

FCC RF EXPOSURE REPORT

FCC ID: G95-UIW4020A

Project No. : 1904C199
Equipment : SET TOP BOX
Model Name : UIW4020WOW
Series Model : UIW4020TLU, UIW4020COG
Applicant : Technicolor Connected Home USA LLC
Address : 5030 Sugarloaf Parkway Building 6
Lawrenceville Georgia United States

According : FCC Guidelines for Human Exposure IEEE
C95.1 & FCC Part 2.1091

B T L I N C .

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Certificate #5123.02

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 13, 2019

1. GENERAL SUMMARY

Equipment : SET TOP BOX
Brand Name : Technicolor
Test Model : UIW4020WOW
Series Model : UIW4020TLU, UIW4020COG
Applicant : Technicolor Connected Home USA LLC
Manufacturer : Technicolor Connected Home USA LLC
Address : 5030 Sugarloaf Parkway Building 6 Lawrenceville Georgia United States
Factory : Fuhong Precision Component (Bac Giang) COMPANY Limited
Address : Dinh Tram Industrial Park, Hoang Ninh Commune, Viet Yen District, Bac Giang Province, Vietnam Postcode: 10000
Date of Test : Apr. 30, 2019 ~ May 30, 2019
Test Sample : Engineering Sample No.: D190404649
Standards : FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-5-1904C199) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

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

where:

S = power density

P = power input to the 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

Antenna Specification:

For BT / LE:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	2.8

For 2.4G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	4.40
2	N/A	N/A	PIFA	N/A	4.42

Note:

This EUT supports MIMO 2X2, any transmit signals are correlated with each other, and the CDD 1S2T directional gain =4.42dBi.

For 5G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	5.2
2	N/A	N/A	PIFA	N/A	5.25
3	N/A	N/A	PIFA	N/A	5.2
4	N/A	N/A	PIFA	N/A	4.17

Note:

This EUT supports MIMO 4X4, any transmit signals are correlated with each other. So,

(1) For CDD 1S4T Non Beamforming, directional gain = 5.25dBi

(2) For CDD 1S4T Beamforming, directional gain = 8.11dBi

the UNII-1 output power limit is $30-8.11+6=27.89$,

the UNII-3 output power limit is $30-8.11+6=27.89$,

the UNII-1 power spectral density limit is $17-8.11+6=14.89$,

the UNII-3 power spectral density limit is $30-8.11+6=27.89$.

3. TEST RESULTS

For BT:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2.8	1.9055	3.61	2.2961	0.00087	1	Complies

For LE:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2.8	1.9055	2.3	1.6982	0.00064	1	Complies

For 2.4GHz:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
4.42	2.7669	26.34	430.5266	0.23711	1	Complies

For 5GHz UNII-1_Non Beamforming:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5.25	3.3497	25.53	357.2728	0.23821	1	Complies

For 5GHz UNII-3_Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5.25	3.3497	26.77	475.3352	0.31692	1	Complies

For 5GHz UNII-1_Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
8.11	6.4714	23.62	230.1442	0.29645	1	Complies

For 5GHz UNII-3_Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
8.11	6.4714	27.00	501.1872	0.64558	1	Complies

For the max simultaneous transmission MPE:

Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²)	Total	Limit of Power Density (S) (mW/cm ²)	Test Result
BT	2.4GHz	5GHz			
0.00087	0.23711	0.64558	0.88356	1	Complies

Note: The calculated distance is 20 cm.

End of Test Report