

## RF EXPOSURE REPORT



**FCC Applicant:** Cox Communications Inc.  
6205-B Peachtree-Dunwoody Road NE, Atlanta, GA 30328

**Product Name:** Cox Cellular OBD

**Brand Name:** Cox Cellular OBD

**Model No.:** OBDLTEA1/OBDLTEV1

**Model Difference:** The device is exactly the same, it is just populated with a SIM number for a different carrier.

**Report Number:** ER/2021/70097

**FCC ID** 2AV5ZOBDLTEA1

**Issue Date:** September 13, 2021

**Date of EUT Received:** July 15, 2021

**Approved By** \_\_\_\_\_

**John Yeh**

**We hereby certify that:**

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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SGS Taiwan Ltd.  
台灣檢驗科技股份有限公司

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

t (886-2) 2299-3279 f (886-2) 2298-0488

www.sgs.com.tw

## Revision History

Report Number	Revision	Description	Issue Date	Revised By
ER/2021/70097	00	Original.	September 13, 2021	Karen Huang

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# 1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

## 1.1 Product Description

Product Name:	Cox Cellular OBD
Brand Name:	Cox Cellular OBD
Model No.:	OBDLTEA1/OBDLTEV1
Model Difference:	The only difference between the two model names is the cellular carrier (A for ATT or V for Verizon)
Hardware Version:	SARA-R510M8S-00B-01
Firmware Version:	2.0.6
Power Supply:	12Vdc

## 1.2 Antenna Information:

Antenna Type	Freq.	Peak Antenna Gain (dBi)
PIFA	2.4GHz	2.5

Operating Frequency (MHz)		Ant 0 Peak Gain (dBi)
LTE-Band 2	1850 ~ 1910	-2.22
LTE-Band 4	1710 ~ 1755	1.89
LTE-Band 12	699 ~ 716	2.55
LTE-Band 13	777 ~ 787	0.07

### Note:

1. Antenna information is provided by the applicant.

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## 2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### 2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission’s guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

$$S = PG / 4\pi R^2$$

Where: S = Power density

P = Power input to antenna

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

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## 2.2 Power Density Calculation

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (PD) (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail	Power Density / Limit	Collocated MPE
BLE	2402.00	20	-0.82	2.50	1.47	0.0003	1.000	Pass	0.0003	V
LTE Band 2	1850.00	20	25	-2.22	189.67	0.0378	1.000	Pass	0.038	
LTE Band 4	1710.00	20	25	1.89	488.65	0.0973	1.000	Pass	0.097	
LTE Band 12	699.00	20	25	2.55	568.85	0.1132	0.466	Pass	0.243	V
LTE Band 13	777.00	20	25	0.07	321.29	0.0640	0.518	Pass	0.123	

**Note:** For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

## 2.3 Collocated Power Density Calculation

Max BT PD / Limit	Max WWAN PD / Limit	$\Sigma$ (Power Density / Limit) of BT + WWAN
0.0003	0.243	0.243

**Note:**

1.  $\Sigma$ (Power Density / Limit): This is a summation of [(Power Density for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)].

Considering the collocated transmitters, the aggregated (Power Density /limit) is smaller than 1, and MPE of collocated transmitters is compliant

**~ End of Report ~**

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