

## FCC ISED RF Exposure Evaluation Report

<b>Test Report Number</b>	GLS-21011543-LC-FCC-IC-RF Exposure
<b>FCC ID</b> <b>ISED ID</b>	MG3-R34010 2575A-R34010
<b>Applicant</b>	Universal Electronics Inc.
<b>Applicant Address</b>	201 Sandpointe Ave, Santa Ana, CA, 92707
<b>Product Name</b>	Comcast Platco TV Remote 2020
<b>Model (s)</b>	4010
<b>Date of Receipt</b>	01/15/2021
<b>Date of Test</b>	01/21/2021-02/12/2021
<b>Report Issue Date</b>	02/24/2021
<b>Test Standards</b>	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015
<b>Test Result</b>	<b>PASS</b>



Issued by:

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### REVISION HISTORY

<b>Report#</b>	GLS-21011543-LC-FCC-IC-RF Exposure
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<b>Report Number</b>	<b>Version</b>	<b>Description</b>	<b>Issued Date</b>
GLS-21011543-LC-FCC-IC-RF Exposure	01	Initial report	02/16/2021

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## 1 General Information

### 1.1 Applicant

<b>Applicant</b>	Universal Electronics Inc.
<b>Applicant address</b>	201 Sandpointe Ave, Santa Ana, CA, 92707
<b>Manufacturer</b>	Universal Electronics Inc.
<b>Manufacturer Address</b>	201 Sandpointe Ave, Santa Ana, CA, 92707

### 1.2 Product information

<b>Product Name</b>	Comcast Platco TV Remote 2020
<b>Product Description</b>	TV Remote
<b>Model Number</b>	4010
<b>Family Models</b>	N/A
<b>Serial Number</b>	R34010BA00-00001
<b>Frequency Band</b>	2402-2480MHz
<b>Type of modulation</b>	GFSK
<b>Equipment Class</b>	DTS
<b>Antenna Information</b>	PCB Trace Antenna, 0.23dBi
<b>Clock Frequencies</b>	N/A
<b>Input Power</b>	2x1.5 Volt AAA Batteries (3VDC)
<b>Power Adapter Manufacturer/Model</b>	N/A
<b>Power Adapter SN</b>	N/A
<b>Hardware version</b>	60441-4243000 A01
<b>Software version</b>	6001.0.4
<b>Simultaneous Transmission</b>	N/A
<b>Additional Info</b>	EUT uses BLE for TV remote control application which belongs to pulsed operation and the duty cycle correction defined in 47cfr15.35 is applicable. Manufacturer declares that the worst-case duty cycle correction factor occurs in the 64 kbit/s voice mode at 1 Mbit/s. The calculated duty cycle correction factor is 17.7 dB. See the application notes of "GP_P905_UM_13440 Version 1.10 - GP570 RF4CE / BLE Communications Controller FCC Certification Guide" and "GP_P905_AN_13659 Version 1.02 - TX Duty Cycle BLE 64 kbit/s Voice GP570, GP870" for reference.

### 1.3 Test standard and method

<b>Test standard</b>	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015
<b>Test method</b>	KDB 447498 D01 General RF Exposure Guidance v06 RSS-102 Issue 5: March 2015

## 2 Test Results

### 2.1 FCC SAR Exclusion 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 (v06) section 4.3,

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

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

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

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

Where

P is the time averaged maximum conducted power in mW

d minimum separation distance in mm

f is the frequency in GHz

EUT is portable device. The calculation was based on the FCC minimum separation distance of 5 mm.

Radio	Frequency (MHz)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max source-based average output power (mW)	Measurement distance (mm)	Test Exclusion Threshold Result
BLE	2402-2480	8.55	7.16	7.16	5	2.26

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

## 2.2 ISED RF Exposure Evaluation

**RF Exposure Requirements:**

RSS-102 Issue 5: March 2015

**RF Radiation Exposure Limits:**  
2015

RSS-102 Issue 5: March

**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:**

$1.31 * 10^{-2} f^{0.6834} W$

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (W)	Evaluation Exemption limit (W)
BLE	2402-2480	8.319	0.23	8.55	0.007	2.676

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