

# Canada's Hidden Cell Phone Scandal

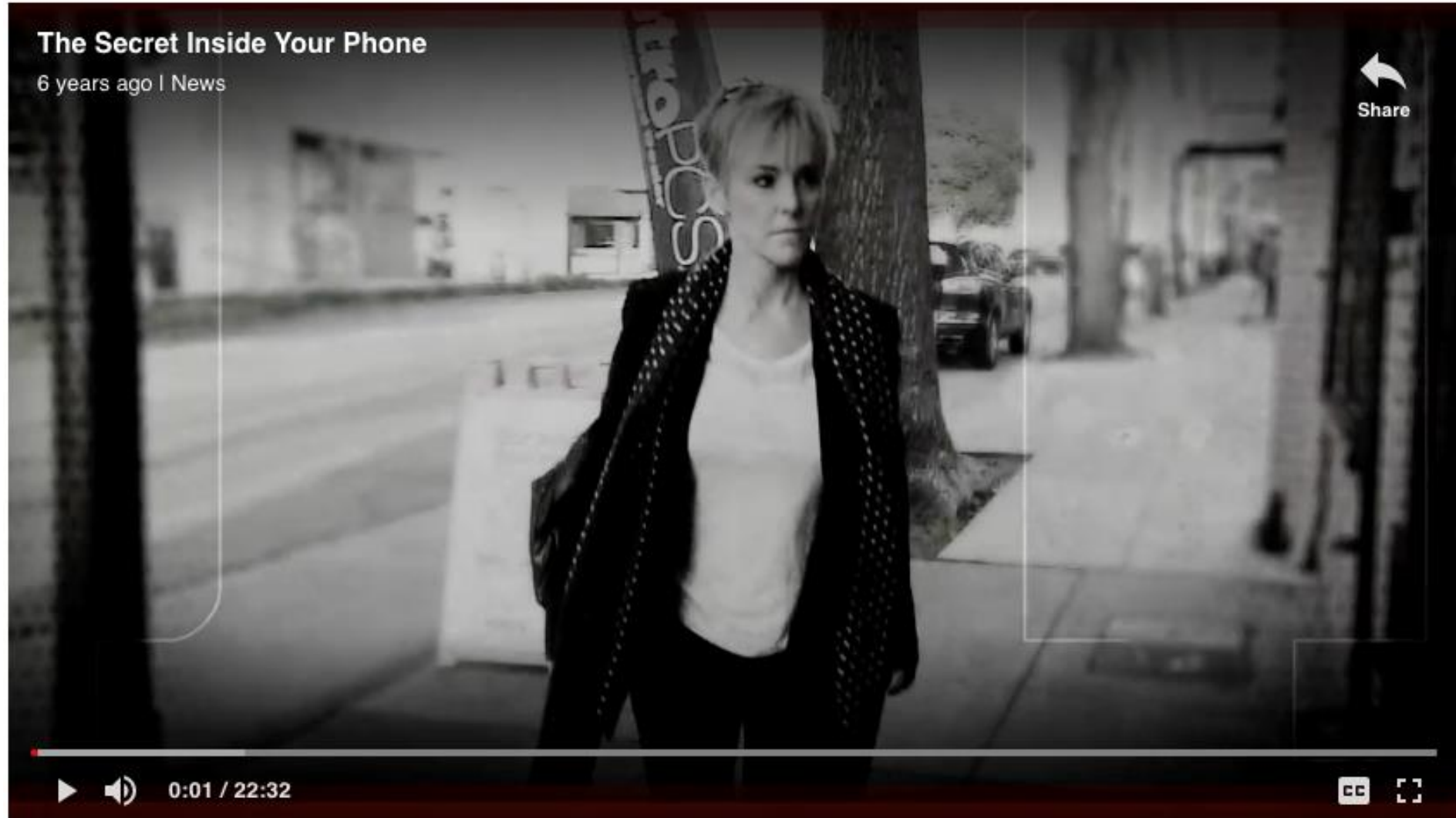
## What government does not want to tell us

Presented by Sharon Noble  
Canadian Representative Phonegate  
at

Canadians for Safe Technology Public Meeting  
March 28, 2023



CBC documentary tv show (6 years ago) *Marketplace* with Wendy Mesley:  
**“The Secret Inside Your Phone”**



<https://c4st.org/cbc-investigation> and <https://www.cbc.ca/player/play/910329411834>



# Timeline

## 2019

AUGUST Chicago Tribune article by Sam Roe: cell phone testing, some exceeded USA FCC standards

## 2020

MAY France banned Razer 2, gaming phone

JULY 18th Email asking Health Canada re *Radiation Emitting Devices Act* and enforcement

AUGUST 21st Email asking ISED for results of cell phone testing

NOVEMBER 1st Submitted freedom of information request re cell phone audits

## 2022

MARCH 25th Received from ISED the initial (incomplete) report on 90 phones tested 2015/16 to 2020/21

MARCH 25th Asked ISED for more information re testing, e.g., distance from body, health assessments

MAY 24th Received from Health Canada their health impact assessment protocol and admission that ICNIRP\* is basis for determining safety

JUNE 8th Received from ISED second report with distances used for testing

AUGUST 4th Asked ISED about testing for other wireless devices, wi-fi, tablets, fitbits, etc.

## 2023

MARCH 13th Received from ISED first health impact assessment for one cell phone model

\* ICNIRP: International Commission on Non-ionizing Radiation Protection



July 2020

# First question to Health Canada

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

## MY QUESTION: To Health Canada regarding France's Phonegate

"Health Canada also administers the *Radiation Emitting Devices Act (REDA)*, which governs the sale, lease and importation of radiation emitting devices in Canada. The *Radiation Emitting Device Regulations* set out radiation safety standards for labelling, construction and performance for certain classes of radiation emitting devices; these are the prescribed "standards" referred to in paragraph 4(a) of the Act, which deals with prohibitions."

"In France and in the U.S., hundreds of cell phones were found to exceed the 2.0W/kg limits by many times. In France, many of these cell phones were withdrawn from the market and those in use were recalled. Health Canada's Safety Code 6 limit is stricter than France's, yet many of the cell phones found to have exceeded Canada's SAR limit, for example the Razer Phone 2, are still being used and sold in Canada. Can you please explain why the *Radiation Emitting Devices Act* has not been enforced by ISED with regard to these devices?"

## REPLY: July 29, 2020 from Brian Ahier, Health Canada

**"Please note there are no standards applicable to cell phones or other wireless communication devices under the *Radiation Emitting Devices Regulations*."**



November 2020

# Freedom of Information Request

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

## MY INFORMATION REQUEST

under the *Access to Information and Privacy Act*

“I am requesting audit reports for the last 5 years with results on cell phones’ tested limits. I would like the following information:

- Was the phone provided directly by the manufacturer or was it ‘off the shelf’?
- Manufacturer and model of the phone tested
- Emission levels found
- If the SAR exceeded 1.6 W/kg, what actions, if any, were taken?”



# What is the limit for cell phone emissions?

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

**MY QUESTION to ISED: What is the safety threshold for cell phone emissions?**

**ISED Statement, March 16, 2021:**

“As previously communicated, Health Canada’s scientific evidence clearly indicates that the recommended SAR limit of 1.6 W/kg for portable devices, including cell phones, is not the threshold for the occurrence of adverse health effects. As a precautionary measure, the SAR limit in Health Canada’s Safety Code 6 was set to **more than 50 times** below the level at which excessive tissue heating could occur in the most sensitive tissue (**the eye**).

“Experimental studies have demonstrated that a SAR level of 100 W/kg for 10 gram of tissue as the threshold for adverse health effects (eye tissue damage in animals). A safety factor of 50 is applied to this threshold, defining a SAR limit of 2 W/kg for 10 gram of tissue.”



# March 2022 ISEE - Cell phone test results (Initial report)

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

Year	Manufacturer	Model	IC	Max SAR	Limit	Assessment Type	Sample Results	Compliant	Non-compliance resolution steps
2015/2016	Huawei Technologies Co., Ltd	Y300-L02	6369A Y300-L02	Head: 1.6 W/kg Body: 1.202 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2015/2016	HTC Corporation	OPH-L10	4115A OPH-L10	Head: 0.936 W/kg Body: 1.281 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2015/2016	Alcatel Incorporated	9500	1754F 9500-L0	Head: 0.752 W/kg Body: 0.747 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2015/2016	CT Asia	Nova 4.5	11492A-NH045	Head: 0.705 W/kg Body: 1.528 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2015/2016	Motorola Mobility LLC	XT1585	1090 XT1585-B	Head: 0.779 W/kg Body: 1.599 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2015/2016	ZTE Corporation	9800	3300A 9800	Head: 0.915 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2016/2017	Bullitt Mobile	3402	1115LA-3402	Head: 1.091 W/kg Body: 0.933 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	Huawei Technologies Co., Ltd	H03L1	6369A-H03L1	Head: 1.537 W/kg Body: 0.975 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	Sony Mobile Communications Inc.	8466S	4170A-PH600	Head: 0.673 W/kg Body: 0.747 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	Avanica Communications, Inc.	54270K	1070LA-6210	Head: 0.947 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	HLR Electronics Pty Ltd	4009P	1003A-4009P	Head: 0.705 W/kg Body: 0.944 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2016/2017	Onyxtek Technology (Shenzhen) Co., Ltd	986P19-9800	17730A-9800	Head: 0.611 W/kg Body: 0.977 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	Bullitt Mobile	3402	1115LA-3402	Head: 0.743 W/kg Body: 0.66 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	Alcatel Incorporated	9500	1754F 9500-L0	Head: 0.915 W/kg Body: 0.747 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2016/2017	Jeffrey Trading LTD	9502B	1130A-9502B	Head: 1.48 W/kg Body: 1.364 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2016/2017	LG ELECTRONICS INC.	US-K210	2703C-K210	Head: 1.394 W/kg Body: 1.394 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	ZTE Corporation	9800	3300A 9800	Head: 1.6 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	HTC Corporation	US-DP9230B	4115A-DP9230B	Head: 1.324 W/kg Body: 1.324 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	Samsung Electronics Co., Ltd	SM-A520W	6496-SMA520W	Head: 1.364 W/kg Body: 1.364 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	BLU Products, Inc.	91-P1	11492A-91H-L16	Head: 1.338 W/kg Body: 1.338 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	Medtronic Mobile	A400	2016A-A400	Head: 0.915 W/kg Body: 1.42 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	ASUSTeK COMPUTER INC.	ASUS_Z01BDC	2560A-Z01BDC	Head: 0.407 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Spigit Mobile	4630	1060A-4630	Head: 0.45 W/kg Body: 1.21 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Huawei Technologies Co., Ltd	Y7A-L09	6369A-Y7A-L09	Head: 0.94 W/kg Body: 1.506 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	TCL Communications Ltd	9855A	9308A-0851	Head: 0.238 W/kg Body: 1.302 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Trekwell Mobile (N/A) Co., Ltd	PH05	1087A-PH05	Head: 0.57 W/kg Body: 0.64 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2017/2018	SAMSUNG ELECTRONICS CO. LTD	SM-G397W	6496-SMG397W	Head: 0.633 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	CONY MOBILE COMMUNICATIONS INC.	PH132	N/A	Head: 0.638 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	

**Of 90 phones, 8 were non-compliant.**

2018/2019	SONY MOBILE COMMUNICATIONS INC.	H6516	4170B-H6516	Head: 0.633 W/kg Body: 0.975 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	ASUSTeK COMPUTER INC.	ASUS_X01DA	3368A-X01DA	Head: 0.715 W/kg Body: 1.41 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Bullitt Mobile	345	1115LA-345	Head: 0.670 W/kg Body: 0.975 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	HMCO Global Co.	TA-1016	23010-TA1016	Head: 0.548 W/kg Body: 1.302 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	98400-1	9288A-080	Head: 1.07 W/kg Body: 1.57 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	SM-X1-D04M	2703C-X1-D04M	Head: 0.737 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9309A	9288A-0802	Head: 1.05 W/kg Body: 0.937 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	US-KM070	2703C-KM070	Head: 0.862 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9309A	9288A-0804	Head: 0.862 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	ASUSTeK COMPUTER INC.	ASUS_X00D	3368A-X00D	Head: 0.262 W/kg Body: 1.01 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Onyxtek	A400S	17730A-A400S	Head: 0.247 W/kg Body: 1.04 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Samsung Electronics Co., Ltd	SM-A520W	6496-SMA520W	Head: 0.262 W/kg Body: 0.975 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	SM-G170M	2703C-G170M	Head: 0.237 W/kg Body: 1.007 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	

2017/2018	BLU Products, Inc.	66AND-MAX	11492A-66AND-MAX	Head: 0.578 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the device which reduced the output power. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.
2017/2018	BLU Products, Inc.	1710D0-62-MD	11492A-1710D0-62-MD	Head: 0.477 W/kg Body: 2.33 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the device which reduced the output power. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.
2017/2018	Bullitt Mobile	6369A	1115LA-6369A	Head: 0.633 W/kg Body: 1.428 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Motorola Mobility LLC	XT1746	1090 XT1746-C	Head: 0.657 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Motorola Mobility LLC	XT1746	1090 XT1746-C	Head: 0.657 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Sky Phone	9101-6-01	1001A-SKY1746P	Head: 1.36 W/kg Body: 1.36 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2017/2018	Sky Phone	9101-6-01	1001A-SKY1746P	Head: 1.36 W/kg Body: 1.36 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	

**Sky Phone Platinum  
SAR: Body 2.68 W/kg**

2019/2020	Google LLC	G020C	1039SA-G020C	Head: 5.27 W/kg Body: 2.89 W/kg	Head: 1.6 W/kg Body: 1.6 W/kg	SAR	Manufacturer	No	ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the device to resolve the issue. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.
2019/2020	Huawei Technologies Co., Ltd	EM-L29	6369A-EM-L29	Head: 0.675 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2019/2020	Xiaomi	Redmi Note 7	N/A	Head: 0.154 W/kg Body: 2.33 W/kg	Head: 1.6 W/kg Body: 1.6 W/kg	SAR	Off the shelf	No	ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the device to resolve the issue. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.
2019/2020	Xiaomi	MI8050TJGM (8 inch)	N/A	Head: 0.367 W/kg Body: 2.215 W/kg	Head: 1.6 W/kg Body: 1.6 W/kg	SAR	Off the shelf	Yes	
2019/2020	SAMSUNG ELECTRONICS CO. LTD	SM-G900W	6496-SMG900W	Head: 0.777 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2019/2020	Apple Inc.	A2111	579C-E310NA	Head: 0.900 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2019/2020	SAMSUNG ELECTRONICS CO. LTD	SM-J337W	6496-SMJ337W	Head: 1.100 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	

**Razer Inc  
SAR: Body 4.35 W/kg**

2017/2018	Sky Phone	9101-6-01	1001A-SKY1746P	Head: 1.36 W/kg Body: 1.36 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Apple Inc.	A1179	579C-E3021A	Head: 0.633 W/kg Body: 0.633 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	SONY MOBILE COMMUNICATIONS INC.	H6523	4170B-H6523	Head: 0.633 W/kg Body: 0.633 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9800S	9288A-0803	Head: 0.34 W/kg Body: 2.33 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	US-H875	2703C-H875	Head: 0.67 W/kg Body: 0.67 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	HTC Corporation	9015A	4115A-9015A	Head: 0.57 W/kg Body: 0.57 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	US-M3030	2703C-M3030	Head: 0.722 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9800S	9288A-0878	Head: 0.633 W/kg Body: 1.52 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9800S-2	9288A-0802	Head: 0.633 W/kg Body: 1.52 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	US ELECTRONICS INC.	US-M3030	2703C-M3030	Head: 0.722 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Motorola Mobility LLC	XT1742D-9	1090 XT1742D-9	Head: 0.675 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Manufacturer	Yes	
2018/2019	BLU Products, Inc.	92	11492A-92	Head: 0.675 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Samsung Electronics Co., Ltd	SM-J337W	6496-SMJ337W	Head: 0.722 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	TCL Communications Ltd	9800S	9288A-0808	Head: 0.633 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	
2018/2019	Motorola Mobility LLC	XT1742D-9	1090 XT1742D-9	Head: 0.675 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	SAR	Off the shelf	Yes	





**Razer Inc**  
**SAR: Body 4.35 W/kg**  
**Distance of 10 mm**

**Sky Phone Platinum**  
**SAR: Body 2.68 W/kg**  
**Distance of 5 mm**





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**IEEE Access**

Multidisciplinary Rapid Review Open Access Journal

<https://ieeexplore.ieee.org/document/8688629>

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# Microwave Emissions From Cell Phones Exceed Safety Limits in Europe and the US When Touching the Body

**OM P. GANDHI**  (Life Fellow, IEEE)

**10-30% reduction in SAR for every mm in distance from the body during testing.**



# ISED test results with distance adjustment using Dr. Om Gandhi's formulas

Safety Code 6 limit:  
SAR: Body 1.6 W/kg

Doc ID	Manufacturer	Model	IC	Part No.	Year	Rating/Type	Part Description/Source	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 100000%	Body MM of down inc. 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# Summary of the estimated compliance of cell phones

Safety Code 6 limit:  
SAR: Body 1.6 W/kg

ISED tested 90 cell phone models

- 8 models at 5 mm; 6 models at 15 mm; 76 models at 10 mm
- A total of 8 phones (9%) were non-compliant with Safety Code 6 limits.

Based on Dr. Gandhi's findings	Using 10% increase	Using 15% increase	Using 30% increase*
# phones > SC6 SAR at 0 mm distance	84	89	90
% of non-compliant cell phones	93.3%	98.9%	100%

\*According to Dr. Gandhi this is the most likely.



# What is the SAR when a cell phone is held next to the body? Varies with models. 1st example – the Sky Phone

Safety Code 6 limit:  
SAR: Body 1.6 W/kg

Year	Manufacturer	Model
2017/2018	Sky Phone	Platinum

ISED test results	ISED test results with distance adjustment using Dr. Om Gandhi's estimates		
<u>ISED - Max Body SAR</u> Distance: 5 mm  2.68 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 10%/mm increase 4.317 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 15%/mm increase 5.389 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 30%/mm increase 9.951 W/kg
1.7 times > SC6	2.7 times > SC6	3.4 times > SC6	6.2 times > SC6

Non Compliance Resolution Steps

ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the devices which reduced the output power. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.



# What is the SAR when a cell phone is held next to the body? Varies with models. 2nd example – the Razer

Safety Code 6 limit:  
SAR: Body 1.6 W/kg

Year	Manufacturer	Model
2017/2018	Razer	RZ35-0259

ISED test results	ISED test results with distance adjustment using Dr. Om Gandhi's estimates		
<u>ISED - Max Body SAR</u> Distance: 10 mm  4.35 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 10%/mm increase 11.290 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 15%/mm increase 17.641 W/kg	<u>Gandhi - SAR: Body SAR</u> Distance: 0 mm 30%/mm increase 59.972 W/kg
2.7 times > SC6	7 times > SC6	11 times > SC6	37.5 times > SC6

## Non Compliance Resolution Steps

ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed that the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. This is an ongoing investigation so not further information is available at this time.



# Health Impact Assessment - Only One

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

## Statements for Sky Phone Int. Model: Platinum 4.0

“The SAR-based exposure limits specified in Health Canada’s Safety Code 6 are based on avoiding established adverse effects in humans related to tissue heating.”

“The pk-SAR limit of 1.6 W/kg in Safety Code 6 is also far below the threshold for the induction of cataracts in the eye, which has been observed to have a threshold of approximately 100 W/kg.”

“Based upon the information received from ISED on the incident electric field characteristics and a reported pk-SAR exposure level of 8.02 W/kg (averaged over 1 g of tissue in the flat phantom model) from the device under test, Health Canada has estimated the localized tissue temperature rise from a sustained radiofrequency field exposure at this intensity.”

“The estimated skin temperature increase is below the threshold for any established adverse health effects to the skin (e.g. pain and/or tissue damage).”

“Health Canada recommends adherence to the human exposure limits outlined in Safety Code 6.”

**ISED reported  
SAR 2.68 W/kg  
at 5 mm distance.**

**Health Canada  
reported  
SAR 8.02 W/kg  
at 0 mm distance.**



# What is the limit for cell phone emissions?

**Safety Code 6 limit:**  
**SAR: Body 1.6 W/kg**

**MY QUESTION to ISED: What is the safety threshold for cell phone emissions?**

## **Health Canada Statement, May 24, 2022:**

“Absorbed RF energy is known to result in tissue heating, which is the only established adverse human health effect established within the 100 kHz–300 GHz frequency range. As such, it is possible to estimate the health impacts of exceeding the SAR limits by estimating the resulting temperature increase in human tissue from exposure to RF energy using numerical modelling....

**Ultimately, Health Canada bases its judgement on possible adverse effects from RF exposure by comparing the estimated tissue temperature increase to the ICNIRP tissue temperature thresholds**





# Beware

The Canadian public is using cell phones, which have been banned or recalled by other countries, and are being exposed to extremely high levels of radiation by devices used close to or in direct contact with heads and other parts of the body. Children are using these devices in school and some are sleeping with them.

Why do Canadians not deserve at the least to know that their cell phones are non-compliant with Health Canada's own Safety Code 6 guidelines?

International experts, physicians and scientists independent of industry influence are warning us the so-called safety standards such as Safety Code 6 are outdated and severely inadequate.



# What about wireless devices other than cell phones?

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

August 4, 2022, ISED:

“Lastly, ISED does have the ability to test Wi-Fi emitting devices designed to operate in close proximity to end-users and we are planning to perform market surveillance audits on such devices this year.”



March 2023

## Outstanding Questions to Health Canada & ISED

- When will I receive the other 7 health assessments?
- What are the “tailored compliance investigations” of products found to be non-compliant in France?
- Were phones that failed compliance tests in France and the U.S. tested by ISED to determine if SAR levels were exceeded or not, and, if they were, what protocol was used?
- Were tests done both prior to and after the period covered in the report, e.g. 2015/16 to 2020/21? If so, provide reports.
- Have any cell phones been recalled?
- Does ISED limit its testing to cell phones only?
- Are other intentionally RF-emitting devices (tablets, connected watch, etc.) that people are wearing or using close to their bodies tested and, if so, by whom?



# Take-home message

ISED has tested very few phones, only 90 in the years 2015 to 2021, and, as far as I know, none since.

Of those 90 phones, most, if not all, would have exceeded Health Canada's Safety Code 6 SAR limit of 1.6 W/kg if tested as used – close or next to the body.

The slow and inadequate responses over the last nearly 3 years show that neither Health Canada nor ISED wants us to know that nothing is being done to protect cell phone users, despite the 1000s of studies by many world-renowned scientists showing that exposure to radiofrequency radiation at levels far below those allowed by Safety Code 6 can be biologically harmful.

We now have evidence to show that Health Canada and ISED ignore Safety Code 6 and that the devices being sold and used widely, especially by children, do not meet even the outdated, deficient guidelines established decades ago – Safety Code 6.

This is scandalous and must be brought to the attention of the public and to the Canadian Parliament's Health Committee (HESA).

**A hidden scandal it is, and it must be exposed for what it is.**



# Thank you

with

Special thanks to Dr. Om Gandhi  
and to Dr. Marc Arazi, President of



To subscribe to my Monday to Friday UPDATE,  
send an email to me at [citizensforsafertech@shaw.ca](mailto:citizensforsafertech@shaw.ca)  
and put SUBSCRIBE in the subject line.



# Supplemental Material

Roe, Sam. "Testing Cellphones for Radiofrequency Radiation: How We Did It." *Chicagotribune.Com*, August 21, 2019.

<https://www.chicagotribune.com/investigations/ct-cell-phone-radiation-testing-methodology--20190821-whddrljk6fbmxoqh25u5t7lkb4-story.html>.



## Calculations based on Dr. Gandhi's findings. An example using a Sky Phone model.

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

Using Dr. Om Gandhi's estimates, SKY Platinum's SAR increased by 30% per millimeter.

ISED's SAR at 5mm from the body: 2.68 W/g

at 4 mm =  $2.68 \times 1.3 = 3.48$

at 3 mm =  $3.48 \times 1.3 = 4.53$

at 2 mm =  $4.53 \times 1.3 = 5.89$

at 1 mm =  $5.89 \times 1.3 = 7.65$

at 0 mm =  $7.65 \times 1.3 = 9.95$





## LIMITS OF HUMAN EXPOSURE TO RADIOFREQUENCY ELECTROMAGNETIC ENERGY IN THE FREQUENCY RANGE 3 FROM KHZ TO 300 KHZ

### 2.1.2 Specific Absorption Rate Limits (100 kHz–6 GHz)

The SAR is a measure of the rate at which electromagnetic energy is absorbed in the body. Basic restrictions for SAR are intended to prevent the occurrence of thermal effects from RF energy exposure on the body. At frequencies between 100 kHz and 6 GHz, the SAR limits (Table 2) take precedence over field strength and power density reference levels (Section 2.2) and shall not be exceeded.

The SAR should be determined for situations where exposures occur at a distance of 0.2 m or less from the source. In all cases, the values in Table 2 shall not be exceeded. For conditions where SAR determination is impractical, external unperturbed field strength or power density measurements shall be carried out and the limits outlined in Section 2.2 shall be respected.

**TABLE 2:** Specific Absorption Rate Basic Restrictions (100 kHz–6 GHz)

CONDITION	SAR Basic Restriction (W/kg)**	
	Uncontrolled Environment	Controlled Environment
The SAR averaged over the whole body mass.	0.08	0.4
The peak spatially-averaged SAR for the head, neck and trunk, averaged over any 1 g of tissue*	1.6	8
The peak spatially-averaged SAR in the limbs, averaged over any 10 g of tissue*	4	20

\* Defined as a tissue volume in the shape of a cube.

\*\* Averaged over any 6 minute reference period.

# Safety Code 6 (2015)

## Page 5, Table 2

... SAR limits ...  
shall not be exceeded

1.6 W/kg

Year	Manufacturer	Model	IC
2017/2018	Sky Phone	PLATINUM 4.0	20021-SKYPLAT40

**ISED test results  
with distance  
adjustment using  
Dr. Om Gandhi's  
estimates**

Max SAR	Limit	Averaging Mass	ISED Measurement Distance
Head: 0.892 W/kg Body: 2.68 W/kg	Head: 1.6 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	Head: 0mm Body: 5mm

Body SAR @ 5mm inc. 10%/mm	Body SAR @5mm inc. 15%/mm
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Sample Source	Complaint
Off the shelf	No

#### Non Compliance Resolution Steps

ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. The manufacturer provided an automated mandatory firmware update to the devices which reduced the output power. ISED evaluated the device following the firmware update and confirmed the device was brought back into compliance.

Year	Manufacturer	Model	IC
2020/2021	Razer Inc.	RZ35-0259	8092D-RZ350259

Max SAR	Limit	Averaging Mass	ISED Measurement Distance
Head: 1.39 W/kg (1g) Body: 4.35 W/kg (1g)	Head: 106 W/kg Body: 1.6 W/kg	Head: 1g Body: 1g	Head: 0mm Body: 10mm

Body SAR @ 5mm inc. 10%/mm	Body SAR @5mm inc. 15%/mm
7.008	8.748

Body SAR @ 5mm inc. 30%/mm	Body SAR @ 0mm inc. 10%/mm	Body SAR @0mm inc 15%/mm
16.152	11.290	17.641

Body SAR@0 mm 30% inc /mm		Assessment Type
59.972		SAR

Sample Source	Complaint
Off the shelf	No

Non Compliance Resolution Steps
ISED expedited a request to Health Canada for a health impact assessment. Health Canada confirmed that the levels were below the threshold for any adverse health effects. ISED immediately engaged the manufacturer to initiate a resolution. This is an ongoing investigation so not further information is available at this time.

**ISED test results  
with distance  
adjustment using  
Dr. Om Gandhi's  
estimates**



# Audits and Market Surveillance Program

## MY QUESTION:

“Health Canada also administers the **Radiation Emitting Devices Act (REDA)**, which governs the sale, lease and importation of radiation emitting devices in Canada. The *Radiation Emitting Device Regulations* set out radiation safety standards for labelling, construction and performance for certain classes of radiation emitting devices; these are the prescribed “standards” referred to in paragraph 4(a) of the Act, which deals with prohibitions.”

“In France and in the U.S., hundreds of cell phones were found to exceed the 2.0W/kg limits by many times. In France, many of these cell phones were withdrawn from the market and those in use were recalled. **Health Canada’s Safety Code 6 limit is stricter than France’s, yet many of the cell phones found to have exceeded Canada’s SAR limit, for example the Razer Phone 2, are still being used and sold in Canada.** Can you please explain why the *Radiation Emitting Devices Act* has not been enforced by ISED with regard to these devices?”

## ISED RESPONSE: August 21, 2020 to ISED about its stated market surveillance program and possible non-compliance.

“**ISED also maintains a market surveillance program, which audits and evaluates a sampling of wireless devices currently on the Canadian market on an ongoing basis.** The market surveillance program helps to ensure that wireless devices available to Canadians continue to meet the RF exposure requirements. **If a wireless device is found to be in non-compliance, ISED will take immediate actions.**”

Exchange of emails and then this response:

## ISED RESPONSE: October 29, 2020:

**“ISED does not release audit information publicly in order to protect the robustness of our market surveillance program.”**

“**A small number of devices have been found to be non-compliant** within this timeframe. In all cases of non-compliance, ISED worked with the equipment manufacturer to bring the product back into full compliance following the receipt of confirmation from Health Canada that the levels measured were below the threshold for any adverse health effects to end-users.”



# Audits and Health Impact Assessment

**Safety Code 6 limit:  
SAR: Body 1.6 W/kg**

MY QUESTION: What is the safety threshold for cell phone emissions?

RESPONSE FROM ISED: March 25, 2022:

“Currently, when a device is tested and the audit concludes that the device is within the Canadian RF exposure limits, ISED does not routinely notify the equipment manufacture of these results. However, in **the case where a device exceeds the RF exposure limits, an RF energy health impact assessment is undertaken**. These assessments examine whether there is potential for the occurrence of scientifically established adverse health effects. If an assessment determines that no adverse health impacts are expected, ISED does not publish these results, but continues to engage with the parties involved to find a resolution and bring the device back into compliance. **If a health impact assessment were to determine that a device poses a risk, ISED would take immediate steps to protect the health of Canadians, including making the information available to the public expeditiously.**”