5.50	-6.0±1	-5.0	0.316	0.100	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200700671E-01