

# **FCC RF Exposure**

Applicant	:	Felion Technologies Company Limited
Address	:	Room 304 3F Fuxing Building No.6 Binglang Road Fubao Community Futian District Shenzhen
Product Name	:	ColorFlux Light Strip
Brand Mark	:	ISOOCO, VOCOLINC
Model no.	:	LS3
Series model	:	LS2201, LS2202
FCC ID	:	2AXT8-LS2201
Report Number	:	BLA-EMC-202411-A3602
Date of Receipt	:	2024.11.13
Date of Test	:	2024.11.13 to 2024.12.03
Test Standard	:	47 CFR Part 15, Part1.1307 47 CFR Part 15, Part2.1093 KDB447498D04 General RF Exposure Guidance v01
Test Result	:	Pass

Compiled by: Mark then Review by: Sweets



# BlueAsia of Technical Services(Shenzhen) Co., Ltd.

Address: Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China



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## **Revise Record**

Version No.	Date	Description
01	2024.12.06	Original

**BlueAsia** Technical Services (Shenzhen) Co., Ltd Tel: +86-755-23059481 Email: marketing@cblueasia.com www.cblueasia.com



## **1** General information

## 1.1 General information

Applicant	Felion Technologies Company Limited					
	Room 304 3F Fuxing Building No.6 Binglang Road Fubao Community Futian District Shenzhen					
Manufacturer	Felion Technologies Company Limited					
	Room 304 3F Fuxing Building No.6 Binglang Road Fubao Community Futian District Shenzhen					
Factory	N/A					
Address	N/A					

## 1.2 General description of EUT

Product name	ColorFlux Light Strip
Model no.	LS3
Series model	LS2201, LS2202
Desc of series model	The above models are identical in PCB layout, internal structure and components, only model no, and appearance is different.
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi(Provided by the customer)
Test Voltage:	AC 120V



## 2 **RF Exposure Compliance Requirement**

### 2.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

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

$$P_{\rm th} (\rm mW) = \begin{cases} ERP_{20 \,\rm cm} (d/20 \,\rm cm)^x & d \le 20 \,\rm cm \\ \\ ERP_{20 \,\rm cm} & 20 \,\rm cm < d \le 40 \,\rm cm \end{cases}$$
(B.2)

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20}\operatorname{cm}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and  $ERP_{20cm}$  is per Formula (B.1). Example values shown in Table B.2 are for illustration only.

					Di	stance	(mm)				
		5	10	15	20	25	30	35	40	45	50
(2	300	39	65	88	110	129	148	166	184	201	217
(MHz)	450	22	44	67	89	112	135	158	180	203	226
Frequency (]	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

Table B.2-Example Power Thresholds (mW)

$$P_{\text{th}} (\text{mW}) = ERP_{20 \text{ cm}} (\text{mW}) = \begin{cases} 2040f & 0.3 \text{ GHz} \le f < 1.5 \text{ GHz} \\ \\ 3060 & 1.5 \text{ GHz} \le f \le 6 \text{ GHz} \end{cases}$$
(B.1)

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### 2.3 Result

EIRP = pt x gt = (E X d)2/30 Where: pt = transmitter output power in watts, gt = numeric gain of the transmitting antenna (unitless), E = electric field strength in V/m d = measurement distance in meters (m) Spot = (EXd)2/30 x gt Ant gain = 0 dBi BLE: Max Output power = 4.101dBm @ 2402MHz

Max Output power =-4.101dBm @ 2402MHz ERP = -4.101dBm+0dBi-2.15=-6.251dBm=0.237mW< 3060 mW Comply with RF exposure exemption limit.

#### ----END OF REPORT----

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