

RF EXPOSURE EVALUATION REPORT

FCC ID : G95601TX
Equipment : DOCSIS 4.0 Residential Gateway
Brand Name : Vantiva
Model Name : CGM601TCOM, CGM601TCOX
Applicant : Vantiva USA LLC
4855 Peachtree Industrial Blvd. Suite 200 Norcross, Georgia 30092
Manufacturer : Vantiva
4855 Peachtree Industrial Blvd, Suite 200 Norcross GA 30092
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

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Approved by: Cona Huang / Deputy Manager



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History of this test report

Report No.	Version	Description	Issued Date
FA4O1125	Rev. 01	Initial issue of report	Jan. 23, 2025

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	DOCSIS 4.0 Residential Gateway
Brand Name	Vantiva
Model Name	CGM601TCOM, CGM601TCOX
FCC ID	G95601TX
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6GHz Band: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz Zigbee: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth LE Zigbee: BPSK
HW Version	DVT2
EUT Stage	Production Unit

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

2. Maximum RF average output power among production units

Mode		Maximum Power(dBm)
Beamforming	2.4GHz WLAN	29.050
	5.2GHz WLAN	28.830
	5.3GHz WLAN	23.160
	5.6GHz WLAN	23.170
	5.8GHz WLAN	29.970
non-Beamforming	2.4GHz WLAN	29.870
	5.2GHz WLAN	29.560
	5.3GHz WLAN	23.950
	5.6GHz WLAN	23.960
	5.8GHz WLAN	29.970
Bluetooth LE		7.300
ZigBee		18.300

Mode		Maximum EIRP power(dBm)
Beamforming	6GHz WLAN	25.710
non-Beamforming	6GHz WLAN	26.843

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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				
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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



4. Radio Frequency Radiation Exposure Evaluation

4.1. Power Density Calculation

Band		Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum PG (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
Beamforming	2.4GHz WLAN	6.940	29.050	35.990	3971.915	0.791	1.000
	5.2GHz WLAN	6.000	28.830	34.830	3040.885	0.605	1.000
	5.3GHz WLAN	5.970	23.160	29.130	818.465	0.163	1.000
	5.5GHz WLAN	6.090	23.170	29.260	843.335	0.168	1.000
	5.8GHz WLAN	5.740	29.970	35.710	3723.917	0.741	1.000
	6GHz WLAN			25.710	372.392	0.074	1.000
non-Beamforming	2.4GHz WLAN	4.770	29.870	34.640	2910.717	0.579	1.000
	5.2GHz WLAN	4.690	29.560	34.250	2660.725	0.530	1.000
	5.3GHz WLAN	4.660	23.950	28.610	726.106	0.145	1.000
	5.5GHz WLAN	5.450	23.960	29.410	872.971	0.174	1.000
	5.8GHz WLAN	5.190	29.970	35.160	3280.953	0.653	1.000
	6GHz WLAN			26.843	483.393	0.096	1.000
Bluetooth LE		2.770	7.300	10.070	10.162	0.002	1.000
ZigBee		4.400	18.300	22.700	186.209	0.037	1.000

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.