RADIO EXPOSURE TEST REPORT

FCC ID	:	G95-CGA4332
Equipment	:	DOCSIS Cable Gateway
Brand Name	:	Technicolor
Marketing Name	:	CBR2-T
Model Name	:	CGA4332COM, CGA4332wxyz (Please refer to section 1.3 for detail information)
Applicant	:	Technicolor Connected Home USA LLC 5030 Sugarloaf Parkway, Building 6, Lawrenceville,Georgia, United States
Manufacturer	:	Technicolor Connected Home USA LLC 5030 Sugarloaf Parkway, Building 6, Lawrenceville,Georgia, United States
Standard	:	47 CFR Part 2.1091

The product was received on Mar. 29, 2021, and testing was started from Mar. 29, 2021 and completed on May 26, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FA131728-01	01	Initial issue of report	Jun. 09, 2021

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Sandy Chuang

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	**Frequency Range (MHz)**	**Operating Frequency (MHz)**	**Modulation Type**
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

1.2 Antenna Information

Ant.	Port		Brand	Model Name	Antenna Type	Connector
	2.4GHz	5GHz				
1	4	1	Airgain	N03TCACA-PK1-G1X130BUR1	PCB	I-PEX
2	3	2	Airgain	N03TCACB-PK1-B1X85BUR3	PCB	I-PEX
3	2	3	Airgain	N03TCACE-PK1-W1X105BUR3	PCB	I-PEX
4	1	4	Airgain	N03TCACF-PK1-A1X195BU	PCB	I-PEX

Ant.	Port		Uncorrelated Antenna Gain (dBi)		
	2.4GHz	5GHz	2.4GHz	5GHz Band 1	5GHz Band 4
1	4	1	3.60	2.97	4.24
2	3	2			
3	2	3			
4	1	4			

Correlated Antenna Gain (dBi)			
Streams	2.4GHz	5GHz Band 1	5GHz Band 4
4T1S	6.02	5.18	5.58
4T4S	0.85	0.05	0.30

Note: The above information was declared by manufacturer.

<WLAN 2.4GHz>

For IEEE 802.11b/g/n/VHT/ax (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

<WLAN 5GHz>

For IEEE 802.11a/n/ac/ax (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

1.3 Table for Multiple Listing

Model Name	Marketing Name	Description
CGA4332COM	CBR2-T	CGA4332COM is representative of other models CGA4332wxyz (where w,x,y,z are alphanumeric or blank) representing other equivalent models derived from the same design. CBR2-T is the marketing name designated by an operator. CGA4332COM can be identified in the 'PN' field on the product label.
CGA4332wxyz (where w,x,y,z are alphanumeric or blank, for marketing strategy)		

Note1: From the above models, model: CGA4332COM was selected as representative model for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

1.4 Accessories

Accessories			
Equipment Name	**Brand**	**Model Name**	**Rating**
Lithium-Ion Battery	Getac	TCH6288759A	7.2V, 13250mAh, 95.4Wh
Other			
Power Cord*1: Non-Shielded, 1.8m			
Cover of battery*1			

1.5 Testing Location

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f^2)	<6
30-300	61.4	0.163	1.0	<6
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f^2)	<30
30-300	27.5	0.073	0.2	<30
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 30 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;D1D	6.02	29.97	35.99	0.00	35.99	3.97192	30	0.35119	1.00000
5.2G;D1D	5.18	29.94	35.12	0.50	35.62	3.64754	30	0.32251	1.00000
5.8G;D1D	5.58	29.91	35.49	0.50	35.99	3.97192	30	0.35119	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz+WLAN 5GHz

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Ratio (S/Limit)
2.4G;D1D	6.02	29.97	35.99	0.00	35.99	3.97192	30	0.35119	1.00000	0.35119
5.8G;D1D	5.58	29.91	35.49	0.50	35.99	3.97192	30	0.35119	1.00000	0.35119
									Sum Ratio	0.70238
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

———THE END———