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# RF Exposure Evaluation Report

**Report No. :** CQASZ20200100035E-02  
**Applicant:** Sudio AB  
**Address of Applicant:** Artillerigatan 42, 114 45 Stockholm, Sweden  
**Equipment Under Test (EUT):**  
**EUT Name:** Sudio Adapter  
**Model No.:** Flyg  
**Brand Name:** Sudio  
**FCC ID:** 2AF9P-FLYG  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-01-09  
**Date of Test:** 2020-01-09 to 2020-01-17  
**Date of Issue:** 2020-01-18  
**Test Result :** **PASS\***

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

**Tested By:**

(Tom Chen)

**Reviewed By:**

(Aaron Ma)

**Approved By:**

( Jack Ai)



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200100035E-02	Rev.01	Initial report	2020-01-18

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### 3 General Information

#### 3.1 Client Information

Applicant:	Sudio AB
Address of Applicant:	Artillerigatan 42, 114 45 Stockholm, Sweden
Manufacturer:	Shenzhen Xin Feng Long Industrial Co.,Ltd
Address of Manufacturer:	Plant D2, D Area, Xifang Industrial Zone, Datian Yangsongyu Road, Hongxing Community, Songgang Street, Bao'an District., Shenzhen City.

#### 3.2 General Description of EUT

Product Name:	Sudio Adapter
Model No.:	Flyg
Trade Mark:	Sudio
Hardware Version:	V1.2
Software Version:	V3.2
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
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:	ASTTestTool (manufacturer declare )
Antenna Type:	PCB antenna
Antenna Gain:	-6.67dBi
Power Supply:	lithium battery:DC3.7V, Charge by DC5.0V

## 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:

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

$f(\text{GHz})$  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

### 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)	1.930	2±1	3	1.995
Middle(2441MHz)	1.540	2±1	3	1.995
Highest(2480MHz)	2.230	2±1	3	1.995
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	3.230	3±1	4	2.512
Middle(2441MHz)	2.890	3±1	4	2.512
Highest(2480MHz)	3.440	3±1	4	2.512
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	3.410	3±1	4	2.512
Middle(2441MHz)	3.100	3±1	4	2.512
Highest(2480MHz)	3.620	3±1	4	2.512

Worst case: 8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	3.410	3±1	4	2.512	0.78	3.0
Middle (2441MHz)	3.100	3±1	4	2.512	0.78	
Highest (2480MHz)	3.620	3±1	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.: CQASZ20200100035E-01