Radio Frequency Exposure Evaluation Report

FOR:
June Life

Model Name:
JCH03

Product Description:
Smart Countertop Convection Oven

FCC ID: 2AJGA-CP20A
IC ID: 21848-CP20A

Per:
CFR Part1 (1.1307 &1.1310), Part 2 (2.1091),
FCC KDB 447498 D01 General RF Exposure Guidance v06
ISED RSS-102 Issue 5

Report number: EMC_JUNEL_002_20001_FCC_ISED_MPE

DATE: 10/20/2020

***CETECOM* Inc.**
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1 Assessment

This RF Exposure evaluation report, provides evidence for compliance of the below identified device, with the RF Exposure limits for mobile devices, as defined in FCC CFR Part1 (1.1307 &1.1310), Part 2 (2.1091), and IC standard ISED RSS-102 Issue 5, under worst case conditions (measured or rated RF output power, antenna gain, distance towards human body. Multiple transmitter information as presented by the applicant). In addition, maximum antenna gain, or minimum distance towards the human body calculated respectively where relevant.

The device meets the limits as stipulated by the above given FCC and IC rule parts based on available specifications for worst case conditions at 20cm distance to the body.

Company	Description	Model Name
June Life	Smart Countertop Convection Oven	JCH03

Report reviewed by: TCB Evaluator

Date	Section	Name	Signature
10/20/2020	Compliance	Cindy Li (Lab Manager)	Cindy Li Digitally signed by cindy.li@cetecom.com DN: CN=cindy.li@cetecom.com Reason: I have reviewed this document Location: Date: 2020-10-20 21:05:02

Responsible for the Report:

Date	Section	Name	Signature
10/20/2020	Compliance	Issa Ghanma (EMC Engineer)	Digitally signed by: Issa W Ghanma DN: CN = Issa W Ghanma email = Issaghanma@cetecom.com C = US O = CETECOM Inc. OU = EMC Date: 2020.10.20 15:32:17 -07'00'

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the Test Report

Company Name:	CETECOM Inc.
Department:	Compliance
Street Address:	411 Dixon Landing Road
City/Zip Code	Milpitas, CA 95035
Country	USA
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Lab Manager:	Li, Cindy
Responsible Project Leader:	Palacios, Cathy

2.2 Identification of the Client / Manufacturer

Applicant's Name:	June Life
Street Address:	1620 Folsom St
City/Zip Code	San Francisco CA, 94103
Country	Canada

2.3 Identification of the Manufacturer

Manufacturer's Name:	Same as client.
Manufacturers Address:	----------
City/Zip Code	----------
Country	----------

3 Equipment under Assessment

Model No:	JCH03
FCC ID:	2AJGA-CP20A
IC ID:	21848-CP20A
HW Version :	11-00012-00,ASSY,PENGUIN-04
SW Version :	1.22.0.33
HVIN:	JCH03
PMN:	June Oven
FVIN:	N/A
HMN	June Oven
Power Supply/ Rated Operating Voltage Range:	Low 90 V, Nominal 110 V, High 130 V
Integrated Module Info:	❖ **Media Tek MT668ASN Chipset:** ▪ Bluetooth 2.1+EDR ▪ Bluetooth 4.2 Low Energy ▪ Bluetooth 5.0 ▪ Wi-Fi 2.4 GHz 802.11b/g/n ▪ Wi-Fi 5 GHz 802.11a/n/ac
Regulatory Band:	❖ **WLAN (Wi-Fi), BT, BLE:** ▪ Wi-Fi 2.4 and 5 GHz: 802.11 a/b/g/n/ac • Center to center: 2412 MHz (ch 1) – 2462 MHz (ch 11), 11 channels. • 5.15 GHz to 5.25 GHz: Channel 36 – 48 • 5.25 GHz to 5.35 GHz: Channel 52 – 64 • 5.47 GHz to 5.725 GHz: Channel 100 – 140 • 5.745 GHz to 5.825 GHz Channel 149 – 165 ▪ Bluetooth LE: • Center to center: 2402 MHz (ch 0) – 2480 MHz (ch 39), 40 channels • Center to center: 2402 MHz (ch 0) – 2480 MHz (ch 78), 79 Channels

Antenna Type and Peak gain:	❖ **Flex Dual Band Wi-Fi (2.4GHz/5GHz) Antenna** • Dipole Antenna • FPC High Efficiency Dual Band Wi-Fi Dipole Antenna • Designed for 2.4 GHz and 5GHz dual band Wi-Fi applications • Linear Polarization • Omni-Directional • IPEX Connector • Miniature and light weight • RoHS Compliance • 3M300LSE adhesive • Green Heat Shrink • BT, BLE: o Cable length 425mm o Maximum Gain: 2.3 dBi • Wi-Fi 2.4 GHz: o Primary (Wi-Fi0) ▪ Cable length 245mm ▪ Maximum Gain: 3.4 dBi o Secondary (Wi-Fi1) ▪ Cable length 3.15mm ▪ Maximum Gain: 3.2 dBi • Wi-Fi 5 GHz: o Primary (Wi-Fi0) ▪ Cable length 245mm ▪ Maximum Gain: 4.1 dBi o Secondary (Wi-Fi1) ▪ Cable length 3.15mm ▪ Maximum Gain: 3.6 dBi
Maximum Conducted Output Power (dBm):	❖ **WLAN (Wi-Fi), BT, BLE** ▪ Wi-Fi 2.4GHz : +15.63 ▪ BT : +11.77 ▪ BLE : +9.26 ▪ Wi-Fi 5GHz : +20.99
Sample Revision:	☐ Prototype Unit; ☐ Production Unit; ■ Pre-Production

4 RF Exposure Limits and FCC and IC Basic Rules

For the specific described radio apparatus the following basic limits and rules apply for both, FCC and IC where not indicated differently.

4.1 Power Density Limits acc. to FCC 1.1310(e)/ RSS-102 i5, cl. 4:

FCC

Frequency Range (MHz)	Power density (mW/cm²)	Averaging time (minutes)
300 – 1500	f (MHz) /1500	30
1500 – 100.000	1.0	30

IC

300 – 6000	0.02619 x f (MHz) $^{0.6834}$	6

4.2 Routine Environmental Evaluation Categorical Exclusion Limits acc. to FCC 2.1091(c) / RSS-102, cl. 2.5 (rounded to 1 decimal point):

FCC
Operating frequency < 1.5GHz: excluded if ERP < 1.5W / 31.8 dBm (EIRP: 33.9);
Operating frequency > 1.5GHz: excluded if ERP < 3.0W / 34.8 dBm (EIRP: 36.9);

IC
300MHz < = operating frequency < 6 GHz: excluded if EIRP < 0.0131 x f (MHz) $^{0.6834}$ W

4.3 RF Exposure Estimation (MPE Estimation)

Having available the source, based average output power, and peak antenna gain, or the ERP/EIRP of the specified device, and for a known minimum distance of its radiating structures from the body of persons. According to its use cases (at least 20cm) the power density at that distance can be estimated by the following formula for plane-wave equivalent conditions (far-field conditions), when ground reflection is neglected.

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (mW/cm² or W/m²)
P = power input to the antenna (mW or W)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (cm or m)

5 Evaluation

5.1 Analysis to Exclude Routine RF Exposure evaluation for Stand Alone Operation

Band	Lowest frequency [MHz]	Max.Power [W]	EIRP [W]	ISED EIRP limit [W]	Max.Power [dBm]	EIRP [dBm]	FCC EIRP limit [dBm]	Verdict
WLAN	2412	0.06	0.27	2.68	18.01	24.32	36.90	Complies
BT	2402	0.02	0.03	2.68	11.77	14.07	36.90	Complies
BLE	2402	0.01	0.01	2.68	9.26	11.56	36.90	Complies
UNII-1	5150	0.02	0.08	4.51	12.05	18.91	36.90	Complies
UNII-2a	5250	0.02	0.08	4.57	12.19	19.05	36.90	Complies
UNII-2 c	5350	0.07	0.35	4.63	18.58	25.44	36.90	Complies
UNII-3	5745	0.23	1.13	4.86	23.66	30.52	36.90	Complies

The single radios are exempt from routine environmental evaluation.

6 Analysis of RF Exposure for simultaneous transmission

- Evaluation based on worst-case power density limits for Canada.
- Calculation made for 20cm.
- Evaluations are based on EIRP measured or calculated from known gain and conducted output power.
- BLE and Wi-Fi 2.4 GHz, Or BLE and Wi-Fi 5 GHz can transmit simultaneously.

Band	Lowest frequency [MHz]	Max.Power Conducted [W]	EIRP [W]	Actual [W/m2]	ISED [W/m2]	FCC [W/m2]	How much of limit is used up [%]
WLAN	2412	0.06	0.27	0.54	5.37	10.00	5.38
BT	2402	0.02	0.03	0.05	5.35	10.00	0.51
BLE	2402	0.01	0.01	0.03	5.35	10.00	0.28
UNII-1	5150	0.02	0.08	0.15	9.01	10.00	1.55
UNII-2a	5250	0.02	0.08	0.16	9.13	10.00	1.60
UNII-2 c	5350	0.07	0.35	0.70	9.25	10.00	6.96
UNII-3	5745	0.23	1.13	2.24	9.71	10.00	22.42

Conclusion:

- **The worst-case simultaneous transmission is BLE simultaneous with Wi-Fi 5 GHz 802.11a, which is using 22.71% of a limit of 100 %. The equipment is passing RF exposure requirements for 20cm distance.**

7 Revision History

Date	Report Name	Changes to report	Report prepared by
10/20/2020	EMC_JUNEL_002_20001_FCC_ISED_MPE	Initial Version	Issa Ghanma

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