

FCC ISED RF Exposure Evaluation Report

Test Report Number	GLS-21011543-LC-FCC-IC-RF Exposure
FCC ID ISED ID	MG3-R34010 2575A-R34010
Applicant	Universal Electronics Inc.
Applicant Address	201 Sandpointe Ave, Santa Ana, CA, 92707
Product Name	Comcast Platco TV Remote 2020
Model (s)	4010
Date of Receipt	01/15/2021
Date of Test	01/21/2021-02/12/2021
Report Issue Date	02/24/2021
Test Standards	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: March 2015
Test Result	PASS
	Issued by: Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com
 <hr/> Daniel Bruno (Test Technician)	 <hr/> David Zhang (Technical Manager)

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Report#

GLS-21011543-LC-FCC-IC-RF Exposure

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

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1 General Information

1.1 Applicant

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

1.2 Product information

Product Name	Comcast Platco TV Remote 2020
Product Description	TV Remote
Model Number	4010
Family Models	N/A
Serial Number	R34010BA00-00001
Frequency Band	2402-2480MHz
Type of modulation	GFSK
Equipment Class	DTS
Antenna Information	PCB Trace Antenna, 0.23dBi
Clock Frequencies	N/A
Input Power	2x1.5 Volt AAA Batteries (3VDC)
Power Adapter	N/A
Manufacturer/Model	
Power Adapter SN	N/A
Hardware version	60441-4243000 A01
Software version	6001.0.4
Simultaneous Transmission	N/A
Additional Info	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

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

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

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

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.

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2.2 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:
 $1.31 * 10^{-2} f^{0.6834} W$

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.