


FCC ISED RF Exposure Evaluation Report

Test Report Number	CMP-19120501-LCG-FCC-IC-MPE
FCC ID ISED ID	APV-TAG04 5843C-TAG04
Applicant Applicant Address Product Name Model (s) Date of Receipt Date of Test Report Issue Date Test Standards Test Result	CalAmp 2200 Faraday Ave, Suite 220 Carlsbad, CA 92008 SC iOn Tag STAG04, PTAG04 05/26/2020 05/26/2020 - 06/09/2020 06/09/2020 47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015 PASS
	Issued by: Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com
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REVISION HISTORY

Report Number	Version	Description	Issued Date
CMP-19120501-LCG-FCC-IC-MPE	01	Initial report	05/19/2020

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1 General Information

1.1 Applicant

Applicant	CalAmp
Applicant address	2200 Faraday Ave, Suite 220 Carlsbad, CA 92008
Manufacturer	CalAmp
Manufacturer Address	2200 Faraday Ave, Suite 220 Carlsbad, CA 92008

1.2 Product information

Product Name	SC iOn Tag
Product Description	SC iOn Tag
Model Number	STAG04HT
Family Models	PTAG04
Serial Number	72308628872017260
Frequency Band	2402-2480MHz
Type of modulation	GFSK
Equipment Class	DTS
Antenna Information	Internal PCB Antenna, 2.54 dBi gain
Clock Frequencies	N/A
Input Power	Coin battery operated, 3VDC
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Simultaneous Transmission	N/A
Additional Info	EMC Emission Class B

1.3 Test standard and method

Test standard	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015
Test method	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015

2 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

Test Condition	Temperature	Humidity	Atmospheric Pressure
RF Testing	23.5°C	58.2%	996 mbar
Radiated Emission Testing	23.5°C	58.2%	996 mbar

3 Test Results

3.1 FCC MPE CALCULATION

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	2402-2480MHz

Equation:

According to the procedure in KDB447498 (v05r02) section 4.3,

1g-SAR testing is excluded if the following criteria is met.

$$(P/d)^* \sqrt{f} \leq 3.0 \text{ for 1-g SAR}$$

10g-SAR testing is excluded if the following criteria is met.

$$(P/d)^* \sqrt{f} \leq 7.5 \text{ for 10-g SAR}$$

Where

P is the time averaged maximum conducted power in mW

d minimum separation distance in mm

f is the frequency in GHz

The distance between the antenna and human body is 5 mm. The calculation was based on the distance of 5 mm.

Radio	Frequency (MHz)	Max Conducted Power (dBm)	Max Conducted Output Power (mW)	Measurement distance (mm)	Test Exclusion Threshold Result
BLE	2402-2480	3.033	2.01	5	0.633

The above results show that the device is excluded for both standalone 1g-SAR and 10g-SAR testing.

3.2 ISED RF Exposure Evaluation

RF Exposure Requirements:

RSS-102 Issue 5: March 2015

RF Radiation Exposure Limits:

RSS-102 Issue 5: March 2015

RF Radiation Exposure Guidelines:

RSS-102 Issue 5: March 2015

EUT Frequency Band:

BLE: 2402-2480MHz

Limits for General Population/Uncontrolled Exposure in the band of:

300 - 6,000 MHz

Exemption limit for Routine Evaluation:

$1.31 \times 10^{-2} f_{0.6834} \text{ W}$

Radio	Frequency (MHz)	Max E.I.R.P (dBm)	Max E.I.R.P (W)	Evaluation Exemption limit (W)
BLE	2402-2480	5.573	0.0036	2.736

The above results show that the E.I.R.P of this device is below the exemption limit for Routine Evaluation.