

SAR Evaluation Report

Application No.: SZEM2006005241CR
Applicant: Creative Labs Pte. Ltd.
Address of Applicant: 31 International Business Park #03-01 Singapore 609921
Manufacturer: Creative Labs Pte. Ltd.
Address of Manufacturer: 31 International Business Park #03-01 Singapore 609921
Equipment Under Test (EUT):
EUT Name: CREATIVE SXFI CARRIER
Model No.: MF8345
Trade mark: CREATIVE
FCC ID: 2AJIV-MF8345
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-06-17
Date of Test: 2020-06-11 to 2020-06-30
Date of Issue: 2020-08-01

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager



2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-08-01		Original

Authorized for issue by:			
			
		<hr/> Vincent Chen /Project Engineer	
			
		<hr/> Eric Fu /Reviewer	





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4 General Information

4.1 General Description of EUT

Power Supply:	Soundbar powered by Adapter: Model: DYS902-240400W Input: AC100-240V, 50/60Hz, 1.5A Max Output: DC 24.0V, 4.0A DC 3.0V (2*1.5V "AAA" Size Batteries) for remote controller
Cable:	AC cable: 114cm unshielded DC cable: 145.5cm unshielded with one core HDMI Cable 120 shielded with two cores HDMI Cable 150 shielded with two cores Type-C cable 200cm shielded AUX In cable 155cm unshielded
For BT:	
Operation Frequency:	2402MHz to 2480MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Bluetooth Version:	V5.0 Dual mode
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	PCB Antenna
Antenna Gain:	3.4dBi
For BLE:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Dual mode
Channel Spacing:	2MHz
Data Rate:	1Mbit/s
Modulation Type:	GFSK
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	3.4dBi
For 2.4G:	
Operation Frequency:	2402-2480MHz
Modulation Type:	GFSK
Number of Channels:	40





Channel Spacing:	2MHz
Antenna Type:	PCB Antenna
Antenna Gain:	-0.65dBi



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Center EMC Laboratory

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4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.



5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 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.

5.1.2 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:

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

f(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

5.1.3 EUT RF Exposure

For BT:

The Max. power (including tune-up tolerance) is 3.64 dBm on the lowest channel 2.402 GHz (*)

3.64 dBm logarithmic terms convert to numeric result is nearly 2.31 mW

According to the formula. calculate the test exclusion thresholds:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \sqrt{f(\text{GHz})}$$

[f(GHz)]

$$\text{General RF Exposure} = (2.31 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.72 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) $<$ (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600524102



For BLE:

The Max. power (including tune-up tolerance) is 3.58 dBm on the lowest channel 2.402 GHz (*)
 3.58 dBm logarithmic terms convert to numeric result is nearly 2.28 mW

According to the formula. calculate the test exclusion thresholds:

$$\left[\frac{\text{[(max. power of channel, including tune-up tolerance, mW)]}{\text{[(min. test separation distance, mm)]}} \cdot \sqrt{f(\text{GHz})} \right]$$

$$\text{General RF Exposure} = (2.28 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.71 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600524103

For 2.4G:

Refer to the report number SZEM200600524104, the highest field strength of the 2480MHz is 91.43dBuV/m. According to KDB 412172, $eirp = pt \times gt = (E \times d)^2/30$, thus $pt = (E \times d)^2/30/gt$.

$Pt = 0.417\text{mW} = -3.8\text{dBm}$.

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).

The Max. power (including tune-up tolerance) is -3.8 dBm on the highest channel 2.48 GHz (*)
 -3.80 dBm logarithmic terms convert to numeric result is nearly 0.42 mW

According to the formula. calculate the test exclusion thresholds:

$$\left[\frac{\text{[(max. power of channel, including tune-up tolerance, mW)]}{\text{[(min. test separation distance, mm)]}} \cdot \sqrt{f(\text{GHz})} \right]$$

$$\text{General RF Exposure} = (0.42 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.13 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600524104

According to KDB 447498 Section 4.3.2, Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

The sum of 1-g SAR of the BT and 2.4G = 0.72+0.13 = 0.85 < 3.

Thus the device comply with the SAR test exclusion requirement.

- End of the Report -

